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Endangered and Threatened Species; Designation of Critical Habitat for Seven Evolutionarily Significant Units of Pacific Salmon and Steelhead in California; Final Rule

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 226

[Docket No. 041123329–5202–02; I.D. No.110904F]

RIN 0648–AO04

Endangered and Threatened Species; Designation of Critical Habitat for Seven Evolutionarily Significant Units of Pacific Salmon and Steelhead in California

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration, Commerce.

ACTION: Final rule.

SUMMARY: We, the National Marine Fisheries Service (NMFS), are issuing a final rule designating critical habitat for two Evolutionarily Significant Units (ESUs) of chinook salmon (*Oncorhynchus tshawytscha*) and five ESUs of steelhead (*O. mykiss*) listed as of the date of this designation under the Endangered Species Act of 1973, as amended (ESA). The specific areas designated in the rule text set out below include approximately 8,935 net mi (14,269 km) of riverine habitat and 470 mi^2 (1,212 km^2) of estuarine habitat (primarily in San Francisco-San Pablo-Suisun Bays) in California. Some of the areas designated are occupied by two or more ESUs. The annual net economic impacts of changes to Federal activities as a result of the critical habitat designations (regardless of whether those activities would also change as a result of the ESA's jeopardy requirement) are estimated to be approximately $81,647,439. We solicited information and comments from the public in an Advanced Notice of Proposed Rulemaking and on all aspects of the proposed rule. This rule is being issued to meet the timeline established in litigation between NMFS and Pacific Coast Federation of Fishermen's Associations (*PCFFA et. al* v. *NMFS* (Civ.No. 03–1883)). In the proposed rule, we identified a number of potential exclusions we were considering including exclusions for federal lands subject to the Pacific Northwest Forest Plan, PACFISH and INFISH. We are continuing to analyze whether exclusion of those federal lands is appropriate.

DATES: This rule becomes effective January 2, 2006.

ADDRESSES: Comments and materials received, as well as supporting documentation used in the preparation of this final rule, are available for public inspection by appointment, during normal business hours, at the National Marine Fisheries Service, NMFS, Protected Resources Division, 501 W. Ocean Blvd., Suite 4200, Long Beach, CA 90802–4213. The final rule, maps, and other materials relating to these designations can be found on our Web site at *http://swr.nmfs.noaa.gov.*

FOR FURTHER INFORMATION CONTACT: Craig Wingert at the above address, at 562/980–4021, or Marta Nammack at 301/713–1401 ext. 180.

SUPPLEMENTARY INFORMATION:

Organization of the Final Rule

This **Federal Register** notice describes the final critical habitat designations for seven ESUs of West Coast salmon and steelhead listed under the ESA. The pages that follow summarize the comments and information received in response to proposed designations published on December 10, 2004 (69 FR 71880), describe any changes from the proposed designations, and detail the final designations for seven ESUs. To assist the reader, the content of this notice is organized as follows:

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I. Background and Previous Federal Action

We are responsible for determining whether species, subspecies, or distinct population segments of Pacific salmon and steelhead (*Oncorhynchus* spp.) are threatened or endangered, and for designating critical habitat for them under the ESA (16 U.S.C. 1531 *et seq*). To qualify as a distinct population segment, a Pacific salmon or steelhead population must be substantially reproductively isolated from other conspecific populations and represent an important component in the evolutionary legacy of the biological species. According to agency policy, a population meeting these criteria is considered to be an Evolutionarily Significant Unit (ESU) (56 FR 58612, November 20, 1991).

We are also responsible for designating critical habitat for species listed under our jurisdiction. Section 3 of the ESA defines critical habitat as (1) specific areas within the geographical area occupied by the species at the time of listing, on which are found those physical or biological features that are essential to the conservation of the listed species and that may require special management considerations or protection, and (2) specific areas outside the geographical area occupied by the species at the time of listing that are essential for the conservation of a listed species. Our regulations direct us to focus on ''primary constituent elements,'' or PCEs, in identifying these physical or biological features. Section 7(a)(2) of the ESA requires that each Federal agency shall, in consultation with and with the assistance of NMFS, ensure that any action authorized, funded or carried out by such agency is not likely to jeopardize the continued existence of an endangered or threatened salmon or steelhead ESU or result in the destruction or adverse modification of critical habitat. Section 4 of the ESA requires us to consider the economic impacts, impacts on national security, and other relevant impacts of specifying any particular area as critical habitat.

The timeline for completing the critical habitat designations described in this **Federal Register** notice was established pursuant to litigation between NMFS and the Pacific Coast Federation of Fishermen's Associations, Institute for Fisheries Resources, the Center for Biological Diversity, the Oregon Natural Resources Council, the Pacific Rivers Council, and the Environmental Protection Information Center (PCFFA, *et al.*) and is subject to a Consent Decree and Stipulated Order

of Dismissal (Consent Decree) approved by the D.C. District Court. A complete summary of previous court action regarding these designations can be found in the proposed rule (69 FR 71880; December 10, 2004).

In keeping with the Consent Decree, on December 10, 2004 (69 FR 71880), we published proposed critical habitat designations for two ESUs of Chinook salmon and five ESUs of *O. mykiss.* (For the latter ESUs we used the species' scientific name rather than ''steelhead'' because at the time they were being proposed for revision to include both anadromous (steelhead) and resident (rainbow/redband) forms of the species—*see* 69 FR 33101, June 14, 2004). The seven ESUs addressed in the proposed rule were: (1) California Coastal Chinook salmon; (2) Northern California *O. mykiss;* (3) Central California Coast *O. mykiss;* (4) South-Central Coast *O. mykiss;* (5) Southern California *O. mykiss;* (6) Central Valley spring run Chinook salmon; and (7) Central Valley *O. mykiss.* The comment period for the proposed critical habitat designations was originally opened until February 8, 2005. On February 7, 2005 (70 FR 6394), we announced a court-approved Amendment to the Consent Decree which revised the schedule for completing the designations and extended the comment period until March 14, 2005, and the date to submit final rules to the **Federal Register** as August 15, 2005.

In the critical habitat proposed rule we stated that ''the final critical habitat designations will be based on the final listing decisions for these seven ESUs due by June 2005 and thus will reflect occupancy ''at the time of listing'' as the ESA requires.'' All of these ESUs had been listed as threatened or endangered between 1997–2000, but in 2002 we announced that we would reassess the listing status of these and other ESUs (67 FR 6215; February 11, 2002). We recently published final listing decisions for the two Chinook salmon, but not for the five ESUs of *O. mykiss* (70 FR 37160; June 28, 2005). Final listing determinations for these five ESUs are expected by December 2005 (70 FR 37219; June 28, 2005). However, the Consent Decree governing the schedule for our final critical habitat designations requires that we complete final designations for those of the seven ESUs identified above that are listed as of August 15, 2005. Because anadromous forms (*i.e.*, ''steelhead'') of the five *O. mykiss* ESUs have been listed since 1997–2000 (*see* summary in June 14, 2004 **Federal Register** notice, 69 FR 33103), we are now issuing final critical habitat designations for them in this notice in accordance with the Consent Decree. We are able to do so because in developing critical habitat designations for this species we have focused on the co-occurring range of both the anadromous and resident forms. Therefore, both the proposed and final designations were restricted to the species' anadromous range, although we did consider and propose to designate some areas occupied solely by resident fish in upper Alameda Creek in the San Francisco Bay area. We focused on the co-occurring range due to uncertainties about: (1) The distribution of resident fish outside the range of co-occurrence, (2) the location of natural barriers impassable to steelhead and upstream of habitat areas proposed for designation, and (3) the final listing status of the resident form. Section 4(a)(3)(B) of the ESA provides for the revision of critical habitat designations as appropriate, and we will do so (if necessary) after making final listing determinations for these five *O. mykiss* ESUs. Moreover, we intend to actively revise critical habitat as needed for all seven ESUs to keep them as up-to-date as possible.

In an Advance Notice of Proposed Rulemaking (ANPR) (68 FR 55926; September 29, 2003), we noted that the ESA and its supporting regulations require the agency to address a number of issues before designating critical habitat: ''What areas were occupied by the species at the time of listing? What physical and biological features are essential to the species' conservation? Are those essential features ones that may require special management considerations or protection? Are areas outside those currently occupied 'essential for conservation'? What are the benefits to the species of critical habitat designation? What economic and other relevant impacts would result from a critical habitat designation, even if coextensive with other causes such as listing? What is the appropriate geographic scale for weighing the benefits of exclusion and benefits of designation? What is the best way to determine if the failure to designate an area as critical habitat will result in the extinction of the species concerned?'' We recognized that ''[a]nswering these questions involves a variety of biological and economic considerations'' and therefore were seeking public input before issuing a proposed rule. As we stated in the proposed rule that followed: ''We received numerous comments in response to the ANPR and considered them during development of this proposed rulemaking. Where applicable, we have referenced these comments in this **Federal Register** notice as well as in other documents supporting this proposed rule.'' In the proposed rule, we described the methods and criteria we applied to address these questions, relying upon the unique life history traits and habitat requirements of salmon and steelhead.

In issuing the final rule, we considered the comments we received to determine whether a change in our proposed approach to designating critical habitat for salmon and steelhead was warranted. In some instances, we concluded based on comments received that a change was warranted. For example, in this final rule we have revised our approach to allow us to consider excluding areas covered by habitat conservation plans in those cases where the benefits of exclusion outweigh the benefits of designation.

In other instances, we believe the approach taken is supported by the best available scientific information, and that given the time and additional analyses required, changes to the methods and criteria we applied in the proposed rule were not feasible. We recognize there are other equally valid approaches to designating critical habitat and for answering the myriad questions described above. Nevertheless, issuance of the final rule for designating critical habitat for these ESUs is subject to a Court Order that requires us to submit the final regulation to the **Federal Register** no later than August 15, 2005, less than 5 months after the close of the public comment period. Taking alternative approaches to designating critical habitat would have required a retooling of multiple interrelated analyses and undertaking additional new analyses in support of the final rule, and was not possible given the time available to us. We will continue to study alternative methods and criteria and may apply them in future rulemakings designating critical habitat for these or other species.

II. Summary of Comments and Recommendations

As described in agency regulations at 50 CFR 424.16(c)(1), in the critical habitat proposed rule we requested that all interested parties submit written comments on the proposals. We also contacted the appropriate Federal, state, and local agencies, scientific organizations, and other interested parties and invited them to comment on the proposed rule. To facilitate public participation we made the proposed rule available via the internet as soon as it was signed (approximately 2 weeks prior to actual publication) and accepted comments by standard mail

and fax as well as via e-mail and the internet (*e.g.*, *www.regulations.gov*). In addition, we held four public hearings between January 13, 2005, and February 1, 2005, in the following locations: Arcata, Rohnert Park, Sacramento, and Santa Barbara, CA. We received 3,762 written comments (3,627 of which were form letters or in the form of e-mails with nearly identical verbiage) during the comment period on the proposed rule.

In December 2004, the Office of Management and Budget (OMB) issued a Final Information Quality Bulletin for Peer Review establishing minimum peer review standards, a transparent process for public disclosure, and opportunities for public input (70 FR 2664; January 14, 2005). The OMB Peer Review Bulletin, implemented under the Information Quality Act (Pub. L. 106–554), is intended to provide public oversight on the quality of agency information, analyses, and regulatory activities, and applies to information disseminated on or after June 16, 2005. Prior to publishing the proposed rule we submitted the initial biological assessments of our Critical Habitat Analytical Review Teams (hereafter referred to as CHART) to state co-managers and asked them to review those findings. These co-manager reviews resulted in some changes to the CHARTs' preliminary assessments (*e.g.*, revised fish distribution as well as conservation value ratings) and helped to ensure that the CHARTs' revised findings (NMFS, 2004b) incorporated the best available scientific data. We later solicited technical review of the entire critical habitat proposal (biological, economic, and policy bases) from several independent experts selected from the academic and scientific community, Native American tribal groups, Federal and state agencies, and the private sector. We also solicited opinions from three individuals with economics expertise to review the draft economics analysis supporting the proposed rule. All three of the economics reviewers and one of the biological reviewers submitted written opinions on our proposal. We have determined that the independent expert review and comments received regarding the science involved in this rulemaking constitute adequate prior review under section II.2 of the OMB Peer Review Bulletin (NMFS, 2005b).

We reviewed all comments received from the peer reviewers and the public for substantive issues and new information regarding critical habitat for the various ESUs, and we address them in the following summary. Peer reviewer comments were sufficiently similar to public comments that we have responded to them through our general responses below. For readers'convenience we have assigned comments to major issue categories and where possible have combined similar comments into single comments and responses.

Notification and General Comments

Comment 1: Some commenters raised concerns or complained about the adequacy of public notification and time to comment.

Response: We made all reasonable attempts to communicate our rulemaking process and the critical habitat proposal to the affected public. Prior to the proposed rule we published an ANPR in which we identified issues for consideration and evaluation, and solicited comments regarding these issues and information regarding the areas and species under consideration (68 FR 55926; September 29, 2003). We considered comments on the ANPR during our development of the proposed rule. As soon as the proposed rule was signed on November 29, 2004 (2 weeks before actual publication in the **Federal Register**), we posted it and supporting information on the agency's internet site to facilitate public review, and we have provided periodic updates to that site (see **ADDRESSES**). In response to numerous requests—in particular from plaintiffs as well as private citizens, counties, farm bureaus, and state legislators in Washington—the original 60-day public comment period was extended by 30 days (70 FR 6394; February 7, 2005) to allow additional time for the public to submit comments on the critical habitat proposals.

Additionally, we realize that the statute provides a short time frame for designating critical habitat. Congress amended the ESA in 1982 to establish the current time frame for designation. In doing so, Congress struck a balance between the recognition that critical habitat designations are based upon information that may not be determinable at the time of listing and the desire to ensure that designations occur in a timely fashion. Additionally, the ESA and supporting regulations provide that designations may be revised as new data become available to the Secretary. We recognize that where the designation covers a large geographic area, as is the case here, the short statutory time frame requires a short period for the public to consider a great deal of factual information. We also recognize that this designation takes a new approach by considering relative conservation value of different areas and applying a cost-effectiveness framework. In this notice we are announcing our intention to consider revising the designations as new habitat conservation plans and other management plans are developed, and as other new information becomes available. Through that process we anticipate continuing to engage the interested public and affected landowners in an ongoing dialogue regarding critical habitat designations.

Comment 2: Some commenters disagreed with our decision to vacate the February 2000 critical habitat designations for these ESUs.

Response: We believe that the issues identified in a legal challenge to our February 2000 designations warranted withdrawing that rule. Developing a cost-effectiveness approach, designed to achieve the greatest conservation at the least cost, is in keeping with long-standing Executive direction on rulemaking and is a responsible and conservation-oriented approach to implementing section 4(b)(2) of the ESA. In addition, we had new and better information in 2004 than we had in 2000, such as the information of fish distribution and habitat use that was generated by agency fishery biologists. The ESA requires that we use the best available information, and the distribution data is the best information currently available. Finally, the litigation challenging our 2000 designation also challenged the lack of specificity in our designation of the riparian area, leading us to consider whether there was a better approach that was more consistent with our regulations and with the best available information.

Comment 3: Some commenters stated that we should wait to publish final critical habitat designations until after final listing determinations have been made and the final hatchery listing policy is published.

Response: The ESA states that the Secretary *shall* designate critical habitat, defined as areas within or outside the geographical area occupied by the species *at the time of listing* and using the best *available* information (emphasis added). These designations follow that statutory mandate and have been completed on a schedule established under a Consent Decree. Also, the final hatchery listing policy and final listing determinations for several salmon ESUs were published on June 28, 2005 (70 FR 37160 and 37204) in advance of the completion of this final critical habitat designation. For reasons described above in the ''Background and Previous Federal Action'' section, we are now making final designations for those listed salmon and steelhead ESUs in the

Southwest Region that are subject to the Consent Decree and listed as of the date of this designation.

Identification of Critical Habitat Areas

Comment 4: Several commenters contended that we can only designate areas that are essential for species conservation.

Response: Section 3(5)(A) of the ESA has a two-pronged definition of critical habitat: ''(i) the specific areas *within the geographical area occupied by the species*, at the time it is listed * * * on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) *specific areas outside the geographical area occupied by the species*, at the time it is listed * * * upon a determination by the Secretary that such areas are essential for the conservation of the species' (emphasis added). As described in this rule and documented in the reports supporting it, we have strictly applied this definition and made the requisite findings. We requested and received comments on various aspects of our identification of areas meeting this definition and address those here. Only those areas meeting the definition were considered in the designation process. Comments regarding the section 4(b)(2) process, in which we considered the impacts of designation and whether areas should be excluded, are addressed in a subsequent section.

Comment 5: In the proposed rule we considered occupied streams within a CALWATER Hydrologic Subarea (HSA) as the ''specific area'' in which the physical or biological features essential to conservation of the ESUs were found. We also used these watershed delineations as the ''particular areas''—the analytical unit—for purposes of the section 4(b)(2) analysis. In the proposed rule we requested public comment on whether considering exclusions on a stream-by-stream approach would be more appropriate. Some commenters believed that the watershed scale was too broad for making critical habitat designations and suggested that a smaller watershed or a stream-by-stream approach was more appropriate. Some commenters believed that we should conduct a reach-by-reach assessment in their watersheds.

Response: Our ESA section 4(b)(2) report (NMFS, 2005c) acknowledges that the delineation of both specific areas and particular areas should be as small as practicable, to ensure our designations are not unnecessarily broad and to carry out congressional intent that we fully consider the impacts of designation. For reasons described in the section below on ''Methods and Criteria Used to Identify Critical Habitat,'' we continue to believe that the specific facts of salmon biology and life history make CALWATER HSA watersheds in California an appropriate scale to use in delineating the ''specific'' areas in which physical or biological features are found. We also believe consideration of the impacts of designation on an HSA watershed scale results in a meaningful section 4(b)(2) balancing process. Moreover, congressional direction requires that designations be completed in a very short time frame by a specified deadline, ''based on such data as may be available at that time.'' Given that short time frame and the geographic extent of salmon critical habitat, the HSA watershed was the smallest practicable area we were able to analyze.

Comment 6: Some commenters believed we applied the definition of ''specific areas within the geographical area occupied by the species at the time it is listed'' too narrowly. In their views, this led to two errors—failure to designate all ''accessible'' stream reaches and failure to designate riparian and upstream areas. Commenters felt that the ''best scientific data available'' support a conclusion that salmon and steelhead will occupy all accessible streams in a watershed during a period of time that can be reasonably construed as ''at the time it is listed.'' One commenter stated that ''[w]hether a particular stream reach is occupied cannot be determined with certainty based on ''occupation'' data alone, especially for fragmented, declining, or depressed populations of fish.'' The commenter pointed to the rationale provided in our 2000 rule for identifying occupied areas as all areas accessible within a subbasin (a 4th field watershed, using U.S. Geological Survey (USGS) terminology): ''NMFS believes that adopting a more inclusive, watershed based description of critical habitat is appropriate because it (1) recognizes the species' use of diverse habitats and underscores the need to account for all of the habitat types supporting the species' freshwater and estuarine life stages, from small headwater streams to migration corridors and estuarine rearing areas; (2) takes into account the natural variability in habitat use that makes precise mapping problematic (*e.g.*, some streams may have fish present only in years with abundant rainfall) (65 FR 7764; February 16, 2000).''

Some commenters believe that in delineating ''specific areas within the geographical area occupied by the species,'' we need not confine ourselves to areas that are literally ''occupiable'' by the species in that we should designate riparian and upstream areas. If there are physical or biological features essential to conservation to be found within a broadly defined ''geographical area occupied by the species,'' we have the duty to delineate specific areas in a way that encompasses them. Some argued that limiting the designation to the stream channel fails to recognize the biological and hydrological connections between streams and riparian areas and would lead to further degradation of the latter. Some commenters suggested that we use a fixed distance (*e.g.*, 300 feet (91.4 m) if a functional description is not used. Some requested that we adopt the ''functional zone'' description for lateral extent used in the 2000 designations (65 FR 7764; February 16, 2000), while other commenters felt that our reference to habitat linkages with upslope and upstream areas was vague and wondered whether we were actually using the old approach anyway. Other commenters believed that using the line of ordinary high water or bankfull width was appropriate and noted that this would remove prior ambiguities about which areas were designated. Other commenters supported the approach taken in this designation, to identify specific areas occupied by the species and not broadly designate ''all areas accessible,'' some commenting that this was a more rigorous assessment and more in keeping with the ESA.

Response: The approach we took in the proposed designation is different from the approach we took in the vacated 2000 designation for a variety of reasons. The ESA directs that we will use the best scientific data available in designating critical habitat. Our regulations also provide direction: ''[e]ach critical habitat will be defined by specific limits using reference points and lines as found on standard topographic maps of the area * * * Ephemeral reference points (*e.g.*, trees, sand bars) shall not be used in defining critical habitat.'' (50 CFR 424.12(c)). With respect to our approach for identifying ''the geographical area occupied by the species,'' we recognize that the available fish and habitat use distribution data are limited to areas that have been surveyed or where professional judgment has been applied to infer distribution, and that large areas of watersheds containing fish may not have been observed or considered. We also recognize there have been many instances in which previously unobserved areas are found to be

occupied once they are surveyed. Nevertheless, we believe the extensive data compiled by agency biologists, which was not available when we completed the 2000 designations, represents the best scientific information currently available regarding the geographical area occupied by the species. Moreover, the CHARTs had an opportunity to interact with the state fish biologists with the California Department of Fish and Game (CDFG) to confirm the accuracy of the data. We also believe the approach we have taken in this designation better conforms to the regulatory direction to use ''specific limits'' for the designation. The approach we used in 2000 used subbasin boundaries to delineate ''specific areas,'' which arguably met the requirement to use ''specific limits,'' but we believe using latitude-longitude endpoints in stream reaches, as we have done here, better adheres to the letter and spirit of our regulations.

With respect to our approach of limiting the designation to the occupied stream itself, not extending the designation into the riparian zone or upstream areas, we acknowledge that our regulations contemplate situations in which areas that are not literally occupiable may nevertheless be designated. Paragraph (d) of 50 CFR 424.12 gives as an example a situation in which areas upland of a pond or lake may be designated if it is determined that ''the upland areas were essential to the conservation of an aquatic species located in the ponds and lakes.'' For this designation, however, given the vast amount of habitat under consideration and the short statutory time frames in which to complete the designation, we could not determine ''specific limits'' that would allow us to map with accuracy what part of the riparian zone or upstream area could be considered to contain PCEs. As an alternative, we considered the approach we used in 2000, which was to designate riparian areas that provide function, but concluded that approach may not have been entirely consistent with the regulatory requirement to use ''specific limits.'' We believe limiting the designation to streams will not compromise the ability of an ESA section 7 consultation to provide for conservation of the species. Section 7 requires Federal agencies to ensure their actions are not likely to destroy or adversely modify critical habitat. Actions occurring in the riparian zone, upstream areas, or upland areas all have the potential to destroy or adversely modify the critical habitat in the stream. Although these areas are not themselves designated, Federal agencies must nevertheless meet their section 7 obligations if they are taking actions in these areas that ''may affect'' the designated critical habitat in the stream. Even though these designations are restricted to the stream itself, we will continue to be concerned about the same activities we have addressed in past consultations.

Comment 7: Several commenters believed we incorrectly applied the definition of ''specific areas outside the geographical area occupied by the species.'' In the view of some, we failed our duty under the ESA by not making a determination that we had identified as critical habitat enough areas (occupied and unoccupied) to support conservation. In the view of others, it was this failure that led to one of the errors described in the previous comment—the failure to designate all ''accessible stream reaches.'' Many commenters expressed concern about statements made in the press that the change from ''all areas accessible'' to areas documented as occupied led to a 90-percent reduction in critical habitat. Other commenters supported the approach taken in this designation, to identify specific areas occupied by the species and not broadly designate ''all areas accessible,'' some commenting that this was a more rigorous assessment and more in keeping with the ESA.

Response: Section 3(5)(A)(I) of the ESA requires us to identify specific areas within the geographical area occupied by the species that contain physical or biological features that may require special management considerations or protection. Section 3(5)(A)(ii) requires that specific areas outside the geographical area occupied by the species only fall within the definition of critical habitat if the Secretary determines that the area is essential for conservation. Our regulations further provide that we will designate unoccupied areas ''only when a designation limited to [the species'] present range would be inadequate to ensure the conservation of the species (50 CFR 424.12(e)).'' The ESA requires the Secretary to designate critical habitat at the time of listing. If critical habitat is not then determinable, the Secretary may extend the period by 1 year, ''but not later than the close of such additional year the Secretary must publish a final regulation, based on such data as may be available at that time, designating, to the maximum extent prudent, such habitat.''

At the present time, we do not have information allowing us to determine that the specific areas within the geographical area occupied by the species are inadequate for conservation, such that unoccupied areas are essential for conservation. We anticipate revising our critical habitat designations in the future as additional information becomes available through recovery planning processes.

Comment 8: Some commenters questioned the adequacy of our identification of PCEs, in particular the lack of specificity.

Response: To determine the physical or biological features essential to conservation of these ESUs, we first considered their complex life cycle. As described in the ANPR and proposed rule, ''[t]his complex life cycle gives rise to complex habitat needs, particularly during the freshwater phase (see review by Spence *et al.*, 1996).'' We considered these habitat needs in light of our regulations regarding criteria for designating critical habitat. Those criteria state that the requirements essential to species' conservation include such things as ''space * * * [f]ood, water, air, light, minerals, or other nutritional or physiological requirements * * * cover or shelter.'' They further state that we are to focus on the ''primary constituent elements'' such as ''spawning sites, feeding sites, * * * water quality or quantity,'' etc. In the ANPR and proposed rule we identified the features of the habitat that are essential for the species to complete each life stage and are therefore essential to its conservation. We described the features in terms of sites (spawning, rearing, migration) that contain certain elements.

Comment 9: In the proposed rule we requested comments on the extent to which specific areas may require special management considerations or protection in light of existing management plans. Several commenters stated that lands covered by habitat conservation plans or other management or regulatory schemes do not require special management considerations or protection. Others commented that even where management plans are present, there still may be ''methods or procedures useful'' for protecting the habitat features.

Response: The statutory definition and our regulations (50 CFR 424.02 and 424.12) require that specific areas within the geographical area occupied by the species must contain ''physical or biological features'' that are ''essential to the conservation of the species,'' and that ''may require special management considerations or protection.'' As described in the proposed rule, and documented in the reports supporting it, we first identified the physical or biological features essential to

conservation (described in our regulations at 50 CFR 424.12(b)(5) as ''primary constituent elements'' or PCEs). We next determined the ''specific areas'' in which those PCEs are found based on the occupied stream reaches within a CALWATER HSA watershed. We used this watershed-scale approach to delineating specific areas because it is relevant to the spatial distribution of salmon and steelhead, whose innate homing behavior brings them back to spawn in the watersheds where they were born (Washington Department of Fisheries *et al.*, 1992; Kostow, 1995; McElhany *et al.*, 2000). We then considered whether the PCEs in each specific area (watershed) ''may require special management considerations or protection.''

We recognize there are many ways in which ''specific areas'' may be delineated, depending upon the biology of the species, the features of its habitat and other considerations. In addressing these comments, we considered whether to change the approach described in our proposed rule and instead delineate specific areas based on ownership. The myriad ownerships and state and local regulatory regimes present in any watershed, as well as the timing issues discussed previously, made such an approach impractical for this rulemaking, as noted in section I, ''Background and Previous Federal Action,'' above. While there are other equally valid methods for identifying areas as critical habitat, we believe that the watershed scale is an appropriate scale for identifying specific areas for salmon and steelhead, and for then determining whether the PCEs in these areas may require special management considerations or protections. We will continue to study this issue and alternative approaches in future rulemakings designating critical habitat.

Comment 10: One commenter stated that we could not designate any unoccupied areas if we had excluded any occupied areas, relying on the regulatory provision cited in a previous comment and response.

Response: The comment assumes that all habitat areas are equivalent and exchangeable, which they are not. An area may be essential for conservation because it was historically the most productive spawning area for an ESU and unless access to it is restored, the ESU will not fully recover to the point that the protections of the ESA are no longer necessary. This area will be essential regardless of whether some other specific area has been excluded.

Comment 11: Several commenters supported the designation of unoccupied areas above dams and some believed that by not designating these areas we will make it more difficult to achieve fish passage in the future. They further noted that excluding these presently blocked areas now may promote habitat degradation that will hinder conservation efforts should passage be provided in the future. Several commenters identified areas above specified dams as being essential for conservation.

Response: At the present time, we do not have information allowing us to determine that the specific areas within the geographical area occupied by the species are inadequate for conservation nor that currently unoccupied areas above dams are essential for conservation. The Southwest Region is actively involved in a multi-year, large-scale recovery planning effort in California that involves scientific teams (called technical recovery teams or TRTs) which are in the process of identifying ESU population structure, population viability criteria, and ESU level biological viability or recovery goals. These recovery planning efforts are developing information which will inform our decisions about whether unoccupied habitat will be needed to facilitate conservation beyond what is currently occupied by the ESUs addressed in this rulemaking. Until these efforts are more fully developed, we cannot make the specific determinations required under the ESA to designate critical habitat in ''unoccupied'' areas. We use our authorities under the ESA and other statutes to advocate for salmon passage above impassible dams where there is evidence such passage would promote conservation. This is not the same, however, as making the determinations required by the statute and our regulations to support designation.

Comment 12: In the proposed rule we requested comments regarding the use of professional judgment as a basis for identifying areas occupied by the species. Some commenters indicated that it was appropriate to accept the professional judgment of fish biologists who are most familiar with fish habitat within a watershed. Others believed that limiting the definition of occupied stream reaches to only those where fish presence has been observed and documented is overly narrow and fails to consider a number of conditions that affect species distribution, including natural population fluctuations and habitat alterations that affect accessibility or condition (*e.g.*, de-watering stream reaches). These commenters also argued that defining occupied reaches should be based on a broad time scale that takes into account metapopulation processes such as local extinction and recolonization, adding along with other commenters that many streams have not been adequately surveyed and species may frequent stream reaches but not actually be observed by a biologist at the time that critical habitat is being assessed.

Response: We relied on distribution and habitat use information developed by our agency fishery biologists from a wide range of sources, including the CDFG, to determine which specific stream reaches were occupied by each ESU. The data sets we developed defined occupancy based on field observations from stream surveys, and, in some cases, professional judgment based on the expert opinion of area biologists. In all cases the exercise of professional judgment included the consideration of habitat suitability for the particular species. We received several comments on our proposed rule regarding the accuracy of the distribution data in specific locations, and, where we could confirm that the information provided by the commenter was accurate, we accepted it as the best available information and adjusted our designation. We view designation of critical habitat as an ongoing process and expect to adjust the designations as necessary as new information or improved methods become available.

Comment 13: Some commenters addressed the CHART process although few recommended changes to the CHARTs' ratings of watershed conservation values. Some supported the process used, in particular the recognition that not all habitats have the same conservation value for an ESU and that this in turn allows for a more meaningful exclusion assessment under section 4(b)(2) of the ESA. One commenter contended that the CHART assessments were compromised by restricting them to consider only the stream channel rather than upslope areas as well.

Response: The CHART process was an important part of our analytical framework in that it allowed us to improve our analysis of the best available scientific data and to provide watershed-specific conservation ratings useful for the Secretary's exercise of discretion in balancing whether the benefits of exclusion outweigh the benefits of designation under section 4(b)(2) of the ESA. We do not believe that designating only the stream channel compromised the CHARTs' ability to assess watershed conservation values. As noted in the CHART report, the CHARTs employed a scoring system to assess (among other area characteristics) the quality, quantity, and distribution of

PCEs within a watershed. The PCEs we have defined for these ESUs are found within occupied stream channels, and therefore, it is appropriate to focus our assessment on those areas. The CHART scoring did include a factor related to the potential improvement of existing PCEs and thereby allowed the CHARTs to consider the ability of a watershed to contribute PCEs via natural processes such as recruitment of large wood and substrate, flow regulation, floodplain connectivity, *etc.* We recognize that salmon habitat is dynamic and that our present understanding of areas important for conservation will likely change as recovery planning sheds light on areas that can and should be protected and restored. We intend to actively update these designations as needed so that they reflect the best available scientific data and understanding.

Comment 14: Some commenters questioned whether the CHARTs considered the work of the various Technical Recovery Teams (TRTs) and suggested that the CHART assessments should be reviewed by the TRTs.

Response: Where information had been developed by the TRTs, the CHARTs did consider that information in their assessments. The CHARTs also solicited input and comments from the TRTs on their distribution and habitat use information as well as their watershed conservation assessments. We believe, therefore, that we have been able to integrate much of the TRT findings to date into our final critical habitat designations. Given their priorities (*i.e.,* providing crucial recovery planning criteria and guidance) and the time constraints under which we needed to complete the critical habitat assessments, TRT members could not participate on the CHARTs directly. We recognize that recovery planning is an ongoing process and that new information from the TRTs and recovery planning stakeholders may result in changes to our critical habitat assessments in the future.

Economics Methodology

Comment 15: Several commenters stated that the economic analysis overestimated the actual costs of critical habitat designation by including costs that should be attributed to the baseline. For example, commenters asserted that costs associated with listing and application of the jeopardy requirement should not be included in the analysis. Commenters also asserted that costs that would have occurred under Pacific Fisheries (PACFISH) or the Northwest Forest Plan should be excluded from the analysis. One commenter also stated that costs associated with existing critical habitat designations for salmon or other endangered species should be considered baseline impacts.

Response: Regarding costs associated with listing and application of ESA section 7's jeopardy requirement, the economic analysis follows the direction of the *New Mexico Cattlegrowers* decision, in which the Court of Appeals for the Tenth Circuit called for ''a full analysis of all of the economic impacts of a critical habitat designation, regardless of whether those impacts are attributable coextensively to other causes (*New Mexico Cattle Growers' Association* v. *U.S. Fish and Wildlife Service,* 248 F.3d 1277, 10th Cir. 2001). Consistent with this decision, the economic analysis includes incremental impacts, those that are solely attributable to critical habitat designation and would not occur without the designation, as well as coextensive impacts, or those that are associated with habitat-modifying actions covered by both the jeopardy and adverse modification standards under section 7 of the ESA. We do not think this overestimate of costs creates a bias in our 4(b)(2) balancing, however, for two reasons. On the ''benefit of designation'' side of the balance, we consider the benefit of designation to be the entire benefit that results from application of section 7's requirements regarding adverse modification of critical habitat, regardless of whether application of the jeopardy requirement would result in the same impact. Moreover, the cost-effectiveness approach we have adopted allows us to consider relative benefits of designation or exclusion and prioritize for exclusion areas with a relatively low conservation value and a relatively high economic cost. With such an approach it is most important that we are confident our analysis has accurately captured the relative economic impacts, and we believe it has.

In many cases, the protections afforded by PACFISH, the Northwest Forest Plan and other regulations are intertwined with those of ESA section 7. In cases where the specific regulation or initiative driving the salmon and steelhead conservation efforts is uncertain, we considered it as an ESA section 7 impact and examined the record of consultations with the affected agencies and based our analysis on the habitat protection measures routinely incorporated into the consultations. The economic analysis therefore assumes that the impacts of these types of habitat protection measures are attributable to the implementation of section 7. In these instances, to the extent that conservation burdens on economic activity are not, in fact, resulting from section 7 consultation, the economic analysis may overstate costs of the designation. We took this possibility into account in conducting the 4(b)(2) balancing of benefits. Conservation efforts clearly engendered by other regulations are included in the regulatory baseline. For example, Federal lands management activities in the Northwest Forest Plan planning area are affected by PACFISH. As a result, some projects that would have affected salmon habitat will not be proposed, and therefore will not be subject to section 7 consultation. These changes in projects are considered baseline and are not included as a cost of section 7 in the economic analysis.

Commenters correctly note that there are designations currently in place protecting critical habitat for salmon (*e.g.,* Sacramento River winter run chinook salmon, Central California Coastal coho salmon). We acknowledged this in our proposed rule, but also noted that the presence of those existing designations weighs equally on both sides of the 4(b)(2) balance—that is, the existing designations also could be considered as part of the baseline for determining the benefit of designation for the ESUs addressed in the present rule. This concern is also addressed by the cost-effectiveness approach we have adopted since it relies on relative benefits of designation and exclusion rather than absolute benefits.

Comment 16: One commenter and one peer reviewer noted that the economic analysis assigns costs to all activities within the geographic boundary of the HSA watersheds, though not all activities in this area will lead to an ESA section 7 consultation or are equally likely to have economic impacts. By doing this, the agency assumed that if the stream reaches currently occupied by salmon were designated as critical habitat, then activities throughout the watershed would be affected, whether or not they are adjacent to critical habitat stream reaches.

Response: It is possible for activities not directly adjacent to the proposed stream reaches to affect salmon and steelhead or their habitat (for example, by increasing risk of erosion or decreased water quality), and, therefore, such activities may be subject to consultation and modification. Thus, we believe the HSA watersheds represent a reasonable proxy for the potential boundary of consultation activities. In some cases the revised economic analysis applies costs less broadly by refining the geographic scale for certain

activities. For example, the analysis of pesticide impacts has been refined and are now calculated based on occupied stream mile estimates within a watershed.

Comment 17: One commenter asserted that the draft report inflates its cost estimates by repeatedly choosing the high-end of a range of costs, while a peer reviewer suggested using the mid-range as a representative cost estimate was problematic.

Response: In determining likely costs associated with modifications to activities that would benefit salmon and steelhead, the economic analysis identifies a range of costs using available data from, for example, agency budgets, documented conversations with stakeholders, and published literature. The full range of costs of these activities is presented in the economic analysis, and individual watersheds are generally ranked in terms of cost impact by the midpoint of the cost range, as opposed to the high end. While we recognize that a formal sample of projects costs based on the consultation record or other sources is a better approach in theory, available data did not allow such an approach. In gathering the cost information that was available, we avoided using outliers and sought to construct a typical range of costs.

Comment 18: Some commenters asserted that the economic analysis fails to account for regional economic interactions between watersheds. One commenter stated that this would result in an overstatement of the costs, while other commenters state that this would underestimate the costs. One peer reviewer suggested using regional economic models to address these interactions.

Response: We acknowledge that modifications to economic activities within one watershed may affect economic activities in other watersheds. The economic analysis discusses the potential for regional economic impacts associated with each of the potentially affected activities. Impacts are assigned to particular areas (watersheds) based on where they are generated as opposed to felt. That is, if the designation of a watershed causes impacts in multiple nearby watersheds, and exclusion of the impact-causing watershed would remove those economic impacts from the region, the economic analysis appropriately assigns the total cost impact to the impact-causing watershed. This method of assigning impacts is most useful to us in deciding the relative cost-effectiveness of excluding particular areas from critical habitat designation. As we acknowledge in NMFS (NMFS 2005b), the economic analysis does not explicitly analyze the potential for these regional interactions to introduce cumulative economic impacts. Data are not available to support such an effort, nor would the results necessarily be applicable at the level of a particular watershed. If these impacts in fact exist, our results are likely to be biased downward, in that we have likely underestimated the costs of critical habitat designation at the level of the ESU. At the level of a watershed, however, the potential error is smaller. For this reason, we do not believe the lack of a regional modeling framework introduces a significant bias into the results for particular watersheds.

Comment 19: Several commenters stated that the economic analysis underestimates the actual costs of the rule by excluding several categories of costs from the estimates. One commenter stated that the *New Mexico Cattlegrowers* decision specifically requires a full analysis of all impacts, including those resulting from the species' listing. One comment argued that assessment of impacts stemming from activities occurring outside the designated area should be included, including indirect and regional impacts. Another commenter stated that the analysis should consider direct, indirect, and induced economic impacts including: changes in property values, property takings, water rights impacts, business activity and potential economic growth, commercial values, county and state tax base, public works project impacts, disproportionate economic burdens on society sections, impacts to custom and culture, impacts to other endangered species, environmental impacts to other types of wildlife, and any other relevant impact.

Response: As noted in a previous response, the Court in the *New Mexico Cattlegrowers* decision called for ''a full analysis of all of the economic impacts of a critical habitat designation, regardless of whether those impacts are attributable coextensively to other causes.'' (emphasis added) The economic analysis conducted for this rule evaluated direct costs associated with the designation of critical habitat and includes: (1) Direct coextensive impacts, or those that are associated with habitat-modifying actions covered by both the jeopardy (listing) and adverse modification (critical habitat) standards; and (2) direct incremental impacts, or those that are solely attributable to critical habitat designation.

We acknowledge that designation of critical habitat may also trigger economic impacts outside of the direct effects of ESA section 7 or outside of the watersheds subject to the economic analysis. For example, state or local environmental laws may contain provisions that are triggered if a state- or locally regulated activity occurs in Federally-designated critical habitat. Another possibility is that critical habitat designation could have ''stigma'' effects, or impacts on the economic value of private land not attributable to any direct restrictions on the use of the land. Our economic analysis did not reveal significant economic impacts from stigma effects for the designation of salmon and steelhead. Further, significant impacts of critical habitat on an industry may lead to broader regional economic impacts. All of these types of impacts are considered in the analysis, although it was not possible to estimate quantitative impacts in every case. We took these considerations into account in balancing benefits under section 4(b)(2).

We acknowledge that designation of critical habitat may also trigger impacts on customs, culture, or other wildlife species. We concluded that data were not presently available that would allow us to quantify these impacts, at the scale of this designation, for the economic analysis. Our analysis was further circumscribed by the short time frames available, and our primary focus on conservation benefits to the listed species that are the subject of this designation. We took this limitation into account in the balancing of benefits under section 4(b)(2).

Comment 20: Several commenters indicated that the economic analysis should include a discussion of the impact of changes in flow regimes on water users, specifically in the timing of water flow through dams and water withdrawal or diversion constraints. Among potentially affected water users are crop irrigators and other agricultural water users, regulators and consumers of public water supply in the region, and in particular, water users of the Central Valley Project and State Water Project, among others. Similarly, several commenters stated that the analysis should include an analysis of impacts of changes to operations that result in increased spill at hydropower dams on the cost of power in the region. These commenters are concerned that excluding these costs underestimates total economic impact. One commenter pointed out that low flow years and drought years are not considered in the economic impacts, and consideration of varying water year types is especially relevant to estimating impacts of instream flow augmentation. Another

commenter pointed out that existing, economically feasible alternate sources of water may not be available to water users, and thus economic costs could be large. One commenter estimated the potential loss of agricultural income that would result from a reduction in water availability to a specific region. One commenter stated that if requisite minimum instream flows are developed that correspond to the proposed critical habitat designation, they could be analyzed using the CALVIN model developed by the University of California.

Response: While economic impacts would clearly result from future changes to water supply availability, the amount of water within particular areas that may be diverted from activities such as irrigation, flood control, municipal water supply, and hydropower, for the purposes of Pacific salmon and steelhead conservation, and thus the requisite timing and volume of minimum instream flows, has not been determined for most facilities. Many biological and hydrologic factors are considered in determining flow requirements through dams for Pacific salmon and steelhead, and the impacts of altering flow regimes to meet these requirements are highly site-specific. For example, the impact of increasing spill at a hydropower project depends on the level and timing of the spill, and on the method by which any lost power generation is replaced. Similarly, at a water supply facility, the impact of increasing spill depends on the size and timing of the spill, but also depends on the specific water rights held at the facility and by downstream users, including the priority, volume, timing, and particular use of those water rights.

The extent to which any future changes in flow may be attributable to the designation of critical habitat, as opposed to the listing or other wildlife-related regulations, is also unclear. The interrelated nature of dam and diversion projects with hydrology across river systems makes it very difficult to attribute flow-related impacts for salmon and steelhead conservation to specific watersheds. As a result, a comprehensive prospective analysis of the economic impacts of potential restrictions on water use by these activities would be highly speculative. We acknowledge this limitation of the economic analysis. However, the revised economic analysis does include an expanded discussion of what is known about the potential impacts of changes in flow regimes on hydropower production and prices and water diversions on irrigation based on historical examples.

Comment 21: Some commenters expressed concern that the economic analysis does not address cumulative costs of multiple layers of regulation on economic activities.

Response: Our economic analysis estimates costs associated with conducting ESA section 7 consultation to ensure Federal agency actions are not likely to destroy or adversely modify critical habitat. We did not have information available at the scale of this designation to determine the marginal cost or benefit of such a consultation, in addition to any state or local review that may occur, nor did the commenters provide data that would allow us to make such a determination.

Comment 22: One commenter stated that the economic analysis fails to factor in subsidies given to industries such as livestock grazing, hydropower operations, and irrigation activities, which minimizes true costs to the public. Another commenter further stated that the analysis does not distinguish between several countervailing cost elements, including ''socialized costs'' (costs Congress has decided that the public should bear, such as costs to Federal activities), actual costs to private entities, incentive costs, subsidies, and offsetting costs. As a result, for Federal programs, the analysis miscategorizes activities that benefit a small but favored sector of society, but that cause costs to the larger society. The analysis assumes that costs to these activities are costs to society in general.

Response: The analysis attempts to measure true social costs associated with implementing the final critical habitat rule. To accomplish this, the analysis uses the measurement of the direct costs associated with meeting the regulatory burden imposed by the rule as the best available proxy for the measurement of true social costs. We agree that it is relevant to consider appropriate countervailing or net cost impacts, where possible, in determining the benefit of exclusion. Where data are available, our analysis attempts to capture the net economic impact (*i.e.*, the increased regulatory burden less any discernable offsetting market gains), of ESA section 7 efforts imposed on regulated entities and the regional economy. For example, in the economic analysis, the revised impact estimates for pesticide use restrictions explicitly net out agriculture subsidy payments in the estimation of lost agricultural profits.

Comment 23: Several commenters indicated that the designation of critical habitat will impose an administrative burden on affected parties, including private, Federal, state and local entities. One commenter stated that the increase in paperwork as a result of re-initiating consultation on potential impacts to critical habitat for projects that have already been through ESA section 7 consultation is a major concern.

Response: We do consider that all activities may be subject to future consultation, regardless of whether past consultation occurred on these activities. Designation of critical habitat may result in reinitiating consultation on activities that were subject to previous consultation to ensure that the adverse modification requirement is addressed in addition to the jeopardy requirement. The economic analysis estimates the level of administrative effort associated with ESA section 7 consultations, whether those consultations concern a new activity or readdress the impacts of a previously reviewed activity. The revised economic analysis includes a refined estimate of administrative costs associated with consultations on West Coast salmon and steelhead.

Comment 24: Some commenters stated that the economic analysis estimates impacts using a constant per-capita income basis and that doing so is likely to underestimate the impacts on rural communities.

Response: Per-capita income is not explicitly factored into the watershed specific quantitative impact estimates in the economic analysis. The commenter is highlighting that equal costs in any given watersheds will not likely result in the same relative economic burden to residents of those watersheds. This is because the ratio of costs of the designation to income may vary across watersheds. In lower income areas, the cost of implementing modifications to projects for the benefit of salmon and steelhead may be more burdensome relative to higher income areas. We did consider the extent to which costs of designation within a watershed are likely to be borne locally. In addition, information on distribution of wealth across the designation is provided contextually in the economic analysis and this information is weighed in considering the benefits of exclusion of particular areas.

Comment 25: One commenter stated that the analysis does not attempt to explain or quantify with any level of precision what additional costs are required by ESA section 7 consultation for design and/or operational modifications or mitigation measures.

Response: The economic analysis focused on the impacts of section 7 consultation on economic activities by first identifying the types of activities

occurring that may be subject to section 7 consultation. The analysis then estimated the regulatory burden placed upon these activities as a result of section 7 consultation. The burden estimate is based upon a review of past modifications to those activities undertaken for the benefit of salmon and steelhead, interviews with NMFS' consulting biologists, affected parties, and available documents and literature. This research on the potential costs of these modifications then determined a typical range of costs for potential project modifications that may be associated with section 7 consultation in the future.

Comment 26: One commenter stated that the economic analysis relied extensively on the agency's consultation history for economic impact estimates. Similarly, another commenter asserted that past costs are not good indicators of future costs due to streamlining of the consultation process (for example, for fire management) on Federal lands. One commenter stated that the economic analysis assumes that the population growth and economy of the impact areas are stagnant. The analysis should evaluate population and economic growth on a regional, State, and county basis, and evaluate the degree to which the listing of salmon and steelhead may have contributed to any population and economic decline.

Response: The economic analysis does not solely rely on the consultation history to estimate economic impacts. The analysis includes estimated costs associated with compliance with salmon conservation activities produced by regulated entities, including private, state, and Federal agencies, as well as published literature, where information was available. The economic analysis does not uniformly assume that all activities and associated consultations will occur at the same rate in future years as in past years. Instead, the economic analysis projects the most likely level of future activity using a broad spectrum of planning documents, geographical data, and interviews with planners and other stakeholders. Further, the economic analysis does not quantify retrospective impacts of salmon and steelhead conservation because the focus of the analysis is on future impacts associated with the critical habitat areas identified in this rulemaking. It should also be noted that consultations conducted by NMFS do not include cost estimates of implementing recommended actions. The analysis also presents detailed information on the current estimated population and population density within each of the particular areas in the proposed critical habitat designation.

Comment 27: One comment letter questioned whether there exists an acceptable or unacceptable level of negative economic impact to communities, landowners, or local governments and whether the government must consider the impacts that their decisions will have on local economies.

Response: The economic analysis provides information regarding the impact to potentially affected economic activities of the proposed critical habitat designation. This information was used to identify the particular areas according to their relative cost burden. We then weighed this information against the relative conservation value of the particular areas considering the economic and any other relevant impact of designating critical habitat. Further, concurrent with the economic analysis, we prepared an analysis of potential impacts to small entities, including small businesses and government. This analysis identified the number of small businesses and governments likely impacted by the proposed critical habitat using county-specific data on the ratio of small businesses to total businesses in each potentially affected economic sector.

Comment 28: Some commenters stated that the economic analysis used data that are overly broad or made assumptions across geographic areas that are too far reaching. For example, one commenter stated that the economic analysis assumes that the necessity and scope of modifications will be constant across ESUs for most activities, when in reality, these are likely to vary substantially.

Response: For each activity, the economic analysis examines the probability of consultation and the likelihood of modification. A variety of activity-specific information sources were used to forecast the frequency and geographic distribution of potentially affected activities. That is, frequency of consultation was not always assumed to be uniform across ESUs. The economic analysis does not, however, assume that costs increase in areas of overlapping ESUs. In other words, the presence of critical habitat for multiple ESUs is not expected to generate a greater impact than if the particular area is critical habitat for only a single ESU. Examination of the consultation history did not reveal differences in requests for modification to projects (reasonable and prudent alternatives) among the ESUs. We recognize, however, that the broad scope and scale of the analysis required us to make simplifying assumptions in order to complete the designations in a timely fashion.

Comment 29: Several commenters and a peer reviewer expressed concern that the economic analysis failed to consider the full range of economic benefits of salmon habitat conservation, and therefore, provided a distorted picture of the economic consequences of designating versus excluding habitat areas. Similarly, commenters expressed concerns that the economic impact of not designating particular areas to fishers and investors in recovery efforts should be considered in the economic analysis. Commenters specifically cited the lack of consideration in the economic analysis of the potential benefits of critical habitat designation on: (1) Decreased risk of extinction; (2) benefits to other aquatic and riparian species; (3) water quality; (4) flood control values; (5) recreation; (6) commercial fishing; (7) fish harvest for tribal uses; and (8) increased public education.

Response: As described in the economic analysis and ESA section 4(b)(2) report, we did not have information available at the scale of this designation that would allow us to quantify the benefits of designation in terms of increased fisheries. Such an estimate would have required us to determine the additional number of fish likely to be produced as a result of the designation, and would have required us to determine how to allocate the economic benefit from those additional fish to a particular watershed. Instead, we considered the ''benefits of designation'' in terms of conservation value ratings for each particular area (see ''Methods and Criteria Used to Designate Critical Habitat'' section). We also lacked information to quantify and include in the economic analysis the economic benefit that might result from such things as improved water quality or flood control, or improved condition of other species.

Moreover, we did not have information at the scale of this designation that would allow us to consider the relative ranking of these types of benefits on the ''benefits of designation'' side of the 4(b)(2) balance. Our primary focus was to determine, consider, and balance the benefits of designating these areas to conservation of the listed species. Given the uncertainties involved in quantifying or even ranking these ancillary types of benefits, we were concerned that their consideration would interject an element of uncertainty into our primary task.

Comment 30: One commenter asserted that the economic analysis did

not consider the importance of agriculture in California and how many communities rely upon the agriculture industry to survive. A number of commenters further stated that the analysis should address impacts on agriculture of a judicially imposed moratorium on pesticide use near salmon-bearing streams. The inability to use pesticides on farmland could result directly in decreases in crop yields. More specifically, the commenters believed that the economic analysis underestimates the impacts of the Washington Toxics litigation (*Washington Toxics Coalition, et al.* v. *EPA*, No. 04–35138) limiting pesticide use around salmon-supporting waters and suggests that the economic analysis should analyze the impact of this injunction.

Response: Regarding impacts to agricultural communities, we considered impacts to small businesses in our Regulatory Flexibility Act analysis. We did not otherwise separately consider economic impacts to various economically or culturally defined communities in the economic analysis or in the ESA section 4(b)(2) balancing process. For example, we also did not separately consider impacts of designation or exclusion on coastal fishing communities. As with the consideration of ancillary unquantifiable benefits of designation described above, we were concerned that including a consideration of these ancillary benefits of exclusion would inject an unacceptable level of uncertainty into our analysis.

We agree that the draft economic analysis did not adequately consider the impact of pesticide restrictions on the agricultural industry. The revised economic analysis therefore includes refined estimates of potential lost profits associated with reduced crop yields as a result of implementing pesticide restrictions across the critical habitat designation. The analysis assumes that the agricultural net revenue generated by land within certain distances of salmon-supporting waters would be completely lost. That is, the analysis assumes that no changes in behavior are undertaken to mitigate the impact of pesticide restrictions. This assumption may lead to overestimated impacts of restricting pesticide use. On the other hand, the analysis may underestimate the impact of pesticide restrictions by assuming that farmers outside the designated areas (*e.g.*, upstream) will not be restricted in their activities.

Comment 31: Several commenters stated that impacts associated with changes in the operations of the hydropower projects should be included, including impacts from projects such as Englebright Dam, Oroville Dam, and Santa Felicia Dam.

Response: The historical record shows evidence that modifications to hydropower projects in consideration of listed salmon and steelhead can affect the level of hydropower generation and generating capacity, thus affecting power prices. Flow regimes for purposes of salmon and steelhead conservation have been implemented at various projects associated with a number of regulations, including the listing of salmon and steelhead. As mentioned previously, however, the level of increased flow or spill over the dams within particular areas that may be requested associated with critical habitat for all hydropower projects is uncertain at this time, and a prospective analysis of the impacts of such efforts would be highly speculative. Many biological and hydrologic factors are considered in determining flow requirements through dams for salmon and steelhead, and the impacts of altering flow regimes to meet these requirements are highly site-specific. For example, the impact of increasing spill at a hydropower project depends on the level and timing of the spill, and on the method by which any lost power generation is replaced.

The extent to which any future changes in flow may be attributable to the designation of critical habitat, as opposed to the listing or other wildlife-related regulations, is also unclear. The interrelated nature of dam and diversion projects with hydrology across river systems makes it very difficult to attribute flow-related impacts from salmon and steelhead conservation to specific watersheds. We acknowledge this limitation of the economic analysis. The revised economic analysis includes an expanded discussion of the potential impacts of changes in flow regimes on hydropower operations.

Comment 32: One commenter stated that the Initial Regulatory Flexibility Analysis needs more citations regarding the applied sources of information.

Response: We have provided appropriate citations in the Final Regulatory Flexibility Analysis.

Comment 33: One commenter stated that the Small Business Regulatory Enforcement Fairness Act (SBREFA) analysis assumes that most compliance costs would be borne by third parties when, in fact, a significant portion of all ESA section 7 related costs are not borne by those entities, but rather are borne by the Bureau of Reclamation (BOR).

Response: In many cases it is uncertain who will bear the costs of modification. The potentially burdened parties associated with modifications to activities are identified in the economic analysis. The BOR may, in fact, bear the cost of modifications to BOR dams, Federal land management activities, and so forth. Where information is not available on a per-project basis regarding the potentially affected party, the analysis takes a conservative approach, assuming that impacts may be borne by private entities, a portion of which may be small entities.

Weighing the Benefits of Designation Versus Exclusion

Comment 34: Several commenters supported the use of a cost-effectiveness framework, one commenter explicitly objected to it, and some commenters had concerns with the way we applied it. One commenter asserted that the economic analysis ''would have been very different'' if we had evaluated the absolute conservation value of an area ''with or without [section] 7 requirements,'' rather than relative conservation values. One commenter asserted that ''[w]ithout any target level of conservation for designation, the framework does not guarantee that areas necessary for conservation will be designated.'' Another commenter asserted that weighing quantitative economic costs against qualitative habitat ratings prejudiced the ESA section 4(b)(2) analysis in favor of excluding areas lacking a high conservation value. Several commenters suggested that the 4(b)(2) process could benefit from more explanation regarding how the process was applied.

Response: We believe the comparison of benefits provides the Secretary useful information as to the benefits of any particular inclusion or exclusion. The Secretary has discretion in balancing the statutory factors, including what weight to give those factors. The ESA provides the Secretary with the discretion to exclude areas based on the economic impact, or any other relevant impact, so long as a determination is made that the benefits of exclusion outweigh the benefits of designation, and so long as the exclusion will not result in extinction of the species concerned.

Subsequent to publication of this rule, we will undertake a review of the methods and criteria applied in this rule. If the Secretary determines the critical habitat designations should be modified as a result of that review, we will propose a revised designation with appropriate opportunity for notice and comment.

Comment 35: In the proposed rule we identified a number of potential exclusions that we were considering but

were not at that time proposing, including Federal lands subject to the Northwest Forest Plan and PACFISH. Many commenters opposed these potential exclusions. Some disagreed that designation of critical habitat is unnecessary or of diminished importance in light of existing management constraints, contending that such a position is contrary to the ESA's conservation purpose and our implementing regulations and citing recent court decisions bearing on this issue. Several commenters indicated that because these ESUs are still listed, existing regulatory and voluntary mechanisms are inadequate and also noted that we concluded as such in our 2000 designations. Some commenters believed that the assumptions underlying such exclusions were unjustifiable and potentially disastrous for salmon recovery. Some commenters noted that the lack of specificity regarding which areas might be excluded as well as the lack of clear exclusion standards seriously hindered the public's ability to comment on the proposed exclusions. In contrast, several commenters supported the potential exclusions mentioned in the proposed rule. Some commenters contended that designating critical habitat on these Federal lands was duplicative with existing ESA section 7 consultation processes, inefficient (*e.g.*, citing costs of re-initiating consultation), and offers no additional conservation benefit to the listed ESUs. One commenter believed that excluding Federal lands would be consistent with our exclusion of lands subject to Integrated Natural Resource Management Plans (INRMPs) since existing land management plans provide similar protections. This commenter also cited the USFWS'' exclusion of Federal lands for bull trout (69 FR 59996; October 6, 2004) and provided information supporting the belief that we should make the same determination for salmon and steelhead ESUs.

Response: Section 4(b)(2) provides the Secretary with discretion to exclude areas from the designation of critical habitat if the Secretary determines that the benefits of exclusion outweigh the benefits of designation, and the Secretary finds that exclusion of the area will not result in extinction of the species. In the proposed rule, and the reports supporting it, we explained the policies that guided us and provided supporting analysis for a number of proposed exclusions. We also noted a number of additional potential exclusions, explaining that we were considering them because the Secretary of the Interior had recently made similar exclusions in designating critical habitat for the bull trout: ''On October 6, 2004, the FWS issued a final rule designating critical habitat for the bull trout * * *. The Secretary of the Interior found that a number of conservation measures designed to protect salmon and steelhead on Federal, state, tribal and private lands would also have significant beneficial impacts to bull trout. Therefore, the Secretary of the Interior determined that the benefits of excluding those areas exceeded the benefits of including those areas as critical habitat. The Secretary of Commerce has reviewed the bull trout rule and has recognized the merits of the approach taken by the Secretary of the Interior to these emerging issues.'' We acknowledged, in the proposed rule, however, that we lacked the analysis to propose these potential exclusions for West Coast salmon and steelhead: At this time, the Secretary of Commerce still ''has not had an opportunity to fully evaluate all of the potential exclusions, the geographical extent of such exclusions, or compare the benefits of these exclusions to the benefits of inclusion.'' Our regulations require that our proposed and final rules provide the data upon which the rule is based (50 CFR 424.16; 50 CFR 424.18).

Recently, in response to the Department of Interior's request, a District Court has remanded the bull trout rule to the Department of Interior for further rulemaking. *Alliance for the Wild Rockies and Friends of the Wild Swan* v. *David Allen and United States Fish and Wildlife* (CV 04–1812). In seeking the remand the Department of Interior noted that it intends to reconsider the 4(b)(2) exclusions in the proposed rule and that it recently issued a **Federal Register** notice seeking comment on those exclusions (70 FR 29998; May 25, 2005). In response, we received extensive comment from those supporting and opposing these potential exclusions. Based on our review of the information received and the short time between the close of the comment period and the court-ordered deadline for completing this rulemaking, we are unable to conclude at this time that the benefits of excluding these areas outweigh the benefits of designation, with the exception of areas covered by two habitat conservation plans, discussed below.

Nevertheless, we will continue to study this issue and alternative approaches in future rulemakings designating critical habitat. In particular, we intend to analyze the planning and management framework for each of the ownership categories proposed for consideration for exclusion. In each case, we envision that the planning and management framework would be evaluated against a set of criteria, which could include at least some or all of the following:

1. Whether the land manager has specific written policies that create a commitment to protection or appropriate management of the physical or biological features essential to long-term conservation of ESA-listed salmon and steelhead.
2. Whether the land manager has geographically specific goals for protection or appropriate management of the physical or biological features essential to long-term conservation of ESA-listed salmon and steelhead.
3. Whether the land manager has guidance for land management activities designed to achieve goals for protection or appropriate management of the physical or biological features essential to long-term conservation of ESA-listed salmon and steelhead.
4. Whether the land manager has an effective monitoring system to evaluate progress toward goals for protection or appropriate management of the physical or biological features essential to long-term conservation of ESA-listed salmon and steelhead.
5. Whether the land manager has a management framework that will adjust ongoing management to respond to monitoring results and/or external review and validation of progress toward goals for protection or appropriate management of the physical or biological features essential to long-term conservation of ESA-listed salmon and steelhead.
6. Whether the land manager has effective arrangements in place for periodic and timely communications with NOAA on the effectiveness of the planning and management framework in reaching mutually agreed goals for protection or appropriate management of the physical or biological features essential to long-term conservation of ESA-listed salmon and steelhead.

Comment 36: In the proposed rule we requested comments on the potential exclusion of lands subject to conservation commitments by state and private landowners reflected in habitat conservation plans (HCPs) approved by NMFS. Some commenters (none however with NMFS-approved HCPs) concurred with the potential exclusion of lands covered by an HCP, believing that we would not likely secure additional conservation benefits by designating these areas as critical habitat. Some commenters acknowledged the potential educational benefits of designation but asserted that designating HCP lands could have an

unintended consequence of damaging existing and future cooperative relationships. These commenters additionally noted that HCPs have already undergone extensive environmental review and ESA section 7 consultation and been found to not likely jeopardize the species.

Several commenters disagreed with the potential exclusion of lands covered by HCPs, believing it would be contrary to the ESA, and some cited recent litigation bearing on this issue (*e.g.*, *Center for Biological Diversity* v. *Norton*, 240 F. Supp. 2d 1090 (D. Ariz. 2003); *Gifford Pinchot Task Force* v. *FWS*, 378 F. 3d 1059 (9th Cir. 2004). One commenter did not support such exclusions because of the belief that there are no guarantees the plans will remain in place when, for example, ownership changes or landowners change their minds. Some commenters believed that we failed to adequately describe the benefits of designation as they pertain to these potential exclusions.

Response: The analysis required for these types of exclusions, as with all others, first requires careful consideration of the benefits of designation versus the benefits of exclusion to determine whether benefits of exclusion outweigh benefits of designation. The benefit of designating critical habitat on non-Federal areas covered by an approved HCP or another type of conservation agreement depends upon the type and extent of Federal activities expected to occur in that area in the future. Activities may be initiated by the landowner, such as when the landowner seeks a permit for bank stabilization, water withdrawal, or dredging. Where the area is covered by an HCP, the activity for which a permit is sought may or may not be covered by the HCP. For example, an HCP covering forestry activities may include provisions governing construction of roads, but may not include provisions governing bank stabilization or pesticide application. The activity may be initiated by the Federal agency without any landowner involvement, such as when a Federal agency is involved in building a road or bridge, dredging a navigation channel, or applying a pesticide on Federal land upstream of the HCP-covered area. In analyzing the benefits of designation for these HCP-covered areas, we must consider which Federal activities are covered by the HCP and which are not. Where activities are covered by the HCP, we must consider whether an ESA section 7 consultation on that particular activity would result in beneficial changes to the proposed action over and above what is achieved under the HCP. Designation may also benefit the species by notifying the landowner and the public of the importance of an area to species' conservation.

On the other side of the balance are the benefits of exclusion. We believe the primary benefits of exclusion are related to the conservation benefits to the species that come from conservation agreements on non-Federal land. If a landowner considers exclusion from critical habitat as a benefit, exclusion may enhance the partnership between NMFS and the landowner and thus enhance the implementation of the HCP or other agreement. If other landowners also consider exclusion from critical habitat as a benefit, our willingness to exclude such areas may provide an incentive for them to seek conservation agreements with us. Improved implementation of existing partnerships, and the creation of new conservation partnerships, would ultimately benefit conservation of the species.

Conservation agreements with non-Federal landowners enhance species conservation by extending species' protections beyond those available through other ESA provisions. ESA section 7 applies only to Federal agency actions. Section 7 consultation requirements protect listed salmon and steelhead on Federal lands and whenever a Federal permit or funding is involved in non-Federal actions, but its reach is limited. The vast majority of activities occurring in riparian and upland areas on non-Federal lands do not require a Federal permit or funding and are not addressed by section 7. In contrast, instream activities generally do require a Federal permit, and therefore, are subject to the requirements of section 7. The ability of the ESA to induce landowners to adopt conservation measures lies instead in the take prohibitions of sections 9(a) and 4(d). Many landowners have chosen to put conservation plans in place to avoid any uncertainty regarding whether their actions constitute 'take'.

Beginning in 1994, when we released our draft HCP Handbook for public review and comment, we have pursued policies that provide incentives for non-Federal landowners to enter into cooperative partnerships, based on a view that we can achieve greater species' conservation on non-Federal land through HCPs than we can through coercive methods (61 FR 63854; December 2, 1996). Before we approve an HCP and grant an incidental take permit, we must conduct a rigorous analysis under ESA section 10. The HCP must specify the impact likely to result from take, what steps the applicant will take to minimize and mitigate such impacts, and the funding available to implement such steps. The applicant must have considered alternative actions and explained why other alternatives are not being pursued, and we may require additional actions necessary or appropriate for the purposes of the plan. Before an HCP can be finalized, we must conclude that any take associated with implementing the plan will be incidental, that the impact of such take will be minimized and mitigated, that the plan is adequately funded, and that the take will not appreciably reduce the likelihood of the survival and recovery of the species in the wild. The HCP undergoes environmental analysis under the National Environmental Policy Act (NEPA), and we conduct a section 7 consultation with ourselves to ensure granting the permit is not likely to jeopardize the continued existence of the species or destroy or adversely modify designated critical habitat.

Based on comments received, we could not conclude that all landowners view designation of critical habitat as imposing a burden on the land, and exclusion from designation as removing that burden and thereby strengthening the ongoing relationship. Where an HCP partner affirmatively requests designation, exclusion is likely to harm rather than benefit the relationship. We anticipate further rulemaking in the near future to refine these designations, for example, in response to developments in recovery planning. In order to aide in future revisions, we will affirmatively request information from those with approved HCPs regarding the effect of designation on our ongoing partnership. We did not consider pending HCPs for exclusion, both because we do not want to prejudge the outcome of the ongoing HCP process, and because we expect to have future opportunities to refine the designation and consider whether exclusion will outweigh the benefit of designation in a particular case.

Comment 37: We received a request from the Sonoma County Grape Growers Association and the United Winegrowers for Sonoma County to consider a determination to exclude all occupied areas in Sonoma County from critical habitat for California coastal chinook and central California coast *O. mykiss* based on the conservation value of a suite of cooperative and voluntary conservation efforts being implemented and developed by local government and the private sector, primarily the viticultural industry, in Sonoma County.

Response: These efforts may currently provide a significant conservation benefit to the listed species, and offer the promise of even greater benefits in the future. The measures include the Vineyard Erosion and Sedimentation Control Ordinance adopted by the Sonoma County Board of Supervisors; the Fish Friendly Farming Program; the North Sonoma County Agricultural Reuse Project; the planned Russian River Property Owners Association Fisheries Management Plan; the Integrated Pest Management/Organic Grape Production initiatives; and the Code of Sustainable Winegrowing Practices. The submission can be found electronically at *http://swr.nmfs.noaa.gov/.*

The request suggests the benefits of excluding the area covered by these measures from critical habitat may outweigh the benefits of including it as critical habitat because it provides conservation measures on private land in an area dominated by private ownership, which is generally beyond the reach of ESA section 7, and may therefore provide a greater benefit for the species than a critical habitat designation. Private landowners would be encouraged to participate in these voluntary programs if their lands were excluded from critical habitat.

We received this request on July 21, 2005, so we did not have time to evaluate this request as part of this rulemaking process, and could not defer the rule to accommodate a review because we are under court order to submit this final rule to the **Federal Register** by August 15, 2005. However, we are committed to working with local governments and private landowners in cooperative conservation efforts under Executive Order (E.O.) 13352 (August 26, 2004). As stated above, we anticipate further rulemaking in the near future to refine these designations. Accordingly, we expect to complete an evaluation of the conservation benefits of the measures described by the Sonoma County Grape Growers Association and the United Wine growers for Sonoma County by the end of 2005. If we find that in light of the conservation value of these measures, the benefit of excluding these private lands outweighs the benefits of including them as critical habitat, we will act promptly to propose a revision to this designation.

Comment 38: Some commenters addressed the exclusion of Indian Lands. All of the commenting Tribes and the Bureau of Indian Affairs (BIA) reiterated their support for the exclusions.

Response: This final rule maintains the exclusion of Indian lands for the reasons described in the ''*Exclusions Based on Impacts to Tribes*'' section below.

Comment 39: A few commenters addressed our assessment of INRMPs and the exclusion of Department of Defense (DOD) areas due to impacts on national security. DOD agencies supported the exclusion of military lands based on both the development of INRMPs as well as national security impacts, while other commenters did not support such exclusions. One commenter argued that we should not use the general ''national security'' language in ESA section 4(b)(2) to remove our obligation to comply with the demand for adequate INRMPs.

Response: Pursuant to section 4(a)(3)(B)(i) of the ESA (16 U.S.C. 1533(a)(3)(B)(i)), we contacted the DOD, and, after evaluating the relevant INRMPs, we concluded that, as implemented, they provide conservation benefits greater than or equal to what would be expected to result from an ESA section 7 consultation. We also determined that two of these INRMP sites (Camp Pendleton and Vandenberg Air Force Base) should be excluded from designation due to potential impacts on national security. See the ''Military Lands'' and the ''Exclusions Based on National Security Impacts'' sections below.

Effects of Designating Critical Habitat

Comment 40: Some commenters noted that the success of watershed management and restoration efforts is dependent on critical habitat protections, noting that designations assist local recovery planning efforts and provide leverage in obtaining funding and cooperation. Several commenters expressed concern that excluding areas from designation, particularly areas identified in existing recovery efforts as important for salmon, would undermine ongoing regional and local recovery planning efforts by signaling that these areas are not important for recovery.

Response: We acknowledge that critical habitat designations can serve an important educational role and that they can assist local recovery planning and implementation efforts. The ESA requires that we use the best available scientific data to evaluate which areas warrant designation and that we balance the benefits of designation against the benefits of excluding particular areas. In so doing, it is possible that some areas subject to ongoing restoration activities may have been excluded from designation. However, such exclusions do not indicate that the areas are unimportant to salmon or steelhead, but instead reflects the practical result of following the ESA's balancing of benefits as required under section 4(b)(2). We are hopeful that the information gathered and the analyses conducted to support these final designations (such as species distribution, watershed conservation value, and economic impacts from section 7 consultations) will be viewed as valuable resources for local recovery planners. As recovery planning proceeds and we determine that additional or different areas warrant designation or exclusion, we can and will make needed revisions using the same rulemaking process.

Comment 41: Several commenters asked for clarification regarding how we will make adverse modification determinations in ESA consultations. One commenter also suggested that a finding of adverse modification would need to be contingent on the habitat conditions existing at the time of designation. They noted that, where such conditions are the result of past and present management actions, and where those existing conditions would not be altered through proposed future actions, it is their belief that consultation on such future actions would result in a ''no adverse modification'' determination.

Response: In *Gifford Pinchot Task Force* v. *United States Fish and Wildlife Service,* 378 F. 3d 1059 (9th Cir. 2004), the Court of Appeals for the Ninth Circuit Court ruled that the USFWS' regulatory definition of ''destruction or adverse modification'' of critical habitat, which is also NMFS' regulatory definition (50 CFR 402.02), is contrary to law. Pending issuance of a new regulatory definition, we are relying on the statutory standard, which relates critical habitat to conservation of the species. The related point raised by one commenter regarding the relevance of habitat conditions at the time of listing when making an adverse modification determination cannot be answered in a generic way and would depend on the facts associated with a specific consultation.

Comment 42: Some commenters objected to the potential land use regulations that critical habitat designation would prompt, citing specific cases where local agencies have imposed buffers and/or other restrictions to protect ESA-listed fish.

Response: The ESA requires that we designate critical habitat and these designations follow that statutory mandate and have been completed on a schedule established under a Consent Decree. Whether and if local jurisdictions will implement their

authorities to issue land use regulations is a separate matter and is not under our control.

Comment 43: Several commenters believed that we fail to (or inadequately) address required determinations related to a number of laws, regulations, and executive orders, including the NEPA, Regulatory Flexibility Act, and Data Quality Act.

Response: Our response to each of these issues are described below, and we also direct the reader to the ''Required Determinations'' section to review our response to each of the determinations relevant to this rulemaking.

(a) *NEPA*—We believe that in *Douglas County* v. *Babbitt,* 48 F.3d 1495 (9th Cir. 1995), cert. denied, 116 S. Ct. 698 (1996) the court correctly interpreted the relationship between NEPA and critical habitat designation under the ESA. The Court of Appeals for the Ninth Circuit rejected the suggestion that irreconcilable statutory conflict or duplicative statutory procedures are the only exceptions to application of NEPA to Federal actions. The court held that the legislative history of the ESA demonstrated that Congress intended to displace NEPA procedures with carefully crafted procedures specific to critical habitat designation. Further, the Douglas County Court held that the critical habitat mandate of the ESA conflicts with NEPA in that, although the Secretary may exclude areas from critical habitat designation if such exclusion would be more beneficial than harmful, the Secretary has no discretion to exclude areas from designation if such exclusion would result in extinction. The court noted that the ESA also conflicts with NEPA's demand for impact analysis, in that the ESA dictates that the Secretary ''shall'' designate critical habitat for listed species based upon an evaluation of economic and other ''relevant'' impacts, which the court interpreted as narrower than NEPA's directive. Finally, the court, based upon a review of precedent from several circuits including the Fifth Circuit, held that an environmental impact statement is not required for actions that do not change the physical environment.

(b) *Regulatory Flexibility Act*—We have prepared a final regulatory flexibility analysis that estimates the number of regulated small entities potentially affected by this rulemaking and the estimated coextensive costs of section 7 consultation incurred by small entities. As described in the analysis, we considered various alternatives for designating critical habitat for these seven ESUs. After considering these alternatives in the context of the ESA section 4(b)(2) process of weighing the benefits of exclusion against the benefits of designation, we determined that our current approach to designation provides an appropriate balance of conservation and economic mitigation and that excluding the areas identified in this rulemaking would not result in extinction of the ESUs. Our final regulatory flexibility analysis estimates how much small entities will save in compliance costs due to the exclusions made in these final designations.

(c) *Data Quality Act*—One commenter asked if we had complied with the Data Quality Act. We have reviewed this rule for compliance with that Act and found that it complies with NOAA and OMB guidance.

(d) *Negotiated Rulemaking Act (5 U.S.C. 561 et seq.)*—One commenter asserted that we should have engaged in negotiated rulemaking to issue this final critical habitat designation. This is an interesting idea and could be pursued in future critical habitat rulemaking. However, because a court approved consent decree governs the time frame for completion of this final rule, we do not feel that there was ample time to comply with the numerous processes defined in the Negotiated Rulemaking Act for this rulemaking. For example, the Negotiated Rulemaking Act provides that if the agency decides to use this tool it must follow Federal Advisory Committee Act procedures for selection of a committee, conduct of committee activities, as well as specific documentation processes (See *Negotiated Rulemaking Source Book,* 1990).

(e) *Intergovernmental Cooperation Act*—One commenter asserted that we did not properly and fully coordinate with local governments and did not comply with the Intergovernmental Cooperation Act. First, the commenter did not provide a statutory citation for the Intergovernmental Cooperation Act. Although we are reluctant to speculate on that Act, we believe the comment is in reference to the Intergovernmental Cooperative Act, Public Law 90–577, 82 Stat. 1098 (1968) as amended by Public Law 97–258 (1982) (codified at 31 U.S.C. 6501–08 and 40 U.S.C. 531–35 (1988)). This Act addresses Federal grants and development assistance. Accordingly, we do not find it relevant to the mandatory designation of critical habitat under the ESA. To the extent that the commenter's concern is assuring that state, local and regional viewpoints be solicited during the designation process, the ESA and our implementing regulations provides for public outreach (16 U.S.C. 1533 (b)(3)(A); 50 CFR 424.16). As noted in response to Comment 1, we actively sought input from all sectors beginning with an ANPR (68 FR 55926; September 29, 2003) and culminating in four public hearings to facilitate comment from the interested public in response to the proposed rule. In addition we met with several local governments and made ourselves available to meet with others.

(f) *National Historic Preservation Act (NHPA)*—One commenter asserted that we failed to comply with the NHPA (16 U.S.C. 470–470x–6). The NHPA does not apply to this designation. The NHPA applies to ''undertakings.'' ''Undertakings'' are defined under the implementing regulations as ''a *project, activity* or *program* funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; those requiring a Federal permit, license or approval; and those subject to State or local regulation administered pursuant to a delegation or approval by a Federal agency.'' (emphasis added) (36 CFR 800.16). The mandatory designation of specific areas pursuant to the criteria defined in the ESA does not constitute an ''undertaking'' under the NHPA.

(g) *Farmland Protection Policy Act (FPPA)*—One commenter asserted that we failed to comply with FPPA (7 U.S.C. 4201). The FFPA does not apply to this designation. The FPPA applies to Federal programs. Federal programs under the Act are defined as ''those activities or responsibilities of a department, agency, independent commission, or other unit of the Federal Government that involve: (A) Undertaking, financing, or assisting construction or improvement projects; or (B) acquiring, managing or disposing of Federal lands and facilities. The designation of critical habitat does not constitute a ''Federal program'' under the FFPA.

(h) *Unfunded Mandates Reform Act*—One commenter asserted that we failed to properly conduct and provide an unfunded mandates analysis because, the commenter contended, we based our decision solely on public awareness of the salmon listings. This is not the case. In the proposed rule, we found that the designation of critical habitat is not subject to the Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq.*) and explained in detail why this is the case.

(i) *Federalism*—One commenter asserted that we failed to properly comply with E.O. 13132. In the proposed rule, we found that the designation of critical habitat does not

have significant Federalism effects as defined under that order, and, therefore, a Federalism assessment is not required. We find nothing in the commenter's assertions to warrant changing our original determination.

(j) *Takings*—One commenter disputed our conclusion in the proposed rule that the designations would not result in a taking. The commenter offered no information or analysis that would provide a basis for a different conclusion.

(k) *Civil Justice Reform*—One commenter asserted that we failed to properly conduct and provide a Civil Justice Reform analysis pursuant to E.O. 12988, the Department of Commerce has determined that this final rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of the E.O. We are designating critical habitat in accordance with the provisions of the ESA. This final rule uses standard property descriptions and identifies the PCEs within the designated areas to assist the public in understanding the habitat needs of the 12 salmon and steelhead ESUs.

ESU-Specific Issues

ESU Specific Comments—California Coastal Chinook Salmon

Comment 44: One private timberland owner commented that the freshwater distribution of Chinook salmon that we developed and used for their land ownership had errors in occupancy and/or upstream distribution limits. The landowner provided us with distribution information they had developed for their ownership so that the distribution information and resulting final critical habitat designation for this ESU would be more accurate.

Response: Following a review of this new information by the CHART, we incorporated it into our database and made changes in the mapped distribution of this ESU for the commenter's land ownership. The new information changed the distribution of Chinook in the following streams and Calwater HSAs: Maple Creek (110810), Little River (110820), and the Mad River (110920 and 110930). Overall, these changes in distribution were minor and increased the total occupied stream miles for this ESU by only 0.6 mi (1.0 km). Based on a reassessment by the CHART, these changes in distribution did not change the occupancy status (i.e. occupied to unoccupied or vice versa) or conservation value of any of the affected HSAs, and therefore, the economic analysis did not require revision.

Comment 45: A few commenters questioned why there was no proposed critical habitat connecting those portions of the mainstem Eel River in HSA 111142 with the high value habitat areas in the upper tributaries of the middle Fork Eel River in HSA 111172.

Response: In the proposed rule, HSA watershed 111171 was proposed for exclusion based on high economic cost (high benefit of exclusion) and relatively low benefit of designation. However, because the upper tributaries of the middle Fork Eel in HSA 111172 were rated as having high conservation value, the mainstem middle Fork Eel in HSA 111171 should have been designated as a migratory corridor to provide connectivity between critical habitat farther downstream in the mainstem Eel River and the high value tributaries that were proposed for designation. This was an error that has been corrected in the final rule. The final designation excludes HSA 111171 as was the case in the proposed rule, but designates the mainstem of the middle Fork Eel River, which serves as a migratory corridor for the high value upstream tributaries, as critical habitat.

Comment 46: A commenter questioned the conservation ratings and proposed designations for five of the seven occupied HSAs comprising the Mendocino Coast Subbasin (HU 1113). The commenter specifically questioned the historic and current presence of Chinook in these watersheds and thought any Chinook that did occur in these watersheds were likely strays from other watersheds.

Response: The CHART considered these comments and reviewed its original assessments. It concluded that its original conservation value ratings were appropriate based on the ranking criteria that were used and the information that was available, and that these areas met the definition of critical habitat under the ESA. Accordingly, the conservation value ratings for these HSA watersheds were not changed. Based on the ESA section 4(b)(2) analysis conducted for the final rule, however, HSA watershed 111350 (Navarro River) in this Subbasin was excluded from the final designation for this ESU.

Comment 47: One commenter questioned the proposed designation of critical habitat for this ESU in the Austin Creek HSA (111412) and Mark West HSA (111423), based on the view that neither watershed supported a historically self sustaining run and that Chinook in both streams were most likely strays from other watersheds.

Response: The CHART considered this comment and reviewed its original assessments. It concluded that its original conservation value ratings were appropriate based on the ranking criteria that were used and the information that was available, and that these areas met the definition of critical habitat under the ESA. Accordingly, the conservation value ratings for these HSA watersheds were not changed. Based on the ESA section 4(b)(2) analysis conducted for the final rule, however, HSA 111423 (Mark West Creek) in this Subbasin was excluded from the final designation for this ESU.

Comment 48: A property owners' association on the Russian River that controls land adjacent to portions of the Russian River in HSAs 111425 and 111424 requested that its lands be excluded from the final designations for California Coastal Chinook (and Central California Coast steelhead) because it has developed a Watershed Management Plan to manage its lands and because the benefits of excluding its lands outweigh the benefits of including them in the designation.

Response: We are very supportive of the development and implementation of this plan and have in fact participated in its development. However, we do not think this plan qualifies as the basis for excluding these lands from the final designation for either ESU at present, since it is not completed. Once the plan is completed, we will evaluate it to determine whether the benefits of excluding the habitat areas in question will outweigh the benefits of designation. In making this assessment we will evaluate the plan in the same manner as we would evaluate an approved habitat conservation plan (see *Impacts to Landowners with Contractual Commitments to Conservation* section). If we determine that the benefits of exclusion outweigh the benefits of designation, then we will initiate the appropriate rulemaking to refine the critical habitat designations.

ESU Specific Comments—Northern California Steelhead

Comment 49: Two private timberland owners commented that the freshwater distribution of steelhead that we developed and used for their land ownership had errors in occupancy and/or upstream distribution limits. Both landowners provided us with distribution information they had developed for their ownership so that the fish distribution information we used for the final critical habitat designation for this ESU would be more accurate.

Response: Following a review of this new information by the CHART, we incorporated it into our database and made changes in the mapped distribution of this ESU for the commenters' land ownership. The new information from one of the landowners changed the distribution of steelhead in the following streams and Calwater HSAs: Maple Creek (110810), Redwood Creek (110720), Little River (110820), Mad River (110920 and 110930), and several small streams including Rocky Gulch, Washington Gulch, Jacoby Creek, Freshwater Creek, and Salmon Creek (111000). Overall, these changes in distribution were minor and increased the total occupied stream miles for this ESU by only 1.1 mi (1.8 km). The changes in distribution did not affect the occupancy or conservation value rating for any of these HSAs. The new information from the other landowner changed the distribution of steelhead in the following streams and HSAs: SF Eel (111132, 111133), Usal Creek (111311), Wages Creek (111312), Ten Mile River (111313), Mill Creek, Pudding Creek and the Noyo River (111320), Big River (111330) and Salmon Creek (111340). Overall, this new information decreased the occupied stream miles for the ESU by approximately 17 miles and affected 8 HSAs. Based on a re-assessment by the CHART, these changes in distribution did not change the occupancy status (i.e. occupied to unoccupied or vice versa) or conservation value of any of the affected HSAs, and therefore, the economic analysis did not require revision.

ESU Specific Comments—Central California Coast Steelhead

Comment 50: One commenter requested that San Francisquito Creek and Los Trancos Creek in HSA 220550 be excluded from the critical habitat designation for this ESU because of the economic impact of designation and because neither creek requires special management considerations. A second commenter requested that San Francisquito Creek not be designated because of the regulatory burden and because the economic impacts on water supply were not included in the economic analysis. The second commenter also identified a labeling error concerning West Union Creek.

Response: We disagree with the first commenter and believe that these streams do require special management considerations. Both streams have extensive zones of healthy riparian vegetation and habitat and support significant steelhead populations in the San Francisco Bay area. These relatively healthy habitats and populations are unique to the San Francisco Bay area, and therefore, the CHART believes they require special management considerations. The commenter has many programs in place that benefit both creeks, but there are also many unresolved habitat issues that remain to be addressed. For example, on Los Trancos Creek a poorly designed fish ladder needs to be replaced, and several other fish passage issues remain. In addition, NMFS and CDFG have discussed the inadequate bypass flows on Los Trancos Creek below the commenter's water diversion for the past several years, but have yet to resolve the issue. Special management considerations are also necessary to address ongoing and expanding impacts of urbanization on the San Francisco Peninsula. We considered the impacts of designating the HSA watershed containing these creeks in the proposed rule and again using a revised procedure for the final rule. Based on the ESA section 4(b)(2) analysis used for the final rule, we concluded that the benefits of including this HSA watershed in the designation (medium conservation value to the ESU) outweighed the benefits of excluding it from the designation. On the basis of this analysis, therefore, we do not think there will be an unwarranted regulatory burden placed on these commenters or any other entities that may need to obtain Federal permits and consult with NMFS in this HSA watershed. We acknowledge the comment that water supply impacts were not considered in the proposed rule or in the revised 4(b)(2) process for the final rule, but we have addressed water supply impacts as a general issue in greater detail in the final economic analysis for this rule.

Comment 51: One commenter argued that Suisun and Wooden Valley Creeks in HSA 220722 do not provide suitable habitat for steelhead and that designation is not justified because surrounding HSAs were not proposed for designation.

Response: We disagree with the commenter and believe that Suisun and Wooden Valley Creeks currently support a population of steelhead and do provide suitable habitat for rearing, spawning and migration (and thus, the PCEs that support these habitat uses). The reports cited by the commenter include a discussion of limiting factors in Suisun Creek, but also include several favorable findings regarding steelhead habitat conditions in the watershed. These findings suggest that there is suitable habitat for steelhead in the watershed and that steelhead spawned in Suisun Creek in 2000–2001. Based on the information available, therefore, we believe that the medium conservation rating originally made by the CHART for this HSA watershed is appropriate. The revised ESA section 4(b)(2) exclusion analysis conducted for the final rule, however, considered section 7 opportunities within HSA watersheds and adjusted the benefits of inclusion in critical habitat accordingly. In the case of this HSA, this re-consideration resulted in a reduced assessment of the benefits of designating this watershed. Based on this revised benefit of designation in the final 4(b)(2) analysis, we have concluded that the benefits of excluding this HSA from the designation outweigh the benefits of designating it. Accordingly, this HSA watershed and the streams in question have been excluded from the final critical habitat designation.

Comment 52: Several commenters raised issues concerning our proposal to include the upper Alameda Creek watershed (which supports resident *O. mykiss* considered to be part of this ESU; see 69 FR 33101; June 14, 2004) in the critical habitat designation for this ESU. Comments ranged from support for designation of this watershed to requests that it not be designated. Issues were raised about the adequacy of the economic analysis supporting the ESA section 4(b)(2) analysis, the mapped distribution of proposed critical habitat in the watershed, the suitability of the habitat in upper Alameda Creek for steelhead, and the lack of access for steelhead.

Response: We recognize that the upper Alameda Creek watershed (HSA 220430) is not accessible to anadromous steelhead; however, the CHART treated this watershed as occupied in the analysis supporting the proposed rule because there are resident *O. mykiss* populations in the upper watershed that we had previously proposed for inclusion in this ESU (69 FR 33101). In its original analysis, the CHART concluded that this watershed had high conservation value to the ESU, contained the requisite PCEs to support the ESU, and that special management considerations were required to protect these PCEs. Based on this assessment and the original 4(b)(2) analysis which considered the benefits of including this watershed against the benefits of excluding it, we proposed to include it in the designation, as well as a migratory corridor to San Francisco Bay through a portion of the adjacent watershed (HSA 220420) that was proposed for exclusion. We recently invoked a statutory 6-month extension on our final listing determination for this ESU (70 FR 37219) based on concerns raised by the USFWS, and,

therefore, at the time of publication of this final critical habitat rule, these resident populations of *O. mykiss* will not be included in this ESU and listed. Because our original proposal was premised on the upper Alameda Creek watershed being occupied by resident fish that were part of this ESU and a final listing determination concerning these populations will not be made before December 2005, we have not included this watershed in the final critical habitat designation for this ESU. A decision about whether to designate this watershed as critical habitat for this ESU will be made concurrently with the final listing determination for this ESU in December 2005.

Comment 53: One commenter opposed inclusion of the Guadelupe River/Los Gatos Creek watershed in the proposed critical habitat designation for this ESU.

Response: The watershed (HSA 220540) containing the upper portion of Guadelupe River and Los Gatos Creek was not included in the proposed designation. Occupied habitat in this watershed was excluded from the proposed rule based on the ESA section 4(b)(2) analysis which concluded that the economic benefits of exclusion outweighed the biological benefits of inclusion. The watershed unit (HSA 220550) which contains the lower portion of the Guadelupe River, however, was included in the proposed designation. It is also included in the final critical habitat designation for this ESU because the biological benefits of including the occupied stream habitat in this watershed outweigh the economic benefits of its exclusion.

Comment 54: One commenter argued that Arroyo Corte Madera del Presidio Stream in HSA watershed 220320 should be designated as critical habitat for this ESU because it is occupied by this ESU. The same commenter also questioned the exclusion of HSA 220330 from the proposed designation.

Response: Exclusion of this stream from proposed critical habitat in HSA 220320 was the result of a technical mapping error in the proposed rule. The CHART evaluated this stream for the proposed rule and concluded it was occupied and met the definition of critical habitat. Accordingly, it has been included in the final designation for this ESU. Occupied habitat in HSA 220330 was excluded from the proposed rule and in this final rule based on the results of the 4(b)(2) analysis, which indicated the economic benefits of exclusion outweighed the biological benefits of including these stream reaches in the designation for this ESU.

Comment 55: One commenter argued that occupied habitat in HSA 220330 in the east Bay of San Francisco should be designated as critical habitat for this ESU.

Response: Occupied habitat (Codornices Creek) in this HSA was excluded from the proposed designation because the conservation value of this habitat was judged by the CHART to be low (low habitat quantity and quality, low restoration potential, no unique attributes, and small population size), and the economic benefits of excluding this habitat outweighed the biological benefits of designation. The CHART did not receive any new information to change its previous determination, and, therefore, reaffirmed that it has low conservation value and that its exclusion would not impede the conservation of this ESU.

Comment 56: One commenter recommended that several additional, but small, stream reaches in the San Francisquito watershed, as well as an unoccupied habitat above an impassable dam (Searsville Dam), be designated as critical habitat for this ESU.

Response: Based on a review of the information provided by the commenter, the CHART concluded that some additional stream reaches in this watershed should be considered occupied, meet the definition of critical habitat, and should be designated as critical habitat. Because this watershed was not excluded from the designation as a result of the final ESA 4(b)(2) analysis, additional stream reaches qualifying as critical habitat have been added to the final designation. These include: a short reach of Corte Madera Creek to the base of Searsville Dam, approximately 2.5 mi (4 km) of West Union Creek above the confluence with Bear Creek, a short reach of Bear Gulch Creek up to the California Water Service Upper Diversion Dam, a small portion of Squealer Gulch above the confluence with West Union Creek, and a small portion of McGarvey Gulch above the confluence with West Union Creek.

Comment 57: One commenter requested the exclusion of several streams in Hydrologic Unit 3304 from the critical habitat designation, including Laguna Creek, Liddell Creek, Majors Creek, Arana Gulch, San Lorenzo River, Branciforte Creek, Newell Creek, and Zayante Creek because the commenter believes the benefits of excluding these areas outweigh the benefits of designating them. The rationale is that: (1) The commenter is developing an HCP that will address these streams and a designation could hinder its completion; and (2) a designation would increase the regulatory costs and burdens on the city beyond those already in place. The commenter also raised concerns about the regulatory uncertainty associated with critical habitat because of the 2004 Gifford Pinchot case.

Response: We disagree with the commenter and continue to believe that the benefits of including these streams in the critical habitat designation outweigh the benefits of excluding them. For the proposed critical habitat designation, the CHART evaluated the HSA watersheds containing the streams identified by the commenter (HSAs 330411 and 330412) and concluded that the occupied streams in both HSAs had high conservation value for this ESU and that there was a need for special management consideration or protections. Based on this assessment and the results of the ESA section 4(b)(2) analysis conducted for the proposed designation, including the consideration of potential economic impacts, we concluded that the benefits of designating the occupied streams in both watersheds were higher than the benefits of excluding them. The commenter did not provide any new scientific information to change our assessment of the benefits of designating these streams, and thus we continue to believe they have a high biological value to the ESU. As part of the 4(b)(2) analysis conducted for the final rule, however, we did reduce our assessment of the benefit of designating occupied habitat in these two HSA watersheds because they both met a ''low section 7 leverage'' profile, which we believed reduced the benefits of section 7 consultation (see discussion in *Critical Habitat Analytical Review Teams* section).

We continue to be supportive of the commenter's efforts to develop an HCP and believe completion of an HCP that meets the requirements of section 10 of the ESA will provide substantial benefits to steelhead and its habitat in these streams. However, negotiations are still ongoing, and an HCP has not been completed. Until an HCP is completed and an incidental take permit is issued, the potential conservation benefits to steelhead and its habitat are uncertain. For this reason, we believe it is premature to consider the potential benefits of such a conservation plan in the 4(b)(2) analysis for this final designation. Whether or not the commenter would experience an increased regulatory burden or higher costs with a critical habitat designation in place is uncertain. Even without critical habitat in place, the commenter is likely to incur costs associated with ESA section 7 consultations,

development of an HCP, and/or efforts to avoid take. We did consider the economic impacts of critical habitat designation in both the proposed and final rules and in doing so analyzed the full costs of section 7 implementation, not just the costs associated with critical habitat implementation. In approaching the economic analysis this way, we believe that we have likely overstated the economic impacts of critical habitat designation. The final 4(b)(2) analysis for this designation considered both the reduced benefit of including HSA watersheds 330411 and 330412 and the final economic impacts for these watersheds. Based on our consideration of this information, we concluded that the benefits of designating the occupied stream reaches in HSAs 330411 and 330412, including the streams of concern to the commenter, outweighed the benefits of excluding them from the final designation.

ESU Specific Comments—South-Central Coast Steelhead

Comment 58: One commenter questioned the conservation value of the San Benito watershed (HSA 330550) and also argued that unoccupied habitat areas above Uvas Creek Dam were not essential for the conservation of this ESU.

Response: The San Benito watershed unit (HSA 330550) was rated as having medium conservation value to this ESU by the CHART based on factors used to conduct the conservation value rating and ranking effort. For the proposed critical habitat ESA section 4(b)(2) analysis, therefore, we attributed a medium benefit of designation to this watershed unit. For the final designation, we conducted a revised 4(b)2 analysis that modified the biologically based conservation value scores if they met a ''low section 7 leverage'' profile which we believe reduce the benefits of section 7 consultation (see discussion in *Critical Habitat Analytical Review Teams* section). In the case of HSA 330550, we determined that there was relatively low section 7 leverage which reduced the benefits of section 7 consultation, and therefore, reduced the benefit of inclusion from medium to low. Based on this low benefit level and comparatively high economic costs associated with section 7 consultations in this watershed unit, this watershed was considered for possible exclusion. However, the CHART reviewed the available biological and other information for this watershed unit and concluded that its exclusion would impede the conservation of this ESU. This determination was based on the size of the San Benito River and its contribution of habitat to the Pajaro River Basin, the level of section 7 activity occurring in the watershed, and the San Benito River's potential contribution to the recovery of this ESU. Accordingly, we have included the San Benito watershed unit HSA 330550 in the final critical habitat designation.

In the proposed critical habitat designation, the CHART did conclude that the unoccupied habitat above the Uvas Creek Dam ''may'' be essential for conservation of this ESU. We recognize, however, that there are several issues related to providing fish passage over this dam and also believe it is premature to include this unoccupied habitat area in the critical habitat designation until ongoing recovery planning efforts have progressed to the point where they support a determination that these areas are essential to the conservation of this ESU.

Comment 59: One commenter questioned whether the apparent exclusion of a portion of the drainage into Morro Bay was based on a consideration of land ownership.

Response: The identification and conservation rating of occupied habitat that was eligible for designation used only biological and ecological criteria, including information regarding presence of steelhead and habitat condition. Land ownership was not a consideration in the conservation rating process nor in the section 4(b)(2) analysis that identified areas for exclusion based on a balancing of the benefits of designation against the economic costs of designation. In reviewing the proposed critical habitat designation maps in response to this comment, however, we discovered a technical mapping error in Los Osos Creek. An upstream portion of Los Osos Creek was proposed for designation in HSA 331023, but the lower portion of the creek which enters into Morro Bay was inadvertently excluded from the designation. We have corrected this error in the final designation.

Comment 60: One commenter recommended exclusion of San Luis Obispo Creek from the designation for this ESU based on the management plans and existing agreements already in place which provide protection for the creek and steelhead. The commenter also raised questions about the validity of the economic impact analysis used for the proposed critical habitat designation process in light of costs incurred as a result of ESA section 7 consultation on a water reuse project.

Response: The commenter and other local agencies have undertaken numerous efforts to conserve and improve existing habitats within the San Luis Obispo Creek watershed, though some efforts were a result of regulatory requirements to compensate for the adverse effects of proposed actions. However, these conservation efforts have been confined to localized areas and provide no reliable ability to effectively protect existing suitable habitat for steelhead and improve currently degraded habitats. We have not conducted a review to determine whether the existing local conservation and management efforts (e.g., conservation easements, creek set-back ordinance, sewer ordinance) contain measures that would be expected to protect existing suitable habitat for steelhead, and, therefore, the possible benefits that existing management plans may have for the conservation of steelhead and their habitat is unknown. We have, however, reviewed the draft Creeks and Waterway Management Plan (i.e., the Environmental Impact Statement), which describes management and protection of streams within the San Luis Obispo Creek watershed, and concluded that many of the ''management'' activities (e.g., use of rock riprap, removal of woody debris, creation or modification of channels, and in-channel detention enhancements) in the plan would create conditions unfavorable for long-term survival and reproduction of steelhead within the San Luis Obispo Creek watershed and, in turn, the entire ESU. Based on these considerations and other information regarding activities potentially affecting steelhead habitat in the San Luis Obispo Creek watershed, we disagree with the commenter and continue to believe there is a need for special management considerations or protections of occupied stream habitat in the San Luis Obispo Creek watershed. Accordingly, the final designation for this ESU includes all occupied stream reaches in HSA 331024, including San Luis Obispo Creek.

We acknowledge that the economic analysis used in the ESA section 4(b)(2) analysis for the proposed designation did not address water supply and flow modification related projects adequately. The final economic analysis prepared for this designation addresses these issues more completely, though it does not specifically address the water reuse project. Rather than understate the costs of critical habitat designation, we believe that the economic analyses prepared for the proposed and final designations actually overestimate the incremental economic costs associated with critical habitat designation. In our economic analyses, we estimated the

total cost of ESA section 7 consultation for specific project types anticipated to occur in the foreseeable future based on information from Federal agencies and other sources. We believe that much of the estimated costs can be attributable to the presence of listed fish and the jeopardy analysis in section 7 consultation. Indeed, the costs cited by the commenter for its water reuse project were associated with a section 7 consultation that addressed the presence of listed steelhead in the watershed, not critical habitat. Although consideration of critical habitat adverse modification in the consultation on the water reuse project may have resulted in additional project changes, we do not think they are likely to be significant.

Comment 61: Several commenters were confused about whether West Corral de Piedra Creek, an upstream tributary to Pismo Creek (HSA 331026), was included in the proposed designation, and whether areas above a local dam (the Righetti Dam) on this creek were included in the designation. Some commenters also argued that habitat above the Righetti Dam was of high quality for steelhead and should be included in the critical habitat designation. One commenter also requested that an unnamed tributary of West Corral de Piedra Creek be designated, while a second commenter requested that it not be designated.

Response: West Corral de Piedra Creek was included in the proposed designation and has also been included in the final designation for this ESU. The maps used to depict occupied stream habitat and the proposed critical habitat, however, did not properly label West Corral de Piedra Creek, hence the confusion of the commenters. We have corrected this problem in the maps depicting the final designation. The designated critical habitat in West Corral de Piedra Creek, however, does not include habitat above the Righetti Dam. Although the habitat appears to be of high quality and would likely support steelhead spawning, we are uncertain whether adult fish can pass over the dam. Accordingly, we treated the area above the Rhighetti Dam as unoccupied habitat and, since a determination that it is essential to the conservation of the ESU had not been made, we have not included it in the final designation for this ESU. In evaluating the areas of occupancy, habitat conditions, and conservation value of this HSA watershed, the CHART reviewed the available information about the unnamed tributary to West Corral de Piedra Creek. The CHART concluded it was unoccupied and had poor habitat conditions, and, since, a determination that it is essential to the conservation of the ESU has not been made, it has likewise not been included in the final designation.

Comment 62: Another commenter argued that West Corral de Piedra Creek is likely unoccupied by steelhead because of an impassable barrier on Pismo Creek downstream of West Corral de Piedra Creek (and the Righetti Dam), and, therefore, should not be designated as critical habitat. The commenter also criticized the economic analysis for not addressing impacts on irrigation and instream flow resulting from critical habitat designation. Lastly, the commenter argued that habitat area above the Righetti Dam should not be designated.

Response: The potential barrier in question is an existing fish ladder on Pismo Creek downstream of West Corral de Piedra Creek. The extent to which the ladder precludes adult steelhead is unclear, but we do not think it is a complete barrier. There is existing information indicating the presence of juvenile steelhead in West Corral de Piedra Creek downstream of Righetti Dam and above the Pismo Creek ladder which suggests steelhead can pass the existing fish ladder. In addition, direct observations of the fish ladder suggest it is capable of passing adult steelhead even though the design is not ideal and ladder operation may become impaired by inorganic and organic debris. Based on the available information, therefore, the CHART considered West Corral de Piedra to be occupied habitat for steelhead up to, but not above, the Rhigetti Dam. Accordingly, this reach of West Corral de Piedra is included in the final critical habitat designation for this ESU. We acknowledge that the economic analysis prepared for the proposed critical habitat designation did not adequately address economic impacts related to changes in instream flow or agricultural flows. The final economic analysis made additional efforts to address this issue, though potential flow changes at the Righetti Dam was not a part of that analysis. As noted in the previous response, the habitat area above the Righetti Dam is not considered occupied by steelhead though habitat conditions are considered favorable for steelhead spawning. For this reason, the habitat area above Righetti Dam is not included in the final designation of this ESU.

Comment 63: One commenter argued that Arroyo Grande Creek should not be included in the designation because it is not essential for conservation, numerous dams on the creek have altered habitat conditions for steelhead, existing protections are in place and thus there is no need for special management considerations, and previous determinations by Federal and State agencies have concluded that activities at Oceano SVRA do not adversely impact steelhead or their habitat. The commenter cited the final draft HCP for Arroyo Grande Creek as an existing mechanism for managing the creek, and suggested designation of critical habitat was unnecessary because it would cause confusion among stakeholders and agencies regarding the management of the area for steelhead. Another commenter argued that designation of the mouth of Arroyo Grande Creek may impact recreational uses in that area, and thereby result in significant economic impacts to local governments and businesses.

Response: The CHART determined that Arroyo Grande Creek met the definition of critical habitat, and was therefore eligible for designation, based on an extensive review of information, including observations and information obtained from site visits and field studies. This information allowed the CHART to identify the geographic areas occupied by steelhead and confirm that the creek contains physical and biological features essential to conservation. A draft HCP prepared by the San Luis Obispo County Flood Control and Water Conservation District Zone 3 (District) provides information regarding the quality and quantity of habitats in Arroyo Grande Creek for steelhead and discusses the abundance of steelhead. Although this ESU has a broad geographic distribution, there are relatively few representative streams in the southern portion of the ESU where steelhead actively spawn and rear. Arroyo Grande Creek is one of the few streams at the southern portion of the subject ESU where age-0 and older juvenile steelhead occur during summer and fall, and sexually ripe adults occur in winter and early spring. There are numerous streams in San Luis Obispo County, but a disproportionate number in the southern portion of the subject ESU currently do not appear suitable for steelhead owing in part to improper land-use activities. Arroyo Grande Creek is one of the notable exceptions. On the basis of this information, the CHART determined that the HSA watershed containing Arroyo Grande Creek had medium conservation value and that it was essential for the conservation of the ESU.

Based on information available to us, the only dam which is a full barrier to steelhead in Arroyo Grande Creek is Lopez Dam. Its presence and operation have certainly contributed to declines in the quality and quantity of habitat for

steelhead, but evidence indicates that steelhead still use Arroyo Grande Creek for spawning and rearing. More importantly, the effects of Lopez Dam on steelhead and its habitat in Arroyo Grande Creek underscore the need for special management considerations or protections in this watershed.

The purpose of the HCP in question is essentially to address the ''take'' of steelhead and other federally listed species associated with operation of Lopez Dam, not to manage the Arroyo Grande Creek as a whole. More importantly, the current draft HCP does not ensure that essential habitat functions necessary for long-term species survival would be attained through the proposed conservation program. For instance, the flow regime proposed in the draft HCP is conditioned upon reservoir-operation constraints, and, therefore, is not ecologically meaningful. The HCP requires considerable revision before being suitable for adoption in the application phase, and years may pass before it is ultimately approved and an incidental take permit issued.

The commenter is correct that we have determined through informal ESA section 7 consultations with the U.S. Army Corps of Engineers (COE) that off-road vehicle crossings of the creek at the mouth (a sandy tidally influenced area) are not likely to adversely affect steelhead. However, the decision to include Arroyo Grande Creek in the designation was not predicated on whether previous activities, such as off-road vehicle use, did or did not adversely affect the species. Rather, NMFS performed an extensive review and analysis to identify those habitats that are essential for conservation of the species and determined that Arroyo Grande Creek (including the creek mouth) is one such habitat area for this ESU. Inclusion of the creek mouth in the critical habitat designation is necessary because the mouth is an essential migratory habitat linking upstream spawning and rearing areas with the ocean.

Based on our past consultation experience in this area, we do not think that designation of the Arroyo Grande Creek, including the creek mouth, is likely to result in restricted recreational crossings of the creek mouth or cause significant economic impacts to local governments and businesses. Although not definitive on the outcome of future consultations, previous consultations involving such crossings have determined that steelhead were not likely to be adversely affected and that the value of the creek mouth as a migration corridor for steelhead was not likely to be diminished.

Comment 64: One commenter (CDFG) recommended that the conservation value of the HSA watersheds containing Arroyo de la Cruz (HSA 331012) and San Carpoforo (HSA 331011) creeks should be high because of the quality and quantity of steelhead habitat and the potential risks to these resources in the future.

Response: We agree with CDFG that the quality of steelhead habitat is high for both of these streams. However, the CHART considered a range of factors in assessing the conservation value of the HSA watersheds containing these streams, and on the basis of that analysis, concluded that a medium conservation value was appropriate for both watersheds. Based on the available information, we continue to believe that these two HSA watersheds have a medium conservation value to this ESU relative to other HSA occupied watersheds in the range of the ESU. Both HSA watersheds had a relatively low economic benefit of exclusion, and therefore, all occupied habitat in both watersheds, including the two streams in question, are included in the final critical habitat designation for this ESU.

ESU Specific Comments—Southern California Steelhead

Comment 65: Several commenters raised questions about whether or not the Sisquoc River and some of its tributaries are occupied by steelhead, and whether there are PCEs to support steelhead in this watershed. At least one commenter argued that any *O. mykiss* in this watershed were hatchery plants. One commenter criticized the economic analysis for the HSA containing the Sisquoc River watershed, and another was concerned that recreational fishing in one tributary would be adversely affected by a critical habitat designation.

Response: The CHART reconsidered whether the Sisquoc River and its tributaries should be considered occupied based on the issues raised by these commenters. Based on a reassessment of the available information (primarily the Stoecker and Stoecker 2003 barrier assessment for the Sisquoc River), the CHART concluded that the Sisquoc River and its tributaries (HSA 331220) should be considered occupied, and that this watershed contains PCEs supporting migration, spawning and rearing habitat. We recognize that flows in the Santa Maria River watershed are constrained by the operation of Twitchell Dam and that migration opportunities into the Sisquoc River are limited. For this reason, steelhead access to this watershed is not available in all years, and occupancy of the watershed will be on a more infrequent, rather than annual, basis. Nevertheless, migration opportunities do occur in wet years when high flows breach the sand bar at the mouth of the Santa Maria River, and steelhead can and do migrate into the middle and upper reaches of the Sisquoc River watershed where over-summering/rearing habitat and spawning habitat occurs. Although rainbow trout may well have been planted in some areas historically, we are not aware of any current planting of fish except in Manzana Creek. Accordingly, we do not believe the vast majority of steelhead in the watershed are of hatchery origin. A revised economic impact analysis was prepared for the final critical habitat designation. Although it may not address all site specific potential economic impacts within each HSA watershed, we believe this analysis does consider the vast majority of projected activities which are subject to ESA section 7 consultation in each watershed and that it provides a reasonable basis for conducting an ESA section 4(b)(2) analysis. More detailed responses to comments on the economic analysis were presented earlier in this final rule. Lastly, the designation of critical habitat for this ESU is not expected to affect recreational fishing activities in this watershed because such activities are not subject to section 7 of the ESA and are unlikely to affect critical habitat. Nevertheless, such activities do need to ensure that they do not result in the ''take'' of listed steelhead.

Comment 66: One commenter questioned whether specific streams (Santa Agueda and Alamo Pintado, both tributaries to the lower Santa Ynez River in HSA 331440, and Santa Monica Creek in HSA 331534) should be designated as critical habitat.

Response: We have re-examined the available information supporting the inclusion of these tributaries in the proposed designation and concluded that although these streams may occasionally support steelhead, there is not sufficient information to consider them occupied for the purposes of this designation process. Accordingly, these tributaries were not considered occupied in the final critical habitat designation and a determination that they were essential to the conservation of the ESU was not made, so they have been removed from the final critical habitat designation and associated maps.

Comment 67: Many commenters responded to our request for comments regarding the designation of unoccupied

habitat above Bradbury, Matilija, Casitas, Santa Felicia and Rindge Dams. Several commenters recommended that these areas be designated because they are essential for the conservation of this ESU, while several other commenters were opposed to designating these unoccupied habitats. Some commenters were confused or misunderstood that we were only requesting information and thought we had proposed to designate these areas as critical habitat.

Response: As part of the proposed rule development process, the CHART was asked to identify unoccupied areas above dams within the range of this ESU that ''may'' be essential for its conservation. Based on its assessment, the CHART identified the unoccupied habitat found above the five dams listed above. The proposed rule did not include these unoccupied areas in the proposed designation for this ESU, but rather solicited public comment on our determination that these unoccupied areas ''may'' be essential for conservation of this ESU. As stated elsewhere in this rule, we believe that it is premature to designate such areas at this time, and that any designation of unoccupied areas above dams or in other areas must await the completion of technical recovery planning efforts that are currently underway. Our expectation is that the technical recovery planning process will provide the scientific foundation to support the inclusion of unoccupied habitat areas in any critical habitat designation. Once the technical recovery planning is completed, we intend to revisit the designation of unoccupied habitat and will use information provided by commenters to inform any subsequent proposal.

Comment 68: A large number of commenters were opposed to the inclusion of any portion of Rincon Creek in the critical habitat designation. They argued that steelhead did not occupy the stream, the habitat was unsuitable, and the economic impacts of designation would be significant. Some commenters were confused and thought that Rincon Creek upstream from the Highway 101 culvert had been proposed.

Response: The proposed designation of Rincon Creek only included that portion of the creek that is seaward of the Highway 101 culvert. The culvert is considered a complete barrier to steelhead migration, and therefore, areas upstream of the culvert are considered unoccupied. We continue to believe that the lagoon and that portion of Rincon Creek seaward of the culvert is periodically occupied and meets the definition of critical habitat. Accordingly, this habitat reach was considered in the final ESA section 4(b)(2) analysis and has been retained in the final critical habitat designation for this ESU. Efforts are underway to improve fish passage at this culvert, and the designation of critical habitat downstream may support those efforts. If fish passage is successfully implemented at this location and steelhead reoccupy Rincon Creek upstream from the Highway 101 culvert, we will reconsider the possibility of designating critical habitat in the newly occupied habitat area.

Comment 69: Camp Pendleton Marine Corps Base and Vandenberg Air Force Base both provided supplementary comments and information to support the exclusion of their facilities from the final critical habitat designation for this ESU, based on the conservation benefits provided by their respective INRMPs. Both DOD facilities also provided information supporting the national security related impacts of a critical habitat designation on their activities and operations.

Response: As discussed elsewhere in this final rule, we have concluded that the INRMPs for both of these facilities provide conservation benefits to this steelhead ESU, and, therefore, the areas subject to these INRMPs are not eligible for designation pusuant to section 4(a)(3)(B)(i) of the ESA. Information provided by both DOD facilities concerning the impacts of critical habitat designation on their activities and operations support the view that designation of habitat will likely reduce the readiness capability of both the Marine Corps and Air Force, both of which are actively engaged in training, maintaining, and deploying forces in the current war on terrorism. On this basis, we also concluded that the benefits of excluding these facilities from the critical habitat designation for this ESU outweighed the benefits of designation.

Comment 70: Several commenters raised questions about steelhead access to, and occupancy in, upper San Antonio Creek (a tributary to the Ventura River) and its tributaries (*e.g.*, Reeves, Thatcher, Gridley, Ladera, and Senior Canyon Creeks). These commenters argued that a migration impediment at the Soule Park golf course blocks steelhead access upstream and that the only occupied habitat in the San Antonio Creek watershed is downstream from that location.

Response: We agree with the commenters that steelhead access to some portions of upper San Antonio Creek watershed are in fact blocked and should not be considered occupied habitat for the purposes of this critical habitat designation. For example, most of Thatcher Creek and Reeves Creek are presently inaccessible because of a passage impediment at Boardman Road on Thatcher Creek, and, therefore, these habitat reaches are clearly unoccupied by steelhead at present. Similarly, steelhead access into Gridley Canyon Creek, Senior Canyon Creek, and the lower portion of Thatcher Creek was blocked until this past winter when storms washed out a passage impediment at the Soule Park golf course. Although the passage impediment at the Soule Park golf course is no longer present, we have no information at present indicating that steelhead occur in the habitat reaches upstream of the former impediment to migration. Based on this information, we concluded it is appropriate to consider all stream reaches in the upper San Antonio Creek watershed above the Soule Park golf course to be unoccupied for the purposes of this critical habitat designation. We have revised our fish distribution maps accordingly and also removed these areas from the final critical habitat designation. It should be noted, however, that steelhead may now begin to occupy areas above the Soule Park golf course, and that efforts are underway to provide fish passage for steelhead at the Boardman Road location. If steelhead do access these currently unoccupied habitat areas, we will reconsider the exclusion of these areas from critical habitat for this ESU.

Comment 71: Some commenters questioned the distribution of occupied habitat and the proposed designation of occupied habitat in Hydrologic Unit 4901, particularly with regard to the upstream endpoints in San Juan Creek, Trabuco Creek (a tributary of San Juan Creek), and Devil's Canyon (a tributary of San Mateo Creek). Other commenters supported the proposed designation of habitat in the San Juan Creek and Trabuco Creek watersheds.

Response: We have reviewed the information provided by the commenters, re-evaluated the information used in developing the proposed designation, and also consulted with CDFG regarding the upstream limit of the distribution of steelhead in San Juan Creek and Trabuco Creek. After considering this information, we have substantially modified the upstream distribution limits of steelhead occupancy in Trabuco and San Juan Creeks. According to CDFG, the Trabuco Creek crossing under I–5 in San Juan Capistrano is a complete barrier to steelhead. Therefore, the occupied habitat reach in Trabuco Creek is now considered to end at the I–5 crossing

which is in HSA 490127. As a result of this distributional change, three HSA watershed units in upper Trabuco Creek that were previously considered occupied and proposed for designation (HSAs 490121, 490123, and 490122) are no longer considered occupied. Because these watersheds are not occupied and a determination that they are essential to the conservation of the species had not been made, they are not included in the final critical habitat designation. The I–5 does not serve as a barrier to steelhead migration in San Juan Creek. However, the upstream distributional limit of steelhead according to CDFG is basically at the I–5 bridge based on the available anecdotal information. As a result of this distributional change, three HSA watersheds upstream from this location that were previously considered occupied and proposed for designation (HSAs 491028, 490126, and 490125) are no longer considered occupied; and, because a determination that they are essential to the conservation of the ESU has not been made, they are not included in the final designation for this ESU. Those portions of Trabuco and San Juan Creeks that are occupied and occur in HSA 490127 as described above were considered eligible for designation and were considered in the final ESA section 4(b)(2) analysis. Based on this analysis, we concluded that the benefits of including the occupied habitat reaches in HSA 490127 outweighed the benefits of their exclusion, and, therefore, we have included these habitat areas in the final designation.

Comment 72: One commenter questioned why Pole Creek, a tributary to the Santa Clara River, was included in the proposed critical habitat designation when the habitat conditions were poor and there was little information indicating it was occupied.

Response: Based on information from the commenter and observations by agency biologists, we have reassessed the appropriateness of including Pole Creek in the final designation. We recognize that habitat conditions in Pole Creek are poor and upstream passage through the existing concrete channel in the lower portion of the creek is highly unlikely. Accordingly, we have concluded that Pole Creek should be considered unoccupied. Because it is considered unoccupied and we have not made a determination that it is essential for conservation, it is not included in the final critical habitat designation.

Comment 73: One commenter questioned why critical habitat was not proposed in the Santa Clara River upstream from its confluence with Piru Creek.

Response: The CHART did not consider that portion of the Santa Clara to be occupied, and we did not make a determination that it was essential for the conservation of the ESU; thus it was not considered further in the critical habitat analysis.

ESU Specific Comments—Central Valley Spring Run Chinook

Comment 74: Two commenters provided information regarding the distribution of occupied spring run Chinook habitat and habitat use, and recommended that additional critical habitat be designated in the upper Sacramento River Basin for this ESU. One commenter indicated that we should designate several west-side tributaries to the upper Sacramento River in the vicinity of Redding (HSA 550810) as critical habitat because these streams provide significant non-natal rearing and refugia habitat, especially since Shasta and Keswick Dams block access to hundreds of miles of historic rearing and refugia habitat. Another commenter recommended that small intermittent tributaries used for natal rearing in the Sacramento River, as well as lower Butte Creek, should be designated as critical habitat.

Response: The CHART reviewed the information provided by these commenters for the upper Sacramento River tributaries and concluded that it did not change the previously determined distribution of occupied habitat for this ESU. The CHART reassessed the conservation value of occupied habitat in HSA 550810 based on the new information and concluded that the conservation value of some reach specific tributaries was less than previously thought to be the case, but that the overall conservation value for the HSA remained high. All occupied spring run Chinook habitat in HSA 550810 was proposed for designation, and, as a result of the final ESA section 4(b)(2) analysis, this habitat has been included in the final designation for this ESU. The CHART agreed with the commenter that intermittent tributaries to the Sacramento River are used for non-natal rearing and that lower Butte Creek is important for the conservation of this ESU. In fact, the CHART previously analyzed these occupied habitat areas and rated them as having high conservation value. These areas were proposed for designation and are also included in the final designation for this ESU.

Comment 75: One commenter recommended that the lower American River from the outfall of the Natomas Main Drainage Canal downstream to the confluence with the Sacramento River be designated because it is used for non-natal rearing (HSA 551921). The argument was that this habitat provides spawning, rearing and migration values for spring run Chinook that may require special management considerations.

Response: The HSA watershed (551921) containing the lower American River was originally rated by the CHART as having medium conservation value and was excluded from the proposed designation because of relatively high economic costs. In response to these comments, the CHART reassessed the conservation value of this HSA and determined that it should be rated as having a high conservation value to the ESU. Information provided by the commenter demonstrated the importance of the lower American River for non-natal rearing and the high improvement potential of the habitat conditions from ongoing restoration projects. In addition, the lower American River may be used during high winter flows for rearing and refugia by multiple populations of spring Chinook in the central valley (*e.g.*, Feather and Yuba Rivers). Additionally, the commenter suggested that special management considerations may be required to maintain and improve habitat conditions and the conservation value of this HSA for spring run Chinook. In particular, special management considerations may be necessary to address flood control, residential and commercial development, agricultural management, and habitat restoration. Based on the change in conservation value and the final ESA section 4(b)(2) analysis, we concluded that all occupied habitat in HSA 551921, including the lower American River, should be designated as critical habitat for this ESU.

Comment 76: A commenter also recommended that the lower Bear River (HSA 551510) from the mouth of Dry Creek downstream to its confluence with the Feather River be designated as critical habitat because it is used for non-natal rearing and will require special management to maintain habitat value for this ESU.

Response: The HSA watershed (551510) containing the lower Bear River was originally considered unoccupied by the CHART, and its conservation value was not rated. Based on the information provided by the commenter, the CHART has reclassified the lower Bear River as occupied habitat for spring run Chinook. Information provided by the commenter indicates that the lower Bear River is used for non-natal rearing and that habitat values are likely to increase in the near future

as a result of planned restoration projects that will improve the condition of several PCEs. The CHART applied the PCE factor ranking criteria and rated the lower Bear River as having high conservation value to this ESU, primarily because: (1) the habitat area is likely to be used by at least two populations (*i.e.*, Feather and Yuba River); (2) non-natal rearing represents a unique life-history strategy that is essential for the conservation of the species (contributing to improved growth conditions); (3) the habitat serves as a refugia from high water conditions and catastrophic events; and (4) there is high improvement potential for this habitat from ongoing restoration efforts. Based on information from the commenter, the lower Bear River will require special management efforts to protect and maintain habitat values for this ESU. Special management considerations are likely to include flood control, residential and commercial development, agricultural management, and habitat restoration. Because this HSA is now considered occupied, contains the necessary PCEs, and has a need for special management considerations, it was considered eligible for designation in the final ESA section 4(b)(2) analysis conducted for this designation. Based on the results of the final 4(b)(2) analysis, we concluded that the benefits of including this area in the designation outweighed the benefits of its exclusion. Accordingly, occupied habitat in HSA 551510 is now included in the final critical habitat designation for this ESU.

Comment 77: Several commenters recommended that portions of the San Joaquin River and its major tributaries below impassable mainstem dams be designated as critical habitat for this ESU either because of future efforts to restore habitat or because of unpublished information from CDFG indicating specific habitat areas were occasionally occupied by spring run Chinook. These areas include the San Joaquin River from its confluence with the Merced River upstream to Friant Dam, the Tuolumne River downstream of La Grange Dam, the Merced River downstream of Crocker Huffman Dam, and the Stanislaus River downstream of Goodwin Dam.

Response: The recommendation to designate the San Joaquin River above the confluence with the Merced River confluence was primarily based on the historical occupancy of this habitat reach by spring Chinook and the expectation that future efforts will be undertaken to restore habitat in this reach. We recognize that this habitat in the San Joaquin River was historically used by spring Chinook; however, it has been unoccupied for more than half a century. Moreover, plans to restore flows and habitat conditions downstream of Friant Dam are uncertain, and significant passage impediments and flow alterations in the San Joaquin above the Merced River confluence present potentially significant obstacles to future restoration success. Because this habitat is currently unoccupied and no determination has been made that it is essential for the conservation of this ESU, we have not included it in the final critical habitat designation.

The CHART reviewed information provided by the commenters regarding occupancy of the Tuolumne, Merced, and Stanislaus Rivers by spring Chinook and concluded there was insufficient data to consider them occupied. Although the CHART did evaluate these as unoccupied areas for the proposed critical habitat designation and concluded that they ''may'' be essential for the conservation of spring run Chinook ESU, we believe it is premature to include these unoccupied areas in the critical habitat designation for this ESU until ongoing recovery planning efforts provide information sufficient to make a determination that these areas are essential to the conservation of this ESU. Because these tributary rivers to the San Joaquin River are currently unoccupied and recovery planning efforts do not yet support a determination that these areas are essential for the conservation of this ESU, we have not included them in the final critical habitat designation.

Comment 78: One commenter argued that the lower Feather River below Oroville Dam should not be designated because of the introgression of fall run Chinook and spring run Chinook by the Feather River hatchery.

Response: We disagree with the commenter and believe that the lower Feather River below Oroville Dam should be designated as critical habitat. The extant Feather River population of spring-run Chinook salmon represents a legacy population of the fish that historically used the upper Feather River prior to construction of Oroville Dam, and it is an important population to conserve and protect because of its potential contribution to ESU recovery. This habitat area was proposed for critical habitat because the CHART considered it occupied by spring run Chinook, it contains PCEs, and it requires special management considerations for activities such as flood control, flow and temperature management, residential and commercial development, agricultural management, and habitat restoration. HSA 551540, which contains much of the lower Feather River below Oroville Dam, was rated as having high conservation value by the CHART for the proposed designation, and that determination was not changed as a result of these comments. Based on the results the final ESA section 4(b)(2) analysis, occupied habitat in HSA 551540, including the lower Feather River below Oroville Dam, is included in the final critical habitat designation for this ESU.

Comment 79: Some commenters contended that NMFS should not designate any critical habitat for spring run Chinook in the Sacramento River, its major tributaries (*i.e.* Feather River), the Sacramento-San Joaquin Delta, or the Suisun-San Francisco Bay complex because existing protective efforts and mechanisms are sufficient to protect the ESU.

Response: We disagree with these commenters. These habitat areas comprise the entire freshwater and estuarine range of this ESU, contain one or more PCEs that are essential to the conservation of the ESU, including migration, holding, spawning, rearing, and refugia habitat, and require special management considerations or protections beyond those protective efforts that are already in place or available. For these reasons, they were considered for designation through this rulemaking process. In the course of the analysis supporting this rulemaking, we evaluated the quantity, quality and diversity of PCEs within the occupied portions of these waterbodies by watershed unit, assessed the benefits of designating these watershed units, and finally weighed the benefits of designation against the benefits of exclusion by watershed unit. The resultant critical habitat designation in this final rule, therefore, meets the definition of critical habitat and also represents that habitat which contains PCEs that we believe are essential for the conservation of this ESU.

Comment 80: One commenter recommended that several areas proposed for designation in the Sacramento River basin below impassable barriers not be designated in the final rule. These areas include: (1) the South Fork Cow Creek watershed because it is not occupied; (2) specific streams in the Tehama Hydrologic Unit (5504) including HSAs 550410 and 550420 because they do not support populations of spring run Chinook and also lack cool, deep pools for summer holding habitat; (3) specific streams in the Whitmore Hydrologic Unit (5507) including HSAs 550711 and 550722

because they do not support populations of spring run Chinook and also lack cool, deep pools for summer holding habitat; and (4) specific streams in the Redding Hydrologic Unit (5508) and HSA 550810 because they do not support a population of spring run Chinook and lack cool, deep pools for summer holding habitat.

Response: The CHART re-evaluated the South Fork Cow Creek based on these comments and agreed that it is unoccupied and therefore reclassified its occupancy status accordingly. Because the HSA containing South Fork Cow Creek (HSA 550731) is now considered unoccupied and we have not made a determination that it is essential to the conservation of the ESU, it was excluded from further consideration in the analysis and has not been included as critical habitat in the final designation for this ESU.

The CHART, however, disagreed with the commenter's recommendation to exclude the identified streams and HSAs in the Tehama (5504), Whitmore (5507), and Redding (5008) Hydrologic Units. The recommendation was based on the lack of cool, deep pools for summer holding habitat that is essential for adult holding, spawning, and summer rearing. The CHART's previous assessment of the conservation value of these streams and watershed units, however, was based on their use during winter and early-spring months for non-natal rearing by juvenile spring-run Chinook. Though current use is likely low, it is expected to increase in the near future as a result of habitat restoration and range expansion in Battle and Clear Creeks. The CHART concluded these streams provide several PCEs that are important for juvenile non-natal rearing, which represents a unique life-history strategy that is essential for the conservation of this ESU because of its contribution to improved growth conditions and refugia from high water and catastrophic events. In addition, the CHART concluded that these streams will require special management efforts for flood control, residential and commercial development, agricultural management, and habitat restoration to protect and maintain the conservation value of these habitats for spring-run Chinook. Based on these factors, the CHART rated most of the occupied HSAs in these three Hydrologic Units as having high conservation value to the ESU. After consideration of these comments, the CHART concluded there was no reason to change its previous assessment of spring Chinook distribution, habitat use, or conservation value for these streams and Hydrologic Units. Accordingly, the occupied streams in these Hydrologic Units and associated HSAs were considered in the final 4(b)(2) analysis for this final designation.

Comment 81: Two commenters questioned the historical and current habitat use and occupancy of Putah, Alamo, and Ulatis Creeks by spring run Chinook and thus whether they should be designated as critical habitat.

Response: The proposed critical habitat designation for spring run Chinook did not include any of these three creeks, because the CHART considered all of them to be unoccupied in its original assessment and we had not made a determination that they were essential to the conservation of the ESU. The commenters likely were confused because these creeks all occur in the Valley Putah-Cache Hydrologic Unit (HSAs 551100 and 551120), and some portions of this Hydrologic unit were included in the proposed designation because they are occupied, have the requisite PCEs, may need special management considerations, and were not excluded as a result of the original ESA section 4(b)(2) exclusion process that led to the proposed rule. The CHART did not receive any new information indicating these creeks are occupied, so they were not reconsidered and are not included in the final critical habitat designation for this ESU.

Comment 82: Several commenters indicated that habitat above major impassable rim dams on tributaries to the San Joaquin River (Stanislaus, Tuolumne, and Merced Rivers) do not contain habitat that would support spring run Chinook and/or that the feasibility of providing fish passage for spring run Chinook has not been adequately evaluated.

Response: Although the CHART did evaluate these as unoccupied areas for the proposed critical habitat designation and concluded that some of the reaches above the rim dams ''may'' be essential for the conservation of spring run Chinook, we believe it is premature to include these unoccupied areas in the critical habitat designation for this ESU until ongoing recovery planning efforts provide technical information supporting a determination that one or more of these areas are essential to its conservation and recovery. Because these tributary rivers to the San Joaquin River are currently unoccupied and recovery planning efforts do not yet support a determination that these areas are essential for the conservation of this ESU, we have not included them in the final critical habitat designation.

ESU-Specific Comments—Central Valley Steelhead

Comment 83: One commenter recommended that we designate several west-side tributaries to the Sacramento River in the vicinity of Redding (HSA 550810) as critical habitat for this ESU because they are used as spawning and/or rearing habitat.

Response: The CHART reviewed the new information provided by the commenter and concluded that several of these streams are seasonally occupied and most likely used by steelhead as non-natal rearing habitat with occasional use as spawning habitat, and that they contain PCEs supporting non-natal habitat use. The CHART considered these additional occupied habitat areas important for steelhead because they are likely to be used by several populations (e.g., upper Sacramento River, Clear Creek, and Cow Creek), and because non-natal rearing represents a unique life-history strategy that is essential for the conservation since it contributes to improved growth conditions and serves as a refugia from high water and catastrophic events. The CHART concluded that these streams may require special management considerations to address activities such as flood control, residential and commercial development, agricultural management, and habitat restoration, and, therefore, evaluated the conservation value of these occupied habitat stream reaches and the overall HSA. This reassessment concluded that the conservation value of the additional occupied stream reaches ranged from low to high, but that the overall conservation value of HSA watershed 550810 remained high to the ESU. Based on the results of the final ESA section 4(b)(2) analysis, all occupied habitat in HSA 550810, including several stream reaches recommended by the commenter, is designated as critical habitat in the final rule.

Comment 84: One commenter recommended that we should designate upper little Dry Creek, a tributary to Butte Creek, as critical habitat for this ESU.

Response: The CHART originally evaluated the conservation value of upper Dry Creek (HSA 552110) as being low, and it was proposed for exclusion in the proposed rule based on the results of the ESA section 4(b)(2) analysis. In response to these comments, the CHART re-assessed the conservation value of this HSA and concluded it should be changed from low to medium. The original low rating was strongly influenced by the low number of stream miles in the HSA. The remainder of

little Dry Creek is located downstream in HSA 552040, which was rated as having a high conservation value by the CHART because of the number of occupied stream miles, its high restoration potential, and its use by multiple populations of steelhead. In its reassessment of the conservation value of HSA 552110, the CHART placed more emphasis on the restoration potential of this reach of upper little Dry Creek and the potential for the stream reach to support life history stages of high importance (i.e., spawning adults and over summering juveniles) for this ESU. Based on the increased conservation value of this HSA 552110 (increased from low to medium) and the results of the final ESA section 4(b)(2) analysis, the upper little Dry Creek has been included in the final critical habitat designation for this ESU.

Comment 85: One commenter recommended that we designate the lower Bear River as critical habitat for Central Valley steelhead from its confluence with Dry Creek downstream to its confluence with the Feather River because it is used for non-natal rearing and will require special management considerations to maintain habitat value for the ESU.

Response: The CHART originally evaluated the conservation value of HSA 551510, which contains the lower Bear River, as being low, and it was proposed for exclusion in the proposed critical habitat rule based on the results of the ESA section 4(b)(2) analysis conducted for that rulemaking. In response to the information provided by the commenter, the CHART re-assessed the conservation value and concluded that the overall conservation value for this HSA is medium rather than low. As a result of the revised 4(b)(2) analysis conducted for the final rule, however, this HSA watershed was considered to have a medium benefit of designation and a relatively high benefit of exclusion (ie., high cost relative to benefit), making it potentially subject to exclusion from the final designation. However, the CHART felt the lower portion of the Bear River within this HSA was important because the habitat is likely to be used for non-natal rearing by several populations (i.e., Feather and Yuba River populations) and because non-natal rearing represents a unique life-history strategy that is essential for conservation since it contributes to improved growth conditions and serves as a refugia from high water and catastrophic events. Therefore the CHART concluded the benefit of including this area out weighed the benefit of excluding this area and we have included HSA 551510, which includes the lower Bear River, in the final critical habitat designation for this ESU.

Comment 86: One commenter recommended that the Cosumnes River should be designated as critical habitat for this ESU based on unpublished documentation of steelhead presence.

Response: The original analysis conducted by the CHART for the proposed rule considered the Cosumnes River to be occupied, but its assessment concluded that the HSA watersheds (553111, 553221, 553223 and 553224) containing this river system were of low conservation value. Based on this assessment and the results of the ESA section 4(b)(2) analysis conducted for the proposed rule, the Cosumnes River and all other occupied habitat in these four watersheds were excluded from the proposed designation. The commenter did not provide any new information warranting a change in our proposed rule, and, therefore, the Cosumnes River and these four watersheds have been excluded from the final designation for this ESU.

Comment 87: Several commenters recommended that we designate the San Joaquin River from its confluence with the Merced River to Friant Dam as critical habitat for this ESU.

Response: The recommendations to designate the San Joaquin River above the confluence with the Merced River were primarily based on the historical occupancy of this habitat reach by steelhead and the expectation that future efforts will be undertaken to restore habitat in this reach. We recognize that this habitat in the San Joaquin River was historically used by steelhead, but we consider it presently unoccupied. Moreover, plans to restore flows and habitat conditions downstream of Friant Dam are uncertain, and significant passage impediments and flow alterations in the San Joaquin River above the Merced confluence present significant obstacles to future restoration success. Because this habitat is currently unoccupied, and ongoing recovery planning efforts have not identified areas in this reach of the San Joaquin River as being essential for the conservation of this ESU, we have not included it in the final critical habitat designation.

Comment 88: Two commenters recommended that we designate Dry Creek, a tributary to the Yuba River, as critical habitat for Central Valley steelhead.

Response: The commenters incorrectly interpreted the proposed designation. Dry Creek, a tributary to the Yuba River, occurs in two HSA watersheds (551712 and 551713). However, the vast majority of this creek occurs within HSA 551712. The CHART originally concluded that watershed 551712 had a high conservation value and that watershed 551713 had a low conservation value. Based on this assessment and the original ESA section 4(b)(2) analysis, the proposed designation for this ESU included all occupied habitat in HSA 55172, including Dry Creek, but did exclude a small portion of Dry Creek occurring in HSA 551713 because of high economic costs. We did not receive any new information warranting a change in the proposed critical habitat with respect to Dry Creek, and, therefore, the final critical habitat designation for this ESU only includes that portion of Dry Creek contained in HSA 551712.

Comment 89: Some commenters contended that we should not designate any critical habitat for steelhead in the Sacramento River, San Joaquin River or its major tributaries, the Sacramento-San Joaquin Delta, or the Suisun-San Francisco Bay complex because existing protective efforts and mechanisms are sufficient to protect the ESU.

Response: We disagree with these commenters. These waterbodies comprise the entire freshwater and estuarine range of this ESU, contain one or more PCEs that are essential to the conservation of the ESU, including migration, holding, spawning, rearing, and refugia habitat, and may require special management beyond those protective efforts that are already in place or available. For these reasons, they were considered for designation through this rulemaking process. In the course of this rulemaking, we evaluated the quantity, quality, and diversity of PCEs within the occupied portions of these waterbodies by watershed unit, assessed the benefits of designating these watershed units, and finally weighed the benefits of designation against the benefits of exclusion by watershed unit. The resultant critical habitat designation in this final rule, therefore, meets the definition of critical habitat and also contains PCEs that we believe are essential for the conservation of this ESU.

Comment 90: One commenter recommended that we should not designate several streams in the upper Sacramento River (Red Bluff [550420 and Spring Creek [550440] HSAs) as critical habitat for Central Valley steelhead because they are low elevation streams without sufficient flow duration or suitable habitat to support the species.

Response: We disagree with the commenter's recommendation to exclude specific streams in these two

HSAs. The CHART has evaluated these streams and recognizes that they have limited flow duration. However, the team also concluded the streams in question support important winter and early spring non-natal rearing habitat for steelhead and thus contain PCEs that are important for juvenile rearing. The CHART previously rated both HSAs as having an overall high conservation value for this ESU and does not believe the comments warrant a revision in any of its previous conclusions regarding these two HSAs. Based on the CHART's previous conclusions and the results of the final ESA section 4(b)(2) analysis conducted for this rule, all occupied habitat in these two HSAs is included in the final designation for this ESU.

Comment 91: Some commenters argued that there was no basis for proposing to designate critical habitat for Central Valley steelhead in the Calaveras, Stanislaus, Tuolumne, or Merced Rivers.

Response: We disagree with the commenters. The CHART concluded that the HSA watersheds containing these rivers were occupied by steelhead, contained PCEs supporting the species for spawning, rearing and/or migration, and that there may be a need for special management considerations. On this basis, these rivers met the definition of occupied critical habitat, and, therefore, were eligible for designation. We weighed the benefits of including these areas in the designation against the benefits of their exclusion in the original ESA section 4(b)(2) analysis for the proposed rule, and again in a revised analysis for the final rule. In both instances, the benefits of designating the HSA watersheds containing these rivers outweighed the benefits of their exclusion. Accordingly, the HSA watershed containing these rivers were included in the proposed critical habitat designation and are also included in the final designation for this ESU.

Comment 92: One commenter argued that the Old River and Paradise Cut channels in the San Joaquin Delta Subbasin or Hydrologic Unit (5544) do not meet the definition of critical habitat for Central Valley steelhead.

Response: We disagree with the commenter. The CHART concluded that all of the estuarine habitat in this Hydrologic Unit, including the Old River and Paradise Cut channels, is used by steelhead smolts for rearing and migration from upstream freshwater rivers. On this basis the CHART considered the entire Hydrologic Unit to be occupied and to contain PCEs for rearing and migration that are essential to the conservation of this ESU. The CHART also concluded that agricultural water and municipal water withdrawals, entrainment associated with water diversions, invasive/non-invasive species management, and point and non-point source water pollution could affect these PCEs and that there was a need for special management considerations. Based on all of the available information, the CHART rated this Hydrologic Unit as having high conservation value for the ESU. Based on the CHART's assessment and the original ESA section 4(b)(2) analysis conducted for the proposed rule, this Hydrologic Unit was proposed for designation. We have received no new information warranting a change in this proposal, and, therefore, all occupied habitat in this Hydrologic Unit including the Old River and Paradise Cut channels are included in the final critical habitat designation for this ESU.

Comment 93: One commenter recommended designating critical habitat above major dams in the central valley to ensure these habitats were protected and to encourage implementation of fish passage above these dams.

Response: As part of the proposed critical habitat designation process, the CHART did evaluate many unoccupied areas above dams in the central valley as potential critical habitat, and concluded that some of the reaches above the rim dams ''may'' be essential for the conservation of steelhead. Although the CHART believes these areas may be essential for conservation, and we recognize the historical importance of many of these areas to steelhead, we believe it is premature to include these unoccupied areas in the final designation for this ESU until ongoing recovery planning efforts provide technical information to support a determination that any such areas are essential to its conservation and recovery. Because these above-dam habitat areas are currently unoccupied and recovery planning efforts do not yet support a determination that any specific areas are essential for the conservation of this ESU, we have not included them in the final critical habitat designation. As recovery planning efforts mature and sufficient information is available to make a determination about whether any of these areas are essential for conservation of this ESU, we will conduct additional rulemaking as appropriate.

Comment 94: Two commenters addressed the issue of designating critical habitat above the Solano Irrigation District Dam on Putah Creek. One commenter argued that habitat between the Solano Irrigation Dam and Monticello Dam on Putah Creek should be designated as critical habitat for steelhead even though it is unoccupied because: Suitable spawning and rearing habitat exists for steelhead above the dam; providing fish passage is likely to be economically and logistically feasible; and Central Valley steelhead populations are constrained by the lack of accessible habitat. The other commenter argued that this habitat should not be designated because of problems associated with providing passage.

Response: The CHART considered the information provided by these commenters and concluded that the unoccupied area above Solano Irrigation Dam may contain PCEs that would support steelhead and that providing passage would likely be feasible. However, the CHART did not make a determination about whether this above dam area may be essential for the conservation of this ESU. As noted previously, we believe it is premature to include any unoccupied areas above dams in the final critical habitat designation for this ESU until ongoing recovery planning efforts identify those specific unoccupied areas that are essential to its conservation and recovery. Because the habitat above the Solano Irrigation Dam is currently unoccupied and recovery planning efforts do not yet support a determination that this area is essential for the conservation of this ESU, we have not included this area in the final critical habitat designation.

ESU-Specific Comments—Central Valley Spring Run Chinook and Central Valley Steelhead

Comment 95: One commenter argued that west-side tributaries in Glenn County, and in particular Stony Creek, should not be designated as critical habitat for either spring-run Chinook salmon or steelhead because these habitats are unoccupied and water temperatures are too warm to support salmonids.

Response: We disagree with the commenter. The CHART has evaluated the available information, particularly with regard to Stony Creek (HSA 550410), and concluded that this stream is occupied by both spring run Chinook and steelhead. Juvenile spring run Chinook have been consistently documented using Stony Creek as rearing habitat since 2001 (Corwin and Grant, 2004), as well as in previous years (Maslin and McKinney, 1994). Similarly, juvenile steelhead have been periodically documented rearing in Stony Creek (Corwin and Grant, 2004; Maslin and McKinney, 1994). The

CHART also concluded that Stony Creek has PCEs that support both species. Water temperature monitoring from 2001 through 2004 has shown that temperatures in Stony Creek under current operations are generally suitable for adult and juvenile salmonids (below 65 °F) from mid-October through late May. Water temperatures have been found to be suitable for salmonid spawning and incubation (below 56 °F) from mid-November through early May (Corwin and Grant, 2004). Though successful steelhead spawning has not been documented recently in Stony Creek, habitat conditions under current operations are considered marginally suitable to support steelhead reproduction. Because of ongoing restoration actions and ESA section 7 consultations, progress is being made toward improving these habitat conditions, and we expect conditions to continue to improve into the future.

Comment 96: Numerous commenters raised issues concerning the designation of unoccupied and inaccessible habitat in the Yuba River. Several commenters recommended we designate unoccupied stream reaches above major impassable barriers in the Middle, North, and South Fork Yuba Rivers as critical habitat for both ESUs. In contrast, several other commenters recommended we delay any decision to designate unoccupied and inaccessible habitat for both ESUs in the Yuba River above Englebright Dam until the Upper Yuba River Studies Program is completed.

Response: The CHART reviewed information regarding unoccupied habitat above Englebright Dam for the proposed rule and concluded that unoccupied and inaccessible areas above the dam ''may'' be essential for the conservation of these ESUs. However, we have not made a final determination that these areas are essential to conservation. As noted previously for other unoccupied and inaccessible areas, we believe that it is premature to designate unoccupied areas in the Yuba River above Englebright Dam as critical habitat until ongoing recovery planning efforts identify those specific unoccupied habitat areas in the central valley that are essential to the conservation and recovery of these ESUs. The Upper Yuba River Studies Program is expected to provide relevant information for the recovery planning process of both ESUs, and we intend to await the findings of this program as well as recovery planning efforts before making a determination about whether or not the unoccupied habitat areas in question are essential to the conservation of either ESU. If such a determination is made, we will undertake the appropriate rulemaking to propose the designation of these areas as critical habitat.

Comment 97: One commenter recommended designating the entire Butte Creek watershed, upstream from the Centerville Diversion Dam, as critical habitat for both the spring run Chinook and steelhead ESUs. Conversely, another commenter argued that we should not designate this unoccuped habitat in Butte Creek because there is no historical information that suggests this habitat was historically occupied by anadromous salmonids, and recent CDFG barrier assessments have concluded that barrier modifications are not desirable because of the high stream gradient and the presence of multiple natural barriers immediately above the Dam.

Response: The CHART reviewed information regarding unoccupied habitat above the Centerville Diversion Dam on Butte Creek for the proposed rule and concluded that this unoccupied and inaccessible habitat ''may'' be essential for the conservation of both the spring run Chinook and steelhead ESUs. As noted previously for other unoccupied and inaccessible areas above dams, however, we believe that it is premature to designate unoccupied areas in Butte Creek above the Centerville Diversion Dam as critical habitat until ongoing recovery planning efforts identify those specific unoccupied habitat areas in the central valley that are essential to the conservation and recovery of these ESUs. Because the habitat areas above the Centerville Diversion Dam are unoccupied and no final determination has been made that they are essential for conservation of the ESU, they are not included in the final critical habitat designation for these ESUs. If the agency makes such a determination in the future, we will undertake the appropriate rulemaking to designate these areas as critical habitat.

Comment 98: One commenter (CDFG) argued that it is premature to designate unoccupied habitat above Oroville Dam in the upper Feather River as critical habitat for either spring run Chinook or steelhead.

Response: As discussed in other responses, we agree with CDFG. Although the CHART concluded as part of the proposed critical habitat rule that specific unoccupied areas above Oroville Dam ''may'' be essential for the conservation of spring run Chinook and steelhead, we believe it is premature to make such a determination until ongoing recovery planning efforts in the central valley identify above-dam unoccupied areas that are essential for conservation of these ESUs. For this reason, unoccupied areas above Oroville Dam are not included in the final designation.

Comment 99: Some commenters indicated that habitat above rim dams on tributaries (Tuolumne, Stanislaus, and Merced) to the San Joaquin River did not contain suitable habitat for either ESU and that the feasibility of passage had not been adequately studied.

Response: The CHART evaluated specific unoccupied and inaccessible stream reaches above rim dams on these San Joaquin River tributaries and concluded that they ''may'' be essential for the conservation of spring run Chinook and steelhead. However, as discussed previously, we believe it is premature to make such a determination until ongoing recovery planning efforts in the central valley identify above-dam unoccupied areas that are essential for conservation of these ESUs. For this reason, unoccupied areas above these rim dams on the San Joaquin River tributaries are not included in the final designation.

III. Summary of Revisions

We evaluated the comments and new information received on the proposed rule to ensure that they represented the best scientific data available and made a number of general types of changes to the critical habitat designations, including:

(1) We revised distribution maps and related biological assessments based on a final CHART assessment (NMFS, 2005a) of information provided by commenters, peer reviewers, and agency biologists. We also evaluated watersheds that may be low leverage (*i.e.*, unlikely to have an ESA section 7 consultation or where a section 7 consultation, if it did occur, would yield few conservation benefits) and identified several for possible exclusion in the final ESA section 4(b)(2) analysis.

(2) We revised our economic analysis based on information provided by commenters and peer reviewers as well as our own efforts as referenced in the proposed rule. Major changes included assessing new impacts associated with pesticide consultations, revising Federal land consultation costs to take into account wilderness areas, and modifying grazing impacts to more accurately reflect likely project modifications.

(3) We conducted a new ESA section 4(b)(2) analysis based on economic impacts to take into account the above revisions. This resulted in the final exclusion of many of the same

watersheds proposed for exclusion. It also resulted in some areas originally proposed for exclusion not being excluded and some areas proposed for designation now being excluded. The analysis is described further in the 4(b)(2) report (NMFS, 2005c).

(4) We did not conduct an ESA section 4(b)(2) analysis of lands covered by approved HCPs because existing HCP holders did not request exclusion from the critical habitat designation. We did not have sufficient information to conduct this analysis for the vast areas covered by Federal land management plans, but may do so in the future.

The following sections summarize the ESU-specific changes to the proposed critical habitat rule. These changes are also reflected in final agency reports pertaining to the biological, economic, and policy assessments supporting these designations (NMFS, 2005a; NMFS, 2005b; NMFS, 2005c). We conclude that these changes are warranted based on new information and analyses that constitute the best scientific data available.

ESU Specific Changes—California Coastal Chinook Salmon

The CHART did not change conservation value ratings for any watershed within the geographical area occupied by this ESU. However, based on public comments and new information reviewed by the CHART, we have identified minor changes to the extent of occupied habitat areas in some watersheds. Also, based on public comments we have added a migratory corridor in one watershed (HSA 111171) that was proposed to be fully excluded in order to provide connectivity between the ocean and an upstream watershed of high conservation value. Additionally, as a result of revised economic data for this ESU and our final ESA section 4(b)(2) analysis, we are excluding all occupied habitat in two watersheds that were previously proposed for designation (HSAs 111350 and 111423). Table 1 summarizes the specific changes made for this ESU.

TABLE 1.—ESU SPECIFIC CHANGES—CALIFORNIA COASTAL CHINOOK SALMON

Hydrologic unit	HSA watershed code	HSA watershed name	Changes from proposed rule
Trinidad	110810	Big Lagoon	Removed 0.7 mi (1.1 km) of occupied habitat area.
Trinidad	110820	Little River—Albion—Big Salmon	Added 1.2 miles (1.9 km) of occupied habitat area.
Mad River	110920	NF Mad River	Removed 0.8 miles (1.3 km) of occupied habitat area.
Mad River	110930	Butler Valley	Added 1.0 mile (1.6 km) of occupied habitat area.
Eel River	111171	Eden Valley	Excluded tributaries from final designation and retained migratory corridor.
Mendocino Coast	111350	Navarro River	Excluded all occupied habitat from final designation
Russian River	111423	Mark West	Excluded all occupied habitat from final designation.

ESU Specific Changes—Northern California Steelhead

The CHART did not change conservation value ratings for any watershed within the geographical area occupied by this ESU. However, based on public comments and new information reviewed by the CHART, we have identified changes to the extent of occupied habitat areas in 13 watersheds. As a result of revised economic data for this ESU and our final ESA section 4(b)(2) analysis, we did not make any changes to the areas that were previously proposed for designation or identify any new areas for exclusion in the final designation. Table 2 summarizes the specific changes made for this ESU.

TABLE 2.—ESU SPECIFIC CHANGES—NORTHERN CALIFORNIA STEELHEAD

Hydrologic unit	HSA watershed code	HSA watershed name	Changes from proposed rule
Redwood Creek	110720	Beaver	Removed 0.7 mi (1.1 km) of occupied habitat area.
Trinidad	110810	Big Lagoon	Added 0.3 mi (0.5 km) of occupied habitat area.
Trinidad	110820	Little River	Added 2.9 mi (4.7 km) of occupied habitat areas.
Mad River	110930	Butler Valley	Removed 0.4 mi (0.6 km) of occupied habitat area.
Eureka Plain	111000	Eureka Plain	Removed 0.8 mi (1.3 km) of occupied habitat area.
Eel River	111132	Benbow	Removed 0.7 mi (1.1 km) of occupied habitat area.
Eel River	111133	Laytonville	Removed 0.8 mi (1.3 km) of occupied habitat area.
Mendocino Coast	111311	Usal Creek	Removed 5.6 mi (9.0 km) of Coast occupied habitat areas.
Mendocino Coast	111312	Wages Creek	Removed 0.5 mi (0.8 km) of occupied habitat area.
Mendocino Coast	111313	Ten Mile Creek	Removed 7.6 mi (12.2 km) of occupied habitat area.
Mendocino Coast	111320	Noyo River	Removed 0.9 mi (1.4 km) of occupied habitat area
Mendocino Coast	111330	Big River	Removed 0.3 mi (0.5 km) of occupied habitat area.
Mendocino Coast	111340	Albion River	Removed 1.2 mi (1.9 km) of occupied habitat area.

ESU Specific Changes—Central California Coast Steelhead

The CHART did not change the conservation value of any occupied watersheds within the geographical area occupied by this ESU. Occupied habitat was added to one watershed (220320) because of a mapping error in the proposed rule and to another watershed (220550) based on public comments and new information received by the CHART. The Upper Alameda Creek watershed (220430) was removed from the final designation because it is occupied only by resident *O. mykiss*, and a final listing determination for this life form will not be made until December 2005 (70 FR 37219; June 28,

2005). As a result of this change, portions of the migratory corridor to upper Alameda Creek were also removed from two watersheds (220420 and 220520) in the final designation. As a result of revised economic data for this ESU and our final ESA section 4(b)(2) analysis, we are excluding all occupied habitat areas in two watersheds that were not previously proposed for designation (111421 and 220722). Table 3 summarizes the specific changes made for this ESU.

TABLE 3.—ESU SPECIFIC CHANGES—CENTRAL CALIFORNIA COAST STEELHEAD

Hydrologic unit	HSA watershed code	HSA watershed name	Changes from proposed rule
Russian River	111421	Laguna De Santa Rosa	Excluded all occupied habitat from final designation.
Bay Bridges	220320	San Rafael	Added 6.4 mi (10.3 km) of occupied habitat area (Arroyo Core Madera del Presidio).
South Bay	220420	Eastbay Cities	Removed 8.6 mi (13.8 km) migratory corridor to Upper Alameda Creek watershed (220430).
South Bay	220430	Upper Alameda Creek	Removed all occupied habitat (99.0 mi, or 159 km) from final designation.
Santa Clara	220520	Fremont Bayside	Removed portion of migratory corridor (1.0 mi, or 1.6 km) to Upper Alameda Creek watershed (220430).
Santa Clara	220550	Palo Alto	Added 1.9 mi (3.0 km) of occupied habitat area (San Francisquito Creek tributaries).
Suisun	220722	Suisun Creek	Excluded all occupied habitat area from final designation.

ESU Specific Changes—South-Central California Steelhead

The CHART did not change the conservation value rating for any watershed within the geographical area occupied by this ESU, nor were there any changes to the extent of occupied habitat areas. As a result of revised economic data for this ESU and our final ESA section 4(b)(2) analysis, we did not make any changes to the areas that were previously proposed for designation or identify any new areas for exclusion.

ESU Specific Changes—Southern California Steelhead

The CHART did not change the conservation value ratings for any of the occupied watersheds within the geographical area occupied by this ESU. However, based on information from the public comments and agency biologists and reviewed by the CHART, several watershed units (490121, 490122, 490125, 490126, and 490128) were determined to be unoccupied and, because we had not made a determination that they were essential to the conservation of the ESU, were not considered eligible for designation or considered in the final ESA section 4(b)(2) analysis for this final designation. These watershed units were located in the San Juan Creek/Trabuco Creek watershed in the southern portion of the range of the ESU. Also, based on public comments and other information reviewed by the CHART, we have identified several changes to the extent of occupied habitat in a number of watersheds. Based on the revised economic data for this ESU and our final ESA section 4(b)(2) analysis, we did not make any changes to the watershed areas that were previously proposed for designation. Table 4 summarizes the specific changes made for this ESU.

TABLE 4.—ESU SPECIFIC CHANGES—SOUTHERN CALIFORNIA STEELHEAD

Hydrologic unit	HSA watershed code	HSA watershed/area name	Changes from proposed rule
Santa Ynez	331440	Santa Ynez to Bradbury	Removed 24.0 mi (38.6 km) of occupied tributary habitat area to the Santa Ynez River (Alamo Pintado and Santa Aguedo Creeks).
South Coast	331534	Carpenteria	Removed 0.8 mi (1.3 km) of occupied habitat (Santa Monica estuary).
Ventura River	440232	Thatcher	Removed 20.9 mi (33.6 km) of occupied tributary habitat area (San Antonio Creek and tributaries).
Santa Clara—Calleguas	440331	Sespe—Santa Clara	Removed 5.4 mi (8.7 km) of occupied habitat area (Pole Creek).
San Juan	490121	Trabuco	Changed to unoccupied. Removed small amount of occupied habitat area (Trabuco Creek).
San Juan	490122	Upper Trabuco	Changed to unoccupied. Removed 7.7 mi (12.4 km) of occupied habitat area (Trabuco Creek).
San Juan	490123	Middle Trabuco	Removed 12.4 mi (20.0 km) of occupied habitat area (Trabuco Creek).
San Juan	490125	Upper San Juan	Changed to unoccupied. Removed 12.5 mi (20.1 km) of occupied habitat area (San Juan Creek).
San Juan	490126	Mid upper San Juan	Changed to unoccupied. Removed 3.8 mi (6.1 km) of occupied habitat area (San Juan Creek).
San Juan	490128	Middle San Juan	Changed to unoccupied. Removed 3.4 mi (5.5 km) of occupied habitat area (San Juan Creek).

TABLE 4.—ESU SPECIFIC CHANGES—SOUTHERN CALIFORNIA STEELHEAD—Continued

Hydrologic unit	HSA watershed code	HSA watershed/area name	Changes from proposed rule
San Juan	490140	San Mateo	Removed 4.9 mi (7.9 km) of occupied habitat (Devil Creek).

ESU Specific Changes—Central Valley Spring Run Chinook Salmon

Based on information provided in the public comments and new information reviewed by the CHART, one watershed was changed from occupied to unoccupied (550731), one was changed from unoccupied to occupied and rated as having a high conservation value to the ESU (551510), and one watershed was changed from a medium to a high conservation value (551921). Also, based on public comments and new information reviewed by the CHART, we have identified relatively minor changes to the extent of occupied habitat in some watersheds. Based on the results of the revised economic data for this ESU and our final ESA section 4(b)(2) analysis, we are excluding all occupied habitat areas in one watershed (551720) that were previously proposed for designation, and designating all occupied habitat areas in a second watershed (551921) that were previously proposed for exclusion. Table 5 summarizes the specific changes made for this ESU.

TABLE 5.—ESU SPECIFIC CHANGES—CENTRAL VALLEY SPRING RUN CHINOOK

Hydrologic unit	HSA watershed code	HSA Watershed name	Changes from proposed rule
Whitmore	550731	South Cow Creek	Changed from occupied to unoccupied. Removed 10.3 mi (16.6 km) of occupied habitat area.
Redding	550810	Enterprise Flat	Minor changes in distribution. No net change in occupied mi of habitat area.
Marysville	551510	Lower Bear River	Changed from unoccupied to occupied. Added 5.1 mi (8.2 km) of occupied habitat area. Rated as high in conservation value and included all occupied habitat in the final designation.
Yuba River	551720	Nevada City	Excluded all occupied habitat from final designation.
Valley-American	551921	Lower American	Changed conservation value from medium to high and included all occupied habitat in the final designation.

ESU Specific Changes—Central Valley Steelhead

Based on information provided in the public comments and new information reviewed by the CHART, the conservation value of two watersheds (551510 and 552110) within the geographical range of this ESU was changed from low to medium. Additionally, based on public comments and new information reviewed by the CHART, we have identified changes to the extent of occupied habitat areas in two watersheds. As a result of the revised economic data for this ESU and our final ESA section 4(b)(2) analysis, we are excluding all occupied habitat areas in two watersheds (550964 and 552435) proposed for designation and designating all occupied areas in two other watersheds (551510 and 552110) that were previously proposed for exclusion. Table 6 summarizes the specific changes made for this ESU.

TABLE 6.—ESU SPECIFIC CHANGES—CENTRAL VALLEY STEELHEAD

Hydrologic unit	HSA watershed code	HSA Watershed name	Changes from proposed rule
Redding	550810	Enterprise Flat	Added 5.7 mi (9.2 km) of occupied habitat area (several tributaries).
Eastern Tehama	550964	Paynes Creek	Excluded all occupied habitat Tehama from the final designation.
Marysville	551510	Lower Bear River	Changed conservation value from low to medium. Included all occupied habitat in the final designation.
Butte Creek	552110	Upper Dry Creek	Changed conservation value from low to medium. Included all occupied habitat in the final designation.
Shasta Bally	552435	Ono	Excluded all occupied habitat from the final designation.
Shasta Bally	552440	Spring Creek	Removed 3.1 mi (5.0 km) of occupied habitat area.

IV. Methods and Criteria Used To Designate Critical Habitat

The following sections describe the relevant definitions and guidance found in the ESA and our implementing regulations, and the key methods and criteria we used to make these final critical habitat designations after incorporating, as appropriate, comments and information received on the proposed rule. Section 4 of the ESA (16 U.S.C. 1533(b)(2)) and our regulations at 50 CFR 424.12(a) require that we designate critical habitat, and make revisions thereto, ''on the basis of the best scientific data available.''

Section 3 of the ESA (16 U.S.C. 1532(5)) defines critical habitat as ''(i) the specific areas within the geographical area occupied by the species, at the time it is listed * * * on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed upon a determination by the Secretary that such areas are essential for the conservation of the species.'' Section 3 of the ESA (16 U.S.C. 1532(3)) also defines the terms ''conserve,'' ''conserving,'' and ''conservation'' to mean ''to use, and the use of, all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary.''

Pursuant to our regulations, when designating critical habitat we consider the following requirements of the species: (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 of offspring; and, generally, (5) habitats that are protected from disturbance or are representative of the historical geographical and ecological distributions of the species (see 50 CFR 424.12(b)). In addition to these factors, we also focus on the known physical and biological features (primary constituent elements or PCEs) within the occupied areas that are essential to the conservation of the species and that may require special management considerations or protection. Both the ESA and our regulations, in recognition of the divergent biological needs of species, establish criteria that are fact specific rather than ''one size fits all.''

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

Section 4 of the ESA requires that before designating critical habitat we must consider the economic impacts, impacts on national security, and other relevant impacts of specifying any particular area as critical habitat, and the Secretary may exclude any area from critical habitat if the benefits of exclusion outweigh the benefits of inclusion, unless excluding an area from critical habitat will result in the extinction of the species concerned. Once critical habitat for a salmon or steelhead ESU is designated, section 7(a)(2) of the ESA requires that each Federal agency shall, in consultation with and with the assistance of NMFS, ensure that any action authorized, funded or carried out by such agency is not likely to result in the destruction or adverse modification of critical habitat.

Salmon Life History

Pacific salmon are anadromous fish, meaning adults migrate from the ocean to spawn in freshwater lakes and streams where their offspring hatch and rear prior to migrating back to the ocean to forage until maturity. The migration and spawning times vary considerably across and within species and populations (Groot and Margolis, 1991). At spawning, adults pair to lay and fertilize thousands of eggs in freshwater gravel nests or ''redds'' excavated by females. Depending on lake/stream temperatures, eggs incubate for several weeks to months before hatching as ''alevins'' (a larval life stage dependent on food stored in a yolk sac). Following yolk sac absorption, alevins emerge from the gravel as young juveniles called ''fry'' and begin actively feeding. Depending on the species and location, juveniles may spend from a few hours to several years in freshwater areas before migrating to the ocean. The physiological and behavioral changes required for the transition to salt water result in a distinct ''smolt'' stage in most species. On their journey juveniles must migrate downstream through every riverine and estuarine corridor between their natal lake or stream and the ocean. For example, smolts from Idaho will travel as far as 900 miles (1,448 km) from the inland spawning grounds. En route to the ocean the juveniles may spend from a few days to several weeks in the estuary, depending on the species. The highly productive estuarine environment is an important feeding and acclimation area for juveniles preparing to enter marine waters.

Juveniles and subadults typically spend from 1 to 5 years foraging over thousands of miles in the North Pacific Ocean before returning to spawn. Some species, such as coho and Chinook salmon, have precocious life history types (primarily male fish known as ''jacks'') that mature and spawn after only several months in the ocean. Spawning migrations known as ''runs'' occur throughout the year, varying by species and location. Most adult fish return or ''home'' with great fidelity to spawn in their natal stream, although some do stray to non-natal streams. Salmon species die after spawning, except anadromous *O. mykiss* (steelhead), which may return to the ocean and make one or more repeat spawning migrations. This complex life cycle gives rise to complex habitat needs, particularly during the freshwater phase (see review by Spence *et al.*, 1996). Spawning gravels must be of a certain size and free of sediment to allow successful incubation of the eggs. Eggs also require cool, clean, and well-oxygenated waters for proper development. Juveniles need abundant food sources, including insects, crustaceans, and other small fish. They need places to hide from predators (mostly birds and bigger fish), such as under logs, root wads and boulders in the stream, and beneath overhanging vegetation. They also need places to seek refuge from periodic high flows (side channels and off channel areas) and from warm summer water temperatures (coldwater springs and deep pools). Returning adults generally do not feed in fresh water but instead rely on limited energy stores to migrate, mature, and spawn. Like juveniles, they also require cool water and places to rest and hide from predators. During all life stages salmon require cool water that is free of contaminants. They also require rearing and migration corridors with adequate passage conditions (water quality and quantity available at specific times) to allow access to the various habitats required to complete their life cycle.

The homing fidelity of salmon has created a metapopulation structure with distinct populations distributed among watersheds (McElhany *et al.*, 2000). Low levels of straying result in regular genetic exchange among populations,

creating genetic similarities among populations in adjacent watersheds. Maintenance of the metapopulation structure requires a distribution of populations among watersheds where environmental risks (*e.g.*, from landslides or floods) are likely to vary. It also requires migratory connections among the watersheds to allow for periodic genetic exchange and alternate spawning sites in the case that natal streams are inaccessible due to natural events such as a drought or landslide. More detailed information describing habitat and life history characteristics of the ESUs is contained in the proposed rule (69 FR 71880; December 10, 2004), agency status reviews for each ESU, technical recovery team products, and in a biological report supporting these designations (NMFS, 2005a).

Identifying the Geographical Area Occupied by the Species and Specific Areas Within the Geographical Area

In past critical habitat designations, we had concluded that the limited availability of species distribution data prevented mapping salmonid critical habitat at a scale finer than occupied river basins (65 FR 7764; February 16, 2000). Therefore, the 2000 designations defined the ''geographical area occupied by the species, at the time of listing'' as all accessible river reaches within the current range of the listed species.

In the proposed rule we described in greater detail that since the previous designations in 2000, we can now be somewhat more precise about the ''geographical area occupied by the species'' because of efforts by agency biologists, in coordination with Federal and state co-managers, to compile information and map actual species distribution at the level of stream reaches. Moreover, much of the available data can now be accessed and analyzed using geographic information systems (GIS) to produce consistent and fine-scale maps. The current mapping effort for these ESUs documents fish presence and identifies occupied stream reaches where the species has been observed. It also identifies stream reaches where the species is presumed to occur based on the professional judgment of biologists familiar with the watershed. We made use of these finer-scale data for the current critical habitat designations, and we now believe that they enable a more accurate delineation of the ''geographical area occupied by the species'' referred to in the ESA definition of critical habitat.

We are now also able to identify ''specific areas'' (ESA section 3(5)(a)) and ''particular areas'' (ESA section 4(b)(2)) at a finer scale than in 2000. As described in the proposed rule, we have used the State of California's CALWATER watershed classification system, which is similar to the USGS watershed classification system that was used for salmonid critical habitat designations in the Northwest. This information is now generally available via the internet, and we have expanded our GIS resources to use these data. We used the CALWATER Hydrologic Subarea (HSA) unit (which is generally similar in size to USGS HUC5s) to organize critical habitat information systematically and at a scale that, while somewhat broad geographically, is applicable to the spatial distribution of salmon. Organizing information at this scale is especially relevant to salmonids, since their innate homing ability allows them to return to the watersheds where they were born. Such site fidelity results in spatial aggregations of salmonid populations that generally correspond to the area encompassed by HSA watersheds or aggregations of these watersheds.

The CALWATER system maps watershed units as polygons, bounding a drainage area from ridge-top to ridge-top, encompassing streams, riparian areas and uplands. Within the boundaries of any HSA watershed, there are stream reaches not occupied by the species. Land areas within the CALWATER HSA boundaries are also generally not ''occupied'' by the species (though certain areas such as flood plains or side channels may be occupied at some times of some years). We used the watershed boundaries as a basis for aggregating occupied stream reaches, for purposes of delineating ''specific'' areas at a scale that often corresponds well to salmonid population structure and ecological processes. This designation refers to the occupied stream reaches within the watershed boundary as the ''habitat area'' to distinguish it from the entire area encompassed by the watershed boundary. Each habitat area was reviewed by the CHARTs to verify occupation, PCEs, and special management considerations (see ''Critical Habitat Analytical Review Teams'' section below).

The watershed-scale aggregation of stream reaches also allowed us to analyze the impacts of designating a ''particular area,'' as required by ESA section 4(b)(2). As a result of watershed processes, many activities occurring in riparian or upland areas and in non-fish-bearing streams may affect the physical or biological features essential to conservation in the occupied stream reaches. The watershed boundary thus describes an area in which Federal activities have the potential to affect critical habitat (Spence *et al.*, 1996). Using watershed boundaries for the economic analysis ensured that all potential economic impacts were considered. Section 3(5) defines critical habitat in terms of ''specific areas,'' and section 4(b)(2) requires the agency to consider certain factors before designating ''particular areas.'' In the case of Pacific salmonids, the biology of the species, the characteristics of its habitat, the nature of the impacts and the limited information currently available at finer geographic scales made it appropriate to consider ''specific areas'' and ''particular areas'' as the same unit.

Occupied estuarine areas were also considered in the context of defining ''specific areas.'' In our proposed rule we noted that estuarine areas are crucial for juvenile salmonids, given their multiple functions as areas for rearing/feeding, freshwater-saltwater acclimation, and migration (Simenstad *et al.*, 1982; Marriott *et al.*, 2002). The San Francisco Bay estuary complex consists of five CALWATER HSA watershed units that are separate from upstream freshwater habitats that drain into the estuarine complex, and these units were analyzed separately. Some other small estuaries did not correspond to HSA watershed units nor were they part of defined HSA watershed units, and so we defined specific polygons which were analyzed separately. In all occupied estuarine areas we were able to identify physical or biological features essential to the conservation of the species, and that may require special management considerations or protection. For those estuarine areas designated as critical habitat we are again delineating them in similar terms to our past designations, as being defined by a line connecting the furthest land points at the estuary mouth.

In previous designations of salmonid critical habitat we did not designate offshore marine areas. In the Pacific Ocean, we concluded that there may be essential habitat features, but we could not identify any special management considerations or protection associated with them as required under section 3(5)(A)(i) of the ESA (65 FR 7776; February 16, 2000). Since that time we have carefully considered the best available scientific information, and related agency actions, such as the designation of Essential Fish Habitat under the Magnuson-Stevens Fishery Conservation and Management Act. In contrast to estuarine areas, we conclude that it is not possible to identify ''specific areas'' in the Pacific Ocean that contain essential features for salmonids. Also, links between human

activity, habitat conditions and impacts to listed salmonids are less direct in offshore marine areas. Perhaps the closest linkage exists for salmon prey species that are harvested commercially (*e.g.*, Pacific herring) and, therefore, may require special management considerations or protection. However, because salmonids are opportunistic feeders we could not identify ''specific areas'' where these or other essential features are found within this vast geographic area occupied by salmon and steelhead. Moreover, prey species move or drift great distances throughout the ocean and would be difficult to link to any ''specific'' areas. Therefore, we are not designating critical habitat in offshore marine areas. We requested comment on this issue in our proposed rule but did not receive comments or information that would change our conclusion.

Primary Constituent Elements

In determining what areas are critical habitat, agency regulations at 50 CFR 424.12(b) require that we must ''consider those physical or biological features that are essential to the conservation of a given species * * *, including space for individual and population growth and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, and rearing of offspring; and habitats that are protected from disturbance or are representative of the historical geographical and ecological distribution of a species.'' The regulations further direct us to ''focus on the principal biological or physical constituent elements * * * that are essential to the conservation of the species,'' and specify that the ''known primary constituent elements shall be listed with the critical habitat description.'' The regulations identify primary constituent elements (PCEs) as including, but not limited to: ''roost sites, nesting grounds, spawning sites, feeding sites, seasonal wetland or dryland, water quality or quantity, host species or plant pollinator, geological formation, vegetation type, tide, and specific soil types.''

NMFS biologists developed a list of PCEs that are essential to the species' conservation and based on the unique life history of salmon and steelhead and their biological needs (Hart, 1973; Beauchamp *et al.*, 1983; Laufle *et al.*, 1986; Pauley *et al.*, 1986, 1988, and 1989; Groot and Margolis, 1991; Spence *et al.*, 1996). Guiding the identification of PCEs was a decision matrix we developed for use in ESA section 7 consultations (NMFS, 1996) which describes general parameters and characteristics of most of the essential features under consideration in this critical habitat designation. We identified these PCEs and requested comment on them in the ANPR (68 FR 55931; September 29, 2003) and proposed rule (69 FR 74636; December 14, 2005) but did not receive information to support changing them. The ESUs addressed in this final rule share many of the same rivers and estuaries and have similar life history characteristics and, therefore, many of the same PCEs. These PCEs include sites essential to support one or more life stages of the ESU (sites for spawning, rearing, migration and foraging). These sites in turn contain physical or biological features essential to the conservation of the ESU (for example, spawning gravels, water quality and quantity, side channels, forage species). The specific PCEs include:

1. Freshwater spawning sites with water quantity and quality conditions and substrate supporting spawning, incubation and larval development. These features are essential to conservation because without them the species cannot successfully spawn and produce offspring.

2. Freshwater rearing sites with water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility; water quality and forage supporting juvenile development; and natural cover such as shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks. These features are essential to conservation because without them juveniles cannot access and use the areas needed to forage, grow, and develop behaviors (*e.g.*, predator avoidance, competition) that help ensure their survival.

3. Freshwater migration corridors free of obstruction with water quantity and quality conditions and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival. These features are essential to conservation because without them juveniles cannot use the variety of habitats that allow them to avoid high flows, avoid predators, successfully compete, begin the behavioral and physiological changes needed for life in the ocean, and reach the ocean in a timely manner. Similarly, these features are essential for adults because they allow fish in a non-feeding condition to successfully swim upstream, avoid predators, and reach spawning areas on limited energy stores.

4. Estuarine areas free of obstruction with water quality, water quantity, and salinity conditions supporting juvenile and adult physiological transitions between fresh- and saltwater; natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels; and juvenile and adult forage, including aquatic invertebrates and fishes, supporting growth and maturation. These features are essential to conservation because without them juveniles cannot reach the ocean in a timely manner and use the variety of habitats that allow them to avoid predators, compete successfully, and complete the behavioral and physiological changes needed for life in the ocean. Similarly, these features are essential to the conservation of adults because they provide a final source of abundant forage that will provide the energy stores needed to make the physiological transition to fresh water, migrate upstream, avoid predators, and develop to maturity upon reaching spawning areas.

5. Nearshore marine areas free of obstruction with water quality and quantity conditions and forage, including aquatic invertebrates and fishes, supporting growth and maturation; and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels. As in the case with freshwater migration corridors and estuarine areas, nearshore marine features are essential to conservation because without them juveniles cannot successfully transition from natal streams to offshore marine areas.

6. Offshore marine areas with water quality conditions and forage, including aquatic invertebrates and fishes, supporting growth and maturation. These features are essential for conservation because without them juveniles cannot forage and grow to adulthood. However, for the reasons stated previously in this document, it is difficult to identify specific areas containing this PCE as well as human activities that may affect the PCE condition in those areas. Therefore, we have not designated any specific areas based on this PCE but instead have identified it because it is essential to the species' conservation and specific offshore areas may be identified in the future (in which case any designation would be subject to separate rulemaking).

The occupied habitat areas designated in this final rule contain PCEs required to support the biological processes for

which the species use the habitat. The CHARTs verified this for each watershed/nearshore zone by relying on the best available scientific data (including species distribution maps, watershed analyses, and habitat surveys) during their review of occupied areas and resultant assessment of area conservation values (NMFS, 2005a). The contribution of the PCEs varies by site and biological function such that the quality of the elements may vary within a range of acceptable conditions. The CHARTs took this variation into account when they assessed the conservation value of an area.

Special Management Considerations or Protections

An occupied area cannot be designated as critical habitat unless it contains physical and biological features that ''may require special management considerations or protection.'' Agency regulations at 424.02(j) define ''special management considerations or protection'' to mean ''any methods or procedures useful in protecting physical and biological features of the environment for the conservation of listed species.''

As part of the biological assessment described below under ''Critical Habitat Analytical Review Teams,'' teams of biologists examined each habitat area to determine whether the physical or biological features may require special management consideration. These determinations are identified for each area in the CHART report (NMFS, 2005a). In the case of salmon and steelhead, the CHARTs identified a variety of activities that threaten the physical and biological features essential to listed salmon and steelhead (see review by Spence *et al.*, 1996), including: (1) Forestry; (2) grazing and other associated rangeland activities; (3) agriculture; (4) road building/maintenance; (5) channel modifications/diking/stream bank stabilization; (6) urbanization; (7) sand and gravel mining; (8) mineral mining; (9) dams; (10) irrigation impoundments and withdrawals; (11) wetland loss/removal; (12) exotic/invasive species introductions; and (13) impediments to migration. In addition to these, the harvest of salmonid prey species (*e.g.,* forage fishes such as herring, anchovy, and sardines) may present another potential habitat-related management activity (Pacific Fishery Management Council, 1999).

Unoccupied Areas

ESA section 3(5)(A)(ii) defines critical habitat to include ''specific areas outside the geographical area occupied'' if the areas are determined by the Secretary to be ''essential for the conservation of the species.'' NMFS regulations at 50 CFR 424.12(e) emphasize that we ''shall designate as critical habitat areas outside the geographical area presently occupied by a species only when a designation limited to its present range would be inadequate to ensure the conservation of the species.'' The CHARTs did identify several unoccupied areas above dams that may be essential for the conservation of specific ESUs, primarily within the historical range of the Central Valley spring run Chinook, Central Valley steelhead, and Southern California steelhead ESUs (see proposed rule; 69 FR 71880; December 10, 2004); however, we are not designating unoccupied areas at this time. Though it is not possible to conclude at this time that any of these historically occupied areas warrant designation, we believe it is useful to signal to the public that these specific areas may be considered for possible designation in the future. However, any designation of unoccupied areas would be based on the required determination that such area is essential for the conservation of an ESU and would be subject to separate rulemaking with the opportunity for notice and comment.

Lateral Extent of Critical Habitat

In past designations we have described the lateral extent of critical habitat in various ways ranging from fixed distances to ''functional'' zones defined by important riparian functions (65 FR 7764; February 16, 2000). Both approaches presented difficulties, and this was highlighted in several comments (most of which requested that we focus on aquatic areas only) received in response to the ANPR (68 FR 55926; September 29, 2003). Designating a set riparian zone width will (in some places) accurately reflect the distance from the stream on which PCEs might be found, but in other cases may over- or understate the distance. Designating a functional buffer avoids that problem, but makes it difficult for Federal agencies to know in advance what areas are critical habitat. To address these issues we are proposing to define the lateral extent of designated critical habitat as the width of the stream channel defined by the ordinary high-water line as defined by the COE in 33 CFR 329.11. This approach is consistent with the specific mapping requirements described in agency regulations at 50 CFR 424.12(c). In areas for which ordinary high-water has not been defined pursuant to 33 CFR 329.11, the width of the stream channel shall be defined by its bankfull elevation. Bankfull elevation is the level at which water begins to leave the channel and move into the floodplain (Rosgen, 1996) and is reached at a discharge which generally has a recurrence interval of 1 to 2 years on the annual flood series (Leopold *et al.*, 1992). Such an interval is commensurate with nearly all of the juvenile freshwater life phases of most salmon and steelhead ESUs. Therefore, it is reasonable to assert that for an occupied stream reach this lateral extent is regularly ''occupied''. Moreover, the bankfull elevation can be readily discerned for a variety of stream reaches and stream types using recognizable water lines (*e.g.,* marks on rocks) or vegetation boundaries (Rosgen, 1996).

As underscored in previous critical habitat designations, the quality of aquatic habitat within stream channels is intrinsically related to the adjacent riparian zones and floodplain, to surrounding wetlands and uplands, and to non-fish-bearing streams above occupied stream reaches. Human activities that occur outside the stream can modify or destroy physical and biological features of the stream. In addition, human activities that occur within and adjacent to reaches upstream (*e.g.,* road failures) or downstream (*e.g.,* dams) of designated stream reaches can also have demonstrable effects on physical and biological features of designated reaches.

In estuarine areas we believe that extreme high water is the best descriptor of lateral extent. We are designating the area inundated by extreme high tide because it encompasses habitat areas typically inundated and regularly occupied during the spring and summer when juvenile salmon are migrating in the nearshore zone and relying heavily on forage, cover, and refuge qualities provided by these occupied habitats. As noted above for stream habitat areas, human activities that occur outside the area inundated by extreme or ordinary high water can modify or destroy physical and biological features of the nearshore habitat areas, and Federal agencies must be aware of these important habitat linkages as well.

Military Lands

The Sikes 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, by November 17, 2001, an INRMP. An INRMP integrates implementation of the military mission of the installation with stewardship of the natural resources found there. Each INRMP includes: an assessment of the

ecological needs on the installation, including the need to provide for the conservation of listed species; a statement of goals and priorities; a detailed description of management actions to be implemented to provide for these ecological needs; and a monitoring and adaptive management plan. 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. No. 108–136) amended the ESA to address designation of military lands as critical habitat. Specifically, section 4(a)(3)(B)(i) of the ESA (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.''

To address this new provision we contacted the DOD and requested information on all INRMPs that might benefit Pacific salmon. In response to the ANPR (68 FR 55926; September 29, 2003) we had already received a letter from the U.S. Marine Corps regarding this and other issues associated with a possible critical habitat designation on its facilities in the range of the Southern California Steelhead ESU. In response to our request, the military services identified 25 installations in California with INRMPs in place or under development. Based on information provided by the military, as well as GIS analysis of fish distributional information compiled by NMFS'' Southwest Region (NMFS, 2004b; NMFS, 2005a) and land use data, we determined that the following facilities with INRMPs overlap with habitat areas under consideration for critical habitat designation in California: (1) Camp Pendleton Marine Corps Base; (2) Vandenberg Air Force Base; (3) Camp San Luis Obispo; (4) Camp Roberts; and (5) Mare Island Army Reserve Center. Two additional facilities are adjacent to, but do not overlap with, habitat areas under consideration for critical habitat in California: (1) Naval Weapons Station, Seal Beach/Concord Detachment; and (2) Point Mugu Naval Air Station. None of the remaining facilities with INRMPs in place overlapped with or were adjacent to habitat under consideration for critical habitat based on the information available to us. All of these INRMPs are final except for the Vandenberg Air Force Base INRMP, which is expected to be finalized in the near term.

We identified habitat of value to listed salmonids in each INRMP and reviewed these plans, as well as other information available regarding the management of these military lands. Our review indicates that each of these INRMPs addresses habitat for salmonids, and all contain measures that provide benefits to ESA-listed salmon and steelhead. Examples of the types of benefits include actions that control erosion, protect riparian zones, minimize stormwater and construction impacts, reduce contaminants, and monitor listed species and their habitats. As a result of our review, we have determined that the final INRMPs and the draft INRMP for Vandenberg Air Force Base provide a benefit to the species for which critical habitat is proposed for designation, and, therefore, we are not designating critical habitat in those areas. Also, we have received information from the Vandenberg Air Force Base and Camp Pendleton Marine Corps Base identifying national security impacts to their operations from critical habitat designation. Our consideration of such impacts is separate from our assessment of INRMPs, but serves as an independent and sufficient basis for our determination not to designate those areas as critical habitat.

Critical Habitat Analytical Review Teams

To assist in the designation of critical habitat, we convened several CHARTs organized by major geographic domains that roughly correspond to salmon recovery planning domains in California. The CHARTs consisted of NMFS fishery biologists from the Southwest Region with demonstrated expertise regarding salmonid habitat and related protective efforts within the domain. The CHARTs were tasked with compiling and assessing biological information pertaining to areas under consideration for designation as critical habitat. Each CHART worked closely with GIS specialists to develop maps depicting the spatial distribution of habitat occupied by each ESU and the use of occupied habitat on stream hydrography at a scale of 1:100,000. The CHARTs also reconvened to review the public comments and any new information regarding the ESUs and habitat in their domain.

The CHARTs examined each habitat area within the watershed to determine whether the stream reaches or lakes occupied by the species contain the physical or biological features essential to conservation. As noted previously, the CHARTs also relied on their experience conducting ESA section 7 consultations and existing management plans and protective measures to determine whether these features may require special management considerations or protection.

In addition to occupied areas, the definition of critical habitat also includes unoccupied areas if we determine that area is essential for conservation of a species. Accordingly the CHARTs were also asked whether there were any unoccupied areas within the historical range of the ESUs that may be essential for conservation. For the seven ESUs addressed in this rulemaking, the CHARTs did not have sufficient information that would allow them to conclude that specific unoccupied areas were essential for conservation; however, in many cases they were able to identify areas they believed may be determined essential through future recovery planning efforts. These were described in the proposed critical habitat designation rule (69 FR 71880).

The CHARTs were next asked to determine the relative conservation value of each occupied HSA watershed area for each ESU. The CHARTs scored each habitat area based on several factors related to the quantity and quality of the physical and biological features. They next considered each area in relation to other areas and with respect to the population occupying that area. Based on a consideration of the raw scores for each area, and a consideration of that area's contribution in relation to other areas and in relation to the overall population structure of the ESU, the CHARTs rated each habitat area as having a ''high,'' ''medium,'' or ''low'' conservation value. The preliminary CHART ratings were reviewed by several state and tribal co-managers in advance of the proposed rule and the CHARTs made needed changes prior to that rule. State co-managers also evaluated our proposed rule and provided comments and new information which were also reviewed and incorporated as needed by the CHARTs in the preparation of the final designations.

The rating of habitat areas as having a high, medium, or low conservation value provided information useful to inform the Secretary's exercise of discretion in balancing whether the benefits of exclusion outweigh the

benefits of designation in ESA section 4(b)(2). The higher the conservation value for an area, the greater may be the likely benefit of the ESA section 7 protections. We recognized that the ''benefit of designation'' would also depend on the likelihood of a consultation occurring and the improvements in species' conservation that may result from changes to proposed Federal actions. To address this concern, we developed a profile for a ''low leverage'' watershed—that is, a watershed where it was unlikely there would be a section 7 consultation, or where a section 7 consultation, if it did occur, would yield few conservation benefits. For watersheds not meeting the ''low leverage'' profile, we considered their conservation rating to be a fair assessment of the benefit of designation, for purposes of our cost-effectiveness framework (NMFS 2005c). For watersheds meeting the ''low leverage'' profile, we considered the benefit of designation to be an increment lower than the conservation rating. For example, therefore, a watershed with a ''high'' conservation value but ''low leverage'' was considered to have a ''medium'' benefit of designation, and so forth. We then applied the dollar thresholds for exclusion appropriate to the adjusted ''benefit of designation.''

As discussed earlier, the scale chosen for the ''specific area'' referred to in section 3(5)(a) was an HSA watershed as delineated by the CALWATER watershed classification system. This delineation required us to adapt the approach for some areas. For example, a large stream or river might serve as a rearing and migration corridor to and from many watersheds, yet be embedded itself in a watershed. In any given watershed through which it passes, the stream may have a few or several tributaries. For rearing/migration corridors embedded in a watershed, the CHARTs were asked to rate the conservation value of the watershed based on the tributary habitat. We assigned the rearing/migration corridor the rating of the highest-rated watershed for which it served as a rearing/migration corridor. The reason for this treatment of migration corridors is the role they play in the salmon's life cycle. Salmon are anadromous—born in fresh water, migrating to salt water to feed and grow, and returning to fresh water to spawn. Without a rearing/migration corridor to and from the sea, salmon cannot complete their life cycle. It would be illogical to consider a spawning and rearing area as having a particular conservation value and not consider the associated rearing/migration corridor as having a similar conservation value.

V. Application of ESA Section 4(b)(2)

The foregoing discussion describes those areas that are eligible for designation as critical habitat—the specific areas that fall within the ESA section 3(5)(A) definition of critical habitat, minus those lands owned or controlled by the DOD, or designated for its use, that are covered by an INRMP that we have determined provides a benefit to the species.

Specific areas eligible for designation are not automatically designated as critical habitat. Section 4(b)(2) of the ESA requires that the Secretary first considers the economic impact, impact on national security, and any other relevant impact. The Secretary has the discretion to exclude an area from designation if he determines the benefits of exclusion (that is, avoiding the impact that would result from designation) outweigh the benefits of designation. The Secretary may not exclude an area from designation if exclusion will result in the extinction of the species. Because the authority to exclude is discretionary, exclusion is not required for any areas. In this rulemaking, the Secretary has applied his statutory discretion to exclude areas from critical habitat for several different reasons.

In this exercise of discretion, the first issue we must address is the scope of impacts relevant to the 4(b)(2) evaluation. As discussed in the Background and Previous Federal Action section, we are re-designating critical habitat for these seven ESUs because the previous designations were vacated (*National Association of Homebuilders* v. *Evans*, 2002 WL 1205743 No. 00–CV–2799 (D.D.C.) (*NAHB*)). The *NAHB* court had agreed with the reasoning of the Court of Appeals for the Tenth Circuit in *New Mexico Cattle Growers Association* v. *U.S. Fish and Wildlife Service*, 248 F.3d 1277 (10th Cir. 2001). In that decision, the Tenth Circuit stated ''[t]he statutory language is plain in requiring some kind of consideration of economic impact in the critical habitat designation phase.'' The Tenth Circuit concluded that, given the USFWS'' failure to distinguish between ''adverse modification'' and ''jeopardy'' in its 4(b)(2) analysis, the USFWS must analyze the full impacts of critical habitat designation, regardless of whether those impacts are coextensive with other impacts (such as the impact of the jeopardy requirement).

In re-designating critical habitat for these salmon ESUs, we have followed the Tenth Circuit Court's directive regarding the statutory requirement to consider the economic impact of designation. Areas designated as critical habitat are subject to ESA section 7 requirements, which provide that Federal agencies ensure that their actions are not likely to destroy or adversely modify critical habitat. To evaluate the economic impact of critical habitat we first examined our voluminous section 7 consultation record for these as well as other ESUs of salmon. (For thoroughness, we examined the consultation record for other ESUs to see if it shed light on the issues.) That record includes consultations on habitat-modifying Federal actions both where critical habitat has been designated and where it has not. We could not discern a distinction between the impacts of applying the jeopardy provision versus the adverse modification provision in occupied critical habitat. Given our inability to detect a measurable difference between the impacts of applying these two provisions, the only reasonable alternative seemed to be to follow the recommendation of the Tenth Circuit, approved by the *NAHB* court—to measure the coextensive impacts; that is, measure the entire impact of applying the adverse modification provision of section 7, regardless of whether the jeopardy provision alone would result in the identical impact.

The Tenth Circuit's opinion only addressed ESA section 4(b)(2)'s requirement that economic impacts be considered. The court did not address how ''other relevant impacts'' were to be considered, nor did it address the benefits of designation. Because section 4(b)(2) requires a consideration of other relevant impacts of designation, and the benefits of designation, and because our record did not support a distinction between impacts resulting from application of the adverse modification provision versus the jeopardy provision, we are uniformly considering coextensive impacts and coextensive benefits, without attempting to distinguish the benefit of a critical habitat consultation from the benefit that would otherwise result from a jeopardy consultation that would occur even if critical habitat were not designated. To do otherwise would distort the balancing test contemplated by section 4(b)(2).

The principal benefit of designating critical habitat is that Federal activities that may affect such habitat are subject to consultation pursuant to section 7 of the ESA. Such consultation requires every Federal agency to ensure that any action it authorizes, funds or carries out is not likely to result in the destruction

or adverse modification of critical habitat. This complements the section 7 provision that Federal agencies ensure that their actions are not likely to jeopardize the continued existence of a listed species. Another benefit is that the designation of critical habitat can serve to educate the public regarding the potential conservation value of an area and thereby focus and contribute to conservation efforts by clearly delineating areas of high conservation value for certain species. It is unknown to what extent this process actually occurs, and what the actual benefit is, as there are also concerns, noted above, that a critical habitat designation may discourage such conservation efforts.

The balancing test in ESA section 4(b)(2) contemplates weighing benefits that are not directly comparable—the benefit associated with species conservation balanced against the economic benefit, benefit to national security, or other relevant benefit that results if an area is excluded from designation. Section 4(b)(2) does not specify a method for the weighing process. Agencies are frequently required to balance benefits of regulations against impacts; E.O. 12866 established this requirement for Federal agency regulation. Ideally such a balancing would involve first translating the benefits and impacts into a common metric. Executive branch guidance from the OMB suggests that benefits should first be monetized (*i.e.*, converted into dollars). Benefits that cannot be monetized should be quantified (for example, numbers of fish saved). Where benefits can neither be monetized nor quantified, agencies are to describe the expected benefits (OMB, 2003).

It may be possible to monetize benefits of critical habitat designation for a threatened or endangered species in terms of willingness-to-pay (OMB, 2003). However, we are not aware of any available data that would support such an analysis for salmon. In addition, ESA section 4(b)(2) requires analysis of impacts other than economic impacts that are equally difficult to monetize, such as benefits to national security of excluding areas from critical habitat. In the case of salmon designations, impacts to Northwest tribes are an ''other relevant impact'' that also may be difficult to monetize.

An alternative approach, approved by OMB (OMB, 2003), is to conduct a cost-effectiveness analysis. A cost-effectiveness analysis ideally first involves quantifying benefits, for example, percent reduction in extinction risk, percent increase in productivity, or increase in numbers of fish. Given the state of the science, it would be difficult to quantify reliably the benefits of including particular areas in the critical habitat designation. Although it is difficult to monetize or quantify benefits of critical habitat designation, it is possible to differentiate among habitat areas based on their relative contribution to conservation. For example, habitat areas can be rated as having a high, medium, or low conservation value. The qualitative ordinal evaluations can then be combined with estimates of the economic costs of critical habitat designation in a framework that essentially adopts that of cost-effectiveness. Individual habitat areas can then be assessed using both their biological evaluation and economic cost, so that areas with high conservation value and lower economic cost might be considered to have a higher priority for designation, while areas with a low conservation value and higher economic cost might have a higher priority for exclusion. While this approach can provide useful information to the decision-maker, there is no rigid formula through which this information translates into exclusion decisions. Every geographical area containing habitat eligible for designation is different, with a unique set of ''relevant impacts'' that may be considered in the exclusion process. Regardless of the analytical approach, section 4(b)(2) makes clear that what weight the agency gives various impacts and benefits, and whether the agency excludes areas from the designation, is discretionary.

Exclusions Based on Impacts to Tribes

The principal benefit of designating critical habitat is that Federal activities that may affect such habitat are subject to consultation pursuant to section 7 of the ESA. We believe there is very little benefit to designating critical habitat on Indian lands for these seven ESUs. Although there are potentially a number of activities on Indian lands that may trigger section 7 consultation, Indian lands comprise only a very minor portion (substantially less than 1 percent) of the total habitat under consideration for these seven California ESUs. Specifically, occupied stream reaches on Indian lands only occur within the range of the California Coastal Chinook, Northern California steelhead, and Central California Coast steelhead ESUs, and these areas represent less than 0.1 percent of the total occupied habitat under consideration for these three ESUs. Based on our analysis, the remaining four ESUs did not contain any Indian lands that overlapped with occupied stream habitat. These percentages are likely overestimates as they include all habitat area within reservation boundaries.

There are several benefits to excluding Indian lands. The longstanding and distinctive relationship between the Federal and tribal governments is defined by treaties, statutes, executive orders, judicial decisions, and agreements, which differentiate tribal governments from the other entities that deal with, or are affected by, the Federal government. This relationship has given rise to a special Federal trust responsibility involving the legal responsibilities and obligations of the United States toward Indian Tribes and the application of fiduciary standards of due care with respect to Indian lands, tribal trust resources, and the exercise of tribal rights. Pursuant to these authorities lands have been retained by Indian Tribes or have been set aside for tribal use. These lands are managed by Indian Tribes in accordance with tribal goals and objectives within the framework of applicable treaties and laws.

In addition to the distinctive trust relationship for Pacific salmon and steelhead in California and in the Northwest, there is a unique partnership between the Federal government and Indian tribes regarding salmon management. Indian tribes in California and the Northwest are regarded as ''co-managers'' of the salmon resource, along with Federal and State managers. This co-management relationship evolved as a result of numerous court decisions clarifying the tribes' treaty right to take fish in their usual and accustomed places.

The benefits of excluding Indian lands from designation include: (1) The furtherance of established national policies, our Federal trust obligations and our deference to the tribes in management of natural resources on their lands; (2) the maintenance of effective long-term working relationships to promote the conservation of salmonids on an ecosystem-wide basis; (3) the allowance for continued meaningful collaboration and cooperation in scientific work to learn more about the conservation needs of the species on an ecosystem-wide basis; and (4) continued respect for tribal sovereignty over management of natural resources on Indian lands through established tribal natural resource programs.

We believe that the current co-manager process addressing activities on an ecosystem-wide basis across the State is currently beneficial for the conservation of the salmonids. Because

the co-manager process provides for coordinated ongoing focused action through a variety of forums, we find the benefits of this process to be greater than the benefits of applying ESA section 7 to Federal activities on Indian lands, which comprise much less than one percent of the total area under consideration for these ESUs. Additionally, we have determined that the exclusion of tribal lands will not result in the extinction of the species concerned. We also believe that maintenance of our current co-manager relationship consistent with existing policies is an important benefit to continuance of our tribal trust responsibilities and relationship. Based upon our consultation with the Round Valley Indian Tribes and the BIA, we believe that designation of Indian lands as critical habitat would adversely impact our working relationship and the benefits resulting from this relationship.

Based upon these considerations, we have decided to exercise agency discretion under ESA section 4(b)(2) and exclude Indian lands from the critical habitat designation for these ESUs of salmonids. The Indian lands specifically excluded from critical habitat are those defined in the Secretarial Order, including: (1) Lands held in trust by the United States for the benefit of any Indian tribe; (2) land held in trust by the United States for any Indian Tribe or individual subject to restrictions by the United States against alienation; (3) fee lands, either within or outside the reservation boundaries, owned by the tribal government; and (4) fee lands within the reservation boundaries owned by individual Indians. The Indian tribes for which these exclusions apply in California include: Big Lagoon Reservation, Blue Lake Rancheria, Round Valley Indian Tribes, Laytonville Rancheria, Redwood Valley Rancheria, Coyote Valley Reservation, and Manchester-Point Arena Rancheria. We have determined that these exclusions, together with the other exclusions described in this rule, will not result in the extinction of any of the seven ESUs in this designation.

Impacts to Landowners With Contractual Commitments to Conservation

Conservation agreements with non-Federal landowners (*e.g.*, HCPs) enhance species conservation by extending species' protections beyond those available through section 7 consultations. In the past decade we have encouraged non-Federal landowners to enter into conservation agreements, based on a view that we can achieve greater species' conservation on non-Federal land through such partnerships than we can through coercive methods (61 FR 63854; December 2, 1996).

Section 10(a)(1)(B) of the ESA authorizes us to issue to non-Federal entities a permit for the incidental take of endangered and threatened species. This permit allows a non-Federal landowner to proceed with an activity that is legal in all other respects, but that results in the incidental taking of a listed species (*i.e.*, take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity). The ESA specifies that an application for an incidental take permit must be accompanied by a conservation plan, and specifies the content of such a plan. The purpose of such an HCP is to describe and ensure that the effects of the permitted action on covered species are adequately minimized and mitigated, and that the action does not appreciably reduce the survival and recovery of the species.

To date we have not excluded critical habitat on lands covered by an HCP, but we acknowledged in our proposed rule that this was an emerging issue and that the benefits of such exclusions may outweigh the benefits of designation (69 FR 74623; December 14, 2004). As described in greater detail above (see Comment 42) and in our assessment of HCPs associated with this final rulemaking (NMFS, 2005e), the analysis required for these types of exclusions requires careful consideration of the benefits of designation versus the benefits of exclusion to determine whether benefits of exclusion outweigh benefits of designation. The benefits of designation typically arise from additional section 7 protections as well as enhanced public awareness once specific areas are identified as critical habitat. The benefits of exclusion generally relate to relieving regulatory burdens on existing conservation partners, maintaining good working relationships with them, and encouraging the development of new partnerships.

Based on comments received on our proposed rule, we could not conclude that all landowners view designation of critical habitat as imposing a burden, and exclusion from designation as removing that burden and thereby strengthening the ongoing relationship. Where an HCP partner affirmatively requests designation, exclusion is likely to harm rather than benefit the relationship. Where an HCP partner has remained silent on the benefit of exclusion of its land, we do not believe the record supports a presumption that exclusion will enhance the relationship. Similarly, we do not believe it provides an incentive to other landowners to seek an HCP if our exclusions are not in response to an expressed landowner preference. We anticipate further rulemaking in the near future to refine these designations, for example, in response to developments in recovery planning. As part of future revisions, we will consider information we receive from those with approved HCPs regarding the effect of designation on our ongoing partnership. We did not consider pending HCPs for exclusion, both because we do not want to prejudge the outcome of the ongoing HCP process, and because we expect to have future opportunities to refine the designation and consider whether exclusion will outweigh the benefit of designation in a particular case.

Exclusions Based on National Security Impacts

As previously noted (see *Military Lands* section), we evaluated several DOD sites with draft or final INRMPs and determined that each INRMP provides a benefit to the listed salmon or steelhead ESUs under consideration at the site. Therefore, we conclude that those areas subject to final INRMPs are not eligible for designation pursuant to section 4(a)(3)(B)(I) of the ESA (16 U.S.C. 1533(A)(3)). At the request of the DOD (and in the case that an INRMP might not provide a benefit to the species), we also assessed the impacts on national security that may result from designating these and other DOD sites as critical habitat.

The U.S. Marine Corps provided comments in response to the ANPR (68 FR 55926; September 29, 2003) regarding its INRMP for Camp Pendleton Marine Corps Base and potential impacts to national security for this facility, which is within the range of the Southern California *O. mykiss* ESU. By letter, NMFS subsequently provided the DOD with information about the areas we were considering to designate as critical habitat for the seven ESUs in California (as well as the 13 ESUs in the Pacific Northwest), and, in addition to a request for information about DOD's INRMPs, requested information about potential impacts to national security as a result of any critical habitat designation. In response to that request and also in comments on the proposed critical habitat designation (69 FR 71880), the Camp Pendleton Marine Corps Base and Vandenberg Air Force Base provided detailed information on such impacts to their operations. Both military agencies concluded that critical habitat designation at either of these sites

would likely impact national security by diminishing military readiness, with possible impacts including: (1) The prevention, restriction, or delay in training or testing exercises or access to such sites; (2) the restriction or delay in activities associated with space launches; (3) a delay in response times for troop deployments and overall operations; and (4) the creation of uncertainties regarding ESA consultation (*e.g.*, reinitiation requirements) or imposition of compliance conditions that would divert military resources. Also, both military agencies cited their ongoing and positive consultation history with NMFS and underscored cases where they are implementing best management practices to reduce impacts on listed salmonids. The occupied fish habitat occurring on Camp Pendleton and Vandenberg AFB have important conservation value, but they are primarily migratory corridors and represent only a small percentage of the total occupied habitat area for the Southern California steelhead ESU. Designating habitat on these two installations will likely reduce the readiness capability of the Marine Corps and the Air Force, both of which are actively engaged in training, maintaining, and deploying forces in the current war on terrorism. Therefore, we conclude that the benefits of exclusion outweigh the benefits of designation, and we are not proposing to designate these DOD sites as critical habitat.

Exclusions Based on Economic Impacts

Our assessment of economic impact generated considerable interest from commenters on the ANPR (68 FR 55926; September 29, 2003) and the proposed rule (69 FR 71880; December 10, 2004). Based on new information and comments received on the proposed rule, we have updated the economics report wherein we document our conclusions regarding the economic impacts of designating each of the particular areas found to meet the definition of critical habitat (NMFS, 2005b). This report is available from NMFS (see **ADDRESSES**).

The first step in the overall economic analysis was to identify existing legal and regulatory constraints on economic activity that are independent of critical habitat designation, such as Clean Water Act (CWA) requirements. Coextensive impacts of the ESA section 7 requirement to avoid jeopardy were not considered part of the baseline. Also, we have stated our intention to revisit the existing critical habitat designations for Sacramento River winter run Chinook salmon and two California coastal coho salmon ESUs, if appropriate, following completion of related rulemaking (67 FR 6215; February 11, 2002). Given the uncertainty that these designations will remain in place in their current configuration, we decided not to consider them as part of the baseline for the ESA section 4(b)(2) analysis.

From the consultation record, we identified Federal activities that might affect habitat and that might result in an ESA section 7 consultation. (We did not consider Federal actions, such as the approval of a fishery, that might affect the species directly but not affect its habitat.) We identified ten types of activities including: Hydropower dams; non-hydropower dams and other water supply structures; federal lands management, including grazing (considered separately); transportation projects; utility line projects; instream activities, including dredging (considered separately); activities permitted under EPA's National Pollution Discharge Elimination System; sand & gravel mining; residential and commercial development; and agricultural pesticide applications. Based on our consultation record and other available information, we determined the modifications each type of activity was likely to undergo as a result of section 7 consultation (regardless of whether the modification might be required by the jeopardy or the adverse modification provision). We developed an expected direct cost for each type of action and projected the likely occurrence of each type of project in each watershed, using existing spatial databases (*e.g.*, the COE 404(d) permit database). Finally, we aggregated the costs from the various types of actions and estimated an annual impact, taking into account the probability of consultation occurring and the likely rate of occurrence of that project type.

This analysis allowed us to estimate the coextensive economic impact of designating each ''particular area'' (that is, each habitat area, or aggregated occupied stream reaches in an HSA watershed). Expected economic impacts ranged from zero to in excess of 1 million dollars per habitat area. Where a watershed included both tributaries and a migration corridor that served other watersheds, we attempted to estimate the separate impacts of designating the tributaries and the migration corridor. We did this by identifying those categories of activities most likely to affect tributaries and those most likely to affect larger migration corridors.

Because of the methods we selected and the data limitations, portions of our analysis both under- and over-estimate the coextensive economic impact of ESA section 7 requirements. For example, we lacked data on the likely impact on flows at non-Federal hydropower projects, which would increase economic impacts. In addition, we did not have information about potential changes in irrigation flows associated with section 7 consultation which would likely increase the estimate of coextensive costs. On the other hand, we estimated an impact on all activities occurring within the geographic boundaries of a watershed, even though in some cases activities would be far removed from occupied stream reaches and so might not require modification. In addition, we were unable to document significant costs of critical habitat designation that occur outside the section 7 consultation process, including costs resulting from state or local regulatory burdens imposed on developers and landowners as a result of a Federal critical habitat designation.

In determining whether the economic benefit of excluding a habitat area might outweigh the benefit of designation to the species, we took into consideration the many data limitations described above. The ESA requires that we make critical habitat designations within a short time frame ''with such data as may be available'' at the time. Moreover the cost-effectiveness approach we adopted accommodated many of these data limitations by considering the relative benefits of designation and exclusion, giving priority to excluding habitat areas with a relatively lower benefit of designation and a relatively higher economic impact.

The circumstances of most of the listed ESUs can make a cost-effectiveness approach useful. Pacific salmon are wide-ranging species and occupy numerous habitat areas with thousands of stream miles. Not all occupied areas, however, are of equal importance to conserving an ESU. Within the currently occupied range there are areas that support highly productive populations, areas that support less productive populations, and areas that support production in only some years. Some populations within an ESU may be more important to long-term conservation of the ESU than other populations. Therefore, in many cases it may be possible to construct different scenarios for achieving conservation. Scenarios might have more or less certainty of achieving conservation, and more or less economic impact.

Our first step in constructing an exclusion scenario was to identify all watershed areas we would consider for

an economic exclusion based on dollar thresholds. The next step was to examine those areas potentially eligible for exclusion based on dollar thresholds to determine whether or not any of them would make an important contribution to conservation for the ESU. Based on the rating process used by the CHARTs, we judged that all of the high conservation value habitat areas make an important contribution to conservation, and therefore, we did not consider them for exclusion.

In developing criteria for the first step, we chose dollar thresholds that we anticipated would lead most directly to a cost effective scenario. We considered for exclusion, low value habitat areas with an economic impact greater than $70,000–85,000, and medium value areas with an economic impact greater than $300,000.

The criteria we selected for identifying habitat areas eligible for exclusion do not represent an objective judgment that, for example, a low value habitat area is worth a certain dollar amount and no more. The ESA directs us to balance dissimilar values with a limited amount of time and therefore information. It emphasizes the discretionary nature of the balancing task. Moreover, while our approach follows the Tenth Circuit's direction to consider coextensive economic impacts, we nevertheless must acknowledge that not all of the costs will be avoided by exclusion from designation. Finally, the cost estimates developed by our economic analysis do not have obvious break points that would lead to a logical division between high, medium and low costs.

Given these factors, a judgment that any particular dollar threshold is objectively correct would be neither necessary or possible. Rather, what economic impact is high, and therefore, might outweigh the benefit of designating a medium or low value habitat area is a matter of discretion and depends on the policy context. The policy context in which we carry out this task led us to select dollar thresholds that would likely lead to a cost effective designation in a limited amount of time with a relatively simple process.

In the second step of the process, we asked the CHARTs whether any of the habitat areas (*i.e.*, watersheds) eligible for exclusion make an important contribution to conservation of the ESU in question. The CHARTs considered this question in the context of all of the areas eligible for exclusion as well as the information they had developed in providing the initial conservation ratings. The following section describes the results of applying the two-step process to each ESU. The results are discussed in more detail in a separate report that is available for public review (NMFS, 2005c). We have determined that these exclusions, together with the other exclusions described in this rule, will not result in the extinction of any of the seven ESUs.

VI. Critical Habitat Designation

We are designating approximately 8,935 net mi (14,296 km) of riverine habitat and 470 mi² (1,212 km²) of estuarine habitat in California within the geographical areas presently occupied by the seven ESUs. This designation excludes approximately 771 net mi (1,233 km) of occupied riverine habitat as a result of economic considerations, 32 mi (51 km) of occupied riverine habitat on Tribal lands, and 44 mi (70 km) of occupied riverine habitat on DOD lands. Some of these areas in the final designation overlap substantially for two ESUs. The net economic impacts (coextensive with ESA section 7) associated with the areas designated for all ESUs are estimated to be approximately $81,647,439.

TABLE 7.—APPROXIMATE QUANTITY OF HABITAT * AND OWNERSHIP WITHIN WATERSHEDS CONTAINING HABITAT AREAS DESIGNATED AS CRITICAL HABITAT.

ESU	Streams (mi) (km)	Estuary Habitat (Sq mi) (Sq km)	Ownership (percent)			
			Federal	Tribal	State	Private
California Coastal Chinook Salmon	1,475 2,360	25 65	16.4	0.4	3.4	79.8
Northern California Steelhead	3,028 4,844	25 65	18.8	0.5	3.7	77.1
Central California Coast Steelhead	1,465 2,344	386 996	4.5	0.0	7.2	88.3
South-Central California Coast Steelhead	1,249 2,000	3 8	16.3	0.0	2.2	81.6
Southern California Steelhead	708 1,132	....	25.0	1.0	2.4	71.6
Central Valley Spring Run Chinook Salmon	1,158 1,853	254 655	12.1	0.0	3.3	84.5
Central Valley Steelhead	2,308 3,693	254 655	8.6	0.0	3.1	88.3

* These estimates are the total amount for each ESU. They do not account for overlapping areas designated for multiple ESUs.

These areas designated, summarized below by ESU, are considered occupied and contain physical and biological features essential to the conservation of the species and that may require special management considerations or protection.

California Coastal Chinook Salmon

There are 45 occupied HSA watersheds within the freshwater and estuarine range of this ESU. Eight watersheds received a low rating, 10 received a medium rating, and 27 received a high rating of conservation value to the ESU (NMFS, 2005a). Two estuarine habitat areas used for rearing and migration (Humboldt Bay and the Eel River Estuary) also received a high conservation value rating.

HSA watershed habitat areas for this ESU include approximately 1,634 mi (2,614 km) of stream habitat and approximately 25 mi² (65 km²) of estuarine habitat (principally Humboldt Bay). Of these, 10.3 stream miles (16.5 km) are being excluded because they overlap with Indian lands (see *Government-to-Government Relationship With Tribes*). No lands controlled by the DOD or covered by HCPs are being excluded from the final designation. As a result of the balancing

process for economic impacts described above, the Secretary is excluding from the designation the habitat areas shown in Table 8. Of the habitat areas eligible for designation, approximately 158 stream miles (253 km) are being excluded because the economic benefits of exclusion outweigh the benefits of designation. The total potential estimated economic impact, with no exclusions, would be $10,993,337. The exclusions identified in Table 8 would reduce the total estimated economic impact by 33 percent to $7,333,751.

TABLE 8.—HSA WATERSHEDS WITHIN THE GEOGRAPHICAL RANGE OF THE CALIFORNIA COASTAL CHINOOK SALMON ESU AND EXCLUDED FROM CRITICAL HABITAT

Watershed code	Watershed name	Area excluded
111122	Bridgeville	Entire watershed.
111142	Spy Rock	Indian lands.
111150	North Fork Eel River	Indian lands.
111171	Eden Valley	Tributaries only; Indian lands.
111172	Round Valley	Indian lands.
111173	Black Butte River	Entire watershed.
111174	Wilderness	Entire watershed.
111350	Navarro River	Entire watershed.
111422	Santa Rosa	Entire watershed.
111423	Mark West	Entire watershed.

Northern California Steelhead

There are 50 occupied HSA watersheds within the freshwater and estuarine range of this ESU. Nine watersheds received a low rating, 14 received a medium rating, and 27 received a high rating of conservation value to the ESU (NMFS, 2005a). Two estuarine habitat areas used for rearing and migration (Humboldt Bay and the Eel River Estuary) also received a high conservation value rating.

HSA watershed habitat areas for this ESU include approximately 3,148 mi (5,037 km) of stream habitat and approximately 25 mi^2 (65 km^2) of estuarine habitat (principally Humboldt Bay). Of these, approximately 21 stream miles (33.5 km) are being excluded because they overlap with Indian lands (see *Government-to-Government Relationship With Tribes*). No lands controlled by the DOD or covered by HCPs are being excluded from the final designation. As a result of the balancing process for economic impacts described above, the Secretary is excluding from the designation the habitat areas shown in Table 9. Of the habitat areas eligible for designation, approximately 120 stream miles (192 km) are being excluded because the economic benefits of exclusion outweigh the benefits of designation. Total potential estimated economic impact, with no exclusions, would be $8,773,432. The exclusions identified in Table 9 would reduce the total estimated economic impact by 31 percent to $6,063,568.

TABLE 9.—HSA WATERSHEDS WITHIN THE GEOGRAPHICAL RANGE OF THE NORTHERN CALIFORNIA STEELHEAD ESU AND EXCLUDED FROM CRITICAL HABITAT

Watershed code	Watershed name	Area excluded
110940	Ruth	Entire watershed.
111142	Spy Rock	Tribal land.
111150	North Fork Eel	Entire watershed; Indian lands.
111163	Lake Pilsbury	Entire watershed.
111171	Eden Valley	Indian lands.
111172	Round Valley	Indian lands.

Central California Coast Steelhead

There are 46 occupied HSA watersheds within the freshwater and estuarine range of this ESU. Fourteen watersheds received a low rating, 13 received a medium rating, and 19 received a high rating of conservation value to the ESU (NMFS, 2005a). Five of these HSA watersheds comprise portions of the San Francisco-San Pablo-Suisun Bay estuarine complex which provides rearing and migratory habitat for this ESU.

HSA watershed habitat areas for this ESU include approximately 1,832 mi (2,931 km) of stream habitat and approximately 442 mi^2 (1,140 km^2) of estuarine habitat (principally San Francisco Bay-San Pablo Bay). Of these, approximately 0.6 stream miles (1.0 km) are being excluded because they overlap with Indian lands (Coyote Valley and Redwood Valley Rancherias) (see *Government-to-Government Relationship With Tribes*). No lands controlled by the DOD are excluded.

As a result of the balancing process for economic impacts described above, the Secretary is excluding from the designation the habitat areas shown in Table 10. Of the habitat areas eligible for designation, approximately 367 stream miles (587 km) and 56 mi2 of estuarine habitat are being excluded because the economic benefits of exclusion outweigh the benefits of designation. Total potential estimated economic impact, with no exclusions, would be $18,577,246. The exclusions identified in Table 10 would reduce the total estimated economic impact by 31 percent to $12,917,247.

TABLE 10.—HSA WATERSHEDS WITHIN THE GEOGRAPHICAL RANGE OF THE CENTRAL CALIFORNIA COASTAL STEELHEAD ESU AND EXCLUDED FROM CRITICAL HABITAT

Watershed code	Watershed name	Area excluded
111421	Laguna de Santa Rosa	Entire watershed.
111422	Santa Rosa	Entire watershed.
111431	Ukiah	Tributaries only.
111433	Forsythe Creek	Indian lands.
220330	Berkeley	Entire watershed.
220440	San Mateo Bayside	Entire watershed.
220420	Eastbay Cities	Entire watershed.
220540	Guadelupe River	Entire watershed.
220620	Novato	Entire watershed.
220660	Pinole	Entire watershed.
220710	Suisun Bay	Entire unit.
220722	Suisun Creek	Entire watershed.
220721	Benecia	Entire watershed.
220731	Pittsburg	Entire watershed.
220733	Martinez	Entire watershed.

South-Central California Coast Steelhead

There are 30 occupied HSA watersheds within the freshwater and estuarine range of this ESU. Six watersheds received a low rating, 11 received a medium rating, and 13 received a high rating of conservation value to the ESU (NMFS, 2005a). One of these occupied watershed units is Morro Bay, which is used as rearing and migratory habitat for steelhead populations that spawn and rear in tributaries to the Bay.

HSA watershed habitat areas for this ESU include approximately 1,251 mi (2,000 km) of stream habitat and approximately 3 mi^2 (8 km^2) of estuarine habitat (*e.g.*, Morro Bay). Approximately 22 stream miles (35 km) are not eligible for designation because they are within lands controlled by the DOD (Camp San Luis Obispo and Camp Roberts) that have qualifying INRMPs (Table 11). The reduction in economic impacts resulting from these exclusions could not be estimated.

As a result of the balancing process for economic impacts described above, the Secretary is excluding from the designation the habitat areas shown in Table 11. Of the habitat eligible for designation, approximately 2 stream miles (3.2 km) are being excluding because the economic benefits of exclusion outweigh the benefits of designation. The total potential estimated economic impact, with no exclusions, would be $16,857,365. It was not possible to estimate the reduced economic impacts associated with the habitat exclusions in Table 11, therefore, the total potential economic impact is the same as if there were no exclusions.

TABLE 11.—HSA WATERSHEDS WITHIN THE GEOGRAPHICAL RANGE OF THE SOUTH-CENTRAL CALIFORNIA COAST STEELHEAD ESU AND EXCLUDED FROM CRITICAL HABITAT

Watershed code	Watershed name	Area excluded
330911	Neponset	Tributaries only.
330930	Soledad	Tributaries only.
330940	Upper Salinas Valley	Tributaries only.
330981	Paso Robles	DOD lands.
331022	Chorro	DOD lands.

Southern California Steelhead ESU

There are 32 occupied HSA watersheds within the freshwater and estuarine range of this ESU. Five watersheds received a low rating, 6 received a medium rating, and 21 received a high rating of conservation value to the ESU (NMFS, 2005a).

HSA watershed habitat areas for this ESU include approximately 741 mi (1,186 km) of stream habitat. Of these, approximately 22 mi (35 km) of occupied stream miles are excluded because they are within lands controlled by the DOD (Vandenberg AFB and Camp Pendleton Marine Corps Base) that have qualifying INRMPs and for which the benefits of exclusion outweigh the benefits of designation. The reduction in economic impacts resulting from these exclusions could not be estimated.

As a result of the balancing process for economic impacts described above, the Secretary is excluding from the designation the habitat areas shown in Table 12. Of the habitat areas eligible for designation, approximately 33 stream miles (53 km) are being excluded because the economic benefits of exclusion outweigh the benefits of designation. Total potential estimated economic impact, with no exclusions, would be $19,443,413. The exclusions identified in Table 12 would reduce the total estimated economic impact by 40 percent to $11,586,752.

TABLE 12.—HSA WATERSHEDS WITHIN THE GEOGRAPHICAL RANGE OF THE SOUTHERN CALIFORNIA STEELHEAD ESU AND EXCLUDED FROM CRITICAL HABITAT

Watershed code	Watershed name	Area excluded
331210	Guadelupe	Tributaries only.
331230	Cuyama Valley	Entire watershed.
331410	Lompoc	DOD lands.
331430	Buelton	Tributaries only.
331451	Santa Cruz Creek	Entire watershed.
440811	East of Oxnard	Entire watershed.
490140	San Mateo Canyon	DOD lands.

Central Valley Spring Run Chinook Salmon ESU

There are 37 occupied HSA watersheds within the freshwater and estuarine range of this ESU. Seven watersheds received a low rating, 3 received a medium rating, and 27 received a high rating of conservation value to the ESU (NMFS, 2005a). Four of these HSA watersheds comprise portions of the San Francisco-San Pablo-Suisun Bay estuarine complex which provides rearing and migratory habitat for this ESU.

HSA watershed habitat areas for this ESU include approximately 1,373 mi (2,197 km) of occupied stream habitat and approximately 427 mi^2 (1,102 km^2) of estuarine habitat in the San Francisco-San Pablo-Suisun Bay complex. There are no DOD, tribal or HCP managed lands excluded from the designation. As a result of the balancing process for economic impacts described above, the Secretary is excluding from the designation the habitat areas shown in Table 13. Of the habitat areas eligible for designation, approximately 215 stream miles (344 km) and 173 mi^2 of estuarine habitat are being excluded because the economic benefits of exclusion outweigh the benefits of designation. The total potential estimated economic impact, with no exclusions, would be $29,223,186. The exclusions identified in Table 13 would reduce the total estimated economic impact by 25 percent to $22,066,974.

TABLE 13.—HSA WATERSHEDS WITHIN THE GEOGRAPHICAL RANGE OF THE CENTRAL VALLEY SPRING RUN CHINOOK SALMON ESU AND EXCLUDED FROM CRITICAL HABITAT

Watershed code	Watershed name	Area excluded
551000	Sacramento Delta	Deep Water Ship Channel.
551713	Mildred Lake	Entire watershed.
551720	Nevada City	Entire watershed.
552310	Thomes Creek	Entire watershed.
552433	South Fork	Entire watershed.
554300	No. Diablo Range	Entire watershed.
554400	San Joaquin Delta	Entire watershed.
220410	South SF Bay	Entire unit.

Central Valley Steelhead ESU

There are 67 occupied HSA watersheds within the freshwater and estuarine range of this ESU. Twelve watersheds received a low rating, 18 received a medium rating, and 37 received a high rating of conservation value to the ESU (NMFS, 2005a). Four of these HSA watersheds comprise portions of the San Francisco-San Pablo-Suisun Bay estuarine complex which provides rearing and migratory habitat for this ESU.

HSA watershed habitat areas for this ESU include approximately 2,604 mi (4,168 km) of stream habitat and approximately 427 mi^2 (1,102 km^2) of estuarine habitat. There are no DOD, tribal or HCP managed lands excluded from the designation. As a result of the balancing process for economic impacts described above, the Secretary is excluding from the designation the habitat areas shown in Table 14. Of the habitat areas eligible for designation, approximately 296 stream miles (473 km) and 173 mi^2 of estuarine habitat are being excluded because the economic benefits of exclusion outweigh the benefits of designation. Total potential estimated economic impact, with no exclusions, would be $38,235,233. The exclusions identified in Table 14 would reduce the total estimated economic impact by 11 percent to $34,389,278.

TABLE 14.—HSA WATERSHEDS WITHIN THE GEOGRAPHICAL RANGE OF THE CENTRAL VALLEY STEELHEAD ESU AND EXCLUDED FROM CRITICAL HABITAT

Watershed code	Watershed name	Area excluded
550964	Paynes Creek	Entire watershed.
551000	Sacramento Delta	Deep Water Ship Channel.
551110	Elmira	Entire watershed.
551713	Mildred Lake	Entire watershed.
551720	Nevada City	Entire watershed.
552435	Ono	Entire watershed.
553111	Herald	Entire watershed.
553120	Lower Mokelumne	Partial watershed.
553221	Big Canyon Creek	Entire watershed.
553223	NF Cosumnes	Entire watershed.

TABLE 14.—HSA WATERSHEDS WITHIN THE GEOGRAPHICAL RANGE OF THE CENTRAL VALLEY STEELHEAD ESU AND EXCLUDED FROM CRITICAL HABITAT—Continued

Watershed code	Watershed name	Area excluded
553224	Omo Ranch	Entire watershed.
553240	Sutter Creek	Entire watershed.
554300	No. Diablo Range	Entire watershed.
220410	So. SF Bay	Entire unit.

VII. Effects of Critical Habitat Designation

Section 7 Consultation

Section 7(a) of the ESA requires Federal agencies, including NMFS, to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is proposed or designated. Regulations implementing this provision of the ESA are codified at 50 CFR 402. Section 7(a)(4) of the ESA requires Federal agencies to confer with us on any action that is likely to jeopardize the continued existence of a proposed species or result in the destruction or adverse modification of proposed critical habitat. Conference reports provide conservation recommendations to assist the agency in eliminating conflicts that may be caused by the proposed action. The conservation recommendations in a conference report are advisory.

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

If a species is listed or critical habitat is designated, ESA section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency (action agency) must enter into consultation with us. Through this consultation, we would review actions to determine if they would destroy or adversely modify critical habitat.

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

Regulations at 50 CFR 402.16 require Federal agencies to reinitiate consultation on previously reviewed actions in instances where critical habitat is subsequently designated and the Federal agency has retained discretionary involvement or control over the action or such discretionary involvement or control is authorized by law. Consequently, some Federal agencies may request reinitiation of consultation or conference with us on actions for which formal consultation has been completed, if those actions may affect designated critical habitat or adversely modify or destroy proposed critical habitat.

Activities on Federal lands that may affect these ESUs or their critical habitat will require ESA section 7 consultation. Activities on private or state lands requiring a permit from a Federal agency, such as a permit from the COE under section 404 of the CWA, a section 10(a)(1)(B) permit from NMFS, or some other Federal action, including funding (*e.g.,* Federal Highway Administration (FHA) or Federal Emergency Management Agency (FEMA) funding), will also be subject to the section 7 consultation process. Federal actions not affecting listed species or critical habitat and actions on non-Federal and private lands that are not Federally funded, authorized, or permitted do not require section 7 consultation.

Activities Affected by Critical Habitat Designation

Section 4(b)(8) of the ESA requires that we evaluate briefly and describe, in any proposed or final regulation that designates critical habitat, those activities (whether public or private) that may adversely modify such habitat or that may be affected by such designation. A wide variety of activities may affect critical habitat and, when carried out, funded, or authorized by a Federal agency, require that an ESA section 7 consultation be conducted. Generally these include water and land management actions of Federal agencies (e.g., USFS, Bureau of Land Management (BLM), COE, BOR, the FHA, NRCS, National Park Service (NPS), BIA, and the Federal Energy Regulatory Commission (FERC)) and related or similar actions of other Federally regulated projects and lands, including livestock grazing allotments by the USFS and BLM; hydropower sites licensed by the FERC; dams built or operated by the COE or BOR; timber sales and other vegetation management activities conducted by the USFS, BLM, and BIA; irrigation diversions authorized by the USFS and BLM; and road building and maintenance activities authorized by the FHA, USFS, BLM, NPS, and BIA. Other actions of concern include dredge and fill, mining, diking, and bank stabilization activities authorized or conducted by the COE, habitat modifications authorized by the FEMA, and approval of water quality standards and pesticide labeling and use restrictions administered by the EPA.

The Federal agencies that will most likely be affected by this critical habitat designation include the USFS, BLM, BOR, COE, FHA, NRCS, NPS, BIA, FEMA, EPA, and the FERC. This designation will provide these agencies, private entities, and the public with clear notification of critical habitat designated for listed salmonids and the boundaries of the habitat. This designation will also assist these agencies and others in evaluating the potential effects of their activities on listed salmon and their critical habitat and in determining if section 7 consultation with NMFS is needed.

As noted above, numerous private entities also may be affected by this critical habitat designation because of the direct and indirect linkages to an array of Federal actions, including Federal projects, permits, and funding. For example, private entities may harvest timber or graze livestock on Federal land or have special use permits to convey water or build access roads across Federal land; they may require Federal permits to armor stream banks, construct irrigation withdrawal facilities, or build or repair docks; they may obtain water from Federally funded and operated irrigation projects; or they may apply pesticides that are only available with Federal agency approval. These activities will need to be analyzed with respect to their potential to destroy or adversely modify critical habitat. In some cases, proposed activities may require modifications that may result in decreases in activities such as timber harvest and livestock and crop production. The transportation and utilities sectors may need to modify the placement of culverts, bridges, and utility conveyances (e.g., water, sewer and power lines) to avoid barriers to fish migration. Developments occurring in or near salmon streams (e.g., marinas, residential, or industrial facilities) that require Federal authorization or funding may need to be altered or built in a manner that ensures that critical habitat is not destroyed or adversely modified as a result of the construction, or subsequent operation, of the facility. These are just a few examples of potential impacts, but it is clear that the effects will encompass numerous sectors of private and public activities. If you have questions regarding whether specific activities will constitute destruction or adverse modification of critical habitat, contact NMFS (see **ADDRESSES** and **FOR FURTHER INFORMATION CONTACT**).

VIII. Required Determinations

Administrative Procedure Act

This rulemaking covers over 8,900 miles of streams and 470 square miles of estuarine habitat. Unlike the previous critical habitat designations it contains over a thousand geographic points identifying the extent of the designations. The proposed rule generated substantial public interest. In addition to comments received during four public hearings we received a total of 3,762 written comments (3,627 of these in the form of email with nearly identical language). Many commenters expressed concerns about how the rule would be implemented. Additionally, our experience in implementing the 2000 critical habitat designations suggests that the Administrative Procedure Act's (APA) and critical habitat regulations' minimum 30-day delay in effective date nor the 60-day delay required by the Congressional Review Act for a ''major rule'' such as this are sufficient for this rule. In view of the geographic scope of this rule, our prior experience with a rule of this scope, the current level of public interest in this rule, and in order to provide for efficient administration of the rule once effective, we are providing a 120-day delay in effective date. As a result this rule will be effective on January 2, 2006. This will allow us the necessary time to provide for outreach to and interaction with the public, to minimize confusion and educate the public about activities that may be affected by the rule, and to work with Federal agencies and applicants to provide for an orderly transition in implementing the rule.

Regulatory Planning and Review

In accordance with E.O. 12866, this document is a significant rule and has been reviewed by OMB. As noted above, we have prepared several reports to support the exclusion process under section 4(b)(2) of the ESA. The economic costs of the critical habitat designations are described in our economic report (NMFS, 2005b). The benefits of the designations are described in the CHART report (NMFS, 2005a) and the 4(b)(2) report (NMFS, 2005c). The CHART report uses a biologically-based ranking system for gauging the benefits of applying section 7 of the ESA to particular watersheds. Because data are not available to express these benefits in monetary terms, we have adopted a cost-effectiveness framework, as outlined in a 4(b)(2) report (NMFS, 2005c). This approach is in accord with OMB's guidance on regulatory analysis (U.S. Office of Management and Budget. Circular A–4, Regulatory Analysis, September 17, 2003). By taking this approach, we seek to designate sufficient critical habitat to meet the biological goal of the ESA while imposing the least burden on society, as called for by E.O. 12866.

In assessing the overall cost of critical habitat designation for the 7 Pacific salmon and steelhead ESUs addressed in this final rule, the annual total impact figures given in the draft economic analysis (NMFS, 2005b) cannot be added together to obtain an aggregate annual impact. Because some watersheds are included in more than one ESU, a simple summation would entail duplication, resulting in an overestimate. Accounting for this duplication, the aggregate annual economic impact of the 7 critical habitat designations is $81,647,439. These amounts include impacts that are coextensive with the implementation of the jeopardy standard of section 7 (NMFS, 2005b).

Within the State of California, hydropower projects currently provide approximately 15 percent of the total electricity produced. This is small compared to the Pacific Northwest where hydropower generates up to 70 percent of the total electricity produced, with approximately 60 percent of this hydroelectric power generated through the Federal Columbia River Power System. Because hydropower is a more pervasive power source in the Pacific Northwest than in California, the impacts to the energy industry in California from environmental mitigation associated with protecting listed salmon and steelhead and their critical habitat are likely to be much less than in the Northwest. There are approximately 90 hydropower projects within the area covered by the potential critical habitat for the 7 ESUs in California. Based on the economic analysis conducted for this rulemaking (NMFS 2005b), the estimated annualized capital and programmatic costs of section 7 for hydropower projects ranges from $11,000 to $9.8 million per ESU, with the estimated annualized cost for all ESUs totaling $18.8 million. The aggregate economic costs of capital modifications within the range of these 7 ESUs is approximately 10 percent of the total aggregate costs for all categories of activities evaluated in the economic analysis. This cost estimate, however, does not include costs associated with operational modifications of hydropower projects such as changes to the flow regime (level or timing) which can result in foregone power generation, require supplementary power purchases, or have other economic effects. The necessary data to estimate operational modification costs in California are not available, but they are expected to be highly variable and project-specific. The estimated impacts of operational changes at hydropower projects in the Pacific Northwest (unknown for several projects to $31 million in forgone power revenues for Baker River Dam), however, demonstrate the potential magnitude and variability of impacts on a per project basis in California. For these projects in the Northwest, the proportion of costs attributable to section 7 implementation is unknown, but the share of incremental costs associated with critical habitat

designation alone is unlikely to be significant.

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

Under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*, as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996), whenever an agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effects of the rule on small entities (*i.e.*, small businesses, small organizations, and small government jurisdictions). We have prepared a final regulatory flexibility analysis and this document is available upon request (see **ADDRESSES**). This analysis estimates that the number of regulated small entities potentially affected by this rulemaking ranges from 444 to 4,893 depending on the ESU. The estimated coextensive costs of section 7 consultation incurred by small entities is estimated to range from $1.6 million to $26.5 million depending on the ESU. As described in the analysis, we considered various alternatives for designating critical habitat for these seven ESUs. We rejected the alternative of not designating critical habitat for any of the ESUs because such an approach did not meet the legal requirements of the ESA. We also examined and rejected an alternative in which all the potential critical habitat of the seven Pacific salmon and steelhead ESUs is designated (*i.e.*, no areas are excluded) because many of the areas considered to have a low conservation value also had relatively high economic impacts that might be mitigated by excluding those areas from designation. A third alternative we examined and rejected would exclude all habitat areas with a low or medium conservation value. While this alternative furthers the goal of reducing economic impacts, we could not make a determination that the benefits of excluding all habitat areas with low and medium conservation value outweighed the benefits of designation. Moreover, for some habitat areas the incremental economic benefit from excluding that area is relatively small. Therefore, after considering these alternatives in the context of the section 4(b)(2) process of weighing benefits of exclusion against benefits of designation, we determined that the current approach to designation (*i.e.*, designating some but not all areas with low or medium conservation value) provides an appropriate balance of conservation and economic mitigation and that excluding the areas identified in this rulemaking would not result in extinction of the ESUs. It is estimated that small entities will save from $39.9 thousand to $5.5 million in compliance costs, depending on the ESU, due to the exclusions made in these final designations.

As noted above, we will continue to study alternative approaches in future rulemakings designating critical habitat. As part of that assessment, we will examine alternative methods for analyzing the economic impacts of designation on small business entities, which will inform our Regulatory Flexibility Analysis as well as our analysis under section 4(b)(2) of the ESA.

E.O. 13211

On May 18, 2001, the President issued an Executive Order on regulations that significantly affect energy supply, distribution, and use. E.O. 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. This rule may be a significant regulatory action under E.O. 12866. We have determined, however, that the energy effects of the regulatory action are unlikely to exceed the energy impact thresholds identified in E.O.13211.

As discussed elsewhere in this final rule, there are approximately 90 hydropower projects within the range of the potential critical habitat for these 7 ESUs. The annualized capital and programmatic costs of section 7 for these projects ranges from $11,000 to $9.8 million per ESU, with the estimated annualized cost for all ESUs totaling $18.8 million. Despite these costs and operational costs which we do not have the data available to estimate, we believe the proper focus under E.O. 13211 is on the incremental impacts of critical habitat designation. The available data do not allow us to separate precisely these incremental impacts from the impacts of all conservation measures on energy production and costs. There is evidence from the California Energy Commission (California Energy Commission 2003), however, that the implementation of environmental mitigation measures associated with relicensing and selective decommissioning of hydropower projects in California has not impacted the ability of the State's electricity system to meet demand. This conclusion was based on a consideration of implementing all mitigation measures, not just those for salmon and steelhead, thus it is likely that the impact of implementing mitigations associated with salmon and steelhead protection directly or even more specifically salmon and steelhead critical habitat protection would be a subset of the impacts determined by the Commission. In addition, there is historical evidence from the Pacific Northwest, that the ESA jeopardy standard alone is capable of imposing all of the costs affecting hydropower projects and energy supply. While this information is indirect, it is sufficient to draw the conclusion that the designation of critical habitat for the 7 salmon and steelhead ESUs in California does not significantly affect energy supply, distribution, or use.

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

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

(a) This final 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, 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; AFDC work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement.) ''Federal private sector mandate'' includes a regulation that ''would impose an enforceable duty upon the private sector, except (i) a condition of Federal assistance; or (ii) a duty arising from participation in a voluntary Federal program.'' The designation of critical habitat does not impose a legally binding duty on non-Federal

government entities or private parties. Under the ESA, 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 who receive Federal funding, assistance, permits or otherwise require approval or authorization from a Federal agency for an action may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency. Furthermore, to the extent that non-Federal entities are indirectly impacted because they receive Federal assistance or participate in a voluntary Federal aid program, the Unfunded Mandates Reform Act would not apply; nor would critical habitat shift the costs of the large entitlement programs listed above to State governments.

(b) Due to current public knowledge of salmon protection and the prohibition against take of these species both within and outside of the designated areas, we do not anticipate that this final rule will significantly or uniquely affect small governments. As such, a Small Government Agency Plan is not required.

Takings

In accordance with E.O. 12630, this final rule does not have significant takings implications. A takings implication assessment is not required. The designation of critical habitat affects only Federal agency actions. This final rule will not increase or decrease the current restrictions on private property concerning take of salmon. As noted above, due to widespread public knowledge of salmon protection and the prohibition against take of the species both within and outside of the designated areas, we do not anticipate that property values will be affected by these critical habitat designations. While real estate market values may temporarily decline following designation, due to the perception that critical habitat designation may impose additional regulatory burdens on land use, we expect any such impacts to be short term (NMFS, 2005b). Additionally, critical habitat designation does not preclude development of HCPs and issuance of incidental take permits. Owners of areas that are included in the designated critical habitat will continue to have the opportunity to use their property in ways consistent with the survival of listed salmon.

Federalism

In accordance with E.O. 13132, this final rule does not have significant Federalism effects. A Federalism assessment is not required. In keeping with Department of Commerce policies, we requested information from, and coordinated development of, this critical habitat designation with appropriate state resource agencies in California. Theses designations may have some benefit to the states and local resource agencies in that the areas essential to the conservation of the species are more clearly defined, and the primary constituent elements of the habitat necessary to the survival of the species are specifically identified. While making this definition and identification does not alter where and what Federally sponsored activities may occur, it may assist local governments in long-range planning rather than waiting for case-by-case section 7 consultations to occur.

Civil Justice Reform

In accordance with E.O. 12988, the Department of the Commerce has determined that this final rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of the E.O. We are designating critical habitat in accordance with the provisions of the ESA. This final rule uses standard property descriptions and identifies the primary constituent elements within the designated areas to assist the public in understanding the habitat needs of the seven salmon and steelhead ESUs.

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

This final rule does not contain new or revised information collection for which OMB approval is required under the Paperwork Reduction Act. This final rule will not impose record keeping 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

We have determined that we need not prepare environmental analyses as provided for under the National Environmental Policy Act of 1969 for critical habitat designations made pursuant to the ESA. See *Douglas County* v. *Babbitt,* 48 F.3d 1495 (9th Cir. 1995), cert. denied, 116 S.Ct. 698 (1996).

Government-to-Government Relationship With Tribes

The longstanding and distinctive relationship between the Federal and tribal Governments is defined by treaties, statutes, executive orders, judicial decisions, and agreements, which differentiate tribal governments from the other entities that deal with, or are affected by, the Federal Government. This relationship has given rise to a special Federal trust responsibility involving the legal responsibilities and obligations of the United States toward Indian Tribes and the application of fiduciary standards of due care with respect to Indian lands, tribal trust resources, and the exercise of tribal rights. Pursuant to these authorities lands have been retained by Indian Tribes or have been set aside for tribal use. These lands are managed by Indian Tribes in accordance with tribal goals and objectives within the framework of applicable treaties and laws.

Administration policy contained in the Secretarial Order: ''American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act'' (June 5, 1997) (''Secretarial Order''); the President's Memorandum of April 29, 1994, ''Government-to-Government Relations with Native American Tribal Governments'' (50 FR 2291); E.O. 13175; and Department of Commerce-American Indian and Alaska Native Policy (March 30, 1995) reflects and defines this unique relationship.

These policies also recognize the unique status of Indian lands. The Presidential Memorandum of April 29, 1994, provides that, to the maximum extent possible, tribes should be the governmental entities to manage their lands and tribal trust resources. The Secretarial Order provides that, ''Indian lands are not Federal public lands or part of the public domain, and are not subject to Federal public lands laws.''

In implementing these policies the Secretarial Order specifically seeks to harmonize this unique working relationship with the Federal Government's duties pursuant to the ESA. The order clarifies our responsibilities when carrying out authorities under the ESA and requires that we consult with and seek participation of, the affected Indian Tribes to the maximum extent practicable in the designation of critical habitat. Accordingly, we recognize that we must carry out our responsibilities under the ESA in a manner that harmonizes these duties with the Federal trust responsibility to the tribes and tribal sovereignty while striving to ensure that Indian Tribes do not bear a

disproportionate burden for the conservation of species. Any decision to designate Indian land as critical habitat must be informed by the Federal laws and policies establishing our responsibility concerning Indian lands, treaties and trust resources, and by Department of Commerce policy establishing our responsibility for dealing with tribes when we implement the ESA.

For West Coast salmon in California, our approach is also guided by the unique partnership between the Federal Government and Indian tribes regarding salmon management. In California, Indian tribes are regarded as ''co-managers'' of the salmon resource, along with Federal and state managers. This co-management relationship evolved as a result of numerous court decisions establishing the tribes' treaty right to take fish in their usual and accustomed places.

Pursuant to the Secretarial Order we consulted with the affected Indian Tribes when considering the designation of critical habitat in an area that may impact tribal trust resources, tribally owned fee lands or the exercise of tribal rights. Additionally some tribes and the BIA provided written comments that are a part of the administrative record for this rulemaking.

We understand from the tribes that there is general agreement that Indian lands should not be designated critical habitat. The Secretarial Order defines Indian lands as ''any lands title to which is either: (1) Held in trust by the United States for the benefit of any Indian tribe or (2) held by an Indian Tribe or individual subject to restrictions by the United States against alienation.'' In clarifying this definition with the tribes, we agree that (1) fee lands within the reservation boundaries and owned by the Tribe or individual Indian, and (2) fee lands outside the reservation boundaries and owned by the Tribe would be considered Indian lands for the purposes of this rule. (Fee lands outside the reservation owned by individual Indians are not included within the definition of Indian lands for the purposes of this rule.)

In evaluating Indian lands for designation as critical habitat we look to section 4(b)(2) of the ESA. Section 4(b)(2) requires us to base critical habitat designations on the best scientific and commercial data available, after taking into consideration the economic impact, the impact on national security and any other relevant impact of specifying any particular area as critical habitat. The Secretary may exclude areas from a critical habitat designation when the benefits of exclusion outweigh the benefits of designation, provided the exclusion will not result in the extinction of the species. We find that a relevant impact for consideration is the degree to which the Federal designation of Indian lands would impact the longstanding unique relationship between the tribes and the Federal Government and the corresponding effect on West Coast salmon protection and management. This is consistent with recent case law addressing the designation of critical habitat on tribal lands. ''It is certainly reasonable to consider a positive working relationship relevant, particularly when the relationship results in the implementation of beneficial natural resource programs, including species preservation.'' *Center for Biological Diversity et al.* v. *Norton,* 240 F. Supp. 2d 1090, 1105); *Douglas County* v. *Babbitt,* 48 F.3d 1495, 1507 (1995) (defining ''relevant'' as impacts consistent with the purposes of the ESA).

As noted above, NMFS and the tribal governments in California currently have cooperative working relationships that have enabled us to implement natural resource programs of mutual interest for the benefit of threatened and endangered salmonids. The tribes have existing natural resource programs that assist us on a regular basis in providing information relevant to salmonid protection. The tribes indicate that they view the designation of Indian lands as an unwanted intrusion into tribal self-governance, compromising the government-to-government relationship that is essential to achieving our mutual goal of conserving threatened and endangered salmonids. At this time, for the general reasons described above, we conclude that the ESA 4(b)(2) analysis leads us to exclude all Indian lands containing occupied habitat otherwise eligible for designation in our final designation for these 7 ESUs of salmon and steelhead.

IX. References Cited

A complete list of all references cited in this rulemaking can be found on our Web site at *http://swr.nmfs.noaa.gov* and is available upon request from the NMFS office in Long Beach, CA (see **ADDRESSES** section).

List of Subjects in 50 CFR Part 226

Endangered and threatened species.

Dated: August 12, 2005.

William T. Hogarth,

Assistant Administrator for Fisheries, National Marine Fisheries Service.

■ For the reasons set out in the preamble, we amend part 226, title 50 of the Code of Regulations as set forth below:

PART 226—[AMENDED]

■ 1. The authority citation of part 226 continues to read as follows:

Authority: 16 U.S.C. 1533.

■ 2. Add § 226.211 to read as follows:

§ 226.211 Critical habitat for Seven Evolutionarily Significant Units (ESUs) of Salmon (*Oncorhynchus spp.*) in California.

Critical habitat is designated in the following California counties for the following ESUs as described in paragraph (a) of this section, and as further described in paragraphs (b) through (e) of this section. The textual descriptions of critical habitat for each ESU are included in paragraphs (f) through (l) of this section, and these descriptions are the definitive source for determining the critical habitat boundaries. General location maps are provided at the end of each ESU description (paragraphs (f) through (l) of this section) and are provided for general guidance purposes only, and not as a definitive source for determining critical habitat boundaries.

(a) Critical habitat is designated for the following ESUs in the following California counties:

ESU	State—counties
(1) California Coastal Chinook	*CA*—Humboldt, Trinity, Mendocino, Sonoma, Lake, Napa, Glenn, Colusa, and Tehama.
(2) Northern California Steelhead	*CA*—Humboldt, Trinity, Mendocino, Sonoma, Lake, Glenn, Colusa, and Tehama.
(3) Central California Coast Steelhead	*CA*—Lake, Mendocino, Sonoma, Napa, Marin, San Francisco, San Mateo, Santa Clara, Santa Cruz, Alameda, Contra Costa, and San Joaquin.
(4) South-Central Coast Steelhead	*CA*—Monterey, San Benito, Santa Clara, Santa Cruz, San Luis Obispo.

ESU	State—counties
(5) Southern California Steelhead	*CA*—San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange and San Diego.
(6) Central Valley spring-run Chinook	*CA*—Tehama, Butte, Glenn, Shasta, Yolo, Sacramento, Solano, Colusa, Yuba, Sutter, Trinity, Alameda, San Joaquin, and Contra Costa.
(7) Central Valley Steelhead	*CA*—Tehama, Butte, Glenn, Shasta, Yolo, Sacramento, Solona, Yuba, Sutter, Placer, Calaveras, San Joaquin, Stanislaus, Tuolumne, Merced, Alameda, Contra Costa.

(b) *Critical habitat boundaries.* Critical habitat includes the stream channels within the designated stream reaches, and includes a lateral extent as defined by the ordinary high-water line (33 CFR 329.11). In areas where the ordinary high-water line has not been defined, the lateral extent will be defined by the bankfull elevation. Bankfull elevation is the level at which water begins to leave the channel and move into the floodplain and is reached at a discharge which generally has a recurrence interval of 1 to 2 years on the annual flood series. Critical habitat in estuaries (*e.g.* San Francisco-San Pablo-Suisun Bay, Humboldt Bay, and Morro Bay) is defined by the perimeter of the water body as displayed on standard 1:24,000 scale topographic maps or the elevation of extreme high water, whichever is greater.

(c) *Primary constituent elements.* Within these areas, the primary constituent elements essential for the conservation of these ESUs are those sites and habitat components that support one or more life stages, including:

(1) Freshwater spawning sites with water quantity and quality conditions and substrate supporting spawning, incubation and larval development;

(2) Freshwater rearing sites with:

(i) Water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility;

(ii) Water quality and forage supporting juvenile development; and

(iii) Natural cover such as shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks.

(3) Freshwater migration corridors free of obstruction and excessive predation with water quantity and quality conditions and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival.

(4) Estuarine areas free of obstruction and excessive predation with:

(i) Water quality, water quantity, and salinity conditions supporting juvenile and adult physiological transitions between fresh- and saltwater;

(ii) Natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels; and

(iii) Juvenile and adult forage, including aquatic invertebrates and fishes, supporting growth and maturation.

(d) *Exclusion of Indian lands.* Critical habitat does not include occupied habitat areas on Indian lands. The Indian lands specifically excluded from critical habitat are those defined in the Secretarial Order, including:

(1) Lands held in trust by the United States for the benefit of any Indian tribe;

(2) Land held in trust by the United States for any Indian Tribe or individual subject to restrictions by the United States against alienation;

(3) Fee lands, either within or outside the reservation boundaries, owned by the tribal government; and

(4) Fee lands within the reservation boundaries owned by individual Indians.

(e) *Land owned or controlled by the Department of Defense.* Additionally, critical habitat does not include the following 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):

(1) Camp Pendleton Marine Corps Base;

(2) Vandenberg Air Force Base;

(3) Camp San Luis Obispo;

(4) Camp Roberts; and

(5) Mare Island Army Reserve Center.

(f) *California Coastal Chinook Salmon (Oncorhynchus tshawytscha).* Critical habitat is designated to include the areas defined in the following CALWATER Hydrologic units:

(1) Redwood Creek Hydrologic Unit 1107—(i) *Orick Hydrologic Sub-area 110710.* Outlet(s) = Redwood Creek (Lat –41.2923, Long –124.0917) upstream to endpoint(s) in: Boyes Creek (41.3639, –123.9845); Bridge Creek (41.137, –124.0012); Brown Creek (41.3986, –124.0012); Emerald (Harry Weir) (41.2142, –123.9812); Godwood Creek (41.3889, –124.0312); Larry Dam Creek (41.3359, –124.003); Little Lost Man Creek (41.2944, –124.0014); Lost Man Creek (41.3133, –123.9854); May Creek (41.3547, –123.999); McArthur Creek (41.2705, –124.041); North Fork Lost Man Creek (41.3374, –123.9935); Prairie Creek (41.4239, –124.0367); Tom McDonald (41.1628, –124.0419).

(ii) *Beaver Hydrologic Sub-area 110720.* Outlet(s) = Redwood Creek (Lat 41.1367, Long –123.9309) upstream to endpoint(s): Lacks Creek (41.0334, –123.8124); Minor Creek (40.9706, –123.7899).

(iii) *Lake Prairie Hydrologic Sub-area 110730.* Outlet(s) = Redwood Creek (Lat 40.9070, Long –123.8170) upstream to endpoint(s) in: Redwood Creek (40.7432, –123.7206).

(2) Trinidad Hydrologic Unit 1108—(i) *Big Lagoon Hydrologic Sub-area 110810.* Outlet(s) = Maple Creek (Lat 41.1555, Long –124.1380) upstream to endpoint(s) in: North Fork Maple Creek (41.1317, –124.0824); Maple Creek (41.1239, –124.1041).

(ii) *Little River Hydrologic Sub-area 110820.* Outlet(s) = Little River (41.0277, –124.1112) upstream to endpoint(s) in: South Fork Little River (40.9908, –124.0412); Little River (41.0529, –123.9727); Railroad Creek (41.0464, –124.0475); Lower South Fork Little River (41.0077, –124.0078); Upper South Fork Little River (41.0131, –123.9853).

(3) Mad River Hydrologic Unit 1109—(i) *Blue Lake Hydrologic Sub-area 110910.* Outlet(s) = Mad River (Lat 40.9139, Long –124.0642) upstream to endpoint(s) in: Lindsay Creek (40.983, –124.0326); Mill Creek (40.9008, –124.0086); North Fork Mad River (40.8687, –123.9649); Squaw Creek (40.9426, –124.0202); Warren Creek (40.8901, –124.0402).

(ii) *North Fork Mad River 110920.* Outlet(s) = North Fork Mad River (Lat 40.8687, Long –123.9649) upstream to endpoint(s) in: Sullivan Gulch (40.8646, –123.9553); North Fork Mad River (40.8837, –123.9436).

(iii) *Butler Valley 110930.* Outlet(s) = Mad River (Lat 40.8449, Long –123.9807) upstream to endpoint(s) in: Black Creek (40.7547, –123.9016); Black Dog Creek (40.8334, –123.9805); Canon Creek (40.8362, –123.9028); Dry Creek (40.8218, –123.9751); Mad River (40.7007, –123.8642); Maple Creek (40.7928, –123.8742); Unnamed (40.8186, –123.9769).

(4) Eureka Plain Hydrologic Unit 1110—(i) *Eureka Plain Hydrologic Sub-area 111000.* Outlet(s) = Mad River (Lat 40.9560, Long –124.1278); Jacoby Creek (40.8436, –124.0834); Freshwater Creek (40.8088, –124.1442); Elk River (40.7568, –124.1948); Salmon Creek (40.6868, –124.2194) upstream to endpoint(s) in: Bridge Creek (40.6958, –124.0795); Dunlap Gulch (40.7101, –124.1155); Freshwater Creek (40.7389, –123.9944); Gannon Slough (40.8628, –124.0818); Jacoby Creek (40.7944, –124.0093); Little Freshwater Creek (40.7485, –124.0652); North Branch of the North Fork Elk River (40.6878, –124.0131); North Fork Elk River (40.6756, –124.0153); Ryan Creek (40.7835, –124.1198); Salmon Creek (40.6438, –124.1319); South Branch of the North Fork Elk River (40.6691, –124.0244); South Fork Elk River (40.6626, –124.061); South Fork Freshwater Creek (40.7097, –124.0277).

(ii) [Reserved]

(5) Eel River Hydrologic Unit 1111—(i) *Ferndale Hydrologic Sub-area 111111.* Outlet(s) = Eel River (Lat 40.6282, Long –124.2838) upstream to endpoint(s) in: Atwell Creek (40.472, –124.1449); Howe Creek (40.4748, –124.1827); Price Creek (40.5028, –124.2035); Strongs Creek (40.5986, –124.1222); Van Duzen River (40.5337, –124.1262).

(ii) *Scotia Hydrologic Sub-area 111112.* Outlet(s) = Eel River (Lat 40.4918, Long –124.0998) upstream to endpoint(s) in: Bear Creek (40.391, –124.0156); Chadd Creek (40.3921, –123.9542); Jordan Creek (40.4324, –124.0428); Monument Creek (40.4676, –124.1133).

(iii) *Larabee Creek Hydrologic Sub-area 111113.* Outlet(s) = Larabee Creek (40.4090, Long –123.9334) upstream to endpoint(s) in: Carson Creek (40.4189, –123.8881); Larabee Creek (40.3950, –123.8138).

(iv) *Hydesville Hydrologic Sub-area 111121.* Outlet(s) = Van Duzen River (Lat 40.5337, Long –124.1262) upstream to endpoint(s) in: Cummings Creek (40.5258, –123.9896); Fielder Creek (40.5289, –124.0201); Hely Creek (40.5042, –123.9703); Yager Creek (40.5583, –124.0577).

(v) *Yager Creek Hydrologic Sub-area 111123.* Outlet(s) = Yager Creek (Lat 40.5583, Long –124.0577) upstream to endpoint(s) in: Corner Creek (40.6189, –123.9994); Fish Creek (40.6392, –124.0032); Lawrence Creek (40.6394, –123.9935); Middle Fork Yager Creek (40.5799, –123.9015); North Fork Yager Creek (40.6044, –123.9084); Owl Creek (40.5557, –123.9362); Shaw Creek (40.6245, –123.9518); Yager Creek (40.5673, –123.9403).

(vi) *Weott Hydrologic Sub-area 111131.* Outlet(s) = South Fork Eel River (Lat 40.3500, Long –213.9305) upstream to endpoint(s) in: Bridge Creek (40.2929, –123.8569); Bull Creek (40.3148, –124.0343); Canoe Creek (40.2909, –123.922); Cow Creek (40.3583, –123.9626); Cuneo Creek (40.3377, –124.0385); Elk Creek (40.2837, –123.8365); Fish Creek (40.2316, –123.7915); Harper Creek (40.354, –123.9895); Mill Creek (40.3509, –124.0236); Salmon Creek (40.2214, –123.9059); South Fork Salmon River (40.1769, –123.8929); Squaw Creek (40.3401, –123.9997); Tostin Creek (40.1722, –123.8796).

(vii) *Benbow Hydrologic Sub-area 111132.* Outlet(s) = South Fork Eel River (Lat 40.1932, Long –123.7692) upstream to endpoint(s) in: Anderson Creek (39.9337, –123.8933); Bear Pen Creek (39.9125, –123.8108); Bear Wallow Creek (39.7296, –123.7172); Bond Creek (39.7856, –123.6937); Butler Creek (39.7439, –123.692); China Creek (40.1035, –123.9493); Connick Creek (40.0911, –123.8187); Cox Creek (40.0288, –123.8542); Cummings Creek (39.8431, –123.5752); Dean Creek (40.1383, –123.7625); Dinner Creek (40.0915, –123.937); East Branch South Fork Eel River (39.9433, –123.6278); Elk Creek (39.7986, –123.5981); Fish Creek (40.0565, –123.7768); Foster Creek (39.8455, –123.6185); Grapewine Creek (39.7991, –123.5186); Hartsook Creek (40.012, –123.7888); Hollow Tree Creek (39.7316, –123.6918); Huckleberry Creek (39.7315, –123.7253); Indian Creek (39.9464, –123.8993); Jones Creek (39.9977, –123.8378); Leggett Creek (40.1374, –123.8312); Little Sproul Creel (40.0897, –123.8585); Low Gap Creek (39.993, –123.767); McCoy Creek (39.9598, –123.7542); Michael's Creek (39.7642, –123.7175); Miller Creek (40.1215, –123.916); Moody Creek (39.9531, –123.8819); Mud Creek (39.8232, –123.6107); Piercy Creek (39.9706, –123.8189); Pollock Creek (40.0822, –123.9184); Rattlesnake Creek (39.7974, –123.5426); Redwood Creek (39.7721, –123.7651); Redwood Creek (40.0974, –123.9104); Seely Creek (40.1494, –123.8825); Somerville Creek (40.0896, –123.8913); South Fork Redwood Creek (39.7663, –123.7579); Spoul Creek (40.0125, –123.8585); Standley Creek (39.9479, –123.8083); Tom Long Creek (40.0315, –123.6891); Twin Rocks Creek (39.8269, –123.5543); Warden Creek (40.0625, –123.8546); West Fork Sproul Creek (40.0386, –123.9015); Wildcat Creek (39.9049, –123.7739); Wilson Creek (39.841, –123.6452); Unnamed Tributary (40.1136, –123.9359).

(viii) *Laytonville Hydrologic Sub-area 111133.* Outlet(s) = South Fork Eel River (Lat 39.7665, Long –123.6484)) upstream to endpoint(s) in: Bear Creek (39.6413, –123.5797); Cahto Creek (39.6624, –123.5453); Dutch Charlie Creek (39.6892, –123.6818); Grub Creek (39.7777, –123.5809); Jack of Hearts Creek (39.7244, –123.6802); Kenny Creek (39.6733, –123.6082); Mud Creek (39.6561, –123.592); Redwood Creek (39.6738, –123.6631); Rock Creek (39.6931, –123.6204); South Fork Eel River (39.6271, –123.5389); Streeter Creek (39.7328, –123.5542); Ten Mile Creek (39.6651, –123.451).

(ix) *Sequoia Hydrologic Sub-area 111141.* Outlet(s) = Eel River (Lat 40.3557, Long –123.9191); South Fork Eel River (40.3558, –123.9194) upstream to endpoint(s) in: Brock Creek (40.2411, –123.7248); Dobbyn Creek (40.2216, –123.6029); Hoover Creek (40.2312, –123.5792); Line Gulch (40.1655, –123.4831); North Fork Dobbyn Creek (40.2669, –123.5467); South Fork Dobbyn Creek (40.1723, –123.5112); South Fork Eel River (40.35, –123.9305); Unnamed Tributary (40.3137, –123.8333); Unnamed Tributary (40.2715, –123.549).

(x) *Spy Rock Hydrologic Sub-area 111142.* Outlet(s) = Eel River (Lat 40.1736, Long –123.6043) upstream to endpoint(s) in: Bell Springs Creek (39.9399, –123.5144); Burger Creek (39.6943, –123.413); Chamise Creek (40.0563, –123.5479); Jewett Creek (40.1195, –123.6027); Kekawaka Creek (40.0686, –123.4087); Woodman Creek (39.7639, –123.4338).

(xi) *North Fork Eel River Hydrologic Sub-area 111150.* Outlet(s) = North Fork Eel River (Lat 39.9567, Long –123.4375) upstream to endpoint(s) in: North Fork Eel River (39.9370, –123.3758).

(xii) *Outlet Creek Hydrologic Sub-area 111161.* Outlet(s) = Outlet Creek (Lat 39.6263, Long –123.3453) upstream to endpoint(s) in: Baechtel Creek (39.3688, –123.4028); Berry Creek (39.4272, –123.2951); Bloody Run (39.5864, –123.3545); Broaddus Creek (39.3907, –123.4163); Davis Creek (39.3701, –123.3007); Dutch Henry Creek (39.5788, –123.4543); Haehl Creek (39.3795, –123.3393); Long Valley Creek (39.6091, –123.4577); Ryan Creek (39.4803, –123.3642); Upp Creek (39.4276, –123.3578); Upp Creek

(39.4276, –123.3578); Willits Creek (39.4315, –123.3794).

(xiii) *Tomki Creek Hydrologic Sub-area 111162.* Outlet(s) = Eel River (Lat 39.7138, Long –123.3531) upstream to endpoint(s) in: Cave Creek (39.3925, –123.2318); Long Branch Creek (39.4074, –123.1897); Rocktree Creek (39.4533, –123.3079); Salmon Creek (39.4461, –123.2104); Scott Creek (39.456, –123.2297); String Creek (39.4855, –123.2891); Tomki Creek (39.549, –123.3613); Wheelbarrow Creek (39.5029, –123.3287).

(xiv) *Lake Pillsbury Hydrologic Sub-area 111163.* Outlet(s) = Eel River (Lat 39.3860, Long –123.1163) upstream to endpoint(s) in: Eel River (39.4078, –122.958).

(xv) *Eden Valley Hydrologic Sub-area 111171.* Outlet(s) = Middle Fork Eel River (Lat 39.8146, Long –123.1332) upstream to endpoint(s) in: Middle Fork Eel River (39.8145, –123.1333).

(xvi) *Round Valley Hydrologic Sub-area 111172.* Outlet(s) = Mill Creek (Lat 39.7396, Long –123.1420); Williams Creek (39.8145, –123.1333) upstream to endpoint(s) in: Mill Creek (39.8456, –123.2822); Murphy Creek (39.8804, –123.1636); Poor Mans Creek (39.8179, –123.1833); Short Creek (39.8645, –123.2242); Turner Creek (39.7238, –123.2191); Williams Creek (39.8596, –123.1341).

(6) *Cape Mendocino Hydrologic Unit 1112—(i) Capetown Hydrologic Sub-area 111220.* Outlet(s) = Bear River (Lat 40.4744, Long –124.3881) upstream to endpoint(s) in: Bear River (40.3591, –124.0536); South Fork Bear River (40.4271, –124.2873).

(ii) *Mattole River Hydrologic Sub-area 111230.* Outlet(s) = Mattole River (Lat 40.2942, Long –124.3536) upstream to endpoint(s) in: Bear Creek (40.1262, –124.0631); Blue Slide Creek (40.1286, –123.9579); Bridge Creek (40.0503, –123.9885); Conklin Creek (40.3169, –124.229); Dry Creek (40.2389, –124.0621); East Fork Honeydew Creek (40.1633, –124.0916); East Fork of the North Fork Mattole River (40.3489, –124.2244); Eubanks Creek (40.0893, –123.9743); Gilham Creek (40.2162, –124.0309); Grindstone Creek (40.1875, –124.0041); Honeydew Creek (40.1942, –124.1363); Mattole Canyon (40.1833, –123.9666); Mattole River (39.9735, –123.9548); McGinnis Creek (40.3013, –124.2146); McKee Creek (40.0674, –123.9608); Mill Creek (40.0169, –123.9656); North Fork Mattole River (40.3729, –124.2461); North Fork Bear Creek (40.1422, –124.0945); Oil Creek (40.3008, –124.1253); Rattlesnake Creek (40.2919, –124.1051); South Fork Bear Creek (40.0334, –124.0232); Squaw Creek (40.219, –124.1921); Thompson Creek (39.9969, –123.9638); Unnamed (40.1522, –124.0989); Upper North Fork Mattole River (40.2907, –124.1115); Westlund Creek (40.2333, –124.0336); Woods creek (40.2235, –124.1574); Yew Creek (40.0019, –123.9743).

(7) Mendocino Coast Hydrologic Unit 1113—(i) *Wages Creek Hydrologic Sub-area 111312.* Outlet(s) = Wages Creek (Lat 39.6513, Long –123.7851) upstream to endpoint(s) in: Wages Creek (39.6393, –123.7146).

(ii) *Ten Mile River Hydrologic Sub-area 111313.* Outlet(s) = Ten Mile River (Lat 39.5529, Long –123.7658) upstream to endpoint(s) in: Middle Fork Ten Mile River (39.5397, –123.5523); Little North Fork Ten Mile River (39.6188, –123.7258); Ten Mile River (39.5721, –123.7098); South Fork Ten Mile River (39.4927, –123.6067); North Fork Ten Mile River (39.5804, –123.5735).

(iii) Noyo River Hydrologic Sub-area 111320. Outlet(s) = Noyo River (Lat 39.4274, Long –123.8096) upstream to endpoint(s) in: North Fork Noyo River (39.4541, –123.5331); Noyo River (39.431, 123.494); South Fork Noyo River (39.3549, –123.6136).

(iv) *Big River Hydrologic Sub-area 111330.* Outlet(s) = Big River (Lat 39.3030, Long –123.7957) upstream to endpoint(s) in: Big River (39.3095, –123.4454).

(v) *Albion River Hydrologic Sub-area 111340.* Outlet(s) = Albion River (Lat 39.2253, Long –123.7679) upstream to endpoint(s) in: Albion River (39.2644, –123.6072).

(vi) *Garcia River Hydrologic Sub-area 111370.* Outlet(s) = Garcia River (Lat 38.9455, Long –123.7257) upstream to endpoint(s) in: Garcia River (38.9160, –123.4900).

(8) Russian River Hydrologic Unit 1114—(i) *Guerneville Hydrologic Sub-area 111411.* Outlet(s) = Russian River (Lat 38.4507, Long –123.1289) upstream to endpoint(s) in: Austin Creek (38.5099, –123.0681); Mark West Creek (38.4961, –122.8489).

(ii) *Austin Creek Hydrologic Sub-area 111412.* Outlet(s) = Austin Creek (Lat 38.5099, Long –123.0681) upstream to endpoint(s) in: Austin Creek (38.5326, –123.0844).

(iii) *Warm Springs Hydrologic Sub-area 111424.* Outlet(s) = Dry Creek (Lat 38.5861, Long –122.8573) upstream to endpoint(s) in: Dry Creek (38.7179, –123.0075).

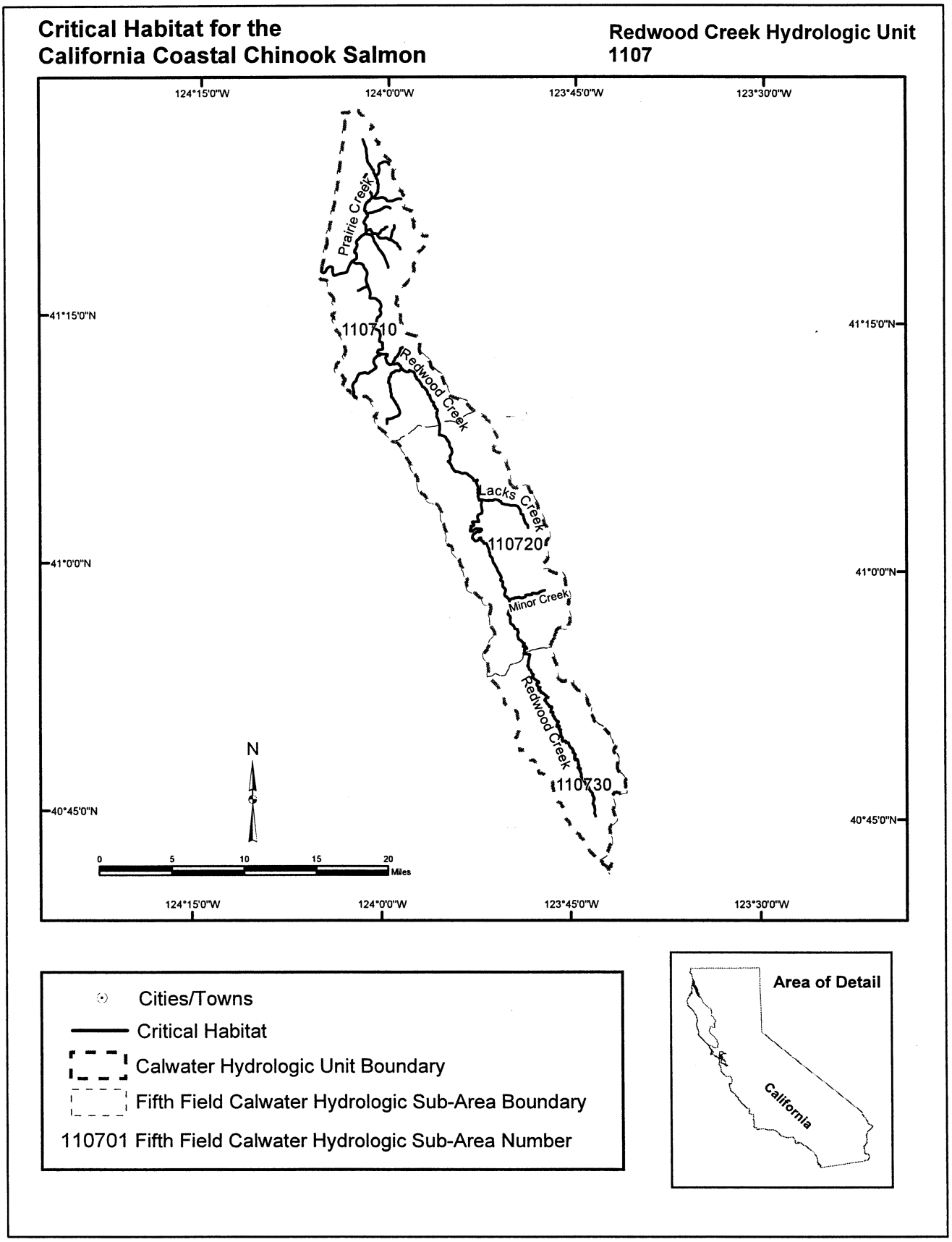
(iv) *Geyserville Hydrologic Sub-area 111425.* Outlet(s) = Russian River (Lat 38.6132, Long –122.8321) upstream.

(v) *Ukiah Hydrologic Sub-area 111431.* Outlet(s) = Russian River (Lat 38.8828, Long –123.0557) upstream to endpoint(s) in: Feliz Creek (38.9941, –123.1779).

(vi) *Forsythe Creek Hydrologic Sub-area 111433.* Outlet(s) = Russian River (Lat 39.2257, Long –123.2012) upstream to endpoint(s) in: Forsythe Creek (39.2780, –123.2608); Russian River (39.3599, –123.2326).

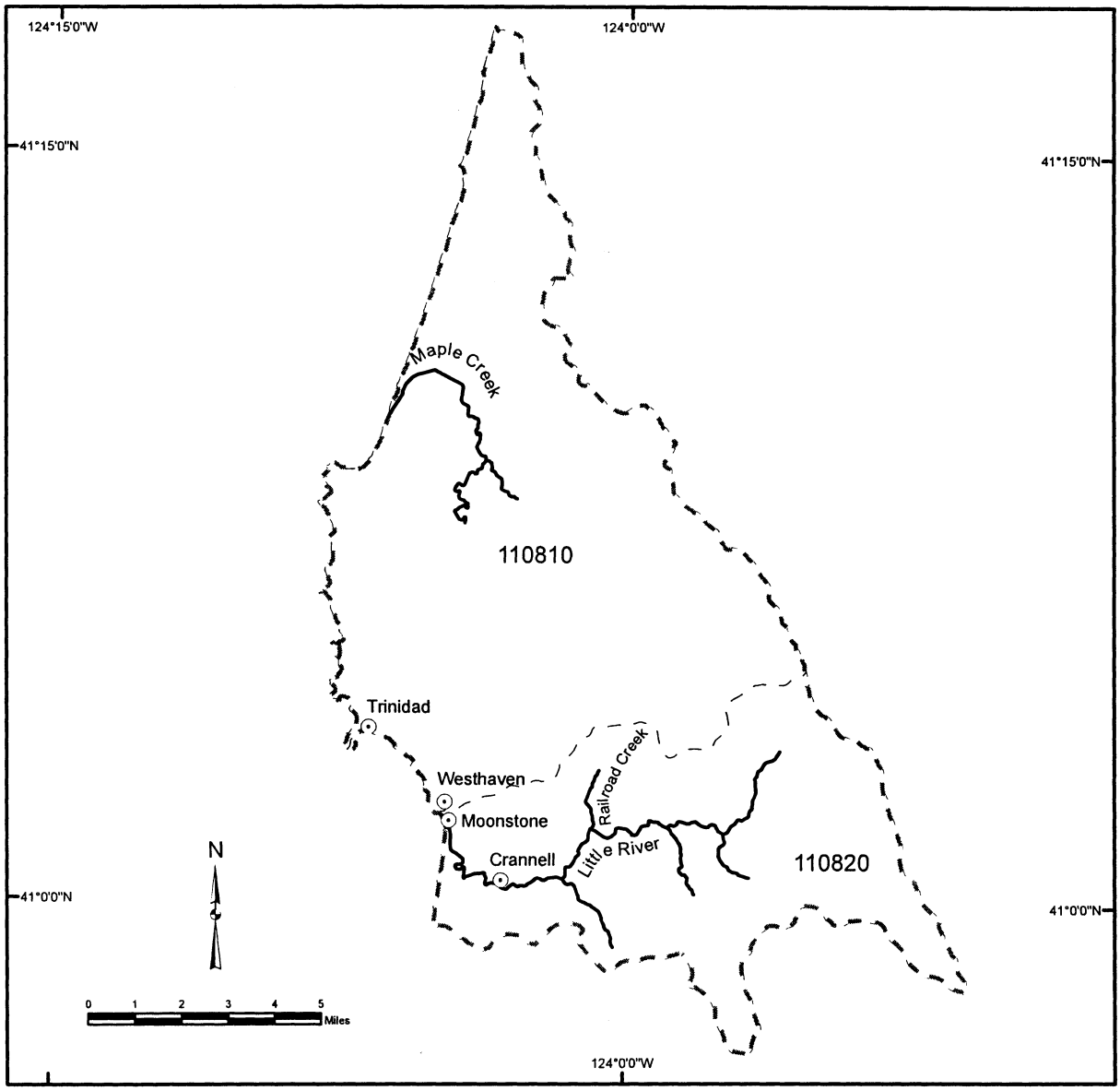
(9) Maps of critical habitat for the California Coast chinook salmon ESU follow:

BILLING CODE 3510–22–P


Critical Habitat for the
California Coastal Chinook Salmon
Redwood Creek Hydrologic Unit
1107
124°15'0"W
124°0'0"W
123°45'0"W
123°30'0"W
41°15'0"N
41°0'0"N
40°45'0"N
Prairie Creek
110710
Redwood Creek
Lacks Creek
110720
Minor Creek
Redwood Creek
110730
N
0
5
10
15
20
Miles
Cities/Towns
Critical Habitat
Calwater Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California

Critical Habitat for the California Coastal Chinook Salmon

Trinidad Hydrologic Unit 1108



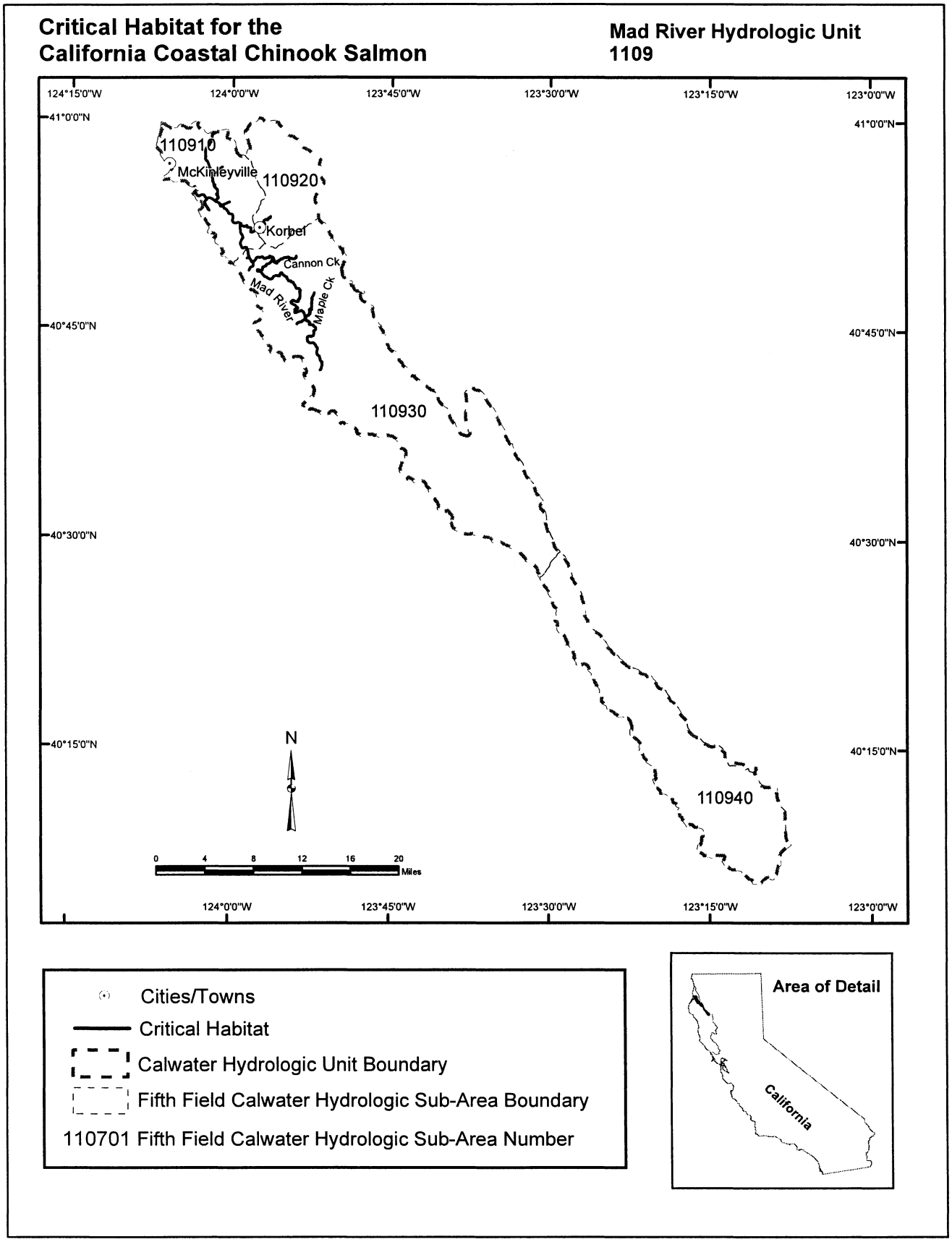
Cities/Towns

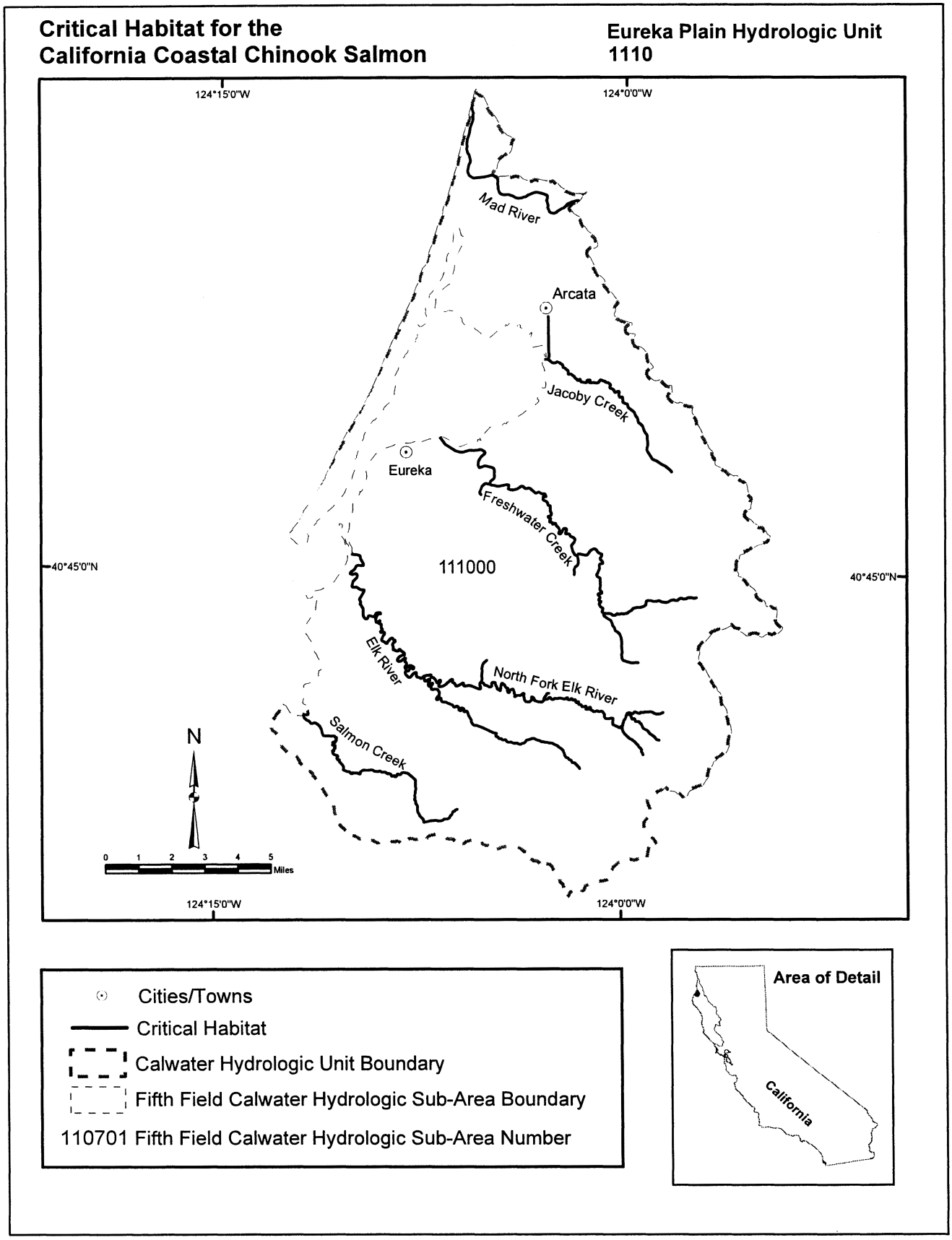
Critical Habitat

Calwater Hydrologic Unit Boundary

Fifth Field Calwater Hydrologic Sub-Area Boundary

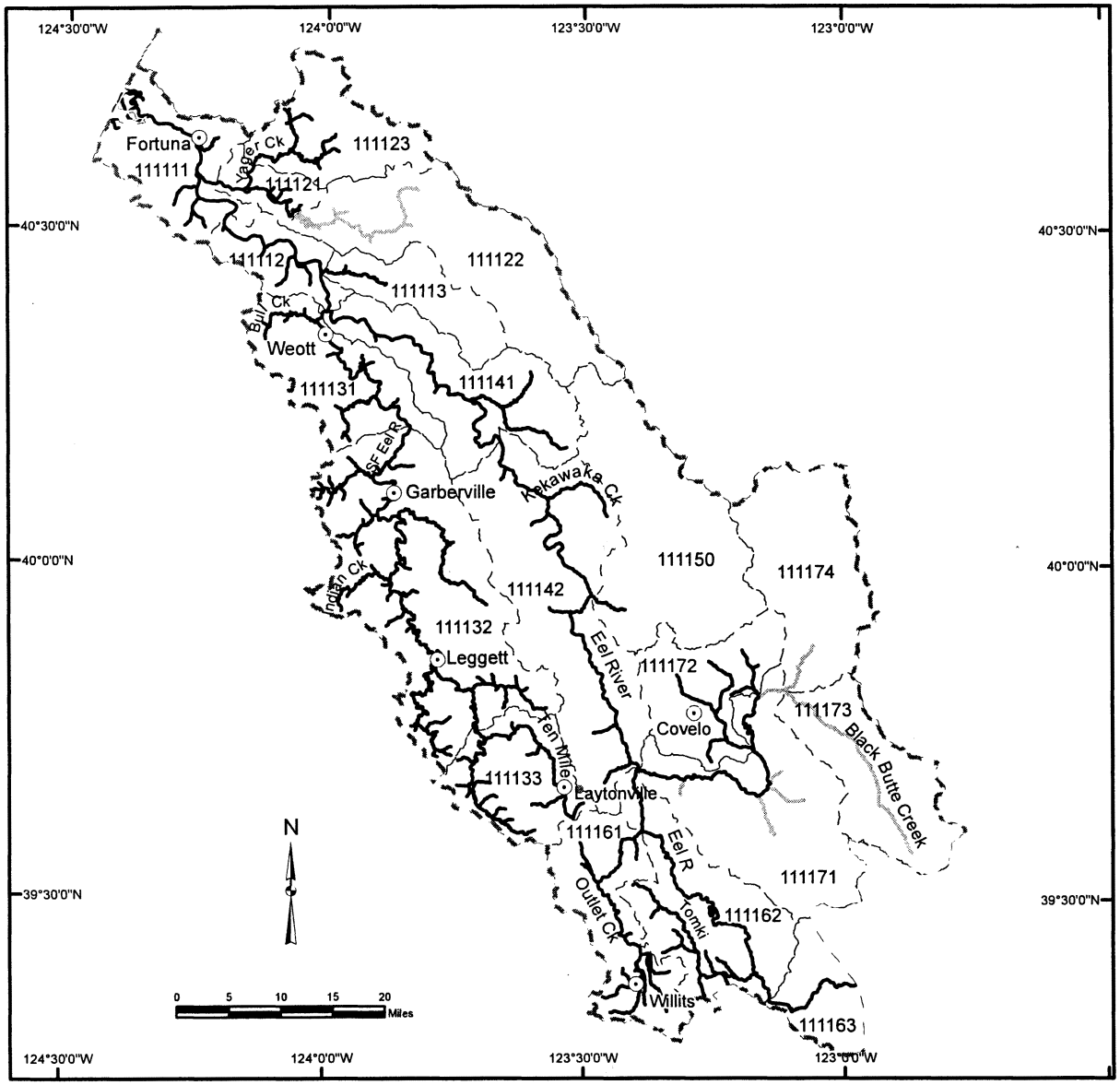
110701 Fifth Field Calwater Hydrologic Sub-Area Number


Critical Habitat for the
California Coastal Chinook Salmon
Mad River Hydrologic Unit
1109
124°15'0"W
124°0'0"W
123°45'0"W
123°30'0"W
123°15'0"W
123°0'0"W
41°0'0"N
40°45'0"N
40°30'0"N
40°15'0"N
110910
McKinleyville
110920
Korbel
Cannon Ck
Mad River
Maple Ck
110930
110940
N
0 4 8 12 16 20
Miles
Cities/Towns
Critical Habitat
Calwater Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California


Critical Habitat for the
California Coastal Chinook Salmon
Eureka Plain Hydrologic Unit
1110
124°15'0"W
124°0'0"W
40°45'0"N
Mad River
Arcata
Jacoby Creek
Eureka
Freshwater Creek
111000
Elk River
North Fork Elk River
Salmon Creek
N
0 1 2 3 4 5
Miles
Cities/Towns
Critical Habitat
Calwater Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California

Critical Habitat for the California Coastal Chinook Salmon

Eel River Hydrologic Unit 1111



Cities/Towns

Critical Habitat

Occupied but excluded streams / areas

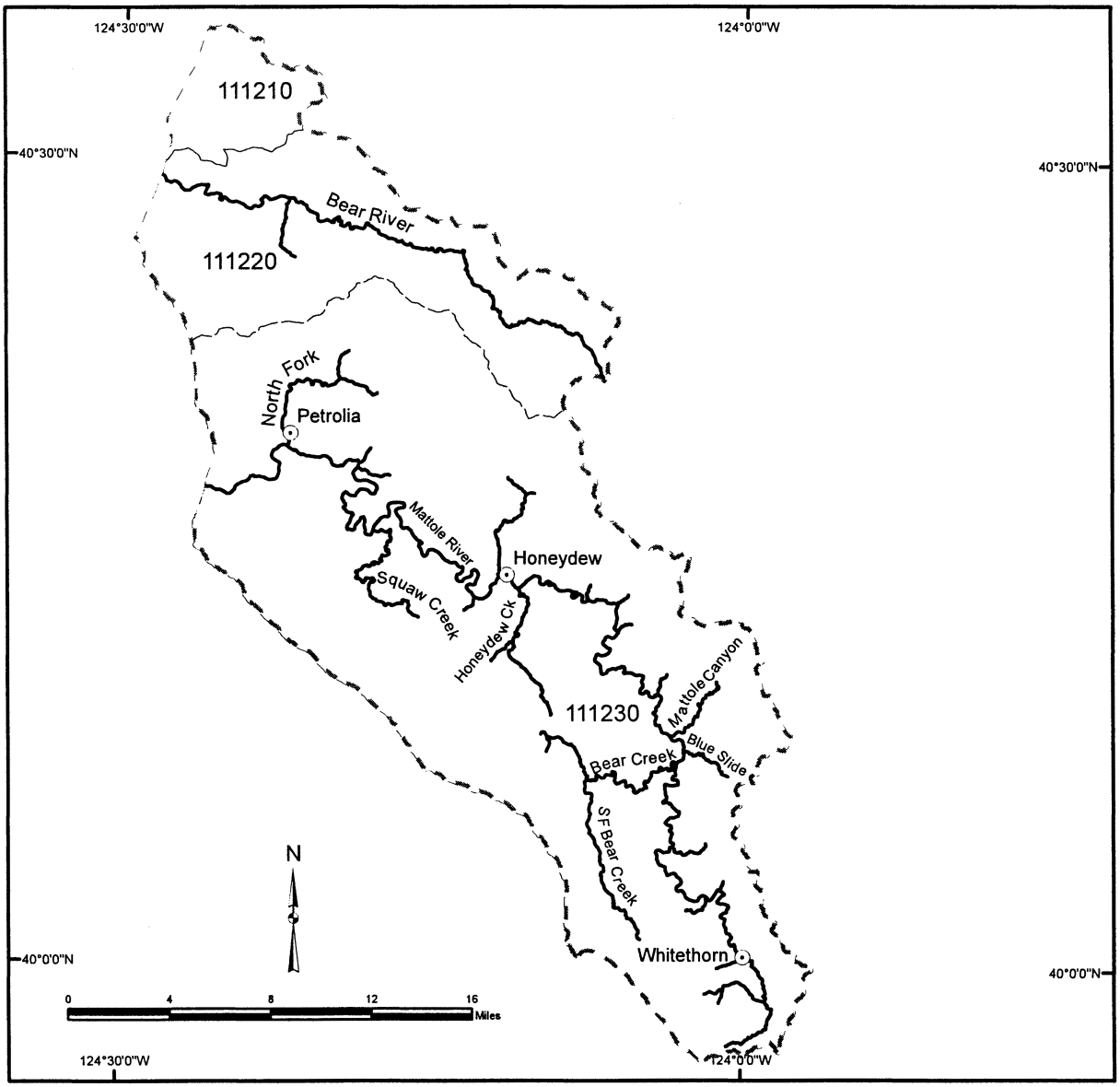
Hydrologic Unit Boundary

Fifth Field Calwater Hydrologic Sub-Area Boundary

110701 Fifth Field Calwater Hydrologic Sub-Area Number

Critical Habitat for the California Coastal Chinook Salmon

Cape Mendocino Hydrologic Unit 1112



Cities/Towns

Critical Habitat

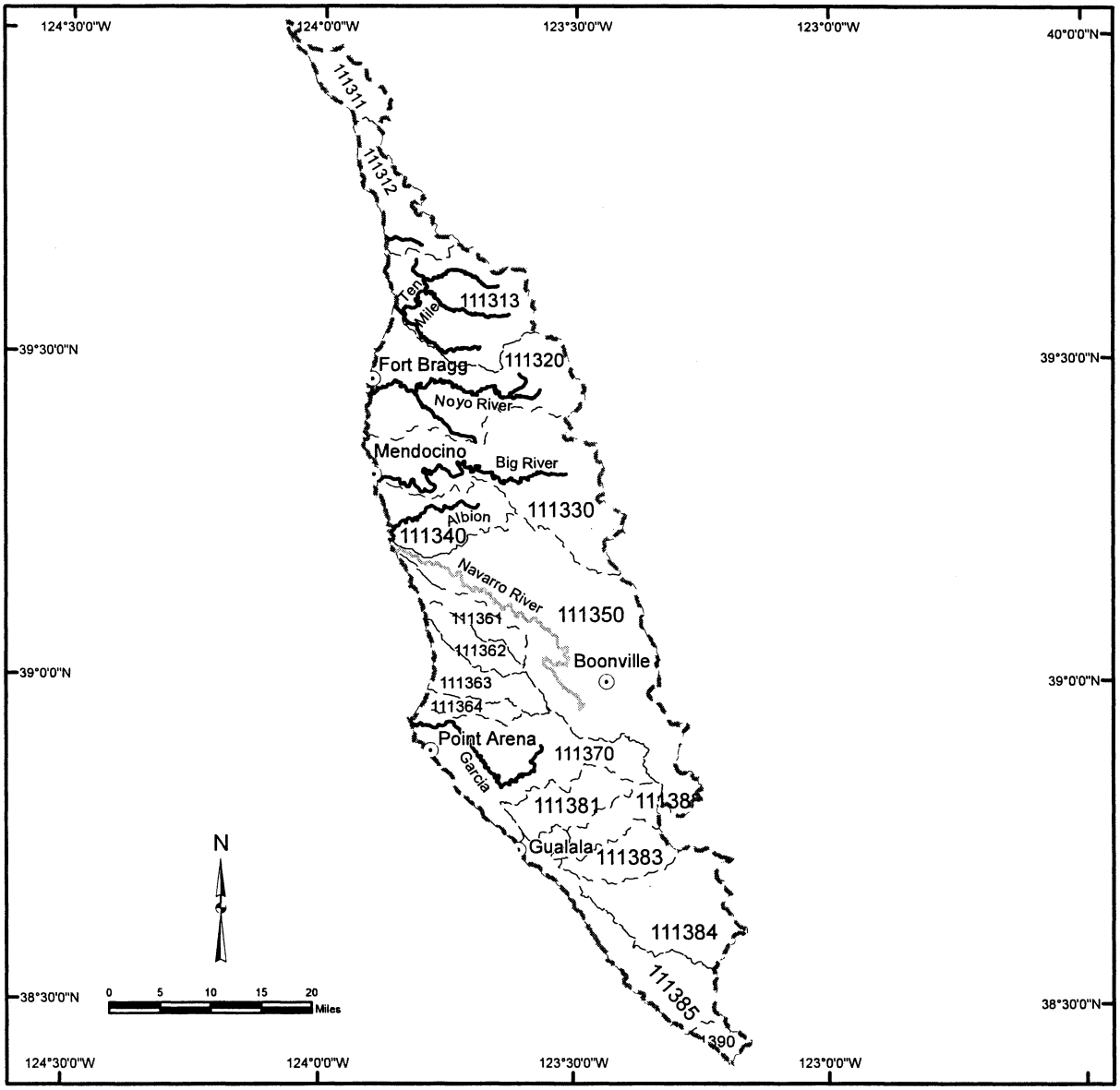
Calwater Hydrologic Unit Boundary

Fifth Field Calwater Hydrologic Sub-Area Boundary

110701 Fifth Field Calwater Hydrologic Sub-Area Number

Critical Habitat for the California Coastal Chinook Salmon

Mendocino Coast Hydrologic Unit 1113



Cities/Towns

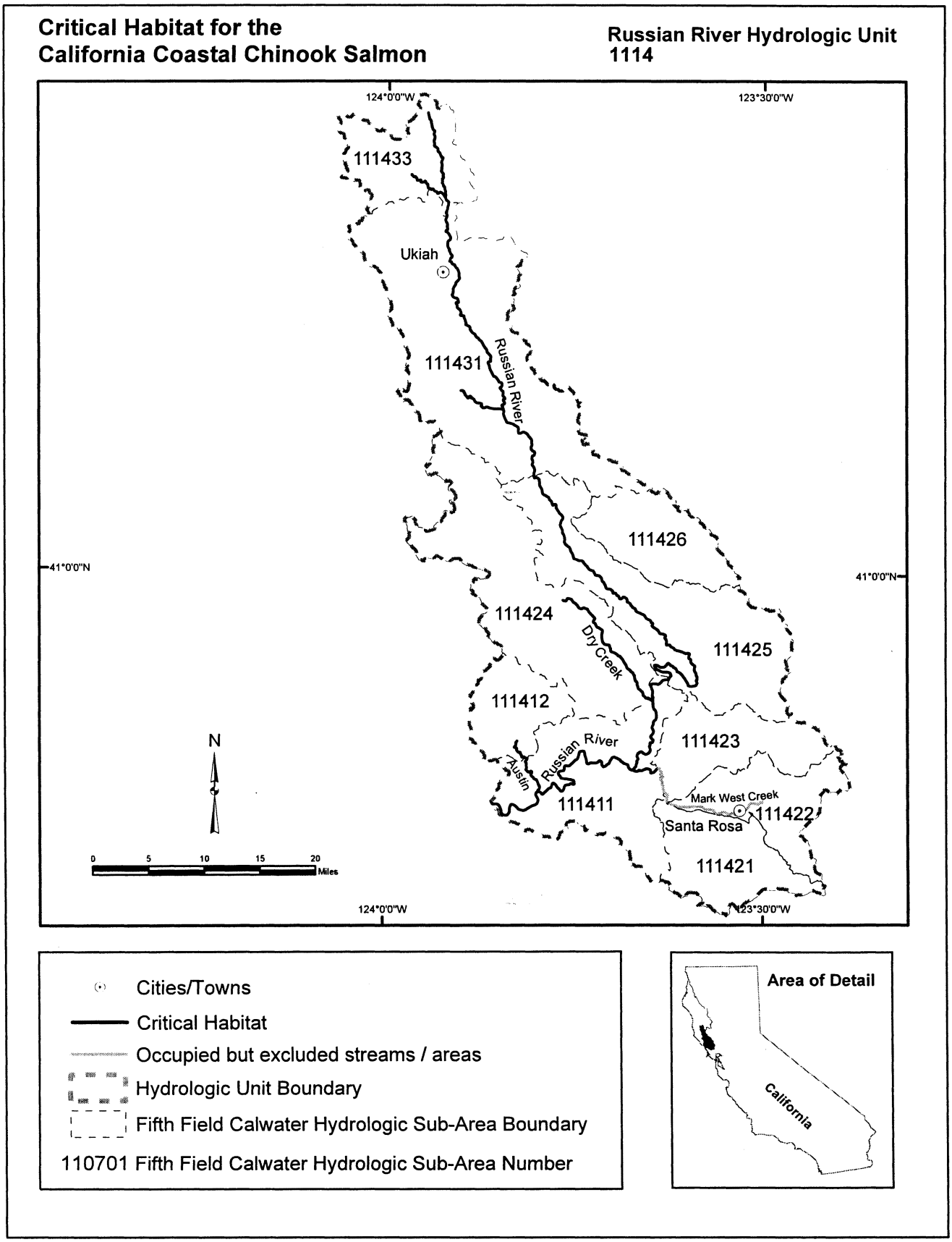
Critical Habitat

Occupied but excluded streams / areas

Hydrologic Unit Boundary

Fifth Field Calwater Hydrologic Sub-Area Boundary

110701 Fifth Field Calwater Hydrologic Sub-Area Number



BILLING CODE 3510–22–C

(g) *Northern California Steelhead (O. mykiss).* Critical habitat is designated to include the areas defined in the following CALWATER Hydrologic units:

(1) Redwood Creek Hydrologic Unit 1107—(i) *Orick Hydrologic Sub-area 110710.* Outlet(s) = Boat Creek (Lat 41.4059, Long –124.0675); Home Creek (41.4027, –124.0683); Redwood Creek (41.2923, –124.0917); Squashan Creek (41.3889, –124.0703) upstream to endpoint(s) in: Boat Creek (41.4110, –124.0583); Bond Creek (41.2326, –124.0262); Boyes Creek (41.3701, –124.9891); Bridge Creek (41.1694, –123.9964); Brown Creek (41.3986, –124.0012); Cloquet Creek (41.2466, –123.9884); Cole Creek (41.2209, –123.9931); Copper Creek (41.1516, –123.9258); Dolason Creek (41.1969, –123.9667); Elam Creek (41.2613, –124.0321); Emerald Creek (41.2164, –123.9808); Forty Four Creek (41.2187, –124.0195); Gans South Creek (41.2678, –124.0071); Godwood Creek (41.3787, –124.0354); Hayes Creek (41.2890, –124.0164); Home Creek (41.3951, –124.0386); Larry Dam Creek (41.3441, –123.9966); Little Lost Man Creek (41.3078, –124.0084); Lost Man Creek (41.3187, –123.9892); May Creek (41.3521, –124.0164); McArthur Creek (41.2702, –124.0427); Miller Creek (41.2305, –124.0046); North Fork Lost Man Creek (41.3405, –123.9859); Oscar Larson Creek (41.2559, –123.9943); Prairie Creek (41.4440, –124.0411); Skunk Cabbage Creek (41.3211, –124.0802); Slide Creek (41.1736, –123.9450); Squashan Creek (41.3739, –124.0440); Streelow Creek (41.3622, –124.0472); Tom McDonald Creek (41.1933, –124.0164); Unnamed Tributary (41.3619, –123.9967); Unnamed Tributary (41.3424, –124.0572).

(ii) *Beaver Hydrologic Sub-area 110720.* Outlet(s) = Redwood Creek (Lat 41.1367, Long –123.9309) upstream to endpoint(s) in: Beaver Creek (41.0208, –123.8608); Captain Creek (40.9199, –123.7944); Cashmere Creek (41.0132, –123.8862); Coyote Creek (41.1251, –123.8926); Devils Creek (41.1224, –123.9384); Garcia Creek (41.0180, –123.8923); Garrett Creek (41.0904, –123.8712); Karen Court Creek (41.0368, –123.8953); Lacks Creek (41.0306, –123.8096); Loin Creek (40.9465, –123.8454); Lupton Creek (40.9058, –123.8286); Mill Creek (41.0045, –123.8525); Minor Creek (40.9706, –123.7899); Molasses Creek (40.9986, –123.8490); Moon Creek (40.9807, –123.8368); Panther Creek (41.0732, –123.9275); Pilchuck Creek (41.9986, –123.8710); Roaring Gulch (41.0319, –123.8674); Santa Fe Creek (40.9368, –123.8397); Sweathouse Creek (40.9332, –123.8131); Toss–Up Creek (40.9845, –123.8656); Unnamed Tributary (41.1270, –123.8967); Wiregrass Creek (40.9652, –123.8553).

(iii) *Lake Prairie Hydrologic Sub-area 110730.* Outlet(s) = Redwood Creek (Lat 40.9070, Long –123.8170) upstream to endpoint(s) in: Bradford Creek (40.7812, –123.7215); Cut–Off Meander (40.8507, –123.7729); Emmy Lou Creek (40.8655, –123.7771); Gunrack Creek (40.8391, –123.7650); High Prairie Creek (40.8191, –123.7723); Jena Creek (40.8742, –123.8065); Lake Prairie Creek (40.7984, –123.7558); Lupton Creek (40.9058, –123.8286); Minon Creek (40.8140, –123.7372); Noisy Creek (40.8613, –123.8044); Pardee Creek (40.7779, –123.7416); Redwood Creek (40.7432, –123.7206); Simion Creek (40.8241, –123.7560); Six Rivers Creek (40.8352, –123.7842); Smokehouse Creek (40.7405, –123.7278); Snowcamp Creek (40.7415, –123.7296); Squirrel Trail Creek (40.8692, –123.7844); Twin Lakes Creek (40.7369, –123.7214); Panther Creek (40.8019, –123.7094); Windy Creek (40.8866, –123.7956).

(2) Trinidad Hydrologic Unit 1108—(i) *Big Lagoon Hydrologic Sub-area 110810.* Outlet(s) = Maple Creek (Lat 41.1555, Long –124.1380); McDonald Creek (41.2521, –124.0919) upstream to endpoint(s) in: Beach Creek (41.0716, –124.0239); Clear Creek (41.1031, –124.0030); Diamond Creek (41.1571, –124.0926); Maple Creek (41.0836, –123.9790); McDonald Creek (41.1850, –124.0773); M-Line Creek (41.0752, –124.0787); North Fork Maple Creek (41.1254, –124.0539); North Fork McDonald Creek (41.2107, –124.0664); Pitcher Creek (41.1518, –124.0874); South Fork Maple Creek (41.1003, –124.1119); Tom Creek (41.1773, –124.0966); Unnamed Tributary (41.1004, –124.0155); Unnamed Tributary (41.0780, –124.0676); Unnamed Tributary (41.1168, –124.0886); Unnamed Tributary (41.0864, –124.0899); Unnamed Tributary (41.1132, –124.0827); Unnamed Tributary (41.0749, –124.0889); Unnamed Tributary (41.1052, –124.0675); Unnamed Tributary (41.0714, –124.0611); Unnamed Tributary (41.0948, –124.0016).

(ii) *Little River Hydrologic Sub-area 110820.* Outlet(s) = Little River (Lat 41.0277, Long –124.1112) upstream to endpoint(s) in: Freeman Creek (41.0242, –124.0582); Little River (40.9999, –123.9232); Lower South Fork Little River (41.0077, –124.0079); Railroad Creek (41.0468, –124.0466); South Fork Little River (40.9899, –124.0394); Unnamed Tributary (41.0356, –123.9958); Unnamed Tributary (41.0407, –124.0598); Unnamed Tributary (41.0068, –123.9830); Unnamed Tributary (41.0402, –124.0111); Unnamed Tributary (41.0402, –124.0189); Unnamed Tributary (41.0303, –124.0366); Unnamed Tributary (41.0575, –123.9710); Unnamed Tributary (41.0068, –123.9830); Upper South Fork Little River (41.0146, –123.9826).

(3) Mad River Hydrologic Unit 1109—(i) *Blue Lake Hydrologic Sub-area 110910.* Outlet(s) = Mad River (Lat 40.9139, Long –124.0642); Strawberry Creek (40.9964, –124.1155); Widow White Creek (40.9635, –124.1253) upstream to endpoint(s) in: Boundary Creek (40.8395, –123.9920); Grassy Creek (40.9314, –124.0188); Hall Creek (40.9162, –124.0141); Kelly Creek (40.8656, –124.0260); Leggit Creek (40.8808, –124.0269); Lindsay Creek (40.9838, –124.0283); Mather Creek (40.9796, –124.0526); Mill Creek (40.9296, –124.1037); Mill Creek (40.9162, –124.0141); Mill Creek (40.8521, –123.9617); North Fork Mad River (40.8687, –123.9649); Norton Creek (40.9572, –124.1003); Palmer Creek (40.8633, –124.0193); Puter Creek (40.8474, –123.9966); Quarry Creek (40.8526, –124.0098); Squaw Creek (40.9426, –124.0202); Strawberry Creek (40.9761, –124.0630); Unnamed Tributary (40.9624, –124.0179); Unnamed Tributary (40.9549, –124.0554); Unnamed Tributary (40.9672, –124.0218); Warren Creek (40.8860, –124.0351); Widow White Creek (40.9522, –124.0784).

(ii) *North Fork Mad River Hydrologic Sub-area 110920.* Outlet(s) = North Fork Mad River (Lat 40.8687, Long –123.9649) upstream to endpoint(s) in: Bald Mountain Creek (40.8922, –123.9097); Canyon Creek (40.9598, –123.9269); Denman Creek (40.9293, –123.9429); East Fork North Fork (40.9702, –123.9449); Gosinta Creek (40.9169, –123.9420); Hutchery Creek (40.8730, –123.9503); Jackson Creek (40.9388, –123.9462); Krueger Creek (40.9487, –123.9571); Long Prairie Creek (40.9294, –123.8842); Mule Creek (40.9416, –123.9309); North Fork Mad River (40.9918, –123.9610); Pine Creek (40.9274, –123.9096); Pollock Creek (40.9081, –123.9071); Sullivan Gulch (40.8646, –123.9553); Tyson Creek (40.9559, –123.9738); Unnamed Tributary (40.9645, –123.9338); Unnamed Tributary (40.9879, –123.9511); Unnamed Tributary (40.9906, –123.9540); Unnamed Tributary (40.9866, –123.9788); Unnamed Tributary (40.9927, –123.9736).

(iii) *Butler Valley Hydrologic Sub-area 110930.* Outlet(s) = Mad River (Lat 40.8449, Long –123.9807) upstream to endpoint(s) in: Bear Creek (40.5468, –123.6728); Black Creek (40.7521, –123.9080); Black Dog Creek (40.8334, –123.9805); Blue Slide Creek (40.7333, –123.9225); Boulder Creek (40.7634, –123.8667); Bug Creek (40.6587, –123.7356); Cannon Creek (40.8535, –123.8850); Coyote Creek (40.6147, –123.6488); Devil Creek (40.8032, –123.9175); Dry Creek (40.8218, –123.9751); East Creek (40.5403, –123.5579); Maple Creek (40.7933, –123.8353); Pilot Creek (40.5950, –123.5888); Simpson Creek (40.8138, –123.9156); Unnamed Tributary (40.7306, –123.9019); Unnamed Tributary (40.7739, –123.9255); Unnamed Tributary (40.7744, –123.9137); Unnamed Tributary (40.8029, –123.8716); Unnamed Tributary (40.8038, –123.8691); Unnamed Tributary (40.8363, –123.9025).

(4) Eureka Plain Hydrologic Unit 1110—(i) *Eureka Plain Hydrologic Sub-area 111000.*

Outlet(s) = Elk River (Lat 40.7568, Long –124.1948); Freshwater Creek (40.8088, –124.1442); Jacoby Creek (40.8436, –124.0834); Mad River (40.9560, –124.1278); Rocky Gulch (40.8309, –124.0813); Salmon Creek (40.6868, –124.2194); Washington Gulch (40.8317, –124.0805) upstream to endpoint(s) in: Bridge Creek (40.6958, –124.0805); Browns Gulch (40.7038, –124.1074); Clapp Gulch (40.6967, –124.1684); Cloney Gulch (40.7826, –124.0347); Doe Creek (40.6964, –124.0201); Dunlap Gulch (40.7076, –124.1182); Falls Gulch (40.7655, –124.0261); Fay Slough (40.8033, –124.0574); Freshwater Creek (40.7385, –124.0035); Golf Course Creek (40.8406, –124.0402); Graham Gulch (40.7540, –124.0228); Guptil Gulch (40.7530, –124.1202); Henderson Gulch (40.7357, –124.1394); Jacoby Creek (40.7949, –124.0096); Lake Creek (40.6848, –124.0831); Line Creek (40.6578, –124.0460); Little Freshwater Creek (40.7371, –124.0649); Little North Fork Elk River (40.6972, –124.0100); Little South Fork Elk River (40.6555, –124.0877); Martin Slough (40.7679, –124.1578); McCready Gulch (40.7824, –124.0441); McWinney Creek (40.6968, –124.0616); Morrison Gulch (40.8169, –124.0430); North Branch of the North Fork Elk River (40.6879, –124.0130); North Fork Elk River (40.6794–123.9834); Railroad Gulch (40.6955, –124.1545); Rocky Gulch (40.8170, –124.0613); Ryan Creek (40.7352, –124.0996); Salmon Creek (40.6399, –124.1128); South Branch of the North Fork Elk River (40.6700, –124.0251); South Fork Elk River (40.6437, –124.0388); South Fork Freshwater Creek (40.7110, –124.0367); Swain Slough (40.7524, –124.1825); Tom Gulch (40.6794, –124.1452); Unnamed Tributary (40.7850, –124.0561); Unnamed Tributary (40.7496, –124.1651); Unnamed Tributary (40.7785,—124.1081); Unnamed Tributary (40.7667, –124.1054); Unnamed Tributary (40.7559, –124.0870); Unnamed Tributary (40.7952, –124.0568); Unnamed Tributary (40.7408, –124.1118); Unnamed Tributary (40.7186, –124.1385); Unnamed Tributary (40.7224, –124.1038); Unnamed Tributary (40.8210, –124.0111); Unnamed Tributary (40.8106, –124.0083); Unnamed Tributary (40.7554, –124.1379); Unnamed Tributary (40.7457, –124.1138); Washington Gulch (40.8205, –124.0549).

(ii) [Reserved]

(5) Eel River Hydrologic Unit 1111—(i) *Ferndale Hydrologic Sub-area 111111.* Outlet(s) = Eel River (Lat 40.6275, Long –124.2520) upstream to endpoint(s) in: Atwell Creek (40.4824, –124.1498); Dean Creek (40.4847, –124.1217); Horse Creek (40.5198, –124.1702); Howe Creek (40.4654, –124.1916); Nanning Creek (40.4914, –124.0652); North Fork Strongs Creek (40.6077, –124.1047); Price Creek (40.5101, –124.2731); Rohner Creek (40.6151, –124.1408); Strongs Creek (40.5999, –124.0985); Sweet Creek (40.4900, –124.2007); Van Duzen River (40.5337, –124.1262).

(ii) *Scotia Hydrologic Sub-area 111112.* Outlet(s) = Eel River (Lat 40.4918, Long –124.0988) upstream to endpoint(s) in: Bear Creek (40.3942, –124.0262); Bridge Creek (40.4278, –123.9317); Chadd Creek (40.3919, –123.9540); Darnell Creek (40.4533, –123.9808); Dinner Creek (40.4406, –124.0855); Greenlow Creek (40.4315, –124.0231); Jordan Creek (40.4171, –124.0517); Kiler Creek (40.4465, –124.0952); Monument Creek (40.4371, –124.1165); Shively Creek (40.4454, –123.9539); South Fork Bear Creek (40.3856, –124.0182); Stitz Creek (40.4649, –124.0531); Twin Creek (40.4419, –124.0714); Unnamed Tributary (40.3933, –123.9984); Weber Creek (40.3767, –123.9094).

(iii) *Larabee Creek Hydrologic Sub-area 111113.* Outlet(s) = Larabee Creek (Lat 40.4090, Long –123.9334) upstream to endpoint(s) in: Arnold Creek (40.4006, –123.8583); Balcom Creek (40.4030, –123.8986); Bosworth Creek (40.3584, –123.7089); Boulder Flat Creek (40.3530, –123.6381); Burr Creek (40.4250, –123.7767); Carson Creek (40.4181, –123.8879); Chris Creek (40.4146, –123.9235); Cooper Creek (40.3123, –123.6463); Dauphiny Creek (40.4049, –123.8893); Frost Creek (40.3765, –123.7357); Hayfield Creek (40.3350, –123.6535); Knack Creek (40.3788, –123.7385); Larabee Creek (40.2807, –123.6445); Martin Creek (40.3730, –123.7060); Maxwell Creek (40.3959, –123.8049); McMahon Creek (40.3269, –123.6363); Mill Creek (40.3849, –123.7440); Mountain Creek (40.2955, –123.6378); Scott Creek (40.4020, –123.8738); Smith Creek (40.4194, –123.8568); Thurman Creek (40.3506, –123.6669); Unnamed Tributary (40.3842, –123.8062); Unnamed Tributary (40.3982, –123.7862); Unnamed Tributary (40.3806, –123.7564); Unnamed Tributary (40.3661, –123.7398); Unnamed Tributary (40.3524, –123.7330).

(iv) *Hydesville Hydrologic Sub-area 111121.* Outlet(s) = Van Duzen River (Lat 40.5337, Long –124.1262) upstream to endpoint(s) in: Cuddeback Creek (40.5421, –124.0263); Cummings Creek (40.5282, –123.9770); Fiedler Creek (40.5351, –124.0106); Hely Creek (40.5165, –123.9531); Yager Creek (40.5583, –124.0577); Unnamed Tributary (40.5718, –124.0946).

(v) *Bridgeville Hydrologic Sub-area 111122.* Outlet(s) = Van Duzen River (Lat 40.4942, Long –123.9720) upstream to endpoint(s) in: Bear Creek (40.3455, –123.5763); Blanket Creek (40.3635, –123.5710); Browns Creek (40.4958, –123.8103); Butte Creek (40.4119, –123.7047); Dairy Creek (40.4174, –123.5981); Fish Creek (40.4525, –123.8434); Grizzly Creek (40.5193, –123.8470); Little Larabee Creek (40.4708, –123.7395); Little Van Duzen River (40.3021, –123.5540); North Fork Van Duzen (40.4881, –123.6411); Panther Creek (40.3921, –123.5866); Root Creek (40.4490, –123.9018); Stevens Creek (40.5062, –123.9073); Thompson Creek (40.4222, –123.6084); Van Duzen River (40.4820, –123.6629); Unnamed Tributary (40.3074, –123.5834).

(vi) *Yager Creek Hydrologic Sub-area 111123.* Outlet(s) = Yager Creek (Lat 40.5583, Long –124.0577) upstream to endpoint(s) in: Bell Creek (40.6809, –123.9685); Blanten Creek (40.5839, –124.0165); Booths Run (40.6584, –123.9428); Corner Creek (40.6179, –124.0010); Fish Creek (40.6390, –124.0024); Lawrence Creek (40.6986, –123.9314); Middle Fork Yager Creek (40.5782, –123.9243); North Fork Yager Creek (40.6056, –123.9080); Shaw Creek (40.6231, –123.9509); South Fork Yager Creek (40.5451, –123.9409); Unnamed

Tributary (40.5892, –123.9663); Yager Creek (40.5673, –123.9403).

(vii) *Weott Hydrologic Sub-area 111131.* Outlet(s) = South Fork Eel River (Lat 40.3500, Long –123.9305) upstream to endpoint(s) in: Albee Creek (40.3592, –124.0088); Bull Creek (40.3587, –123.9624); Burns Creek (40.3194, –124.0420); Butte Creek (40.1982, –123.8387); Canoe Creek (40.2669, –123.9556); Coon Creek (40.2702, –123.9013); Cow Creek (40.2664, –123.9838); Cuneo Creek (40.3401, –124.0494); Decker Creek (40.3312, –123.9501); Elk Creek (40.2609, –123.7957); Fish Creek (40.2459, –123.7729); Harper Creek (40.3591, –123.9930); Mill Creek (40.3568, –124.0333); Mowry Creek (40.2937, –123.8895); North Fork Cuneo Creek (40.3443, –124.0488); Ohman Creek (40.1924, –123.7648); Panther Creek (40.2775, –124.0289); Preacher Gulch (40.2944, –124.0047); Salmon Creek (40.2145, –123.8926); Slide Creek (40.3011, –124.0390); South Fork Salmon Creek (40.1769, –123.8929); Squaw Creek (40.3167, –123.9988); Unnamed Tributary (40.3065, –124.0074); Unnamed Tributary (40.2831, –124.0359).

(viii) *Benbow Hydrologic Sub-area 111132.* Outlet(s) = South Fork Eel River (Lat 40.1929, Long –123.7692) upstream to endpoint(s) in: Anderson Creek (39.9325, –123.8928); Bear Creek (39.7885, –123.7620); Bear Pen Creek (39.9201, –123.7986); Bear Wallow Creek (39.7270, –123.7140); Big Dan Creek (39.8430, –123.6992); Bond Creek (39.7778, –123.7060); Bridges Creek (39.9087, –123.7142); Buck Mountain Creek (40.0944, –123.7423); Butler Creek (39.7423, –123.6987); Cedar Creek (39.8834, –123.6216); China Creek (40.1035, –123.9493); Connick Creek (40.0912, –123.8154); Cox Creek (40.0310, –123.8398); Cruso Cabin Creek (39.9281, –123.5842); Durphy Creek (40.0205, –123.8271); East Branch South Fork Eel River (39.9359, –123.6204); Elkhorn Creek (39.9272, –123.6279); Fish Creek (40.0390, –123.7630); Hartsook Creek (40.0081, –123.8113); Hollow Tree Creek (39.7250, –123.6924); Huckleberry Creek (39.7292, –123.7275); Indian Creek (39.9556, –123.9172); Islam John Creek (39.8062, –123.7363); Jones Creek (39.9958, –123.8374); Leggett Creek (40.1470, –123.8375); Little Sproul Creek (40.0890, –123.8577); Lost Man Creek (39.7983, –123.7287); Low Gap Creek (39.8029, –123.6803); Low Gap Creek (39.9933, –123.7601); McCoy Creek (39.9572, –123.7369); Michael's Creek (39.7665, –123.7035); Middle Creek (39.8052, –123.7691); Milk Ranch Creek (40.0102, –123.7514); Mill Creek (39.8673, –123.7605); Miller Creek (40.1319, –123.9302); Moody Creek (39.9471, –123.8827); Mule Creek (39.8169, –123.7745); North Fork Cedar Creek (39.8864, –123.6363); North Fork McCoy Creek (39.9723, –123.7496); Piercy Creek (39.9597, –123.8442); Pollock Creek (40.0802, –123.9341); Red Mountain Creek (39.9363, –123.7203); Redwood Creek (39.7723, –123.7648); Redwood Creek (40.0974, –123.9104); Rock Creek (39.8962, –123.7065); Sebbas Creek (39.9934, –123.8903); Somerville Creek (40.1006, –123.8884); South Fork Mule Creek (39.8174, –123.7788); South Fork Redwood Creek (39.7662, –123.7579); Sproul Creek (40.0226, –123.8649); Squaw Creek (40.0760, –123.7257); Standly Creek (39.9327, –123.8309); Tom Long Creek (40.0175, –123.6551); Waldron Creek (39.7469, –123.7465); Walter's Creek (39.7921, –123.7250); Warden Creek (40.0629, –123.8551); West Fork Sproul Creek (40.0587, –123.9170); Wildcat Creek (39.8956, –123.7820); Unnamed Tributary (39.9927, –123.8807).

(ix) *Laytonville Hydrologic Sub-area 111133.* Outlet(s) = South Fork Eel River (Lat 39.7665, Long –123.6484) upstream to endpoint(s) in: Bear Creek (39.6418, –123.5853); Big Rick Creek (39.7117, –123.5512); Cahto Creek (39.6527, –123.5579); Dark Canyon Creek (39.7333, –123.6614); Dutch Charlie Creek (39.6843, –123.7023); Elder Creek (39.7234, –123.6192); Fox Creek (39.7441, –123.6142); Grub Creek (39.7777, –123.5809); Jack of Hearts Creek (39.7136, –123.6896); Kenny Creek (39.6838, –123.5929); Little Case Creek (39.6892, –123.5441); Mill Creek (39.6839, –123.5118); Mud Creek (39.6713, –123.5741); Mud Springs Creek (39.6929, –123.5629); Redwood Creek (39.6545, –123.6753); Rock Creek (39.6922, –123.6090); Section Four Creek (39.6137, –123.5297); South Fork Eel River (39.6242, –123.5468); Streeter Creek (39.7340, –123.5606); Ten Mile Creek (39.6652, –123.4486); Unnamed Tributary (39.7004, –123.5678).

(x) *Sequoia Hydrologic Sub-area 111141.* Outlet(s) = Eel River (Lat 40.3557, Long –123.9191) upstream to endpoint(s) in: Beatty Creek (40.3198, –123.7500); Brock Creek (40.2410, –123.7246); Cameron Creek (40.3313, –123.7707); Dobbyn Creek (40.2216, –123.6029); Kapple Creek (40.3531, –123.8585); Line Gulch Creek (40.1640, –123.4783); Mud Creek (40.2078, –123.5143); North Fork Dobbyn Creek (40.2669, –123.5467); Sonoma Creek (40.2974, –123.7953); South Fork Dobbyn Creek (40.1723, –123.5112); South Fork Eel River (40.3500, –123.9305); South Fork Thompson Creek (40.3447, –123.8334); Thompson Creek (40.3552, –123.8417); Unnamed Tributary (40.2745, –123.5487).

(xi) *Spy Rock Hydrologic Sub-area 111142.* Outlet(s) = Eel River (Lat 40.1736, Long –123.6043) upstream to endpoint(s) in: Bear Pen Canyon (39.6943, –123.4359); Bell Springs Creek (39.9457, –123.5313); Blue Rock Creek (39.8937, –123.5018); Burger Creek (39.6693, –123.4034); Chamise Creek (40.0035, –123.5945); Gill Creek (39.7879, –123.3465); Iron Creek (39.7993, –123.4747); Jewett Creek (40.1122, –123.6171); Kekawaka Creek (40.0686, –123.4087); Rock Creek (39.9347, –123.5187); Shell Rock Creek (39.8414, –123.4614); Unnamed Tributary (39.7579, –123.4709); White Rock Creek (39.7646, –123.4684); Woodman Creek (39.7612, –123.4364).

(xii) *Outlet Creek Hydrologic Sub-area 111161.* Outlet(s) = Outlet Creek (Lat 39.6265, Long –123.3449) upstream to endpoint(s) in: Baechtel Creek (39.3623, –123.4143); Berry Creek (39.4271, –123.2777); Bloody Run Creek (39.5864, –123.3545); Broaddus Creek (39.3869, –123.4282); Cherry Creek (39.6043, –123.4073); Conklin Creek (39.3756, –123.2570); Davis Creek (39.3354, –123.2945); Haehl Creek (39.3735, –123.3172); Long Valley Creek (39.6246, –123.4651); Mill Creek (39.4196, –123.3919); Outlet Creek (39.4526, –123.3338); Ryan Creek (39.4804, –123.3644); Unnamed Tributary (39.4956, –123.3591); Unnamed Tributary (39.4322, –123.3848); Unnamed Tributary (39.5793, –123.4546); Unnamed Tributary (39.3703, –123.3419); Upp Creek (39.4479, –123.3825); Willts Creek (39.4686, –123.4299).

(xiii) *Tomki Creek Hydrologic Sub-area 111162.* Outlet(s) = Eel River (Lat 39.7138, Long –123.3532) upstream to endpoint(s) in: Cave Creek (39.3842, –123.2148); Dean Creek (39.6924, –123.3727); Garcia Creek (39.5153, –123.1512); Little Cave Creek (39.3915, –123.2462); Little Creek (39.4146, –123.2595); Long Branch Creek (39.4074, –123.1897); Rocktree Creek (39.4534, –123.3053); Salmon Creek (39.4367, –123.1939); Scott Creek (39.4492, –123.2286); String Creek (39.4658, –123.3206); Tarter Creek (39.4715, –123.2976); Thomas Creek (39.4768, –123.1230); Tomki Creek (39.5483, –123.3687); Whitney Creek (39.4399, –123.1084); Wheelbarrow Creek (39.5012, –123.3304).

(xiv) *Eden Valley Hydrologic Sub-area 111171.* Outlet(s) = Middle Fork Eel River (Lat 39.7138, Long –123.3532) upstream to endpoint(s) in: Crocker Creek (39.5559, –123.0409); Eden Creek (39.5992, –123.1746); Elk Creek (39.5371, –123.0101); Hayshed Creek

(39.7082, –123.0967); Salt Creek (39.6765, –123.2740); Sportsmans Creek (39.5373, –123.0247); Sulper Springs (39.5536, –123.0365); Thatcher Creek (39.6686, –123.0639).

(xv) *Round Valley Hydrologic Sub-area 111172.* Outlet(s) = Mill Creek (Lat 39.7396, Long –123.1420); Williams Creek (39.8145, –123.1333) upstream to endpoint(s) in: Cold Creek (39.8714, –123.2991); Grist Creek (39.7640, –123.2883); Mill Creek (39.8481, –123.2896); Murphy Creek (39.8885, –123.1612); Short Creek (39.8703, –123.2352); Town Creek (39.7991, –123.2889); Turner Creek (39.7218, –123.2175); Williams Creek (39.8903, –123.1212); Unnamed Tributary (39.7428, –123.2757); Unnamed Tributary (39.7493, –123.2584).

(xvi) *Black Butte River Hydrologic Sub-area 111173.* Outlet(s) = Black Butte River (Lat 39.8239, Long –123.0880) upstream to endpoint(s) in: Black Butte River (39.5946, –122.8579); Buckhorn Creek (39.6563, –122.9225); Cold Creek (39.6960, –122.9063); Estell Creek (39.5966, –122.8224); Spanish Creek (39.6287, –122.8331).

(xvii) *Wilderness Hydrologic Sub-area 111174.* Outlet(s) = Middle Fork Eel River (Lat 39.8240, Long –123.0877) upstream to endpoint(s) in: Beaver Creek (39.9352, –122.9943); Fossil Creek (39.9447, –123.0403); Middle Fork Eel River (40.0780, –123.0442); North Fork Middle Fork Eel River (40.0727, –123.1364); Palm of Gileade Creek (40.0229, –123.0647); Pothole Creek (39.9347, –123.0440).

(6) Cape Mendocino Hydrologic Unit 1112—(i) *Oil Creek Hydrologic Sub-area 111210.* Outlet(s) = Guthrie Creek (Lat 40.5407, Long –124.3626); Oil Creek (40.5195, –124.3767) upstream to endpoint(s) in: Guthrie Creek (40.5320, –124.3128); Oil Creek (40.5061, –124.2875); Unnamed Tributary (40.4946, –124.3091); Unnamed Tributary (40.4982, –124.3549); Unnamed Tributary (40.5141, –124.3573); Unnamed Tributary (40.4992, –124.3070).

(ii) *Capetown Hydrologic Sub-area 111220.* Outlet(s) = Bear River (Lat 40.4744, Long –124.3881); Davis Creek (40.3850, –124.3691); Singley Creek (40.4311, –124.4034) upstream to endpoint(s) in: Antone Creek (40.4281, –124.2114); Bear River (40.3591, –124.0536); Beer Bottle Gulch (40.3949, –124.1410); Bonanza Gulch (40.4777, –124.2966); Brushy Creek (40.4102, –124.1050); Davis Creek (40.3945, –124.2912); Harmonica Creek (40.3775, –124.0735); Hollister Creek (40.4109, –124.2891); Nelson Creek (40.3536, –124.1154); Peaked Creek (40.4123, –124.1897); Pullen Creek (40.4057, –124.0814); Singley Creek (40.4177, –124.3305); South Fork Bear River (40.4047, –124.2631); Unnamed Tributary (40.4271, –124.3107); Unnamed Tributary (40.4814, –124.2741); Unnamed Tributary (40.3633, –124.0651); Unnamed Tributary (40.3785, –124.0599); Unnamed Tributary (40.4179, –124.2391); Unnamed Tributary (40.4040, –124.0923); Unnamed Tributary (40.3996, –124.3175); Unnamed Tributary (40.4045, –124.0745); Unnamed Tributary (40.4668, –124.2364); Unnamed Tributary (40.4389, –124.2350); Unnamed Tributary (40.4516, –124.2238); Unnamed Tributary (40.4136, –124.1594); Unnamed Tributary (40.4350, –124.1504); Unnamed Tributary (40.4394, –124.3745); West Side Creek (40.4751, –124.2432).

(iii) *Mattole River Hydrologic Sub-area 111230.* Outlet(s) = Big Creek (Lat 40.1567, Long –124.2114); Big Flat Creek (40.1275, –124.1764); Buck Creek (40.1086, –124.1218); Cooskie Creek (40.2192, –124.3105); Fourmile Creek (40.2561, –124.3578); Gitchell Creek (40.0938, –124.1023); Horse Mountain Creek (40.0685, –124.0822); Kinsey Creek (40.1717, –124.2310); Mattole River (40.2942, –124.3536); McNutt Gulch (40.3541, –124.3619); Oat Creek (40.1785, –124.2445); Randall Creek (40.2004, –124.2831); Shipman Creek (40.1175, –124.1449); Spanish Creek (40.1835, –124.2569); Telegraph Creek (40.0473, –124.0798); Whale Gulch (39.9623, –123.9785) upstream to endpoint(s) in: Anderson Creek (40.0329, –123.9674); Baker Creek (40.0143, –123.9048); Bear Creek (40.1262, –124.0631); Bear Creek (40.2819, –124.3336); Bear Trap Creek (40.2157, –124.1422); Big Creek (40.1742, –124.1924); Big Finley Creek (40.0910, –124.0179); Big Flat Creek (40.1444, –124.1636); Blue Slide Creek (40.1562, –123.9283); Box Canyon Creek (40.1078, –123.9854); Bridge Creek (40.0447, –124.0118); Buck Creek (40.1166, –124.1142); Conklin Creek (40.3197, –124.2055); Cooskie Creek (40.2286, –124.2986); Devils Creek (40.3432, –124.1365); Dry Creek (40.2646, –124.0660); East Branch North Fork Mattole River (40.3333, –124.1490); East Fork Honeydew Creek (40.1625, –124.0929); Eubank Creek (40.0997, –123.9661); Fire Creek (40.1533, –123.9509); Fourmile Creek (40.2604, –124.3079); Fourmile Creek (40.1767, –124.0759); French Creek (40.1384, –124.0072); Gibson Creek (40.0304, –123.9279); Gilham Creek (40.2078, –124.0085); Gitchell Creek (40.1086, –124.0947); Green Ridge Creek (40.3254, –124.1258); Grindstone Creek (40.2019, –123.9890); Harris Creek (40.0381, –123.9304); Harrow Creek (40.1612, –124.0292); Helen Barnum Creek (40.0036, –123.9101); Honeydew Creek (40.1747, –124.1410); Horse Mountain Creek (40.0769, –124.0729); Indian Creek (40.2772, –124.2759); Jewett Creek (40.1465, –124.0414); Kinsey Creek (40.1765, –124.2220); Lost Man Creek (39.9754, –123.9179); Mattole Canyon (40.2021, –123.9570); Mattole River (39.9714, –123.9623); McGinnis Creek (40.3186, –124.1801); McKee Creek (40.0864, –123.9480); McNutt Gulch (40.3458, –124.3418); Middle Creek (40.2591, –124.0366); Mill Creek (40.0158, –123.9693); Mill Creek (40.3305, –124.2598); Mill Creek (40.2839, –124.2946); Nooning Creek (40.0616, –124.0050); North Fork Mattole River (40.3866, –124.1867); North Fork Bear Creek (40.1494, –124.1060); North Fork Fourmile Creek (40.2019, –124.0722); Oat Creek (40.1884, –124.2296); Oil Creek (40.3214, –124.1601); Painter Creek (40.0844, –123.9639); Prichett Creek (40.2892, –124.1704); Randall Creek (40.2092, –124.2668); Rattlesnake Creek (40.3250, –124.0981); Shipman Creek (40.1250, –124.1384); Sholes Creek (40.1603, –124.0619); South Branch West Fork Bridge Creek (40.0326, –123.9853); South Fork Bear Creek (40.0176, –124.0016); Spanish Creek (40.1965, –124.2429); Squaw Creek (40.1934, –124.2002); Stanley Creek (40.0273, –123.9166); Sulphur Creek (40.3647, –124.1586); Telegraph Creek (40.0439, –124.0640); Thompson Creek (39.9913, –123.9707); Unnamed Tributary (40.3475, –124.1606); Unnamed Tributary (40.3522, –124.1533); Unnamed Tributary (40.0891, –123.9839); Unnamed Tributary (40.2223, –124.0172); Unnamed Tributary (40.1733, –123.9515); Unnamed Tributary (40.2899, –124.0955); Unnamed Tributary (40.2853, –124.3227); Unnamed Tributary (39.9969, –123.9071); Upper East Fork Honeydew Creek (40.1759, –124.1182); Upper North Fork Mattole River (40.2907, –124.1115); Vanauken Creek (40.0674, –123.9422); West Fork Bridge Creek (40.0343, –123.9990); West Fork Honeydew Creek (40.1870, –124.1614); Westlund Creek (40.2440, –124.0036); Whale Gulch (39.9747, –123.9812); Woods Creek (40.2119, –124.1611); Yew Creek (40.0018, –123.9762).

(7) Mendocino Coast Hydrologic Unit 1113—(i) *Usal Creek Hydrologic Sub-area 111311.* Outlet(s) = Jackass Creek (Lat 39.8806, Long –123.9155); Usal

Creek (39.8316, –123.8507) upstream to endpoint(s) in: Bear Creek (39.8898, –123.8344); Jackass Creek (39.8901, –123.8928); Julias Creek (39.8542, –123.7937); Little Bear Creek (39.8629, –123.8400); North Fork Jackass Creek (39.9095, –123.9101); North Fork Julias Creek (39.8581, –123.8045); Soldier Creek (39.8679, –123.8162); South Fork Usal Creek (39.8356, –123.7865); Unnamed Tributary (39.8890, –123.8480); Usal Creek (39.8957, –123.8797); Waterfall Gulch (39.8787, –123.8680).

(ii) *Wages Creek Hydrologic Sub-area 111312*. Outlet(s) = Cottaneva Creek (Lat 39.7360, Long –123.8293); DeHaven Creek (39.6592, –123.7863); Hardy Creek (39.7107, –123.8082); Howard Creek (39.6778, –123.7915); Juan Creek (39.7028, –123.8042); Wages Creek (39.6513, –123.7851) upstream to endpoint(s) in: Cottaneva Creek (39.7825, –123.8210); DeHaven Creek (39.6687, –123.7060); Dunn Creek (39.8103, –123.8320); Hardy Creek (39.7221, –123.7822); Howard Creek (39.6808, –123.7463); Juan Creek (39.7107, –123.7472); Kimball Gulch (39.7559, –123.7828); Little Juan Creek (39.7003, –123.7609); Middle Fork Cottaneva Creek (39.7738, –123.8058); North Fork Cottaneva Creek (39.8011, –123.8047); North Fork Dehaven Creek (39.6660, –123.7382); North Fork Wages Creek (39.6457, –123.7066); Rider Gulch (39.6348, –123.7621); Rockport Creek (39.7346, –123.8021); Slaughterhouse Gulch (39.7594, –123.7914); South Fork Cottaneva Creek (39.7447, –123.7773); South Fork Wages Creek (39.6297, –123.6862); Wages Creek (39.6297, –123.6862).

(iii) *Ten Mile River Hydrologic Sub-area 111313*. Outlet(s) = Abalobadiah Creek (Lat 39.5654, Long –123.7672); Chadbourne Gulch (39.6133, –123.7822); Ten Mile River (39.5529, –123.7658); Seaside Creek (39.5592, –123.7655) upstream to endpoint(s) in: Abalobadiah Creek (39.5878, –123.7503); Bald Hill Creek (39.6278, –123.6461); Barlow Gulch (39.6046, –123.7384); Bear Pen Creek (39.5824, –123.6402); Booth Gulch (39.5567, –123.5918); Buckhorn Creek (39.6093, –123.6980); Campbell Creek (39.5053, –123.6610); Cavanough Gulch (39.6107, –123.6776); Chadbourne Gulch (39.6190, –123.7682); Clark Fork (39.5280, –123.5134); Curchman Creek (39.4789, –123.6398); Gulch 11 (39.4687, –123.5816); Gulch 19 (39.5939, –123.5781); Little Bear Haven Creek (39.5655, –123.6147); Little North Fork (39.6264, –123.7350); Mill Creek (39.5392, –123.7068); North Fork Ten Mile River (39.5870, –123.5480); O'Conner Gulch (39.6042, –123.6632); Patsy Creek (39.5714, –123.5669); Redwood Creek (39.5142, –123.5620); Seaside Creek (39.5612, –123.7501); Smith Creek (39.5251, –123.6499); South Fork Bear Haven Creek (39.5688, –123.6527); South Fork Ten Mile River (39.5083, –123.5395); Ten Mile River (39.5721, –123.7098); Unnamed Tributary (39.5180, –123.5948); Unnamed Tributary (39.5146, –123.6183); Unnamed Tributary (39.5898, –123.7657); Unnamed Tributary (39.5813, –123.7526); Unnamed Tributary (39.5936, –123.6034).

(iv) *Noyo River Hydrologic Sub-area 111320*. Outlet(s) = Digger Creek (Lat 39.4088, Long –123.8164); Hare Creek (39.4171, –123.8128); Jug Handle Creek (39.3767, –123.8176); Mill Creek (39.4894, –123.7967); Mitchell Creek (39.3923, –123.8165); Noyo River (39.4274, –123.8096); Pudding Creek (39.4588, –123.8089); Virgin Creek (39.4714, –123.8045) upstream to endpoint(s) in: Bear Gulch (39.3881, –123.6614); Brandon Gulch (39.4191, –123.6645); Bunker Gulch (39.3969, –123.7153); Burbeck Creek (39.4354, –123.4235); Covington Gulch (39.4099, –123.7546); Dewarren Creek (39.4974, –123.5535); Digger Creek (39.3932, –123.7820); Duffy Gulch (39.4469, –123.6023); Gulch Creek (39.4441, –123.4684); Gulch Seven (39.4523, –123.5183); Hare Creek (39.3781, –123.6922); Hayworth Creek (39.4857, –123.4769); Hayshed Creek (39.4200, –123.7391); Jug Handle Creek (39.3647, –123.7523); Kass Creek (39.4262, –123.6807); Little North Fork (39.4532, –123.6636); Little Valley Creek (39.5026, –123.7277); Marble Gulch (39.4423, –123.5479); McMullen Creek (39.4383, –123.4488); Middle Fork North Fork (39.4924, –123.5231); Mill Creek (39.4813, –123.7600); Mitchell Creek (39.3813, –123.7734); North Fork Hayworth Creek (39.4891, –123.5026); North Fork Noyo River (39.4765, –123.5535); North Fork Noyo (39.4765, –123.5535); North Fork South Fork Noyo River (39.3971, –123.6108); Noyo River (39.4242, –123.4356); Olds Creek (39.3964, –123.4448); Parlin Creek (39.3700, –123.6111); Pudding Creek (39.4591, –123.6516); Redwood Creek (39.4660, –123.4571); South Fork Hare Creek (39.3785, –123.7384); South Fork Noyo River (39.3620, –123.6188); Unnamed Tributary (39.4113, –123.5621); Unnamed Tributary (39.3918, –123.6425); Unnamed Tributary (39.4168, –123.4578); Unnamed Tributary (39.4656, –123.7467); Unnamed Tributary (39.4931, –123.7371); Unnamed Tributary (39.4922, –123.7381); Unnamed Tributary (39.4939, –123.7184); Unnamed Tributary (39.4158, –123.6428); Unnamed Tributary (39.4002, –123.7347); Unnamed Tributary (39.3831, –123.6177); Unnamed Tributary (39.4926, –123.4764); Virgin Creek (39.4621, –123.7855); Unnamed Tributary (39.4650, –123.7463).

(v) *Big River Hydrologic Sub-area 111330*. Outlet(s) = Big River (Lat 39.3030, Long –123.7957); Casper Creek (39.3617, –123.8169); Doyle Creek (39.3603, –123.8187); Jack Peters Creek (39.3193, –123.8006); Russian Gulch (39.3288, –123.8050) upstream to endpoint(s) in: Berry Gulch (39.3585, –123.6930); Big River (39.3166, –123.3733); Casper Creek (39.3462, –123.7556); Chamberlain Creek (39.4007, –123.5317); Daugherty Creek (39.1700, –123.3699); Doyle Creek (39.3517, –123.8007); East Branch Little North Fork Big River (39.3372, –123.6410); East Branch North Fork Big River (39.3354, –123.4652); Gates Creek (39.2083, –123.3944); Jack Peters Gulch (39.3225, –123.7850); James Creek (39.3922, –123.4747); Johnson Creek (39.1963, –123.3927); Johnson Creek (39.2556, –123.4485); Laguna Creek (39.2910, –123.6334); Little North Fork Big River (39.3497, –123.6242); Marten Creek (39.3290, –123.4279); Mettick Creek (39.2591, –123.5193); Middle Fork North Fork Casper Creek (39.3575, –123.7170); North Fork Big River (39.3762, –123.4591); North Fork Casper Creek (39.3610, –123.7356); North Fork James Creek (39.3980, –123.4939); North Fork Ramone Creek (39.2760, –123.4846); Pig Pen Gulch (39.3226, –123.4609); Pruitt Creek (39.2592, –123.3812); Ramone Creek (39.2714, –123.4415); Rice Creek (39.2809, –123.3963); Russell Brook (39.2863, –123.4461); Russian Gulch (39.3237, –123.7650); Snuffins Creek (39.1836, –123.3854); Soda Creek (39.2230, –123.4239); South Fork Big River (39.2317, –123.3687); South Fork Casper Creek (39.3493, –123.7216); Two Log Creek (39.3484, –123.5781); Unnamed Tributary (39.3897, –123.5556); Unnamed Tributary (39.3637, –123.5464); Unnamed Tributary (39.3776, –123.5274); Unnamed Tributary (39.4029, –123.5771); Valentine Creek (39.2694, –123.3957); Water Gulch (39.3607, –123.5891).

(vi) *Albion River Hydrologic Sub-area 111340*. Outlet(s) = Albion River (Lat 39.2253, Long –123.7679); Big Salmon Creek (39.2150, –123.7660); Buckhorn Creek (39.2593, –123.7839); Dark Gulch (39.2397, –123.7740); Little Salmon Creek (39.2150, –123.7660); Little River (39.2734, –123.7914) upstream to endpoint(s) in: Albion River (39.2613,

–123.5766); Big Salmon Creek (39.2070, –123.6514); Buckhorn Creek (39.2513, –123.7595); Dark Gulch (39.2379, –123.7592); Duck Pond Gulch (39.2456, –123.6960); East Railroad Gulch (39.2604, –123.6381); Hazel Gulch (39.2141, –123.6418); Kaison Gulch (39.2733, –123.6803); Little North Fork South Fork Albion River (39.2350, –123.6431); Little River (39.2683, –123.7190); Little Salmon Creek (39.2168, –123.7515); Marsh Creek (39.2325, –123.5596); Nordon Gulch (39.2489, –123.6503); North Fork Albion River (39.2854, –123.5752); Pleasant Valley Gulch (39.2379, –123.6965); Railroad Gulch (39.2182, –123.6932); Soda Springs Creek (39.2943, –123.5944); South Fork Albion River (39.2474, –123.6107); Tom Bell Creek (39.2805, –123.6519); Unnamed Tributary (39.2279, –123.6972); Unnamed Tributary (39.2194, –123.7100); Unnamed Tributary (39.2744, –123.5889); Unnamed Tributary (39.2254, –123.6733).

(vii) *Navarro River Hydrologic Sub-area 111350*. Outlet(s) = Navarro River (Lat 39.1921, Long –123.7611) upstream to endpoint(s) in: Alder Creek (38.9830, –123.3946); Anderson Creek (38.9644, –123.2907); Bailey Creek (39.1733, –123.4804); Barton Gulch (39.1804, –123.6783); Bear Creek (39.1425, –123.4326); Bear Wallow Creek (39.0053, –123.4075); Beasley Creek (38.9366, –123.3265); Bottom Creek (39.2117, –123.4607); Camp 16 Gulch (39.1937, –123.6095); Camp Creek (38.9310, –123.3527); Cold Spring Creek (39.0376, –123.5027); Con Creek (39.0374, –123.3816); Cook Creek (39.1879, –123.5109); Cune Creek (39.1622, –123.6014); Dago Creek (39.0731, –123.5068); Dead Horse Gulch (39.1576, –123.6124); Dutch Henry Creek (39.2112, –123.5794); Floodgate Creek (39.1291, –123.5365); Fluem Gulch (39.1615, –123.6695); Flynn Creek (39.2099, –123.6032); German Creek (38.9452, –123.4269); Gut Creek (39.0803, –123.3312); Ham Canyon (39.0164, –123.4265); Horse Creek (39.0144, –123.4960); Hungry Hollow Creek (39.1327, –123.4488); Indian Creek (39.0708, –123.3301); Jimmy Creek (39.0117, –123.2888); John Smith Creek (39.2275, –123.5366); Little North Fork Navarro River (39.1941, –123.4553); Low Gap Creek (39.1590, –123.3783); Navarro River (39.0537, –123.4409); Marsh Gulch (39.1692, –123.7049); McCarvey Creek (39.1589, –123.4048); Mill Creek (39.1270, –123.4315); Minnie Creek (38.9751, –123.4529); Murray Gulch (39.1755, –123.6966); Mustard Gulch (39.1673, –123.6393); North Branch (39.2069, –123.5361); North Fork Indian Creek (39.1213, –123.3345); North Fork Navarro River (39.1708, –123.5606); Parkinson Gulch (39.0768, –123.4070); Perry Gulch (39.1342, –123.5707); Rancheria Creek (38.8626, –123.2417); Ray Gulch (39.1792, –123.6494); Robinson Creek (38.9845, –123.3513); Rose Creek (39.1358, –123.3672); Shingle Mill Creek (39.1671, –123.4223); Soda Creek (39.0238, –123.3149); Soda Creek (39.1531, –123.3734); South Branch (39.1409, –123.3196); Spooner Creek (39.2221, –123.4811); Tramway Gulch (39.1481, –123.5958); Yale Creek (38.8882, –123.2785).

(viii) *Greenwood Creek Hydrologic Sub-area 111361*. Outlet(s) = Greenwood Creek (Lat 39.1262, Long –123.7181) upstream to endpoint(s) in: Greenwood Creek (39.0894, –123.5924).

(ix) *Elk Creek Hydrologic Sub-area 111362*. Outlet(s) = Elk Creek (Lat 39.1024, Long –123.7080) upstream to endpoint(s) in: Elk Creek (39.0657, –123.6245).

(x) *Alder Creek Hydrologic Sub-area 111363*. Outlet(s) = Alder Creek (Lat 39.0044, Long –123.6969); Mallo Pass Creek (39.0341, –123.6896) upstream to endpoint(s) in: Alder Creek (38.9961, –123.6471); Mallo Pass Creek (39.0287, –123.6373).

(xi) *Brush Creek Hydrologic Sub-area 111364*. Outlet(s) = Brush Creek (Lat 38.9760, Long –123.7120) upstream to endpoint(s) in: Brush Creek (38.9730, –123.5563); Mill Creek (38.9678, –123.6515); Unnamed Tributary (38.9724, –123.6571).

(xii) *Garcia River Hydrologic Sub-area 111370*. Outlet(s) = Garcia River (Lat 38.9550, Long –123.7338); Point Arena Creek (38.9141, –123.7103); Schooner Gulch (38.8667, –123.6550) upstream to endpoint(s) in: Blue Water Hole Creek (38.9378, –123.5023); Flemming Creek (38.8384, –123.5361); Garcia River (38.8965, –123.3681); Hathaway Creek (38.9287, –123.7011); Inman Creek (38.8804, –123.4370); Larmour Creek (38.9419, –123.4469); Mill Creek (38.9078, –123.3143); North Fork Garcia River (38.9233, –123.5339); North Fork Schooner Gulch (38.8758, –123.6281); Pardaloe Creek (38.8895, –123.3423); Point Arena Creek (38.9069, –123.6838); Redwood Creek (38.9241, –123.3343); Rolling Brook (38.8965, –123.5716); Schooner Gulch (38.8677, –123.6198); South Fork Garcia River (38.8450, –123.5420); Stansburry Creek (38.9422, –123.4720); Signal Creek (38.8639, –123.4414); Unnamed Tributary (38.8758, –123.5692); Unnamed Tributary (38.8818, –123.5723); Whitlow Creek (38.9141, –123.4624).

(xiii) *North Fork Gualala River Hydrologic Sub-area 111381*. Outlet(s) = North Fork Gualala River (Lat 38.7784, Long –123.4992) upstream to endpoint(s) in: Bear Creek (38.8347, –123.3842); Billings Creek (38.8652, –123.3496); Doty Creek (38.8495, –123.5131); Dry Creek (38.8416, –123.4455); Little North Fork Gualala River (38.8295, –123.5570); McGann Gulch (38.8026, –123.4458); North Fork Gualala River (38.8479, –123.4113); Robinson Creek (38.8416, –123.3725); Robinson Creek (38.8386, –123.4991); Stewart Creek (38.8109, –123.4157); Unnamed Tributary (38.8487, –123.3820).

(xiv) *Rockpile Creek Hydrologic Sub-area 111382*. Outlet(s) = Rockpile Creek (Lat 38.7507, Long –123.4706) upstream to endpoint(s) in: Rockpile Creek (38.7966, –123.3872).

(xv) *Buckeye Creek Hydrologic Sub-area 111383*. Outlet(s) = Buckeye Creek (Lat 38.7403, Long –123.4580) upstream to endpoint(s) in: Buckeye Creek (38.7400, –123.2697); Flat Ridge Creek (38.7616, –123.2400); Franchini Creek (38.7500, –123.3708); North Fork Buckeye (38.7991, –123.3166).

(xvi) *Wheatfield Fork Hydrologic Sub-area 111384*. Outlet(s) = Wheatfield Fork Gualala River (Lat 38.7018, Long –123.4168) upstream to endpoint(s) in: Danfield Creek (38.6369, –123.1431); Fuller Creek (38.7109, –123.3256); Haupt Creek (38.6220, –123.2551); House Creek (38.6545, –123.1184); North Fork Fuller Creek (38.7252, –123.2968); Pepperwood Creek (38.6205, –123.1665); South Fork Fuller Creek (38.6973, –123.2860); Tombs Creek (38.6989, –123.1616); Unnamed Tributary (38.7175, –123.2744); Wheatfield Fork Gualala River (38.7497, –123.2215).

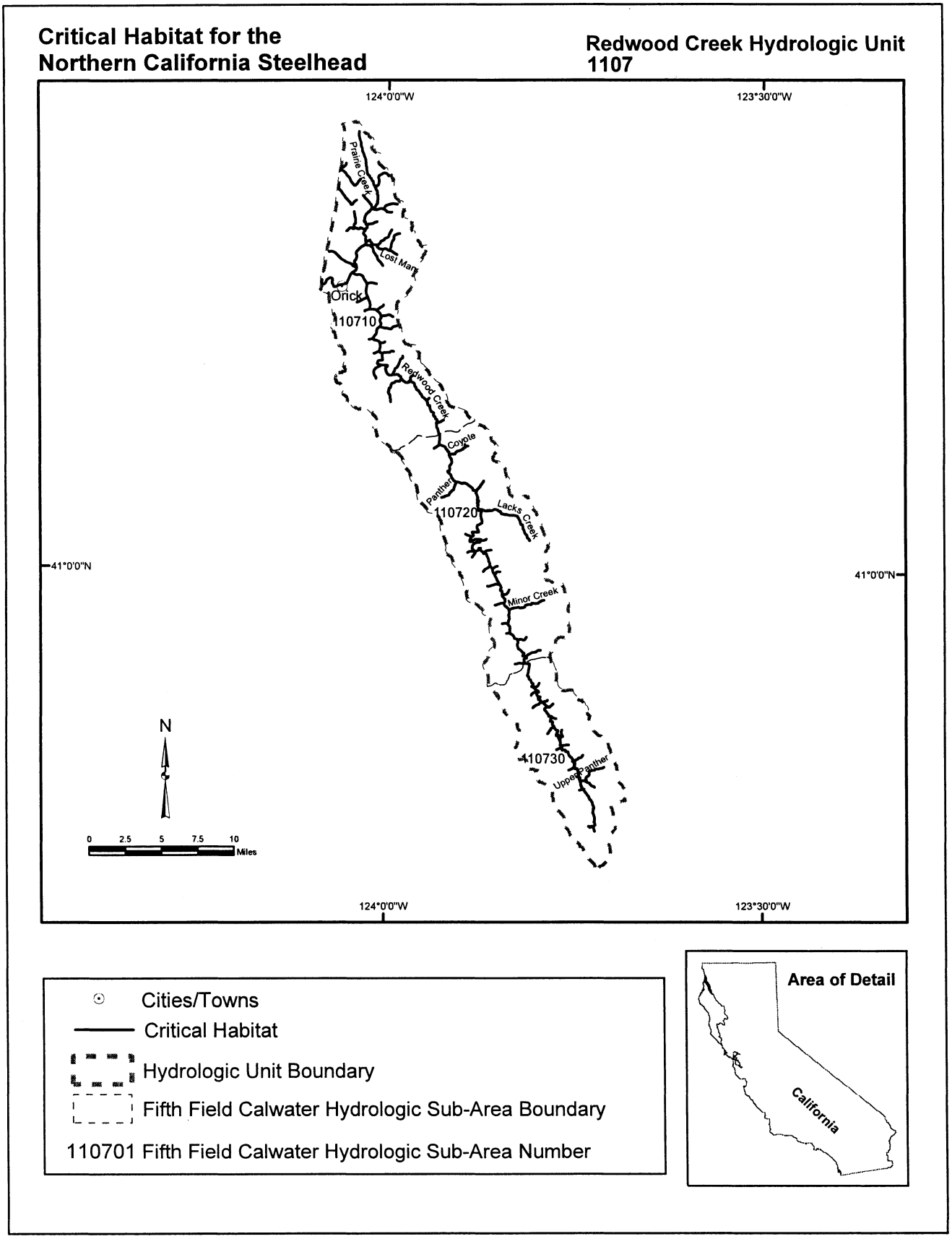
(xvii) *Gualala Hydrologic Sub-area 111385*. Outlet(s) = Fort Ross Creek (Lat 38.5119, Long –123.2436); Gualala River (38.7687, –123.5334); Kolmer Gulch (38.5238, –123.2646) upstream to endpoint(s) in: Big Pepperwood Creek (38.7951, –123.4638); Carson Creek (38.5653, –123.1906); Fort Ross Creek (38.5174, –123.2363); Groshong Gulch (38.7814, –123.4904); Gualala River (38.7780, –123.4991); Kolmer Gulch (38.5369, –123.2247); Little Pepperwood (38.7738, –123.4427); Marshall Creek (38.5647, –123.2058); McKenzie Creek (38.5895, –123.1730); Palmer Canyon Creek (38.6002, –123.2167); South Fork Gualala River (38.5646, –123.1689); Sproule Creek (38.6122, –123.2739); Turner Canyon (38.5294, –123.1672); Unknown Tributary (38.5634, –123.2003).

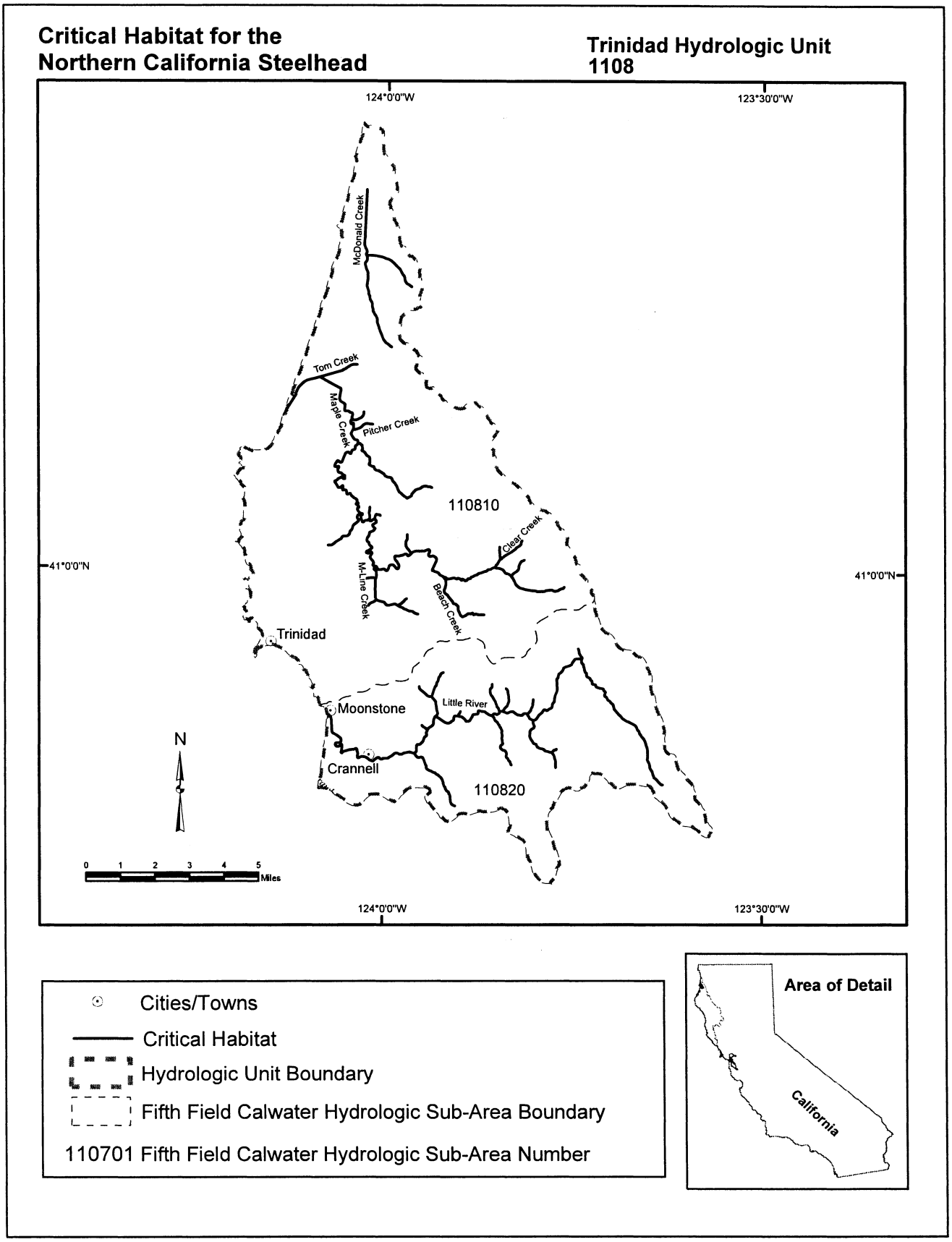
(xviii) *Russian Gulch Hydrologic Sub-area 111390*. Outlet(s) = Russian Gulch

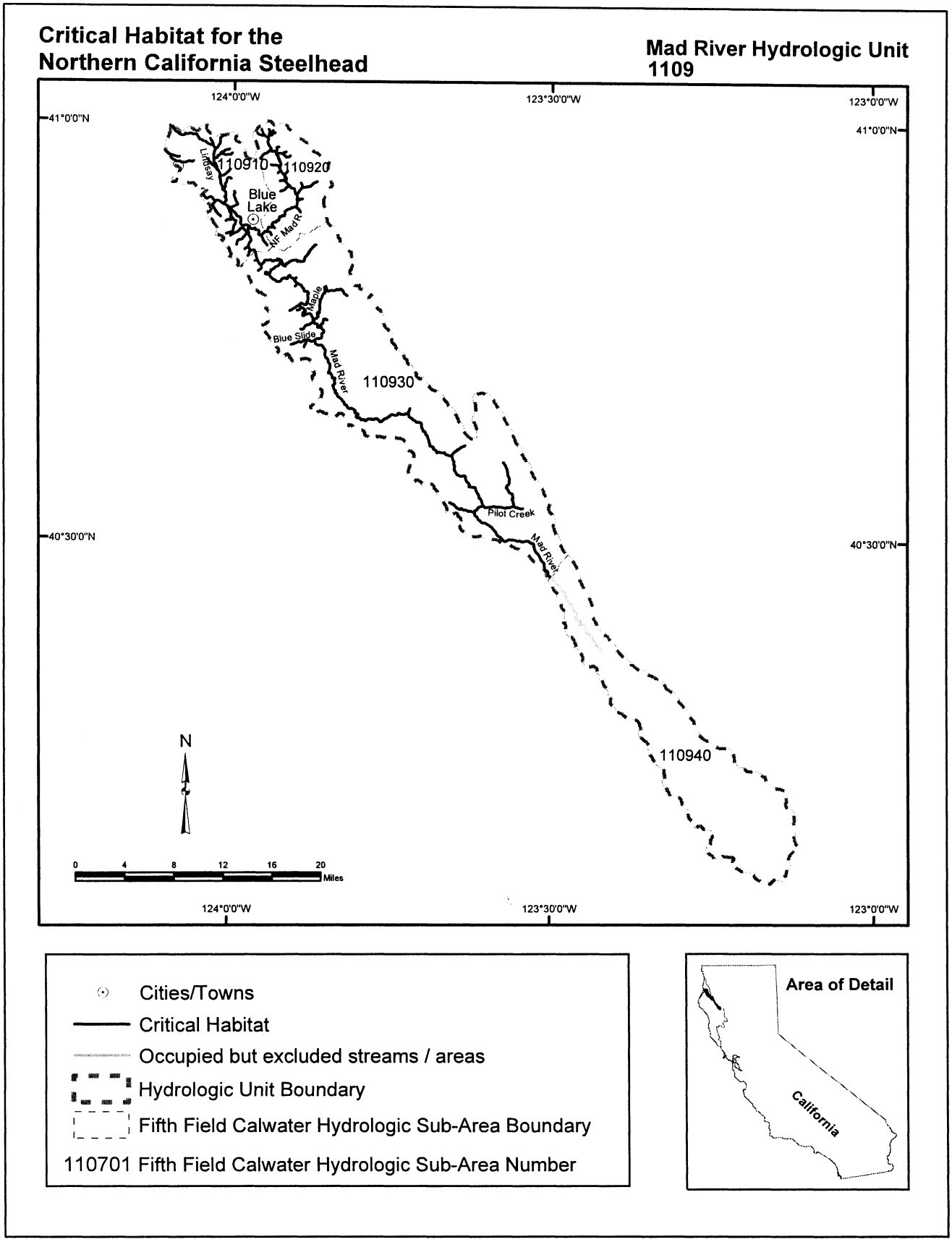
Creek (Lat 38.4669, Long –123.1569) upstream to endpoint(s) in: Russian Gulch Creek (38.4956, –123.1535); West Branch Russian Gulch Creek (38.4968, –123.1631).

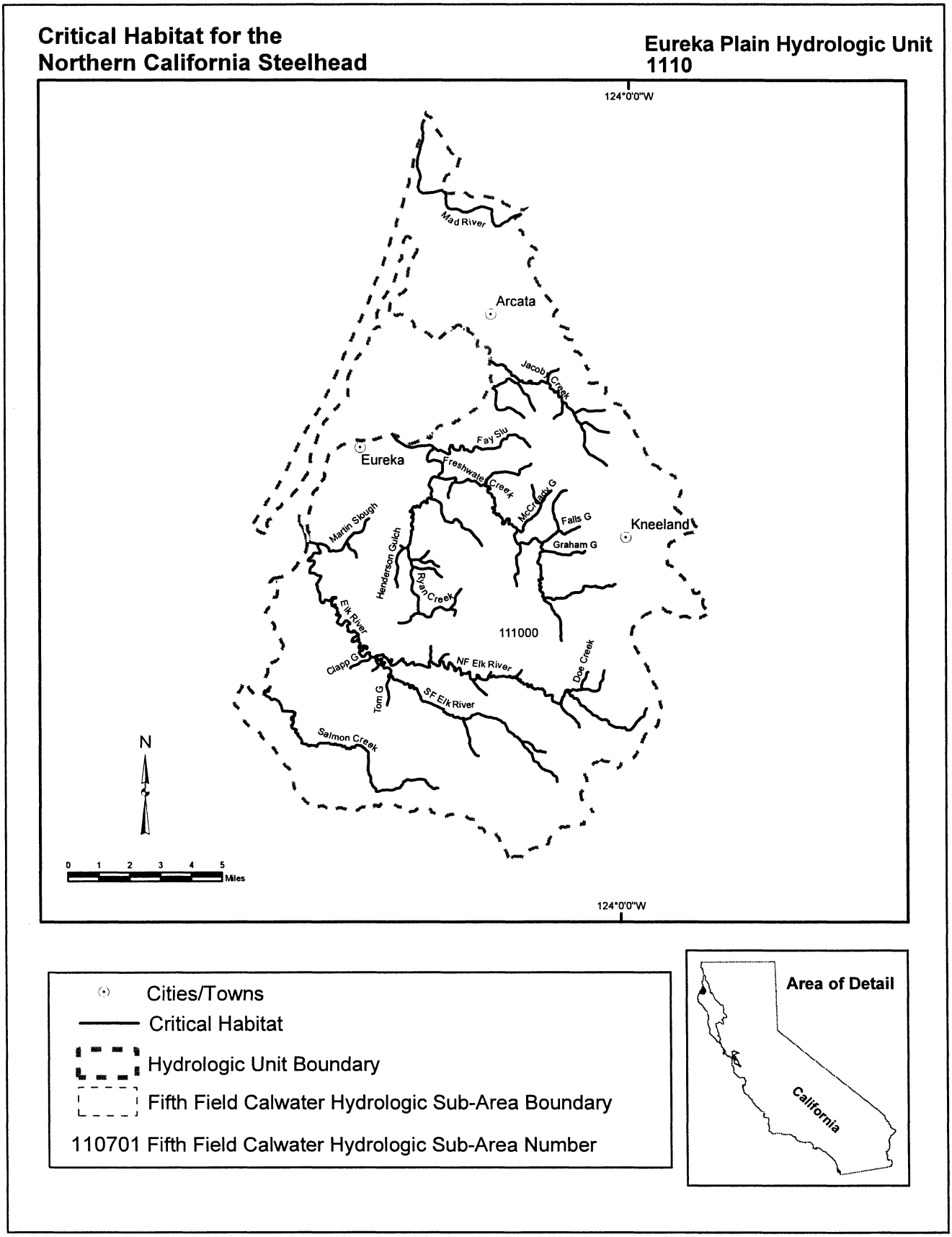
(8) Maps of critical habitat for the Northern California Steelhead ESU follow:

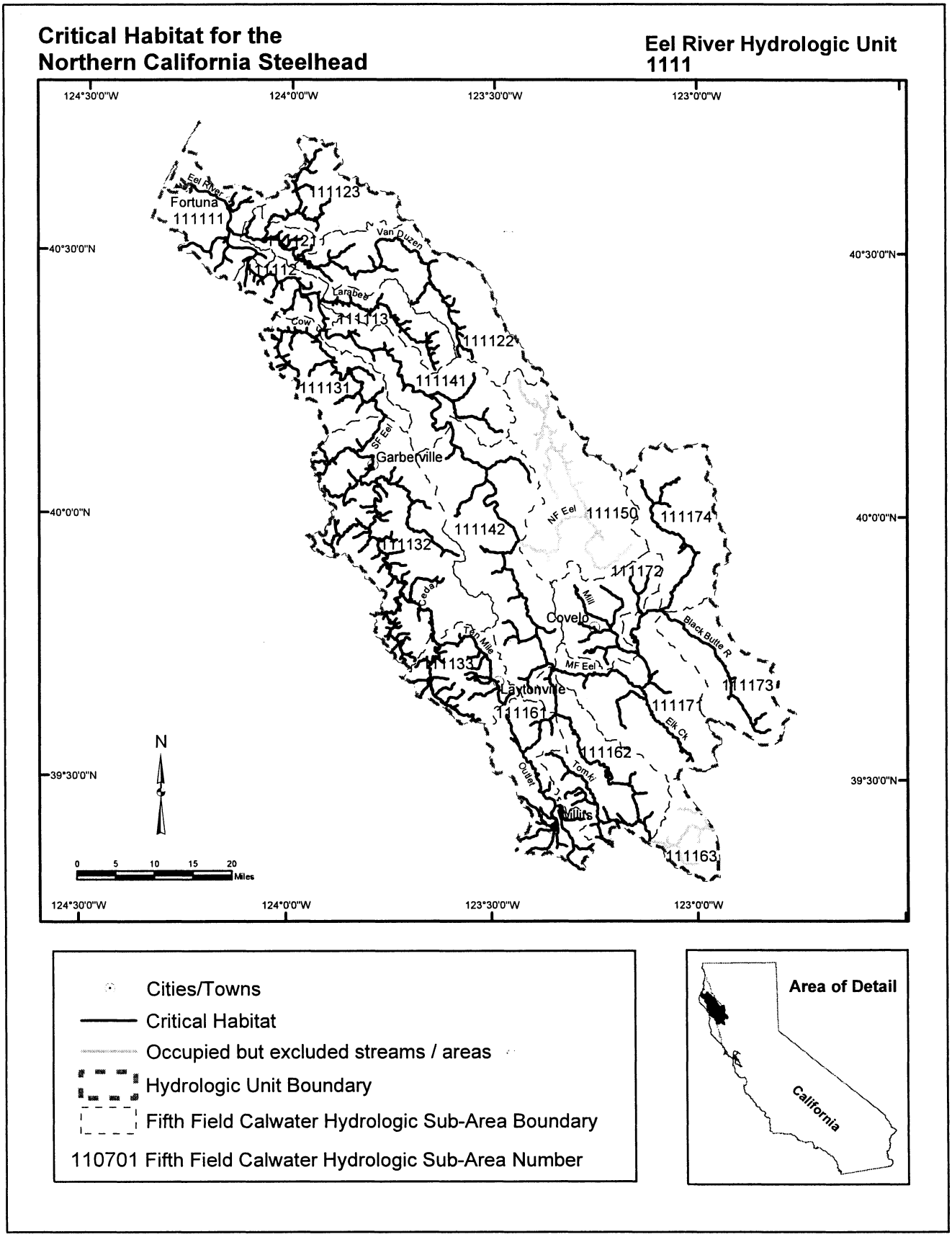
BILLING CODE 3510–22–P

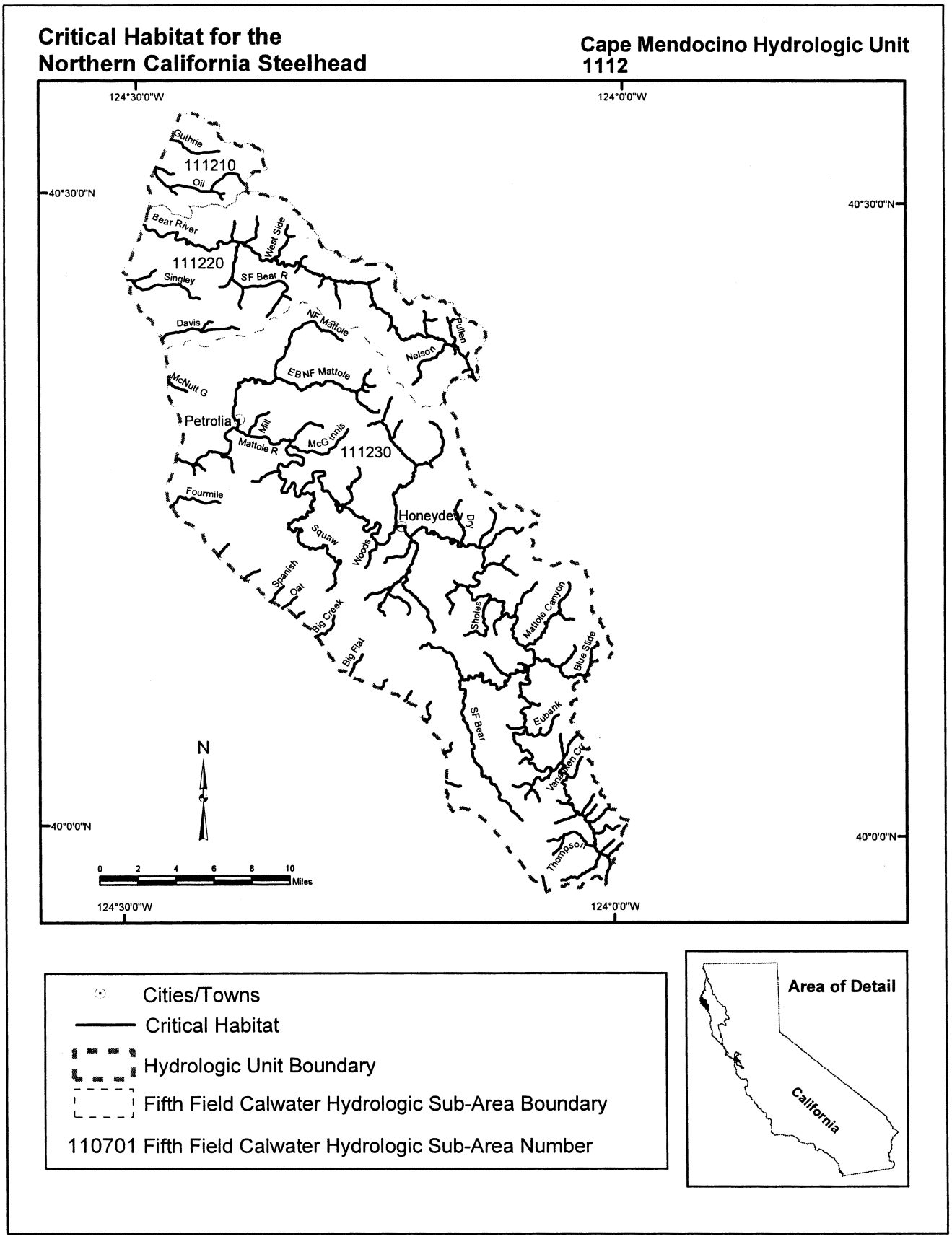

Critical Habitat for the
Northern California Steelhead
Redwood Creek Hydrologic Unit
1107
124°0'0"W
123°30'0"W
41°0'0"N
Prairie Creek
Lost Man
Orick
110710
Redwood Creek
Coyote
Panther
110720
Lacks Creek
Minor Creek
110730
Upper Panther
N
0 2.5 5 7.5 10
Miles
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California

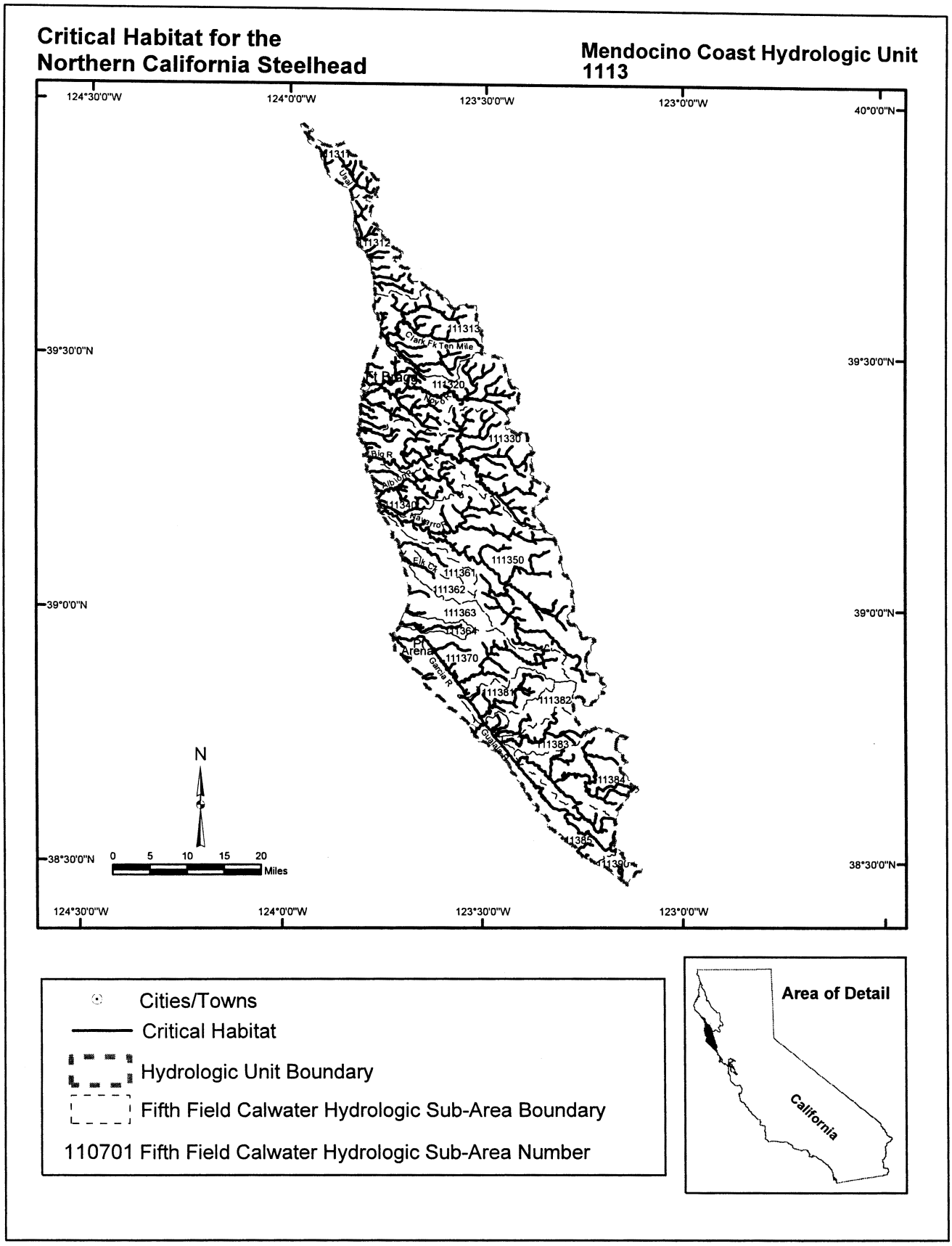

Critical Habitat for the
Northern California Steelhead
Trinidad Hydrologic Unit
1108
124°0'0"W
123°30'0"W
41°0'0"N
McDonald Creek
Tom Creek
Maple Creek
Pitcher Creek
110810
Clear Creek
M-Line Creek
Beach Creek
Trinidad
Moonstone
Little River
Crannell
110820
N
0 1 2 3 4 5
Miles
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California


Critical Habitat for the
Northern California Steelhead
Mad River Hydrologic Unit
1109
124°0'0"W
123°30'0"W
123°0'0"W
41°0'0"N
40°30'0"N
Lindsey
110910
110920
Blue
Lake
NF Mad R
Maple
Blue Slide
Mad River
110930
Pilot Creek
Mad River
110940
N
0 4 8 12 16 20
Miles
Cities/Towns
Critical Habitat
Occupied but excluded streams / areas
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California


Critical Habitat for the
Northern California Steelhead
Eureka Plain Hydrologic Unit
1110
124°0'0"W
Mad River
Arcata
Jacob Creek
Fay Slu
Eureka
Freshwater Creek
McCreddy G
Falls G
Kneeland
Graham G
Martin Slough
Henderson Gulch
Ryan Creek
Elk River
111000
Clapp G
NF Elk River
Doe Creek
Tom G
SF Elk River
Salmon Creek
N
0 1 2 3 4 5
Miles
124°0'0"W
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California


Critical Habitat for the
Northern California Steelhead
Eel River Hydrologic Unit
1111
124°30'0"W
124°0'0"W
123°30'0"W
123°0'0"W
40°30'0"N
40°0'0"N
39°30'0"N
Fortuna
111111
111123
111121
111112
111113
111122
111141
111131
Garberville
111142
111132
111150
111174
111172
Covelo
111133
Laytonville
111161
111173
111171
111162
111163
Willits
Eel River
Van Duzen
Larabee
Cow
SF Eel
NF Eel
Mill
Black Butte R
Cedar
Ten Mile
MF Eel
Elk Ck
Outlet
Tomki
N
0 5 10 15 20
Miles
Cities/Towns
Critical Habitat
Occupied but excluded streams / areas
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California


Critical Habitat for the
Northern California Steelhead
Cape Mendocino Hydrologic Unit
1112
124°30'0"W
124°0'0"W
40°30'0"N
40°0'0"N
111210
111220
111230
Guthrie
Oil
Bear River
West Side
Singley
SF Bear R
Davis
NF Mattole
Nelson
Fullen
EB NF Mattole
McNutt G
Petrolia
Mill
Mattole R
McGinnis
Fourmile
Honeydew
Dry
Squaw
Woods
Spanish
Oat
Big Creek
Big Flat
Sholes
Mattole Canyon
Blue Slide
SF Bear
Eubank
Vanderburgh Cr
Thompson
N
0 2 4 6 8 10
Miles
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California



BILLING CODE 3510–22–C

(h) *Central California Coast Steelhead (O. mykiss).* Critical habitat is designated to include the areas defined in the following CALWATER Hydrologic Units:

(1) Russian River Hydrologic Unit 1114—(i) *Guerneville Hydrologic Sub-area 111411.* Outlet(s) = Russian River (Lat 38.4507, Long –123.1289) upstream to endpoint(s) in: Atascadero Creek (38.3473, –122.8626); Austin Creek (38.5098, –123.0680); Baumert Springs (38.4195, –122.9658); Dutch Bill Creek (38.4132, –122.9508); Duvoul Creek (38.4527, –122.9525); Fife Creek (38.5584, –122.9922); Freezeout Creek (38.4405, –123.0360); Green Valley Creek, (38.4445, –122.9185); Grub Creek (38.4411, –122.9636); Hobson Creek (38.5334, –122.9401); Hulbert Creek (38.5548, –123.0362); Jenner Gulch (38.4869, –123.0996); Kidd Creek (38.5029, –123.0935); Lancel Creek (38.4247, –122.9322); Mark West Creek (38.4961, –122.8489); Mays Canyon (38.4800, –122.9715); North Fork Lancel Creek (38.4447, –122.9444); Pocket Canyon (38.4650, –122.9267); Porter Creek (38.5435, –122.9332); Purrington Creek (38.4083, –122.9307); Sheep House Creek (38.4820, –123.0921); Smith Creek (38.4622, –122.9585); Unnamed Tributary (38.4560, –123.0246); Unnamed Tributary (38.3976, –122.8994); Unnamed Tributary (38.3772, –122.8938); Willow Creek (38.4249, –123.0022).

(ii) *Austin Creek Hydrologic Sub-area 111412.* Outlet(s) = Austin Creek (Lat 38.5098, Long –123.0680) upstream to endpoint(s) in: Austin Creek (38.6262, –123.1347); Bear Pen Creek (38.5939, –123.1644); Big Oat Creek (38.5615, –123.1299); Black Rock Creek (38.5586, –123.0730); Blue Jay Creek (38.5618, –123.1399); Conshea Creek (38.5830, –123.0824); Devil Creek (38.6163, –123.0425); East Austin Creek (38.6349, –123.1238); Gilliam Creek (38.5803, –123.0152); Gray Creek (38.6132, –123.0107); Thompson Creek (38.5747, –123.0300); Pole Mountain Creek (38.5122, –123.1168); Red Slide Creek (38.6039, –123.1141); Saint Elmo Creek (38.5130, –123.1125); Schoolhouse Creek (38.5595, –123.0175); Spring Creek (38.5041, –123.1364); Sulphur Creek (38.6187, –123.0553); Ward Creek (38.5720, –123.1547).

(iii) *Mark West Hydrologic Sub-area 111423.* Outlet(s) = Mark West Creek (Lat 38.4962, Long –122.8492) upstream to endpoint(s) in: Humbug Creek (38.5412, –122.6249); Laguna de Santa Rosa (38.4526, –122.8347); Mark West Creek (38.5187, –122.5995); Pool Creek (38.5486, –122.7641); Pruit Creek (38.5313, –122.7615); Windsor Creek (38.5484, –122.8101).

(iv) *Warm Springs Hydrologic Sub-area 111424.* Outlet(s) = Dry Creek (Lat 38.5862, Long –122.8577) upstream to endpoint(s) in: Angel Creek (38.6101, –122.9833); Crane Creek (38.6434, –122.9451); Dry Creek (38.7181, –123.0091); Dutcher Creek (38.7223, –122.9770); Felta Creek (38.5679, –122.9379); Foss Creek (38.6244, –122.8754); Grape Creek (38.6593, –122.9707); Mill Creek (38.5976, –122.9914); North Slough Creek (38.6392, –122.8888); Palmer Creek (38.5770, –122.9904); Pena Creek (38.6384, –123.0743); Redwood Log Creek (38.6705, –123.0725); Salt Creek (38.5543, –122.9133); Wallace Creek (38.6260, –122.9651); Wine Creek (38.6662, –122.9682); Woods Creek (38.6069, –123.0272).

(v) *Geyserville Hydrologic Sub-area 111425.* Outlet(s) = Russian River (Lat 38.6132, Long –122.8321) upstream to endpoint(s) in: Ash Creek (38.8556, –123.0082); Bear Creek (38.7253, –122.7038); Bidwell Creek (38.6229, –122.6320); Big Sulphur Creek (38.8279, –122.9914); Bluegum Creek (38.6988, –122.7596); Briggs Creek (38.6845, –122.6811); Coon Creek (38.7105, –122.6957); Crocker Creek (38.7771, –122.9595); Edwards Creek (38.8592, –123.0758); Foote Creek (38.6433, –122.6797); Foss Creek (38.6373, –122.8753); Franz Creek (38.5726, –122.6343); Gill Creek (38.7552, –122.8840); Gird Creek (38.7055, –122.8311); Ingalls Creek (38.7344, –122.7192); Kellog Creek (38.6753, –122.6422); Little Briggs Creek (38.7082, –122.7014); Maacama Creek (38.6743, –122.7431); McDonnell Creek (38.7354, –122.7338); Mill Creek (38.7009, –122.6490); Miller Creek (38.7211, –122.8608); Oat Valley Creek (38.8461, –123.0712); Redwood Creek (38.6342, –122.6720); Sausal Creek (38.6924, –122.7930); South Fork Gill Creek (38.7420, –122.8760); Unnamed Tributary (38.7329, –122.8601); Yellowjacket Creek (38.6666, –122.6308).

(vi) *Sulphur Creek Hydrologic Sub-area 111426.* Outlet(s) = Big Sulphur Creek (Lat 38.8279, Long –122.9914) upstream to endpoint(s) in: Alder Creek (38.8503, –122.8953); Anna Belcher Creek (38.7537, –122.7586); Big Sulphur Creek (38.8243, –122.8774); Frasier Creek (38.8439, –122.9341); Humming Bird Creek (38.8460, –122.8596); Little Sulphur Creek (38.7469, –122.7425); Lovers Gulch (38.7396, –122.8275); North Branch Little Sulphur Creek (38.7783, –122.8119); Squaw Creek (38.8199, –122.7945).

(vii) *Ukiah Hydrologic Sub-area 111431.* Outlet(s) = Russian River (Lat 38.8828, Long –123.0557) upstream to endpoint(s) in: Pieta Creek (38.8622, –122.9329).

(viii) *Forsythe Creek Hydrologic Sub-area 111433.* Outlet(s) = West Branch Russian River (Lat 39.2257, Long –123.2012) upstream to endpoint(s) in: Bakers Creek (39.2859, –123.2432); Eldridge Creek (39.2250, –123.3309); Forsythe Creek (39.2976, –123.2963); Jack Smith Creek (39.2754, –123.3421); Mariposa Creek (39.3472, –123.2625); Mill Creek (39.2969, –123.3360); Salt Hollow Creek (39.2585, –123.1881); Seward Creek (39.2606, –123.2646); West Branch Russian River (39.3642, –123.2334).

(2) Bodega Hydrologic Unit 1115—(i) *Salmon Creek Hydrologic Sub-area 111510.* Outlet(s) = Salmon Creek (Lat 38.3554, Long –123.0675) upstream to endpoint(s) in: Coleman Valley Creek (38.3956, –123.0097); Faye Creek (38.3749, –123.0000); Finley Creek (38.3707, –123.0258); Salmon Creek (38.3877, –122.9318); Tannery Creek (38.3660, –122.9808).

(ii) *Estero Americano Hydrologic Sub-area 111530.* Outlet(s) = Estero Americano (Lat 38.2939, Long –123.0011) upstream to endpoint(s) in: Estero Americano (38.3117, –122.9748); Ebabias Creek (38.3345, –122.9759).

(3) Marin Coastal Hydrologic Unit 2201—(i) *Walker Creek Hydrologic Sub-area 220112.* Outlet(s) = Walker Creek (Lat 38.2213, Long –122.9228); Millerton Gulch (38.1055, –122.8416) upstream to endpoint(s) in: Chileno Creek (38.2145, –122.8579); Frink Canyon (38.1761, –122.8405); Millerton Gulch (38.1376, –122.8052); Verde Canyon (38.1630, –122.8116); Unnamed Tributary (38.1224, –122.8095); Walker Creek (38.1617, –122.7815).

(ii) *Lagunitas Creek Hydrologic Sub-area 220113.* Outlet(s) = Lagunitas Creek (Lat 38.0827, Long –122.8274) upstream to endpoint(s) in: Cheda Creek (38.0483, –122.7329); Devil's Gulch (38.0393, –122.7128); Giacomini Creek (38.0075, –122.7386); Horse Camp Gulch (38.0078, –122.7624); Lagunitas Creek (37.9974, –122.7045); Olema Creek (37.9719, –122.7125); Quarry Gulch (38.0345, –122.7639); San Geronimo Creek (38.0131, –122.6499); Unnamed Tributary (37.9893, –122.7328); Unnamed Tributary (37.9976, –122.7553).

(iii) *Point Reyes Hydrologic Sub-area 220120.* Outlet(s) = Creamery Bay Creek (Lat 38.0779, Long –122.9572); East Schooner Creek (38.0913, –122.9293); Home Ranch (38.0705, –122.9119); Laguna Creek (38.0235, –122.8732); Muddy Hollow Creek (38.0329, –122.8842) upstream to endpoint(s) in: Creamery Bay Creek (38.0809, –122.9561); East Schooner Creek

(38.0928, –122.9159); Home Ranch Creek (38.0784, –122.9038); Laguna Creek (38.0436, –122.8559); Muddy Hollow Creek (38.0549, –122.8666).

(iv) *Bolinas Hydrologic Sub-area 220130.* Outlet(s) = Easkoot Creek (Lat 37.9026, Long –122.6474); McKinnon Gulch (37.9126, –122.6639); Morse Gulch (37.9189, –122.6710); Pine Gulch Creek (37.9218, –122.6882); Redwood Creek (37.8595, –122.5787); Stinson Gulch (37.9068, –122.6517); Wilkins Creek (37.9343, –122.6967) upstream to endpoint(s) in: Easkoot Creek (37.8987, –122.6370); Kent Canyon (37.8866, –122.5800); McKinnon Gulch (37.9197, –122.6564); Morse Gulch (37.9240, –122.6618); Pine Gulch Creek (37.9557, –122.7197); Redwood Creek (37.9006, –122.5787); Stinson Gulch (37.9141, –122.6426); Wilkins Creek (37.9450, –122.6910).

(4) San Mateo Hydrologic Unit 2202—(i) *San Mateo Coastal Hydrologic Sub-area 220221.* Outlet(s) = Denniston Creek (37.5033, –122.4869); Frenchmans Creek (37.4804, –122.4518); San Pedro Creek (37.5964, –122.5057) upstream to endpoint(s) in: Denniston Creek (37.5184, –122.4896); Frenchmans Creek (37.5170, –122.4332); Middle Fork San Pedro Creek (37.5758, –122.4591); North Fork San Pedro Creek (37.5996, –122.4635).

(ii) *Half Moon Bay Hydrologic Sub-area 220222.* Outlet(s) = Pilarcitos Creek (Lat 37.4758, Long –122.4493) upstream to endpoint(s) in: Apanolio Creek (37.5202, –122.4158); Arroyo Leon Creek (37.4560, –122.3442); Mills Creek (37.4629, –122.3721); Pilarcitos Creek (37.5259, –122.3980); Unnamed Tributary (37.4705, –122.3616).

(iii) *Tunitas Creek Hydrologic Sub-area 220223.* Outlet(s) = Lobitos Creek (Lat 37.3762, Long –122.4093); Tunitas Creek (37.3567, –122.3999) upstream to endpoint(s) in: East Fork Tunitas Creek (37.3981, –122.3404); Lobitos Creek (37.4246, –122.3586); Tunitas Creek (37.4086, –122.3502).

(iv) *San Gregorio Creek Hydrologic Sub-area 220230.* Outlet(s) = San Gregorio Creek (Lat 37.3215, Long –122.4030) upstream to endpoint(s) in: Alpine Creek (37.3062, –122.2003); Bogess Creek (37.3740, –122.3010); El Corte Madera Creek (37.3650, –122.3307); Harrington Creek (37.3811, –122.2936); La Honda Creek (37.3680, –122.2655); Langley Creek (37.3302, –122.2420); Mindego Creek (37.3204, –122.2239); San Gregorio Creek (37.3099, –122.2779); Woodruff Creek (37.3415, –122.2495).

(v) *Pescadero Creek Hydrologic Sub-area 220240.* Outlet(s) = Pescadero Creek (Lat 37.2669, Long –122.4122); Pomponio Creek (37.2979, –122.4061) upstream to endpoint(s) in: Bradley Creek (37.2819, –122.3802); Butano Creek (37.2419, –122.3165); Evans Creek (37.2659, –122.2163); Honsinger Creek (37.2828, –122.3316); Little Boulder Creek (37.2145, –122.1964); Little Butano Creek (37.2040, –122.3492); Oil Creek (37.2572, –122.1325); Pescadero Creek (37.2320, –122.1553); Lambert Creek (37.3014, –122.1789); Peters Creek (37.2883, –122.1694); Pomponio Creek (37.3030, –122.3805); Slate Creek (37.2530, –122.1935); Tarwater Creek (37.2731, –122.2387); Waterman Creek (37.2455, –122.1568).

(5) Bay Bridge Hydrologic UnitT 2203—(i) *San Rafael Hydrologic Sub-area 220320.* Outlet(s) = Arroyo Corte Madera del Presidio (Lat 37.8917, Long –122.5254); Corte Madera Creek (37.9425, –122.5059) upstream to endpoint(s) in: Arroyo Corte Madera del Presidio (37.9298, –122.5723); Cascade Creek (37.9867, –122.6287); Cascade Creek (37.9157, –122.5655); Larkspur Creek (37.9305, –122.5514); Old Mill Creek (37.9176, –122.5746); Ross Creek (37.9558, –122.5752); San Anselmo Creek (37.9825, –122.6420); Sleepy Hollow Creek (38.0074, –122.5794); Tamalpais Creek (37.9481, –122.5674).

(ii) [Reserved]

(6) Santa Clara Hydrologic Unit 2205—(i) *Coyote Creek Hydrologic Sub-area 220530.* Outlet(s) = Coyote Creek (Lat 37.4629, Long –121.9894; 37.2275, –121.7514) upstream to endpoint(s) in: Arroyo Aguague (37.3907, –121.7836); Coyote Creek (37.2778, –121.8033; 37.1677, –121.6301); Upper Penitencia Creek (37.3969, –121.7577).

(ii) *Guadalupe River—San Jose Hydrologic Sub-area 220540.* Outlet(s) = Coyote Creek (Lat 37.2778, Long –121.8033) upstream to endpoint(s) in: Coyote Creek (37.2275, –121.7514).

(iii) *Palo Alto Hydrologic Sub-area 220550.* Outlet(s) = Guadalupe River (Lat 37.4614, Long –122.0240); San Francisquito Creek (37.4658, –122.1152); Stevens Creek (37.4456, –122.0641) upstream to endpoint(s) in: Bear Creek (37.4164, –122.2690); Corte Madera Creek (37.4073, –122.2378); Guadalupe River (37.3499, –.121.9094); Los Trancos (37.3293, –122.1786); McGarvey Gulch (37.4416, –122.2955); Squealer Gulch (37.4335, –122.2880); Stevens Creek (37.2990, –122.0778); West Union Creek (37.4528, –122.3020).

(7) San Pablo Hydrologic Unit 2206—(i) *Petaluma River Hydrologic Sub-area 220630.* Outlet(s) = Petaluma River (Lat 38.1111, Long –122.4944) upstream to endpoint(s) in: Adobe Creek (38.2940, –122.5834); Lichau Creek (38.2848, –122.6654); Lynch Creek (38.2748, –122.6194); Petaluma River (38.3010, –122.7149); Schultz Slough (38.1892, –122.5953); San Antonio Creek (38.2049, –122.7408); Unnamed Tributary (38.3105, –122.6146); Willow Brook (38.3165, –122.6113).

(ii) *Sonoma Creek Hydrologic Sub-area 220640.* Outlet(s) = Sonoma Creek (Lat 38.1525, Long –122.4050) upstream to endpoint(s) in: Agua Caliente Creek (38.3368, –122.4518); Asbury Creek (38.3401, –122.5590); Bear Creek (38.4656, –122.5253); Calabazas Creek (38.4033, –122.4803); Carriger Creek (38.3031, –122.5336); Graham Creek (38.3474, –122.5607); Hooker Creek (38.3809, –122.4562); Mill Creek (38.3395, –122.5454); Nathanson Creek (38.3350, –122.4290); Rodgers Creek (38.2924, –122.5543); Schell Creek (38.2554, –122.4510); Sonoma Creek (38.4507, –122.4819); Stuart Creek (38.3936, –122.4708); Yulupa Creek (38.3986, –122.5934).

(iii) *Napa River Hydrologic Sub-area 220650.* Outlet(s) = Napa River (Lat 38.0786, Long –122.2468) upstream to endpoint(s) in: Bale Slough (38.4806, –122.4578); Bear Canyon Creek (38.4512, –122.4415); Bell Canyon Creek (38.5551, –122.4827); Brown's Valley Creek (38.3251, –122.3686); Canon Creek (38.5368, –122.4854); Carneros Creek (38.3108, –122.3914); Conn Creek (38.4843, –122.3824); Cyrus Creek (38.5776, –122.6032); Diamond Mountain Creek (38.5645, –122.5903); Dry Creek (38.4334, –122.4791); Dutch Henery Creek (38.6080, –122.5253); Garnett Creek (38.6236, –122.5860); Huichica Creek (38.2811, –122.3936); Jericho Canyon Creek (38.6219, –122.5933); Miliken Creek (38.3773, –122.2280); Mill Creek (38.5299, –122.5513); Murphy Creek (38.3155, –122.2111); Napa Creek (38.3047, –122.3134); Napa River (38.6638, –122.6201); Pickle Canyon Creek (38.3672, –122.4071); Rector Creek (38.4410, –122.3451); Redwood Creek (38.3765, –122.4466); Ritchie Creek (38.5369, –122.5652); Sarco Creek (38.3567, –122.2071); Soda Creek (38.4156, –122.2953); Spencer Creek (38.2729, –122.1909); Sulphur Creek (38.4895, –122.5088); Suscol Creek (38.2522, –122.2157); Tulucay Creek (38.2929, –122.2389); Unnamed Tributary (38.4248, –122.4935); Unnamed Tributary (38.4839, –122.5161); York Creek (38.5128, –122.5023).

(8) Big Basin Hydrologic Unit 3304—(i) *Davenport Hydrologic Sub-area 330411.* Outlet(s) = Baldwin Creek (Lat 36.9669, –122.1232); Davenport Landing Creek (37.0231, –122.2153); Laguna Creek (36.9824, –122.1560); Liddell Creek (37.0001, –122.1816); Majors Creek (36.9762, –122.1423); Molino Creek (37.0368, –122.2292); San Vicente

Creek (37.0093, –122.1940); Scott Creek (37.0404, –122.2307); Waddell Creek (37.0935, –122.2762); Wilder Creek (36.9535, –122.0775) upstream to endpoint(s) in: Baldwin Creek (37.0126, –122.1006); Bettencourt Creek (37.1081, –122.2386); Big Creek (37.0832, –122.2175); Davenport Landing Creek (37.0475, –122.1920); East Branch Waddell Creek (37.1482, –122.2531); East Fork Liddell Creek (37.0204, –122.1521); Henry Creek (37.1695, –122.2751); Laguna Creek (37.0185, –122.1287); Little Creek (37.0688, –122.2097); Majors Creek (36.9815, –122.1374); Middle Fork East Fork Liddell Creek (37.0194, –122.1608); Mill Creek (37.1034, –122.2218); Mill Creek (37.0235, –122.2218); Molino Creek (37.0384, –122.2125); Peasley Gulch (36.9824, –122.0861); Queseria Creek (37.0521, –122.2042); San Vicente Creek (37.0417, –122.1741); Scott Creek (37.1338, –122.2306); West Branch Waddell Creek (37.1697, –122.2642); West Fork Liddell Creek (37.0117, –122.1763); Unnamed Tributary (37.0103, –122.0701); Wilder Creek (37.0107, –122.0770).

(ii) *San Lorenzo Hydrologic Sub-area 330412.* Outlet(s) = Arana Gulch Creek (Lat 36.9676, Long –122.0028); San Lorenzo River (36.9641, –122.0125) upstream to endpoint(s) in: Arana Gulch Creek (37.0270, –121.9739); Bean Creek (37.0956, –122.0022); Bear Creek (37.1711, –122.0750); Boulder Creek (37.1952, –122.1892); Bracken Brae Creek (37.1441, –122.1459); Branciforte Creek (37.0701, –121.9749); Crystal Creek (37.0333, –121.9825); Carbonera Creek (37.0286, –122.0202); Central Branch Arana Gulch Creek (37.0170, –121.9874); Deer Creek (37.2215, –122.0799); Fall Creek (37.0705, –122.1063); Gold Gulch Creek (37.0427, –122.1018); Granite Creek (37.0490, –121.9979); Hare Creek (37.1544, –122.1690); Jameson Creek (37.1485, –122.1904); Kings Creek (37.2262, –122.1059); Lompico Creek (37.1250, –122.0496); Mackenzie Creek (37.0866, –122.0176); Mountain Charlie Creek (37.1385, –121.9914); Newell Creek (37.1019, –122.0724); San Lorenzo River (37.2276, –122.1384); Two Bar Creek (37.1833, –122.0929); Unnamed Tributary (37.2106, –122.0952); Unnamed Tributary (37.2032, –122.0699); Zayante Creek (37.1062, –122.0224).

(iii) *Aptos-Soquel Hydrologic Sub-area 330413.* Outlet(s) = Aptos Creek (Lat 36.9692, Long –121.9065); Soquel Creek (36.9720, –121.9526) upstream to endpoint(s) in: Amaya Creek (37.0930, –121.9297); Aptos Creek (37.0545, –121.8568); Bates Creek (37.0099, –121.9353); Bridge Creek (37.0464, –121.8969); East Branch Soquel Creek (37.0690, –121.8297); Hester Creek (37.0967, –121.9458); Hinckley Creek (37.0671, –121.9069); Moores Gulch (37.0573, –121.9579); Valencia Creek (37.0323, –121.8493); West Branch Soquel Creek (37.1095, –121.9606).

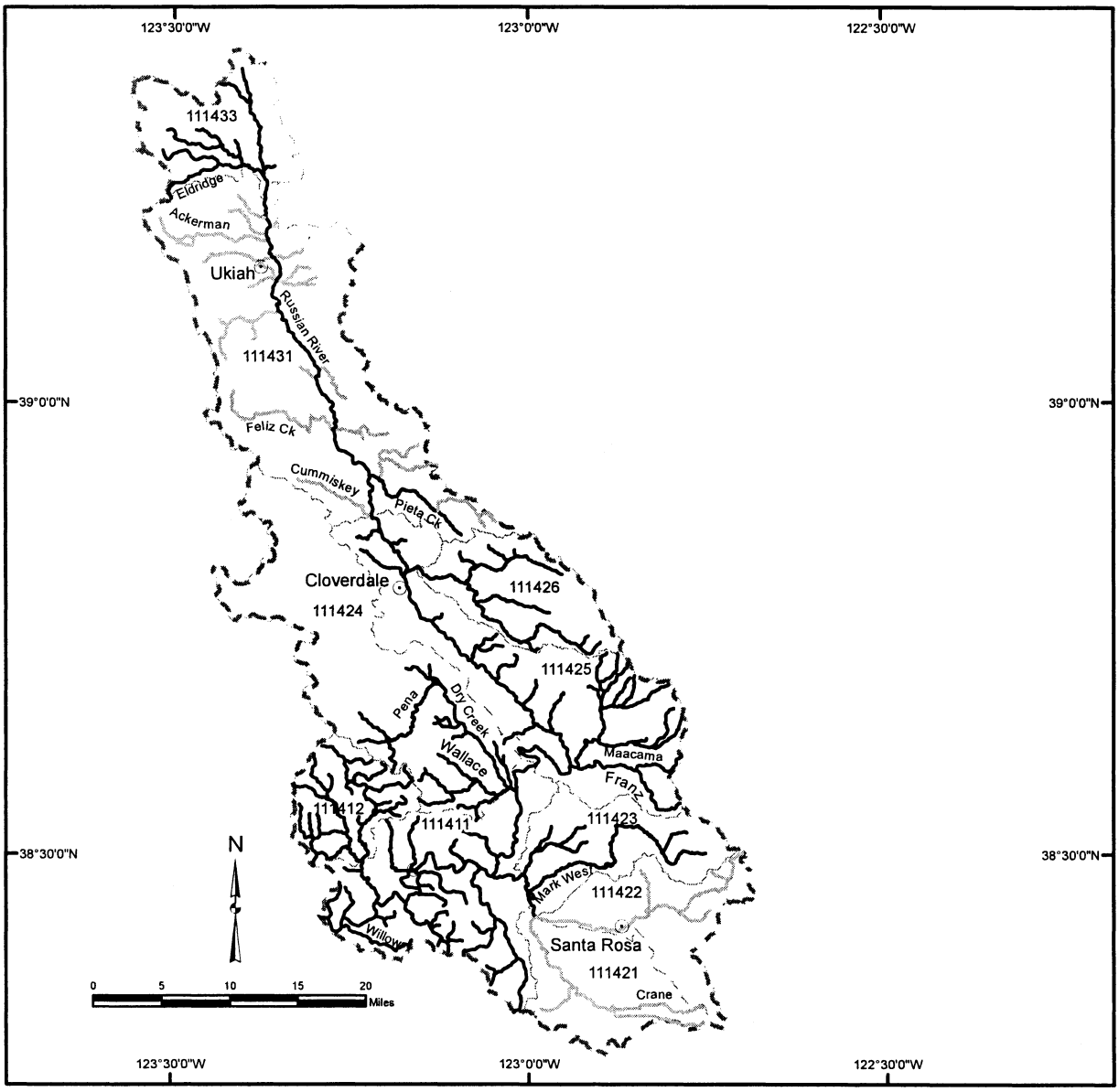
(iv) *Ano Nuevo Hydrologic Sub-area 330420.* Outlet(s) = Ano Nuevo Creek (Lat 37.1163, Long –122.3060); Gazos Creek (37.1646, –122.3625); Whitehouse Creek (37.1457, –122.3469) upstream to endpoint(s) in: Ano Nuevo Creek (37.1269, –122.3039); Bear Gulch (37.1965, –122.2773); Gazos Creek (37.2088, –122.2868); Old Womans Creek (37.1829, –122.3033); Whitehouse Creek (37.1775, –122.2900).

(9) Maps of critical habitat for the Central California Coast Steelhead ESU follow:

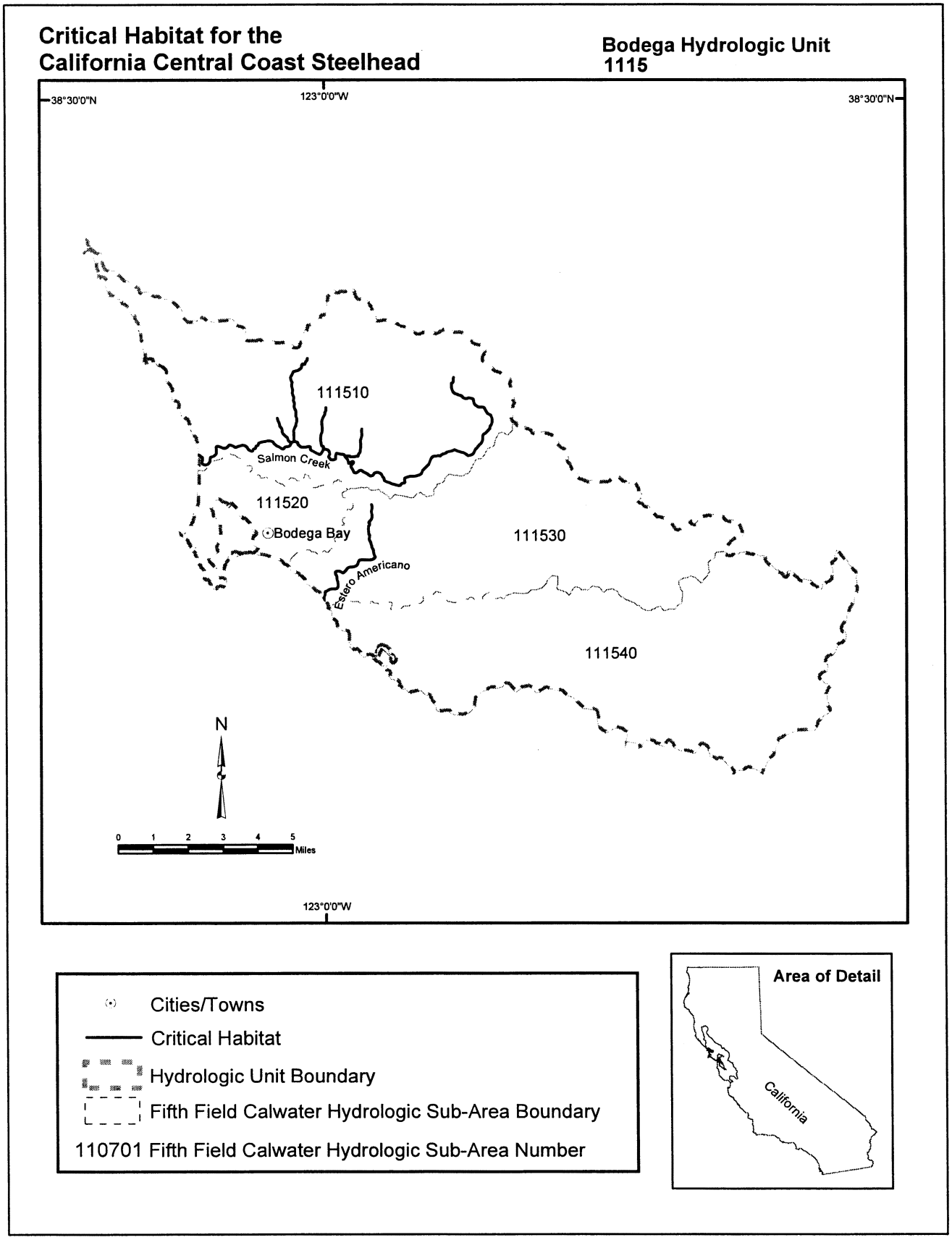
BILLING CODE 3510–22–P

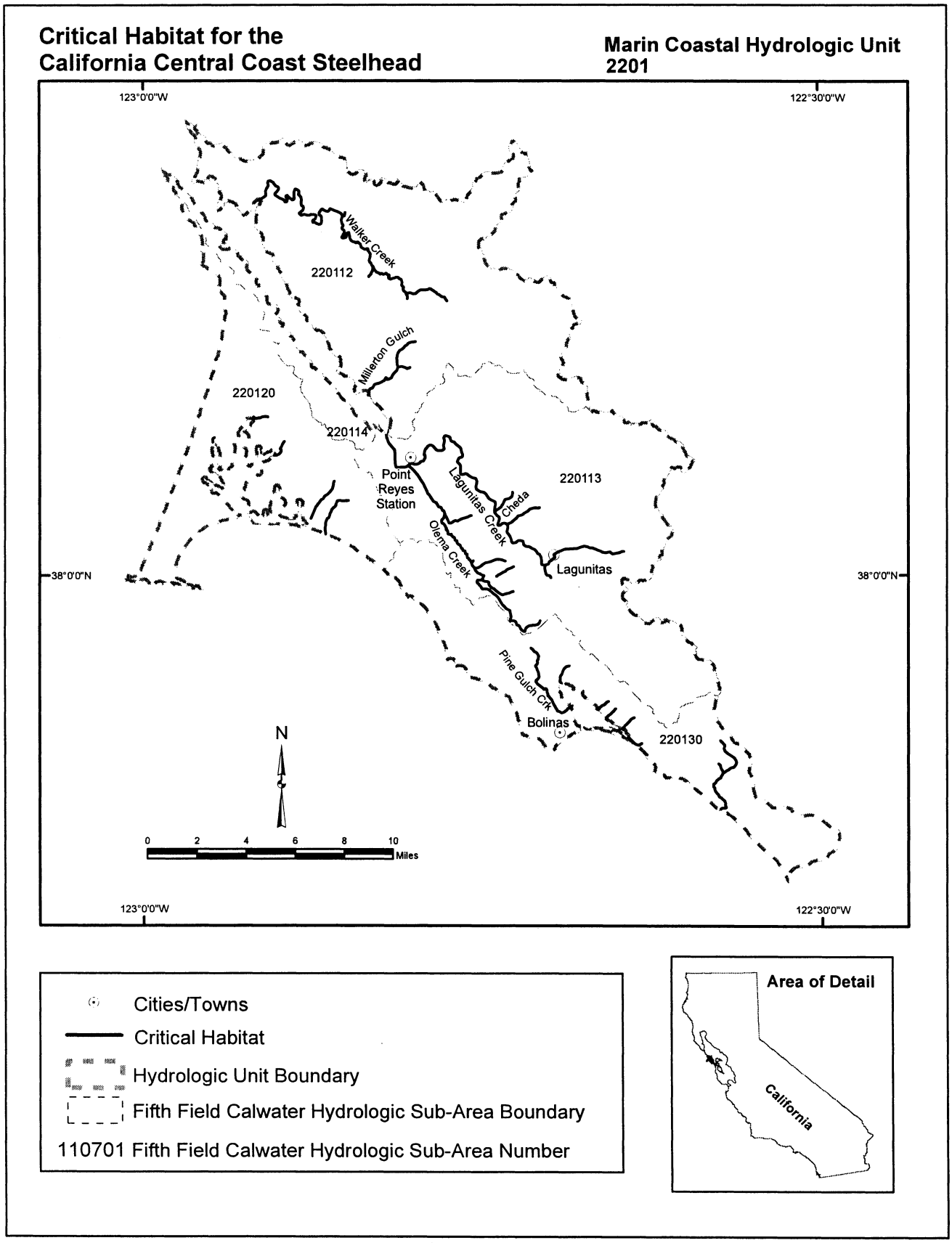
Critical Habitat for the California Central Coast Steelhead

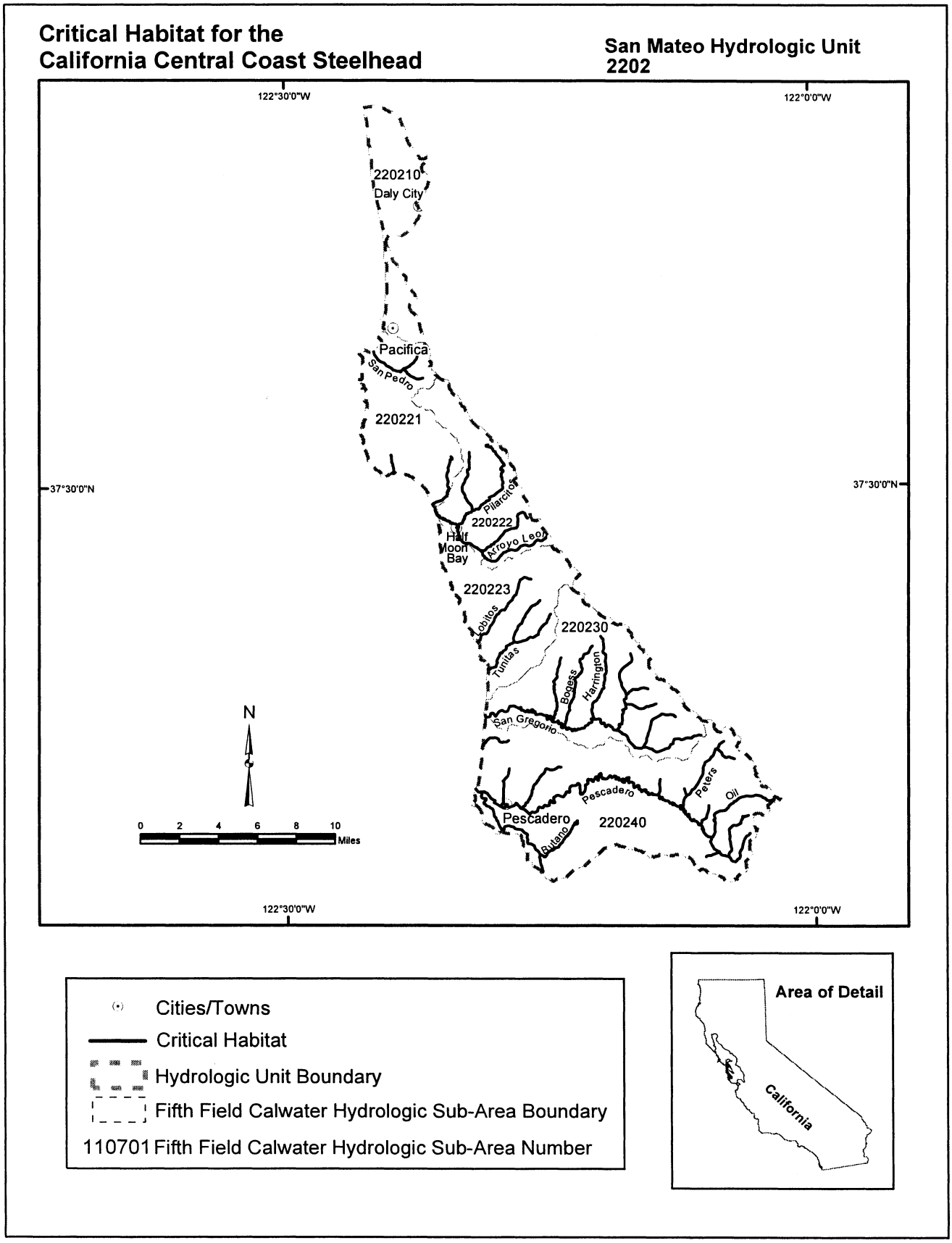
Russian River Hydrologic Unit 1114

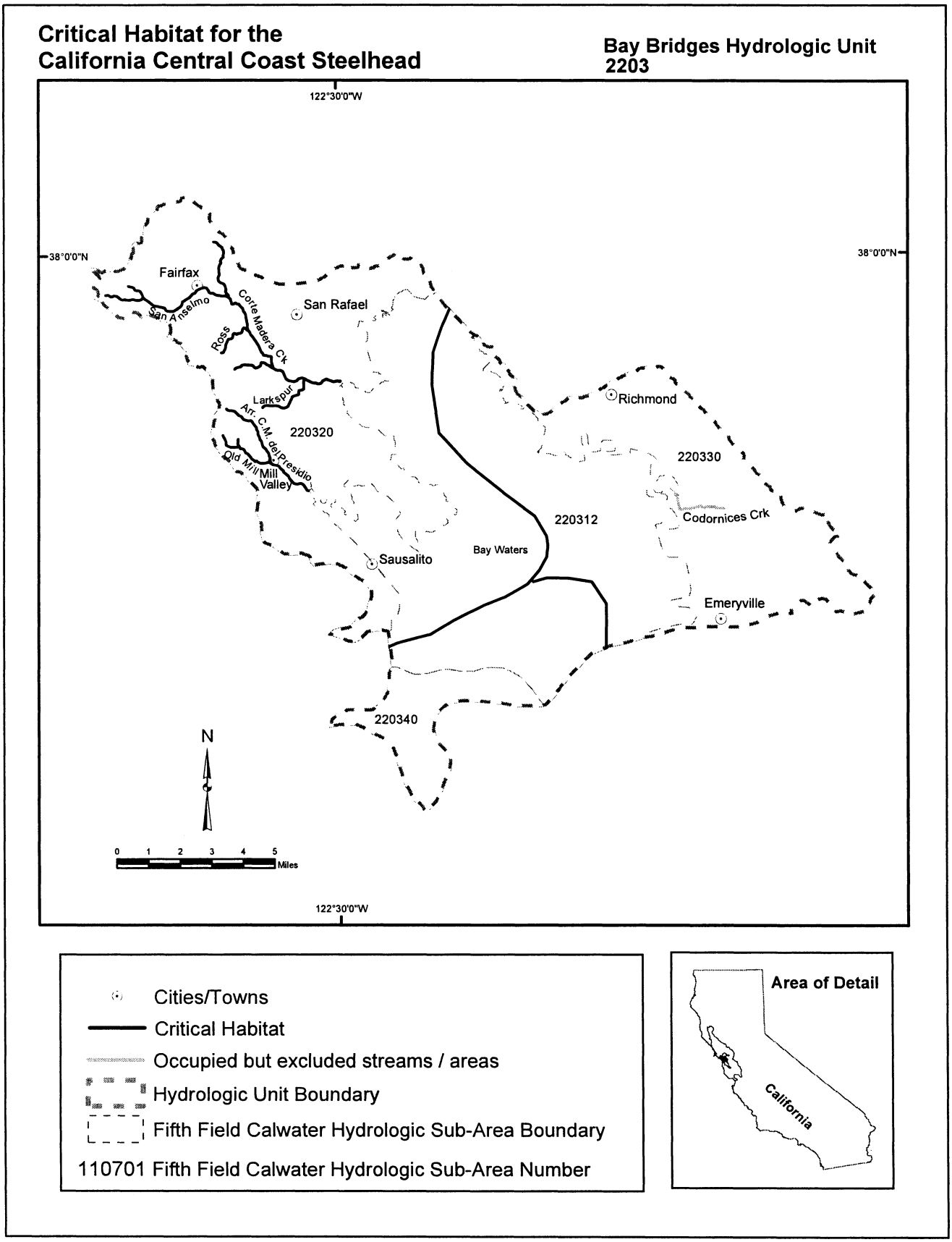


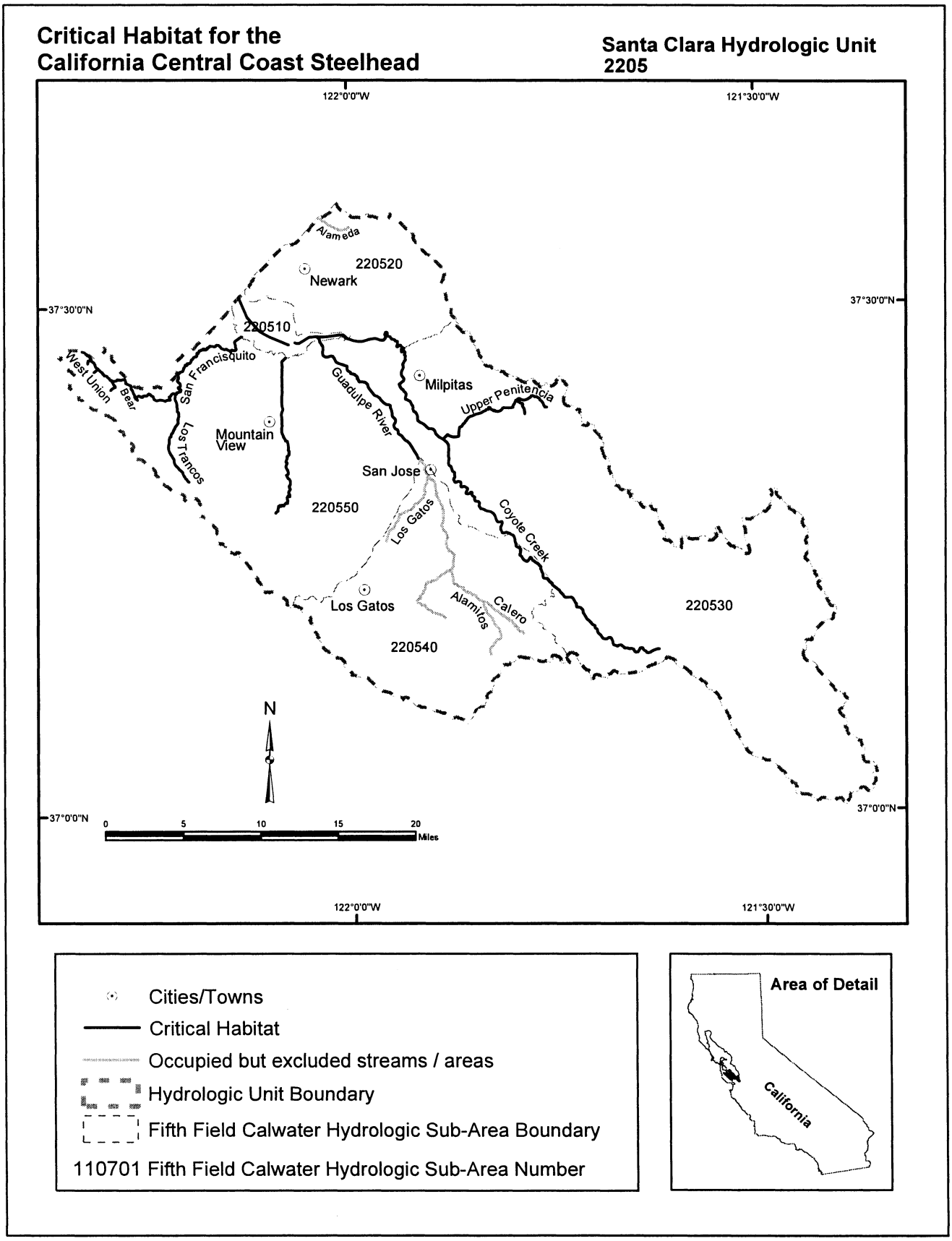
- Cities/Towns
- Critical Habitat
- Occupied but excluded streams / areas
- Hydrologic Unit Boundary
- Fifth Field Calwater Hydrologic Sub-Area Boundary
- 110701 Fifth Field Calwater Hydrologic Sub-Area Number

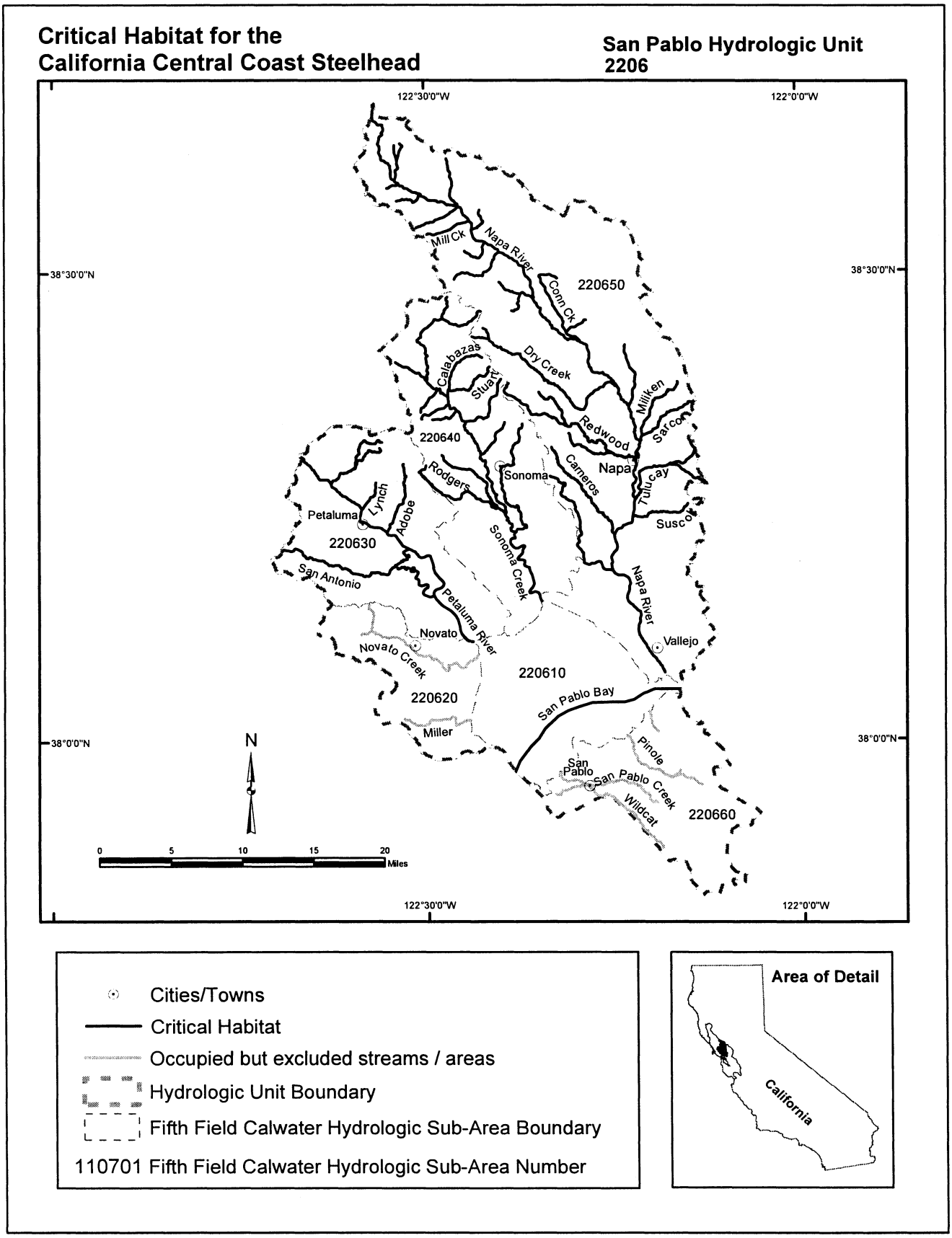

Critical Habitat for the
California Central Coast Steelhead
Bodega Hydrologic Unit
1115
38°30'0"N
123°0'0"W
38°30'0"N
111510
Salmon Creek
111520
Bodega Bay
111530
Estero Americano
111540
N
0 1 2 3 4 5
Miles
123°0'0"W
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California

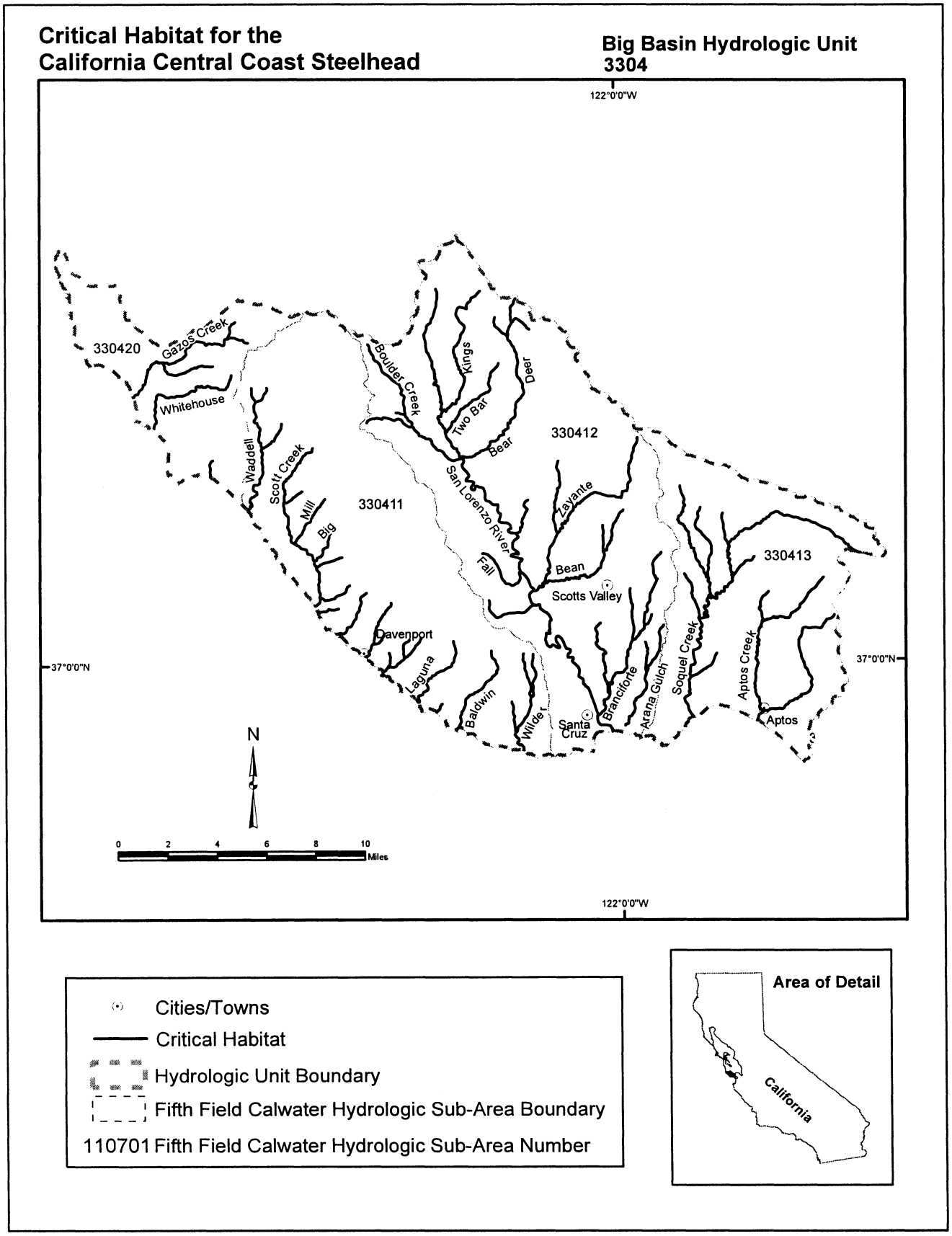

Critical Habitat for the
California Central Coast Steelhead
Marin Coastal Hydrologic Unit
2201
123°0'0"W
122°30'0"W
38°0'0"N
Walker Creek
220112
Millerton Gulch
220120
220114
Point
Reyes
Station
Lagunitas Creek
Cheda
220113
Olema Creek
Lagunitas
Pine Gulch Crk
Bolinas
220130
N
0 2 4 6 8 10
Miles
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California


Critical Habitat for the
California Central Coast Steelhead
San Mateo Hydrologic Unit
2202
122°30'0"W
122°0'0"W
37°30'0"N
220210
Daly City
Pacifica
San Pedro
220221
Pilarcitos
220222
Half Moon Bay
Arroyo Leon
220223
Lobitos
220230
Tunitas
Bogess
Harrington
San Gregorio
Pescadero
Peters
Oil
Pescadero
220240
Butano
N
0 2 4 6 8 10
Miles
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California


Critical Habitat for the
California Central Coast Steelhead
Bay Bridges Hydrologic Unit
2203
122°30'0"W
38°0'0"N
Fairfax
San Anselmo
Ross
Corte Madera Ck
San Rafael
Larkspur
Arr. C.M. del Presidio
Old Mill
Mill Valley
220320
Richmond
220330
220312
Codornices Crk
Bay Waters
Sausalito
Emeryville
220340
N
0 1 2 3 4 5
Miles
Cities/Towns
Critical Habitat
Occupied but excluded streams / areas
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California


Critical Habitat for the
California Central Coast Steelhead
Santa Clara Hydrologic Unit
2205
122°0'0"W
121°30'0"W
37°30'0"N
37°0'0"N
Alameda
220520
Newark
220510
West Union
Bear
San Francisquito
Los Trancos
Mountain View
Guadulpe River
Milpitas
Upper Penitencia
San Jose
220550
Los Gatos
Coyote Creek
Los Gatos
Alamitos
Calero
220530
220540
N
0
5
10
15
20
Miles
Cities/Towns
Critical Habitat
Occupied but excluded streams / areas
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California


Critical Habitat for the
California Central Coast Steelhead
San Pablo Hydrologic Unit
2206
122°30'0"W
122°0'0"W
38°30'0"N
38°0'0"N
Mill Ck
Napa River
Conn Ck
220650
Calabazas
Stuart
Dry Creek
Millken
Sarco
Redwood
220640
Rodgers
Sonoma
Carneros
Napa
Tulucay
Susco
Petaluma
Lynch
Adobe
220630
San Antonio
Sonoma Creek
Petaluma River
Napa River
Novato
Novato Creek
Vallejo
220610
220620
San Pablo Bay
Miller
Pinole
San Pablo
San Pablo Creek
Wildcat
220660
N
0 5 10 15 20
Miles
Cities/Towns
Critical Habitat
Occupied but excluded streams / areas
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California



BILLING CODE 3510–22–C

(i) *South-Central California Coast Steelhead (O. mykiss).* Critical habitat is designated to include the areas defined in the following CALWATER Hydrologic Units:

(1) Pajaro River Hydrologic Unit 3305—(i) *Watsonville Hydrologic Sub-area 330510.* Outlet(s) = Pajaro River (Lat 36.8506, Long –121.8101) upstream to endpoint(s) in: Banks Canyon Creek (36.9958, –121.7264); Browns Creek (37.0255, –121.7754); Casserly Creek (36.9902, –121.7359); Corralitos Creek (37.0666, –121.8359); Gaffey Creek (36.9905, –121.7132); Gamecock Canyon (37.0362, –121.7587); Green Valley Creek (37.0073, –121.7256); Ramsey Gulch (37.0447, –121.7755); Redwood Canyon (37.0342, –121.7975); Salsipuedes Creek (36.9350, –121.7426); Shingle Mill Gulch (37.0446, –121.7971).

(ii) *Santa Cruz Mountains Hydrologic Sub-area 330520.* Outlet(s) = Pajaro River (Lat 36.9010, Long –121.5861); Bodfish Creek (37.0041, –121.6667); Pescadero Creek (36.9125, –121.5882); Tar Creek (36.9304, –121.5520); Uvas Creek (37.0146, –121.6314) upstream to endpoint(s) in: Blackhawk Canyon (37.0168, –121.6912); Bodfish Creek (36.9985, –121.6859); Little Arthur Creek (37.0299, –121.6874); Pescadero Creek (36.9826, –121.6274); Tar Creek (36.9558, –121.6009); Uvas Creek (37.0660, –121.6912).

(iii) *South Santa Clara Valley Hydrologic Sub-area 330530.* Outlet(s) = San Benito River (Lat 36.8961, Long –121.5625); Pajaro River (36.9222, –121.5388) upstream to endpoint(s) in: Arroyo Dos Picachos (36.8866, –121.3184); Bodfish Creek (37.0080, –121.6652); Bodfish Creek (37.0041, –121.6667); Carnadero Creek (36.9603, –121.5328); Llagas Creek (37.1159, –121.6938); Miller Canal (36.9698, –121.4814); Pacheco Creek (37.0055, –121.3598); San Felipe Lake (36.9835, –121.4604); Tar Creek (36.9304, –121.5520); Tequisquita Slough (36.9170, –121.3887); Uvas Creek (37.0146, –121.6314).

(iv) *Pacheco-Santa Ana Creek Hydrologic Sub-area 330540.* Outlet(s) = Arroyo Dos Picachos (Lat 36.8866, Long –121.3184); Pacheco Creek (37.0055, –121.3598) upstream to endpoint(s) in: Arroyo Dos Picachos (36.8912, –121.2305); Cedar Creek (37.0922, –121.3641); North Fork Pacheco Creek (37.0514, –121.2911); Pacheco Creek (37.0445, –121.2662); South Fork Pacheco Creek (37.0227, –121.2603).

(v) *San Benito River Hyddrologic Sub-area 330550.* Outlet(s) = San Benito River (Lat 36.7838, Long –121.3731) upstream to endpoint(s) in: Bird Creek (36.7604, –121.4506); Pescadero Creek (36.7202, –121.4187); San Benito River (36.3324, –120.6316); Sawmill Creek (36.3593, –120.6284).

(2) Carmel River Hydrologic Unit 3307—(i) *Carmel River Hydrologic Sub-area 330700.* Outlet(s) = Carmel River (Lat 36.5362, Long –121.9285) upstream to endpoint(s) in: Aqua Mojo Creek (36.4711, –121.5407); Big Creek (36.3935, –121.5419); Blue Creek (36.2796, –121.6530); Boronda Creek (36.3542, –121.6091); Bruce Fork (36.3221, –121.6385); Cachagua Creek (36.3909 , –121.5950); Carmel River (36.2837, –121.6203); Danish Creek (36.3730, –121.7590); Hitchcock Canyon Creek (36.4470, –121.7597); James Creek (36.3235, –121.5804); Las Garzas Creek (36.4607, –121.7944); Millers Fork (36.2961, –121.5697); Pinch Creek (36.3236, –121.5574); Pine Creek (36.3827, –121.7727); Potrero Creek (36.4801, –121.8258); Rana Creek (36.4877, –121.5840); Rattlesnake Creek (36.3442, –121.7080); Robertson Canyon Creek (36.4776, –121.8048); Robertson Creek (36.3658, –121.5165); San Clemente Creek (36.4227, –121.8115); Tularcitos Creek (36.4369, –121.5163); Ventana Mesa Creek (36.2977, –121.7116).

(ii) [Reserved]

(3) Santa Lucia Hydrologic Unit 3308-(i) *Santa Lucia Hydrologic Sub-area 330800.* Outlet(s) = Alder Creek (Lat 35.8578, Long –121.4165); Big Creek (36.0696, –121.6005); Big Sur River (36.2815, –121.8593); Bixby Creek (36.3713, –121.9029); Garrapata Creek (36.4176, –121.9157); Limekiln Creek (36.0084, –121.5196); Little Sur River (36.3350, –121.8934); Malpaso Creek (36.4814, –121.9384); Mill Creek (35.9825, –121.4917); Partington Creek (36.1753, –121.6973); Plaskett Creek (35.9195, –121.4717); Prewitt Creek (35.9353, –121.4760); Rocky Creek (36.3798, –121.9028); Salmon Creek (35.3558, –121.3634); San Jose Creek (36.5259, –121.9253); Vicente Creek (36.0442, –121.5855); Villa Creek (35.8495, –121.4087); Willow Creek (35.8935, –121.4619) upstream to endpoint(s) in: Alder Creek (35.8685, –121.3974); Big Creek (36.0830, –121.5884); Big Sur River (36.2490, –121.7269); Bixby Creek (36.3715, –121.8440); Devil's Canyon Creek (36.0773, –121.5695); Garrapata Creek (36.4042, –121.8594); Joshua Creek (36.4182, –121.9000); Limekiln Creek (36.0154, –121.5146); Little Sur River (36.3312, –121.7557); Malpaso Creek (36.4681, –121.8800); Mill Creek (35.9907, –121.4632); North Fork Big Sur River (36.2178, –121.5948); Partington Creek (36.1929, –121.6825); Plaskett Creek (35.9228, –121.4493); Prewitt Creek (35.9419, –121.4598); Redwood Creek (36.2825, –121.6745); Rocky Creek (36.3805, –121.8440); San Jose Creek (36.4662, –121.8118); South Fork Little Sur River (36.3026, –121.8093); Vicente Creek (36.0463, –121.5780); Villa Creek (35.8525, –121.3973); Wildcat Canyon Creek (36.4124, –121.8680); Williams Canyon Creek (36.4466, –121.8526); Willow Creek (35.9050, –121.3851).

(ii) [Reserved]

(4) Salinas River Hydrologic Unit 3309–(i) *Neponset Hydrologic Sub-area 330911.* Outlet(s) = Salinas River (Lat 36.7498, Long –121.8055); upstream to endpoint(s) in: Gabilan Creek (36.6923, –121.6300); Old Salinas River (36.7728, –121.7884); Tembladero Slough (36.6865, –121.6409).

(ii) *Chualar Hydrologic Sub-area 330920.* Outlet(s) = Gabilan Creek (Lat 36.6923, Long –121.6300) upstream.

(iii) *Soledad Hydrologic Sub-area 330930.* Outlet(s) = Salinas River (Lat 36.4878, Long –121.4688) upstream to endpoint(s) in: Arroyo Seco River (36.2644, –121.3812); Reliz Creek (36.2438, –121.2881).

(iv) *Upper Salinas Valley Hydrologic Sub-area 330940.* Outlet(s) = Salinas River (Lat 36.3183, Long –121.1837) upstream.

(v) *Arroyo Seco Hydrologic Sub-area 330960.* Outlet(s) = Arroyo Seco River (Lat 36.2644, Long –121.3812); Reliz Creek (36.2438, –121.2881); Vasqueros Creek (36.2648, –121.3368) upstream to endpoint(s) in: Arroyo Seco River (36.2041, –121.5002); Calaboose Creek (36.2942, –121.5082); Church Creek (36.2762, –121.5877); Horse Creek (36.2046, –121.3931); Paloma Creek (36.3195, –121.4894); Piney Creek (36.3023, –121.5629); Reliz Creek (36.1935, –121.2777); Rocky Creek (36.2676, –121.5225); Santa Lucia Creek (36.1999, –121.4785); Tassajara Creek (36.2679, –121.6149); Vaqueros Creek (36.2479, –121.3369); Willow Creek (36.2059, –121.5642).

(vi) *Gabilan Range Hydrologic Sub-area 330970.* Outlet(s) = Gabilan Creek (Lat 36.7800, –121.5836) upstream to endpoint(s) in: Gabilan Creek (36.7335, –121.4939).

(vii) *Paso Robles Hydrologic Sub-area 330981.* Outlet(s) = Salinas River (Lat 35.9241, Long –120.8650) upstream to endpoint(s) in:

Atascadero Creek (35.4468, –120.7010); Graves Creek (35.4838, –120.7631); Jack Creek (35.5815, –120.8560); Nacimiento River (35.7610, –120.8853); Paso Robles Creek (35.5636, –120.8455); Salinas River (35.3886, –120.5582); San Antonio River (35.7991, –120.8849); San Marcos Creek (35.6734, –120.8140); Santa Margarita Creek (35.3923, –120.6619); Santa Rita Creek

(35.5262, –120.8396); Sheepcamp Creek (35.6145, –120.7795); Summit Creek (35.6441, –120.8046); Tassajera Creek (35.3895, –120.6926); Trout Creek (35.3394, –120.5881); Willow Creek (35.6107, –120.7720).

(5) Estero Bay Hydrologic Unit 3310—

(i) *San Carpoforo Hydrologic Sub-area 331011.* Outlet(s) = San Carpoforo Creek (Lat 35.7646, Long –121.3247) upstream to endpoint(s) in: Dutra Creek (35.8197, –121.3273); Estrada Creek (35.7710, –121.2661); San Carpoforo Creek (35.8202, –121.2745); Unnamed Tributary (35.7503, –121.2703); Wagner Creek (35.8166, –121.2387).

(ii) *Arroyo De La Cruz Hydrologic Sub-area 331012.* Outlet(s) = Arroyo De La Cruz (Lat 35.7097, Long –121.3080) upstream to endpoint(s) in: Arroyo De La Cruz (35.6986, –121.1722); Burnett Creek (35.7520, –121.1920); Green Canyon Creek (35.7375 , –121.2314); Marmolejo Creek (35.6774, –121.1082); Spanish Cabin Creek (35.7234, –121.1497); Unnamed Tributary (35.7291, –121.1977); West Fork Burnett Creek (35.7516, –121.2075).

(iii) *San Simeon Hydrologic Sub-area 331013.* Outlet(s) = Arroyo del Corral (Lat 35.6838, Long –121.2875); Arroyo del Puerto (35.6432, –121.1889); Little Pico Creek (35.6336, –121.1639); Oak Knoll Creek (35.6512, –121.2197); Pico Creek (35.6155, –121.1495); San Simeon Creek (35.5950, –121.1272) upstream to endpoint(s) in: Arroyo Laguna (35.6895, –121.2337); Arroyo del Corral (35.6885, –121.2537); Arroyo del Puerto (35.6773, –121.1713); Little Pico Creek (35.6890, –121.1375); Oak Knoll Creek (35.6718, –121.2010); North Fork Pico Creek (35.6886, –121.0861); San Simeon Creek (35.6228, –121.0561); South Fork Pico Creek (35.6640, –121.0685); Steiner Creek (35.6032, –121.0640); Unnamed Tributary (35.6482, –121.1067); Unnamed Tributary (35.6616, –121.0639); Unnamed Tributary (35.6741, –121.0981); Unnamed Tributary (35.6777, –121.1503); Unnamed Tributary (35.6604, –121.1571); Unnamed Tributary (35.6579, –121.1356); Unnamed Tributary (35.6744, –121.1187); Unnamed Tributary (35.6460, –121.1373); Unnamed Tributary (35.6839, –121.0955); Unnamed Tributary (35.6431, –121.0795); Unnamed Tributary (35.6820, –121.2130); Unnamed Tributary (35.6977, –121.2613); Unnamed Tributary (35.6702, –121.1884); Unnamed Tributary (35.6817, –121.0885); Van Gordon Creek (35.6286, –121.0942).

(iv) *Santa Rosa Hydrologic Sub-area 331014.* Outlet(s) = Santa Rosa Creek (Lat 35.5685, Long –121.1113) upstream to endpoint(s) in: Green Valley Creek (35.5511, –120.9471); Perry Creek (35.5323–121.0491); Santa Rosa Creek (35.5525, –120.9278); Unnamed Tributary (35.5965, –120.9413); Unnamed Tributary (35.5684, –120.9211); Unnamed Tributary (35.5746, –120.9746).

(v) *Villa Hydrologic Sub-area 331015.* Outlet(s) = Villa Creek (Lat 35.4601, Long –120.9704) upstream to endpoint(s) in: Unnamed Tributary (35.4798, –120.9630); Unnamed Tributary (35.5080, –121.0171); Unnamed Tributary (35.5348, –120.8878); Unnamed Tributary (35.5510, –120.9406); Unnamed Tributary (35.5151, –120.9497); Unnamed Tributary (35.4917, –120.9584); Unnamed Tributary (35.5173, –120.9516); Villa Creek (35.5352, –120.8942).

(vi) *Cayucos Hydrologic Sub-area 331016.* Outlet(s) = Cayucos Creek (Lat 35.4491, Long –120.9079) upstream to endpoint(s) in: Cayucos Creek (35.5257, –120.9271); Unnamed Tributary (35.5157, –120.9005); Unnamed Tributary (35.4943, –120.9513); Unnamed Tributary (35.4887, –120.8968).

(vii) *Old Hydrologic Sub-area 331017.* Outlet(s) = Old Creek (Lat 35.4345, Long –120.8868) upstream to endpoint(s) in: Old Creek (35.4480, –120.8871)

(viii) *Toro Hydrologic Sub-area 331018.* Outlet(s) = Toro Creek (Lat 35.4126, Long –120.8739) upstream to endpoint(s) in: Toro Creek (35.4945, –120.7934); Unnamed Tributary (35.4917, –120.7983).

(ix) *Morro Hydrologic Sub-area 331021.* Outlet(s) = Morro Creek (Lat 35.3762, Long –120.8642) upstream to endpoint(s) in: East Fork Morro Creek (35.4218, –120.7282); Little Morro Creek (35.4155, –120.7532); Morro Creek (35.4291, –120.7515); Unnamed Tributary (35.4292, –120.8122); Unnamed Tributary (35.4458, –120.7906); Unnamed Tributary (35.4122, –120.8335); Unnamed Tributary (35.4420, –120.7796).

(x) *Chorro Hydrologic Sub-area 331022.* Outlet(s) = Chorro Creek (Lat 35.3413, Long –120.8388) upstream to endpoint(s) in: Chorro Creek (35.3340, –120.6897); Dairy Creek (35.3699, –120.6911); Pennington Creek (35.3655, –120.7144); San Bernardo Creek (35.3935, –120.7638); San Luisito (35.3755, –120.7100); Unnamed Tributary (35.3821, –120.7217); Unnamed Tributary (35.3815, –120.7350).

(xi) *Los Osos Hydrologic Sub-area 331023.* Outlet(s) = Los Osos Creek (Lat 35.3379, Long –120.8273) upstream to endpoint(s) in: Los Osos Creek (35.2718, –120.7627).

(xii) *San Luis Obispo Creek Hydrologic Sub-area 331024.* Outlet(s) = San Luis Obispo Creek (Lat 35.1822, Long –120.7303) upstream to endpoint(s) in: Brizziolari Creek (35.3236, –120.6411); Froom Creek (35.2525, –120.7144); Prefumo Creek (35.2615, –120.7081); San Luis Obispo Creek (35.3393, –120.6301); See Canyon Creek (35.2306, –120.7675); Stenner Creek (35.3447, –120.6584); Unnamed Tributary (35.2443, –120.7655).

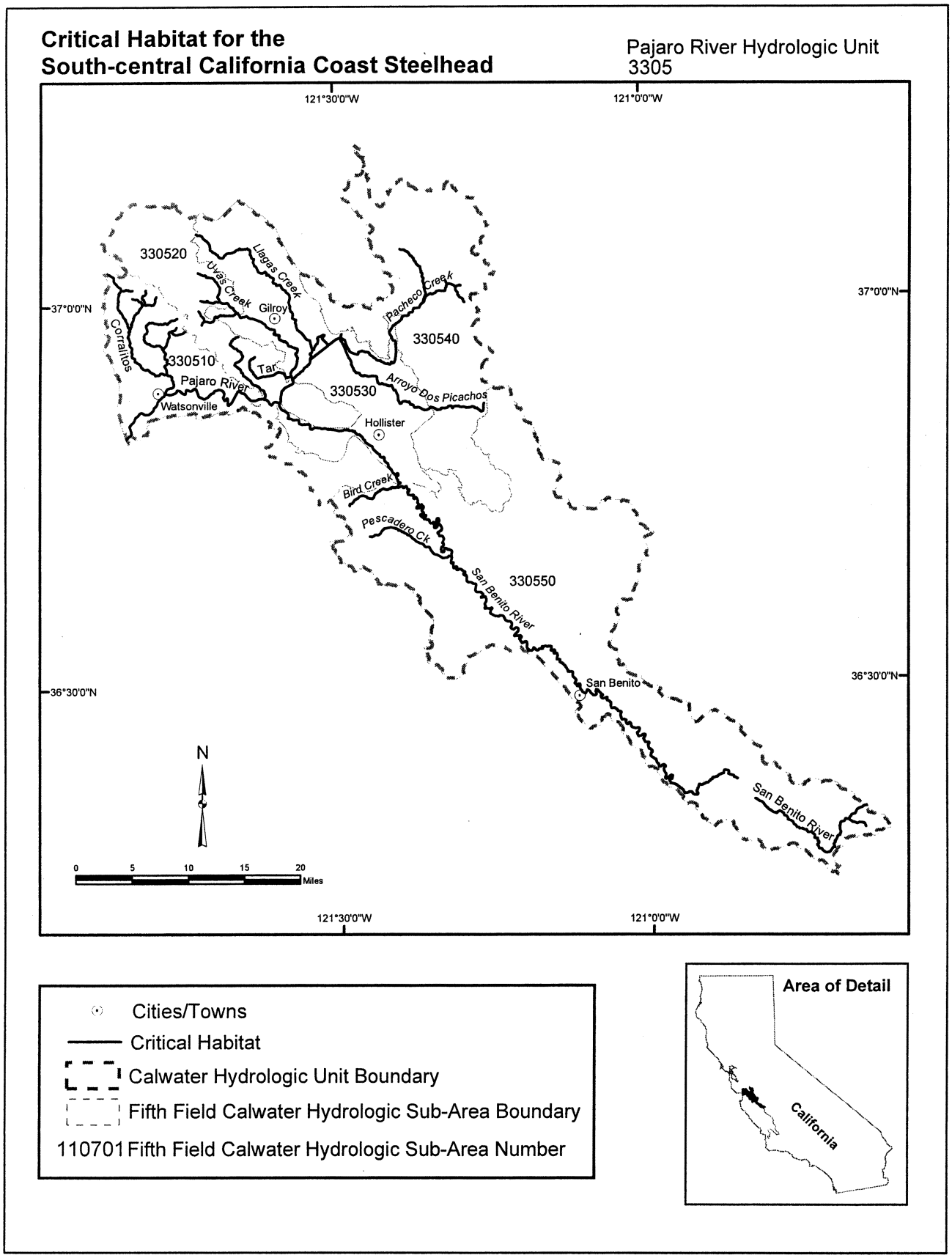
(xiii) *Point San Luis Hydrologic Sub-area 331025.* Outlet(s) = Coon Creek (Lat 35.2590, Long –120.8951); Islay Creek (35.2753, –120.8884) upstream to endpoint(s) in: Coon Creek (35.2493, –120.7774); Islay Creek (35.2574, –120.7810); Unnamed Tributary (35.2753, –120.8146); Unnamed Tributary (35.2809, –120.8147); Unnamed Tributary (35.2648, –120.7936).

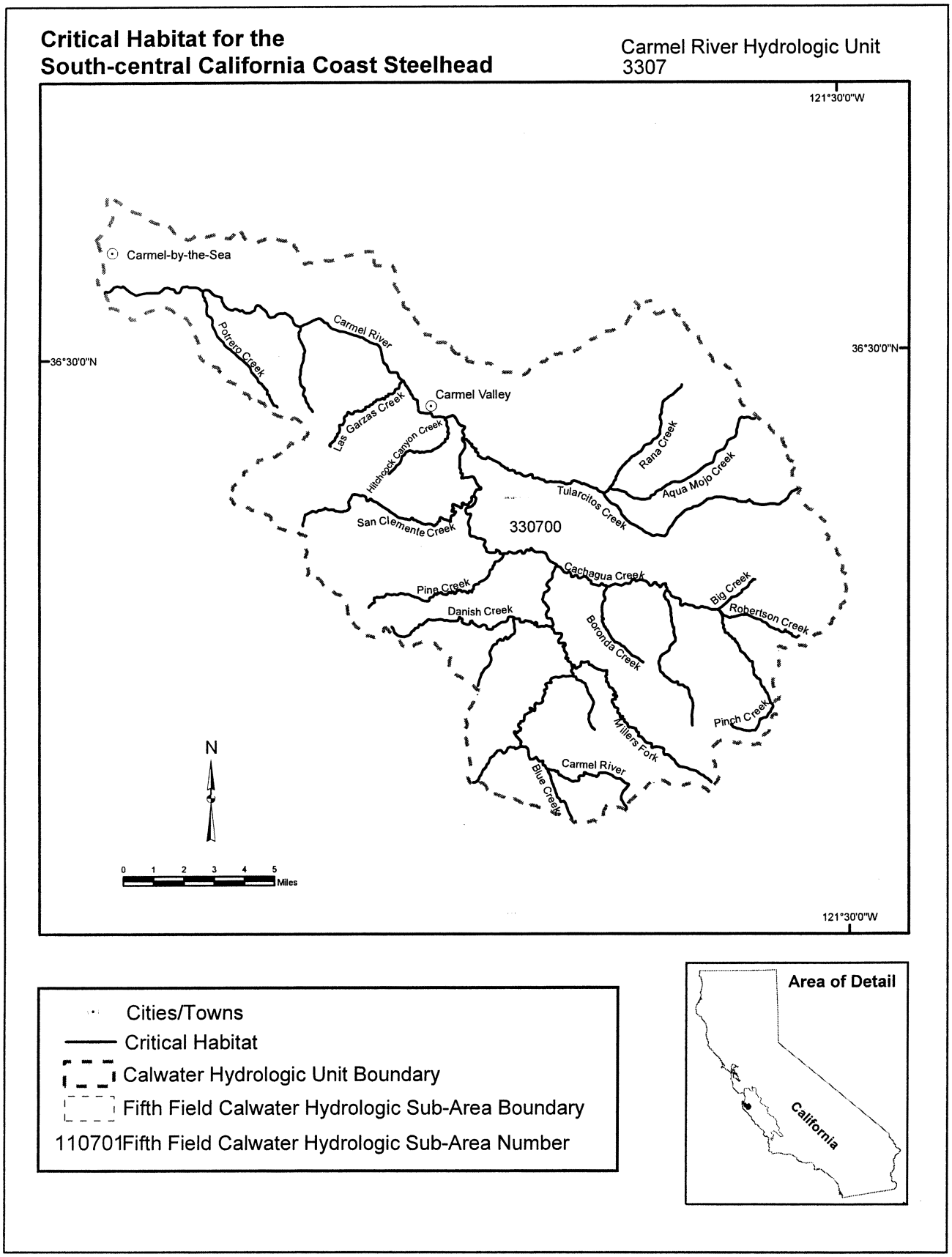
(xiv) *Pismo Hydrologic Sub-area 331026.* Outlet(s) = Pismo Creek (Lat 35.1336, Long –120.6408) upstream to endpoint(s) in: East Corral de Piedra Creek (35.2343, –120.5571); Pismo Creek (35.1969, –120.6107); Unnamed Tributary (35.2462, –120.5856).

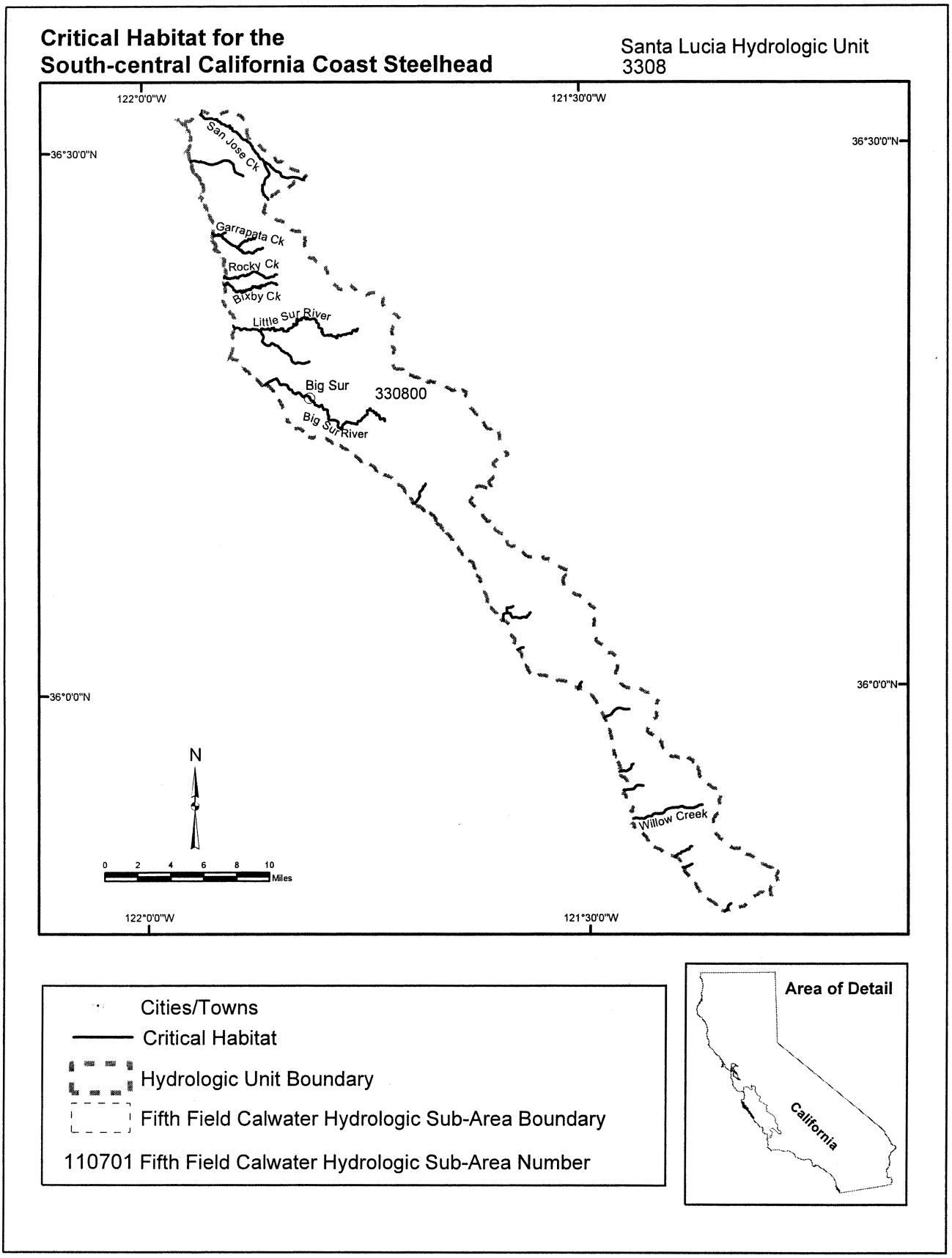
(xv) *Oceano Hydrologic Sub-area 331031.* Outlet(s) = Arroyo Grande Creek (Lat 35.1011, Long –120.6308) upstream to endpoint(s) in: Arroyo Grande Creek (35.1868, –120.4881); Los Berros Creek (35.0791, –120.4423).

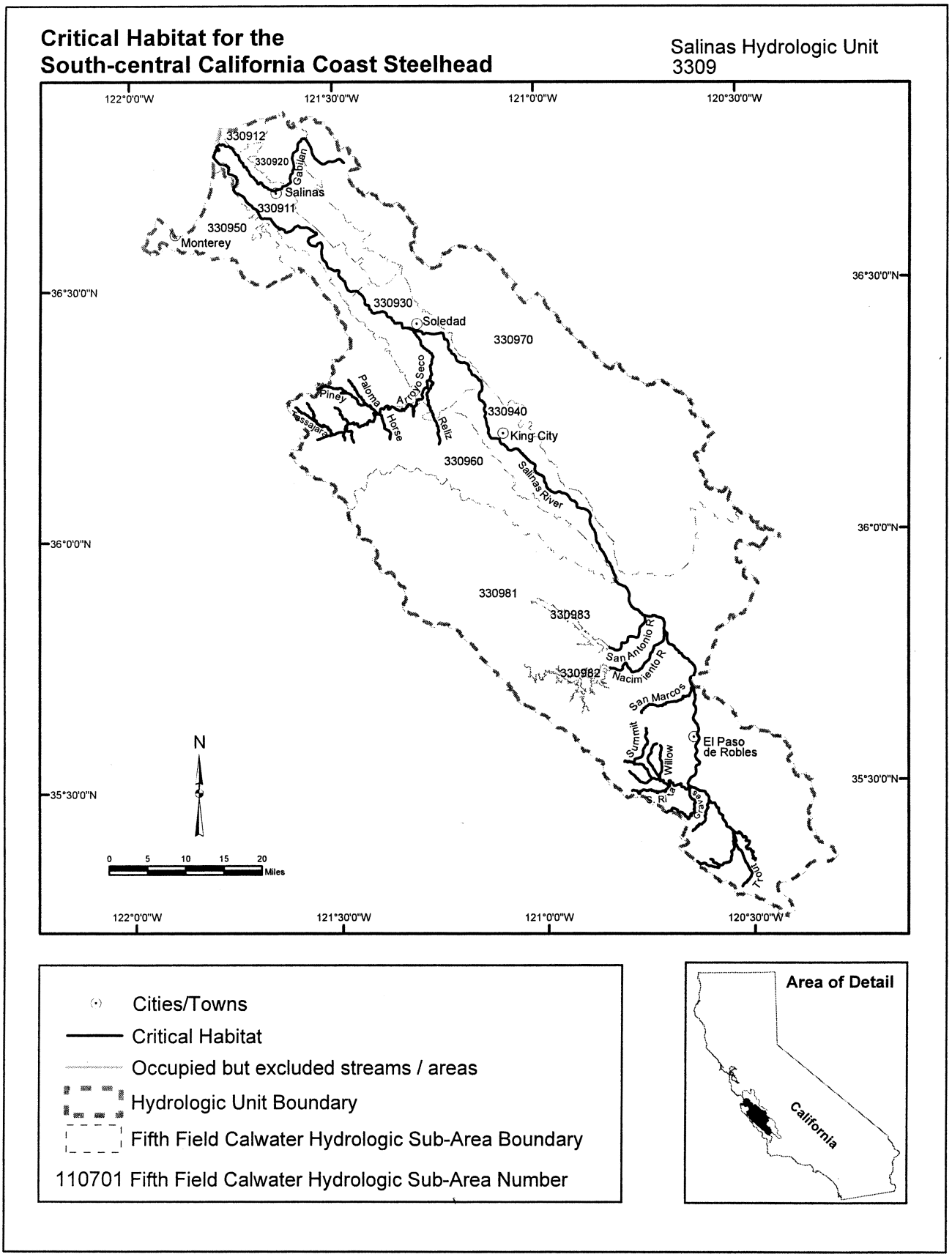
(6) Maps of critical habitat for the South-Central Coast Steelhead ESU follow:

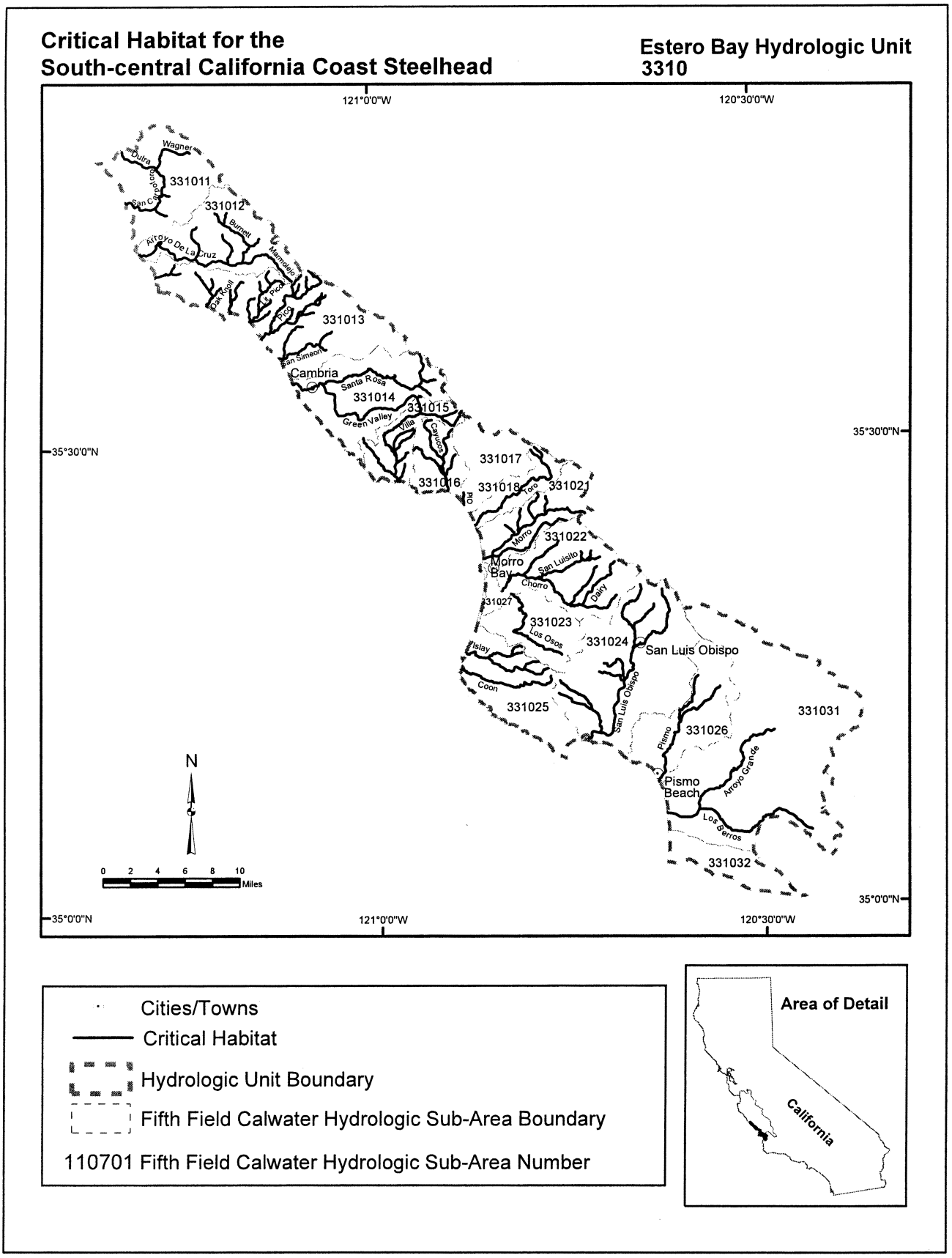
BILLING CODE 3510–22–P


Critical Habitat for the
South-central California Coast Steelhead
Pajaro River Hydrologic Unit
3305
121°30'0"W
121°0'0"W
37°0'0"N
36°30'0"N
330520
330510
330530
330540
330550
Llagas Creek
Uvas Creek
Gilroy
Pacheco Creek
Corralitos
Tar
Pajaro River
Watsonville
Arroyo Dos Picachos
Hollister
Bird Creek
Pescadero Ck
San Benito River
San Benito
N
0 5 10 15 20
Miles
Cities/Towns
Critical Habitat
Calwater Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California


Critical Habitat for the
South-central California Coast Steelhead
Carmel River Hydrologic Unit
3307
121°30'0"W
36°30'0"N
Carmel-by-the-Sea
Carmel River
Potrero Creek
Carmel Valley
Las Garzas Creek
Hitchcock Canyon Creek
Rana Creek
Aqua Mojo Creek
Tularcitos Creek
San Clemente Creek
330700
Cachagua Creek
Pine Creek
Danish Creek
Big Creek
Robertson Creek
Boronda Creek
Pinch Creek
Miller's Fork
Carmel River
Blue Creek
N
0 1 2 3 4 5
Miles
Cities/Towns
Critical Habitat
Calwater Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California


Critical Habitat for the
South-central California Coast Steelhead
Santa Lucia Hydrologic Unit
3308
122°0'0"W
121°30'0"W
36°30'0"N
36°0'0"N
San Jose Ck
Garrapata Ck
Rocky Ck
Bixby Ck
Little Sur River
Big Sur
330800
Big Sur River
Willow Creek
N
0 2 4 6 8 10
Miles
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California


Critical Habitat for the
South-central California Coast Steelhead
Salinas Hydrologic Unit
3309
122°0'0"W
121°30'0"W
121°0'0"W
120°30'0"W
36°30'0"N
36°0'0"N
35°30'0"N
330912
330920
Gabilan
Salinas
330911
330950
Monterey
330930
Soledad
330970
Arroyo Seco
Paloma
Piney
Horse
Reliz
330940
King City
330960
Salinas River
330981
330983
San Antonio R
Nacimiento R
330982
San Marcos
Summit
Willow
El Paso
de Robles
Cravens
Trout
N
0 5 10 15 20
Miles
Cities/Towns
Critical Habitat
Occupied but excluded streams / areas
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California



BILLING CODE 3510–22–C

(j) *Southern California Steelhead (O. mykiss).* Critical habitat is designated to include the areas defined in the following CALWATER Hydrologic Units:

(1) Santa Maria River Hydrologic Unit 3312—(i) *Santa Maria Hydrologic Sub-area 331210.* Outlet(s) = Santa Maria River (Lat 34.9710, Long –120.6504) upstream to endpoint(s) in: Cuyama River (34.9058, –120.3026); Santa Maria River (34.9042, –120.3077); Sisquoc River (34.8941, –120.3063).

(ii) *Sisquoc Hydrologic Sub-area 331220.* Outlet(s) = Sisquoc River (Lat 34.8941, Long –120.3063) upstream to endpoint(s) in: Abel Canyon (34.8662, –119.8354); Davey Brown Creek (34.7541, –119.9650); Fish Creek (34.7531, –119.9100); Foresters Leap (34.8112, –119.7545); La Brea Creek (34.8804, –120.1316); Horse Creek (34.8372, –120.0171); Judell Creek (34.7613, –119.6496); Manzana Creek (34.7082, –119.8324); North Fork La Brea Creek (34.9681, –120.0112); Sisquoc River (34.7087, –119.6409); South Fork La Brea Creek (34.9543, –119.9793); South Fork Sisquoc River (34.7300, –119.7877); Unnamed Tributary (34.9342, –120.0589); Unnamed Tributary (34.9510, –120.0140); Unnamed Tributary (34.9687, –120.1419); Unnamed Tributary (34.9626, –120.1500); Unnamed Tributary (34.9672, –120.1194); Unnamed Tributary (34.9682, –120.0990); Unnamed Tributary (34.9973, –120.0662); Unnamed Tributary (34.9922, –120.0294); Unnamed Tributary (35.0158, –120.0337); Unnamed Tributary (34.9464, –120.0309); Unnamed Tributary (34.7544, –119.9476); Unnamed Tributary (34.7466, –119.9047); Unnamed Tributary (34.7646, –119.8673); Unnamed Tributary (34.8726, –119.9525); Unnamed Tributary (34.8884, –119.9325); Unnamed Tributary (34.8659, –119.8982); Unnamed Tributary (34.8677, –119.8513); Unnamed Tributary (34.8608, –119.8541); Unnamed Tributary (34.8784, –119.8458); Unnamed Tributary (34.8615, –119.8159); Unnamed Tributary (34.8694, –119.8229); Unnamed Tributary (34.7931, –119.8485); Unnamed Tributary (34.7846, –119.8337); Unnamed Tributary (34.7872, –119.7684); Unnamed Tributary (34.7866, –119.7552); Unnamed Tributary (34.8129, –119.7714); Unnamed Tributary (34.7760, –119.7448); Unnamed Tributary (34.7579, –119.7999); Unnamed Tributary (34.7510, –119.7921); Unnamed Tributary (34.7769, –119.7149); Unnamed Tributary (34.7617, –119.6878); Unnamed Tributary (34.7680, –119.6503); Unnamed Tributary (34.7738, –119.6493); Unnamed Tributary (34.7332, –119.6286); Unnamed Tributary (34.7519, –119.6209); Unnamed Tributary (34.7188, –119.6673); Water Canyon (34.8754, –119.9324).

(2) Santa Ynex Hydrologic Unit 3314—(i) *Mouth of Santa Ynez Hydrologic Sub-area 331410.* Outlet(s) = Santa Ynez River (Lat 34.6930, Long –120.6033) upstream to endpoint(s) in: San Miguelito Creek (34.6309, –120.4631).

(ii) *Santa Ynez, Salsipuedes Hydrologic Sub-area 331420.* Outlet(s) = Santa Ynez River (Lat 34.6335, Long –120.4126) upstream to endpoint(s) in: El Callejon Creek (34.5475, –120.2701); El Jaro Creek (34.5327, –120.2861); Llanito Creek (34.5499, –120.2762); Salsipuedes Creek (34.5711, –120.4076).

(iii) *Santa Ynez, Zaca Hydrologic Sub-area 331430.* Outlet(s) = Santa Ynez River (Lat 34.6172, Long –120.2352) upstream.

(iv) *Santa Ynez to Bradbury Hydrologic Sub-area 331440.* Outlet(s) = Santa Ynez River (Lat 34.5847, Long –120.1445) upstream to endpoint(s) in: Alisal Creek (34.5465, –120.1358); Hilton Creek (34.5839, –119.9855); Quiota Creek (34.5370, –120.0321); San Lucas Creek (34.5558, –120.0119); Santa Ynez River (34.5829, –119.9805); Unnamed Tributary (34.5646, –120.0043).

(3) South Coast Hydrologic Unit 3315—(i) *Arroyo Hondo Hydrologic Sub-area 331510.* Outlet(s) = Alegria Creek (Lat 34.4688, Long –120.2720); Arroyo Hondo Creek (34.4735, –120.1415); Cojo Creek (34.4531, –120.4165); Dos Pueblos Creek (34.4407, –119.9646); El Capitan Creek (34.4577, –120.0225); Gato Creek (34.4497, –119.9885); Gaviota Creek (34.4706, –120.2267); Jalama Creek (34.5119, –120.5023); Refugio Creek (34.4627, –120.0696); Sacate Creek (34.4708, –120.2942); San Augustine Creek (34.4588, –120.3542); San Onofre Creek (34.4699, –120.1872); Santa Anita Creek (34.4669, –120.3066); Tecolote Creek (34.4306, –119.9173) upstream to endpoint(s) in: Alegria Creek (34.4713, –120.2714); Arroyo Hondo Creek (34.5112, –120.1704); Cojo Creek (34.4840, –120.4106); Dos Pueblos Creek (34.5230, –119.9249); El Capitan Creek (34.5238, –119.9806); Escondido Creek (34.5663, –120.4643); Gato Creek (34.5203, –119.9758); Gaviota Creek (34.5176, –120.2179); Jalama Creek (34.5031, –120.3615); La Olla (34.4836, –120.4071); Refugio Creek (34.5109, –120.0508); Sacate Creek (34.4984, –120.2993); San Augustine Creek (34.4598, –120.3561); San Onofre Creek (34.4853, –120.1890); Santa Anita Creek (34.4742, –120.3085); Tecolote Creek (34.5133, –119.9058); Unnamed Tributary (34.5527, –120.4548); Unnamed Tributary (34.4972, –120.3026).

(ii) *UCSB Slough Hydrologic Sub-area 331531.* Outlet(s) = San Pedro Creek (Lat 34.4179, Long –119.8295); Tecolito Creek (34.4179, –119.8295) upstream to endpoint(s) in: Atascadero Creek (34.4345, –119.7755); Carneros Creek (34.4674, –119.8584); Cieneguitas Creek (34.4690, –119.7565); Glen Annie Creek (34.4985, –119.8666); Maria Ygnacio Creek (34.4900, –119.7830); San Antonio Creek (34.4553, –119.7826); San Pedro Creek (34.4774, –119.8359); San Jose Creek (34.4919, –119.8032); Tecolito Creek (34.4478, –119.8763); Unnamed Tributary (34.4774, –119.8846).

(iii) *Mission Hydrologic Sub-area 331532.* Outlet(s) = Arroyo Burro Creek (Lat 34.4023, Long –119.7430); Mission Creek (34.4124, –119.6876); Sycamore Creek (34.4166, –119.6668) upstream to endpoint(s) in: Arroyo Burro Creek (34.4620, –119.7461); Mission Creek (34.4482, –119.7089); Rattlesnake Creek (34.4633, –119.6902); San Roque Creek (34.4530, –119.7323); Sycamore Creek (34.4609, –119.6841).

(iv) *San Ysidro Hydrologic Sub-area 331533.* Outlet(s) = Montecito Creek (Lat 34.4167, Long –119.6344); Romero Creek (34.4186, –119.6208); San Ysidro Creek (34.4191, –119.6254); upstream to endpoint(s) in: Cold Springs Creek (34.4794, –119.6604); Montecito Creek (34.4594, –119.6542); Romero Creek (34.4452, –119.5924); San Ysidro Creek (34.4686, –119.6229); Unnamed Tributary (34.4753, –119.6437).

(v) *Carpinteria Hydrologic Sub-area 331534.* Outlet(s) = Arroyo Paredon (Lat 34.4146, Long –119.5561); Carpenteria Lagoon (Carpenteria Creek) (34.3904, –119.5204); Rincon Lagoon (Rincon Creek) (34.3733, –119.4769) upstream to endpoint(s) in: Arroyo Paredon (34.4371, –119.5481); Carpinteria Creek (34.4429, –119.4964); El Dorado Creek (34.4682, –119.4809); Gobernador Creek (34.4249, –119.4746); Rincon Lagoon (Rincon Creek) (34.3757, –119.4777); Steer Creek (34.4687, –119.4596); Unnamed Tributary (34.4481, –119.5112).

(4) Ventura River Hydrologic Unit 4402—(i) *Ventura Hydrologic Sub-area 440210.* Outlet(s) = Ventura Estuary (Ventura River) (Lat 34.2742, Long –119.3077) upstream to endpoint(s) in: Canada Larga (34.3675, –119.2377); Hammond Canyon (34.3903,

–119.2230); Sulphur Canyon (34.3727, –119.2362); Unnamed Tributary (34.3344, –119.2426); Unnamed Tributary (34.3901, –119.2747).

(ii) *Ventura Hydrologic Sub-area 440220.* Outlet(s) = Ventura River (Lat 34.3517, Long –119.3069) upstream to endpoint(s) in: Coyote Creek (34.3735, –119.3337); Matilija Creek (34.4846, –119.3086); North Fork Matilija Creek (34.5129, –119.2737); San Antonio Creek (34.4224, –119.2644); Ventura River (34.4852, –119.3001).

(iii) *Lions Hydrologic Sub-area 440231.* Outlet(s) = Lion Creek (Lat 34.4222, Long –119.2644) upstream to endpoint(s) in: Lion Creek (34.4331, –119.2004).

(iv) *Thatcher Hydrologic Sub-area 440232.* Outlet(s) = San Antonio Creek (Lat 34.4224, Long –119.2644) upstream to endpoint(s) in: San Antonio Creek (34.4370, –119.2417).

(5) Santa Clara Calleguas Hydrologic Unit 4403—(i) *Mouth of Santa Clara Hydrologic Sub-area 440310.* Outlet(s) = Santa Clara River (Lat 34.2348, Long –119.2568) upstream.

(ii) *Santa Clara, Santa Paula Hydrologic Sub-area 440321.* Outlet(s) = Santa Clara River (Lat 34.2731, Long –119.1474) upstream to endpoint(s) in: Santa Paula Creek (34.4500, –119.0563).

(iii) *Sisar Hydrologic Sub-area 440322.* Outlet(s) = Sisar Creek (Lat 34.4271, Long –119.0908) upstream to endpoint(s) in: Sisar Creek (34.4615, –119.1312).

(iv) *Sespe, Santa Clara Hydrologic Sub-area 440331.* Outlet(s) = Santa Clara River (Lat 34.3513, Long –119.0397) upstream to endpoint(s) in: Sespe Creek (34.4509, –118.9258).

(v) *Sespe Hydrologic Sub-area 440332.* Outlet(s) = Sespe Creek (Lat 34.4509, Long –118.9258) upstream to endpoint(s) in: Abadi Creek (34.6099, –119.4223); Alder Creek (34.5691, –118.9528); Bear Creek (34.5314, –119.1041); Chorro Grande Creek (34.6285, –119.3245); Fourfork Creek (34.4735, –118.8893); Howard Creek (34.5459, –119.2154); Lady Bug Creek (34.5724, –119.3173); Lion Creek (34.5047, –119.1101); Little Sespe Creek (34.4598, –118.8938); Munson Creek (34.6152, –119.2963); Park Creek (34.5537, –119.0028); Piedra Blanca Creek (34.6109, –119.1838); Pine Canyon Creek (34.4488, –118.9661); Portrero John Creek (34.6010, –119.2695); Red Reef Creek (34.5344, –119.0441); Rose Valley Creek (34.5195, –119.1756); Sespe Creek (34.6295, –119.4412); Timber Creek (34.5184, –119.0698); Trout Creek (34.5869, –119.1360); Tule Creek (34.5614, –119.2986); Unnamed Tributary (34.5125, –118.9311); Unnamed Tributary (34.5537, –119.0088); Unnamed Tributary (34.5537, –119.0048); Unnamed Tributary (34.5757, –119.3051); Unnamed Tributary (34.5988, –119.2736); Unnamed Tributary (34.5691, –119.3428); West Fork Sespe Creek (34.5106, –119.0502).

(vi) *Santa Clara, Hopper Canyon, Piru Hydrologic Sub-area 440341.* Outlet(s) = Santa Clara River (Lat 34.3860, Long –118.8711) upstream to endpoint(s) in: Hopper Creek (34.4263, –118.8309); Piru Creek (34.4613, –118.7537); Santa Clara River (34.3996, –118.7837).

(6) Santa Monica Bay Hydrologic Unit 4404—(i) *Topanga Hydrologic Sub-area 440411.* Outlet(s) = Topanga Creek (Lat 34.0397, Long –118.5831) upstream to endpoint(s) in: Topanga Creek (34.0838, –118.5980).

(ii) *Malibu Hydrologic Sub-area 440421.* Outlet(s) = Malibu Creek (Lat 34.0322, Long –118.6796) upstream to endpoint(s) in: Malibu Creek (34.0648, –118.6987).

(iii) *Arroyo Sequit Hydrologic Sub-area 440444.* Outlet(s) = Arroyo Sequit (Lat 34.0445, Long –118.9338) upstream to endpoint(s) in: Arroyo Sequit (34.0839, –118.9186); West Fork Arroyo Sequit (34.0909, –118.9235).

(7) Calleguas Hydrologic Unit 4408—(i) *Calleguas Estuary Hydrologic Sub-area 440813.* Outlet(s) = Mugu Lagoon (Calleguas Creek) (Lat 34.1093, Long –119.0917) upstream to endpoint(s) in: Mugu Lagoon (Calleguas Creek) (Lat 34.1125, Long –119.0816).

(ii) [Reserved]

(8) San Juan Hydrologic Unit 4901—(i) *Middle Trabuco Hydrologic Sub-area 490123.* Outlet(s) = Trabuco Creek (Lat 33.5165, Long –117.6727) upstream to endpoint(s) in: Trabuco Creek (33.5264, –117.6700).

(ii) *Lower San Juan Hydrologic Sub-area 490127.* Outlet(s) = San Juan Creek (Lat 33.4621, Long –117.6842) upstream to endpoint(s) in: San Juan Creek (33.4929, –117.6610); Trabuco Creek (33.5165, –117.6727).

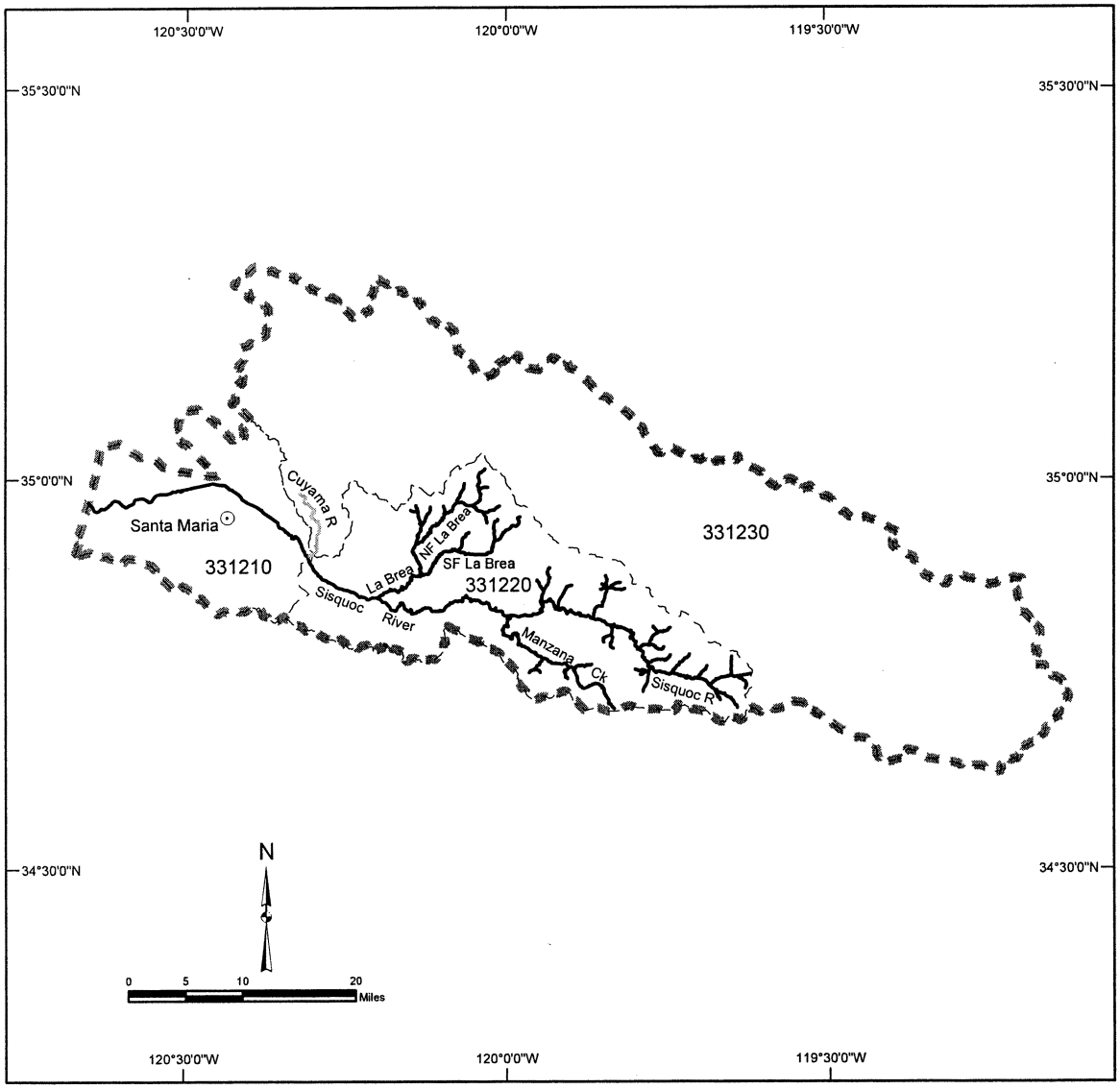
(iii) *San Mateo Hydrologic Sub-area 490140.* Outlet(s) = San Mateo Creek (Lat 33.3851, Long –117.5933) upstream to endpoint(s) in: San Mateo Creek (33.4779, –117.4386); San Mateo Canyon (33.4957, –117.4522).

(9) Maps of critical habitat for the Southern California Steelhead ESU follow:

BILLING CODE 3510–22P

Critical Habitat for the Southern California Steelhead

Santa Maria River Hydrologic Unit 3312



Cities/Towns

Critical Habitat

Occupied but excluded streams / areas

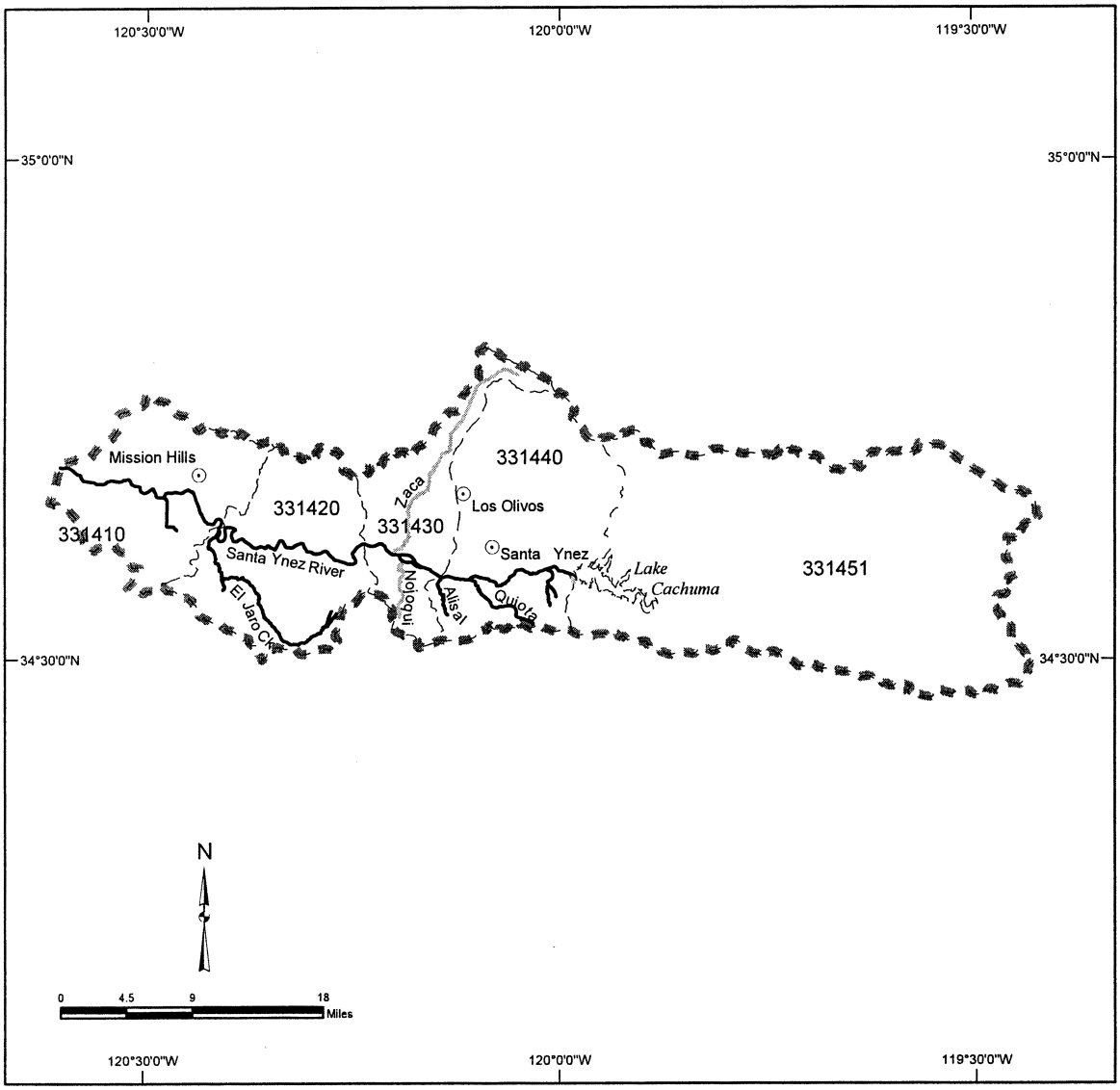
Calwater Hydrologic Unit Boundary

Fifth Field Calwater Hydrologic Sub-Area Boundary

331210 Fifth Field Calwater Hydrologic Sub-Area Number

Critical Habitat for the Southern California Steelhead

Santa Ynez Hydrologic Unit 3314



Cities/Towns

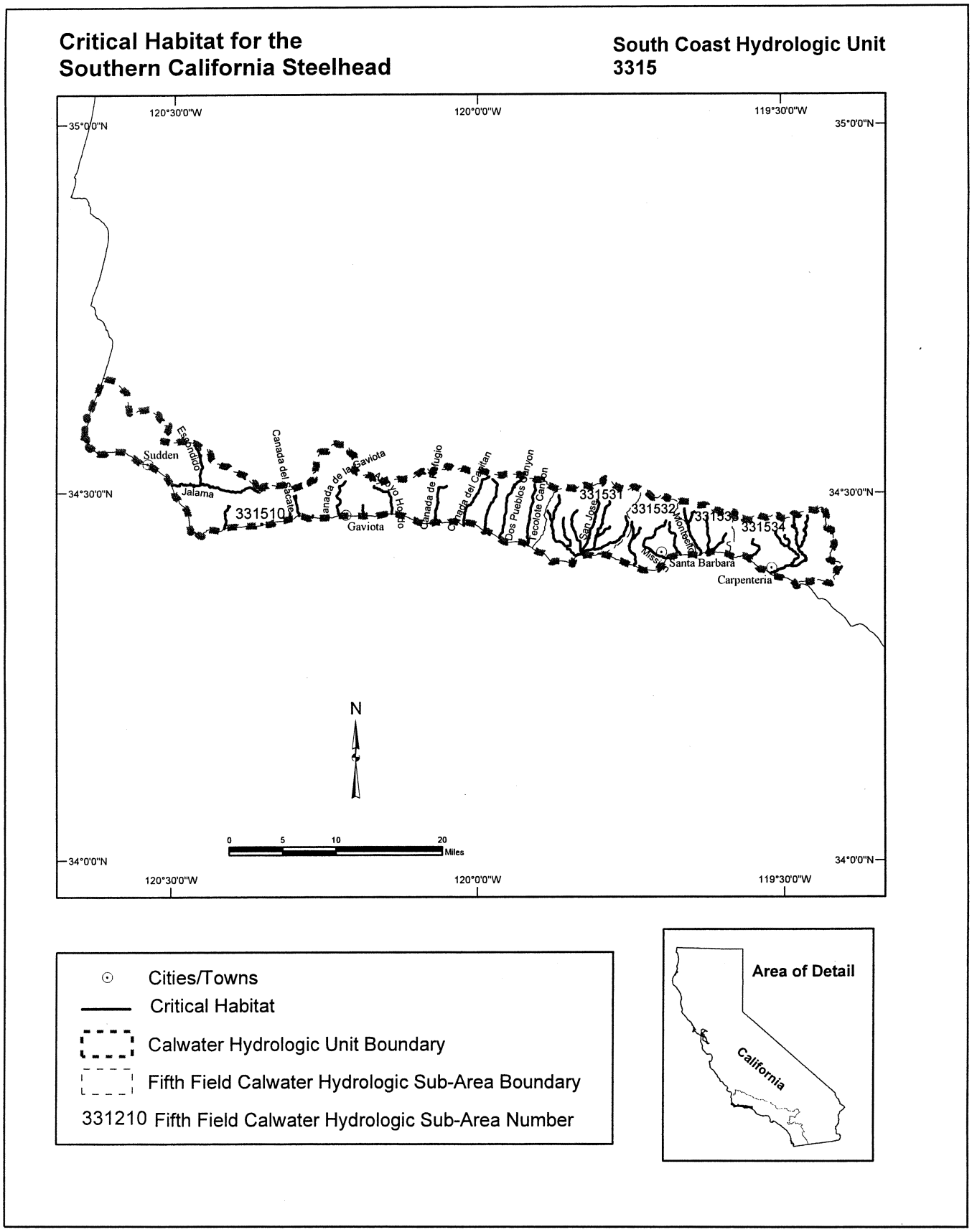
Critical Habitat

Occupied but excluded streams / areas

Calwater Hydrologic Unit Boundary

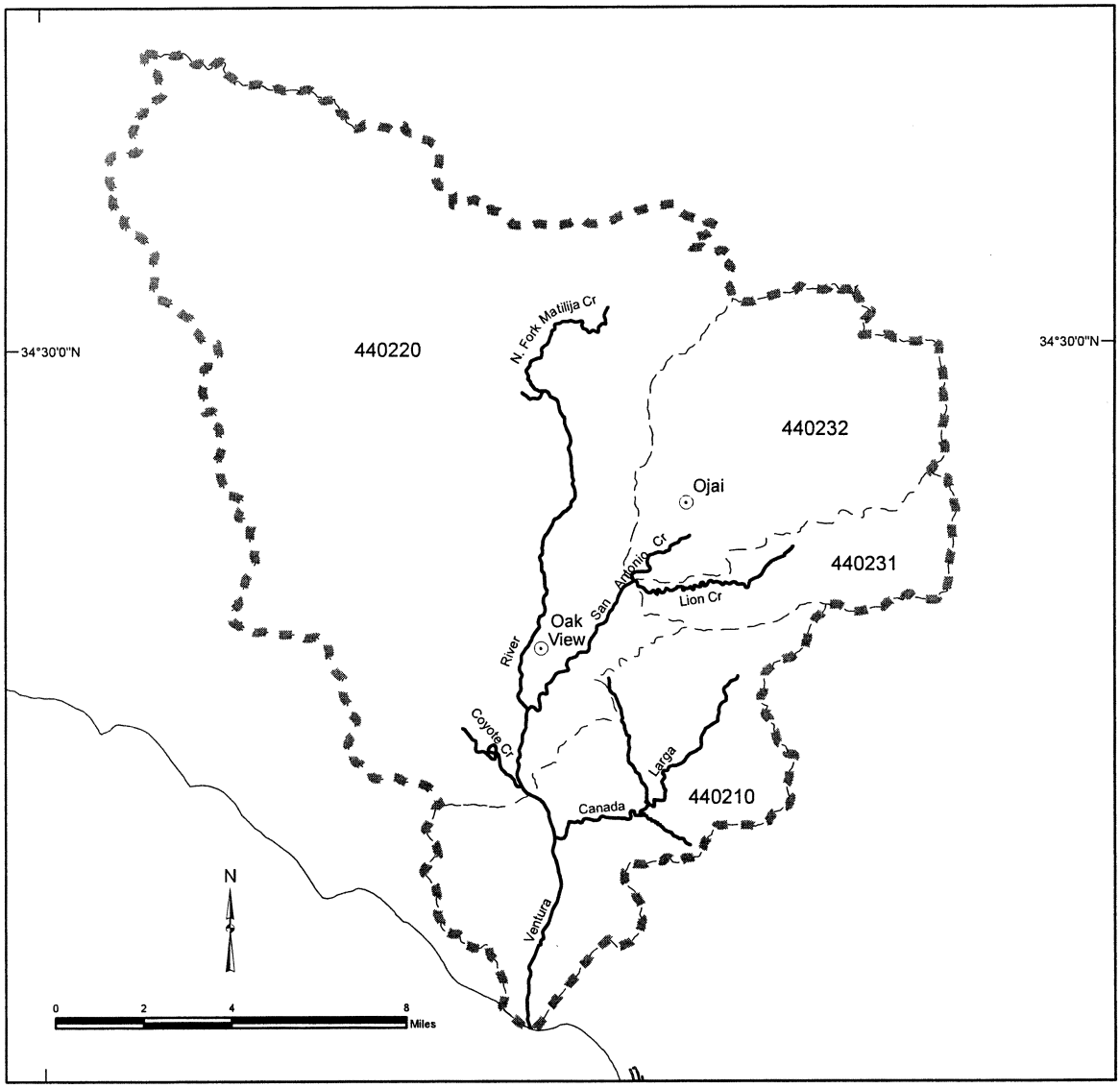
Fifth Field Calwater Hydrologic Sub-Area Boundary

331210 Fifth Field Calwater Hydrologic Sub-Area Number


Critical Habitat for the
Southern California Steelhead
South Coast Hydrologic Unit
3315
120°30'0"W
120°0'0"W
119°30'0"W
35°0'0"N
34°30'0"N
34°0'0"N
Sudden
Jalama
Gaviota
Santa Barbara
Carpenteria
331510
331531
331532
331533
331534
N
0 5 10 20
Miles
Cities/Towns
Critical Habitat
Calwater Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
331210 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California

Critical Habitat for the Southern California Steelhead

Ventura River Hydrologic Unit 4402



Cities/Towns

Critical Habitat

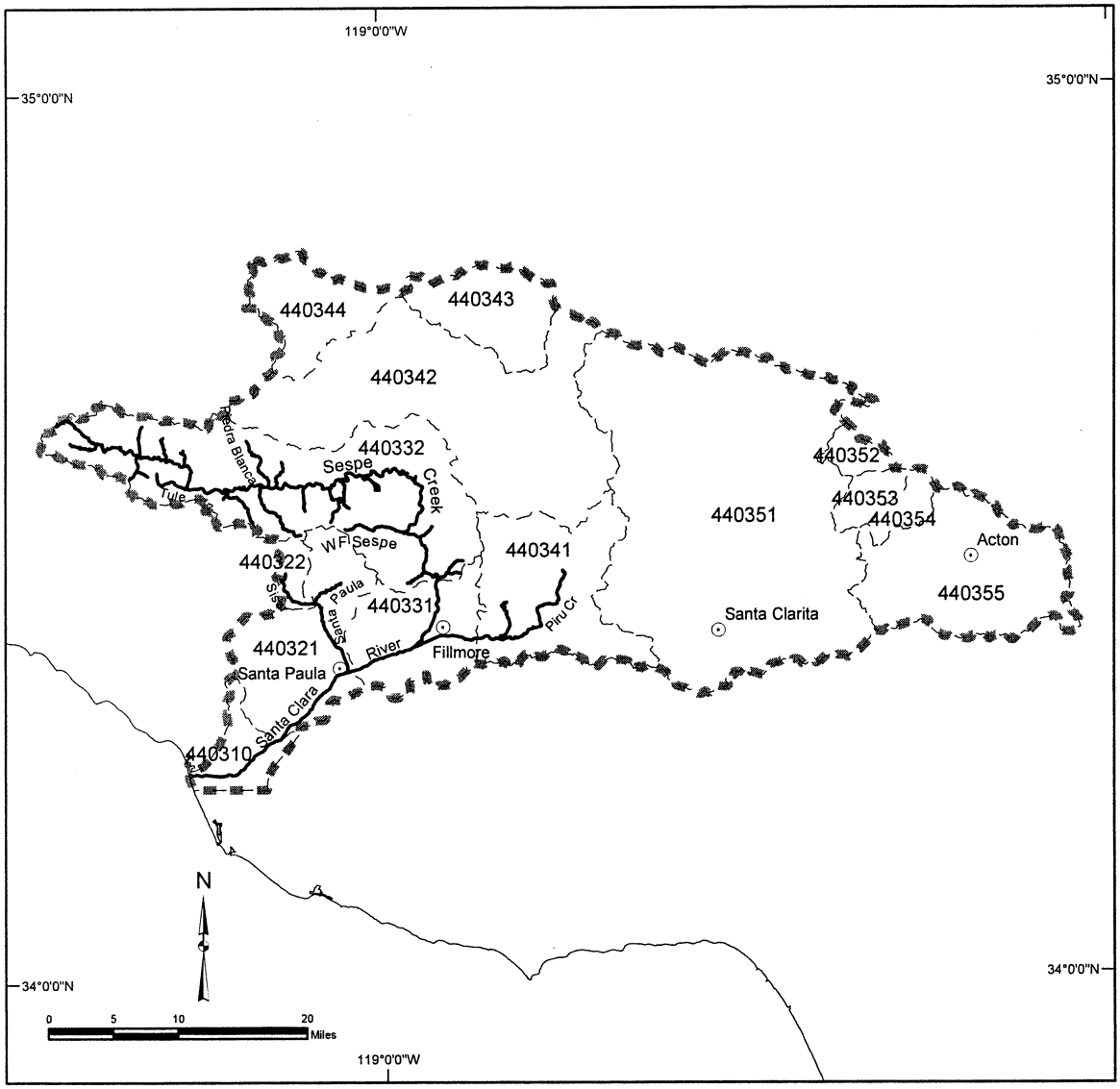
Calwater Hydrologic Unit Boundary

Fifth Field Calwater Hydrologic Sub-Area Boundary

331210 Fifth Field Calwater Hydrologic Sub-Area Number

Critical Habitat for the Southern California Steelhead

Santa Clara-Calleguas Hydrologic Unit 4403



Cities/Towns

Critical Habitat

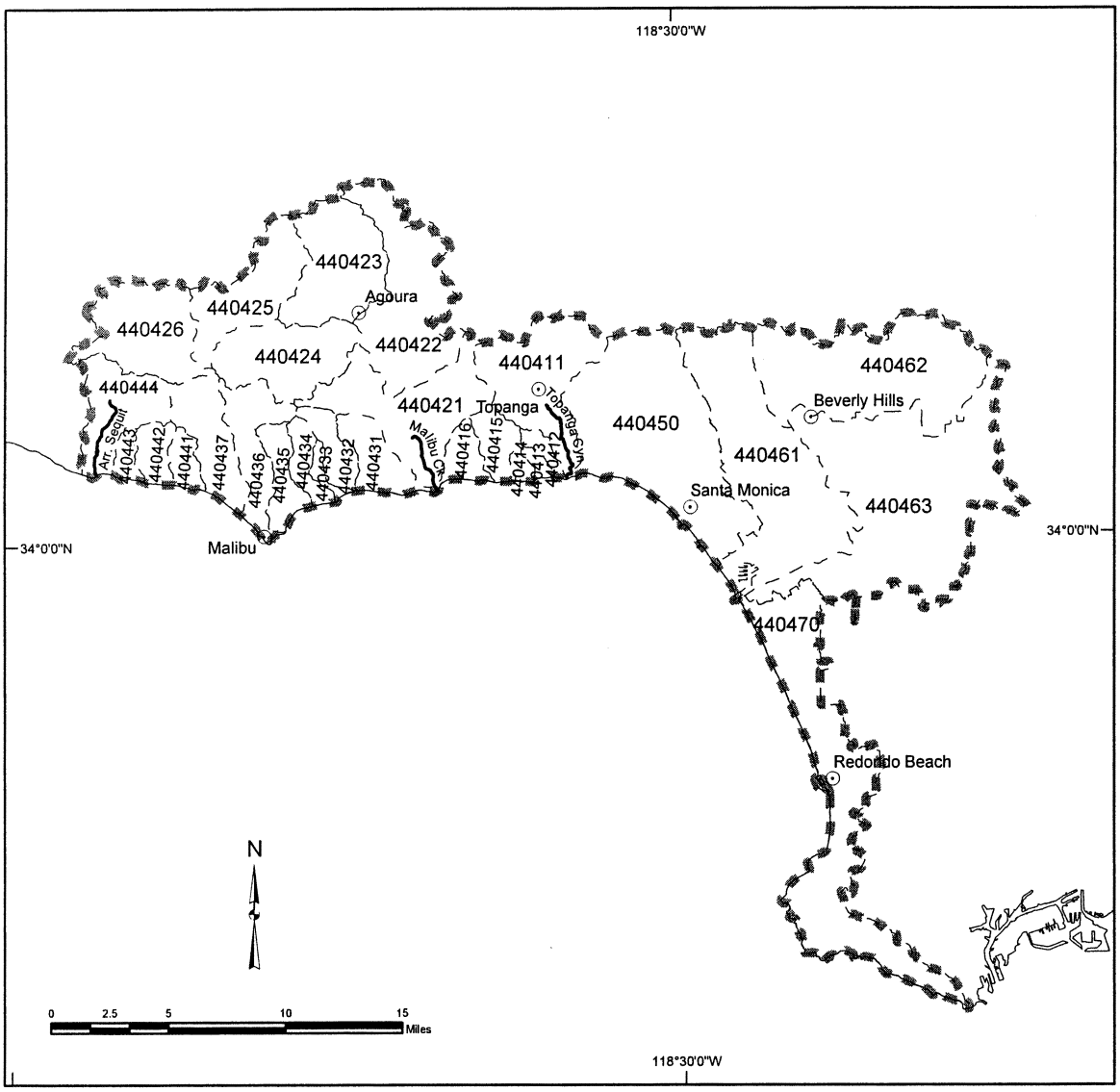
Calwater Hydrologic Unit Boundary

Fifth Field Calwater Hydrologic Sub-Area Boundary

331210 Fifth Field Calwater Hydrologic Sub-Area Number

Critical Habitat for the Southern California Steelhead

Santa Monica Bay Hydrologic Unit 4404



Cities/Towns

Critical Habitat

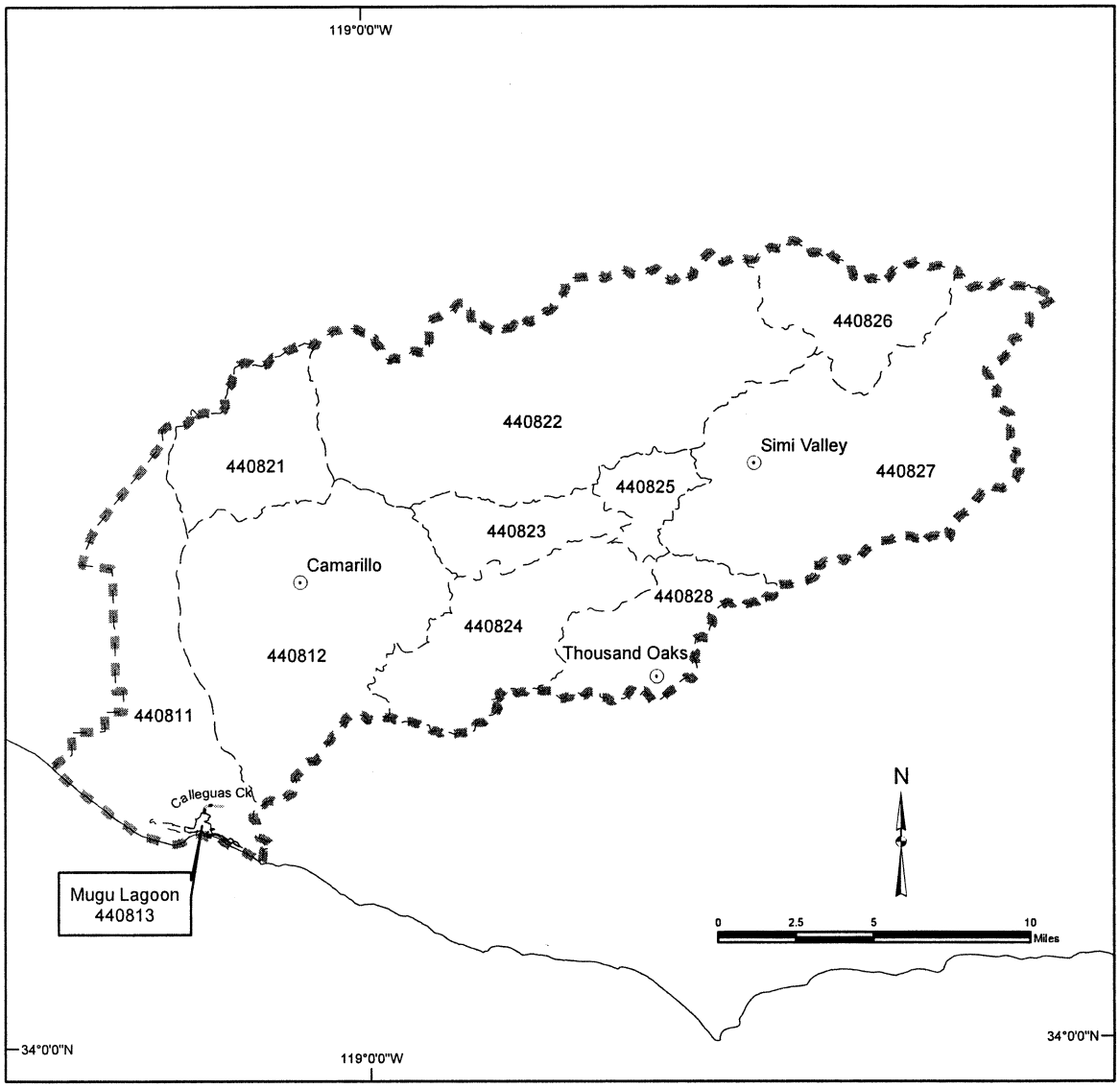
Calwater Hydrologic Unit Boundary

Fifth Field Calwater Hydrologic Sub-Area Boundary

331210 Fifth Field Calwater Hydrologic Sub-Area Number

Critical Habitat for the Southern California Steelhead

Calleguas Hydrologic Unit 4408



Cities/Towns

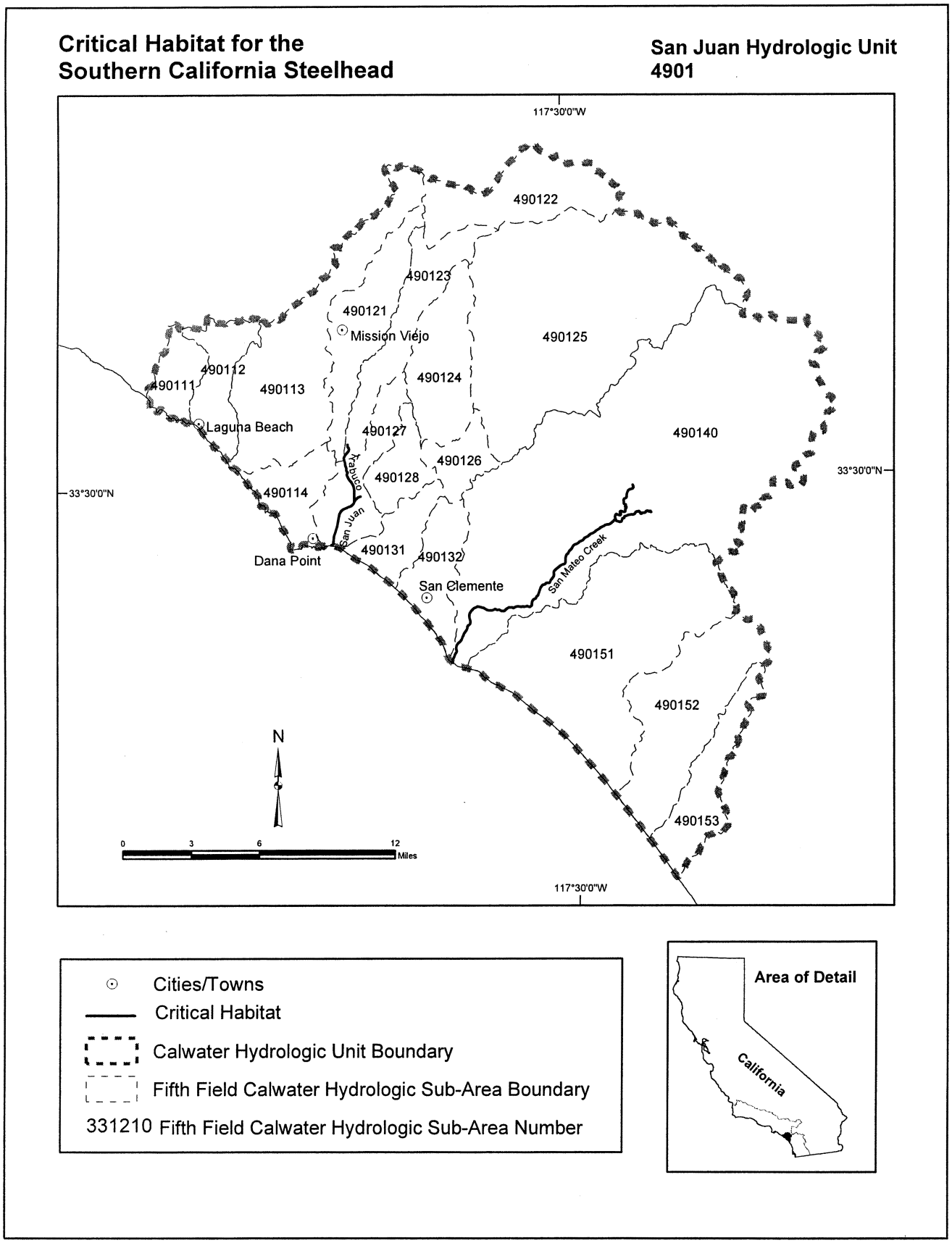
Critical Habitat

Occupied but excluded streams / areas

Calwater Hydrologic Unit Boundary

Fifth Field Calwater Hydrologic Sub-Area Boundary

331210 Fifth Field Calwater Hydrologic Sub-Area Number



BILLING CODE 3510–22–C

(k) *Central Valley Spring Run Chinook Salmon (O. tshawytscha).* Critical habitat is designated to include the areas defined in the following CALWATER Hydrologic Units:

(1) Tehama Hydrologic Unit 5504—(i) *Lower Stony Creek Hydrologic Sub-area 550410.* Outlet(s) = Glenn-Colusa Canal (Lat 39.6762, Long –122.0151); Stony Creek (39.7122, –122.0072) upstream to endpoint(s) in: Glenn-Colusa Canal (39.7122, –122.0072); Stony Creek (39.8178, –122.3253).

(ii) *Red Bluff Hydrologic Sub-area 550420.* Outlet(s) = Sacramento River (Lat 39.6998, Long –121.9419) upstream to endpoint(s) in: Antelope Creek (40.2023, –122.1275); Big Chico Creek (39.7757, –121.7525); Blue Tent Creek (40.2284, –122.2551); Burch Creek (39.8526, –122.1502); Butler Slough (40.1579, –122.1320); Coyote Creek (40.0929, –122.1621); Craig Creek (40.1617, –122.1350); Deer Creek (40.0144, –121.9481); Dibble Creek (40.2003, –122.2420); Dye Creek (40.0904, –122.0767); Elder Creek (40.0526, –122.1717); Jewet Creek (39.8913, –122.1005); Kusal Slough (39.7577, –121.9699); Lindo Channel (39.7623, –121.7923); McClure Creek (40.0074, –122.1729); Mill Creek (40.0550, –122.0317); Mud Creek (39.7931, –121.8865); New Creek (40.1873, –122.1350); Oat Creek (40.0847, –122.1658); Pine Creek (39.8760, –121.9777); Red Bank Creek (40.1391, –122.2157); Reeds Creek (40.1687, –122.2377); Rice Creek (39.8495, –122.1626); Rock Creek (39.8189, –121.9124); Salt Creek (40.1869, –122.1845); Singer Creek (39.9200, –121.9612); Thomes Creek (39.8822, –122.5527); Toomes Creek (39.9808, –122.0642); Unnamed Tributary (39.8532, –122.1627); Unnamed Tributary (40.1682, –122.1459); Unnamed Tributary (40.1867, –122.1353).

(2) Whitmore Hydrologic Unit 5507—(i) *Inks Creek Hydrologic Sub-area 550711.* Outlet(s) = Inks Creek (Lat 40.3305, Long –122.1520) upstream to endpoint(s) in: Inks Creek 40.3418, –122.1332).

(ii) *Battle Creek Hydrologic Sub-area 550712* Outlet(s) = Battle Creek (Lat 40.4083, Long –122.1102) upstream to endpoint(s) in: Battle Creek (40.4228, –121.9975); North Fork Battle Creek (40.4746, –121.8436); South Fork Battle Creek (40.3549, –121.6861).

(iii) *Inwood Hydrologic Sub-area 550722.* Outlet(s) = Bear Creek (Lat 40.4352, Long –122.2039) upstream to endpoint(s) in: Bear Creek (40.4859, –122.1529); Dry Creek (40.4574, –122.1993).

(3) Redding Hydrologic Unit 5508—(i) *Enterprise Flat Hydrologic Sub-area 550810.* Outlet(s)= Sacramento River (Lat 40.2526, Long –122.1707) upstream to endpoint(s) in: Anderson Creek (40.3910, –122.1984); Ash Creek (40.4451, –122.1815); Battle Creek (40.4083, –122.1102); Churn Creek (40.5431, –122.3395); Clear Creek (40.5158, –122.5256); Cow Creek (40.5438, –122.1318); Olney Creek (40.5262, –122.3783); Paynes Creek (40.2810, –122.1587); Stillwater Creek (40.4789, –122.2597).

(ii) *Lower Cottonwood Hydrologic Sub-area 550820.* Outlet(s) = Cottonwood Creek (Lat 40.3777, Long –122.1991) upstream to endpoint(s) in: Cottonwood Creek (40.3943, –122.5254); Middle Fork Cottonwood Creek (40.3314, –122.6663); South Fork Cottonwood Creek (40.1578, –122.5809).

(4) Eastern Tehama Hydrologic Unit 5509—(i) *Big Chico Creek Hydrologic Sub-area 550914.* Outlet(s) = Big Chico Creek (Lat 39.7757, Long –121.7525) upstream to endpoint(s) in: Big Chico Creek (39.8873, –121.6979).

(ii) *Deer Creek Hydrologic Sub-area 550920.* Outlet(s) = Deer Creek (Lat 40.0144, Long –121.9481) upstream to endpoint(s) in: Deer Creek (40.2019, –121.5130).

(iii) *Upper Mill Creek Hydrologic Sub-area 550942.* Outlet(s) = Mill Creek (Lat 40.0550, Long –122.0317) upstream to endpoint(s) in: Mill Creek (40.3997, –121.5131).

(iv) *Antelope Creek Hydrologic Sub-area 550963.* Outlet(s) = Antelope Creek (Lat 40.2023, Long –122.1272) upstream to endpoint(s) in: Antelope Creek (40.2416, –121.8630); North Fork Antelope Creek (40.2691, –121.8226); South Fork Antelope Creek (40.2309, –121.8325).

(5) Sacramento Delta Hydrologic Unit 5510—(i) *Sacramento Delta Hydrologic Sub-area 551000.* Outlet(s) = Sacramento River (Lat 38.0612, Long –121.7948) upstream to endpoint(s) in: Cache Slough (38.3086, –121.7633); Delta Cross Channel (38.2433, –121.4964); Elk Slough (38.4140, –121.5212); Elkhorn Slough (38.2898, –121.6271); Georgiana Slough (38.2401, –121.5172); Miners Slough (38.2864, –121.6051); Prospect Slough (38.1477, –121.6641); Sevenmile Slough (38.1171, –121.6298); Steamboat Slough (38.3052, –121.5737); Sutter Slough (38.3321, –121.5838); Threemile Slough (38.1155, –121.6835); Yolo Bypass (38.5800, –121.5838).

(ii) [Reserved]

(6) Valley-Putah-Cache Hydrologic Unit 5511—(i) *Lower Putah Creek Hydrologic Sub-area 551120.* Outlet(s) = Yolo Bypass (Lat 38.5800, Long –121.5838) upstream to endpoint(s) in: Sacramento Bypass (38.6057, –121.5563); Yolo Bypass (38.7627, –121.6325).

(ii) [Reserved]

(7) Marysville Hydrologic Unit 5515—(i) *Lower Yuba River Hydrologic Sub-area 551510.* Outlet(s) = Bear River (Lat 38.9398, Long –121.5790) upstream to endpoint(s) in: Bear River (38.9783, –121.5166).

(ii) *Lower Yuba River Hydrologic Sub-area 551530.* Outlet(s) = Yuba River (Lat 39.1270, Long –121.5981) upstream to endpoint(s) in: Yuba River (39.2203, –121.3314).

(iii) *Lower Feather River Hydrologic Sub-area 551540.* Outlet(s) = Feather River (Lat 39.1270, Long –121.5981) upstream to endpoint(s) in: Feather River (39.5203, –121.5475).

(8) Yuba River Hydrologic Unit 5517—(i) *Browns Valley Hydrologic Sub-Area 551712.* Outlet(s) = Dry Creek (Lat 39.2207, Long –121.4088); Yuba River (39.2203, –121.3314) upstream to endpoint(s) in: Dry Creek (39.3201, –121.3117); Yuba River (39.2305, –121.2813).

(ii) *Englebright Hydrologic Sub-area 551714.* Outlet(s) = Yuba River (Lat 39.2305, Long –121.2813) upstream to endpoint(s) in: Yuba River (39.2388, –121.2698).

(9) Valley-American Hydrologic Unit 5519—(i) *Lower American Hydrologic Sub-area 551921.* Outlet(s) = American River (Lat 38.5971, Long –121.5088) upstream to endpoint(s) in: American River (38.5669, –121.3827).

(ii) *Pleasant Grove Hydrologic Sub-area 551922.* Outlet(s) = Sacramento River (Lat 38.5965, Long –121.5086) upstream to endpoint(s) in: Feather River (39.1270, –121.5981).

(10) Colusa Basin Hydrologic Unit 5520—(i) *Sycamore-Sutter Hydrologic Sub-area 552010.* Outlet(s) = Sacramento River (Lat 38.7604, Long –121.6767) upstream to endpoint(s) in: Tisdale Bypass (39.0261, –121.7456).

(ii) *Sutter Bypass Hydrologic Sub-area 552030.* Outlet(s) = Sacramento River (Lat 38.7849, Long –121.6219) upstream to endpoint(s) in: Butte Creek (39.1987, –121.9285); Butte Slough (39.1987, –121.9285); Nelson Slough (38.8901, –121.6352); Sacramento Slough (38.7843, –121.6544); Sutter Bypass (39.1417, –121.8196; 39.1484, –121.8386); Tisdale Bypass (39.0261, –121.7456); Unnamed Tributary (39.1586, –121.8747).

(iii) *Butte Basin Hydrologic Sub-area 552040.* Outlet(s) = Butte Creek (Lat 39.1990, Long –121.9286); Sacramento River (39.4141, –122.0087) upstream to endpoint(s) in: Butte creek (39.7095, –121.7506); Colusa Bypass (39.2276,

–121.9402); Unnamed Tributary (39.6762, –122.0151).

(11) Butte Creek Hydrologic Unit 5521—*Upper Little Chico Hydrologic Sub-area 552130.* Outlet(s) = Butte Creek (Lat 39.7096, –121.7504) upstream to endpoint(s) in Butte Creek (39.8665, –121.6344).

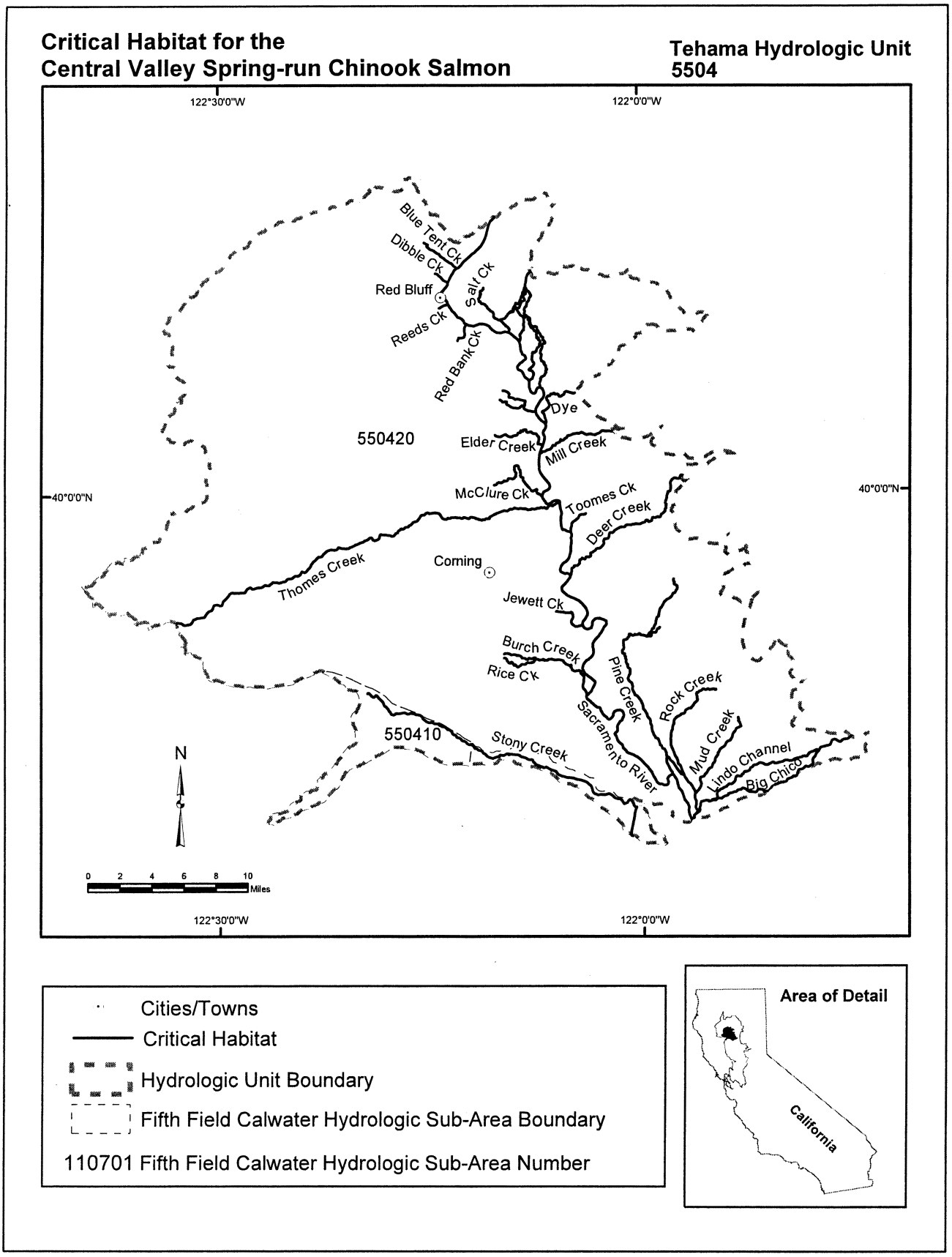
(12) Shasta Bally Hydrologic Unit 5524—(i) *Platina Hydrologic Sub-area 552436.* Outlet(s) = Middle Fork Cottonwood Creek (Lat 40.3314, –122.6663) upstream to endpoint(s) in Beegum Creek (40.3066, –122.9205); Middle Fork Cottonwood Creek (40.3655, –122.7451).

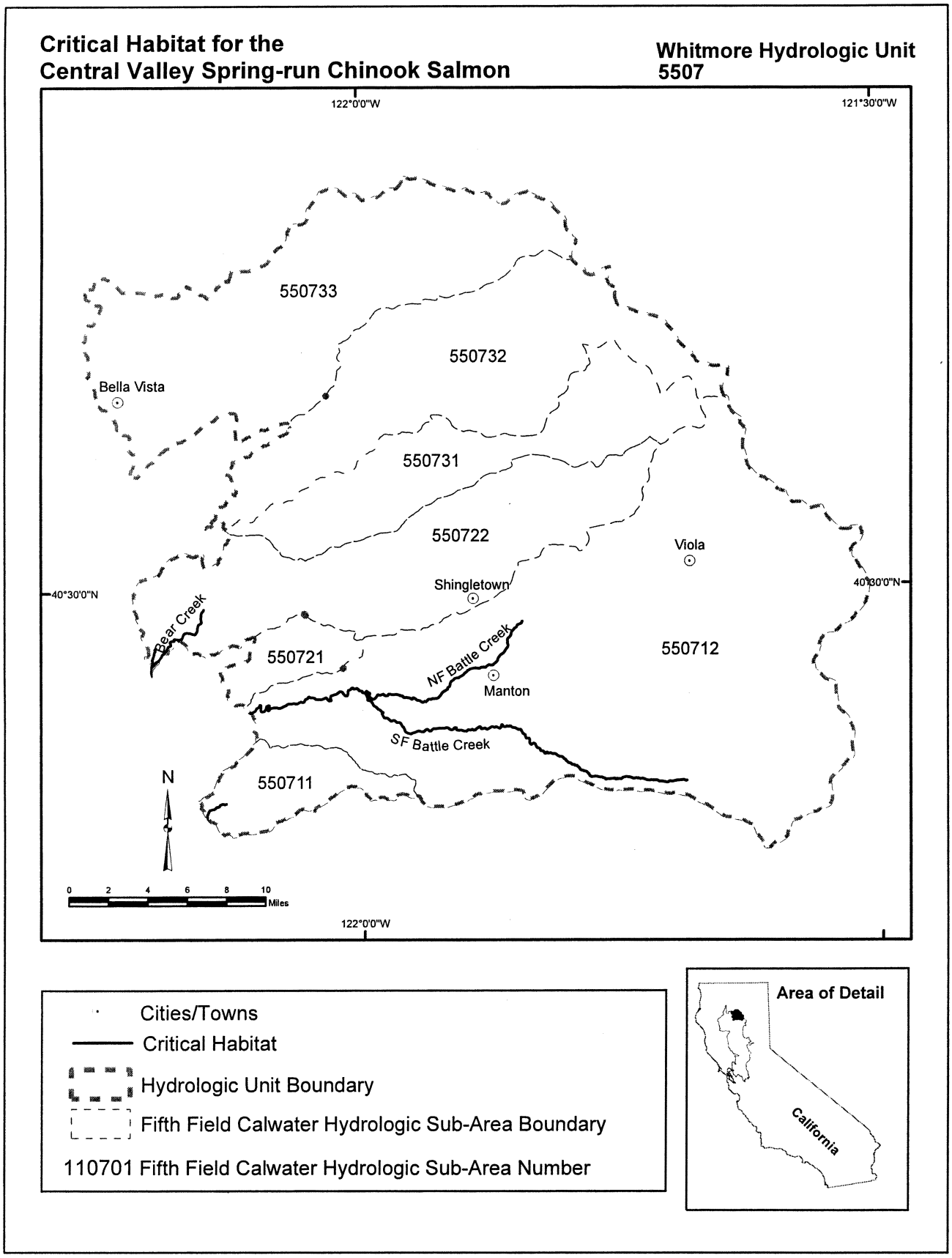
(ii) *Spring Creek Hydrologic Sub-area 552440.* Outlet(s) = Sacramento River (Lat 40.5943, Long –122.4343) upstream to endpoint(s) in: Sacramento River (40.6116, –122.4462)

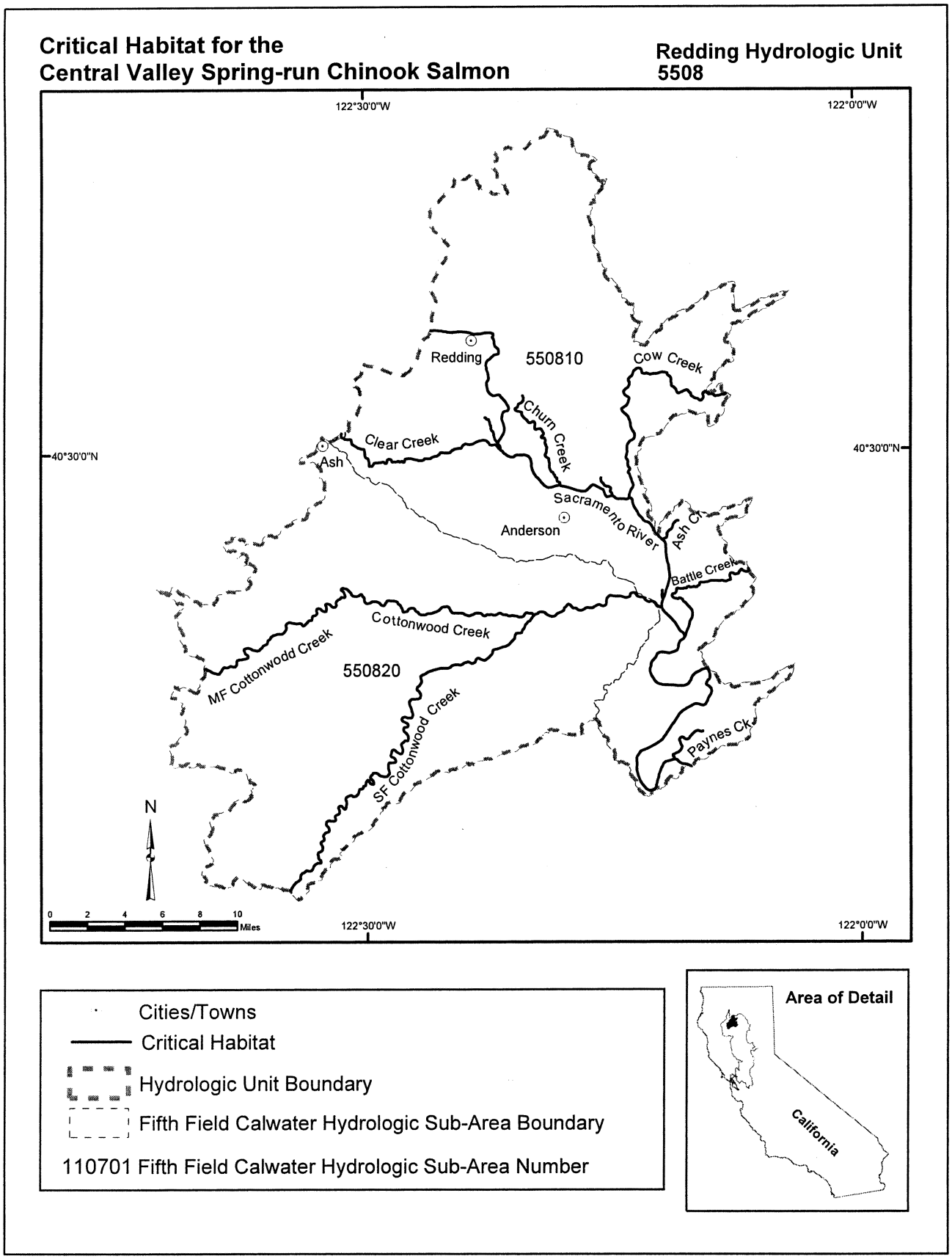
(iii) *Kanaka Peak Hydrologic Sub-area 552462.* Outlet(s) = Clear Creek (Lat 40.5158, Long –122.5256) upstream to endpoint(s) in: Clear Creek (40.5992, –122.5394).

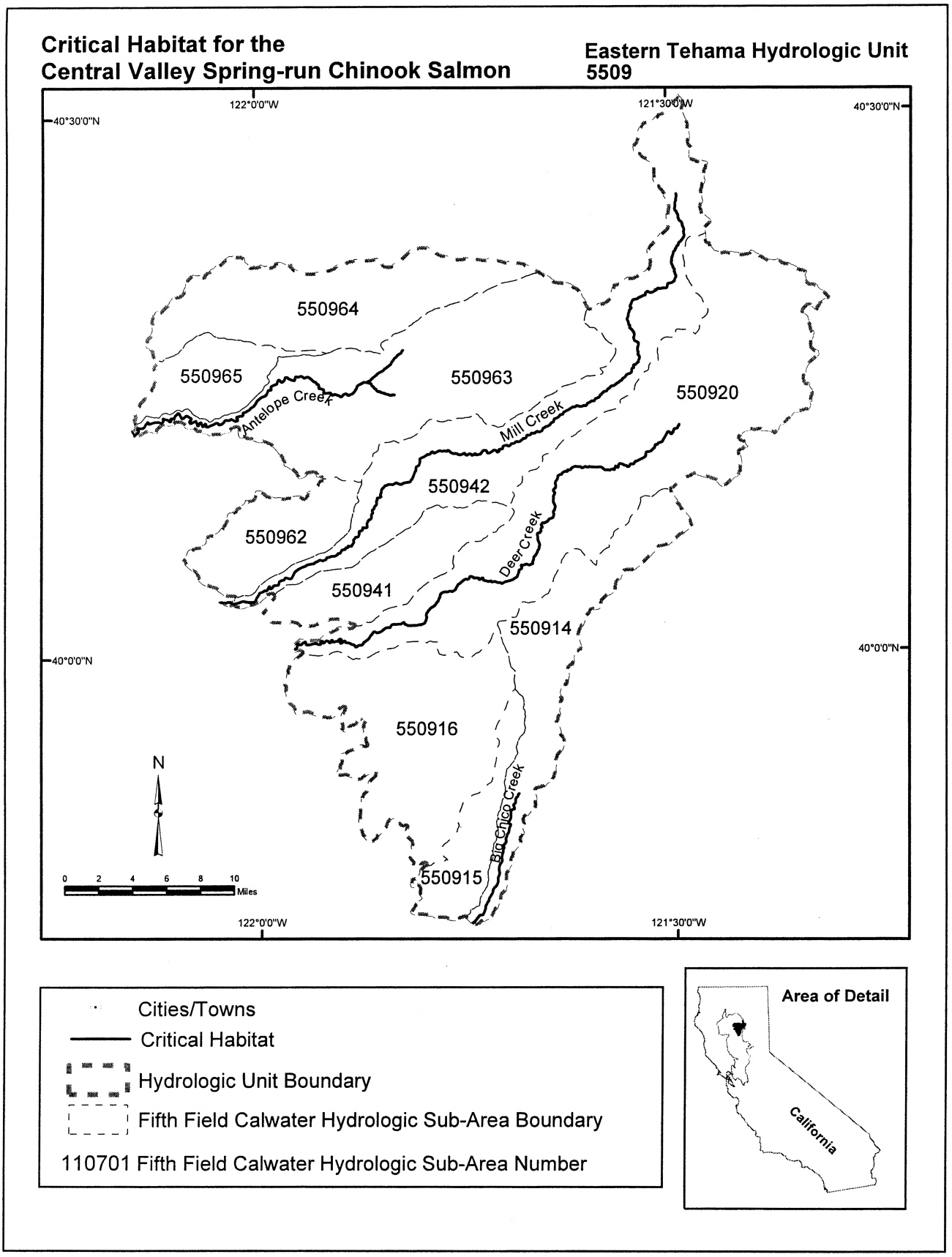
(13) Maps of critical habitat for the Central Valley Spring Run Chinook ESU follow:

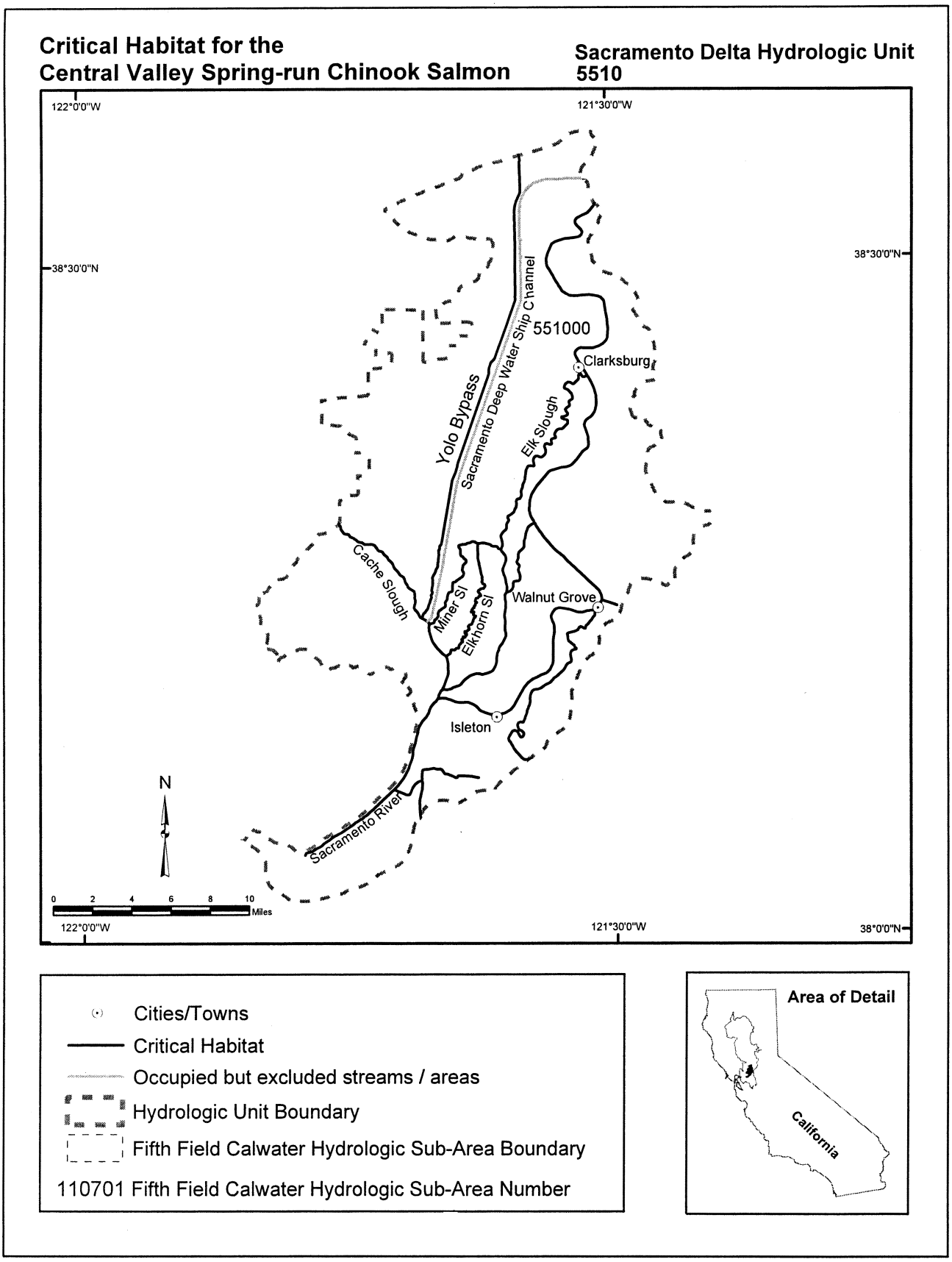
BILLING CODE 3510–22–P

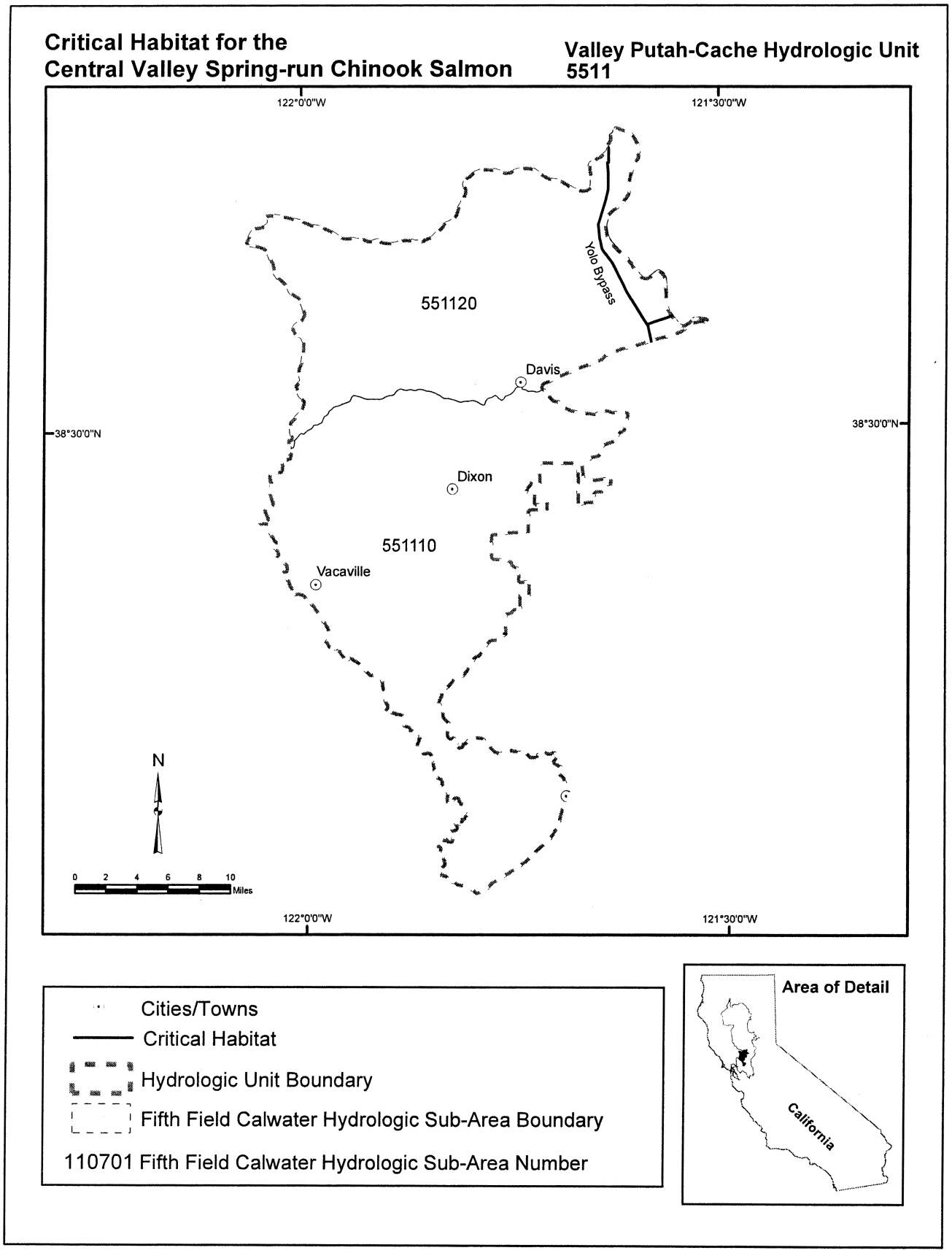

Critical Habitat for the
Central Valley Spring-run Chinook Salmon
Tehama Hydrologic Unit
5504
122°30'0"W
122°0'0"W
40°0'0"N
Blue Tent Ck
Dibble Ck
Red Bluff
Salt Ck
Reeds Ck
Red Bank Ck
Dye
550420
Elder Creek
Mill Creek
McClure Ck
Toomes Ck
Deer Creek
Thomes Creek
Corning
Jewett Ck
Burch Creek
Rice Ck
Pine Creek
Rock Creek
Sacramento River
Mud Creek
550410
Stony Creek
Lindo Channel
Big Chico
N
0 2 4 6 8 10
Miles
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California

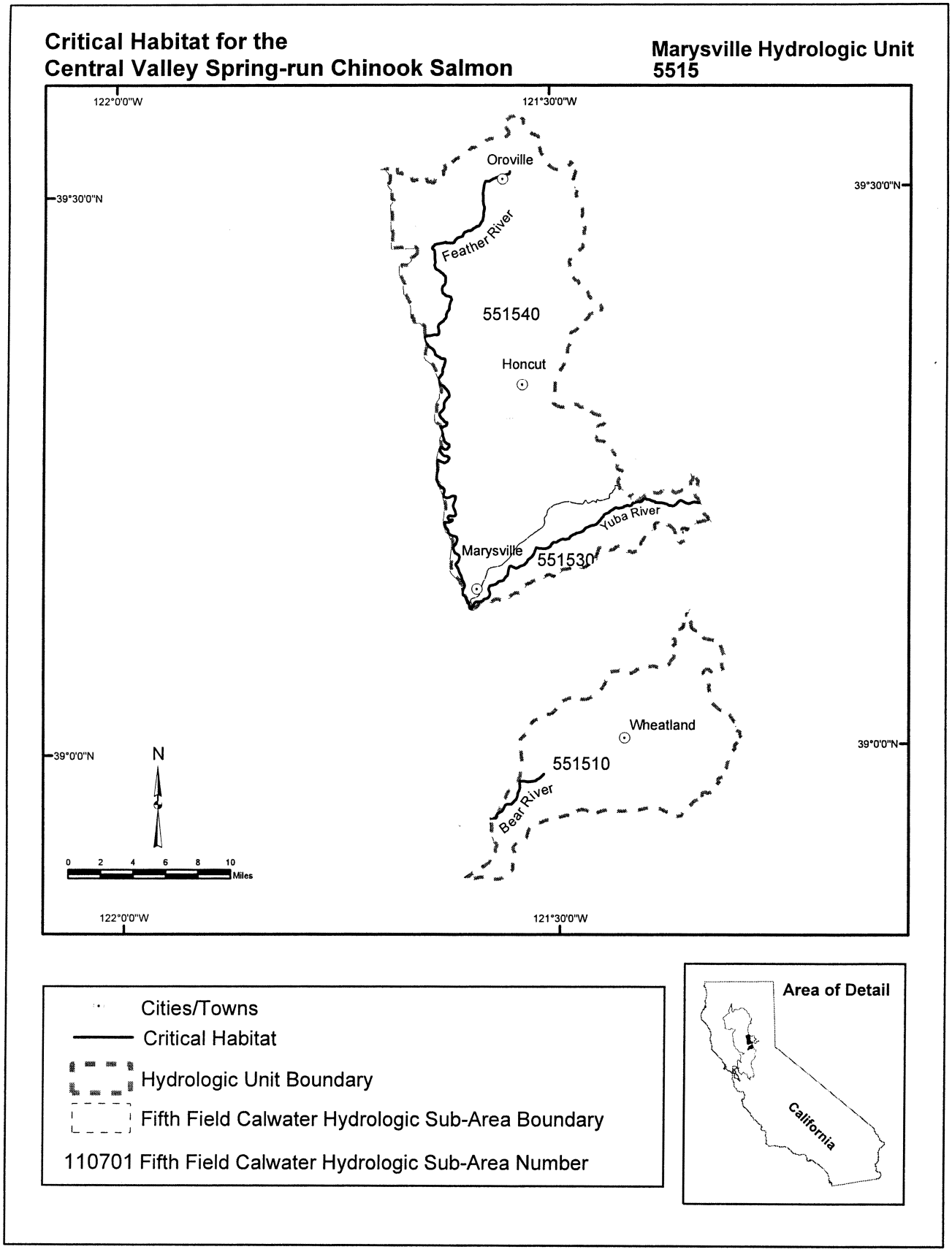

Critical Habitat for the
Central Valley Spring-run Chinook Salmon
Whitmore Hydrologic Unit
5507
122°0'0"W
121°30'0"W
550733
550732
Bella Vista
550731
550722
Viola
Shingletown
40°30'0"N
40°30'0"N
Bear Creek
550721
NF Battle Creek
550712
Manton
SF Battle Creek
N
550711
0 2 4 6 8 10
Miles
122°0'0"W
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California

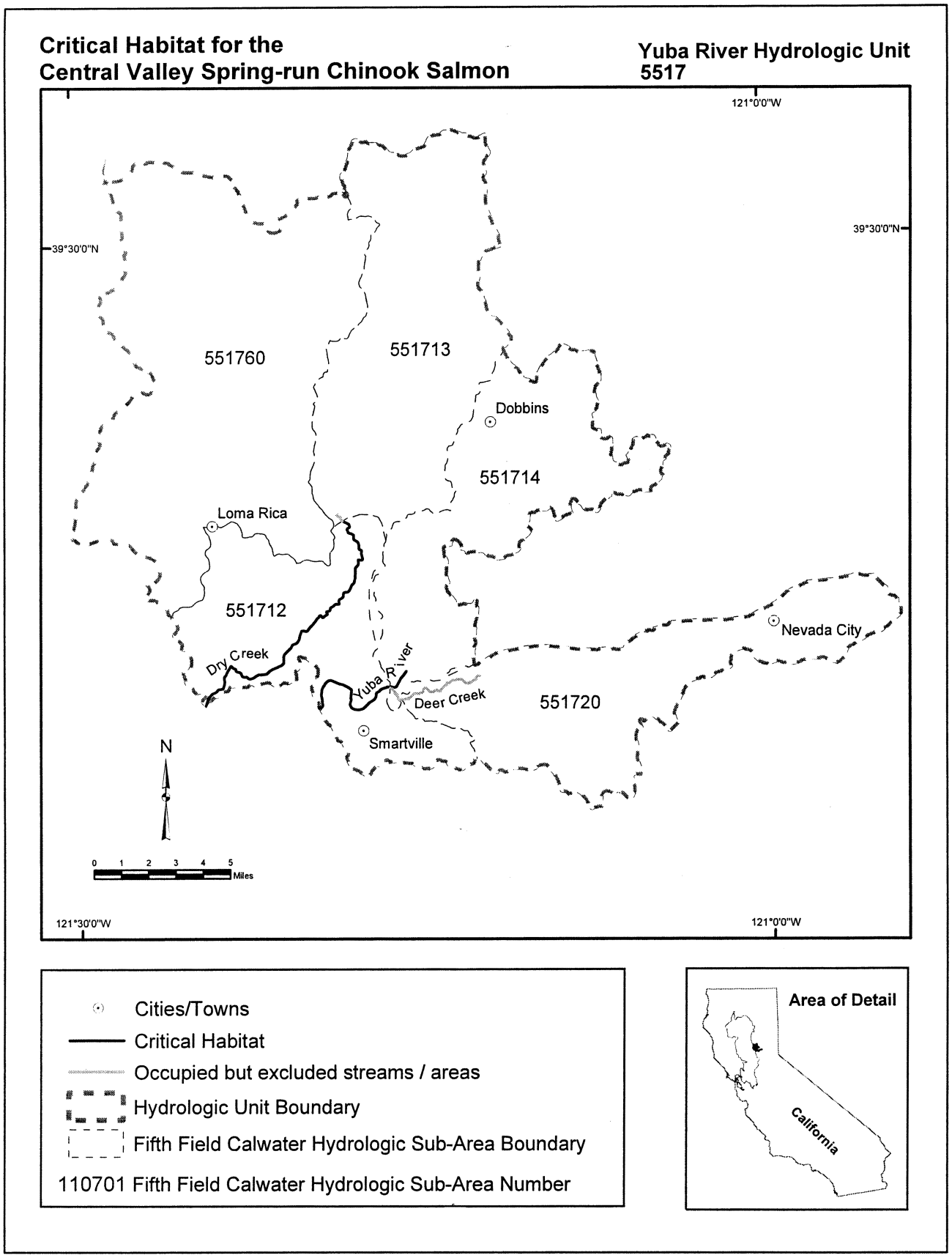

Critical Habitat for the
Central Valley Spring-run Chinook Salmon
Redding Hydrologic Unit
5508
122°30'0"W
122°0'0"W
40°30'0"N
Redding
550810
Cow Creek
Churn Creek
Clear Creek
Ash
Sacramento River
Ash Cr
Anderson
Battle Creek
Cottonwood Creek
MF Cottonwodd Creek
550820
SF Cottonwood Creek
Paynes Ck
N
0 2 4 6 8 10
Miles
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California

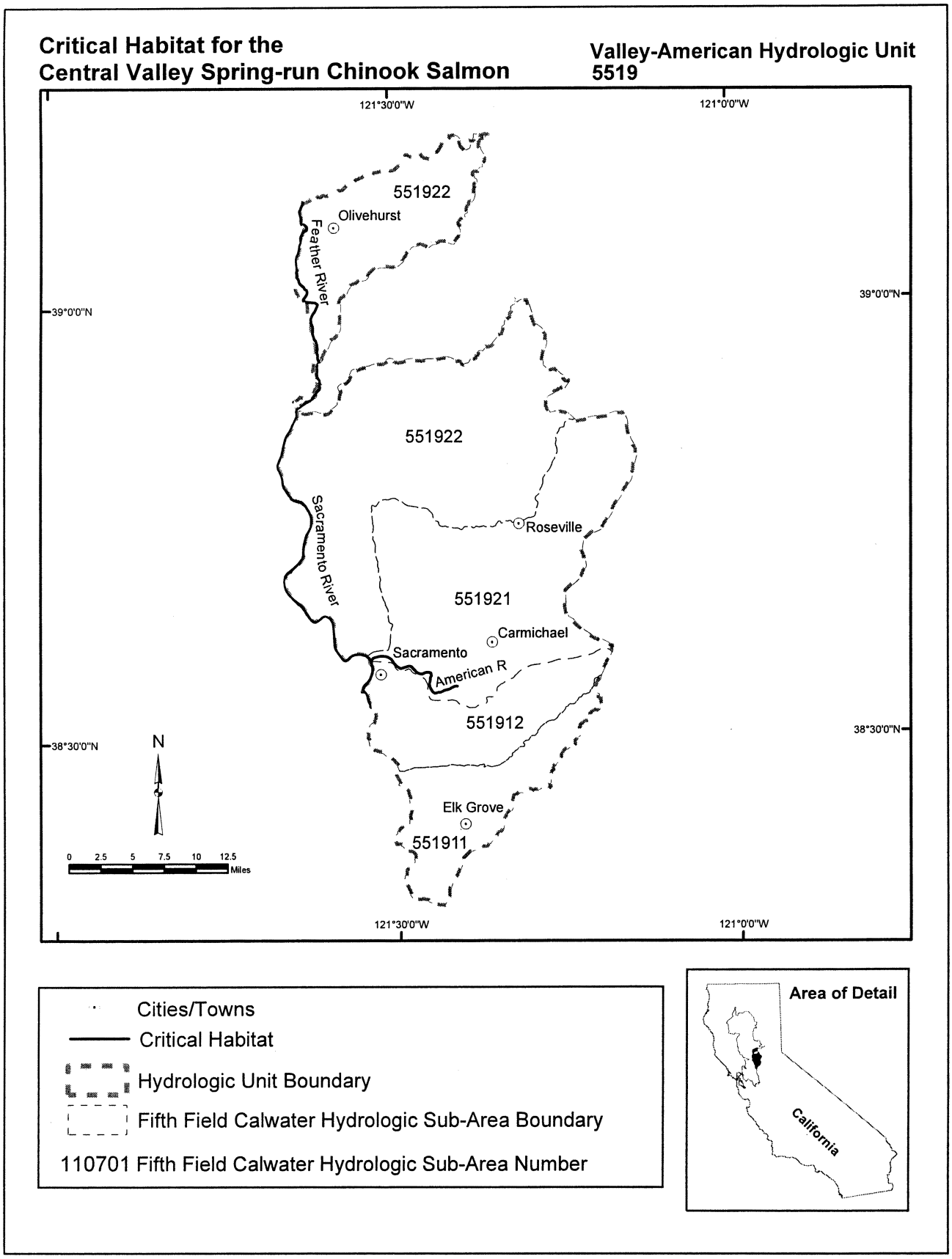

Critical Habitat for the
Central Valley Spring-run Chinook Salmon
Eastern Tehama Hydrologic Unit
5509
122°0'0"W
121°30'0"W
40°30'0"N
40°0'0"N
550964
550965
550963
550920
550942
550962
550941
550914
550916
550915
Antelope Creek
Mill Creek
Deer Creek
Big Chico Creek
N
0 2 4 6 8 10
Miles
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California

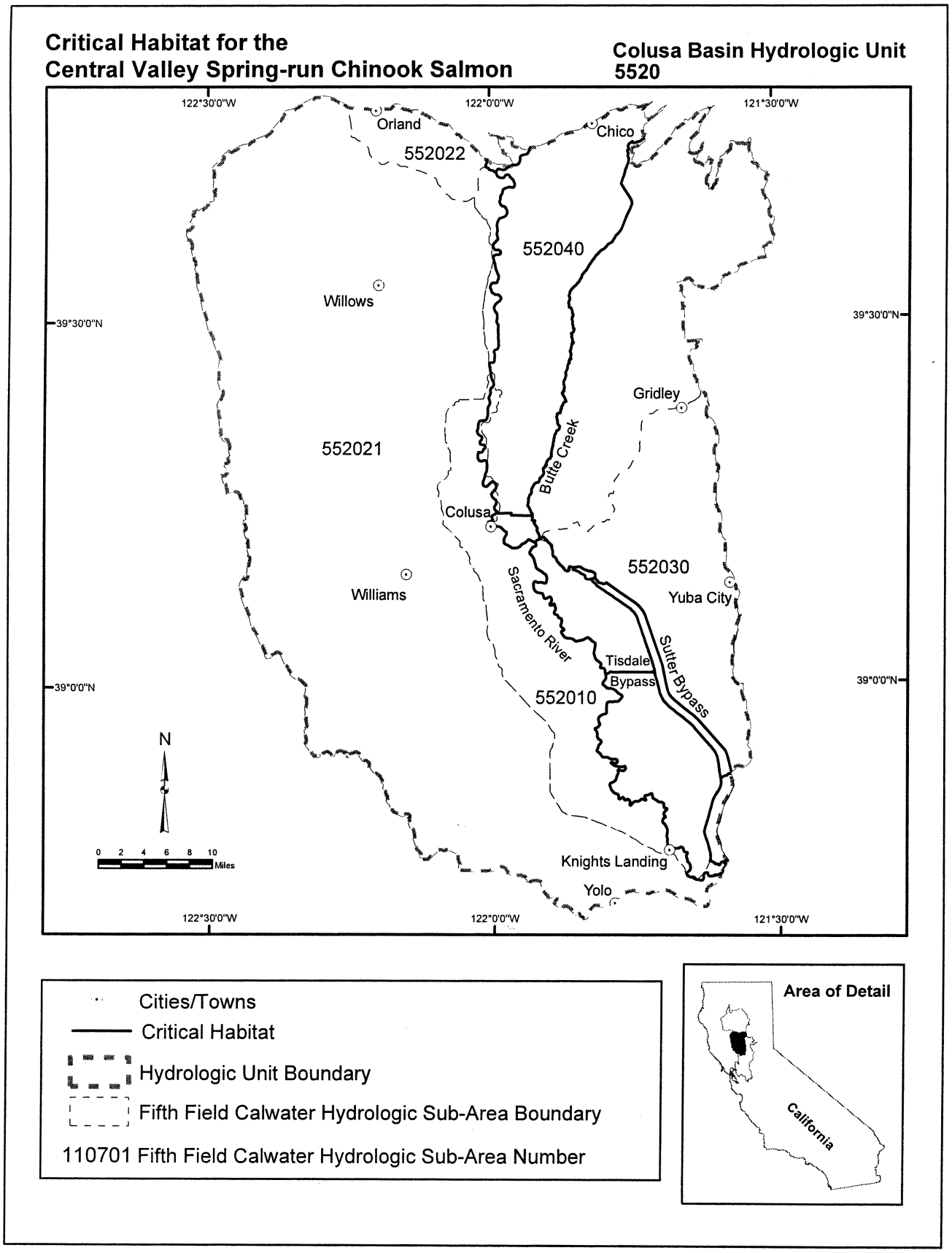

Critical Habitat for the
Central Valley Spring-run Chinook Salmon
Sacramento Delta Hydrologic Unit
5510
122°0'0"W
121°30'0"W
38°30'0"N
38°0'0"N
551000
Clarksburg
Yolo Bypass
Sacramento Deep Water Ship Channel
Elk Slough
Cache Slough
Miner Sl
Elkhorn Sl
Walnut Grove
Isleton
Sacramento River
N
0 2 4 6 8 10
Miles
Cities/Towns
Critical Habitat
Occupied but excluded streams / areas
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California

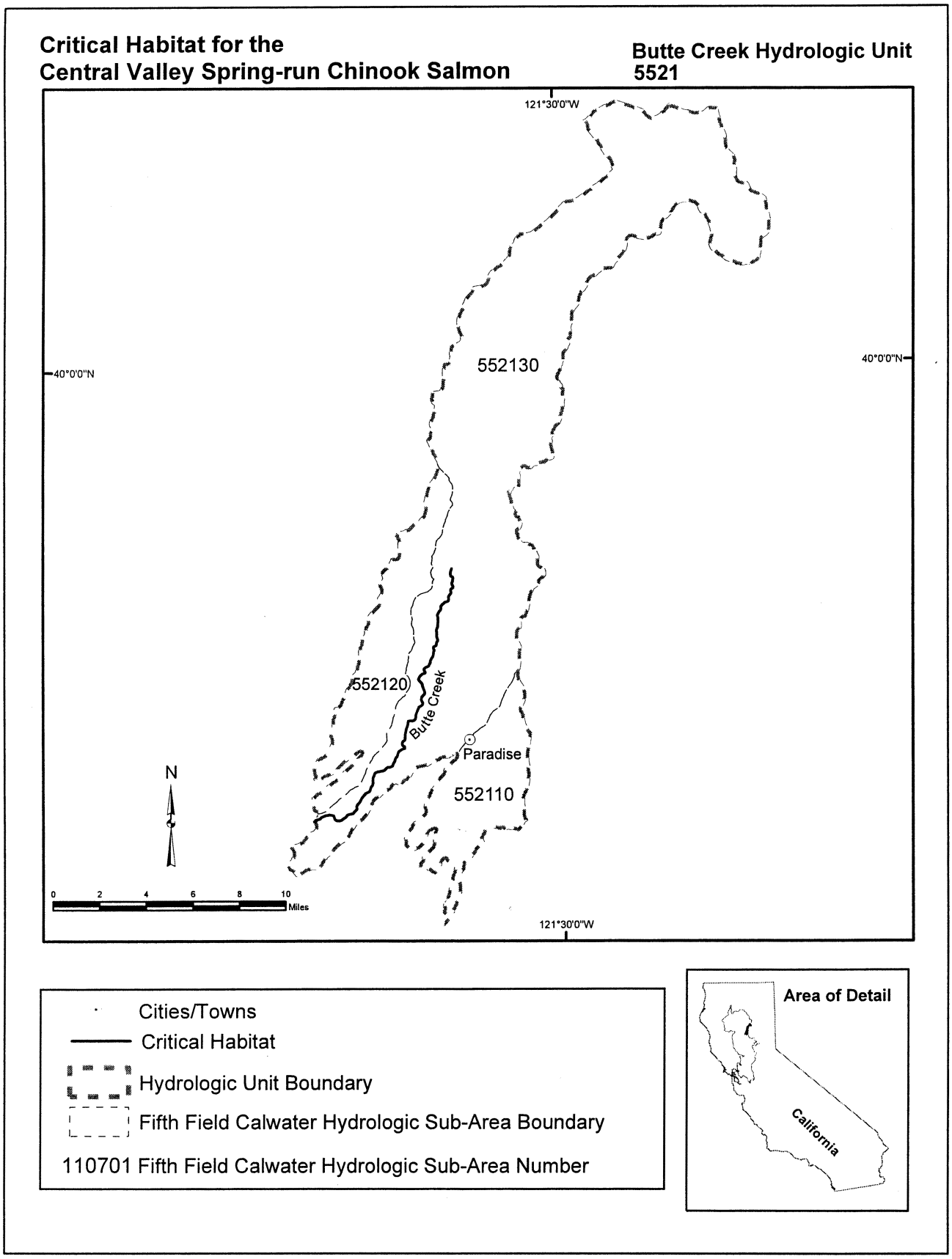

Critical Habitat for the
Central Valley Spring-run Chinook Salmon
Valley Putah-Cache Hydrologic Unit
5511
122°0'0"W
121°30'0"W
38°30'0"N
Yolo Bypass
551120
Davis
Dixon
551110
Vacaville
N
0 2 4 6 8 10
Miles
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California

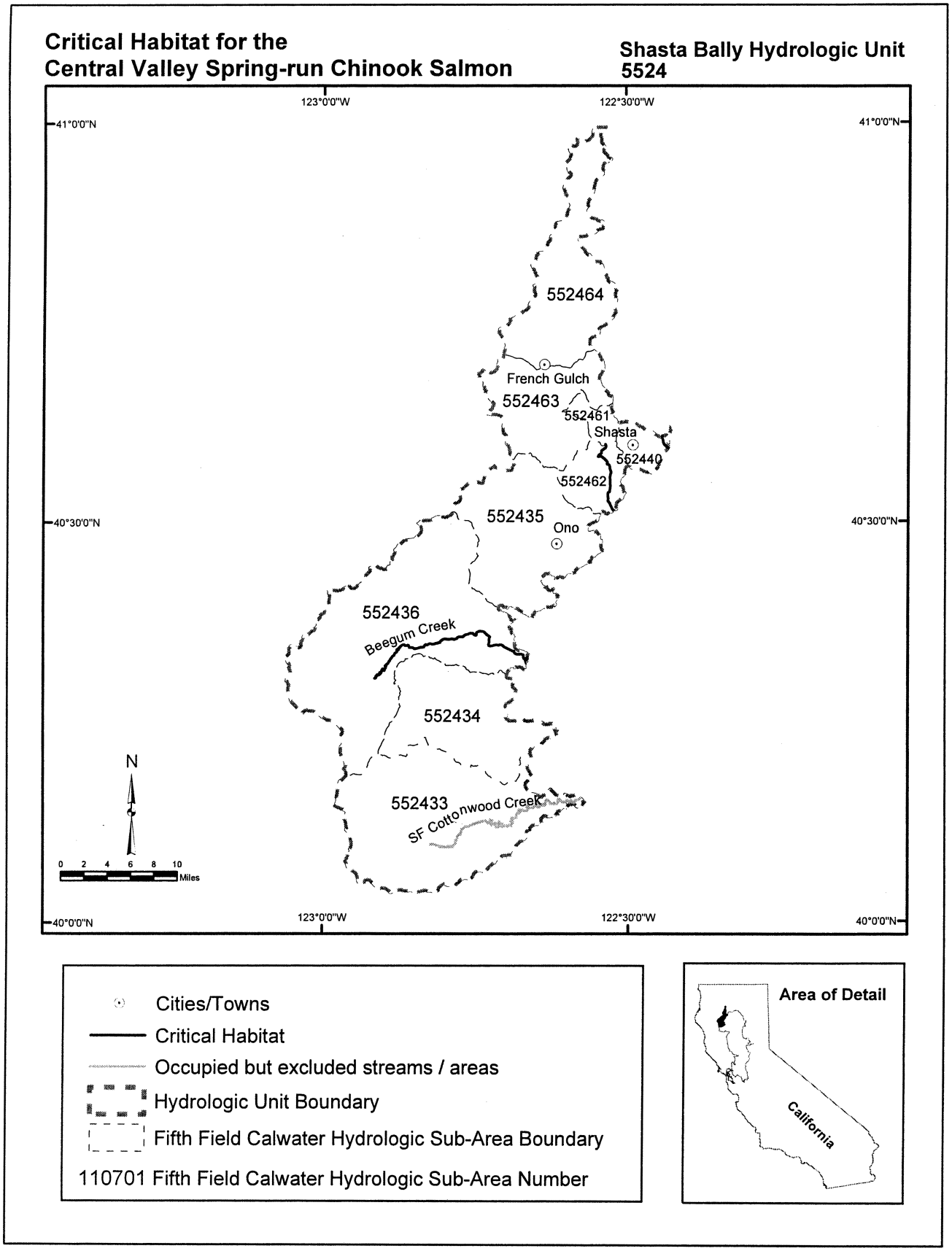

Critical Habitat for the
Central Valley Spring-run Chinook Salmon
Marysville Hydrologic Unit
5515
122°0'0"W
121°30'0"W
39°30'0"N
39°0'0"N
Oroville
Feather River
551540
Honcut
Yuba River
Marysville
551530
Wheatland
551510
Bear River
N
0 2 4 6 8 10
Miles
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California


Critical Habitat for the
Central Valley Spring-run Chinook Salmon
Yuba River Hydrologic Unit
5517
121°0'0"W
39°30'0"N
39°30'0"N
551760
551713
Dobbins
551714
Loma Rica
551712
Nevada City
Dry Creek
Yuba River
Deer Creek
551720
Smartville
N
0 1 2 3 4 5
Miles
121°30'0"W
121°0'0"W
Cities/Towns
Critical Habitat
Occupied but excluded streams / areas
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California


Critical Habitat for the
Central Valley Spring-run Chinook Salmon
Valley-American Hydrologic Unit
5519
121°30'0"W
121°0'0"W
39°0'0"N
38°30'0"N
551922
Olivehurst
Feather River
551922
Roseville
Sacramento River
551921
Carmichael
Sacramento
American R
551912
Elk Grove
551911
N
0 2.5 5 7.5 10 12.5
Miles
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California


Critical Habitat for the
Central Valley Spring-run Chinook Salmon
Colusa Basin Hydrologic Unit
5520
122°30'0"W
122°0'0"W
121°30'0"W
39°30'0"N
39°0'0"N
Orland
Chico
552022
552040
Willows
Gridley
552021
Butte Creek
Colusa
552030
Williams
Yuba City
Sacramento River
Sutter Bypass
Tisdale
Bypass
552010
N
0 2 4 6 8 10
Miles
Knights Landing
Yolo
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California


Critical Habitat for the
Central Valley Spring-run Chinook Salmon
Butte Creek Hydrologic Unit
5521
121°30'0"W
40°0'0"N
40°0'0"N
552130
552120
Butte Creek
Paradise
552110
N
0 2 4 6 8 10
Miles
121°30'0"W
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California



BILLING CODE 3510–22–C

(l) *Central Valley steelhead (O. mykiss).* Critical habitat is designated to include the areas defined in the following CALWATER Hydrologic Units:

(1) Tehama Hydrologic Unit 5504—(i) *Lower Stony Creek Hydrologic Sub-area 550410.* Outlet(s) = Stony Creek (Lat 39.6760, Long –121.9732) upstream to endpoint(s) in: Stony Creek (39.8199, –122.3391).

(ii) Red Bluff Hydrologic Sub-area 550420. Outlet(s) = Sacramento River (Lat 39.6998, Long –121.9419) upstream to endpoint(s) in: Antelope Creek (40.2023, –122.1272); Big Chico Creek (39.7757, –121.7525); Blue Tent Creek (40.2166, –122.2362); Burch Creek (39.8495, –122.1615); Butler Slough (40.1579, –122.1320); Craig Creek (40.1617, –122.1350); Deer Creek (40.0144, –121.9481); Dibble Creek (40.2002, –122.2421); Dye Creek (40.0910, –122.0719); Elder Creek (40.0438, –122.2133); Lindo Channel (39.7623, –121.7923); McClure Creek (40.0074, –122.1723); Mill Creek (40.0550, –122.0317); Mud Creek (39.7985, –121.8803); New Creek (40.1873, –122.1350); Oat Creek (40.0769, –122.2168); Red Bank Creek (40.1421, –122.2399); Rice Creek (39.8495, –122.1615); Rock Creek (39.8034, –121.9403); Salt Creek (40.1572, –122.1646); Thomes Creek (39.8822, –122.5527); Unnamed Tributary (40.1867, –122.1353); Unnamed Tributary (40.1682, –122.1459); Unnamed Tributary (40.1143, –122.1259); Unnamed Tributary (40.0151, –122.1148); Unnamed Tributary (40.0403, –122.1009); Unnamed Tributary (40.0514, –122.0851); Unnamed Tributary (40.0530, –122.0769).

(2) Whitmore Hydrologic Unit 5507—(i) *Inks Creek Hydrologic Sub-area 550711.* Outlet(s) = Inks Creek (Lat 40.3305, Long –122.1520) upstream to endpoint(s) in: Inks Creek (40.3418, –122.1332).

(ii) *Battle Creek Hydrologic Sub-area 550712.* Outlet(s) = Battle Creek (Lat 40.4083, Long –122.1102) upstream to endpoint(s) in: Baldwin Creek (40.4369, –121.9885); Battle Creek (40.4228, –121.9975); Brush Creek (40.4913, –121.8664); Millseat Creek (40.4808, –121.8526); Morgan Creek (40.3654, –121.9132); North Fork Battle Creek (40.4877, –121.8185); Panther Creek (40.3897, –121.6106); South Ditch (40.3997, –121.9223); Ripley Creek (40.4099, –121.8683); Soap Creek (40.3904, –121.7569); South Fork Battle Creek (40.3531, –121.6682); Unnamed Tributary (40.3567, –121.8293); Unnamed Tributary (40.4592, –121.8671).

(iii) *Ash Creek Hydrologic Sub-area 550721.* Outlet(s) = Ash Creek (Lat 40.4401, Long –122.1375) upstream to endpoint(s) in: Ash Creek (40.4628, –122.0066).

(iv) *Inwood Hydrologic Sub-area 550722.* Outlet(s) = Ash Creek (Lat 40.4628, Long –122.0066); Bear Creek (40.4352, –122.2039) upstream to endpoint(s) in: Ash Creek (40.4859, –121.8993); Bear Creek (40.5368, –121.9560); North Fork Bear Creek (40.5736, –121.8683).

(v) *South Cow Creek Hydrologic Sub-area 550731.* Outlet(s) = South Cow Creek (Lat 40.5438, Long –122.1318) upstream to endpoint(s) in: South Cow Creek (40.6023, –121.8623).

(vi) *Old Cow Creek Hydrologic Sub-area 550732.* Outlet(s) = Clover Creek (Lat 40.5788, Long –122.1252); Old Cow Creek (40.5442, –122.1317) upstream to endpoint(s) in: Clover Creek (40.6305, –122.0304); Old Cow Creek (40.6295, –122.9619).

(vii) *Little Cow Creek Hydrologic Sub-area 550733.* Outlet(s) = Little Cow Creek (Lat 40.6148, –122.2271); Oak Run Creek (40.6171, –122.1225) upstream to endpoint(s) in: Little Cow Creek (40.7114, –122.0850); Oak Run Creek (40.6379, –122.0856).

(3) Redding Hydrologic Unit 5508—(i) *Enterprise Flat Hydrologic Sub-area 550810.* Outlet(s) = Sacramento River (Lat 40.2526, Long –122.1707) upstream to endpoint(s) in: Ash Creek (40.4401, –122.1375); Battle Creek (40.4083, –122.1102); Bear Creek (40.4360, –122.2036); Calaboose Creek (40.5742, –122.4142); Canyon Creek (40.5532, –122.3814); Churn Creek (40.5986, –122.3418); Clear Creek (40.5158, –122.5256); Clover Creek (40.5788, –122.1252); Cottonwood Creek (40.3777, –122.1991); Cow Creek (40.5437, –122.1318); East Fork Stillwater Creek (40.6495, –122.2934); Inks Creek (40.3305, –122.1520); Jenny Creek (40.5734, –122.4338); Little Cow Creek (40.6148, –122.2271); Oak Run (40.6171, –122.1225); Old Cow Creek (40.5442, –122.1317); Olney Creek (40.5439, –122.4687); Oregon Gulch (40.5463, –122.3866); Paynes Creek (40.3024, –122.1012); Stillwater Creek (40.6495, –122.2934); Sulphur Creek (40.6164, –122.4077).

(ii) *Lower Cottonwood Hydrologic Sub-area 550820.* Outlet(s) = Cottonwood Creek (Lat 40.3777, Long –122.1991) upstream to endpoint(s) in: Cold Fork Cottonwood Creek (40.2060, –122.6608); Cottonwood Creek (40.3943, –122.5254); Middle Fork Cottonwood Creek (40.3314, –122.6663); North Fork Cottonwood Creek (40.4539, –122.5610); South Fork Cottonwood Creek (40.1578, –122.5809).

(4) Eastern Tehama Hydrologic Unit 5509—(i) *Big Chico Creek Hydrologic Sub-area 550914.* Outlet(s) = Big Chico Creek (Lat 39.7757, Long –121.7525) upstream to endpoint(s) in: Big Chico Creek (39.8898, –121.6952).

(ii) *Deer Creek Hydrologic Sub-area 550920.* Outlet(s) = Deer Creek (Lat 40.0142, Long –121.9476) upstream to endpoint(s) in: Deer Creek (40.2025, –121.5130).

(iii) *Upper Mill Creek Hydrologic Sub-area 550942.* Outlet(s) = Mill Creek (Lat 40.0550, Long –122.0317) upstream to endpoint(s) in: Mill Creek (40.3766, –121.5098); Rocky Gulch Creek (40.2888, –121.5997).

(iv) *Dye Creek Hydrologic Sub-area 550962.* Outlet(s) = Dye Creek (Lat 40.0910, Long –122.0719) upstream to endpoint(s) in: Dye Creek (40.0996, –121.9612).

(v) *Antelope Creek Hydrologic Sub-area 550963.* Outlet(s) = Antelope Creek (Lat 40.2023, Long –122.1272) upstream to endpoint(s) in: Antelope Creek (40.2416, –121.8630); Middle Fork Antelope Creek (40.2673, –121.7744); North Fork Antelope Creek (40.2807, –121.7645); South Fork Antelope Creek (40.2521, –121.7575).

(5) Sacramento Delta Hydrologic Unit 5510—*Sacramento Delta Hydrologic Sub-area 551000.* Outlet(s) = Sacramento River (Lat 38.0653, Long –121.8418) upstream to endpoint(s) in: Cache Slough (38.2984, –121.7490); Elk Slough (38.4140, –121.5212); Elkhorn Slough (38.2898, –121.6271); Georgiana Slough (38.2401, –121.5172); Horseshoe Bend (38.1078, –121.7117); Lindsey Slough (38.2592, –121.7580); Miners Slough (38.2864, –121.6051); Prospect Slough (38.2830, –121.6641); Putah Creek (38.5155, –121.5885); Sevenmile Slough (38.1171, –121.6298); Streamboat Slough (38.3052, –121.5737); Sutter Slough (38.3321, –121.5838); Threemile Slough (38.1155, –121.6835); Ulatis Creek (38.2961, –121.7835); Unnamed Tributary (38.2937, –121.7803); Unnamed Tributary (38.2937, –121.7804); Yolo Bypass (38.5800, –121.5838).

(6) Valley-Putah-Cache Hydrologic Unit 5511—*Lower Putah Creek Hydrologic Sub-area 551120.* Outlet(s) = Sacramento Bypass (Lat 38.6057, Long –121.5563); Yolo Bypass (38.5800, –121.5838) upstream to endpoint(s) in: Sacramento Bypass (38.5969, –121.5888); Yolo Bypass (38.7627, –121.6325).

(7) American River Hydrologic Unit 5514—*Auburn Hydrologic Sub-area 551422.* Outlet(s) = Auburn Ravine (Lat 38.8921, Long –121.2181); Coon Creek (38.9891, –121.2556); Doty Creek (38.9401, –121.2434) upstream to

endpoint(s) in: Auburn Ravine (38.8888, –121.1151); Coon Creek (38.9659, –121.1781); Doty Creek (38.9105, –121.1244).

(8) Marysville Hydrologic Unit 5515—(i) *Lower Bear River Hydrologic Sub-area 551510.* Outlet(s) = Bear River (Lat 39.9398, Long –121.5790) upstream to endpoint(s) in: Bear River (39.0421, –121.3319).

(ii) *Lower Yuba River Hydrologic Sub-area 551530.* Outlet(s) = Yuba River (Lat 39.1270, Long –121.5981) upstream to endpoint(s) in: Yuba River (39.2203, –121.3314).

(iii) *Lower Feather River Hydrologic Sub-area 551540.* Outlet(s) = Feather River (Lat 39.1264, Long –121.5984) upstream to endpoint(s) in: Feather River (39.5205, –121.5475).

(9) Yuba River Hydrologic Unit 5517—(i) *Browns Valley Hydrologic Sub-area 551712.* Outlet(s) = Dry Creek (Lat 39.2215, Long –1121.4082); Yuba River (39.2203, –1121.3314) upstream to endpoint(s) in: Dry Creek (39.3232, Long –1121.3155); Yuba River (39.2305, –1121.2813).

(ii) *Englebright Hydrologic Sub-area 551714.* Outlet(s) = Yuba River (Lat 39.2305, Long –1121.2813) upstream to endpoint(s) in: Yuba River (39.2399, –1121.2689).

(10) Valley American Hydrologic Unit 5519—(i) *Lower American Hydrologic Sub-area 551921.* Outlet(s) = American River (Lat 38.5971, –1121.5088) upstream to endpoint(s) in: American River (38.6373, –1121.2202); Dry Creek (38.7554, –1121.2676); Miner's Ravine (38.8429, –1121.1178); Natomas East Main Canal (38.6646, –1121.4770); Secret Ravine(38.8541, –1121.1223).

(ii) *Pleasant Grove Hydrologic Sub-area 551922.* Outlet(s) = Sacramento River (Lat 38.6026, Long –1121.5155) upstream to endpoint(s) in: Auburn Ravine (38.8913, –1121.2424); Coon Creek (38.9883, –1121.2609); Doty Creek (38.9392, –1121.2475); Feather River (39.1264, –1121.5984).

(11) Colusa Basin Hydrologic Unit 5520—(i) *Sycamore-Sutter Hydrologic Sub-area 552010.* Outlet(s) = Sacramento River (Lat 38.7604, Long –1121.6767) upstream to endpoint(s) in: Tisdale Bypass (39.0261, –1121.7456).

(ii) *Sutter Bypass Hydrologic Sub-area 552030.* Outlet(s) = Sacramento River (Lat 38.7851, Long –1121.6238) upstream to endpoint(s) in: Butte Creek (39.1990, –1121.9286); Butte Slough (39.1987, –1121.9285); Nelson Slough (38.8956, –1121.6180); Sacramento Slough (38.7844, –1121.6544); Sutter Bypass (39.1586, –1121.8747).

(iii) *Butte Basin Hydrologic Sub-area 552040.* Outlet(s) = Butte Creek (Lat 39.1990, Long –1121.9286); Sacramento River (39.4141, –1122.0087) upstream to endpoint(s) in: Butte Creek (39.7096, –1121.7504); Colusa Bypass (39.2276, –1121.9402); Little Chico Creek (39.7380, –1121.7490); Little Dry Creek (39.6781, –1121.6580).

(12) Butte Creek Hydrologic Unit 5521—(i) *Upper Dry Creek Hydrologic Sub-area 552110.* Outlet(s) = Little Dry Creek (Lat 39.6781, –1121.6580) upstream to endpoint(s) in: Little Dry Creek (39.7424, –1121.6213).

(ii) *Upper Butte Creek Hydrologic Sub-area 552120.* Outlet(s) = Little Chico Creek (Lat 39.7380, Long –1121.7490) upstream to endpoint(s) in: Little Chico Creek (39.8680, –1121.6660).

(iii) *Upper Little Chico Hydrologic Sub-area 552130.* Outlet(s) = Butte Creek (Lat 39.7096, Long –1121.7504) upstream to endpoint(s) in: Butte Creek (39.8215, –1121.6468); Little Butte Creek (39.8159, –1121.5819).

(13) Ball Mountain Hydrologic Unit 5523—*Thomes Creek Hydrologic Sub-area 552310.* Outlet(s) = Thomes Creek (39.8822, –1122.5527) upstream to endpoint(s) in: Doll Creek (39.8941, –1122.9209); Fish Creek (40.0176, –1122.8142); Snake Creek (39.9945, –1122.7788); Thomes Creek (39.9455, –1122.8491); Willow Creek (39.8941, –1122.9209).

(14) Shasta Bally Hydrologic Unit 5524—(i) *South Fork Hydrologic Sub-area 552433.* Outlet(s) = Cold Fork Cottonwood Creek (Lat 40.2060, Long –1122.6608); South Fork Cottonwood Creek (40.1578, –1122.5809) upstream to endpoint(s) in: Cold Fork Cottonwood Creek (40.1881, –1122.8690); South Fork Cottonwood Creek (40.1232, –1122.8761).

(ii) *Platina Hydrologic Sub-area 552436.* Outlet(s) = Middle Fork Cottonwood Creek (Lat 40.3314, Long –1122.6663) upstream to endpoint(s) in: Beegum Creek (40.3149, –1122.9776): Middle Fork Cottonwood Creek (40.3512, –1122.9629).

(iii) *Spring Creek Hydrologic Sub-area 552440.* Outlet(s) = Sacramento River (Lat 40.5943, Long –1122.4343) upstream to endpoint(s) in: Middle Creek (40.5904, –1121.4825); Rock Creek (40.6155, –1122.4702); Sacramento River (40.6116, –1122.4462); Salt Creek (40.5830, –1122.4586); Unnamed Tributary (40.5734, –1122.4844).

(iv) *Kanaka Peak Hydrologic Sub-area 552462.* Outlet(s) = Clear Creek (Lat 40.5158, Long –1122.5256) upstream to endpoint(s) in: Clear Creek (40.5998, 122.5399).

(15) North Valley Floor Hydrologic Unit 5531—(i) *Lower Mokelumne Hydrologic Sub-area 553120.* Outlet(s) = Mokelumne River (Lat 38.2104, Long –1121.3804) upstream to endpoint(s) in: Mokelumne River (38.2263, –1121.0241); Murphy Creek (38.2491, –1121.0119).

(ii) *Lower Calaveras Hydrologic Sub-area 553130.* Outlet(s) = Calaveras River (Lat 37.9836, Long –1121.3110); Mormon Slough (37.9456,-121.2907) upstream to endpoint(s) in: Calaveras River (38.1025, –1120.8503); Mormon Slough (38.0532, –1121.0102); Stockton Diverting Canal (37.9594, –1121.2024).

(16) Upper Calaveras Hydrologic Unit 5533—*New Hogan Reservoir Hydrologic Sub-area 553310.* Outlet(s) = Calaveras River (Lat 38.1025, Long –1120.8503) upstream to endpoint(s) in: Calaveras River (38.1502, –1120.8143).

(17) Stanislaus River Hydrologic Unit 5534—*Table Mountain Hydrologic Sub-area 553410.* Outlet(s) = Stanislaus River (Lat 37.8355, Long –1120.6513) upstream to endpoint(s) in: Stanislaus River (37.8631, –1120.6298).

(18) San Joaquin Valley Floor Hydrologic Unit 5535—(i) *Riverbank Hydrologic Sub-area 553530.* Outlet(s) = Stanislaus River (Lat 37.6648, Long –1121.2414) upstream to endpoint(s) in: Stanislaus River (37.8355, –1120.6513).

(ii) *Turlock Hydrologic Sub-area 553550.* Outlet(s) = Tuolumne River (Lat 37.6059, Long –1121.1739) upstream to endpoint(s) in: Tuolumne River (37.6401, –1120.6526).

(iii) *Montpelier Hydrologic Sub-area 553560.* Outlet(s) = Tuolumne River (Lat 37.6401, Long –1120.6526) upstream to endpoint(s) in: Tuolumne River (37.6721, –1120.4445).

(iv) *El Nido-Stevinson Hydrologic Sub-area 553570.* Outlet(s) = Merced River (Lat 37.3505, Long –1120.9619) upstream to endpoint(s) in: Merced River (37.3620, –1120.8507).

(v) *Merced Hydrologic Sub-area 553580.* Outlet(s) = Merced River (Lat 37.3620, Long –1120.8507) upstream to endpoint(s) in: Merced River (37.4982, –1120.4612).

(vi) *Fahr Creek Hydrologic Sub-area 553590.* Outlet(s) = Merced River (Lat 37.4982, Long –1120.4612) upstream to endpoint(s) in: Merced River (37.5081, –1120.3581).

(19) Delta-Mendota Canal Hydrologic Unit 5541—(i) *Patterson Hydrologic Sub-area 554110.* Outlet(s) = San Joaquin River (Lat 37.6763, Long –1121.2653) upstream to endpoint(s) in: San Joaquin River (37.3491, –1120.9759).

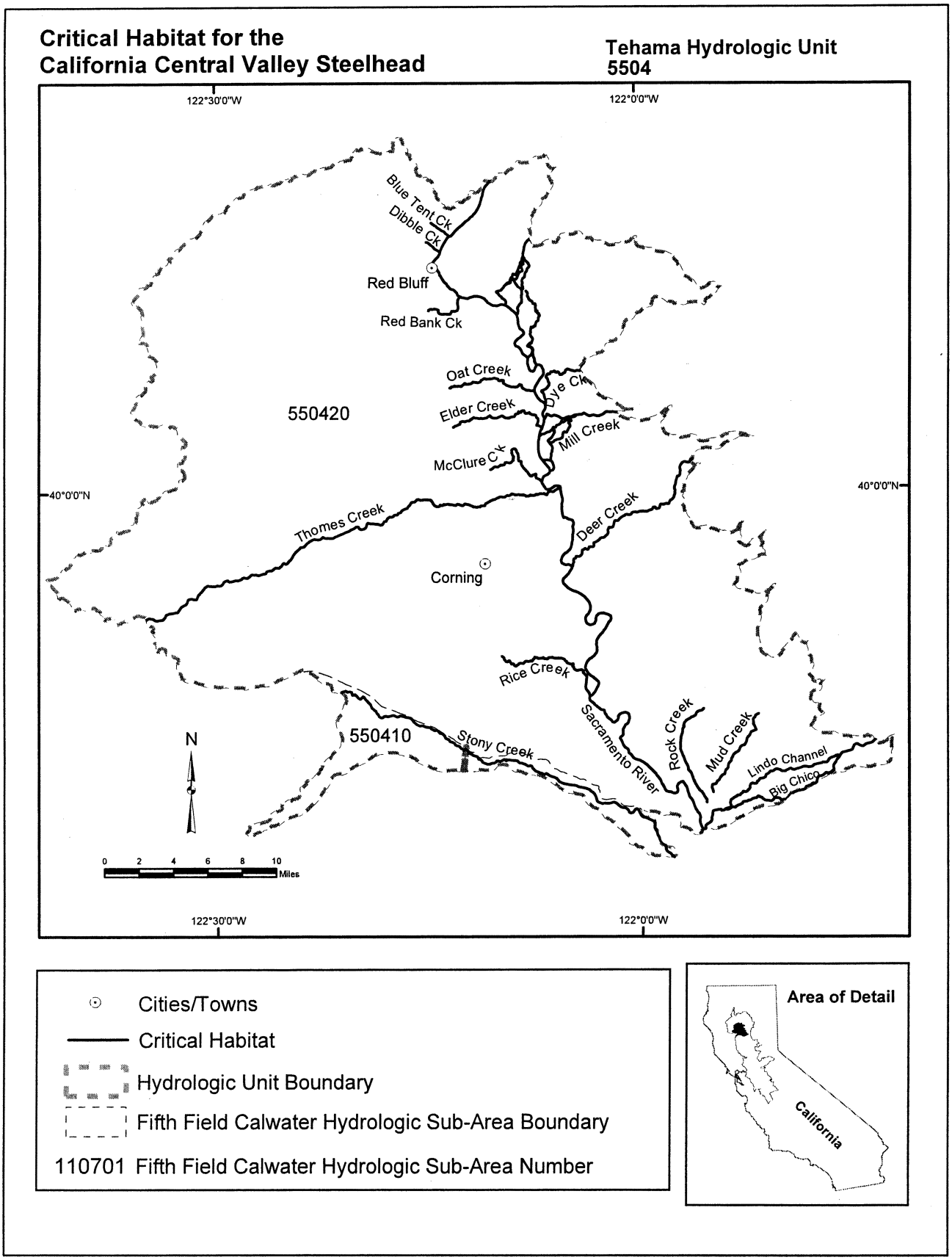
(ii) *Los Banos Hydrologic Sub-area 554120.* Outlet(s) = Merced River (Lat 37.3490, Long –1120.9756) upstream to endpoint(s) in: Merced River (37.3505, –1120.9619).

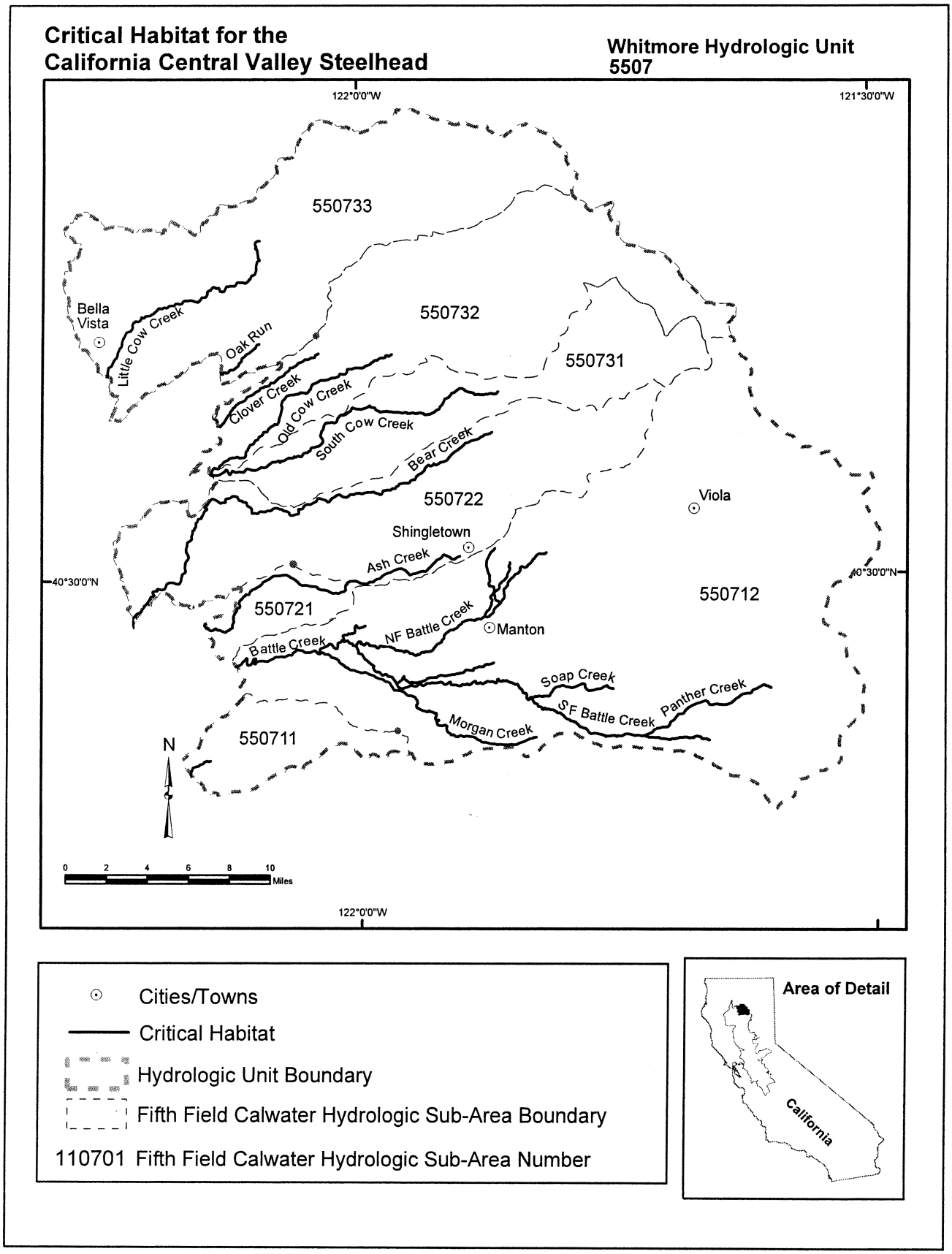
(20) North Diablo Range Hydrologic Unit 5543—*North Diablo Range Hydrologic Sub-area 554300.* Outlet(s) = San Joaquin River (Lat 38.0247, Long –1121.8218) upstream to endpoint(s) in: San Joaquin River (38.0246, –1121.7471).

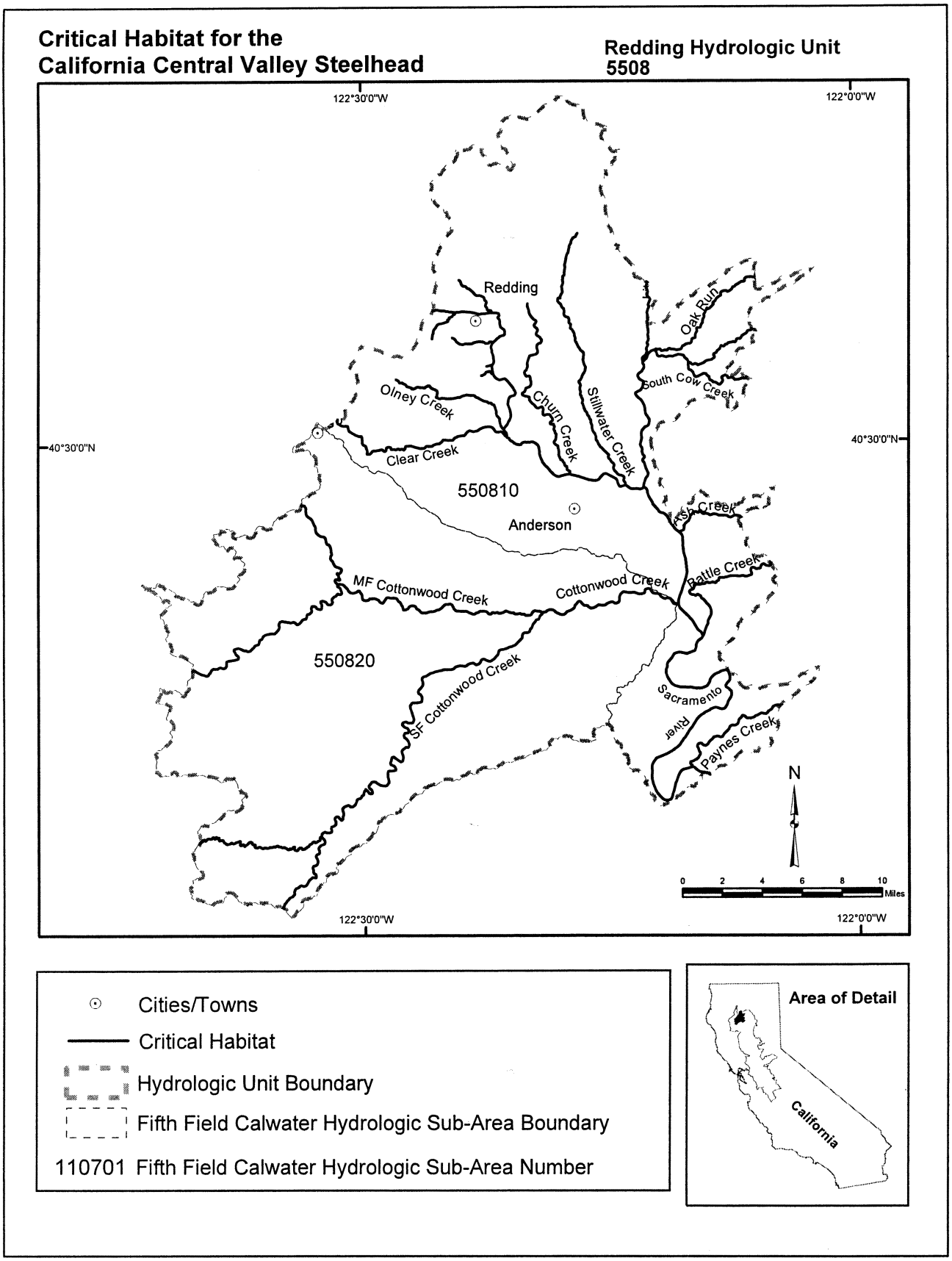
(21) San Joaquin Delta Hydrologic Unit 5544—*San Joaquin Delta Hydrologic Sub-area 554400.* Outlet(s) = San Joaquin River (Lat 38.0246, Long –1121.7471) upstream to endpoint(s) in: Big Break (38.0160, –1121.6849); Bishop Cut (38.0870, –1121.4158); Calaveras River (37.9836, –1121.3110); Cosumnes River (38.2538, –1121.4074); Disappointment Slough (38.0439, –1121.4201); Dutch Slough (38.0088, –1121.6281); Empire Cut (37.9714, –1121.4762); False River (38.0479, –1121.6232); Frank's Tract (38.0220, –1121.5997); Frank's Tract (38.0300, –1121.5830); Holland Cut (37.9939, –1121.5757); Honker Cut (38.0680, –1121.4589); Kellog Creek (37.9158, –1121.6051); Latham Slough (37.9716, –1121.5122); Middle River (37.8216, –1121.3747); Mokelumne River (38.2104, –1121.3804); Mormon Slough (37.9456,-121.2907); Mosher Creek (38.0327, –1121.3650); North Mokelumne River (38.2274, –1121.4918); Old River (37.8086, –1121.3274); Orwood Slough (37.9409, –1121.5332); Paradise Cut (37.7605, –1121.3085); Pixley Slough (38.0443, –1121.3868); Potato Slough (38.0440, –1121.4997); Rock Slough (37.9754, –1121.5795); Sand Mound Slough (38.0220, –1121.5997); Stockton Deep Water Channel (37.9957, –1121.4201); Turner Cut (37.9972, –1121.4434); Unnamed Tributary (38.1165, –1121.4976); Victoria Canal (37.8891, –1121.4895); White Slough (38.0818, –1121.4156); Woodward Canal (37.9037, –1121.4973).

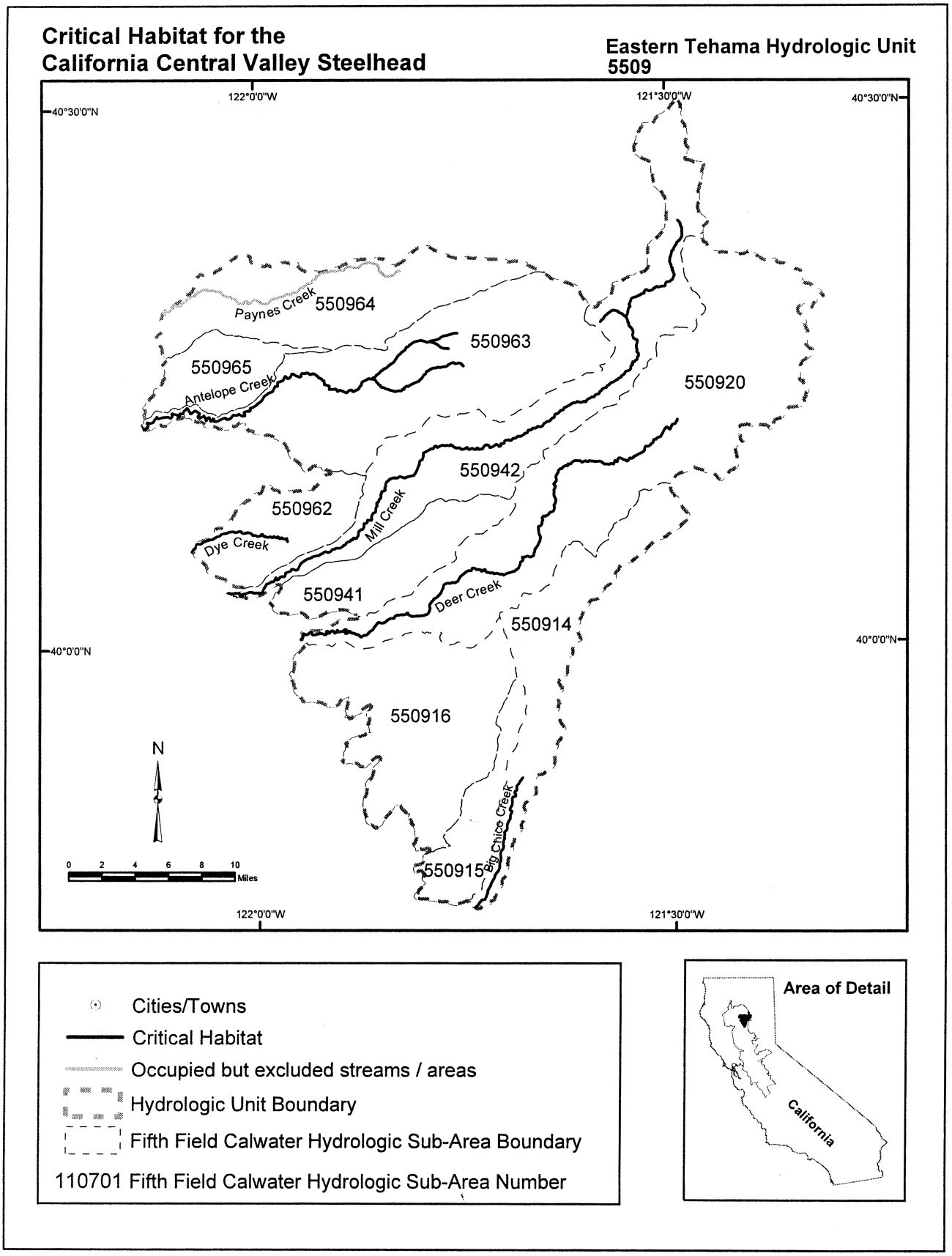
(22) Maps of critical habitat for the Central Valley Steelhead ESU follow:

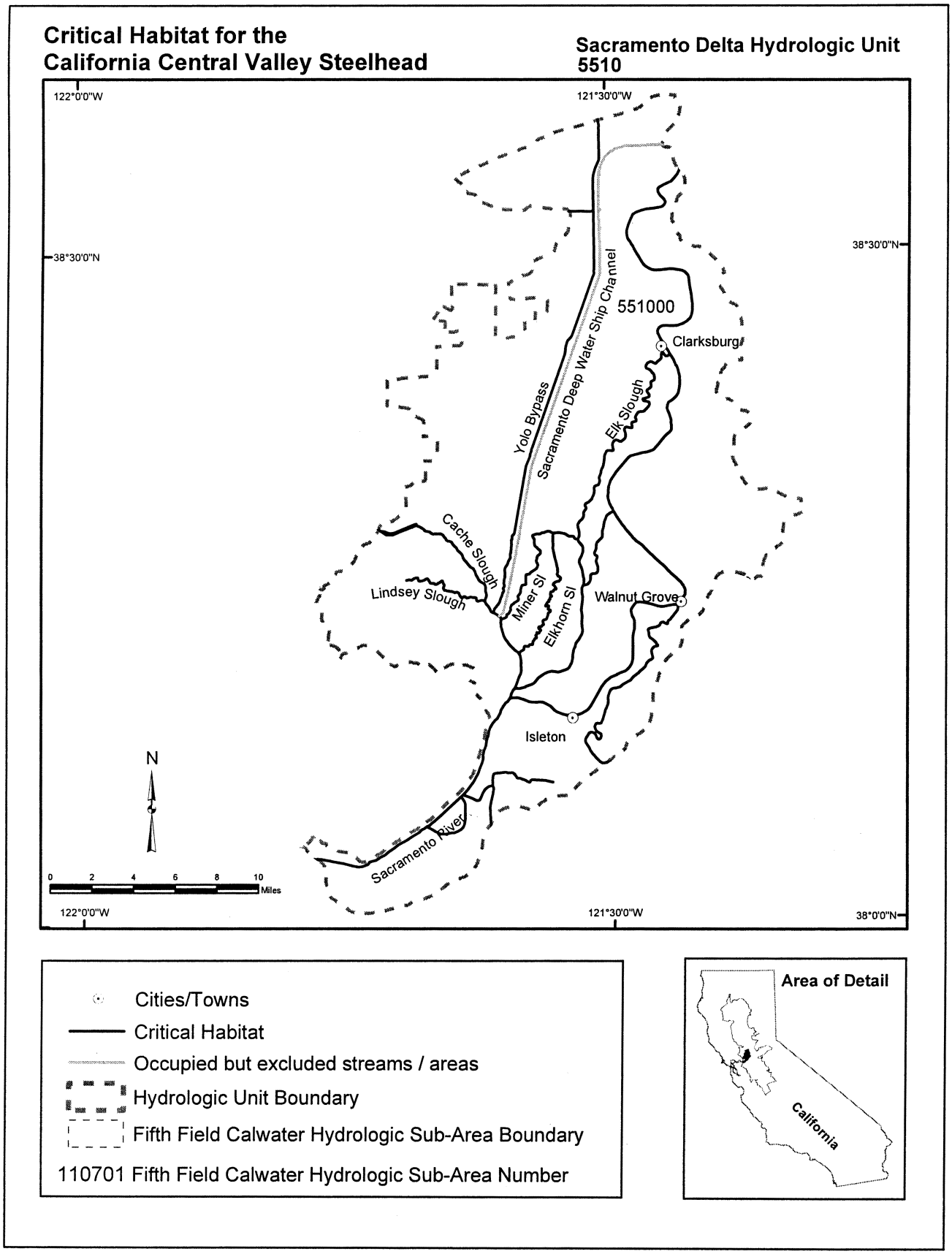
BILLING CODE 3510–22–P

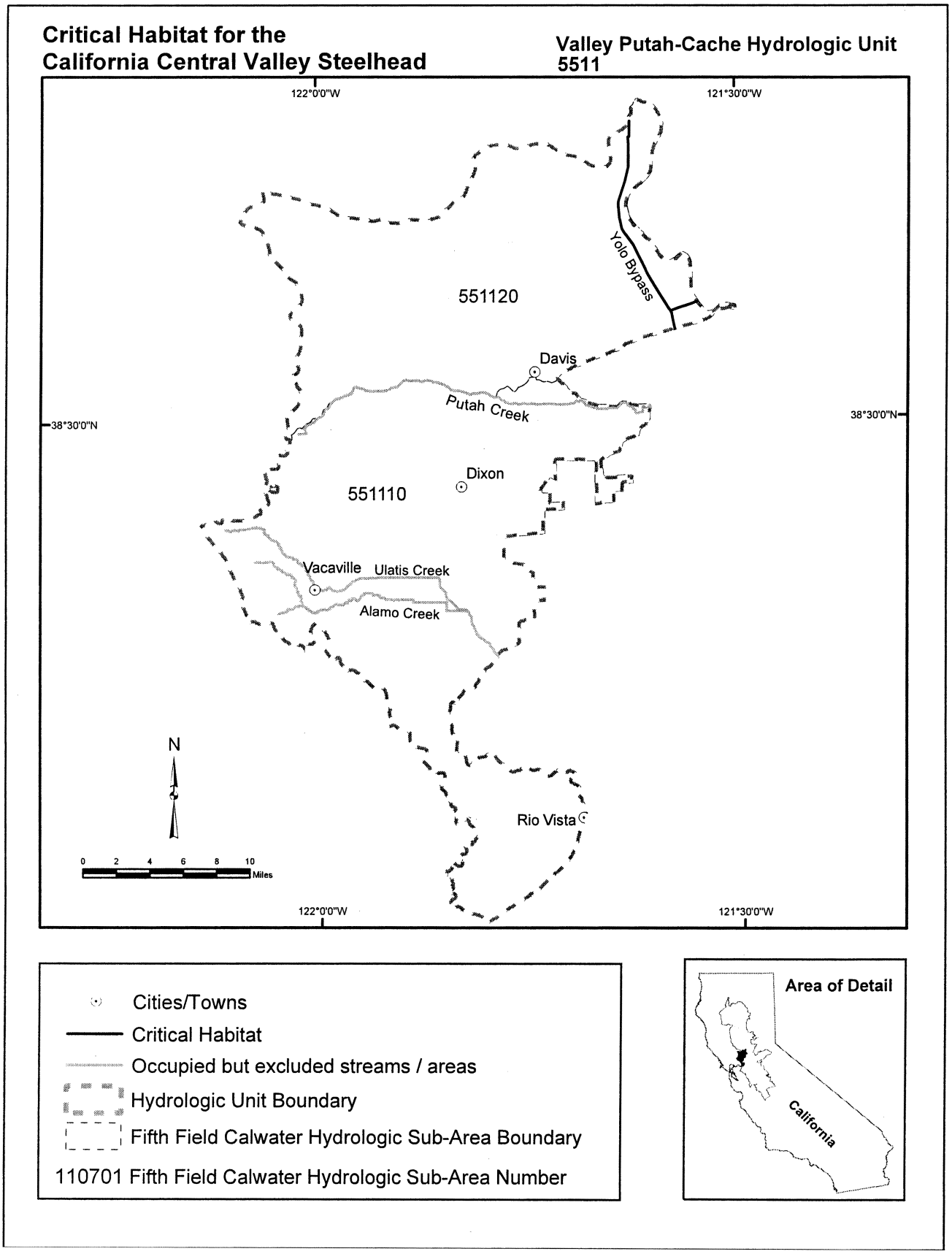

Critical Habitat for the
California Central Valley Steelhead
Tehama Hydrologic Unit
5504
122°30'0"W
122°0'0"W
40°0'0"N
Blue Tent Ck
Dibble Ck
Red Bluff
Red Bank Ck
Oat Creek
Dye Ck
Elder Creek
550420
Mill Creek
McClure Ck
Thomes Creek
Deer Creek
Corning
Rice Creek
Sacramento River
Rock Creek
Mud Creek
Lindo Channel
Big Chico
550410
Stony Creek
N
0 2 4 6 8 10
Miles
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California

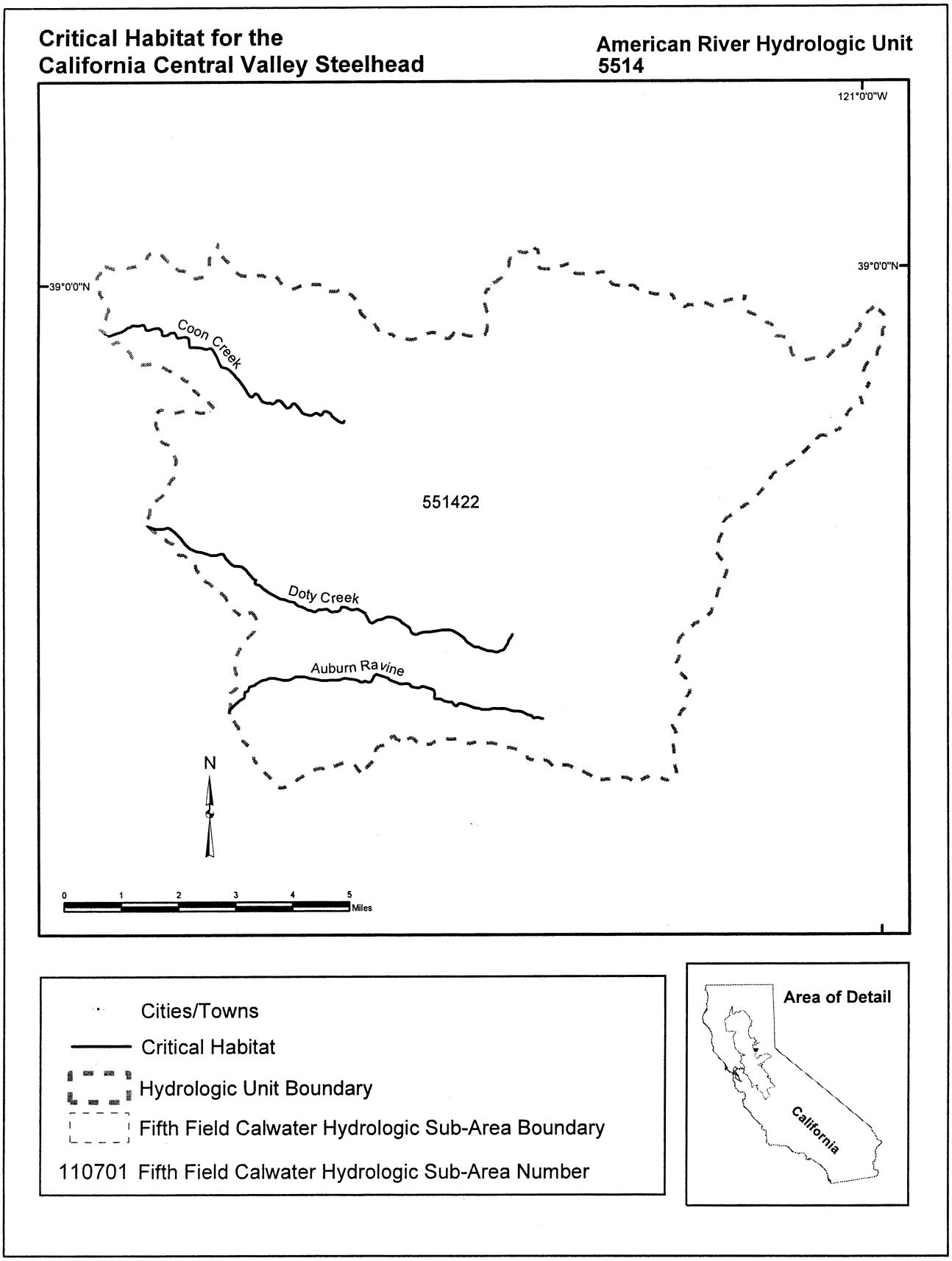

Critical Habitat for the
California Central Valley Steelhead
Whitmore Hydrologic Unit
5507
122°0'0"W
121°30'0"W
40°30'0"N
550733
550732
550731
550722
550721
550712
550711
Bella Vista
Little Cow Creek
Oak Run
Clover Creek
Old Cow Creek
South Cow Creek
Bear Creek
Viola
Shingletown
Ash Creek
NF Battle Creek
Manton
Battle Creek
Soap Creek
SF Battle Creek
Panther Creek
Morgan Creek
N
0 2 4 6 8 10
Miles
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California

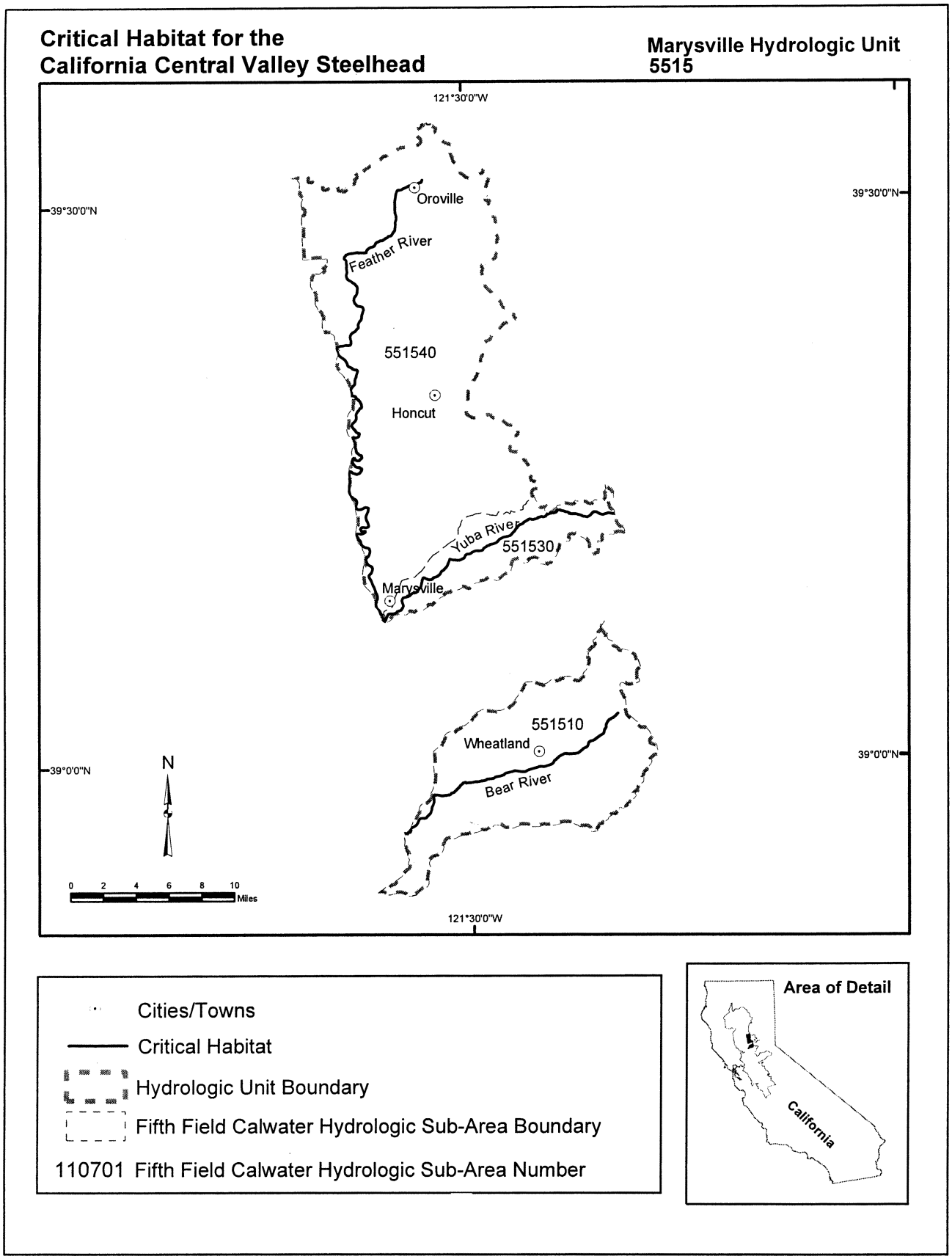

Critical Habitat for the
California Central Valley Steelhead
Redding Hydrologic Unit
5508
122°30'0"W
122°0'0"W
40°30'0"N
Redding
Oak Run
South Cow Creek
Olney Creek
Churn Creek
Stillwater Creek
Clear Creek
550810
Anderson
Cottonwood Creek
Battle Creek
MF Cottonwood Creek
550820
SF Cottonwood Creek
Sacramento River
Paynes Creek
N
0 2 4 6 8 10
Miles
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California

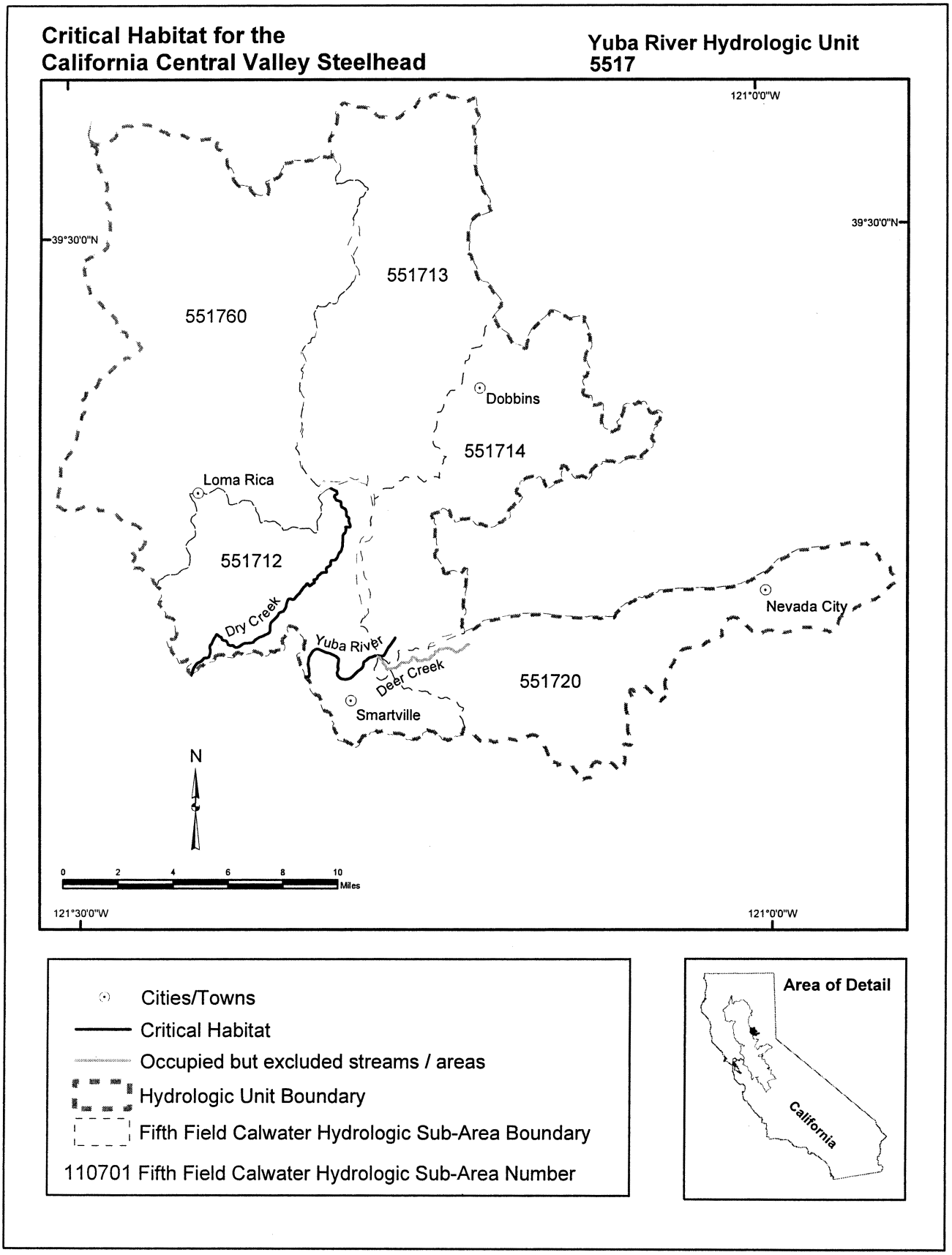

Critical Habitat for the
California Central Valley Steelhead
Eastern Tehama Hydrologic Unit
5509
122°0'0"W
121°30'0"W
40°30'0"N
40°0'0"N
Paynes Creek
550964
550963
550965
Antelope Creek
550920
550942
550962
Mill Creek
Dye Creek
550941
Deer Creek
550914
550916
Big Chico Creek
550915
N
0 2 4 6 8 10
Miles
Cities/Towns
Critical Habitat
Occupied but excluded streams / areas
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California

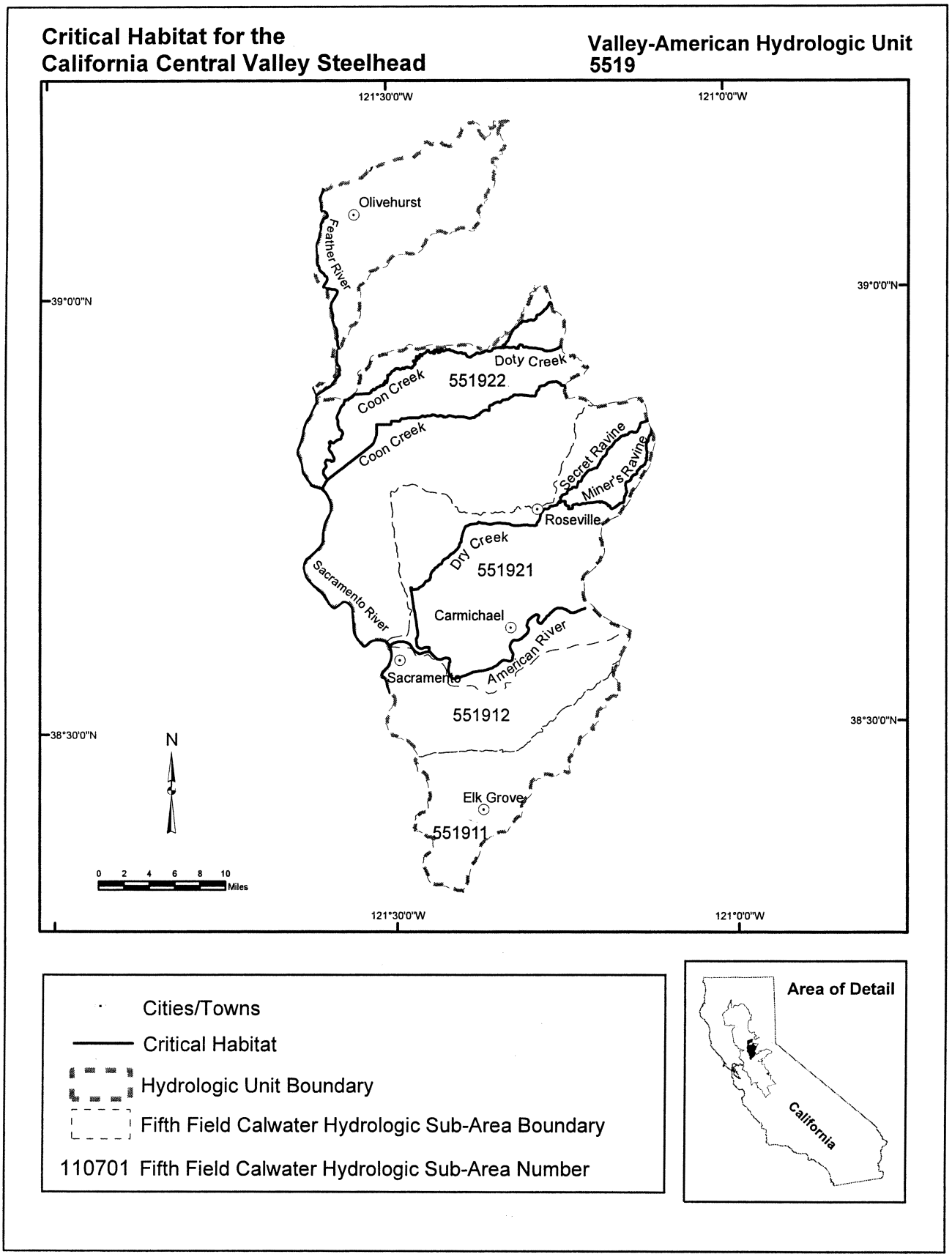

Critical Habitat for the
California Central Valley Steelhead
Sacramento Delta Hydrologic Unit
5510
122°0'0"W
121°30'0"W
38°30'0"N
38°0'0"N
551000
Clarksburg
Yolo Bypass
Sacramento Deep Water Ship Channel
Elk Slough
Cache Slough
Lindsey Slough
Miner Sl
Elkhorn Sl
Walnut Grove
Isleton
Sacramento River
N
0 2 4 6 8 10
Miles
Cities/Towns
Critical Habitat
Occupied but excluded streams / areas
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California

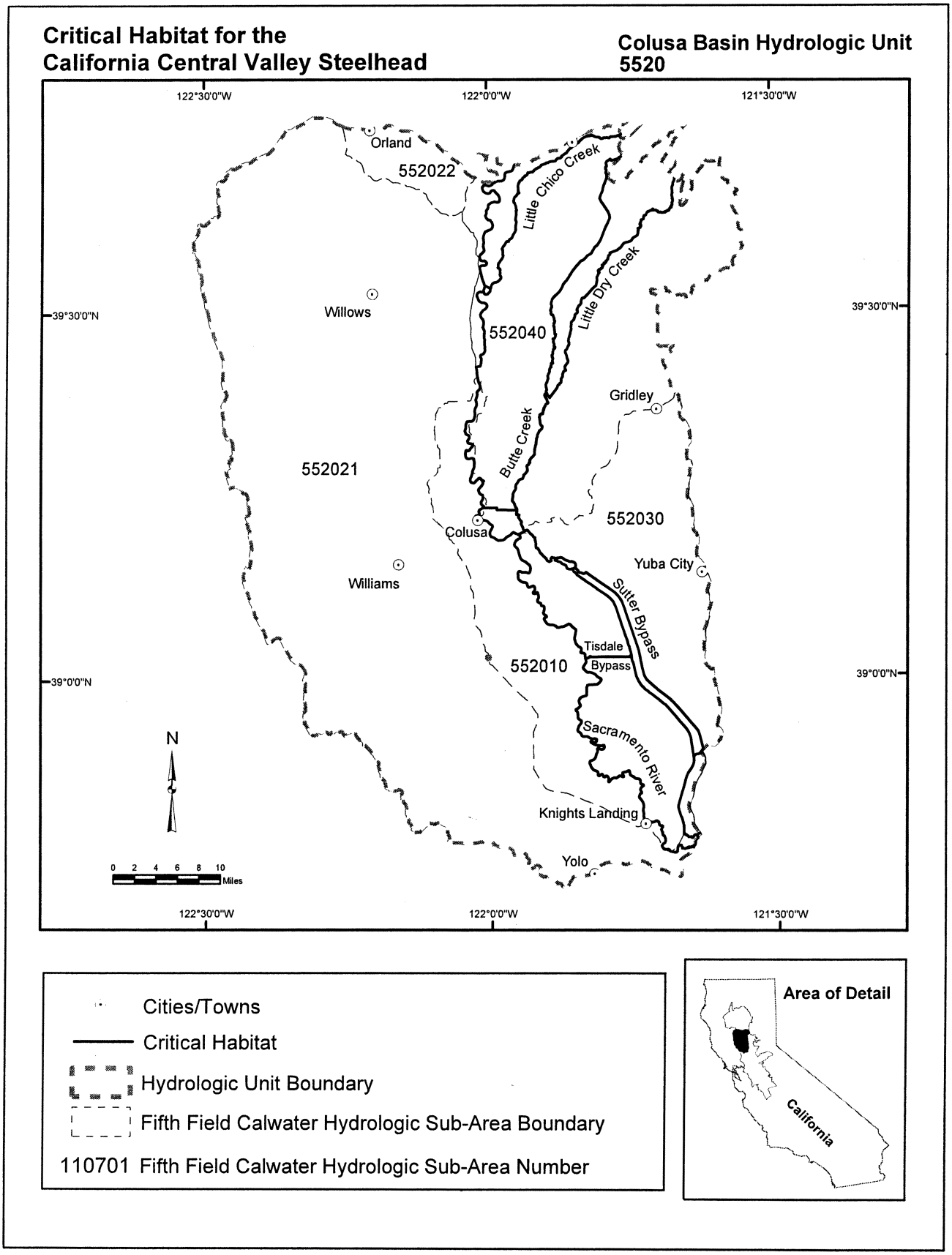

Critical Habitat for the
California Central Valley Steelhead
Valley Putah-Cache Hydrologic Unit
5511
122°0'0"W
121°30'0"W
38°30'0"N
Yolo Bypass
551120
Davis
Putah Creek
Dixon
551110
Vacaville
Ulatis Creek
Alamo Creek
Rio Vista
N
0 2 4 6 8 10
Miles
Cities/Towns
Critical Habitat
Occupied but excluded streams / areas
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California

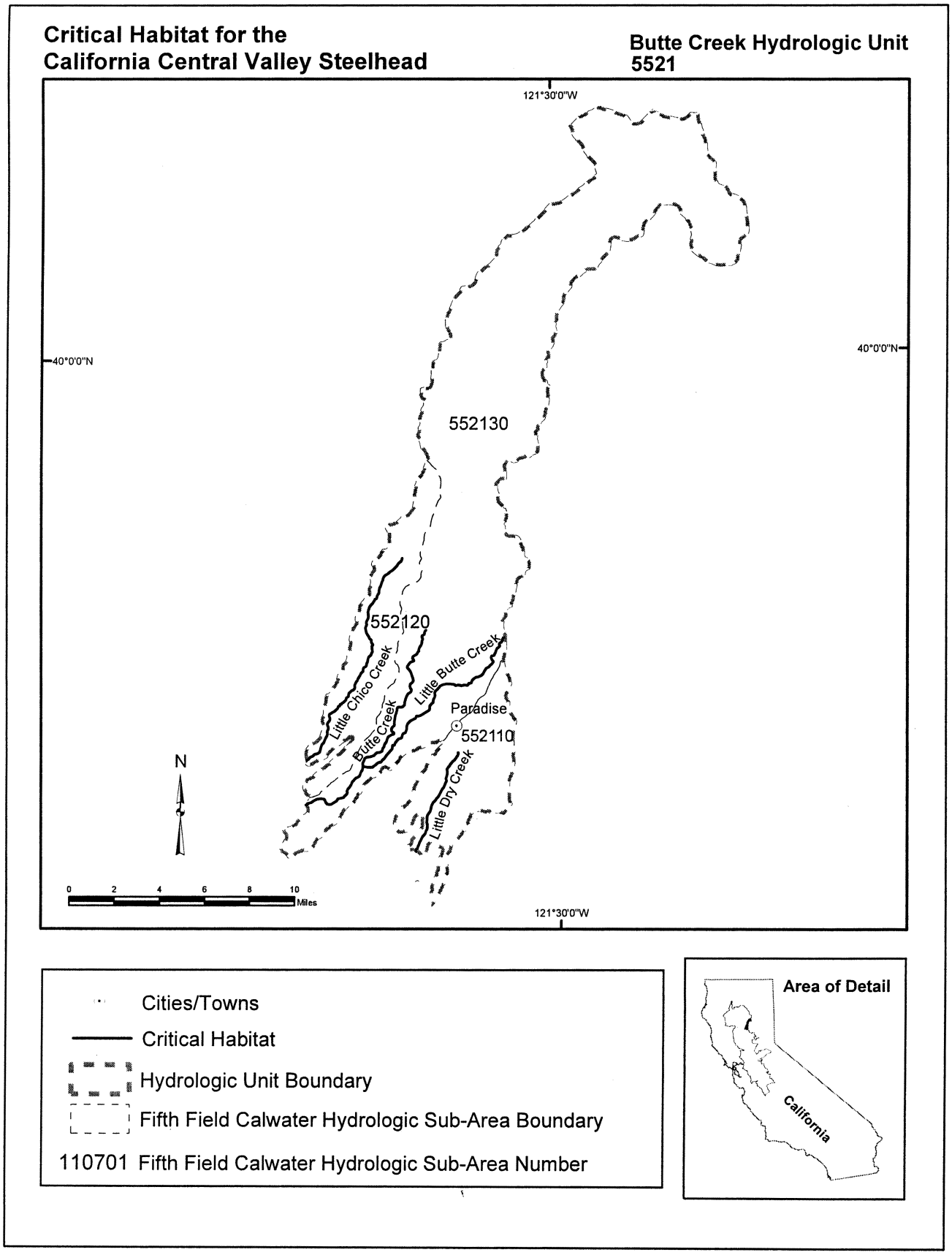

Critical Habitat for the
California Central Valley Steelhead
American River Hydrologic Unit
5514
121°0'0"W
39°0'0"N
39°0'0"N
Coon Creek
551422
Doty Creek
Auburn Ravine
N
0 1 2 3 4 5
Miles
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California

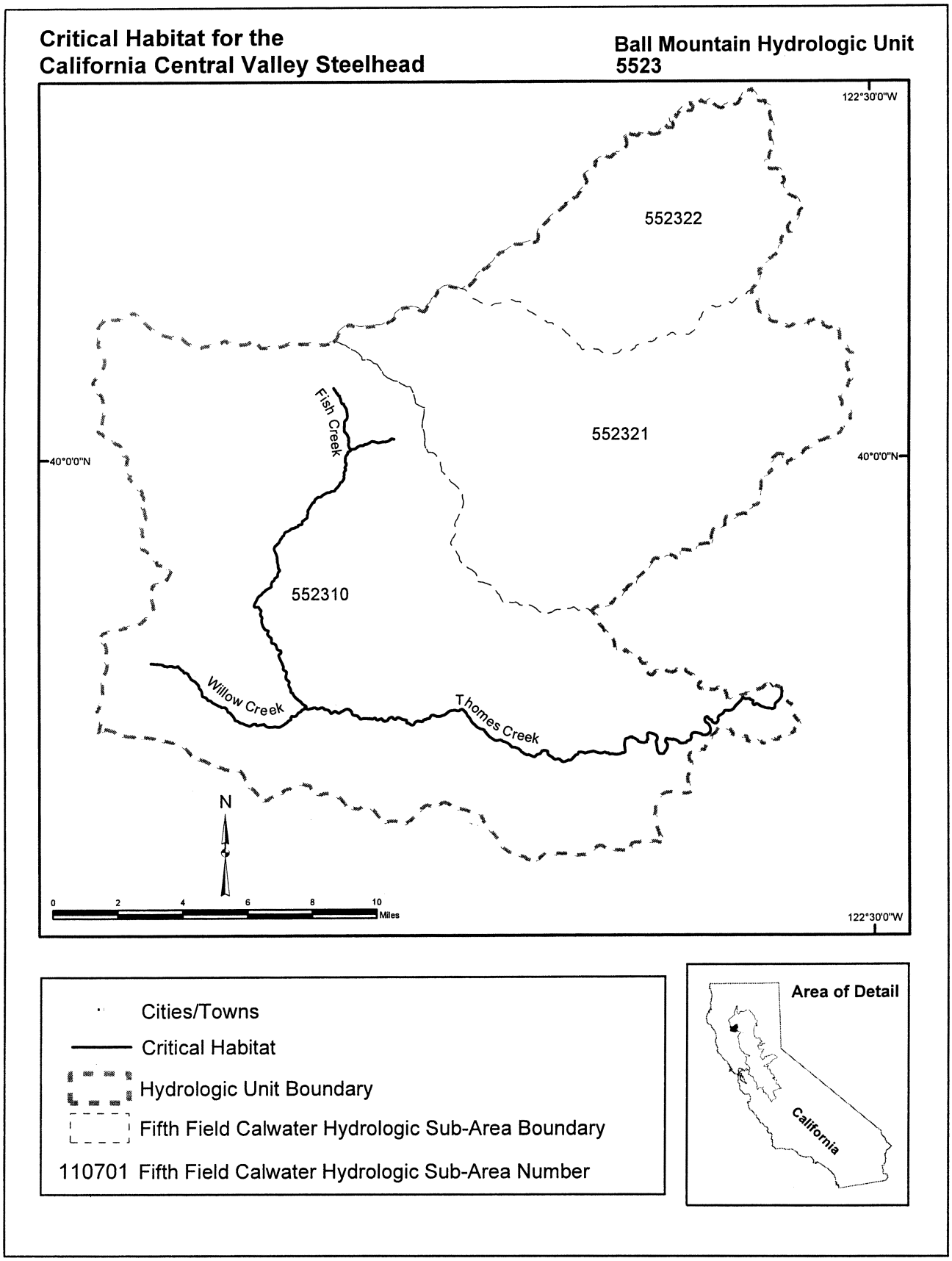

Critical Habitat for the
California Central Valley Steelhead
Marysville Hydrologic Unit
5515
121°30'0"W
39°30'0"N
39°0'0"N
Oroville
Feather River
551540
Honcut
Yuba River
551530
Marysville
551510
Wheatland
Bear River
N
0 2 4 6 8 10
Miles
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California

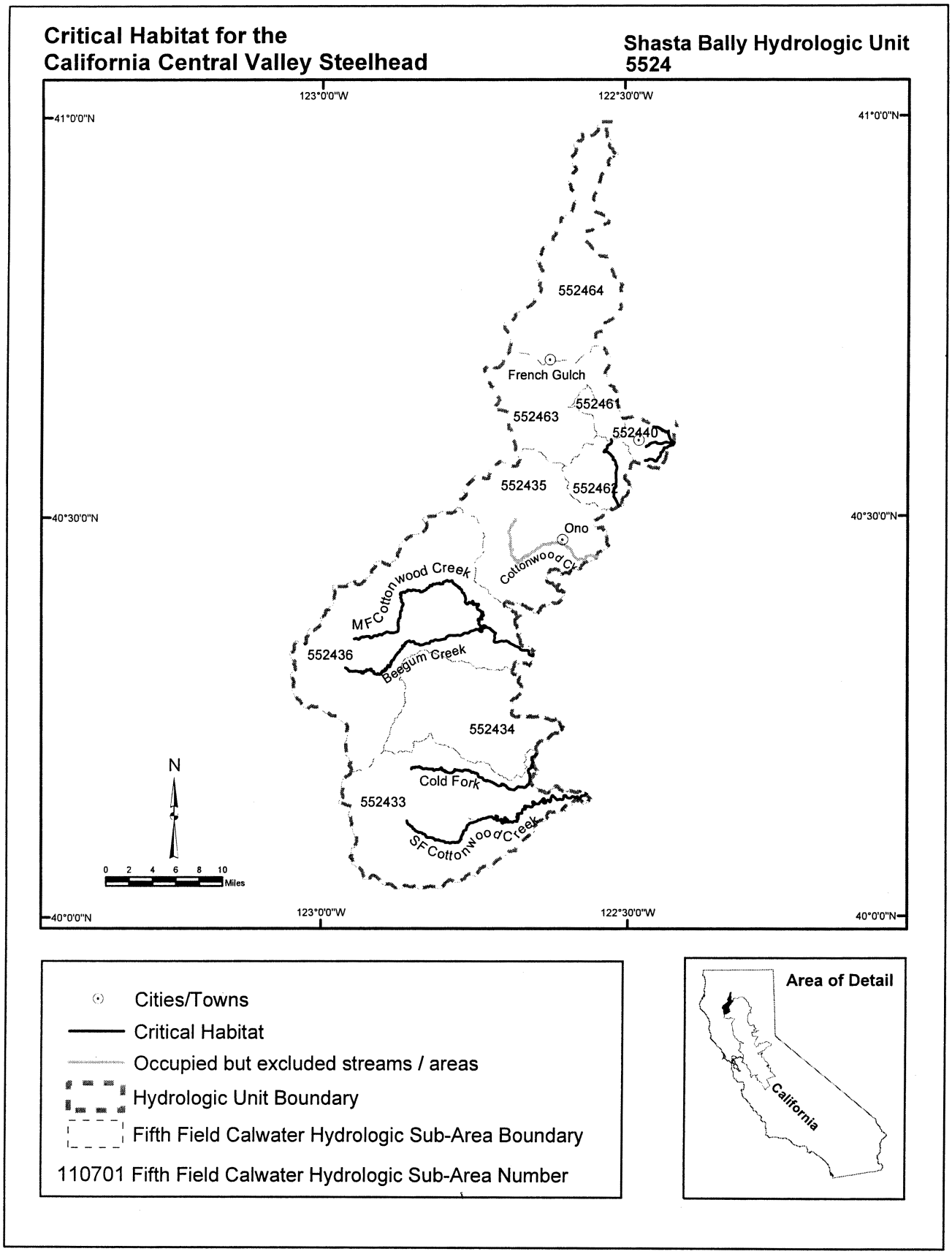

Critical Habitat for the
California Central Valley Steelhead
Yuba River Hydrologic Unit
5517
121°0'0"W
39°30'0"N
39°30'0"N
551713
551760
Dobbins
551714
Loma Rica
551712
Dry Creek
Yuba River
Deer Creek
Nevada City
551720
Smartville
N
0 2 4 6 8 10
Miles
121°30'0"W
121°0'0"W
Cities/Towns
Critical Habitat
Occupied but excluded streams / areas
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California

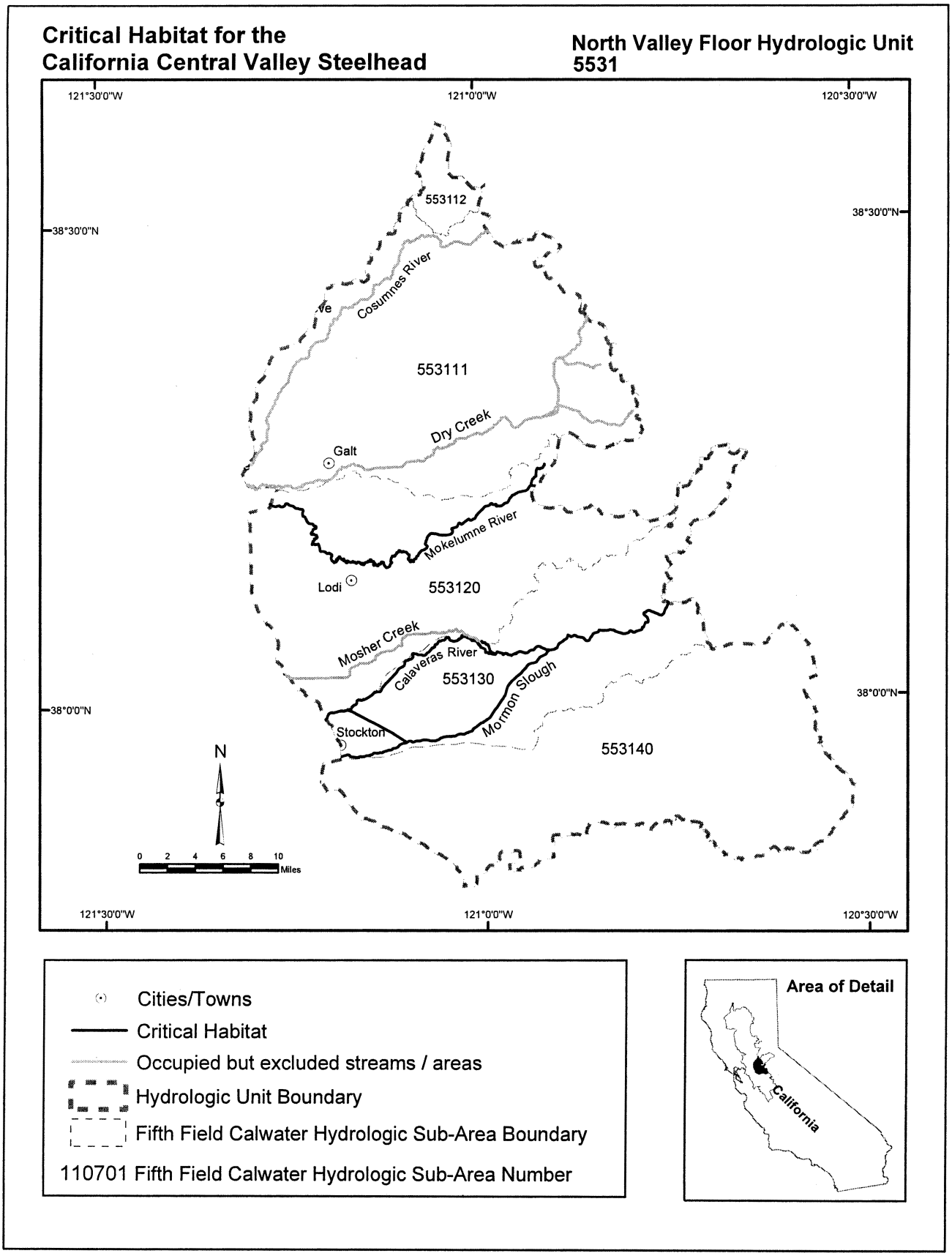

Critical Habitat for the
California Central Valley Steelhead
Valley-American Hydrologic Unit
5519
121°30'0"W
121°0'0"W
39°0'0"N
38°30'0"N
Olivehurst
Feather River
Doty Creek
551922
Coon Creek
Coon Creek
Secret Ravine
Miner's Ravine
Roseville
Dry Creek
551921
Sacramento River
Carmichael
American River
Sacramento
551912
Elk Grove
551911
N
0 2 4 6 8 10
Miles
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California

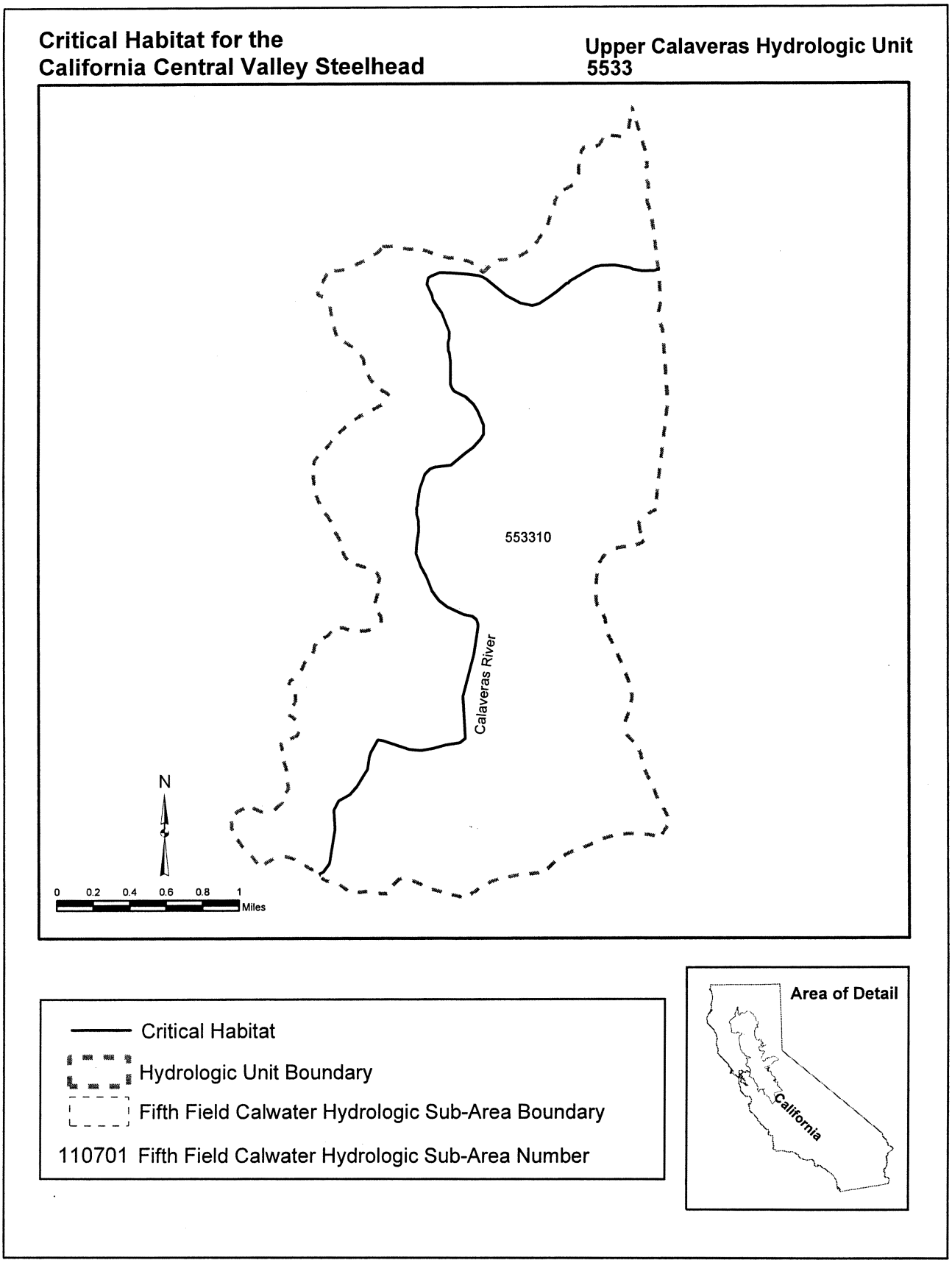

Critical Habitat for the
California Central Valley Steelhead
Colusa Basin Hydrologic Unit
5520
122°30'0"W
122°0'0"W
121°30'0"W
39°30'0"N
39°0'0"N
Orland
552022
Little Chico Creek
Little Dry Creek
Willows
552040
Gridley
Butte Creek
552021
552030
Colusa
Yuba City
Williams
Sutter Bypass
Tisdale
Bypass
552010
Sacramento River
Knights Landing
Yolo
N
0 2 4 6 8 10
Miles
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California

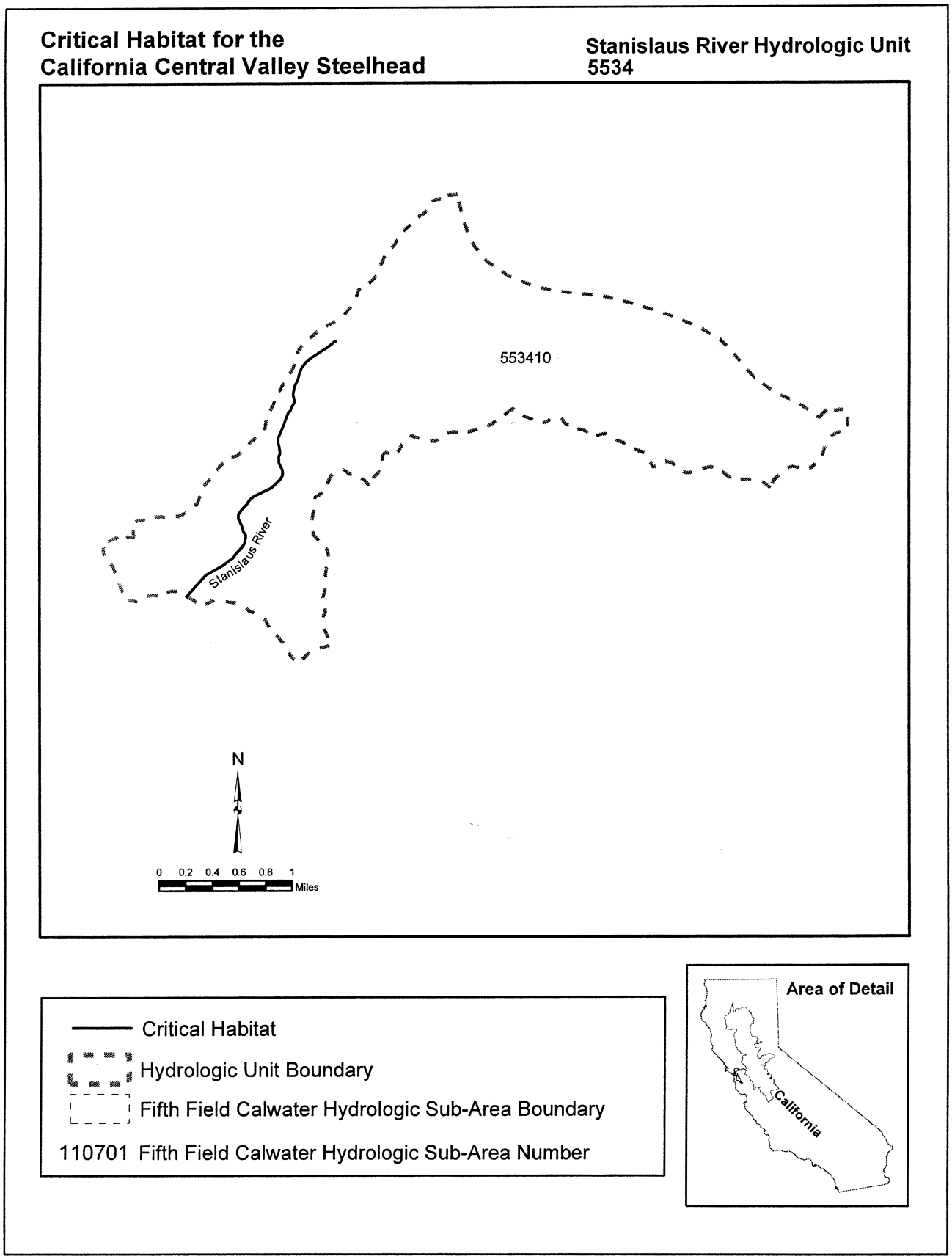

Critical Habitat for the
California Central Valley Steelhead
Butte Creek Hydrologic Unit
5521
121°30'0"W
40°0'0"N
40°0'0"N
552130
552120
Little Chico Creek
Little Butte Creek
Butte Creek
Paradise
552110
Little Dry Creek
N
0 2 4 6 8 10
Miles
121°30'0"W
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California

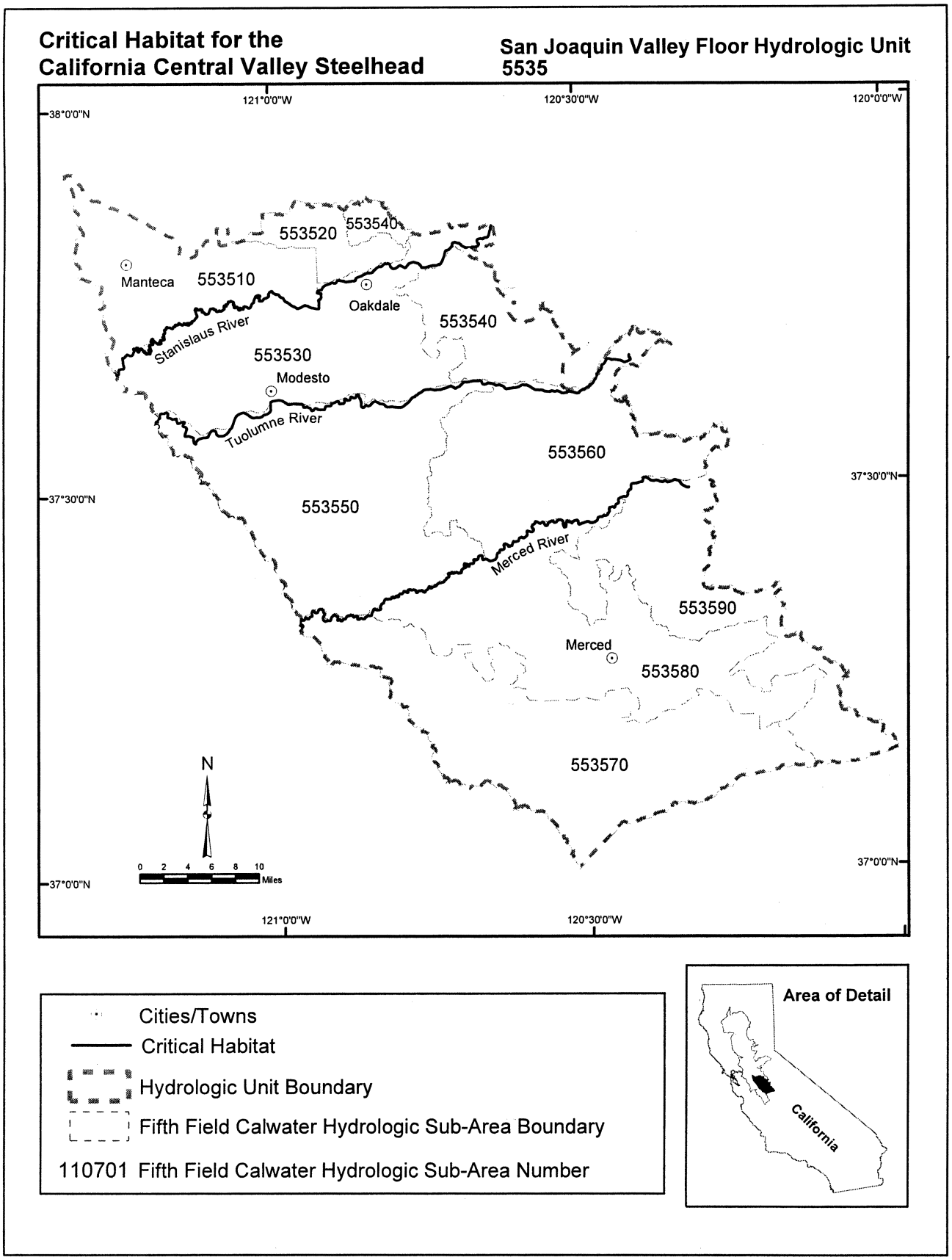

Critical Habitat for the
California Central Valley Steelhead
Ball Mountain Hydrologic Unit
5523
122°30'0"W
552322
552321
Fish Creek
40°0'0"N
40°0'0"N
552310
Willow Creek
Thomes Creek
N
0 2 4 6 8 10
Miles
122°30'0"W
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California

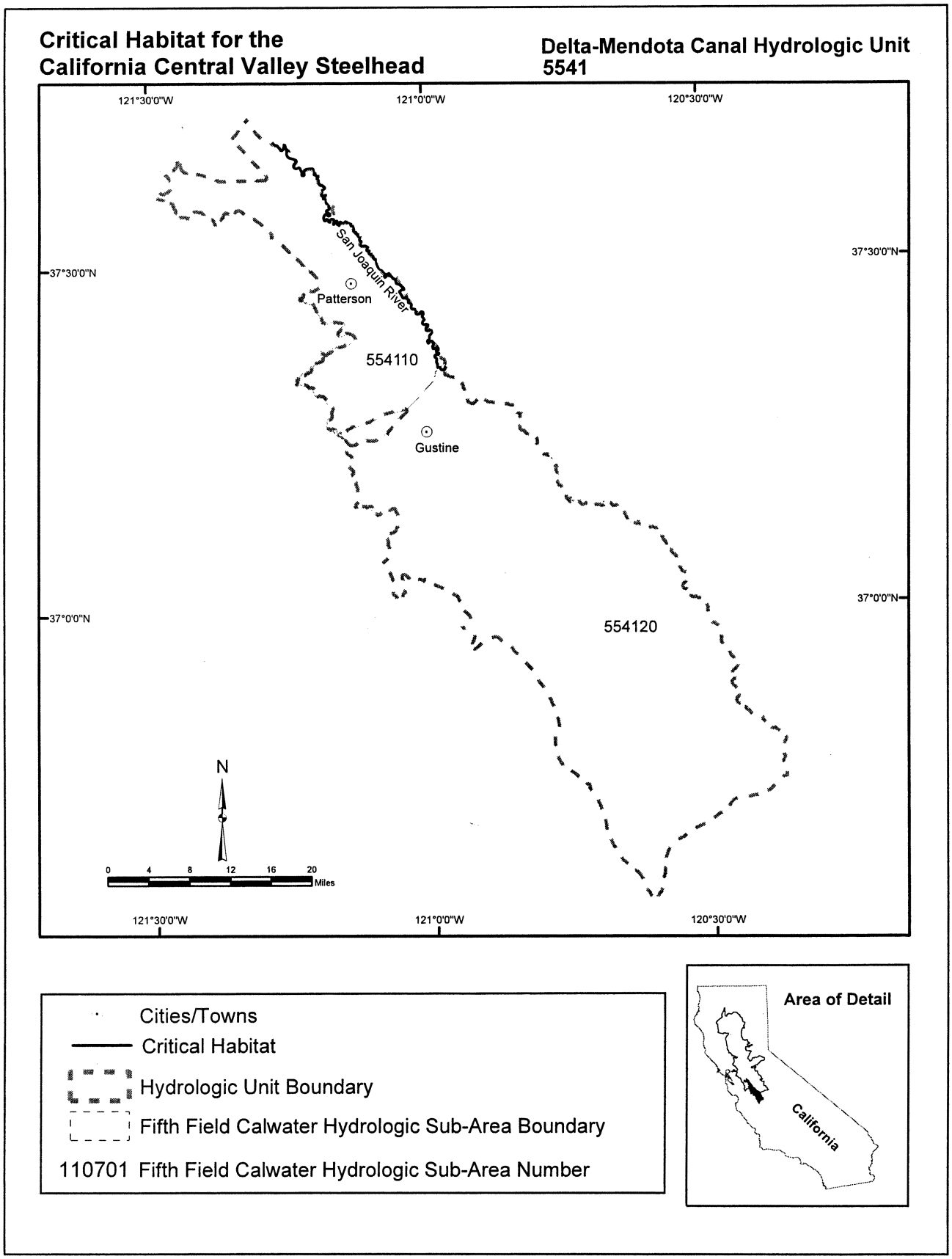

Critical Habitat for the
California Central Valley Steelhead
Shasta Bally Hydrologic Unit
5524
123°0'0"W
122°30'0"W
41°0'0"N
40°30'0"N
40°0'0"N
552464
French Gulch
552461
552463
552440
552435
552462
Ono
Cottonwood Cr
MF Cottonwood Creek
552436
Beegum Creek
552434
Cold Fork
552433
SF Cottonwood Creek
N
0 2 4 6 8 10
Miles
Cities/Towns
Critical Habitat
Occupied but excluded streams / areas
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California

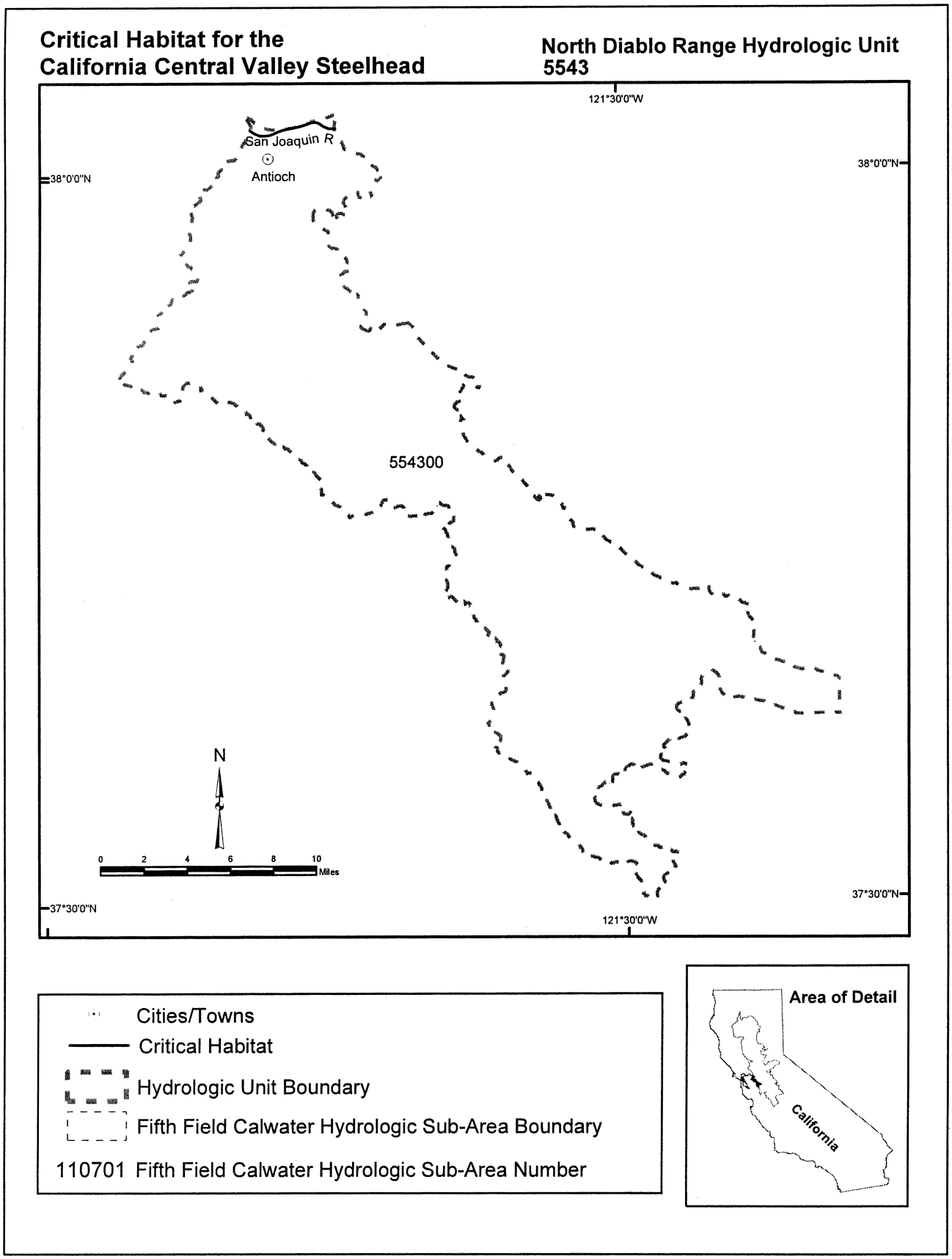

Critical Habitat for the
California Central Valley Steelhead
North Valley Floor Hydrologic Unit
5531
121°30'0"W
121°0'0"W
120°30'0"W
38°30'0"N
38°0'0"N
553112
Cosumnes River
553111
Dry Creek
Galt
Mokelumne River
Lodi
553120
Mosher Creek
Calaveras River
553130
Mormon Slough
Stockton
553140
N
0 2 4 6 8 10
Miles
Cities/Towns
Critical Habitat
Occupied but excluded streams / areas
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California

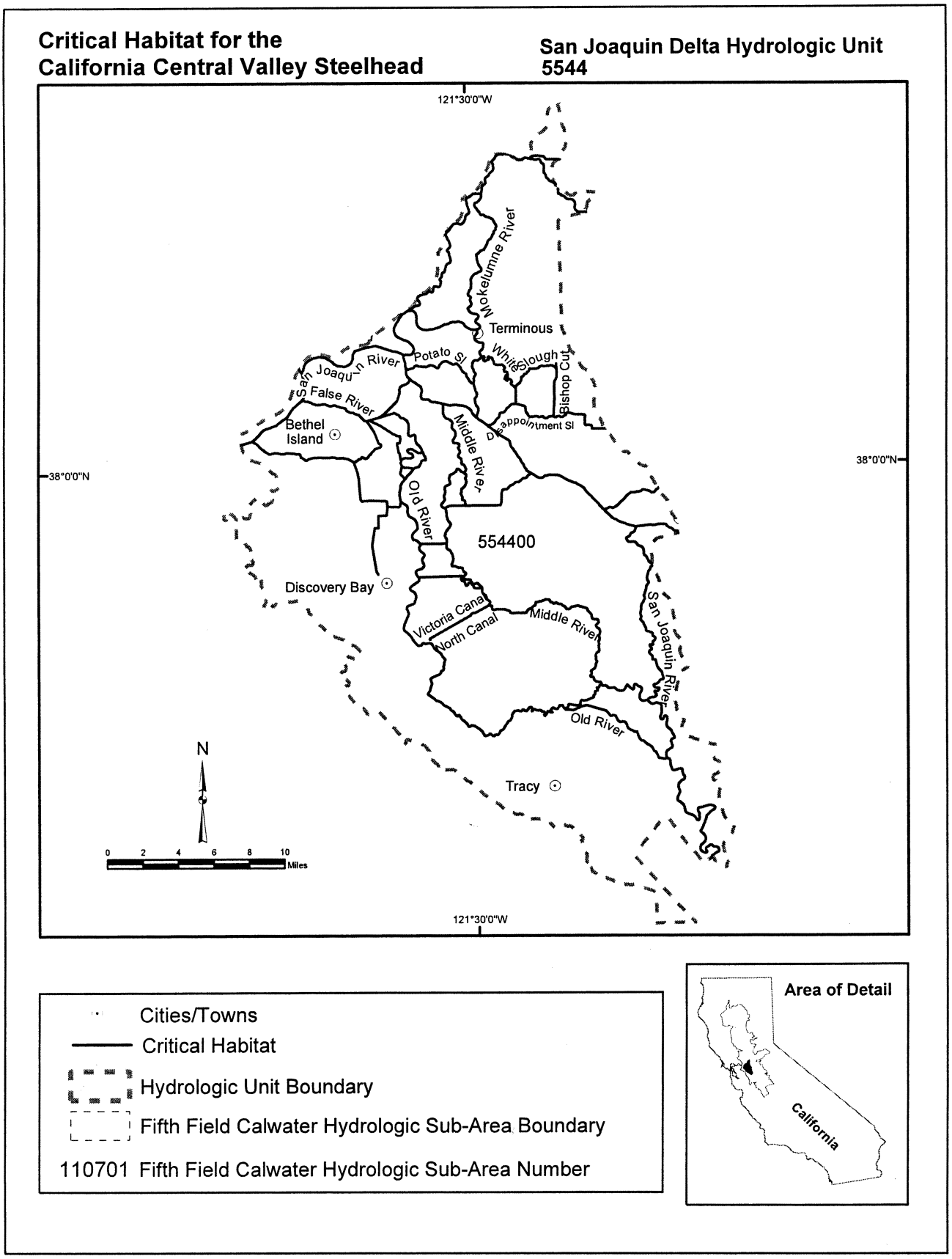

Critical Habitat for the
California Central Valley Steelhead
Upper Calaveras Hydrologic Unit
5533
553310
Calaveras River
N
0 0.2 0.4 0.6 0.8 1
Miles
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California


Critical Habitat for the
California Central Valley Steelhead
Stanislaus River Hydrologic Unit
5534
553410
Stanislaus River
N
0 0.2 0.4 0.6 0.8 1
Miles
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California


Critical Habitat for the California Central Valley Steelhead
San Joaquin Valley Floor Hydrologic Unit 5535
121°0'0"W
120°30'0"W
120°0'0"W
38°0'0"N
37°30'0"N
37°0'0"N
553520
553540
553510
Manteca
Oakdale
553540
Stanislaus River
553530
Modesto
Tuolumne River
553560
553550
Merced River
553590
Merced
553580
553570
N
0 2 4 6 8 10
Miles
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California


Critical Habitat for the
California Central Valley Steelhead
Delta-Mendota Canal Hydrologic Unit
5541
121°30'0"W
121°0'0"W
120°30'0"W
37°30'0"N
37°0'0"N
San Joaquin River
Patterson
554110
Gustine
554120
N
0 4 8 12 16 20
Miles
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California


Critical Habitat for the
California Central Valley Steelhead
North Diablo Range Hydrologic Unit
5543
121°30'0"W
38°0'0"N
San Joaquin R
Antioch
554300
N
0 2 4 6 8 10
Miles
37°30'0"N
Cities/Towns
Critical Habitat
Hydrologic Unit Boundary
Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number
Area of Detail
California



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