Appendix E Part 3

Public Comment Report (Master Bracketed Comments Part 2)

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Part II

Department of the Interior

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50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the San Bernardino Kangaroo Rat (Dipodomys merriami parvus); Final Rule

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[FWS–R8–ES–2007–0008; 92210–1117–0000–FY08 B4]

RIN 1018–AV07

Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the San Bernardino Kangaroo Rat (Dipodomys merriami parvus)

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), are designating final revised critical habitat for the San Bernardino kangaroo rat (*Dipodomys merriami parvus*) under the Endangered Species Act of 1973, as amended (Act). Approximately 7,779 acres (ac) (3,148 hectares (ha)) of habitat in San Bernardino and Riverside Counties, California, are being designated as critical habitat for the San Bernardino kangaroo rat. This final revised designation constitutes a reduction of approximately 25,516 ac (10,326 ha) from the 2002 designation of critical habitat for the San Bernardino kangaroo rat.

DATES: This rule becomes effective on November 17, 2008.

ADDRESSES: The final rule, final economic analysis, and map of critical habitat will be available on the Internet at *http://www.regulations.gov* and *http://www.fws.gov/carlsbad/*. Supporting documentation we used in preparing this final rule will be available for public inspection, by appointment, during normal business hours, at the U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office, 6010 Hidden Valley Road, Carlsbad, CA 92011; telephone 760–431–9440; facsimile 760–431–5901.

FOR FURTHER INFORMATION CONTACT: Jim Bartel, Field Supervisor, U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office (see **ADDRESSES** section). If you use a telecommunications device for the deaf (TDD), call the Federal Information Relay Service (FIRS) at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Background

It is our intent to discuss only those topics directly relevant to the designation of critical habitat for the San Bernardino kangaroo rat in this final rule. For more information on the taxonomy, biology, and ecology of the San Bernardino kangaroo rat, refer to the final listing rule published in the **Federal Register** on September 24, 1998 (63 FR 51005), the original final critical habitat rule published in the **Federal Register** on April 23, 2002 (67 FR 19812), the proposed rule to revise critical habitat published in the **Federal Register** on June 19, 2007 (72 FR 33808), and the April 16, 2008, notice of availability of the draft economic analysis (DEA) and changes to the proposed rule (73 FR 20581).

Subspecies Description, Life History, Distribution, Ecology, and Habitat

No new substantial information pertaining to the subspecies description, life history, distribution, ecology, or habitat of the San Bernardino kangaroo rat was received following the 2007 proposed rule to revise critical habitat for this subspecies. Therefore, please refer to the final listing rule published in the **Federal Register** on September 24, 1998 (63 FR 51005), and the proposed rule to revise critical habitat published in the **Federal Register** on June 19, 2007 (72 FR 33808), for a discussion of the subspecies' description, life history, distribution, ecology, and habitat.

Previous Federal Actions

As discussed in the proposed rule to revise critical habitat for this subspecies, the Service agreed, as part of a settlement agreement, to submit to the **Federal Register** a proposal to revise critical habitat, if prudent, on or before June 1, 2007, and a final rule by June 1, 2008, which was later extended to October 1, 2008. We published a proposed rule to revise critical habitat in the **Federal Register** on June 19, 2007 (72 FR 33808), and announced the first public comment period on the proposed rule. On December 11, 2007 (72 FR 70284), we opened a second public comment period on the proposed rule and announced our intention to hold two public hearings on the proposed rule that were held in San Bernardino, California, on January 10, 2008. On April 16, 2008, we published in the **Federal Register** a notice of availability (NOA) announcing the availability of the DEA (dated February 6, 2008), opening the third public comment period on the proposed rule to revise critical habitat, and announcing changes to the proposed rule (73 FR 20581). In addition, on July 29, 2008, we published in the **Federal Register** an NOA announcing the availability of an Addendum to the Economic Analysis, opening a fourth public comment period (73 FR 43910). This final rule completes our obligations under the March 23, 2006, settlement agreement regarding the subject subspecies. For a discussion of additional information on previous Federal actions concerning the San Bernardino kangaroo rat, refer to the final listing rule published in the **Federal Register** on September 24, 1998 (63 FR 51005), and the final designation of critical habitat published in the **Federal Register** on April 23, 2002 (67 FR 19812).

Summary of Comments and Recommendations

We requested written comments from the public on the proposed rule to revise critical habitat for the San Bernardino kangaroo rat during four comment periods. The first comment period opened June 19, 2007 (72 FR 33808), associated with the publication of the proposed rule, and closed August 20, 2007. We received one request for a public hearing during this comment period. The second comment period opened December 11, 2007 (72 FR 70284), associated with the publication of a notice of public hearings that were held January 10, 2008, and closed January 25, 2008. The third comment period opened April 16, 2008 (73 FR 20581), associated with the notice of availability of the DEA, and closed May 16, 2008. The fourth comment period opened July 29, 2008 (73 FR 43910), associated with the availability of an addendum to the economic analysis, and closed August 13, 2008. During these four public comment periods, we contacted appropriate Federal, State, and local agencies; scientific organizations; and other interested parties and invited them to comment on the proposed rule to revise critical habitat for this subspecies and the associated DEA.

During the first comment period, we received 12 public comments directly addressing the proposed revision of critical habitat: 1 from a Federal agency, 1 from a local government, 9 from organizations, and 1 from an individual. During the second comment period and the January 10, 2008, public hearings, we received 29 comments directly addressing the proposed revision of critical habitat for this subspecies: 4 from local governments, 6 from organizations, and 19 from individuals. During the third comment period, we received 3 comments directly addressing the proposed revision of critical habitat for this subspecies and/or the DEA: 1 from a Federal agency and 2 from organizations. During the fourth comment period, we received 5 comments directly addressing the proposed revision of critical habitat for

the San Bernardino kangaroo rat and/or the DEA: 3 from organizations, and 2 from individuals.

Peer Review

In accordance with our policy on peer review in Act (16 U.S.C. 1531 *et seq.*) activities, published on July 1, 1994 (59 FR 34270), we solicited expert opinions from five knowledgeable individuals with scientific expertise that included familiarity with the subspecies, the geographic region in which it occurs, and conservation biology principles. We received responses from two of the peer reviewers. The peer reviewers generally concurred with our methods and conclusions and indicated that the Service did a thorough job of delineating critical habitat using the best available scientific information.

We reviewed all comments received from the peer reviewers and the public for substantive issues and new information regarding the designation of critical habitat for the San Bernardino kangaroo rat. All public comments are addressed in the following summary and incorporated into the final rule as appropriate.

Peer Reviewer Comments

Comment 1: One peer reviewer commented that in the 2007 proposed rule to revise critical habitat, the Service's non-inclusion of areas designated as critical habitat in 2002 was not supported in the document with empirical data or some type of population viability modeling.

Our Response: Our revised critical habitat designation is substantially smaller than the 2002 critical habitat designation. Given the new information that became available to us in the five years since the previous designation, we find that we erroneously designated some areas. Areas previously designated in 2002 but not designated in this revised rule do not meet the definition of critical habitat. The changes in this rule are due to several factors. Better biological information allowed us to more specifically define primary constituent elements (PCEs) for this species, and site visits in December 2006 and January 2007 allowed us to more precisely define the areas that meet the definition of critical habitat on the ground. This allowed us to remove areas that do not meet our criteria for identifying the physical or biological features that are essential to the conservation of the species. The 2002 critical habitat designation included areas in which few occurrences were recorded. Such areas of low-density occupation or sporadic occupancy were removed from the proposed revised designation because they do not support core populations (i.e., areas where the subspecies has been repeatedly detected through live trapping). Finally, we employed refined mapping techniques in the current revision to more precisely map areas that contain PCEs. This more refined approach allowed us to remove areas that do not meet the definition of critical habitat. See the "Summary of Changes From the 2002 Critical Habitat Designation" and "Criteria Used To Identify Critical Habitat" sections of this final rule for more information.

We based the proposed revision of critical habitat for the San Bernardino kangaroo rat on the best available scientific and commercial data including peer-reviewed published literature, gray literature (non-published or non-peer-reviewed survey or research reports), survey information, Geographic Information System coverage data, and site visits with subspecies experts. We delineated proposed critical habitat using criteria based on the biological needs of the subspecies according to the best available science. Application of these criteria (see "Criteria Used To Identify Critical Habitat" section of this final rule) results in the determination of the physical and biological features that are essential to the conservation of this subspecies, as identified by the PCEs in the appropriate quantity and spatial arrangement essential to the conservation of the subspecies. The areas proposed as critical habitat: (1) Support core populations that are considered necessary for conservation of the subspecies including areas demographically disconnected from the largest populations, but which may be important for the long-term conservation of the subspecies; and (2) include non-degraded alluvial fans, washes, floodplains, and adjacent upland areas with appropriate soils and vegetation. At this time, a population viability analysis has not been completed for the San Bernardino kangaroo rat. When delineating critical habitat for the San Bernardino kangaroo rat, we used the best available scientific information to determine those areas containing the features essential to its conservation.

Comment 2: One peer reviewer commented on the reduction of critical habitat from what was designated in 2002. The peer reviewer stated that the 2007 proposed rule to revise critical habitat explains that this reduction is a result of additional knowledge about specific habitat requirements and occurrence data. The peer reviewer further questioned if the 2002 critical habitat designation was too superficial as a result of being rushed, or if the 2007 proposed revision to the critical habitat designation is overly conservative. The peer reviewer also suggested that we provide additional rationale for not designating areas with low population density or low habitat quality.

Our Response: The Act defines critical habitat as (1) 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 (a) essential to the conservation of the species, and (b) which may require special management considerations or protection, and (2) specific areas outside the geographical area occupied by the species at the time it is listed upon a determination by the Secretary that such areas are essential for the conservation of the species. The reduction in total area from what was designated in 2002 is primarily the result of: (1) Exclusions of habitat under section 4(b)(2) of the Act; (2) revision of the primary constituent elements: (3) revision of our criteria used to identify critical habitat; and (4) removal of lands within the geographical area occupied by the subspecies at the time it was listed that do not contain the physical or biological features as identified by the PCEs in the appropriate quantity and spatial arrangement essential to the conservation of the subspecies.

In 2002, we used the best available scientific information at that time to delineate critical habitat and do not consider the 2002 designation to be "superficial." However, as acknowledged by the peer reviewer, we have significant additional occurrence data and knowledge about specific habitat requirements of this subspecies that was not known when we first designated critical habitat for the San Bernardino kangaroo rat in 2002. We utilized this data to appropriately revise the primary constituent elements and criteria used to identify critical habitat consistent with the statutory obligations of the Act. In addition, since 2002, case law has developed that has helped to further our understanding of the statutory obligations of the Act and the definition of critical habitat (*e.g., The Cape Hatteras Access Preservation Alliance* v. *U.S. Dep't of the Interior*, 344 F. Supp. 2d 108 (D.D.C. 2004); *Home Builders Ass'n of N. Cal.* v. *U.S. Fish and Wildlife Service*, U.S. Dist. LEXIS 80255 (E.D. Cal. 2006); and *Arizona Cattle Growers' Ass'n* v. *Kempthorne*, 534 F. Supp. 2d 1013 (D. Ariz. 2008)). Thus, we have refined our approach to this critical habitat designation to insure compliance with the Act, including the identification of the geographical areas occupied by the subspecies at the time of listing, the

identification of physical or biological features (and primary constituent elements) essential to the conservation of the subspecies, determination of any areas outside the geographical area occupied by the subspecies at the time of listing that are essential for the conservation of the subspecies, and appropriate exclusions under section 4(b)(2) of the Act. A complete discussion of how data collected since the 2002 designation was utilized to refine the proposed designation can be found in the "Summary of Changes From the 2002 Critical Habitat Designation" and "Summary of Changes From the 2007 Proposed Rule To Revise Critical Habitat" sections of this final rule.

As discussed in the "Criteria Used To Identify Critical Habitat" section of this final rule, we delineated critical habitat for the San Bernardino kangaroo rat using the following criteria: (1) Areas occupied by the subspecies at the time of listing, and currently occupied, within the historical range of the subspecies; (2) areas retaining fluvial dynamics containing one or more of the PCEs for the subspecies; (3) areas supporting a core population of the subspecies; and (4) areas demographically disconnected from the largest populations, but which may be important for the long-term recovery of the subspecies. Application of these criteria results in the determination of the physical and biological features that are essential to the conservation of this subspecies, identified as the subspecies' PCEs laid out in the appropriate quantity and spatial arrangement. Thus, not all areas supporting the identified PCEs will meet the definition of critical habitat. Specifically, as noted by the commenter, some areas occupied at low densities are not included in the final revised critical habitat designation. Areas occupied at low densities are not likely to contribute to recovery of the subspecies, and we do not have information suggesting that the areas in question support core populations or information suggesting these areas would be capable of supporting a core population in the near future.

Conservation (i.e., recovery) is defined in section 3 of the Act as 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 Act are no longer necessary." In accordance with section 4(a)(1) of the Act, we determine if any species is an endangered or threatened species (or revise its listed status) because of any of the five threat factors identified in the Act (i.e., (A) present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence). Therefore, conservation, or recovery, is achieved when a five factor analysis indicates that current and future threats have been minimized to an extent that the species is no longer in danger of extinction or likely to become endangered in the foreseeable future. Recovery is a dynamic process requiring adaptive management of threats and there are many paths to accomplishing recovery of a species. We believe that the lands identified in this rule as meeting the definition of critical habitat are adequate to ensure the conservation of the San Bernardino kangaroo rat throughout its extant range based on the best available scientific information at this time.

We recognize that some efforts that positively contribute to the conservation of this subspecies may occur outside the boundaries of this final designation; however, we do not believe that this designation is "conservative." Rather, our proposed designation in combination with the NOA, which announced the addition of areas to the proposed designation, and this final designation accurately describe all specific areas meeting the statutory definition of critical habitat for the San Bernardino kangaroo rat. See the "Summary of Changes From the 2002 Critical Habitat Designation" and "Summary of Changes From the 2007 Proposed Rule To Revise Critical Habitat" sections of this final rule for more information.

Comment 3: One peer reviewer commented that the Service's focus on core populations as a primary criterion for designating critical habitat is logical and appropriate. The reviewer further commented that while the core populations may be necessary for conservation of the San Bernardino kangaroo rat, they may not be sufficient in area or connectivity to achieve a reasonable probability of persistence in the face of periodic flooding and drought. Another peer reviewer commented that the proposed revision to critical habitat includes dispersal corridors and habitat connectivity necessary for the subspecies.

Our Response: In this final revised designation we focused primarily on core populations in undisturbed habitat in the Santa Ana River, Lytle/Cajon Creeks, and the San Jacinto River washes. We believe that protecting these three largest core populations is necessary for the conservation of the San Bernardino kangaroo rat. In response to this and other comments, we revised our criteria to also capture occupied areas demographically disconnected from the three largest populations, but which may be important for the long-term conservation of the subspecies (for a detailed discussion see "Criteria Used To Identify Critical Habitat" section of this final rule). We then re-evaluated the proposed critical habitat boundaries and included in the designation additional areas in Mill Creek, Plunge Creek, Cable Creek wash, and Bautista Creek. We are not designating small, isolated areas of degraded habitat or areas devoid of fluvial processes because such areas likely only support unsustainable populations that would not contribute to the recovery of the subspecies. We believe that with these revisions, we included sufficient lowland and upland alluvial sage scrub habitat within a sufficient number of critical habitat units to ensure connectivity and persistence of the subspecies following periodic flooding and drought.

Comment 4: One peer reviewer had concerns about excluding areas from the critical habitat designation that are protected by a management or conservation agreement, particularly because the proposed exclusion of those areas increases the degree to which critical habitat in all three units is fragmented. This reviewer questioned whether proposed exclusions render the remaining critical habitat areas sufficient for the subspecies' recovery if management actions on the excluded areas fail to preserve their value to the subspecies. Another peer reviewer agreed with the logic of excluding from the final revised critical habitat designation areas that are covered by management plans that benefit the San Bernardino kangaroo rat, but the reviewer questioned whether monitoring would be conducted or reports would be required ensuring compliance with these plans, or whether the plans are having the desired effects.

Our Response: Section 4(b)(2) of the Act directs the Secretary to designate critical habitat on the basis of the best scientific data available and after taking into consideration the economic impacts, national security impacts, and any other relevant impacts of specifying any particular area as critical habitat. An area may be excluded from critical habitat if it is determined that the benefits of exclusion outweigh the benefits of specifying a particular area

as critical habitat, unless the failure to designate an area as critical habitat will result in the extinction of the species. The Service recognizes that 80 percent of federally listed species occur either partially or solely on private lands (Crouse et al. 2002) and we will only achieve recovery of federally listed species with the cooperation of private landowners. As discussed in the "Conservation Partnerships on Non-Federal Lands" section below, we believe that designation of critical habitat on private lands can negatively impact the working relationships and conservation partnerships we have formed with private landowners.

In making the Woolly-Star Preserve Area (WSPA) Management Plans, the Former Norton Air Force Base Conservation Management Plan (CMP), the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), and the Cajon Creek Habitat Conservation Management Area Habitat Enhancement and Management Plan (Cajon Creek HCMA HEMP) exclusions, we evaluated the benefits of designating non-Federal lands that may not have a Federal nexus for consultation while considering if our existing partnerships have, or will, result in greater conservation benefits to the San Bernardino kangaroo rat and its habitat than would likely result from consultation on a designation. We balanced the benefits of inclusion against the benefits of exclusion (i.e., the benefits of preserving partnerships and encouraging development of additional HCPs and other conservation plans in the future). All areas excluded under 4(b)(2) that have completed habitat conservation plans (HCPs) or other Service-approved management plans receive long-term protection and conservation that provides equivalent or greater conservation benefit to the San Bernardino kangaroo rat than would likely result from including these areas in the designation, and the exclusion of lands covered by these plans will not jeopardize the continued existence of the subspecies. The conservation objectives in these plans for the San Bernardino kangaroo rat, and the implementation status of these plans to date, are discussed in the "Exclusions Under Section 4(b)(2) of the Act" section below. The conservation and management of San Bernardino kangaroo rat habitat as described in these management plans have reduced and will continue to remove or reduce known threats to the subspecies and its habitat, contributing to the survival and recovery of this subspecies. We believe the exclusions we made in this final revised rule are legally supported under section 4(b)(2) of the Act and scientifically justified.

The exclusion of critical habitat does not dismiss or lessen the value of these areas to the overall conservation of this subspecies. Rather, we believe that the judicious exclusion of specific areas of non-Federal lands from critical habitat designations, where we have developed close partnerships with non-Federal land owners that resulted in the development of HCPs or other voluntary conservation plans, can contribute to species recovery and provide a superior level of conservation than the designation of critical habitat alone. As described in detail in the "Exclusions Under Section 4(b)(2) of the Act" section below, we determined that the benefits of excluding areas covered by the WSPA Management Plans, the Former Norton Air Force Base CMP, the Western Riverside County MSHCP, and the Cajon Creek HCMA HEMP outweigh the benefits of designating these lands, and that these exclusions will not result in the extinction of the San Bernardino kangaroo rat. Surveys and monitoring will continue to be required for areas excluded based on completed management plans to ensure they are effective (see "Areas Considered for Exclusion Under Section 4(b)(2) of the Act" section below for more information).

Comment 5: One peer reviewer discussed our identification of PCEs for the San Bernardino kangaroo rat, and specifically agreed that the PCEs are based on the best available science, and that the identified PCEs appropriately provide for the conservation of the subspecies.

Our Response: The description of the PCEs for the San Bernardino kangaroo rat is based on the best available scientific and commercial data regarding the subspecies, including a compilation of data from peer-reviewed, published literature; unpublished or non-peer reviewed survey and research reports; and opinions of biologists knowledgeable about the San Bernardino kangaroo rat and its habitat. Consequently, the PCEs, as described in this final rule, represent our best assessment of what habitat components, in the appropriate quantity and spatial arrangement, are essential to the conservation of the subspecies.

Public Comments

Comments Related to Criteria Used To Identify Critical Habitat

Comment 6: Two commenters stated that the proposed rule is flawed because it fails to include several significant areas of occupied habitat previously designated as critical habitat in 2002 that support one or more of the PCEs: (1) Three areas in the Santa Ana River wash; (2) the Etiwanda Fan; (3) four areas in Cajon/Lytle Creeks; and (4) two areas in the San Jacinto River. The commenters stated that the Service provided no data to support the conclusion that these areas are not occupied by the subspecies (e.g., trapping data) or do not contain the PCEs. They further stated that several areas (i.e., Etiwanda Fan, areas in Cajon/Lytle Creeks) that were not included in the proposed designation are currently occupied to some extent and, therefore, must contain the PCEs required by the species. One commenter stated that all populations inclusive of peripheral populations are essential for recovery and that not including all occupied areas as critical habitat will continue to fragment and drive the species closer to the brink of extinction.

Another commenter stated that according to a review of occurrence information for the San Bernardino kangaroo rat and habitat assessments conducted in 2007, the following areas are currently occupied by the subspecies and contain the PCEs, and therefore, should have been included in the proposed designation: (1) Three areas along Plunge Creek in the Santa Ana River watershed; (2) one area in the Santa Ana River; (3) one area in Lytle Creek; (4) Cable Creek in the Lytle/Cajon Creeks watershed; (5) Bautista Creek in the San Jacinto River watershed; and (6) the Etiwanda Fan. Several commenters also called for the reevaluation of Plunge Creek, the Santa Ana River in Redlands, Lytle Creek near the 210 Freeway, Cable Creek, and the Etiwanda Fan.

Certain areas that were not included in the June 19, 2007, proposed revision to critical habitat (72 FR 33808) were commented on more frequently than others mentioned above: Specifically, Plunge Creek, Mill Creek, the Cable Creek wash, and Bautista Creek. Multiple comments received during the first two comment periods and the public hearings, including comments received from biologists familiar with the San Bernardino kangaroo rat, indicated the importance of these areas as confirmed occupied habitat containing the PCEs, and which retain fluvial input and that may be necessary for the long-term conservation of the subspecies.

Our Response: For a detailed discussion of the areas previously designated as critical habitat that are not included in this revised designation, see the "Summary of Changes From the

2002 Critical Habitat Designation" section of this final rule. Under section 3(5)(C) of the Act, critical habitat shall not include the entire geographical area which can be occupied by the species unless otherwise determined by the Secretary. Critical habitat is defined in section 3 of the Act as (1) the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (a) essential to the conservation of the species and (b) that may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. In developing the proposed rule to revise critical habitat, we considered the geographical area occupied by the subspecies at the time of listing, and within that broad geographical area, identified those areas that, based on the best available scientific and commercial data, contain the physical and biological features essential to the subspecies' conservation. We believe that our proposed designation, including changes to the proposed designation outlined in the April 16, 2008, NOA (73 FR 20581), and this final designation accurately describe all areas meeting the definition of critical habitat for the San Bernardino kangaroo rat.

As discussed in the proposed rule to revise critical habitat and the April 16, 2008, NOA announcing changes to the proposed rule, we identified critical habitat for this subspecies based on several criteria. Application of these criteria (see "Criteria Used To Identify Critical Habitat" section of this final rule) results in the determination of the physical and biological features that are essential to the conservation of this subspecies, as identified by the PCEs in the appropriate quantity and spatial arrangement essential to the conservation of the subspecies. Thus, not all areas supporting the identified PCEs will meet the definition of critical habitat. The areas designated as critical habitat (1) support core populations that are considered necessary for conservation of the subspecies, including areas demographically disconnected from the largest populations that may be important for the long-term conservation of the subspecies; and (2) include non-degraded alluvial fans, washes, floodplains, and adjacent upland areas with appropriate soils and vegetation.

We recognize that our designation does not encompass all known occurrences of this subspecies as noted by the commenters. Small, isolated areas of degraded habitat or areas devoid of fluvial processes are likely to only support unsustainable populations that would not contribute to the recovery of the subspecies. Although we are not designating all known occurrences of the San Bernardino kangaroo rat, we believe the criteria we used to identify areas that contain the features essential to the conservation of the subspecies, and which are included in the final revised critical habitat designation, are adequate to ensure the conservation of the subspecies throughout its extant range. Species that are protected across their ranges are expected to have lower likelihoods of extinction (Soule and Simberloff 1986, pp. 32–35; Scott et al. 2001, pp. 1297–1300); we are designating multiple locations across the range of the subspecies to prevent range collapse. In light of significant comments received during the comment periods for the proposed rule on areas that are essential to the subspecies and should be included in the designation, and new information received, we revised our criteria used to identify critical habitat to capture additional self-sustaining populations of San Bernardino kangaroo rats necessary for recovery (see "Criteria Used To Identify Critical Habitat" section below for more information). We then re-evaluated the proposed critical habitat boundaries and included in the designation additional areas in Mill Creek, Plunge Creek (including areas providing habitat connectivity of the Plunge Creek wash with the Santa Ana River wash), Cable Creek wash, and Bautista Creek. These areas are currently designated as critical habitat for the San Bernardino kangaroo rat (67 FR 19812, April 23, 2002); however, we did not propose these areas as critical habitat in the June 19, 2007 (73 FR 33808), proposed revision to critical habitat, but announced the addition of these areas as changes to the proposed rule in the April 16, 2008, NOA. See the "Summary of Changes From the 2007 Proposed Rule to Revise Critical Habitat" and the "Unit Descriptions" sections of this final rule for more information.

Comment 7: One commenter indicated concerns about the following statement made in the proposed rule: "Portions of the habitat downstream of the Bautista Creek confluence have been or are in the process of being developed or are being used for water conservation activities and therefore this habitat does not contain the PCEs." The commenter indicated that these areas should be included in critical habitat and further stated that no data was presented in the proposed rule indicating that these areas are no longer occupied, no longer contain the PCEs; and if degraded, how these areas have become degraded over the last five years.

Our Response: In the 2007 proposed rule, we discussed an integrated water recharge and recovery program to be implemented by Eastern Municipal Water District at the confluence of the San Jacinto River and Bautista Creek within existing critical habitat Unit 3. The project was expected to impact approximately 37 ac (15 ha) of floodplain and upland habitat (Service 2006, p. 21). The Service issued a biological opinion for this project on November 16, 2006 (Service 2006, FWS–WRIV–4051.5), which found that the proposed action would not jeopardize the continued existence of the subspecies nor adversely modify the currently designated critical habitat. Although Map 4 of the proposed rule (72 FR 33808) depicts these lands within the boundary of proposed critical habitat Unit 3, the text of the proposed rule explained that we were not proposing to include these lands as revised critical habitat because they had been addressed by the section 7 consultation and biological opinion, and the proposed action would permanently impact this habitat. The water recharge and recovery program lands total approximately 39 ac (16 ha), not 37 ac (15 ha) as previously reported in the proposed rule (72 FR 33808), all of which are currently designated as critical habitat for the San Bernardino kangaroo rat. These approximately 39 ac (16 ha) of lands are divided into five individual outparcels ranging in size from less than an acre to 35 ac (14 ha) and each areas is surrounded by other lands that we did include in the proposed revision to designated critical habitat. The commenter is correct in pointing out that this area has not yet been developed and the area does currently contain the physical and biological features essential to the conservation of this subspecies, as identified by the PCEs in the appropriate quantity and spatial arrangement. Furthermore, as indicated in the biological opinion, we are aware that this area is occupied.

Following publication of the proposed rule to revise the critical habitat designation, several surveys were conducted within these 39 ac (16 ha) in association with the integrated water recharge and recovery project. These surveys have indicated that the population of San Bernardino kangaroo rats in these areas is larger than previously believed and exceeds what we estimated the population to be in

2006. Based on these survey results, the Army Corps of Engineers requested that we re-initiate consultation on this project. Because these lands are currently designated as critical habitat and the maps indicating areas proposed as critical habitat included these areas (72 FR 33808), and in light of the public comment, new survey data and re-initiation of consultation on the Eastern Municipal Water District project, we included these 39 ac (16 ha) in Unit 3 as lands that meet the definition of critical habitat. We believe that inclusion of these 39 ac (16 ha) is a logical outgrowth of the proposed rule and is scientifically sound and legally justified. We determined, however, that these 39 ac (16 ac) should be excluded from the final critical habitat designation under section 4(b)(2) of the Act. See the "Summary of Changes From the 2007 Proposed Rule To Revise Critical Habitat" and "Exclusions Under Section 4(b)(2) of the Act" sections of this final rule for more information.

Comment 8: Several commenters stated that the Service cannot focus primarily on its definition of core populations (i.e., areas where the subspecies was repeatedly detected through live trapping) when false negatives occur from live trapping surveys 20 percent of the time. They further stated that the Service's definition of core populations is inappropriate, would result in substantial San Bernardino kangaroo rat populations being excluded from critical habitat, and should be redefined. A number of commenters suggested peripheral or sporadically occupied locations are essential for conservation of the subspecies. One commenter stated that areas currently having low populations should not be removed from critical habitat. The commenter stated that the Service's assertion that some viable San Bernardino kangaroo rat populations do not fit the definition of a core population, and are therefore less important, has no biological basis for an animal that has already lost 90 percent of its historical range. The commenter stated that by not including potential or occupied habitat that has been degraded as critical habitat would allow private landowners and public agencies the ability to further degrade those areas that are important to the conservation of the San Bernardino kangaroo rat.

Our Response: As discussed in the "Criteria Used To Identify Critical Habitat" section of this final rule, we delineated critical habitat for the San Bernardino kangaroo rat using the following criteria: (1) Areas occupied by the subspecies at the time of listing, and currently occupied, within the historical range of the subspecies; (2) areas retaining fluvial dynamics containing one or more of the PCEs for the subspecies; (3) areas supporting a core population of the subspecies; and (4) areas demographically disconnected from the largest populations, but which may be important for the long-term recovery of the subspecies. Application of these criteria results in the determination of the physical and biological features that are essential to the conservation of this subspecies, identified as the species' PCEs laid out in the appropriate quantity and spatial arrangement. Thus, not all areas supporting the identified PCEs will meet the definition of critical habitat. Based on information provided in public comments, these criteria were revised after the June 19, 2007 (72 FR 33808), proposed revision to critical habitat to capture essential features supporting additional self-sustaining populations of San Bernardino kangaroo rats (see "Criteria Used To Identify Critical Habitat" section below for more information). As a result, we added four areas totaling approximately 1,579 ac (639 ha) to the proposed revision as announced in the April 16, 2008 NOA (73 FR 20581). We believe our final designation accurately describes all specific areas meeting the definition of critical habitat for the San Bernardino kangaroo rat. We acknowledge that false negatives can occur from live trapping surveys for San Bernardino kangaroo rats; however, as required under the Act, we used the best available scientific information in determining areas occupied by this subspecies.

We recognize that our designation of critical habitat for the San Bernardino kangaroo rat does not encompass all known occurrences of this subspecies as noted by the commenters. In this designation, we focused primarily on core populations (i.e., areas where the subspecies was repeatedly detected through live trapping) in undisturbed habitat in the Santa Ana River, Lytle/Cajon Creeks, and the San Jacinto River washes. We believe protecting the largest core populations is necessary for recovery of the subspecies. Small, isolated areas of degraded habitat or areas devoid of fluvial processes are likely to only support unsustainable populations that would not contribute to the recovery of this subspecies. Although we are not designating all known occurrences of the San Bernardino kangaroo rat, we believe our criteria are sufficient, and therefore the designation is adequate, to ensure the conservation of this subspecies throughout its extant range based on the best available information at this time. We recognize that the designation of critical habitat may not include all of the habitat that may eventually be determined to be necessary for the recovery of the subspecies, and critical habitat designations do not signal that habitat outside of the designation is unimportant or may not contribute to recovery. Areas outside the final critical habitat designations will continue to be subject to conservation actions implemented under section 7(a)(1) of the Act, and regulatory protections afforded by the section 7(a)(2) jeopardy standard and the prohibitions of section 9 of the Act.

Comment 9: One commenter cited statements in the proposed rule that several areas were not included in the proposed designation because they "contain habitat that has been degraded" and requested justification as to why no regulatory mechanisms were triggered in the past to prevent habitat destruction in these areas since they were included in the 2002 designation.

Our Response: As explained above in response to comment 2, the reduction in total area from what was designated in 2002 is primarily the result of: (1) Exclusions of habitat under section 4(b)(2) of the Act; (2) revision of the primary constituent elements; (3) revision of our criteria used to identify critical habitat; (4) and removal of lands within the geographical area occupied by the subspecies at the time it was listed that do not contain the physical or biological features as identified by the PCEs in the appropriate quantity and spatial arrangement essential to the conservation of the subspecies.

We have significant additional occurrence data and knowledge about specific habitat requirements of this species that was not known when we first designated critical habitat for the San Bernardino kangaroo rat in 2002. We utilized this data to revise the primary constituent elements and criteria used to identify critical habitat consistent with the statutory obligations of the Act and applicable case law (see the "Summary of Changes From the 2002 Critical Habitat Designation" section of this final rule for more information).

As pointed out by the commenter, there are areas of currently designated critical habitat that were removed in part due to habitat degradation and/or the determination that the areas do not contain the physical and biological features essential to the conservation of this subspecies. Some of these areas likely did not support the physical and biological features essential to the

conservation of the subspecies in 2002, when critical habitat was first designated (see "Summary of Changes" section). We have revised the PCEs since the 2002 designation based on new information and a better understanding of the statutory obligations of the Act. Furthermore, we diligently reviewed all areas considered for designation to demonstrate existence of the physical and biological features essential to the conservation of this subspecies within the geographical area occupied by this subspecies at listing.

Other areas have become degraded since critical habitat was designated. Critical habitat receives protection under section 7 of the Act through the prohibition against Federal agencies carrying out, funding, or authorizing the destruction or adverse modification of critical habitat. Section 7(a)(2) of the Act requires consultation on Federal actions that may affect critical habitat. However, there are a number of reasons why designated critical habitat can become degraded without triggering consultation.

The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Generally, habitat may degrade through time due to lack of management. A critical habitat designation does not force a landowner to manage their land to the benefit of a species. Furthermore, proposed projects or actions occurring in critical habitat that do not involve a Federal nexus are not subject to the section 7 prohibition against destruction or adverse modification of critical habitat and, therefore, no consultation is required for those projects to occur. Where the consultation requirements of section 7(a)(2) do apply, an analysis would only result in a finding of destruction or adverse modification if the project was expected to impact the capability of the critical habitat unit as a whole to perform its conservation function for the subspecies. Projects may adversely impact the physical and biological features essential to the conservation of a species within a critical habitat unit without impairing the unit's conservation role and function for the species. For example, the Service completed formal section 7 consultation on the Lytle Creek North Master Planned Community in existing critical habitat Unit 2. In our Biological Opinion we determined that the proposed action was not likely to jeopardize the continued existence of the subspecies nor result in the destruction or adverse modification of critical habitat (Service 2003a, p. 45, FWS–SB–1640.11), even though the project resulted in the loss of some designated critical habitat. We have not consulted on any projects within designated critical habitat where we determined that project implementation would destroy or otherwise adversely modify critical habitat such that the designated unit could no longer properly function and support the essential features for which it was designated. Finally, in the event of a destruction or adverse modification finding, the landowner's obligation is not to restore or recover the species, but to implement reasonable and prudent alternatives to avoid destruction or adverse modification of critical habitat.

Comment 10: Two commenters stated that critical habitat should include linkage corridors and address connectivity issues relevant to the San Bernardino kangaroo rat. One commenter stated that arguments in the proposed rule to remove specific areas within the Santa Ana River watershed show a limited understanding of the habitat needs and the corridor connectivity issues that are relevant to this subspecies. One commenter further stated that the critical habitat delineated in the proposed revision to critical habitat shows a limited, single-species perspective. Several commenters stated that continuity between populations must be maintained.

One commenter stated that, through the proposed rule, fragments of critical habitat were created (i.e., Plunge Creek) and populations removed because they are believed to be isolated from perhaps larger populations (i.e., Etiwanda Fan, Cable Creek, and Bautista Creek) and that the goal for the designation should be to form linkages between occupied areas, which reduce genetic isolations, allow populations to re-colonize following local extinctions from stochastic events, and migrate in response to environmental change.

Our Response: We agree that linkages are important to reduce genetic isolation and to allow for re-colonization and migration. Included in the criteria for defining the physical and biological features within occupied habitat for inclusion in the critical habitat designation are areas adjacent to and between San Bernardino kangaroo rat occurrence points that maintain connectivity of occurrences in one continuous patch of suitable habitat. We maintained connectivity of core populations within each of the proposed critical habitat units. However, in some areas there are geographical barriers to connectivity, such as manmade structures or large expanses of unsuitable habitat. These areas are not likely to support actual movement of San Bernardino kangaroo rats and do not contain the physical and biological features essential to the conservation of this subspecies, and therefore do not meet the definition of critical habitat and are not included in this final designation. As announced in the NOA for the draft economic analysis (73 FR 20581), we are including in the final revised critical habitat designation areas in and around Plunge and Mill Creeks to increase connectivity in Unit 1. Furthermore, we are including portions of Cable Creek (Unit 4) and Bautista Creek (Unit 5) in the designation of critical habitat as these areas may be important for the long-term conservation of this subspecies. See the "Summary of Changes From the 2007 Proposed Rule To Revise Critical Habitat" and the "Unit Descriptions" sections of this final rule for more information.

Designation of these areas within the Santa Ana River, Lytle/Cajon Creeks, and San Jacinto River watersheds is based on data and information received during the comment periods from these and other commenters and creates additional connectivity within the designation. We responded to all data and scientific information received during the comment periods and did not receive any other data indicating that additional areas within the Santa Ana River watershed, or elsewhere within the range of the San Bernardino kangaroo rat, meet the definition of critical habitat. We agree with the commenter that this final designation is limited in perspective to a single subspecies, the San Bernardino kangaroo rat. It is outside the scope of this final rule to address conservation need of other species within a single species critical habitat designation.

Comment 11: One commenter asserted that the Service's statement in the 2007 proposed rule that channelized areas in the San Jacinto River prevent connectivity with core populations is unjustified, and that we provided no evidence indicating that the PCEs are not present or that these areas do not provide connectivity. Several commenters stated that channelized creeks (such as portions of Cable and Bautista creeks) should contain a natural bottom with islands of habitat that the subspecies could use as corridor habitat, utilizing patches of habitat as "stepping stones" and temporary refugia as they disperse.

Our Response: Channelized areas are not included in this designation because they do not provide suitable habitat to sustain San Bernardino kangaroo rat populations beyond the next storm event, which could flood the channels

with high-velocity flows from bank to bank, eliminating populations within the channelized areas. Furthermore, we have no evidence to suggest that this subspecies utilizes channelized areas (some of which are lined with concrete) to successfully migrate between populations. We agree that channels with natural bottoms and islands of habitat could provide better opportunities for dispersal between populations. However, these "stepping stones" are not in place at this time, and we are not including these channelized areas in the designation of critical habitat as they do not currently meet the definition of critical habitat.

Comment 12: One commenter stated that construction technologies should be explored that would create or sustain San Bernardino kangaroo rat habitat. The commenter also stated that a hydrologic analysis of the existing levees, detention basins, and other flood control structures should be completed to determine if these structures are still required. Another commenter stated that areas along the Santa Ana River are important, as re-engineering of flood control features can create appropriate conditions for the San Bernardino kangaroo rat.

Our Response: We agree that flood control and water conservation structures contributed to the loss of suitable habitat for the San Bernardino kangaroo rat by altering hydrological processes, and we agree that sustaining areas where natural hydrological processes remain is important to the conservation of this subspecies. Although studies of construction technologies and investigations of the necessity for existing hydrological structures could benefit the conservation of this subspecies in the future, we do not currently have this information and we were not able to include an analysis of such information in making our designation of critical habitat. When delineating critical habitat for the San Bernardino kangaroo rat, we used the best available scientific information to determine those areas that meet the definition of critical habitat.

Comment 13: One commenter stated that the proposed rule was flawed because the Service failed to include unoccupied areas for recovery. The commenter stated that the Service ignored the recovery goal of critical habitat by failing to include historical habitat that may not be currently occupied, but could provide an opportunity for the subspecies' recovery. The commenter further stated that the Service must consider and evaluate the recovery benefits of critical habitat designation in order to promulgate a legally valid critical habitat rule. One commenter stated that areas outside the geographical area occupied by the subspecies included in the 2002 designation are still essential to the conservation of the subspecies and should have been included in the 2007 proposed rule.

Our Response: The Service may designate as critical habitat areas outside of the geographical area occupied by a species at the time it was listed when we can demonstrate that those areas are essential for the conservation of the species (section 3(5)(A)(ii) of the Act). Likewise, we can 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." (50 CFR 424.12(e)).

Conservation (i.e., recovery) is achieved when a five factor analysis performed pursuant to section 4(a)(1) if the Act indicates that current and future threats have been minimized to an extent that the species is no longer threatened with extinction in the foreseeable future. Recovery is a dynamic process requiring adaptive management of threats and there are many paths to accomplishing recovery of a species. We recognize that it is unlikely that threats to this subspecies will be removed from all areas identified in this rule and that recovery efforts will occur outside the boundaries of this final designation; however, we believe that that conservation of this subspecies would be achieved if threats to this subspecies, as described in the "Special Management Considerations or Protection" section of this rule, were reduced or removed due to management and protection of those areas. Therefore, consistent with the statutory obligations of the Act and our implementing regulations we are not designating any unoccupied areas or areas outside the geographical area occupied by this subspecies at the time it was listed.

Critical habitat designations do not signal that habitat outside the designation is unimportant or may not contribute to a species' recovery. Areas outside the final critical habitat designation will continue to be subject to conservation actions implemented under section 7(a)(1) of the Act, and regulatory protections afforded by the section 7(a)(2) jeopardy standard and the prohibitions of section 9 of the Act. Critical habitat designations based on the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans, or other species conservation planning efforts if information available at the time of those planning efforts calls for a different outcome. We recognize that the threats faced by this subspecies may change in the future; however, we base our critical habitat designations on the information available at the time of the designation and do not speculate as to what areas may be found essential if better information becomes available or what areas may become essential over time. The commenter did not include any specific data supporting their statement that unoccupied areas are essential for the recovery of the San Bernardino kangaroo rat and we are not aware of any studies or data that we did not consider. Should additional data become available, we may revise this critical habitat designation, subject to available funding and other conservation priorities.

Contrary to the commenter's assertion, we note that all areas designated as critical habitat in 2002 were within the geographical area occupied by the species at the time of listing. For a detailed discussion regarding areas referenced by the commenter that were designated in 2002 but not included in this final revised designation, please see the "Summary of Changes From the 2002 Critical Habitat Designation" section of this final rule.

Comment 14: One commenter stated that before the Service reduces critical habitat of a species that is already in peril, the Service should scientifically analyze if this reduction further jeopardizes the species' recovery and that a recovery plan, including a population viability analysis, should be completed for the San Bernardino kangaroo rat.

Our Response: We agree that a recovery plan and a population viability analysis could provide useful information when considering a critical habitat designation; however, at this time, neither a recovery plan nor a population viability analysis was completed for the San Bernardino kangaroo rat. Given the timeframe in which we had to prepare this critical habitat rule, we did not have time to prepare a recovery plan or a population viability analysis for this subspecies; and the Act does not require the preparation of such analyses before critical habitat is designated. When delineating critical habitat for the San Bernardino kangaroo rat, we used the best available scientific information to determine those areas that meet the definition of critical habitat.

Comments Related to the Primary Constituent Elements

Comment 15: One commenter stated that hydrological processes are an essential part of the alluvial fan sage scrub plant community and San Bernardino kangaroo rat habitat and, therefore, should be included as a PCE. The commenter further stated areas that provide necessary hydrology to downstream alluvial fans and the processes that the San Bernardino kangaroo rat relies upon for habitat renewal and maintenance should have been included in the proposed designation.

Our Response: We consider PCEs to be tangible, recognizable, or measurable features in the landscape, where possible, and not the processes that result in the feature. Biologists and non-biologists should be able to clearly determine the presence of PCEs in the field. A process such as hydrological regime should not be a PCE, but the resulting habitat condition (i.e., the end result of the process) is an appropriate PCE. In the case of the San Bernardino kangaroo rat, although hydrological processes maintain the alluvial sage scrub with proper soil and vegetative characteristics for this subspecies, habitat features described by the PCEs are the actual habitat parameters relied upon by the San Bernardino kangaroo rat, not the natural process that contributes to the long-term maintenance of the habitat (see the "Primary Constituent Elements" section for a detailed discussion).

Comment 16: One commenter stated that the proposed rule fails to describe the PCEs based on the best available science. This commenter stated that according to Braden and McKernan (2000), San Bernardino kangaroo rats were documented in a variety of plant communities, including coastal sage scrub, chaparral, in highly disturbed areas previously not thought to be suitable habitat for this subspecies (i.e., dirt parking lots, dirt roads), and questioned why these plant communities and disturbed areas were not included in the proposed designation.

Our Response: The PCEs for the San Bernardino kangaroo rat described in the proposed rule and this final rule are based on the best available science (see Comment 5 and response above). We are aware of the Braden and McKernan (2000) study, which showed San Bernardino kangaroo rats occupying areas that were previously thought to be unsuitable habitat, and we have used that information in revising the PCEs and delineating critical habitat for this subspecies in this final rule. Please refer to the "Primary Constituent Elements" section of this final rule for more information on this topic.

Comment 17: One commenter disagreed with PCEs 2 and 3, stating that areas with up to 50 percent chamise chaparral cover are unsuitable for the San Bernardino kangaroo rat and that marginal upland areas occupied at low densities that are in proximity to occupied habitat do not serve to perpetuate the subspecies.

Our Response: We disagree with the commenters' assertion that up to 50 percent chamise chaparral cover is unsuitable for the San Bernardino kangaroo rat. Research shows that alluvial fan habitat with mature, relatively dense vegetation, including chaparral, is at least periodically occupied by the San Bernardino kangaroo rat (Braden and McKernan 2000, p. 16) (see Comment 16 and response above and the "Primary Constituent Elements" section of this final rule). Also, we believe upland areas contain features essential to the conservation of the subspecies (see the "Primary Constituent Elements" section of this final rule for a detailed discussion of the importance of upland habitat).

Comments Related to Subspecies Biological Information

Comment 18: One commenter suggested our statement that inclusion of "sufficient areas to provide the space needed to maintain the home range for this subspecies" is naïve and misleading. This commenter stated they have studied home range dynamics and space utilization of the Merriam's kangaroo rat (*Dipodomys merriami*), of which the San Bernardino kangaroo rat is a subspecies, and the commenter noted that this species diverges from the normally accepted concept of home range as a single area where an individual remains for life. The commenter further stated that the size, shape, and location of a home range will change dramatically through time depending on a number of factors.

Our Response: We agree with the commenter about the dynamic and changing nature of the San Bernardino kangaroo rat's home range. We did not suggest in the proposed rule that this subspecies has a defined, static home range where it remains during its entire lifetime. Furthermore, we considered the dynamic home range of this subspecies when delineating critical habitat. In order to clarify concerns voiced by the commenter, we changed the quoted text which appears in the "Primary Constituent Elements" section of this final rule to read "sufficient areas to provide the space needed to maintain the home range dynamics of this subspecies."

Comments Related to Proposed Exclusions Under Section 4(b)(2) of the Act

Comment 19: One commenter stated that many of the proposed exclusions of critical habitat are not consistent with the stated goals of the Service in providing protection and recovery for the San Bernardino kangaroo rat, while another commenter stated that areas proposed for exclusion by the Service should remain in critical habitat. Another commenter stated that while they support conservation efforts for the San Bernardino kangaroo rat through management plans and acquisition of funding to implement these plans, these efforts are not a substitute for the designation of critical habitat. This commenter stated that the rationale for proposing the following areas for exclusion under section 4(b)(2) of the Act is unjustified for the following reasons:

(1) WSPA Management Plan—(a) this plan does not mention the San Bernardino kangaroo rat as a target species for conservation nor does it provide species-specific monitoring; (b) because the San Bernardino kangaroo rat is sympatric with the woolly star, declines in the number of woolly star plants documented in this area over the past seven seasons may indicate a potential decline in San Bernardino kangaroo rat habitat as well; (c) relying on the draft WSPA Multiple Species Habitat Management Plan (MSHMP) to exclude areas from final critical habitat is not justified since the specific goals of the draft MSHMP are currently non-binding;

(2) Former Norton Air Force Base CMP—while conservation easements are identified as the method to assure San Bernardino kangaroo rat conservation in perpetuity, to date no conservation easements are recorded for these areas;

(3) Western Riverside County MSHCP—the purpose of the MSHCP to streamline Federal and State regulatory mechanisms and allow for take of endangered species is very different from the purpose of critical habitat to recover species; and

(4) The designation of Norton Air Force Base, Cajon Creek Habitat Conservation Management Area, and Eastern Municipal Water District Conservation Lands as critical habitat causes no additional regulatory burdens to the agencies that now manage them and will actually aid in bringing much-needed resources to the management of these areas.

Our Response: We determined that the benefits of exclusion outweigh the benefits of inclusion for lands covered by the WSPA Management Plans, the Former Norton Air Force Base CMP, the Western Riverside County MSHCP, and the Cajon Creek HCMA HEMP, and therefore excluded these lands from critical habitat under 4(b)(2) of the Act. Please see the "Exclusions Under Section 4(b)(2) of the Act" section of this final rule for a detailed discussion of the management plans and the benefits each plan provides to the San Bernardino kangaroo rat.

Where a Federal nexus exists, lands designated as critical habitat are protected from destruction or adverse modification under section 7(a)(2) of the Act. However, the conservation and management plans mentioned above incorporate on-going management and protection for the San Bernardino kangaroo rat that will benefit the long-term conservation of the subspecies. This type of long-term management would not necessarily result from a section 7(a)(2) consultation on an area where critical habitat is designated. Additionally, the protection and management afforded to San Bernardino kangaroo rat habitat under these plans extend to private lands that may otherwise lack a Federal nexus triggering consultation under section 7(a)(2) of the Act. Moreover, these plans provide for proactive monitoring and management of conserved lands, which is important to the survival and recovery of the San Bernardino kangaroo rat.

Such conservation needs are typically not addressed through the application of the statutory prohibition on destruction or adverse modification of critical habitat. Section 4(b)(2) of the Act directs the Secretary to consider the economic impact, national security impact, and any other relevant impact of specifying any particular area as critical habitat. An area may be excluded from critical habitat if it is determined that the benefits of exclusion outweigh the benefits of specifying a particular area as critical habitat, unless the failure to designate an area as critical habitat will result in the extinction of the species. As discussed in detail in the "Exclusions Under Section 4(b)(2) of the Act" section, we believe the exclusions in this final rule are legally supported under section 4(b)(2) of the Act and scientifically justified. The benefits of designating critical habitat in areas covered by these plans are minimal, and implementation of these plans will result in an increased level of protection and long-term conservation for the San Bernardino kangaroo rat. Imposing an additional regulatory review as a result of designating critical habitat may undermine these conservation efforts and partnerships.

With regard to the comments above that are specific to the WSPA Plan; first, we acknowledge that the San Bernardino kangaroo rat is not directly addressed by the 1993 Management Plan for the Santa Ana River Woolly-Star implemented on the WSPA. However, the management tasks benefit the San Bernardino kangaroo rat as well (see "Woolly-Star Preserve Area (WSPA) Management Plans" discussion below). Second, we have no records to indicate that a recent decline in woolly star plants is directly related to a decline in San Bernardino kangaroo rat habitat. Third, we are not basing our exclusion of WSPA lands solely on the recent draft WSPA MSHCP. We are excluding those lands based on partnerships with the local sponsors in preparation and implementation of the 1993 WSPA management plan and the ongoing update to that plan (i.e., the WSPA MSHCP) which will address the San Bernardino kangaroo rat (see the "Woolly-Star Preserve Area (WSPA) Management Plans" exclusion discussion below).

With regard to the conservation easements on Former Norton Air Force Base (CMP) lands, the San Bernardino International Airport Authority (SBIA Authority) is currently pursuing conservation easements to assure San Bernardino kangaroo rat conservation in perpetuity on these lands.

Regarding the remaining points raised by the commenter above specific to the Western Riverside County MSHCP, the Former Norton Air Force Base CMP, and the Cajon Creek HCMA HEMP, please see the "Benefits of Designating Critical Habitat," "Conservation Partnerships on Non-Federal Lands," "Benefits of Excluding Lands With HCPs or Other Approved Management Plans," and the plan-specific exclusions sections of this final rule for a full discussion of our rationale for excluding these lands under section 4(b)(2) of the Act. Finally, we are not excluding the Eastern Municipal Water District conservation lands from critical habitat for the San Bernardino kangaroo rat.

Comment 20: Two commenters stated that the proposed revision would violate the Implementing Agreement (IA) of the Western Riverside County MSHCP because it does not exclude 506 ac (205 ha) of water district land within the MSHCP boundaries. They further stated that the MSCHP has already taken the 506 ac (205 ha) of water district lands into account—and state that in the IA, the Service agreed that "in the event that a critical habitat determination is made for any Covered Species Adequately Conserved * * * lands within the boundaries of the MSHCP will not be designated as critical habitat." They further stated that the MSHCP provides full protection for the San Bernardino kangaroo rat even without consideration of the 506 ac (205 ha) owned by the two water districts (Eastern Municipal Water District and Lake Hemet Municipal Water District). Additionally, the commenters stated that the water districts could qualify as a "Participating Special Entity" under the MSHCP and the significance of this is that if either water district wishes to implement a project for which take authorization is required, they must comply with the MSHCP and its IA. Thus, if take authorization were ever required for their properties, it would be covered under the MSHCP.

Our Response: In the proposed rule to revise critical habitat, we provided a description of the Western Riverside County MSHCP and an analysis of the proposed exclusion from critical habitat of lands covered by this plan to allow the public to comment and provide additional information that should be considered in our final exclusion analysis (see "Exclusions under Section 4(b)(2) of the Act" section below for a detailed discussion). We appreciate any conservation work that Eastern Municipal Water District and Lake Hemet Municipal Water District may be doing; however, the water districts are not signatories to or permittees under the MSHCP. Because the water districts are not signatories of the MSHCP, they may elect to not be a "Participating Special Entity", and instead choose an alternative approach outside of the MSHCP to conduct their activities. By taking an alternative approach, a water district would not be required to comply with the MSHCP and associated IA. Therefore, the benefits of including lands owned by the Eastern Municipal Water District and Lake Hemet Municipal Water District as critical habitat are higher than the benefits of including other lands within the overall MSHCP boundaries subject to the MSHCP, and we determined under section 4(b)(2) of the Act that the water districts' lands should not be excluded from this final designation.

Comment 21: One commenter stated that the area covered by the Cajon Creek HCMA HEMP should remain in the critical habitat designation to remind the conservation area managers of their responsibility to the San Bernardino kangaroo rat and other threatened and endangered species.

Our Response: The Cajon Creek HCMA HEMP, managed by Vulcan Materials Company (formerly CalMat Company), Western Division, was created to offset sand and gravel mining proposed within and adjacent to Cajon Creek. In making the Cajon Creek HCMA HEMP exclusion, we evaluated the benefits of designating non-Federal lands that may not have a Federal nexus for consultation while considering if our existing partnership has, or will, result in greater conservation benefits to the San Bernardino kangaroo rat and its habitat than would likely result from consultation on a designation. We balanced the benefits of inclusion against the benefits of exclusion (i.e., the benefits of preserving partnerships and encouraging development of additional HCPs and other conservation plans in the future). We determined that the Cajon Creek HCMA HEMP provides equivalent or greater conservation benefit to the San Bernardino kangaroo rat than would likely result from including this area in the designation, that designation could impact our current and future partnerships, and that exclusion of the lands covered by this plan will not result in the extinction of the subspecies (see "Exclusions under Section 4(b)(2) of the Act" section below for a detailed discussion). Vulcan Materials is responsible for managing these alluvial fan scrub habitat areas in perpetuity for 24 species, including the San Bernardino kangaroo rat, regardless of whether or not critical habitat for the San Bernardino kangaroo rat exists on these lands. Vulcan Materials Company is aware of the conservation value of their land and has maintained a strong partnership with the Service by submitting annual reports and ensuring that management and monitoring of their conservation lands adheres to the requirements of the Cajon Creek HCMA HEMP.

Comment 22: One commenter stated that they oppose the Service's policy of relying on section 4(b)(2) to exclude habitat that may be covered by management plans, conservation easements, and/or endowments under the logic that these areas do not need "special management" pursuant to section 3(5)(A). The commenter referred to this approach as "belt and suspenders" and reminded the Service that the district court of Arizona struck down this approach in *Center for Biological Diversity, et al.* v. *Norton* (D. Ariz. 2003). Furthermore, the commenter stated that our exclusion analyses are flawed because a determination that excluding an area will not result in the extinction of a species does not consider the recovery standards and benefits associated with designation. The commenter believes that all San Bernardino kangaroo rat habitat needs special management because of the variety of impacts to its habitat (e.g., changes in hydrologic regimes, direct impacts from development, off-road vehicle impacts). The commenter stated that current or future management actions provided for the San Bernardino kangaroo rat or its habitat by management plans and/or conservation plans are not a reasonable justification for excluding these areas from the protection that a designation of critical habitat provides. The commenter further stated that the Act defines critical habitat as an area that may need special management, and therefore areas that are receiving management under a management plan and/or conservation plan meet the definition of critical habitat and should not be excluded if the necessary management is being provided under a plan. The commenter concluded that the Service should include in the final critical habitat designation all historical and contemporary areas where the San Bernardino kangaroo rat was known (unless it has been developed), because these areas meet the definition of critical habitat by nature of their need for special management.

Our Response: The commenter appears to be confusing the purposes of sections 3(5)(A) and 4(b)(2) of the Act. Section 3(5)(A) provides the requirements for identifying critical habitat, while section 4(b)(2) directs the Secretary to consider the impacts of designating such areas as critical habitat and provides the Secretary with discretion to exclude particular areas if the benefits of exclusion outweigh the benefits of inclusion. In this rule, we have not stated that areas do not meet the definition of critical habitat under 3(5)(A) because they are being adequately managed. However, we have considered the management of particular areas that do meet the definition of critical habitat in our analyses under section 4(b)(2).

We explain our criteria for designating critical habitat in response to comments 6, 8, and 13 above as well as the "Criteria Used To Designate Critical Habitat" section below. The responses to comments 6 and 8 address why this designation does not contain all known occurrences of this subspecies (i.e., contemporary areas) and the response to comment 13 addresses why we are not including any unoccupied habitat (i.e., historical areas) in this final rule. We believe our criteria captures all areas that meet the definition of critical habitat under section 3(5)(A) of the Act. We will focus our response to this comment on our exclusion of lands under section 4(b)(2) of the Act that we determined met the definition of critical habitat under section 3(5)(A) of the Act.

Section 4(b)(2) of the Act states that any designations of and/or revisions to critical habitat will be made on the basis of the best scientific 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 any area from critical habitat if he determines that the benefits of exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless he determines that the failure to designate such area as critical habitat will result in the extinction of the species concerned. Therefore, consistent with the Act, we must consider the relevant impacts of designating areas that meet the definition of critical habitat using the best available scientific data available prior to finalizing a critical habitat designation.

After determining the areas that meet the definition of critical habitat under section 3(5)(A) of the Act as described above, we took into consideration the economic impact, the impact on national security, and other relevant impacts of specifying any particular area as critical habitat for the San Bernardino kangaroo rat. In this final designation, we recognize that designating critical habitat in areas where we have partnerships with land owners that have led to conservation and/or management of listed species on non-Federal lands has a relevant perceived impact to landowners and a relevant impact to future partnerships and conservation efforts on non-Federal lands. These impacts are described in detail in the "Conservation Partnerships on Non-Federal Lands" section below. Based on these relevant impacts, we evaluated the benefits of designating areas as critical habitat against the benefits of excluding these areas from the critical habitat designation. Please see the "Application of Section 4(b)(2) of the Act" and "Exclusions under Section 4(b)(2) of the Act" sections of this final rule for a detailed discussion of the benefits of excluding lands covered by management plans versus the benefits of including these areas in a critical habitat designation. Upon weighing the specific benefits of inclusion against specific benefits of exclusion, we determined that the benefits of excluding a portion of units 1, 2, 3, and 5 outweigh the

benefits of including these areas in the final critical habitat designation. When weighing the benefits of including an area in the critical habitat designation, we fully consider the regulatory benefits provided to the species under section 7(a)(2) of the Act based on the statutory difference between a jeopardy analysis and an adverse modification analysis, and our balancing analyses reflects our consideration of the recovery standards and benefits associated with designation. Further we determined that the exclusion of these areas will not result in extinction of the San Bernardino kangaroo rat. Contrary to the commenter's belief, this determination to exclude areas where the benefits of exclusion outweigh the benefits of inclusion and where we determined that the exclusion will not result in the extinction of the species is consistent with the statutory obligations of the Act. Therefore, we believe these exclusions are in full compliance with the Act.

Comment 23: One commenter stated that the proposed critical habitat rule did not unequivocally demonstrate that the benefits of excluding areas covered by management plans from critical habitat outweigh the benefits of including them.

Our Response: As stated above, the Secretary may exclude any area from critical habitat if he determines that the benefits of exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless he determines that the failure to designate such area as critical habitat will result in the extinction of the species concerned. The benefits of excluding an area from a critical habitat designation (e.g., preserving partnerships and fostering new partnerships) are not directly comparable to the benefits of including that same area within a designation (e.g., regulatory consultation requirement), and therefore one cannot unequivocally compare the two in an analysis; rather the Secretary fully considers the impacts of designation and weighs all the factors to determine if the benefits of exclusion outweigh the benefits of inclusion. For the reasons detailed in the "Exclusions under Section 4(b)(2) of the Act" section of this final rule, we determined that the benefits of exclusion outweigh the benefits of inclusion for lands covered by the WSPA Management Plans, the Former Norton Air Force Base CMP, the Western Riverside County MSHCP, and the Cajon Creek HCMA HEMP, and determined that exclusion of these lands will not result in the extinction of the San Bernardino kangaroo rat. Therefore, we have excluded these lands from the critical habitat designation under section 4(b)(2) of the Act.

Comments on Lands Designated as Critical Habitat

Comment 24: Several commenters stated there are areas within the proposed critical habitat that should not be included in the final designation because they do not contain the PCEs, are not occupied by the subspecies, or otherwise do not meet the definition of critical habitat. One commenter objected to the inclusion of three parcels of land along City Creek in proposed Unit 1 that are used by San Bernardino County Flood Control for maintenance activities following storm events, and stated that these parcels are being evaluated by the City of Highland as part of its land use planning effort for the future development of the Golden Triangle area. Two commenters objected to the inclusion of large areas of property (owned by Lytle Development Company) in the Lytle Creek area in proposed critical habitat Unit 2. The objection is based on negative survey data over recent years and judgment of a biological consultant who believes the areas in question are not suitable habitat for this subspecies, are not occupied, or are not essential to the conservation of the subspecies.

Our Response: Where site-specific information was submitted to us with a rationale as to why an area should not be designated as critical habitat, we evaluated that information in accordance with the definition of critical habitat pursuant to section 3(5)(A) of the Act. Following our evaluation of the provided information, we made a determination that modifications to the critical habitat boundaries were not warranted. Data used in the preparation of our final revised designation indicate that the area of Lytle Creek in question is occupied by the San Bernardino kangaroo rat and contains some of the last remaining suitable upland habitat (PCEs 2 and 3) in Unit 2 that contains the features essential to the conservation of the subspecies, and the areas near City Creek provide suitable alluvial habitat in Unit 1 and connectivity with the core population in the Sana Ana River wash. The area in question meets our criteria used to identify critical habitat (see "Criteria Used To Identify Critical Habitat" section below). We believe that based on the behavior and ecology of the San Bernardino kangaroo rat as extrapolated from the best available scientific data, the animal may not be detectable at all times across all areas designated as critical habitat, and, based on our analysis, we believe we properly defined occupancy as it relates to the behavior and ecology of this subspecies.

Comment 25: One commenter stated the Service failed to make the requisite finding that land within two areas of Lytle Creek, which they claim should be excluded, may require special management considerations or protection. The commenter claims that these lands are not candidates for special management considerations or protection because no reasonable amount of management efforts could make these lands suitable for the San Bernardino kangaroo rat or connect them with the Lytle Creek wash population. The commenter further stated that one of these areas is outside the geographical area occupied by the San Bernardino kangaroo rat and the Service has not made, and cannot make, the requisite findings to include the area within critical habitat under 16 U.S.C. section 1532(5)(A)(ii).

Our Response: We determined through survey data, vegetation data, analysis of aerial imagery, and site visits with Service subspecies experts, that these two areas of Lytle Creek are within the geographical area occupied at the time of listing, are currently occupied, and contain the features essential to the conservation of the San Bernardino kangaroo rat. We acknowledge that these upland areas are likely occupied at a lower density than areas within the lowland wash and contain somewhat dense vegetation; however, these areas contain some of the last remaining upland habitat within Unit 2 (PCEs 2 and 3) and contain the features essential to the conservation of the subspecies as described in the "Primary Constituent Elements" section of this final rule. As discussed in the "Unit Descriptions" section of this final rule, the physical and biological features within the Lytle/Cajon Creek wash may require special management considerations or protection to minimize impacts associated with flood control operations, water conservation projects, sand and gravel mining, and urban development. Furthermore, Braden and McKernan (2000, p. 16) demonstrated that areas with late phases of floodplain vegetation, such as mature alluvial fan sage scrub and associated coastal sage scrub and chaparral, including some areas of moderate to dense vegetation, are at least periodically occupied by San Bernardino kangaroo rats. Additionally, we believe the earthen levees separating some of these areas from the active wash do not isolate individuals or prohibit movements in these areas from the core population within Lytle Creek wash. Therefore, we disagree with the

of and provide incidental take coverage for the San Bernardino kangaroo rat. The commenter also mentioned that the U.S. Army Corps of Engineers (ACOE) is preparing a Multiple Species Habitat Management Plan, to avoid, minimize, or offset impacts associated with the Seven Oaks Dam, which would also include conservation strategies for the San Bernardino kangaroo rat. The commenter stated that because Federal, State, and local stakeholders have invested significant amounts of time in both of these processes, it is only proper to delay designation of the final critical habitat until the completion of these processes.

Our Response: The Service is aware of and has considered the Federal projects mentioned in the comment above in the process of revising designated critical habitat; however, we are under a court-ordered timeline to submit to the **Federal Register** a final rule revising critical habitat for the San Bernardino kangaroo rat by October 1, 2008.

Comment 30: Several commenters provided information about the proposed critical habitat Unit 2 (Lytle/Cajon Creek wash) along the State Route 210 freeway (SR–210). Most of these comments indicated that areas along the freeway should be removed from critical habitat because they are developed or will soon be developed. Commenters suggested removing areas along the length of the SR–210, and specifically identified 100 feet along the north side of SR–210 and the south side of SR–210 in the vicinity of the Pepper Avenue extension project.

Our Response: The revised critical habitat boundary in Unit 2 (Lytle/Cajon Creek wash) extends south to Highland Avenue, which is north of the new SR–210 crossing of Lytle Creek. Much of the areas around SR–210 that were commented on were not included in the proposed revision to critical habitat because they do not meet the definition of critical habitat. The delineated critical habitat boundary lies just north of SR–210. We are not designating critical habitat from Highland Avenue south in the Lytle/Cajon wash. Areas designated as critical habitat within Lytle Creek are occupied and contain the features essential to the conservation of the San Bernardino kangaroo rat.

Comment 31: One commenter suggested the Service reject any proposal to remove critical habitat within the City of Highland in the area of Greenspot Road and City Creek/Plunge Creek just east of SR–30. The commenter stated that this area is viable, occupied habitat. The commenter indicated that removing this area from the critical habitat designation allows for the development of a shopping center. The commenter indicated that removal of this area from the critical habitat designation is not based on good science.

Our Response: The area in the vicinity of Greenspot Road between SR–30 and Boulder Avenue/Orange Street does not support the PCEs required by the San Bernardino kangaroo rat in the appropriate quantity and spatial arrangement essential to the conservation of the subspecies as it consists of habitat degraded by mining activities and development or contains grassy fields. Furthermore, Plunge Creek at Orange Street is completely channelized and diverted from its historical connection with the Santa Ana River. We are aware that some areas in the vicinity of Greenspot Road not included in this designation may be sparsely occupied; however, we have determined that these areas do not meet the definition of critical habitat. There is a section of relatively undisturbed alluvial scrub habitat east of City Creek and SR–30 that we are including in this designation. Areas that support populations, but are outside the critical habitat designation, will continue to be subject to conservation actions we implement under section 7(a)(1) of the Act. Any proposed activity, including the proposed shopping center mentioned in the comment would also be subject to the regulatory protections afforded by the section 7(a)(2) jeopardy standard, if a Federal nexus is involved, and the prohibitions of section 9 of the Act.

Comment 32: One commenter stated it is reasonably foreseeable that the proposed critical habitat will, if approved, result in significant adverse impacts to the San Bernardino kangaroo rat. For this reason, the commenter encouraged the Service to reconsider its position regarding the National Environmental Policy Act (NEPA) and prepare environmental analyses as defined by NEPA before approving this reduction.

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

Comment 33: One commenter stated that due to climate change in the future, the San Bernardino kangaroo rat will move slowly up the Lytle and Cajon Creek wash area instead of going further south.

Our Response: We did not address potential impacts of global climate change on this subspecies in the proposed rule because we are not currently aware of any subspecies-specific or geographic-specific information on this potential threat. While we do not deny that global climate change is occurring, we cannot predict what areas might be important for this subspecies in light of future climate changes without on-the-ground evidence documenting range shift patterns in San Bernardino kangaroo rat populations. The commenter expressed a general concern for the effects of climate change on the San Bernardino kangaroo rat, but did not provide evidence supporting a possible range shift for this subspecies. Should additional data become available, we may revise this critical habitat designation subject to available funding and other conservation priorities.

Comment 34: One commenter suggested that the Etiwanda fan needs to be retained because it is currently occupied and provides recovery opportunities for the subspecies.

Our Response: The Etiwanda fan area is not included in this revision to critical habitat because we have determined that this area does not meet the definition of critical habitat. The area is significantly degraded, largely unoccupied, and does not contain the physical and biological features essential to the conservation of the San Bernardino kangaroo rat. We believe that our designation of critical habitat contains the areas necessary for the recovery and long-term conservation of this subspecies without the inclusion of the Etiwanda fan.

Comments From Other Federal Agencies

Comment 35: The U.S. Forest Service (USFS) commented that they oppose the designation of critical habitat for the San Bernardino kangaroo rat on National Forest lands. The USFS further stated that the San Bernardino National Forest (SBNF) recently revised its Land and Resource Management Plan (LRMP), and management direction was incorporated that the USFS believes provides sufficient protection and management for the San Bernardino kangaroo rat and its habitat. They also stated that the Service concurred that these conservation measures provide protection for this subspecies when the Service issued a non-jeopardy biological

opinion on the LRMP in 2005 (Service 2005, p. 175). The USFS believes that no additional benefit to, or protection for, this subspecies would occur as a result of critical habitat designation of National Forest lands, it is simply not needed in order to conserve this subspecies. The USFS also stated that it currently has in place "special management considerations or protection" for this subspecies, and that it does not need any additional considerations or protection that critical habitat designation of National Forest lands might provide.

The USFS also commented that designation of critical habitat identified in the proposed rule would unnecessarily add to the USFS workload by requiring them to conduct a separate analysis and make a determination of effect for designated critical habitat when consulting under section 7 of the Act.

Our Response: We determined that National Forest lands contain physical and biological features essential to the conservation of the San Bernardino kangaroo rat, and therefore, meet the definition of critical habitat (see "Criteria Used To Identify Critical Habitat" section below). We acknowledge that the revised LRMP will benefit the San Bernardino kangaroo rat and its habitat. The LRMP contains general provisions for species conservation and suggests specific management and conservation actions that will benefit this species and the physical and biological features essential to its conservation. Implementation of the LRMP should address known threats to this species on National Forest lands. We appreciate and commend the efforts of the USFS to conserve federally listed species on their lands.

The Secretary has the discretion to exclude an area from critical habitat under section 4(b)(2) of the Act after taking into consideration the economic impact, the impact on national security, and any other relevant impact if he determines that the benefits of such exclusion outweigh the benefits of designating such area as critical habitat, unless he determines that the exclusion would result in the extinction of the species concerned. We considered the request from the USFS that we exclude their lands because it would unnecessarily add work in the future to determine the effect regarding critical habitat for actions on their lands and the fact that they had already completed consultation under section 7(a)(2) of the Act on their revised LRMP.

As part of our section 7 consultation with the USFS on the SBNF LRMP, the USFS has already consulted on various activities carried out on National Forest lands including: Roads and trail management; recreation management; special use permit administration; administrative infrastructure; fire and fuels management; livestock grazing and range management; minerals management; and law enforcement. In our 2005 biological opinion on the LRMP, we determined that implementation of the plan was not likely to jeopardize the continued existence of the San Bernardino kangaroo rat or adversely modify critical habitat designated in 2002 for this subspecies. Since the USFS has already consulted with us on potential impacts to critical habitat related to the activities outlined in the LRMP, the designation of revised critical habitat should not require additional consultation for those activities.

Based on the record before us, we have elected not to exclude these lands and are designating National Forest lands that meet the definition of critical habitat for the San Bernardino kangaroo rat. We will continue to consider on a case-by-case basis in future critical habitat rules whether to exclude particular Federal lands from such designation when we determine that the benefits of such exclusion outweigh the benefits of their inclusion.

Comments Related to the Draft Economic Analysis

Comment 36: One commenter stated the Service needs to include all occupied and unoccupied, historical habitat in the economic analysis (and final critical habitat), and not rely on the flawed draft critical habitat as the basis for the economic analysis.

Our Response: We believe our final designation accurately describes all specific areas meeting the definition of critical habitat for the San Bernardino kangaroo rat. As discussed in the "Criteria Used To Identify Critical Habitat" section of this final rule and response to comments 3 and 6 above, we delineated critical habitat for the San Bernardino kangaroo rat using the following criteria: (1) Areas occupied by the subspecies at the time of listing, and currently occupied, within the historical range of the subspecies (2) areas retaining fluvial dynamics containing one or more of the PCEs for the subspecies; (3) areas supporting a core population of the subspecies; and (4) areas demographically disconnected from the largest populations, but which may be important for the long-term recovery of the subspecies. Application of these criteria results in the determination of the physical and biological features that are essential to the conservation of this subspecies, identified as the species' PCEs laid out in the appropriate quantity and spatial arrangement. Thus, not all areas supporting the identified PCEs will meet the definition of critical habitat.

We recognize that our designation does not encompass all known occurrences of this subspecies as noted by the commenter. Specifically, we did not include in the final designation small, isolated areas of degraded habitat or areas devoid of fluvial processes because such areas likely only support unsustainable populations that would not contribute to the recovery of the subspecies. Further, we designate critical habitat in 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 (50 CFR 424.12(e)). Accordingly, when the best scientific and commercial data do not demonstrate that the conservation needs of the species require designation of critical habitat outside of occupied areas, we will not designate critical habitat outside the geographical area occupied by the species. Although we are not designating all known occurrences of the San Bernardino kangaroo rat, we believe the areas we have identified as meeting the definition of critical habitat, and which are included in the final revised critical habitat designation, are adequate to ensure the conservation of the subspecies throughout its extant range. Species that are protected across their ranges are expected to have lower likelihoods of extinction (Soule and Simberloff 1986, pp. 32–35; Scott et al. 2001, pp. 1297–1300); we are designating multiple locations across the range of the subspecies to prevent range collapse.

We recognize that the designation of critical habitat may not include all of the habitat that may eventually be determined to be necessary for the recovery of the subspecies, and critical habitat designations do not signal that habitat outside the designation is unimportant or may not contribute to recovery. We do not agree that the proposed designation is flawed, and maintain it was appropriate to base the draft economic analysis on the areas included in the proposed rule.

Comment 37: One commenter asserts that the Service must look only at the incremental cost of the proposed designation and not at the costs attributable to listing alone when considering exclusion of habitat areas.

Our Response: The U.S. Office of Management and Budget's (OMB) guidelines for conducting economic analysis of regulations direct Federal agencies to measure the costs of a regulatory action against a baseline, which it defines as the "best assessment of the way the world would look absent the proposed action." In other words, the baseline includes the existing regulatory and socio-economic burden imposed on landowners, managers, or other resource users potentially affected by the designation of critical habitat. Impacts that are incremental to that baseline (i.e., occurring over and above existing constraints) are attributable to the proposed regulation. Significant debate has occurred regarding whether assessing the impacts of the Service's proposed regulations using this baseline approach is appropriate in the context of critical habitat designations.

In order to address the divergent opinions of the courts and provide the most complete information to decision-makers, the economic analysis reports both: (a) The baseline impacts of SBKR conservation from protections afforded the species absent critical habitat designation; and (b) the estimated incremental impacts precipitated specifically by the designation of critical habitat for the species. Summed, these two types of impacts comprise the fully co-extensive impacts of San Bernardino kangaroo rat conservation in areas considered for critical habitat designation.

Incremental effects of critical habitat designation are determined using the Service's December 9, 2004, interim guidance on "Application of the 'Destruction or Adverse Modification' Standard Under Section 7(a)(2) of the Endangered Species Act" and information regarding what potential consultations and project modifications may potentially occur as a result of critical habitat designation over and above those associated with the listing. In *Gifford Pinchot Task Force* v. *United States Fish and Wildlife Service,* the Ninth Circuit invalidated the Service's regulation defining destruction or adverse modification of critical habitat, and the Service no longer relies on this regulatory definition when analyzing whether an action is likely to destroy or adversely modify critical habitat. Under the statutory provisions of the Act, the Service determines destruction or adverse modification on the basis of whether, with implementation of the proposed Federal action, the affected critical habitat would remain functional to serve its intended conservation role for the species. A detailed description of the methodology used to define baseline and incremental impacts is provided later in this section.

Comment 38: Two commenters request that the Service estimate the economic benefits of critical habitat designation, including positive health effects associated with foregone air pollution, water conservation, open space preservation, protection of other species, and savings from reduced flood plain development.

Our Response: Under Executive Order 12866, OMB directs Federal agencies to provide an assessment of both the social costs and benefits of proposed regulatory actions. 22 OMB's Circular A–4 distinguishes two types of economic benefits: direct benefits and ancillary benefits. Ancillary benefits are defined as favorable impacts of a rulemaking that are typically unrelated, or secondary, to the statutory purpose (i.e., direct benefits) of the rulemaking.

In the context of critical habitat, the primary purpose of the rulemaking (i.e., the direct benefit) is the potential to enhance conservation of the species. The published economics literature has documented that social welfare benefits can result from the conservation of endangered and threatened species. In its guidance for implementing Executive Order 12866, OMB acknowledges that it may not be feasible to monetize, or even quantify, the benefits of environmental regulations due to either an absence of defensible, relevant studies or a lack of resources on the implementing agency's part to conduct new research. Rather than rely on economic measures, the Service believes that direct benefits of the proposed rule are best expressed in biological terms that can be weighed against the expected cost impacts of the rulemaking.

Critical habitat designation may also generate ancillary benefits. Critical habitat aids in the conservation of species specifically by protecting the primary constituent elements on which the species depends. To this end, critical habitat designation can result in maintenance of particular environmental conditions that may generate other social benefits aside from the preservation of the species. That is, management actions undertaken to conserve a species or habitat may have coincidental, positive social welfare implications (e.g., increased recreational opportunities in a region). Although not the primary purpose of critical habitat, ancillary benefits may result in gains in employment, output, or income that may offset the direct, negative impacts to a region's economy resulting from actions to conserve a species or its habitat.

It is often difficult to evaluate the ancillary benefits of critical habitat designation. To the extent that ancillary benefits of the rulemaking may be captured by the market through an identifiable shift in resource allocation, they are factored into the overall economic impact assessment in this report. For example, if habitat preserves are created to protect a species, the value of existing residential property adjacent to those preserves may increase, resulting in a measurable positive impact. Where data are available, this analysis attempts to capture the net economic impact (i.e., the increased regulatory burden less any discernable offsetting market gains), of species conservation efforts imposed on regulated entities and the regional economy.

Comment 39: One commenter expressed concern that the economic analysis relies too heavily on economic modeling to predict the impacts of the proposed rule on development. The economic analysis does not account for local factors, such as the presence of floodplains in San Bernardino kangaroo rat habitat and a slow housing market, which will depress development regardless of the critical habitat designation. In particular, other Federal laws and flood insurance policies, state law, and local land use policies generally prohibit development in floodplains.

Our Response: As described in Appendix D, Section D.2 of the DEA, the analysis relies on growth projection data provided by the Southern California Association of Governments (SCAG), which is widely regarded as the most reliable and up-to-date source of this information.

Section 3.3.3.2 of the DEA describes the geographic scope of the analysis of impacts on development. The analysis considers the impacts on projected development in all privately owned, unprotected lands within the area proposed for final critical habitat designation. When projecting growth within the area of proposed critical habitat, flood plains were removed from the area of the analysis for the reasons expressed by the commenter. However, portions of the proposed critical habitat are located in areas outside of the floodplain boundaries. The area of proposed critical habitat includes uplands and low-lying areas that are not in the floodplain.

Comment 40: One commenter argues that there is no basis or evidence that the costs of protecting the San Bernardino kangaroo rat will increase to $10.6 million per year.

Our Response: As shown in Table ES–1 of the DEA, the baseline cost of protecting the San Bernardino kangaroo rat and its habitat is projected to be $15.2 million on an annualized basis. Additionally, incremental costs attributable to the designation of critical habitat are predicted to total $4.3 million on an annualized basis. It is unclear how the commenter's estimate of $10.6 million per year was obtained. As discussed on pages 2–3 and 2–7 of the DEA, the baseline costs are driven by foregone revenues to Eastern Municipal Water District of scaling back the Hemet/San Jacinto Recharge and Recovery Program by 30,000 acre feet per year. The costs associated with these activities are based on information provided by the Director of Engineering at Eastern Municipal Water District. The impacts of scaling back the groundwater recharge program will occur in the future; no comparable reduction in groundwater recharge occurred in the past. Therefore, future annual costs of protecting the San Bernardino kangaroo rat are expected to be higher than in the past.

Comment 41: One commenter states that the DEA grossly inflates administrative and project modification costs, and cites as an example an estimate on page 45 of the DEA that the Bureau of Land Management (BLM) will spend $200,000 per year to install signs and enforce existing closures prohibiting off-road vehicle use on BLM lands. Furthermore, the commenter states that if incurred, these costs should not be attributed to the San Bernardino kangaroo rat. Finally, the commenter asserts that purchasing signage will have a positive regional effect on the economy that should offset the costs.

Our Response: The source of the commenter's example is unclear. The DEA does not have a page 45 or Section 4–5, nor does it estimate the costs of signage. To address the overall concern expressed in the comment, the DEA analyzes how entities will alter their behavior to conserve the San Bernardino kangaroo rat. If an agency will undertake a conservation measure for the benefit of the San Bernardino kangaroo rat, then the cost of that action is considered attributable to the San Bernardino kangaroo rat. Allocating economic resources to the conservation measure and away from other activities represents an opportunity cost. Conservation measures may have positive distributional effects; however, paying for the conservation measure essentially transfers resources away from other entities that would have incurred the distributional gains.

Comment 42: One commenter stated that the DEA does not address any of the economic benefits of the designation of critical habitat.

Our Response: See our response to comment 38 above.

Comment 43: One commenter was concerned that the DEA does not analyze the economic impacts of the lands the Service added to the critical habitat designation.

Our Response: The Addendum to the Economic Analysis of Critical Habitat Designation for San Bernardino Kangaroo Rat, which analyzes the additional lands proposed for critical habitat designation, was made available to the public for review and comment on July 29, 2008.

Comment 44: One commenter noted that the housing projections in the DEA do not account for LDC plans to develop 5,800 houses in Unit 2.

Our Response: We revised the development projections in the Final Economic Analysis (FEA) (see pages 2–11 to 2–15 and pages 3–4 to 3–11 of the FEA) to account for LDC's planned development in Unit 2.

Comment 45: Two commenters explained that the DEA significantly underestimates economic impacts in Unit 2 because it does not account for LDC's development plans.

Our Response: We recalculated impacts in the FEA to account for LDC's home development projections. See pages 2–14 to 2–15 and pages 3–10 to 3–11 of the FEA for the revised impacts in Unit 2.

Comment 46: Two commenters pointed out that LDC is intending to develop 647 acres of its property that is mostly within upland San Bernardino kangaroo rat habitat. According to the commenter, designation of critical habitat on these 647 acres would place uncertainty over LDC's economic use and development potential.

Our Response: The FEA includes all costs associated with the impact of critical habitat on LDC's 647 acres (see pages 2–14 and 3–10 of the FEA). The economic analysis accounts for lost land values, delay, and other costs related to regulatory uncertainty.

Comment 47: One commenter argued that the DEA incorrectly assumes that there is no limitation on the stock of land available for mitigation purposes. The commenter suggested that the DEA will need to either identify the location and amount of suitable San Bernardino kangaroo rat habitat that is available for use as future San Bernardino kangaroo rat habitat mitigation land or the analysis in the DEA will need to be revised to factor in the true effects of there being only a small and finite amount of suitable San Bernardino kangaroo rat habitat available for use as mitigation land.

Our Response: While we agree that only a finite amount of San Bernardino kangaroo rat habitat exists, there is sufficient evidence from conservation banks (see pages 2–11 to 2–12 of the FEA) that ample land exists within and outside of conservation banks to accommodate potential future compensation for impacts to the San Bernardino kangaroo rat and its habitat.

Comment 48: One commenter asserted the DEA incorrectly estimates the per acre cost of San Bernardino kangaroo rat mitigation habitat. The commenter cited evidence that the cost of mitigation land has gone up in the last ten years. The commenter reasoned that one can expect the cost of mitigation land to continue to rise in the future.

Our Response: We consulted with local conservation bank owners and consultants familiar with the area to determine the likely future cost of conservation bank credits (see footnote 56 in the DEA). We used the best available conservation bank prices to estimate the future costs of conservation. We confirmed these prices with conservation bank owners for the FEA (see page 2–12 of the FEA).

Comment 49: A commenter stated that the evaluation of the economic cost of this proposed designation in the DEA is limited by defining the time period of the economic analysis as the next 22 years.

Our Response: As explained on page 1–17 of the DEA, the economic analysis calculates impacts based on activities that are "reasonably foreseeable." The standard framework for economic analyses calculates impacts in a twenty year timeframe. Future impacts were calculated in the DEA through the year 2030 to be consistent with Southern California Association of Governments projections.

Comment 50: A commenter criticized the DEA for overvaluing the impacts of critical habitat. The commenter asserts that all of the costs would be required even if critical habitat had not been designated because the San Bernardino kangaroo rat currently lives in those areas.

Our Response: We disagree with the commenter's assertion that all potential costs would be required even without critical habitat. The DEA quantifies the baseline impacts, defined as those future impacts that result from listing and other conservation efforts for the San Bernardino kangaroo rat. Baseline impacts include costs that would be required because the San Bernardino

kangaroo rat is found in the area. The DEA also quantifies incremental impacts, which are impacts that would not exist but for the designation of critical habitat. These costs occur above and beyond those associated with San Bernardino kangaroo rats living in the area.

Comment 51: One commenter pointed to page 11 of the Draft Addendum to the Economic Analysis, stating that a proponent agency does not have the legal authority to determine if a project will adversely affect a federally endangered species or its habitat. The commenter noted that these determinations are required to have the Service's concurrence.

Our Response: The commenter was concerned with the following passage on page 11 of the Draft Addendum: "[San Bernardino County Flood Control District (SBCFCD)] maintains in-house biologists who review all proposed projects to determine whether the project may affect the San Bernardino kangaroo rat or its habitat. San Bernardino County Flood Control District self-regulates by avoiding projects in critical habitat that the biologists determine may adversely affect the San Bernardino kangaroo rat or its habitat. If SBCFCD determines that the project is warranted despite the potential adverse effects to the San Bernardino kangaroo rat (e.g., if there is a potential for substantial flood damage), then SBCFCD will undertake the project and consult with the Service."

As explained in this passage, SBCFCD avoids projects that it thinks may warrant consultation with the Service for impacts to the San Bernardino kangaroo rat or its habitat. San Bernardino County Flood Control District consults with the Service when it undertakes a project in an area occupied by San Bernardino kangaroo rats or within the San Bernardino kangaroo rat critical habitat boundaries. San Bernardino County Flood Control District does not determine if a project will or will not adversely affect a federally endangered species or its habitat independently from the Service.

Summary of Changes From the 2002 Critical Habitat Designation

We stated in our April 23, 2002 rule that we designated "33,295 ac (13,485 ha)" of critical habitat for the San Bernardino kangaroo rat. When corrected for summing, rounding, and conversion errors, the 2002 designation of critical habitat totaled 33,291 ac (13,472 ha). The areas identified in this final rule constitute a revision to the 2002 designation. In this final rule we are designating 7,779 ac (3,148 ha) of land in Riverside and San Bernardino counties, California. Below we describe the changes in each unit between the 2002 final critical habitat rule, the 2007 revised proposed critical habitat rule, and this 2008 final revised critical habitat rule for the San Bernardino kangaroo rat (summarized in Table 1). Discrepancies in reported acreages between the 2002 designation and this final revision are due to refinements in our ability to more precisely calculate acreages. The entire final revised critical habitat designation (i.e., 7,779 ac (3,148 ha)) is contained within the area included in the 2002 final critical habitat designation.

Our revised critical habitat designation is substantially smaller than the existing designation. Updated information that became available to us in the five years since the previous designation indicates that we erroneously designated some areas. Improved and updated biological information submitted to our office and gained during site visits in December 2006 and January 2007 allowed us to: (1) Revise the criteria used to identify critical habitat and focus attention on core populations in undisturbed habitat with retained fluvial dynamics; (2) more specifically define and map areas supporting the physical or biological features for this subspecies; and (3) precisely ground-truth areas included in the 2002 critical habitat designation. As described in detail below, our review of updated information led us to revise our criteria used to identify critical habitat (see "Criteria Used To Identify Critical Habitat" section) and resulted in our removal of several areas that were previously designated as we determined that these areas do not meet the definition of critical habitat.

The 2000 proposed rule and the 2002 critical habitat designation describe the geographical area occupied by the San Bernardino kangaroo rat at the time it was listed in 1998, including the Santa Ana River, Lytle Creek, Cajon Creek, San Jacinto River, City Creek, Etiwanda fan and wash, Reche Canyon and South Bloomington. All units designated as critical habitat in 2002 (i.e., Santa Ana River, Lytle/Cajon/Cable creeks, San Jacinto River/Bautista Creek, and Etiwanda fan) were considered occupied at the time of listing and designation. The background section of the 2002 critical habitat designation provides justification explaining how the original listing rule significantly underestimated the amount of area occupied by the subspecies at the time of listing and concludes that a minimum of 32,507 ac (as mathematically converted), or 13,155 ha, were occupied at the time of listing. The criteria utilized for the 2002 designation identified areas that supported few occurrence records for inclusion in the designation. We have now determined, based on the best currently available information, that such areas of low density occupation (or sporadic occupancy) are not likely to contribute to the long-term conservation of this subspecies as they do not support core populations, are not capable of supporting a core population in the near future, and they provide little protection against stochastic events. Areas that contain the physical and biological features that are essential to the conservation of this subspecies, identified as the subspecies' PCEs laid out in the appropriate quantity and spatial arrangement, are those areas capable of supporting a core population of San Bernardino kangaroo rats and providing protection against stochastic events. Therefore, some areas supporting low density or sporadic occupancy designated in 2002 were removed from this revised designation. Finally, we employed refined mapping techniques using updated aerial imagery in the current revision, which allowed us to more precisely map areas that contain PCEs. This refined approach allowed us to remove areas that do not meet the definition of critical habitat.

The main differences in this revised designation compared to the 2002 critical habitat designation include the following:

(1) On the basis of our new analyses involving the factors described above, we determined that portions of the 2002 (i.e., existing) Unit 1 (Santa Ana River), Unit 2 (Lytle and Cajon Creeks), Unit 3 (San Jacinto River), and all of Unit 4 (Etiwanda Alluvial Fan and Wash) do not contain PCEs in the appropriate quantity and spatial arrangement essential to the conservation of the San Bernardino kangaroo rat. Therefore, we are not including these areas in our revision to critical habitat. The following paragraphs provide unit by unit explanations why areas previously designated as critical habitat do not meet the definition of critical habitat for the San Bernardino kangaroo rat.

We removed approximately 4,658 ac (1,885 ha) within Unit 1 (Santa Ana River) from our revision to critical habitat, largely because these areas do not contain the physical and biological features that are essential to the conservation of this subspecies, identified as the subspecies' PCEs laid out in the appropriate quantity and spatial arrangement. Below we describe the six general areas removed and the

habitat status in those areas. Occurrence data from these six areas indicate that none of these areas currently support or are capable of supporting core populations in the near future. The inability to support a core population further underscores the habitat data indicating that these areas do not contain the physical and biological features that are essential to the conservation of the San Bernardino kangaroo rat. First, areas along Mill Creek, especially to the north, do not provide suitable habitat for this subspecies. Second, a flood control levee south of Mill Creek cut off habitat from fluvial processes, which resulted in overgrown vegetation and water retention basins that are unsuitable habitat conditions for the subspecies. Third, the stretch of the Santa Ana River below Seven Oaks Dam and areas to the north and west of a large barrow pit are cut off from fluvial processes and water retention basins have been constructed in the area. Fourth, a large area within the 2002 critical habitat designation near Plunge Creek extending south and west to the confluence of City Creek with the Santa Ana River is degraded due to mining operations, flood control structures (and the subsequent loss of fluvial influence necessary to maintain habitat), and water retention basins. Fifth, the habitat downstream of Tippecanoe Avenue Bridge is heavily channelized with steep banks inhibiting the use of upland habitat; we do not have data indicating that this area is occupied. Sixth, there are also a number of smaller areas of degraded habitat around the periphery of the 2002 critical habitat designation that are not included in this revision to critical habitat because these areas do not contain the physical and biological features essential to the conservation of this subspecies.

We removed approximately 9,284 ac (3,757 ha) within Unit 2 (Lytle and Cajon Creeks) from our revision to critical habitat, largely because these areas do not contain the physical and biological features that are essential to the conservation of this subspecies. Below we describe the six general areas removed and the habitat status in those areas. Occurrence data from these six areas indicate that none of these areas currently support or are capable of supporting core populations in the near future. The inability to support a core population further underscores the habitat data indicating that these areas do not contain the physical and biological features that are essential to the conservation of the San Bernardino kangaroo rat. First, one separate parcel northeast of the main Lytle/Cajon Creek unit (labeled as Unit 2 B in the 2002 critical habitat rule) contains habitat that is degraded and this area is largely unoccupied. Second, the southernmost portion of Lytle Creek contains habitat that is degraded through surface mining and flood control structures, making this area unsuitable for the subspecies. Third, the upper reaches of both Lytle and Cajon Creeks contain large rocky substrates that do not provide habitat for this subspecies and we have no recent occurrence data for these upstream areas. Fourth, portions of habitat along the Lytle Creek arm are degraded from sand and gravel mining operations and associated infrastructure. Fifth, after formal consultation with the Service was completed, approximately 670 ac (271 ha) within the 2002 critical habitat designation that is north of Lytle Creek and east of I–15 is currently under development for the Lytle Creek North development project. Sixth, a large expanse of a remnant flood plain south of Lytle Creek and I–15 and west of Riverside Avenue is partially developed and does not contain the PCEs for the subspecies. It was suggested in the 2002 critical habitat designation that this area could provide connectivity with the Etiwanda fan; however, this area is void of fluvial influence, does not support a core population, and is cut off from Lytle Creek and the Etiwanda fan by extensive roadways. Therefore, we believe that demographic or genetic connectivity through the remnant flood plain south of Lytle Creek is unlikely. Because these areas do not contain the physical and biological features that are essential to the conservation of this subspecies, we are not including them in the revision to critical habitat.

A portion of a separate parcel designated in 2002 as part of Unit 2 is now designated as Unit 4 (Cable Creek Wash) in this revised critical habitat designation (see Table 1 and the Unit Descriptions section).

We removed approximately 4,757 ac (1,925 ha) within Unit 3 (San Jacinto River) from our revision to critical habitat, largely because these areas do not contain the physical and biological features that are essential to the conservation of this subspecies. Below we describe the five general areas removed and the habitat status in those areas. Occurrence data from these five areas also indicate that none of these areas currently support or are capable of supporting core populations in the near future. The inability to support a core population further underscores the habitat data indicating that these areas do not contain the physical and biological features that are essential to the conservation of the San Bernardino kangaroo rat. First, portions of Bautista Creek and the downstream reach of the San Jacinto River are largely channelized and do not contain the PCEs or provide suitable habitat for the San Bernardino kangaroo rat. Second, we included in the 2002 critical habitat designation the downstream portion of the San Jacinto River (downstream of State Route 79) because we believed the area contained essential physical and biological features that would reduce risks to the subspecies from stochastic events. Based on our evaluation of the best scientific information currently available, we no longer consider this area to meet the definition of critical habitat because site visits have revealed that this channelized section of the San Jacinto River is less alluvial and more riparian in nature, and thus is unlikely to reduce the risks from stochastic events and does not contain the physical and biological features essential to the conservation of this subspecies. Third, the channelized areas of the San Jacinto River and Bautista Creek prevent connectivity with the core population in the San Jacinto wash. Fourth, at the time of the 2002 critical habitat rule, we believed that Tribal lands in Unit 3 were occupied, despite a lack of occurrence data for these areas. We believed this because the Tribal lands were continuous with adjacent areas of habitat in the San Jacinto River known to be occupied; however, we still do not have occurrence data or habitat condition data for the two tributaries on Tribal land north of the San Jacinto wash and are not designating critical habitat on Tribal lands in this revised critical habitat designation (see "Government-to-Government Relationship with Tribes" section). Fifth, in the eastern most (upstream) portion of the San Jacinto River that was designated as critical habitat in 2002, we do not have occurrence data to indicate that the area is occupied or supports a core population of San Bernardino kangaroo rats. Based on the best scientific information currently available, we no longer believe these areas contain the physical and biological features that are essential to the conservation of this subspecies, and are not including them in the revision to critical habitat.

A portion of a separate parcel designated as part of Unit 3 in 2002 is now designated as Unit 5 (Bautista Creek) in this revised critical habitat designation (see Table 1 and the "Unit Descriptions" section).

We removed approximately 4,820 ac (1,951 ha) within Unit 4 (Etiwanda Alluvial Fan and Wash) from our

revision to critical habitat, largely because these areas do not contain the physical and biological features that are essential to the conservation of this subspecies. In the 2002 critical habitat rule, we stated that the Etiwanda fan was likely occupied by a small remnant population of the subspecies, but urban development and existing and proposed flood control structures will preclude the occurrence of future natural fluvial processes in portions of the unit. Additionally, we stated that despite these conditions, the San Bernardino kangaroo rat persists in some areas of the unit. Since the 2002 critical habitat designation, flood control structures and urban development have continued to alter the natural flood regime of this alluvial fan resulting in poor habitat conditions. Occurrence data from these areas also indicates that none of these areas currently support or are capable of supporting core populations in the near future. The inability to support a core population further underscores the habitat data indicating that these areas do not contain the physical and biological features that are essential to the conservation of the San Bernardino kangaroo rat. Furthermore, site visits confirmed that occupied areas within this unit do not contain the PCEs in the appropriate quantity and spatial arrangement necessary to sustain a core population of this subspecies into the future. Connectivity with the nearest core population in Unit 2 is precluded by development and roadways. Because these areas do not contain the physical and biological features that are essential to the conservation of this subspecies, we are not including them in the revision to critical habitat.

(2) We re-evaluated and revised the PCEs as needed in light of applicable case law and current Service guidelines and policies. We revised the PCEs to provide more specificity with regard to the location of and necessity for suitable soil types, vegetative habitat, and upland areas related to the biological needs of the subspecies. We also included a range of the preferred percentage of vegetative cover. We note that revisions to the PCEs alone did not result in the removal of existing critical habitat from this revised critical habitat designation, nor did it result in the identification of areas outside the 2002 designation that meet the definition of critical habitat.

(3) In the 2002 critical habitat mapping process, we used aerial photography at a scale of 1:24,000 and 2001 digital orthophotography. In the process of mapping and delineating boundaries for this revised critical habitat designation we used USDA NAIP 2005, 1 meter True Color Aerial Photography. This updated aerial imagery allowed us to more accurately and precisely delineate boundaries of critical habitat.

(4) In addition to the areas that we removed from the 2002 designation in this final revision to critical habitat, we also excluded approximately 2,917 ac (1,180 ha) under section 4(b)(2) of the Act (see "Summary of Changes From the 2007 Proposed Rule To Revise Critical Habitat" and "Exclusions Under Section 4(b)(2) of the Act" sections of this final rule for detailed discussion of the exclusions).

TABLE 1—CHANGES BETWEEN THE APRIL 23, 2002, CRITICAL HABITAT DESIGNATION, THE JUNE 19, 2007, PROPOSED DESIGNATION, AND THIS FINAL REVISED DESIGNATION

Critical habitat unit in this final rule	County	Area identification used in this rule	2002 designation of critical habitat (67 FR 19812) and ac (ha)	2007 proposed revision to the critical habitat designation (72 FR 33808) and ac (ha)	2008 final revised critical habitat designation and ac (ha)
1. Santa Ana River Wash.	San Bernardino	Plunge Creek	All 3 areas included in Unit 1; 8,935 ac (3,616 ha).	Small section proposed as part of Unit 1; 3,623 ac (1,466 ha)[3].	All 3 areas included as Unit 1; 3,258 ac (1,318 ha).
		Mill Creek	ditto	Considered not to be essential; not proposed[3].	ditto.
		Santa Ana River and City Creek.	ditto	Included as part of Unit 1; 3,623 ac (1,466 ha).	ditto.
2. Lytle/Cajon Creek Wash.	San Bernardino	Lytle Creek and Cajon Creek.	Both areas included in Unit 2; 13,970 ac (5,653 ha).	Included as part of Unit 2; 4,686 ac (1,896 ha).	Included as Unit 2; 3,421 ac (1,384 ha)
		Cable Creek	ditto	Considered not to be essential; not proposed[3].	Included as Unit 4; 483 ac (195 ha).
3. San Jacinto River Wash.	Riverside	San Jacinto River	Both areas included in Unit 3; 5,565 ac (2,252 ha).	Included as Unit 3; 769 ac (311 ha).	Included as Unit 3; 506 ac (205 ha).
		Bautista Creek	ditto	Considered not to be essential; not proposed[3].	Included as Unit 5; 111 ac (45 ha).
4. Cable Creek Wash	San Bernardino	Cable Creek	Included as part of Unit 2; 13,970 ac (5,653 ha).	Considered not to be essential; not proposed[3].	Included as Unit 4; 483 ac (195 ha).
5. Bautista Creek	Riverside	Bautista Creek	Included as part of Unit 3; 769 ac (311 ha).	Considered not to be essential; not proposed[3].	Included as Unit 5; 111 ac (45 ha).
Etiwanda Alluvial Fan[1]	San Bernardino	Etiwanda Alluvial Fan	Unit 4; 4,820 ac (1,950 ha).	Considered not to be essential; not proposed.	Determined not to be essential.

TABLE 1—CHANGES BETWEEN THE APRIL 23, 2002, CRITICAL HABITAT DESIGNATION, THE JUNE 19, 2007, PROPOSED DESIGNATION, AND THIS FINAL REVISED DESIGNATION—Continued

Critical habitat unit in this final rule	County	Area identification used in this rule	2002 designation of critical habitat (67 FR 19812) and ac (ha)	2007 proposed revision to the critical habitat designation (72 FR 33808) and ac (ha)	2008 final revised critical habitat designation and ac (ha)
Totals			33,291 ac[2] (13,472 ha).	9,078 ac (3,674 ha) ..	7,779 ac (3,148 ha).

[1] The Etiwanda Alluvial Fan was considered Unit 4 in the 2002 final critical habitat rule (67 FR 19812); however, the Cable Creek Wash is now considered Unit 4 in this final revised critical habitat rule.
[2] The 2002 rule incorrectly stated that "33,295 (13,474 ha)" were designated.
[3] These areas were added to proposed critical habitat in the April 16, 2008, NOA (73 FR 20581).

Summary of Changes From the 2007 Proposed Rule To Revise Critical Habitat

The areas identified in this final revised rule also constitute a revision of the areas we proposed to designate as critical habitat for the San Bernardino kangaroo rat on June 19, 2007 (72 FR 33808). In light of substantial public comments and a revision of our criteria used to identify critical habitat, we reevaluated and included in this final rule four areas that were not included in the 2007 proposed rule. These areas (described below) include Mill Creek and Plunge Creek in Unit 1, and Cable Creek and Bautista Creek in Units 4 and 5. These additions to proposed critical habitat were announced in the April 16, 2008, NOA (73 FR 20581). The reduction in total area from the 2007 proposed critical habitat designation is primarily the result of exclusions of habitat under section 4(b)(2) of the Act (described below). The main differences between the 2007 proposed critical habitat rule and this final rule include the following:

(1) During the first and second comment periods for the proposed rule, we received significant comments from the public, including biologists familiar with the San Bernardino kangaroo rat, which led us to reevaluate and revise our criteria used to identify critical habitat. Please see the "Changes to Proposed Revised Critical Habitat" section of the April 16, 2008, NOA (73 FR 20581), and the "Criteria Used To Identify Critical Habitat" section of this final rule for more information on our revised criteria.

(2) During the first and second comment periods for the proposed rule, we received significant comments from the public, including biologists familiar with the San Bernardino kangaroo rat, on areas essential to the subspecies that should be included in the designation. As a result of these comments, new information received, and revision of the criteria used to identify critical habitat, we reevaluated the following areas: Mill Creek, Plunge Creek (including areas providing habitat connection between the Plunge Creek wash and Santa Ana River wash), Cable Creek wash, and Bautista Creek. All of these areas are were designated as critical habitat for the San Bernardino kangaroo rat in 2002 (see 50 CFR 17.95(a); 67 FR 19812, April 23, 2002); however, we did not propose these areas as critical habitat in the June 19, 2007, proposed revision to critical habitat (72 FR 33808). Below we describe each area we reevaluated, explain why we did not include the area in the 2007 proposed rule, and explain why we are including these areas in the final revised designation of critical habitat.

Mill Creek

Mill Creek flows into and joins the Santa Ana River wash (Unit 1) in the eastern side of the unit. We did not include the Mill Creek area in the 2007 proposed rule (72 FR 33808), although we indicated that it was considered important to the subspecies by contributing fluvial dynamics to the Santa Ana River wash. At the time of the proposed revised rule, we had limited survey data to indicate Mill Creek was occupied by the San Bernardino kangaroo rat. Furthermore, we determined this area contained large expanses of unsuitable habitat. As such, we did not include the majority of lower Mill Creek in the June 19, 2007, proposed revision to critical habitat.

During the public comment period, we received a number of comments highlighting the importance of Mill Creek as an area not only occupied by the San Bernardino kangaroo rat connected to and contiguous with the core population in the Santa Ana wash, but also indicating that the area contains the physical and biological features essential to the conservation of this subspecies. Upon receiving comments from the public about Mill Creek, we reevaluated our data in this area. Evidence of extensive burrowing activity observed by Service biologists indicates this area is occupied by kangaroo rats, and live-trapping confirms that Mill Creek is occupied by the San Bernardino kangaroo rat subspecies. Based on this information, we determined that the reach of Mill Creek occupied by the San Bernardino kangaroo rat to its confluence with the Santa Ana River is important to the recovery of the subspecies because it is the only large stretch of contiguous, occupied habitat for the San Bernardino kangaroo rat within Unit 1 that is not fragmented by development (e.g., roads, aggregate mining pits). Further, we confirmed that habitat at Mill Creek is connected to and contiguous with habitat supporting the core population in Unit 1, and therefore, San Bernardino kangaroo rats inhabiting Mill Creek are part of the Santa Ana River wash core population.

We also received comments about the importance of Mill Creek as a source of sediment through natural fluvial dynamics to the majority of the Santa Ana River wash (Unit 1). Existing infrastructure (e.g., levees, culverts, concrete-lined channels, bridge abutments and other fill) affects the function of the Santa Ana River and its tributaries within the historical and current range of this subspecies. As a result, the historical floodplain dynamics within the upper Santa Ana River watershed are permanently altered (MEC 2000, pp. 175–176). Periodic flooding provides natural scour and sediment deposition, decreases vegetation density and cover, and naturally maintains the alluvial sage scrub that supports this subspecies. Mill Creek is the only remaining source of alluvial sediments remaining within Unit 1 that has not been significantly altered by flood control structures, water diversions, or other activities. Although the Santa Ana River is incised just downstream from its confluence with Mill Creek, floodplain elevations downstream (e.g., downstream of Opal Street in Mentone) allow overbank scour

and sediment deposition during even small- to moderate-intensity storms. The periodic deposition of sediments from Mill Creek helps to naturally maintain the soil and alluvial fan sage scrub (i.e., the PCEs upon which the survival and recovery of the San Bernardino kangaroo rat in Unit 1 depend) within critical habitat along the Santa Ana River as suitable habitat to support the core population of San Bernardino kangaroo rats within this unit. We determined that this area of Mill Creek meets the definition of critical habitat, and we are including 388 ac (157 ha) of Mill Creek in the final revision to critical habitat for Unit 1.

Plunge Creek

Plunge Creek is located north of the main stem of the Santa Ana River in Unit 1 and is largely isolated from the core population of San Bernardino kangaroo rats in the wash by sand and gravel mining operations. A portion of Plunge Creek was included in the June 19, 2007, proposed revision to critical habitat, but no critical habitat connection existed between this area of Plunge Creek and other portions of proposed Unit 1.

We did not propose revised critical habitat connecting Plunge Creek to other critical habitat areas in proposed Unit 1 because, although lands in this area are managed by the Bureau of Land Management (BLM), the BLM is considering the revision of their South Coast Resource Management Plan and an exchange of land within their existing Area of Critical Environmental Concern (ACEC) for lands that are privately owned within the Santa Ana River wash. Should this exchange occur, we anticipate that the Upper Santa Ana River Habitat Conservation Plan (USAR HCP, also known as "Plan B") would be proposed. The land exchange would occur to facilitate aggregate mining, water conservation, roadway improvements, and other activities in areas that are now within the ACEC, while other, less-disturbed habitat areas for the San Bernardino kangaroo rat would be conserved through the implementation of the USAR HCP.

Although we have been working with the BLM and associated stakeholders on the land exchange for many years, we have not yet been asked by the BLM to formally consult on this action. However, during collaboration with the BLM and stakeholders in the USAR HCP, we agreed upon a potential future mining boundary. Our June 19, 2007, proposed revision to critical habitat did not include any areas identified in this collaboration as areas where future mining may occur.

We received significant comment from the public highlighting the importance of Plunge Creek to the conservation of the San Bernardino kangaroo rat. Commenters were concerned that the proposed revision to critical habitat around Plunge Creek (which is north of existing and proposed mining pits) did not connect to critical habitat in the Santa Ana River mainstem south of these pits. Plunge Creek is extensively modified upstream of Greenspot Road by levees and the bridge crossing the creek on Greenspot Road, and the creek at Orange Street is completely channelized and diverted from its historical connection with the Santa Ana River. However, significant sediment deposition occurs immediately downstream of the Greenspot Road bridge and provides for habitat renewal in portions of the adjacent WSPA and the reach of Plunge Creek from Greenspot Road to its diversion at Orange Street. This area of relatively undisturbed alluvial scrub is occupied by the San Bernardino kangaroo rat. Commenters, including biologists familiar with the San Bernardino kangaroo rat, stated that it is important for the persistence of the subspecies in Unit 1 that the demographic and genetic connectivity of populations in Plunge Creek and the Santa Ana wash be conserved.

Based on information received and additional analysis of our own data, we determined that the population of San Bernardino kangaroo rats in Plunge Creek is at risk of local extirpation without a habitat connection in Unit 1 to provide for demographic and genetic exchange between San Bernardino kangaroo rats in Plunge Creek and the Santa Ana River main stem area. We are including approximately 265 ac (107 ha) of occupied habitat in the final revision to critical habitat for Unit 1. This additional area, which contains the physical and biological features essential to the conservation of the subspecies, provides connectivity between Plunge Creek and the core population in the Santa Ana River wash.

Cable Creek Wash

The Cable Creek wash is located northeast of the Lytle/Cajon Creek wash (within current Unit 2) on the opposite side of Interstate 215 (I–215). This wash, although occupied, is isolated from proposed Unit 2 by I–215, flood control structures, and other development. Cable Creek is channelized where it approaches the freeway. The concrete channel eventually crosses underneath I–215 to flow into the Lytle/Cajon wash, but the channel precludes the movement of individual San Bernardino kangaroo rats between these areas. Hence, any genetic or demographic connection between San Bernardino kangaroo rats in Cable Creek wash and the Lytle/Cajon wash is likely minimal to non-existent. We did not propose Cable Creek wash in the June 19, 2007, proposed revision to critical habitat because of the disconnect between this population at Cable Creek and the larger population of San Bernardino kangaroo rats at Lytle/Cajon Creek.

During the comment periods for the San Bernardino kangaroo rat proposed critical habitat revision, we received significant comment from the public about Cable Creek wash. Commenters stated that this wash contains essential physical and biological features, retains fluvial dynamics, and is one of the few areas of occupied San Bernardino kangaroo rat habitat within the remaining range of the subspecies. Further, this area appears large enough to support a population of San Bernardino kangaroo rats indefinitely, despite its disconnection from the core population in the Lytle/Cajon Creek wash. Based on information received and additional analysis of our own data, we determined that Cable Creek contains quality San Bernardino kangaroo rat habitat, and repeated positive survey results suggest this area supports a self-sustaining population of this subspecies. Additionally, we received comments suggesting this area could be important for the long-term conservation of this subspecies in the future if population levels in the core area of the Lytle/Cajon wash were to decrease due to catastrophic events. The demographic isolation of Cable Creek from Lytle/Cajon Creek occurred relatively recently on an evolutionary time scale, and therefore, we agree that the Cable Creek wash population could be utilized to augment recovery of the Lytle/Cajon wash population. Based on these comments, we revised our criteria identifying critical habitat to include areas disconnected from core population areas that may be important for the long-term conservation of the subspecies. We have determined that approximately 483 ac (195 ha) of land in the Cable Creek wash contain the physical and biological features essential to the conservation of the subspecies, and we are designating this area in a new critical habitat Unit 4.

Bautista Creek

Bautista Creek drains into the San Jacinto River wash from the south, flowing into an area supporting the core population of San Bernardino kangaroo rats within the San Jacinto River (proposed Unit 3). Bautista Creek is

channelized approximately 2 miles (3.2 kilometers) downstream of the San Bernardino National Forest boundary and now flows for several miles through a 4-sided concrete box channel to its confluence with the San Jacinto River. This steep-sided channel effectively isolates San Bernardino kangaroo rats in Bautista Creek from those in the San Jacinto River. Minimal genetic connectivity may exist between the Bautista Creek and San Jacinto River populations by way of highly disturbed, upland agricultural fields along the length of the concrete channel (if those agricultural areas are occupied at some low level by the subspecies). Demographic connectivity of the two populations through these highly disturbed agricultural areas is unlikely, although an occasional individual may survive being washed downstream through the channel during a high flow event. However, such an event is likely so rare it is considered relatively meaningless to the population in terms of demographic or genetic exchange between individual animals in Bautista Creek and the San Jacinto River. It is also unlikely that San Bernardino kangaroo rats could successfully migrate from the San Jacinto River upstream through the concrete channel to the Bautista Creek area. Based on this information, we did not include Bautista Creek in the June 19, 2007, proposed revision to critical habitat.

We received significant comment during the public comment periods about the unchannelized reaches of Bautista Creek that were designated in the April 23, 2002, final rule as critical habitat (67 FR 19812). These comments focused on the unimpeded fluvial dynamics that maintain existing physical and biological features and occupancy by the San Bernardino kangaroo rat in this area. It was noted that given the extent and quality of habitat in this area, the population of San Bernardino kangaroo rats in Bautista Creek is likely self-sustaining in the long-term despite the lack of habitat connectivity with the San Jacinto River wash. We determined that the unchannelized portion of Bautista Creek is occupied as documented through live-trapping results, and that this area retains fluvial dynamics maintaining the physical and biological features required by the San Bernardino kangaroo rat. Additionally, we received comments suggesting the Bautista Creek population is important for the long-term conservation of the San Bernardino kangaroo rat, as it provides a safeguard against population declines and local extinction in the San Jacinto River wash unit (proposed Unit 3). The demographic isolation of Bautista Creek from the San Jacinto River occurred relatively recently on an evolutionary time scale, and therefore, we agree that the Bautista Creek population could be utilized to augment recovery of the San Jacinto River wash population. The comments we received also highlighted the importance of conserving the Bautista Creek area as it represents the southernmost extent of the range for the San Bernardino kangaroo rat. Based in part on these comments, we revised our criteria identifying critical habitat to include disconnected areas that may be important for the long-term conservation of the subspecies. We have determined that approximately 443 ac (179 ha) of land in Bautista Creek contain the physical and biological features essential to the conservation of the subspecies, and we are designating this area in a new critical habitat Unit 5.

In total, we added approximately 1,579 ac (639 ha) of Federal and private land to the June 19, 2007, proposed revision to critical habitat for the San Bernardino kangaroo rat (Table 2) as described in the April 16, 2008, NOA. Of these 1,579 ac (639 ha), approximately 349 ac (141 ha) are excluded from this final critical habitat designation under section 4(b)(2) of the Act based on benefits provided to the subspecies as a result of partnerships that include development of management plans discussed below.

(3) In the 2007 proposed rule, we discussed an integrated water recharge and recovery program to be implemented by Eastern Municipal Water District at the confluence of the San Jacinto River and Bautista Creek within existing critical habitat Unit 3. The Service issued a biological opinion for this project on November 16, 2006 (Service 2006, FWS–WRIV–4051.5) which found that the action did not adversely modify the currently designated critical habitat. The project would permanently impact approximately 39 ac (16 ha) of habitat through the construction of well sites in upland habitat and groundwater recharge basins in the floodplain of the San Jacinto River. In the proposed rule we stated that we were not proposing these areas as revised critical habitat; it was anticipated that these areas would no longer contain the PCEs upon construction of the well sites and recharge basins. During the public comment periods, we received public comment indicating these areas contain the essential physical and biological features. Also, recent survey data has indicated the current population of San Bernardino kangaroo rats in these areas is larger than previously believed, and that project impacts would exceed the identified level of anticipated incidental take during preconstruction trapping within the project site. Formal consultation with the Service on the Eastern Municipal Water District project has been reinitiated, and construction within the project site has ceased. Because these areas still contain the essential physical and biological features, we determined that the 39 ac (16 ha) Eastern Municipal Water District project site within Unit 3 meets the definition of critical habitat. However, we are excluding these 39 ac (16 ha) under section 4(b)(2) of the Act (see "Exclusions Under Section 4(b)(2) of the Act" section of this final rule for a detailed discussion of this exclusion).

(4) We proposed lands covered by the WSPA Management Plans for exclusion under section 4(b)(2) of the Act. We determined that the benefits of exclusion outweigh the benefits of inclusion on these lands; therefore, we excluded approximately 751 ac (304 ha) of lands in Unit 1 covered by the WSPA Management Plans under section 4(b)(2) of the Act (see "Exclusions Under Section 4(b)(2) of the Act" section of this final rule for a detailed discussion of this exclusion).

(5) We proposed lands covered by the Former Norton Air Force Base CMP for exclusion under section 4(b)(2) of the Act. We determined that the benefits of exclusion outweigh the benefits of inclusion on these lands; therefore, we excluded approximately 267 ac (108 ha) of lands in Unit 1 covered by the Former Norton Air Force Base CMP under section 4(b)(2) of the Act (see "Exclusions Under Section 4(b)(2) of the Act" section of this final rule for a detailed discussion of this exclusion).

(6) We proposed lands covered by the Cajon Creek HCMA HEMP for exclusion under section 4(b)(2) of the Act. We reported in the proposed rule that there was an acreage discrepancy on the actual size of the Cajon Creek HCMA HEMP and we proposed to exclude approximately 1,271 ac (514 ha) from the final revision to critical habitat. Following publication of the proposed rule, Vulcan Materials Co. (who manages the area) re-evaluated the original survey data for the Cajon Creek HCMA HEMP, and conducted additional surveys that demonstrate the Cajon Creek HCMA HEMP is approximately 1,265 ac (512 ha) in size. We determined that the benefits of exclusion outweigh the benefits of inclusion on these lands; therefore, we have excluded approximately 1,265 ac (512 ha) of lands in Unit 2 covered by

the Cajon Creek HCMA HEMP under section 4(b)(2) of the Act (see "Exclusions Under Section 4(b)(2) of the Act" section of this final rule for a detailed discussion of this exclusion).

(7) We proposed lands covered by the Western Riverside County MSHCP for exclusion under section 4(b)(2) of the Act. We determined that the benefits of exclusion outweigh the benefits of inclusion on these lands; therefore, we excluded approximately 595 ac (241 ha) of private and permittee-owned Public/Quasi-Public lands in Unit 3 and Unit 5 covered by the Western Riverside County MSHCP under section 4(b)(2) of the Act (see "Exclusions Under Section 4(b)(2) of the Act" section of this final rule for a detailed discussion of this exclusion).

Taking into consideration the above additions to the 2007 proposed revision to the critical habitat designation, and exclusions under section 4(b)(2) of the Act, we are designating approximately 7,779 ac (3,148 ha) of land in San Bernardino and Riverside Counties as critical habitat in this final rule.

Critical Habitat

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

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

(a) Essential to the conservation of the species and

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

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

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

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

For inclusion in a critical habitat designation, the habitat within the geographical area occupied by the species at the time of listing must contain the physical and biological features that are essential to the conservation of the species, and be included only if those features may require special management considerations or protection. Critical habitat designations identify, to the extent known using the best scientific data available, habitat areas that provide essential life cycle needs of the species (i.e., areas on which are found the PCEs laid out in the appropriate quantity and spatial arrangement essential to the conservation of the species). Under the Act, we can designate critical habitat in areas outside the geographical area occupied by the species at the time it is listed as critical habitat only when we determine that those areas are essential for the conservation of the species.

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

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

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

Areas that support populations, but are outside the critical habitat designation, will continue to be subject to conservation actions implemented under section 7(a)(1) of the Act. They are also subject to the regulatory protections afforded by section 9 of the Act and the section 7(a)(2) jeopardy standard, as determined on the basis of the best available scientific information at the time of the agency action. Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, HCPs, or other species conservation planning efforts if information available at the time of these planning efforts calls for a different outcome.

Primary Constituent Elements (PCEs)

In accordance with section 3(5)(A)(i) of the Act and the regulations at 50 CFR 424.12, in determining which areas occupied by the species at the time of listing to designate as critical habitat, we consider those physical and biological features essential to the conservation of the species that may require special management considerations or protection. We

consider the physical and biological features to be the PCEs laid out in the appropriate quantity and spatial arrangement essential to the conservation of the species. The PCEs include, but are not limited to:

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

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

(3) Cover or shelter;

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

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

We derive the PCEs required for the San Bernardino kangaroo rat from its biological needs as described below, in the proposed rule to revise critical habitat published in the **Federal Register** on June 19, 2007 (72 FR 33808), and in the NOA published in the **Federal Register** on April 16, 2008 (73 FR 20581). Additional information can also be found in the final listing rule published in the **Federal Register** on September 24, 1998 (63 FR 51005), and in the original final critical habitat rule published in the **Federal Register** on April 23, 2002 (67 FR 19812).

Space for Individual and Population Growth and Normal Behavior

San Bernardino kangaroo rats are typically found on alluvial fans, which are relatively flat or gently sloping masses of loose rock, gravel, and sand deposited by a stream as it flows into a valley or upon a plain (McKernan 1993, p. 1). This subspecies is also found on floodplains, washes, areas with braided channels, and in adjacent upland areas containing appropriate physical and vegetative characteristics (McKernan 1993, p. 1). These areas consist of sand, loam, sandy-loam, or gravelly soils (McKernan 1993, p. 1) that are associated with alluvial processes (i.e., the scour and deposition of clay, silt, sand, gravel, or similar material by running water such as rivers and streams; or debris flows). San Bernardino kangaroo rats have a strong preference for, and are more abundant on, soils deposited by alluvial processes (McKernan 1997, p. 36). These soils allow San Bernardino kangaroo rats to dig simple, shallow burrow systems for shelter and rearing offspring, and surface pits for food storage that provide for individual and population growth and for normal behavior.

Few studies have occurred on the burrowing behavior of the San Bernardino kangaroo rat; however, their burrowing habits are similar to the Merriam's kangaroo rat (of which the San Bernardino kangaroo rat is a subspecies), which has been extensively studied. Merriam's kangaroo rats have weak forelegs and are restricted to burrowing in soil that has not been compacted, such as alluvial deposits of sand or sandy loam (Price 2007, p. 2). As a result of limited digging ability, Merriam's kangaroo rats dig simple shallow burrow systems where they spend approximately 75 percent of their lives (Reynolds 1958, pp. 113 and 122). Burrows consist of one or two chambers averaging 6 inches in depth (Reynolds 1960, p. 51). Kenagy (1973, p. 1207) observed that Merriam's kangaroo rats occupied one to three simple burrows depending on the season. Merriam's kangaroo rats do not have the ability to burrow into hard soils, and because of this, the highest numbers of kangaroo rats can be found on loose, sandy soils (Reynolds 1958, p. 113; Huey 1951, p. 212). Light, textured soil that is favorable to burrowing is an important factor limiting the range of Merriam's kangaroo rats (Reynolds 1958, p. 114). Sandy loam soils are not too heavy to discourage digging, yet they are not light enough to facilitate tunnel cave-ins that can occur in other soil types (Reynolds 1958, p. 113). For these reasons, sandy loam soils found on alluvial fans and maintained by alluvial processes are essential to the survival and normal behavior of the San Bernardino kangaroo rat.

Alluvial sage scrub habitat is necessary for normal behavior of the San Bernardino kangaroo rat because this plant community provides cover and food resources within areas containing suitable soils for burrowing. Alluvial sage scrub is considered a distinct and rare plant community that dominates major outwash fans at the mouths of canyons along the coastal side of the San Gabriel, San Bernardino, and San Jacinto Mountains and some smaller floodplain and riverine areas of southern California (Hanes et al. 1989, p. 187). Described as a variant of coastal sage scrub (Smith 1980, p. 135), alluvial sage scrub is also referred to as alluvial scrub, Riversidean alluvial fan scrub, alluvial fan sage scrub, cismontane alluvial scrub, alluvial fan scrub, or Riversidean alluvial fan sage scrub. Alluvial sage scrub occurs on two types of floodplain soils: Riverwash Association soils and Soboba Association soils (Hanes et al. 1989, p. 188). Comprised of an assortment of low-growing drought-deciduous shrubs, larger evergreen woody shrubs, and other perennial species tolerant of a relatively sterile, rapidly draining substrate, this relatively open vegetation type is adapted to periodic severe flooding and erosion (Hanes et al. 1989, p. 187; Smith 1980, p. 126).

Alluvial sage scrub vegetation includes plant species that are often associated with coastal sage scrub, chaparral, or desert transition communities (Smith 1980, p. 126). Common plant species found within these plant communities may include: *Lepidospartum squamatum* (scalebroom); *Eriogonum fasciculatum* (California buckwheat); *Eriodictyon crassifolium* (woolly yerba santa); *Eriodictyon trichocalyx* (hairy yerba santa); *Yucca whipplei* (our Lord's candle); *Rhus ovata* (sugar bush); *Rhus integrifolia* (lemonadeberry); *Malosma laurina* (laurel sumac); *Juniperus californicus* (California juniper); *Baccharis salicifolia* (mulefat); *Penstemon spectabilis* (showy penstemon); *Heterotheca villosa* (golden aster); *Eriogonum elongatum* (tall buckwheat); *Encelia farinosa* (brittle bush); *Opuntia* spp. (prickly pear and cholla); *Adenostoma fasciculatum* (chamise); *Prunus ilicifolia* (holly-leaf cherry); *Quercus* spp. (oaks); *Salvia apiana* (white sage); annual forbs (e.g., *Phacelia* spp. (phacelia); *Lupinus* spp. (lupine); and *Plagiobothrys* spp. (popcorn flower)); and native and nonnative grasses.

Three phases of alluvial sage scrub have been described: pioneer, intermediate, and mature. The phases are thought to correspond to factors such as flood scour, distance from flood channel, time since last flood, and substrate features (Smith 1980, p. 136; Hanes et al. 1989, p. 187). Under natural conditions, flood waters periodically break out of the main river channel in a complex pattern, resulting in a braided appearance to the floodplain and a mosaic of vegetation stages. Pioneer sage scrub, the earliest phase, is subject to frequent hydrological disturbance and the sparse vegetation pattern is usually renewed by frequent floods (Smith 1980, p. 136; Hanes et al. 1989, p. 187). The intermediate phase, which is typically found on benches between the active channel and mature floodplain terraces, is subject to periodic flooding at longer intervals. The vegetation of early and intermediate stages is relatively open (less than 50 percent canopy cover) and supports the highest densities of the San Bernardino kangaroo rat (McKernan 1997, p. 50), likely due in part to few root systems to interfere with burrowing. Price (2007, p. 2) suggests that kangaroo rats associate with sparsely vegetated habitats because

dense vegetation produces litter that covers the soil surface and bare soil surface is needed for dust-bathing and efficient seed collection. Areas like these, with a significant amount of bare ground, can also facilitate movement for a bipedal species like the San Bernardino kangaroo rat. For Merriam's kangaroo rats, an abundance of perennial grass cover can create an unfavorable environment by interfering with ease of travel and escape from predators (Reynolds 1958, p. 114).

The oldest or mature phase of alluvial sage scrub, which is found on elevated floodplain terraces, is rarely affected by flooding and supports the highest plant density (Smith 1980, p. 137). Although mature areas are generally used less frequently or occupied at lower densities by San Bernardino kangaroo rats (likely due to extensive root systems and heavy vegetative cover that inhibit burrowing, predator escape, and foraging) than those supporting earlier phases, these areas contain features essential to the conservation of the subspecies. Lower portions of the floodplain, where higher densities of San Bernardino kangaroo rats are found, are likely to become inundated or lost due to scour and sediment deposition during flooding events and some animals may drown during such events.

In a study to determine the effects of flooding on Merriam's kangaroo rats and two other heteromyid (family of rodents that includes the kangaroo rats, kangaroo mice, and pocket mice) species, Kenagy (1973, p. 1205) noted heavy burrow damage, and a 23 percent reduction in the number of chisel-toothed kangaroo rats (*Dipodomys microps*) trapped post-flooding compared to pre-flood numbers. Elevated upland portions of the floodplain containing mature phase alluvial sage scrub with patches of suitable soils and vegetative cover can support some individuals, but the low density of animals suggests these areas likely remain occupied only because of their proximity to the more densely occupied lower elevation portions of the floodplain. More important to the preservation of the San Bernardino kangaroo rat in channelized systems where bank-to-bank flooding can occur are individuals occupying the upland areas as they may be the only individuals remaining for recolonization of the lower floodplain after flooding has subsided (Pavelka 2006).

Regional persistence of the San Bernardino kangaroo rat depends on recolonization of local populations that have been extirpated by drought or flood events (Price 2007, p. 2). Research conducted by Braden and McKernan (2000, p. 16) during 1998 and 1999 demonstrated that areas with late phases of floodplain vegetation, such as mature alluvial fan sage scrub and associated coastal sage scrub and chaparral, including some areas of moderate to dense vegetation such as nonnative grasslands, are at least periodically occupied by the subspecies. Due to the dynamic nature of the alluvial floodplain, all elevations within the floodplain and the associated phases of alluvial sage scrub habitat are essential to the conservation and long-term survival of the San Bernardino kangaroo rat.

A limited amount of data exists pertaining to population dynamics of the San Bernardino kangaroo rat. Information is not currently available on several aspects of the subspecies' life history such as fecundity (the capacity of an organism to produce offspring), survival, population age and sex structure, intra- and interspecific competition, and causes and rates of mortality. With respect to population density, Braden and McKernan (2000) documented substantial annual variation on a trapping grid in San Bernardino County, where densities ranged from 2 to 26 animals per 2.47 ac (1 ha). The reasons for these greatly disparate values during the 15-month study are unknown. These fluctuations bring to light several important aspects of the subspecies' distribution and life history that should be considered when identifying the physical and biological features essential to the conservation of the subspecies: (1) A low population density observed in an area at one point in time does not mean the area is occupied at the same low density during any other month, season, or year; (2) a low population density is not an indicator of low habitat quality or low overall value of the land for the conservation of the subspecies; (3) an abundance of San Bernardino kangaroo rats can decrease rapidly; and (4) one or more factors (e.g., food availability, fecundity, disease, predation, genetics, environment) are strongly influencing the subspecies' population dynamics in one or more areas. High-amplitude, high-frequency fluctuations in small, isolated populations make the San Bernardino kangaroo rat extremely susceptible to local extirpation.

Areas that contain low densities of San Bernardino kangaroo rats may be important for dispersal, genetic exchange, colonization of newly suitable habitat, and re-colonization of areas after severe storm events. The dynamic nature of the alluvial habitat leads to a situation where not all the habitat associated with alluvial processes is suitable for the subspecies at any point in time. However, areas generally considered unsuitable habitat, such as out-of-production vineyards and margins of orchards, can and do develop into suitable habitat for the subspecies through natural processes (67 FR 19812). The San Bernardino kangaroo rat is documented in the following areas: those containing suitable soils that have been altered due to human disturbance not typically associated with the subspecies, including nonnative grasslands; margins of orchards and out-of-use vineyards; mature stage alluvial sage scrub with greater than 50 percent canopy cover; and areas of wildland/urban interface within floodplains or terraces that are adjacent to occupied habitat (67 FR 19812, April 23, 2002). These upland areas can support individuals for repopulation of wash areas extirpated by flood events (Pavelka 2006). This can occur directly by dispersal of adult individuals, or indirectly through dispersal of offspring (Pavelka 2006).

Little is known about home range size, dispersal distances, or other spatial requirements of the San Bernardino kangaroo rat. However, home ranges for the Merriam's kangaroo rat in the Palm Springs, California, area averaged 0.82 ac (0.33 ha) for males and 0.77 ac (0.31 ha) for females (Behrends et al. 1986, p. 204). Blair (1943, p. 26) reported much larger home ranges for Merriam's kangaroo rats in New Mexico, where home ranges averaged 4.1 ac (1.7 ha) for males and 3.9 ac (1.6 ha) for females. Space requirements for the San Bernardino kangaroo rat likely vary according to season, age and sex of animal, food availability, and other factors. Although outlying areas of their home ranges may overlap, *Dipodomys* adults actively defend small core areas near their burrows (Jones 1993, p. 583). Home range overlap between males and between males and females is extensive, but female-female overlap is slight (Jones 1993, p. 584). The degree of competition between San Bernardino kangaroo rats and sympatric (i.e., living in the same geographical area) species of kangaroo rats for food and other resources is not presently known. While we do not have sufficient information to quantify the home range required by the San Bernardino kangaroo rat, we believe we included sufficient areas through the delineation of critical habitat in wash and upland areas to provide the space needed to maintain the home range dynamics of this subspecies.

Food

As stated in the previous sections, the alluvial sage scrub plant community

occupied by the San Bernardino kangaroo rat provides food resources for the subspecies. However, little is known about the specific diet of San Bernardino kangaroo rats. They emerge from their burrow systems at sunset and feed at night, when they are most active. San Bernardino kangaroo rats are generally granivorous (i.e., feed on seeds and grains) and like most Merriam's kangaroo rats, often store large quantities of seeds in surface pits for later consumption (Reichman and Price 1993, p. 540; Reynolds 1958, p. 126). This species feeds primarily on the seeds of alluvial sage scrub species, but green vegetation and insects can also be important seasonal food sources. Insects, when available, are documented to constitute as much as 50 percent of a kangaroo rat's diet (Reichman and Price 1993, p. 540).

Wilson et al. (1985, p. 731) reported that in comparison to other rodents, Merriam's kangaroo rats, and heteromyids in general, have relatively low reproductive output that can be linked to food resources. Rainfall and the availability of food are cited as factors affecting kangaroo rat populations. Droughts lasting more than a year can cause rapid declines in population numbers after seed caches are depleted (Goldingay et al. 1997, p. 56).

Cover or Shelter

San Bernardino kangaroo rats depend on suitable soils for burrowing and vegetative cover for shelter from predation. Potential predators include the common barn owl (*Tyto alba*), great horned owl (*Bubo virginianus*), long-eared owl (*Asio otus*), gray fox (*Urocyon cinereoargenteus*), coyote (*Canis latrans*), long-tailed weasel (*Mustela frenata*), bobcat (*Lynx rufus*), badger (*Taxidea taxus*), San Diego gopher snake (*Pituophis melanoleucus annectens*), California king snake (*Lampropeltis getulus californiae*), red diamond rattlesnake (*Crotalus ruber*), southern Pacific rattlesnake (*Crotalus oreganus*), and domestic cats (*Felis catus*) (Bolger et al. 1997, p. 560; 67 FR 19812, April 23, 2002).

Primary Constituent Elements for the San Bernardino Kangaroo Rat

Pursuant to the Act and its implementing regulations, we are required to identify the physical and biological features within the geographical area occupied by the San Bernardino kangaroo rat at the time of listing that are essential to the conservation of the species and which may require special management considerations or protection. The physical and biological features are the primary constituent elements (PCEs) laid out in the appropriate quantity and spatial arrangement essential to the conservation of the species. All areas designated as critical habitat for the San Bernardino kangaroo rat are within the geographical area occupied by the species at the time of listing, are currently occupied, and contain sufficient essential features to support at least one life history function.

Based on our current knowledge of the life history, biology, and ecology of the San Bernardino kangaroo rat and the requirements of the habitat to sustain the essential life history functions of the subspecies, we determined that the PCEs specific to the San Bernardino kangaroo rat are:

(1) Alluvial fans, washes, and associated floodplain areas containing soils consisting predominately of sand, loamy sand, sandy loam, and loam, which provide burrowing habitat necessary for sheltering and rearing offspring, storing food in surface caches, and movement between occupied patches;

(2) Upland areas adjacent to alluvial fans, washes, and associated floodplain areas containing alluvial sage scrub habitat and associated vegetation, such as coastal sage scrub and chamise chaparral, with up to approximately 50 percent canopy cover providing protection from predators, while leaving bare ground and open areas necessary for foraging and movement of this subspecies; and

(3) Upland areas adjacent to alluvial fans, washes, and associated floodplain areas, which may include marginal habitat such as alluvial sage scrub with greater than 50 percent canopy cover with patches of suitable soils (PCE 1) that support individuals for re-population of wash areas following flood events. These areas may include agricultural lands, areas of inactive aggregate mining activities, and urban/wildland interfaces.

With this final designation of critical habitat, we intend to conserve the physical and biological features essential to the conservation of the subspecies, through the identification of the appropriate quantity and spatial arrangement of the PCEs sufficient to support the life history functions of the subspecies. Some units contain all of these PCEs and support multiple life processes, while some units contain only a portion of these PCEs, those necessary to support the subspecies' particular use of that habitat. Because not all life history functions require all the PCEs, not all critical habitat units will contain all the PCEs.

Special Management Considerations or Protection

When designating critical habitat, we assess whether the areas within the geographical area occupied at the time of listing contain features essential to the conservation of the subspecies that may require special management considerations or protection. We also considered how revising the current designation of critical habitat highlights habitat with essential features in need of special management considerations or protection.

The majority of all remaining suitable habitat, and therefore, the long-term persistence of the San Bernardino kangaroo rat, is threatened by the direct and indirect effects of: sand and gravel mining; construction, operation, and maintenance of flood control structures; water conservation activities; urban and industrial development; agricultural activities; and off-road vehicle activity. With an expanding human population in the region, it is likely that these activities will continue to threaten the habitat and PCEs upon which the San Bernardino kangaroo rat depends.

Sand and gravel mining operations have degraded San Bernardino kangaroo rat habitat in all of the critical habitat units except Unit 4, with major operations occurring in the Santa Ana River and Lytle Creek washes. Mining activities directly affect the PCEs for the subspecies by altering soil composition and structure, and by stripping away vegetative cover (PCEs 1 and 2). Furthermore, flood control structures are often built to protect mining operations from flood damage. This alters the hydrology essential for maintaining proper soil and alluvial sage scrub habitat for the San Bernardino kangaroo rat (PCEs 1 and 2). Special management considerations or protection may be required to minimize effects of mining activities on alluvial sage scrub habitat and the natural hydrological processes that maintain proper alluvial sage scrub conditions for the San Bernardino kangaroo rat.

Flood control and water conservation activities related to increasing human population and development have had major impacts on San Bernardino kangaroo rat habitat and the alluvial processes that maintain habitat in each of the critical habitat units. Flood control berms, levees, and concrete-lined channels increase severity (i.e., velocity and scour) of flood events in lower elevations within the floodplain, and cut off upland portions of alluvial sage scrub habitat from hydrological processes that maintain suitable San Bernardino kangaroo rat conditions

(PCEs 1, 2, and 3). In the absence of periodic flooding and scouring, upland alluvial sage scrub habitat increases in cover and in density of nonnative vegetation to the point where the open canopy and ground conditions (PCE 2) preferred by the subspecies no longer exist (Service 2004, p. 293). Some flood control structures (e.g., concrete channels) can prevent movement and dispersal between occupied areas of the alluvial wash and floodplain. Decades of groundwater pumping have severely depleted groundwater reserves within San Bernardino kangaroo rat habitat and resulted in an ever-increasing need to recharge groundwater supplies by percolation of local or imported water sources into the local groundwater basin (Service 2004, p. 293). Further habitat degradation occurs where groundwater recharge ponds (i.e., percolation basins) have been constructed. Recharge structures are unsuitable for the San Bernardino kangaroo rat due to periodic standing water. These structures are especially evident in the Santa Ana River and San Jacinto River washes. Special management considerations or protection may be required to minimize effects of flood control and water conservation activities on alluvial sage scrub habitat and the natural hydrological processes that maintain proper alluvial sage scrub conditions for the San Bernardino kangaroo rat.

Development projects pose a serious threat to San Bernardino kangaroo rat habitat in all five critical habitat units. As the human population of the surrounding area continues to increase, the threat of development encroaching upon alluvial washes and associated upland areas will persist (PCEs 1, 2, and 3). Large-scale development projects may permanently eliminate and fragment habitat containing the PCEs for the subspecies. Furthermore, continued fragmentation of habitat is likely to promote higher levels of predation by native animals (Bolger et al. 1997, p. 560) and urban-associated animals (e.g., domestic cats, opossums (*Didelphis virginianus*), and striped skunks (*Mephitis mephitis*)) as the interface between natural habitat and urban areas is increased (Churcher and Lawton 1987, p. 452). Roadways and bridges built to accommodate the growing population in the area constrict channel width and contribute to the removal of alluvial fan habitat from normal hydrological processes (PCE 1). The downstream alluvial benches become isolated behind the fill used to construct the bridge within the channel area and do not experience natural flood-borne scour and deposition. Pier and footing placement within channels is a typical necessary bridge design feature. Instream piers create scour areas in front of the piers, increase water velocity through the embankments and piers (which can result in downstream erosion), and create a permanent shadow over habitat under the bridge. These factors typically result in permanently degraded habitat for the San Bernardino kangaroo rat even though high flows are seasonal in this area. Special management considerations or protection may be required to minimize the impacts of development within the alluvial wash and adjacent upland areas. Areas of the alluvial washes and floodplains adjacent to development may require exclusionary fencing and signage to minimize human and domestic animal disturbance of San Bernardino kangaroo rat habitat. Because this subspecies is active at night, lights from adjacent developed areas should be minimized and directed away from San Bernardino kangaroo rat habitat.

Agricultural activities adjacent to all five critical habitat units and within critical habitat Unit 5 occasionally result in the disking of patches of suitable or occupied habitat that may be distributed throughout upland agricultural areas. Disking destroys San Bernardino kangaroo rat burrows and degrades remaining vegetation associations (Service 2004, p. 293) (PCEs 1 and 2). This can contribute to the susceptibility of local populations to extirpation during large-scale flood events by restricting San Bernardino kangaroo rats to areas most vulnerable to flooding (i.e., lower elevations of the floodplain) (Service 2004, p. 293). Special management considerations or protection may be required to minimize effects of agricultural activities on alluvial sage scrub habitat.

Unauthorized off-road vehicle activity continues to be a threat to San Bernardino kangaroo rat habitat in the San Jacinto River wash area. Most of this activity occurs within the wash downstream of the East Main Street/Lake Park Drive Bridge. Off-road activity that goes unchecked directly damages plant communities, the soil crust, and the burrow systems of kangaroo rats, thereby degrading habitat (Bury et al. 1977, p. 16; Service 2004, p. 293) (PCEs 1 and 2). Special management considerations or protection, such as exclusionary fencing, additional enforcement, and signage placed around areas of the wash, may be needed to minimize impacts from unauthorized off-road vehicle use.

Criteria Used To Identify Critical Habitat

We are designating critical habitat for the San Bernardino kangaroo rat in areas that we have determined were within the geographical area occupied at the time of listing, and contain PCEs in the appropriate quantity and spatial arrangement essential to the conservation of this subspecies. Some lands contain all PCEs and support multiple life processes. Some lands contain only a portion of the PCEs necessary to support the particular biological value of that habitat to this subspecies. As explained in detail below, we are not designating critical habitat in areas outside the geographical area occupied by the species at the time of listing because we determined that such areas are not essential to the conservation of the subspecies.

We define occupied habitat as: (1) Those areas containing occurrence data from the time of listing (1980 to 1998); (2) those areas containing occurrence data since the time of listing (1998 to present); and (3) areas adjacent to and between occurrence points that maintain habitat connectivity between occurrences in one continuous patch of suitable habitat. As discussed in the "Background" section of the proposed rule published in the **Federal Register** on June 19, 2007 (72 FR 33808), occurrences discovered since the listing of the subspecies in 1998 are within the geographical area occupied at the time of listing (i.e., Santa Ana River, Lytle/Cajon Creek, and San Jacinto River washes).

In this designation, we have focused primarily on core populations (i.e., areas where the subspecies has been repeatedly detected through live trapping) in undisturbed habitat in the Santa Ana River, Lytle/Cajon Creeks, and the San Jacinto River washes that contain the physical and biological features essential to the conservation of the San Bernardino kangaroo rat. We believe that protecting the habitat supporting these three largest core populations is essential to the survival and recovery of the subspecies. Small, isolated areas of degraded habitat or areas devoid of fluvial processes are likely only to support unsustainable populations that would not contribute to the recovery of this subspecies. In defining core population boundaries, we included areas demographically disconnected from the three largest populations, but which may provide the subspecies with protection against stochastic events (e.g., flooding in excess of a 100-year storm event that removes flood-plain terrace habitat;

earthquakes; fires followed by erosion of adjacent slopes that bury occupied habitat) that could cause local extirpations in the larger units. These areas are occupied by the subspecies and contain likely self-sustaining populations, relatively undisturbed alluvial scrub habitat with largely unimpeded fluvial dynamics, and, thus, the PCEs in the appropriate quantity and spatial arrangement essential to the conservation of the subspecies.

We delineated critical habitat for the San Bernardino kangaroo rat using the following criteria: (1) Areas occupied by the subspecies at the time of listing, and currently occupied, within the historical range of the subspecies; (2) areas retaining fluvial dynamics containing one or more of the PCEs for the subspecies; (3) areas supporting a core population of the subspecies; and (4) areas demographically disconnected from the three largest populations, but which may be important for the long-term recovery of the subspecies. Utilizing 2005 aerial imagery and occurrence data to determine areas of occupancy, we delineated critical habitat on maps to include occupied non-degraded alluvial fans, washes, floodplains, and adjacent upland areas containing the PCEs required by the San Bernardino kangaroo rat. We then made site visits with biologists considered to be experts on this subspecies and its habitat to confirm the presence of PCEs in the areas delineated on the maps. Because of the importance of upland habitat as a source of animals to repopulate wash areas following flood events, we included upland habitat containing one or more PCEs, adjacent to occupied wash habitat in this designation.

The Service may designate as critical habitat areas outside of the geographical area occupied by a species at the time it was listed when we can demonstrate that those areas are essential for the conservation of the species. Likewise, we can designate as critical habitat areas outside the geographical area presently occupied by a species 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)). Conservation (i.e., recovery) is defined in section 3 of the Act as 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 Act are no longer necessary." In accordance with section 4(a)(1) of the Act, we determine if any species is an endangered or threatened species (or revise its listed status) because of any of the five threat factors identified in the Act (i.e., (A) present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence). Therefore, conservation, or recovery, is achieved when a five factor analysis indicates that current and future threats have been minimized to an extent that the species is no longer in danger of extinction or likely to become endangered in the foreseeable future. Recovery is a dynamic process requiring adaptive management of threats and there are many paths to accomplishing recovery of a species. We recognize that it is unlikely that threats to this subspecies will be removed from all areas identified in this rule and that recovery efforts will occur outside the boundaries of this final designation; however, we believe that that conservation of this subspecies would be achieved if threats to this subspecies, as described in the "Special Management Considerations or Protection" section of this rule, were reduced or removed in the areas we identified as meeting the definition of critical habitat. Therefore, consistent with the statutory obligations of the Act and our implementing regulations we are not designating any unoccupied areas or areas outside the geographical area occupied by this subspecies at the time it was listed.

When determining the critical habitat boundaries, we made every effort to avoid including developed areas such as lands covered by buildings, pavement, and other structures because such lands lack PCEs for the San Bernardino kangaroo rat. Areas currently being used for sand/gravel mining operations (e.g., pits, staging areas) do not contain the PCEs required by the San Bernardino kangaroo rat. The scale of the maps prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of such developed lands. Any such lands inadvertently left inside critical habitat boundaries shown on the maps of this final critical habitat are excluded by text in this rule and are not designated as critical habitat. Therefore, Federal actions involving these textually excluded lands would not trigger section 7 consultation with respect to critical habitat and the requirement of no adverse modification unless the specific actions may affect the subspecies or PCEs in adjacent critical habitat.

Final Critical Habitat Designation

We are designating approximately 7,779 ac (3,148 ha) of land as critical habitat for the San Bernardino kangaroo rat in five units. Table 2 provides the approximate area determined to meet the definition of critical habitat for the San Bernardino kangaroo rat in the 2007 proposed rule, areas added to the proposed rule in the April 16, 2008 NOA, areas being excluded from final critical habitat designation under section 4(b)(2) of the Act (please see "Exclusions Under Section 4(b)(2) of the Act" section for a detailed discussion), and areas being designated as critical habitat.

TABLE 2—CRITICAL HABITAT UNITS FOR THE SAN BERNARDINO KANGAROO RAT IN CALIFORNIA; LAND OWNERSHIP AND EVOLUTION OF FINAL SIZE IN ACRES (HECTARES)

Critical habitat unit	Land ownership	2007 Proposed critical habitat (72 FR 33808)	2008 NOA additions to proposed critical habitat (73 FR 20581)	Areas excluded under section 4(b)(2) of the act	Final critical habitat
1. Santa Ana River Wash, San Bernardino County.	BLM [1]	559 (226)	184 (74)	00 (00)	743 (301)
	Local [2]	267 (108)	00 (00)	267 (108)	00 (00)
	Private	2,797 (1,132)	469 (190)	751 (304)	2,515 (1,018)
Subtotal		3,623 (1,466)	653 (264)	1,018 (412)	3,258 (1,318)
2. Lytle/Cajon Creek Wash, San Bernardino County.	USFS [3]	89 (36)	00 (00)	00 (00)	89 (36)

TABLE 2—CRITICAL HABITAT UNITS FOR THE SAN BERNARDINO KANGAROO RAT IN CALIFORNIA; LAND OWNERSHIP AND EVOLUTION OF FINAL SIZE IN ACRES (HECTARES)—Continued

Critical habitat unit	Land ownership	2007 Proposed critical habitat (72 FR 33808)	2008 NOA additions to proposed critical habitat (73 FR 20581)	Areas excluded under section 4(b)(2) of the act	Final critical habitat
	Private	4,597 (1,860)	00 (00)	1,265 (512)	3,332 (1,348)
Subtotal		4,686 (1,896)	00 (00)	1,265 (512)	3,421 (1,384)
3. San Jacinto River Wash, Riverside County.	Water District[4]	506 (205)	00 (00)	[6]39 (16)	506 (205)
	Local Flood[5]	94 (38)	00 (00)	94 (38)	00 (00)
	Private	169 (68)	00 (00)	169 (68)	00 (00)
Subtotal		769 (311)	00 (00)	302 (122)	506 (205)
4. Cable Creek Wash, San Bernardino County.	Private	00 (00)	483 (195)	00 (00)	483 (195)
Subtotal		00 (00)	483 (195)	00 (00)	483 (195)
5. Bautista Creek, Riverside County.	USFS[3]	00 (00)	73 (30)	00 (00)	73 (30)
	USFS Inholding	00 (00)	38 (15)	00 (00)	38 (15)
	Local Flood[5]	00 (00)	4 (2)	4 (2)	00 (00)
	Private	00 (00)	328 (133)	328 (133)	00 (00)
Subtotal		00 (00)	443 (179)	332 (134)	111 (45)
Total		9,078 (3,674)	1,579 (639)	2,917 (1,180)	7,779 (3,148)

[1] BLM = Bureau of Land Management
[2] Local = Local Reuse Authority
[3] USFS = U.S. Forest Service
[4] Water District = Eastern Municipal Water District and Lake Hemet Municipal Water District
[5] Local Flood = Riverside County Flood Control
[6] Please see the "Summary of Changes From the 2007 Proposed Rule To Revise Critical Habitat" section for a discussion of Eastern Municipal Water District lands excluded from critical habitat.

Below, we present brief descriptions of the units designated as critical habitat for the San Bernardino kangaroo rat. For more information about the areas excluded from critical habitat, please see the "Exclusions Under Section 4(b)(2) of the Act" section of this final rule.

Unit 1: Santa Ana River Wash

Unit 1 consists of approximately 3,258 ac (1,318 ha) and is located in San Bernardino County. This unit includes the Santa Ana River and portions of City, Plunge, and Mill Creeks. The area includes lands within the cities of San Bernardino, Redlands, and Highland. Although Seven Oaks Dam (northeast of Unit 1) impedes sediment transport and reduces the magnitude, frequency, and extent of flood events from the Santa Ana River, the system still retains partial fluvial dynamics because Mill Creek is not impeded by a dam or debris basin. This critical habitat unit was occupied at the time of listing, is currently occupied, and contains all of the features essential to the conservation of the San Bernardino kangaroo rat. Additionally, this unit contains the highest densities of San Bernardino kangaroo rats in the Santa Ana wash. The physical and biological features contained within this unit may require special management considerations or protection to minimize impacts associated with flood control operations, water conservation projects, sand and gravel mining, and urban development.

Approximately 751 ac (304 ha) of revised proposed critical habitat Unit 1 occurred within the WSPA, a section of the floodplain downstream of Seven Oaks Dam that was preserved by the flood control districts of Orange, Riverside, and San Bernardino Counties. The WSPA was established in 1988 by the ACOE to minimize the effects of Seven Oaks Dam on the federally endangered plant, *Eriastrum densifolium* ssp. *sanctorum* (Santa Ana River woolly-star). This area of alluvial fan scrub in the wash near the low-flow channel of the river was identified for preservation because these sections of the wash were thought to have the highest potential to maintain the hydrology necessary for the periodic regeneration of early phases of alluvial fan sage scrub. A 1993 Management Plan for the Santa Ana River WSPA has been completed, and a draft MSHMP for WSPA lands, which includes protection for the San Bernardino kangaroo rat, is to be completed as an additional conservation measure pursuant to our December 19, 2002, biological opinion on operations for Seven Oaks Dam (Service 2002b, p. 8). As a result of our partnership and development of approved management plans, we excluded the approximately 751 ac (304 ha) of WSPA lands from the final revised critical habitat designation (see "Exclusions Under Section 4(b)(2) of the Act" section for a detailed discussion).

In 1994, the BLM designated three parcels in the Santa Ana River, a total of approximately 760 ac (308 ha), as an ACEC. One parcel is located south of the Seven Oaks borrow pit, another is farther west and south of Plunge Creek, and the third is located farther west between two large mining pits. The primary goal of this ACEC designation is to protect and enhance the habitat of federally listed plant species occurring in the area while providing for the administration of valid existing water conservation rights. Although the establishment of this ACEC is important in regard to conservation of sensitive

species and vegetation communities in this area, the administration of existing water conservation rights conflicts with the BLM's ability to manage their lands for the San Bernardino kangaroo rat. Existing rights include a withdrawal of Federal lands for water conservation through an act of Congress on February 20, 1909 (Public Law 248, 60th Cong., 2nd sess.). The entire ACEC is included in this withdrawn land and may be used for water conservation measures, such as the construction of percolation basins. Although the BLM is coordinating with the Service to conserve San Bernardino kangaroo rat habitat, at this time we do not consider these lands to be managed for the benefit of the San Bernardino kangaroo rat or its PCEs, and we are not excluding these lands from the final revised critical habitat designation.

We are currently coordinating with the BLM, ACOE, San Bernardino Valley Conservation District, Cemex Construction Materials, Robertson's Ready Mix, and other local interests on a proposed exchange of Federal and private lands and the development of the Upper Santa Ana River Habitat Conservation Plan (USAR HCP, also known as "Plan B"). The goal of the USAR HCP is to consolidate a large block of alluvial fan scrub occupied by three federally endangered species (the San Bernardino kangaroo rat, *Eriastrum densifolium* ssp. *sanctorum*, and *Dodecahema leptoceras* (slender-horned spineflower)) and one federally threatened species (the coastal California gnatcatcher (*Polioptila californica californica*)). The area under consideration includes the majority of the Santa Ana wash from just downstream of the confluence of Mill Creek with the Santa Ana River to Alabama Street. While the goal of this effort is to benefit the San Bernardino kangaroo rat through the establishment of preserve lands that will be managed for this subspecies and other listed species, we are still in the development phase of this HCP, and we are not excluding lands within the proposed Santa Ana River Wash Conservation Area from the final revised critical habitat designation.

Approximately 267 ac (108 ha) of occupied habitat in the Santa Ana River wash is set aside for conservation in perpetuity by the U.S. Air Force as part of on-base site remediation efforts at the former Norton Air Force Base in San Bernardino, California. These areas are managed specifically for the San Bernardino kangaroo rat and *Eriastrum densifolium* spp. *sanctorum* pursuant to the Former Norton Air Force Base CMP completed in March 2002. We excluded these 267 ac (109 ha) from the final revised critical habitat designation based on benefits provided to San Bernardino kangaroo rat habitat through our partnership and the approved CMP (see "Exclusions Under Section 4(b)(2) of the Act" section for a detailed discussion).

Unit 2: Lytle/Cajon Creek Wash

Unit 2 encompasses approximately 3,421 ac (1,384 ha) in San Bernardino County and includes the northern extent of this subspecies' remaining distribution. This unit contains habitat along and between Lytle and Cajon Creeks from the Interstate 15 Bridge in Lytle Creek and the Kenwood Avenue/Cajon Boulevard junction in Cajon Creek, downstream to Highland Avenue. Unit 2 was occupied at the time of listing, is currently occupied, and contains all of the features essential to the conservation of the San Bernardino kangaroo rat. This unit includes some of the last remaining alluvial fans, floodplain terraces, historical braided river channels, and associated alluvial sage scrub and upland vegetation that provides habitat for the San Bernardino kangaroo rat in the Lytle/Cajon Creek wash. This unit also contains the highest densities of San Bernardino kangaroo rat in the Lytle/Cajon wash. The physical and biological features within this unit may require special management considerations or protection to minimize impacts associated with flood control operations, water conservation projects, sand and gravel mining, and urban development.

The hydro-geomorphological processes that apparently rejuvenate and maintain the dynamic mosaic of alluvial fan sage scrub are still largely intact in Lytle and Cajon Creeks (i.e., stream flows are not impeded by dams or debris basins), and the remaining habitat allows dispersal between these two drainages, which is important for genetic exchange between populations (67 FR 19812, April 23, 2002). This unit is adjacent to large tracts of undeveloped land and contains upland areas occupied by the subspecies (PCEs 1, 2, and 3).

Several areas that were proposed in Unit 2 will be or are protected and managed to some extent for the San Bernardino kangaroo rat. The Cajon Creek Habitat Conservation Management Area (HCMA) includes approximately 1,265 ac (512 ha) to offset approximately 2,270 ac (919 ha) of sand and gravel mining proposed within and adjacent to Cajon Creek. Of the 1,265 ac (512 ha) Cajon Creek HCMA, approximately 567 ac (229 ha) is the Cajon Creek Conservation Bank established to help conserve populations of 24 species associated with alluvial fan scrub, including the San Bernardino kangaroo rat. Furthermore, the remaining 698 ac (282 ha) are set aside as permanent conservation lands. These conservation lands will be managed in perpetuity for alluvial fan scrub habitat and associated listed species (including the San Bernardino kangaroo rat) pursuant to the HEMP (M. Blane and Associates 1996) and associated Memorandum of Understanding and Implementation Agreement for the Cajon Creek Habitat Management Area (MOU) (CalMat Company 1996). We excluded 1,265 ac (512 ha) of HCMA lands from the final revised critical habitat designation based on our partnership and benefits provided by the HEMP and MOU (see "Exclusions Under Section 4(b)(2) of the Act" for a detailed discussion).

In 2003, the Service issued a biological opinion for the Lytle Creek North Master Planned Community, which falls within the boundary of existing San Bernardino kangaroo rat habitat (Service 2003a, FWS–SB–1640.11). The project includes an approximately 677 ac (274 ha) master planned community with over 2,400 residential units. Construction activities are proposed to be phased over an estimated 5 to 10 years. As an off-site measure for this project, the Lytle Creek Development Company will dedicate approximately 213 ac (86 ha) of largely undeveloped habitat within Lytle Creek (Unit 2) as a conservation area for the San Bernardino kangaroo rat. Habitat that provides primary foraging, sheltering, and breeding habitat for the San Bernardino kangaroo rat within this area will be conserved and managed in perpetuity (Service 2003a, p. 45). Forty acres (16 ha) of this area is upland island habitat that lies within the floodplain and will receive additional management through restoration or enhancement for the benefit of the San Bernardino kangaroo rat (Service 2003a, p. 42). A long-term management plan will be completed at the end of an initial management period allowing for lessons learned during that time to be incorporated into the long-term management plan. However, to date, no conservation easements or endowments have been secured for the lands proposed as conservation areas, nor has the long-term management plan been completed, and we are not excluding the 213 ac (86 ha) of proposed future conservation lands that will be established as a result of this project

from the final revised critical habitat designation.

On June 15, 1999, we issued our biological opinion on the construction and extension of the north levee at Sunwest Materials' (now CEMEX) Lytle Creek Quarry (Service 1999, 1–6–99–F–42). The armored, engineered levee (over 10,000 feet (3,048 meters) in length) protects mining operations from flooding and replaces a shorter, earthen embankment (Service 1999, p. 3). As a conservation measure for this project, Sunwest Materials delivered to the California Department of Fish and Game a conservation easement deed to approximately 26 ac (11 ha) delineated as Conservation Area 1 to protect biological resources in perpetuity (Service 1999, p. 7). Additionally, Sunwest Materials is to record a biological resource deed restriction on approximately 12 ac (5 ha) of land to permanently preclude activities that would interfere with habitat value (Service 1999, p. 8). However, a management plan benefiting the San Bernardino kangaroo rat is not yet developed for these lands, and we are not excluding these 38 ac (16 ha) from the final revised critical habitat designation.

Unit 3: San Jacinto River Wash

Unit 3 encompasses approximately 506 ac (205 ha) in Riverside County and includes areas along the San Jacinto River in the vicinity of San Jacinto, Hemet, and Valle Vista. This unit encompasses the San Jacinto River wash from the Blackburn Road/Lake Hemet Main Canal area, downstream to the East Main Street Bridge. This unit includes all of the features essential to the conservation of the San Bernardino kangaroo rat, was occupied at the time of listing, and is currently occupied. Additionally, this unit contains one of only three large extant core populations of the San Bernardino kangaroo rat and is the only core population in Riverside County. Historically, the San Bernardino kangaroo rat occurred along the San Jacinto River from the upper reach of habitat in the river downstream past State Route 79. The physical and biological features within this unit may require special management considerations or protection to minimize impacts associated with flood control operations, channelization, water conservation projects (groundwater recharge ponds), off-road vehicle activity, and urban development.

Lands within Unit 3 are adjacent to lands of the Soboba Band of Luiseño Indians Reservation, which were included in the 2002 final critical habitat designation (see 50 CFR 17.95(a); 67 FR 19812, April 23, 2002). We are not designating these Tribal lands as critical habitat for the San Bernardino kangaroo rat in this final revised critical habitat designation (see "Government-to-Government Relationship with Tribes" section for a detailed discussion).

All private lands proposed as critical habitat in the San Jacinto River wash fall within the boundaries of the Western Riverside County MSHCP. We excluded private lands under the jurisdiction of permittees to the MSHCP and all lands owned and managed by permittees to the MSHCP within this area (263 ac (106 ha)) based on our partnership and the benefits provided to the San Bernardino kangaroo rat by the Western Riverside County MSHCP. We are also excluding 39 ac (16 ha) of land owned by the Eastern Municipal Water District related to The Soboba Band of Luiseño Indians Settlement Act and implementation of its associated settlement agreement. Please see "Exclusions Under Section 4(b)(2) of the Act" section for detailed discussions of these exclusions.

Unit 4: Cable Creek Wash

Unit 4 consists of approximately 483 ac (195 ha) and is located in San Bernardino County. This unit encompasses the Cable Creek alluvial floodplain from the mouth of Cable Canyon to I–215 where the creek becomes channelized. Because Cable Creek is not impeded by a dam or debris basin, the fluvial dynamics necessary to maintain the PCEs of San Bernardino kangaroo rat habitat remain in this unchannelized portion of Cable Creek. This critical habitat unit was occupied at the time of listing, is currently occupied, and contains all of the features essential to the conservation of the San Bernardino kangaroo rat. Additionally, this unit contains a likely self-sustaining population of San Bernardino kangaroo rats that may be important for the long-term conservation of the subspecies. This unit is demographically isolated from the core population of the subspecies in the Lytle/Cajon wash (Unit 2). A stochastic event causing dramatic population decline or local extirpation in Unit 2 may have little effect on Unit 4. In such a case, the population in Unit 4 could serve as a source of individuals for repopulating Unit 2. The physical and biological features contained within this unit may require special management considerations or protection to minimize impacts associated with flood control operations, water conservation projects, sand and gravel mining, and urban development.

Unit 5: Bautista Creek

Unit 5 consists of approximately 111 ac (45 ha) and is located in Riverside County. This unit includes occupied habitat from the unchannelized reach of Bautista Creek (i.e., from the existing instream mining operation to upstream areas where the grade of the creek precludes the formation of alluvial terraces or braids). This unit represents the southernmost extent of the San Bernardino kangaroo rat's current range. The wash system in upper Bautista Creek retains fluvial dynamics because it is not impeded by a dam, debris basin, or concrete channelization. This critical habitat unit was occupied at the time of listing, is currently occupied, and contains all of the features essential to the conservation of the San Bernardino kangaroo rat. Historically, the subspecies occurred upstream of the Bautista flood control basin until the topography of the canyon becomes too steep. This unit contains agricultural areas that could be occupied at low densities by this subspecies (PCE 3). Additionally, this unit contains a likely self-sustaining population of San Bernardino kangaroo rats that may be important for the long-term conservation of the subspecies. This unit is demographically isolated from the core population of the subspecies in the San Jacinto wash (Unit 3) by a concrete-lined channel. This channel directs flows from upper Bautista Creek downstream to the San Jacinto River. Given the current status of the San Bernardino kangaroo rat and ongoing threats to its habitat, it is important for the conservation of the San Bernardino kangaroo rat that natural fluvial processes in occupied habitat are maintained. A stochastic event could cause a dramatic population decline or local extirpation in either Units 3 or 5. In such a case, through relocation for the purposes of recovery, the population in Unit 5 could serve as a source of individuals for repopulating Unit 3, and vice versa. The physical and biological features contained within this unit may require special management considerations or protection to minimize impacts associated with agricultural activities, sand and gravel mining, and urban development.

All private lands proposed as critical habitat in Bautista Creek fall within the boundaries of the Western Riverside County MSHCP. We excluded private lands under the jurisdiction of permittees to the MSHCP and all lands owned and managed by permittees to the MSHCP within this area (332 ac (134

ha)) based on our partnership and the benefits provided to the San Bernardino kangaroo rat by the Western Riverside County MSHCP (see "Exclusions Under Section 4(b)(2) of the Act" section for a detailed discussion).

Effects of Critical Habitat Designation

Section 7 Consultation

Section 7(a)(2) of the Act requires Federal agencies, including the Service, to ensure that actions they fund, authorize, or carry out are not likely to jeopardize the continued existence of a listed species or destroy or adversely modify designated critical habitat. Decisions by the Fifth and Ninth Circuit Courts of Appeals have invalidated our definition of "destruction or adverse modification" (50 CFR 402.02) (see *Gifford Pinchot Task Force* v. *U.S. Fish and Wildlife Service*, 378 F. 3d 1059 (9th Cir 2004) and *Sierra Club* v. *U.S. Fish and Wildlife Service et al.*, 245 F.3d 434, 442F (5th Cir 2001)), and we do not rely on this regulatory definition when analyzing whether an action is likely to destroy or adversely modify critical habitat. Under the statutory provisions of the Act, destruction or adverse modification is determined on the basis of whether, with implementation of the proposed Federal action, the affected critical habitat would remain functional to serve its intended conservation role for the species.

Under section 7(a)(2) of the Act, if a Federal action may affect a listed species or its critical habitat, the responsible Federal agency (action agency) must enter into consultation with us. As a result of this consultation, we document compliance with the requirements of section 7(a)(2) through our issuance of:

(1) A concurrence letter for Federal actions that may affect, but are not likely to adversely affect, listed species or critical habitat; or

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

When we issue a biological opinion concluding that a project is likely to jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat, we also provide reasonable and prudent alternatives to the project, if any are identifiable. We define "reasonable and prudent alternatives" at 50 CFR 402.02 as alternative actions identified during consultation that:

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

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

(3) Are economically and technologically feasible, and

(4) Would, in the Director's opinion, avoid jeopardizing the continued existence of the listed species or destroying or adversely modifying critical habitat.

Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

Regulations at 50 CFR 402.16 require Federal agencies to reinitiate consultation on previously reviewed actions in instances where a new species is listed or critical habitat is subsequently designated that may be affected and the Federal agency has retained discretionary involvement or control over the action or such discretionary involvement or control is authorized by law. Consequently, Federal agencies may need to request reinitiation of consultation with us on actions for which formal consultation has been completed, if those actions may affect subsequently listed species or designated critical habitat.

Federal activities that may affect the San Bernardino kangaroo rat or its designated critical habitat will require consultation under section 7(a)(2) of the Act. Activities on State, Tribal, local or private lands requiring a Federal permit (such as a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act (33 U.S.C. 1251 et seq.) or a permit from the Service under section 10(a)(1)(B) of the Act) or involving some other Federal action (such as funding from the Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency) are examples of agency actions that may be subject to the section 7(a)(2) consultation process. Federal actions not affecting listed species or critical habitat, and actions on State, Tribal, local or private lands that are not federally funded, authorized, or permitted, do not require section 7(a)(2) consultations.

Application of the "Adverse Modification" Standard

The key factor related to the adverse modification determination is whether, with implementation of the proposed Federal action, the affected critical habitat would remain functional to serve its intended conservation role for the species. Activities that may destroy or adversely modify critical habitat are those that alter the physical and biological features to an extent that appreciably reduces the conservation value of critical habitat for the San Bernardino kangaroo rat. Generally, the conservation role of the San Bernardino kangaroo rat critical habitat units is to support occurrences of the subspecies in the Santa Ana River, Lytle/Cajon Creeks, the San Jacinto River, Cable Creek, and Bautista Creek, which in combination with core occurrences on private land excluded from critical habitat designation under section 4(b)(2) of the Act, comprise the core populations of this subspecies.

Section 4(b)(8) of the Act requires us to briefly evaluate and describe, in any proposed or final regulation that designates critical habitat, activities involving a Federal action that may destroy or adversely modify such habitat, or that may be affected by such designation.

Activities that, when carried out, funded, or authorized by a Federal agency, may affect critical habitat and therefore should result in consultation for the San Bernardino kangaroo rat include, but are not limited to (please see "Special Management Considerations or Protection" section for a more detailed discussion on the impacts of these actions to the listed subspecies):

(1) Actions that would result in loss or fragmentation of suitable habitat, such as urban and industrial development, sand and gravel mining, off-road vehicle activity, and groundwater recharge operations. These activities could eliminate or reduce habitat necessary for the growth and reproduction of the San Bernardino kangaroo rat. Resulting fragmentation could isolate populations, increasing risk of local extirpations from stochastic events and decreasing movement between remaining patches of suitable habitat.

(2) Actions that would alter natural hydrological and geomorphological processes necessary to maintain alluvial sage scrub habitat. Such activities could include, but are not limited to: channel alteration; flood control operations; and construction of flood control structures such as dams, levees, and detention basins. These activities could eliminate or reduce preferred habitat conditions for the growth and reproduction of the San Bernardino kangaroo rat. Periodic high flows and flood events provide sediment scour, sediment deposition, and thinning of vegetation which maintains alluvial sage scrub habitat.

(3) Actions that would appreciably decrease habitat value or quality

through indirect and edge effects. Such activities could include, but are not limited to: urban, industrial, and agricultural development; and construction of roads and railways. These activities could have indirect effects that could lead to increases in human activity, in light levels during nighttime foraging, in predation by domestic and feral animals associated with residential development, and the invasion of exotic plants, or otherwise eliminate or reduce preferred habitat conditions for the San Bernardino kangaroo rat. Measures to minimize the impacts of these activities to the species and its habitat could include the installation of fencing to decrease predation by domestic and feral animals, placement of lighting structures (e.g., street lights) such that the light is directed away from habitat, and the use of best management practices to reduce the amount of water entering habitat due to sheet flow.

We consider all of the units designated as critical habitat to be within the geographical area occupied by the subspecies at the time of listing, and to contain features essential to the conservation of the San Bernardino kangaroo rat. Federal agencies already consult with us on activities in areas occupied by the San Bernardino kangaroo rat that may affect the subspecies to ensure that their actions do not jeopardize the continued existence of the San Bernardino kangaroo rat.

Exclusions

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

Section 4(b)(2) of the Act states that the Secretary must designate and revise critical habitat on the basis of the best available scientific data after taking into consideration the economic impact, national security impact, and any other relevant impact of specifying any particular area as critical habitat. The Secretary may exclude an area from critical habitat if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless he determines, based on the best scientific data available, that the failure to designate such area as critical habitat will result in the extinction of the species. In making that determination, the legislative history is clear that the Secretary has broad discretion regarding which factor(s) to use and how much weight to give to any factor. In the following sections, we address a number of general issues that are relevant to our analysis under section 4(b)(2) of the Act.

Economic Analysis

Following the publication of the proposed revised critical habitat designation, we conducted an economic analysis to estimate the potential economic effect of the designation. The draft economic analysis (DEA; dated February 6, 2008) was made available for public review and comment from April 16, 2008, to May 16, 2008 (73 FR 20581), and from July 29, 2008, to August 13, 2008 (73 FR 43910). The Service also completed an Addendum to the Economic Analysis (dated May 21, 2008) that addressed the potential economic impacts associated with the additional 1,579 ac (639 ha) presented in the April 16, 2008 NOA. The Addendum was made available for public review and comment from July 29, 2008, to August 13, 2008 (73 FR 43910). Substantive comments and information received on the DEA and Addendum are summarized above in the "Public Comment" section and are incorporated into the final analysis, as appropriate. Taking any relevant new information into consideration, the Service completed a final economic analysis (FEA) (dated August 29, 2008) of the designation that updates the DEA by removing impacts that were not considered probable or likely to occur, and by adding an estimate of the costs associated solely with the designations of critical habitat for the San Bernardino kangaroo rat (incremental impacts).

The primary purpose of the economic analysis is to estimate the potential economic impacts associated with the designation of critical habitat for the San Bernardino kangaroo rat. This information is intended to assist the Secretary in making decisions about whether the benefits of excluding particular areas from the designation outweigh the benefits of including those areas in the designation. The economic analysis considers the economic efficiency effects that may result from the designation. In the case of habitat conservation, efficiency effects generally reflect the "opportunity costs" associated with the commitment of resources to comply with habitat protection measures (such as lost economic opportunities associated with restrictions on land use). It also addresses how potential economic impacts are likely to be distributed, including an assessment of any local or regional impacts of habitat conservation and the potential effects of conservation activities on government agencies, private businesses, and individuals. The economic analysis measures lost economic efficiency associated with residential and commercial development and public projects and activities, such as economic impacts on water management and transportation projects, Federal lands, small entities, and the energy industry. This information can be used by the Secretary to assess whether the effects of the designation might unduly burden a particular group or economic sector. Finally, the economic analysis looks retrospectively at costs that have been incurred since the date we listed the San Bernardino kangaroo rat as endangered (September 24, 1998; 63 FR 51005), and considers those costs that may occur in the years following the revised designation of critical habitat, with the timeframes for this analysis varying by activity.

The economic analysis focuses on the direct and indirect costs of the rule. However, economic impacts to land use activities can exist in the absence of critical habitat. These impacts may result from, for example, local zoning laws, State and natural resource laws, and enforceable management plans and best management practices applied by other State and Federal agencies. Economic impacts that result from these types of protections are not included in the analysis as they are considered to be part of the regulatory and policy baseline.

The economic analysis examines activities taking place both within and adjacent to the designation. It estimates impacts based on activities that are "reasonably foreseeable" including, but not limited to, activities that are currently authorized, permitted, or funded, or for which proposed plans are currently available to the public. Accordingly, the analysis bases estimates on activities that are likely to occur within a 20-year timeframe, from when the proposed rule became available to the public (June 19, 2007, 72 FR 33808). The 20-year timeframe was chosen for the analysis because, as the time horizon for an economic analysis is expanded, the assumptions on which the projected number of projects and cost impacts associated with those projects are based become increasingly speculative.

The economic analysis is intended to quantify the baseline and incremental economic impacts of all potential conservation efforts for the San Bernardino kangaroo rat associated with the following activities: (1) Water conservation; (2) flood control; (3) urban development; (4) sand and gravel mining; (5) agricultural activities; and (6) off-road vehicle activities. Baseline impacts include impacts associated with overlapping protections from other Federal, State, and local laws that aid

habitat conservation in the study area. In other words, those impacts associated with the listing of the species and not associated with critical habitat. Incremental impacts are those expected to occur solely because of the designation of critical habitat; these would not be expected to occur but for the designation of critical habitat. Potential incremental economic impacts are estimated over a 23-year period from 2008 through 2030 and include an overall cost of $164.4 million in present value terms using a 7 percent discount rate. No incremental economic impacts are expected in areas excluded from critical habitat under section 4(b)(2) of the Act. The impacts in areas excluded from critical habitat are all considered to be baseline impacts.

For the purposes of the economic analysis and assessing effects on development, the revised critical habitat was divided into upland and lowland areas. Lowland areas are occupied by the San Bernardino kangaroo rat year-round at high densities of individuals. Because this is such a narrow endemic subspecies found in very few locations, any loss of lowland habitat in which the functional ability of a lowland critical habitat unit was adversely modified or destroyed would also likely result in jeopardy to this narrow endemic subspecies. Therefore, any adverse modification decision for lowland habitat areas would likely be coincident to a jeopardy determination for the same action. Thus, potential economic impacts from conservation efforts that may be necessary to avoid adverse modification of critical habitat within lowland areas are considered co-extensive with the impacts of the listing of the San Bernardino kangaroo rat and, for the purposes of this analysis, are considered to be in the baseline.

The general conservation role of critical habitat within the upland habitat areas is to act as refuge for the San Bernardino kangaroo rat during flooding events that inundate the low-lying alluvial fans (i.e., the lowlands) that this subspecies usually occupies. Conservation efforts not otherwise necessary to avoid jeopardy to the San Bernardino kangaroo rat may be required in upland areas to ensure that the conservation role and function of the critical habitat unit are conserved. Therefore, incremental costs due to the designation of critical habitat may be incurred in upland areas as it is reasonable to expect that the Service may recommend avoidance and minimization efforts in upland areas designated as critical habitat (up to and including complete avoidance) specifically to avoid the destruction or adverse modification of critical habitat. Thus, impacts of conservation efforts that may result in reduced or no development in the upland areas are considered incremental impacts of critical habitat designation.

The vast majority of incremental impacts attributed to critical habitat designation are due to potential constraints on development within upland areas. The projected number of housing units in upland areas of critical habitat is 791 according to estimates using the Southern California Association of Governments forecasts. Assuming the potential constraints on development in the upland areas result in complete avoidance of these areas, total incremental impacts are projected to be approximately $44.4 million present value at a 7 percent discount rate over a 23-year period. In addition to the Southern California Association of Government forecasts, we received detailed projected housing information from the Lytle Creek Development Co. for certain upland areas in Unit 2. The Lytle Creek Development Co. projects an additional 3,962 housing units in those areas. Again assuming complete avoidance of upland areas, total additional incremental impacts are projected to be approximately $120 million present value at a 7 percent discount rate over a 23-year period. A very small portion of incremental effects are attributed to water conservation activities in upland areas, approximately $140 million annualized at a 7 percent discount rate.

In addition to projecting the incremental impacts expected to occur solely because of the designation of critical habitat, the economic analysis considers the potential economic effects of actions relating to the conservation of the San Bernardino kangaroo rat, including costs associated with sections 4, 7, 9, and 10 of the Act. It further considers the economic effects of protective measures taken as a result of other Federal, State, and local laws that aid habitat conservation for the San Bernardino kangaroo rat in areas containing features essential to the conservation of the subspecies. The FEA estimates that the potential economic effects of actions relating to the conservation of this subspecies, including costs associated with sections 4, 7, and 10 of the Act (baseline costs, not attributable to critical habitat), will be $202.7 million present value at a 7 percent discount rate over the next 23 years.

After consideration of the impacts under section 4(b)(2) of the Act, we have not excluded any areas from the final critical habitat designation based on the identified economic impacts. The final economic analysis is available at *http://www.regulations.gov* or upon request from the Carlsbad Fish and Wildlife Office (see **ADDRESSES** section).

Benefits of Designating Critical Habitat

The process of designating critical habitat as described in the Act requires that the Service identify those lands within the geographical area occupied by the species at the time of listing on which are found the physical or biological features essential to the conservation of the species that may require special management considerations or protection, and those areas outside the geographical area occupied by the species at the time of listing that are essential for the conservation of the species. In identifying those lands, the Service must consider the recovery needs of the species, such that, on the basis of the best scientific and commercial data available at the time of designation, the habitat that is identified, if managed or protected, could provide for the survival and recovery of the species.

The identification of areas that contain features essential to the conservation of the species that can, if managed or protected, provide for the recovery of a species, is beneficial. The process of proposing and finalizing a critical habitat rule provides the Service with the opportunity to determine the physical and biological features essential to the conservation of the species within the geographical area occupied by the species at the time of listing, as well as to determine other areas essential for the conservation of the species. The designation process includes peer review and public comment on the identified physical and biological features and areas. This process is valuable to land owners and managers in developing conservation management plans for identified areas, as well as any other occupied habitat or suitable habitat that may not be included in the areas the Service identifies as meeting the definition of critical habitat.

The consultation provisions under section 7(a)(2) of the Act constitute the regulatory benefits of critical habitat. As discussed above, Federal agencies must consult with the Service on actions that may affect critical habitat and must avoid destroying or adversely modifying critical habitat. Federal agencies must also consult with us on actions that may affect a listed species and refrain from undertaking actions that are likely to jeopardize the continued existence of such species. The analysis of effects to critical habitat is a separate and

different analysis from that of the effects to the species. Therefore, the difference in outcomes of these two analyses represents the regulatory benefit of critical habitat. For some species, and in some locations, the outcome of these analyses will be similar, because effects to habitat will often also result in effects to the species. However, the regulatory standard is different, as the jeopardy analysis investigates the action's impact to survival and recovery of the species, while the adverse modification analysis investigates the action's effects to the designated habitat's contribution to conservation. This will, in many instances, lead to different results and different regulatory requirements. Thus, critical habitat designations may provide greater benefits to the recovery of a species than would listing alone.

There are two limitations to the regulatory effect of critical habitat. First, a consultation is only required where there is a Federal nexus (an action authorized, funded, or carried out by any Federal agency)—if there is no Federal nexus, the critical habitat designation of private lands itself does not restrict actions that destroy or adversely modify critical habitat. Second, the designation only limits destruction or adverse modification. By its nature, the prohibition on adverse modification is designed to ensure that the conservation role and function of those areas that contain the physical and biological features essential to the conservation of the species or of unoccupied areas that are essential for the conservation of the species are not appreciably reduced. Critical habitat designation alone, however, does not require private property owners to undertake specific steps toward recovery of the species.

Once an agency determines that consultation under section 7(a)(2) of the Act is necessary, the process may conclude informally when the Service concurs in writing that the proposed Federal action is not likely to adversely affect critical habitat. However, if we determine through informal consultation that adverse impacts are likely to occur, then formal consultation is initiated. Formal consultation concludes with a biological opinion issued by the Service on whether the proposed Federal action is likely to result in destruction or adverse modification of critical habitat.

For critical habitat, a biological opinion that concludes in a determination of no destruction or adverse modification may contain discretionary conservation recommendations to minimize adverse effects to the primary constituent elements, but it would not suggest the implementation of any reasonable and prudent alternative. We suggest reasonable and prudent alternatives to the proposed Federal action only when our biological opinion results in an adverse modification conclusion.

As stated above, the designation of critical habitat does not require that any management or recovery actions take place on the lands included in the designation. Even in cases where consultation is initiated under section 7(a)(2) of the Act, the end result of consultation is to avoid jeopardy to the species and/or adverse modification of its critical habitat, but not necessarily to manage critical habitat or institute recovery actions on critical habitat. Conversely, voluntary conservation efforts implemented through management plans institute proactive actions over the lands they encompass and are put in place to remove or reduce known threats to a species or its habitat; therefore, implementing recovery actions. We believe that in many instances the regulatory benefit of critical habitat is minimal when compared to the conservation benefit that can be achieved through implementing Habitat Conservation Plans (HCPs) under section 10 of the Act or other habitat management plans. The conservation achieved through such plans is typically greater than what we achieve through multiple site-by-site, project-by-project, section 7(a)(2) consultations involving consideration of critical habitat. Management plans commit resources to implement long-term management and protection to particular habitat for at least one and possibly other listed or sensitive species. Section 7(a)(2) consultations only commit Federal agencies to preventing adverse modification of critical habitat caused by the particular project, and they are not committed to provide conservation or long-term benefits to areas not affected by the proposed action. Thus, implementation of an HCP or management plan that incorporates enhancement or recovery as the management standard may often provide as much or more benefit than a consultation for critical habitat designation.

Another benefit of including lands in critical habitat is that designation of critical habitat serves to educate landowners, State and local governments, and the public regarding the potential conservation value of an area. This helps focus and promote conservation efforts by other parties by clearly delineating areas of high conservation value for the San Bernardino kangaroo rat. In general, critical habitat designation always has educational benefits; however, in some cases, they may be redundant with other educational effects. For example, HCPs have significant public input and may largely duplicate the educational benefits of a critical habitat designation. Including lands in critical habitat also would inform State agencies and local governments about areas that could be conserved under State laws or local ordinances.

Conservation Partnerships on Non-Federal Lands

Most federally listed species in the United States will not recover without cooperation of non-Federal landowners. More than 60 percent of the United States is privately owned (National Wilderness Institute 1995, p.2), and at least 80 percent of endangered or threatened species occur either partially or solely on private lands (Crouse et al. 2002, p. 720; Stein et al. 1995, p. 400) found that only about 12 percent of listed species were found almost exclusively on Federal lands (90 to 100 percent of their known occurrences restricted to Federal lands) and that 50 percent of federally listed species are not known to occur on Federal lands at all.

Given the distribution of listed species with respect to land ownership, conservation of listed species in many parts of the United States is dependent upon working partnerships with a wide variety of entities and the voluntary cooperation of many non-Federal landowners. Building partnerships and promoting voluntary cooperation of landowners are essential to understanding the status of species on non-Federal lands, and are necessary to implement recovery actions such as reintroducing listed species, habitat restoration, and habitat protection.

Many non-Federal landowners derive satisfaction from contributing to endangered species recovery. We promote these private-sector efforts through the Department of the Interior's Cooperative Conservation philosophy. Conservation agreements with non-Federal landowners (HCPs, safe harbor agreements, other conservation agreements, easements, and State and local regulations) enhance species conservation by extending species protections beyond those available through section 7 consultations. In the past decade, we 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 regulatory methods (61 FR 63854, December 2, 1996).

Many private landowners, however, are wary of the possible consequences of encouraging endangered species to their property, and there is mounting evidence that some regulatory actions by the Federal Government, while well-intentioned and required by law, can (under certain circumstances) have unintended negative consequences for the conservation of species on private lands (Wilcove et al. 1996, pp. 5–6; Bean 2002, pp. 2–3; Conner and Mathews 2002, pp. 1–2; James 2002, pp. 270–271; Koch 2002, pp. 2–3; Brook et al. 2003, pp. 1639–1643). Many landowners fear a decline in their property value due to real or perceived restrictions on land-use options where threatened or endangered species are found. Consequently, harboring endangered species is viewed by many landowners as a liability. This perception results in anti-conservation incentives because maintaining habitats that harbor endangered species represents a risk to future economic opportunities (Main et al. 1999, pp. 1264–1265; Brook et al. 2003, pp. 1644–1648).

According to some researchers, the designation of critical habitat on private lands significantly reduces the likelihood that landowners will support and carry out conservation actions (Main et al. 1999, p. 1263; Bean 2002, p. 2; Brook et al. 2003, pp. 1644–1648). The magnitude of this negative outcome is greatly amplified in situations where active management measures (such as reintroduction, fire management, and control of invasive species) are necessary for species conservation (Bean 2002, pp. 3–4). We believe that the judicious exclusion of specific areas of non-federally owned lands from critical habitat designations can contribute to species recovery and provide a superior level of conservation than critical habitat alone.

The purpose of designating critical habitat is to contribute to the conservation of threatened and endangered species and the ecosystems upon which they depend. The outcome of the designation, triggering regulatory requirements for actions funded, authorized, or carried out by Federal agencies under section 7(a)(2) of the Act, can sometimes be counterproductive to its intended purpose on non-Federal lands. Thus the benefits of excluding areas that are covered by partnerships or voluntary conservation efforts can often be high.

Benefits of Excluding Lands With HCPs or Other Approved Management Plans

The benefits of excluding lands with HCPs or other approved long-term management plans from critical habitat designation include relieving landowners, communities, and counties of any additional regulatory burden that might be imposed as a result of the critical habitat designation. Most HCPs and other conservation plans take many years to develop, and upon completion, are consistent with the recovery objectives for listed species that are covered within the plan area. Many also provide conservation benefits to unlisted sensitive species. Imposing an additional regulatory review as a result of the designation of critical habitat may undermine our efforts and partnerships as well. Our experience in implementing the Act has found that designation of critical habitat within the boundaries of management plans that provide conservation measures for a species is a disincentive to many entities that are either currently developing such plans, or contemplating doing so in the future, because one of the incentives for undertaking conservation is greater ease of permitting where listed species are affected. Addition of a new regulatory requirement would remove a significant incentive for undertaking the time and expense of management planning.

A related benefit of excluding lands covered by approved HCPs and management plans that cover listed species from critical habitat designation is the unhindered, continued ability it gives us to seek new partnerships with future plan participants, including States, counties, local jurisdictions, conservation organizations, and private landowners, which together can implement conservation actions that we would be unable to accomplish otherwise. Designating lands within approved management plan areas as critical habitat would likely have a negative effect on our ability to establish new partnerships to develop these plans, particularly plans that address landscape-level conservation of species and habitats. By excluding these lands, we preserve our current partnerships and encourage additional conservation actions in the future.

Both HCPs and Natural Communities Conservation Plan (NCCP)–HCP applications require consultation, which would review the effects of all HCP-covered activities that might adversely impact the species under a jeopardy standard, including possibly significant habitat modification, even without the critical habitat designation. Additionally, all other Federal actions that may affect the listed species still require consultation under section 7(a)(2) of the Act, and we review these actions for possibly significant habitat modification in accordance with the jeopardy standard under Section 7(a)(2).

The information provided in the previous sections applies to all the following discussions of benefits of inclusion or exclusion of critical habitat.

Application of Section 4(b)(2)—Other Relevant Impacts—Conservation Partnerships

Section 4(b)(2) of the Act allows the Secretary to exclude areas from critical habitat for other relevant impacts if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless he determines, based on the best scientific data available, that the failure to designate such area as critical habitat will result in the extinction of the species. As discussed above in the "Conservation Partnerships on Non-Federal Lands" section, we believe that designation can negatively impact the working relationships and conservation partnerships we have formed with private landowners. The Service recognizes that 80 percent of endangered or threatened species occur either partially or solely on private lands (Crouse et al. 2002) and we will only achieve recovery of federally listed species with the cooperation of private landowners.

In making the following exclusions, we evaluated the benefits of designating these non-Federal lands that may not have a Federal nexus for consultation while considering if our existing partnerships have, or will, result in greater conservation benefits to the San Bernardino kangaroo rat and the physical or biological features essential to its conservation than a critical habitat designation. As discussed in the "Benefits of Designating Critical Habitat" section above, conservation partnerships that result in implementation of an HCP or other management plan that considers enhancement or recovery as the management standard often provide as much or more benefit than consultation for critical habitat designation (the primary benefit of a designation).

In considering the benefits of including lands in a designation that are covered by a current HCP or other management plan, we evaluate a number of factors to help us determine if the plan provides equivalent or greater conservation benefit than would

likely result from consultation on a designation:

(1) Whether the plan is complete and provides protection from destruction or adverse modification;

(2) Whether there is a reasonable expectation that the conservation management strategies and actions will be implemented for the foreseeable future, based on past practices, written guidance, or regulations; and

(3) Whether the plan provides conservation strategies and measures consistent with currently accepted principles of conservation biology.

We balance the benefits of inclusion against the benefits of exclusion by considering the benefits of preserving partnerships and encouraging development of additional HCPs and other conservation plans in the future.

Woolly-Star Preserve Area (WSPA) Management Plans

Approximately 751 ac (304 ha) of the 765-ac (310 ha) WSPA is within proposed critical habitat Unit 1. The WSPA is within the 100- to 500-year floodplain of the upper Santa Ana River immediately downstream from the Seven Oaks Dam. The WSPA was established in 1988 by the ACOE as part of the conservation measures developed through a section 7 consultation to address impacts to the federally endangered *Eriastrum densifolium* ssp. *sanctorum* resulting from construction of the Seven Oaks Dam (Service File: 1–6–88–F–6, June 22, 1989). The San Bernardino County Flood Control District, Orange County Flood Control Division, and Riverside County Flood Control and Water Conservation District are responsible for the operation of the Seven Oaks Dam.

A management plan for *Eriastrum densifolium* ssp. *sanctorum* was prepared in coordination with the Service, California Department of Fish and Game, ACOE, and the flood control districts (Chambers Group, Inc. 1993). The 1993 Management Plan for the Santa Ana River Woolly-Star was created to be implemented on the 765-ac (310-ha) WSPA (Chambers Group, Inc. 1993, p. 2). This plant inhabits early and intermediate successional stages of alluvial fan scrub habitat, which are the preferred habitat areas for the San Bernardino kangaroo rat. The overall strategy for the management plan on WSPA lands is to avoid physical disturbances to alluvial habitat and to allow for disturbances by natural processes (Chambers Group, Inc. 1993, p. 3–1). The 1993 Management Plan for *E. d.* ssp. *sanctorum* includes a description of management tasks, which are currently being implemented, that benefit habitat for *E. d.* ssp. *sanctorum*. Implementation of the plan is carried out by the flood control districts identified above. Though not addressed directly by the plan, these management tasks benefit the San Bernardino kangaroo rat as well. These management tasks include: Identification and implementation of habitat renewal methods; control of exotic species; reduction of off-road vehicle activity, trash dumping, and other negative human impacts; and a public awareness program (Chambers Group, Inc. 1993, p. 3–2). Lands within the WSPA were placed under a conservation easement that is jointly held by the flood control districts of San Bernardino, Riverside, and Orange counties (Lovell 2007, p. 1). Since the inception of the 1993 Management Plan for the Santa Ana River Woolly-Star, ongoing biological studies and management tasks have been conducted on the WSPA to increase understanding of *E. d.* ssp. *sanctorum* habitat (alluvial scrub) and habitat renewal and to increase the quality of alluvial habitat. Studies and management tasks involve population and habitat monitoring, along with habitat renewal and population expansion of *E. d.* ssp. *sanctorum* (PSOMAS and CSUF 2004, p.1). These ongoing efforts help to ensure not only the conservation of *E. d.* ssp. *sanctorum*, but alluvial habitat in general and the native plants and animals that depend on this habitat, including the San Bernardino kangaroo rat.

The ACOE, San Bernardino County Flood Control District, Orange County Flood Control Division, and Riverside County Flood Control and Water Conservation District have committed to the development and implementation of a Multiple Species Habitat Management Plan (MSHMP) for the WSPA that will update the 1993 plan and include habitat management specifically for the San Bernardino kangaroo rat and the federally endangered *Dodecahema leptoceras* as part of the conservation measures proposed during consultation regarding the effects of operation and maintenance of the dam on *Eriastrum densifolium* ssp. *sanctorum*, *D. leptoceras* and the San Bernardino kangaroo rat. The goals of the draft MSHMP specific to the San Bernardino kangaroo rat include: (1) Maintenance and/or expansion of the current subspecies distribution within the WSPA; (2) optimization of habitat conditions; and (3) maintenance and/or enhancement of populations of the San Bernardino kangaroo rat within the WSPA.

General objectives of the MSHMP in support of the San Bernardino kangaroo rat management goals are to (1) monitor the San Bernardino kangaroo rat and relevant habitat elements according to standardized protocols; (2) conduct studies to fill gaps in knowledge related to subspecies biology and habitat; (3) measure San Bernardino kangaroo rat response to experimental habitat treatments and potential management measures; (4) establish priority of areas for implementation of habitat management to maintain or enhance suitability for the subspecies; and (5) refine management measures over time using an adaptive management framework. Information gathered through the implementation of the MSHMP will be used to support science-based management decisions and evaluation of management success. Various potential management alternatives may be implemented such as protective management, disturbance control, nonnative grass control, habitat enhancement and restoration, and habitat renewal. The management of this area is anticipated to help to maintain and protect alluvial wash and upland habitat (PCEs 1, 2, and 3) required by the San Bernardino kangaroo rat. The MSHMP is currently in draft form and will replace the 1993 management plan. The MSHMP will be reviewed by the resource agencies for their concurrence prior to implementation (Service 2002b, p. 8). The ACOE, San Bernardino County Flood Control District, Orange County Flood Control Division, and Riverside County Flood Control and Water Conservation District are responsible for the development and implementation of the MSHMP.

Protocol surveys (live-trapping) conducted during 2005 and 2006 confirm that portions of the WSPA are currently occupied by the San Bernardino kangaroo rat (Service, unpublished Geographic Information System data), and habitat surveys suggest that much of this area is likely to support the San Bernardino kangaroo rat (MEC Analytical Systems, Inc. 2000, fig. 24). Ongoing surveys and habitat management to benefit the San Bernardino kangaroo rat are anticipated as part of the MSHMP currently in development. The Service is working with the ACOE and their biological consultants on baseline subspecies surveys and trials of habitat manipulations, and management practices followed by trapping surveys to show both density and distribution of the San Bernardino kangaroo rat within the WSPA. These actions are being undertaken as part of the development of a final MSHMP.

commenter's claim that no reasonable amount of management efforts could make this land suitable for the subspecies or connect San Bernardino kangaroo rats in these areas with the Lytle Creek wash population; this area is occupied, connected, and the essential features may require special management considerations or protection.

Comment 26: Two commenters stated that social, economic, and policy considerations in the context of the Act's section 4(b)(2) balancing test support excluding a larger area from the designation in two areas within the Lytle Creek wash. The commenters suggested that there are various benefits to excluding Lytle Development Company (LDC) lands from the critical habitat designation. The commenters stated that removing critical habitat from these areas would allow LDC to develop its proposed Lytle Creek Ranch project. The commenters further stated that LDC would then be able, through financing generated by that project, to dedicate permanent conservation habitat for the San Bernardino kangaroo rat.

Our Response: Lands owned by LDC contain both upland and lowland alluvial scrub habitat that contains features essential to the conservation of this subspecies and we appreciate LDC's willingness to contribute to the long-term conservation of the San Bernardino kangaroo rat. However, when performing the required analysis under section 4(b)(2) of the Act, the existence of a management plan (i.e., HCP or other type) that considers enhancement or recovery of listed species as its management standard is relevant to our weighing of the benefits of inclusion versus the benefits of excluding a particular area in a critical habitat designation. In considering the benefits of including lands in a designation that are covered by a current HCP or other management plan, we evaluate a number of factors to help us determine if the plan provides equivalent or greater conservation benefit than would likely result from consultation on a designation: (1) Whether the plan is complete and provides protection from destruction or adverse modification; (2) whether there is a reasonable expectation that the conservation management strategies and actions will be implemented for the foreseeable future, based on past practices, written guidance, or regulations; and (3) whether the plan provides conservation strategies and measures consistent with currently accepted principles of conservation biology. Because habitat was not set aside and a management plan not completed that is consistent with the above factors, we determined that the exclusion of these areas under section 4(b)(2) of the Act based in part on potential future conservation would be inappropriate. Further, we do not believe the relative economic impact outweighed the conservation benefits of including these lands in the critical habitat designation.

Comment 27: One commenter stated that the proposed rule somewhat mischaracterizes the existing LDC restoration and conservation program. The commenter stated that the program is managing all 217 ac (88 ha) to benefit the San Bernardino kangaroo rat (not just 40 ac (16 ha)) within the protected conservation area.

Our Response: We acknowledge the conservation efforts of LDC, and in response to this comment we revised and supplemented the discussion of the LDC conservation areas in this final rule. Please see the "Unit Descriptions" section below for more information.

Comment 28: One commenter stated that additional losses of habitat for the San Bernardino kangaroo rat are slated to occur and gave the example that the City of Highland is proceeding with a number of projects within currently designated and proposed critical habitat. The commenter stated that these further reductions in the animal's habitat underscore the need to identify all extant areas where the subspecies exists and to include all occupied habitat in the final revised critical habitat designation. A second commenter stated that areas proposed by Orange County Flood Control District and the City of Highland for development of 3,000 homes and a highway through Mill Creek Wash lie within the proposed critical habitat boundary. A third commenter stated that the same 3,000-home project would be placed in an area that is one of the only places in Unit 1 (Mill Creek Wash) that still retains fluvial input.

Our Response: We are not currently in consultation on the proposed projects mentioned in the comment above. Any project involving a Federal nexus which may affect a federally listed species or designated critical habitat would require consultation with the Service to ensure such actions would not jeopardize the continued existence of the species or destroy or adversely modify critical habitat (see the "Critical Habitat" section of this final rule for a detailed discussion). The designation of critical habitat does not affect projects that do not have a Federal nexus; however, if a project may result in take of a federally listed species, then the project proponent would need to obtain an incidental take permit from the Service to be in compliance with the Act. Mill Creek is important to the recovery of the subspecies as it is the only large stretch of contiguous, occupied habitat for the San Bernardino kangaroo rat within Unit 1 that is not fragmented by development (e.g., roads, aggregate mining pits). Furthermore, Mill Creek is the only remaining source of alluvial sediments within Unit 1 that has not been significantly altered by flood control structures, water diversions, or other activities. Although we did not include the majority of Mill Creek in our June 19, 2007, proposed revision to critical habitat, we have since re-evaluated Mill Creek as described in the April 16, 2008, NOA in light of several substantive public comments recommending the inclusion of Mill Creek as critical habitat. We are including approximately 388 ac (157 ha) of Mill Creek in the final revised designation (see the "Summary of Changes From the 2007 Proposed Rule To Revise Critical Habitat" section of this final rule for more information).

As discussed in our response to comment 6 above, under section 3(5)(C) of the Act, critical habitat shall not include the entire geographical area which can be occupied by the species unless otherwise determined by the Secretary. In developing the proposed rule to revise critical habitat, we considered the geographical area occupied by the subspecies at the time of listing, and within that broad geographical area, identified those areas that, based on the best available scientific and commercial data, contain the physical and biological features essential to the subspecies' conservation. We recognize that our designation of critical habitat for the San Bernardino kangaroo rat does not encompass all known occurrences of this subspecies as noted by the commenter. Although we are not designating all known occurrences of the San Bernardino kangaroo rat, we believe that our final designation is adequate to ensure the conservation of this subspecies throughout its extant range based on the best available information at this time.

Comment 29: One commenter stated that any revisions to designated critical habitat as proposed in the June 19, 2007, proposed rule (72 FR 33808) are premature because they fail to consider several ongoing Federal processes that directly affect the San Bernardino kangaroo rat. The commenter specifically identified the Wash Plan (or Plan B) as a multiple species HCP process occurring in the Santa Ana River wash area, to address conservation

The 1998 final listing rule for the San Bernardino kangaroo rat identified habitat loss, destruction, degradation, and fragmentation due to sand and gravel mining operations, flood control projects, and urban development as primary threats to the San Bernardino kangaroo rat. As described above, the WSPA Management Plans have provided and will continue to provide enhancement of the habitat by removing or reducing threats to this subspecies and the PCEs. The WSPA Management Plans preserve habitat that supports identified core populations of this subspecies and, therefore, provide for recovery.

In the 1998 final listing rule, we discussed that the area set aside by the ACOE as mitigation (i.e., the WSPA) for the then proposed Seven Oaks Dam project was not adequate to conserve this subspecies. We stated that the conserved area only represents approximately 4 percent of the alluvial scrub in the area. We also stated in the listing rule that the majority of the conserved habitat will no longer receive the hydrological scouring considered necessary to maintain alluvial scrub habitat. Although this may be true of the Santa Ana River, Mill Creek is not impeded by dams and is the primary source of sediment and alluvial processes to this area. The primary objective of the existing WSPA and the additional conservation measures outlined in the Biological Assessment for the Seven Oaks Dam, Santa Ana River Mainstem Project (August 2000) is to compensate for potential changes in floodplain characteristics and listed species' (including the San Bernardino kangaroo rat) habitat brought about by construction and operation of Seven Oaks Dam (Service 2002b, p. 7). These WSPA lands are currently designated as critical habitat. For these reasons, we determined that the WSPA is important to the subspecies and the associated management plans adequately conserve habitat for the San Bernardino kangaroo rat. Based on the reasoning provided below, we excluded from Unit 1 the approximately 751 ac (304 ha) of non-Federal lands within the WSPA Management Plans area from the final revised critical habitat designation under section 4(b)(2) of the Act.

Benefits of Inclusion—Woolly-Star Preserve Area (WSPA) Management Plans

The inclusion of approximately 751 ac (304 ha) of WSPA lands in the revised critical habitat designation could be beneficial because it identifies lands to be managed for the conservation of the San Bernardino kangaroo rat. The process of proposing and finalizing the revised critical habitat rule provided the Service with the opportunity to evaluate and refine the features or PCEs essential to the conservation of the subspecies within the geographical area occupied by the San Bernardino kangaroo rat at the time of listing, as well as to evaluate whether there are other areas essential for the conservation of the subspecies. The designation process included peer review and public comment on the identified features and areas. This process is valuable to land owners and managers in developing conservation management plans for identified areas, as well as any other occupied habitat or suitable habitat that may not have been included in the Service's determination of essential habitat. However, identification of important habitat and habitat features for the San Bernardino kangaroo rat within the area covered by the WSPA Management Plans and efforts to conserve the subspecies and its habitat were initiated prior to the proposed revised critical habitat rule and will continue into the future.

The educational benefits of designation are small and largely redundant to those derived through conservation efforts currently being planned and implemented in the WSPA. The process of developing the WSPA Management Plans has involved several partners including (but not limited to) flood control districts of San Bernardino, Riverside, and Orange counties, California Department of Fish and Game, ACOE, and the Service.

The educational benefits of critical habitat designation derived through informing WSPA partners and other members of the public of areas important for the long-term conservation of this subspecies have already been and continue to be achieved through: (1) Development of the WSPA Management Plans; (2) the original designation process in 2002; and (3) publication of the proposed revisions to critical habitat in 2008, notices of public comment periods, and the public hearings.

The consultation provisions under section 7(a) of the Act constitute the regulatory benefits of inclusion for critical habitat. As discussed above, Federal agencies must consult with us on actions that may affect critical habitat and must avoid destroying or adversely modifying critical habitat. All of the approximately 751 ac (304 ha) of WSPA lands in Unit 1 that are being excluded are on private property, with the potential Federal nexus for the San Bernardino kangaroo rat as a result of actions by the ACOE associated with the Santa Ana River in the area. Therefore, including this area would provide some regulatory benefits under section 7(a) of the Act.

However, the WSPA Management Plans address conservation issues from a coordinated, integrated perspective rather than a piecemeal project-by-project approach that could result in this area absent these plans, and the plans will achieve more San Bernardino kangaroo rat conservation than would be achieved through such multiple site-by-site, project-by-project, section 7 consultations involving consideration of critical habitat. Furthermore, the WSPA Management Plans include proactive monitoring and management of conserved lands (as previously described), thereby reducing known threats to the San Bernardino kangaroo rat and its habitat. These measures provide assurance that the features essential to the conservation of the San Bernardino kangaroo rat within the WSPA will be permanently protected and managed to conserve this subspecies. In light of the conserved status of the lands and the potential piecemeal project-by-project approach for future section 7 consultations on these lands, we conclude that the potential regulatory benefit of designating this area as critical habitat is minimal. The WSPA Management Plans provide as much or more benefit than a consultation for critical habitat designation conducted under the standards required by the Ninth Circuit in the *Gifford Pinchot* decision.

Benefits of Exclusion—Woolly-Star Preserve Area (WSPA) Management Plans

Multi-jurisdiction management plans (such as the 1993 WSPA Management Plan and the draft MSHMP that is being developed) foster an ecosystem-based approach for habitat conservation planning purposes. Once such an ecosystem-based management plan is developed (similar to the HCP conservation planning process), conservation issues can be addressed through a coordinated approach. Coordinating landscape-scale conservation with the flood control districts and the ACOE will assist in the preservation of interconnected linkage areas and populations that support recovery of the subspecies. We believe that the benefits of excluding lands under the scenario described above are: (1) Retaining and fostering the existing partnership and working relationship with all stakeholders; and (2) encouraging future regional habitat management plans or HCP development or development of other species/habitat

conservation plans. Additionally, exclusion of the existing WSPA (which is being incorporated into the draft MSHMP) demonstrates our good faith effort to work productively with non-Federal entities, which should encourage initiation and completion of other multi-jurisdiction management plans. Designation of lands covered by the WSPA Management Plan may discourage other landowners or flood control districts from seeking or completing similar conservation efforts.

We developed a working relationship with the San Bernardino County Flood Control District, Orange County Flood Control Division, and Riverside County Flood Control and Water Conservation District through the development of the 1993 WSPA Management Plan and the draft MSHMP that is being developed, which incorporates appropriate protections and management for the San Bernardino kangaroo rat, its habitat, and the features essential to the conservation of this subspecies. By excluding 751 ac (304 ha) of lands in Unit 1 from designation, we are eliminating an essentially redundant layer of regulatory review for projects covered by the WSPA Management Plans, enhancing our working relationship with the flood control districts, and encouraging new partnerships with other water districts, landowners, and jurisdictions. We believe these partnerships are critical for the conservation of the San Bernardino kangaroo rat.

The Benefits of Exclusion Outweigh the Benefits of Inclusion—Woolly-Star Preserve Area (WSPA) Management Plans

We reviewed and evaluated the proposed designation of essential habitat in the WSPA and determined that the benefits of excluding critical habitat on 751 ac (304 ha) of land in the WSPA outweigh the benefits of designating these lands as critical habitat. This area is protected by a conservation easement jointly held by the flood control districts of San Bernardino, Riverside, and Orange counties. Because these lands are part of an established conservation easement, they are protected and include permanent management that is funded by an endowment. These measures provide assurance that the features essential to the conservation of the San Bernardino kangaroo rat at the WSPA will be permanently protected and managed to conserve this subspecies.

As discussed in the "Benefits of Exclusion" section above, we developed a close working relationship with the participating flood control districts responsible for the WSPA Management Plans through the development of those plans, which incorporate appropriate protections and management of this subspecies' essential physical and biological features. Those protections are consistent with the mandates under section 7 of the Act to avoid destruction or adverse modification of critical habitat and go beyond that prohibition by including active management and protection of essential habitat areas. Designation of critical habitat alone does not achieve recovery or require management of those lands identified in the critical habitat rule. We believe that the recovery benefits of excluding the WSPA lands and implementing the WSPA Management Plans outweigh the recovery benefits of retaining these lands as critical habitat. Furthermore, the benefits to recovery of inclusion primarily have already been met through the identification of those areas most important to the subspecies. By excluding these lands from designation, we are eliminating a largely redundant layer of regulatory review for a limited set of projects on non-Federal lands that are addressed by the management plans, and we are helping to preserve our ongoing partnership with the WSPA Management Plan participants and encourage new partnerships with other landowners and jurisdictions. The minimal educational and potential regulatory benefits of including the WSPA lands in critical habitat are small when compared to the impact such a designation could have on our current and future partnerships. These partnerships are integral to achieving long-term conservation of the San Bernardino kangaroo rat. Designating critical habitat on non-Federal lands within areas covered by the WSPA Management Plans could have a detrimental effect to our partnership with the plan participants and could be a significant disincentive to the establishment of future partnerships and management plans with other partners.

We reviewed and evaluated the exclusion of the approximately 751 ac (304 ha) of non-Federal lands in Unit 1 covered by the WSPA Management Plans from the final revised critical habitat designation for the San Bernardino kangaroo rat and determined that the benefits of excluding these lands outweigh the benefits of including them. As discussed above, the WSPA Management Plans will provide for significant preservation and management of the physical and biological features essential to the conservation of the San Bernardino kangaroo rat and will help reach the recovery goals for this subspecies.

Exclusion Will Not Result in Extinction of the Subspecies—Woolly-Star Preserve Area (WSPA) Management Plans

We determined that the exclusion of the non-Federal lands within the area covered by the WSPA Management Plans from the final revised designation of critical habitat for the San Bernardino kangaroo rat will not result in the extinction of the subspecies. The WSPA Management Plans provide protection and management in perpetuity of lands within Unit 1, including the physical and biological features essential to the conservation of the San Bernardino kangaroo rat. Additionally, the jeopardy standard of section 7 of the Act and routine implementation of conservation measures through the section 7 process provide assurances that the subspecies will not go extinct as a result of this exclusion.

Former Norton Air Force Base Conservation Management Plan (CMP)

The Norton Air Force Base in Unit 1 was formally transferred to private ownership in 2003. Prior to closure, the U.S. Air Force completed installation remediation that included the closure of an area known as "Landfill 2." In accordance with conservation measures outlined in our November 26, 1996, biological opinion (1–6–96–F–10) on the closure of Landfill 2, the U.S. Air Force developed a management plan (the Former Norton Air Force Base CMP, completed in 2002) for approximately 267 ac (108 ha) of habitat occupied by the San Bernardino kangaroo rat in the Santa Ana River wash area (Unit 1). Approximately 54 ac (22 ha) in two parcels were designated Core Management Areas (CMA–1 and CMA–2), and 214 ac (87 ha) comprise an Open Space Management Area (OSMA). Under the CMP completed in March 2002, these areas are managed specifically for the San Bernardino kangaroo rat and *Eriastrum densifolium* ssp. *sanctorum* (U.S. Air Force 2002, pp. 1–4).

CMA–1 (approximately 29 ac (12 ha)) and CMA–2 (approximately 25 ac (10 ha)) are located along the southern edge of the OSMA. CMA–1 includes both floodplain habitat on the 'wet' side of an existing flood control levee and fenced upland habitat behind the levee along the northern edge of the Santa Ana River. CMA–2 is located entirely within the Santa Ana River floodplain. Approximately 13 ac (5 ha) of CMA–2 are owned by the Inland Valley Development Agency and the remainder of the CMA lands and the OSMA are owned by the San Bernardino International Airport Authority (SBIA

Authority). These areas provide important upland habitat that supports individual San Bernardino kangaroo rats necessary to re-populate the active floodplain following large-scale floods that scour out lower-elevation terrace habitat adjacent to the active river channel (Service 2003b, p. 18) (PCE 3). Lands within these CMAs are to be permanently protected by conservation easements (U.S. Air Force 2002, p. 5–11). The CMAs are adjacent to the approximately 214-acre (87-hectare) OSMA that surrounds the existing runway of the SBIA.

The OSMA is an aircraft over-run area that is managed in accordance with Federal Aviation Administration (FAA) guidelines for such lands. However, the SBIA Authority manages the OSMA in such as a way as to minimize adverse impacts to the San Bernardino kangaroo rat as described in the CMP and our biological opinion issued for the base closure (FWS–SB–1723.10, August 5, 2003). The 214-acre (87-hectare) OSMA is in the immediate vicinity of the eastern runway, and safety regulations require that most of this land remain undeveloped (U.S. Air Force 2002, p. 5–5). The OSMA is protected from flooding by levees, but routine mowing required by the FAA keeps vegetation from becoming dense and senescent, which creates open habitat that may be suitable for San Bernardino kangaroo rats (Service 2003b, p. 17). No disking or other ground disturbance is allowed within the OSMA area and implementation of the prescribed mowing regime is unlikely to result in crushing of San Bernardino kangaroo rat burrows (Service 2003b, p. 18).

Upon closure of the Former Norton Air Force Base in 2003, the SBIA Authority and the Inland Valley Development Agency assumed responsibility for the management of the CMAs pursuant to the CMP (Service 2003b, p. 6). Management practices currently conducted on SBIA Authority and Inland Valley Development Agency property are described in the CMP and include (1) subspecies monitoring every 2 to 3 years following the Service-approved protocol, (2) vegetation surveys and adaptive control of invasive weedy plants, (3) trash removal, and (4) installation of protective signage and maintenance of barriers to reduce and prevent trespassing (U.S. Air Force 2002, pp. 5–11). In accordance with the CMP, the SBIA Authority provides us with annual reports regarding the status of the CMP and OSMA (documents on file at the Carlsbad Fish and Wildlife Office). The SBIA Authority routinely removes exotic or weedy plant species within the CMAs, controls coyote access to fenced portions of CMA–1 and the OSMA, which reduces predation on the San Bernardino kangaroo rat in these areas, removes all dumped trash as soon as possible in accordance with the CMP and FAA guidelines, and promptly addresses any trespass issues as needed (e.g., fence and sign repairs). Human activities incompatible with the purpose of the CMAs are restricted (U.S. Air Force 2002, pp. 5–12). These management actions and the eventual placement of a conservation easement on the CMA parcels are anticipated to ensure that habitat containing the PCEs for the San Bernardino kangaroo rat is conserved within the CMAs and the OSMA through the protection and management of alluvial washes and upland habitat (PCEs 1, 2, and 3) required by the subspecies.

The 1998 final listing rule for the San Bernardino kangaroo rat identified the following primary threats to the San Bernardino kangaroo rat: habitat loss, destruction, degradation, and fragmentation due to sand and gravel mining operations; flood control projects; and urban development. As described above, the Former Norton Air Force Base CMP provides enhancement of the habitat by removing or reducing threats to this subspecies and the PCEs. The CMP preserves habitat that supports identified core populations of this subspecies and therefore provides for recovery. Based on the reasoning provided below, we excluded from Unit 1 the approximately 267 ac (108 ha) of non-Federal lands within the Former Norton Air Force Base CMP area from the final revised critical habitat designation under section 4(b)(2) of the Act.

Benefits of Inclusion—Former Norton Air Force Base Conservation Management Plan (CMP)

The inclusion of approximately 267 ac (108 ha) of non-Federal lands within CMA–1 and CMA–2 (of the Former Norton Air Force Base) in the revised critical habitat designation could be beneficial because it identifies lands to be managed for the conservation of the San Bernardino kangaroo rat. The process of proposing and finalizing the revised critical habitat rule provided the Service with the opportunity to evaluate and refine the features or PCEs essential to the conservation of the subspecies within the geographical area occupied by the San Bernardino kangaroo rat at the time of listing, as well as to evaluate whether there are other areas essential for the conservation of the subspecies. The designation process included peer review and public comment on the identified features and areas. This process is valuable to land owners and managers in developing conservation management plans for identified areas, as well as any other occupied habitat or suitable habitat that may not have been included in the Service's determination of essential habitat.

The educational benefits of designation are small and largely redundant to those derived through conservation efforts currently being implemented in the approximately 267 ac (108 ha) of lands within CMA–1 and CMA–2. The process of developing the CMP has involved several partners including (but not limited to) the U.S. Air Force, SBIA Authority, Inland Valley Development Agency, and the Service.

The educational benefits of critical habitat designation derived through informing our partners and other members of the public of areas important for the long-term conservation of the San Bernardino kangaroo rat have already been and continue to be achieved through: (1) Development and implementation of the CMP; (2) the original designation process in 2002; and (3) publication of the proposed revisions to critical habitat in 2008, notices of public comment periods, and the public hearings.

The consultation provisions under section 7(a) of the Act constitute the regulatory benefits of inclusion for critical habitat. As discussed above, Federal agencies must consult with us on actions that may affect critical habitat and must avoid destroying or adversely modifying critical habitat. All of the approximately 267 ac (108 ha) of CMA–1 and CMA–2 lands in Unit 1 that are being excluded are on private property, with the potential Federal nexus for the San Bernardino kangaroo rat as a result of actions by the ACOE associated with Santa Ana River in the area or actions by the Federal Aviation Administration. Therefore, including this area would provide some regulatory benefits under section 7(a) of the Act.

However, the Former Norton Air Force Base CMP addresses conservation issues from a coordinated, integrated perspective rather than a piecemeal project-by-project approach that could result in this area absent this plan, and will achieve more San Bernardino kangaroo rat conservation than would be achieved through such multiple site-by-site, project-by-project, section 7 consultations involving consideration of critical habitat. The permanent conservation of these lands (i.e., conservation easement) is currently in progress. Furthermore, the CMP includes proactive monitoring and management of conserved lands (as

previously described), thereby reducing known threats to the San Bernardino kangaroo rat and its habitat. These measures provide assurance that the features essential to the conservation of the San Bernardino kangaroo rat within the CMAs will be protected and managed to conserve this subspecies. In light of the progress made to establish conservation easements on these lands and the potential piecemeal project-by-project approach for future section 7 consultations that may occur on these lands, we conclude that the potential regulatory benefit of designating this area as critical habitat is minimal. The CMP provides as much or more benefit than a consultation for critical habitat designation conducted under the standards required by the Ninth Circuit in the *Gifford Pinchot* decision.

Benefits of Exclusion—Former Norton Air Force Base Conservation Management Plan (CMP)

The exclusion of the Former Norton Air Force Base CMP lands from critical habitat will help preserve and foster the partnerships that we developed with the Inland Valley Development Agency and SBIA Authority, and aid in encouraging other landowners to participate in conservation planning. Excluding the existing CMP lands demonstrates our good faith effort to work productively with non-Federal entities, which should encourage initiation and completion of conservation plans. As discussed above, many landowners and local jurisdictions perceive critical habitat being designated on lands covered by existing conservation plans as an unfair and unnecessary regulatory burden given the expense and time involved in developing and implementing conservation plans such as the CMP. The exclusion of this area signals to other private landowners that if they take steps to put their lands into conservation, they may avoid an additional layer of regulation, which, as we described above in the "Conservation Partnerships on Non-Federal Lands" section, sometimes acts as a disincentive for private landowners. Therefore, designation of lands covered by the CMP participants may discourage other landowners from seeking or completing similar conservation efforts. We believe that fostering these types of partnerships with non-Federal landowners are critical for the conservation of the San Bernardino kangaroo rat.

The Benefits of Exclusion Outweigh the Benefits of Inclusion—Former Norton Air Force Base Conservation Management Plan (CMP)

As discussed in the "Benefits of Inclusion" section, we believe that the regulatory benefit of designating critical habitat on private lands covered by the Former Norton Air Force Base CMP would be low. The CMP addresses conservation issues from a coordinated, integrated perspective rather than a piecemeal project-by-project approach and will achieve more San Bernardino kangaroo rat conservation than would be achieved through multiple site-by-site, project-by-project, section 7 consultations involving consideration of critical habitat. Furthermore, the CMP provides for the proactive monitoring and management of conserved lands (as previously described), reducing known threats to the San Bernardino kangaroo rat and its habitat.

Conservation and management of San Bernardino kangaroo rat habitat is essential to the survival and recovery of this subspecies. Such conservation needs are typically not addressed through the application of the statutory prohibition on destruction or adverse modification of critical habitat. The CMP provides as much or more benefit than a consultation for critical habitat designation conducted under the standards required by the Ninth Circuit in the *Gifford Pinchot* decision. Furthermore, educational benefits that may be derived from a critical habitat designation are minimal and largely redundant to the educational benefits achieved through significant State and local government input during the development of this management plan.

We developed a close partnership with the CMP participants through the development of this management plan that incorporates appropriate protections and management of this subspecies' essential physical and biological features. Those protections are consistent with the mandates under section 7 of the Act to avoid destruction or adverse modification of critical habitat and go beyond that prohibition by including active management and protection of essential habitat areas. Designation of critical habitat alone does not achieve recovery or require management of those lands identified in the critical habitat rule. We believe the recovery benefits of excluding the former Norton Air Force Base conservation lands and implementing the CMP outweigh the recovery benefits of retaining these lands as critical habitat. Furthermore, the benefits to recovery of inclusion primarily have already been met through the identification of those areas most important to the subspecies. The minimal educational and potential regulatory benefits of including the Former Norton Air Force Base lands in critical habitat are small when compared to the impact such a designation could have on our current and future partnerships. By excluding these lands from designation, we are eliminating a largely redundant layer of regulatory review for a limited set of projects on non-Federal lands that are addressed by the management plan, and we are helping to preserve our ongoing partnership with the CMP participants and to encourage new partnerships with other landowners and jurisdictions. These partnerships are critical for the conservation of the San Bernardino kangaroo rat. Designating critical habitat on non-Federal lands within areas covered by the CMP area could have a detrimental effect to our partnership with the plan participants and could be a significant disincentive to the establishment of future partnerships and management plans with other partners.

We reviewed and evaluated the exclusion of approximately 267 ac (108 ha) of non-Federal lands in Unit 1 from the designation of final revised critical habitat for the San Bernardino kangaroo rat and determined that the benefits of excluding these lands outweigh the benefits of including them. As discussed above, the CMP will provide for significant preservation and management of the physical and biological features essential to the conservation of the San Bernardino kangaroo rat and will help reach the recovery goals for this subspecies.

Exclusion Will Not Result in Extinction of the Subspecies—Former Norton Air Force Base Conservation Management Plan (CMP)

We determined that the exclusion of the non-Federal lands within the area covered by the CMP from the final revised designation of critical habitat for the San Bernardino kangaroo rat will not result in the extinction of the subspecies. The CMP provides protection and management, in perpetuity of lands within Unit 1, including the physical and biological features essential to the conservation of the San Bernardino kangaroo rat. Additionally, the jeopardy standard of section 7 of the Act and routine implementation of conservation measures through the section 7 process provide assurances that the subspecies will not go extinct as a result of this exclusion.

Cajon Creek Habitat Conservation Management Area, Habitat Enhancement and Management Plan (Cajon Creek HCMA HEMP)

The Cajon Creek HCMA, managed by Vulcan Materials Co. (formerly CalMat Co.), Western Division, was created in 1996 to offset approximately 2,270 ac (919 ha) of sand and gravel mining proposed within and adjacent to Cajon Creek. According to the HEMP for the HCMA and the associated Memorandum of Understanding and Implementation Agreement for the Cajon Creek Habitat Management Area (MOU), the HCMA includes approximately 1,378 ac (558 ha) of lands in Unit 2, which are managed to protect or restore alluvial scrub habitat within the 100-year floodplain to help conserve populations of 24 species associated with alluvial fan scrub, including the San Bernardino kangaroo rat. Pioneer, intermediate, and mature phase alluvial scrub habitats can be found in the Cajon Creek HCMA, along with all three of the PCEs required by the San Bernardino kangaroo rat (M. Blane and Associates 1996, p. 11). Recent surveys of the HCMA conducted by Vulcan Materials Co. have established that the original survey data was inaccurate and the actual size of the HCMA is 1,265 ac (512 ha), not 1,378 ac (558 ha), made up of 698 ac (282 ha) of conservation lands and a 567 ac (229 ha) conservation bank.

Of the HCMA lands, 698 ac (282 ha) were set aside to offset impacts from the proposed mining to alluvial fan sage scrub habitat and associated listed species including the San Bernardino kangaroo rat (Service 1998b, p. 2), and the 567 ac (229 ha) Cajon Creek Conservation Bank was established. These lands will be conserved and managed in perpetuity for alluvial fan scrub habitat and associated listed species (including the San Bernardino kangaroo rat) pursuant to the HEMP completed in July 1996, and the associated MOU signed on October 21, 1996 (Service 1998b, p. 2). The lands set aside to offset mining impacts were placed under a permanent conservation easement. The approximately 567 ac (229 ha) Cajon Creek Conservation Bank was placed under a 10-year conservation easement on February 16, 1998. The original intent of the Service, ACOE, and Vulcan Materials Co. was to place those lands within the bank under permanent conservation easement once all credits had been sold. The MOU addressing the permanent conservation of the Cajon Creek Conservation Bank and the conservation easement were recently extended by Vulcan Materials Co. until 2025 (Vulcan Materials Company 2006, p. 1). More than half of the total credits available within the Cajon Creek Conservation Bank have been sold (M. Blane and Associates 2006, p. 5). Those credits not purchased by the end of the term will be available for purchase by the resource agencies (i.e., Service and California Department of Fish and Game).

Habitat protection and enhancement measures are explained in the HEMP (M. Blane and Associates 1996, p. 21). Habitat protection measures are used to minimize unauthorized human intrusion and impacts associated with such intrusion (M. Blane and Associates 1996, p. 21). More specifically, protection measures involve restricted access to the HCMA to minimize off-road vehicle use, target shooting, trash dumping, and other activities that result in degradation of natural areas (M. Blane and Associates 1996, p. 25). Restrictive barriers and signage are placed along borders and near access points. Removal of unnecessary roads and subsequent revegetation of those roads further discourage unauthorized access (M. Blane and Associates 1996, p. 28). Furthermore, trash existing on HCMA lands and adjacent lands within San Bernardino County Flood Control property is removed as stated in the HEMP (M. Blane and Associates 1996, p. 28). Habitat enhancement measures are intended to restore the biological integrity of degraded alluvial scrub habitat and associated plant and animal species (including the San Bernardino kangaroo rat) within the HCMA and to protect it from further degradation (M. Blane and Associates 1996, p. 21). Specifically, habitat enhancement includes weed control involving removal of exotic plants on HCMA lands and adjacent lands and alluvial scrub revegetation activities as described in the HEMP (M. Blane and Associates 1996, p. 22). The above protection and enhancement measures ensure that alluvial fans, washes, and associated upland habitat (PCEs 1, 2, and 3) required by this subspecies are conserved.

The Cajon Creek HCMA has been and continues to be managed in accordance with the HEMP and MOU by Vulcan Materials Company, which provides us with an annual report of management activities within the HCMA. Plan implementation has resulted in revegetation of previously mined areas, trash removal and overall decrease in trash dumping, placement of signage and barriers in areas vulnerable to unauthorized access, and successful invasive weed eradication (M. Blane and Associates 2006, p. 12). The continued implementation of the Cajon Creek HCMA HEMP will ensure the long-term conservation of habitat for the San Bernardino kangaroo rat.

The 1998 final listing rule for the San Bernardino kangaroo rat identified the following primary threats to the San Bernardino kangaroo rat: habitat loss, destruction, degradation, and fragmentation due to sand and gravel mining operations; flood control projects; and urban development. As described above, the Cajon Creek Habitat Conservation Management Area HEMP provides enhancement of the habitat by removing or reducing threats to this subspecies and the PCEs. The HEMP preserves habitat that supports identified core populations of this subspecies and therefore provides for recovery. Based on the reasoning provided below, we excluded from Unit 2 the approximately 1,265 ac (512 ha) of non-Federal lands within the Cajon Creek HCMA from the San Bernardino kangaroo rat final revised critical habitat designation under section 4(b)(2) of the Act.

Benefits of Inclusion—Cajon Creek HCMA HEMP

The inclusion of approximately 1,265 ac (512 ha) of non-Federal lands within the Cajon Creek HCMA in the revised critical habitat designation could be beneficial because it identifies lands to be managed for the conservation of the San Bernardino kangaroo rat. The process of proposing and finalizing the revised critical habitat rule provided the Service with the opportunity to evaluate and refine the features or PCEs essential to conservation of the subspecies within the geographical area occupied by the San Bernardino kangaroo rat at the time of listing, as well as to evaluate whether there are other areas essential for the conservation of the subspecies. The designation process included peer review and public comment on the identified features and areas. This process is valuable to land owners and managers in developing conservation management plans for identified areas, as well as any other occupied habitat or suitable habitat that may not have been included in the Service's determination of essential habitat.

The educational benefits of designation are small and largely redundant to those derived through conservation efforts currently being implemented in the approximately 1,378 ac (558 ha) of lands within the Cajon Creek HCMA and as a result of the development of the conservation easement and the involvement of the public and local government representatives in the day-to-day operation of the bank. The process of

projects; and urban development. As described above, the Western Riverside County MSHCP provides enhancement of the habitat by removing or reducing threats to this subspecies and the PCEs. The MSHCP preserves habitat that supports identified core populations of this subspecies and therefore provides for recovery.

Benefits of Inclusion—Western Riverside County MSHCP

The inclusion of approximately 595 ac (241 ha) of permittee-owned or controlled lands within the Western Riverside County MSHCP could be beneficial because it identifies lands that require management for conservation of the San Bernardino kangaroo rat. The process of proposing and finalizing the revised critical habitat rule provided the Service with the opportunity to evaluate and refine the features or PCEs essential to the conservation of the subspecies within the geographical area occupied by the San Bernardino kangaroo rat at the time of listing, as well as to evaluate whether there are other areas essential for the conservation of the subspecies. The designation process included peer review and public comment on the identified features and areas. This process is valuable to land owners and managers in developing conservation management plans for identified areas, as well as any other occupied habitat or suitable habitat that may not have been included in the Service's determination of essential habitat.

The educational benefits of designation are small and largely redundant to those derived through conservation efforts currently being planned and implemented in the approximately 595 ac (241 ha) of permittee-owned or controlled lands within the Western Riverside MSHCP. As described above, the process of developing the Western Riverside County MSHCP has involved several partners including (but not limited to) the participating jurisdictions, California Department of Fish and Game, and Federal agencies. The educational benefits of critical habitat designation derived through informing Western Riverside County MSHCP partners and other members of the public of areas important for the long-term conservation of this subspecies have already been and continue to be achieved through: (1) Development of the HCP; (2) the original designation process in 2002; and (3) publication of the proposed revisions to critical habitat in 2008, notices of public comment periods, and the public hearings.

The consultation provisions under section 7(a) of the Act constitute the regulatory benefits of inclusion for critical habitat. As discussed above, Federal agencies must consult with us on actions that may affect critical habitat and must avoid destroying or adversely modifying critical habitat. There is the potential for future activities within the lands being excluded having a Federal nexus for the San Bernardino kangaroo rat as a result of actions by ACOE and the Federal Highways Administration. Therefore, including this area may provide some regulatory benefits under section 7(a) of the Act.

However, the Western Riverside County MSHCP addresses conservation issues from a coordinated, integrated perspective rather than a piecemeal, project-by-project approach (as would occur on these lands under sections 7 and 10 of the Act absent this regional plan) and will achieve more San Bernardino kangaroo rat conservation in the Western Riverside County MSHCP plan area than we would through section 7 consultations involving consideration of critical habitat. The PCEs required by the San Bernardino kangaroo rat will benefit by the conservation measures outlined in the Western Riverside County MSHCP. In summary, these conservation measures include: Preservation of high quality habitat; monitoring and management of preserve lands; restoration and enhancement of habitat; minimization of project impacts; education of the public and state and local governments; and conservation of partnerships. Such measures will remove or reduce known threats to the San Bernardino kangaroo rat and its PCEs in Unit 3 and Unit 5. The Western Riverside County MSHCP will ensure conservation and management actions take place that are not required by critical habitat designation (see "Benefits of Designating Critical Habitat" section above). For example, critical habitat designation does not ensure: Habitat enhancement and restoration; functional connections to adjoining habitat; or monitoring of the San Bernardino kangaroo rat (see discussion above).

In light of the preferable regional scale of conservation planning utilized in the development of the Western Riverside County MSHCP and the conservation that has and will occur under the Western Riverside County MSHCP, we conclude that the potential regulatory benefit of designating these areas in Unit 3 and Unit 5 as critical habitat is minimal.

Benefits of Exclusion—Western Riverside County MSHCP

Regional and subregional HCPs foster an ecosystem-based approach to habitat conservation planning, and once developed, conservation issues are addressed through a coordinated approach. However, these large and often costly regional plans are voluntary for the local jurisdiction that pursue this approach, in the sense that they could require landowners (e.g., homeowners, developers) to consult with the Service individually for a section 10 permit. As a result, the local jurisdiction would incur no costs associated with the landowner's need for a section 10 permit, requiring the landowner to obtain this permit prior to issuance of a building permit. However, this approach would result in uncoordinated, "patchy" conservation that would likely not further the recovery of federally listed species. Rather, by voluntarily developing these regional plans (versus individual landowner HCPs), the coordinated landscape-scale conservation results in preservation of interconnected linkage areas and populations that support recovery of listed species. We recognize that once an HCP is permitted, implementation of the conservation measures is not voluntary in order for permittees to receive incidental take coverage. However, the benefits of excluding lands under the scenario described above are: (1) Retaining and fostering the existing partnership and working relationship with all stakeholders; and (2) encouraging future regional HCP development or development of other species/habitat conservation plans. Additionally, exclusion of a HCP (such as the Western Riverside County MSHCP) demonstrates our good faith effort and working relationships, which should encourage initiation and completion of other HCPs.

We developed close partnerships with all participating entities through the development of the Western Riverside County MSHCP, which incorporates appropriate protections and management for the San Bernardino kangaroo rat, its habitat, and the features essential to the conservation of this subspecies. By excluding 595 ac (241 ha) of lands in Unit 3 and Unit 5 from designation, we are eliminating an essentially redundant layer of regulatory review for projects covered by the Western Riverside County MSHCP, helping to preserve our ongoing partnership with HCP participants, and encouraging new partnerships with other landowners and jurisdictions. These partnerships with HCP

participants are critical for the conservation of the San Bernardino kangaroo rat.

Benefits of Exclusion Outweigh the Benefits of Inclusion—Western Riverside County MSHCP

As discussed in the "Benefits of Inclusion" section above, we believe the regulatory benefit of designating critical habitat on private lands and permittee-owned PQP lands covered by the Western Riverside County MSHCP would be low. The Western Riverside County MSHCP addresses conservation issues from a coordinated, integrated perspective rather than a piecemeal project-by-project approach and will achieve more San Bernardino kangaroo rat conservation than we would achieve through multiple site-by-site, project-by-project, section 7 consultations involving consideration of critical habitat.

Conservation and management of San Bernardino kangaroo rat habitat is essential to the survival and recovery of this subspecies. Such conservation needs are typically not addressed through the application of the statutory prohibition on destruction or adverse modification of critical habitat. The specific conservation actions, avoidance and minimization measures, and management for the San Bernardino kangaroo rat and its PCEs provided by the Western Riverside County MSHCP exceed any conservation value provided as a result of regulatory protections that may be afforded through a critical habitat designation. The Western Riverside County MSHCP provides as much or more benefit than a consultation for critical habitat designation conducted under the standards required by the Ninth Circuit in the *Gifford Pinchot* decision. The benefits for the conservation of the San Bernardino kangaroo rat that would occur as a result of designating a small amount of as critical habitat (e.g., protection afforded through the section 7(a)(2) consultation process) are minimal compared to the overall conservation benefits for the subspecies that will be realized through the implementation of the Western Riverside County MSHCP. Furthermore, educational benefits that may be derived from a critical habitat designation are minimal and largely redundant to the educational benefits achieved through significant public, State, and local government input during the development of the Western Riverside County MSHCP.

We developed close partnerships with the 22 MSHCP permittees through the development of this regional HCP that incorporates appropriate protections and management of this subspecies' essential physical and biological features. Those protections are consistent with the mandates under section 7 of the Act to avoid destruction or adverse modification of critical habitat and go beyond that prohibition by including active management and protection of essential habitat areas. Designation of critical habitat alone does not achieve recovery or require management of those lands identified in the critical habitat rule. We believe the conservation benefits for the San Bernardino kangaroo rat that would occur as a result of designating those 595 ac (241 ha) in Unit 3 and Unit 5 as critical habitat (e.g., protection afforded through the section 7(a)(2) consultation process) is minimal compared to the overall conservation benefits for the subspecies that will be realized through the implementation of the Western Riverside County MSHCP. Furthermore, the benefits to recovery of inclusion primarily have already been met through the identification of those areas most important to the subspecies. By excluding these lands from designation, we are eliminating a largely redundant layer of regulatory review for a limited set of projects on non-Federal lands that are addressed by the MSHCP and we are helping to preserve our ongoing partnerships with the permittees and to encourage new partnerships with other landowners and jurisdictions. Those partnerships, and the landscape-level, multiple-species conservation planning efforts they promote, are critical for the conservation of the San Bernardino kangaroo rat. Designating critical habitat on non-Federal lands within the Western Riverside County MSHCP could have a detrimental effect to our partnerships with the 22 MSHCP permittees and could be a significant disincentive to the establishment of future partnerships and HCPs with other landowners.

We reviewed and evaluated the exclusion of 595 ac (241 ha) of private and permittee-owned PQP lands within the Western Riverside County MSHCP plan area from the final revised critical habitat designation for the San Bernardino kangaroo rat and determined that the benefits of excluding these lands in Unit 3 and Unit 5 outweigh the benefits of including them. As discussed above, the MSHCP will provide for significant preservation and management of habitat for and features essential to the conservation of the San Bernardino kangaroo rat and will help reach the recovery goals for this subspecies.

Exclusion Will Not Result in Extinction of the Subspecies—Western Riverside County MSHCP

In keeping with our analysis and conclusion detailed in our biological opinion for the Western Riverside County MSHCP (Service 2004, pp. 298–299), we have determined that the exclusion of 595 ac (241 ha) of private lands and permittee-owned PQP lands within the Western Riverside County MSHCP plan area from the final designation of critical habitat for the San Bernardino kangaroo rat will not result in the extinction of the subspecies. The MSHCP provides protection and management, in perpetuity, of lands that meet the definition of critical habitat, including PCEs, for the subspecies in Unit 3 and Unit 5. Additionally, the jeopardy standard of section 7 of the Act and routine implementation of conservation measures through the section 7 process provide assurances that the subspecies will not go extinct as a result of this exclusion.

Application of Section 4(b)(2)—Other Relevant Impacts—Soboba Band of Luiseño Indians Settlement Act

Hemet/San Jacinto Integrated Recharge Recovery Project

On July 31, 2008, the President signed the Soboba Band of Luiseño Indians Settlement Act (Pub. L. 110–297). As part of its obligations under the Settlement Agreement associated with this legislation, the Eastern Municipal Water District will implement an integrated water recharge and recovery program that includes the construction of recharge basins and well sites at the confluence of the San Jacinto River and Bautista Creek. This project is designed to provide water to the Soboba Band of Luiseño Indians in keeping with the Tribe's water rights. The Service issued a biological opinion to the ACOE for this project on November 16, 2006 (Service 2006, FWS–WRIV–4051.5). The ACOE reinitiated consultation for this project on January 29, 2008 (see Bautista Creek discussion under the "Summary of Changes From the 2007 Proposed Rule To Revise Critical Habitat" section of this rule for further information). The project will impact approximately 39 ac (16 ha) of land within the floodplain.

Benefits of Inclusion—Hemet/San Jacinto Integrated Recharge Recovery Project

The inclusion of 39 ac (16 ha) of Eastern Municipal Water District lands in this final revised critical habitat designation could be beneficial because it identifies lands that contain the

developing the HEMP has involved several partners including (but not limited to) CalMat Co., California Department of Fish and Game, ACOE, and the Service.

The educational benefits of critical habitat designation derived through informing our partners and other members of the public of areas important for the long-term conservation of the San Bernardino kangaroo rat have already been and continue to be achieved through: (1) Development and implementation of the HEMP; (2) the original designation process in 2002; and (3) publication of the proposed revisions to critical habitat in 2008, notices of public comment periods, and the public hearings.

The consultation provisions under section 7(a) of the Act constitute the regulatory benefits of inclusion for critical habitat. As discussed above, Federal agencies must consult with us on actions that may affect critical habitat and must avoid destroying or adversely modifying critical habitat. All of the approximately 1,265 ac (512 ha) of HCMA lands in Unit 2 that are being excluded are on private property, with the potential Federal nexus for the San Bernardino kangaroo rat as a result of actions by ACOE. Therefore, including this area would provide some regulatory benefits under section 7(a) of the Act.

However, the Cajon Creek HCMA HEMP and associated MOU provides for the conservation and management of the identified lands. The permanent conservation of these lands (i.e., conservation easement) is currently in progress. The HEMP addresses conservation issues from a coordinated, integrated perspective rather than a piecemeal project-by-project approach that could result in this area absent this plan, and will achieve more San Bernardino kangaroo rat conservation than would be achieved through such multiple site-by-site, project-by-project, section 7 consultations involving consideration of critical habitat. Furthermore, the HEMP includes proactive monitoring and management of conserved lands (as previously described), thereby reducing known threats to the San Bernardino kangaroo rat and its habitat. These measures provide assurance that the features essential to the conservation of the San Bernardino kangaroo rat within the Cajon Creek HCMA will be protected and managed to conserve this subspecies. In light of the progress made to establish conservation easements on these lands and the potential piecemeal project-by-project approach for future section 7 consultations that may occur on these lands, we conclude that the potential regulatory benefit of designating this area as critical habitat is minimal. The HEMP provides as much or more benefit than a consultation for critical habitat designation conducted under the standards required by the Ninth Circuit in the *Gifford Pinchot* decision.

Benefits of Exclusion—Cajon Creek HCMA HEMP

The Cajon Creek HCMA HEMP provides for conservation bank lands in a coordinated, integrated manner. The protection and active management of San Bernardino kangaroo rat and its essential habitat features on HCMA lands conserved the subspecies at this site and directly contributes to the survival and recovery of this species.

The exclusion of the Cajon Creek HCMA lands from critical habitat will help preserve and foster the partnerships that we developed with Vulcan Materials Co., and the California Department of Fish and Game, and aid in encouraging other landowners to participate in conservation planning. Excluding the existing Cajon Creek HCMA lands demonstrates our good faith effort to work productively with non-Federal entities, which should encourage initiation and completion of conservation plans. As discussed above, many landowners and local jurisdictions perceive critical habitat being designated on lands covered by existing conservation plans as an unfair and unnecessary regulatory burden given the expense and time involved in developing and implementing conservation plans such as the Cajon Creek HCMA HEMP. The exclusion of this area signals to other private landowners that if they take steps to put their lands into conservation, they may avoid an additional layer of regulation, which, as we described above in the "Conservation Partnerships on Non-Federal Lands" section, sometimes acts as a disincentive for private landowners. Therefore, designation of lands covered by the HEMP may discourage other landowners from seeking or completing similar conservation efforts. We believe that fostering these types of partnerships with non-Federal landowners are critical for the conservation of the San Bernardino kangaroo rat.

Benefits of Exclusion Outweigh the Benefits of Inclusion—Cajon Creek HCMA HEMP

As discussed in the "Benefits of Inclusion" section, we believe the regulatory benefit of designating critical habitat on private lands covered by the Cajon Creek HCMA HEMP would be low. The Cajon Creek HCMA HEMP addresses conservation issues from a coordinated, integrated perspective rather than a piecemeal project-by-project approach and will achieve more San Bernardino kangaroo rat conservation than would be achieved through multiple site-by-site, project-by-project, section 7 consultations involving consideration of critical habitat. Furthermore, the Cajon Creek HCMA HEMP provides for the proactive monitoring and management of conserved lands (as previously described), reducing known threats to the San Bernardino kangaroo rat or its habitat.

Conservation and management of San Bernardino kangaroo rat habitat is essential to the survival and recovery of this subspecies. Such conservation needs are typically not addressed through the application of the statutory prohibition on destruction or adverse modification of critical habitat. The Cajon Creek HCMA HEMP provides as much or more benefit than a consultation for critical habitat designation conducted under the standards required by the Ninth Circuit in the *Gifford Pinchot* decision. Furthermore, educational benefits that may be derived from a critical habitat designation are minimal and largely redundant to the educational benefits achieved through significant State and local government input during the development of this management plan.

We developed a close partnership with the Cajon Creek HCMA HEMP participants through the development of this management plan that incorporates appropriate protections and management of this subspecies' essential physical and biological features. Those protections are consistent with the mandates under section 7 of the Act to avoid destruction or adverse modification of critical habitat and go beyond that prohibition by including active management and protection of essential habitat areas. Designation of critical habitat alone does not achieve recovery or require management of those lands identified in the critical habitat rule. We believe the recovery benefits of excluding the Cajon Creek HCMA lands and implementing the HEMP outweigh the recovery benefits of retaining these lands as critical habitat. Furthermore, the benefits to recovery of inclusion primarily have already been met through the identification of those areas most important to the subspecies. The minimal educational and potential regulatory benefits of including the Cajon Creek HCMA lands in critical habitat are small when compared to the impact such a designation could have

on our current and future partnerships. By excluding these lands from designation, we are eliminating a largely redundant layer of regulatory review for a limited set of projects on non-Federal lands that are addressed by the management plan and we are helping to preserve our ongoing partnership with the Cajon Creek HCMA HEMP participants and to encourage new partnerships with other landowners and jurisdictions. Those partnerships are critical for the conservation of the San Bernardino kangaroo rat. Designating critical habitat on non-Federal lands within areas covered by the Cajon Creek HCMA HEMP could have a detrimental effect to our partnership with the plan participants and could be a significant disincentive to the establishment of future partnerships and management plans with other partners.

We reviewed and evaluated the exclusion of approximately 1,265 ac (512 ha) of non-Federal lands in Unit 2 from the designation of final revised critical habitat for the San Bernardino kangaroo rat and determined that the benefits of excluding these lands outweigh the benefits of including them. As discussed above, the Cajon Creek HCMA HEMP will provide for significant preservation and management of the physical and biological features essential to the conservation of the San Bernardino kangaroo rat and will help reach the recovery goals for this subspecies.

Exclusion Will Not Result in Extinction of the Subspecies—Cajon Creek HCMA HEMP

We determined that the exclusion of non-Federal lands within the area covered by the Cajon Creek HCMA HEMP from the final revised designation of critical habitat for the San Bernardino kangaroo rat will not result in the extinction of the subspecies. The Cajon Creek HCMA HEMP provides protection and management, in perpetuity of lands within Unit 2, including the physical and biological features essential to the conservation of the San Bernardino kangaroo rat. Additionally, the jeopardy standard of section 7 of the Act and routine implementation of conservation measures through the section 7 process provide assurances that the subspecies will not go extinct as a result of this exclusion.

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

The Western Riverside County MSHCP is a large-scale, multi-jurisdictional HCP encompassing about 1.26 million ac (510,000 ha) in western Riverside County (Units 3 and 5). The MSHCP addresses 146 listed and unlisted "covered species," including the San Bernardino kangaroo rat. Participants in the MSHCP include 14 cities; The County of Riverside, including the Riverside County Flood Control and Water Conservation Agency (County Flood Control), Riverside County Transportation Commission, Riverside County Parks and Open Space District, and Riverside County Waste Department; California Department of Parks and Recreation; and the California Department of Transportation. The Western Riverside County MSHCP was designed to establish a multi-species conservation program that minimizes and mitigates the expected loss of habitat and the incidental take of covered species. On June 22, 2004, the Service issued a single incidental take permit (TE–088609–0) under section 10(a)(1)(B) of the Act to 22 permittees under the MSHCP for a period of 75 years.

The Western Riverside County MSHCP will establish approximately 153,000 ac (61,917 ha) of new conservation lands (Additional Reserve Lands) to complement the approximate 347,000 ac (140,426 ha) of existing natural and open space areas designated by the MSHCP as Public/Quasi-Public (PQP) lands. These PQP lands include those under Federal ownership, primarily managed by the USFS and BLM, and also permittee-owned open-space areas (e.g., State parks, County Flood Control, and county park lands). Federally owned PQP lands are designated as critical habitat herein. Collectively, the Additional Reserve Lands and PQP lands form the overall Western Riverside County MSHCP Conservation Area. The precise configuration of the 153,000 ac (61,916 ha) of Additional Reserve Lands is not mapped or precisely identified in the MSHCP, but rather is based on textual descriptions of a Conceptual Reserve Design within the bounds of a 310,000 ac (125,453 ha) "Criteria Area" that is interpreted as implementation of the MSHCP proceeds.

Specific conservation objectives in the Western Riverside County MSHCP for the San Bernardino kangaroo rat include providing 4,400 ac (1,781 ha) of occupied or suitable habitat within the historical floodplains of the San Jacinto River and Bautista Creek and their tributaries in the MSHCP Conservation Area. This acreage goal can be attained through private lands within the Criteria Area that are targeted for inclusion within the MSHCP Conservation Area as potential Additional Reserve Lands and/or through coordinated management of PQP lands. Additionally, the MSHCP requires surveys for the San Bernardino kangaroo rat as part of the project review process for public and private projects where suitable habitat is present within a defined mammal species survey area (see Mammal Species Survey Area Map, Figure 6–5 of the MSHCP, Volume I). For locations with positive survey results, 90 percent of those portions of the property that provide long-term conservation value for the subspecies will be avoided until it is demonstrated that the conservation objectives for the subspecies are met (Additional Survey Needs and Procedures; MSHCP Volume 1, section 6.3.2).

The survey requirements, avoidance and minimization measures, and management for the San Bernardino kangaroo rat (and its PCEs) provided for in the Western Riverside County MSHCP exceed any conservation value provided as a result of regulatory protections that have been or may be afforded through critical habitat designation. Based on the reasoning provided below, we excluded from Unit 3 and Unit 5 the approximately 595 ac (241 ha) of private lands and permittee-owned PQP lands within the MSHCP Plan Area from the revised critical habitat designation under section 4(b)(2) of the Act. The areas excluded are in separate parcels in the San Jacinto River wash distributed between the Blackburn Road/Lake Hemet Main Canal area, downstream to the East Main Street Bridge, and in the Bautista Creek area upstream of the concrete-lined channel. Lands within these excluded areas are owned by or fall within the jurisdiction of MSHCP permittees. Projects in these areas conducted or approved by MSHCP permittees are subject to the conservation requirements of the MSHCP, including the Additional Survey Needs and Procedures policy.

Lands within the MSHCP plan area owned by Eastern Municipal Water District and Lake Hemet Municipal Water District are not subject to the conservation requirements of the MSHCP through any discretionary authority of the permittees. Therefore, 506 ac (205 ha) of lands within Unit 3 and Unit 5 owned by these two water districts are not excluded from the final revised designation under the Western Riverside County MSHCP.

The 1998 final listing rule for the San Bernardino kangaroo rat identified the following primary threats to the San Bernardino kangaroo rat: Habitat loss, destruction, degradation, and fragmentation due to sand and gravel mining operations; flood control

features essential to the conservation of the species. The process of proposing and finalizing the revised critical habitat rule provided the Service with the opportunity to evaluate and refine the features or PCEs essential to the conservation of the subspecies within the geographical area occupied by San Bernardino kangaroo rat at the time of listing, as well as to evaluate whether there are other areas essential for the conservation of the subspecies. The designation process included peer review and public comment on the identified features and areas. This process is valuable to land owners and managers in developing conservation management plans for identified areas, as well as any other occupied habitat or suitable habitat that may not have been included in the Service's determination of essential habitat.

The educational benefits of critical habitat designation derived through informing our partners and other members of the public of areas important for the long-term conservation of San Bernardino kangaroo rat have already been achieved through previously designating this area as critical habitat and through the section 7 consultation process on the proposed action (Service 2006, pp. 1–41).

The consultation provisions under section 7(a) of the Act constitute the regulatory benefits of inclusion for critical habitat. As discussed previously, Federal agencies must consult with us on actions that may affect critical habitat and must avoid destroying or adversely modifying critical habitat. On these approximately 39 ac (16 ha) of Eastern Municipal Water District lands in Unit 3 that are being excluded, a Federal nexus exists for the San Bernardino kangaroo rat as a result of actions by the ACOE. Therefore, including this area would provide some regulatory benefits under section 7(a) of the Act.

Benefits of Exclusion—Hemet/San Jacinto Integrated Recharge Recovery Project

The Soboba Band of Luiseño Indians Settlement Act and its associated Settlement Agreement represent a historic settlement of a decades-long water rights dispute under which the Tribe will receive an adequate and secure future water supply of 9,000 acre feet per year, $18 million from local water districts for economic development, $11 million from the Federal government for water development, and 128 ac (52 ha) of land near Diamond Valley for commercial development. In turn, the Tribe agreed to forebear some portion of their water rights for 50 years, which has a monetary value of more than $58 million. Additionally, the Settlement Act provides local water districts and Tribal neighbors: 7,500 acre feet of new imported water per year until at least 2035; $10 million in Federal funds to help recharge the aquifer with imported water; up to 100 acres (41 ha) of Soboba Band of Luiseño Indians reservation land for endangered species habitat; use of up to 4,900 acre feet of Soboba Band of Luiseño Indians water for 50 years for basin restoration; and the promise of new jobs and economic stimulus from Soboba Band of Luiseño Indians commercial development. The partnerships developed during the negotiation of this settlement are unique and are viewed as a framework for resolution of other water rights disputes. Implementation of the Settlement Agreement is expected to provide for restoration of the groundwater basin. Excluding the 39 ac (16 ha) of lands in Unit 3 from the designation will remove any perception that the regulatory impact of the critical designation may impede successful implementation of this important agreement, and will help to preserve our ongoing partnership with this project's participants and the signatories to the Settlement Agreement. Additionally, this exclusion will encourage new partnerships with other landowners, water districts, and other jurisdictions. We believe encouraging such partnerships are critical for the conservation of the San Bernardino kangaroo rat.

Benefits of Exclusion Outweigh Benefits of Inclusion—Hemet/San Jacinto Integrated Recharge Recovery Project

We reviewed and evaluated the benefits of inclusion and benefits of exclusion for the approximately 39 ac (16 ha) of non-Federal Eastern Municipal Water District lands in Unit 3, and determined that the benefits of excluding these lands outweigh the benefits of including them as critical habitat. We acknowledge that the designation of critical habitat on these lands would likely provide a conservation benefit to the San Bernardino kangaroo rat through the section 7(a)(2) consultation process. However, as discussed above, the benefits of excluding the area covered by the Hemet/San Jacinto Integrated Recharge Recovery Project are high and outweigh any regulatory or other benefit of including these lands in critical habitat, as such exclusion will help to preserve and foster the partnerships and inter-governmental relationships that have been developed over many years to achieve sustainable water management and habitat restoration in the San Jacinto River Basin. By excluding these lands, we will remove any additional regulatory impact resulting from a critical habitat designation that may potentially interfere with implementation of the Settlement Agreement. In addition to restoration of the groundwater basin, implementation of the historic Settlement Agreement will restore the Soboba Band of Luiseño Indians' water rights and allow the Tribe to manage their water resources for the betterment of the Tribe, which is expected to provide an economic stimulus to the Tribe and surrounding communities as well as providing for restoration of the groundwater basin.

Exclusion Will Not Result in Extinction of the Subspecies—Hemet/San Jacinto Integrated Recharge Recovery Project

We determined that the exclusion of the 39 ac (16 ha) of non-Federal lands within the area covered by the Hemet/San Jacinto Integrated Recharge Recovery Project from the final revised designation of critical habitat for the San Bernardino kangaroo rat will not result in the extinction of the subspecies. The area is occupied by the San Bernardino kangaroo rat, and the protections afforded through section 9 of the Act, the jeopardy standard of section 7 of the Act, and routine implementation of conservation measures through the section 7 process provide assurances that the subspecies will not go extinct as a result of this exclusion.

Required Determinations

Takings—Executive Order 12630

In accordance with E.O. 12630 ("Government Actions and Interference with Constitutionally Protected Private Property Rights"), we have analyzed the potential takings implications of designating critical habitat for the San Bernardino kangaroo rat in a takings implications assessment. Critical habitat designation does not affect landowner actions that do not require Federal funding or permits, nor does it preclude development of habitat conservation programs or issuance of incidental take permits to permit actions that do require Federal funding or permits to go forward. The takings implications assessment concludes that this final revised designation of critical habitat for the San Bernardino kangaroo rat does not pose significant takings implications.

Regulatory Planning and Review—Executive Order 12866

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

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

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

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

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

Civil Justice Reform—Executive Order 12988

In accordance with E.O. 12988 (Civil Justice Reform), the Office of the Solicitor has determined that the rule does not unduly burden the judicial system and that it meets the requirements of sections 3(a) and 3(b)(2) of the Order. We are designating critical habitat in accordance with the provisions of the Act. This final rule uses standard property descriptions and identifies the physical and biological features essential to the conservation of the species within the designated areas to assist the public in understanding the habitat needs of the San Bernardino kangaroo rat.

Federalism—Executive Order 13132

In accordance with E.O. 13132 (Federalism), this final rule does not have significant Federalism effects. A Federalism assessment is not required. In keeping with Department of the Interior and Department of Commerce policy, we requested information from, and coordinated development of, these final critical habitat designations with appropriate State resource agencies in California. During the public comment periods, we contacted appropriate State and local agencies and jurisdictions, and invited them to comment on the proposed revised critical habitat designation for the San Bernardino kangaroo rat. In total, we responded to five letters received during these comment periods from local governments (see "Summary of Comments and Recommendations" section). None of the critical habitat designation for the San Bernardino kangaroo rat occurs on State land, and, therefore, will have little impact on State and local governments and their activities. The designations may have some benefit to these governments in that the areas that contain the features essential to the conservation of the species are more clearly defined, and the primary constituent elements of the habitat are specifically identified. This information does not alter where and what federally sponsored activities may occur. However, it may assist local governments in long-range planning (rather than having them wait for case-by-case section 7 consultations to occur).

Energy Supply, Distribution, or Use—Executive Order 13211

On May 18, 2001, the President issued E.O. 13211 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 revision to critical habitat for the San Bernardino kangaroo rat is not considered a significant regulatory action under E.O. 12866. OMB has provided guidance for implementing this Order that outlines nine outcomes that may constitute "a significant adverse effect" when compared without the regulatory action under consideration. The economic analysis finds that none of these criteria are relevant to this analysis. Thus, based on information in the economic analysis (Appendix C), energy-related impacts associated with San Bernardino kangaroo rat conservation activities within the areas included in the final designation of critical habitat are not expected. As such, the final designation of critical habitat is not expected to significantly affect energy supplies, distribution, or use, and a Statement of Energy Effects is not required.

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

In accordance with the Unfunded Mandates Reform Act, the Service makes the following findings:

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

The designation of critical habitat does not impose a legally binding duty on non-Federal government entities or private parties. Under section 7 of the Act, the only regulatory effect is that Federal agencies must ensure that their actions do not destroy or adversely modify critical habitat. Non-Federal entities that 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. However, 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 on to State governments.

(2) We do not believe that this rule would significantly or uniquely affect small governments because it would not produce a Federal mandate of $100 million or greater in any year; that is, it is not a "significant regulatory action" under the Unfunded Mandates Reform Act. As discussed in the economic analysis, anticipated future impacts in areas designated as critical habitat will be borne by the Federal Government and San Bernardino County Flood

Control District (SBCFCD); in areas excluded from the final designation, the total anticipated future impacts are not attributable to the designation of critical habitat. By definition, Federal agencies are not considered small entities, although the activities they fund or permit may be proposed or carried out by small entities. The SBCFCD is also not considered to be a small entity because it services a population exceeding the criteria for a "small entity." As such, a Small Government Agency Plan is not required.

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

Under the Regulatory Flexibility Act, as amended by the Small Business Regulatory Enforcement Fairness Act (5 U.S.C. 802(2)), whenever an agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effect of the rule on small entities (i.e., small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of an agency certifies the rule will not have a significant economic impact on a substantial number of small entities. The Small Business Regulatory Enforcement Fairness Act amended the Regulatory Flexibility Act to require Federal agencies to provide a certification statement of the factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities. In this final rule, we are certifying that the critical habitat designation for the San Bernardino kangaroo rat will not have a significant economic impact on a substantial number of small entities. The following discussion explains our rationale.

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

To determine if the revised designation of critical habitat for the San Bernardino kangaroo rat would affect a substantial number of small entities, we considered the number of small entities affected within particular types of economic activities, such as residential and commercial development. We considered each industry or category individually to determine if certification is appropriate. In estimating the numbers of small entities potentially affected, we also considered whether their activities have any Federal involvement; some kinds of activities are unlikely to have any Federal involvement and thus will not be affected by the designation of critical habitat. Designation of critical habitat only affects activities conducted, funded, permitted, or authorized by Federal agencies; non-Federal activities are not affected by the designation.

In areas where the subspecies is present, Federal agencies already are required to consult with us under section 7 of the Act on activities they fund, permit, or implement that may affect the San Bernardino kangaroo rat (see Section 7 Consultation section) or their critical habitat. Future consultations to avoid the destruction or adverse modification of critical habitat would be incorporated into the existing consultation process. In the case of completed consultations for ongoing Federal activities, however, the Federal agency would be required to reinitiate consultation (see Application of the "Adverse Modification" Standard section). Designation of critical habitat, in that case, could result in an additional economic impact on small entities.

In our final economic analysis of the proposed revision of critical habitat, we evaluated the potential economic effects on small business entities resulting from conservation actions related to the proposed revision of critical habitat for the San Bernardino kangaroo rat. The analysis is based on the estimated incremental impacts associated with the rulemaking as described in section 2 of the analysis. The analysis evaluates the potential for economic impacts related to activity categories including water conservation, flood control, and development. Impacts of conservation activities are not anticipated to affect small entities in the following categories: Fire management on Federal lands; invasive, nonnative plant species management on Federal lands; recreation management on Federal lands; and surveying, monitoring, and other activities on Federal lands. Land managers which may be impacted by the proposed rule include the BLM, USFS, SBCFCD, and private landowners. Of the entities that are likely to bear incremental impacts, there are no entities identified as small businesses, small organizations, or small government jurisdictions. The Federal agencies (BLM and USFS) and the special district (SBCFCD) do not meet the criteria for a small business. Individual private landowners in San Bernardino kangaroo rat critical habitat are not considered small businesses. Please refer to our economic analysis (Appendix C) of the proposed revision of critical habitat for a more detailed discussion of potential economic impacts.

In summary, we considered whether this final rule to revise critical habitat would result in a significant economic effect on a substantial number of small entities. For the above reasons and based on currently available information, we certify that the rule will not have a significant economic impact on a substantial number of small entities. Therefore, a regulatory flexibility analysis is not required.

Small Business Regulatory Enforcement Fairness Act (5 U.S.C. 801 et seq.)

Under the Small Business Regulatory Enforcement Fairness Act, this rule is not a major rule. Our detailed assessment of the economic effects of this designation is described in the economic analysis. Based on the effects identified in the economic analysis, we believe that this rule will not have an annual effect on the economy of $100 million or more, will not cause a major increase in costs or prices for consumers, and will not have significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of U.S.-based enterprises to compete with foreign-based enterprises. Refer to the final economic analysis for a discussion of the effects of this determination (see **ADDRESSES** for information on obtaining a copy of the final economic analysis).

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

It is our position that, outside the jurisdiction of the Circuit Court of the United States for the Tenth Circuit, we

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

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

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

Government-to-Government Relationship With Tribes

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

The 2002 designation of critical habitat (67 FR 19812) for the San Bernardino kangaroo rat included 710 ac (290 ha) of land within the Soboba Band of Luiseño Indians Reservation. At the time of the 2002 designation, we included these lands as critical habitat for the San Bernardino kangaroo rat because we believed that the area supported several populations and provided continuity between two adjacent areas of essential habitat. These lands are adjacent to occupied areas that we are designating as critical habitat within the San Jacinto wash (Unit 3). However, at the time of the drafting of this final rule, we lack information regarding the subspecies' location and habitat on Soboba Band of Luiseño Indians Reservation lands and are unable to thoroughly assess either the status of the subspecies on those lands or the management practices currently employed by the Tribe. Though we continue to believe, due to the continuity of these lands with known occupied habitat, that these Tribal lands are likely occupied, at least in part, by the San Bernardino kangaroo rat, we do not know whether these lands contain features that are essential to the conservation of the subspecies. As a result, and in light of Secretarial Order 3206, we are not including these Tribal lands in the area designated as revised critical habitat for the San Bernardino kangaroo rat. We are committed to maintaining a positive working relationship with the Tribes and will continue our attempts to work with them on conservation measures benefiting the San Bernardino kangaroo rat.

References Cited

A complete list of all references cited in this rulemaking is available on the Internet at *http://www.regulations.gov* and *http://www.fws.gov/carlsbad/*.

Author(s)

The primary authors of this rulemaking are staff at the Carlsbad Fish and Wildlife Office, Carlsbad, California.

List of Subjects in 50 CFR Part 17

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

Regulation Promulgation

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

PART 17—[AMENDED]

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

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

■ 2. Amend § 17.95(a) by revising the entry for "San Bernardino Kangaroo Rat (*Dipodomys merriami parvus*)" to read as follows:

§ 17.95 Critical habitat—wildlife.

(a) *Mammals.*

* * * * *

San Bernardino Kangaroo Rat (*Dipodomys merriami parvus*)

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

(2) The PCEs of critical habitat for the San Bernardino kangaroo rat are the habitat components that provide:

(i) Alluvial fans, washes, and associated floodplain areas containing soils consisting predominately of sand, loamy sand, sandy loam, and loam, which provide burrowing habitat necessary for sheltering and rearing offspring, storing food in surface caches, and movement between occupied patches;

(ii) Upland areas adjacent to alluvial fans, washes, and associated floodplain areas containing alluvial sage scrub habitat and associated vegetation, such as coastal sage scrub and chamise chaparral, with up to approximately 50 percent canopy cover providing protection from predators, while leaving bare ground and open areas necessary for foraging and movement of this subspecies; and

(iii) Upland areas adjacent to alluvial fans, washes, and associated floodplain areas, which may include marginal habitat such as alluvial sage scrub with greater than 50 percent canopy cover with patches of suitable soils that support individuals for re-population of wash areas following flood events. These areas may include agricultural lands, areas of inactive aggregate mining activities, and urban/wildland interfaces.

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

(4) Data layers defining map units were created on a base of NAIP (USDA) 1:24,000 maps, and critical habitat units were then mapped using Universal Transverse Mercator (UTM) coordinates.

(5) Note: Index map of critical habitat units for the San Bernardino kangaroo rat follows:

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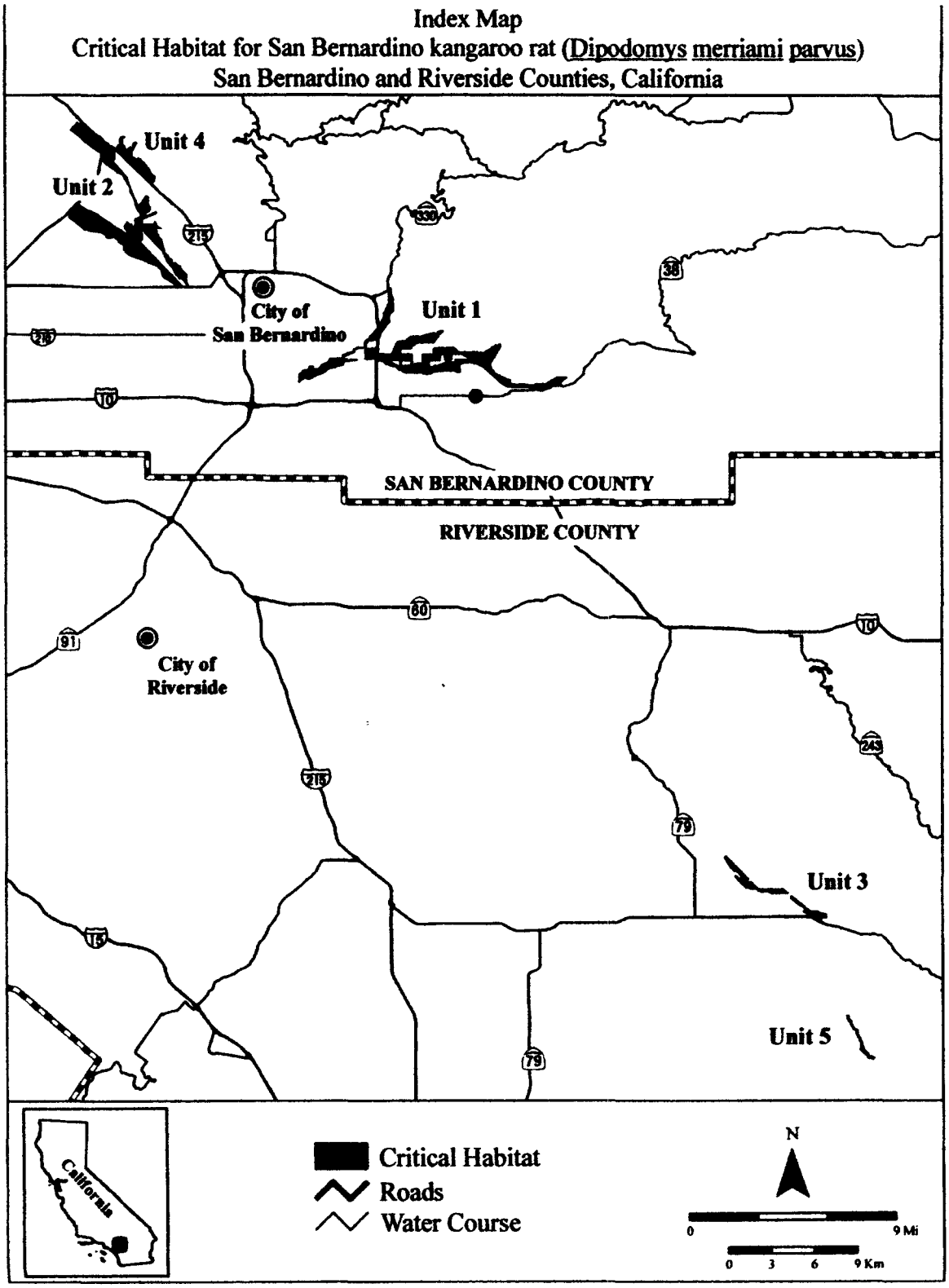

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(6) Unit 1: Santa Ana River Wash, San Bernardino County, California. From USGS 1:24,000 quadrangles San Bernardino North and Devore.

(i) Land bounded by the following Universal Transverse Mercator (UTM) North American Datum of 1983 (NAD83) coordinates (E, N): 482433, 3777208; 482510, 3777208; 482472, 3777140; 482478, 3776911; 482612, 3776482; 482627, 3776397; 482637, 3775622; 482488, 3775622; 482355, 3775366; 482348, 3775149; 482364, 3774946; 482386, 3774912; 482150, 3774673; 482081, 3774571; 481748, 3774155; 481621, 3773744; 481590, 3773748; 481552, 3773754; 481464, 3773760; 481227, 3773664; 481110, 3773680; 481067, 3773702; 481054, 3773704; 481017, 3773705; 480939, 3773677; 480770, 3773522; 480770, 3773486; 480755, 3773486; 480754, 3773175; 480754, 3773170; 480731, 3773170; 480731, 3773473; 480731, 3773532; 480731, 3773589; 480929, 3773768; 481548, 3774498; 481546, 3774500; 481646, 3774625; 481627, 3774739; 481723, 3774752; 481967, 3775193; 481996, 3775295; 481999, 3775520; 482088, 3775527; 482148, 3775727; 482358, 3776254; 482367, 3776695; 482342, 3776902; 482296, 3777059; thence returning to 482433, 3777208; land bounded by 486178, 3774253; 486118, 3774252; 486084, 3774218; 486083, 3774217; 486063, 3774197; 486030, 3774165; 485959, 3774096; 485933, 3774070; 485929, 3774066; 485908, 3774045; 485869, 3774005; 485866, 3774003; 485856, 3773996; 485830, 3773978; 485790, 3773949; 485779, 3773940; 485768, 3773931; 485752, 3773918; 485752, 3773918; 485752, 3773918; 485753, 3773918; 485785, 3773919; 485786, 3773919; 485851, 3773921; 485843, 3773910; 485801, 3773869; 485762, 3773819; 485724, 3773760; 485653, 3773680; 485553, 3773626; 485555, 3773539; 484779, 3773534; 484628, 3773535; 484460, 3773521; 484384, 3773499; 484335, 3773457; 484273, 3773434; 484214, 3773422; 484135, 3773370; 483968, 3773284; 483963, 3773284; 483962, 3773151; 483165, 3773148; 483155, 3772707; 483175, 3772709; 483184, 3772710; 483212, 3772710; 483968, 3772732; 483982, 3772732; 483978, 3772346; 483972, 3772037; 484020, 3772040; 484021, 3772023; 484198, 3772011; 484257, 3772092; 484782, 3772139; 484780, 3772338; 484777, 3772734; 485573, 3772725; 485573, 3772735; 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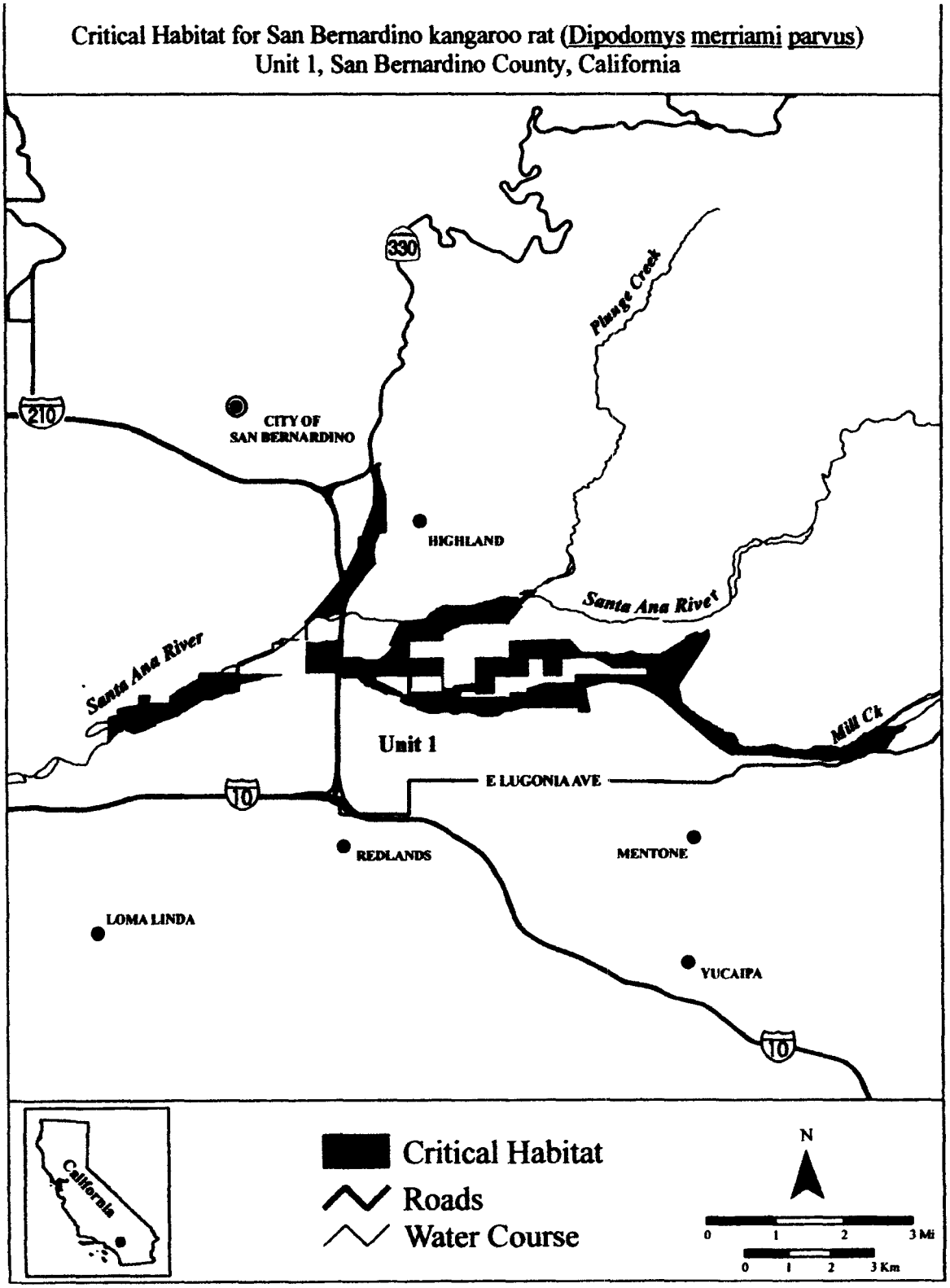
(ii) Note: Map of Unit 1—Santa Ana River Wash follows:

BILLING CODE 4310-55-P



BILLING CODE 4310-55-C

(7) Unit 2: Lytle/Cajon Creek Wash, San Bernardino County, California.

From USGS 1:24,000 quadrangles San

Bernardino South, Redlands, Yucaipa, and Harrison Mountain.

(i) Land bounded by the following Universal Transverse Mercator (UTM) North American Datum of 1983 (NAD83) coordinates (E, N): 459952, 3788034; 460404, 3788506; 460540, 3788401; 460651, 3788312; 460753, 3788234; 460844, 3788166; 461055, 3788012; 461159, 3787940; 461251, 3787876; 461287, 3787860; 461340, 3787819; 461597, 3787644; 461773, 3787530; 461793, 3787541; 461822, 3787541; 461919, 3787456; 462141, 3787271; 462332, 3787119; 462452, 3787052; 462562, 3786978; 462505, 3786840; 462634, 3786755; 462747, 3786722; 462898, 3786698; 462948, 3786656; 463021, 3786224; 462998, 3786186; 463006, 3786144; 462925, 3785866; 463882, 3784809; 464062, 3784361; 464695, 3782785; 465055, 3783227; 465304, 3783532; 465304, 3783532; 465302, 3783530; 465302, 3783530; 465433, 3783427; 465429, 3783386; 465403, 3783271; 465424, 3783199; 465392, 3783068; 465424, 3782988; 465432, 3782982; 465431, 3782981; 465596, 3782632; 465041, 3782194; 464977, 3782143; 464956, 3782135; 464966, 3782109; 464966, 3782015; 464970, 3782018; 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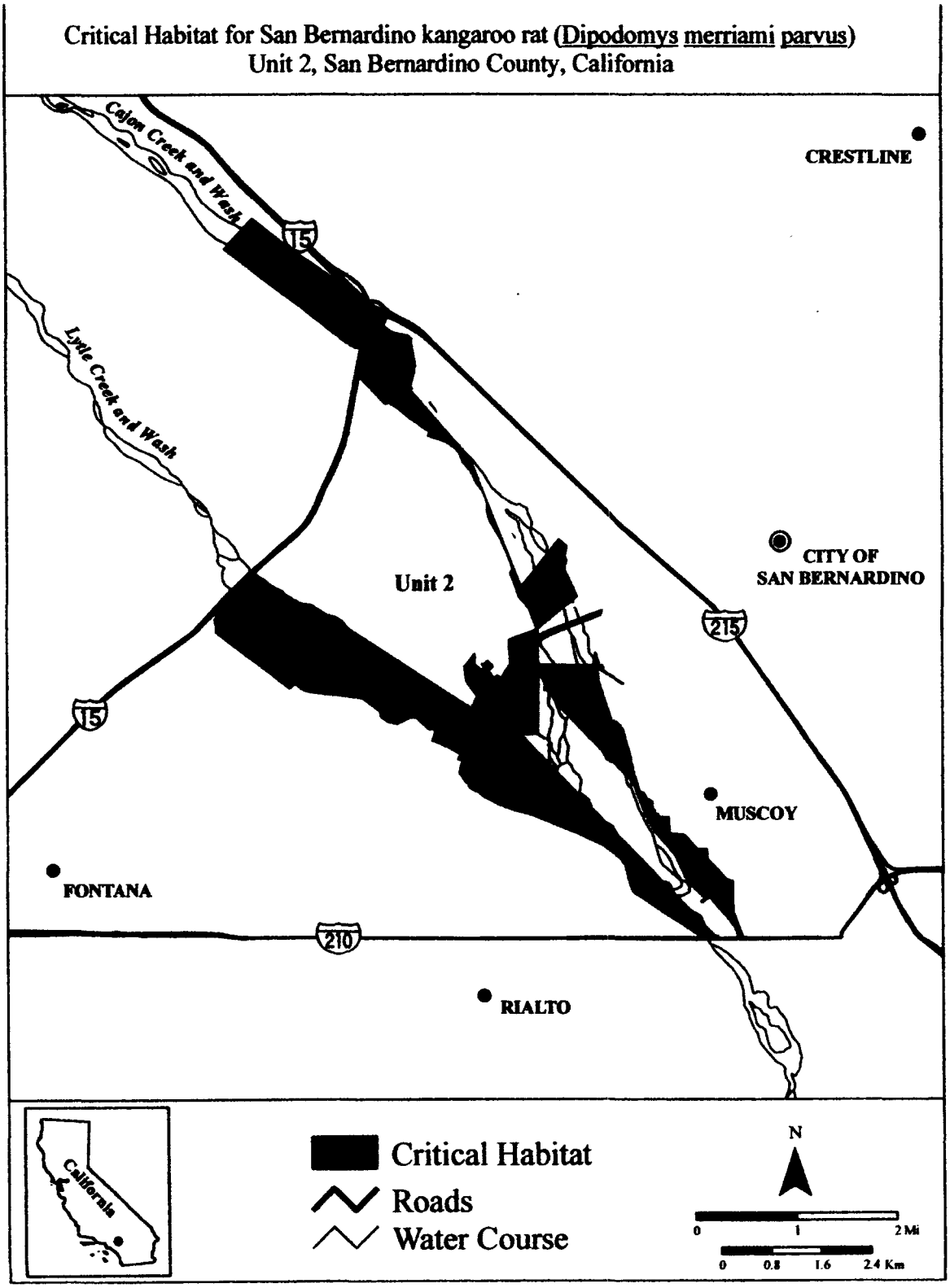
(ii) Note: Map of Unit 2—Lytle/Cajon Creek Wash follows:

BILLING CODE 4310-55-P



BILLING CODE 4310-55-C

(8) Unit 3: San Jacinto River Wash, Riverside County, California. From USGS 1:24,000 quadrangles San Jacinto, Lake Fulmor, and Blackburn Canyon.

(i) Land bounded by the following Universal Transverse Mercator (UTM) North American Datum of 1983 (NAD83) coordinates (E, N): 506626, 3737807; 506919, 3737520; 507441, 3737006; 507652, 3736797; 507652, 3736797; 507542, 3736682; 507439, 3736575; 507466, 3736575; 507466, 3736575; 507680, 3736576; 507877, 3736577; 507877, 3736577; 507915, 3736540; 507921, 3736534; 507968, 3736488; 507969, 3736487; 508139, 3736320; 508225, 3736236; 508250, 3736211; 508250, 3736211; 508250, 3736209; 508250, 3736111; 507865, 3736109; 507865, 3736126; 507865, 3736134; 507865, 3736136; 507865, 3736146; 507811, 3736147; 507730, 3736182; 507692, 3736202; 507730, 3736216; 507465, 3736422; 507445, 3736438; 507374, 3736495; 507358, 3736507; 507332, 3736481; 507328, 3736485; 507358, 3736514; 507352, 3736535; 507344, 3736558; 507321, 3736626; 507306, 3736656; 507275, 3736689; 507231, 3736733; 507185, 3736796; 507165, 3736822; 507165, 3736822; 507162, 3737005; 507161, 3737049; 506929, 3737280; 506688, 3737512; 506696, 3737306; 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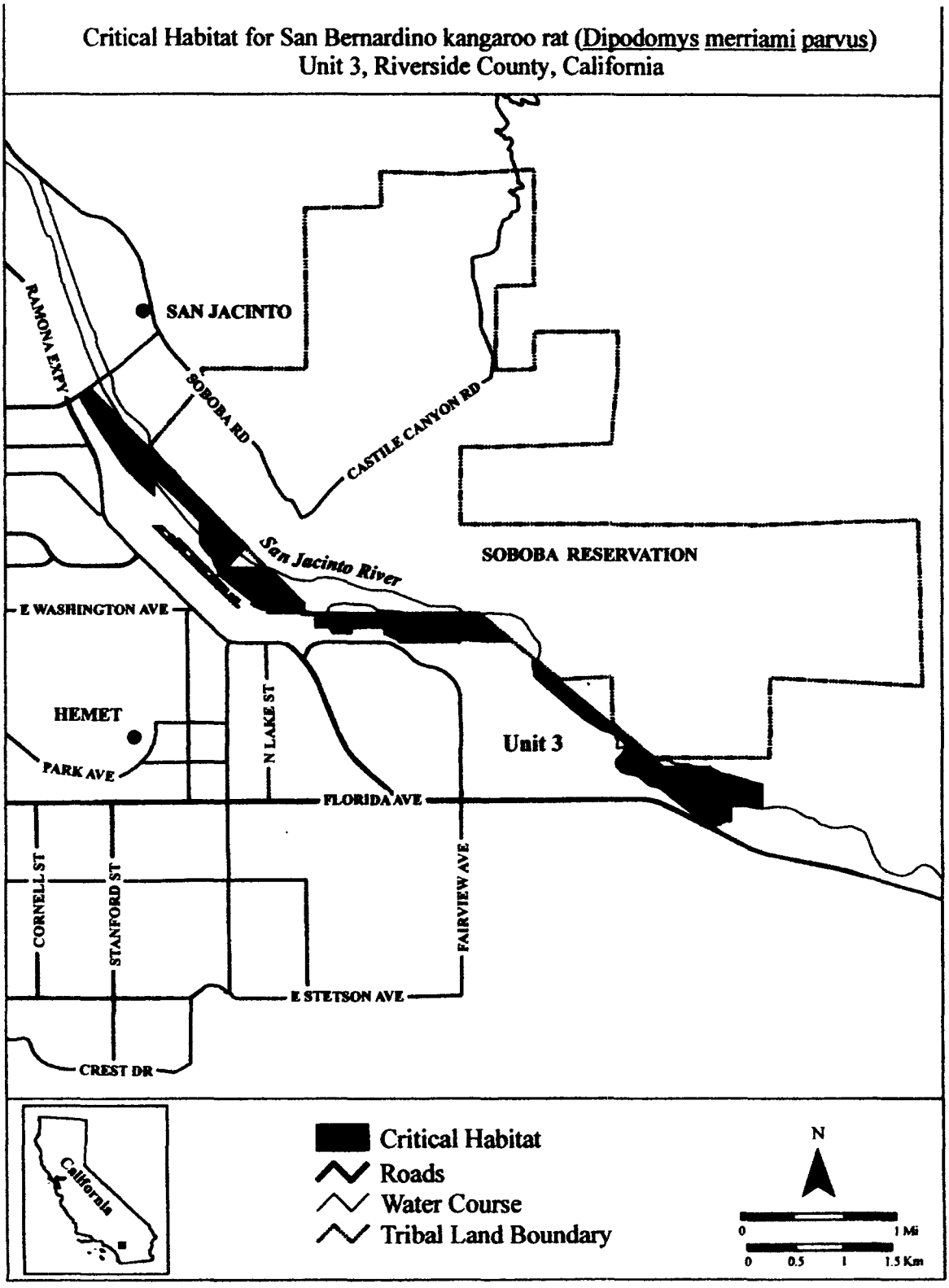
(ii) Note: Map of Unit 3—San Jacinto River Wash follows:

BILLING CODE 4310-55-P



BILLING CODE 4310-55-C

(9) Unit 4: Cable Creek Wash, San Bernardino County, California. From USGS 1:24,000 quadrangles San

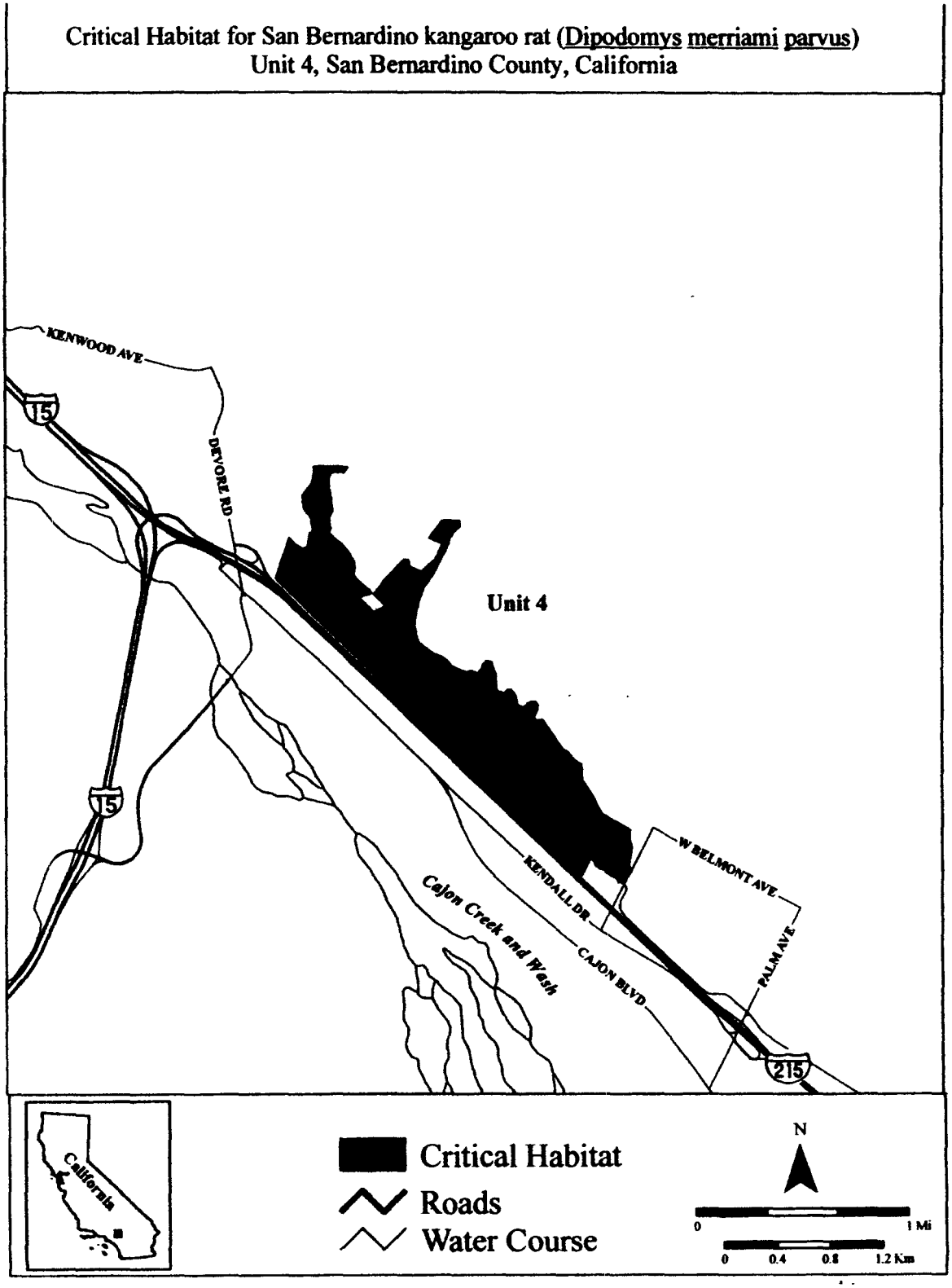
Bernardino South, Redlands, Yucaipa, and Harrison Mountain.

(i) Land bounded by the following Universal Transverse Mercator (UTM) North American Datum of 1983 (NAD83) coordinates (E, N): 463488, 3787583; 463744, 3787580; 463715, 3787533; 463646, 3787536; 463616, 3787529; 463602, 3787504; 463599, 3787437; 463618, 3787313; 463628, 3787249; 463609, 3787215; 463602, 3787194; 463603, 3787154; 463614, 3787118; 463603, 3787103; 463595, 3787091; 463627, 3787057; 463664, 3787028; 463708, 3786998; 463756, 3786932; 463786, 3786880; 463793, 3786839; 463794, 3786821; 463784, 3786780; 463795, 3786754; 463860, 3786697; 463911, 3786653; 463917, 3786638; 463815, 3786610; 463941, 3786497; 464028, 3786547; 463939, 3786634; 463978, 3786682; 464026, 3786745; 464072, 3786789; 464168, 3786891; 464206, 3786889; 464218, 3786834; 464300, 3786801; 464408, 3786892; 464461, 3787007; 464358, 3787052; 464461, 3787180; 464486, 3787180; 464593, 3787180; 464597, 3787136; 464564, 3787107; 464544, 3787091; 464532, 3787068; 464516, 3787050; 464511, 3787015; 464492, 3786982; 464476, 3786941; 464451, 3786888; 464388, 3786769; 464323, 3786685; 464274, 3786567; 464254, 3786446; 464249, 3786395; 464263, 3786319; 464278, 3786278; 464306, 3786248; 464392, 3786188; 464456, 3786161; 464489, 3786137; 464533, 3786098; 464591, 3786071; 464645, 3786052; 464679, 3786064; 464726, 3786044; 464761, 3786076; 464772, 3786114; 464791, 3786136; 464812, 3786136; 464835, 3786125; 464847, 3786083; 464865, 3786044; 464865, 3785996; 464865, 3785921; 464877, 3785905; 464905, 3785900; 464923, 3785893; 464941, 3785900; 464955, 3785924; 464979, 3785921; 465000, 3785896; 465015, 3785870; 465018, 3785842; 465022, 3785810; 465053, 3785793; 465073, 3785792; 465091, 3785801; 465114, 3785822; 465134, 3785833; 465164, 3785832; 465181, 3785804; 465177, 3785769; 465160, 3785735; 465155, 3785714; 465164, 3785694; 465194, 3785694; 465219, 3785697; 465252, 3785646; 465302, 3785573; 465367, 3785483; 465411, 3785453; 465445, 3785409; 465476, 3785388; 465510, 3785371; 465516, 3785275; 465519, 3785246; 465552, 3785201; 465604, 3785115; 465638, 3785047; 465664, 3784997; 465730, 3784959; 465843, 3784900; 465846, 3784898; 465883, 3784878; 465877, 3784853; 465876, 3784809; 465885, 3784777; 465891, 3784739; 465886, 3784704; 465879, 3784669; 465871, 3784651; 465871, 3784616; 465877, 3784572; 465826, 3784476; 465801, 3784496; 465792, 3784481; 465784, 3784509; 465769, 3784522; 465716, 3784545; 465697, 3784555; 465686, 3784577; 465653, 3784588; 465617, 3784614; 465614, 3784634; 465580, 3784669; 465512, 3784536; 464473, 3785523; 463196, 3786751; 463299, 3787054; 463331, 3787013; 463396, 3786974; 463433, 3786983; 463446, 3787022; 463455, 3787089; 463482, 3787091; 463479, 3787116; 463475, 3787141; 463467, 3787167; 463467, 3787190; 463459, 3787216; 463438, 3787238; 463417, 3787259; 463409, 3787278; 463409, 3787299; 463407, 3787321; 463399, 3787341; 463398, 3787362; 463412, 3787387; 463433, 3787415; 463454, 3787435; 463471, 3787466; 463486, 3787510; 463487, 3787543; thence returning to 463488, 3787583.

(ii) Note: Map of Unit 4—Cable Creek Wash follows:

BILLING CODE 4310-55-P

Critical Habitat for San Bernardino kangaroo rat (Dipodomys merriami parvus)
Unit 4, San Bernardino County, California

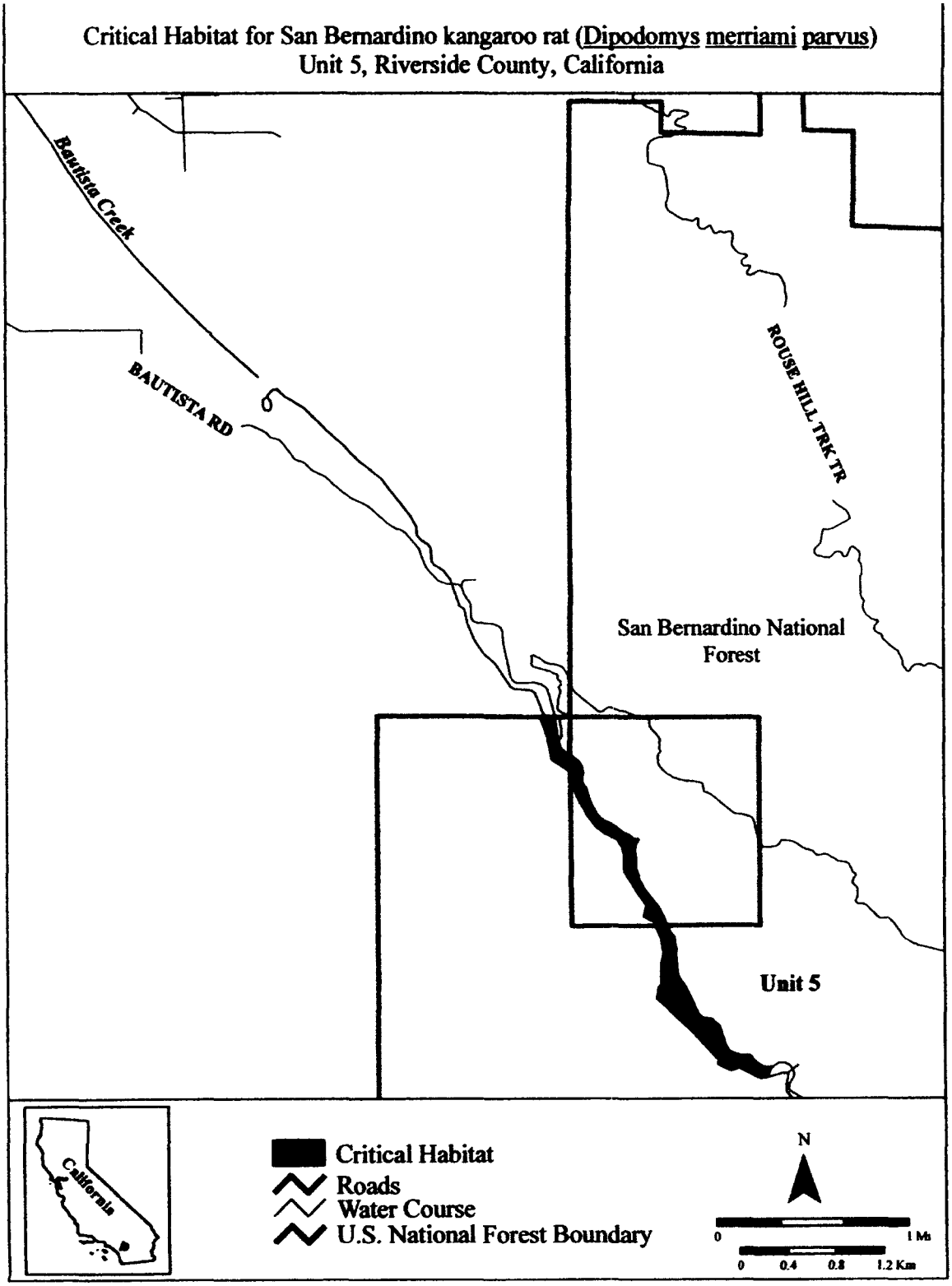


BILLING CODE 4310-55-C

(10) Unit 5: Bautista Creek, Riverside County, California. From USGS 1:24,000 quadrangle Blackburn Canyon.

(i) Land bounded by the following Universal Transverse Mercator (UTM) North American Datum of 1983 (NAD83) coordinates (E, N): 514568, 3727407; 514575, 3727407; 514581, 3727407; 514588, 3727407; 514593, 3727407; 514594, 3727400; 514604, 3727317; 514613, 3727237; 514630, 3727172; 514641, 3727149; 514659, 3727133; 514687, 3727111; 514735, 3727089; 514787, 3727047; 514817, 3727014; 514834, 3726971; 514834, 3726938; 514828, 3726894; 514828, 3726867; 514838, 3726842; 514860, 3726822; 514876, 3726765; 514896, 3726705; 514920, 3726656; 514955, 3726596; 514978, 3726573; 515017, 3726548; 515065, 3726527; 515087, 3726515; 515119, 3726495; 515161, 3726465; 515184, 3726451; 515225, 3726430; 515263, 3726401; 515298, 3726401; 515301, 3726391; 515279, 3726357; 515267, 3726325; 515267, 3726280; 515279, 3726226; 515279, 3726190; 515279, 3726148; 515291, 3726115; 515316, 3726054; 515344, 3726000; 515395, 3725932; 515471, 3725841; 515510, 3725760; 515536, 3725696; 515565, 3725637; 515601, 3725594; 515615, 3725497; 515617, 3725406; 515624, 3725301; 515632, 3725267; 515676, 3725203; 515724, 3725116; 515794, 3724968; 515822, 3724940; 515842, 3724928; 515883, 3724925; 515912, 3724923; 515922, 3724914; 515953, 3724887; 515979, 3724862; 515991, 3724838; 516002, 3724788; 516020, 3724736; 516033, 3724701; 516052, 3724666; 516079, 3724648; 516103, 3724637; 516140, 3724630; 516170, 3724625; 516207, 3724628; 516237, 3724623; 516270, 3724587; 516307, 3724553; 516352, 3724530; 516391, 3724529; 516427, 3724532; 516437, 3724536; 516410, 3724511; 516385, 3724448; 516328, 3724429; 516147, 3724514; 516067, 3724496; 515959, 3724546; 515962, 3724584; 515750, 3724813; 515546, 3725000; 515448, 3725089; 515461, 3725175; 515486, 3725210; 515483, 3725372; 515505, 3725454; 515489, 3725572; 515432, 3725718; 515343, 3725759; 515366, 3725854; 515280, 3725966; 515238, 3726038; 515175, 3726130; 515172, 3726264; 515162, 3726324; 515112, 3726394; 515023, 3726438; 514940, 3726499; 514877, 3726578; 514800, 3726705; 514752, 3726802; 514756, 3726934; 514572, 3727048; 514537, 3727207; 514480, 3727369; 514463, 3727407; 514529, 3727407; thence returning to 514568, 3727407.

(ii) Note: Map of Unit 5—Bautista Creek follows:


Critical Habitat for San Bernardino kangaroo rat (Dipodomys merriami parvus)
Unit 5, Riverside County, California
Bautista Creek
BAUTISTA RD
ROUSE HILL TRK TR
San Bernardino National Forest
Unit 5
California
Critical Habitat
Roads
Water Course
U.S. National Forest Boundary
N
0 1 Mi
0 0.4 0.8 1.2 Km

* * * * *

Dated: October 1, 2008.

Lyle Laverty,

Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. E8–23515 Filed 10–16–08; 8:45 am]

BILLING CODE 4310–55–C

Scoping Issues of the Soboba Horseshoe Grande Project

Appendix #2

Patricia June Mayne

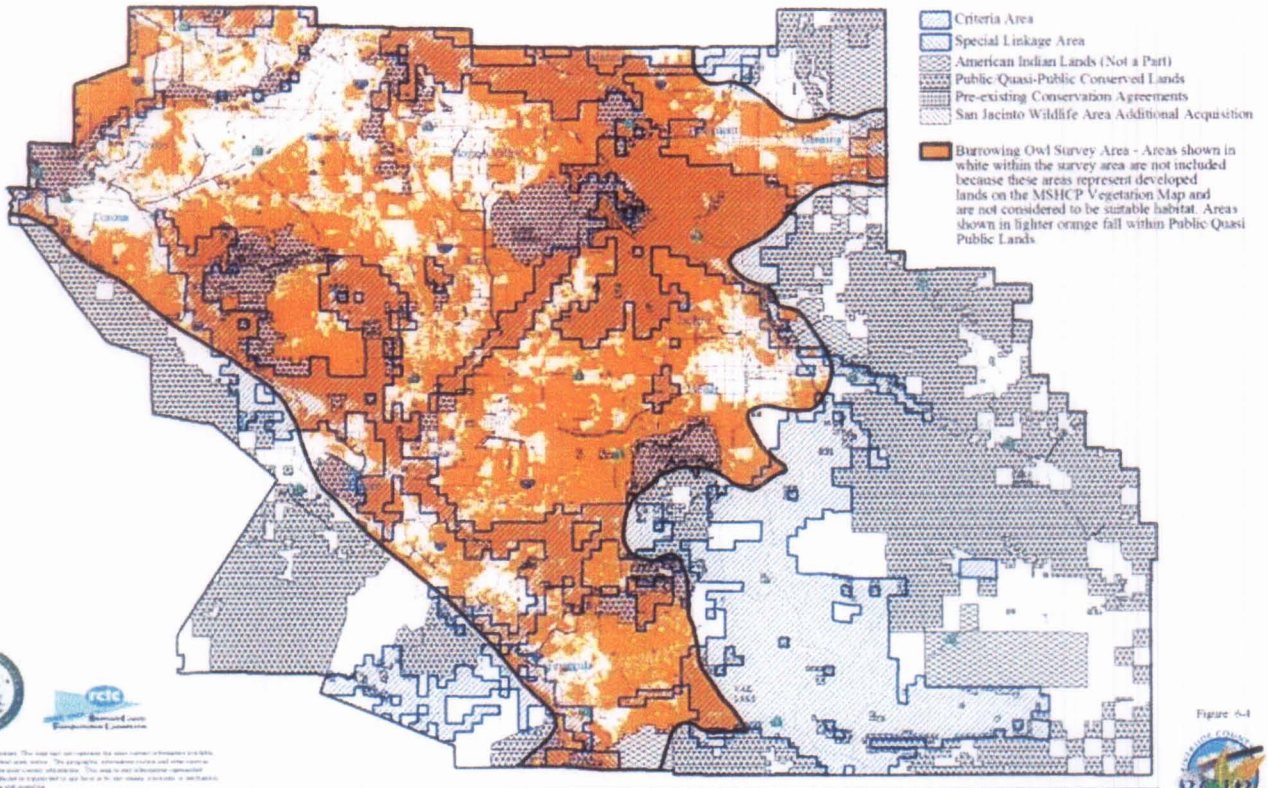


Figure 6-4

Burrowing Owl Survey Areas With Criteria Area

identified with the superscript (e) in the far right column of *Table 2-2.* For the remaining 12 species, a Memorandum of Understanding must be executed with the Forest Service that addresses management for these species on Forest Service Land in order to shift these species to the list of Covered Species Adequately Conserved. These 12 species are identified with the superscript (f) in the far right column of *Table 2-2.* Superscripts (a) through (d) in the far right column of *Table 2-2* indicate Covered Species Adequately Conserved for which surveys may be required. Specific survey requirements are included in the species-specific conservation objectives presented in *Section 9.0* of this document and in *Sections 6.1.2, 6.1.3,* and *6.3.2* of this document. A complete summary of MSHCP species survey requirements is provided in *Appendix E* to this document.

TABLE 2-2
SPECIES CONSIDERED FOR CONSERVATION
UNDER THE MSHCP SINCE 1999

Species Name	Listing Status State/ Federal {1}	Species Initially Considered for Conservation (3/99 - FWS Tables 1&2) {2} (247 species)	Species Considered for Conservation in "August 9, 1999 Draft MSHCP Proposal" {3} (165 species)	Species Considered for Conservation in "March 7, 2002 Admin Draft MSHCP Plan"{4} (142 species)	MSHCP Covered Species Adequately Conserved-{5} (146 species)
INVERTEBRATES/CRUSTACEANS					
Riverside fairy shrimp *Streptocephalus woottoni*	-/FE	✔	✔	✔	✔(a)
Santa Rosa Plateau fairy shrimp *Linderiella santarosae*	- / -	✔	✔	✔	✔(a)
vernal pool fairy shrimp *Branchinecta lynchi*	-/FT	✔	✔	✔	✔(a)
INVERTEBRATES/INSECTS					
Delhi Sands flower-loving fly *Rhaphiomidas terminatus abdominalis*	-/FE	✔	✔	✔	✔
Electra silkmoth *Hemileuca electra electra*	- / -	✔			
Frost's tiger beetle *Cicindela senilis frosti*	- / -	✔			
Greenest tiger beetle *Cicindela tranquebanca viridissima*	- / -	✔			
Harbisons dun skipper *Euphyes vestris harbisoni*	- / -	✔			
Quino checkerspot butterfly *Euphydryas editha quino*	-/FE	✔	✔	✔	✔
Ruth's cuckoo bee *Holcopasites ruthae*	- / -	✔			
San Jacinto blue butterfly *Euphilotes enoptes cryptorufes*	- / -	✔			
Simple hydroporus diving beetle *Hydroporus simplex*	- / -	✔			
FISH					

northern red-diamond rattlesnake *Crotalus ruber ruber*	SSC/-	✔	✔	✔	✔
San Bernardino mountain kingsnake *Lampropeltis zonata parvirubra*	SSC/-	✔	✔	✔	✔(f)
San Bernardino ringneck snake *Diadiphis punctatus modestus*	-/-	✔	✔		
San Diego banded gecko *Coleonyx variegatus abbottii*	-/-	✔	✔	✔	✔
San Diego horned lizard *Phrynosoma coronatum blainvillei*	SSC/-	✔	✔	✔	✔
San Diego mountain kingsnake *Lampropeltis zonata pulchra*	SSC/-	✔	✔	✔	✔(f)
San Diego ringneck snake *Diadophis punctatus similis*	-/-	✔	✔		
southern rubber boa *Charina bottae umbratica*	ST/-	✔	✔	✔	✔(f)
southern sagebrush lizard *Sceloporus graciosus vandenburgianus*	-/-	✔	✔	✔	✔(f)
two-striped garter snake *Thamnophis hammondii*	SSC/-	✔	✔		
western pond turtle *Clemmys marmorata pallida*	SSC/-	✔	✔	✔	✔
BIRDS					
American bittern *Botaurus lentiginosus*	-/	✔	✔	✔	✔
bald eagle *Haliaeetus leucocephalus*	SP, SE/FT	✔	✔	✔	✔
Bell's sage sparrow *Amphispiza belli belli*	SSC/	✔	✔	✔	✔
black swift (breeding) *Cypseloides niger*	SSC/	✔	✔	✔	✔
black-crowned night heron *Nycticorax nycticorax*	-/-	✔	✔	✔	✔
burrowing owl *Athene cunicularia hypugaea*	SSC/	✔	✔	✔	✔(c)
cactus wren *Campylorhynchus*	SSC/-	✔	✔	✔	✔

brunneicapillus					
California black rail *Laterallus jamaicensis*	SP, ST/	✔			
California horned lark *Eremophila alpestris actia*	SSC/-	✔	✔	✔	✔
California spotted owl *Strix occidentalis occidentalis*	SSC/	✔	✔	✔	✔(f)
coastal California gnatcatcher *Polioptila californica californica*	SSC/FT	✔	✔	✔	✔
Cooper's hawk *Accipiter cooperii*	SSC/-	✔	✔	✔	✔
double-crested cormorant *Phalacrocorax auritus*	SSC/-	✔	✔	✔	✔
downy woodpecker *Picoides pubescens*	-/-	✔	✔	✔	✔
ferruginous hawk *Buteo regalis*	SSC/	✔	✔	✔	✔
flammulated owl *Otus flammeolus*	-/-	✔	✔		
golden eagle *Aquila chrysaetos*	SP, SSC/-	✔	✔	✔	✔
grasshopper sparrow *Ammodramus savannarum*	-/-	✔	✔	✔	✔(e)
great blue heron *Ardea herodias*	-/-			✔	✔
greater sandhill crane *Grus canadensis tabida*	SP, ST/-	✔			
Le Conte's thrasher *Toxostoma lecontei*	SSC/	✔	✔		
least Bell's vireo *Vireo bellii pusillus*	SE/FE	✔	✔	✔	✔(a)
Lincoln's sparrow (breeding) *Melospiza lincolnii*	-/-	✔	✔	✔	✔(e)
loggerhead shrike *Lanius ludovicianus*	SSC/	✔	✔	✔	✔
long-eared owl (breeding) *Asio otus*	SSC/-	✔	✔		
Macgillivray's warbler *Oporornis tolmiei*	-/-	✔	✔	✔	✔
merlin *Falco columbarius*	SSC/-	✔	✔	✔	✔
mountain plover (wintering) *Charadrius montanus*	SSC/PT	✔	✔	✔	✔
mountain quail	-/-	✔	✔	✔	✔

cuckoo *Coccyzus americanus occidentalis*	SE/-	✔	✔	✔	✔(a)
white-faced ibis *Plegadis chihi*	SSC/	✔	✔	✔	✔
white-tailed kite *Elanus leucurus*	SP/	✔	✔	✔	✔
Williamson's sapsucker *Sphyrapicus thyroideus*	- / -	✔	✔	✔	✔(f)
Wilson's warbler *Wilsonia pusilla*	- / -	✔	✔	✔	✔
yellow warbler *Dendroica petechia brewsteri*	SSC/-	✔	✔	✔	✔
yellow-breasted chat *Icteria virens*	SSC/-	✔	✔	✔	✔
MAMMALS					
Aguanga kangaroo rat *Dipodomys merriami collinus*	- / -	✔		✔	✔(c)
American badger *Taxidea taxus*	SSC/-	✔			
big free tailed bat *Nyctinimops macrotis*	SSC/-	✔			
bobcat *Lynx rufus*	- / -	✔	✔	✔	✔
brush rabbit *Sylvilagus bachmani*	- / -	✔	✔	✔	✔
California leaf-nosed bat *Macrotus californicus*	SSC/-	✔			
California mastiff bat *Eumops perotis californicus*	SSC/	✔			
coyote *Canis latrans*	- / -	✔	✔	✔	✔
Dulzura California pocket mouse *Chaetodipus californicus femoralis*	SSC/-	✔	✔		
Dulzura kangaroo rat *Dipodomys simulans*	- / -			✔	✔
fringed myotis *Myotis thysanodes*	- /	✔			
long-eared myotis *Myotis evotis*	- /	✔			
long-legged myotis *Myotis volans*	- /	✔			
long-tailed weasel *Mustela frenata*	- / -	✔	✔	✔	✔
Los Angeles pocket mouse *Perognathus*	SSC/-	✔		✔	✔(c)

longimembris brevinasus					
Mexican long-tongued bat *Choeronyeteris mexicana*	SSC/-	✔			
mountain lion *Puma concolor*	- / -	✔	✔	✔	✔
Nelson's bighorn sheep *Ovis canadensis nelsoni*	- / -	✔			
northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	SSC/-	✔	✔	✔	✔
pale big-eared bat *Pleocotus townsendii pallescens*	SSC/	✔			
pallid bat *Antrozous pallidus*	SSC/-	✔			
peninsular bighorn sheep *Ovis canadensis cremnobates*	SP, SE/FE	✔			
pocketed free-tailed bat *Nyctinimops femorosaccus*	SSC/-	✔			
ringtail *Bassarisucs astutus*	- / -	✔			
San Bernardino flying squirrel *Glaucomys sabrinus californicus*	SSC/-	✔	✔	✔	✔(e)
San Bernardino kangaroo rat *Dipodomys merriami parvus*	SSC/FE	✔		✔	✔(c)
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	SSC/-	✔	✔	✔	✔
San Diego desert woodrat *Neotoma lepida intermedia*	SSC/-	✔	✔	✔	✔
southern grasshopper mouse *Onychomys torridus ramona*	SSC/	✔			
southern yellow bat *Lasiurus ega*	- / -	✔			
spotted bat *Euderma maculatum*	SSC/	✔			
Stephens' kangaroo rat *Dipodomys stephensi*	ST/FE	✔	✔	✔	✔
western big-eared bat *Pleocotus townsendii townsendii*	SSC/	✔			
western small-footed					

Ambrosia pumila	-/FE	✔	✔	✔	✔(b)
San Diego button-celery *Eryngium aristulatum* var. *parishii*	SE/FE	✔	✔	✔	✔
San Diego goldenstar *Muilla clevelandii*	- / -	✔			
San Jacinto beardtongue *Penstemon clevelandii* var. *connatus*	- / -	✔	✔		
San Jacinto Mountains bedstraw *Galium angustifolium* ssp. *jacinticum*	- / -	✔	✔	✔	✔(b)
San Jacinto Mountain daisy *Erigeron breweri* var. *jacinteus*	- / -	✔	✔		
San Jacinto prickly phlox *Leptodactylon jaegeri*	- / -	✔			
San Jacinto Valley crownscale *Atriplex coronata* var. *notatior*	-/FE	✔	✔	✔	✔(d)
San Miguel savory *Satureja chandleri*	- / -	✔	✔	✔	✔(b)
Santa Ana River woollystar *Eriastrum densifolium* ssp. *sanctorum*	SE/FE	✔	✔	✔	✔
Santa Rosa Mountains linanthus *Linanthus floribundus* ssp. *hallii*	- / -	✔			
Santiago Peak keckii *Phacelia suaveolens* ssp. *keckii*	- / -	✔			
shaggy-haired alumroot *Heuchera hirsutissima*	- / -	✔	✔	✔	✔(f)
slender bedstraw *Galium angustifolium* ssp. *gracillimum*	- / -	✔	✔		
slender-horned spine flower *Dodecahema leptoceras*	SE/FE	✔	✔	✔	✔(b)
small-flowered bluecurls *Trichostema micranthum*	- / -	✔			
small-flowered microseris *Microseris douglasii* var. *platycarpha*	- / -	✔	✔	✔	✔(e)
small-flowered morning-glory *Convolvulus simulans*	- / -	✔	✔	✔	✔

FE Endangered: Species listed as endangered by the U.S. Fish and Wildlife Service. Taxa threatened throughout all or a significant portion of their range. The term "endangered species" means any species which is in danger of extinction throughout all or a significant portion of its range other than a species of the Class Insecta determined by the Secretary to constitute a pest whose protection under the provisions of this Act would present an overwhelming and overriding risk to man (Section 3 (6) of the Endangered Species Act).

FT Threatened: Species listed as threatened by the U.S. Fish and Wildlife Service. Taxa likely to become endangered in the foreseeable future. The term "threatened species" means any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range (Section 3 (19) of the Endangered Species Act).

PT Proposed Threatened: Species proposed for listing as threatened by the U.S. Fish and Wildlife Service

Proposed: Any species of fish, wildlife, or plant that is proposed in the Federal Register to be listed under Section 4 of the Endangered Species Act. The formal process of publishing a proposed federal regulation in the Federal Register and establishing a comment period for public input in the decision-making process. Plants and animals must be proposed for listing as threatened or endangered species, and the resulting public comments must be analyzed, before the UFWS can make a final decision.

Petition: A formal request, with the support of adequate biological data, suggesting that a species be listed, reclassified, or delisted, or that critical Habitat be revised for a listed species.

STATE DESIGNATIONS

SE Endangered: Species classified as endangered by the California Fish and Game Commission. Taxa which are in serious danger of becoming extinct throughout all, or a significant portion, of their range due to one or more causes including loss of Habitat, change in Habitat, over exploitation, predation, competition, or disease (Section 2062 of the Fish and Game Code).

ST Threatened: Species classified as threatened by the California Fish and Game Commission. Taxa which, although not presently threatened with extinction, are likely to become endangered species in the foreseeable future (Section 2067 of the Fish and Game Code).

SSC California or CDFG Species of Special Concern: Species considered by the California Department of Fish and Game as possibly facing extirpation in California due to declining populations or loss of Habitat. Taxa that appear to be vulnerable to extinction because of declining populations, limited ranges, and/or continuing threats.

California Special Concern Species: It is the goal and responsibility of the Department of Fish and Game to maintain viable populations of all native species. To this end, the Department has designated certain vertebrate species as "Species of Special Concern" because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. The goal of designating species as "Species of Special Concern" is to halt or reverse their declining by calling attention to their plight and addressing the issues of concern early enough to secure their long term viability. Not all "Species of Special Concern" have declined equally; some species may be just starting to decline, while others may have already reached the point where they meet the criteria for listing as a "Threatened" or "Endangered" species under the State and/or Federal Endangered species Acts.

SP Fully Protected: Fully protected species may not be taken or possessed without a permit from the Fish and Game Commission and/or the Department of Fish and Game.

SR Rare: Taxa which, although not presently threatened with extinction, are present in such small numbers throughout their range that they may become endangered if the present environment worsens (Section 1901 of the Fish and Game Code).

Candidate: Taxa which the Fish and Game Commission has formally noticed as being under review by the Department in addition to the list of threatened and endangered species.

(2) The list of species initially considered for Conservation by the Wildlife Agencies in collaboration with the MSHCP Advisory Committee. This list was documented by FWS staff in Tables 1 and 2 prepared in March 1999.

Native Communities and Climate Change: Protecting Tribal Resources as Part of National Climate Policy

A scientific consensus has emerged in recent decades that human activities are causing considerable changes to our climate. Among the changes already observed are higher temperatures, rising sea levels, warming oceans, and melting polar ice sheets. These trends will continue even if significant policy changes are made, and they will grow much worse if we do little or nothing to address the problem.

While climate change will affect everyone, it will impact some disproportionately. Native American communities are among the most vulnerable. Climate change threatens tribal culture, resources, and ways of life. For this reason, it is imperative that Congress and executive branch agencies consider the special threats and disparate impact faced by tribes. Ample authority exists to support such consideration. In particular, the federal trust responsibility requires the federal government to protect tribal land and resources. This authority is rooted in numerous treaties, statutes, executive orders, and judicial opinions that recognize the very tribal rights at risk from climate change.

This report describes the special problems facing tribes as a result of climate change, focusing on four regions of the country. It then reviews federal authority for addressing these problems and outlines a course of action for federal policymakers.

Solving the climate change problem is a daunting task. But understanding how climate change poses special threats to tribes is crucial for enacting a successful climate policy.

Chapter 1: The Changing Climate

Earth's climate is rapidly changing in significant ways. The Intergovernmental Panel on Climate Change (IPCC) predicts that the 21st century will experience accelerating rates of climate change, largely due to the build up of atmospheric CO_2 and the accumulation of heat in the oceans. Among the IPCC's latest findings, released this year:

Temperature. The most obvious, well understood and documented aspect of climate change is global warming. Global near-surface air temperatures have increased 0.74°C (1.33°F) over the past century (1906-2005). Temperatures are expected to rise another 1.1-6.4°C (2.0-11.5°F) in the 21st century, depending on future policies regarding greenhouse gas emissions. These changes in air and water temperatures drive most of the other climate change impact.

Precipitation. Precipitation trends are highly region-specific and remain difficult to forecast. Computer modeling increasingly suggests the possibility of future drying in much of southern North America, and stable or wetter conditions in the remainder of the continent.

While climate change will affect everyone, it will impact some disproportionately. Native American communities are among the most vulnerable.

Sea Level Rise. Rising ocean levels are primarily caused by thermal expansion of warming water and the melting of the Greenland and Antarctic ice sheets. Overall, ocean levels in the 20th century rose by approximately 0.17 meter (6.7 inches). In the 21st century, the IPCC predicts sea levels to rise 0.18-0.59 meters (7.1-23.2 inches), depending upon the emissions scenario considered. This IPCC estimate assumes no acceleration in the melt rate of the Greenland and Antarctic ice sheets, although many scientists expect that melting will accelerate. Thus, this IPCC estimate could prove too conservative. In addition to flooding low-lying coastal areas, sea level rises are expected to accelerate saltwater intrusion and increase the vulnerability of coastal communities and ecosystems to extreme weather-related events.

testimony from the scientific, academic, and private sector communities. Most importantly, though, Congress should hear from the tribes themselves. Such first-person accounts will undoubtedly be the most compelling evidence of how climate change affects native communities. In addition, as Congress expands the administrative framework dealing with climate change, they must ensure that tribes are able to provide ongoing input into national climate change policy and programs.

> Informed decisions as to how best to protect tribes from the effects of climate change must begin with a clear understanding of the likely impact. As Congress debates federal climate change legislation, they should call for hearings to provide such information.

Adequate Revenue-Raising Mechanism. While debate continues over a wide range of legislative initiatives, none of the current proposals will likely generate the substantial revenues needed to finance mitigation and adaptation efforts in response to climate change. Mitigation and adaptation will be costly. As described in the case studies, certain native communities will be especially affected. Any national climate policy to address the impact on tribes must provide a substantial revenue-raising mechanism if it is going to be adequate.

Fortunately, climate change offers relatively simple opportunities to raise considerable revenues. For example, a carbon tax at a level that provides incentives for non-carbon-based activities could raise billions of dollars. Likewise, fees might be set for carbon emission allowances. Some of the bills currently being discussed in Congress do contemplate the need for fee-based allowances to raise revenues, and some of them expressly acknowledge the need to address unequal impact of climate change. The proposals that contemplate revenue generation, however, are too modest to raise the amounts that will be needed to adequately address the likely consequences of climate change. These proposals will likely fall short of what will be needed to fund mitigation and adaptation efforts, especially with regard to disproportionate impact on tribes.

> Mitigation and adaptation will be costly. As described in the case studies, certain native communities will be especially affected. Thus, any national climate policy to address the impact on tribes must provide a substantial revenue-raising mechanism if it is going to be adequate.

Alternative Energy Development Funding for Tribes. Because fossil fuel emissions are such a major contributor to climate change, development of alternative energy technologies will be an important component of any future strategy. Tribes have some of the greatest resources (e.g. wind and solar power) for helping the nation with renewable energy development. At the same time, they are among the most vulnerable to impact from climate change caused in large part by conventional fossil fuel-based energy development. Helping tribes develop alternative energy technologies both on reservations and as part of a national renewable energy program can help overcome this contradiction.

Alternative energy projects take investment capital, infrastructure, and technical capacity that tribes often lack. Development of renewable energy resources by tribes on their own will do little to mitigate the impact from climate change on their communities. However, tribes can play an important role in any national or international solution.

For this reason, any renewable energy program at the federal level must include opportunities and incentives for tribes. Such a program should include technical assistance and subsidies for individual projects on reservations. The government should also provide financial assistance to establish transmission lines to connect tribal projects to the national energy infrastructure.

> Tribes have some of the greatest resources for helping the nation with renewable energy development. At the same time, they are among the most vulnerable to impact from climate change caused in large part by conventional fossil fuel-based energy development. Helping tribes to develop alternative energy technologies both on reservations and as part of a national renewable energy program can help overcome this dichotomy.

Administration of Federal Programs to Protect Tribal Resources. In order to meet its trust responsibility to tribes, the federal government should operate government programs to protect treaty and other tribal rights in light of climate change impact. This may implicate many programs not particularly directed at tribes. But national mitigation efforts that benefit tribes will benefit everyone. Recently, the Supreme Court recognized that the Environmental Protection Agency has the authority to regulate greenhouse gases from automobile emissions. A subsequent Executive Order asks the agency to implement regulatory measures soon. In setting the level and extent of greenhouse gas regulation, the EPA should take into account the trust obligation that the federal government owes to tribes, as well as the environmental justice executive order and the need to address the disproportionate impact to tribes.

Conclusion

As the latest report from the IPCC makes clear, our climate is changing in significant ways. While all of us will certainly be affected to some degree, some will bear disproportionate impact from climate change. Among those disparately affected are native communities. Their traditional lifestyles typically contribute little to the causes of climate change even as the change fundamentally harms tribal culture and the close relationship tribes have with the land, water, wildlife, and other natural resources.

Congress and executive agencies must act to address and resolve climate impact on tribes to fulfill the federal trust responsibility, as well as obligations under treaties, statutes, executive orders, and common law doctrines. If they fail to do so, tribal enforcement of these rights in the face of increased scarcity and competition could well force the government's hand.

As legislators begin to craft national policy on climate change, it is essential that they fully understand and address the impact on native communities. This report makes several recommendations to that end:

- Congress should hold hearings on the impact of climate change to tribes, as well as provide opportunities for meaningful and continued input from tribes into national climate policy and programs.
- National climate policy must include an adequate revenue-raising mechanism to finance the costly adaptation and mitigation efforts necessary to address disparate impact on tribes.
- The federal government must provide alternative energy development funding and technical assistance for tribes.
- The federal government must administer federal programs to protect tribal resources.

With these and other measures, the federal government can fulfill its special obligation to tribes and ensure solutions that are fair and equitable for all.

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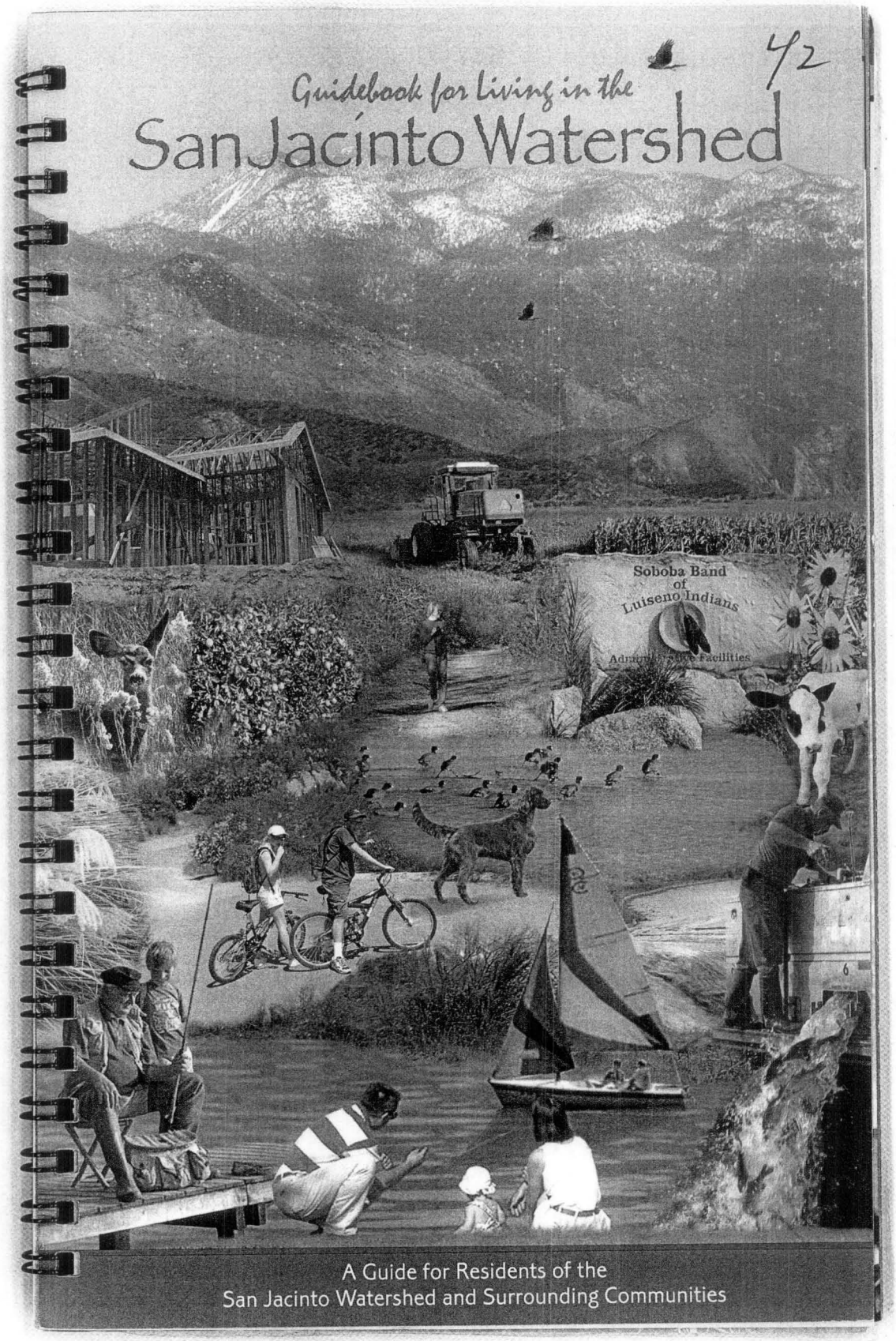
Top row (L to R): U.S. Fish & Wildlife Service; Jon Nickles, U.S. Fish & Wildlife Service; Bureau of Indian Affairs; National Park Service.

Middle row (L to R): State of Oklahoma, www.ok.gov; Naval Facilities Engineering Service Center, U.S. Navy; U.S. Fish and Wildlife Service; U.S. Department of Transportation.

Bottom row (L to R): National Park Service; Naval Facilities Engineering Service Center, U.S. Navy; U.S. Fish & Wildlife Service; Terry Gunn, Glen Canyon Dam Adaptive Management Program; U.S. Fish & Wildlife Service.

The full report is posted on the Natural Resources Law Center website:

www.colorado.edu/law/centers/nrlc


Guidebook for Living in the
San Jacinto Watershed
4/2
Soboba Band
of
Luiseno Indians
A Guide for Residents of the
San Jacinto Watershed and Surrounding Communities

The San Jacinto River Watershed Council recognizes the following organizations and agencies as partners in creating *The Guidebook for Living in the San Jacinto Watershed, A Guide for Residents of the San Jacinto Watershed and Surrounding Communities*. From providing funding to lending technical expertise, these organizations have contributed to preserving the natural resources of the San Jacinto Watershed:

Bureau of Reclamation, California Environmental Protection Agency Environmental Justice Small Grants Program • City of Lake Elsinore • Eastern Municipal Water District • Elsinore Valley Municipal Water District • Lake Elsinore and San Jacinto Watersheds Authority • Lewis Planned Communities and the Garrett Group • Milk Producers Environmental Fund • Riverside County Farm Bureau • Riverside County Flood Control and Water Conservation District, Santa Ana Watershed Association, Santa Ana Watershed Project Authority • Soboba Band of Luiseño Indians and Western Municipal Water District.

The San Jacinto Guidebook is based upon the Arroyo Seco "Living Lightly in Our Watersheds: A Guide for Residents of Arroyo Seco and surrounding communities." The Arroyo Seco book was based upon earlier concepts from the Topanga Watershed Committee and the Malibu Creek Advisory Council. We wish to thank the Topanga Watershed Committee, the Malibu Creek Watershed Advisory Council, and the Arroyo Seco Watershed Committee.

Adaptation of text reprinted from the "Living Lightly In Our Watersheds Guide" with permission from the Arroyo Seco Watershed Committee.

This book is also available in Spanish. Please contact the San Jacinto River Watershed Council for additional information.

Prepared by:
The San Jacinto River Watershed Council

Welcome to

The Guidebook for Living in the San Jacinto Watershed

Dear Friends,

There's a spot along the Ernie Maxwell Scenic Hiking Trail, just east of Idyllwild, where much of the San Jacinto River Watershed may be taken in at a single glance. Here in the shadow of Tahquitz Peak, the mountains, ridges and hilltops that form the upper boundaries of our watershed surround you. Lake Hemet and Garner Valley lie just south. Below the Lake lies the canyon of the south fork of the San Jacinto River winding northwest toward the Soboba Indian Reservation, the Badlands and that ephemeral jewel, Mystic Lake. Along the trace of the Canyon and just west of Mystic Lake are the dairy lands and the San Jacinto Wildlife Area, one of the best indicators of the health of our watershed. Further west and just beyond our view lie Canyon Lake and Lake Elsinore, where much of how we all live is reflected in the quality of those aquatic environments.

These stops along the energy highway that comprise our watershed are but a glimpse of the real complexity that underlies the environment in which we all live and work. It's the droplets of water, particles of soil, molecules of oxygen, photons of sunlight, bacteria, insects, flowering plants, birds, mountain lions and all of us – all are related, connected by lifelines and knotted together in a network. We now better understand that when we work together locally for environmental quality, the integrity of the network can be maintained and we can achieve stability, the most fundamental property of a functioning watershed and sustainable communities.

And we have come together: citizens, local, state and federal agencies as members of the non-profit San Jacinto River Watershed Council to coordinate efforts and share resources to develop and implement watershed management strategies that will make western Riverside County a great place to live and work.

This booklet, Guidebook for Living in the San Jacinto Watershed, was developed to inform you of the work of all of our members, what you can do to help reduce pollution and conserve resources, and how you can become involved in and support the work of the Council.

Enjoy!!

Jim Gilmore, President
San Jacinto River Watershed Council

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Wendy Kolk

Dear Friends of the San Jacinto River:

Among the many reasons to reside in or visit Riverside County is the high quality of life available to an active population. Within that portion of just the San Jacinto River Watershed, the variety of activities offered takes a lifetime to enjoy fully. You can hike high in the cool mountains. You can water-ski, fish or sail on several lakes. You can tour public gardens or grow your own flower and herb gardens year-round. You can be as active or passive as you prefer.

The San Jacinto River Watershed has it all. The best way to enjoy your lifestyle is to "live lightly" in our communities. That's what this guidebook offers you—opportunities for enjoyment and the obligation to be part of the conservation ethic that reduces pollution, keeps our air and water clean, and endorses our priority to maintain bountiful green space. We can all do our parts to ensure that the watershed will be a valued destination for new generations.

Many individuals from private, governmental and volunteer organizations contributed their expertise to this guidebook. We know you'll find this guidebook helpful in understanding the San Jacinto River Watershed and appreciating what it has to offer.

Sincerely,

Bob Buster, Chairman
Supervisor, First District

Jeff Stone
Supervisor, Third District

Marion Ashley
Supervisor, Fifth District

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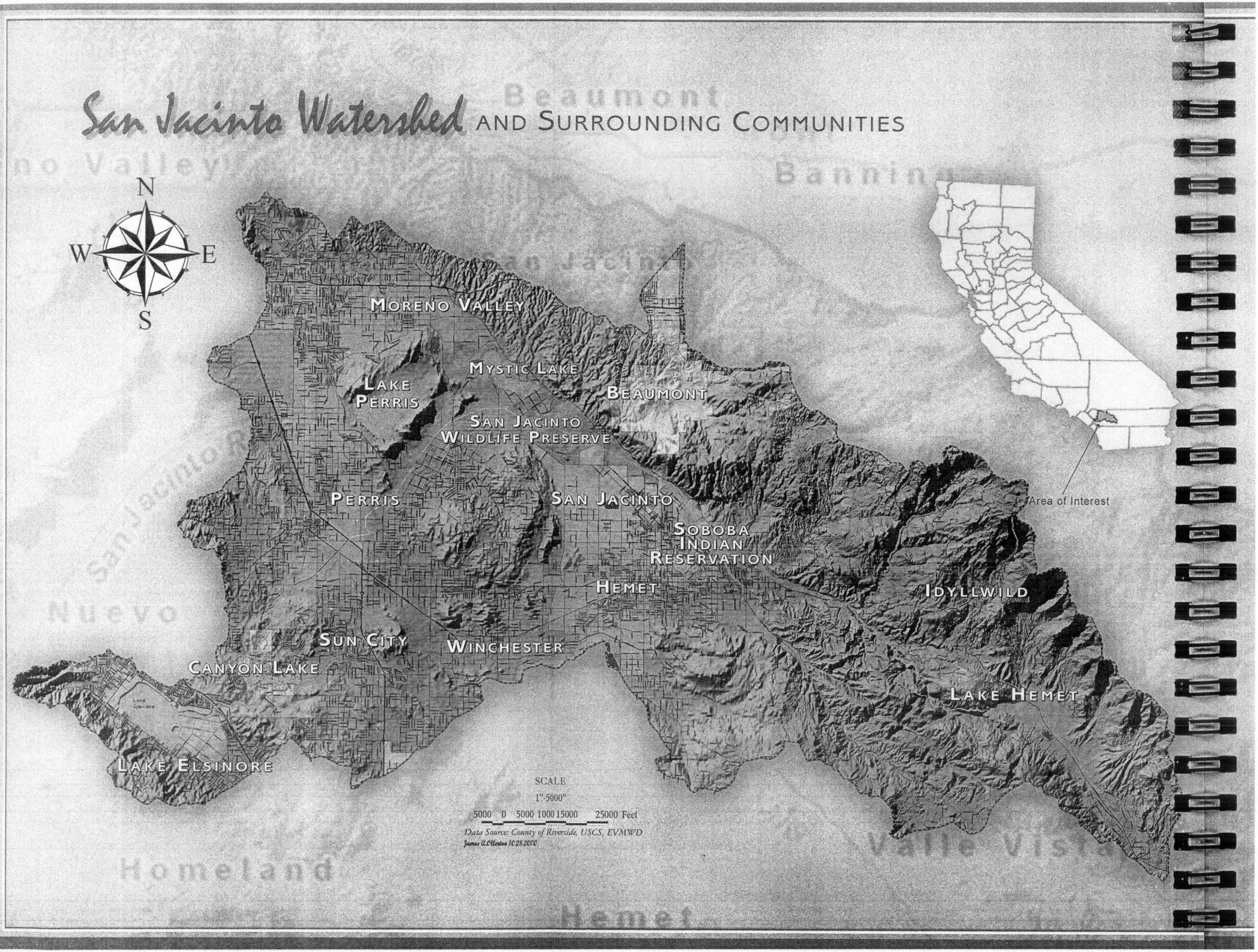
San Jacinto Watershed AND SURROUNDING COMMUNITIES
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MORENO VALLEY
MYSTIC LAKE
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SOBOBA INDIAN RESERVATION
HEMET
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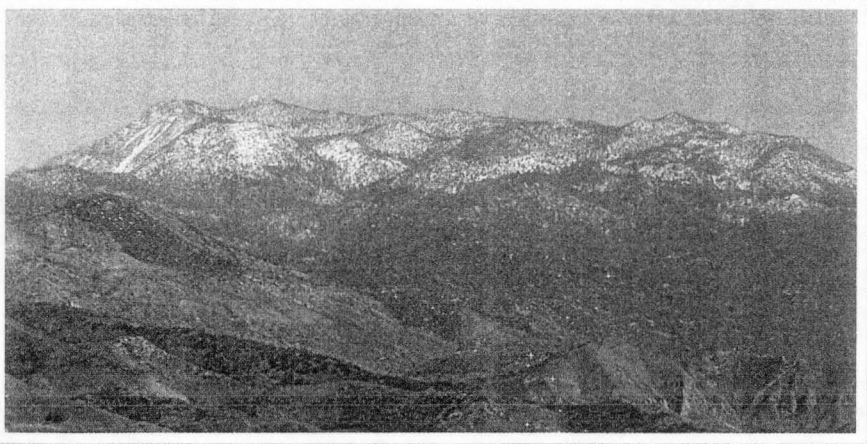
SUN CITY
WINCHESTER
CANYON LAKE
LAKE HEMET
LAKE ELSINORE
Area of Interest
SCALE
1"-5000"
5000 0 5000 10000 15000 25000 Feet
Data Source: County of Riverside, USCS, EVMWD
James U. Ellerton 10.28.2000

Imagine THE SAN JACINTO WATERSHED

as a clean and protected environment that is the source of community pride. Parks, bicycle trails, places to walk under a green canopy of trees, clean air, water and wildlife habitat are all a part of what the future holds for the watershed.

With your support, the vision is becoming a reality.

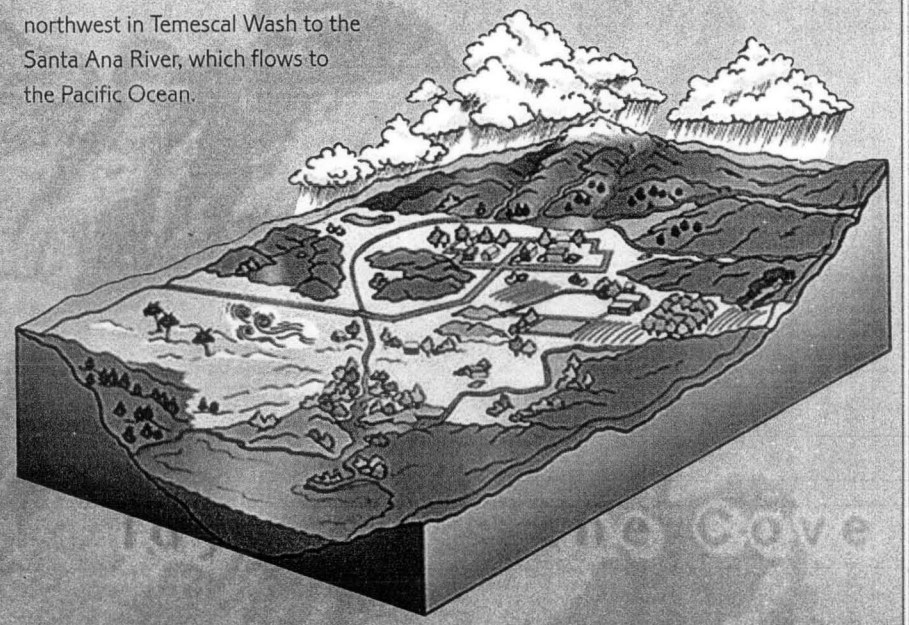


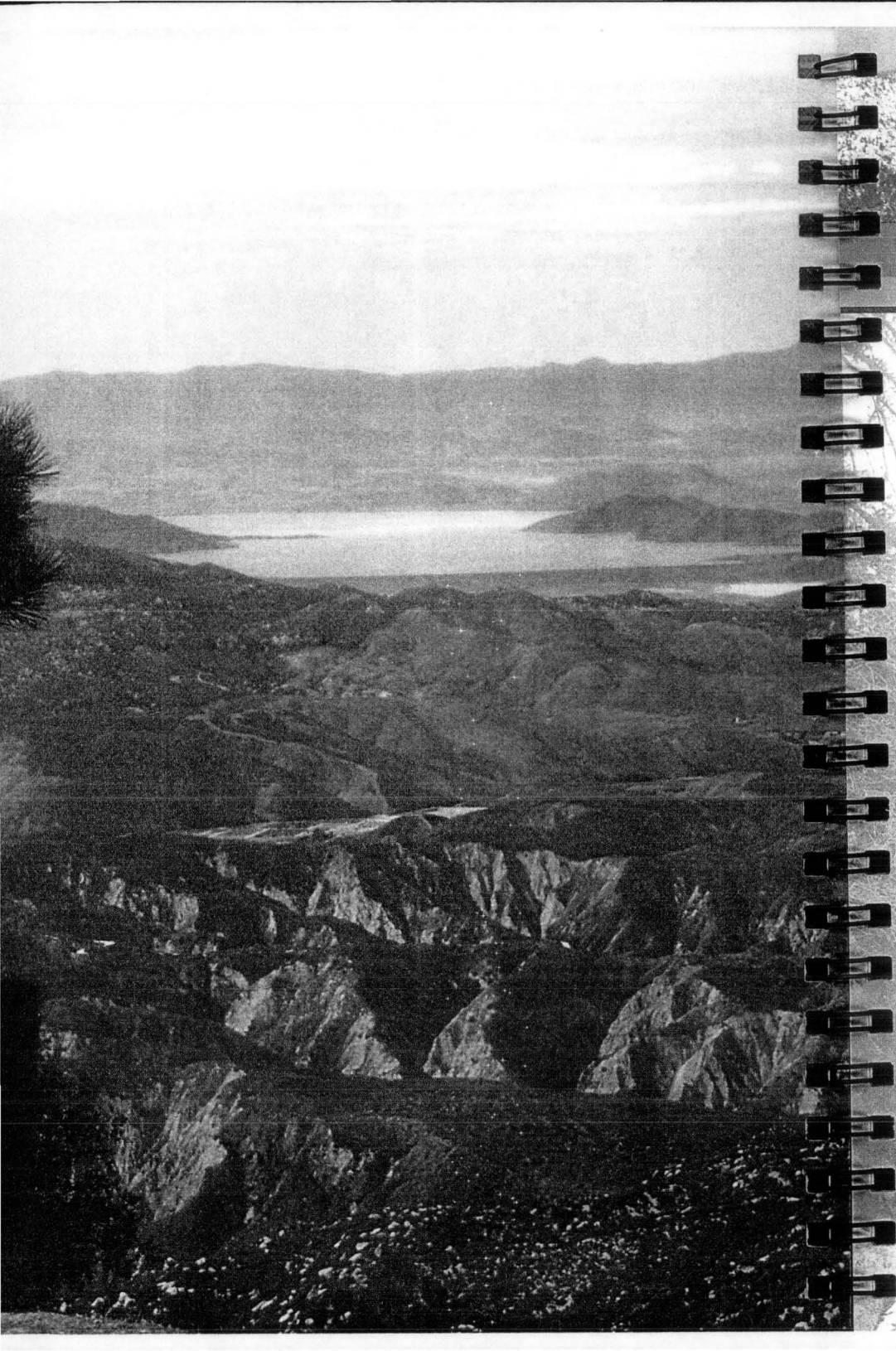
What is a Watershed?

A watershed is an area of land from which all rainfall drains to a common point. All land is part of a watershed. As rainwater and melting snow run downhill, they carry sediment and other materials into our streams, lakes and groundwater.

The San Jacinto Watershed upstream of Canyon Lake covers 718 square miles in the western half of Riverside County. There are two main watercourses in the watershed, San Jacinto River and Salt Creek.

The San Jacinto drains the western slopes of the San Jacinto Mountains and flows through the communities of San Jacinto and Perris before entering Canyon Lake. Salt Creek is tributary to the San Jacinto River and flows into Canyon Lake from the east. Discharges from the Canyon Lake Dam flow southwest in the San Jacinto River to Lake Elsinore and, then flows northwest in Temescal Wash to the Santa Ana River, which flows to the Pacific Ocean.





Section 1

OUR WATERSHED

The earth's surface acts as an amazing sponge and filter, allowing moisture, minerals, and organic materials to be used and reused by all life. In developing our cities and communities, we have changed the underlying conditions of the land on which they are built. Where once water, air, and nutrients could enter the soil and circulate freely, we now have increasingly larger areas of hard surfaces that rapidly concentrate rain and pollutants. We have also introduced plants and animals into areas where they were not previously found , thus dramatically changing the make-up of our region's biological communities. Learning to work with the natural cycles that have sustained the earth will help ensure that food, clean air, and water, and beautiful green open space will be available to future generations.

"To keep every cog and wheel is the first precaution of intelligent tinkering."

– Aldo Leopold

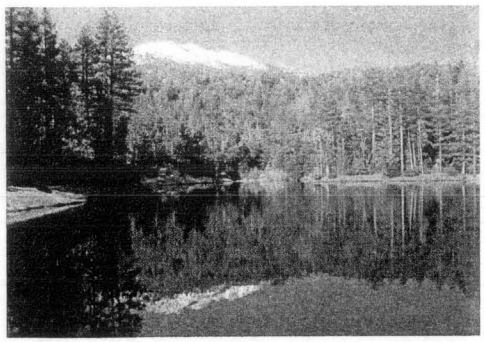
A Watershed Approach

People working together to protect public health and the environment - community by community, watershed by watershed.

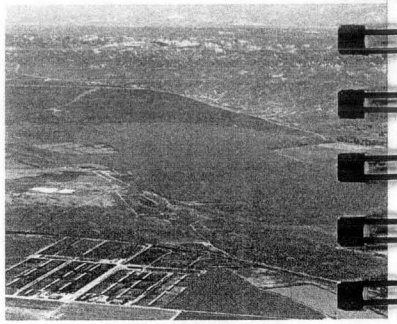
Carol M. Browner, Administrator
U.S. Environmental Protection Agency
June 1996

Rainfall travels from the mountains to the ocean. Water, air, plants and animals move freely across political boundaries. Strategies for improving water quality and availability, increasing flood protection, protecting our lakes and preserving open space for recreation and wildlife are more effective when pursued collectively over a whole watershed. Agencies, organizations, politicians, and individuals should cross over city lines, joining together with neighbors in their watersheds to work toward these important goals. This watershed-based approach not only promises better and more cost-effective results, it also serves to unite neighborhoods, further enriching our lives.

To this end, The San Jacinto River Watershed Council has produced this environmental guide, *"Guidebook for Living in the San Jacinto Watershed,"* for communities in and around the San Jacinto watershed.



Foster Lake



Mystic Lake after a large storm event

CONTACT

FOR MORE INFORMATION ON WATERSHEDS:

- The San Jacinto River Watershed Council- www.sawpa.org/sjrwc/
- LESJWA- www.mywatersheds.com

The San Jacinto Watershed

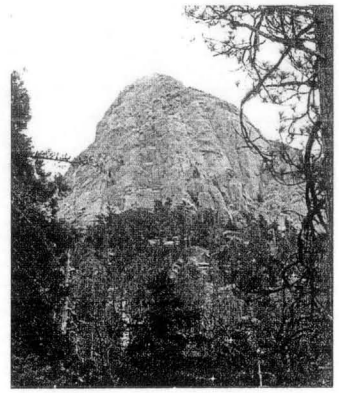
The San Jacinto Watershed is a 780 square mile watershed with diverse and unique geographical, cultural, and ecological significance. Let's take a journey (see map page vi) to better understand how water flows through our watershed.

At the top of our watershed, in the San Jacinto Mountain communities of Idyllwild, Pine Cove Fern Valley and Garner Valley, rain and snow fall on steep, rocky slopes. Water and sediments wash from the slopes, and move down the mountain and canyons into the headwaters of the San Jacinto River. Lake Hemet, on the South Fork of the river, captures significant quantities of mountain runoff. In wetter years, Lake Hemet overflows, drastically increasing the flow in the river as it exits the mountains into the San Jacinto Valley near the community of Valle Vista.

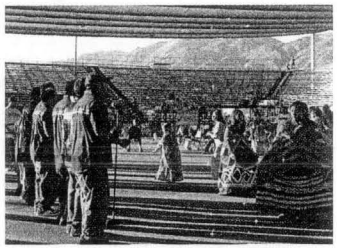
East of the city of San Jacinto, in the rolling foothills of the San Jacinto Mountains, is the 7,000 acre Soboba Indian Reservation, home of the Soboba Band of Luiseño Indians. The reservation extends into the broad level floodplain at the southeast edge of the San Jacinto Valley. Two other mountain streams, Indian Creek and Poppet Creek, flow through the reservation. Water is and always has been a cornerstone of the Soboba band.

The San Jacinto Valley holds a rich and diverse agricultural history. On the south end of the valley are several thousand acres of citrus orchards located in the foothills near Bautista Creek. On the northern half of the San Jacinto Valley the San Jacinto River flows through a large dairy and agricultural community. In the early 1900's, farmers co-opted in building a leveed diversion channel to keep the river from flooding into a large depression at the north edge of the valley known as Mystic Lake. During heavy storm events the levees are overwhelmed, and the river breaks out to flow into Mystic Lake.

Today, Mystic Lake is part of the 19,100 acre San Jacinto Wildlife Area owned by the California



The 8,828-foot Tahquitz Peak, a granite dome in the San Jacinto Wilderness is a favorite with climbers.



Soboba Pow wow

Argriculture in the San Jacinto Valley

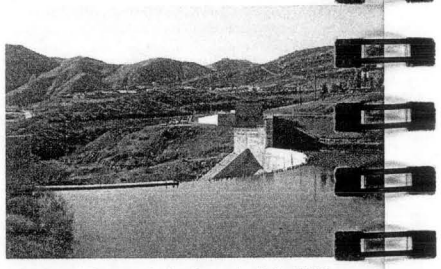
Department of Fish and Game. This conservation area is comprised of the 9,100 acre Potrero Unit, on the Potrero Creek Drainage east of Lamb Canyon Road, and the 10,000 acre Davis Road Unit, which surrounds Mystic Lake in the northern San Jacinto Valley. When Mystic Lake fills and overflows just east of Lake Perris, water flows into the lower reach of the San Jacinto River, which cuts southwesterly across the Perris Valley. Urban runoff from Moreno Valley, Perris, and the communities of Lakeview, Nuevo, Romoland adds to the flow of the water in the river as it makes its way westward toward Canyon Lake.

Salt Creek, a major San Jacinto River tributary, collects runoff from the southern portion of our watershed which includes Hemet, San Jacinto, and the Winchester, Menifee Valley, and Sun City communities. These flows are conveyed to the east bay of Canyon Lake. Runoff from communities near Quail Valley also flows into Canyon Lake.

Canyon Lake, surrounded by a private gated community, flows over its dam during moderate and wet storm seasons. Spillway flows then traverses a short reach of the San Jacinto River within Railroad Canyon until they reach the river's final destination - Lake Elsinore. Lake Elsinore, with the spectacular Cleveland National Forest as a mountain backdrop, is the largest natural freshwater lake in Southern California.

On average, every 7 to 14 years, large storm events occur on our watershed. Spectacular views of the river result, but also flooding. Sediment and pollution, if not controlled, move down its course, seriously impacting the health of the downstream lakes. It is with this in mind that we remind everyone to treat this naturally fragile watershed system with care and respect as you enjoy its miles of ever changing beauty.

Duck pond on the San Jacinto Wildlife area.



Railroad Canyon Lake Dam, built in 1928, created Canyon Lake, a water supply reservoir.

Lake Elsinore with the Cleveland National Forest as a mountain backdrop.

Parks and Public Space

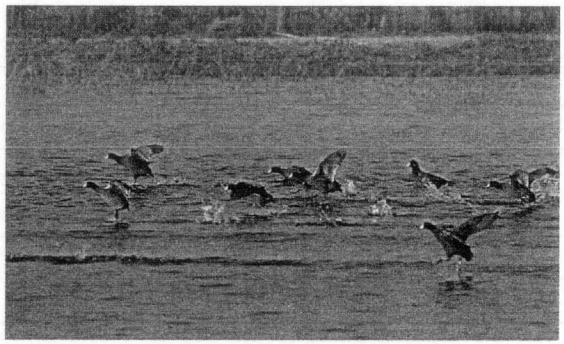
The quality of life for the residents who call the San Jacinto watershed their home relies upon the presence of beautiful, peaceful parks, and abundant open space.

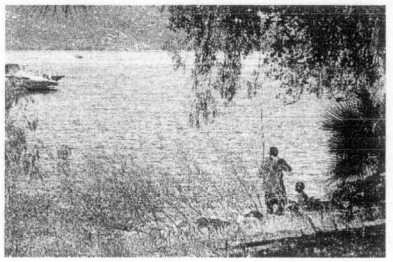
WHAT YOU CAN DO

to keep our parks safe and beautiful:

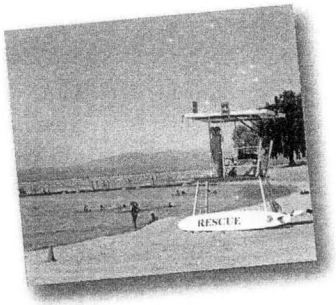
- Keep your dogs on a leash and clean up after them.
- Do not feed the wildlife. Human food is not healthy for birds, squirrels, and other animals.
- Take only pictures, leave only footprints.
- No fires in undesignated areas. Follow all other local rules and regulations.
- If you live near an open, green space, park or hillside, keep your cat indoors. Chances are they will live longer and the birds, bugs and lizards will thank you!

Slow down and take some time to get to know and enjoy the treasures of our region. See the fold-out map, page vii.





Fishing at Lake Perris.



Lake Perris State Recreation Area and the San Jacinto Wildlife area are two wildlife treasures in the upper watershed full of outdoor activities for you and your family.

Environmental Challenges

Stormwater Pollution

Trash, bacteria, pesticides, fertilizers and oil wash into streets and storm drains and contaminate our streams, groundwater, and lakes. Fertilizers and other non-natural sources of nutrients such as grass clippings stimulate the growth of plants, disrupt local water- and land-based communities of plants, and cause severe impairment of our lakes. Each person, simply by changing a few every-day habits, can effect positive change across the watershed.

WHAT YOU CAN DO

to reduce stormwater pollution:

- Pick up trash and litter around your yard and home.
- Sweep rather than hose down driveways.
- Reduce use of toxic chemicals in and around your home and use only as directed on the label.
- Dispose of unwanted household hazardous wastes, antifreeze, batteries, oil and paint at official collection stations. Call (800) 506-2555.
- Clean up pet waste.
- Wash your car at a car wash to keep detergents out of the streets.
- Report illegal dumping and stormwater pollution to (800) 506-2555.

Why clean up after your pet?

Pet waste that is left exposed to the elements eventually washes into the storm drains, channels and creeks and down to the lakes .

Pet waste degrades the environment and water quality by:

- Increasing nitrogen and phosphorus in the water, resulting in excessive algae growth.
- Increasing the amount of bacteria and viruses in the water.
- Making neighborhoods and parks less healthy and enjoyable for all users.

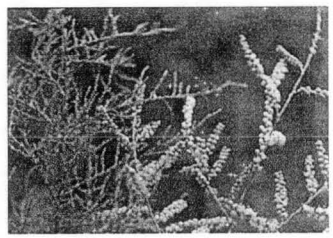
PLEASE CLEAN UP AFTER YOUR PET!

Invasive Plants

Ever since Spanish colonial times, mankind has brought foreign plants, "exotics," to the New World, sometimes by accident, but more usually as fodder or ornament. In our watershed, many drought-tolerant ornamentals are well-behaved, but some escape our yards and create problems. Once growing in the wild, all of them, however attractive, such as Scotch broom in the mountains and fountain grass on the roadside, crowd out native plants to which our native birds and insects are adapted.

A very invasive plant. Arundo Donax

Other plants not only out-compete the natives, but do further damage, Invasive annual grasses grow quickly and dry to tinder, making meadows and scrubland more prone to fire. Eucalyptus grow fast, are brittle, extremely flammable and prone to disease, as are oleanders. Castor-oil plant is poisonous, and tocolote has many irritating burrs.



Tamarisk

Possibly the worst invasives in the watershed are the giant reed, Arundo, and the Tamarisk tree. These water-thirsty foreigners deplete the water table and form monoculture stands where no bird sings. There is a current effort underway – at a cost of millions of dollars – to eradicate Arundo from the Santa Ana and San Jacinto watersheds.

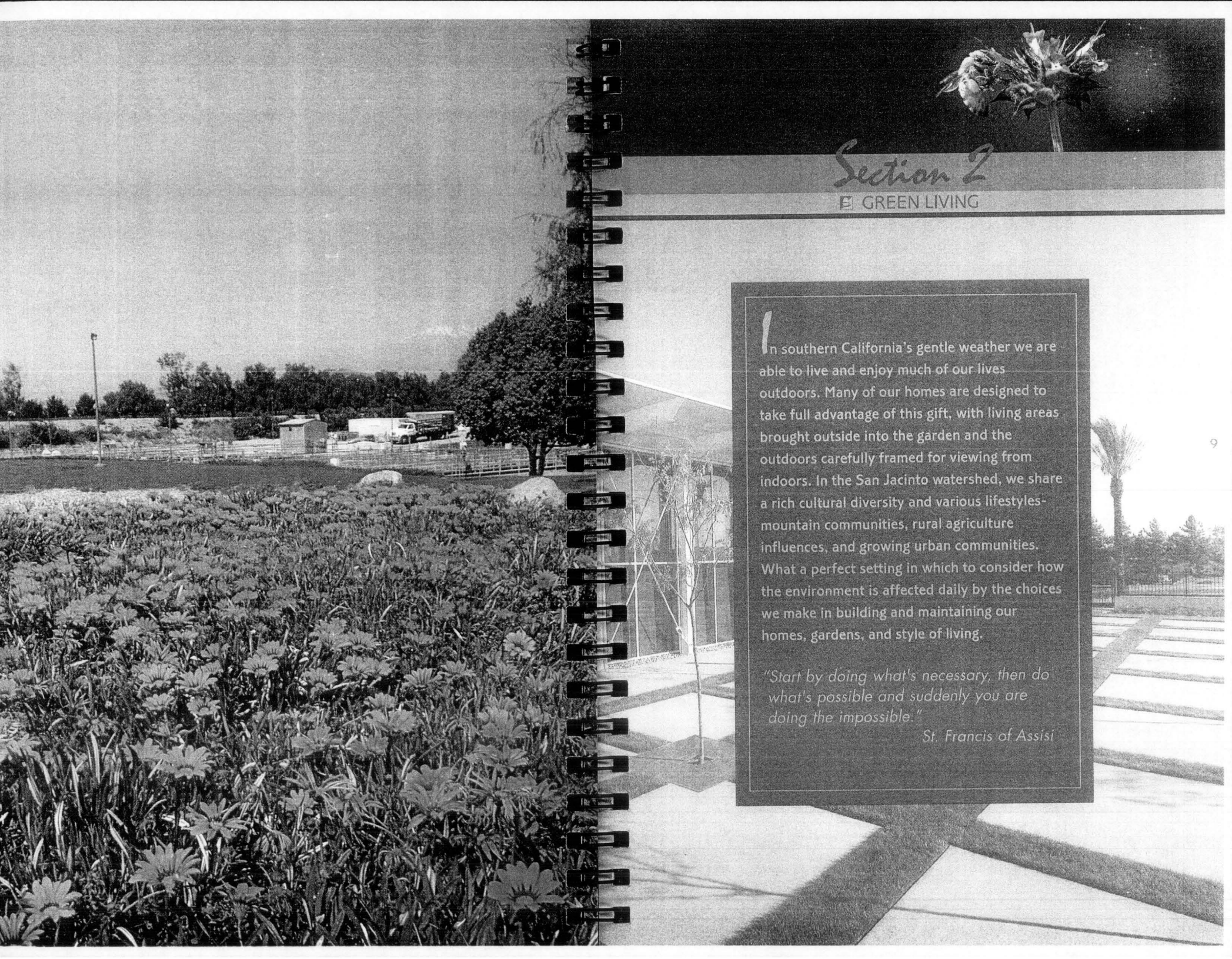
WHAT YOU CAN DO

to control invasive plants:

- Get to know the plants that are problematic in your area and avoid using them.
- Use native plants from our local area. (See page 15 for species.)
- When you see problem exotics for sale in the nurseries, tell them why you want natives instead.

DID YOU KNOW?

The National Parks Conservation Association considers the invasion of national parks by non-native species among the most significant causes of biodiversity loss in parks.



Section 2

GREEN LIVING

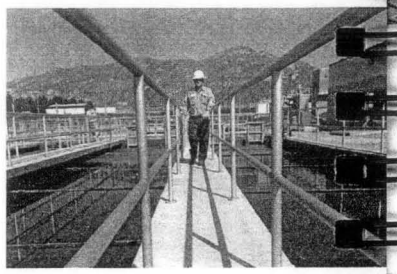
In southern California's gentle weather we are able to live and enjoy much of our lives outdoors. Many of our homes are designed to take full advantage of this gift, with living areas brought outside into the garden and the outdoors carefully framed for viewing from indoors. In the San Jacinto watershed, we share a rich cultural diversity and various lifestyles- mountain communities, rural agriculture influences, and growing urban communities. What a perfect setting in which to consider how the environment is affected daily by the choices we make in building and maintaining our homes, gardens, and style of living.

"Start by doing what's necessary, then do what's possible and suddenly you are doing the impossible."

St. Francis of Assisi

Water Conservation

An effective way to minimize environmental damage and promote a safe and reliable water supply is through conservation. This is particularly important since over half of our drinking water is brought in from distant places such as northern California and the Colorado River. Water conservation efforts add up, reducing our need to import water and increasing the availability and quality of local water resources. Water-conserving appliances and plumbing fixtures save water *and* money.



WHAT YOU CAN DO

to conserve household water:

- Replace high volume flush toilets. *Savings*: up to 8,500 gallons per year for the average single-family household.
- Use a low-flow showerhead. *Savings*: more than 14,600 gallons a year per household.
- When it's time for a new washing machine or dishwasher, buy a water-saving model. Water-wise machines use 1/3 less water and half the energy, and require less detergent and washing additives.
- Fix all leaky faucets and plumbing joints.
- Run your dishwasher and clothes washer only when fully loaded.

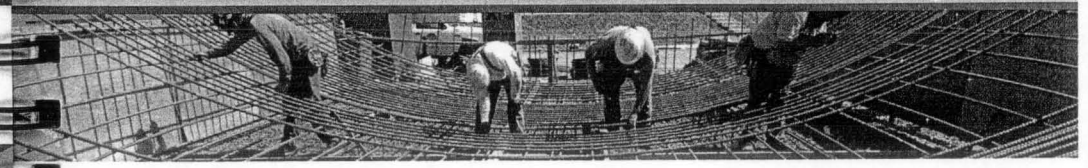
Outdoor Water Conservation

Our yearly rainfall averages from fifteen to twenty inches but can be as little as eight inches. Most rain falls between October and March with long, hot, dry summers. This amount and seasonal cycle of moisture simply cannot sustain most traditional landscapes and lawns. According to the Western Municipal Water District, more than 60% of residential water use is for outdoor landscaping and pools in the inland region.

CONTACT

ASK YOUR CITY OR WATER PROVIDER FOR ADDITIONAL CONSERVATION TIPS AND REBATES

- Eastern Municipal Water District, www.emwd.org
- Elsinore Valley Municipal Water District www.evmwd.com
- Idyllwild Water District www.idyllwildwater.org
- Lake Hemet Municipal Water District, www.lhmwd.org
- Nuevo Water Company 951-928-1832
- Western Municipal Water District, www.wmwd.org www.bewaterwise.com



WHAT YOU CAN DO

to conserve landscape water:

- Consider using a weather-based irrigation controller that irrigates according to historic or real-time weather patterns in your neighborhood.
- During the winter, turn your controller off and water only when winter rains are infrequent.
- During the hotter and drier seasons, water less frequently and more deeply to encourage stronger, healthier plants.
- Check for broken and misaligned sprinkler heads often. This problem causes excessive runoff and landscape failures.
- Lawns are very thirsty. Use them for functional areas only.
- Consider using native plants best adapted to the southern California climate. (see page 15).
- Use drip and low-volume irrigation for garden beds and pots. Group plants with similar water needs.
- Sweep paths and driveways rather than using a hose.
- Place mulch and clippings from your own garden around your plants and trees to reduce evaporation and keep the roots cooler.
- Do not cut your lawn too low – taller grass reduces evaporation.
- Water your yard at cooler and less windy times of the day to reduce water loss through evaporation. Early morning is best.

Use drip irrigation.

The beautiful green lawn in front of EVMWD's office is artificial turf. No water required! A great way to conserve water.

Landscaping

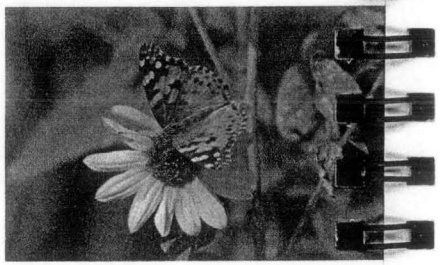
Another important way to help the environment and save water is by creating a 'California-friendly' yard. There are many drought-tolerant plants that will help with the latter, but amongst these, California natives from local stock have several advantages.

WHAT YOU CAN DO

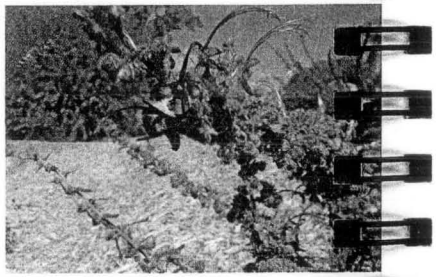
- Good habitat for native birds, butterflies and other animals – food, water, shelter and nest materials – is best provided by species that have evolved together. Welcome a wide variety of local wildlife by using native plants.
- Carefully chosen native plants require little or no supplemental water once established. They can co-exist with local pests, so that they seldom need chemical treatments or fertilizer, both of which can pollute. Chemical compounds can endanger your family's health, as well as killing beneficial insects and birds, and cause stormwater pollution.
- Native plants require only an occasional clean-up pruning to thrive.
- Gardening with natives may help support declining local communities if the plants selected are grown from local parent stock – the specialist nurseries mentioned on page 13 can help you with your selection. California has more rare and threatened species than any other state except Hawaii.

Why Use Natives?

Our sense of belonging increases with an appreciation for the remarkable adjustments the native plants and animals have made to the home we share. The colors of the mountains, slopes and valley – the deep green of the forests, the grey-greens of the sages and the grey-brown of the rocks – all contribute to a special sense of place.



Tortoiseshell Butterfly on Sunflower.



Bee Pollinating Plants.

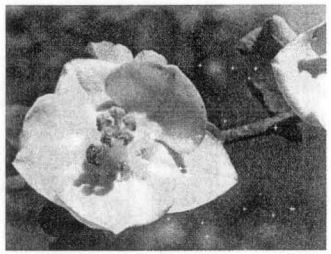
Toyon

Compared to natives, exotic plants (from outside our region) have not evolved with our native birds, butterflies and insects. As a result, they can be devastated by pests or disease or, conversely, spread out of control and reduce native diversity. They do not provide the natural food sources that the native plants do for our local insects, and, if these decline, we lose the building blocks of the local food web, causing in turn the decline of the many local birds which depend on them.

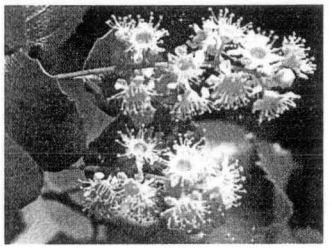
Other Things You Can Do:

- Use permeable surfaces for walkways, patios and driveways that let water soak into the ground; this replenishes the water table and reduce runoff.
- Reduce green waste by choosing plants that will not grow larger than the amount of space you have for them.
- Use clippings from your own garden as use a mulch or in your own compost pile.

Ceanothus, California Lilac



Fremontia



Holly-leaved Cherry

CONTACT:

- California Native Plant Society www.cnps.org
- Rancho Santa Ana Botanic Garden Claremont (909) 625-8767 www.rsabg.org
- UC Riverside Botanic Gardens Riverside (951) 787-4650 www.gardens.ucr.edu
- Mockingbird Nurseries, Inc. Riverside (951) 780-3571
- Tree of Life Nursery San Juan Capistrano (949) 728-0685 www.treeoflifenursery.com
- Western Municipal Water District Landscapes Southern California Style (951) 789-5987

Trees and Urban Forestry

Why are our cities so hot? The average temperatures in cities can be between 2 and 10 degrees hotter than the surrounding countryside. This phenomenon is called the urban heat island effect and is due to the replacement of plants with asphalt, concrete, and building surfaces that absorb and store heat. Planting trees is an effective way to help beautify and cool our cities and homes, reducing our dependence on fossil fuels.

Trees improve air quality by collecting and filtering dust and other pollution particles, absorbing carbon dioxide, and releasing oxygen. They improve water quality and reduce flooding by intercepting rainfall and increasing its absorption into the ground.

WHAT YOU CAN DO

to have healthy trees

- Plan ahead carefully when planting trees, considering the mature size of the tree.
- Allow leaf litter to accumulate and even add more mulch to the surrounding soil, but do not let it pile up against the trunk, which can lead to disease.
- Loosen ties and stakes as soon as you plant, and remove them as soon as possible.
- Protect the trunk from damage, such as from a weed trimmer.
- Never cut main branches or the central stem back to stubs. This practice, though common in our area, severely stresses and can injure a tree.

Trees improve the health of our watershed. Trees increase groundwater infiltration, filter particulates from the air, shade our homes and provide many other benefits.

California Native Plants for Your Home Garden:

COMMON NAME	SCIENTIFIC NAME
Trees	
Western Redbud	*Cercis occidentalis*
Western Sycamore	*Platanus racemosa*
Coast Live Oak	*Quercus agrifolia*
Elderberry	*Sambucus mexicana*
California Bay	*Umbellularia californica*
Mesa Oak	*Quercus engelmannii*
Shrubs	
Chamise	*Artemisia californica*
Manzanita	*Arctostaphylos species eg. glauca*
California Lilac	*Ceanothus species eg. crassifolius*
California Sunflowers	*Encelia californica or E. farinosa*
Fremontia, Flannel Bush	*Fremontodendron californica*
Toyon	*Heteromeles arbutifolia*
Holly-leafed Cherry	*Prunus ilicifolia*
Coffeeberry	*Rhamnus californica*
Lemonadeberry	*Rhus integrifolia*
Sugar Bush	*Rhus ovata*
Perennials and Groundcovers	
Manzanita (low)	*Arctostaphylos eg. uva-ursi*
California Lilac (low)	*Ceanothus eg. 'Emerald Carpet'*
California Fuchsia	*Epilobium canum or Zauschneria californica*
Wild Buckwheat	*Eriogonum fasciculatum*
Coral Bells	*Heuchera species*
Douglas Iris	*Iris douglasiana*
Sticky Monkeyflower	*Mimulus aurantiacus*
Deer Grass	*Muhlenbergia rigens*
Showy Penstemon	*Penstemon spectabilis*
California Sages	*Salvia apiana or S. mellifera*
Wild Grape	*Vitis californica*
Annuals	
California Poppy	*Eschscholzia californica*
Arroyo Lupine	*Lupinus succulentus*
Desert Bells	*Phacelia minor*
Chia	*Salvia columbariae*

Note: *Most of these thrive in Inland Empire sun and with little supplemental water, though many will look better in summer with monthly irrigation in the early morning. Take care, however, some nursery-bred varieties of these species may need regular garden water.*

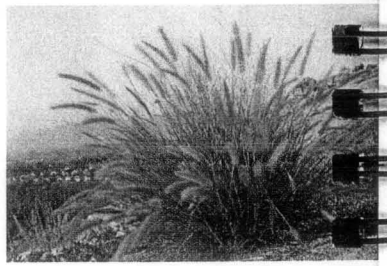
Fire Safety and Fuel Modification

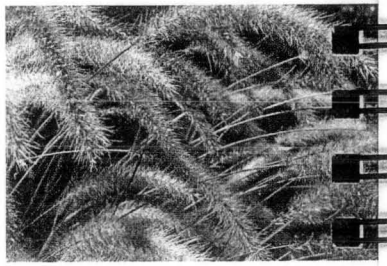
In southern California, fires are always a serious concern. If you live in a canyon or on a slope, the risk is even higher, especially if your property is adjacent to natural space. Be sure to follow local fire department clearance regulations and safety practices.

WHAT YOU CAN DO

to reduce fire risk:

- Keep brush clear around all structures.
- Keep roof and gutters clear of leaves and plants.
- Trim trees away from your roof or chimney.
- Branches should not come within 10' of the house.
- Space trees and shrubs that are near structures.
- Prune tall trees to remove branches near the ground.
- Water plants adequately; water trees and shrubs deeply every 20-30 days during fire season.
- Stack firewood outside.
- Plant fire-resistant plants and trees. Plant a deciduous tree, which will lower the energy bill by shading the house in the summer.
- Stabilize slopes by planting deep-rooted, woody ground covers. Add widely-spaced taller shrubs and trees to maximize slope stability.
- Do not plant Cypress, Eucalyptus, or Junipers close to the house as they contain oils that can cause fire to spread rapidly.





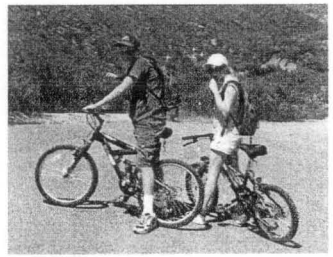
CONTACT

- California Dept. of Forestry & Fire Protection, www.fire.ca.gov
- California Fire Safe Council www.firesafecouncil.org
- Firewise, sponsored by the National Wildfire Coordinating Group, www.firewise.org
- Smokey Bear Fire Prevention Materials, www.smokeybear.com

FOR ALL FIRE EMERGENCIES CALL 911

Air Quality, Automobiles, and Energy

Electricity generation and the use of fossil fuels for transportation are major sources of air pollution in the United States, contributing to smog, acid rain and global warming. One of the single most effective ways to improve air quality and help the environment is to reduce dependence on cars and gasoline. Conservation can make a difference!



Ride a Bike.

WHAT YOU CAN DO

to help clear the air:

- Carpool, ride the bus, walk, or ride a bike.
- Make your next vehicle purchase an electric or a hybrid car.
- Combine multiple errands into one trip.
- Take the kids bicycling, walking or roller-skating to form healthy habits and develop an understanding of the impact their actions have on air quality.
- Turn off all appliances and lights when not in use.
- Change incandescent bulbs to compact fluorescent.
- Install energy-efficient (Energy-Star) appliances.
- Switch to solar energy.
- Plant a tree. Trees lower energy bills by shading the house.
- Install a whole house fan rather than an air conditioner.
- Close curtains on sunny windows to reduce heat gain.
- Minimize use of wood stoves or fireplaces.
- Use a dry cleaner that does not use perchlorate.

CONTACT

WEBSITES WITH ENERGY SAVING TIPS

- Flex Your Power www.flexyourpower.ca.gov
- Earth911 www.earth911.org
- US Department of Energy www.eere.energy.gov

WHAT YOU CAN DO

to help when you must drive:

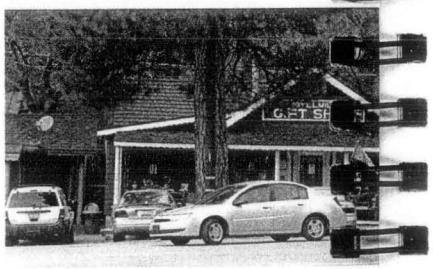
- Make your next vehicle cleaner-fueled and more efficient. Electric, natural gas, and hybrid-electric vehicles pollute less and reduce our dependence on oil.
- Combine multiple errands into a single trip.
- Maintain your vehicle, especially tire pressure. Excessive exhaust is harmful to you and the people around you.
- When getting gas, do not top off your tank and wait before removing the nozzle. Fuel spillage adds to air pollution.
- Park in the shade of a building or tree to reduce the evaporation of gasoline from your car.
- Use your ashtray if you are a smoker. Cigarette butts take up to five years to break down in the ocean and can kill fish, birds, seals, and other marine life.

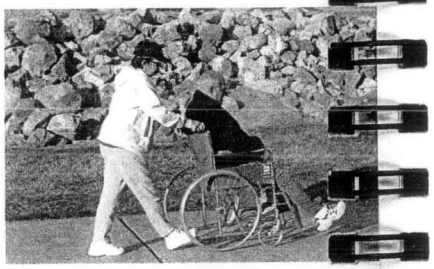
Green Electricity

Green electricity is derived from clean, renewable energy sources such as solar, wind, biomass, and geothermal. Most electricity in the United States comes from coal, oil, nuclear, large hydroelectric, and natural gas plants. The burning of non-renewable fossil fuels contributes to air quality problems and global warming.

WHAT YOU CAN DO

- Use less energy.
- Wear a sweater when it's cool.
- Contact your utility company to learn about your green energy options.
- Let your representatives know that renewable energy sources should be a priority.





EDUCATE YOURSELF:

- Go Green Power www.gogreenpower.org
- Global green USA www.globalgreen.org
- GreenE, www.green-e.org
- California Energy Commission www.energy.ca.gov
- US Department of Energy www.eere.energy.gov

Buying Green

The best way to reduce our impact on the environment is to limit our use of resources. It is helpful to purchase products whose production and use have a reduced impact on the environment. Small changes by many people can make a big difference!

WHAT YOU CAN DO

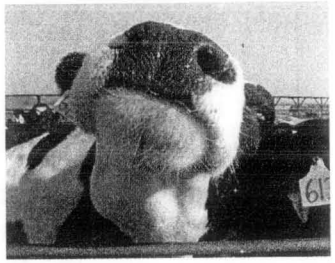
Purchase products that:

- Use minimal packaging.
- Contain recycled material.
- Contain raw materials derived from renewable sources.
- Can be reused or recycled.
- Are produced locally.
- Do not use products that require special disposal.

SAFE ALTERNATIVES TO COMMON HOUSEHOLD CLEANERS

Try:	Instead of:
• borax and water or baking soda	chlorine bleach
• ½ c. vinegar + 1 qt. water	glass cleaner
• ½ lemon dipped in borax or baking soda	abrasive cleanser
• 1 part lemon juice + 2 parts vegetable oil	furniture polish
• toothpaste or baking soda polish	silver polish

SOURCE: American Oceans Campaign (www.americanoceans.org)



Buy local products.

Using recycled water.

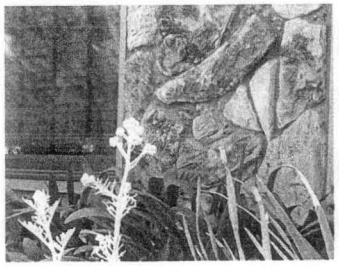
Buy local produce.

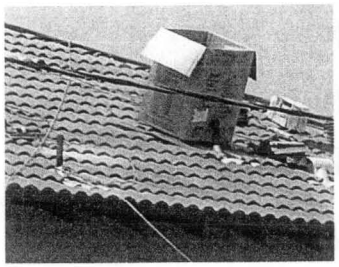
Green Housing Construction

When building or modifying a home keep sound environmental practices in mind. Green construction improves energy efficiency, resource conservation, indoor air quality, and protects the health of your family. In addition to helping the environment, a "green" house can save you money and provide you with a healthier, quieter, and more comfortable home.

Generally, building greener involves one or more of the following:

- Planning to preserve the natural environment
- Site development which reduces erosion, minimizes paved surfaces, and protects vegetation
- Water conservation indoors and outdoors
- Energy efficiency
- Using recyclable materials and air conditioning costs.





Permeable Surfaces

Permeable surfaces such as decomposed (crushed) granite, broken concrete, gravel, mulch and grass or other plants allow water to pass through and soak into the soil beneath, as opposed to running off your yard and contributing to stormwater pollution and flooding.

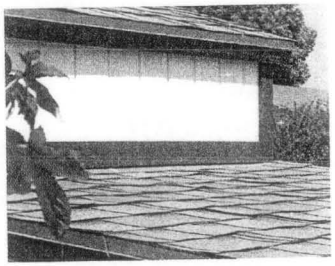
WHAT YOU CAN DO:

- Use bricks, stones, broken concrete, crushed granite or gravel for driveways, paths, and patios.
- Use a contractor who knows and follows regulations concerning construction runoff. Even a small remodel can contribute a large amount of gravel, dirt, and hazardous materials to the storm drain system.
- Investigate the installation of a 'gray water' system–to collect your household's washing water for re-use in the landscape or for flushing toilets–with your local building department officials to determine if they allow residential use of reclaimed water.

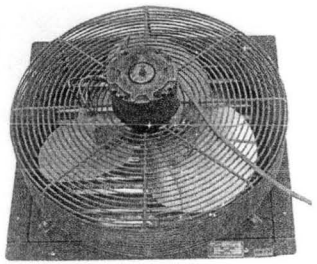
WHAT YOU CAN DO:

to increase sustainability in your home:

- Add insulation to your home.
- Use innovative, engineered wood products.
- Use recycled-content building materials whenever possible and ask your contractor to recycle their demolition waste.
- Use adhesives, paints, and cleaners with low volatile organic compounds (VOC) to reduce indoor air pollution.
- Use light colored roofing to reduce home heat absorption, or consider new "green roofs."
- Use double-glazed windows to save on heating and air conditioning costs.
- When building a house use the sun. Orient your house and plan your landscaping to take advantage of winter sun and summer shade.
- Use ceiling fans, whole house fans, and attic ventilation to affordably keep your home comfortable.



Light–Tiled roof



Whole–House fan

Choose a smart sprinkler controller for your home

- A smart sprinkler controller automatically adjusts irrigation schedules in response to changing weather conditions.
- They are also called "weather–based irrigation controllers."
- Smart controllers are a new technology & can be difficult to find.

For more information log onto www.bewaterwise.com for a listing of manufacturers & websites

LEARN MORE:

- Ecohome Network www.ecohome.org
- National Association of Home Builders www.nahb.org
- Home Builders Association www.hba.org
- Urban Land Institute www.uli.org/

Trash and Recycling

Reduce, Reuse, Recycle

As populations grow, cities face increasing problems with waste disposal. Finding ways to dispose of our waste becomes increasingly difficult and expensive. Trash that washes into storm drains is a leading contributor to unhealthy water in our streams, rivers and lakes.

DID YOU KNOW:

- Nearly half of the world's annual commercial wood harvest is used to produce paper.
- Recycling aluminum saves 95% of the energy required to produce it from virgin materials.
- Over 30% of California's solid waste consists of organic materials. Most of this ends up in a landfill, even though it could be composted.
- Materials in landfills can take hundreds of years to degrade.
- Although plastic carries a recycling symbol, very little of it is actually recycled. Discarded plastic washes into the ocean and chokes and kills marine animals including turtles, sea horses, fish, seals, and birds.

Household Hazardous Waste includes metals, chemicals, batteries, and electronics, such as computers and stereos, that can be used or stored in your kitchen, workshop, garage, garden, or bathroom. It is illegal to dispose of household hazardous waste anywhere but at authorized Household Hazardous Waste and/or Antifreeze, Batteries, Oil and Paint (HHW/ABOP) collecton centers. The County of Riverside and local cities sponsor several free collection events throughout the year in the San Jacinto watershed. You can learn more about HHW/ABOP, disposal, and free collection events as www.rivcoeh.org or by calling (800) 506-2555.

Recycle, Recycle,Recycle.

Be creative – reuse or recycle products. This old tree became a work of art.

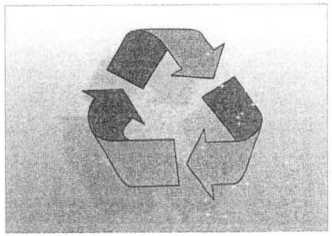
WHAT YOU CAN DO

to help reduce waste and consume less:

- Use canvas bags or re-use plastic bags when shopping.
- Purchase products with minimal packaging material.
- Buy products that use recycled materials.
- Use both sides of paper. Make your own notepads by saving one-sided scrap paper or mail, cutting in half and securing with a re-usable clip.
- Avoid using plastic unless it is something, like a sturdy cup or bag, that you can re-use.
- Recycle.
- Give away or garage sale useful unwanted items.
- Dispose of hazardous household waste properly (call 800-506-2555 for HHW/ABOP disposal days). Remember that this includes paint, many common cleansers, car fluids, and electronic equipment.
- Use tap water or wash, refill, and reuse water bottles.
- Join a neighborhood clean-up.
- PUT IT IN THE CAN! Pick up a little litter wherever you are, whether in the city or on the trail.

to help reduce green waste:

- Leave grass clippings on your lawn, sometimes called "grasscycling". They provide important nutrients and reduce water loss.
- Choose plants that will be the desired size at maturity to minimize pruning.
- Compost garden and household fruit and vegetable waste.
- Chip clippings, prunings, and raked leaves. They all make great mulch.



Section 3

GET INVOLVED

The following is a list of some of the local environmental organizations and exciting things that are happening in and around the San Jacinto watershed. As a volunteer, you can take direct action to preserve the quality of life for our communities and the natural beauty and benefits of our watershed. Stay aware of what is being planned for the future of your own neighborhood and express your opinions.

"Never doubt that a small group of thoughtful, committed individuals can change the world, indeed it's the only thing that ever has."

– Margaret Mead

Volunteer Opportunities

California Native Plant Society
Preservation of native plants and habitat, www.cnps.org.

Center For Community Action and Environmental Justice. P.O. Box 33124 Riverside, CA 92519
Ph. (951) 360-8451, http://www.ccaej.org/

Friends of the Northern San Jacinto Valley
Hiking, reforestation, park clean ups
P.O. Box 9097, Moreno, Valley 92552
Ph. (951) 928-3698, http://www.northfriends.org/

Friends of Nuevo Community Council
PO Box 647, Nuevo CA 92567
http://www.foncee.net/, and info@foncc.net

Lake Elsinore Citizen Committee, Contact: Donna Frances, Ph. (951) 674-1989. Lake Elsinore, *focuses on the recreation and preservation of the lake.

National Wildlife Federation
Backyard and schoolyard habitat program, www.nwf.org.

San Bernardino Valley Audubon Society
P.O. Box 10973, San Bernardino, CA 92423
http://www.sbvas.org

San Jacinto River Watershed Council
Non-profit watershed council
Contact: Pat Boldt, Ph. (951) 808-8531

Santa Rosa Plateau Ecological Reserve/Nature Conservatory, Location: outskirts of Murrieta
Contact: Carol Bell, Ph. (951) 677-6951

Santa Ana Watershed Association, Education, cleanups, Contact: Renee Latu (909) 799-7407 Ext. 105

Sierra Club
San Gorgonio Chapter of environmental activism, hiking, 4079 Mission Inn Ave., Riverside, CA 92501
Ph. (951) 684-6203
http://www.sangorgonio.sierraclub.org/

Western Riverside County Agriculture Coalition
Coalition addresses agricultural environmental issues in the watershed. Comprised of agricultural operators, dairy, and land owners. Contact: Bruce Scott
Ph. (951) 654-5096 or wrcac_mail@yahoo.com

What's Happening in and Around Your Watershed

There are many exciting things happening in and around your watershed. Here are several important developments and projects.

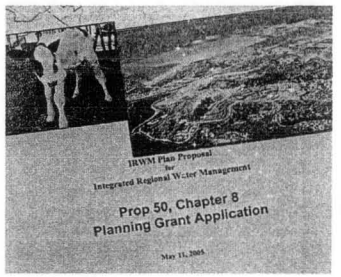
The San Jacinto River Watershed Council

The San Jacinto Watershed Council, a 501 (c) 3 non-profit, grass roots organization, is an open forum of the entire watershed, upper and lower, and strives to represent all stakeholders. The Council Board consists of water agency, County, federal/regional, tribal, dairy, agriculture, environmental and 2 at-large representatives. The Council may be characterized as broad-based in its representation and holistic in its approach to issues of watershed management and planning. Current activities include:

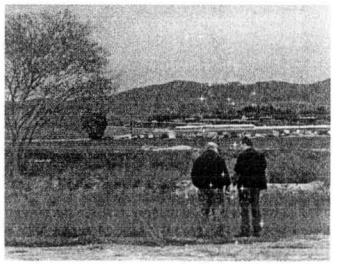
- Prop 50, Chapter 8 Planning Grant for the Development of an Integrated Regional Watershed Management Plan for the San Jacinto Watershed (funded by the State of California, Department of Water Resources)
- Assistance with TMDL Implementation (page 28)
- Education and Outreach...this Guidebook!
- Applying for grants that will help address water resource and water quality problems
- Coordination and integration of other regional studies and plans, and their impacts on the watershed.
- Development of work groups to address critical issues
- Assist development of strategies to control nutrients and pathogens negatively impacting water bodies.

For more information visit our website at www.sawpa.org/sjrwc/, or contact Pat Boldt, SJRWC Executive Director at Mpboldt@aol.com.

San Jacinto River Watershed Volunteer opportunities



Prop 50 Planning Grants.



The San Jacinto "GAP" area.

What is a TMDL?

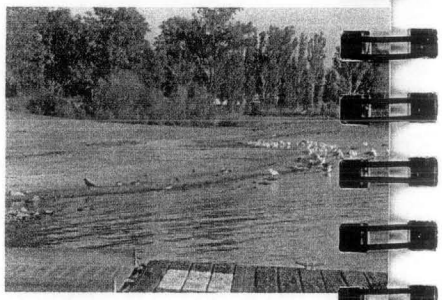
In our watershed, there are two impaired lakes that do not meet expected water quality standards. Under the Clean Water Act, the Santa Ana Regional Water Quality Control Board (RWQCB) has identified Canyon Lake and Lake Elsinore as needing water quality improvement. Excessive nutrients and pathogens are the primary problems affecting the lakes.

To control the level of nutrient and pathogens entering the lakes, RWQCB has established a new water quality regulation called a Total Maximum Daily Load (TMDL). The TMDL provides an assessment and planning framework for identifying nutrient and pathogen sources, achieving load reductions, and taking actions that are needed to attain the water quality standards. The TMDL also sets target dates for when the water quality standards must be met and an implementation plan to attain it. By compliance to these water quality standards, aquatic life, drinking water and other beneficial uses at the lakes will be protected.

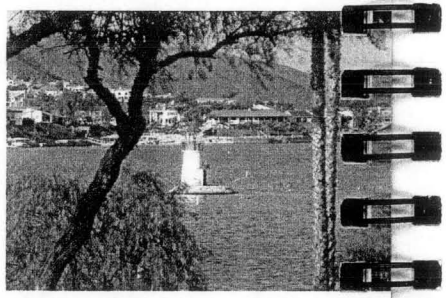
A stakeholder TMDL Task Force has been formed to address the TMDL's affecting our watershed. Specific tasks have been identified to start the process of improving water quality in these two lakes and work is underway. However, the solution will ultimately be dependent on controlling watershed residents contributions of nutrients and pathogens to the lakes.

If you would like additional information regarding the TMDL, please visit www.mywatersheds.com.

Stocking fish in Lake Elsinore.



Lake Elsinore



Canyon Lake

The goal of the TMDL is to restore benefical uses to Canyon Lake and Lake Elsinore.

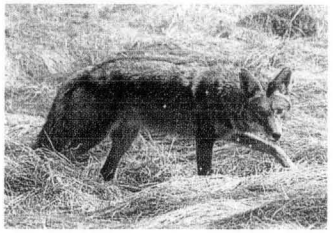
The Multi-Species Habitat Conservation Plan

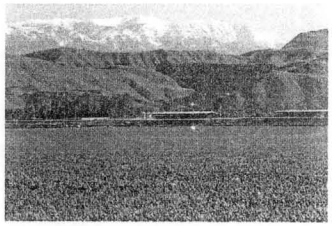
When Western Riverside County revised its General Plan, the Multi-Species Habitat Conservation Plan (MSHCP) was an important part. Finalized in June 2004, it aims to address the dissatisfaction that all sectors of our County felt with the long and complicated process developers had had to go through to get clearance to build, and the haphazard way species were protected.

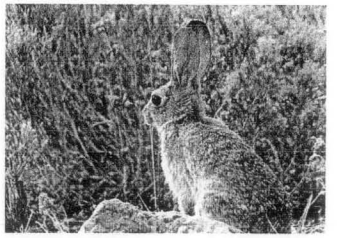
Certain areas are considered important to keep as open space, besides those lands already in public hands. This conserves the habitats for some of our most beautiful and threatened species of wild life and to provide linkages among the conserved areas.

The San Jacinto River is a vital corridor in this Habitat Conservation Plan. Starting in the San Jacinto mountain range, it passes through the Mystic Lake wetlands, then agricultural flood plain, which has been for centuries home to native creatures and the hawks and owls that prey on them. The river flows to the base of the Cleveland range and then, into Lake Elsinore, which is gradually being restored as home for native fish and recreation for humans.

As development continues in our watershed, we must ensure that enough of the "criteria areas" of the MSHCP are conserved, to ensure that our river continues to meander in winter across the valley, nourishing rare plants that are found nowhere else, providing a haven for large and small wildlife, and replenishing our underground water.







Lake Elsinore And San Jacinto Watersheds Authority

LESJWA improves and maintains the waters within Lake Elsinore, Canyon Lake, and the San Jacinto River Watershed.

LESJWA's membership includes representatives from five member agencies in the area (listed below) working together to improve water quality at Lake Elsinore and Canyon Lake.

- Santa Ana Watershed Project Authority
- City of Lake Elsinore
- City of Canyon Lake
- Elsinore Valley Municipal Water District
- County of Riverside

A few of LESJWA's projects are as follows:

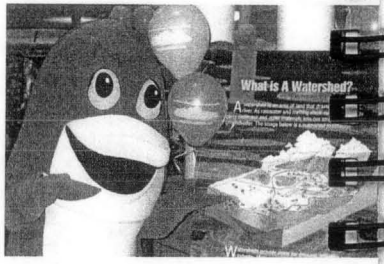
LAKE ELSINORE

- **Supplemental Lake Water** – Improvements made to existing lake supply wells and recycled water treatment will provide supplemental water that will replenish low lake water levels, when necessary.
- **Lake Mixing System** – Large amounts of algae in Lake Elsinore decrease healthy oxygen levels, in turn killing fish and damaging recreational opportunities. Lake mixing helps evenly distribute oxygen throughout the lake to keep it vibrant and healthy.
- **Aeration System** – This subsurface aeration system bubbles air into the water column from pipes on the bottom of the lake to increase lake oxygen levels, which helps lower the amount of algae throughout the lake.
- **Carp Removal** – Carp is a bottom dwelling fish that stirs up silt and unwanted nutrients from lake floors that contribute to the growth of alga blooms which can be harmful to water quality. The removal of carp is vital to the overall health of a lake.

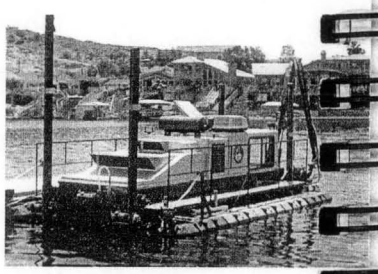
CANYON LAKE

- **Dredging System** – Dredging removes sediment levels from the lake bottom with the use of a self-propelled platform whose suction vacuum sweeps the bottom of the lake floor which improves water quality and water supply.

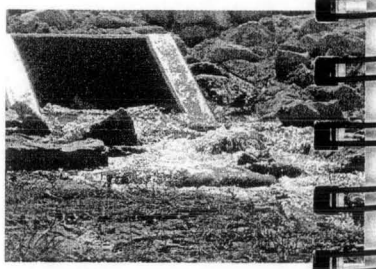
For additional information visit www.mywatersheds.com



LESJWA's mascot Bessie the Bass explains what a watershed is at the Temecula Water Festival.



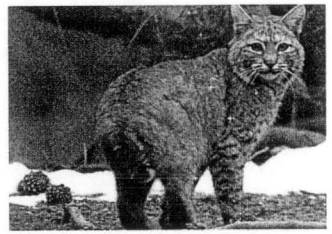
Dredging machine at Canyon Lake

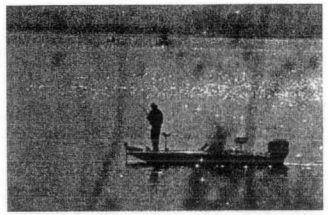


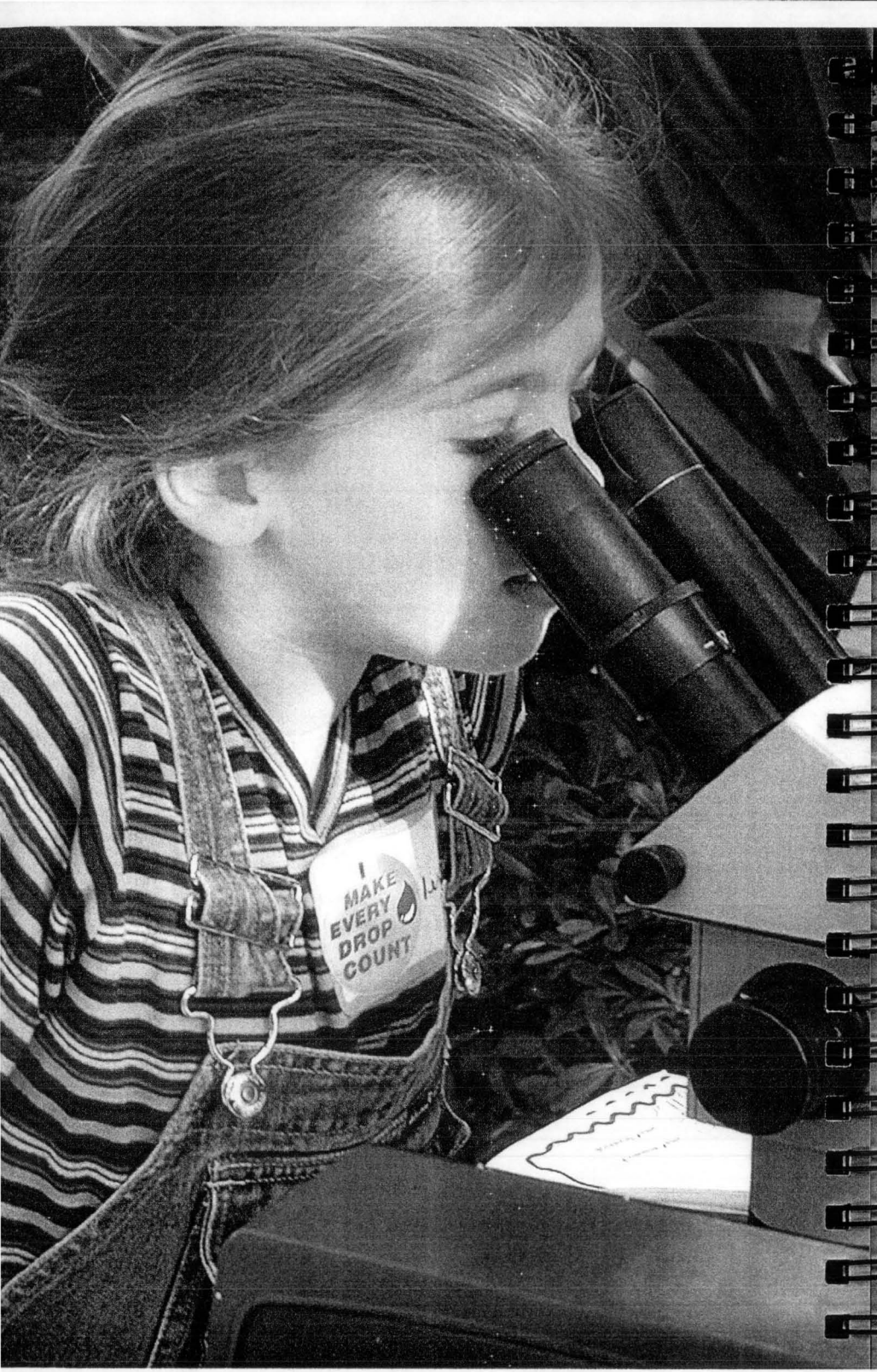
Island Wells water flow at Lake Elsinore.

Ten Fun Ways to Enjoy your Watershed

1. **Take a Hike**...a jaunt, a trek, a strut...just get out and see, hear and smell the world in your back yard.
2. **Stop and Smell the Roses**...the mountains, the hills, the valley, Lupine, Poppies, and Sage.
3. **Spend Some Quality Time with your Pet**...leash your dog or cat (bring a bag for pet wastes). Ride a horse or a mule! Check out the trails together.
4. **Play in the Garden**...add native plants to your garden—Manzanita, California lilac, Toyon, and Sage. Use biological controls instead of pesticides, Conserve water.
5. **Get Down and Dirty**...volunteer with other organizations. Help plant trees, restore habitat, and clean-up your watershed.
6. **Tap into Watershed Consciousness**... the big picture! Remember your street and storm drains lead to the ocean.
7. **Sing, Shout, Get the Word Out!**...let friends, family and officials know how you feel about preserving and restoring the San Jacinto.
8. **Explore your Watershed**...discover the San Jacinto watershed, all 780 miles of diverse plantlife, animals, its human communities, and wonderful cultural gems.
9. **Plan a Bright Future**...participate in San Jacinto watershed planning efforts. Bring a friend. Log onto www.sawpa.org/sjrwc/
10. **You Can Make A Difference!**...embrace our natural resources. Protect habitat and enjoy your watershed.







Section 4

RESOURCES IN YOUR COMMUNITY

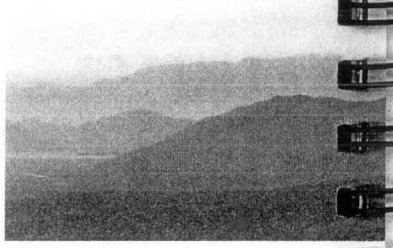
We hope you have found this guidebook educational, informative and full of simple actions that you can take to help protect our water supply and preserve our open spaces for your enjoyment and the enjoyment of future generations. We put together the following resources and contacts to help you become more involved in your communities and in the health of your watershed. Remember that your government representatives at all levels—from local to the national—work for you and want to know what you think—express your opinion!

"Hope is the thing with feathers - that perches in the soul - and sings the tune without words - and never stops, at all."

– Emily Dickinson

Parks and Open Space

PARKS



Lake Perris State Recreation Area
17801 Lake Perris Drive, Perris, CA 92571
Ph: (951) 657-0676
www.parks.ca.gov/default.asp?page_is+651

Mount San Jacinto State Park
PO Box 308
25905 Highway 243
Idyllwild, CA 92549
Ph: (951) 659-2607
wilderness permits 951-659-2607
www.parks.ca.gov/default.asp?page_id+36

The San Bernardino National Forest
54270 Pinecrest
P.O. Box 518, Idyllwild CA 92549
Ph: (951) 382-2921
wilderness permits 951-659-2117
www.fs.us/r5/sanbernardino
Visitor Information Center
(Corner of Pine Crest and Highway 243 in Idyllwild)
www.parks.ca.gov/default.asp?page_is+651

San Jacinto Wildlife Area
PO Box 1254, 17050 Davis Road
Nuevo, CA 92567
Ph: (951) 928-0580

Riverside County Regional Park & Open Space District
4600 Crestmore Road, Riverside, CA 92509
Ph: (951) 955-4310
reservations 1-800-234-7275 (park)
www.riversidecountyparks.org/

McCall Memorial Park
28500 McCall Park Road
Mountain Center, CA 92561
(951) 659-2311

Lawler Alpine Cabins (youth group lodging only)
19751 Hwy 243 Idyllwild, CA 92549
Ph: (951) 955-4397

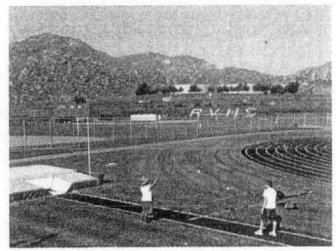
Idyllwild Nature Center
25222 Hwy 243, Idyllwild, CA 92549
Ph: (951) 659-3850

Idyllwild Park
5400 Riverside County Playground Rd.,
Idyllwild, CA 92549
Ph: (951) 659-2656

Hurkey Park
56375 Highway 74
Mountain Center, CA 92561
Ph: (951) 659-2050

Simpson Park
28505 Rawlings Road
Hemet, CA
www.cityofhemet.org/parks.htm#simpson

Lakes/Recreation Areas



Diamond Valley Reservoir Recreation Area
Now open for boaters and anglers. Additional recreational activities are planned. A Visitor's Center highlighting paleontological discoveries and a scenic viewpoint will be open on varying schedules.
Ph: (800) 211-9863 for days, hours and directions.

Lake Elsinore Recreation Area (LERA)
The lake offers boating, camping and day use areas.
General Lake information: (951) 674-7730
LERA Campground: Ph: (951) 471-1212
LERA Campground reservations: Ph: (800) 416-6992
Seaport Boat launch: Ph: (951) 245-9308
Camping information: Ph: (800) 416-4992

Lake Perris State Recreation Area
Lake Perris offers a variety of water recreation activities including swimming, fishing (shore, pier, and boating), water craft use, sailing, waterskiing and even scuba diving.
17801 Lake Perris Drive, Perris CA 92571
Ph: (951) 657-0676
www.parks.ca.gov/default.asp?page_is+651

EQUESTRIAN TRAILS

Diamond Valley Reservoir Recreation Area
*not currently available/future plans

Lake Perris Recreation Area
17801 Lake Perris Drive
Perris, CA 92571
Ph: (951) 657-0676
www.parks.ca.gov/default.asp?page_is+651

AGRICULTURAL RESOURCES

Milk Producer's Council
Bill Van Dam Ph: (909) 628-6018

Riverside County Farm Bureau
Contact: Steve Pastor Ph: (951) 684-6732
www.riversidecfb.com
pastor@riversidecfb.com

Western Riverside County Agriculture Coalition
Contact: Bruce Scott at (951) 654-5096 or
wrcac_mail@yahoo.com

Educational Programs and Workshops:

Santa Ana Watershed Association (SAWA)
Provides on-site education, clean up days, and other educational activities, For more information contact: Renee Latu Ph: (909) 799-7407, Ext. 105

The San Jacinto Center for Environmental Education
Provides environmental education at the San Jacinto Wildlife area, Contact: Sue Nash Ph: (909) 228-6710

San Jacinto Basin Resource Conservation District
(951) 654-7733

Western Municipal Water District
Landscapes Southern California Style-A one-acre water conservation demonstration garden, via a self-guided tour of over 250+ plant species and 50 educational stations. Additional information at www.wmwd.com, School educational tours available. Ph: (951) 789-5987

Home and Garden

Green Building:
National Association of Home Builders www.nahb.org
Home Builders Association www.hba.org
Urban Land Institute www.uli.org/
Ecohome Network, Ph: (323) 662-5207, www.ecohome.org

Garden-Native Plants and Invasive Species:
Backyard Composting Program, Ph: (951) 486-3200, for times and locations
California Native Plant Society, www.cnps.org
California Invasive Plant Council, Ph: (510) 525-1502, www.caleppc.org
Riverside County Agricultural Commissioner, Ph: (951) 955-3000
Metropolitan Water District, Heritage Garden Program, www.bewaterwise.com
National Wildlife Federation, Backyard Wildlife Habitat Program Ph: (619) 296-8353, www.nwf.org
Rancho Santa Ana Botanic Garden, Ph: (909) 625-8767 www.rsabg.org
Theodore Payne Foundation Nursery, Ph: (818) 768-1802 www.theodorepayne.org
Tree of Life Nursery, San Juan Capistrano, Ph: (949) 728-0685 www.treeoflifenursery.com

Fire Departments
FOR ALL FIRE EMERGENCIES CALL 911!

Air, Water and Land Resource Agencies and Organizations

GOVERNMENTAL AGENCIES:

South Coast Air Quality Management District (SCAQMD), Regional air quality or to lodge a pollution complaint, Ph: (800) CUT SMOG (288-7664). SCAQMD, list of non-toxic cleaners in our area, [www.aqmd.gov]

California EPA, Air Resources Board, Ph: (800) 363-7664 for pollution complaints and to find out about the health effects of indoor and outdoor air pollution, Ph: (916) 322-2990 for info on air quality programs.

US Environmental Protection Agency, Region 9 Office, Potential sources of indoor air pollution and ways to improve indoor air quality, Ph: (415) 972-3102, (800) 438-4318.

Non-profit Organizations:

Communities for a Better Environment, strategies for improving and protecting air quality, www.cbemw.org.

Environmental Defense Scorecard, air quality and polluters in your community, [www.scorecard.org].

Natural Resources Defense Council, air and energy programs, federal legislation, and publications on air quality, www.nrdc.org.

Websites with Energy Saving Tips:
Flex Your Power, www.flexyourpower.ca.gov
Earth911, www.earth911.org
US Department of Energy, www.eere.energy.gov

Local Electricity and Gas Providers:
Southern California Electric, Ph: (800) 655-4555
Southern California Gas Company, Ph: (800) 427-2000

Air, Water and Land Resource Agencies and Organizations

Renewable Energy Information:
Go Green Power, www.gogreenpower.org
Global Green USA, www.globalgreen.org
GreenE, www.green-e.org
California Energy Commission, www.energy.ca.gov
US Department of Energy, www.eere.energy.gov

Waste, Stormwater and Watershed Management

Lake Elsinore and San Jacinto Watersheds Authority
www.mywatersheds.com

Riverside County Environmental Health Dept. Call 1 (800) 304-2226 for dates and times of free collection events throughout Riverside County, This Department can help you with hazardous waste disposal and pollution issues.

Santa Ana Watershed Project Authority, www.sawpa.org/

Riverside County Flood Control and Water Conservation District
(951) 955-1200, http://www.floodcontrol.co.riverside.ca.us. This Department can help you with flooding concerns and reporting of storm water pollution.

Riverside County Waste Management Department
Ph: (800) 366-SAVE or (951) 486-3200, http://www.rivcowm.org. This Department can assist you with information about landfills, recycling, and the composting programs.

Riverside County Water Task Force, Supervisor Marion Ashley
Ph: (951) 955-1050, www.district5@rcb05.org

California Regional Water Quality Control Board, Santa Ana Region
Ph: (951) 782-4130, region8info@waterboards.ca.gov

The San Jacinto River Watershed Council
Ph: (951) 808-8531, www.sawpa.org/sjrwc

Bureau of Reclamation
Reclamation is the largest wholesale water supplier in the United States, and the nation's second largest producer of hydroelectric power. Its facilities also provide substantial flood control, recreation, and fish and wildlife benefits. Visit their website at http://www.usbr.gov
Southern California area office, Ph: (951) 695-5310

Government Representatives

UNITED STATES LEGISLATURE:

To find out who your representative and senators are, either call your local city hall, check your telephone book or enter your zip code in the following website: www.congress.org, Federal and State Elected Officials, Cities in Watershed

STATE OF CALIFORNIA

Governor

Arnold Schwarzenegger
Ph: (916) 445-2841 or (213) 897-0322, e-mail: governor@governor.ca.gov

Congressional

Congresswoman Mary Bono, U. S. Congressional District 45
Ph: (202) 225-5330 or (951) 658-2312

Congressman Ken Calvert, U.S. Congressional District 44
Ph: (202) 225-1986 or (951) 784-4300

Congressman Darrell Issa, U. S. Congressional District 49
Ph: (202) 225-3906 or (951) 693-2447

Congressman Jerry Lewis, U.S. Congressional District 41
Ph: (202) 225-5861 or (909) 862-6030

State Assembly

Bill Emmerson, District 63, Ph: (909) 466-9096
John Benoit, District 64, Ph: (951) 369-6644
Russ Bogh, District 65, Ph: (909) 790-4196
Ray Haynes, District 66, Ph: (951) 699-1113

State Senate

Bob Dutton, District 31, Ph: (909) 466-4180
Dennis Hollingsworth, District 36, Ph: (951) 676-1020
Jim Battin, District 37, Ph: (951) 953-9502

SAN JACINTO WATERSHED CITIES AND COMMUNITIES

Cities

City of Beaumont
Ph: (951) 769-8520
www.ci.beaumont.ca.us

City of Canyon Lake
Ph: (951) 244-2955
www.cityofcanyonlake.com

City of Hemet
Ph: (951) 765-2300
www.cityofhemet.org

City of Lake Elsinore
Ph: (951) 674-3124
www.lake-elsinore.org

City of Moreno Valley
Ph: (951) 413-3000
www.ci.moreno-valley.ca.us

City of Murrieta
Ph: (951) 304-2489
www.murrieta.org

City of Perris
Ph: (951) 943-6100
www.cityofperris.org

City of Riverside
Ph: (951) 826-5311
www.riversideca.gov

City of San Jacinto
Ph: (951) 654-7337
www.ci.san-jacinto.ca.us

Community

Idyllwild
Ph: (951) 659-3259
www.idyllwildchamber.com

Quail Valley
Ph: (951) 672-1991 (Menifee Chamber)

Sun City
Ph: (951) 672-9006

Menifee
Ph: (951) 672-1991
www.menifeevalleychamber.com

Romoland
Ph: (951) 672-1991 (Menifee Chamber)

Soboba Band of Luiseño Indians
(951) 654-2765

Winchester
Ph: (951) 926-8972

CONTACT

WATER SUPPLIERS

- Eastern Municipal Water District, www.emwd.org
- Elsinore Valley Municipal Water District, www.evmwd.com
- Idyllwild Water District www.idyllwildwater.org
- Lake Hemet Municipal Water District, www.lhmwd.org
- Nuevo Water Company Ph: (951) 928-1832
- Western Municipal Water District, www.wmwd.com

Santa Ana Watershed Project Authority, www.sawpa.org/

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Jim Battin, District 37, Ph: (951) 953-9502

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City of Canyon Lake
Ph: (951) 244-2955
www.cityofcanyonlake.com

City of Hemet
Ph: (951) 765-2300
www.cityofhemet.org

City of Lake Elsinore
Ph: (951) 674-3124
www.lake-elsinore.org

City of Moreno Valley
Ph: (951) 413-3000
www.ci.moreno-valley.ca.us

City of Murrieta
Ph: (951) 304-2489
www.murrieta.org

City of Perris
Ph: (951) 943-6100
www.cityofperris.org

City of Riverside
Ph: (951) 826-5311
www.riversideca.gov

City of San Jacinto
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www.ci.san-jacinto.ca.us

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www.idyllwildchamber.com

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Sun City
Ph: (951) 672-9006

Menifee
Ph: (951) 672-1991
www.menifeevalleychamber.com

Romoland
Ph: (951) 672-1991 (Menifee Chamber)

Soboba Band of Luiseño Indians
(951) 654-2765

Winchester
Ph: (951) 926-8972

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- Idyllwild Water District www.idyllwildwater.org
- Lake Hemet Municipal Water District, www.lhmwd.org
- Nuevo Water Company Ph: (951) 928-1832
- Western Municipal Water District, www.wmwd.com

INDEX

Special Thanks

DESIGN AND PHOTOGRAPHY

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are given to the following individuals and agencies
for their contributions to this project

Research
Pat Boldt, Alison Shilling, Sue Nash

Writers
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Joe Garcia, LESJWA, Jim Gilmore, Sue Nash

Editing and Review
Pat Boldt, Nanette Scott, Alison Shilling,
Steve Stump, Joe Garcia, WMWD

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Val Marquez, Val's Design Studio

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Area, Riverside County Flood Control & Water Conservation
District, Soboba Band of Luiseño Indians, US Forest Service,
Idyllwild Water District, and the City of Moreno Valley.

Watershed Map
Elsinore Valley Municipal Water District

Watershed Illustration
LESJWA

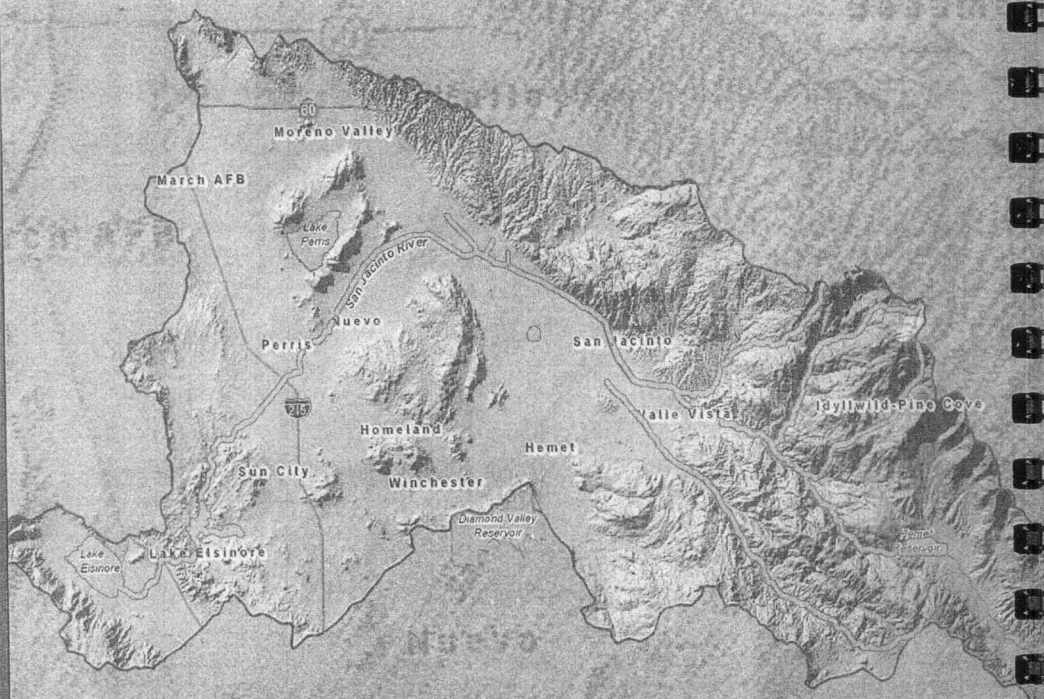
About

The San Jacinto River Watershed Council

The San Jacinto River Watershed Council (SJRWC) is a nonprofit organization dedicated to providing educational, scientific, and technical assistance that will help sustain, restore, and enhance the natural resources of the San Jacinto River basin while promoting long-term social and economic vitality to the region. Water is a critical natural resource for our future and for all future generations.

The San Jacinto River Watershed Council is proud to provide this Guidebook for your use. It would not have been possible except for the financial generosity of the following sponsors:

Bureau of Reclamation (BR)
Cal EPA Environmental Justice Small Grants Program
City of Lake Elsinore
Eastern Municipal Water District (EMWD)
Elsinore Valley Municipal Water District (EVMWD)
Lake Elsinore and San Jacinto Watersheds Authority (LESJWA)
Lewis Planned Communities and the Garrett Group
Milk Producers Environmental Fund
Riverside County Farm Bureau (RCFB)
Riverside County Flood Control and Water Conservation District
Santa Ana Watershed Association (SAWA)
Soboba Band of Luiseño Indians.
Western Municipal Water District (WMWD).



Guidebook for Living in the San Jacinto Watershed

SJRWC

San Jacinto River Watershed Council
P.O. Box 1378
San Jacinto, CA 92581-1378

THE DISTRICT

SITE LOCATION AND LAND USE

The Soboba Springs Project is located in the City of San Jacinto, Riverside County, California. It is approximately 35 miles east of the City of Riverside, and 75 miles east of Los Angeles, in the Hemet-San Jacinto Valley area. The Soboba Springs Project lies between the San Jacinto River and the foothills of the San Jacinto Mountains. It incorporates approximately 400 acres adjacent to the intersection of Lake Park Drive and Soboba Road. The project site includes the existing Soboba Springs Country Club and associated golf course, an area east of Soboba Road and an area south of Lake Park Drive which surrounds the existing Soboba Springs Mobile Home Park.

The Soboba Springs development is a golf course oriented community which provides a variety of housing opportunities including mobile home park, single family detached, condominiums and custom home sites. The master plan also provides a 3.6 acre open space/park 7.8-acre open space/park and hiking trail and 46.2-acres open space/park and hiking trail. Parks

The Soboba Springs development originally contemplated six villages with approximately 900 dwelling units. At present, only one village has been developed containing 172 residential parcels. Of those, 109 units have been constructed and 100 units are occupied.

COMMUNITY FACILITIES DISTRICT NO. 88-1

In September of 1987, Community Facilities District No. 88-1 (the "CFD") was approved by the City Council of the City of San Jacinto. Said CFD authorized the annual collection of special taxes from those parcels of land within the CFD that had obtained construction permits and from the Soboba Springs Golf Course parcel that contains the club house. The purpose of the CFD was for the financing of certain street, parkway and median landscaping, storm drainage, and debris basis improvements, and public safety equipment and staffing required as Conditions of Approval for Tract Map No. 21900-1 and 21900.

In the subsequent years, parcels of land with occupied residences and the golf course parcel have paid annual special taxes; the amount of which is determined by the year in which the residence on a given parcel was ready for occupancy. As a result of slow home sales and financial difficulties experienced by the original developer of the project, the amount of special taxes collected to date has been insufficient to allow the originally designed improvements to be constructed. As a result, the City met with a Soboba Springs homeowner's committee in an effort to restructure the original improvement program and tailor a program which would construct those specific improvements which would benefit Village IV alone.

The result of those meetings was the formation of Assessment District No. 94-1 which will accomplish the following:

1. The existing CFD liens will be "bought out" and discharged by the Assessment District No. 94-1 bond proceeds.

The parcels designated by Assessment Nos. 1, 70, 80, 97, 139, and 158 are designated open space parcels and therefore are not assessed. There are also two (2) unnumbered open space parcels at the following locations that are not assessed:

1. Near the intersection of Torino Avenue and Messina Drive on the north side of Messina Drive between the parcels designated by Assessment Nos. 133 and 134.

2. Near the intersection knuckle of Bergamo Avenue and Carrera Drive on the south side of the street between the parcels designated by Assessment Nos. 168 and 169.

BONDOWNERS' RISKS

GENERAL

Under the provision of the Act, assessment installments, from which funds for the payment of annual installments of principal of and interest on the Bonds are derived, will be billed to properties against which there are unpaid assessments on the regular property tax bills sent to owners of such properties. Such assessment installments are due and payable at the same times as, and bear the same penalties and interest for non-payment as do regular property tax installments. Assessment installments cannot be paid separately from property taxes. Failure to pay less than the total of all property taxes and assessment installments due will be considered a delinquency in the payment of both property taxes and assessment installments.

Unpaid assessments do not constitute a personal indebtedness of the owners of the lots and parcels within the District. There is no assurance such owners will be able to pay their assessment installments or that they will pay such installments even though financially able to do so.

The Bonds are payable from amounts collected from assessed property owners and deposited in the Redemption Fund. Therefore, timely payment of debt service on the Bonds depends upon the timely payment of unpaid assessment installments on land within the District. Should the installments not be paid on time, the City will transfer monies from the Reserve Fund to the Redemption Fund to cover delinquencies. Additionally, the assessment installments are secured by a lien on the affected parcels of land and the City has covenanted to institute and diligently prosecute foreclosure proceedings to sell land with delinquent installments in order to obtain funds to pay debt service on the Bonds. See the caption "BANKRUPTCY AND FORECLOSURE" herein. Because these are the only sources of funds available to pay debt service, failure by owners of the parcels to pay assessment installments when due, depletion of the Reserve Fund, or the inability of the City to sell parcels which have been subject to foreclosure proceedings for amounts sufficient to cover the delinquent assessment installments may result in the inability of the City to make full or punctual payments of debt service on the Bonds and Bondowners would therefore be adversely affected.

RIVERSIDE-SAN BERNARDINO-ONTARIO PMSA
Labor Market Survey
(000's)

	1990	1989	1988	1987
Total All Industries	761.6	706.0	648.6	653.8
Agriculture	21.7	23.4	23.3	23.7
Mining	1.4	1.4	1.2	1.2
Construction	67.5	65.2	51.9	52.6
Manufacturing	89.8	88.4	83.4	83.3
Transportation/Utilities	35.4	33.0	31.4	31.7
Wholesale Trade	32.4	26.7	22.0	22.0
Retail Trade	151.8	142.2	136.6	139.8
Finance, Insurance, Real Estate	32.6	28.7	26.6	26.9
Services	179.5	159.3	147.9	148.4
Government	149.5	137.7	124.3	124.2

Overall, in the past six years, through 1990, total employment rose 33.6% while population increased 38.6% in Riverside County. As of January 1, 1991, unemployment in the PMSA was 8.1% compared to 6.6% for the United States.

Labor statistics for Riverside County are not available by industry; however, general unemployment data for Riverside County shows an unemployment rate of 9.7% as of December 1991.

Source: State of California Department of Finance and State of California Employment Development Department.

Environmental Control Services

Water Supply: The County obtains a large part of its water supply from groundwater sources. As in most areas of Southern California, this groundwater resource is not entirely sufficient to meet demand and is supplemented by imported water. At the present time, the means used are aqueducts, including the Colorado River Aqueduct, the All American Canal, and the California State Water Project. The two largest water districts in the County, the Western Municipal Water District and the Eastern Municipal Water District, were formed for the primary purpose of supplying supplemental water to the cities and agencies within their areas.

Flood Control: Primary responsibility for planning and construction of flood control and drainage systems within the County is provided by the Riverside County Flood Control and Water Conservation District and the Coachella Valley Storm Water Unit.

Flood Control

Sewage: There are ten wastewater collection and treatment agencies in the west County area, eleven in the Coachella Valley area and six in the Palos Verde area. Most residents in the rural unsewered areas of the County rely upon septic tanks and leach fields as an environmentally acceptable method for sewage disposal.

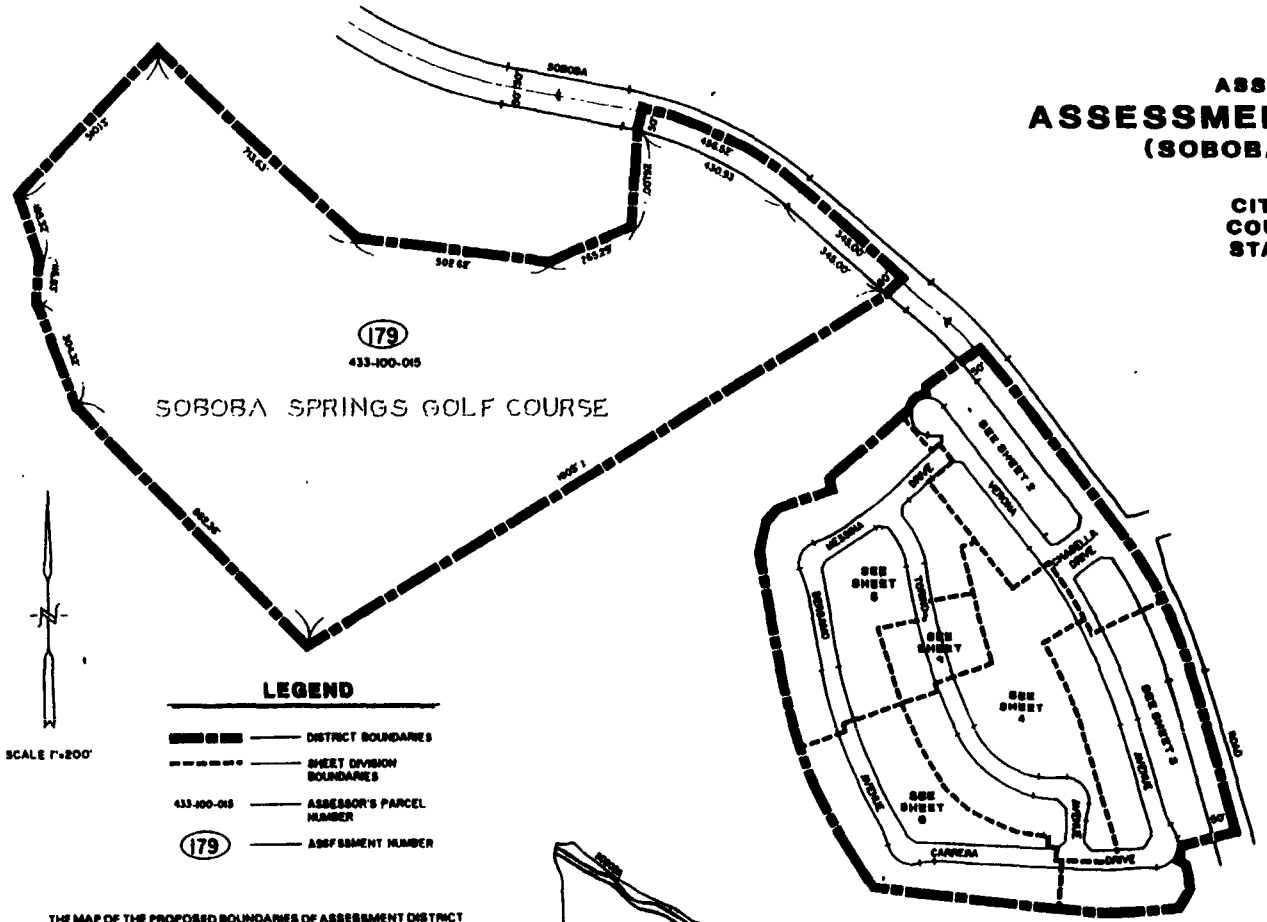
ASSESSMENT DIAGRAM

ASSESSMENT DISTRICT NO. 94-1

(SOBOBA SPRINGS PROJECT)

for the

CITY OF SAN JACINTO
COUNTY OF RIVERSIDE
STATE OF CALIFORNIA

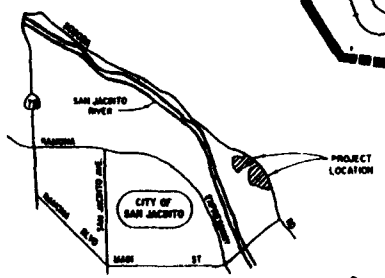


SCALE 1"=200'

LEGEND

- DISTRICT BOUNDARIES
- SHEET DIVISION BOUNDARIES
- 433-100-015 — ASSESSOR'S PARCEL NUMBER
- (179) — ASSESSMENT NUMBER

THE MAP OF THE PROPOSED BOUNDARIES OF ASSESSMENT DISTRICT NO. 94 1 WAS RECORDED ON _____, 19___ IN BOOK _____, PAGE(S) _____, OF ASSESSMENT AND COMMUNITY FACILITIES DISTRICTS



VICINITY MAP

SEC. 24 & 25, T.4S., R.1E., SBM

0 200 400 600 800

FILED THIS _____ DAY OF _____, 19___, AT THE HOUR OF _____ O'CLOCK ___, M. IN BOOK _____, PAGE(S) _____ OF MAPS OF ASSESSMENT AND COMMUNITY FACILITIES DISTRICTS IN THE OFFICE OF THE COUNTY RECORDER OF THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA.

NO. _____
FEE ___
FRANK K JOHNSON, COUNTY RECORDER
BY: _____, DEPUTY

FILED IN THE OFFICE OF THE CITY CLERK OF THE CITY OF SAN JACINTO THIS _____ DAY OF _____, 19 __

_____
DAVE ANDERSON
CITY CLERK

RECORDED IN THE OFFICE OF THE SUPERINTENDENT OF STREETS OF THE CITY OF SAN JACINTO, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, THIS _____ DAY OF _____, 19___

_____
LES EVANS
SUPERINTENDENT OF STREETS

AN ASSESSMENT WAS LEVIED BY THE CITY COUNCIL OF THE CITY OF SAN JACINTO ON THE LOTS, PIECES, AND PARCELS OF LAND SHOWN ON THIS ASSESSMENT DIAGRAM, SAID ASSESSMENT WAS LEVIED ON THE _____ DAY OF _____, 19___ SAID ASSESSMENT DIAGRAM AND THE ASSESSMENT ROLL WERE RECORDED IN THE OFFICE OF THE SUPERINTENDENT OF STREETS OF SAID DISTRICT ON THE _____ DAY OF _____, 19___ REFERENCE IS MADE TO THE ASSESSMENT ROLL RECORDED IN THE OFFICE OF THE SUPERINTENDENT OF STREETS FOR THE EXACT AMOUNT OF EACH ASSESSMENT LEVIED AGAINST EACH PARCEL OF LAND SHOWN ON THIS ASSESSMENT DIAGRAM

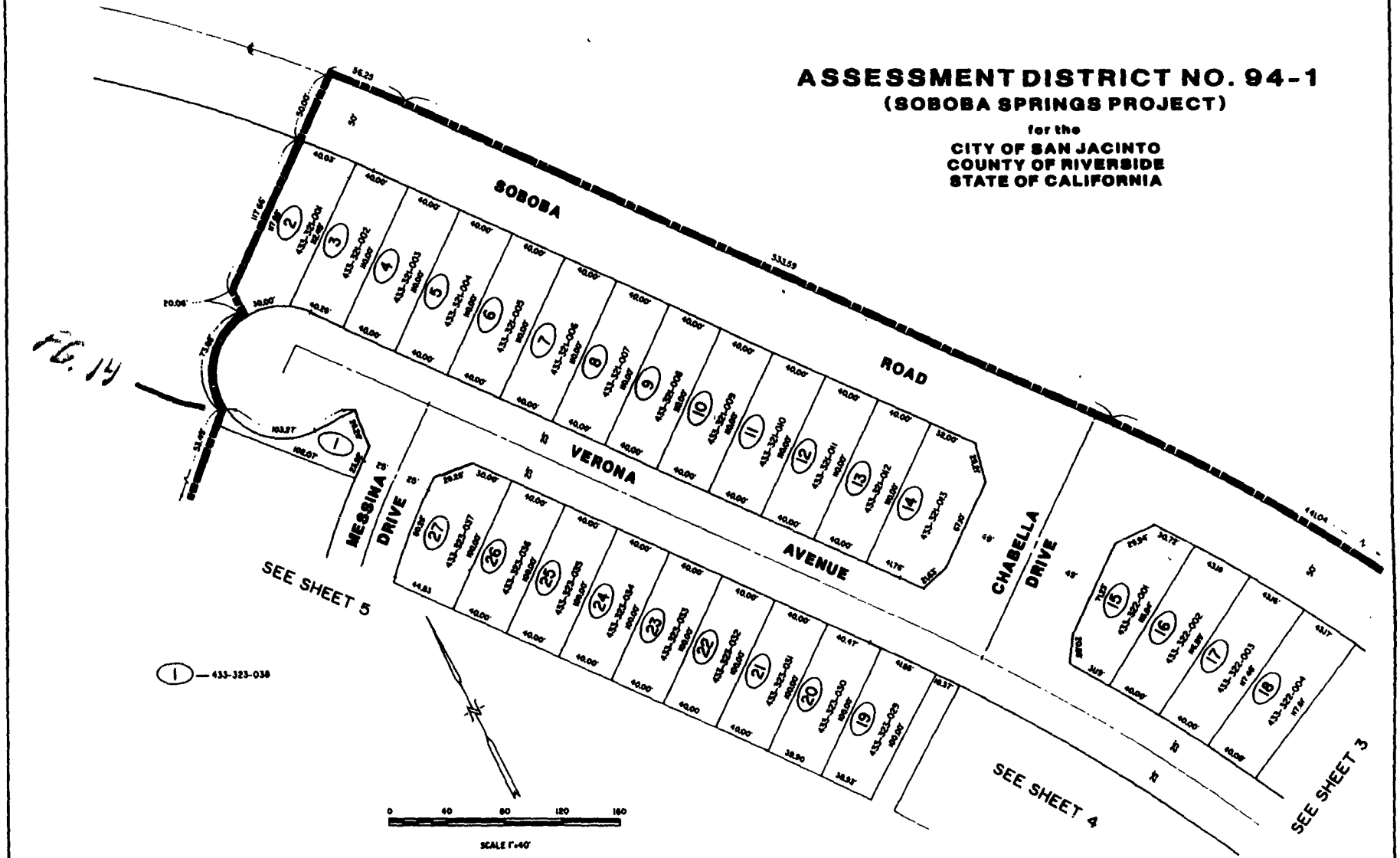
_____
DAVE ANDERSON
CITY CLERK

GFB-FRIEDRICH & ASSOC., INC.

IN FIPS 0103

ASSESSMENT DISTRICT NO. 94-1
(SOBOBA SPRINGS PROJECT)

for the
CITY OF SAN JACINTO
COUNTY OF RIVERSIDE
STATE OF CALIFORNIA



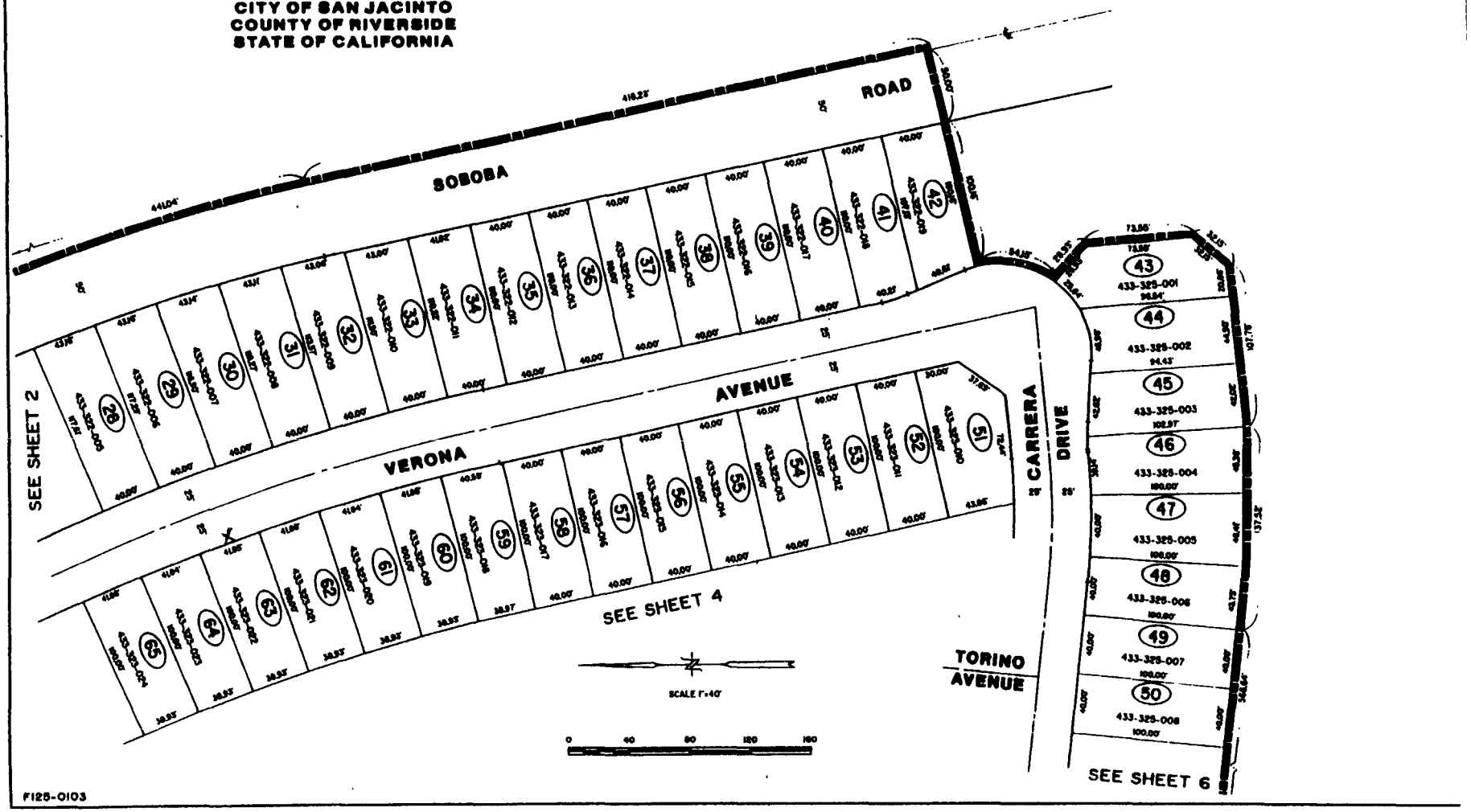
F125-0103

ASSESSMENT DISTRICT NO. 94-1

(SOBOBA SPRINGS PROJECT)

for the

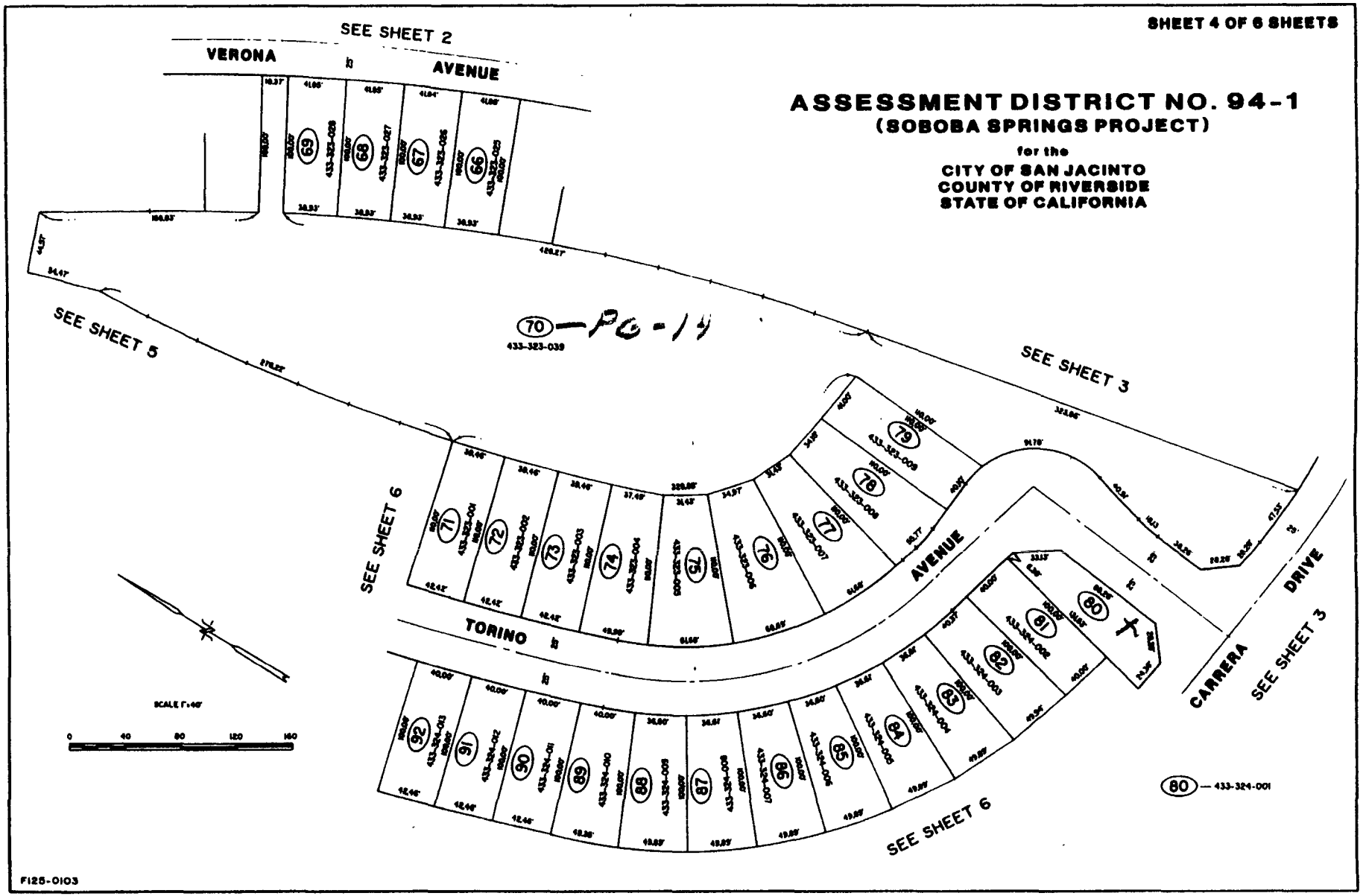
CITY OF SAN JACINTO
COUNTY OF RIVERSIDE
STATE OF CALIFORNIA



F125-0103

ASSESSMENT DISTRICT NO. 94-1
(SOBOBA SPRINGS PROJECT)

for the
CITY OF SAN JACINTO
COUNTY OF RIVERSIDE
STATE OF CALIFORNIA



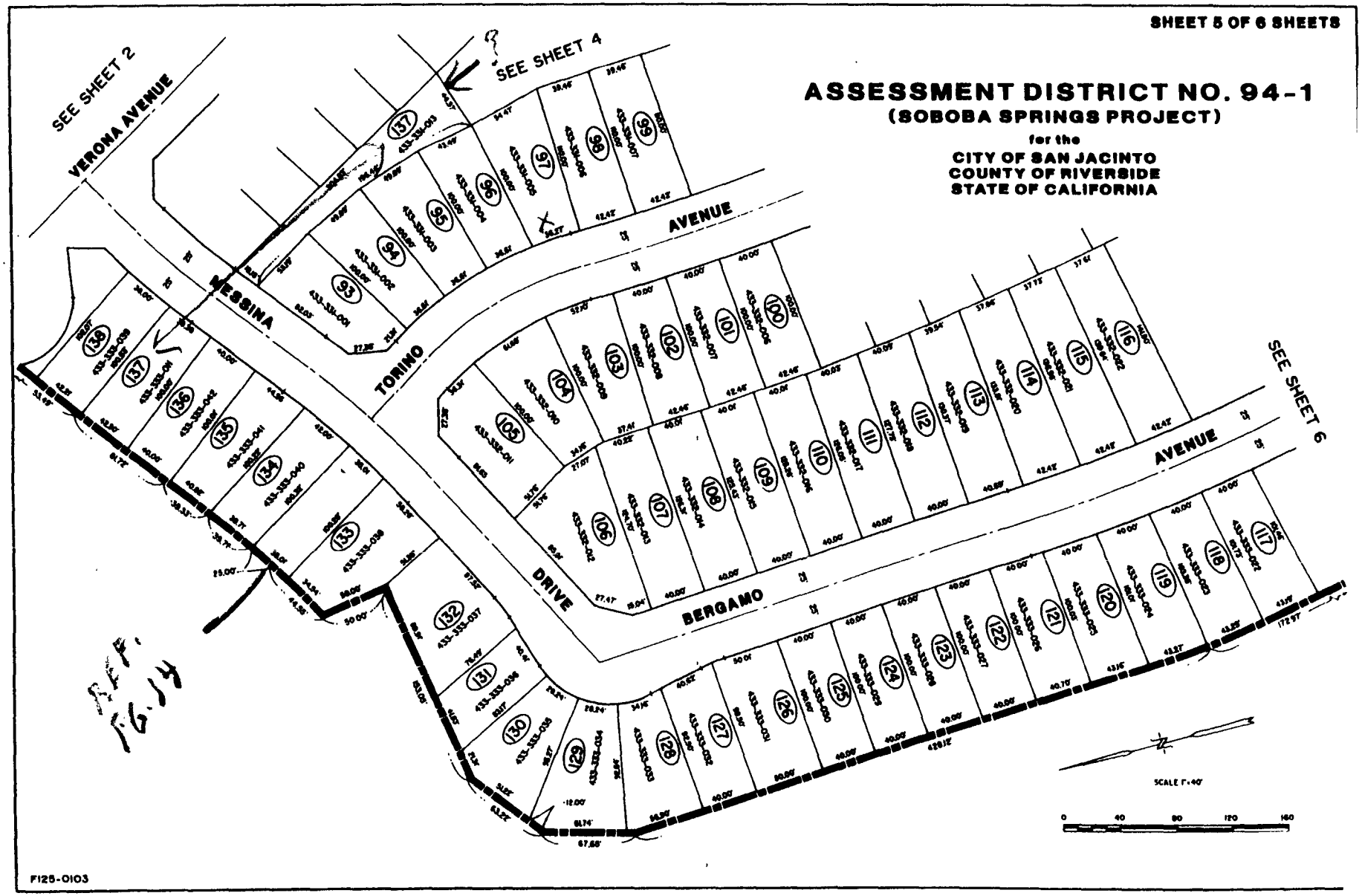
F125-0103

ASSESSMENT DISTRICT NO. 94-1

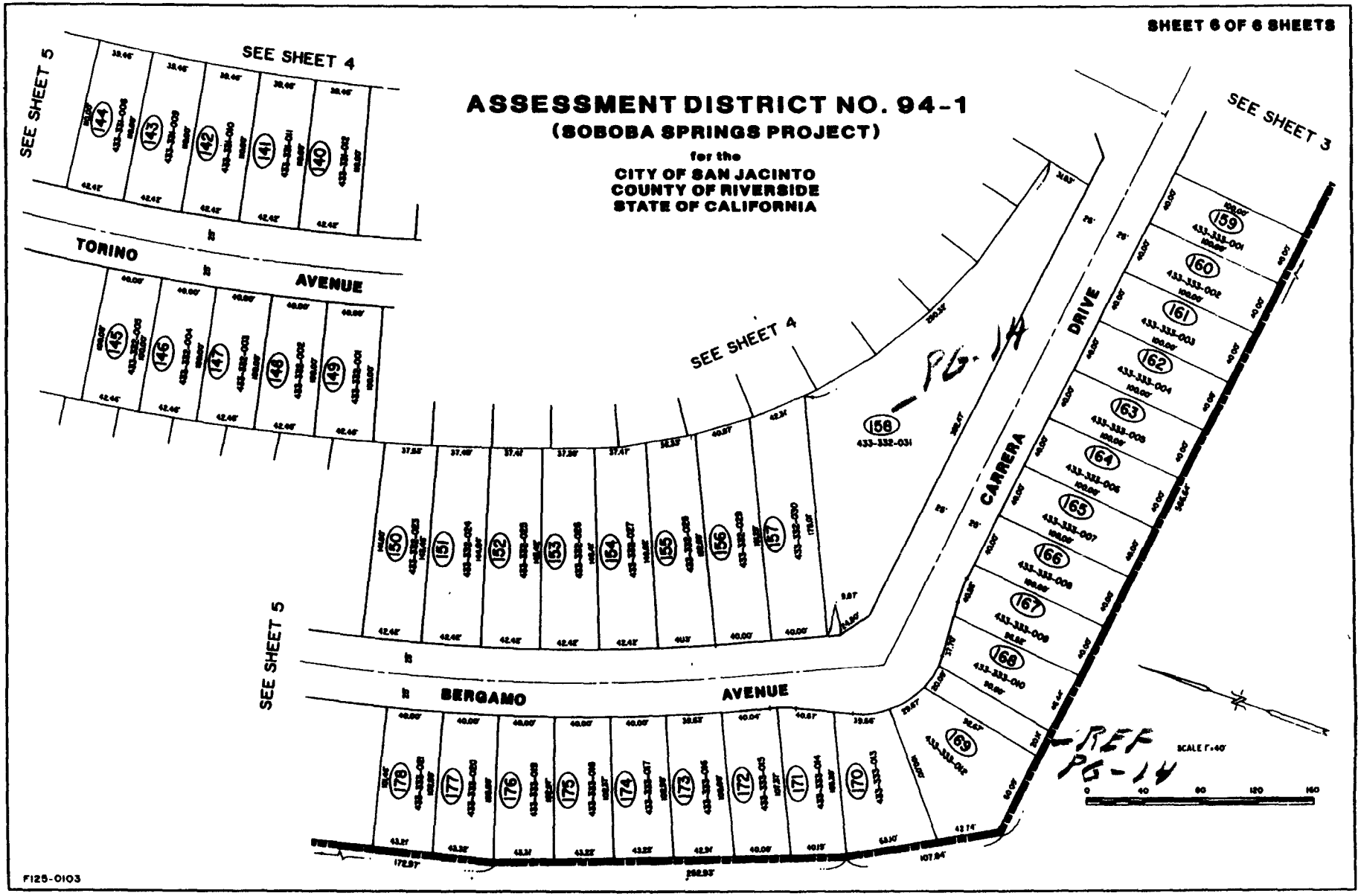
(SOBOBA SPRINGS PROJECT)

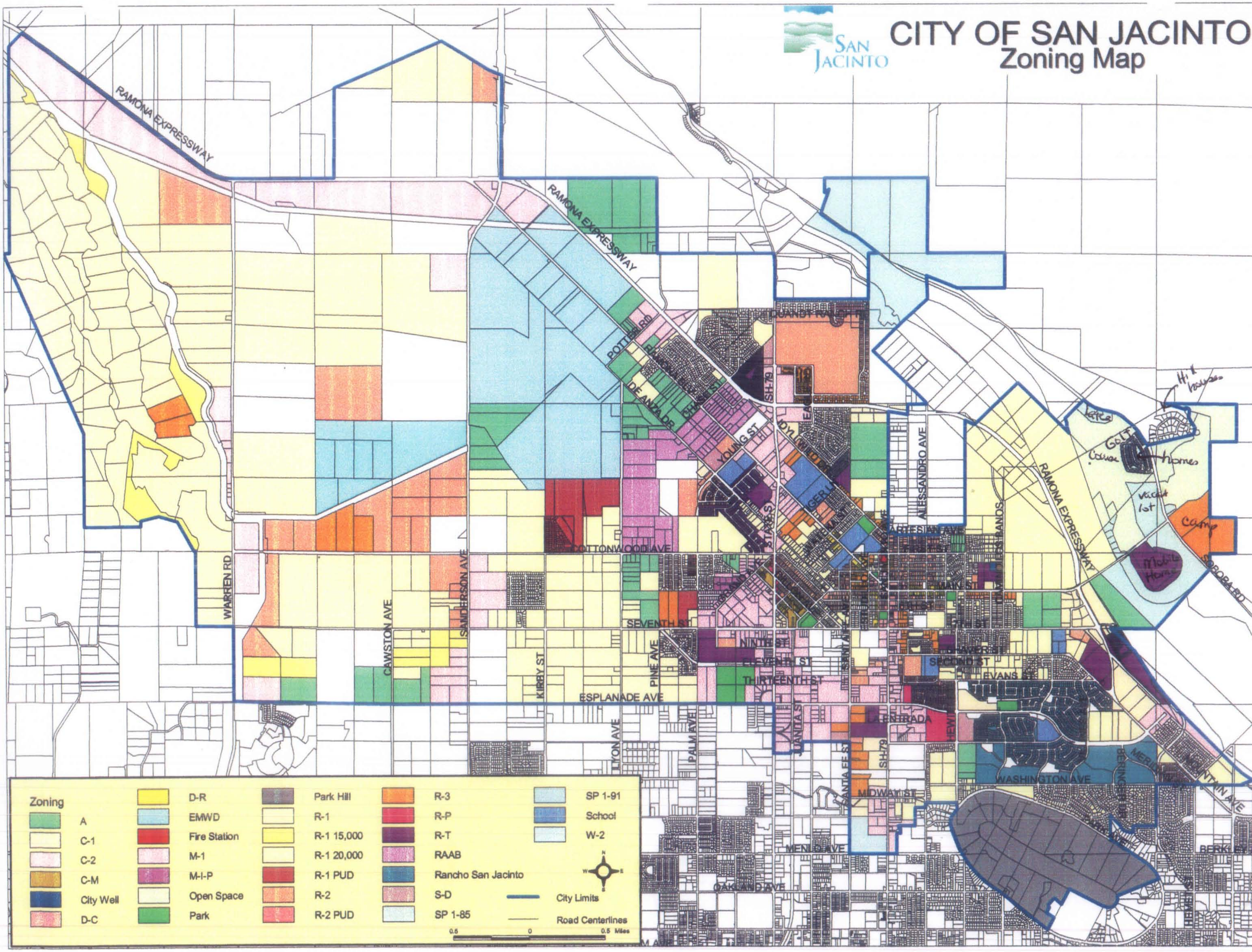
for the

CITY OF SAN JACINTO
COUNTY OF RIVERSIDE
STATE OF CALIFORNIA



F125-0103


ASSESSMENT DISTRICT NO. 94-1
(SOBOBA SPRINGS PROJECT)
for the
CITY OF SAN JACINTO
COUNTY OF RIVERSIDE
STATE OF CALIFORNIA
SEE SHEET 4
SEE SHEET 5
SEE SHEET 3
SEE SHEET 4
SEE SHEET 5
TORINO AVENUE
BERGAMO AVENUE
CARRERA DRIVE
REF PG-14
SCALE 1"=40'
0 40 80 120 160
F125-0103



blue-light green
SP 1-85
Specific Project
Low density Residential

h/i

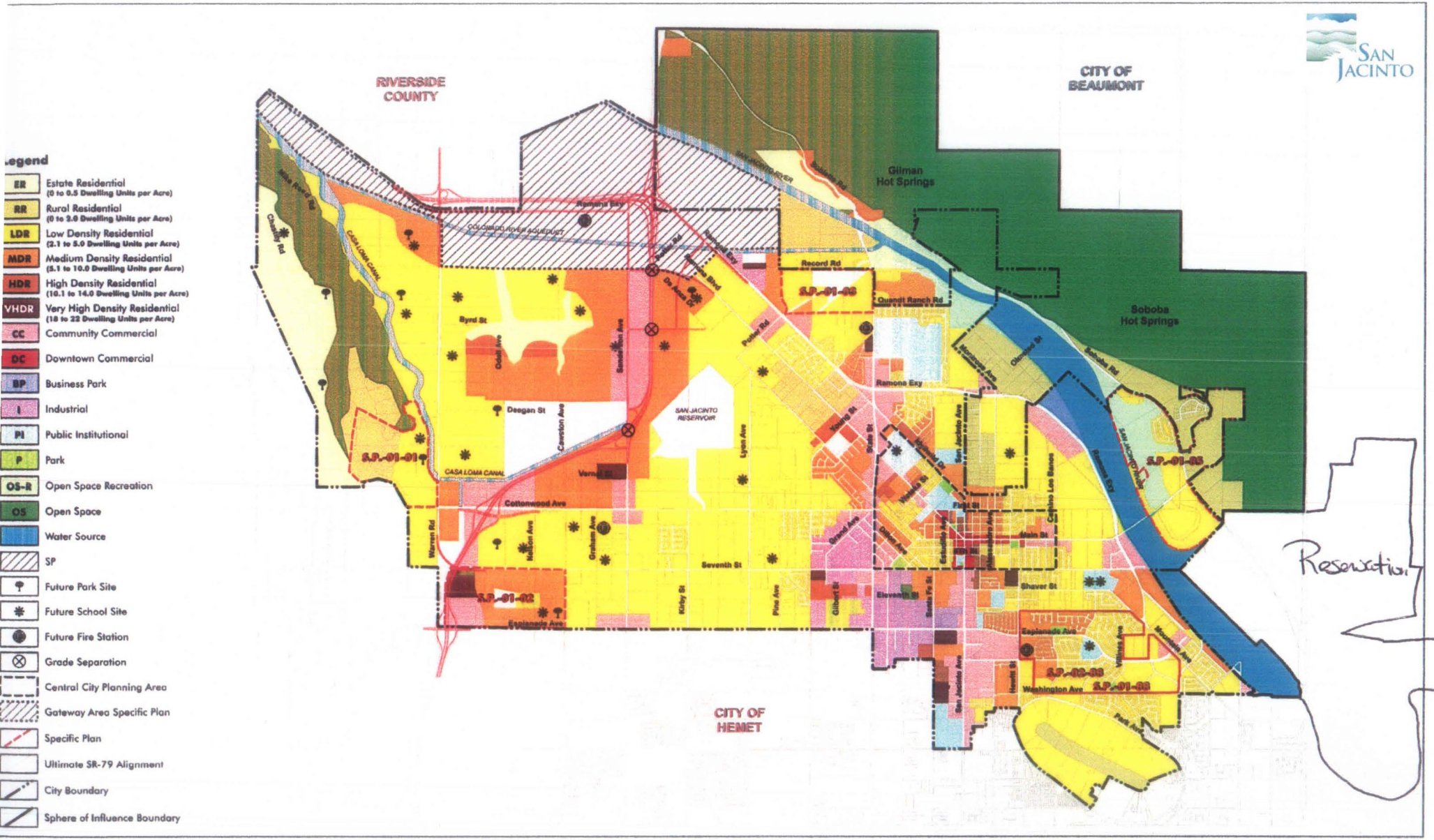


Figure LU-1
Land Use Policy Map

CITY OF SAN JACINTO

Capital Improvement Program Project Details

Project Title: ***SOBOBA ROAD MUD INTERCEPTOR***

Project Description:

(LOCATION MAP ON REVERSE SIDE)

Project Number: **07-005**

Managing Department(s): **ENGINEERING**

Project Status:

- ☐ New
- ☐ Pending
- ☐ In Design
- ☐ Out to Bid
- ☐ Under Construction
- ☑ Complete

Project Statistics:

Project related to:	Origination Yr.
☑ Safety & Health	2006
☐ Masterplan	
☐ Council Goal	

Financial Requirements:

Initial Cost Estimate by Category	***Estimate***
Land Acquisition / Right of Way	
Construction/Engineering/Environmental	
Other - Specify	

Funding Summary

Total Project Cost $

Total Funded $

Total Unfunded $

Restricted Funding ☐ Yes ☐ No

Phases	**Status**
CEQA	
ROW	
Engineering	
Construction	

Funding Allocation

Funding Source(s)	Budget 2007/08	Plan 2008/09	Plan 2009/10	Plan 2010 +
ALL FUNDS EXPENDED				
Total	-			

Budget Amendment Notes

Date	Description / Action	Adopted Budget	Amendment	Amended Budget

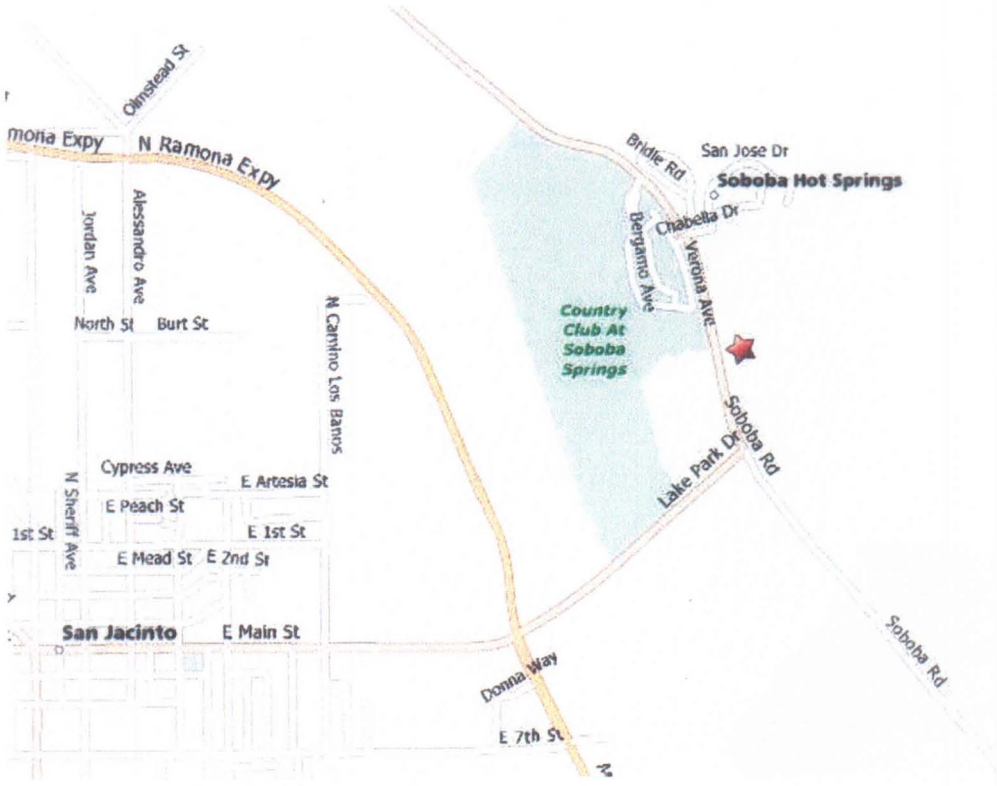
Additional Notes:

PROJECT COMPLETE

City of San Jacinto

2007/2008/2009 Capital Improvement Program

"STREETS"



Project: Soboba Road Block Wall


SOBOBA CASINO

SOBOBA TRIBE'S FEE-TO-TRUST RESEARCH PROJECT

TOPIC: Historic and forecasted seismic/earthquake activity

FACTS:

.*Available data from many studies including: on-going collection of seismic data, studies of local geological evidence back to 1812, demonstrates earthquake epicenter concentration is highest along the San Jacinto Fault—the area of the proposed high-rise casino/hotel complex.(1)

*Forecasted earthquakes—recently released studies 2)demonstrate the San Jacinto Fault has a 31% probability of generating an earthquake of a 6.7 Ricter Scale magnitude, or greater over the next 30 years. That is a "Northridge" scale earthquake; which caused many deaths and injuries, especially in high-rise buildings, even to those built to rigid safety standards.(2)

*Many Indian gaming facilities have not been constructed to prevailing standards(example lack of fire suppressant sprinklers –examples available on confidential basis only) Thereby endangering both the welfare of the Tribe and the "community".

(1) U.S Geological Survey from scec.org
(2) USGS map and commentary appearing in newspaper

southern california earthquake data center

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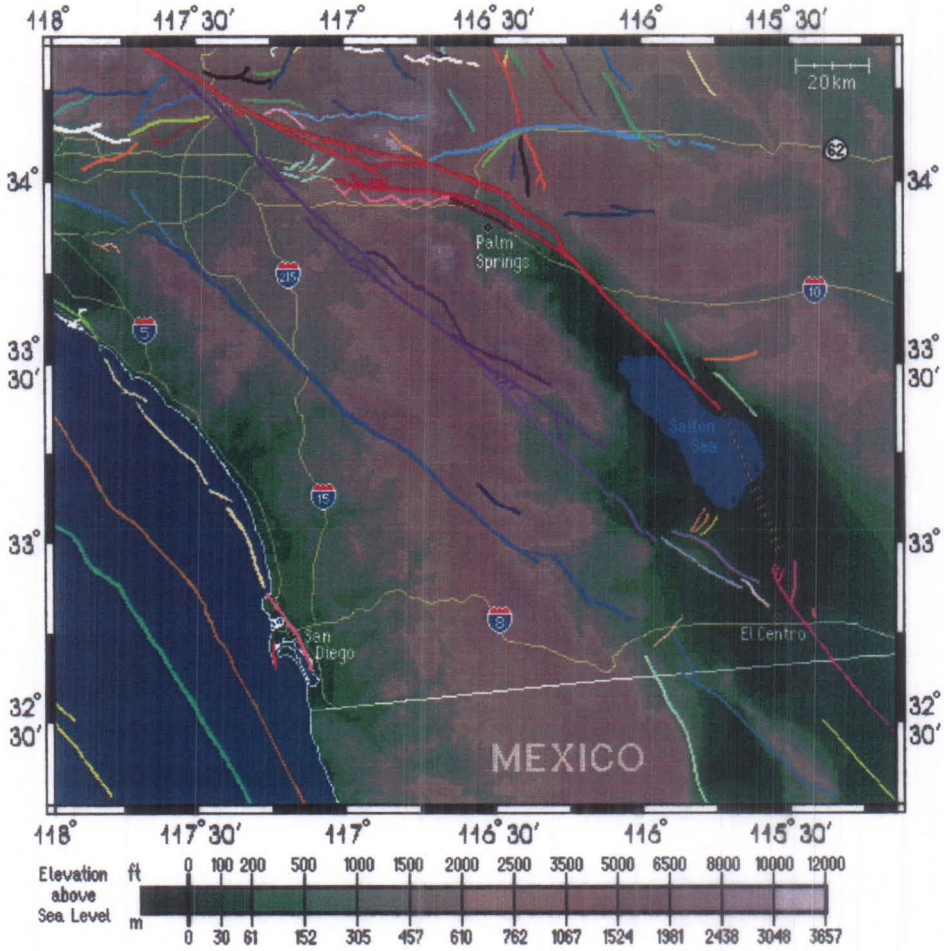
About the Data Center

• website map

faults of Southern California

Southern Region

The area covered by this map, which extends from the Transverse Ranges (the San Gabriel and San Bernadino Mountains) in the north to Baja California, Mexico, in the south is dominated primarily by northwest-trending faults, generally of a right-lateral strike-slip nature, though faults of every type and orientation can be found here. In this area is the Salton Trough, a great inland basin, much of which is below sea level, that harbors the Salton Sea, a dominant feature of the right-hand side of this map. Several offshore fault zones are shown as well.



RELATED INFORMATION

Alphabetical Fault Index

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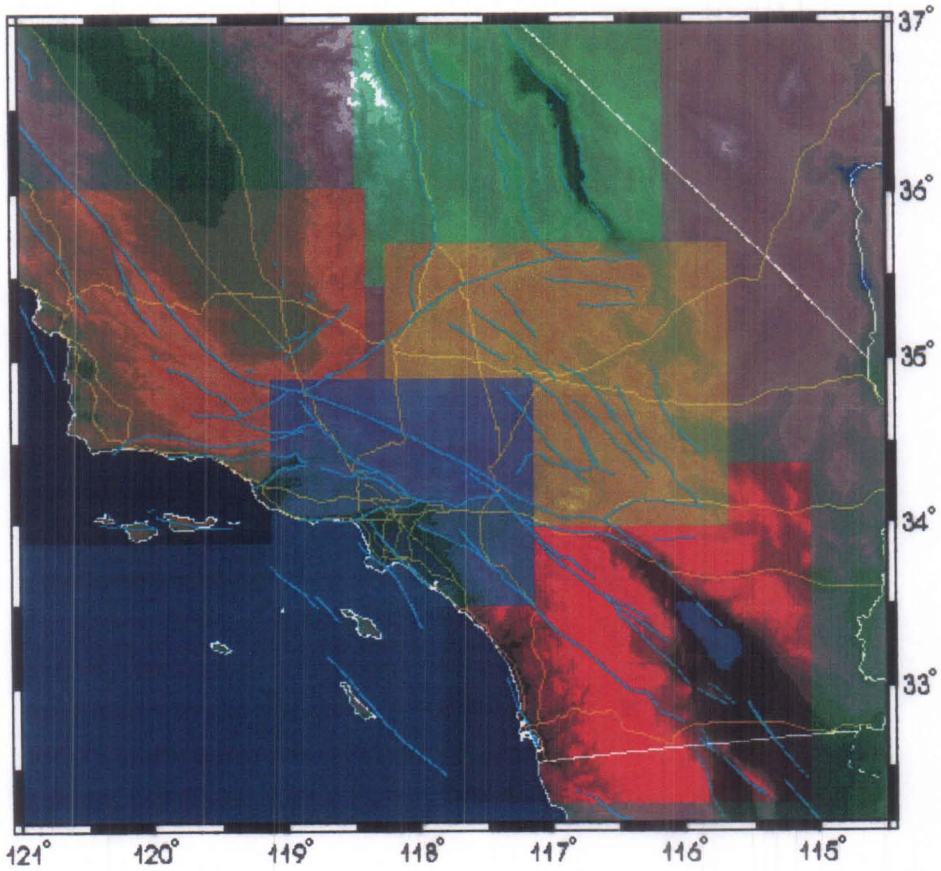
• website map

faults of Southern California

Below is a map of southern California, with five regions highlighted:

1. **Southern Coast Ranges and Central Valley** area is **orange**.
2. **Sierra Nevada and Basin and Range** area is **green**.
3. **Mojave region** is **yellow**.
4. Extreme **southern end of California** is **red**.
5. **Los Angeles** area is **blue-violet**.

This map is clickable. Clicking on a region will take you to an enlarged relief map of the area, with local faults highlighted in a variety of colors, and linked to pages detailing information about these faults. In all of the maps, that segment of the San Andreas fault which is visible will be red, and scales for distances and elevations will be given. A few city and highway labels will also appear on the smaller maps.



These maps were created using public-domain fault data which was modified by hand to more accurately reflect our current understanding of California's fault system. The 1994 *Fault Activity Map of California and Adjacent Areas* by Charles W. Jennings (available from the California Geological Survey) was used as a guide. These maps should not be considered as zoning guides, nor be used for risk assessment. Because of the sheer number of faults in southern California, this is not an exhaustive collection. The faults featured within this section were chosen typically because they are larger and/or exhibit more recent offset than others.

Most, if not all, of this material has a certain level of uncertainty to it Our understanding of faults is constantly expanding, and new faults and better data may be added to these maps as our knowledge about these structures advances

Note: Some browsers may distort the color palette of these images. If the elevation scale seems "odd" or "wrong", you may be experiencing this problem. *Also*, to use these imagemaps your browser must be compatible with client-side imagemaps. Comments are welcome

RELATED INFORMATION

Alphabetical Fault Index

Historic Earthquakes in Southern California

YAHOO! MAIL Classic

News- June 5, 2008- Stand Up for California Thursday, June 5, 2008 3:03 PM

From: "Cheryl Schmit" <schmit@hughes.net>
To: jerryuecker@yahoo.com

California Archives: 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 | 2001 | 2000 | 1998-99 | Historic Earthquakes | **Top Ten Lists**

Below are links to the maps of our most responded-to earthquakes. Some earthquakes appear in multiple region lists if they're located near a boundary, but the rankings below only consider the region that the event is actually in. If two or more events have the same number of responses, the most recent one is listed first.

Top Ten Felt Earthquakes (all regions)

Region	Event ID	Location	Date	Mag	Reports
California	40204628	5 miles NNE of Alum Rock, CA	OCT 30 2007	5.4	**63999**
Central US	2008qza6	21 miles SW of Vincennes, Indiana	APR 18 2008	5.2	**41065**
California	14151344	6 miles ESE of Anza, CA	JUN 12 2005	5.2	**29314**
California	HectorMine	Hector Mine	OCT 16 1999	7.1	**25551**
California	40194055	Near Lafayette, CA	MAR 1 2007	4.2	**20813**
California	40187964	3 miles W of Glen Ellen, CA	AUG 2 2006	4.4	**17979**
California	40148755	11 miles N of Cambria, CA	DEC 22 2003	6.5	**17516**
Central	teak	8 miles ENE of Fort Payne,	APR 29	4.6	**17481**

US		Alabama	2003		
California	10275733	8 miles SSE of El Cerrito, CA	SEP 2 2007	4.7	**17196**
California	14155260	3 miles NE of Yucaipa, CA	JUN 16 2005	4.9	**15903**

Top Ten Felt Earthquakes (excluding California)

Region	Event ID	Location	Date	Mag	Reports
Central US	2008qza6	21 miles SW of Vincennes, Indiana	APR 18 2008	5.2	**41065**
Central US	teak	8 miles ENE of Fort Payne, Alabama	APR 29 2003	4.6	**17481**
Central US	cdbf	15 miles SE of Columbia, VA	DEC 9 2003	4.5	**14624**
Pacific NW	2281854	Nisqually	FEB 28 2001	6.8	**12978**
Northeast	deam	17 miles SW of Plattsburgh, New York	APR 20 2002	5.1	**9774**
Central US	2008qzbw	21 miles SE of Olney, Illinois	APR 18 2008	4.6	**8141**
Central US	kgad	8 miles NNW of Ottawa, Illinois	JUN 28 2004	4.2	**8063**
Central US	fnbk	12 miles W of Evansville, Indiana	JUN 18 2002	4.6	**7555**
Central US	slav	253 miles SSW of Apalachicola, Florida	SEP 10 2006	6.0	**6230**
Central US	hbw0825a	20 miles S of Greeneville, Tennessee	AUG 24 2005	3.7	**4286**

Most Felt Earthquake By Region

Region	Event ID	Location	Date	Mag	Reports

California	40204628	5 miles NNE of Alum Rock, CA	OCT 30 2007	5.4	**63999**
Central US	2008qza6	21 miles SW of Vincennes, Indiana	APR 18 2008	5.2	**41065**
Pacific NW	2281854	Nisqually	FEB 28 2001	6.8	**12978**
Northeast	deam	17 miles SW of Plattsburgh, New York	APR 20 2002	5.1	**9774**
W. Mountain	azad	13 miles NNE of Dillon, Montana	JUL 25 2005	5.6	**3845**
Alaska	22614036	47 miles E of Cantwell, Alaska	NOV 3 2002	7.9	**3500**
Hawaii	twbh	10 miles NNW of Kailua Kona, Hawaii, Hawaii	OCT 15 2006	6.7	**3116**
Puerto Rico & US Terr.	2007kha5	26 miles SSE of ROSEAU, Dominica	NOV 29 2007	7.4	**264**

U.S. Department of the Interior, U.S. Geological Survey
Community Internet Intensity Maps
<http://pasadena.wr.usgs.gov/shake>
Maintained by: CIIM working group
Last modified 6.7.2008

SOBOBA TRIBE'S FEE-TO TRUST RESEARCH PROJECT

TOPIC: GEOLOGY—SOILS

FACTS:

*Proposed site for high-rise hotel/casino complex is soil rating:

Se C2 -- San Emiglio fine sandy loam, 2 to 8 percent slope, eroded(1)

This soil type requires significant over-excavation and compaction prior to starting high-rise construction (2)

*Existing "temporary" casino site is soil rating:

DnB Dello loamy sand, gravelly substratum, 0 to 5 percent slope (1)

*Both above referenced soils are subject to liquefaction in the event of a major earth-quake. (3)

*Proposed site is presently within the jurisdiction of the City of San Jacinto and therefore subject to the City's building codes for building integrity, soil compaction, etc.

*If fee-to-trust transfer occurs, the oft-stated tribal sovereignty would be in place, which raises troubling questions about application of building standards that would protect the "community" of hotel/casino users.

(1) U. S. Department of Agriculture Soil Conservation Service

University of California Agriculture Experiment Station (attached)

LOCATION OF PROFILES REPRESENTATIVE OF SOIL SERIES

SOIL SERIES	MAP SHEET	PART OF SHEET
Altamont	37	SW
Anza	168	NW
Arbuckle	55	SW
Arlington	26	SW
Auld	138	SW
Bishop	178	NE
Bonsall	42	SE
Bosanko	84	SW
Buchenau	25	NW
Bull Trail	178	SE
Buren	41	SW
Cajalco	83	SE
Calpine	197	NW
Chino	22	NW
Cieneba	56	NW
Cortina	68	NW
Crafton	20	SW
Crouch	66	NW
Delhi	1	SW
Dello	11	NE
Domino	86	NE
Escondido	158	NE
Exeter	74	SE
Fallbrook	59	NW
Friant	149	SW
Garretson	69	SW
Gaviota	53	NW
Gorgonio	50	NE
Grangeville	91	SW
Greenfield	46	SW
Hanford	62	NW
Hilmar	9	SW
Honcut	128	SE
Las Posas	159	NE
Lodo	117	NW
Madera	108	NE
Metz	103	SW
Monserate	28	SE
Mottsville	183	SW
Murrieta	170	SE
Oak Glen	19	SW
Pachappa	12	NW
Perkins	81	NW
Placentia	188	SE
Porterville	82	NE
Ramona	31	SE
San Emigdio	46	NE
San Timoteo	15	NE
Sheephead	166	NE
Soboba	90	NE
Soper	37	NW
Temescal	70	NW
Tollhouse	196	NE
Traver	89	SE
Tujunga	11	NE
Vallecitos	170	NE
Vallecitos, thick solum variant	108	NW
Visalia	203	SE
Vista	161	NE
Waukena	22	SW
Willows	97	NE
Wyman	111	SW
Yokohl	82	SE
Ysidora	187	NE

SOIL LEGEND

Each symbol consists of letters or a combination of letters and numbers. The first capital letter is the initial one of the soil name. A second capital letter, if used, shows the class of slope. Symbols without a slope letter are for nearly level soils. A final number, 2 or 3, in a symbol shows that the soil is named as eroded or severely eroded.

SYMBOL	NAME
AaD	Altamont clay, 5 to 15 percent slopes
AaE2	Altamont clay, 15 to 25 percent slopes, eroded
AaF	Altamont clay, 25 to 50 percent slopes
AbF	Altamont cobbly clay, 8 to 35 percent slopes
AcC	Anza fine sandy loam, 2 to 8 percent slopes
AdA	Anza loam, 0 to 2 percent slopes
AdC	Anza loam, 2 to 8 percent slopes
AkC	Arbuckle loam, 2 to 8 percent slopes
AkD	Arbuckle loam, 8 to 15 percent slopes
AlC	Arbuckle gravelly loam, 2 to 8 percent slopes
AlD	Arbuckle gravelly loam, 8 to 15 percent slopes
AlE	Arbuckle gravelly loam, 15 to 25 percent slopes
AlE3	Arbuckle gravelly loam, 2 to 25 percent slopes, severely eroded
AmC	Arbuckle gravelly clay loam, 2 to 8 percent slopes
AnC	Arlington fine sandy loam, 2 to 8 percent slopes
AnD	Arlington fine sandy loam, 8 to 15 percent slopes
AoA	Arlington fine sandy loam, deep, 0 to 2 percent slopes
AoC	Arlington fine sandy loam, deep, 2 to 8 percent slopes
AoD	Arlington fine sandy loam, deep, 8 to 15 percent slopes
ApB	Arlington loam, 2 to 5 percent slopes
ArB	Arlington loam, deep, 0 to 5 percent slopes
ArD	Arlington loam, deep, 5 to 15 percent slopes
AtC2	Arlington and Greenfield fine sandy loams, 2 to 8 percent slopes, eroded
AtD2	Arlington and Greenfield fine sandy loams, 8 to 15 percent slopes, eroded
AtF3	Arlington and Greenfield fine sandy loams, 15 to 35 percent slopes, severely eroded
AuC	Auld clay, 2 to 8 percent slopes
AuD	Auld clay, 8 to 15 percent slopes
AvF	Auld cobbly clay, 8 to 50 percent slopes
BaG	Badland
Bb	Bishop silt loam
BdC	Bonsall fine sandy loam, 2 to 8 percent slopes
BdD	Bonsall fine sandy loam, 8 to 15 percent slopes
BfC	Bosanko clay, 2 to 8 percent slopes
BfD	Bosanko clay, 8 to 15 percent slopes
BhA	Buchenau loam, slightly saline–alkali, 0 to 2 percent slopes
BhC	Buchenau loam, slightly saline–alkali, 2 to 8 percent slopes
BkC2	Buchenau silt loam, 2 to 8 percent slopes, eroded
BsC2	Bull Trail sandy loam, 5 to 8 percent slopes, eroded
BsD2	Bull Trail sandy loam, 8 to 15 percent slopes, eroded
BsE3	Bull Trail sandy loam, 8 to 25 percent slopes, severely eroded
BtD2	Bull Trail stony sandy loam, 8 to 15 percent slopes, eroded
BtE3	Bull Trail stony sandy loam, 8 to 25 percent slopes, severely eroded
BuC2	Buren fine sandy loam, 2 to 8 percent slopes, eroded
BuD2	Buren fine sandy loam, 8 to 15 percent slopes, eroded
BvD3	Buren loam, 5 to 15 percent slopes, severely eroded
BxC2	Buren loam, deep, 2 to 8 percent slopes, eroded
CaC2	Cajalco fine sandy loam, 2 to 8 percent slopes, eroded
CaD2	Cajalco fine sandy loam, 8 to 15 percent slopes, eroded
CaF2	Cajalco fine sandy loam, 15 to 35 percent slopes, eroded
CbD2	Cajalco rocky fine sandy loam, 5 to 15 percent slopes, eroded
CbF2	Cajalco rocky fine sandy loam, 15 to 50 percent slopes, eroded
CcC2	Calpine sandy loam, 2 to 8 percent slopes, eroded
CcD2	Calpine sandy loam, 8 to 15 percent slopes, eroded
CdC2	Calpine loam, 2 to 8 percent slopes, eroded
Ce	Chino silt loam, drained
Cf	Chino silt loam, drained, saline–alkali
Cg	Chino silt loam, strongly saline–alkali
ChC	Cieneba sandy loam, 5 to 8 percent slopes
ChD2	Cieneba sandy loam, 8 to 15 percent slopes, eroded
ChF2	Cieneba sandy loam, 15 to 50 percent slopes, eroded
CkD2	Cieneba rocky sandy loam, 8 to 15 percent slopes, eroded
CkF2	Cieneba rocky sandy loam, 15 to 50 percent slopes, eroded
ClC	Cortina gravelly loamy sand, 2 to 8 percent slopes
CmC	Cortina cobbly loamy sand, 2 to 8 percent slopes
CnC	Cortina gravelly coarse sandy loam, 2 to 8 percent slopes
CoA	Cortina sandy loam, 0 to 2 percent slopes
CpA	Cortina gravelly sandy loam, 0 to 2 percent slopes
CrD	Cortina cobbly sandy loam, 2 to 12 percent slopes
CsF2	Crafton rocky sandy loam, 25 to 50 percent slopes, eroded

Continued

1 ¾ ½ ¼ 0 1 Mile

5000 4000 3000 2000 1000 0 5000 Feet

N

Scale 1: 15 840

(Joins sheet 101)

(Joins sheet 113)

SAN JOAQUIN

SOUTH DAKOTA

San Joaquin River

T. 5 S. | T. 4 S.

T. 0

36 31 32 5 4

Present Coring Site.

(Joins sheet 103)

1 ¾ ½ ¼ 0 1 Mile

5000 4000 3000 2000 1000 0 5000 Feet

N

Scale 1: 15 840

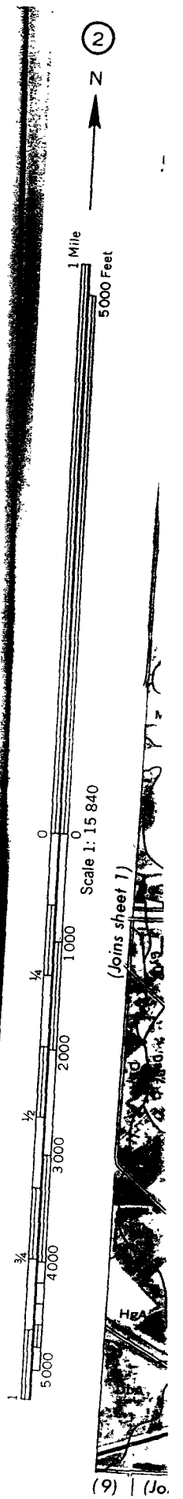
WESTERN RIVERSIDE AREA, CALIFORNIA — SHEET NUMBER 91

SOIL LEGEND

Each symbol consists of letters or a combination of letters and numbers. The first capital letter is the initial one of the soil name. A second capital letter, if used, shows the class of slope. Symbols without a slope letter are for nearly level soils. A final number, 2 or 3, in a symbol shows that the soil is named as eroded or severely eroded.

SYMBOL	NAME
CtF2	Crafton fine sandy loam, 15 to 35 percent slopes, eroded
CuE	Crafton rocky fine sandy loam, 15 to 25 percent slopes
CvD2	Crouch loamy sand, 8 to 15 percent slopes, eroded
CwD2	Crouch sandy loam, 8 to 15 percent slopes, eroded
CwE2	Crouch sandy loam, 15 to 25 percent slopes, eroded
CyE2	Crouch rocky sandy loam, 8 to 25 percent slopes, eroded
CyF2	Crouch rocky sandy loam, 25 to 50 percent slopes, eroded
DaD2	Delhi fine sand, 2 to 15 percent slopes, wind-eroded
DbA	Delhi loamy fine sand, 0 to 2 percent slopes
DgB	Dello loamy sand, 0 to 5 percent slopes
DmA	Dello loamy sand, poorly drained, 0 to 2 percent slopes
DnB	Dello loamy sand, gravelly substratum, 0 to 5 percent slopes
DoA	Dello loamy fine sand, 0 to 2 percent slopes
DpB	Dello loamy fine sand, saline-alkali, 0 to 5 percent slopes
DrA	Dello loamy fine sand, gravelly substratum, 0 to 2 percent slopes
Ds2	Domino fine sandy loam, eroded
Dt	Domino fine sandy loam, saline-alkali
Du	Domino silt loam
Dv	Domino silt loam, saline-alkali
Dw	Domino silt loam, strongly saline-alkali
EcC2	Escondido fine sandy loam, 2 to 8 percent slopes, eroded
EcD2	Escondido fine sandy loam, 8 to 15 percent slopes, eroded
EcE2	Escondido fine sandy loam, 15 to 25 percent slopes, eroded
EfF2	Escondido rocky fine sandy loam, 8 to 50 percent slopes, eroded
EnA	Exeter sandy loam, 0 to 2 percent slopes
EnC2	Exeter sandy loam, 2 to 8 percent slopes, eroded
EoB	Exeter sandy loam, slightly saline-alkali, 0 to 5 percent slopes
EpA	Exeter sandy loam, deep, 0 to 2 percent slopes
EpC2	Exeter sandy loam, deep, 2 to 8 percent slopes, eroded
EwB	Exeter very fine sandy loam, 0 to 5 percent slopes
EyB	Exeter very fine sandy loam, deep, 0 to 5 percent slopes
FaD2	Fallbrook sandy loam, 8 to 15 percent slopes, eroded
FaE2	Fallbrook sandy loam, 15 to 25 percent slopes, eroded
FbC2	Fallbrook sandy loam, shallow, 5 to 8 percent slopes, eroded
FbF2	Fallbrook sandy loam, shallow, 15 to 35 percent slopes, eroded
FcD2	Fallbrook rocky sandy loam, shallow, 8 to 15 percent slopes, eroded
FcF2	Fallbrook rocky sandy loam, shallow, 15 to 50 percent slopes, eroded
FfC2	Fallbrook fine sandy loam, 2 to 8 percent slopes, eroded
FkD2	Fallbrook fine sandy loam, shallow, 8 to 15 percent slopes, eroded
FwE2	Friant fine sandy loam, 5 to 25 percent slopes, eroded
FyE2	Friant rocky fine sandy loam, 8 to 25 percent slopes, eroded
FyF2	Friant rocky fine sandy loam, 25 to 50 percent slopes, eroded
GaA	Garretson very fine sandy loam, 0 to 2 percent slopes
GaC	Garretson very fine sandy loam, 2 to 8 percent slopes
GaD2	Garretson very fine sandy loam, 8 to 15 percent slopes, eroded
GdA	Garretson gravelly very fine sandy loam, 0 to 2 percent slopes
GdC	Garretson gravelly very fine sandy loam, 2 to 8 percent slopes
GdD2	Garretson gravelly very fine sandy loam, 8 to 15 percent slopes, eroded
GeG3	Gaviota rocky fine sandy loam, 25 to 75 percent slopes, severely eroded
GfF2	Gaviota very fine sandy loam, 15 to 50 percent slopes, eroded
GgF2	Gaviota rocky very fine sandy loam, 25 to 50 percent slopes, eroded
GhC	Gorgonio loamy sand, 0 to 8 percent slopes
GhD	Gorgonio loamy sand, 8 to 15 percent slopes
GkD	Gorgonio loamy sand, channeled, 2 to 15 percent slopes
GlC	Gorgonio loamy sand, deep, 2 to 8 percent slopes
GmD	Gorgonio gravelly loamy fine sand, 2 to 15 percent slopes
GnD	Gorgonio cobbly loamy fine sand, 2 to 15 percent slopes
GoB	Grangeville loamy fine sand, drained, 0 to 5 percent slopes
GpB	Grangeville sandy loam, drained, saline-alkali, 0 to 5 percent slopes
GrB	Grangeville sandy loam, sandy substratum, drained, 0 to 5 percent slopes
GsB	Grangeville sandy loam, sandy substratum, drained, saline-alkali, 0 to 5 percent slopes
GtA	Grangeville fine sandy loam, drained, 0 to 2 percent slopes
GtD	Grangeville fine sandy loam, drained, 5 to 15 percent slopes
GuB	Grangeville fine sandy loam, poorly drained, saline-alkali, 0 to 5 percent slopes
GvB	Grangeville fine sandy loam, saline-alkali, 0 to 5 percent slopes
GwA	Grangeville fine sandy loam, loamy substratum, drained, 0 to 2 percent slopes
GxA	Grangeville fine sandy loam, loamy substratum, drained, saline-alkali, 0 to 2 percent slopes
GyA	Greenfield sandy loam, 0 to 2 percent slopes
GyC2	Greenfield sandy loam, 2 to 8 percent slopes, eroded
GyD2	Greenfield sandy loam, 8 to 15 percent slopes, eroded
GyE2	Greenfield sandy loam, 15 to 25 percent slopes, eroded
GzG	Gullied land
HaC	Hanford loamy fine sand, 0 to 8 percent slopes
HcA	Hanford coarse sandy loam, 0 to 2 percent slopes
HcC	Hanford coarse sandy loam, 2 to 8 percent slopes
HcD2	Hanford coarse sandy loam, 8 to 15 percent slopes, eroded
HdD2	Hanford cobbly coarse sandy loam, 2 to 15 percent slopes, eroded
HeC2	Hanford coarse sandy loam, deep, 2 to 8 percent slopes, eroded
HfD	Hanford sandy loam, 2 to 15 percent slopes
HgA	Hanford fine sandy loam, 0 to 2 percent slopes
HhA2	Hilmar loamy sand, 0 to 2 percent slopes, eroded
HlA	Hilmar loamy very fine sand, 0 to 2 percent slopes
HlC	Hilmar loamy very fine sand, 2 to 8 percent slopes
HnC	Honcut sandy loam, 2 to 8 percent slopes
HnD2	Honcut sandy loam, 8 to 15 percent slopes, eroded
hoE	Honcut cobbly sandy loam, 2 to 25 percent slopes
HoC2	Honcut loam, 2 to 8 percent slopes, eroded
LoC	Las Posas loam, 2 to 8 percent slopes
LoC2	Las Posas loam, 5 to 8 percent slopes, eroded
LoD2	Las Posas loam, 8 to 15 percent slopes, eroded
LoE3	Las Posas loam, 8 to 25 percent slopes, severely eroded
LcD2	Las Posas stony loam, 8 to 15 percent slopes, eroded
LkD2	Las Posas rocky loam, 8 to 15 percent slopes, eroded
LkF3	Las Posas rocky loam, 15 to 50 percent slopes, severely eroded
LoF2	Lodo gravelly loam, 15 to 50 percent slopes, eroded
LpE2	Lodo rocky loam, 8 to 25 percent slopes, eroded
LpF2	Lodo rocky loam, 25 to 50 percent slopes, eroded
MaA	Madera fine sandy loam, 0 to 2 percent slopes
MaB2	Madera fine sandy loam, 2 to 5 percent slopes, eroded
MaD2	Madera fine sandy loam, 5 to 15 percent slopes, eroded
MbC2	Madera fine sandy loam, shallow, 2 to 8 percent slopes, eroded
MdC	Metz loamy sand, 2 to 8 percent slopes
MeD	Metz loamy sand, channeled, 0 to 15 percent slopes
MfA	Metz loamy fine sand, 0 to 2 percent slopes
MgB	Metz loamy fine sand, gravelly sand substratum, 0 to 5 percent slopes
MhB	Metz loamy fine sand, sandy loam substratum, 0 to 5 percent slopes
MlD	Metz gravelly sandy loam, 2 to 15 percent slopes
MmB	Monserate sandy loam, 0 to 5 percent slopes
MmC2	Monserate sandy loam, 5 to 8 percent slopes, eroded
MmD2	Monserate sandy loam, 8 to 15 percent slopes, eroded
MmE3	Monserate sandy loam, 15 to 25 percent slopes, severely eroded
MnD2	Monserate sandy loam, shallow, 5 to 15 percent slopes, eroded
MnE3	Monserate sandy loam, shallow, 15 to 25 percent slopes, severely eroded
MoC	Mottsville loamy sand, 2 to 8 percent slopes
MoD	Mottsville loamy sand, 8 to 15 percent slopes
MrE	Mottsville cobbly loamy sand, 8 to 25 percent slopes
MsC	Mottsville sandy loam, 2 to 8 percent slopes
MsD	Mottsville sandy loam, 8 to 15 percent slopes
MtE2	Mottsville cobbly sandy loam, 8 to 25 percent slopes, eroded
MuE	Murrieta stony clay loam, 2 to 25 percent slopes
OgD	Oak Glen gravelly sandy loam, 8 to 15 percent slopes
OgE	Oak Glen gravelly sandy loam, 15 to 25 percent slopes
OkD	Oak Glen fine sandy loam, 5 to 15 percent slopes
PaA	Pachappa fine sandy loam, 0 to 2 percent slopes
PaC2	Pachappa fine sandy loam, 2 to 8 percent slopes, eroded
PeC	Perkins loam, 2 to 8 percent slopes
PgB	Perkins gravelly loam, 2 to 5 percent slopes
PgC	Perkins gravelly loam, 5 to 8 percent slopes
PgD2	Perkins gravelly loam, 8 to 15 percent slopes, eroded
PlB	Placentia fine sandy loam, 0 to 5 percent slopes
PlD	Placentia fine sandy loam, 5 to 15 percent slopes
PmE	Placentia cobbly fine sandy loam, 8 to 25 percent slopes
PoC	Porterville clay, 0 to 8 percent slopes
PrD	Porterville cobbly clay, 2 to 15 percent slopes
PsC	Porterville clay, moderately deep, 2 to 8 percent slopes
PtB	Porterville clay, moderately deep, slightly saline-alkali, 0 to 5 percent slopes
PvD2	Porterville gravelly clay, moderately deep, 2 to 15 percent slopes, eroded
RaA	Ramona sandy loam, 0 to 2 percent slopes
RaB2	Ramona sandy loam, 2 to 5 percent slopes, eroded
RaB3	Ramona sandy loam, 0 to 5 percent slopes, severely eroded
RaC2	Ramona sandy loam, 5 to 8 percent slopes, eroded
RaC3	Ramona sandy loam, 5 to 8 percent slopes, severely eroded
RaD2	Ramona sandy loam, 8 to 15 percent slopes, eroded
RaD3	Ramona sandy loam, 8 to 15 percent slopes, severely eroded
RaE3	Ramona sandy loam, 15 to 25 percent slopes, severely eroded
RdD2	Ramona sandy loam, moderately deep, 8 to 15 percent slopes, eroded
RdE3	Ramona sandy loam, moderately deep, 15 to 25 percent slopes severely eroded
ReC2	Ramona very fine sandy loam, 0 to 8 percent slopes eroded
RfC2	Ramona very fine sandy loam, moderately deep, 0 to 8 percent slopes eroded
RmE3	Ramona and Buren sandy loams, 15 to 25 percent slopes, severely eroded
RnD2	Ramona and Buren loams, 5 to 15 percent slopes, eroded
RnE3	Ramona and Buren loams, 5 to 25 percent slopes, severely eroded
RsC	Riverwash
RtF	Rock land
RuF	Rough broken land
SdD	San Emigdio sandy loam, channeled, 2 to 15 percent slopes
SeA	San Emigdio fine sandy loam, 0 to 2 percent slopes
SeC2	San Emigdio fine sandy loam, 2 to 8 percent slopes, eroded
SeD2	San Emigdio fine sandy loam, 8 to 15 percent slopes, eroded
SfA	San Emigdio fine sandy loam, deep, 0 to 2 percent slopes
SgA	San Emigdio loam, 0 to 2 percent slopes
SgC	San Emigdio loam, 2 to 8 percent slopes
SgD2	San Emigdio loam, 8 to 15 percent slopes, eroded
SmE2	San Timoteo loam, 8 to 25 percent slopes, eroded
SmF2	San Timoteo loam, 25 to 50 percent slopes, eroded
SnD2	Sheephead fine sandy loam, 8 to 15 percent slopes, eroded
SpG2	Sheephead rocky fine sandy loam, 15 to 75 percent slopes, eroded
SrE	Soboba cobbly loamy sand, 2 to 25 percent slopes
SsD	Soboba stony loamy sand, 2 to 15 percent slopes
StF2	Soper loam, 15 to 35 percent slopes, eroded
SuF2	Soper cobbly loam, 25 to 50 percent slopes, eroded
TaF2	Temescal loam, 15 to 50 percent slopes, eroded
TbF2	Temescal rocky loam, 15 to 50 percent slopes, eroded
TeG	Terrace escarpments
TfF2	Tollhouse rocky coarse sandy loam, 8 to 50 percent slopes, eroded
ThD2	Tollhouse sandy loam, 5 to 15 percent slopes, eroded
ThE2	Tollhouse sandy loam, 15 to 25 percent slopes, eroded
Tp2	Traver loamy fine sand, eroded
Tr2	Traver loamy fine sand, saline-alkali, eroded
Ts	Traver fine sandy loam, saline-alkali
Tt2	Traver fine sandy loam, strongly saline-alkali, eroded
TuB	Tujunga loamy sand, 0 to 5 percent slopes
TvC	Tujunga loamy sand, channeled, 0 to 8 percent slopes
TwC	Tujunga gravelly loamy sand, 0 to 8 percent slopes
VaE3	Vallecitos loam, 8 to 25 percent slopes, severely eroded
VdF2	Vallecitos rocky loam, 8 to 50 percent slopes, eroded
VeC2	Vallecitos loam, thick solum variant, 2 to 8 percent slopes, eroded
VeD2	Vallecitos loam, thick solum variant, 8 to 15 percent slopes, eroded
VeF2	Vallecitos loam, thick solum variant, 15 to 50 percent slopes, eroded
VlC2	Visalia sandy loam, 0 to 8 percent slopes, eroded
VmA	Visalia fine sandy loam, 0 to 2 percent slopes
VmC	Visalia fine sandy loam, 2 to 8 percent slopes
VsC	Vista coarse sandy loam, 2 to 8 percent slopes
VsD2	Vista coarse sandy loam, 8 to 15 percent slopes, eroded
VsF2	Vista coarse sandy loam, 15 to 35 percent slopes, eroded
VtF2	Vista rocky coarse sandy loam, 2 to 35 percent slopes, eroded
Wa	Waukena loamy fine sand, saline-alkali
Wb	Waukena fine sandy loam, saline-alkali
Wc	Waukena fine sandy loam, strongly saline-alkali
Wd	Waukena loam, saline-alkali
WeD	Wet alluvial land
Wf	Willows silty clay
Wg	Willows silty clay, saline-alkali
Wh	Willows silty clay, strongly saline-alkali
Wm	Willows silty clay, deep, saline-alkali
Wn	Willows silty clay, deep, strongly saline-alkali
WxD2	Wyman fine sandy loam, 8 to 15 percent slopes, eroded
WyC2	Wyman loam, 2 to 8 percent slopes, eroded
YbC	Yokohl loam, 2 to 8 percent slopes
YbD2	Yokohl loam, 8 to 15 percent slopes, eroded
YbE3	Yokohl loam, 8 to 25 percent slopes, severely eroded
YkE2	Yokohl cobbly loam, 2 to 25 percent slopes, eroded
YrD2	Ysidora very fine sandy loam, 2 to 15 percent slopes, eroded
YsC2	Ysidora gravelly very fine sandy loam, 2 to 8 percent slopes, eroded
YsE2	Ysidora gravelly very fine sandy loam, 8 to 25 percent slopes, eroded
YsE3	Ysidora gravelly very fine sandy loam, 8 to 25 percent slopes, severely eroded

Soil map constructed 1968 by Cartographic Division, Soil Conservation Service, USDA, from 1954, 1959 and 1961 aerial photographs. Controlled mosaic based on California plane coordinate system, sixth zone, Lambert conformal conic projection, 1927 North American datum.



SOBOBA TRIBE'S FEE-TO-TRUST RESEARCH PROJECT

TOPIC: Tribe's stated need to provide a new location for Horseshoe Grande casino is that the present casino site is in a flood zone and therefore cannot be used.

FACTS:

*At the January 8, 2008 public scoping meeting the tribal representative-Robert Salgado-stated in answer to the question "..why can't the project be built at the existing site?" : Salgado: " It would be in a flood zone." (1)

*Both the proposed site for the casino-hotel project and the "temporary" present site are Flood Zone X. (2)

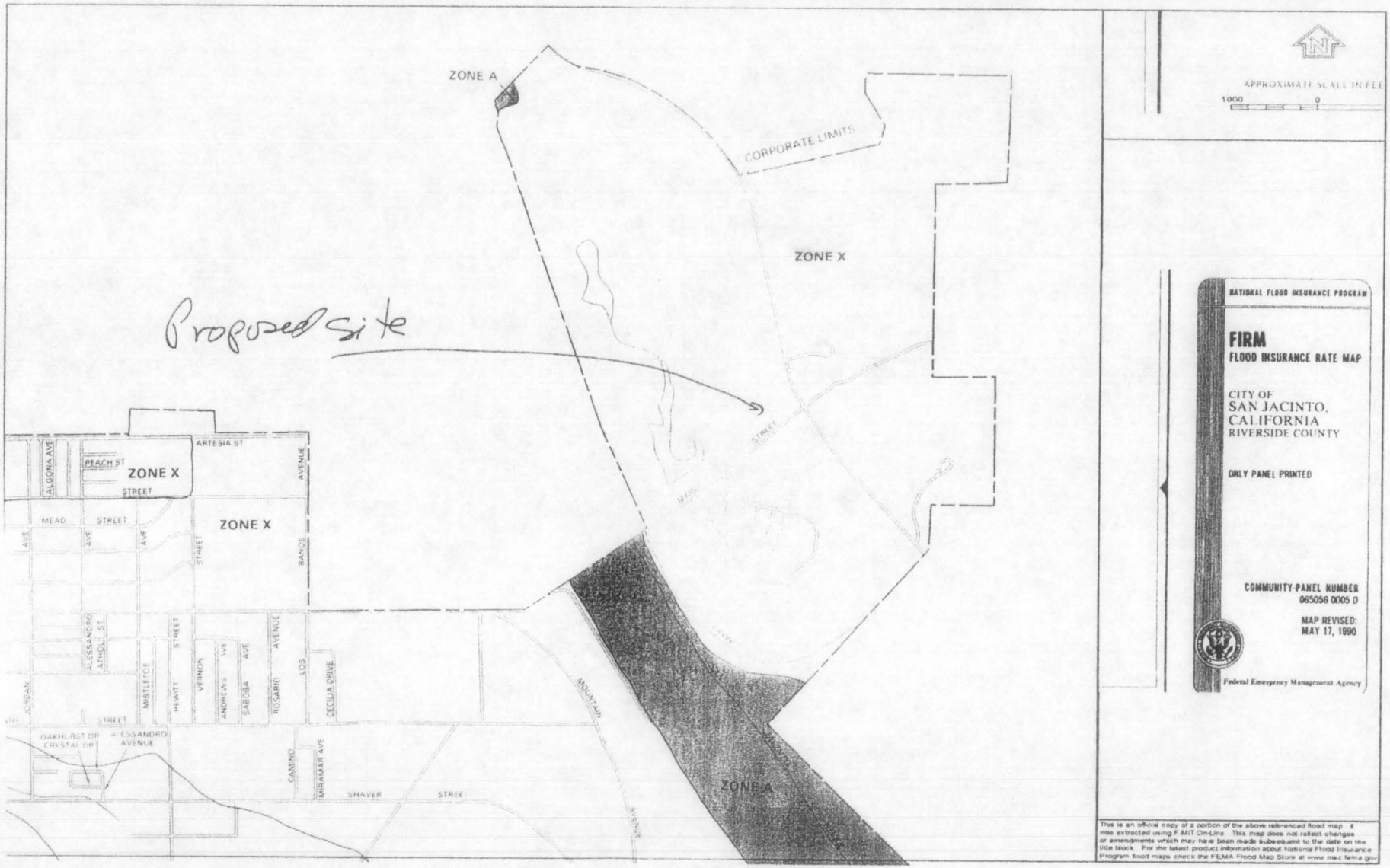
*Since the two sites are the same flood zone, the tribe would be incurring significant unnecessary costs and delays without justification of the stated flooding risk; therefore the proposed project is detrimental to the tribe.

*The proposed project would have many associated negatives to the surrounding communities(3)

(1)Scoping Report for the ..."project".. . has many errors and omissions throughout-especially relevant to this report-- in the minutes (this has been pointed out to BIA and there will be affidavits to Salgado's unsubstantiated claims regarding flooding risk.

(2)See FEMA (FIRM) Flood Insurance Rate Map attached.

(3)See Scoping report "concerns" page 11-13



Zone X - Some of present site -
See available data on FEMA

Status of Regulation CGCC-7:

This regulation was adopted by California Gambling Control Commission March 23, 2006 and approved by the Tribal-State Association pursuant to compact section 8.4.1(b), on March 28, 2006. Pursuant to compact section 8.4.1(c), CGCC-7 was sent to each Tribe for comment and consideration. This regulation became final and effective for all tribes **August 15, 2006.**

Uniform Tribal Gaming Regulation CGCC-7.
Emergency Evacuation and Preparedness Plans

(a) For the purpose of ensuring the physical safety of the gaming operation patrons and employees, and any other person while in the gaming facility pursuant to Compact section 8.1.2, the Tribal Gaming Agency shall require prompt development and implementation of an Emergency Evacuation and Preparedness Plan ("Plan") appropriate for the tribal gaming facility to include but not be limited to the following emergencies:

(1) Fires

(2) Earthquakes, Floods and Other Natural Disasters

(3) Bomb Threats

(4) Hazardous Spills or Toxic Exposure

(5) Other critical incidents, as determined by the Tribal Gaming Agency

(6) Provisions for First Aid and for Obtaining Emergency Medical Assistance for patrons, employees, and other persons while in the Gaming Facility.

(b) Each Plan shall include the following:

(1) Clear, written policies listing the job titles of the personnel who are responsible for making decisions, monitoring emergency response actions, and securing or protecting the gaming operation's cash or equivalent assets and records.

(2) Procedures addressing each of the items in subsection (a)(1) to (6), inclusive.

(3) Facility evacuation procedures including a designated meeting site or sites outside the facility.

(4) A process to account for employees after an evacuation and a process to ensure that all patrons have been evacuated.

(5) Training as deemed necessary by the Tribal Gaming Agency.

(6) Floor plans which meet with federal, state, or local standards for identification
and which identify the locations of the following:

(A) Portable fire extinguishers,

(B) Manual fire alarm pull stations, if any,

(C) Exits,

(D) Primary and secondary evacuation routes for each room, and

(E) Exterior assembly areas.

(c) Each plan shall include fire and life safety standards that ensure efficient and effective coordination with and between tribal and, as the Tribal Gaming Agency deems appropriate, federal or state or local emergency response personnel.

(d) The Tribal Gaming Agency shall provide certification of the Plan annually to the Sacramento Office of the Division of Gambling Control in the California Department of Justice, and make the Plan available for review upon request by either the Division or the Commission.

(e) The Tribal Gaming Agency shall require that the gaming operation management:

(1) At least annually, review with all employees the requirements of the Plan applicable to the employee, to ensure that each employee has been informed of the provisions of the Plan applicable to his or her position and his or her specific duties under the Plan and the appropriate exit or exits to be used, where applicable.

(2) Review the requirements of the Plan with each new employee, at the time the new employee begins work, to ensure that each new employee has been informed of the provisions of the Plan applicable to his or her specific duties under the Plan and the appropriate exit or exits to be used, where applicable.