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# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Ecological Services  
Carlsbad Fish and Wildlife Office  
6010 Hidden Valley Road  
Carlsbad, California 92009

In Reply Refer To:  
FWS-SDG-1668.7

Colonel Alex Dornstauder  
District Engineer  
U.S. Army Corps of Engineers, Los Angeles District  
Regulatory Branch - San Diego Field Office  
16885 West Bernardo Drive, Suite 300A  
San Diego, California 92127

APR 08 2005

Attn: Robert Smith

Re: Biological Opinion on the San Marcos Highlands Project, City of San Marcos, San Diego County, California (Corps File No. 200100479-SKB, FWS Log No. 1-6-05-F-1668)

Dear Colonel Dornstauder:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion based on our review of the proposed San Marcos Highlands project, located within the City of San Marcos (City), San Diego County (County), California, and its effects on the coastal California gnatcatcher (*Poliophtila californica californica*; gnatcatcher) in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). We received the request for formal consultation, dated October 4, 2004, in our office on October 7, 2004. We responded with a letter dated November 3, 2004, requesting additional information and recommending that the consultation include the federally listed endangered least Bell's vireo (*Vireo bellii pusillus*; vireo). The additional information was received directly from PCR on November 19, 23, and 24, 2004. Therefore, formal consultation was initiated as of November 24, 2004.

Although this project is not located within designated critical habitat for the gnatcatcher, it is considered important habitat for the gnatcatcher and is included in the Biological Core and Linkage Area (BCLA) of the Multiple Habitat Conservation Program (MHCP) and the Pre-Approved Mitigation Area (PAMA) for the County's draft North County Multiple Species Conservation Program Plan (NC MSCP). The Composite Habitat Value map for the MHCP study area ranks the entire block of habitat on site as having very high habitat value (Figure 2-3, Final MHCP Plan, Volume I), as does the NC MSCP Habitat Evaluation Map. The project site includes the last, relatively undisturbed native vegetation in northwestern San Marcos, as well as

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the headwaters of the Agua Hedionda Creek, and provides connectivity with undeveloped areas in the County that are important for the survival and recovery of the gnatcatcher. Although, the San Marcos Highlands project is designated as hard-lined in the City's draft Subarea Plan, the City's proposed preserve design has not been approved by the Service and the California Department of Fish and Game (Department) (collectively, Wildlife Agencies) and is subject to revision. In addition, the NC MSCP assumes 75 percent preservation of lands within the PAMA. Therefore, the San Marcos Highlands project, as proposed, is inconsistent with the NC MSCP because it will achieve only about 60 percent conservation (i.e., approximately 120.8 acres of the 203 acres of vegetation on site) and could negatively affect the County's NC MSCP as a result of habitat loss and constriction of a critical wildlife corridor.

Although the vireo has the potential to occur in the project area, we concur with your determination that the proposed project may affect but is not likely to adversely affect the vireo for the following reasons:

- 1) One vireo was detected during the final of eight protocol-level surveys conducted by PCR between April 21 and July 26, 2004 (PCR 2004a). This individual was probably a migrant since no other vireos were detected in the area prior to late July.
- 2) No vireos were detected during protocol-level surveys conducted in 1999 by URS (URS 2001) and 2002 by PCR (PCR 2002a).
- 3) No ground-disturbing activities or vegetation clearing will be conducted during the avian breeding season of February 15 and August 31.
- 4) Implementation of additional Conservation Measures within the project description section of this biological opinion will reduce the potential for adverse effects to the vireo.

Protocol-level surveys were conducted for the southwestern willow flycatcher (*Empidonax traillii extimus*; flycatcher) in 1999 by URS (URS 2001), and by PCR in 2002 and 2004 (PCR 2002b, 2004b). A single flycatcher was observed on the project site during the first survey in 2002, conducted May 17, 2002. The individual did not respond to taped vocalizations and no other sightings of flycatcher occurred. PCR concluded that this bird was a transient. The surveys were negative in 1999 and 2004. Therefore, flycatcher are assumed to be absent from the San Marcos Highlands property.

For the above reasons, development of the San Marcos Highlands project is not likely to adversely affect the vireo or flycatcher. However, these species are briefly referenced in the Effects section of this biological opinion. In addition, critical habitat for these species will not be affected because the San Marcos Highlands project is not located within designated or proposed critical habitat for the vireo.

This biological opinion is based on the information from the following sources: 1) the *Biological Assessment* prepared by PCR, dated June 2003; 2) the *Updated Application Attachment for the Proposed San Marcos Highlands Project* prepared by PCR, dated June 9, 2004 (2004c); 3) the *Updated Project Description for the Proposed San Marcos Highlands Project*, prepared by PCR, dated March 15, 2005; 4) the final MHCP Plan, dated March 2003; 5) the *MSCP North County Subarea Plan Working Draft and Surrounding Habitat Conservation Plans* map, version 2, dated January 27, 2003; and 6) information received during meetings and correspondence since 1990.

### **Consultation History**

A complete administrative record of this consultation is on file at the Carlsbad Fish and Wildlife Office.

- February 1990**                      On February 8, a site visit was arranged for representatives from the Service, the City, ERC Environmental and Energy Services Company (ERCE), and Consultants Collaborative. The purpose of the site visit was to discuss the project as described in the Draft Environmental Impact Report (DEIR), dated February 1990. We recommended that the project be redesigned and downscaled, and that the extension of Las Posas Road be relocated to the west of the wetland in order to allow the habitat to continue as a wildlife corridor and maintain connectivity on a regional basis.
- April 1990**                        The Service submitted a comment letter, dated April 9, 1990, to the City of San Marcos (City) on the DEIR (Enclosure 1). We recommended that the Las Posas Road extension be located west of the existing pond and that crossings occur within the least environmentally damaging locations. The Service recommended that the project be redesigned to incorporate a natural open space configuration, which would allow the habitat to continue to be used by a wide diversity of wildlife and to provide connectivity to existing open areas to the north, south, and east of the proposed project. Measures were also recommended to offset impacts to coastal sage scrub from the project and associated fuel modification.
- May to  
September 1990**                      Various correspondence and meetings among the consultants, the Service, and the City to discuss modifications to the Tentative Subdivision Map.
- 1991-1997**                        The Service was not contacted regarding the San Marcos Highlands project.
- June 1998**                        We attended a meeting on June 3, 1998, with the City, the property owner, and various consultants. Issues discussed included permitting alternatives,

proposed open space, wildlife corridor locations, and the Las Posas Road alignment.

- July 1999            On July 20, the Service received, from the City, a Notice of Availability for a Negative Declaration for the San Marcos Highlands project, and on July 22, we received a Biological Resources Report, dated June 28, 1999.
- August 5, 1999        The Wildlife Agencies submitted a joint letter to the City commenting on the draft Mitigated Negative Declaration (MND) (Enclosure 2). The Wildlife Agencies requested clarification of the location of the fuel modification zones, that the project be redesigned to provide a wildlife corridor through the development, and that the proposed culvert be large enough to be used by larger native mammals.
- August 26, 1999      The Service attended a meeting with the City, Regional Water Quality Control Board (RWQCB), the Department, and the project consultants. Issues discussed included the need to maintain a wildlife corridor, compensation ratios for coastal sage scrub, relocation of Las Posas Road west of the wetlands, City trail requirements, and culvert size.
- September 2, 1999    The Wildlife Agencies participated in a site visit with project consultants. The City's trail requirements, culverts, and linkage issues were discussed. The Service again explained the need to maintain north-south and east-west wildlife corridors.
- December 9, 1999     The City sent a memorandum to the Service advising us that the project had been removed from the public hearing calendar in an effort to work with the Wildlife Agencies on the wildlife corridor concerns.
- December 15, 1999    We received a letter from the property owner requesting the status of the Wildlife Agencies review of the revised Tentative Map.
- January 2000          The Service received a letter and a map, dated January 25, 2000, from John Nabors, Real Estate Consultant, regarding revisions to widen the western wildlife corridor. The revised plan proposed a potential corridor for wildlife movement from the open space within the project to open areas located to the southeast and northwest. The Specific Plan Amendment proposed to reduce the number of residential lots from 296 to 238 lots. The revised plan included the relocation of three lots and a street in order to widen the north-south corridor along the western boundary of the property. The letter stated that the proposed wildlife corridor would generally be 500 feet wide. However, the majority of the habitat proposed as a wildlife corridor included private property and the San Diego County

Water Authority aqueduct located off site to the west. The long-term status of the open space could not be guaranteed.

- February 2000 A meeting was held on February 9, 2000, to discuss the wildlife corridor, trails, and the proposed alignment for Las Posas Road. Wetland issues (i.e., the buffer width and the redesign of the park) were also discussed. We recommended that the applicant look into the possibility of purchasing easements on land to the west of the project in order to provide a wildlife corridor. Attendees included the Service, the Department, the City, the property owner and his consultants.
- March 2000 The Service attended a meeting on March 23, 2000, with the City, the property owner, and the consultants. Some of the issues discussed included the redesign of the park, the removal of a portion of the trail within the proposed open space, the termination of Las Posas Road at the northern project boundary, and wetland impacts. Permitting alternatives, compensation ratios, and corridor width were also discussed.
- May 2000 The Service attended a meeting on May 9, 2000, with the property owner and his consultants to discuss compensation ratios, the trail, and permitting alternatives. The consultant advised the Service that acquiring easements on the land to the west of the project boundary was not workable.
- June 2000 John Nabors sent a letter to the Service, dated June 8, 2000, outlining the efforts to acquire easements on the properties to the west and proposing a compensation ratio of 1.8:1 for coastal sage scrub.
- November 2000 The Service received a letter from John Nabors, dated October 31, 2000, regarding a tentative agreement on compensation ratios and reflecting the loss of 15 lots along the western boundary of the project.
- December 2000 The Wildlife Agencies sent a joint letter, dated December 5, 2000, to the property owner, Farouk Kubba, detailing unresolved issues raised by the Agencies in our California Environmental Quality Act (CEQA) review letter dated August 5, 1999, and making recommendations regarding: 1) wildlife corridor; 2) minimizing wetland impacts; 3) appropriate compensation ratios for coastal sage scrub; and 4) management of conserved lands.
- January 17, 2001 The Service participated in a pre-application meeting with the Corps, the Department, RWQCB, the property owner and his consultants. We received a revised map from the consultants showing grading for Las Posas Road ending at the northern boundary of the project and a 12-foot

wide trail through a park. A 10-foot wide paved trail with an adjacent 10-foot wide dirt trail was proposed for the western portion of the property. The proposed park was moved away from the pond and lots were removed from the western edge of the project to partially address concerns about a wildlife corridor. The consultants indicated that the southeastern development bubble could not be moved to abut existing development to the south due to topographical constraints.

- January 22, 2001 We received the MND, dated January 22, 2001, and the Biological Resources Report, dated January 8, 2001, from the City. Due to workload, we did not submit comments.
- February 2001 On February 15, 2001, The Service, Corps, Department, City, property owner, and consultant went on site to look at the pond. Issues discussed included vector control and potential for runoff from park flowing into Agua Hedionda Creek. It appeared that heavy equipment had been working at western end of the pond. Permitting options were also discussed.
- April 2001 The City issued a Notice of Preparation of a Supplemental EIR, dated April 6, 2001, because of comments received on the MND.
- September 2001 The Service received a fax, dated September 9, 2001, from P & D Consultants requesting information on requirements for a Habitat Loss Permit (HLP) exemption for geotechnical work. On September 12, 2001, the Service left a telephone message at P & D requesting additional information on the number of holes, timing, duration, and number of acres of each habitat disturbed.
- October 22, 2001 The Service sent a fax, dated October 22, 2001, to the City explaining that because the property was occupied by gnatcatchers, the project was not eligible for a HLP exemption. We did not receive the information requested in our telephone message to P & D on September 12, 2001.
- November 2001 We received a draft Supplemental EIR, Specific Plan Modification, and Tentative Subdivision Map from the City.
- December 2001 The Service and Department submitted a joint comment letter, dated December 28, 2001, on the draft Supplemental EIR for the San Marcos Highlands project. Issues discussed included: culvert size; preserve design in relation to the NC MSCP, the City's draft MHCP Subarea Plan, and wildlife corridor location; the Natural Communities Conservation Program (NCCP) requirements for in-kind mitigation for the loss of

sensitive habitats; and measures to avoid and minimize impacts to the gnatcatcher.

- January 9, 2002 We received an application via fax to proceed with geotechnical borings on the San Marcos Highlands property. A hard copy was received by mail on January 14, 2002. The borings would impact 0.603 acre of intermediate quality, unoccupied coastal sage scrub habitat. Impacts and compensation would be addressed in the section 7 consultation with the Corps.
- January 11, 2002 The Service received a copy of a County of San Diego letter, dated January 4, 2002, to the City commenting on the Supplemental EIR. The letter outlined several issues that needed to be addressed before the project could proceed, including: 1) the Las Posas Road extension; 2) emergency access; 3) the project exceeded the County's planned dwelling unit density; 4) project impacts to a large block of habitat and a wildlife movement corridor; and 5) the project's inconsistency with the proposed NC MSCP.
- January 15, 2002 The Service attended a meeting with the Corps, the Department, KB Home, the property owner, and PCR and URS, the biological consultants. PCR recommended that the pond be removed and restored to a functional stream as compensation for wetland impacts. Discussion included: 1) culvert size; 2) additional impacts to coastal sage scrub as a result of removing dam; 3) wetland restoration; 4) potential extension of Las Posas Road north of project boundary; 5) feasibility of 500-foot wildlife corridor on property and potential measures to widen corridor. In addition, the Corps agreed to take jurisdiction over the whole project.
- March 2002 On March 5, 2002, the Service, the Department, the Corps, the City, the property owner, and KB Home and their consultants participated in a meeting. The discussion included wildlife corridor alternatives as well as the need to demonstrate that the project had minimized and mitigated to the maximum extent practicable for CEQA purposes. The Wildlife Agencies explained that they the project needed to be consistent with the City's MHCP draft Subarea Plan and that the project could not preclude planning efforts for the NC MSCP.
- April 2002 The Service received a copy of a letter, dated April 2, 2002, from the County to the City stating that the proposed project far exceeded the County's proposed dwelling unit density. Therefore, the project was in conflict with the existing County General Plan and would interfere with the outcome of the General Plan 2020 process. According to the County,

the annexation of the lands to the City, along with the proposed development, was inconsistent with the proposed NC MSCP.

- May 2002 The Service received a copy of the Responses to Comments on the draft Supplemental EIR, dated May 24, 2002, prepared by the Chambers Group, Inc. for the City.
- June 2002 The Wildlife Agencies provided a letter, dated June 3, 2002, with recommendations and clarification to the City concerning the Response to Comments on the draft Supplemental EIR. We recommended that the City work with the County to ensure an adequate preserve design for the NC MSCP and clarified our position on compensation required through CEQA for impacts to coastal sage scrub and wetlands.
- December 12, 2002 The Service received a letter, dated December 10, 2002, from the San Diego Local Agency Formation Commission (LAFCO) requesting comments on the proposed San Marcos Highlands Reorganization to annex the County portion of San Marcos Highlands to the City.
- December 23, 2002 We received a Notice of Determination, dated July 10, 2002, from the City certifying the final EIR.
- January 3, 2003 The Service received a copy of a letter from the County, dated December 31, 2002, to LAFCO commenting on the San Marcos Highlands Reorganization. The County stated that approval of the annexation would seriously impede the County's efforts for regional habitat planning and preservation because the land under consideration was a relatively large block of habitat that supported a sensitive species that was targeted for conservation under the County's NC MSCP. In addition, the proposed dwelling unit density far exceeded the density proposed by the County's General Plan 2020.
- January 6, 2003 The Wildlife Agencies submitted a letter to LAFCO, dated January 6, 2003, detailing outstanding issues with the San Marcos Highlands project, including: 1) inadequacy of the preserve and wildlife corridor design, 2) wildlife undercrossings; and 3) the lack of appropriate measures to offset impacts consistent with CEQA requirements.
- January 8, 2003 The Service received, via fax, a copy of a letter, dated December 31, 2002, from the Environmental Protection Agency (EPA) to LAFCO. The letter expressed EPA's concern that the proposed project would fragment the last large contiguous block of coastal sage scrub in northern San Marcos as well as result in direct impacts to aquatic resources.

- January 14, 2003      The Twin Oaks Valley Community Sponsor Group sent the Service a copy of a letter to LAFCO, dated July 10, 2002, commenting on the proposed San Marcos Highlands Reorganization.
- January 2004      The Service attended a meeting on January 21, 2004, with the Corps, RWQCB, KB Home, PCR, and Hunsacker & Associates. The EPA participated by telephone. Discussion included Las Posas Road, the proposed trail, and the need to minimize impacts along the creek. The EPA expressed concern about impacts to the headwaters of Agua Hedionda Creek and inadequate buffers. The Service recommended a 100-foot buffer between the riparian/wetland areas and the development footprint and stated that the MSCP required a 1,000-foot wide wildlife corridor be provided between areas of high value habitat. We recommended that KB Home contact the landowner to the north of the project site regarding the possibility of placing an easement over a portion of his property adjacent to the San Marcos Highlands project site. On January 28, 2004, we received, via electronic mail, a summary of issues addressed at the January 21, 2004, meeting.
- August 2004      The Wildlife Agencies submitted a letter, dated August 24, 2004, to the City for consideration at the August 24, 2004, City Council Hearing. The letter addressed unresolved issues regarding the wildlife corridor, culvert size, and the approval of a new Tentative Parcel Map (TPM 616) incorporating an additional 61.8 acres to the east of the original TSM 408 and deleting 21.9 acres to the northwest.
- September 10, 2004      The Service received updated survey reports, dated September 9, 2004, from PCR for the southwestern willow flycatcher (*Empidonax traillii extimus*), the vireo, and the southwestern pond turtle (*Clemmys marmorata pallida*).
- September 13, 2004      We received a letter from KB Home, dated September 10, 2004, responding to our letter to the City Council, dated August 24, 2004.
- October 6, 2004      At a meeting on October 6, 2004, with the Corps, the Department, RWQCB, KB Home, the property owner, PCR, and Hunsacker & Associates, we received a revised project map with an east-west wildlife corridor proposed along the northern boundary. The discussion also included the proposed acquisition of Parcel D as dedicated open space and the need for a minimum 500-foot wide corridor on site or through acquisition of easements off site.

- October 7, 2004 The Service received a letter from the Corps, dated October 4, 2004, requesting the initiation of formal section 7 consultation on the gnatcatcher.
- October 14, 2004 We received an aerial photo with redesign overlay and proposed corridor redesign option from Hunsacker & Associates.
- November 3, 2004 In a letter to the Corps, the Service requested additional information needed to complete the initiation package for formal section 7 consultation. We requested an updated project description and additional information requested at the October 6, 2004, meeting. We also recommended that the vireo be included in the consultation.
- November 19, 2004 We received a letter from PCR, dated November 18, 2004, with additional information on the revised wildlife corridor and proposed culverts. We also received a letter from PCR via electronic mail, dated November 19, 2004, with the revised project description. We received the hard copy of the revised project description from PCR on November 23, 2004.
- November 23, 2004 Via electronic mail, we received a letter from PCR, dated November 23, 2004, with information on the status of the vireo observed on the project site. We received the hard copy of the vireo status letter from PCR on November 24, 2004.
- December 9, 2004 The Service received revised information on the culverts and corridors in a letter from PCR, dated December 8, 2004.
- December 16, 2004 In a letter to the Corps, dated December 16, 2004, the Service initiated formal section 7 consultation on the gnatcatcher and vireo as of November 24, 2004. In the letter, we indicated that there were still unresolved concerns regarding the adequacy of the proposed wildlife corridor and the extension of fuel modification zone into the proposed corridor.
- March 2, 2005 The Service attended a meeting with the Corps, KB Home, the property owner, PCR, and other consultants to discuss measures to widen the proposed wildlife corridor along the northern project boundary. KB Home presented a proposal to acquire an easement on the property to the north to widen the corridor to a minimum 400 feet excluding the fuel modification zone. Several lots had been removed along the southwestern boundary as a result of the City indicating they would not be able to make a finding of substantial conformance with the existing CEQA document.

- March 8, 2005 Via electronic mail from PCR, the Service received conservation measures proposed to reduce impacts to the gnatcatcher and vireo.
- March 15, 2005 The Service received the revised project description and impact acreages from PCR via electronic mail. The revised project includes a minimum 400-foot wide wildlife corridor across the northern property boundary and the removal of additional lots along the western boundary.

Throughout the planning process for this project, the Service has received extensive comments and recommendations from local residents, the Friends of Agua Hedionda, and the Endangered Habitats League. These communications are included in the Administrative Record on file at the Carlsbad Fish and Wildlife Office.

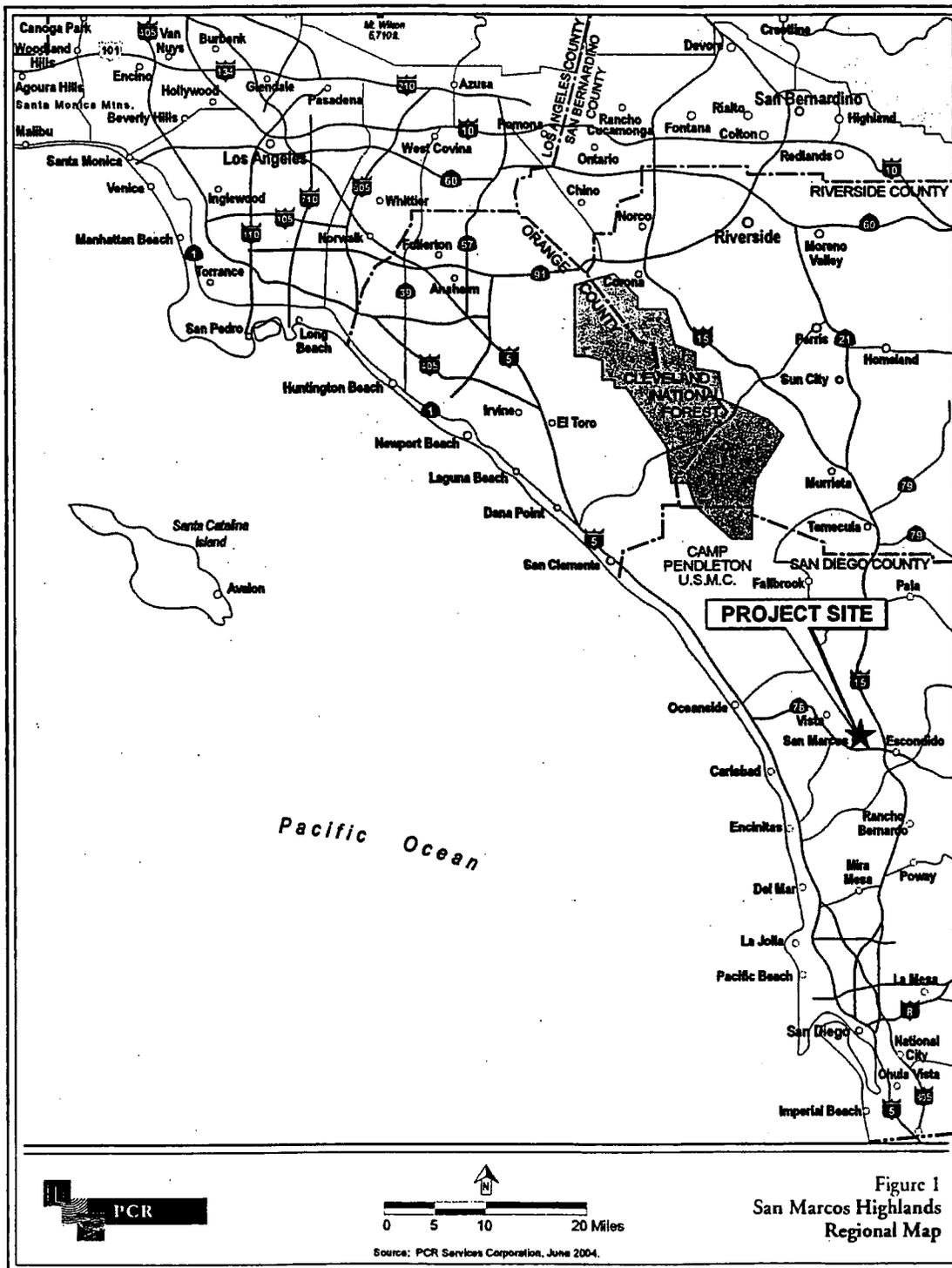
## BIOLOGICAL OPINION

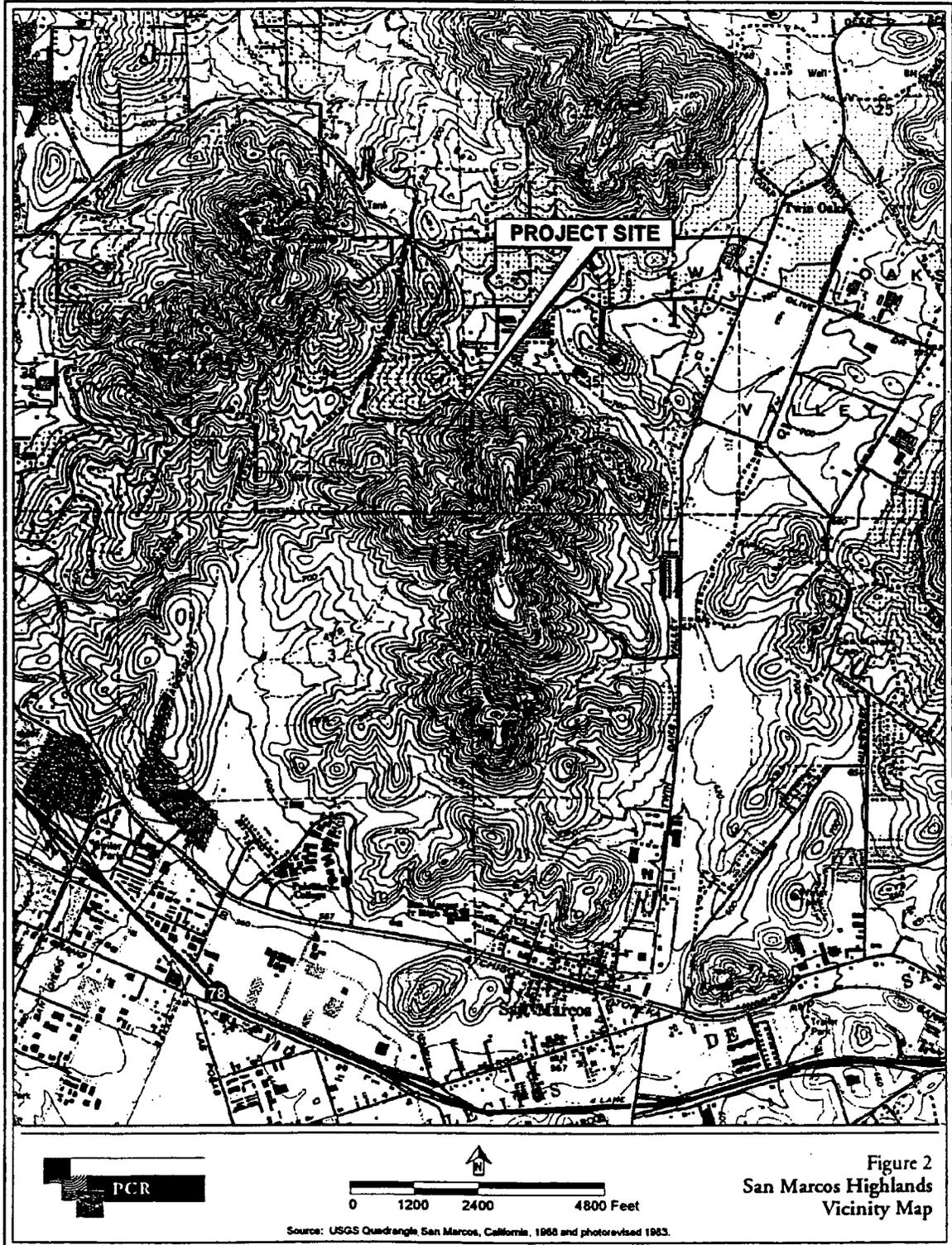
### DESCRIPTION OF THE PROPOSED ACTION

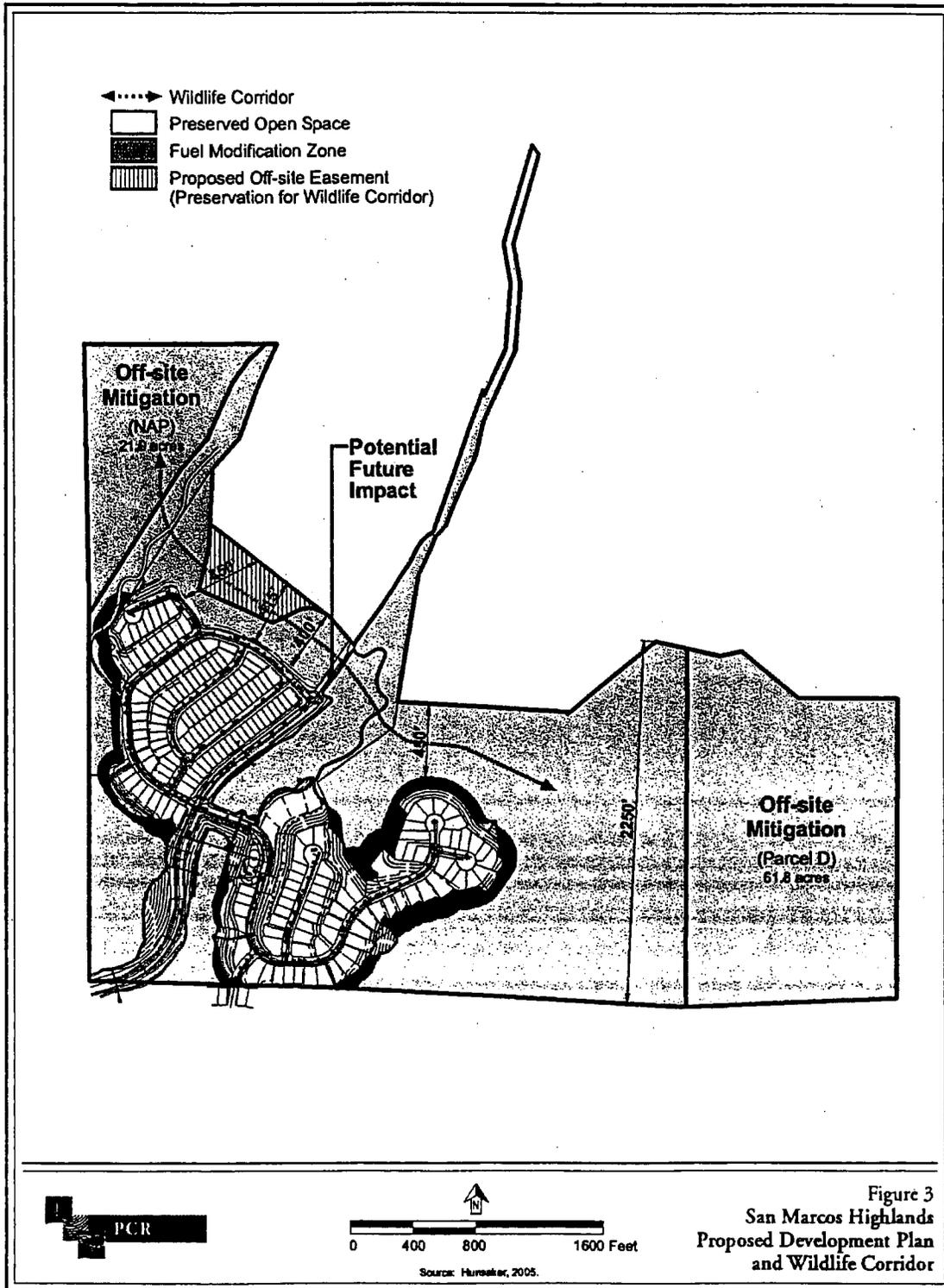
KB Home is seeking authorization from the U.S. Army Corps of Engineers (Corps) to impact 0.02 acre of Corps jurisdictional wetland and 0.69 acre of non-riparian Waters of the United States in connection with the development of approximately 80.0 acres into single-family lots, associated fuel-modification zones, graded slopes, minor roads, the extension of Las Posas Road, and an active-use park. In addition, approximately 123.1 acres will be left as open space, of which approximately 109.3 acres qualify as "natural open space," largely in the form of Diegan coastal sage scrub (CSS) habitat, and secondarily in the form of riparian habitat along Agua Hedionda Creek (the "Creek"). Natural open space will constitute approximately 53 percent of the site.

The San Marcos Highlands property is located in San Diego County, California (Figure 1, *Regional Map*). The approximately 203-acre property is partly in the City (southern portion; 113 acres) and partly in unincorporated County (northern portion). The property is north of State Route 78 (SR78), west of Twin Oaks Valley Road (S14), and south of Buena Creek Road (Figure 2, *Vicinity Map*). The property can be found on the United States Geological Survey (USGS) 7.5' San Marcos quadrangle in Sections 34 and 35, T. 11 S., R. 3 W., as shown in Figure 2. The UTM coordinates corresponding to the approximate center of the property are Zone 11N 483180m E and 3670140m N. The southern portion of the San Marcos Highlands property lies within the MHCP, and the northern portion is within the NC MSCP, which is currently in preparation. It is anticipated that the County portion of the project site will ultimately be included in the MHCP, if this portion of the property is annexed into the City.

The proposed development is medium-density, residential housing (Figure 3, *Proposed Development Plan and Wildlife Corridor*). Approximately 191 single-family homes are proposed. Lot sizes range from 4,000 sq. ft. to 42,200 sq. ft., with an average of 7,980 sq. ft.







Specifically, the three proposed minimum lot/pad sizes are 4,000 sq. ft., 5,000 sq. ft., and 5,500 sq. ft. However, lot sizes are generally larger due to fuel modification and other requirements. Residential housing and their immediate access roads will occupy approximately 68.5 acres of the 203-acre proposed project area. An additional 11.5 acres of fuel modification zones bring the total permanent project-related impacts to 80.0 acres. In support of these developments, Las Posas Road (equaling approximately 4.7 acres) will be extended and an approximately 1-acre active-use park will be established. The extension of Las Posas Road, beyond its proposed terminus at the northern property boundary, is not a part of the San Marcos Highlands development. The park will conform to City standards, will include a water feature/fountain (discussed below) and picnic areas, and may contain half basketball courts.

Grading plans require that a number of ephemeral stream segments located within the project site be filled using native material, and permanently culverted below ground, to facilitate construction of the project as proposed. Impacts to the Creek will occur during the removal and rebuilding of an existing earthen dam/road crossing over the Creek, and from the construction of the proposed alignment of Las Posas Road. The earthen dam in the Creek will be replaced with an 8-foot arched culvert and the streambed will be restored with riparian vegetation. The incorporation of the arched culvert is to facilitate movement of small and medium-sized mammals in the area, thus maintaining some north-south connectivity. Currently, the existing pond receives all the low flow that comes down the Creek. The earthen dam impounds the water and severely cuts off hydrologic input to downstream reaches of the stream. The proposed plan would restore flows, unimpeded down the length of the Creek on-site. The City is requiring a "water feature" within the project boundaries. Therefore, the proposed project includes a water feature within the proposed upland park. This water feature will flow into the water quality treatment basin prior to discharging into the Creek. Figure 4, *Impacts to Jurisdictional Waters & Wetlands and Sensitive Species*, shows the locations of Corps jurisdictional "waters of the U.S." within the project boundary.

The proposed east-west wildlife corridor along the northern property boundary would provide connectivity for wildlife between large expanses of open space to the northwest and southeast. The width of the corridor ranges from approximately 400 feet to 500 feet in width. The width at several points along the proposed corridor is indicated in Figure 3. In addition, the preservation and restoration of riparian and wetland habitat within the Creek (described below) would contribute to bird and small to medium-sized mammal movement up- and down-stream, as well as to the on-site open space to the east. The project design includes a requirement to minimize night lighting in the preserve, fencing of backyards, and a 6-foot-high block wall on site along the wildlife corridor that will discourage domestic animals from utilizing the open space areas. In addition, the Home Owner's Association (HOA) will be required to distribute educational information to the future residents regarding wildlife sensitivity.

With the exception of the lots and street that abut the wildlife corridor, the fuel modification zone extends approximately 130 feet beyond the development footprint. This estimation is in addition

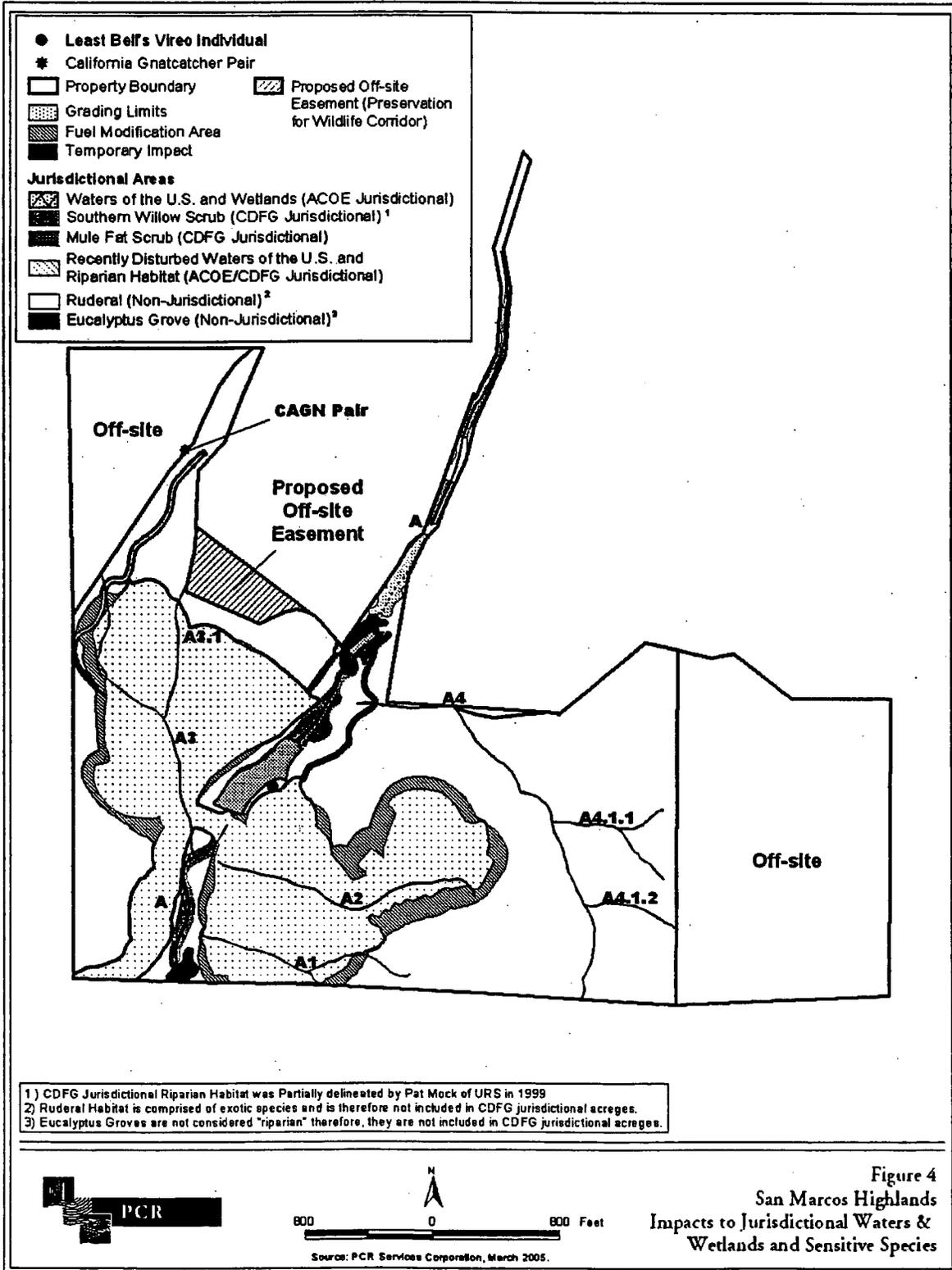


Figure 4  
San Marcos Highlands  
Impacts to Jurisdictional Waters &  
Wetlands and Sensitive Species

to an average 20-foot irrigated area associated with backyards of the future residents or within newly graded slopes associated with the housing pads. The development along the southern boundary of the wildlife corridor will have a total fuel modification zone of 100 feet that will abut a block wall. In summary, the fuel modification zone requirement will be 150 feet from the edge of buildings or structures in areas without a block wall and 100 feet in areas with a block wall.

In accordance with the City's General Plan requirements, a trail system is proposed as part of the San Marco Highlands project (Figure 5, *Development Footprint with Trails*). All newly created and improved trails are included in the impact calculations as permanent impacts. Temporary impacts, including a 10-foot buffer around all trails and the limits of grading, will be revegetated with the appropriate native species.

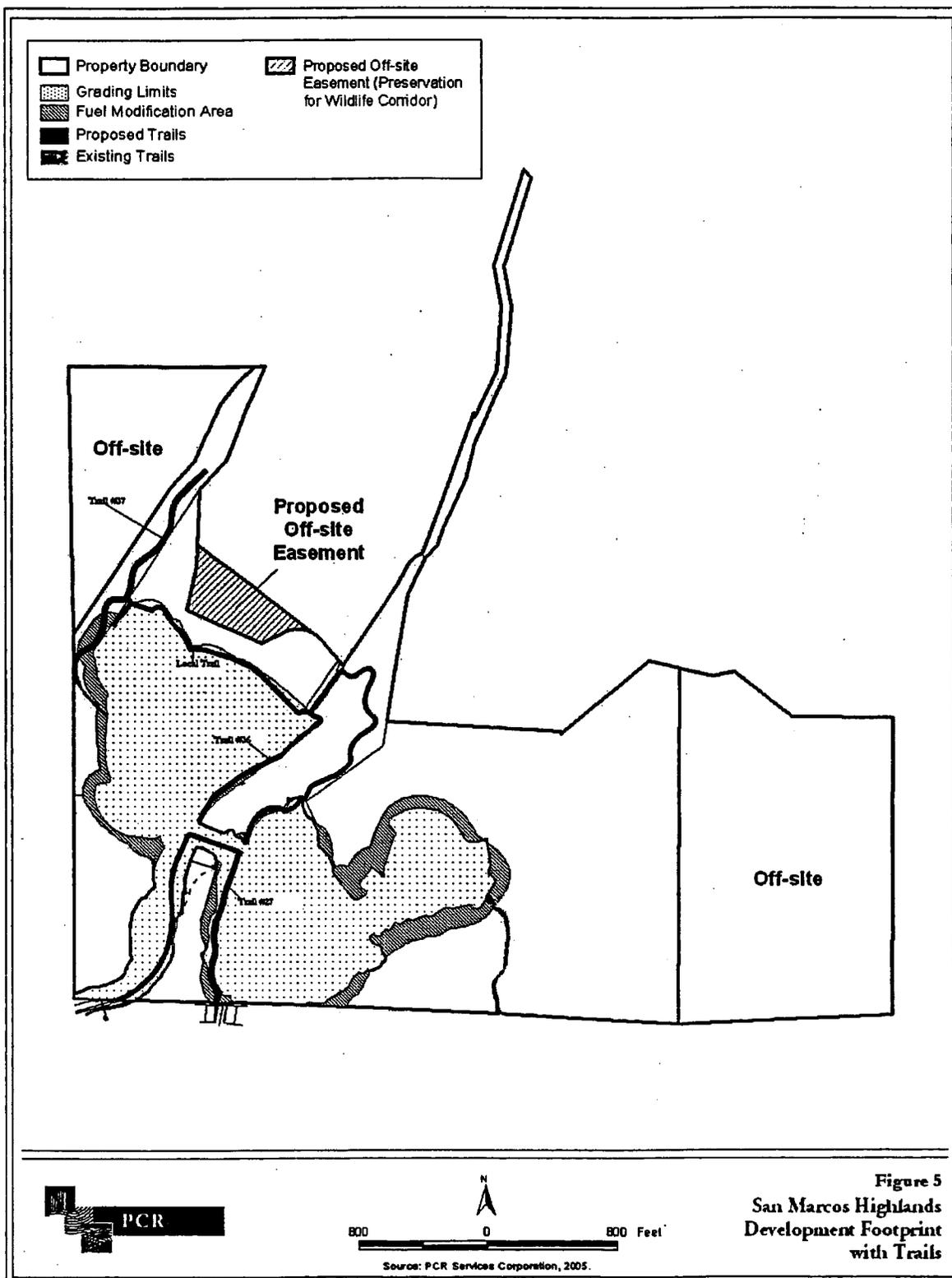
Trail 36 is proposed to run along the eastern edge of Las Posas road, south of Street A where it crosses over Agua Hedionda Creek. The proposed Trail 36, both north and south of Street A, will be an urban trail that is a total of 16 feet wide within the right-of-way of Las Posas Road. From east to west, the first 10 feet will be composed of decomposed granite (DG) surface, followed by a double rail fence, and then an additional 5 feet of sidewalk.

From the northern terminus of Trail 36, a 10-foot local trail, with a DG surface, will cross the creek and run along the eastern edge of the creek outside of the designated buffer area and ending at Street A. This trail has been located to avoid the small northernmost pond on site thereby minimizing impacts to Corps/RWQCB jurisdictional wetlands and "waters of the U.S./State."

On the south side of Street A, where it crosses the Creek, a new trail is proposed (Trail 27). Trail 27 will connect with Trail 36 and continue along the western edge of the development within the graded slope. Trail 27 will be a 21-foot multiple use trail with 10 feet of paved surface closest to the development, a double rail fence, and 10 feet of DG surface.

Trail 37 currently exists as a paved and gravel road that serves as access to, and is within the easement of, the San Diego County Water Authority aqueduct. Trail 37 will be improved to function as a 21-foot multiple use trail. Where it is paved, KB Home will add a DG trail separated by a double rail fence. Where it is gravel, KB Home will add a paved trail separated by a double rail fence. This trail is within the 100-foot easement granted to the San Diego County Water Authority.

Trails 36 and 37 will be connected by a 10-foot local DG trail (no City number) along the northern edge of Street "A" adjacent to the proposed east-west wildlife corridor. This trail will be bordered to the north by a 6-foot wall that will serve as a firebreak and minimize human intrusion into the adjacent wildlife corridor. This trail will be within the limits of grading.



In addition to the trails described above, a couple additional dirt trails currently exist within the property. These will not be improved; however, the City has requested that they be maintained in order to provide access to the dirt road that extends from the easternmost cul-de-sacs and connects to another dirt trail south of the project boundary.

The project engineer proposes to locate the staging areas off-site within the graded portion of Las Posas Road; however, if staging is to occur on site, it will be located within a graded pad within the development footprint. Measures will be taken to ensure that no additional disturbance will occur to native vegetation. In addition, the designated staging areas will be located in such a manner as to prevent any runoff from entering waters of the United States, including wetlands.

The approved tentative map anticipates balanced grading of approximately 760,000 cubic yards of cut and fill. The project is expected to be graded in one phase, using the cut material from the eastern portion of the project site to fill the western portion of the development footprint.

The brushing and clearing phase of the project is expected to take approximately two weeks. Grading is expected to take up to six months, but could vary depending on the difficulty of the rock areas to rip. Once grading is complete, street improvements should be completed in four to five months. The timing of residential construction is dependent upon the builder. Types of equipment will include scrapers, dump trucks, water trucks, front load bulldozers, backhoes, and belly dumpers.

### **Conservation Measures**

1. In order to avoid and minimize impacts to nesting birds, including gnatcatcher, no clearing or grubbing activity will occur during the avian breeding season (February 15 through August 31) within the project area, unless pre-construction surveys indicate that active nests are not present on the site or in surrounding areas.
2. If project construction activities are necessary during the bird breeding season (February 15th to August 31st), work may occur if a qualified biologist conducts a survey for nesting birds within three days prior to the work in the area, and ensures no nesting birds will be impacted by the project. If an active nest is identified, a buffer will be established between the construction activities and the nest so that nesting activities are not interrupted. The buffer will be a minimum width of 300 feet (500 feet for raptors), will be delineated by temporary fencing, and will remain in effect as long as construction is occurring or until the nest is no longer active. No habitat removal or any other work will occur within the fenced nest zone, until the young have fledged, are no longer being fed by the parents, have left the nest, and will no longer be impacted by the project. The mapped survey results will be submitted to the Wildlife Agencies for review and approval prior to vegetation removal to ensure full avoidance measures are in place.

3. A Service-approved biologist will conduct pre-construction surveys for least Bell's vireo if construction is to occur during breeding season (March 15 through September 30). If vireos are detected, then the applicant will delay construction activities occurring within 500 feet of active territories until after fledglings have left the active territories.
4. To reduce potential noise impacts to nesting gnatcatcher or vireo, a qualified acoustician will monitor the project site and vicinity for listed birds during initial grading, and on a monthly basis thereafter, to determine if any nests are within a distance potentially affected by noise from grading, clearing, or construction activities. If nesting birds are located adjacent to the project site with the potential to be affected by construction activity noise above 60 dBA  $L_{eq}$ , a noise barrier will be erected. This noise barrier will consist of a 10-foot-high continuous plywood fence supported by posts or an earthen berm located at the site boundary that abuts potential off-site habitat. If 60 dBA  $L_{eq}$  is exceeded, the acoustician will work with the construction contractor to make operational and barrier changes to reduce noise levels during the breeding season. Noise monitoring will occur during operational changes and installation of barriers, as needed, to ensure their effectiveness.
5. The applicant will designate a Service-approved qualified biologist who will be responsible for overseeing compliance with protective measures for the listed species. The biologist will have the authority to halt all associated project activities, which may be in violation of this biological opinion. In such an event, the biologist is required to contact the Corps and the Service within 24 hours.
6. The applicant will require the HOA to implement covenants, conditions, and restrictions to regulate property usage, including maintenance of on-site restored habitats, indoor cat policy, and protection of adjacent natural areas of the on-site preserve and the Creek. The applicant will incorporate landscape management practices into the covenants, conditions, and restrictions that minimize the use of chemical fertilizers, pesticides, and herbicides.
7. Potential impacts from human and pet intrusion into the on-site open space will be minimized through a program of education (using that developed by the American Society for the Prevention of Cruelty to Animals), cat control, and the inclusion of permanent cat-proof fences, with no gates between the development and the open space, along the backyards of residential lots adjacent to the planned open space.
8. Use of invasive exotic plant species in landscaped areas adjacent to or near sensitive vegetation communities will be restricted. The applicant will encourage the use of native species in the landscaping plan and will avoid the use of species listed in Lists A & B of the California Invasive Plant Council's list of Exotic Pest Plants of Greatest Ecological Concern in California as of October 1999. This list includes such species as pepper trees, pampas grass, fountain grass, ice plant, myoporum, black locust, capeweed, tree of

heaven, periwinkle, sweet alyssum, English ivy, French broom, Scotch broom, and Spanish broom.

9. Typical erosion control measures, Best Management Practices (BMPs), near streams will be employed in accordance with the conditions in the 401 Water Quality Certification requirements of the Regional Water Quality Control Board.
10. An employee education program will be developed. Each employee (including temporary, contractors, and subcontractors) will receive a training/awareness program within two weeks of working on the proposed project. They will be advised of the potential impact to the listed species and the potential penalties for taking such species. At a minimum, the program will include the following topics: occurrence of the listed and sensitive species in the area, their general ecology, sensitivity of the species to human activities, legal protection afforded these species, penalties for violations of Federal and State laws, reporting requirements, and project features designed to reduce the impacts to these species and promote continued successful occupation of the project area environs.
11. Construction work areas will be delineated and marked clearly, by flagging or temporary orange construction fencing, in the field prior to habitat removal, and the marked boundaries maintained and clearly visible to personnel on foot and by heavy equipment operators. Fencing will be placed on the impact side to reduce the potential for additional vegetation loss within open space. All temporary fencing will be removed only after the conclusion of all grading, clearing, and construction. Employees will strictly limit their activities and vehicles to the proposed project areas, staging areas, and routes of travel. The project proponent and/or the biological monitor will contact the Service to verify that the limits of construction have been properly staked and are readily identifiable. Intrusion by unauthorized vehicles into the riverbed and outside of construction limits will be prohibited, with control exercised by an on-site foreman. Access routes to the construction area outside of work hours will be blocked with physical barriers, such as concrete blocks or large equipment.
12. The work area will be kept clean to avoid attracting predators. All food and trash will be disposed of in closed containers and removed from the project site. No pets will be allowed on the construction site.
13. All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities, will occur in designated upland areas outside of the proposed preserve. The designated upland areas will be located in such a manner as to prevent any runoff from entering waters of the United States, including wetlands.
14. All night lighting within the proposed development area, including streets and backyards, will be directed away from habitat areas, including Agua Hedionda Creek, the northern wildlife corridor, and the preserved open space area to the east of the development. The

HOA will regulate this condition and will not allow any future additional lighting to be installed by private homeowners.

15. A greater than 2:1 conservation ratio for permanent impacts to 73.80 acres of CSS will be accomplished through on-site preservation of approximately 105.7 acres, approximately 4.9 acres of on-site CSS restoration, an easement for off-site preservation of approximately 4.7 acres, and the purchase of approximately 21.9 acres immediately off-site and adjacent to the northwest and another 61.8 acres off-site and contiguous with the eastern project boundary (Table 1; Figure 6).

**Table 1. Proposed Compensation for Permanent Impacts to Coastal Sage Scrub**

Plant Community	Permanent Impacts <sup>b</sup>	On-Site Conservation	Off-Site Acquisition
Coastal sage scrub <sup>a</sup>	73.80		
Preservation without restoration		105.70	83.70 <sup>c</sup>
Restoration and subsequent preservation		4.90	4.70 <sup>d</sup>
<b>TOTALS</b>	<b>73.80</b>	<b>110.60</b>	<b>88.40</b>

<sup>a</sup> Including less than 0.01 acre of coyote brush scrub.

<sup>b</sup> Including lot and road development (entire grading limit) and fuel modification impacts that extend beyond the grading limits.

<sup>c</sup> Including two parcels: approximately 21.9 acres northwest of the project site (NAP) and 61.8 acres east of the property boundary (Parcel D).

<sup>d</sup> Off-site easement along northern property boundary.

Source: PCR Services Corporation, March 2005.

16. Graded slopes outside the fuel modification zone adjacent to natural open space areas will be revegetated with coastal sage scrub species (specifically, this includes the slope along the western side of the Las Posas Road extension adjacent to Agua Hedionda Creek.) The location of this revegetation, totaling 4.90 acres, is shown in Figure 6. In addition, the off-site easement area will require removal of exotic species, seeding with native species, and/or spreading of CSS duff for preservation that will allow the project to maintain a minimum 400-foot wide wildlife corridor.
17. Unavoidable, permanent impacts to Corps and Department jurisdictional areas will be offset at a ratio of no less than 2:1 and will be initiated concurrent with the first grading activities. Not counting southern willow scrub preservation within the creek, total on-site compensation will be approximately 2.9 acres of Corps jurisdictional "waters of the U.S." and 7.1 acres of Department jurisdictional riparian habitat (Figure 6; Table 2). Proposed compensation activities, all of which will be on-site, consist of:
- Riparian enhancement – trash and sediment removal, exotic species removal, and minor replanting;
  - Eucalyptus removal;
  - Riparian restoration – more extensive revegetation; and
  - Southern willow scrub preservation.

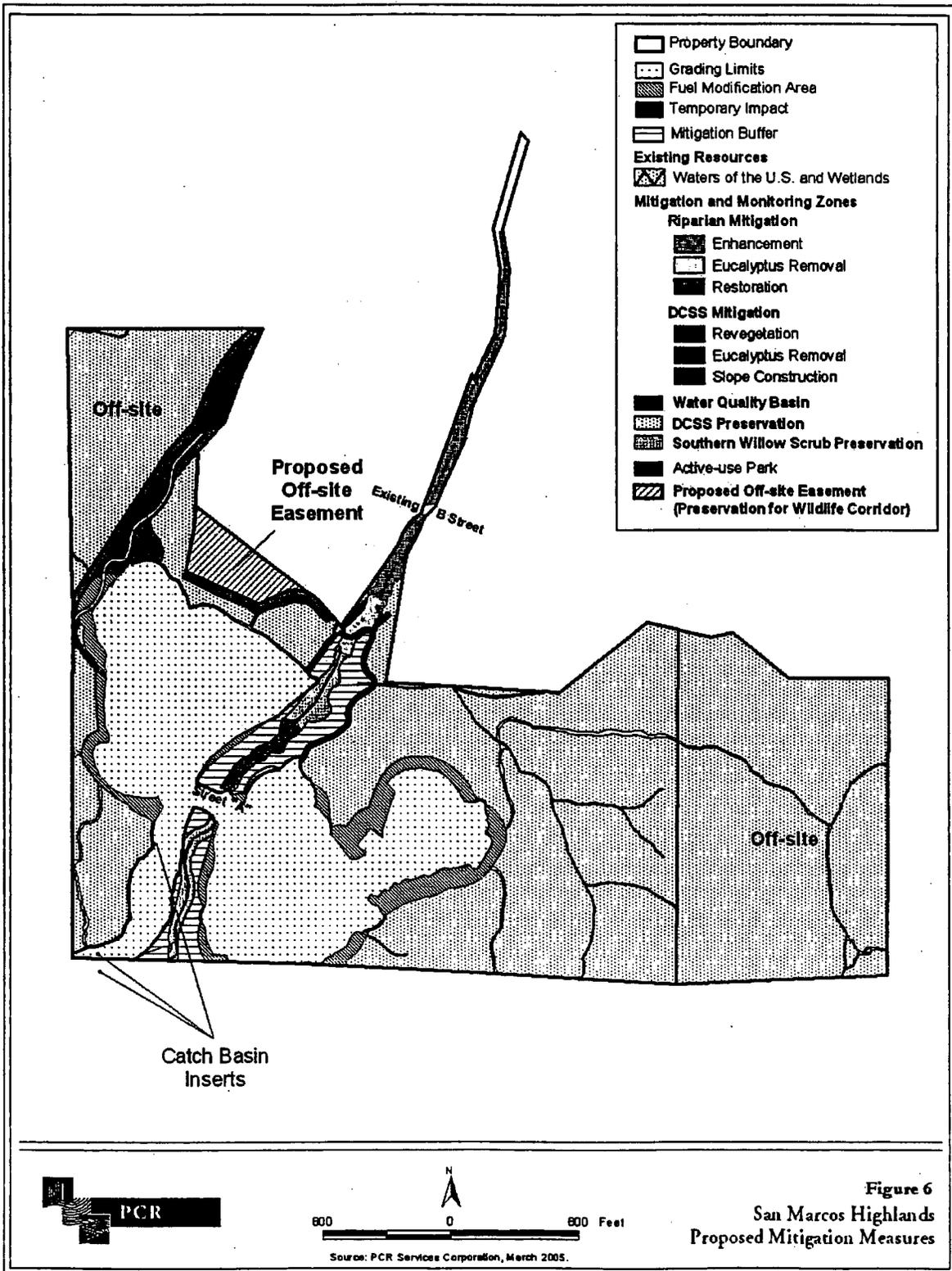


Figure 6  
San Marcos Highlands  
Proposed Mitigation Measures

**Table 2. Summary of Compensation within Agua Hedionda Creek**

<b>Compensation Type</b>	<b>Linear Feet of Streambed</b>	<b>Corps Compensation on-site (acres)</b>	<b>Department Compensation on-site (acres)</b>
Riparian Restoration	619	2.5	2.5
Riparian Enhancement	2,391	0.2	3.5
Eucalyptus Removal	548	0.2	1.1
<b>Total Riparian Restoration <sup>a</sup></b>	<b>3,558</b>	<b>2.9</b>	<b>7.1</b>
Southern Willow Scrub Preservation	1,394	0.2	3.1
<b>Total Riparian Compensation</b>	<b>4,952</b>	<b>3.1</b>	<b>10.2</b>

<sup>a</sup> The various jurisdictional acreages often overlap, i.e., Corps acreage is typically included in Department, and therefore are not additive.

Source: PCR Services Corporation, March 2005.

18. To ensure preservation and management of the proposed on- and off-site restoration and preserve areas in perpetuity consistent with MHCP guidelines, the following will occur prior to initial vegetation clearing:
  - a. Conservation easements will be recorded over the 110.60 acres of on-site preserve and restoration, as well as the 83.70 acres of off-site acquisition.
  - b. A conservation easement will be recorded on approximately 4.7 acres off site adjacent to the northern property boundary following the purchase by KB Home from the current owner.
  - c. An experienced natural lands manager, approved by the Service and the City, will be designated.
  - d. A non-wasting endowment will be funded at an amount to be determined through the preparation of a Property Analysis Record (PAR), or similar analysis.
  
19. A conceptual monitoring/management plan(s) that is consistent with MHCP guidelines and that addresses both the habitat and the species will be developed and implemented by the natural lands manager or biological consultant in coordination with the Service. The plan will include management objectives to determine the distribution and abundance of plants and animals found within the on-site and off-site acquisition parcels and build a baseline database from this information. Management will include monitoring specific taxonomic groups to determine whether the project site is functioning naturally or if the biological diversity of the project site is being degraded or diminished. All threats will be monitored and managed appropriately. This plan will be implemented prior to, or concurrent with, the initiation of construction.
  
20. A five-year restoration and monitoring plan for the wetland and upland restoration areas will be developed and submitted to the Corps and the Service for approval prior to any ground disturbance in the wetland or coastal sage scrub habitat. The plan will include

salvaging on-site plant materials prior to initial clearing and the storage of those materials to be used in the revegetation efforts. The restoration/monitoring plan will include specific replacement planting techniques, timing, success criteria, and an As-Built report.

## STATUS OF THE SPECIES/CRITICAL HABITAT

### Coastal California Gnatcatcher (*Polioptila californica californica*)

#### *Listing Status*

The Service listed the coastal California gnatcatcher as threatened on March 30, 1993 (58 FR 16742). In conjunction with the listing decision, the Service issued a special rule, pursuant to section 4(d) of the Act, defining the conditions under which take of the gnatcatcher would not be a violation of section 9 (58 FR 65088-65096). This special rule recognized the State's Natural Community Conservation Planning (NCCP) Program, and several local governments' ongoing multi-species conservation planning efforts (e.g., the Multiple Species Conservation Plan [MSCP]) that intend to apply Act standards to activities affecting the gnatcatcher. An interim process was established whereby jurisdictions actively involved in NCCP planning would be allowed to develop up to five percent of the remaining coastal sage habitat for projects that were consistent with the NCCP conservation guidelines (California Department of Fish and Game and California Resources Agency 1993).

#### *Designated/Proposed Critical Habitat*

A final determination of critical habitat for the gnatcatcher was published in the *Federal Register* on October 24, 2000 (U.S. Fish and Wildlife Service 2000). This determination was litigated in the U.S. District Court, Central District of California. On June 11, 2002, the U.S. District Court for the Central District of California granted the Service's request for a remand of the coastal California gnatcatcher critical habitat designation so that we could reconsider the economic impact associated with designating any particular area as critical habitat. The Court ordered us to publish a new proposed rule by April 11, 2003. In a subsequent order, the Court held that the critical habitat designated for the gnatcatcher should remain in place until such time as a new, final regulation becomes effective. Critical habitat for this species was re-proposed on April 24, 2003 (U.S. Fish and Wildlife Service 2003).

Currently designated critical habitat for the gnatcatcher includes 513,650 acres of Federal, state, local, and private land in Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties, and has been divided into 13 Critical Habitat Units (U.S. Fish and Wildlife Service 2000). Approximately 120,040 acres (or 25 percent) of the total 513,650 acres of gnatcatcher critical habitat, and 5 of the 13 Critical Habitat Units occur within San Diego County (U.S. Fish and Wildlife Service 2000). The re-proposed critical habitat rule for the gnatcatcher includes 495,795 acres of Federal, state, local, and private land, of which approximately 124,805 acres (25 percent) are located within San Diego County (U.S. Fish and Wildlife Service 2003).

The primary constituent elements of gnatcatcher critical habitat, as described in both the final and re-proposed critical habitat rules, are those habitat components that are essential for the primary biological needs of foraging, nesting, rearing of young, intra-specific communication, roosting, dispersal, genetic exchange, or sheltering (Atwood 1990). Primary constituent elements are provided in (1) undeveloped areas, including agricultural lands, that support or have the potential to support, through natural successional processes, various types of sage scrub, or (2) undeveloped areas that support chaparral, grassland, or riparian habitats where they occur proximal to sage scrub and where they may be utilized by gnatcatchers for the biological needs of dispersal and foraging, and (3) undeveloped areas, including agricultural areas, that provide or could provide connectivity or corridor between or within larger gnatcatcher core areas, including open space and disturbed areas that may receive only periodic use.

### *Species Description*

The coastal California gnatcatcher is a small (length: 11 centimeters; weight: 6 grams), long-tailed member of the old-world warbler and gnatcatcher family *Sylviidae* (American Ornithologists' Union 1998). The bird's plumage is dark blue-gray above and grayish-white below. The tail is mostly black above and below. The male has a distinctive black cap which is absent during the winter. Both sexes have a distinctive white eye-ring.

The coastal California gnatcatcher is one of three subspecies of the California gnatcatcher (*Polioptila californica*) (Atwood 1991). Prior to 1989, the California gnatcatcher was classified as a subspecies of the Black-tailed gnatcatcher (*Polioptila melanura*). Atwood (1980, 1988) concluded that the species was distinct from *P. melanura*, based on differences in ecology and behavior.

### *Distribution*

The coastal California gnatcatcher occurs on coastal slopes in southern California, from southern Ventura southward through Palos Verdes Peninsula in Los Angeles County through Orange, Riverside, San Bernardino and San Diego Counties into Baja California to El Rosario, Mexico, at about 30 degrees north latitude (Atwood 1991). In 1990, Atwood reported that ninety-nine percent of all gnatcatcher locality records occurred at or below an elevation of 984 feet (ft). In 1992, Atwood and Bolsinger reported that, of 324 sites of recent occurrence, 272 (84 percent) were located below 820 ft in elevation, 315 (97 percent) were below 1,640 ft, and 324 (100 percent) were below 2,460 ft. Since that time, additional data collected at higher elevations shows that this species may occur as high as 3,000 ft and that more than 99 percent of the known gnatcatcher locations occurred below 2,500 ft (U.S. Fish and Wildlife Service 2000).

### *Habitat Affinity*

Gnatcatchers typically occur in or near coastal sage scrub habitat. Coastal sage scrub is patchily distributed throughout the range of the gnatcatcher, and the gnatcatcher is not uniformly distributed within the structurally and floristically variable coastal sage scrub vegetation community. Rather, the subspecies tends to occur most frequently within California sagebrush (*Artemisia californica*)-dominated stands on mesas, gently sloping areas, and along the lower slopes of the coast ranges (Atwood 1990). An analysis of the percent gap in shrub canopy supports the hypothesis that gnatcatchers prefer relatively open stands of coastal sage scrub (Weaver 1998). The gnatcatcher occurs in high frequency and density in scrub with an open or broken canopy while it is absent from scrub dominated by tall shrubs and occurs in low frequency and density in low scrub with a closed canopy (Weaver 1998). Territory size increases as vegetation density decreases and with distance from the coast, probably due to food resource availability.

Gnatcatchers also use chaparral, grassland, and riparian habitats where they occur adjacent to sage scrub (Campbell *et al.* 1998). The use of these habitats appears to be most frequent during late summer, autumn, and winter, with smaller numbers of birds using such areas during the breeding season. These non-sage scrub habitats are used for dispersal, but data on dispersal use are largely anecdotal (Campbell *et al.* 1998). Probable dispersing gnatcatchers have been documented in vegetation dominated by such species as *Brassica* spp. (wild mustard), annual grasses, *Salsola tragus* (Russian thistle), *Baccharis salicifolia* (mule fat), *Salix* spp. (willow), and *Tamarix* spp. (salt cedar) (Campbell *et al.* 1998). Linkages of habitat along linear features such as highways and power-line corridors may be of significant value in linking populations of the gnatcatcher (Famolaro and Newman 1998). Although existing quantitative data may reveal relatively little about gnatcatcher use of these other habitats, these areas may be critical during certain times of year for dispersal or as foraging areas during drought conditions (Campbell *et al.* 1998). Breeding territories have also been documented in non-sage scrub habitat (Campbell *et al.* 1998). Campbell *et al.* (1998) discuss scenarios explaining why habitats other than coastal sage scrub are used by gnatcatchers, including food source availability, dispersal areas for juveniles, temperature extremes, fire avoidance, and lowered predation rate for fledglings.

### *Life History*

The California gnatcatcher is primarily insectivorous, nonmigratory, and exhibits strong site tenacity (Atwood 1990). Diet deduced from fecal samples resulted in leaf- and plant-hoppers and spiders predominating in the samples. True bugs, wasps, bees, and ants were only minor components of the diet (Burger *et al.* 1999). Gnatcatcher adults selected prey to feed their young that was larger than expected given the distribution of arthropods available in their environment. Both adults and young consumed more sessile than active prey items (Burger *et al.* 1999).

The California gnatcatcher becomes highly territorial by late February or early March each year, as males become more vocal during this time (Preston *et al.* 1998a). In southwestern San Diego

County, the mean breeding season territory size ranged from 12 to 27 acres per pair and non-breeding season territory size ranged from 12 to 42 acres per pair (Preston *et al.* 1998b). During the non-breeding season, gnatcatchers have been observed to wander in adjacent territories and unoccupied habitat increasing their home range size to approximately 78 percent larger than their breeding territory (Preston *et al.* 1998b). The smallest documented home ranges occur near the coast and increase in more inland areas (Preston *et al.* 1998b).

The breeding season of the gnatcatcher extends from mid-February through the end of August, with the peak of nesting activity occurring from mid-March through mid-May (Grishaver *et al.* 1998). The gnatcatcher's nest is a small, cup-shaped basket usually found 1 to 3 ft above the ground in a small shrub or cactus. Clutch sizes range between three and five eggs, with the average being four. Juvenile birds associate with their parents for several weeks (sometimes months) after fledging (Atwood 1990). Nest building begins in mid-March with the earliest recorded egg date of March 20 (Grishaver *et al.* 1998). Post-breeding dispersal of fledglings occurs between late May and late November. Nest predation is the most common cause of nest failure (Braden *et al.* 1997, Sockman 1997, Grishaver *et al.* 1998). Gnatcatchers are persistent nest builders and often attempt multiple broods, which is suggestive of a high reproductive potential. However, typically this is offset by high rates of nest predation and brood parasitism (Atwood 1990, Braden *et al.* 1997). Nest site attendance by male gnatcatchers was determined to be equal to that of females for the first nest attempt and then declines to almost a third of female nest attendance for later nesting attempts due to the male tending to fledglings (Grishaver *et al.* 1998, Sockman 1998).

Gnatcatchers typically live for two to three years, although ages of up to five years have been recorded for some banded birds (Dudek and Associates 2000). Observations indicate that gnatcatchers are highly vulnerable to extreme cold, wet weather (Mock 1998). Nest predation tends to occur in greater proportion in the upper and lower third of the nest shrub. Predation is lower in nests with full clutch sizes (Sockman 1997). The species of nest shrub also influences predation risk (Grishaver *et al.* 1998). Potential nest predators are numerous, and include snakes, raccoons, and corvids (Grishaver *et al.* 1998). The California gnatcatcher also is known to be affected by nest parasitism of the brown-headed cowbird (*Molothrus ater*) (Braden *et al.* 1997). Nest parasitism has apparently resulted in earlier nesting dates of the gnatcatcher, which may partially compensate for the negative effect of parasitism (Patten and Campbell 1998). However, the gains in nest success from decreased nest parasitism appear to be negated by increased nest abandonment due to predation before cowbirds have migrated into an area (Braden *et al.* 1997).

The natal dispersal, for a non-migratory bird, such as the gnatcatcher, is an important aspect of the biology of the species (Mock 1993, Galvin 1998). The mean dispersal distance of gnatcatchers banded in San Diego County is reported at less than 1.9 miles (mi), however, birds were also documented moving up to 6 mi from their natal territory (Bailey and Mock 1998). The longest documented dispersal distance by a juvenile is 10.1 mi (Braden 1992). Dispersal across highly man-modified landscapes, including major highways and residential development, is known to occur (Bailey and Mock 1998, Galvin 1998, Lovio 1996, Campbell and Haas 2003,

Atwood *et al.* 1998). Extensive movement by breeding adults is relatively rare (Bailey and Mock 1998). Types of habitat used during dispersal are highly variable (Campbell *et al.* 1998). Although the mean dispersal distances that have been documented above are relatively low, dispersal of juveniles is difficult to observe and to document without extensive banding studies. Therefore, it is likely that the few current studies underestimate the gnatcatcher's typical dispersal capacity (Bailey and Mock 1998). Juvenile gnatcatchers are apparently able to traverse highly man-modified landscapes for at least short distances (Bailey and Mock 1998). Natural and restored coastal sage scrub habitat along highway corridors is used for foraging and nesting by gnatcatchers and may serve important dispersal functions (Famolaro and Newman 1998). Typically, however, the dispersal of juveniles requires a corridor of native vegetation, which provides foraging, and cover opportunities to link larger patches of appropriate sage scrub vegetation (Soulé 1991). These dispersal corridors facilitate the exchange of genetic material and provide a path for recolonization of areas from which the species has been extirpated (Soulé 1991, Galvin 1998).

#### *Population and Habitat Status*

The gnatcatcher was considered locally common in the mid-1940's, but by the 1960's, this subspecies had declined substantially in the United States owing to widespread destruction of its habitat (Atwood 1990). By 1980, Atwood (1980) estimated that no more than 1,000 to 1,500 pairs remained in the United States. In 1993, at the time the gnatcatcher was listed as threatened, the Service estimated that approximately 2,562 pairs of gnatcatchers occurred in the United States. Of these, 30 pairs occurred in Los Angeles County, 757 pairs occurred in Orange County, 261 pairs occurred in Riverside County, and 1,514 pairs occurred in San Diego County (U.S. Fish and Wildlife Service 1993a). In October 1996, the total number of gnatcatchers in the United States was estimated at 2,899 pairs with two-thirds occurring in San Diego County (U.S. Fish and Wildlife Service 1996), after subtracting out all gnatcatcher pairs authorized for take under Habitat Loss Permits, approved Natural Community Conservation Plans, Habitat Conservation Plans, and section 7 consultations. These population estimates were intended to represent a coarse approximation of the number of gnatcatchers in southern California. Confidence intervals have not been calculated for these estimates and, therefore, we cannot be sure of their precision.

Population estimates for gnatcatcher populations in the southern portion of the species' range (i.e., Mexico) are unknown. However, past surveys within northern Baja California, Mexico, have not identified gnatcatchers within approximately 15.5 miles south of the border, despite the presence of suitable habitat (U.S. Fish and Wildlife Service 2003). The closest individual gnatcatchers have been documented at inland localities 15.5 miles to 52.8 miles south of the border (Mellink and Rea 1994). Furthermore, Mellink and Rea (1994) found consistent morphological discontinuity between the Southern California and Mexico populations of gnatcatchers, suggesting that although the species range extends into Mexico there is limited gene flow between these populations and the populations remaining in the United States (U.S. Fish and Wildlife Service 2003). In addition, the populations of gnatcatchers in Mexico are

treated very differently than those located within the United States. In Mexico, the gnatcatcher is not regulated or managed by the Mexican Government (Diario Oficial 2000). Therefore, take of individuals or loss and degradation of habitat are not controlled in this portion of the species' range.

The loss, fragmentation, and adverse modification of habitat are the principal reasons for the gnatcatcher's federally threatened status (U.S. Fish and Wildlife Service 1993a). The amount of coastal sage scrub available to gnatcatchers has continued to decrease during the period after the listing of the species. It is estimated that up to 90 percent of coastal sage scrub vegetation has been lost as a result of development and land conversion (Westman 1981a, b; Barbour and Major 1977), and coastal sage scrub is considered one of the most depleted habitat-types in the United States (Kirkpatrick and Hutchinson 1977, O'Leary 1990). The elimination of nearby habitat may artificially increase populations in adjacent preserved habitat; however, these population surpluses may be lost in subsequent years due to crowding and lack of resources (Scott 1993). In addition, agricultural use, such as grazing and field crops, urbanization, air pollution, and the introduction of non-native plants have all had an adverse impact on extant sage scrub habitat. A consequence of urbanization that is contributing to the loss, degradation, and fragmentation of coastal sage scrub is an increase in wildfires due to anthropogenic ignitions. High fire frequencies and the lag period associated with recovery of the vegetation may significantly reduce the viability of affected subpopulations (Dudek and Associates 2000). Furthermore, nest-parasitism by the brown-headed cowbird and nest predation threatens the recovery of the gnatcatcher (Atwood 1980, Unitt 1984).

Early studies suggested that the California gnatcatcher is highly sensitive to the effects of habitat fragmentation and development activity (Atwood 1990; ERCE 1990; Ogden unpublished data). The loss of coastal sage scrub vegetation has been associated with an increasing degree of habitat fragmentation, which reduces habitat quality and promotes increased levels of nest predation and brood parasitism, and ultimately, increased rates of local extinction (Wilcove 1985, Rolstad 1991, Saunders *et al.* 1991, Soulé *et al.* 1988). Although the published literature on this subject is based on studies in forested landscapes, the ecological implications of these studies are applicable to other landscape types such as coastal sage scrub.

An important corollary of habitat fragmentation is reduction of opportunity for successful natal dispersal. Dispersal of gnatcatchers is critical to demographic and genetic soundness of the population, and to population persistence of gnatcatchers in the fragmented habitat characteristic of coastal southern California. Landscape connectivity enhances population viability for many species, and, until recently, most species lived in well-connected landscapes (Beier and Noss 1998). Well-designed studies offer strong evidence that corridors provide sufficient connectivity to improve the viability of populations in habitats connected by corridors (Beier and Noss 1998). For relatively sedentary bird species such as gnatcatchers, connectivity of habitat patches is probably the most important landscape feature for maintaining species diversity of native biota (Soulé *et al.* 1988). Corridors counteract the effects of fragmentation, and should eliminate or minimize the attrition of species over time by facilitating dispersal and recolonization (Willis

1974, Diamond 1975, Brown and Kodric-Brown 1977, Frankel and Soulé 1981, Soulé and Simberloff 1986, Noss and Harris 1986, Forman and Godron 1986, Diamond *et al.* 1987, Noss 1987). Linkages that support resident populations of animals are more likely to function effectively as long-distance dispersal conduits for those species (Bennett 1990).

In addition to development and land conversion, the recent occurrence of large-scale wildfires throughout southern California likely temporally reduced the amount of gnatcatcher habitat available throughout the species' range. For example, in October 2003, severe wildfires throughout southern California resulted in the temporal loss of approximately 24,786 acres (21 percent) of gnatcatcher designated critical habitat in San Diego County, and approximately 39,418 acres (10 percent) of gnatcatcher designated critical habitat in the northern extent of the species' range, which includes Orange, Riverside, Los Angeles, San Bernardino and Ventura Counties; this loss represents an overall temporal perturbation of 64,204 acres (12 percent) of designated critical habitat across the species' range. These fires likely impacted several known source populations of gnatcatchers in San Diego County.

Atwood *et al.* (1998) and Bontrager *et al.* (1995) found that extensive wildfires result in adverse impacts to gnatcatcher populations within unburned areas, as well as within the burn area, due to increased mortality resulting from excessive competitive interactions between resident birds within unburned areas and birds displaced by the fires. Studies conducted after the 1993 Laguna Fire in Orange County (Wirtz *et al.* 1995, Bontrager *et al.* 1995, Beyers and Wirtz 1995, Atwood *et al.* 1998) suggest that post-fire gnatcatcher population recovery is likely dependant on the amount of suitable vegetation remaining within the burned area, as well as the presence of gnatcatcher source populations in close proximity to areas affected by the fire. Furthermore, Beyers and Wirtz (1995) found that following a fire, regrowing coastal sage scrub would not be recolonized by gnatcatchers until total shrub cover approaches 50 percent, which is expected to take a minimum of 4 to 5 years. Due to the scope and intensity of the recent Southern California fires, the areas affected are expected to take several years to recover fully; therefore, any remaining gnatcatcher source populations, and remaining gnatcatcher habitat, are important to the survival and recovery of the species.

To date, a recovery plan has not been developed for the gnatcatcher. However, pursuant to the Coastal Sage Scrub Natural Communities Conservation Program (CSSNCCP), developed in 1993, San Diego County was divided into four subareas for conservation/preserve planning for the long-term conservation and protection of the coastal sage scrub vegetation community of Southern California, and the species, including the gnatcatcher, that it supports (California Department of Fish and Game and California Resource Agency 1993). The four subareas within San Diego County include the MSCP (finalized), the MHCP (finalized), the North County MSCP Plan (currently in preparation; NC MSCP), and the East County MSCP (initiated; EC MSCP). However, of these four subareas, only three (MSCP, MHCP, and NC MSCP) support viable populations of the gnatcatcher. A recovery plan for the gnatcatcher would describe the current threats to the species, the current population trend, the scope of the recovery effort, the recovery criteria, necessary recovery actions, and define recovery units. Without a recovery plan, the three

subareas that support viable populations of the gnatcatcher, within San Diego County (MSCP, MHCP, and NC MSCP), as well as Marine Corps Base Camp Pendleton and Marine Corps Air Station Miramar (which are not a part of the CSS NCCP), serve as "recovery units" for the species within San Diego County. Multiple species plans developed, pursuant to the CSS NCCP, within Riverside, Orange, Los Angeles, and San Bernardino counties would similarly serve as "recovery units" for the gnatcatcher in the northern/eastern portion of its range.

### *Threats*

The primary threats to the long-term survival and recovery of the gnatcatcher are habitat loss, fragmentation, and adverse modification of habitat due to increased urbanization throughout the range of the species. In association with urbanization, the introduction of non-native plants, non-native predators (i.e., domestic animals and brown-headed cowbirds), and changes in natural fire regimes (i.e., fire suppression or increased fire frequency due to anthropogenic ignitions) have all had an adverse impact on extant sage scrub habitat. Therefore, the survival and recovery of the gnatcatcher is dependent on: (1) the protection of large, intact blocks of suitable breeding and resident habitat; (2) known source populations of gnatcatchers; and (3) suitable linkage habitat capable of providing for genetic exchange between known source populations and dispersal between source populations and smaller populations throughout the species' range. In addition, recovery units (multiple species preserves) have been defined as geographic, or otherwise identifiable, subunits of the species that individually are necessary to conserve the genetic diversity, population stability, demographic robustness, important life history stages, or some other feature necessary for the long-term survival of the species in the wild (U.S. Fish and Wildlife Service and National Marine Fisheries Service 2002). Therefore, stabilizing and expanding the populations of gnatcatchers within the previously described gnatcatcher "recovery units", through the development of an effective preserve design, will provide for the species' conservation needs, and preserve the coastal sage scrub vegetation community on which this species depends. Because 60 percent of the remaining gnatcatchers within the United States occur within San Diego County, the protection of gnatcatcher habitat, and the maintenance of gnatcatcher population viability within San Diego County is particularly important for the survival and recovery of the species as a whole.

### **ENVIRONMENTAL BASELINE**

Regulations implementing the Act (50 CFR §402.02) define the environmental baseline as the past and present impacts of all Federal, state, or private actions and other human activities in the action area. Also included in the environmental baseline are the anticipated impacts of all proposed Federal projects in the action area that have undergone section 7 consultation, and the impacts of state and private actions which are contemporaneous with the consultation in progress.

## Relationship to Regional Preserves

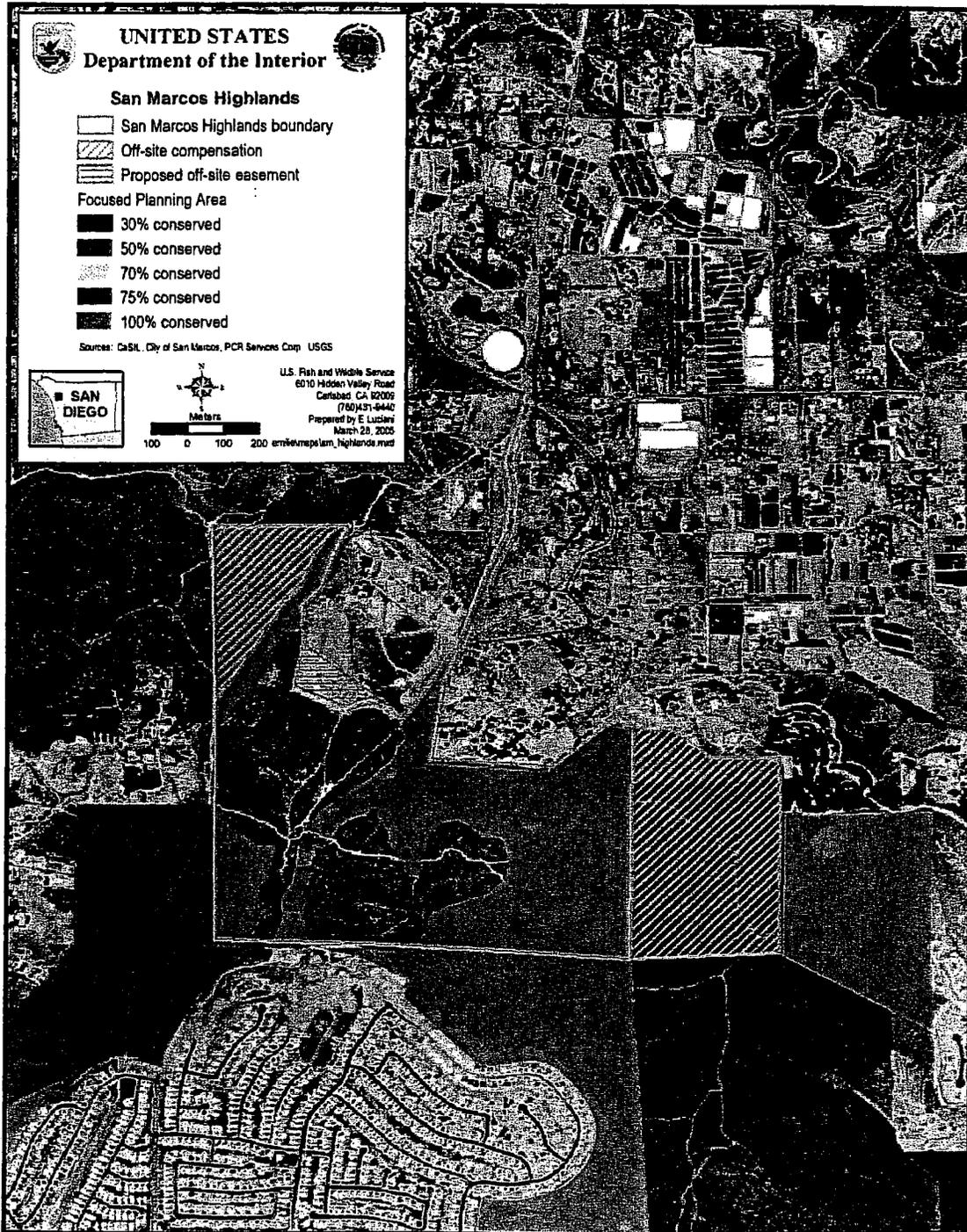
The San Marcos Highlands property is located in the last large block of high to very high value habitat for the gnatcatcher within northern San Marcos (see Figure 1 and Figure 2). Furthermore, the project area provides connectivity between undeveloped gnatcatcher habitat areas in the County and the City that are important to the survival and recovery of the gnatcatcher. The southern portion of the proposed project within the City (approximately 113 acres) is located within the BCLA of the MHCP planning area which includes the cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, and Vista (Figure 2-4, Final MHCP Plan, Volume I). The northern portion of the project site (approximately 90 acres) is within the proposed PAMA of the NC MSCP planning area that includes unincorporated lands within northern San Diego County (County). The County portion of the project site is proposed for annexation to the City of San Marcos and, if this portion of the property is incorporated into the City, will be included in the MHCP.

The BCLA includes large contiguous areas of habitat, areas supporting major and critical species populations or habitat areas, important functional linkages and movement corridors, and corresponds closely with those areas shown as high and very high on the MHCP habitat evaluation map. The Composite Habitat Value map for the MHCP study area ranks the entire block of habitat on site as having very high habitat value (Figure 2-3, Final MHCP Plan, Volume I), as does the NC MSCP Habitat Evaluation Map. This large block of habitat currently provides a wildlife corridor between existing 100 percent preserve areas within the City's draft MHCP Subarea Plan and the PAMA proposed by the NC MSCP.

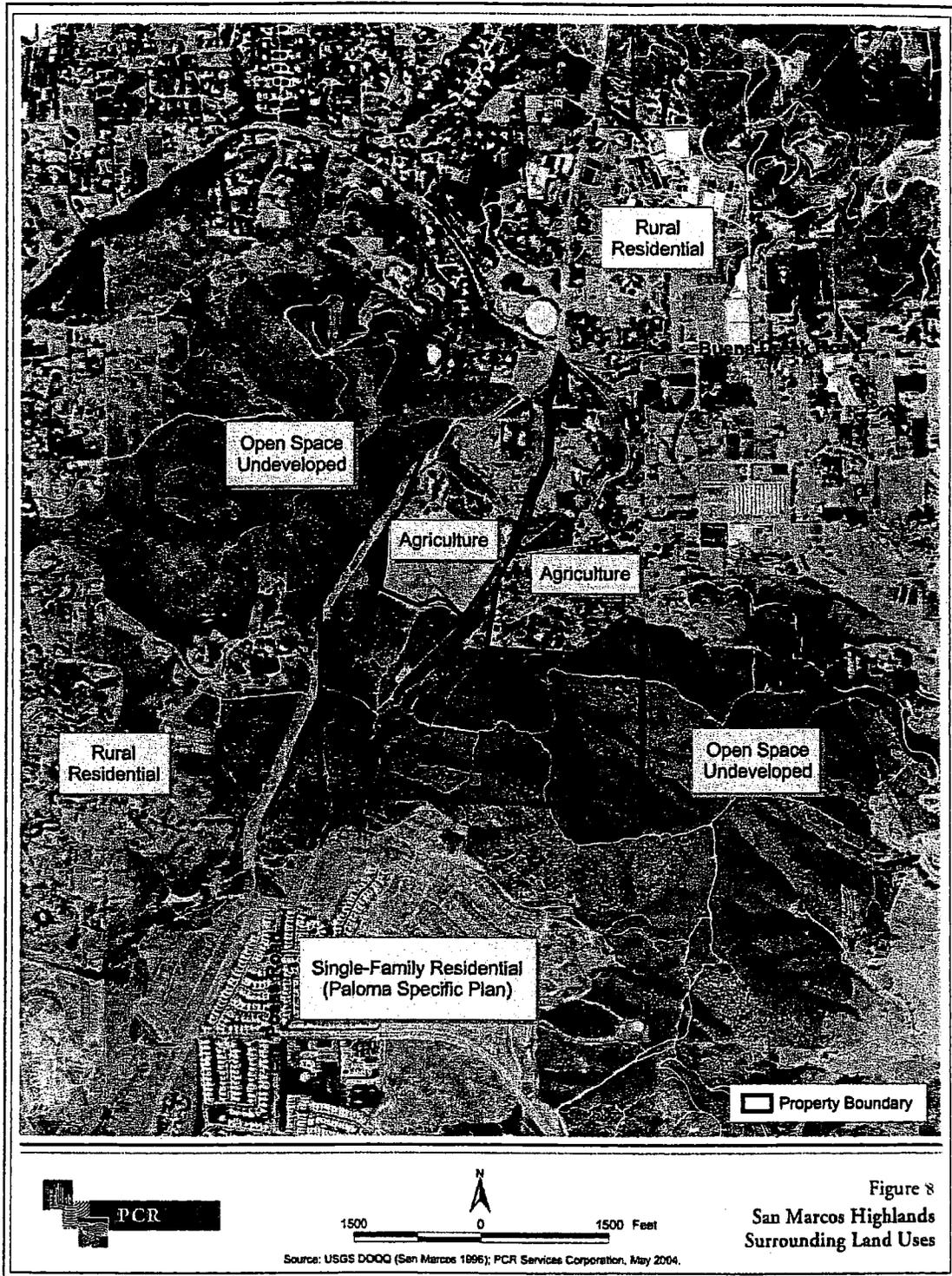
The project is shown as hard-lined in the City's draft Subarea Plan and the proposed open space is contiguous with areas of 50 percent, 75 percent, and 100 percent preserve (Figure 7, *San Marcos Northern Focused Planning Area*). Although the City's Subarea Plan has not been approved by the Wildlife Agencies and the preserve design is subject to revision, the NC MSCP assumes 75 percent preservation of lands within the PAMA, including the project area. However, as proposed the San Marcos Highlands project will preserve less gnatcatcher habitat than that contemplated by the NC MSCP; therefore, because the project proposes to preserve approximately 120.8 acres of the 203 acres of vegetation on site (i.e., approximately 60 percent preservation), it is inconsistent with the NC MSCP.

## Site Characteristics and Surrounding Land Uses

Figure 2, *Vicinity Map*, depicts the project site in a local context. As shown, a portion of the project site is located within the College Area Community Plan area of the City of San Marcos and within the North County Metro Subregional Plan area of the County of San Diego. Immediately surrounding the project site are rural residential and agricultural uses to the north, undeveloped land to the east, single family residential (Paloma Specific Plan Area) to the south, and undeveloped land and rural residential land uses to the southwest and west. Las Posas Road currently terminates at the southern limits of the project boundary. Figure 8, *Surrounding Land*



**Figure 7**  
**San Marcos Northern**  
**Focused Planning Area**



*Uses*, is an aerial view of the project site and surrounding land uses. Several dirt roads lead to the project site from the north, east, south, and west.

The site is characterized by hilly terrain traversed by a northeast-southwest trending drainage corridor, Agua Hedionda Creek. At the far northwestern portion of the project site, underground pipelines of the San Diego Aqueduct traverse the site. A pond is located along the drainage corridor near the center of the property. Elevations range from approximately 600 feet above mean sea level (msl) in the southern portion of the Creek to approximately 1,300 feet above msl in the northeast and southeast corners of the site. Coastal sage-scrub and freshwater marsh/riparian habitat dominate the site. Disturbance of the site is minimal, mainly attributed to graded dirt roads and fire roads.

The property supports seven vegetation communities: Diegan coastal sage scrub (174.1 acres), southern willow scrub (4.6 acres), mule fat scrub (0.13 acre), coyote brush scrub (0.31 acre), disturbed (19.5 acres), ruderal (0.05 acre), and eucalyptus grove (2.1 acres) (Figure 9, *Plant Communities*). The project site is dominated by upland plant species, including California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum californica*), laurel sumac (*Malosma laurina*), and black sage (*Salvia mellifera*). Associated species include California bush sunflower (*Encelia californica*), orange bush monkeyflower (*Mimulus aurantiacus*), fuchsia-flowered gooseberry (*Ribes speciosum*), and coyote brush (*Baccharis pilularis*). The easternmost portion of the property appears to be undergoing a transition from coastal sage scrub to chaparral as dominance and cover of sugar bush (*Rhus ovata*) and other chaparral-related species increase in abundance at the higher elevations. Disturbances to coastal sage scrub consist of a few dirt paths and access/fire roads, including the establishment of the San Diego Water Authority utility easement road/San Diego Aqueduct pipeline that parallels the western/northwestern property boundary.

Agua Hedionda Creek originates on the southwestern slopes of the San Marcos Mountains, on the San Marcos Highlands property, and discharges into the Pacific Ocean via Agua Hedionda Lagoon (Carlsbad Watershed Network 2002). The Agua Hedionda Creek Watershed is the third largest within the Carlsbad Hydrologic Unit. The watershed is dominated by Agua Hedionda Creek, extends approximately 10.62 miles inland from the coast, and is about 18,837 acres in area (Carlsbad Watershed Network 2002; Figure 10).

### Site History

At some time between 1928 and 1958, an earthen dam was constructed within Agua Hedionda Creek to provide a road crossing. Because of this disturbance, the creek is currently impounded behind the dam, forming a man-made pond and depriving the downstream reach of the creek of ordinary low flows. The existing pond currently receives agricultural runoff, and is highly contaminated with fertilizers, pesticides, and horse manure. In addition, the pond dries up periodically during years of normal and sub-normal rainfall, leaving behind a dirt basin. Approximately 600 feet of the upstream portion of the creek within the project site has been

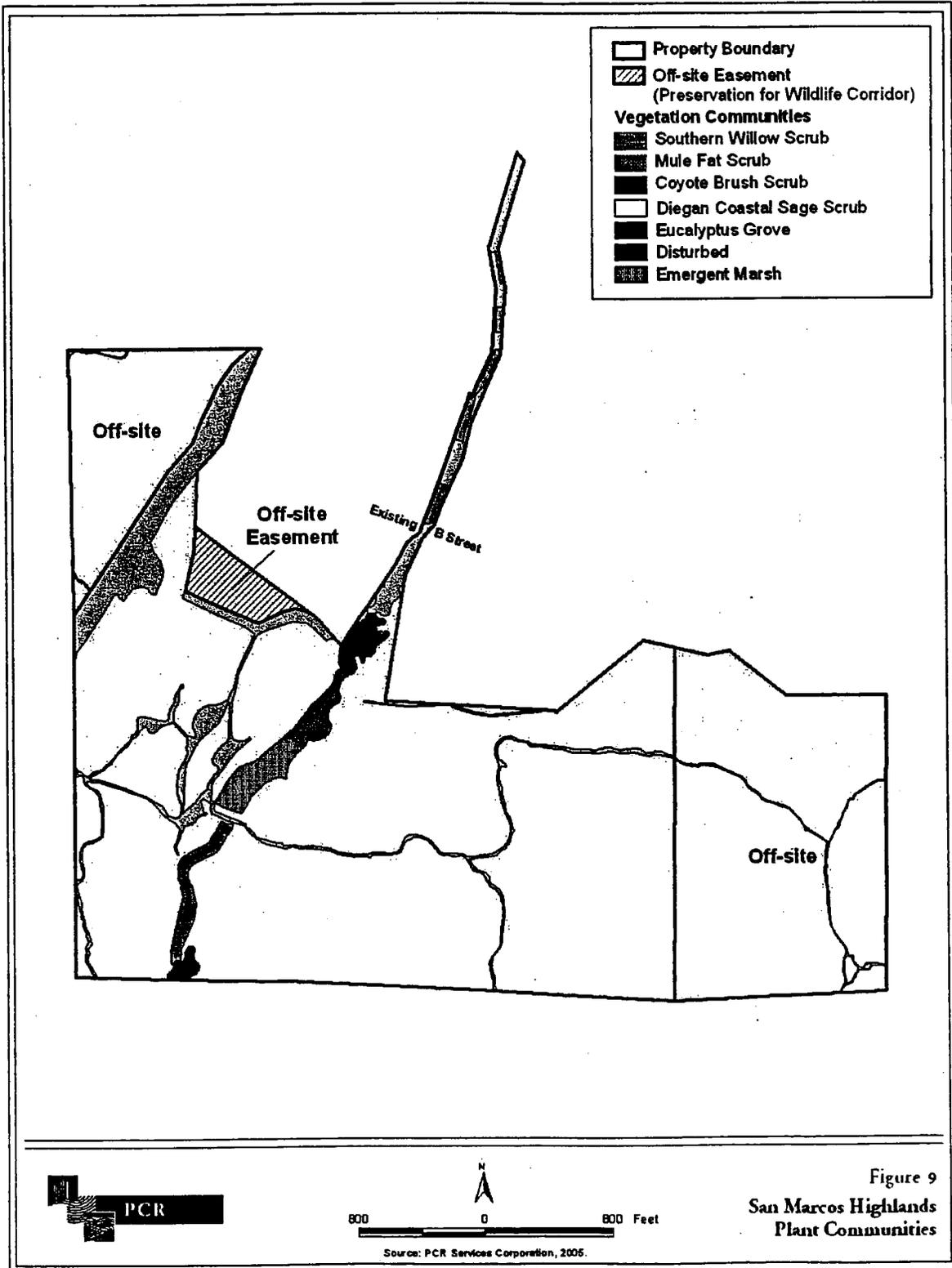
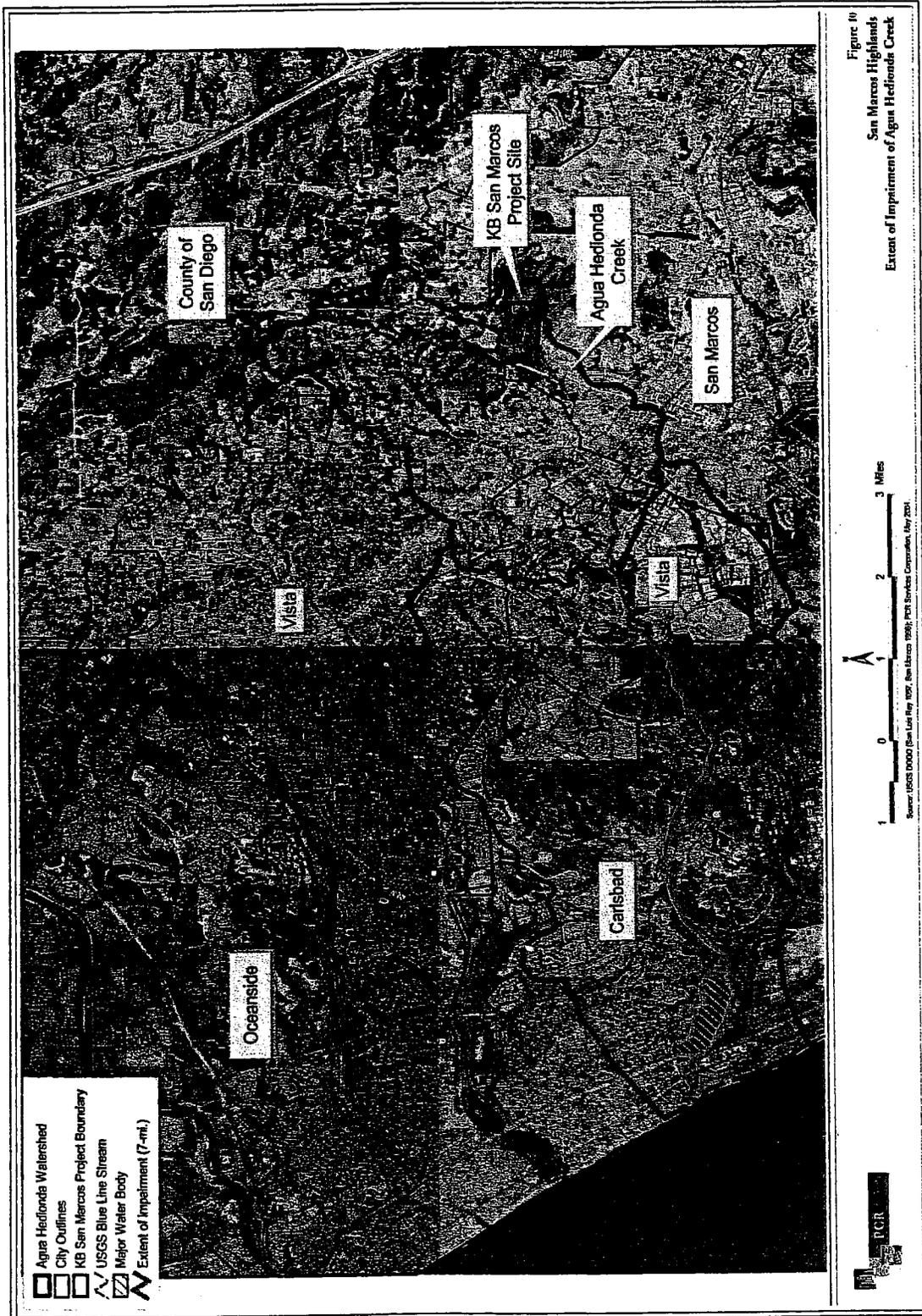


Figure 9  
San Marcos Highlands  
Plant Communities

Source: PCR Services Corporation, 2005.



1, 1,

filled with dirt since at least 1928. Farther downstream, horse manure historically has been dumped into an approximately 700-linear-foot portion of the creek. Downstream of the manure-filled portion of the creek is another man-made pond that is somewhat smaller than the one behind the earthen dam/road crossing. Additional disturbance to the creek include the historic dumping of many types of rubbish and a squatter's encampment along the banks. In several locations throughout the creek on site, there are patches of invasive, non-native plants, including castor bean (*Ricinus communis*), fennel (*Foeniculum vulgare*), and pampas grass (*Cortaderia selloana*), as well as two groves of eucalyptus (*Eucalyptus* spp.).

### **Gnatcatcher Survey Results**

Focused surveys, consistent with Service protocols, were conducted by ERC Environmental and Energy Services Company (ERCE) in 1989, by URS in 1999, and by PCR in 2002. Gnatcatcher vocalizations were played from a hand-held tape player during the surveys to elicit responses from gnatcatchers that were present in the project study area. During the 1999 survey, one pair of gnatcatchers was detected (URS 2001) on site, as well as two locations immediately off site. A pair of gnatcatchers was also detected by PCR in 2002 (PCR 2002c) utilizing the northwestern border of the project site, which was the same general location as that documented in 1999 by URS.

### **Residential and Road Development in Proximity to San Marcos Highlands**

The Palóma/Las Posas Road extension is located north of SR78 and west of Interstate 15 within the City of San Marcos. The road extension is located within the approximately 530-acre Neighborhood One Specific Plan Area (Specific Plan) south of the San Marcos Highlands project site. The Specific Plan called for approximately 1,565 residential units, fire station, elementary school, park, and open space. Construction was started and the majority of the Specific Plan was built by the Baldwin Company prior to purchase by KB Home. The Las Posas Road extension began at the terminus of Las Posas Road and proceeded in a northerly direction along Agua Hedionda Creek, crossing the creek on site before proceeding to the southern boundary of San Marcos Highlands. The Service, through consultation with the Corps, permitted the project under section 7 of the Act. A biological opinion on the effect of the project on thread-leaved brodiaea (*Brodiaea filifolia*) was issued June 8, 2001. Permanent impacts to 2.56 acres of coastal sage scrub and 0.60 acre of Corps jurisdictional wetlands were offset through the purchase of credits at an approved conservation bank. In addition, approximately 15 thread-leaved brodiaea plants were transplanted to the Baldwin Brodiaea Preserve in San Marcos.

The Loma Alta project is the subdivision of 38.9 acres into 94 single-family residential lots and 4 open space lots. The project is located at the northern terminus of Santa Fe Road, west of Las Posas Road, east of Bosstick Boulevard, and south of Borden Road, in the City of San Marcos, San Diego County, California. The proposed project is adjacent to the Santa Fe Hills development to the north and the proposed Santalina Hills development to the west. On October 22, 2002, the Wildlife Agencies concurred that the issuance of a Habitat Loss Permit (HLP) was

appropriate pursuant to section 4(d) of the Act. The HLP allowed the clearance of 3.36 acres of coastal sage scrub. Compensation for impacts to the coastal sage scrub was at a 2:1 ratio through on-site preservation (2.04 acres) and off-site acquisition (4.68 acres) of coastal sage scrub credits at the Service-approved Heights of Pala Mesa Conservation Bank. No gnatcatchers were observed on site. The northern on-site open space is contiguous with the Santa Fe Hills 100 percent preserve that is shown in the City's draft Subarea Plan.

The Rancho Santalina project is located approximately 0.2 mile east of the intersection of South Santa Fe Avenue and Bosstick Boulevard in the City of San Marcos, San Diego County, California. The 61.1-acre parcel east of the railway is proposed to include 244 single-family residences, a 300 linear feet extension of Cherimoya Drive, and 0.8 acre of off-site grading within the North County Transit District (NCTD) ownership. The project also includes the extension of Las Flores Drive approximately 1,000 linear feet (approximately 1.1 acre), the construction of 88 apartments on 4.7 acres, and a 1.6-acre remainder parcel that is zoned industrial west of the NCTD Railway. Take of one pair of gnatcatchers was permitted by the Service through consultation with the Corps under section 7 of the Act. A biological opinion was issued on August 25, 2003, based on the conservation of an approximately 6.83-acre on-site thread-leaved brodiaea preserve, comprised of approximately 6.53 acres preserved to offset impacts to thread-leaved brodiaea from the project and 0.302 acre of habitat that will be used by the City of San Marcos to offset impacts from the Las Posas Road/SR78 interchange project. In addition, approximately 0.59 acre of coastal sage scrub will be preserved at the northern end of the property and included in the conservation easement. The open space areas will be managed and maintained by a natural lands management organization approved by the Service.

The City, in cooperation with the Federal Highway Administration and California Department of Transportation will construct, operate, and maintain a new directional diamond configuration interchange at SR78 and Las Posas Road to relieve traffic congestion. The Las Posas Road/SR78 interchange in the City was permitted through consultation with the Federal Highway Administration under section 7 of the Act. A biological opinion was issued on April 29, 2003. Impacts to the approximately 323 individuals occupying 0.2 acre of thread-leaved brodiaea will be offset at a 1:1 ratio through the translocation of these individuals to a 0.3 acre area within the western portion of the approximately 6.0-acre Rancho Santalina Reserve located immediately north of the Santa Fe rail corridor in the City of San Marcos. No gnatcatchers were affected by this project.

The proposed Oceanside-Escondido Rail project will convert an existing 22-mile freight rail corridor into a Diesel Multiple Unit (DMU) passenger rail system. The existing right-of-way (ROW) runs parallel to State Highway 78 and connects the cities of Oceanside, Vista, San Marcos, Escondido, and unincorporated areas of San Diego County. The project will also include the construction of 1.7 miles of new track that realigns the existing mainline track to provide service to California State University San Marcos (CSUSM). Take of two pair and three individual gnatcatchers and seven pair of vireo was permitted by the Service through consultation with the Federal Transit Administration under section 7 of the Act. On March 11, 1997, the

Service issued a biological opinion on the effects of the proposed Oceanside-Escondido Rail Project. Formal section 7 consultation was reinitiated on January 22, 2002, a biological opinion was issued on June 3, 2002, and an amendment was issued on February 15, 2005. Permanent impacts to coastal sage scrub will be offset through the off-site acquisition of habitat at a 2:1 ratio within a Service-approved conservation bank or other lands identified by the MHCP plan.

The Forecast Homes project is the development of 103 single-family residential lots plus one existing residential lot on a 53.62-acre site. The site is located east of Palomar College, north of Mission Road, and south of Borden Road in the City. On June 26, 2003, the Wildlife Agencies concurred that a HLP was appropriate pursuant to section 4(d) of the Act. Impacts to 22.85 acres of coastal sage scrub and two gnatcatchers will be offset at a 2:1 ratio for a total obligation of 45.7 acres of comparable coastal sage scrub. This will be accomplished through the on-site preservation of 26.81 acres of coastal sage scrub and the off-site acquisition of the 18.14-acre Raza property north of Borden Road and the purchase of 8.0 acres of coastal sage scrub credits at the Rancho Pacifica Diamond Trail Preserve, located along Rancho Santa Fe Road. The gnatcatchers observed on site are expected to continue to utilize the on-site preserve. The natural open space on site and the off-site acquisition will be deeded to and maintained by an organization or individual experienced in natural lands management that is approved by the City and the Wildlife Agencies.

### **2003 Cedar, Paradise, and Otay Fires**

In October 2003, approximately 24,786 acres (21 percent) of designated gnatcatcher critical habitat (of a total 120,040 acres of designated gnatcatcher critical habitat in San Diego County) burned because of the Cedar, Otay, and Paradise Fires in San Diego County. In addition, these fires severely impacted several known source populations of gnatcatchers in San Diego County. For example, it is expected that approximately 43 breeding pairs of gnatcatchers were impacted on the Marine Corps Air Station, Miramar (MCAS Miramar), which is located to the southeast of the City. Due to the scope and intensity of the fires, the areas affected are expected to take several years to recover fully; therefore, any remaining gnatcatchers, such as the Rancho Santa Fe/Harmony Grove source population, as well as the populations located along Interstate 15 (I-15), may be important to the post-fire recovery of the gnatcatcher. The San Marcos Highlands corridor contributes to the connectivity to gnatcatcher habitat to the east in the San Marcos Mountains and along the I-15 corridor. It also contributes to maintaining a north-south connection between San Dieguito River near Lake Hodges to the south, in the County's MSCP preserve system, through gnatcatcher habitat within the City of Carlsbad to the northwest, and then with the "stepping stone" corridor of gnatcatcher habitat patches extending through Oceanside, to core populations of gnatcatchers on Camp Pendleton. Thus, retaining the connectivity of the gnatcatcher habitat within northern San Marcos with County lands located adjacent to the cities of San Marcos, Vista, and Oceanside, is also important.

## EFFECTS OF THE ACTION

Effects of the action refer to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated and interdependent with that action that will be added to the environmental baseline. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. Indirect effects are those that are caused by the proposed action and are later in time, but are still reasonably certain to occur.

### Direct Impacts

The proposed San Marcos Highlands project would directly and permanently impact a total of 79.95 acres, including upland vegetation consisting of 73.80 acres of coastal sage scrub (including less than 0.01 acre of coyote brush scrub) and 5.73 acres of disturbed (grazed, rural residential, roadways). Based on protocol surveys conducted by PCR in 2002, the proposed project would directly impact habitat used by one gnatcatcher detected within the project survey area. An additional 1.84 acres of coastal sage scrub would be temporarily impacted.

The gnatcatcher found within the proposed on-site preserve is in an area that is not proposed for direct impact. However, the extent of the use area/territory is not reflected on the map included in the Permit Application prepared by PCR (2004c). Because the map represents points at which the gnatcatcher was identified, rather than the true use area, the extent of the bird's use areas are not known, and a majority of the territory may even be in areas to be developed. An unknown portion of the territory for one gnatcatcher may be impacted directly, which could result in death of adult birds. If the habitat is disturbed during the breeding season, interruption of courtship, nest building, destruction of eggs, and disturbance or death of unfledged young could also occur. The applicant proposed to not clear or grub native vegetation between February 15 and August 31. Thus, there should be no impacts to nesting birds, eggs, and chicks.

However, impacts to adult gnatcatchers are still expected from removal of habitat during the non-breeding season due to the elimination of necessary foraging and sheltering areas for the gnatcatcher observed within and adjacent to the property. The permanent removal of 73.80 acres of coastal sage scrub would reduce the ability for that individual to find alternate, suitable habitat to forage. Variable gnatcatcher breeding and post-breeding season territories and home range areas reflect the changing size needed to meet the particular breeding, feeding, and sheltering requirements of the species at any given part of the year. For example, Bontrager (1991) noted an 82 percent increase in home-range size during the non-breeding season, Preston *et al.* (1998b), found a 78 percent increase in post breeding home range size, and Braden *et al.* (1994) found an 86 percent increase in home range size during the non-breeding season. Therefore, a reduction of territory habitat could harm individual gnatcatchers by reducing the available resources for individual gnatcatcher survival and subsequent reproduction. Gnatcatchers need large non-breeding season home ranges for adequate foraging opportunities during cold weather conditions

(Mock 1993, 1998). Impacts would be temporary for 1.84 acres of coastal sage scrub that would be revegetated after construction with the appropriate native species.

In addition to the impacts described above, development of the San Marcos Highlands project would fragment one of the last large blocks of gnatcatcher habitat in northern San Marcos into two smaller blocks, creating a constricted corridor along the northern boundary of the property. The degree to which this constriction would reduce the function and value of the wildlife corridor for gnatcatcher movement is not known. Linkages that support resident populations of animals are more likely to function effectively as long-distance dispersal conduits for those species as well as provide an additional source of dispersing animals (Bennett 1990). The property currently provides a critical wildlife corridor and a core block of live-in habitat connecting designated preserve areas in the City's Northern Focused Planning Area (FPA) to high value habitat within the PAMA of the NC MSCP and the cities of Vista and Oceanside. Conservation of such blocks of live-in habitat is necessary because studies suggest that the gnatcatcher is highly sensitive to the effects of habitat fragmentation and development activity (Atwood 1990; ERCE 1990; Ogden unpublished data). Fragmentation reduces habitat quality and promotes increased levels of nest predation and brood parasitism, and ultimately, increased rates of local extinction (Wilcove 1985, Rolstad 1991, Saunders *et al.* 1991, Soulé *et al.* 1988).

Connectivity between habitat reserve areas is essential for long-term maintenance of the viability of the wide range of species in this biological community, including the gnatcatcher. Movement corridors between isolated patches of gnatcatcher habitat (i.e., the remaining patches of gnatcatcher habitat in coastal cities of San Diego County) serve to: 1) allow exchange of genetic material between separate populations; 2) allow recolonization of habitat patches from which gnatcatchers have been extirpated; and 3) allow relatively safe travel for gnatcatchers moving from one area to another (whether in natal dispersal or other movements). Narrowing of corridors intended for movement of gnatcatchers is thought to reduce the function and value of those corridors.

Narrow corridors are more difficult for a dispersing animal to find. Corridors that are occupied by conspecifics may be difficult for dispersing gnatcatchers to traverse, due to aggression from occupying gnatcatchers. A narrower corridor is easier for a territorial bird to defend against intrusion, and thus more difficult for a dispersing bird to traverse. Narrow corridors have a higher edge/area ratio, making the habitat within the corridor more subject to deleterious edge effects (i.e., human disturbance, noise, house cats, exotic plants, dumping, etc.). Dispersal is critical to the demographic and genetic soundness of the population, and to population persistence of gnatcatchers in the fragmented habitat characteristic of coastal southern California. Juvenile gnatcatchers may be able to cross highly man-modified landscapes for short distances (Bailey and Mock 1998). Typically, however, the dispersal of juveniles requires a corridor of native vegetation, which provides foraging, and cover opportunities to link larger patches of appropriate sage scrub vegetation (Soulé 1991). These dispersal corridors may facilitate the exchange of genetic material and provide a path for recolonization of areas from which the species has been extirpated (Soulé 1991, Galvin 1998). In addition to connecting local

populations, corridors may facilitate movement of individuals within its home range, and thus contribute to the survival of individuals and populations in fragmented environments (Rosenberg *et al.* 1997). Linking high value habitat areas by establishing or maintaining functional ecological corridors will contribute to a healthy, naturally functioning landscape (Soulé and Terborgh 1999).

In order for a corridor to be functional, it must be large enough to provide habitat for the animals that move through; however, corridors that are too narrow may actually be detrimental to the species that use them because of high edge effect and corresponding predation (Quinby and Lee 2002). Assuming that an occupying gnatcatcher uses a rectangular home range twice as long as wide (Harrison 1992), a suitable long-distance corridor for gnatcatchers would need to be 328 feet to 984 feet (110-300 m) wide, depending on local habitat quality. However, edge effects would necessitate wider corridors. For example, if cowbird parasitism extends 656 feet (200 m) into a corridor, as it does in Wisconsin forests (Brittingham and Temple 1983), then a linkage with successfully breeding pairs of gnatcatchers would need to be 1,673-2,296 feet (510-700 m) wide. Movements of suburban house cats routinely extend over 820 feet (250 m) into adjacent wildlife habitat (Barratt 1997), and presence of house cats is expected to decrease probability of gnatcatcher population persistence. Studies by Wilcove *et al.* (1986) have shown that the edge-related increase in predation may extend from 984 feet to 1,968 feet (300-600 m) into the interior of a preserve. Therefore, corridors should be as wide as possible, but may vary in width; however, a corridor should be no less than 500 feet wide and a minimum width of 1,000 feet is recommended (Bond 2003; County of San Diego 2000; Torrey Pines State Reserve 1997). A corridor should include a minimum 250-foot buffer of native vegetation on either side to provide animals cover and to make human intrusion more difficult (Torrey Pines State Reserve 1997). In areas less than 400 feet wide, corridor length should be less than 500 feet (Torrey Pines State Reserve 1997; County of San Diego 2000).

Throughout the consultation history, the Service recommended that the San Marcos Highlands project contribute to a minimum 1,000-foot wide corridor through the preservation of 500 feet on site along either the northern or western property line. The project was redesigned to provide a minimum 400-foot wide corridor, including an easement on 4.7 acres of the adjacent property, for a length of approximately 1,200 feet along the northern boundary (see Figure 6). Some north-south connectivity may be maintained along the western property line adjacent to the San Diego Water Authority aqueduct easement, as well as through the riparian corridor along Agua Hedionda Creek. However, a portion of the aqueduct easement is a dirt road/trail with no vegetative cover. In addition, approximately 1,200 feet of the open space along the western boundary will be about 100 to 200 feet wide between the property line and the project footprint, with much of this area subject to fuel modification.

The project applicant proposes to partially offset permanent direct impacts to 73.80 acres and temporary direct impacts to 1.84 acres of coastal sage scrub through on-site preservation of approximately 105.7 acres of coastal sage scrub and the on-site restoration of approximately 4.9 acres of coastal sage scrub. In addition, conservation easements will be placed on approximately

88.4 acres off site comprised of 4.7 acres adjacent to the northern property boundary; 21.9 acres immediately off-site and adjacent to the northwest; and 61.8 acres contiguous with the eastern project boundary. The 21.9-acre parcel is comprised of approximately 21.7 acres of high quality coastal sage scrub and 0.2 acre of disturbed areas (see Figure 8). The 61.8-acre parcel (Parcel D) supports approximately 61.1 acres of high quality coastal sage scrub and 0.7 acre of disturbed areas (see Figure 8). The coastal sage scrub within the 21.9-acre parcel has a higher occurrence of coastal prickly pear (*Opuntia littoralis*) due to the southeast-facing slopes. Conversely, the composition of the coastal sage scrub within Parcel D shows an increase in abundance of laurel sumac (*Malosma laurina*). Despite these slight differences in coastal sage scrub composition, both parcels support coastal sage scrub habitat comparable to what occurs on-site. In addition, a conservation easement will be recorded on approximately 4.7 acres adjacent to the northern property boundary, following the purchase by KB Home from the current owner. In order to contribute to the minimum 400-foot wide wildlife corridor, exotic species will be removed from the corridor and it will be seeded with native species and/or coastal sage scrub duff salvaged from the impact area will be spread. While these restoration and preservation areas, particularly the 61.8-acre Parcel D off site to the east, will provide a permanently protected and managed link between the PAMA in the NC MSCP and the City's FPA, the development footprint will constrict the existing wildlife corridor.

Besides the upland impacts described above, Corps jurisdictional "waters of the U.S." within the project boundary will also be impacted (Figure 4). Wetlands are limited to the Corps jurisdictional streambed of the creek, on-site. All remaining Corps jurisdiction constitutes non-wetland "waters of the U.S." in the form of multiple ephemeral drainages, and an intermittent tributary to the creek, which runs along the northeastern project boundary. Impacts to the creek will result from the removal of an existing earthen dam/road crossing over the creek, along with the fill from construction of Las Posas Road. These permanent impacts across the site will total approximately 5,620 linear feet of streambed, totaling approximately 0.71 acre of Corps jurisdictional wetland "waters of the U.S." (of which, approximately 0.02 acre is wetland), and approximately 1.26 acres of Department jurisdictional streambed and associated riparian habitat. To facilitate construction of the project as proposed, the ephemeral stream segments located within the project site will be filled using native material and permanently culverted below ground. Temporary construction-related impacts resulting from a 10-foot buffer around the limits of grading would include approximately 0.04 acre of Corps jurisdictional "waters of the U.S." and 0.10 acre of Department jurisdictional streambed and associated riparian habitat.

Permanent impacts to Corps and Department jurisdictional areas will be offset at a ratio of no less than 2:1 and will be initiated concurrent with the first grading activities. On-site activities proposed to offset permanent impacts to Corps (Department) jurisdictional wetlands include: 1) approximately 0.2 acre (3.5 acres) riparian enhancement, such as trash and sediment removal, exotic species removal, and minor replanting; 2) 0.2 acre (1.1 acre) eucalyptus removal; 3) approximately 2.5 acres (2.5 acres) riparian restoration; and 4) approximately 0.2 acre (3.1 acres) southern willow scrub preservation. Total on-site compensation will include

approximately 2.9 acres of Corps jurisdictional "waters of the U.S." and 7.1 acres of Department jurisdictional riparian habitat.

These enhancement, restoration, and preservation activities will assist in returning the creek to a natural state and will provide southern willow scrub habitat for the vireo and southwestern willow flycatcher, in addition to providing a corridor with vegetative cover to facilitate gnatcatcher and other wildlife movement. In addition, a water quality basin and catch basin inserts will be incorporated into the project design to capture nuisance and first-flush storm flows. Figure 6, *Proposed Mitigation Measures*, identifies the locations of each of the proposed compensation activities.

All preservation, restoration, and enhancement areas, including the on-site reaches of the creek and on and off-site areas of coastal sage scrub, will be preserved in perpetuity through the recording of conservation easements. Areas that result in temporary impacts will be restored to pre-construction conditions. A detailed Habitat Mitigation and Monitoring Plan/Water Quality Management Plan will be prepared by the applicant and approved by the Corps, Service, Department, and RWQCB prior to initiation of construction activities.

If more than 79.95 acres were to be impacted due to construction operator error, there would be a resulting increase in the effects described above. However, a Service-approved biologist would flag the project area prior to the commencement of clearing or grading activities to ensure no additional loss of habitat for the gnatcatcher occurs. In addition, a Service-approved biological monitor will be responsible for overseeing compliance with the Conservation Measures and will have the authority to halt all associated project activities that may be in violation of this biological opinion.

### **Indirect Impacts**

If grading is conducted during the breeding season, noise and disturbance associated with construction may adversely affect gnatcatchers by disrupting breeding and foraging, causing the birds to frequently flush from the nest endangering eggs and chicks. Construction noise is a concern if it is at such a level that it masks vital communication signals (Awbrey 1993), normal singing behavior, or alters the ability to detect conspecific encroachments, defend territory, attract a mate, detect or warn of the approach of a predator or other interspecific intruder, and/or forage adequately. This level is generally accepted to be greater than 60 dBA hourly  $L_{eq}$ . To reduce the potential for these impacts, noise levels would be monitored by a Service-approved biologist and if noise levels exceed 60 dBA hourly  $L_{eq}$ , noise attenuation would be provided to reduce the noise level to below 60 dBA hourly  $L_{eq}$ .

Indirect impacts from development adjacent to the biological open space could occur through introduction of non-native plant species on the site and surrounding open space areas and the potential increase in Argentine ants (*Iridomyrmex humilis*) due to increases in water supply. Invasive species are now recognized as a threat to biodiversity within native vegetation second

only to direct habitat loss and fragmentation (Pimm and Gilpin 1989, Scott and Wilcove 1998). Non-native, weedy species may out-compete and exclude native species potentially altering the structure of the vegetation, degrade or eliminate habitat needed by the gnatcatcher for breeding and foraging, and provide food and cover for undesirable non-native animals (Bossard *et al.* 2000). High densities of non-native ants may reduce the suitability of nest sites, alter behavior patterns, and increase susceptibility to predation (Sockman 1997, Holway *et al.* 2002). The increase in non-native ants may also contribute to the decline of the gnatcatcher's insect prey base (Holway *et al.* 2002). To reduce the potential for exotic plant invasion into natural habitat, use of exotic species in landscaping or near native vegetation would be restricted, and the temporary impacts would be revegetated with appropriate native species.

Lighting introduced onto the project site during construction may adversely affect adjacent habitat areas and lead to increased predation of native species. All work associated with the development of the project would be conducted during the daytime hours and night lighting would not occur except in an emergency. All residential and street lighting would be shielded and directed away from upland and wetland preserve areas.

Human activity in the project area may result in accumulation of trash and food, attracting predators that may prey on gnatcatchers. Efforts would be made to keep the construction site free of trash or food that may attract predators.

The narrowing of existing corridors of native habitat, in conjunction with increased human density and auto traffic, may be a significant impediment to movement of coyotes and bobcats. Coyote and bobcat prey includes smaller animals (i.e., domestic cats) that depredate gnatcatchers and their nests. Absence of coyotes and bobcats may thus result in local extirpation of gnatcatchers (Crooks and Soulé 1999). The presence of a full complement of resident species is important to the health and viability of a naturally functioning ecosystem. Potential impacts from human and pet intrusion into the on-site open space will be minimized through a program of education (using that developed by the American Society for the Prevention of Cruelty to Animals), cat control, and the inclusion of permanent cat-proof fences, with no gates between the development and the open space, along the backyards of residential lots adjacent to the planned open space. In addition, KB Home will require the HOA to implement covenants, conditions, and restrictions to regulate property usage, including maintenance of on-site restored habitats, indoor cat policy, and protection of adjacent natural areas of the on-site preserve and the Creek. KB Home will also incorporate landscape management practices into the covenants, conditions, and restrictions that minimize the use of chemical fertilizers, pesticides, and herbicides.

To help maintain the full complement of mesopredators necessary to the health of gnatcatcher habitat, as well as to improve the viability of the riparian corridor, the proposed project will replace the earthen dam in the creek with an 8-foot arched culvert and restore the streambed with riparian vegetation. The incorporation of the arched culvert will facilitate movement of small and medium-sized mammals in the area, thus providing a northeast-southwest trending wildlife corridor along Agua Hedionda Creek. However, this culvert is probably not large enough to

accommodate movement by deer. Agua Hedionda Creek currently serves as a regionally important habitat linkage/wildlife corridor for a variety of species, including the gnatcatcher, and other species considered to be important in maintenance of ecological functions, including coyotes (*Canis latrans*) and bobcats (*Lynx rufus*). Where roads cross a wildlife corridor, bridges with 10-foot high fencing to channel wildlife to the underpass are the preferred option (County of San Diego 2000). Underpasses should be situated along primary travel routes away from areas containing noise and light pollution and serve only wildlife needs since human presence and/or recreational activities can deter wildlife activity (Griffiths & Van Schaik 1993). Native vegetation should surround all underpass entrances and replace any proposed rock fill slope protection. Underpass dimensions are important in determining whether a species will use an underpass as well as how frequently a species will use an underpass (Haas 2000). Haas (2000) found that coyotes never used underpasses less than 1 m in height. A more important variable is the openness of the underpass, which takes into consideration the height, width, and length of the underpass ( $H*W/L$ ). An openness value greater than 0.6 has been recommended for deer (Reed 1981). In fact, Haas (2000) reported that bobcat, coyote, and mule deer frequency of underpass use increased as underpass height, width, and/or openness increased. Although the smaller drainage culverts may receive use by smaller vertebrates (rodents, herpetofauna, and mesopredators), predator activity through underpasses less than 1 m in height is highly unlikely.

Other indirect impacts to upland and wetland habitats will be minimized through the implementation of water quality protection measures and by using best management practices both during and after construction.

## CUMULATIVE EFFECTS

Cumulative effects include the effects of future state, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act and, therefore, are not considered cumulative in the proposed project.

We anticipate that a wide range of activities will be determined to affect the gnatcatcher within the action area. Such activities include, but are not limited to, urban development, illegal off-road vehicle use, hiking and equestrian use, illegal trash dumping, road improvements, and utility projects. The area of impact is located partially within the MHCP planning area and partially within the NC MSCP planning area. The City of San Marcos and the County of San Diego are participants in the NCCP program. The City has prepared a draft Subarea Plan under this program, proposing to include gnatcatchers as a covered species and the County is currently preparing the NC MSCP. Under these plans, the City and County would apply for Incidental Take Permits from the Service, pursuant to section 10(a)(1)(B) of the Act. The Service must analyze the impacts of permit issuance on federally listed species resulting from the MHCP, MSCP, and future Subarea Plans for the City and County through consultation under section 7 of the Act. Any projects potentially affecting the gnatcatcher would thus have a Federal nexus and

Colonel Alex Dornstauder (FWS-SDG-1668.7)

be subject to section 7 of the Act, and cumulative effects of such projects would not be considered under this consultation. Should this process not result in the Service's issuance of a 10(a)(1)(B) permit, future land development projects in the City that affect listed species would need to receive incidental take through the section 7 process, or through an individual incidental take permit pursuant to section 10(a)(1)(B) of the Act (which, as it is permitted by a Federal agency, is subject to consultation under section 7 of the Act and is not considered a cumulative effect).

The City of Carlsbad, a MHCP participating jurisdiction, was issued an Incidental Take Permit for species covered by their approved Habitat Management Plan, and cumulative effects of projects covered by the City's permit would not be considered under this consultation. Unincorporated County and other jurisdictions that have habitat allowance remaining under the 4(d) rule (i.e., Escondido and Encinitas) will continue to permit habitat loss in accordance with NCCP guidelines and the 4(d) special rule. Habitat loss in these jurisdictions has the potential to further depress gnatcatcher populations and degrade (but not preclude) connectivity between biological core areas and must meet the criteria established by the NCCP Conservation Guidelines (California Department of Fish and Game and California Resources Agency 1993) in the City of San Marcos and the MSCP preserve to the south and east.

Future projects that impact wetlands would require permits from the Corps pursuant to Section 404 of the Clean Water Act; therefore, these would constitute Federal actions that would not be considered as contributing to cumulative effects.

Unauthorized grading and filling of habitat would continue to affect the long-term viability of listed species in a regional context. In recent years, there have been several incidents of illegal grading of habitat within the cities of Carlsbad and San Marcos and adjacent lands within adjacent cities and unincorporated areas of the County of San Diego. Illegal grading, as well as trespassing by vehicles, equestrians, hikers, and pets is expected to continue to occur, affecting the multiple species planning efforts in the area.

## CONCLUSION

After reviewing the current status of the gnatcatcher, the environmental baseline for the action area, the effects of the proposed San Marcos Highlands project, and cumulative effects, it is the Service's biological opinion that the development, as proposed, is not likely to jeopardize the continued existence of the gnatcatcher. The resulting habitat loss (73.80 acres of permanent and 1.84 acres of temporary impacts to coastal sage scrub) will not appreciably reduce the likelihood of the survival or recovery of the gnatcatcher.

The Service reached these conclusions for the following reasons:

1. Impacts to the gnatcatcher through the direct permanent loss of approximately 73.80 acres of, as well as 1.84 acres of temporary impacts to, coastal sage scrub habitat will be offset

adequately through implementation of the conservation measures, as described in the project description.

2. Direct impacts to the gnatcatcher will be minimized through the implementation of breeding season restrictions as described in the project description.

### **INCIDENTAL TAKE STATEMENT**

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by the Corps so that they become binding conditions of any grant or permit issued to KB Home as appropriate, for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity that is covered by this incidental take statement. If the Corps (1) fails to assume and implement the terms and conditions or (2) fails to require to adhere to the terms and conditions of this incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the Corps or KB Home must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR §402.14(I)(3)].

### **AMOUNT OR EXTENT OF TAKE**

The Service anticipates one gnatcatcher could be taken as a result of this proposed action. The take may be in the form of harm to adult birds as a result of the permanent removal of 73.80 acres of coastal sage scrub, as well as temporary impacts to 1.84 acres of coastal sage scrub.

The Fish and Wildlife Service will not refer the incidental take of any migratory bird or bald eagle for prosecution under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. §§ 668-668d), if such take is in compliance with the terms and conditions (including amount and/or number) specified herein.

## **EFFECT OF THE TAKE**

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

## **REASONABLE AND PRUDENT MEASURES**

The Service believes the following reasonable and prudent measure(s) are necessary and appropriate to minimize take of coastal California gnatcatchers:

1. Take of this species, through harm, shall be avoided and minimized to the extent possible by project design and implementation of best management practices.
2. Unavoidable project impacts shall be offset by the implementation of the conservation measures as described in the project description of this biological opinion, including creation and restoration activities.
3. The preservation areas shall be conserved and managed in perpetuity.

## **TERMS AND CONDITIONS**

In order to be exempt from the prohibitions of section 9 of the Act, the Corps and the applicant must comply with the following terms and conditions, which implement the reasonable and prudent measures described above, and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary.

1. The Corps and the project proponent shall implement reasonable and prudent measure 1 through the following terms and conditions:
  - 1.1. The Service hereby incorporates by reference the conservation measures 1-14 identified in the project description of this biological opinion into this Incidental Take Statement as terms and conditions.
  - 1.2. The covenants, conditions, and restrictions shall be enforced through the recordation of deed restrictions on the property, developed in coordination with and approved by the Service, to implement an indoor cat policy and landscape management to minimize the use of chemical fertilizers, pesticides, and herbicides, as well as the use of invasive exotic species adjacent or near sensitive vegetation communities.

- 1.3. The Service retains the right to access and inspect the project site for compliance with the proposed project description and with the terms and conditions of this biological opinion during the creation/revegetation and construction phases.
2. The project proponent shall implement reasonable and prudent measure 2 through the following terms and conditions:
  - 2.1. The Service hereby incorporates by reference conservation measures 15-17 identified in the project description of this biological opinion into this Incidental Take Statement as terms and conditions.
  - 2.2. A final restoration plan for the revegetation areas shall be approved by the Service and the Corps prior to ground disturbance. The plan shall include, but not be limited to:
    - 2.2.1. A plant palette, timing of planting, description of site preparation, planting ratios, type of planting (e.g., seed, container stock), and duration of monitoring.
    - 2.2.2. Success criteria for species richness for riparian, upland, and transitional revegetation areas shall be based on the species richness found in local, undisturbed areas of similar vegetation composition.
    - 2.2.3. Success criteria for final ground cover for the riparian corridor revegetation areas shall be 75 percent cover by native woody species after 3 years and 90 percent cover by native woody species after 5 years (not including herbaceous plants).
    - 2.2.4. Success criteria for upland restoration shall be 70 percent to 90 percent native, gnatcatcher-quality CSS cover after five years, if all weeds are excluded. The 90 percent cover should be comprised of approximately 60 percent cover by native woody shrubs.
    - 2.2.5. Within the wildlife corridor revegetation areas, a maximum 10 percent total absolute cover of non-native/invasive plants and weed species shall be tolerated during the long-term management period. Invasive exotics on the California Invasive Plant Council's (Cal-IPC) List A shall be controlled completely and have a zero percent tolerance. Cal-IPC List B and grass species shall not exceed 5 percent total cover.
    - 2.2.6. If restoration efforts fail to meet the performance criteria in any one year, the designated Project Biologist shall recommend remedial actions to be

implemented the following year that will enhance the vegetation to a level in conformance with the original standards.

3. The project proponent shall implement reasonable and prudent measure 3 through the following terms and conditions:
  - 3.1. The Service hereby incorporates by reference conservation measures 18-20 identified in the project description of this biological opinion into this Incidental Take Statement as terms and conditions.
  - 3.2. Prior to any ground disturbance, a final Habitat Management Plan (HMP) that will ensure the preserves are managed and monitored in perpetuity, consistent with MHCP guidelines and that addresses both the habitat and the species, shall be approved by the Corps and the Service. The HMP shall include management and monitoring in perpetuity of both the all restoration areas once the five-year performance standard has been achieved.
  - 3.3. Conservation easements shall be recorded on all proposed conservation, restoration, and off-site acquisition areas prior to any ground disturbance.
  - 3.4. The project proponent shall establish an appropriate financial mechanism (e.g., escrow account, performance bond) that would assure that the conservation measures are implemented fully. This mechanism must be in place prior to any surface disturbance. A permanent endowment fund shall be established for this project. The principal shall not be used and shall be non-wasting. The interest from this fund shall be adequate to maintain, manage and monitor the on-site and off-site preserve resources in perpetuity consistent with the draft MHCP guidelines. In the event that the organization responsible for management of the habitat is financially unable to maintain the property for whatever reason, the endowment funds and management responsibility shall be transferred to another like organization as approved by the Service and the Corps for interim or permanent management. The Service shall confer with the applicant to ensure that the establishment of the funding mechanism is proceeding in a manner acceptable to the Service. An endowment must be established and proof submitted to the Service prior to commencement of ground disturbing activities.
  - 3.5. The project proponent, in coordination with the Corps and the Service, shall designate an experienced natural lands manager to implement the HMP.

## **REPORTING REQUIREMENTS**

In order to demonstrate compliance with this Biological Opinion, for the duration of construction, KB Home, or its designated contact, shall submit to an annual report to the Service

that describes and summarizes the implementation of the proposed project and its associated conservation measures.

**Disposition of Sick, Injured, or Dead Specimens:** The Service's Carlsbad Office is to be notified within three working days should any endangered or threatened species be found dead or injured during this project. Notification must include the date, time, and location of the carcass, and any other pertinent information. Dead animals may be marked in an appropriate manner, photographed, and left on-site. Injured animals should be transported to a qualified veterinarian. Should any treated animals survive, the Service should be contacted regarding the final disposition of the animals. The Service contact person is Janet Stuckrath. She may be contacted at the letterhead address or at (760) 431-9440.

The Service retains the right to access and inspect the project site for compliance with the proposed project description and with the terms and conditions of this biological opinion. Any habitat destroyed that is not in the identified project footprint should be disclosed immediately to the Service for possible reinitiation of consultation. Compensation for such habitat loss will be requested at a minimum ratio of 5:1.

### **CONSERVATION RECOMMENDATIONS**

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. We recommend that prior to issuance of the Corps permit, and as part of the annexation process, an agreement should be reached between the County, City, Service, Department, and the project proponent to ensure that development of the annexed land proceeds in accordance with the conservation goals of the NC MSCP and MHCP, and sets forth the resulting responsibilities pursuant to the NC MSCP and MHCP for ongoing maintenance and enforcement of the terms of this agreement and the two regional plans as they relate to the annexed land.
2. We recommend that monitoring and, when necessary, control of brown-headed cowbirds (*Molothrus ater*) should be included in the long-term management/monitoring plan for the preservation areas.
3. Because of the regional planning efforts that are underway and the fact that San Marcos has used its 5 percent take of coastal sage scrub habitat allotted under the 4(d) Rule of the Act, we recommend that the annexation not proceed until an approved NC MSCP Plan has been adopted for this area.

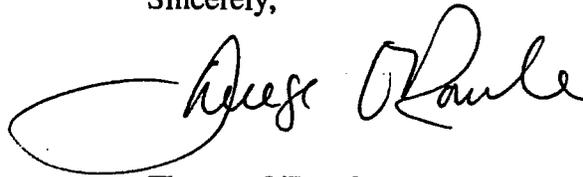
In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

### REINITIATION NOTICE

This concludes formal consultation on the San Marcos Highlands outlined in the March 2005 project description. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

A complete administrative record for this consultation is on file at the Carlsbad Fish and Wildlife Office. If you have any questions or concerns about this biological opinion, please contact Janet Stuckrath of my staff at (760) 431-9440 extension 270.

Sincerely,

A handwritten signature in black ink, appearing to read "Therese O'Rourke". The signature is written in a cursive style with a large, looping initial "T".

Therese O'Rourke  
Assistant Field Supervisor

Enclosures (2)

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