CALIFORNIA
DEPARTMENT OF FISH AND GAME

FINDINGS OF FACT

Under the
CALIFORNIA ENVIRONMENTAL QUALITY ACT
and the
NATURAL COMMUNITY CONSERVATION PLANNING ACT

AND

NATURAL COMMUNITY CONSERVATION PLAN

PERMIT
(2810-2011-001-05)

for the

San Diego County Water Authority
Natural Community Conservation Plan

December 2011

TABLE OF CONTENTS

1.0 INTRODUCTION

This document sets forth findings and the approval of the California Department of Fish and Game (CDFG) for the San Diego County Water Authority (Water Authority) Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP). In approving the NCCP/HCP as provided for in the California Natural Community Conservation Planning Act, California Fish and Game Code Sections 2800-2835[1] (NCCPA), CDFG is acting as a responsible agency under the California Environmental Quality Act, Public Resources Code Section 21000 et seq. (CEQA). Unless otherwise noted in this document, capitalized terms have the same definitions as in the NCCP/HCP.

1.1 The Natural Community Conservation Planning Act

The NCCPA provides for the preparation and implementation of large-scale natural resource conservation plans as an alternative to reviewing impacts of urban development on a project-by-project and species-by-species basis. A natural community conservation plan (NCCP) must provide for "the protection of habitat, natural communities, and species diversity on a landscape or ecosystem level" (§2820, subd. (a)(3)), while allowing "compatible and appropriate economic development, growth, and other human uses" (§2805, subd. (h)). When it approves an NCCP, CDFG may authorize the take of species whose conservation and management is provided for in the NCCP, including species listed as endangered, threatened, or candidate under the California Endangered Species Act, Section 2050 et seq. (CESA).

The NCCPA was originally enacted in 1991;[2] and was amended in 1993,[3] 1994,[4] 1996[5] and 2000.[6] The NCCPA was repealed and replaced in 2002 by Senate Bill (SB) 107,[7] which codified a number of CDFG's administrative standards and practices for NCCP development and implementation and added some new requirements, but exempted plans initiated before January 1, 2002, that were the subject of CDFG planning agreements (Grandfathered Plans; § 2830). Even though the Water Authority NCCP/HCP had been in continuous development since 1995 without a formal planning agreement, the passage of SB 107 inadvertently did not grandfather in the Water Authority NCCP/HCP as it did some other plans. The passage of SB 572[8] in July 2003, codified in Fish and Game Code, Section 2830(f), reconciled inconsistencies regarding the Water Authority NCCP process and changes made in 2002 to the NCCPA and effectively provided these grandfathering

---

[1] All further section references are to the Fish and Game Code, unless otherwise indicated.

[2] Statutes 1991, chapter 765, section 2, page 3424 (A.B. 2172).

[3] Statutes 1993, chapter 708, section 1, page 4034 (S.B. 755).

[4] Statutes 1994, chapter 220, section 1, page 1778 (S.B. 1352).

[5] Statutes 1996, chapter 593, sections 1 and 2, page 2702 (A.B. 3446).

[6] Statutes 2000, chapter 87, sections 1-3, page 1207 (S.B. 1679).

[7] Statutes 2002, chapter 4, sections 1 and 2, page 81 (S.B. 107). Minor housekeeping changes were subsequently enacted as part of S.B. 2052 (Stats. 2002, ch. 133, §§ 1 and 2, page 568).

[8] Statutes 2003, chapter 61, section 1, page 95 (S.B. 572)

provisions to the Water Authority, including the five percent incidental take provisions under Section 4(d) of the federal Endangered Species Act (ESA). Pursuant to Section 2830(f) of the NCCPA, the Water Authority NCCP/HCP shall:

- Be consistent with the approved San Diego Multiple Species Conservation Program (MSCP) or Multiple Habitat Conservation Program (MHCP), and have been developed and be otherwise in conformance with the NCCPA;

- Facilitate independent scientific review of the Conservation Analysis by establishing a panel of Independent Science Advisors with a focus on those species which are proposed for coverage under the NCCP/HCP and that are not otherwise covered by the MSCP or MHCP; and,

- Document coverage of all species at a level of detail equal to or greater than that of other subregional habitat planning, such as the MSCP or MHCP.

Provided CDFG finds that the NCCP/HCP meets the above requirements under Section 2830(f) and has been developed and is otherwise consistent with the NCCPA, the Water Authority shall be "exempt from Section 2810, and paragraph (1) of subdivision (a) of Section 2820, except as provided in paragraph (2)" (§2830, subd. (f)(1)), which require preparation of a formal planning agreement.

1.2. San Diego County Water Authority Natural Community Conservation Plan/Habitat Conservation Plan

The NCCP/HCP provides a coordinated process for permitting and mitigating the take of Covered Species resulting from Covered Activities as an alternative to the traditional project-by-project permitting approach. The NCCP/HCP has been prepared as an NCCP pursuant to the California NCCPA of 2003, and as an HCP pursuant to Section 10(a)(1)(B) of the federal Endangered Species Act (ESA). Upon approval of the NCCP/HCP, the United States Fish and Wildlife Service (USFWS) and CDFG can authorize the take of certain listed species and other species of concern, subject to the terms of coverage under the NCCP/HCP.

The proposed NCCP/HCP was prepared by the San Diego County Water Authority (Water Authority). The Water Authority was established following passage of the County Water Authority Act of 1943 by the California legislature. The mission of the Water Authority is to provide a safe and reliable supply of water to approximately three million people who live and work in the San Diego region. To accomplish this mission, the Water Authority must maintain and operate existing facilities, plan and construct new facilities, and respond to projected future regional water demands.

The purpose and need of the proposed NCCP/HCP are to increase the level of certainty regarding mitigation and endangered species permitting so that the Water Authority can efficiently fulfill its mission, including the need to conduct construction, operations and maintenance (O&M), and rights-of-way activities. This will be accomplished by

implementing a streamlined approach to project permitting and environmental compliance for Water Authority activities and a comprehensive approach to conservation of Covered Species and habitat, which will improve the efficiency and effectiveness of Water Authority conservation efforts. This NCCP/HCP will function independently of, but is intended to complement, existing regional habitat conservation plans within the region and may serve as a framework document to assist other Water Authority Member Water Agencies to participate in the NCCP/HCP process.

The Water Authority Service Area extends over 920,463 acres of western San Diego County and encompasses the Service Areas of its Member Water Agencies and in-holding Service Areas of non-Member Agencies. The Water Authority also has interests in southwestern Riverside County where Metropolitan Water District (MWD) existing pipelines and future pipeline extensions carry water from Lake Skinner to their delivery points in San Diego County. The Plan Area (or Permit Area) is an area of approximately 992,000 acres in western San Diego and southwestern Riverside counties for which take authorization will be granted. Given the wide distribution of Water Authority interests and activities, the Plan Area encompasses the Service Area and those lands that extend northward into Riverside County within a one-mile area on each side of the First and Second Aqueducts originating at Lake Skinner and Diamond Valley Reservoir, as well as a one-mile area on each side of the rights-of-way, and exterior boundaries of other facilities within San Diego County that are outside the Service Area boundary. The portion of the Plan Area in Riverside County, excluding the Pipeline 6 Alternative Alignments, is designated as a Major Amendment Area and no take of Covered Species is proposed in this area under the NCCP/HCP. Future Covered Activities within the Major Amendment portion of the Plan Area will be processed as Major Amendments.

Within the Plan Area, the Water Authority has identified a Survey Area and Probable Impact Zone (PIZ). The nature of the Water Authority's water supply system dictates that Planned and Future Projects and O&M Activities will be mostly located along or close to the system's rights-of-way and other infrastructure. The Survey Area encompasses existing facilities and lands owned by or under the control of the Water Authority, including infrastructure rights-of-way (with and without underlying fee ownership), MWD's rights-of-way originating at Lake Skinner and Diamond Valley Reservoir that serve San Diego County, and a one-mile area on each side of rights-of-way and facilities. The Survey Area covers 272,648 acres and is defined as the area within the NCCP/HCP where the proposed Covered Species' are expected or likely to exist and where take potentially could occur. The majority of Covered Activities under the proposed NCCP/HCP would occur in the PIZ (approximately 64,600 acres), which lies within the Survey Area and covers a 1,000 foot buffer area around existing Water Authority infrastructure and within associated rights-of-way.

The NCCP/HCP identifies Covered Activities that may result in the take of Covered Species and their habitat. Covered Activities serve a public need (providing a safe and reliable water supply) and are considered covered when implemented by the Water Authority in conformance with the NCCP/HCP, Implementing Agreement, and this NCCP Permit (Permit). Covered Activities are organized into the following categories: (1) Capital Improvement Program (CIP) Projects – includes the construction of Planned

or Future projects and the expansion of existing facilities; (2) Operations and Maintenance (O&M) – includes activities essential to operating, maintaining, and repairing Water Authority facilities and ancillary infrastructure; and (3) Preserve Area Management, Monitoring, and Adaptive Management. The NCCP/HCP addresses only Water Authority projects which are not covered by any other plan or permit. Future Projects and/or Activities proposed outside the Survey Area/PIZ, or which increase take beyond that analyzed and permitted under the approved NCCP/HCP, are subject to the amendment process for take coverage.

To address potential impacts to sensitive species and habitat associated with existing and future installation, use, maintenance, expansion, and repair of water storage, treatment, and delivery systems, the Water Authority NCCP/HCP proposes to cover 63 species (26 plants, 5 invertebrates, 2 amphibians, 9 reptiles, 13 birds, and 8 mammals), 18 of which are considered Narrow Endemic species.

Within the 992,000-acre Plan Area, Covered Activities are estimated to impact up to 373 acres of habitat that will require mitigation. Additional impacts are expected to occur to disturbed habitats, agricultural lands, or non-native vegetation communities that do not require habitat-specific mitigation pursuant to the NCCP/HCP. Impacts to Covered Species and their habitats will be avoided, minimized, and/or mitigated pursuant to the conservation strategy and protection policies set forth in the NCCP/HCP. All of the mitigation land anticipated to be needed to offset the estimated impacts from Covered Activities has been acquired and conserved (including secured funding for management) by the Water Authority in advance of NCCP permit issuance. This Preserve Area was assembled primarily by conserving lands that complement and augment existing core preserves and linkages, and support regional conservation planning efforts.

The Preserve Area consists of the combined area of the Habitat Management Areas (HMAs) and includes three existing upland properties and one wetland property, with two more wetland creation projects in process (approximately 1,920 acres total). Although purchased by the Water Authority, the perpetual management of the Preserve Area has been transferred to CDFG or USFWS (collectively referred to as the Wildlife Agencies) or local land use agencies along with funded endowments. The Preserve Area contains over 700 acres that are available or will be created to be used as mitigation credits (e.g., suitable and/or occupied habitat) to compensate for impacts from Covered Activities. While not part of the Preserve Area, the Water Authority has also permanently protected approximately 1,147 acres of regionally important habitat lands, known as Managed Mitigation Areas (MMAs). MMAs are lands that were acquired by the Water Authority to mitigate previous projects. These lands were strategically selected with consideration for regional preserve design and represent the Water Authority's long-standing commitment to regional conservation planning efforts. The MMAs provide baseline conservation associated with this NCCP/HCP, but do not have acres or credits available for future mitigation requirements.

Because the NCCP/HCP covers a large and varied area, and the distributions of the Covered Species vary within the Plan Area, not all of the Covered Species are present at each HMA. However, the locations of the HMAs throughout San Diego County support

a diversity of conserved vegetation and Covered Species, and together they contain many of the diverse habitats and Covered Species that are expected to be impacted by the Covered Activities. Additional habitat lands that support Covered Species may be acquired to provide/augment conservation for certain species, if needed, to address impacts from Covered Activities.

The stated overall goal of the NCCP/HCP is to enhance and maintain biological diversity and ecosystem processes while providing a safe and reliable water supply to the San Diego region. The NCCP/HCP identifies measures to conserve habitat and to minimize and compensate for impacts with the intent that Water Authority actions would not appreciably reduce the survival and recovery of federally and/or state-listed, candidate, or otherwise Covered Species. In addition, the NCCP/HCP aims to provide substantive conservation measures which will contribute to the recovery of the listed Covered Species and the overall conservation of unlisted Covered Species. Monitoring and adaptive management of the Preserve Area will be implemented to ensure that the Water Authority is in compliance with requirements of the NCCP/HCP, to measure the effectiveness of the conservation strategy, and to provide additional information that will help direct or redirect conservation actions to benefit the Covered Species.

The permit term for the NCCP/HCP is 55 years. Throughout the permit term, the Water Authority will monitor the implementation of the NCCP/HCP and report to the CDFG and USFWS on an annual basis. Implementation of the NCCP/HCP will be funded through existing financial management policies and programs maintained by the Water Authority (e.g., CIP Mitigation Program, individually approved CIP project budgets, and/or the annual operating budget of the Water Resources Department, and Preserve Area endowment funds).

1.3 Implementing Agreement

CDFG plans to execute an Implementing Agreement (IA) with USFWS and the Water Authority concurrently with its issuance of this Permit. Issuance of the Permit and CDFG's execution of the IA will together constitute CDFG's approval of the NCCP/HCP (NCCP Approval). The IA is designed to ensure the implementation of the NCCP/HCP, to bind each party to the terms of the NCCP/HCP, and to provide remedies and recourse for failure to adhere to the terms of the NCCP/HCP. This NCCP Permit specifically applies to the NCCP/HCP as implemented pursuant to the IA.

CDFG finds that the NCCP/HCP and IA provide the necessary assurances that the NCCP/HCP will be carried out by the Water Authority. By accepting their NCCP Permit, the Water Authority is bound to fully implement the provisions of the NCCP/HCP in accordance with the IA and the Permit.

2.0 ADMINISTRATIVE RECORD OF PROCEEDINGS

For purposes of these findings, the administrative record of proceedings for CDFG's discretionary issuance of this NCCP Permit consists, at a minimum, of the following documents:

- Any NCCP/HCP related materials prepared by the Water Authority and submitted to CDFG;

- Any staff reports and related non-privileged documents prepared by CDFG with respect to its compliance with CEQA and with respect to the issuance of an NCCP Permit for the NCCP/HCP;

- Any written testimony or documents submitted by any person to CDFG relevant to these findings and CDFG's discretionary actions with respect to the NCCP/HCP;

- Any notices issued to comply with CEQA, the NCCPA, or with any other law relevant to and governing the processing and approval of this NCCP Permit by CDFG;

- Any written comments received by CDFG in response to, or in connection with, environmental documents prepared for this project;

- All written evidence or correspondence submitted to, or transferred from, CDFG with respect to compliance with CEQA and with respect to the NCCP/HCP;

- Any proposed decisions or findings related to the NCCP/HCP submitted to CDFG by its staff, the Water Authority, NCCP/HCP supporters and opponents, or other persons;

- The documentation of the final decision by CDFG, including all documents cited or relied on in these findings adopted pursuant to CEQA and the NCCPA;

- The documentation of the final decision by USFWS associated with Permit Number # TE03216A-0 (September 29, 2011), including all documents adopted or approved pursuant to NEPA and the ESA.

- Any other written materials relevant to CDFG's compliance with CEQA or CDFG's decision on the merits with respect to the NCCP Permit for the NCCP/HCP, including any draft environmental documents that were released for public review, and copies of studies or other documents relied upon in any environmental document prepared for the project and either made available to the public during a public review period or included in CDFG's files on the NCCP/HCP, and all non-privileged internal agency communications, including staff notes and memoranda related to the NCCP/HCP or compliance with CEQA;

- Matters of common knowledge to CDFG, including but not limited to federal, state, and local laws and regulations; and,

- Any other materials required to be in CDFG's administrative record of proceedings by Public Resources Code Section 21167.6, subdivision (e).

The custodian of the documents comprising the administrative record of proceedings is the California Department of Fish and Game, located at 1416 Ninth Street, Sacramento, California 95814. All related inquires should be directed to the Department's Office of the General Counsel at (916) 654-3821.

CDFG has relied on all of the documents listed in this section in exercising its independent judgment and reaching its decision with respect to the NCCP/HCP, even if every document was not formally presented to CDFG or its staff as part of the CDFG files generated in connection with the NCCP/HCP. Without exception, any documents set forth above not found in CDFG's files for the NCCP/HCP fall into one of two categories. Certain documents reflect prior planning or legislative decisions of which CDFG was aware in approving the NCCP/HCP. (See *City of Santa Cruz v. Local Agency Formation Comm.* (1978) 76 Cal.App.3d 381, 391-392; *Dominey v. Department of Personnel Administration* (1988) 205 Cal.App.3d 729, 738, fn. 6.) Other documents influenced the expert advice of CDFG staff, who then provided advice to the decision-makers at CDFG with respect to the NCCP Permit for the NCCP/HCP. For that reason, such documents form part of the underlying factual basis for CDFG's decision related to the NCCP/HCP. (See Pub. Resources Code, 21167.6, subd. (e)(10); *Browning-Ferris Industries v. City Council of City of San Jose* (1986) 181 Cal.App.3d 852, 866; *Stanislaus Audubon Society, Inc. v. County of Stanislaus* (1995) 33 Cal.App.4th 144, 153, 155).

3.0 FINDINGS UNDER CEQA

3.1 Environmental Documents

The San Diego County Water Authority (Water Authority) is the lead agency under the California Environmental Quality Act, Public Resources Code Section 21000 *et seq.* (CEQA) for purposes of the NCCP/HCP and has completed environmental review and approval of the NCCP/HCP. (See generally Pub. Resources Code, § 21067; CEQA Guidelines, § 15367.) The Water Authority analyzed the environmental effects of implementing the NCCP/HCP.

Pursuant to CEQA and the CEQA Guidelines, Code of California Regulations, Title XIV, Section 15000 *et seq.*, the Water Authority determined that an Environmental Impact Report consisting of a Draft EIR, a Final EIR and all the appendices (EIR) would be prepared for the Proposed Project. CDFG concurs with that determination.

The Water Authority as lead agency has prepared a Final *San Diego County Water Authority NCCP/HCP* that was approved on December 9, 2010 and a Final Environmental Impact Report and Environmental Impact Statement (EIR/EIS) that was certified by the Water Authority on December 9, 2010. The State Clearinghouse Number for the EIR is SCH No. 2003121012. The purpose of the joint EIR/EIS is to evaluate the potential for environmental effects from the adoption and implementation of the NCCP/HCP and the issuance of take permits for species pursuant to Section 2800, et seq., of the NCCPA. It also evaluates the potential for environmental effects of the issuance of take authorizations pursuant to Section 10(a)(1)(B) of federal ESA. In analyzing and

approving the NCCP/HCP and certifying the EIR/EIS, the Water Authority, as the lead agency, "consider[ed] the effects, both individual and collective, of all activities involved in [the] project." (Pub. Resources Code, § 21002.1, subdivision (d)).

The Water Authority issued a Notice of Preparation (NOP) of an EIR for the NCCP/HCP on November 28, 2003. The NOP was published in several regional newspapers, including the *San Diego Union-Tribune*, *San Diego Transcript*, and the Coastal and Inland editions of the *North County Times*. In addition, an NOP was filed with the County of San Diego Recorder/County Clerk on December 3, 2003, and submitted to the State Clearinghouse in the Office of Planning and Research at the State of California, which distributed the NOP to various state government agencies.

On December 11, 2003, the Water Authority, USFWS, and CDFG held a public scoping meeting to solicit public comments during the 30-day NOP public scoping period. The meeting was advertised in the NOP. In response to this scoping process, one letter of comment was received and three people spoke at the public meeting. Issues and concerns raised through the public involvement and scoping process contributed to the development of the overall scope of the EIR, in conjunction with an evaluation of the potential for significant impacts on the affected environment.

Upon completion of the Draft EIR, the Water Authority filed a Notice of Availability (NOA) in compliance with CEQA with the State Clearinghouse. The NOA was published in several regional newspapers, including the *San Diego Union-Tribune*, and *North County Times* in San Diego County, and *The Press-Enterprise* in Riverside County. The Water Authority distributed the NOA and the EIR to interested agencies, organizations, and individuals for review and comment and made the EIR available at public libraries for public review. The public review period was March 4, 2010 to June 3, 2010. The Water Authority also held two public hearings during the review period, one in the south part of the county (Water Authority Headquarters, in the City of San Diego) on March 17, 2010 and one in the north part of the county (City Hall, in the City of Escondido) on March 18, 2010. Due to the large geographic range of the proposed project, two public hearings were held to maximize the opportunity for public participation. CDFG reviewed the Draft EIR.

The Water Authority received seven written comments and no public testimony on the Draft EIR during the public review period. The Water Authority and USFWS prepared responses to comments on environmental issues, and made changes to the Draft EIR. The responses to comments, changes to the Draft EIR and additional information were published in the Final EIR on October 2010. CEQA Guidelines Section 15088.5 requires a lead agency to recirculate an EIR for further review and comment when significant new information is added to the EIR after public notice is given of the availability of the draft EIR but before certification. The Water Authority found that the Final EIR did not contain significant new information and that recirculation of the EIR therefore was not required. CDFG reviewed the Final EIR.

The San Diego County Water Authority Board of Directors (Board) certified the EIR, adopted findings and a Mitigation Monitoring and Reporting Plan (MMRP), and

approved the NCCP/HCP on December 9, 2010. The Water Authority filed a Notice of Determination (NOD) related to these actions on December 10, 2010 at the office of the County of San Diego Recorder/County Clerk, and on December 16, 2010 at the office of the County of Riverside County Clerk.

CDFG has prepared these findings to comply with CEQA. CDFG is a responsible agency under CEQA with respect to the NCCP/HCP because of its authority under the NCCPA. (See generally Pub. Resources Code, §§ 21002.1, subd. (d) and 21069; CEQA Guidelines, § 15381; see also Cal. Code Regs., tit. 14, § 783.3, subd. (a).) CDFG accordingly makes the findings that appear in Section 3.5, below, under CEQA as part of its discretionary decision to approve the NCCP/HCP and authorize take of species whose conservation and management is provided for in the NCCP/HCP. These findings pertain to the Proposed Project and the EIR prepared for the Proposed Project (SCH No. 2003121012). The Draft EIR, the Final EIR, and all the appendices comprise the EIR referenced in these findings.

3.2 CEQA Findings Requirement

CEQA requires public agencies to adopt certain findings before approving a project for which an EIR was prepared. The findings that appear below are intended to comply with the CEQA mandate that no public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant effects thereof unless the agency makes one or more of the following findings (Public Resources Code Section 21081, subdivision (a), CEQA Guidelines Section 15091, subdivision (a); see also CEQA Guidelines Section 15082, subdivision (b)(2)):

(1) Changes or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects on the environment;

(2) Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency; or

(3) Economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the EIR.

These findings are also intended to comply with the requirement that each finding made by CDFG be supported by substantial evidence in the administrative record and be accompanied by a brief explanation of the rationale for each finding. (*Id.*, § 15091, subds. (a) and (b); see also Discussion following CEQA Guidelines, § 15091.) To that end, these findings provide the written, specific reasons supporting CDFG's decisions under CEQA as they relate to the approval of the NCCP/HCP under the NCCPA.

Because CDFG adopts these findings as a responsible agency, the scope of these findings and CDFG's analysis under CEQA are more limited than that of the lead agency. (Pub.

Resources Code, §§ 21102.1, subd. (d) and 21167.2; CEQA Guidelines, § 15096, subds. (f)-(h); Cal. Code Regs., tit. 14, §§ 783.3, subd. (a) and 783.5, subd. (c).) In its capacity as a responsible agency, CDFG is also bound by the legal presumption that the EIR certified by the Water Authority fully complies with CEQA. (CEQA Guidelines, § 15096, subd. (e)(1)-(2); *City of Redding, v. Shasta County Local Agency Formation Com (1989)*, 209 Cal.App.3d 1169, 1178-1181; see also Pub. Resources Code, § 21167.2; *Laurel Heights Improvement Association, v. Regents of the University of California (1993)*, 6 Cal.4th 1112, 1130.) In fact, CDFG is bound by the presumption of adequacy, except in extremely narrow circumstances. (Pub. Resources Code, § 21167.2; CEQA Guidelines, § 15096, subds. (e) and (f).) CDFG concludes such circumstances do not exist in the present case based on substantial evidence in its administrative record for the NCCP Permit.

3.3 Scope of CEQA Findings

CDFG is a responsible agency under CEQA for purposes of approving the NCCP/HCP because of its authority under NCCPA and the lead agency's prior actions with respect to the project. As a responsible agency, CDFG's CEQA obligations are more limited than those of the lead agency. (CEQA Guidelines, § 15096, subd. (g)(1).) CDFG, in particular, is "responsible for considering only the effects of those activities involved in [the] project which it is required by law to carry out or approve." (Pub. Resources Code, § 21002.1, subd. (d).) Thus, while CDFG must "consider the environmental effects" of the NCCP/HCP as disclosed in the environmental documents described above, CDFG "has responsibility for mitigating or avoiding only the direct or indirect environmental effects of those parts of the project which it decides to carry out, finance, or approve." (CEQA Guidelines, § 15096, subds. (f), (g)(1).) Accordingly, because CDFG's exercise of discretion is limited to approval of the NCCP/HCP and associated take authorizations, CDFG is responsible for considering only the environmental effects that fall within its authority under the NCCPA.

CDFG's more limited obligations as a responsible agency affect the scope of, but not the obligation to adopt, findings required by CEQA. Findings are required by each public agency that approves a "project for which an environmental impact report has been certified which identifies one or more significant effects on the environment [.]" (Pub. Resources Code, § 21081, subd. (a); CEQA Guidelines, § 15091, subd. (a); see also Pub. Resources Code, § 21068 ("significant effect on the environment defined"); CEQA Guidelines, § 15382 (same).) Because the Water Authority certified the EIR in approving the NCCP/HCP, the obligation to adopt findings under CEQA necessarily applies to CDFG as a responsible agency. (CEQA Guidelines, § 15096, subd. (h); *Resource Defense Fund v. Local Agency Formation Comm. of Santa Cruz County* (1987) 191 Cal.App.3d 886, 896-898.)

The specific provision of the CEQA Guidelines addressing the responsible agency findings obligation is Section 15096, subdivision (h). That section provides, in pertinent part, that a "responsible agency shall make the findings required by Section 15091 for each significant effect of the project and shall make the findings in Section 15093 if necessary." (CEQA Guidelines, § 15096, subd. (h).) The scope of this charge in the

guidelines is governed by statutory language concerning the extent of responsible agency decision making authority under CEQA. As noted above, the controlling statute provides that a "responsible agency shall be responsible for considering only the effects of those activities involved in a project which it is required by law to carry out or approve." (Pub. Resources Code, § 21002.1, subd. (d).) The same section underscores that the more limited scope of review for responsible agencies necessarily "applies only to decisions by a public agency to carry out or approve a project[.]" (*Ibid.*)

3.4 Legal Effect of the CEQA Findings

These findings are not merely informational. To the extent CDFG relies on implementation of particular measures to make a necessary finding under NCCPA, those measures constitute a binding set of obligations that take effect when CDFG approves the NCCP Permit for the NCCP/HCP. CDFG believes that all mitigation and conservation measures that it has relied on for purposes of its findings are separately required under the NCCP/HCP or the Implementing Agreement, or are express conditions of this NCCP Permit. Consequently CDFG does not anticipate that as a practical matter these findings, in and of themselves, will increase obligations of those operating under authority of this NCCP Permit.

3.5 CEQA Findings Regarding Potentially Significant Environmental Effects

The NCCP/HCP's Final EIR/EIS analyzed the following impacts: biological resources, water resources and water quality, land use, public services and utilities (water distribution), socioeconomics, environmental justice, and the cumulative impacts associated with the overall NCCP/HCP (Sections 4 and 6, Volume I: Final EIR/EIS). Issues deemed to be not as significant and therefore not selected for detailed analysis included: aesthetics, air quality/climate change, agricultural resources, cultural resources, geology and soils, hazardous materials, housing/population, mineral and energy sources, noise, recreation, and transportation/circulation (Section 7, Volume I: Final EIR/EIS).

The following alternatives were analyzed in detail in the Final EIR/EIS. Alternative 1 (No Action/Project) describes the current process for carrying out Water Authority projects and activities. Without an approved NCCP/HCP in place, the Water Authority would continue to pursue take authorizations for construction, O&M, and rights-of-way activities on a project-by-project basis, which represents a piecemeal approach to conservation and mitigation. Alternative 2 (Proposed Plan) provides an overview of the NCCP/HCP, which was developed in order to provide greater certainty as it relates to environmental permitting and regional conservation. The Water Authority would continue to comply with existing commitments (e.g., Biological Opinions (BO), planning documents, and environmental programs), but would provide comprehensive conservation to species and their habitats. Alternative 3 (Full Species List) is similar to Alternative 2 in that the Water Authority would implement the NCCP/HCP prepared for the Plan Area; however, Alternative 3 would make it possible for the Water Authority to receive coverage under the NCCP/HCP for an expanded list of species. Finally, Alternative 4 (Reduced Plan Area) would call for a reduced Plan Area that only

encompasses the PIZ and a reduced species list that covers only those species that are known to occur in the PIZ.

The Final EIR/EIS identifies several potentially significant environmental impacts that would result with implementation of the NCCP/HCP and/or alternatives. The Water Authority concluded as the lead agency for the project under CEQA that the measures in the NCCP/HCP would reduce all identified impacts to below a level of significance.

The EIR/EIS reiterates some of the information found in the NCCP/HCP and does incorporate by reference the conservation, mitigation, and minimization and avoidance measures included with the NCCP/HCP. Section 6 of the NCCP/HCP discussed in detail specific avoidance and minimization measures designed to avoid and/or minimize potential impacts to biological resources and to provide appropriate mitigation where impacts are unavoidable to ensure the protection and conservation of Covered Species and their habitats. Avoidance and minimization measures that will be applied to all activities covered by the NCCP/HCP include, but are not limited to: (1) personnel training; (2) pre-activity surveys; (3) construction site monitoring; (4) facility siting guidelines; (5) species-specific take avoidance and minimization measures (e.g., avoidance buffers, breeding season avoidance); and (6) best management practices.

Impacts to Covered Species under the NCCP/HCP are generally off-set through a combination of conservation and management of occupied/suitable habitat within the Preserve Area, conservation of known locations of Covered Species, and/or through a variety of avoidance or conservation actions intended to benefit particular species. The mitigation commitments for many of the Covered Species will be provided by the use of habitat credits available at the Preserve Area, which supports key vegetation communities used by a number of the Covered Species. For Covered Species whose presence has not been documented in the Preserve Area, coverage will require demonstration that certain general conditions listed in Appendix B, Section 2.1, are met, as well as implementation of the species-specific criteria identified for that species (see Appendix B of the NCCP/HCP). If the Water Authority does not currently have or cannot document the presence of a Covered Species in the Preserve Area, the Water Authority may acquire suitable habitat or purchase credits within established mitigation banks that support and provide active management for the species. Under some circumstances, restoration or contribution to a regional conservation efforts or species-specific management programs may also be considered.

In addition, the Water Authority developed several policies to further ensure the protection of sensitive species and habitats. These policies include a Narrow Endemic Policy (Section 6.5.1.6 of the NCCP/HCP), Habitat Restoration Program (Sections 6.6.1 and 6.6.2 of the NCCP/HCP), Wetland Protection and Mitigation Program (Section 6.7 of the NCCP/HCP), and Vernal Pool Protection Policy (Section 6.7.3.1 of the NCCP/HCP). Each of these policies is described in detail in Section 6 of the NCCP/HCP and summarized below.

Narrow Endemic Policy. Narrow endemic species are species that are considered to have highly restrictive habitat requirements, localized soil requirements, or other constraining

ecological factors. Narrow endemic species may have limited but important populations within the Plan Area, such that substantial loss of these populations or their habitat would jeopardize continued existence or recovery within the Plan Area. The Narrow Endemic Policy applies to 16 plant species and 5 animal species identified as narrow endemics in Table 6-3 of the NCCP/HCP. The policy sets forth mitigation measures for narrow endemics including, but not limited to, avoiding, minimizing and mitigating impacts to populations of narrow endemic species to the maximum extent practicable. For new projects, an 80 percent avoidance requirement will apply, excluding existing Water Authority rights-of-way (including easements and fee-owned parcels). This requirement means that for plant species, 80 percent of the species' mapped distribution area will be avoided; for animal species, 80 percent of the mapped occupied and/or suitable habitat will be avoided. Covered Projects that cannot meet the 80 percent avoidance policy due to site and/or planning constraints will implement a Wildlife Agency-approved biologically equivalent or superior alternatives, designed to achieve a no-net-loss of narrow endemic populations, occupied acreage, and/or Covered Species' population status as determined in consultation with the Wildlife Agencies.

Habitat Restoration Program. Restoration is the reestablishment of natural/native species and processes. Restoration expedites natural regeneration through the use of planting, seeding, transplanting, and salvaging techniques. Per the NCCP/HCP, habitat restoration may occur as a partial mitigation response to address permanent impacts, recurring temporary impacts (in conjunction with providing off-site qualifying habitat), and one-time temporary impacts. Where the restoration is providing partial mitigation for permanent impacts and mitigating one-time temporary impacts, the restoration effort will emulate surrounding vegetation characteristics. Restoration of recurring-impact sites will ensure that the restored site does not revert to a disturbed or invasive, non-native species-dominated condition.

Wetland Protection and Mitigation Program. Impacts to waters and wetlands mainly occur when the Water Authority conducts activities on linear facilities that pass through wetlands, with the exception of surface reservoirs. Where development projects are proposed in or near wetlands, the Water Authority would show that impacts to waters and wetland habitats have been avoided and minimized to the greatest extent feasible. For unavoidable permanent impacts to wetland habitat types, the Water Authority will compensate in accordance with the ratios to achieve the no-net loss standards. Compensatory mitigation will be provided within the wetland habitat of the Preserve Area or, if not yet installed, a site approved by the Wildlife Agencies and United States Army Corp of Engineers (ACOE; if warranted), thereby achieving an overall no-net-loss of wetland functions and values. The Wetland Protection and Mitigation Program (Wetland Program) will ensure adequate mitigation based upon habitat type to address Federal and/or State regulatory obligations.

Vernal Pool Protection Policy. If a vernal pool has the potential to be impacted by Covered Activities, the NCCP/HCP provides measures to establish the boundaries of the vernal pool and its watershed and ensure no permanent impacts to vernal pool complexes will occur. The Vernal Pool Protection Policy measures included in the NCCP/HCP

require temporary impacts or unavoidable permanent impacts to vernal pools be mitigated in-kind in consultation with the Wildlife Agencies.

Against this backdrop, this section presents CDFG's responsible agency findings with respect to the potentially significant environmental effects authorized by CDFG pursuant to the NCCP Permit issued to the Water Authority under NCCPA. The NCCP Permit includes the 63 listed and non-listed species referred to collectively as Covered Species in the NCCP/HCP and the EIR/EIS. The take of Covered Species is allowed upon permit issuance. The list of 63 Covered Species is found in Table 6-1 of the NCCP/HCP.

CDFG hereby makes the following findings under CEQA with respect to the effects of proposed take on each Covered Species (organized by their primary natural community association) by the NCCP/HCP project as authorized under the NCCPA.

CDFG CEQA Findings

Impact 3.5.1 **Approval of the NCCP/HCP authorized under the NCCP Permit could result in potentially significant adverse impacts on the following Covered Species primarily associated with vernal pool habitat:** thread-leaved brodiaea (*Brodiaea filifolia*), Orcutt's brodiaea (*Brodiaea orcuttii*), San Diego button-celery (*Eryngium aristulatum* var. *parishii*), spreading navarretia (*Navarretia fossalis*), San Diego mesa mint (*Pogogyne abramsii*), Otay mesa mint (*Pogogyne nudiuscula*), San Diego fairy shrimp (*Branchinecta sandiegonensis*), Riverside fairy shrimp (*Streptocephalus woottoni*), and western spadefoot toad (*Spea* [= *Scaphiopus*] *hammondii*).

Finding 3.5.1 **CDFG finds that conservation measures required in the NCCP/HCP will avoid or mitigate the potential significant impacts of the NCCP/HCP on Covered Species primarily associated with vernal pool habitat to below a level of significance. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)**

Explanation 3.5.1: CDFG finds that approval of the NCCP/HCP and issuance of the NCCP Permit could result in potentially significant impacts on certain vernal pool species and their habitat within the Plan Area due to Covered Activities which may permanently or temporarily adversely affect vernal pool habitat and allow take of Covered Species that utilize the habitat. The potential impact of the NCCP/HCP and NCCP Permit on individual vernal pool species is more specifically disclosed in Attachment 1 of this Permit, Appendix B (Conservation Analysis) of the NCCP/HCP, and Section 4, Volume I, of the EIR/EIS.

Occurrence in Plan Area

Vernal pools are unique, seasonal wetlands that include both road-rut vernal pools and naturally formed pools. Within the Plan Area, there are vernal pools identified as San

Diego mesa hardpan vernal pools and vernal lakes. This species group includes six plant species, two invertebrate species, and one amphibian species strongly associated with vernal pool habitat. According to specimen occurrence records available at the time the NCCP/HCP was developed, all of these species are known to occur within the Survey Area and all but two (Otay Mesa mint and Riverside fairy shrimp) have known occurrences within the PIZ. Of the Covered Species primarily associated with vernal pool habitat, only western spadefoot toad is known to occur within the Preserve Area.

Protection Policies and Conditions of Coverage

Impacts to vernal pools and their associated watersheds will be avoided and/or minimized in accordance with the Vernal Pool Protection Policy (see Section 6.7.3 of the NCCP/HCP). The Water Authority will attempt to use tunneling and facility location and design planning to avoid vernal pools/vernal pool habitat to the maximum extent feasible. For species in this group that may occur within wetland habitats other than vernal pools, habitat protection is afforded under the Wetland Program. The Wetland Program follows a process of avoidance, minimization, and if necessary, mitigation for any impacts which cannot be avoided, and provides for no net loss of wetland habitat (see Section 6.7 of the NCCP/HCP). Potential impacts to six of the eight species in this group (thread-leaved brodiaea, San Diego button-celery, spreading navarretia, San Diego mesa mint, Otay Mesa mint, and San Diego fairy shrimp) will also be avoided and/or minimized under the Narrow Endemic Policy. Per the Narrow Endemic Policy, populations of these species within the Plan Area will be avoided to the maximum extent practicable, with a minimum 80-percent avoidance for Planned and Future Projects, and mitigated to a biologically equivalent or superior alternative standard (see Section 6.5.1.6 of the NCCP/HCP).

Other conditions of coverage for species within this group include establishment of a habitat buffer around plant populations to support the natural suite of pollinators and to minimize encroachment of non-native species by limiting soil disturbance. In addition, focused surveys for the plant species (to be conducted during the appropriate blooming period to ensure proper identification) will be required prior to any proposed impacts. For San Diego fairy shrimp and Riverside fairy shrimp, USFWS protocol surveys will be conducted by a permitted biologist under favorable conditions in areas of suitable habitat for all new facilities and O&M activities. If surveys are not conducted, occupancy of potential habitat will be assumed. Species-specific conditions for western spadefoot toad include pre-activity surveys in areas of potential habitat, breeding season restrictions, and impact avoidance measures if work must be done in occupied breeding habitat during the breeding season. The pre-activity surveys are designed to ensure that these species are adequately addressed by both general and species-specific impact avoidance, minimization, and mitigation measures that have been incorporated into Section 6 and Appendix B, respectively, of the NCCP/HCP.

Potential Impacts

There are no acres of vernal pool habitat identified within the PIZ, although 24 acres of vernal pool habitat have been identified within the Survey Area. There is also potential for incidental take of the plant species in this group if they inhabit grassy areas of the rights-of-way near vernal pools and for the wildlife species if they inhabit road ruts on the rights-of-way near vernal pools. However, given the protection policies included in

the NCCP/HCP and the lack of vernal pool habitat within the PIZ, impacts to vernal pool habitat and species associated with vernal pools resulting from implementation of the NCCP/HCP and take authorized in the NCCP Permit are expected to be minimal, not exceeding 5 acres of vernal pool watershed. In addition, the majority of any direct and indirect impacts resulting from Covered Activities are anticipated to be temporary in nature. Potential impacts to vernal pools and their associated watersheds could result from direct removal of habitat, filling of pools, encroachment by invasive species, edge effects, or hydrological interruption.

Mitigation

The NCCP/HCP's Wetland Program, Vernal Pool Protection Policy, and Narrow Endemic Policy ensure measures specific to wetlands, vernal pools, and associated Covered Species that stress avoidance and minimization of impacts related to Covered Activities. The NCCP/HCP ensures no net loss of vernal pool and other wetland habitats. Pre-activity surveys will ensure that appropriate mitigation ratios and/or restoration requirements are identified and implemented as required through the applicable protection policies or other species-specific measures identified in the NCCP/HCP. Temporary impacts or unavoidable permanent impacts will be mitigated with conservation of in-kind habitat. Impacts to the species within this group will be mitigated with occupied habitat, unless a biologically superior conservation alternative, including, but not limited to, restoration and/or enhancement of habitat, contribution of funds to other regional conservation efforts, or species-specific management programs, is approved by the Wildlife Agencies. Where impacts to vernal pools supporting these species occur, mitigation may also include salvage of seeds, corms, and/or cysts to be included in any suitable vernal pool restoration.

Where the existing Preserve Area does not have sufficient credits of suitable and/or occupied habitat, the Water Authority will obtain the necessary credits or additional habitat to satisfy the vegetation community (and Covered Species) obligations by one or more of the following methods: obtaining credits from an approved conservation/wetland bank, acquiring additional habitat acreage to add to a Preserve Area, or providing a biologically superior alternative that is acceptable to the Wildlife Agencies. Furthermore, the NCCP/HCP provides for a stay-ahead commitment such that the available mitigation will be sufficient to meet the expected mitigation requirements, based on the two-year, approved CIP projects. The NCCP/HCP also requires annual reporting and monitoring requirements to track actual impacts against estimates provided in the NCCP/HCP.

The mitigation and conservation benefits that specific vernal pool species will derive from the NCCP/HCP are more specifically identified in Attachment 1 of this NCCP Permit, which is incorporated into these CEQA findings.

Summary of Finding

CDFG finds that its approval of the NCCP/HCP and its issuance of the NCCP Permit could result in significant impacts on these vernal pool species and their habitat from Covered Activities. Likewise, CDFG finds that conservation measures have been incorporated into the NCCP/HCP which mitigate or avoid the potential significant impacts on these species to below a level of significance. Key factors to this finding by

CDFG are the following: requirements for adaptive management of the Preserve Area for the benefit of these species; that wetland losses within the Plan Area result in a no-net-loss of vernal pool and wetland habitat; that any vernal pool habitat that is lost within the Plan Area will be replaced with in-kind resources; and that other impact avoidance, mitigation, and management measures in the NCCP/HCP and NCCP Permit will be implemented. CDFG notes that its finding under CEQA with respect to these species is consistent with the findings of the Water Authority on the same subject. CDFG's findings are based on the overall conservation strategy, species-specific minimization and avoidance measures, monitoring and management program, and species-specific conditions for coverage identified in the NCCP/HCP, particularly Section 6 and Appendix B.

Impact 3.5.2 **Approval of the NCCP/HCP authorized under the NCCP Permit could result in potentially significant adverse impacts on the following Covered Species primarily associated with clay microhabitats**: San Diego thorn-mint (*Acanthomintha ilicifolia*), Otay tarplant (*Deinandra conjugens*), variegated dudleya (*Dudleya variegata*), sticky-leaved dudleya (*Dudleya viscida*), and San Diego goldenstar (*Muilla clevelandii*).

Finding 3.5.2 **CDFG finds that conservation measures required in the NCCP/HCP will avoid or mitigate the potential significant impacts of the NCCP/HCP on Covered Species primarily associated with clay microhabitats to below a level of significance. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)**

Explanation 3.5.2: CDFG finds that approval of the NCCP/HCP and issuance of the NCCP Permit could result in potentially significant impacts on certain clay endemics and their habitat within the Plan Area due to Covered Activities which may permanently or temporarily adversely affect clay microhabitats and allow take of Covered Species that utilize the habitat. The potential impact of the NCCP/HCP and NCCP Permit on individual clay microhabitat species is more specifically disclosed in Attachment 1 of this Permit, Appendix B (Conservation Analysis) of the NCCP/HCP, and Section 4, Volume I, of the EIR/EIS.

Occurrence in Plan Area

Clay microhabitat species are comprised of several plant species that are highly restricted to a particular soil affinity and other specialized conditions, resulting in these species generally having very limited and localized populations within the Plan Area. They are not broadly distributed within a particular habitat type, and typically do not occur where there has been a moderate or higher level of disturbance, or where non-native species dominate the substrate. This species group includes five plant species strongly associated with clay microhabitats. According to specimen occurrence records available at the time the NCCP/HCP was developed, all of these species have known occurrences within both the Survey Area and the PIZ. Four of the five (San Diego thorn-mint, Otay tarplant, variegated dudleya, and San Diego goldenstar) are known or have the potential to occur

within the Preserve Area. Sticky-leaved dudleya is not known from, nor expected to occur within, the current Preserve Area.

Protection Policies and Conditions of Coverage

Three of the five species in this group (San Diego thorn-mint, Otay tarplant, and variegated dudleya) have been identified by the NCCP/HCP as Narrow Endemics. Therefore, potential impacts to those species will be avoided and/or minimized under the Narrow Endemic Policy. Per the Narrow Endemic Policy, populations of these species within the Plan Area will be avoided to the maximum extent practicable, with a minimum 80 percent avoidance for Planned and Future Projects, and mitigated to a biologically equivalent or superior alternative standard (see Section 6.5.1.6 of the NCCP/HCP). In addition, some of these clay soil associates are often found peripherally to vernal pools, and may therefore indirectly benefit from the conservation and protections afforded to vernal pool habitat through the Vernal Pool Protection Policy.

Other conditions of coverage for species within this group include establishment of a habitat buffer around populations to support the natural suite of pollinators and to minimize encroachment of non-native species by limiting soil disturbance. Focused surveys, to be conducted during the appropriate blooming period to ensure proper identification, for these species will be required prior to any proposed impacts. The pre-activity surveys are designed to ensure that the species are adequately addressed by both general and species-specific impact avoidance, minimization, and mitigation measures that have been incorporated into Section 6 and Appendix B of the NCCP/HCP.

Potential Impacts

Estimates of potential impacts to these species were based on vegetation data that do not necessarily identify or were not of adequate scale to detect clay microhabitat conditions (see Attachment 1). As a result, impact calculations were based on the larger vegetation community associations within which appropriate soil conditions may occur, e.g., various scrublands and grassland, and thus most likely represent an overestimate of potential impacts to these species. Actual impacts will be determined through pre-activity surveys prior to the implementation of Covered Activities. Potential impacts to clay microhabitats and their associated species from Covered Activities could include direct removal of habitat, soil disturbance, encroachment by invasive species, and edge effects.

Mitigation

Unavoidable permanent impacts to San Diego thorn-mint, Otay tarplant, and sticky-leaved dudleya will be mitigated with occupied habitat, unless a biologically superior conservation alternative, including, but not limited to, restoration and/or enhancement of habitat, contribution of funds to other regional conservation efforts, or species-specific management programs, is approved by the Wildlife Agencies. San Diego goldenstar is considered conserved at the San Miguel HMA, where it occurs in high densities within the perennial grassland. Variegated dudleya is also considered conserved at the San Miguel HMA. Mitigation for impacts to these two species will be habitat-based, pursuant to the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP. Finally, mitigation for impacts to clay endemics may also include salvage of propagules and restoration of the population in accordance with a Wildlife Agency-approved restoration plan.

Where the existing Preserve Area does not have sufficient credits of suitable and/or occupied habitat, the Water Authority will obtain the necessary credits or additional habitat to satisfy the vegetation community (and Covered Species) obligations by one or more of the following methods: obtaining credits from an approved conservation/wetland bank, acquiring additional habitat acreage to add to a Preserve Area, or providing a biologically superior alternative that is acceptable to the Wildlife Agencies. Furthermore, the NCCP/HCP provides for a stay-ahead commitment such that the available mitigation will be sufficient to meet the expected mitigation requirements, based on the two-year, approved CIP projects. The NCCP/HCP also requires annual reporting and monitoring requirements to track actual impacts against estimates provided in the NCCP/HCP.

The mitigation and conservation benefits that specific clay microhabitat species will derive from the NCCP/HCP are more specifically identified in Attachment 1 of this NCCP Permit, which is incorporated into these CEQA findings.

Summary of Finding

CDFG finds that its approval of the NCCP/HCP and its issuance of the NCCP Permit could result in significant impacts on these clay endemics and their habitat from Covered Activities. Likewise, CDFG finds that conservation measures have been incorporated into the NCCP/HCP which mitigate or avoid the potential significant impacts on these species to below a level of significance. Key factors to this finding by CDFG are the following: requirements for adaptive management of the Preserve Area for the benefit of these species; implementation of the Narrow Endemic Policy; mitigation with occupied habitat for those species not known to occur within the current Preserve Area; and implementation of other impact avoidance, mitigation, and management measures in the NCCP/HCP and NCCP Permit. CDFG notes that its finding under CEQA with respect to these species is consistent with the findings of the Water Authority on the same subject. CDFG's findings are based on the overall conservation strategy, species-specific minimization and avoidance measures, monitoring and management program, and species-specific conditions for coverage identified in the NCCP/HCP, particularly Section 6 and Appendix B.

Impact 3.5.3 **Approval of the NCCP/HCP authorized under the NCCP Permit could result in potentially significant adverse impacts on the following Covered Species primarily associated with riparian/freshwater marsh/aquatic habitat:** San Diego ambrosia (*Ambrosia pumila*), southern tarplant (*Centromadia parryi* ssp. *australis*), smooth tarplant (*Centromadia pungens* ssp. *laevis*), San Diego marsh-elder (*Iva hayesiana*), willowy monardella (*Monardella linoides* ssp. *viminea*), Harbison's Dun skipper (*Euphyes vestris harbisoni*), arroyo toad (*Bufo californicus*), southwestern pond turtle (*Clemmys marmorata pallida*), southwestern willow flycatcher (*Empidonax traillii extimus*), least Bell's vireo (*Vireo bellii pusillus*), yellow warbler (*Dendroica petechia brewsteri*), yellow-breasted chat (*Icteria virens*), and tricolored blackbird (*Agelaius tricolor*).

Finding 3.5.3 **CDFG finds that conservation measures required in the NCCP/HCP will avoid or mitigate the potential significant impacts of the NCCP/HCP on Covered Species primarily associated with riparian/freshwater/alkaline marsh/aquatic habitat to below a level of significance. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)**

Explanation 3.5.3: CDFG finds that approval of the NCCP/HCP and issuance of the NCCP Permit could result in potentially significant impacts on certain riparian/freshwater marsh/aquatic species and their habitat within the Plan Area due to Covered Activities which may permanently or temporarily adversely affect riparian/freshwater/alkaline marsh/aquatic (*i.e.*, wetland) habitats and allow take of Covered Species that utilize the habitat. The potential impact of the NCCP/HCP and NCCP Permit on wetland species is more specifically disclosed in Attachment 1 of this Permit, Appendix B (Conservation Analysis) of the NCCP/HCP, and Section 4, Volume I, of the EIR/EIS.

Occurrence in Plan Area

This group includes species predominantly associated with the following vegetation communities within the Plan Area: open water, alkali wetland, freshwater/alkaline marsh/meadow, montane meadow, and riparian scrub, woodland, and forest (collectively referred to as wetland habitats). The group includes five plant species, one invertebrate species, one amphibian species, one reptile species, and five avian species. According to specimen occurrence records and habitat data available at the time the NCCP/HCP was developed, all of these species have known occurrences or potentially suitable habitat located within both the Survey Area and the PIZ. Species within this group that are not known or expected to occur within the current Preserve Area are: San Diego ambrosia, southern tarplant, smooth tarplant, willowy monardella, and southwestern willow flycatcher.

Protection Policies & Conditions of Coverage

The Water Authority will use tunneling and facility location and design planning to avoid impacts to wetland habitats to the maximum extent feasible. Habitat protections are provided to species that occur in wetland habitats under the NCCP/HCP's Wetland Program. The Wetland Program follows a process of avoidance, minimization, and if necessary, mitigation for any impacts which cannot be avoided, and provides for no-net-loss of wetland habitat (see Section 6.7 of the NCCP/HCP). Potential impacts to three of the species in this group (San Diego ambrosia, willowy monardella, and Harbison's dun skipper) will also be avoided and/or minimized pursuant to the Narrow Endemic Policy. Per the Narrow Endemic Policy, populations of these species within the Plan Area will be avoided to the maximum extent practicable, with a minimum of 80 percent avoidance for Planned and Future Projects, and mitigated at a minimum 1:1 conservation ratio (see Section 6.5.1.6 of the NCCP/HCP).

To further minimize effects to wetland species and to reduce sedimentation and erosion, projects within riparian areas shall be timed so that activities within or near the stream channel are conducted during the dry season when flows are at their lowest or are

nonexistent. In addition, wetland buffers implemented under the Wetland Program will minimize indirect impacts to these species.

Other conditions of coverage for plant species within this group include establishment of a habitat buffer around populations to support the natural suite of pollinators and to minimize edge effects, and focused surveys to be conducted during the appropriate blooming period for Narrow Endemic plant species prior to any proposed impacts. For arroyo toad, southwestern willow flycatcher, and least Bell's vireo, USFWS protocol surveys will be conducted by a permitted biologist under favorable conditions in areas of suitable habitat for all new facilities and O&M activities. If surveys are not conducted, occupancy of potential habitat will be assumed. These pre-activity surveys are designed to ensure that Covered Species are adequately addressed by both general and species-specific impact avoidance, minimization, and mitigation measures that have been incorporated into Section 6 and Appendix B of the NCCP/HCP.

Other species-specific conditions for arroyo toad and southwestern pond turtle include restrictions on activities during the breeding season, impact-avoidance measures if work must be done in occupied breeding habitat during the breeding season, and conservation measures for draindowns and drawdowns. As provided for in the NCCP/HCP (Appendix B), arroyo toad and southwestern pond turtle also require adjacent upland habitats for aestivation and nesting, respectively; thus, an upland avoidance buffer shall be maintained around aquatic habitats where these species are known to occur. For avian species, no direct take of individuals or active nests is authorized under the NCCP/HCP. Other avian-specific conditions for coverage include breeding season avoidance measures, monitoring and control of brown-headed cowbirds within the Preserve Area, and maintenance of buffers around active nests.

Potential Impacts

Potential impacts to wetland habitats from Covered Activities include permanent and/or temporary impacts to 1.5 acres of open freshwater, 49.7 acres of riparian scrub/woodland/forest, and 1.5 acres of freshwater marsh. The majority of any direct and indirect impacts resulting from Covered Activities are anticipated to be temporary in nature. Potential impacts to wetland habitats and associated Covered Species could result from direct removal of habitat, introduction of invasive plant and wildlife species (e.g., bullfrogs and exotic fish), edge effects, increased urban runoff, increased water flow from draindowns, degradation of washes and adjacent terraces, changes in hydrologic regime or water quality, introduced diseases, and construction noise.

Mitigation

The NCCP/HCP's Wetland Program ensures measures specific to wetlands and associated Covered Species that stress avoidance and minimization of impacts related to Covered Activities. The Wetland Program also provides for no-net-loss of wetland habitats, and requires that all wetland mitigation be in-kind. Required mitigation ratios for impacts to wetland habitats are provided in Table 6-7 of the NCCP/HCP.

Unavoidable permanent impacts to all species within this group (with the exception of San Diego marsh-elder) will be mitigated with occupied habitat, unless a biologically

superior conservation alternative, including, but not limited to, restoration and/or enhancement of habitat, contribution of funds to other regional conservation efforts, or species-specific management programs, is approved by the Wildlife Agencies. San Diego marsh-elder is considered conserved at the San Miguel HMA and is expected to occur within the wetland HMAs. Mitigation for impacts to this species will be habitat-based, pursuant to the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP. For unavoidable temporary impacts to San Diego ambrosia and willowy monardella, propagules will be salvaged and restored in accordance with a restoration plan approved by the Wildlife Agencies prior to the onset of impacts.

The NCCP/HCP includes a Water Authority objective of establishing regionally significant wetland creation sites (Wetland HMAs) to ensure that mitigation credits are available to offset unavoidable permanent impacts to wetland habitats that result from Covered Activities. The Water Authority has developed or preliminarily planned Wetland HMAs at three wetland creation sites: Tijuana River Valley, San Luis Rey River, and Manchester. In addition, the San Miguel HMA has three acres of dry marsh/riparian scrub habitat and one acre of freshwater pond credits available. The Manchester HMA has established created wetland habitat and retains un-allocated wetland mitigation credits. The Tijuana River Valley HMA and San Luis Rey River HMA are proposed for future construction (i.e., rehabilitation to wetland conditions), to begin in 2012 for the Tijuana River Valley and 2016 for the San Luis Rey. All together, approximately 47.6 acres of wetland habitat credits have been established or will be established under the NCCP/HCP. Preservation of large, regionally significant blocks of habitat, and adaptive management of that habitat to adjust for changes in wetland species and other Covered Species, will benefit these species and mitigate the loss of a small percentage of existing wetland habitats and their associated species.

Where there are potential impacts to wetland habitats from Covered Activities, the NCCP/HCP also outlines a streamlined process for CDFG to ensure those activities will comply with Fish and Game Code Sections 1602 and 1603(a) through avoidance, minimization, and mitigation of impacts, and fulfill the requirements of a Lake or Streambed Alteration Agreement (LSAA; § 1600, et seq.) (see Section 6.7.2 of the NCCP/HCP). By implementing the NCCP/HCP and by entering into a binding IA together with a standardized LSAA, the NCCP/HCP fulfills the purpose of a project specific LSAA for Covered Activities' impacts to covered habitat types, Covered Species, and other general fish, wildlife, and plant resources associated with the lakes, streams, and rivers.

Species within this group for which occupied or potentially suitable habitat credits are not currently available within the Preserve Area include: San Diego ambrosia, southern tarplant, smooth tarplant, willowy monardella, tricolored blackbird (acres at San Miguel HMA include foraging habitat only), and southwestern willow flycatcher. Where the existing Preserve Area does not have sufficient credits of suitable and/or occupied habitat, the Water Authority will obtain the necessary credits or additional habitat to satisfy the vegetation community (and Covered Species) obligations by one or more of the following methods: obtaining credits from an approved conservation/wetland bank, acquiring additional habitat acreage to add to a Preserve Area, or providing a biologically

superior alternative that is acceptable to the Wildlife Agencies. Furthermore, the NCCP/HCP provides for a stay-ahead commitment such that the available mitigation will be sufficient to meet the expected mitigation requirements, based on the two-year, approved CIP projects. The NCCP/HCP also requires annual reporting and monitoring requirements to track actual impacts against estimates provided in the NCCP/HCP.

The mitigation and conservation benefits that specific wetland habitat associated species will derive from the NCCP/HCP are more specifically identified in Attachment 1 of this NCCP Permit, which is incorporated into these CEQA findings.

Summary of Finding

CDFG finds that its approval of the NCCP/HCP and its issuance of the NCCP Permit could result in significant impacts on these wetland species and their habitat from Covered Activities. Likewise, CDFG finds that conservation measures have been incorporated into the NCCP/HCP that mitigate or avoid the potential significant impacts on these species to below a level of significance. Key factors to this finding by CDFG are the following: requirements for adaptive management of the Preserve Area for the benefit of these species; that wetland losses within the Plan Area result in a no-net-loss of wetland habitats; that any wetland habitat that is lost within the Plan Area will be replaced with in-kind resources; and that other impact avoidance, mitigation, and management measures in the NCCP/HCP and NCCP Permit will be implemented. CDFG notes that its finding under CEQA with respect to these species is consistent with the findings of the Water Authority on the same subject. CDFG's findings are based on the overall conservation strategy, species-specific minimization and avoidance measures, monitoring and management program, and species-specific conditions for coverage identified in the NCCP/HCP, particularly Section 6 and Appendix B.

Impact 3.5.4

Approval of the NCCP/HCP authorized under the NCCP Permit could result in potentially significant adverse impacts on the following Covered Species primarily associated with low elevation shrubland habitat: California adolphia (*Adolphia californica*), Encinitas baccharis (*Baccharis vanessae*), San Diego barrel cactus (*Ferocactus viridescens*), Nuttall's scrub oak (*Quercus dumosa*), Munz's sage (*Salvia munzii*), Hermes copper butterfly (*Lycaena hermes*), quino checkerspot butterfly (*Euphydryas editha quino*), Coronado skink (*Eumeces skiltonianus interparietalis*), Belding's orange-throated whiptail (*Aspidoscelis hyperythrus beldingi*), coastal (western) whiptail (*Aspidoscelis tigris stejnegeri*), San Diego banded gecko (*Coleonyx variegatus abbotti*), San Diego horned lizard (*Phrynosoma coronatum blainvillei*), coastal rosy boa (*Lichanura trivirgata roseofusca*), Northern red diamond rattlesnake (*Crotalus exsul*), loggerhead shrike (*Lanius ludovicianus*), Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), San Diego cactus wren (*Campylorhynchus brunneicapillus sandiegensis*), coastal California gnatcatcher (*Polioptila californica californica*), Bell's sage sparrow (*Amphispiza belli belli*), Dulzura pocket mouse

(*Chaetodipus californicus femoralis*), Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), Southern grasshopper mouse (*Onychomys torridus ramona*), San Diego woodrat (*Neotoma lepida intermedia*), and mountain lion (*Felis concolor*).

Finding 3.5.4 **CDFG finds that conservation measures required in the NCCP/HCP will avoid or mitigate the potential significant impacts of the NCCP/HCP on Covered Species primarily associated with low elevation shrubland habitat to below a level of significance. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)**

Explanation 3.5.4: CDFG finds that approval of the NCCP/HCP and issuance of the NCCP Permit could result in potentially significant impacts on certain low-elevation shrubland species and their habitat within the Plan Area due to Covered Activities which may permanently or temporarily adversely affect low elevation shrubland habitats and allow take of Covered Species that utilize the habitat. The potential impact of the NCCP/HCP and NCCP Permit on individual low-elevation shrubland species is more specifically disclosed in Attachment 1 of this Permit, Appendix B (Conservation Analysis) of the NCCP/HCP, and Section 4, Volume I, of the EIR/EIS.

Occurrence in Plan Area

This group of species includes five plant species and nineteen animal species associated with scrub and chaparral vegetation communities in the coastal lowlands (generally < 1,000 feet elevation); however, many of these species may also occur at higher elevations and in other habitat types (e.g., grassland). The occurrence of these species at lower elevations distinguishes this group from the high-elevation shrubland species group. According to specimen occurrence records and habitat data available at the time the NCCP/HCP was developed, all of the species in this group have known occurrences or potentially suitable habitat located within both the Survey Area and the PIZ. Species within this group that are not known or expected to occur within the current Preserve Area are: Encinitas baccharis (known from Elfin Forest MMA) and Nuttall's scrub oak.

Protection Policies and Conditions of Coverage

Two of the species in this group (Encinitas baccharis and San Diego cactus wren) have been identified by the NCCP/HCP as Narrow Endemics. Therefore, potential impacts to these species will be avoided and/or minimized under the Narrow Endemic Policy. Per the Narrow Endemic Policy, populations of these species within the Plan Area will be avoided to the maximum extent practicable, with a minimum of 80 percent avoidance for Planned and Future Projects, and mitigated to a no-net-loss of individuals and occupied acreage (see Section 6.5.1.6 of the NCCP/HCP). For avian species, no direct take of individuals or active nests is authorized under the NCCP/HCP. For all species in this group, impacts to suitable habitat will be avoided and/or minimized to the extent possible through project design and placement.

Conditions of coverage for plant species within this group include establishment of a habitat buffer around populations to support the natural suite of pollinators and to

minimize edge effects, and focused surveys to be conducted for Narrow Endemic plant species during the appropriate blooming period and prior to any proposed impacts. For Quino checkerspot butterfly and coastal California gnatcatcher, USFWS protocol surveys will be conducted by a permitted biologist under favorable conditions in areas of suitable habitat for all new facilities and O&M activities (if surveys are not conducted, potential habitat will be assumed occupied). For Hermes copper butterfly, all suitable habitat with potential to be impacted will be surveyed by an Environmental Surveyor during the adult flight season, if project timing allows, using appropriate survey techniques to determine presence of the Hermes copper.

For avian species, nest surveys will be conducted within 300 feet of all activities proposed to occur during the breeding season (see Section 2.3 of Appendix B). If an active nest is encountered, a minimum habitat buffer shall be established around the nest site, as determined by the Environmental Surveyor, based on the site-specific considerations, phase of the nesting cycle, and species or other biological considerations. For rodent species, if potential burrows in areas of suitable habitat may be impacted by Covered Activities, and relocation is appropriate, the area will be trapped by a permitted biologist prior to the onset of activities. Captured individuals will be relocated by a qualified biologist into adjacent suitable habitat areas or preserves, and measures implemented to ensure exclusion during construction activities (e.g., trenching or exclusionary fencing). The relocation site will be determined in consultation with the Wildlife Agencies. These pre-activity surveys are designed to ensure that Covered Species are adequately addressed by both general and species-specific impact avoidance, minimization, and mitigation measures that have been incorporated into Section 6 and Appendix B of the NCCP/HCP.

In addition, the NCCP/HCP requires specific measures to avoid and minimize effects from Covered Activities on wildlife movement corridors or habitat linkages. In instances where construction or routine maintenance could potentially affect a corridor during key wildlife movement periods, specific measures such as restrictions on nighttime work, lighting, seasonal schedules, or other measures, will be applied. These avoidance and minimization measures, combined with management of the Preserve Area to generally improve habitat connectivity within the Plan Area, provide a net benefit for the regional movement of species and migratory wildlife.

The NCCP/HCP also includes measures to minimize and manage effects from introduced ant species that may exclude the native prey base of several reptile species within this group. All nursery-stock plants will be checked for non-native ants before installation at restoration sites. Non-native ants that penetrate native habitats appear to be partially supported by artificial irrigation associated with landscaping; therefore, runoff from mitigation sites in native habitat will be minimized and managed.

Potential Impacts

Estimates of potential impacts to suitable habitat for species within this group as a result of Covered Activities range from 10 acres (Dulzura pocket mouse) to 344 acres (mountain lion; see Attachment 1). Impact calculations are based on the larger vegetation-community associations within which appropriate habitat conditions may

occur, and thus may overestimate potential impacts to some species. Actual impacts will be determined through pre-activity surveys prior to the implementation of Covered Activities. Potential impacts to low-elevation shrublands and their associated species include direct removal and/or degradation of habitat, encroachment by invasive species, habitat fragmentation, displacement of host plants and/or native prey base by non-native species, vehicle collisions (i.e., road kills), and edge effects.

Mitigation

Unavoidable permanent impacts to Encinitas baccharis, San Diego barrel cactus, Nuttall's scrub oak, Quino checkerspot butterfly, San Diego cactus wren, loggerhead shrike, and Dulzura pocket mouse will be mitigated with occupied habitat, unless a biologically superior conservation alternative, including, but not limited to, restoration and/or enhancement of habitat, contribution of funds to other regional conservation efforts, or species-specific management programs, is approved by the Wildlife Agencies. Mitigation for impacts to the remaining species in this group will be habitat-based, pursuant to the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP, along with any other applicable species-specific measures provided in Appendix B.

Unavoidable impacts to suitable but unoccupied Quino checkerspot butterfly habitat (as determined by protocol adult flight season surveys) will be mitigated in accordance with Tables 6-6 and 6-7 of the NCCP/HCP. Unavoidable impacts to occupied Quino checkerspot butterfly habitat will be mitigated at a 2:1 ratio with occupied habitat. If proposed impacts to occupied habitat are greater than 1 acre, the Water Authority will consult with the Wildlife Agencies to ensure that project implementation will not cause the extirpation of a Quino checkerspot butterfly population. In addition, projects having direct or indirect impacts to occupied Quino checkerspot butterfly habitat will establish biological buffers of at least 100 feet adjacent to occupied Quino checkerspot butterfly habitat. Temporarily disturbed areas will be reseeded with an appropriate native seed mix, to include Quino checkerspot butterfly nectar sources and dot-seed plantain, in appropriate habitat to regionally enhance re-colonization efforts. For temporary impacts to San Diego cactus wren habitat, cactus plants will be salvaged, where possible, for restoration efforts in appropriate locations as directed by a restoration maintenance and monitoring program.

Where the existing Preserve Area does not have sufficient credits of suitable and/or occupied habitat, the Water Authority will obtain the necessary credits or additional habitat to satisfy the vegetation community (and Covered Species) obligations by one or more of the following methods: obtaining credits from an approved conservation/wetland bank, acquiring additional habitat acreage to add to a Preserve Area, or providing a biologically superior alternative that is acceptable to the Wildlife Agencies. Furthermore, the NCCP/HCP provides for a stay-ahead commitment such that the available mitigation will be sufficient to meet the expected mitigation requirements, based on the two-year, approved CIP projects. The NCCP/HCP also requires annual reporting and monitoring requirements to track actual impacts against estimates provided in the NCCP/HCP.

Implementation of the NCCP/HCP is expected to contribute to the regional conservation of low-elevation shrubland species by allowing for continued breeding, foraging and

sheltering in the Plan Area and conserving large, contiguous blocks of mitigation lands on which these species are known to occur or have the potential to occur. In addition, protection for individuals, nests, and habitat is provided by the individual species conditions for coverage. The mitigation and conservation benefits that specific low-elevation shrubland species will derive from the NCCP/HCP are more specifically identified in Attachment 1 of this NCCP Permit, which is incorporated into these CEQA findings.

Summary of Finding

CDFG finds that its approval of the NCCP/HCP and its issuance of the NCCP Permit could result in significant impacts on these low-elevation shrubland species and their habitat from Covered Activities. Likewise, CDFG finds that conservation measures have been incorporated into the NCCP/HCP which mitigate or avoid the potential significant impacts on these species to below a level of significance. Key factors to this finding by CDFG are the following: requirements for adaptive management of the Preserve Area for the benefit of these species; implementation of the Narrow Endemic Policy; mitigation with occupied habitat for those species not known to occur within the current Preserve Area; and implementation of other impact avoidance, mitigation, and management measures in the NCCP/HCP and NCCP Permit. CDFG notes that its finding under CEQA with respect to these species is consistent with the findings of the Water Authority on the same subject. CDFG's findings are based on the overall conservation strategy, species-specific minimization and avoidance measures, monitoring and management program, and species-specific conditions for coverage identified in the NCCP/HCP, particularly Section 6 and Appendix B.

Impact 3.5.5 **Approval of the NCCP/HCP authorized under the NCCP Permit could result in potentially significant adverse impacts on the following Covered Species primarily associated with high elevation shrubland habitat**: Dunn's mariposa lily (*Calochortus dunnii*), Lakeside ceanothus (*Ceanothus cyaneus*), felt-leaved monardella (*Monardella hypoleuca* ssp. *lanata*), chaparral nolina (*Nolina cismontana*), Parry's tetracoccus (*Tetracoccus dioicus*), and San Diego ring-neck snake (*Diadophis punctatus similis*).

Finding 3.5.5 **CDFG finds that conservation measures required in the NCCP/HCP will avoid or mitigate the potential significant impacts of the NCCP/HCP on Covered Species primarily associated with high elevation shrubland habitat to below a level of significance. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)**

Explanation 3.5.5: CDFG finds that approval of the NCCP/HCP and issuance of the NCCP Permit could result in potentially significant impacts on certain high-elevation shrubland species and their habitat within the Plan Area due to Covered Activities that may permanently or temporarily adversely affect high elevation shrubland habitats and allow take of Covered Species that utilize the habitat. The potential impact of the

NCCP/HCP and NCCP Permit on individual high-elevation shrubland species is more specifically disclosed in Attachment 1 of this Permit, Appendix B (Conservation Analysis) of the NCCP/HCP, and Section 4, Volume I, of the EIR/EIS.

This group of species includes five plant species and one reptile species commonly associated with montane shrublands (mainly chaparral > 1,000 feet elevation); however, many of these species may also occur at lower elevations and in other habitat types (e.g., sage scrub and grassland). The occurrence of these species at higher elevations distinguishes this group from the previous group, low-elevation shrubland species. According to specimen-occurrence records and habitat data available at the time the NCCP/HCP was developed, all of the species in this group have known occurrences or potentially suitable habitat located within both the Survey Area and the PIZ. Species within this group that are not known or expected to occur within the current Preserve Area are felt-leaved monardella, chaparral nolina, and Parry's tetracoccus.

Protection Policies and Conditions of Coverage

Three of the species in this group (Dunn's mariposa lily, Lakeside ceanothus, and felt-leaved monardella) have been identified by the NCCP/HCP as Narrow Endemics. Therefore, potential impacts to these species will be avoided and/or minimized under the Narrow Endemic Policy. Per the Narrow Endemic Policy, populations of these species within the Plan Area will be avoided to the maximum extent practicable, with a minimum 80-percent avoidance for Planned and Future Projects, and mitigated to a no-net-loss of individuals and occupied acreage (see Section 6.5.1.6 of the NCCP/HCP).

Conditions of coverage for plant species within this group include establishment of a habitat buffer around populations to support the natural suite of pollinators and to minimize edge effects, and focused surveys to be conducted for Narrow Endemic plant species during the appropriate blooming period and prior to any proposed impacts. These pre-activity surveys are designed to ensure that Covered Species are adequately addressed by both general and species-specific impact avoidance, minimization, and mitigation measures that have been incorporated into Section 6 and Appendix B of the NCCP/HCP.

For San Diego ring-neck snake, impacts to rocky outcrop boulder-dominated microhabitats will be avoided or minimized through project design and placement. In addition, the NCCP/HCP requires specific measures to avoid and minimize effects from Covered Activities on wildlife movement corridors or habitat linkages. In instances where construction or routine maintenance could potentially affect a corridor during key wildlife movement periods, specific measures such as restrictions on nighttime work, lighting, seasonal schedules, or other measures, will be applied. These avoidance and minimization measures, combined with management of the Preserve Area to generally improve habitat connectivity within the Plan Area, provide a net benefit for the regional movement of species and migratory wildlife.

Potential Impacts

Estimates of potential impacts to suitable habitat for species within this group as a result of Covered Activities range from 36 acres (Parry's tetracoccus) to 316 acres (San Diego

ring-neck snake; see Attachment 1). Impact calculations are based on the larger vegetation community associations within which appropriate habitat conditions may occur, and thus may overestimate potential impacts to some species. Actual impacts will be determined through pre-activity surveys prior to the implementation of Covered Activities. Potential impacts to high elevation shrublands and their associated species include direct removal and/or degradation of habitat, encroachment by invasive species, habitat fragmentation, vehicle collisions (i.e., road kills), and edge effects.

Mitigation

Unavoidable permanent impacts to Dunn's mariposa lily, Lakeside ceanothus, felt-leaved monardella, chaparral nolina, and Parry's tetracoccus will be mitigated with occupied habitat, unless a biologically superior conservation alternative, including, but not limited to, restoration and/or enhancement of habitat, contribution of funds to other regional conservation efforts, or species-specific management programs, is approved by the Wildlife Agencies. Mitigation for impacts to San Diego ring-neck snake will be habitat-based, pursuant to the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP, along with any other applicable species-specific measures provided in Appendix B.

Where the existing Preserve Area does not have sufficient credits of suitable and/or occupied habitat, the Water Authority will obtain the necessary credits or additional habitat to satisfy the vegetation-community (and Covered Species) obligations by one or more of the following methods: obtaining credits from an approved conservation/wetland bank, acquiring additional habitat acreage to add to a Preserve Area, or providing a biologically superior alternative that is acceptable to the Wildlife Agencies. Furthermore, the NCCP/HCP provides for a stay-ahead commitment such that the available mitigation will be sufficient to meet the expected mitigation requirements, based on the two-year, approved CIP projects. The NCCP/HCP also requires annual reporting and monitoring requirements to track actual impacts against estimates provided in the NCCP/HCP.

The mitigation and conservation benefits that specific low-elevation shrubland species will derive from the NCCP/HCP are more specifically identified in Attachment 1 of this NCCP Permit, which is incorporated into these CEQA findings.

Summary of Finding

CDFG finds that its approval of the NCCP/HCP and its issuance of the NCCP Permit could result in significant impacts on these high-elevation shrubland species and their habitat from Covered Activities. Likewise, CDFG finds that conservation measures have been incorporated into the NCCP/HCP which mitigate or avoid the potential significant impacts on these species to below a level of significance. Key factors to this finding by CDFG are the following: requirements for adaptive management of the Preserve Area for the benefit of these species; implementation of the Narrow Endemic Policy; mitigation with occupied habitat for those species not known to occur within the current Preserve Area; and implementation of other impact avoidance, mitigation, and management measures in the NCCP/HCP and NCCP Permit. CDFG notes that its finding under CEQA with respect to these species is consistent with the findings of the Water Authority on the same subject. CDFG's findings are based on the overall conservation strategy, species-specific minimization and avoidance measures, monitoring and management

program, and species-specific conditions for coverage identified in the NCCP/HCP, particularly Section 6 and Appendix B.

Impact 3.5.6 **Approval of the NCCP/HCP authorized under the NCCP Permit could result in potentially significant adverse impacts on the following Covered Species primarily associated with grassland habitat**: burrowing owl (*Athene cunicularia hypugaea*), California horned lark (*Eremophila alpestris californica*), grasshopper sparrow (*Ammodramus savannarum*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), Stephens' kangaroo rat (*Dipodomys stephensi*), and Los Angeles pocket mouse (*Perognathus longimembris brevinasus*).

Finding 3.5.6 **CDFG finds that conservation measures required in the NCCP/HCP will avoid or mitigate the potential significant impacts of the NCCP/HCP on Covered Species primarily associated with grassland habitat to below a level of significance. (Pub. Resources Code, § 21081, subd. (a)(1); CEQA Guidelines, § 15091, subd. (a)(1).)**

Explanation 3.5.6: CDFG finds that approval of the NCCP/HCP and issuance of the NCCP Permit could result in potentially significant impacts on certain grassland species and their habitat within the Plan Area due to Covered Activities that may permanently or temporarily adversely affect grassland habitat and allow take of Covered Species that utilize the habitat. The potential impact of the NCCP/HCP and NCCP Permit on individual grassland species is more specifically disclosed in Attachment 1 of this Permit, Appendix B (Conservation Analysis) of the NCCP/HCP, and Section 4, Volume I, of the EIR/EIS.

This group of species includes three avian species and three mammalian species commonly associated with grasslands; however, many of these species also occur in other habitat types such as open sage scrub, pastures, or agricultural fields. According to specimen-occurrence records and habitat data available at the time the NCCP/HCP was developed, all of the species in this group have known occurrences or potentially suitable habitat located within both the Survey Area and the PIZ. Species within this group that are not known or expected to occur within the current Preserve Area are: western burrowing owl (San Miguel has foraging habitat only), Stephens' kangaroo rat, and Los Angeles pocket mouse.

Protection Policies and Conditions of Coverage

None of the species in this group are identified by the NCCP/HCP as Narrow Endemics. However, for avian species no direct take of individuals or active nests is authorized under the NCCP/HCP. For all species in this group, impacts to suitable habitat will be avoided and/or minimized to the extent possible through project design and placement.

For avian species, nest surveys will be conducted within 300 feet of all activities proposed to occur during the breeding season (see Section 2.3 of Appendix B). If an

active nest is encountered, a minimum habitat buffer shall be established around the nest site, as determined by the Environmental Surveyor, based on the site-specific considerations, phase of the nesting cycle, and species or other biological considerations. For burrowing owl, pre-activity surveys in potentially suitable burrowing owl habitat will be conducted in accordance with Wildlife Agency protocols (e.g., mapping of suitable habitat and burrows). For rodent species, if potential burrows in areas of suitable habitat may be impacted by Covered Activities the area will be trapped by a permitted biologist prior to the onset of activities. Captured individuals will be relocated by a qualified biologist into adjacent suitable habitat areas or preserves, and measures implemented to ensure exclusion during construction activities (e.g., trenching or exclusionary fencing). The relocation site will be determined in consultation with the Wildlife Agencies. These pre-activity surveys are designed to ensure that Covered Species are adequately addressed by both general and species-specific impact avoidance, minimization, and mitigation measures that have been incorporated into Section 6 and Appendix B of the NCCP/HCP.

In addition, the NCCP/HCP requires specific measures to avoid and minimize effects from Covered Activities on wildlife movement corridors or habitat linkages. In instances where construction or routine maintenance could potentially affect a corridor during key wildlife movement periods, specific measures such as restrictions on nighttime work, lighting, seasonal schedules, or other measures, will be applied. These avoidance and minimization measures, combined with management of the Preserve Area to generally improve habitat connectivity within the Plan Area, provide a net benefit for the regional movement of species and migratory wildlife.

Potential Impacts

Estimates of potential impacts to suitable habitat for species within this group as a result of Covered Activities range from 34 acres (California horned lark) to 195 acres (western burrowing owl; see Attachment 1). Impact calculations are based on the larger vegetation community associations within which appropriate habitat conditions may occur, and thus may overestimate potential impacts to some species. Actual impacts will be determined through pre-activity surveys prior to the implementation of Covered Activities. Potential impacts to grasslands and their associated species include direct removal and/or degradation of habitat, encroachment by invasive species, habitat fragmentation, vehicle collisions (i.e., road kills), and edge effects.

Mitigation

Unavoidable permanent impacts to all species within this group except California horned lark will be mitigated with occupied habitat, unless a biologically superior conservation alternative, including, but not limited to, restoration and/or enhancement of habitat, contribution of funds to other regional conservation efforts, or species-specific management programs, is approved by the Wildlife Agencies. Mitigation for impacts to California horned lark will be habitat-based, pursuant to the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP, along with any other applicable species-specific measures provided in Appendix B. Any impacts to Los Angeles pocket mouse in Riverside County will be mitigated through contributions to the MSHCP Preserve, separate acquisitions

that build the Preserve Area, purchase of mitigation credits from an approved mitigation bank, or other equivalent action approved by the Wildlife Agencies.

All unavoidable impacts to occupied burrowing owl habitat must be mitigated with habitat that is occupied with similar densities of burrowing owls, and/or the establishment of artificial burrows within suitable habitat. Any artificial burrow installation will be done at a minimum ratio of 2:1 and require a management and monitoring plan for the installation site that is approved by the Wildlife Agencies prior to the onset of impacts. If appropriate and approved by the Wildlife Agencies, any burrowing owls to be impacted would be evicted by an Environmental Surveyor prior to project impact; eviction would not occur during the breeding season. Habitat-based mitigation ratios will be determined based on the habitat types impacted, and follow Table 6-6 of the NCCP/HCP. Mitigation may also be required for occupied areas that occur in habitat that typically does not require mitigation (i.e., agriculture, disturbed habitat). Where Tier IV habitat is found to be supporting this species, a habitat mitigation ratio of 0.5:1 will be required.

Where the existing Preserve Area does not have sufficient credits of suitable and/or occupied habitat, the Water Authority will obtain the necessary credits or additional habitat to satisfy the vegetation community and Covered Species obligations by one or more of the following methods: obtaining credits from an approved conservation/wetland bank, acquiring additional habitat acreage to add to a Preserve Area, or providing a biologically superior alternative that is acceptable to the Wildlife Agencies. Furthermore, the NCCP/HCP provides for a stay-ahead commitment such that the available mitigation will be sufficient to meet the expected mitigation requirements, based on the two-year, approved CIP projects. The NCCP/HCP also requires annual reporting and monitoring requirements to track actual impacts against estimates provided in the NCCP/HCP.

Implementation of the NCCP/HCP is expected to contribute to the regional conservation of grassland species by allowing for continued breeding, foraging and sheltering in the Plan Area and conserving large, contiguous blocks of mitigation lands on which these species are known to occur or have the potential to occur. In addition, protection for individuals, nests, and habitat is provided by the individual species conditions for coverage. The mitigation and conservation benefits that specific grassland species will derive from the NCCP/HCP are more specifically identified in Attachment 1 of this NCCP Permit, which is incorporated into these CEQA findings.

Summary of Finding

CDFG finds that its approval of the NCCP/HCP and its issuance of the NCCP Permit could result in significant impacts on these grassland species and their habitat from Covered Activities. Likewise, CDFG finds that conservation measures have been incorporated into the NCCP/HCP which mitigate or avoid the potential significant impacts on these species to below a level of significance. Key factors to this finding by CDFG are the following: requirements for adaptive management of the Preserve Area for the benefit of these species; implementation of the Narrow Endemic Policy; mitigation with occupied habitat for those species not known to occur within the current Preserve Area; and implementation of other impact avoidance, mitigation, and management measures in the NCCP/HCP and NCCP Permit. CDFG notes that its finding under

CEQA with respect to these species is consistent with the findings of the Water Authority on the same subject. CDFG's findings are based on the overall conservation strategy, species-specific minimization and avoidance measures, monitoring and management program, and species-specific conditions for coverage identified in the NCCP/HCP, particularly Section 6 and Appendix B.

3.6 Mitigation Monitoring and Reporting Program

Every agency that makes CEQA findings must adopt a Mitigation Monitoring and Reporting Plan (MMRP) to ensure that mitigation measures that are required as conditions of approval are carried out. (CEQA Guidelines, § 15097, subd.(d).) The MMRP document serves the needs of CDFG to ensure that the NCCP/HCP, especially the components designed to avoid and mitigate potentially significant impacts, are properly implemented in compliance with their conditions of approval. The MMRP prepared by the Water Authority under CEQA reflects the commitments/obligations in the NCCP/HCP and the mitigation measures/requirements in the EIR/EIS. It has been determined that this document meets CDFG's needs with respect to implementation of the NCCP/HCP. CDFG is adopting the MMRP prepared by the lead agency as its own MMRP.

3.7 Alternatives

Where a lead agency has determined that, even after the adoption of all feasible mitigation measures, a project as proposed will still cause one or more significant environmental effects that cannot be substantially lessened or avoided, the lead agency, prior to approving the project as mitigated, must first determine whether, with respect to such impacts, there remain any project alternatives that are both environmentally superior and feasible within the meaning of CEQA. (See, e.g., *Citizens for Quality Growth v. City of Mt. Shasta* (1988) 198 Cal.App.3d 433, 445.)

CDFG faces a similar obligation as a responsible agency under CEQA. (CEQA Guidelines, § 15096, subd. (g); see also Pub. Resources Code, § 21081; CEQA Guidelines, § 15096, subd. (h).) As noted above, however, when considering alternatives and mitigation measures, CDFG "has the responsibility for mitigating or avoiding only the direct or indirect environmental effects of those parts of the project which it decides to carry out, finance or approve" (*Id.*, § 15096, subd. (g)(1)). Those effects, in the present case, are limited to the environmental effects authorized by CDFG under NCCPA for the NCCP/HCP. In that regard, and consistent with CEQA Guidelines, issuance of the NCCP Permit is prohibited if there is "any feasible alternative or feasible mitigation measures within [CDFG's] powers that would substantially lessen or avoid any *significant* effect" associated with that decision (*Id.*, § 15096, subd. (g)(2) (emphasis added)).

As demonstrated above in Section 3.5, no significant environmental effects that fall within the responsibility and jurisdiction of CDFG remain unmitigated. That is to say, all potentially significant impacts associated with CDFG's authorization of the NCCP/HCP are mitigated to below a level of significance under CEQA, so no project alternatives are

analyzed by CDFG. (See, e.g., *Laurel Hills Homeowners Assoc. v. City Council* (1978) 83 Cal.App.3d 515, 520-521.) In adopting findings under CEQA, agencies need not consider the feasibility of project alternatives if they adopt mitigation measures that "substantially lessen or avoid" a project's significant adverse impacts (*Laurel Heights Improvement Assoc. v. Regents of the University of California* (1988) 47 Cal.3d 376, 400-403).

3.8 Statement of Overriding Considerations

Because CDFG's approval of the NCCP/HCP will not result in any adverse environmental impacts that remain significant and unavoidable, CDFG need not adopt a Statement of Overriding Considerations under CEQA.

4.0 FINDINGS UNDER NCCPA

All NCCPs must contain certain substantive elements identified in current or former sections of the NCCPA. (See Section 2820(a).)

4.1 NCCPA of 2003 and NCCP Findings

The Water Authority NCCP/HCP must be completed, approved and implemented pursuant to the NCCPA of 2003 and CDFG must evaluate the adequacy of the NCCP by reference to the statute.

Finding 4.1.1 **CDFG finds that the NCCP/HCP has been developed consistent with the process identified in the Planning Agreement as per Section 2820(a)(1).**

The repeal and replacement of the NCCPA in 2002 (Senate Bill 107: Sher) modified some aspects of NCCP development (e.g., public participation requirements), but exempted plans initiated before January 1, 2002, that were the subject of CDFG planning agreements (e Section 2830). Even though the Water Authority NCCP had been in continuous development since 1995 without a formal planning agreement, the passage of SB 107 inadvertently did not grandfather in the Water Authority Plan as it did some other plans. The passage of Senate Bill 572 (Ducheny) in July 2003 (codified in Section 2830(f) of the NCCPA) reconciled inconsistencies regarding the Water Authority NCCP process and changes made in 2002 to the NCCPA, effectively providing these grandfathering provisions to the Water Authority NCCP. Section 2820(a)(1) requires that the NCCP/HCP be developed consistent with the Planning Agreement . Provided CDFG finds that the NCCP/HCP meets the following three requirements set forth under Section 2830(f), the Water Authority shall be exempt from Section 2820(a)(1).

1. The NCCP/HCP is consistent with the approved San Diego Multiple Species Conservation Program (MSCP) or Multiple Habitat Conservation Program (MHCP), and has been developed and is otherwise in conformance with the NCCPA. (Section 2830(f)(1).)

The Water Authority NCCP/HCP was developed to function as an independent permitting process for Water Authority projects and activities (i.e., Covered Activities) that is also consistent with and complementary to other regional conservation plans (see Section 3.0 of the NCCP/HCP), such as the MSCP and MHCP. The MSCP Subregional Plan, finalized in August 1997, is a comprehensive, long-term habitat conservation plan that addresses multiple species' habitat needs and the preservation of native vegetation in 12 jurisdictions of southwestern San Diego County. The MSCP encompasses 582,000 acres, establishes a 172,000-acre preserve system, and covers 85 species of plants and animals. The MHCP Subregional Plan, finalized in 2003, is a conservation planning program covering seven municipal jurisdictions of northwestern San Diego County. Its goal is to conserve approximately 19,000 acres of habitat for the protection of 56 covered species.

The structure and the mitigation programs of the MSCP, MHCP, and other regional conservation plans were considered in the development of the Water Authority NCCP/HCP. The mitigation requirements of the NCCP/HCP are generally consistent with or exceed those required under the MSCP and MHCP, particularly in terms of mitigation for impacts with occupied habitat for most Covered Species and the high number of Narrow Endemics identified (19 of the 63 Covered Species). Implementation of the NCCP/HCP is expected to complement and enhance the conservation achieved under these existing plans and will not interfere with the management goals and objectives of those plans. As demonstrated in Section 4.0 of this Permit, CDFG finds that the Water Authority NCCP/HCP has been developed and is otherwise in conformance with the NCCPA.

2. The NCCP/HCP includes independent scientific review of the Conservation Analysis through the establishment of a panel of Independent Science Advisors with a focus on those species which are proposed for coverage under the NCCP/HCP and that are not otherwise covered by the MSCP or MHCP. (Section 2830(f)(2).)

In 2007, the Water Authority appointed an Independent Science Advisors panel to review the draft NCCP/HCP and make recommendations on conservation strategies and identify data gaps (Rahn et al. 2008). Science Advisors were selected based on their experience with conservation planning within the San Diego region, as well as their expertise with the various species proposed for coverage under the NCCP/HCP. The panel report provides an external assessment for 33 out of the 94 species proposed for coverage in the September 2007 draft NCCP/HCP that are not covered under the MSCP or MHCP. At the request of the Water Authority, coverage for eight vernal pool species and burrowing owl were also assessed by the panel. These species were added in light of a 2007 court ruling that invalidated the City of San Diego's federal MSCP permit for vernal pool species, and the increasing public awareness and decline of burrowing owls within the region. The final NCCP/HCP incorporates key recommendations from the Independent Science Advisors, including clarification of the Strategy, Goals, and Objectives; additional Covered Species data collection and review; specified mitigation ratios for all potentially impacted vegetation types/habitats; clarification and augmentation of the

monitoring and adaptive management strategy; and removal of several species from the proposed Covered Species list. The Science Advisors report is included as an attachment to Appendix B of the NCCP/HCP.

3. The NCCP/HCP documents coverage of all species at a level of detail equal to or greater than that of other subregional habitat plans, such as the MSCP or MHCP. (Section 2830(f)(3).)

The NCCP/HCP documents the rationale for coverage of all 63 species at a level of detail that is comparable to that of other subregional plans, including the MSCP and MHCP. Section 5.0 of the NCCP/HCP analyzes the anticipated habitat losses (in acres) by vegetation community for all Covered Activities, including Planned and Future Activities, and O&M, throughout the duration of the permit term (55 years). Section 6.0 of the NCCP/HCP provides an evaluation of the anticipated habitat-based conservation provided by the Preserve Area and a comparison to the anticipated impacts, as well as general avoidance and minimization measures to be implemented during project planning and completion to address species coverage needs.

An evaluation of coverage at the individual species level is provided in Appendix B of the NCCP/HCP. Appendix B provides an overview of the methodology and data used to support the proposed coverage of species under the NCCP/HCP and describes conservation goals and strategies. For each proposed Covered Species, background information, a conservation analysis, and conditions of coverage are provided. Background information includes distribution, abundance, and trends; threats and limiting factors; and special considerations. The conservation analysis includes documentation of presence within the Survey Area, PIZ, and Preserve Area; conservation and anticipated take levels under the NCCP/HCP; potential impacts to the species from Covered Activities; and effects of authorized take on population viability and species recovery. Anticipated take levels are based on an analysis of potential habitat impacted and presented in acres. The conditions for coverage include species-specific avoidance and minimization measures, mitigation requirements, and management considerations; these conditions are based on the special considerations and conservation needs of each species proposed for coverage.

Given the information provided above and pursuant to Section 2830(f) of the NCCPA, CDFG finds that the Water Authority NCCP/HCP is exempt from Section 2820(a)(1) of the NCCPA; therefore, preparation of a formal Planning Agreement for the NCCP/HCP is not required.

Finding 4.1.2 **CDFG finds that the NCCP/HCP integrates adaptive management strategies that are periodically evaluated and modified based on information from the monitoring program and other sources which will assist in the conservation of Covered Species and ecosystems within the plan area. (Section 2820(a)(2))**

Section 2805(a) of the Fish and Game Code defines adaptive management as the use of new information gathered through a monitoring program and other sources to adjust management strategies and practices to assist in providing for the conservation of Covered Species. Adaptive management is a key component of any conservation plan and provides a strategy to deal with the changes and variability of natural systems. The NCCP/HCP requires that the Preserve Area Management Plan (PAMP) for each HMA include an adaptive management component. The PAMPs will be reviewed and revised once every five years, or as warranted, to address adaptive management and monitoring changes relevant to the Covered Species and their associated habitats, and as appropriate based on new information learned from other monitoring programs. The adaptive management program is designed to ensure that the biological goals and objectives for Covered Species and their associated habitats are met (see Section 6.12 of the NCCP/HCP). The Water Authority, through the Preserve Area endowments, will provide funding for adaptive management.

The adaptive management program serves as the basis for incorporating flexibility into the long-term planning and management of the Covered Species and their habitats. It provides a method for modifying management actions in accordance with current research findings, field monitoring results, and other sources of new reliable scientific information, and allows Preserve Area managers to respond quickly to any changes in Covered Species or habitat status. Adaptive management framework guidelines are provided in Section 6.12.3.1 of the NCCP/HCP. These guidelines will be used by Preserve Area managers as the basis for developing new, or modifying existing, management actions within the PAMPs for each of the HMAs. The guidelines focus on the protection and improvement of habitat and Covered Species, as well as avoiding or minimizing the primary threats to the Preserve Areas. The adaptive management program that is developed for each HMA will outline specific goals, measurable objectives, timelines, and thresholds for initiating actions to ensure the perpetual conservation of habitats and Covered Species within the Preserve Area. The adaptive management/monitoring approach for each Preserve Area will follow the guidance in Atkinson et al. (2004).

Biological monitoring of the Preserve Area will serve to measure the efficacy of the overall conservation approach, inform adaptive management decisions, and assist in defining and modifying biological goals (see Section 6.12.2 of the NCCP/HCP). Effectiveness monitoring will be implemented to evaluate the success of management activities to address specific habitat and Covered Species objectives in the Preserve Areas. The results of these monitoring efforts will be used by Preserve Area managers to determine if the Conditions of Coverage are sufficient for conserving and managing the resources and if modifications or new management (and monitoring) efforts are warranted. Adaptive management recommendations will be provided during the annual reporting process (see Section 6.12.1 of the NCCP/HCP), as necessary, to improve the effectiveness of the NCCP/HCP. Management responsibility for the Preserve Areas has been transferred to the Wildlife Agencies and other management entities through prior agreements with the Water Authority, thus any adaptive management deemed necessary within Preserve Areas shall be initiated and carried out by the individual Preserve Area managers. The USFWS and CDFG will provide feedback on the implementation of the

monitoring and adaptive management programs described in the annual work plans. All forms of input will be collected by the Water Authority, as appropriate, and incorporated into management and monitoring practices.

Finding 4.1.3 **CDFG finds that the NCCP/HCP provides for the protection of habitat, natural communities, and species diversity on a landscape or ecosystem level through the creation and long-term management of habitat reserves (Section 2820(a)(3)).**

The NCCP/HCP is designed as a multiple-species conservation plan in accordance with the tenets of conservation biology and is intended to function on a landscape/ecosystem level. A key component of the conservation strategy is the creation and perpetual management of a regionally significant preserve system linked to existing protected lands within the Plan Area. Since the majority of Covered Activities center on a water distribution system of linear pipelines that traverses much of the western half of San Diego County, the associated impacts to species and habitats are also widely distributed within the Plan Area. As a result, the Water Authority has assembled its Preserve Area primarily by conserving lands from across the Plan Area that represent a range of habitat associations and land types present within the County and that complement existing and planned preserve areas. All of the mitigation lands anticipated to be needed to offset the anticipated impacts from Covered Activities have been set aside and conserved (including secured funding for management) in advance of NCCP/HCP permit issuance.

The Water Authority has a long history of supporting regional conservation planning efforts within the San Diego area. As mitigation for take authorized under FESA and/or CESA for past projects, the Water Authority has obtained and conserved parcels within core habitat areas and linkages to augment preserve planning efforts by local cities and the County of San Diego. Within the NCCP/HCP these lands are referred to as MMAs, and collectively they represent a baseline preserve. Although the Water Authority cannot use these lands as mitigation for Covered Activities permitted through the NCCP/HCP, the MMAs illustrate the Water Authority's prior contributions to the regional preserve system and conservation of Covered Species by protecting contiguous blocks of suitable habitat on which Covered Species are known or have the potential to occur. The MMAs include: 1) the 35-acre Myers Property in Oceanside; 2) the 538-acre Montaña Mirador Preserve in Rancho Los Peñasquitos; 3) the 37-acre Escondido Creek Uplands in Escondido; and 4) the 750-acre Elfin Forest Reserve in San Marcos. The MMAs are not considered a part of the Preserve Area. Each of the MMAs is described in detail in Section 6.9 of the NCCP/HCP.

In anticipation of impacts to Covered Species from implementation of the NCCP/HCP, the Water Authority has acquired mitigation credits or mitigation rights in three existing upland properties and one wetland property, and has wetland creation plans for two more sites (see Section 6.8 of the NCCP/HCP). These properties are referred to in the NCCP/HCP as the HMAs, collectively known as the Preserve Area. The HMAs are located adjacent to other regionally significant conserved habitat areas and/or within regionally significant wildlife movement corridors (see Figure 6-1 of the NCCP/HCP). The three upland HMAs include: the Crestridge HMA, the San Miguel HMA, and the

Rancho Cañada HMA. The Manchester HMA wetland mitigation site was completed in 2005 and resulted in the creation of wetland habitats. Two other wetland mitigation sites, the Tijuana River Valley HMA and San Luis Rey River HMA, are currently in the design and planning phases with tentative construction start dates of September 2012 and September 2016, respectively. The HMAs contain native habitat occupied by Covered Species and provide/will provide upland and wetland habitat acres/credits that may serve as appropriate mitigation to compensate for unavoidable impacts from Covered Activities. The commitment of approximately 275 acres of conserved habitat at the Rancho Cañada HMA represents the Water Authority's "additional contribution to conservation", as required under the NCCPA.

Because the Plan Area covers a large and varied area, and the distributions of the Covered Species vary within the Plan Area, not all of the Covered Species are present at each Preserve Area. However, the locations of the HMAs throughout San Diego County support a diversity of sensitive vegetation communities and Covered Species, and together they contain many of the diverse habitats and Covered Species that are expected to be impacted by the Covered Activities. As described in Section 8.3.2 of the NCCP/HCP, additional habitat lands that support Covered Species may be acquired to provide/augment conservation for certain species, if needed, to address impacts from Covered Activities.

In addition to the MMAs and Preserve Area (HMAs), under the NCCP/HCP the Water Authority has agreed to maintain its fee-owned rights-of-way as native habitat where they occur in and around its facilities. These linear rights-of-way often pass through other preserve lands and may serve as local and regional movement corridors linking large blocks of native habitats. The Water Authority will retain and manage its fee-owned rights-of-way habitat to supplement adjoining preserve lands that are part of, or provide connections to, other conservation lands. To the extent that fee-owned rights-of-way can serve two purposes (i.e., function for Water Authority facilities and connect fragmented habitat areas) or may contribute to the habitat carrying capacity of other preserve lands, the Water Authority-owned rights-of-way and easements will maintain linkages between habitat blocks to aid in the dispersal of covered wildlife species.

Monitoring and adaptive management of the HMAs will be implemented to ensure that the Water Authority is in compliance with NCCP/HCP requirements, to measure the effectiveness of conservation actions, and to provide additional information that will help direct or redirect conservation actions to benefit the Covered Species. The progress on and status of all HMAs and management/monitoring plans will be reported in the annual report summary. Interim monitoring and management will be consistent with Sections 6.12.1 through 6.12.3 of the NCCP/HCP. The NCCP/HCP also requires that the habitat management plan for each of the HMAs include an adaptive management component. The adaptive management strategy used must be consistent with the guidelines described in Section 6.12.3 of the NCCP/HCP. All existing HMAs are managed by entities other than the Water Authority (San Luis Rey River HMA has not progressed to a state to determine who will be the ultimate long-term site manager) with funded endowments established by the Water Authority.

In summary, the Preserve Area established under the NCCP/HCP provides for the benefit of Covered Species, natural communities, biological diversity, and ecosystem function; preserves major habitat connections linking protected lands; and supports adaptive management of habitats to enhance populations of Covered Species and maintain ecosystem processes.

Finding 4.1.4.A **CDFG finds that the development of reserve systems and conservation measures in the plan area provide, as needed for the conservation of species: conservation, restoration, and management of representative natural and semi-natural landscapes to maintain the ecological integrity of large habitat blocks, ecosystem function, and biological diversity. (Section 2820(a)(4)(A))**

At the landscape level, the NCCP/HCP conservation strategy centers on the preservation, monitoring, and management of approximately 1,920 acres of upland and wetland habitat communities within the Preserve Area. The Preserve Area is designed to maintain the integrity, function, and biological diversity of ecosystems through the conservation of high quality habitat that is occupied or potentially suitable for the Covered Species. Approximately 700 acres, or mitigation credits, are available within the Preserve Area to offset unavoidable impacts from Covered Activities (see Table 6-8 of the NCCP/HCP). Habitat enhancement and restoration are also important components of the conservation strategy (see Section 6.6 of the NCCP/HCP).

As described for Finding 4.1.3, the Water Authority has assembled the Preserve Area primarily by conserving lands from across the Plan Area that represent a range of habitat associations and land types present within San Diego County and that complement existing and planned preserve areas. As shown in Figures 4-3 and 6-2 of the NCCP/HCP, the HMAs are located within conceptual habitat linkages and/or biologically significant resource areas that have been identified within the Plan Area through regional conservation planning efforts. Through the strategic selection of properties to supplement existing conservation areas, the Preserve Area provides for the maintenance of biological diversity and ecosystem function beyond the HMAs themselves and contributes to the development of large, inter-connected blocks of habitat managed in perpetuity for sensitive species.

The Preserve Area has been designed and will be managed under the NCCP/HCP conservation strategy to: provide native ecosystem types or natural communities across their natural range of variation in a system of conserved areas; maintain and/or restore viable populations of Covered Species; sustain ecological and evolutionary processes necessary to maintain the viability of the conserved natural communities and habitats for Covered Species; and be responsive to short-term and long-term environmental change and to maintain evolutionary potential.

The NCCP/HCP also includes a Habitat Restoration Program to enhance conservation potential within the Plan Area for Covered Species. Restoration is the reestablishment of natural/native species and processes through the use of planting, seeding, transplanting,

and salvaging techniques. Per the NCCP/HCP, habitat restoration may occur as a partial mitigation response to address permanent impacts, recurring temporary impacts, and one-time temporary impacts to habitat, and/or species-specific mitigation requirements. Where the restoration is providing partial mitigation for permanent impacts and mitigating one-time temporary impacts, the restoration effort will emulate surrounding vegetation characteristics. Restoration of recurring-impact sites will ensure that the restored site does not revert to a disturbed or invasive, non-native species-dominated condition. Restoration efforts within the rights-of-way will maintain native or natural habitats to provide for the movement of species within these areas and reduce edge effects within adjacent preserve areas.

Finding 4.1.4.B **CDFG finds that the development of reserve systems and conservation measures in the plan area provides, as needed for the conservation of species: establishment of one or more reserves or other measures that provide equivalent conservation of Covered Species within the plan area and linkages between them and adjacent habitat areas outside the NCCP/HCP Area. (Section 2820(a)(4)(B))**

Successful conservation of sensitive species requires the protection of large, inter-connected blocks of habitat to reduce the risk of local extirpation and maintain the genetic connectivity of populations. This is particularly important for species that are dependent on metapopulation dynamics (i.e., species regionally maintained through permanent source populations that are periodically interconnected through the irregular establishment of intervening satellite populations), have dispersal constraints, or that naturally occur at low densities. As described above for previous findings, the NCCP/HCP Preserve Area was assembled by conserving individual lands from across the Plan Area (the HMAs) that represent a range of habitat associations and land types present within the region and that complement existing and planned preserve areas. As shown in Figures 4-3 and 6-2 of the NCCP/HCP, the HMAs are located within conceptual habitat linkages and/or biologically significant resource areas that have been identified through regional conservation planning efforts. The configuration and management of the Preserve Area address the need for connectivity and will expand viable linkages within and among lands within the regional preserve system, including lands protected by the MSCP and MHCP. In addition, the Water Authority will retain and manage its fee-owned rights-of-way habitat to supplement adjoining preserve lands that are part of, or provide connections to, other conservation plan lands. To the extent that fee-owned rights-of-way can serve two purposes (i.e., function for Water Authority facilities and connect fragmented habitat areas) or may contribute to the habitat carrying capacity of other preserve lands managed as a part of other conservation plans, the Water Authority-owned rights-of-way and easements would provide building blocks for the creation of wildlife corridors. Through the strategic selection of properties to supplement existing conservation areas, the NCCP/HCP contributes to the development of large, inter-connected blocks of habitat that will be managed in perpetuity for the conservation of Covered Species.

Finding 4.1.4.C **CDFG finds that the development of reserve systems and conservation measures in the NCCP/HCP area provides, as needed for the conservation of species: protection and maintenance of habitat areas large enough to support sustainable populations of Covered Species. (Section 2820(a)(4)(C))**

Large preserves provide greater viability as management units, maximize preserve capacity to support viable populations of Covered Species, maintain ecological functions, and preserve biodiversity. To achieve these beneficial outcomes, it is important to establish large, linked blocks of vegetation communities within a preserve system. The Water Authority Preserve Area consists of large blocks of habitat embedded within a regional system of preserved lands. The HMAs are located throughout San Diego County and contain a diversity of vegetation communities that support or have the potential to support Covered Species. Protecting suitable but unoccupied habitat for Covered Species allows for future shifts in population size and location in response to natural and anthropogenic environmental change.

The biological resources and vegetation communities known for each HMA are discussed in detail in Section 6.8 of the NCCP/HCP and summarized here. The 1,186-acre San Miguel HMA is part of the larger San Miguel Ranch conserved land and managed as part of the San Diego National Wildlife Refuge Complex by the USFWS. The San Miguel HMA supports a number of upland habitats that provide very high habitat value for many Covered Species. In addition to high quality coastal sage scrub, the site supports chamise and mixed chaparral, native grasslands, riparian scrub, freshwater marsh, and seasonal ponds. This rich biodiversity may be attributed to the large amount of undeveloped land within and adjacent to the site, highly variable topography, relatively low disturbance, and connectivity to the Otay Lakes, Sweetwater Reservoir, Sweetwater River, and Mother Miguel and San Miguel Mountains. Several wildlife corridors have also been identified on-site that facilitate wildlife movement between areas of the San Miguel and Jamul mountains, as well as the wetlands surrounding the Sweetwater Reservoir and Sweetwater River corridors.

The 271-acre Crestridge HMA is a multiple-parcel site located south of Interstate 8 at the eastern edge of the city of El Cajon in San Diego County. The Crestridge HMA is owned by CDFG and managed together with the adjacent Crestridge Ecological Reserve. Diegan coastal sage scrub habitat comprises approximately 90 percent of the site, with southern mixed chaparral comprising the rest. The Diegan coastal sage scrub habitat is of high quality, and the southern mixed chaparral has connectivity to larger expanses of chaparral northeast of the site. Numerous Covered Species are known to occur, or have potential to occur, within the scrub and chaparral habitats on-site.

The 390-acre Rancho Cañada HMA, in conjunction with adjacent lands owned by CDFG, San Diego County Parks and Recreation, and Bureau of Land Management, is an important core habitat conservation area. The property is situated between the coastal mesas and the mountains of the Peninsular Ranges in west-central San Diego County and is part of a proposed network of open-space under the MSCP. County of San Diego

Parks and Recreation lands (Ramona Serena) lie adjacent to the northern and northwestern boundaries, and CDFG's adjacent lands (Monte Vista Ranch) are contiguous with the boundary from the northeastern side to the southwestern corner. The property is also part of an identified regional wildlife corridor between larger non-contiguous areas of open space to the southwest that are managed by Marine Corps Air Station Miramar, CDFG, City of San Diego, and County of San Diego. The property has exceptional plant and wildlife habitat value due to the presence of San Vicente Creek and the diverse mosaic of vegetation communities, including non-native grassland, Diegan coastal sage scrub, chaparral, oak woodland, riparian forest, wetland, and intermittent stream habitats.

Altogether, the three Wetland HMAs (Tijuana River Valley HMA, San Luis Rey River HMA, and Manchester HMA) will provide approximately 47.6 acres of created wetland habitats that have been established or will be established under the NCCP/HCP to benefit Covered Species. The Manchester HMA (approximately 9 acres) has created wetland habitat (7.8 acres) and is expected to provide future suitable habitat for least Bell's vireo. The Tijuana River Valley HMA (40 acres) and San Luis Rey River HMA (33 acres) are proposed for future construction (i.e., rehabilitation to wetland conditions), to begin in 2012 and 2016, respectively. Covered Species that would benefit from these sites include, but are not limited to, arroyo toad, least Bell's vireo, yellow warbler, southwestern willow flycatcher, and yellow-breasted chat.

Since the NCCP/HCP covers a large and varied area, and the distributions of the Covered Species vary within the Plan Area, not all of the Covered Species are known from the current Preserve Area. Where the existing Preserve Area does not have sufficient credits of suitable and/or occupied habitat to satisfy the vegetation community and/or Covered Species obligations under the NCCP/HCP, the Water Authority will acquire additional habitat acreage to add to the Preserve Area or provide a biologically superior alternative that is acceptable to the Wildlife Agencies (e.g., reintroduction of the species into suitable habitat within the existing Preserve Area, enhance habitat to support or expand an existing population, etc.).

Attachment 1 to this Permit provides estimates of the acreage of suitable habitat present within the HMAs for each Covered Species and information on known or expected occurrences of the Covered Species within the Preserve Area (see Appendix B of the NCCP/HCP for details).

Finding 4.1.4.D **CDFG finds that the development of reserve systems and conservation measures in the NCCP/HCP area provides, as needed for the conservation of species: incorporation of a range of environmental gradients and high habitat diversity to provide for shifting species distributions due to changed circumstances. (Section 2820(a)(4)(D))**

Since the Plan Area is large and varied, the need to include a range of environmental gradients and a diversity of habitats within the overall Preserve Area was a primary consideration in determining selection of the HMAs. The Preserve Area is well

representative of the high ecological diversity of natural communities and land types within the Plan Area, as shown in Table 6-8 of the NCCP/HCP. The HMAs include both upland and wetland habitats, and are located throughout the Plan Area from the southern portion of San Diego County to the northern portion, and range from coastal areas to the montane (see Figure 6-1 of the NCCP/HCP). The range of environmental conditions present within the Preserve Area is further discussed in Section 6.8 of the NCCP/HCP.

Finding 4.1.4.E **CDFG finds that the development of reserve systems and conservation measures in the NCCP/HCP area provides, as needed for the conservation of species: for the effective movement and interchange of organisms between habitat areas and maintenance of the ecological integrity of the habitat areas within the NCCP/HCP area. (Section 2820(a)(4)(E))**

The Preserve Area has been designed and will be managed to ensure the continuation of ecological processes that contribute to self-sustaining populations of Covered Species and natural communities. As such, the Preserve Area is intended to conserve populations of, and high quality habitat for, Covered Species and to protect additional suitable but unoccupied habitat for Covered Species. Protecting suitable but unoccupied habitat for Covered Species will allow for future shifts in population size and location in response to natural and anthropogenic environmental change. The individual ecological needs and management measures of Covered Species are summarized in the species profiles (Appendix B of the NCCP/HCP).

The Water Authority Preserve Area complements and builds on an extensive network of public lands and other conserved lands within the Plan Area. These existing preserves and open space will help to achieve the NCCP/HCP biological goals and objectives by providing habitat linkages, source populations of Covered Species for the HMAs, and other important functions that contribute to the ecological integrity of the Preserve Area. As shown in Figures 4-3 and 6-2 of the NCCP/HCP, the HMAs are located within conceptual habitat linkages and/or biologically significant resource areas that have been identified within the Plan Area through regional conservation planning efforts. Thus, the Preserve Area provides for the maintenance of biological diversity and ecosystem function beyond the HMAs themselves and contributes to the development of large, inter-connected blocks of habitat to provide for effective movement and interchange of organisms between habitat areas. Furthermore, under the NCCP/HCP the Water Authority will maintain its fee-owned rights-of-way as native or natural habitats, where possible, to provide for the local and regional movement of wildlife species.

Finding 4.1.5 **CDFG finds that the NCCP/HCP identifies activities, and any restriction on those activities, allowed within the reserve areas that are compatible with the conservation of species, habitats, natural communities, and their associated ecological functions. (Section 2820(a)(5))**

The NCCP/HCP does not authorize major public recreational uses, agriculture, general development, mineral extractions, or other activities that could affect areas adjacent to or

within the Preserve Areas or other plans' preserved areas. The only compatible uses in the HMAs are certain preserve management and monitoring tasks, such as, active and passive habitat restoration, stream stabilization measures, fire management practices, compatible public uses/outreach, fencing, signage, removal of trash and debris, light and noise, feral and domestic animal control, cowbird trapping, invasive exotic species control, and guidelines for species introduction and reintroduction (see Section 5.4 of the NCCP/HCP). Preserve management guidelines, including avoidance and minimization measures, are included in Section 6.11 of the NCCP/HCP. PAMPs will be developed for each HMA that will identify and provide detailed descriptions of the land management activities, restrictions, and practices that will be undertaken to maintain or enhance Covered Species and their habitat within that HMA.

Conservation activities within the NCCP/HCP Preserve Areas are expected to have a net benefit on Covered Species. However, some conservation activities may have temporary or permanent adverse impacts on Covered Species that result in take. Activities that are designed to benefit one or several Covered Species may have the effect of harming another set of Covered Species. However, the Preserve Area is designed to be large and diverse enough to ensure that the net effect of all conservation activities within the HMAs is beneficial across the system. Any impacts resulting from management activities within the Preserve Area are considered minimal and fully mitigated. It is anticipated that these activities will be compatible with the Conservation Goals and Objectives of the NCCP/HCP.

Allowable Uses are activities that may occur in and outside the HMAs that are not Covered Activities (see Section 5.0 of the NCCP/HCP). Allowable Uses in the Preserve Areas include emergency, safety, and police services and emergency response activities by the Water Authority or authorized personnel required to protect the public health, safety, and welfare. Allowable Uses in and outside of the HMAs also include pesticide use under the guidance of licensed pest control advisors qualified under the Department of Pesticide Regulations.

Finding 4.1.6 **CDFG finds that the NCCP/HCP contains specific conservation measures that meet the biological needs of Covered Species and that are based upon the best available scientific information regarding the status of Covered Species and the impacts of permitted activities on those species. (Section 2820(a)(6))**

The overall conservation strategy for covered plant species focuses on the avoidance and/or minimization of impacts, mitigation of unavoidable impacts, and the establishment and permanent management of a regionally significant Preserve Area that meet the biological needs of the species and/or their habitat within the Plan Area. The Water Authority will avoid, to the extent feasible, critical locations for Covered Species such as occupied habitat, distinctive clay soils in unoccupied habitat that may allow for population re-establishment or expansion, and adjacent native habitat that supports pollinators. Species-specific conservation measures will be implemented to enhance or protect habitat quality and increase population size. Examples of such measures include enhancing declining populations, restoring damaged habitat, minimizing edge effects,

providing for the control of non-native invasive species, and establishing seed banks (see Appendix B of the NCCP/HCP).

The conservation strategy for covered wildlife species focuses on the avoidance and/or minimization of impacts (particularly breeding season restrictions and buffers) and the establishment and permanent management of a regionally significant Preserve Area that supports Covered Species and potentially suitable habitat. The HMAs are within biologically significant resource areas and often adjacent to, or managed as part of, other regionally significant conserved habitat areas. Maintenance of existing natural habitats within rights-of-way and minimization of and mitigation for impacts within rights-of-way habitat will help maintain linkages between habitat blocks that consist of upland and riparian vegetation types suitable for breeding, foraging, and dispersal of covered wildlife species. Other species-specific conservation measures include, but are not limited to, avoidance and minimization of impacts to rare microhabitats or habitat components vital for Covered Species (e.g., vernal pools, boulder fields, cactus patches, and ridgelines), incorporation of larval host plants in restoration plans when appropriate, and salvage/relocation and/or re-introduction strategies for some species (see Appendix B of the NCCP/HCP).

Collectively, the conservation strategy will contribute to the recovery of, and mitigate for impacts to, Covered Species (see Section 6 of the NCCP/HCP). The conservation strategy is based on the best scientific data available at the time of its preparation and takes into account the limitations of the baseline data available for the conservation analysis. Independent scientific input was sought early in the planning process to identify key scientific issues, identify scientifically sound conservation measures, evaluate the preserve area and management guidelines, and identify data gaps and sources of uncertainty (see discussion under NCCPA Finding 4.1.1 for more details on the Science Advisor Process).

The most current data available for vegetation and Covered Species occurrences within the Plan Area were utilized when assessing potential take and levels of conservation under the NCCP/HCP. The primary source of information for land cover and vegetation mapping within the Plan Area was the San Diego Association of Governments (SANDAG) Regional Vegetation data (SANDAG 2008). Other sources of biological data and information for the Plan Area and the Preserve Area include, but are not limited to, site-specific biological technical reports, conservation bank agreements, biological opinions issued by USFWS for Water Authority projects, existing habitat management plans for the Preserve Area, and Scientific Review Panel input (Rahn et al. 2008). When appropriate, species experts within CDFG and USFWS were consulted during the development of species-specific conservation measures. Data sources for species-occurrence points include Plant Atlas data from the San Diego Natural History Museum (SDNHM 2008), the California Natural Diversity Data Base (CNDDB), and USFWS biological data for federally listed species. The NCCP/HCP acknowledges that existing geographic databases used in the Conservation Analysis are incomplete for some species. Where data were limited, the potential for occurrence of a species was inferred by other information, such as soils (e.g., edaphically restricted plants) and the size, suitability, and distribution of existing habitat.

Finding 4.1.7 **CDFG finds that the NCCP/HCP contains a monitoring program. (Section 2820(a)(7)**

The monitoring program for the NCCP/HCP is described in detail in Section 6.12 of the NCCP/HCP and summarized here. The Water Authority will implement a program to monitor projects and maintenance activities in order to verify that the anticipated impacts to Covered Species and their habitat (as put forth in Appendix B of the NCCP/HCP) are not exceeded and that the mitigation elements of the NCCP/HCP are implemented appropriately. Monitoring of the Preserve Area will be conducted by the Preserve Area land managers to measure the effectiveness of conservation actions and to provide additional information that will direct adaptive management actions. The results of all monitoring activities will be reported in the NCCP/HCP's annual report summary (see Section 6.12.1 of the NCCP/HCP).

The monitoring program consists of three components: Compliance Monitoring, Effectiveness Monitoring, and Validation Monitoring (see Section 6.12.2 of the NCCP/HCP). Compliance Monitoring will track Covered Activities' impacts, mitigation measures (including stay ahead and rough step commitments), and conditions of coverage to document that the habitat conservation strategies are being implemented in accordance with the NCCP/HCP. The following items will be documented in the annual report: the types, amounts, and locations of impacts; the offsetting mitigation; and the significant conditions of coverage undertaken during the reporting period. Compliance Monitoring provides a record of activities implemented to address conservation strategies or components. This information allows the Wildlife Agencies to track implementation of the NCCP/HCP. The Water Authority also anticipates that the Preserve Area managers, in coordination with the Water Authority and Wildlife Agencies, will use this information to modify and improve monitoring and reporting methods.

Effectiveness Monitoring will evaluate the success of management activities to address specific habitat and Covered Species objectives in the Preserve Areas during the reporting period. Each Preserve Area's PAMP is/will be written to address the individual property's habitat conditions and Covered Species. The results of these annual monitoring efforts will be used by preserve managers to determine if the Conditions of Coverage are sufficient for conserving and managing the resources and if modifications or new management (and monitoring) efforts are warranted. Adaptive management recommendations will be incorporated, as necessary, to improve the effectiveness of the NCCP/HCP and to further benefit broader species' conservation goals.

Finally, Validation Monitoring will be used to help preserve managers and the Wildlife Agencies verify if the assumed causal linkages between management actions and predicted results or expected future conditions outlined in Appendix B of the NCCP/HCP are supported.

Finding 4.1.8 **CDFG finds that the NCCP/HCP contains an adaptive management program. (Section 2820(a)(8))**

The NCCP/HCP contains an adaptive management program for which the acquisition of data through long-term monitoring is essential. Adaptive management allows the conservation strategy of the NCCP/HCP to be adjusted throughout the permit term, ensuring that the most up-to-date information is utilized to achieve the biological goals and objectives. Adaptive management framework guidelines are provided in Section 6.12.3.1 of the NCCP/HCP. These guidelines will be used by Preserve Area managers as the basis for developing new, or modifying existing, management actions within the PAMPs for each of the HMAs. The guidelines focus on the protection and improvement of habitat and Covered Species, as well as avoiding or minimizing the primary threats to the Preserve Areas. The adaptive management program that is developed for each HMA will outline specific goals, measurable objectives, timelines, and thresholds for initiating actions to ensure the perpetual conservation of habitats and Covered Species within the Preserve Area. The adaptive management and monitoring program for each Preserve Area will follow the guidance in Atkinson et al. (2004).

Biological monitoring of the Preserve Area will serve to measure the efficacy of the overall conservation approach, support informed adaptive management decisions, and assist in defining and modifying biological goals (see Section 6.12.2 of the NCCP/HCP). Effectiveness monitoring will be implemented to evaluate the success of management activities to address specific habitat and Covered Species objectives in the Preserve Areas. The results of these monitoring efforts will be used by Preserve Area managers to determine if the Conditions of Coverage are sufficient for conserving and managing the resources and if modifications or new management (and monitoring) efforts are warranted. Adaptive management recommendations will be provided during the annual reporting process (see Section 6.12.1 of the NCCP/HCP), as necessary, to improve the effectiveness of the NCCP/HCP. Management responsibility for the Preserve Areas has been transferred to the Wildlife Agencies and other management entities through prior agreements with the Water Authority. Thus, any adaptive management deemed necessary within Preserve Areas shall be initiated and carried out by the individual Preserve Area managers.

Finding 4.1.9 **CDFG finds that the NCCP/HCP includes a timeframe and process by which reserves or other conservation measures are to be implemented, including the obligations of landowners and signatories, and the consequences of the failure to acquire lands in a timely manner (Section 2820(a)(9)).**

As part of its conservation strategy and commitments pursuant to the NCCP/HCP, the Water Authority has acquired and assured management of (or in the case of the San Luis Rey HMA, will assure the management of) approximately 3,067 acres of regionally significant habitat that support Covered Species (1,920 acres in the HMAs and 1,147 acres in the MMAs). So unlike most NCCP Permittees, the Water Authority has assembled and ensured the long-term management of a Preserve Area system well in advance of the occurrence of impacts. As shown in Table 6-8 of the NCCP/HCP, the HMAs include approximately 704 acres of available/proposed upland and wetland habitat credits, exceeding the approximately 373 acres of impacts estimated to occur from Covered Activities during the permit term. Assuming an average 2:1 mitigation ratio for

impacts (e.g., roughly 746 mitigation acres), the currently available/proposed credits in the HMAs are nearly sufficient to meet the NCCP/HCP's mitigation needs over the 55-year permit term.

The Water Authority will ensure that implementation of the conservation and mitigation measures are roughly proportional in time and extent to the impacts on Covered Species and their habitats by implementing the following methods (see Section 6.5.1 of the NCCP/HCP). Each Covered Activity will be assessed for its potential impacts to vegetation communities (habitats) and Covered Species. As described in Table 6-5 of the NCCP/HCP, each affected vegetation community will be assigned to a tier denoting its relative sensitivity. Tables 6-6 and 6-7 of the NCCP/HCP identify the mitigation ratios required to effectively mitigate impacts to each tier. Mitigation must occur within the same vegetation type or, where justified on a biological basis, with a higher value or comparable vegetation type. Mitigation must be assured prior to the onset of impacts. Thus, as Covered Activities occur that require habitat mitigation, the mitigation process assures that conservation and loss of each vegetation community remains in rough-step. As noted above, the Water Authority has already assembled an initial Preserve Area, which includes unused mitigation credits in the HMAs, so the only rough-step issue arises from assuring that mitigation obligations are met. As described in Section 6.12, the NCCP/HCP requires a reporting of all impacts and mitigation/credit use be provided to the Wildlife Agencies on an annual basis. The reporting will use the CDFG Habitrak based approach to track and report impacts and mitigation.

Furthermore, the annual report will provide an analysis of whether the upland or wetland habitat credits currently available will be sufficient to satisfy the projected mitigation obligation requirements for the next two years, based on the estimated impacts from Covered Activities for that period. If, based on this analysis, the available credits would potentially be reduced to below the estimated credit/acreage need, the Water Authority will either obtain credits from an independent, approved conservation/wetland bank, acquire additional habitat acreage to add to the Preserve Area to meet that commitment, or provide a biologically superior alternative that is acceptable to the Wildlife Agencies. If the HMAs cannot provide the expected credit acres, then the Water Authority would identify which option it would implement and provide a commitment to obtain the necessary credits or additional habitat to satisfy the vegetation community and Covered Species obligations. Should the annual evaluation indicate that the stay-ahead provision is not satisfied, then the Water Authority and USFWS and CDFG will meet and confer to mutually develop a plan to remedy the situation.

Finding 4.1.10 **CDFG finds that the NCCP/HCP contains provisions that ensure adequate funding to carry out the conservation actions identified in the NCCP/HCP. (Section 2820(a)(10))**

As described in Section 7.0 and Table 7-3 of the NCCP/HCP, implementation of the NCCP/HCP will be funded through existing financial management policies and programs maintained by the Water Authority (e.g., CIP Mitigation Program, individually approved CIP project budgets, the annual operating budget of the Water Resources Department, and/or Preserve Area endowment funds). The Water Authority estimates its long-term

financial needs based on the CIP, and adopts a two-year budget cycle to address short-term funding and expenditures. Full funding during the permit term is guaranteed by the Water Authority through the Implementing Agreement.

The Water Authority's NCCP/HCP implementation costs include staff and consultant time. The CIP currently provides funds for Water Authority staff to ensure compliance with State and Federal environmental laws. The CIP will continue funding environmental compliance as well as staff time to ensure that Covered Activities are compliant with the requirements of the NCCP/HCP.

The Mitigation Program is also an element of the CIP; its purpose is to develop and implement short-term and long-term comprehensive strategies to protect or otherwise benefit sensitive natural resources, including regulatory permitting in support of CIP projects' construction schedules and budgets. Upon adoption of the NCCP/HCP and issuance of the NCCP Permit, the Water Authority will ensure that the Mitigation Program meets the requirements of the NCCP/HCP, including funding the purchase of mitigation land and providing endowments for long-term management of such lands. To date, all lands anticipated to be needed for habitat-based mitigation under the NCCP/HCP (the HMAs) have been purchased by the Water Authority. While endowments currently exist for all of the upland HMAs to fund management and monitoring activities (see Section 7.2.2.2 of the NCCP/HCP), the Water Authority will provide additional funding to the Preserve Area endowments to support any additional requirements of the final permitted NCCP/HCP.

Finding 4.2.1 **CDFG finds that the Implementing Agreement contains provisions defining species coverage, including conditions on coverage. (2820(b)(1))**

The Implementing Agreement identifies 63 species proposed for coverage under the NCCP Permit. The list of Covered Species includes both listed and non-listed species. All of these species are proposed for take pursuant to the NCCPA. The Implementing Agreement specifies that the Water Authority must comply with the terms and conditions of species coverage detailed in the NCCP/HCP, the Implementing Agreement, and this Permit, to avoid, minimize, and mitigate impacts on Covered Species and their habitats.

Finding 4.2.2 **CDFG finds that the Implementing Agreement contains provisions for establishing the long-term protection of any habitat reserve or other measures that provide equivalent conservation of Covered Species. (2820(b)(2))**

The objective of the NCCP/HCP is to provide comprehensive species, wetlands, and ecosystem conservation and to provide for the preservation and management of Covered Species and natural habitats within the Plan Area. The Water Authority has obtained and entered into agreements with various management entities to manage more than 1,920 acres of natural habitat lands (HMAs, which comprise the Preserve Area) in San Diego County to provide mitigation for impacts to Covered Species and habitats that occur through implementation of the NCCP/HCP. All of these properties were strategically

chosen to complement regional conservation efforts to create a high quality, diverse system of interconnected conservation lands. Lands within the Preserve Area have been dedicated in perpetuity for conservation uses through either a fee interest or conservation easement (see Section 9.0 of the Implementing Agreement) and include secured funding for long-term management through separate established endowments. Any future additions to the Preserve Area shall follow the process described in Sections 6.5 and 6.10 of the NCCP/HCP and adhere to the principles and priorities set forth for preserve design, and for species population and habitat preservation and enhancement.

The Preserve Area will be preserved and managed as described in Section 10.0 of the Implementing Agreement. The Water Authority is responsible for ensuring the management of the HMAs in perpetuity in accordance with Wildlife Agency-approved PAMPs. Monitoring and adaptive management of the Preserve Area will be implemented to ensure that the Water Authority is in compliance with requirements of the NCCP/HCP, to measure the effectiveness of the conservation strategy, and to provide additional information that will help direct or redirect conservation actions to benefit the Covered Species.

Finding 4.2.3 **CDFG finds that the Implementing Agreement contains specific terms and conditions, which, if violated, would result in the suspension or revocation of the permit, in whole or in part. CDFG shall include a provision requiring notification to the plan participant of a specified period of time to cure any default prior to suspension or revocation of the permit in whole or in part. (2820(b)(3)**

As described in Section 19.2 of the Implementing Agreement, CDFG may revoke or terminate the NCCP Permit for a material violation of the NCCP Permit or material breach of the Implementing Agreement by the Water Authority. If the Water Authority is out of compliance with the Federal Permit issued for this NCCP/HCP, that constitutes a material breach of the Implementing Agreement (Section 19.1,19.2:IA). CDFG must determine in writing that (a) such violation or breach cannot be effectively redressed by other remedies or enforcement action, or (b) revocation or termination is required to avoid jeopardizing the continued existence of a Covered Species and to fulfill a legal obligation of the CDFG under NCCPA (Section 19.2 and 21.4.1:IA).

CDFG agrees that it will not revoke or terminate the NCCP Permit without first (a) requesting that the Water Authority take appropriate remedial action, and (b) providing the Water Authority with notice in writing of the facts or conduct which warrant the revocation or termination and a reasonable opportunity (but not less than forty-five (45) days) to demonstrate or achieve compliance with the NCCP Permit and the Implementing Agreement.

However, in the event that CDFG has determined that the Water Authority has failed to meet the rough-proportionality standard provided in Section 9.3 of the Implementing Agreement, and if the Water Authority has failed to cure the default or to enter into an Agreement to do so within forty-five (45) days of the written notice of such

determination, CDFG may revoke the NCCP Permit in whole or in part in accordance with California Fish and Game Code Section 2820 (Section 21.4.1:IA).

Finding 4.2.3A **CDFG finds that the Implementing Agreement specifies the action CDFG shall take if the participant fails to provide adequate funding. (2820(b)(3)(A))**

In the event there is inadequate funding to implement the NCCP/HCP, USFWS and CDFG will assess the impact of the funding deficiency on the scope and validity of the permits. Unless the Water Authority exercises its authority to withdraw pursuant to Section 20.0 of the Implementing Agreement or the Wildlife Agencies revoke the Permits pursuant to Section 19.0 of the Implementing Agreement, the Parties agree that they will meet and confer to cooperatively develop a strategy to address the funding shortfall, and to undertake all practicable efforts to maintain the level of conservation and take authorization afforded by the Permits until the funding situation can be remedied (Section 19.0 and 20.0: IA).

Finding 4.2.3B **CDFG finds that the Implementing Agreement specifies the action CDFG shall take if the participant fails to maintain rough proportionality between impacts on habitat or Covered Species and conservation measures. (2820(b)(3)(B))**

For purposes of the NCCP/HCP, rough step proportionality shall be determined pursuant to Section 6.5.1.2 of the NCCP/HCP. If at any time CDFG provides written notification that rough proportionality has not been met, then the Water Authority will either: (1) regain rough proportionality within forty-five (45) days; or (2) enter into an agreement with CDFG within forty-five (45) days which will set a course of action to expeditiously regain rough proportionality. The agreement may include any of a variety of commitments or adjustments to the NCCP/HCP designed to regain rough proportionality, including but not limited to, a plan to acquire, restore, or enhance lands of appropriate vegetation or land-cover type expeditiously (Section 9.3: IA).

In the event that CDFG has determined that the Water Authority has failed to meet the rough proportionality standard provided in Section 9.3 of the Implementing Agreement, and if the Water Authority failed to cure the default or has failed to enter into an agreement to do so within forty-five (45) days of the written notice of such determination, CDFG may suspend the NCCP Permit in whole or in part in accordance with California Fish and Game Code Section 2820 (Section 21.4.2:IA).

Finding 4.2.3C **CDFG finds that the Implementing Agreement specifies the action CDFG shall take if the plan participant adopts, amends, or approves any plan or project without the concurrence of the wildlife agencies that is inconsistent with the objectives and requirements of the approved plan. (2820(b)(3)(C))**

The USFWS or CDFG may object to an action or inaction by the Water Authority on the basis that the action or inaction is inconsistent with the NCCP/HCP, the Implementing Agreement, or this NCCP Permit. The objector shall notify the Water Authority and the other Wildlife Agency in writing, explaining the basis of the objection. The Water Authority shall respond to the objection notice within fifteen (15) business days of receiving it, stating what actions it proposes to resolve the objection or explaining why the objection is unfounded. If the response is not satisfactory to the objecting party, all Parties shall meet and confer to attempt to resolve the dispute. The Water Authority shall use the same procedure to raise and to resolve objections to any action or inaction of the USFWS or CDFG, and the USFWS and CDFG shall use their reasonable efforts to respond in the same manner to notices delivered by the Water Authority (Section 21.1.1:IA).

If the Parties are unable to resolve a dispute after completing the dispute resolution procedure described above, any one of the Parties may elevate the dispute to a meeting of the chief executives of the involved Parties. For purposes of this provision, chief executive shall mean the General Manager of the Water Authority, the CDFG Regional Manager, and the USFWS Field Supervisor. Each Party shall be represented in person by its chief executive at the meeting, and the meeting shall occur within forty-five (45) days of a request by any Party following completion of the dispute resolution procedure (Section 21.1.1.2:IA).

Finding 4.2.3D **CDFG finds that the Implementing Agreement specifies the action CDFG shall take if the level of take exceeds that authorized by the Permit. (2820(b)(3)(D))**

Sections 19.2 and 21.4.1 of the Implementing Agreement allow CDFG to suspend this NCCP Permit in whole or in part, in the event of any material violation of this NCCP Permit or material breach of the Implementing Agreement by the Water Authority, provided, however, that it shall not suspend this NCCP Permit without first (1) attempting to resolve any disagreements regarding the implementation or interpretation of the NCCP/HCP or the Implementing Agreement in accordance with Section 21.1, (2) requesting the Water Authority to take appropriate remedial actions, and (3) providing the Water Authority with written notice of the facts or conduct which may warrant the suspension and an adequate and reasonable opportunity for the Water Authority to demonstrate why suspension is not warranted or to take steps necessary to cure the violation or breach (Sections 21.4.1 and 21.1:IA).

Finding 4.2.4 **CDFG finds that the Implementing Agreement contains provisions specifying procedures for amendment of the NCCP/HCP and the Implementing Agreement. (2820(b)(4))**

The NCCP/HCP may be amended only with the written consent of all of the Parties. Any change to the Implementing Agreement, the NCCP/HCP or the Permits that does not qualify as a Clerical/Administrative Change or Minor Amendment under Sections 17.1 and 17.4.3 of the Implementing Agreement may be processed as a Major Amendment in accordance with all applicable laws and regulations, including but not limited to FESA,

NEPA, NCCPA and CEQA. The Party proposing the Major Amendment shall provide a statement of the reasons and an analysis of its environmental effects, if any, including its effects on the effectiveness of the NCCP/HCP and on Covered Species. The Wildlife Agencies shall process the proposed Major Amendment in an expeditious manner, commensurate with the level of environmental review appropriate to the magnitude of the proposed Major Amendment. The Water Authority may, in its sole discretion, reject any Major Amendment proposed by the Wildlife Agencies; however, the Water Authority will use reasonable efforts to explain in writing its rationale for any such rejection within thirty (30) days of communicating such rejection to the Wildlife Agencies (Section 17.6.3:IA).

Finding 4.2.5 **CDFG finds that the Implementing Agreement contains provisions ensuring implementation of the monitoring program and adaptive management program. (2820(b)(5))**

The Water Authority, or its designated Preserve Manager(s), shall carry out the compliance and effectiveness monitoring and reporting, as further described in Sections 6.11 and 6.12 of the NCCP/HCP. Regardless, the Water Authority (as the Implementing Entity) shall remain solely responsible for all monitoring and reporting requirements in perpetuity, including submission to the Wildlife Agencies of the monitoring and reporting plans, and for the timeliness and quality of the monitoring and reporting plan (Section 11.0: IA).

The Water Authority shall ensure implementation of an adaptive management program for the Preserve Area in order to gauge the effectiveness of the NCCP/HCP, propose and modify conservation measures as the need arises, and respond to Changed Circumstances. The adaptive management program will be based on the results of monitoring and updated information regarding Covered Species and habitats.

Finding 4.2.6 **CDFG finds that the Implementing Agreement contains provisions for oversight of NCCP/HCP implementation for purposes of assessing mitigation performance, funding, and habitat protection measures. (2820(b)(6))**

Within two (2) years of the dedication of any parcel of land to the Preserve Area (unless otherwise noted in NCCP/HCP Section 6.8), the Water Authority shall ensure that a PAMP is prepared. All PAMPs must be reviewed and approved by the Wildlife Agencies. The Wildlife Agencies shall use their reasonable efforts to provide a written response within sixty (60) days of submission of the proposed PAMP. The Wildlife Agencies shall either concur that the plan or revision thereto is adequate or shall describe additional information needed to determine the plan's adequacy or reasonable modifications needed to render the plan adequate. The PAMPs will be updated and revised at least once every five years, or as determined necessary, as part of the NCCP/HCP's adaptive management program. During preparation and agency review of such plans and revisions, preserve management shall continue according to the NCCP/HCP and best scientific practices (Section 10.4:IA).

The Parties will review the Annual Report described in Section 11.4 of the Implementing Agreement for the purposes of evaluating both the implementation of the NCCP/HCP during the preceding year and the adequacy of the overall progress being made towards reaching the conservation goals of the NCCP/HCP. The Annual Report will include information on all contributions towards the assembly of the Preserve Area system, such as use of HMA credits, mitigation or conservation bank credits, land acquisitions, and management activities undertaken or proposed on habitat lands. Habitat-management activities undertaken or proposed will also be discussed. In addition, the Parties will review relevant information prepared and available from other regional conservation efforts involved in preserve management and monitoring.

If, based on the Annual Report, the Wildlife Agencies determine that adequate progress towards implementation of the NCCP/HCP is not being achieved, the Wildlife Agencies shall provide their findings and the basis for such findings in writing to the Water Authority; and the Water Authority will take the actions specified in the NCCP/HCP and the Implementing Agreement to remedy that situation. If the Wildlife Agencies determine that adequate progress towards implementation of the NCCP/HCP is being achieved, but that it is nevertheless not providing sufficient protection to the Covered Species, the Wildlife Agencies shall provide their findings and the basis for such findings in writing to the Water Authority; and then the Parties shall work cooperatively and take appropriate actions consistent with the NCCP/HCP and Implementing Agreement (such as altering management activities or redirecting mitigation and acquisition) in order to remedy the situation. At least once each year, the Water Authority shall meet with Wildlife Agencies to review and coordinate implementation of the NCCP/HCP (Sections 11.4 and 11.5: IA).

Finding 4.2.7 **CDFG finds that the Implementing Agreement contains provisions for periodic reporting to the Wildlife Agencies and the public for purposes of information and evaluation of plan progress. (2820(b)(7))**

The first Annual Report shall be prepared by the Water Authority and submitted to the Wildlife Agencies no later than March 15 (or date agreed to by the Parties) following the first full calendar year of NCCP/HCP implementation and shall report on all applicable activities and results from the Effective Date to the end of the first full calendar year. The second annual report and each annual report thereafter shall be prepared by the Water Authority and submitted to the Wildlife Agencies by January 31, as described in Section 6.12.1 of the NCCP/HCP. The following items will be documented in the Annual Report: the types, amounts, and locations of impacts; the offsetting mitigation; significant conditions of coverage undertaken during the reporting period; monitoring results including photos; any clerical or administrative changes and/or amendments processed during the reporting period; and an assessment of the rough-proportionality requirement. The Water Authority shall make the latest Annual Report accessible to the public via the Internet, and at a publicly noticed open meeting jointly conducted on an annual basis by the Water Authority and Wildlife Agencies to disseminate and discuss the annual report. (Section 11.4: IA).

Finding 4.2.8 **CDFG finds that the Implementing Agreement contains mechanisms to ensure adequate funding to carry out the conservation actions identified in the NCCP/HCP. (2820(b)(8))**

The Water Authority shall ensure that all required implementation, mitigation, monitoring, reporting, and adaptive management measures are adequately funded during the term of this NCCP Permit; and that management, maintenance, and monitoring activities on conservation easement and fee interest habitat lands are adequately funded in perpetuity. Section 7.0 of the NCCP/HCP describes the Water Authority's funding capacity and processes. The Water Authority will promptly notify the Wildlife Agencies of any material change in the Water Authority's financial ability to fulfill its obligations under the Implementing Agreement. The Water Authority will also include in its Annual Report to the Wildlife Agencies reasonably available financial information to demonstrate the Water Authority's ability to fulfill existing obligations.

The Water Authority has provided or shall provide sufficient funds to the appropriate Wildlife Agency to pay in perpetuity for land management costs incurred to meet the land-management obligations set forth in the management plans, in conformance with a Property Analysis Record (PAR) or equivalent cost-estimating method acceptable to the Wildlife Agencies and the guidance presented in Section 6.11 and 6.12 of the NCCP/HCP. Where the Wildlife Agencies have already received funds to manage the HMA to meet pre-existing commitments to other NCCPs (e.g., the San Diego MSCP), funds will only be provided to pay for additional obligations under NCCP/HCP for Covered Species or for obligations not already addressed by those pre-existing commitments (Section 14.1, IA).

Finding 4.2.9 **CDFG finds that the Implementing Agreement contains provisions to ensure that implementation of mitigation and conservation measures on a plan basis is roughly proportional in time and extent to the impact on habitat or Covered Species authorized under the NCCP/HCP. These provisions shall identify the conservation measures, including assembly of reserves where appropriate and implementation of monitoring and management activities, that will be maintained or carried out in rough proportion to the impact on habitat or Covered Species and the measurements that will be used to determine if this is occurring. (2820(b)(9))**

The Water Authority has acquired and conserved adequate resources within the Preserve Area to off-set the majority of impacts anticipated to occur over the 55-year permit term from the implementation of Covered Activities. For purposes of the NCCP/HCP, whether rough step proportionality is met shall be determined pursuant to Section 6.5.1.2 of the NCCP/HCP. The NCCP/HCP also requires annual reporting and monitoring requirements to track actual impacts against estimates provided in the NCCP/HCP. As such, the NCCP/HCP provides for a stay-ahead commitment to ensure that the available mitigation will be sufficient to meet the expected mitigation requirements, based on a two-year planning period for approved CIP projects; an analysis of the stay-ahead

commitment will be included in the Annual Report. Should the annual evaluation indicate that the stay ahead provision is not satisfied, then the Water Authority and USFWS and CDFG will meet and confer to mutually develop a plan to remedy the situation.

Finding 4.3 **CDFG finds that the Implementing Agreement contains provisions for suspension or revocation of the permit, in whole or in part, if the NCCP/HCP participant does not maintain proportionality between take and conservation measures specified in the implementation Agreement and does not either cure the default with 45 days or enter into and Agreement with the department within 45 days to expeditiously cure the default. (2820(c))**

In the event that CDFG has determined that the Water Authority has failed to meet the rough-proportionality standard provided in Section 9.3 of the Implementing Agreement, and if the Water Authority fails to cure the default or enter into an agreement to do so within forty-five (45) days of the written notice of such determination, CDFG may suspend the NCCP Permit in whole or in part in accordance with California Fish and Game Code Section 2820 (Section 9.2, 21.4.2 IA).

Finding 4.4 **CDFG finds that any required data and reports are available for public review and that the Implementing Entity shall also conduct public workshops annually to provide information and evaluate progress toward attaining the conservation objectives of the NCCP/HCP. (2820(d))**

The first Annual Report shall be prepared by the Water Authority and submitted to the Wildlife Agencies no later than March 15 (or date agreed to by the Parties) following the first full calendar year of NCCP/HCP implementation and shall report on all applicable activities and results from the Effective Date to the end of the first full calendar year. The second annual report and each annual report thereafter shall be prepared by the Water Authority and submitted to the Wildlife Agencies by January 31, as described in Section 6.12.1 of the NCCP/HCP. The annual report shall also be made available to the public. A public meeting on the report will be held within 60 days of the report submittal or in conjunction with the MSCP or MHCP annual meetings. The annual report will summarize the previous calendar year's monitoring results; impacts (by project and cumulatively) to Covered Species and habitats; mitigation measures implemented, and an assessment of the rough-proportionality standard. The full contents of the annual report and submittal process are detailed in Section 6.12.1 of the NCCP/HCP.

Finding 4.5 **CDFG finds that the NCCP/HCP participant that is the lead agency or responsible agency shall incorporate in the review of any subsequent project in the NCCP/HCP area the feasible mitigation measures and alternatives related to the biological impacts on Covered Species and their habitat developed in the program environmental impact report. (2820(e))**

The Water Authority is a regional public-facility provider mandated to serve the water needs of the San Diego region. The Water Authority's actions are governed by a number of environmental programs, state and federal regulations, and legislative mandates designed to ensure protection of environmental quality while allowing the Water Authority to meet its water supply obligations. Unlike local jurisdictions such as the County or City of San Diego, the Water Authority does not possess land use authority. Therefore, unlike the MSCP or MHCP, the Water Authority NCCP/HCP does not provide for the transfer of take to third party participants, nor does it impose new regulations on local, state, federal, or independent land-use agencies, private citizens, or other parties of interest within the Plan Area. Activities covered by the NCCP/HCP are limited to those conducted by the Water Authority or their authorized contractors, as described in Section 5.0 of the NCCP/HCP. Furthermore, where Covered Activities are conducted within easements where the Water Authority does not hold fee-title, take authority provided by the NCCP Permit shall apply only to Water Authority Covered Activities, and is not conveyed to the underlying property owner.

Covered Activities are subject to individual project environmental review and the associated CEQA process. Prior to carrying out any Covered Activity within the Plan Area, the Water Authority shall evaluate the proposed project to determine first if it is a Covered Activity. If the activity is determined to be covered under the NCCP/HCP, the evaluation will ensure that all applicable avoidance, minimization, and mitigation measures are incorporated into the proposed project. All Water Authority personnel (and construction contractors) will be trained to ensure that the NCCP/HCP commitments are adhered to as Covered Activities are planned and implemented. An Environmental Surveyor will oversee pre-project evaluations/needs of Covered Activities and subsequently work with the project engineer and contractors to ensure compliance of Covered Activities with NCCP/HCP commitments.

Project-specific minimization and mitigation measures (see Section 6 of the NCCP/HCP) will be outlined within the CEQA document and Pre-Activity Survey Form (PSF) prepared for the activity (see Appendix F of the NCCP/HCP). The PSF will be prepared by an Environmental Surveyor. The Environmental Surveyor may be one or more firms or individuals retained by the Water Authority, or qualified Water Authority staff. The PSF will contain the results of a pre-activity survey (including any focused species surveys required under Appendix B of the NCCP/HCP) of the project area for Covered Species and sensitive habitats, to be conducted within 30 days of the initiation of impacts. The results of the survey(s) will be used to determine the appropriate avoidance, minimization, and mitigation measures to be implemented prior to the commencement of impacts. The PSF will also include: a definition of project area, including project footprint, extent of construction, and extent of ongoing maintenance activities; a description of project, including maps; the results of surveys, in accordance with Chapter 6 and Appendix B of the NCCP/HCP; evidence of compliance with avoidance and minimization measures, in accordance with Chapter 6 and Appendix B of the NCCP/HCP; a quantification of anticipated direct and indirect impacts on NCCP/HCP land-cover types, Covered Species habitat, and other NCCP/HCP resources; and,

proposed conservation measures. The PSF will be used to support the CEQA document and will be made available to the Wildlife Agencies.

Finding 4.6 **CDFG finds that the level of assurances provided to the NCCP/HCP participants is commensurate with long-term conservation assurances and associated implementation measures pursuant to the approved NCCP/HCP. (2820(f))**

The Water Authority NCCP/HCP is designed as a multiple species conservation plan in accordance with the tenets of conservation biology and is designed to function on a landscape/ecosystem level. By the creation and long-term management of a landscape-level preserve system, habitats, species and natural communities will be conserved. The Water Authority has already assembled and ensured the protection and long-term management of the Preserve Area system well in advance of the occurrence of impacts. Pursuant to the NCCP/HCP, approximately 1,920 acres of regionally significant habitat in the HMAs known or with potential to support Covered Species will be protected, managed, and conserved in perpetuity. As shown in Table 6-8 of the NCCP/HCP, the HMAs include approximately 704 acres of available/proposed upland and wetland habitat credits, exceeding the approximately 373 acres of unavoidable impacts estimated to occur from Covered Activities during the 55-year permit term. Assuming an average 2:1 mitigation ratio for impacts (e.g., roughly 746 mitigation acres), the currently available/proposed credits in the HMAs are nearly sufficient to meet the NCCP/HCP's mitigation needs over the permit term. Furthermore, the Preserve Area was designed to complement and enhance existing regional conservation efforts and major habitat connections linking preserved lands. The adaptive management of these habitats will be designed to sustain and enhance populations of Covered Species and maintain ecosystem processes.

As provided in the Implementing Agreement, CDFG shall not require the Water Authority to provide, without the Water Authority's consent, additional land, water or financial compensation, or additional restrictions on the use of land, water, or other natural resources, for the purpose of conserving Covered Species, even in the event of Unforeseen Circumstances, provided the Water Authority is properly implementing the Implementing Agreement, the NCCP/HCP and the terms and conditions of the NCCP Permit. The provisions of the Implementing Agreement and the NCCP/HCP that address adaptive management and Changed Circumstances, including changes to the legal status of Fully Protected Species and non-Covered Species, are not Unforeseen Circumstances and therefore are not subject to these assurances. However, CDFG acknowledges that such adaptive management and Changed Circumstances provisions are not intended to require modifications to the NCCP/HCP's mitigation program that would require additional funding or to impose significant additional burdens on the Water Authority. These assurances are commensurate with the long-term conservation assurances provided by the Water Authority through the NCCP/HCP and Implementing Agreement.

Finding 4.6.1A **CDFG finds that the level of, and time limits for, assurances specified in the Implementing Agreement were based on the level of knowledge of the status of the Covered Species and natural communities. (2820(f)(1))**

The current status of each Covered Species and natural community within the NCCP/HCP Plan Area was analyzed using the best available information regarding known species' occurrences, population trends, distribution, threats, habitat conditions, and conservation and management efforts. The analysis considered both known occurrences of a Covered Species within the Plan Area and the potential of that species to occur based on the presence of suitable habitat, proximity of known occurrences, and the regional context of the species habitat distribution. The following general evaluation steps were followed for each proposed Covered Species. This systematic approach to reviewing information ensured that all species and natural communities were sufficiently evaluated relative to basic principles of preserve design and conservation biology using the most current data available.

1. Evaluate levels of impact (take) and conservation for each vegetation community based on GIS calculations and other estimates of expected (or projected) project impacts and identified conserved lands (Preserve Area).
2. Identify specific management or enhancement conditions or other specific measures needed for coverage. Identify those actions assumed by the analysis to be implemented and considered conditions for coverage of that species.
3. For species whose coverage is not justified based on available data, potential impacts, or proposed level of conservation, identify additional information or additional conservation measures needed to justify coverage in the future.
4. Assess the potential take of each proposed Covered Species as follows:
    a. Calculate the acreage of each of the GIS-mapped vegetation communities within the PIZ and Survey Areas;
    b. Associate each species with the GIS-mapped vegetation communities in the PIZ and Survey Area, based on the habitat preferences identified in Appendix B;
    c. Calculate the area of potential habitat for each species as the total of its associated GIS-mapped vegetation communities occurring within the PIZ and Survey Area;
    d. Assess potential impacts or take by overlaying rights-of-way with the area of potential habitat for each species (including known Planned Project impact areas), plus a proportional increment of potential habitat for otherwise spatially indefinable impacts (Future Projects), based on the total amount of future impacts.

These steps were followed for each of the species analyzed for coverage under the NCCP/HCP to determine what conditions would be necessary for the NCCP/HCP to provide adequate conservation for each species and to meet state and federal permit

requirements. The following criteria were then applied to each species to determine whether it would be proposed for coverage (i.e., authorized for take in the final permits).

1. Species is known to occur or likely to occur within the Survey Area and/or the Preserve Area based on credible evidence;
2. Species is currently listed under ESA or CESA or likely to become listed within the permit term based on existing information as well as professional judgment, knowledge of future listing packages, and input from species specialists and regulatory agencies;
3. Species is likely to be adversely affected by Covered Activities; and,
4. There are sufficient data on the species' life history, habitat requirements, and occurrences in the Survey Area available to evaluate impacts on the species and to develop adequate conservation measures to mitigate those impacts.

Given the scope of the analyses described above and performed for the NCCP/HCP, there is sufficient knowledge of the status of each of the Covered Species and natural communities within the Plan Area to warrant the provision of long-term assurances to the Water Authority.

Finding 4.6.1B **CDFG finds that the level of, and time limits for, assurances specified in the Implementing Agreement were based on the adequacy of analysis of the impact of take on Covered Species. (2820(f)(1)(B))**

Implementation of Covered Activities pursuant to the NCCP/HCP will result in take of some Covered Species and their habitat. The major direct effects to Covered Species will result from habitat loss associated with Covered Activities. Because the NCCP/HCP utilizes a habitat-based approach, the determination of direct and indirect effects on Covered Species is based on the habitat removed or disturbed for each species. To the extent feasible, based on the best available data, the level of take for each proposed Covered Species has been described and quantified in Table B-1A and the individual species accounts provided in Appendix B of the NCCP/HCP. Estimated levels of take were quantified on the basis of anticipated impacts to habitat assumed to be suitable for each species (see Section 1.1.2 of Appendix B, NCCP/HCP). These estimates are likely to be inflated because (1) the scale of vegetation data available may not recognize specific microhabitat conditions (e.g., host plant distributions, restricted soil types) required by a species and (2) not all suitable habitat is occupied by the subject species.

The take analysis performed for each Covered Species was based primarily on the known status of the species and its potential habitat within the Survey Area and PIZ, where the majority of impacts from Covered Activities are expected to occur. The analysis considered the following: (1) CNDDB data and SDNHM Plant Atlas occurrences; (2) presence of suitable habitat based on vegetation data; (3) proximity of known locations to the Survey Area and/or PIZ; (4) regional context of the species and habitat distribution; and (5) life-history characteristics of the species. Acreages of vegetation communities were calculated using GIS-mapped vegetation data within the PIZ and Survey Area.

Each species was associated with the appropriate GIS-mapped vegetation communities based on the habitat preferences identified under the individual species accounts. The area of potential habitat for each species was then calculated as the total of its associated GIS-mapped vegetation communities occurring within the PIZ and Survey Area.

Take was estimated for each proposed Covered Species by calculating the anticipated loss of potential habitat from Covered Activities, including Planned and Future Projects (see Appendix B of the NCCP/HCP). Planned Projects are identified in the current CIP, which anticipates Water Authority project needs over the first 20 years of the NCCP/HCP permit term. Potential impacts from Planned Projects were included in the calculations where sufficient project detail was available at the time of the analysis. Future Projects are not designated as budgeted projects in the current CIP, thus site-specific impacts and take information were not available during NCCP/HCP development. Therefore, impacts from Future Projects were estimated assuming the same rate of project build-out (on an acres/year basis) in the remaining 35 years of the permit term as during the 20-year period of the Planned (CIP) Projects. This estimate was then increased by 20 percent to account for future project planning uncertainties. Impacts from Future Projects were proportionally assigned to the vegetation community types based on estimates from Planned Projects.

Given the level of analysis of take described above, there is enough known about the impacts to each of the Covered Species and the natural communities to warrant providing long-term assurances to the NCCP/HCP participants.

Finding 4.6.1C **CDFG finds that the level of, and time limits for, assurances specified in the Implementing Agreement were based on the use of the best available science to make assessments about the impacts of take, the reliability of mitigation strategies, and the appropriateness of monitoring techniques. (2820(f)(1)(C))**

As described above, and in Appendix B of the NCCP/HCP, the best currently available scientific information was used to develop the conservation strategy and assess/estimate impacts to Covered Species and natural communities from implementation of the NCCP/HCP. The NCCP/HCP provides specific conservation measures to meet the biological needs of Covered Species, based upon the best available scientific information regarding the status of Covered Species within the Plan Area and anticipated impacts of Covered Activities on those species and their habitat. The NCCP/HCP identifies and quantifies the anticipated areas of impacts from Planned and Future projects, and the types and amounts of potential impacts from O&M Activities within the Plan Area (see Table 5-3 of the NCCP/HCP and Table B-1A of Appendix B). Measures to be implemented for Covered Activities to avoid, minimize, and mitigate potential impacts are described in Sections 6.3 thru 6.8 of the NCCP/HCP. The structure and content of mitigation programs for other regional conservation plans were considered in the development of this NCCP/HCP. The mitigation strategies included in Section 6.0 of the NCCP/HCP are generally consistent with the MSCP, MHCP, and the Western Riverside MSHCP. Finally, the NCCP/HCP includes a management and monitoring framework (Sections 6.11 and 6.12) that will be used by Preserve Area managers to develop/revise

the PAMPs and adaptively manage the HMAs for the benefit of Covered Species and their habitats.

Information was gathered from available GIS data resources, current literature regarding principles of conservation biology, biological reports or existing management plans for the Preserve Area, local taxon experts, and existing regional conservation plan documents. As required by Senate Bill 572 (codified in Fish and Game Code, Section 2830(f)), the Water Authority also facilitated and incorporated independent scientific input into the development of the NCCP/HCP. A panel of Independent Science Advisors reviewed an early draft of the NCCP/HCP (dated September 2007) as well as the conservation analysis for 42 of the proposed Covered Species (including 33 species not covered by the MSCP or MHCP, and an additional nine species that were considered particularly sensitive). The final NCCP/HCP incorporates many of the Science Advisors recommendations, which are included in an attachment to Appendix B of the NCCP/HCP.

Given the information provided here and in the Findings above, there is sufficient available scientific information about impacts, mitigation and conservation strategies, and monitoring methodology to warrant provision of long-term assurances to the Water Authority.

Finding 4.6.1D **CDFG finds that the level of, and time limits for, assurances specified in the Implementing Agreement were based on the appropriateness of the size and duration of the NCCP/HCP with respect to quality and amount of data. (2820(f)(1)(D))**

As previously described, the NCCP/HCP utilized an extensive data collection process and received input from scientific experts with expertise in regional conservation planning and the relevant taxa. The most current data available for vegetation and Covered Species occurrences within the NCCP/HCP Plan Area were utilized when assessing potential take and levels of conservation under the NCCP/HCP. The primary source of information for land cover and vegetation mapping within the Plan Area was the San Diego Association of Governments (SANDAG) Regional Vegetation data (SANDAG 2008). Data sources for species occurrence points include Plant Atlas data from the San Diego Natural History Museum (SDNHM 2008), the California Natural Diversity Data Base (CNDDB), and USFWS biological data for federally listed species. Other sources of biological data and information for the Plan Area and the Preserve Area include, but are not limited to, site specific biological technical reports, conservation bank agreements, biological opinions issued by USFWS for Water Authority projects, existing habitat management plans for the Preserve Area, and Scientific Review Panel input (Rahn et al. 2008). When appropriate, species experts within CDFG and USFWS were consulted during the development of species-specific conservation measures. The NCCP/HCP acknowledges that existing geographic databases used in the Conservation Analysis are incomplete for some species. Where data were limited, the potential for occurrence of a species was inferred by other information, such as soils (e.g., edaphically restricted plants) and the size, suitability, and distribution of existing habitat.

Analyses were completed for all species proposed for coverage under the NCCP/HCP (i.e., authorized for take in the permits) to determine whether there were sufficient data on the species' life histories, habitat requirements, and occurrences in the Plan Area to adequately evaluate impacts on the species and to develop conservation measures to mitigate these impacts in accordance with regulatory standards. The status of Covered Species will be monitored and updated throughout the permit term to assess the effectiveness of the conservation measures and to ensure the biological goals and objectives are being met. The conservation analyses for all proposed Covered Species are provided in Appendix B of the NCCP/HCP and summarized in Attachment 1 of this Permit. The species proposed for coverage are listed in Table 6-1 of the NCCP/HCP.

Size and duration of the NCCP/HCP was informed by the best available data about land use, ecological processes, Covered Species, natural communities, stressors, and management and monitoring techniques; this warrants the provision of long-term assurances to the Water Authority.

Finding 4.6.1E **CDFG finds that the level of, and time limits for, assurances specified in the Implementing Agreement were based on the sufficiency of mechanisms for long-term funding of all components of the NCCP/HCP and contingencies. (2820(f)(1)(E))**

As described in Section 7.0 and Table 7-3 of the NCCP/HCP, the Water Authority will fund implementation of the NCCP/HCP through existing financial management policies and programs maintained by the Water Authority (e.g., CIP Mitigation Program, individually approved CIP project budgets, the annual operating budget of the Water Resources Department, and/or Preserve Area endowment funds). Full funding during the permit term is guaranteed by the Water Authority through the Implementing Agreement.

The Water Authority's NCCP/HCP implementation costs include staff and consultant time. The CIP currently provides funds for Water Authority staff to ensure compliance with State and Federal environmental laws, which will be made available for NCCP/HCP implementation. The CIP will continue funding environmental compliance as well as staff time to ensure that Covered Activities are compliant with the requirements of the NCCP/HCP. The long-term management and monitoring of the Preserve Area has been funded up front by endowments transferred to the management entities through prior agreements with the Water Authority (see Section 7.2.2.2 of the NCCP/HCP for details on funding assurances for each HMA). If determined necessary, the Water Authority will provide additional funding to the Preserve Area endowments to support any additional requirements of the final permitted NCCP/HCP.

There are sufficient mechanisms for long-term funding of the mitigation for and conservation of the Covered Species and the natural communities to warrant provision of long-term assurances to the Water Authority.

Finding 4.6.1F **CDFG finds that the level of, and time limits for, assurances specified in the Implementing Agreement were based on the degree of coordination and accessibility of centralized data for analysis and evaluation of the effectiveness of the NCCP/HCP. (2820(f)(1)(F))**

The Water Authority will either use the HabiTrak database developed by CDFG, or other GIS-based data system that is transferable to HabiTrak, to maintain a comprehensive, centralized data repository to track implementation of the NCCP/HCP (see Section 6.12 of the NCCP/HCP). The HMA credits/acres (used and remaining) will be maintained by the Water Authority in a ledger-type accounting format by habitat types, including any conservation/mitigation bank augmentations. The Water Authority shall make the data repository accessible to the parties named in the Implementing Agreement, including the Wildlife Agencies. The Wildlife Agencies shall safeguard sensitive species information to the extent permitted by the Freedom of Information Act and the California Public Records Act.

All data and reports associated with the monitoring program for this NCCP/HCP will be available to the public, with the exception of reports documenting surveys on private lands considered for acquisition but not yet acquired by the Water Authority. At least once annually, the Water Authority will report on the progress of implementation directly to the public in a meeting, potentially in conjunction with an annual public meeting for other conservation plans (MSCP or MHCP) within the Plan Area. The annual report prepared by the Water Authority will summarize habitat losses and gains, habitat restoration and creation, and management and monitoring accomplishments for the previous year. The meeting will provide a forum for the public to ask questions and provide comments directly to the Water Authority on the overall progress of NCCP/HCP implementation (Section 6.12.1 of the NCCP/HCP).

There are sufficient mechanisms for coordination, centralized storage, and accessibility of data to warrant provision of long-term assurances to the NCCP/HCP participants.

Finding 4.6.1G **CDFG finds that the level of, and time limits for, assurances specified in the Implementing Agreement were based on the degree to which a thorough range of foreseeable circumstances are considered and provided for under the adaptive management program. (2820(f)(1)(G))**

Section 8.7.1 of the NCCP/HCP describes how Changed Circumstances will be addressed under the NCCP/HCP, including: assessment of the severity and impacts of an event (e.g., thresholds for determining Changed Circumstances), notification and reporting procedures, guidance for preparing a remediation plan to respond to the event, and appropriate preventative measures and responses. The following foreseeable changed circumstances were recognized in the NCCP/HCP: flood; fire; extended period of reduced precipitation; invasion by exotic species or disease; toxic spills, vandalism and other illegal human activity; and listing of non-Covered Species. The effects of climate change as they relate to Changed Circumstances were incorporated into the discussion for

each applicable circumstance listed above. Natural events, such as flood, fire, drought, invasive species, and disease that could initiate Changed Circumstance under the Water Authority NCCP/HCP would most likely be of regional concern for some or all of the other conservation plans within the Plan Area, and responses would likely be implemented in coordination with other NCCP/HCP permittees. The adaptive management programs for the HMAs will be prepared, as outlined in Section 6.12.3 of the NCCP/HCP, to address Changed Circumstances and identify remedial measures for which the preserve managers are responsible. Adequate mechanisms to respond to these Changed Circumstances, and funding to address them, in an adaptive management context are included in the NCCP/HCP.

A thorough range of foreseeable circumstances were considered and provided for in the NCCP/HCP. Therefore, provision of long-term assurances to the Water Authority is warranted.

Finding 4.6.1H **CDFG finds that the level of, and time limits for, assurances specified in the Implementing Agreement were based on the size and duration of the NCCP/HCP. (2820(f)(1)(H))**

The Water Authority's Plan Area comprises approximately 992,000 acres in western San Diego and southwestern Riverside counties within which incidental take will be permitted for SDCWA Covered Activities. The Plan Area encompasses the service areas of the Water Authority's member agencies, lands that extend northward into Riverside County within a one-mile area on each side of the First and Second Aqueducts originating at Lake Skinner and Diamond Valley Reservoir, and a one-mile area on each side of the rights-of-way, and exterior boundaries of other facilities within San Diego County that are outside the service area boundaries (Figures 1-1 and 2-1 of the NCCP/HCP). The linear, inter-connected configuration of the Water Authority's water supply system constrains nearly all Covered Activities to be located along or close to the system's rights-of-way and other infrastructure (estimated to be 1,000 feet on either side of the rights-of-way/facilities). For that reason, the NCCP/HCP identifies an area of approximately 64,600 acres as the PIZ, where most of the Covered Activities and take are expected to occur.

The NCCP/HCP conservation strategy is based on the protection and adaptive management of the Preserve Area. The Preserve Area contains approximately 1,920 acres of regionally significant habitat known or with the potential to support Covered Species within the HMAs. The HMAs were assembled to complement and augment existing conservation planning efforts and preserve areas within the Plan Area. Over 704 acres of habitat mitigation credits are available or will be created to be used as credits to compensate for impacts to upland and wetland habitats from Covered Activities (estimated at approximately 373 acres; see Table 6-8 of the NCCP/HCP). Thus, assuming an average 2:1 mitigation ratio for impacts (e.g., roughly 746 mitigation acres) the currently available/proposed credits in the HMAs are nearly sufficient to meet the NCCP/HCP's mitigation needs over the permit term.

The Water Authority is seeking permits from USFWS and CDFG that have a term of 55 years. Accordingly, all assessments in the NCCP/HCP are based on a 55-year time period. Prior to permit expiration, the Water Authority may apply to renew or amend the NCCP/HCP and its associated permits and authorizations to extend their terms. Fifty-five years was chosen as the permit duration because it is a reasonable timeframe over which to provide assurances based on the ability to forecast anticipated project needs for the existing water supply system (repair and maintenance) and any future expansion of that system (planned and future projects). Even though the current CIP has a lifetime of 20 years, the Water Authority was able to provide reasonable impact estimates from Covered Activities for the subsequent 35 years of the proposed permit term based on an analysis of impacts from completed and planned projects, current operations and maintenance levels, and projected growth in the region based on the general plans for local jurisdictions.

The size of the Plan Area, the size and configuration of the Preserve Area relative to the anticipated impacts associated with Covered Activities, and the duration of the permit are sufficient to warrant provision of long-term assurances to the Water Authority.

Finding 4.7.1 **CDFG finds that the following species are authorized for take under the NCCP/HCP and coverage is warranted based on regional or landscape level consideration, such as healthy population levels, widespread distribution throughout the plan area, and life history characteristics that respond to habitat-scale conservation and management actions (2821(a)(1)).**

No species analyzed for this NCCP/HCP was found to be limited by these criteria.

Finding 4.7.2 **CDFG finds that the following species are authorized for take under the NCCP/HCP and coverage is warranted based on regional or landscape level considerations with site-specific conservation and management requirements that are clearly identified in the plan for species that are generally well-distributed, but that have core habitats that must be conserved (2821(a)(2)).**

For the analyses presented below and in Attachment 1, anticipated impacts to species are based on projected acreage of suitable habitat and known point locations that are expected to be directly and indirectly impacted under the NCCP/HCP as a result of Covered Activities. The anticipated conservation level to species identifies acreage of suitable or occupied habitat or individual populations (if known) conserved and managed within the Preserve Area (see Appendix B of the NCCP/HCP). In addition to the general Conditions for Coverage provided in Section 2.1, Appendix B of the NCCP/HCP, species-specific conditions were developed for all proposed Covered Species as described in the following sections. In all cases, a biologically superior conservation alternative for a species may be implemented with concurrence from the Wildlife Agencies. Potential alternatives include the restoration and/or enhancement of habitat, contribution of funds to other regional conservation efforts, or species-specific management programs. The

NCCP/HCP primarily contributes to population viability and recovery of Covered Species through the contribution of a core regional Preserve Area, resource management within Water Authority rights-of-way and fee-owned parcels (including control of edge effects and habitat degradation), and protection of species within the Plan Area in accordance with species-specific conservation measures.

Adequate landscape level considerations, with additional species-specific conservation measures (management) and monitoring in an adaptive management framework will be implemented for the following species:

San Diego thorn-mint (*Acanthomintha ilicifolia*)

San Diego thorn-mint is an annual plant restricted in distribution to San Diego County and northern Baja California, Mexico (Reiser 2001; USFWS 2009a). Grassy openings in chaparral or sage scrub with friable or broken clay soils are the preferred habitat for this species. Critical habitat for San Diego thorn-mint was designated on 671 acres in San Diego County in August 2008 (USFWS 2008a). A total of 83 acres of critical habitat occur within the Plan Area; no critical habitat is present within the PIZ. According to CNDDB and the SDNHM specimen records, San Diego thorn-mint is known from 40 occurrences within the Survey Area, with eight of those occurrences within the PIZ. Although no recorded occurrences of San Diego thorn-mint have been documented within the Preserve Area, there is potential for this species to occur within the Rancho Cañada HMA (TNC 2006) and the Manchester HMA (EDAW 2004).

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 195 acres of potential habitat for this species could be impacted over the permit term; however, based on its known distribution and its specific association with clay lenses, occurrences of San Diego thorn-mint are expected to be very limited within its potential habitat. Approximately 641 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species. Currently, no critical habitat for this species is located within the PIZ. However, any unavoidable impacts to critical habitat will be fully mitigated with comparable-value habitat including, but not limited to, permanently protecting unprotected critical habitat, acquiring and/or permanently protecting essential habitat, restoring/creating additional suitable habitat, or other actions that provide those habitat values.

Per the Narrow Endemic Policy, populations of San Diego thorn-mint within the Plan Area will be avoided to the maximum extent practicable, with a minimum 80% avoidance for Planned and Future Projects, and mitigated to a no-net-loss standard. Impacts to this species will be further minimized through focused pre-activity surveys to identify potential impacts to populations and suitable habitat, limiting soil disturbance within 50 feet of populations to minimize the encroachment of nonnative species, and the establishment of a minimum habitat buffer when feasible around populations to support the natural suite of pollinators. Any unavoidable impacts to this species will be mitigated

at the appropriate habitat ratio (Tables 6-6 and 6-7 of the NCCP/HCP) through conservation of habitat with known species locations.

Implementation of the NCCP/HCP will benefit San Diego thorn-mint and contribute to the regional conservation of this species in the Plan Area through implementation of the Narrow Endemic Policy, by the establishment of avoidance and minimization buffers for all Covered Activities, and by the conservation of suitable habitat on which this species has the potential to occur. Where the existing Preserve Area is not known to have sufficient credits of suitable and/or occupied habitat, the Water Authority will satisfy the vegetation community and Covered Species mitigation obligations by one or more of the following methods: demonstrating that adequate suitable habitat exists within the current Preserve Area, obtaining credits from an approved conservation/wetland bank, acquiring additional habitat acreage with known populations or habitat suitability to add to a Preserve Area, or providing a biologically superior alternative that is acceptable to the Wildlife Agencies. Therefore, coverage is warranted for San Diego thorn-mint.

California adolphia (*Adolphia californica*)

California adolphia is a small, spiny shrub found at a variety of coastal San Diego County and Mexico locales (Reiser 2001). Substantial populations occur south of Del Dios near Lake Hodges Dam, near Lake Val Soreno, and in the vicinity of the Sweetwater Reservoir, Mother Miguel Mountain, near Batiquitos Lagoon (Carlsbad), along the Escondido Creek, and in the Peñasquitos Canyon Preserve (near Poway). This species generally occurs in Diegan coastal sage scrub, but is occasionally found in peripheral chaparral habitats, particularly hillsides near creeks. According to CNDDB and SDNHM specimen records, California adolphia is known from 62 occurrences within the Survey Area, with 11 of those occurrences within the PIZ. Approximately 350 plants are known to occur on 0.7 acre within the San Miguel HMA (see Appendix J of the NCCP/HCP).

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 162 acres of potential habitat for this species could be impacted over the permit term. Approximately 641 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species, including 0.7 acre known to support this species at the San Miguel HMA. Impacts to this species will be avoided and minimized through implementation of the general conservation measures provided in the NCCP/HCP (see Section 2.1 of Appendix B). Mitigation for unavoidable impacts to this species will be habitat-based consistent with the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit California adolphia and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage and by the conservation of large blocks of habitat on which this species is known or has the potential to occur. Therefore, coverage is warranted for California adolphia.

San Diego ambrosia (*Ambrosia pumila*)

San Diego ambrosia is a perennial herb restricted to western Riverside County, San Diego County, and northern Baja California, Mexico (Reiser 2001). This species is typically associated with the upper terraces of rivers and drainages, but is also found in loamy or silty soils in open coastal sage scrub, grassland, vernal pools, or moderately disturbed habitats. Critical habitat for San Diego ambrosia was proposed in 2009; approximately 693 acres of proposed critical habitat occur within the Plan Area, with 76 of those acres occurring within the PIZ and (see Table B-2). According to CNDDB and SDNHM specimen records, San Diego ambrosia is known from 14 occurrences within the Survey Area, with five of those occurrences within the PIZ. This species is not known from the current Preserve Area, but it has the potential to occur based on the presence of suitable habitat.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 289 acres of potential habitat for this species could be impacted over the permit term. Approximately 132 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species. In addition, due to the general tolerance of San Diego ambrosia to disturbance, it has the potential to persist and/or expand within the Plan Area, particularly within Water Authority rights-of-way in areas with mild temporary disturbance (i.e., vegetation clearing). Any unavoidable impacts to critical habitat will be fully mitigated with comparable-value habitat including, but not limited to, permanently protecting unprotected critical habitat, acquiring and/or permanently protecting essential habitat, restoring/creating additional suitable habitat, or other actions that provide those habitat values.

Impacts to populations of San Diego ambrosia will be avoided or minimized in accordance with the Narrow Endemic Policy, and mitigated to a no-net-loss standard. Impacts to this species will be further minimized through focused pre-activity surveys to identify potential impacts to populations and suitable habitat, limiting soil disturbance within 50 feet of populations to minimize the encroachment of nonnative species, and the establishment of a minimum habitat buffer when feasible around populations to support the natural suite of pollinators. For unavoidable temporary impacts, this species would be salvaged and restored in accordance with a Wildlife Agency-approved restoration plan. Any unavoidable permanent impacts to this species will be mitigated at the appropriate habitat ratio (Tables 6-6 and 6-7 of the NCCP/HCP) through conservation of habitat with known species locations.

Implementation of the NCCP/HCP will benefit San Diego ambrosia and contribute to the regional conservation of this species in the Plan Area through implementation of the Narrow Endemic Policy, by the establishment of avoidance and minimization buffers for all Covered Activities, and by the conservation of large blocks of suitable habitat on which this species has the potential to occur. Where the existing Preserve Area is not known to have sufficient credits of suitable and/or occupied habitat, the Water Authority will satisfy the vegetation community and Covered Species mitigation obligations by one

or more of the following methods: demonstrating that adequate suitable habitat exists within the current Preserve Area, obtaining credits from an approved conservation/wetland bank, acquiring additional habitat acreage with known populations or habitat suitability to add to a Preserve Area, or providing a biologically superior alternative that is acceptable to the Wildlife Agencies. Therefore, coverage is warranted for San Diego ambrosia.

Orcutt's brodiaea (*Brodiaea orcuttii*)

Orcutt's brodiaea is found in Orange, Riverside, and San Diego counties, and in northern Baja California, Mexico (Reiser 2001). In San Diego County, this corm-sprouting perennial herb is infrequent, occurring in vernally moist grasslands, areas with mima mound topography, the periphery of vernal pools, and occasionally on streamside embankments. According to CNDDB and SDNHM specimen records, Orcutt's brodiaea is known from 29 occurrences within the Survey Area, with seven of those occurrences within the PIZ. Although no known locations for this species have been documented within the Preserve Area, there is potential for Orcutt's brodiaea to occur within the Preserve Area in suitable habitat, and also within the Elfin Forest Reserve MMA (Ogden 1995).

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 6 acres of potential habitat for this species could be impacted over the permit term. Approximately 1 acre of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species. Impacts to this species will be avoided and minimized through implementation of the general conservation measures provided in the NCCP/HCP (see Section 2.1 of Appendix B) and the Vernal Pool Protection Policy, where it occurs within vernal pool habitat. Unavoidable impacts to Orcutt's brodiaea will be mitigated with habitat with known species occurrences, or the potential to support the species in suitable habitat, consistent with the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP. Mitigation may also include salvage of seed and/or corms to be included in any suitable vernal pool restoration, as approved by the Wildlife Agencies.

Implementation of the NCCP/HCP will benefit Orcutt's brodiaea and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage and by the protection and long-term management of habitat on which this species has the potential to occur. Where the existing Preserve Area is not known to have sufficient credits of suitable and/or occupied habitat, the Water Authority will satisfy the vegetation community and Covered Species mitigation obligations by one or more of the following methods: demonstrating that adequate suitable habitat exists within the current Preserve Area, obtaining credits from an approved conservation/wetland bank, acquiring additional habitat acreage with known populations or habitat suitability to add to a Preserve Area, or providing a biologically superior alternative that is acceptable to the Wildlife Agencies. Therefore, coverage is warranted for Orcutt's brodiaea.

Smooth tarplant (*Centromadia parryi* ssp. *australis*)

Smooth tarplant is found in southwestern California and northwestern Baja California, Mexico. In San Diego County this species is known to occur in Santee and along the San Dieguito River near Lake Hodges (Reiser 2001; CNDDB 2011). The preferred habitat for this species is mesic grasslands with alkaline soils and riparian areas. According to CNDDB and SDNHM specimen records, smooth tarplant is known from 10 occurrences within the Survey Area, with one of those occurring within the PIZ. Although no known locations for this species have been documented within the current Preserve Area, smooth tarplant has the potential to occur within the Preserve Area in suitable habitat.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 57 acres of potential habitat for this species could be impacted over the permit term. Approximately 47 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species. Impacts to this species will be avoided and minimized through implementation of the general conservation measures provided in the NCCP/HCP (see Section 2.1 of Appendix B) and the Wetland Protection Program, where it occurs within riparian and/or wetland habitat. Unavoidable impacts to smooth tarplant will be mitigated through the conservation of habitat with known species occurrences, or the potential to support the species in suitable habitat, consistent with the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit smooth tarplant and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage and conservation of large blocks of habitat where this species has the potential to occur. Where the existing Preserve Area is not known to have sufficient credits of suitable and/or occupied habitat, the Water Authority will satisfy the vegetation community and Covered Species mitigation obligations by one or more of the following methods: demonstrating that adequate suitable habitat exists within the current Preserve Area, obtaining credits from an approved conservation/wetland bank, acquiring additional habitat acreage with known populations or habitat suitability to add to a Preserve Area, or providing a biologically superior alternative that is acceptable to the Wildlife Agencies. Therefore, coverage is warranted for smooth tarplant.

Variegated dudleya (*Dudleya variegata*)

Variegated dudleya is a small, corm-sprouting plant species restricted in distribution to southern San Diego County and Baja California, Mexico (Reiser 2001). This species occurs on clay soils in openings in sage scrub and chaparral or isolated rocky substrates in open grasslands, and is generally found in close proximity to vernal pools and mima mound topography. According to CNDDB and SDNHM specimen records, variegated dudleya is known from 26 occurrences within the Survey Area, with six of those occurrences within the PIZ. This species is known to occur at the San Miguel HMA (CNDDB 2011; Merkel 1997) and the Montaña Mirador MMA (City of San Diego 2004).

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 274 acres of potential habitat for this species could be impacted over the permit term. Approximately 649 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species, including occupied but un-quantified habitat present at the San Miguel HMA. Impacts to populations of variegated dudleya will be minimized under the Narrow Endemic Policy to the maximum extent practicable. Impacts will be further minimized by application of the Vernal Pool Protection Policy where this species occurs within vernal pool habitat, and by the general conservation measures provided in the NCCP/HCP. Prior to any impacts, a mitigation plan will be prepared to re-establish populations at a final mitigation ratio that results in a no-net-loss of species population.

Implementation of the NCCP/HCP will benefit variegated dudleya and contribute to the regional conservation of this species in the Plan Area through implementation of the Narrow Endemic Policy and by the conservation of large blocks of habitat on which this species is known or has the potential to occur. Therefore, coverage is warranted for variegated dudleya.

Sticky-leaved dudleya (*Dudleya viscida*)

Sticky-leaved dudleya is an herbaceous perennial species that occurs in Orange, Riverside, and San Diego counties (Reiser 2001). This conspicuous succulent grows predominantly on steep north-facing slopes with exposed gabbroic rock or very shallow soils, typically in association with coastal sage scrub or chaparral. According to CNDDB and SDNHM specimen records, sticky-leaved dudleya is known from three occurrences within the Survey Area, with one of those occurring within the PIZ. Although no known locations for this species have been documented within the current Preserve Area, sticky-leaved dudleya has the potential to occur within the Preserve Area in suitable habitat.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 240 acres of habitat where this species may occur could be impacted over the permit term. Approximately 641 acres of habitat that may contain suitable micro-habitat conditions for this species is provided in the existing Preserve Area. Given the specific habitat requirements of this species (gabbroic rock on steep north-facing slopes), the calculations provided above for expected impact and conservation levels likely represent gross overestimates. Impacts to this species will be avoided and minimized through implementation of the general conservation measures provided in the NCCP/HCP (see Section 2.1 of Appendix B). Unavoidable impacts to sticky-leaved dudleya will be mitigated through the conservation of habitat with known species occurrences, or the potential to support the species in suitable habitat, consistent with the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit sticky-leaved dudleya and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage and conservation of large blocks of habitat where this

species has the potential to occur. Where the existing Preserve Area is not known to have sufficient credits of suitable and/or occupied habitat, the Water Authority will satisfy the vegetation community and Covered Species mitigation obligations by one or more of the following methods: demonstrating that adequate suitable habitat exists within the current Preserve Area, obtaining credits from an approved conservation/wetland bank, acquiring additional habitat acreage with known populations or habitat suitability to add to a Preserve Area, or providing a biologically superior alternative that is acceptable to the Wildlife Agencies. Therefore, coverage is warranted for sticky-leaved dudleya.

San Diego barrel cactus (*Ferocactus viridescens*)

San Diego barrel cactus is restricted to San Diego County and Baja California, Mexico (Reiser 2001). This species occurs primarily on mild to moderate slopes with rocky or cobbly soils in association with coastal sage scrub, but has also been documented in chaparral and grassland habitats, as well as on mima mound topography in association with vernal pools. According to CNDDB and SDNHM specimen records, San Diego barrel cactus is known from 42 occurrences within the Survey Area, with seven of those occurrences within the PIZ. San Diego barrel cactus is known to occur within the San Miguel HMA; Appendix J of the NCCP/HCP lists approximately 1,620 cactus plants in a 1.8-acre area, and an additional 6,235 cactus plants distributed on 39 acres at the site.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 162 acres of habitat where this species may occur could be impacted over the permit term. Approximately 123 acres of potentially suitable habitat for this species is provided in the existing Preserve Area, including approximately 41 acres of known occupied habitat at the San Miguel HMA. Impacts to this species will be avoided and minimized through implementation of the general conservation measures provided in the NCCP/HCP (see Section 2.1 of Appendix B). Unavoidable impacts to San Diego barrel cactus will be mitigated through the conservation of habitat with known species occurrences, or the potential to support the species in suitable habitat, consistent with the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit San Diego barrel cactus and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage and conservation of large blocks of habitat where this species is known or has the potential to occur. Where the existing Preserve Area does not have sufficient credits of suitable and/or occupied habitat, the Water Authority would obtain the necessary credits or additional habitat to satisfy the vegetation community (and Covered Species) obligations by one of the following methods: obtaining credits from an approved conservation/wetland bank, acquiring additional habitat acreage to add to a Preserve Area, or providing a biologically superior alternative that is acceptable to the Wildlife Agencies. Therefore, coverage is warranted for San Diego barrel cactus.

San Diego marsh-elder (*Iva hayesiana*)

San Diego marsh-elder is a perennial subshrub restricted to southwestern San Diego County and northern Baja California, Mexico (Reiser 2001). In San Diego County, the species' range is primarily west of Interstate 15 and south of Highway 78, mainly in coastal drainages. Sandy alluvial embankments with cobbles along creeks or intermittent streams with an open riparian canopy are the preferred habitats for San Diego marsh-elder. According to CNDDB and SDNHM specimen records, San Diego marsh-elder is known from 26 occurrences within the Survey Area, with two of those occurrences within the PIZ. A population of approximately 340 plants occurs on 5 acres at the San Miguel HMA (Merkel 1997), and this species is also expected to occur within all three Wetland HMAs (San Luis Rey HMA, Tijuana River Valley HMA, and Manchester HMA).

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 14 acres of potential habitat for this species could be impacted over the permit term. Approximately 21 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species, including 5 acres known to support this species at the San Miguel HMA. Impacts to San Diego marsh-elder will be avoided and minimized through implementation of the general conservation measures provided in the NCCP/HCP (see Section 2.1 of Appendix B) and the Wetland Protection Policy. Mitigation for unavoidable impacts to this species will be habitat-based consistent with the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit San Diego marsh-elder and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage, application of the Wetland Protection Policy, and by the conservation of large blocks of habitat on which this species is known or has the potential to occur. Therefore, coverage is warranted for San Diego marsh-elder.

San Diego goldenstar (*Muilla [Bloomeria] clevelandii*)

San Diego goldenstar is a perennial herb found only in southwestern San Diego County and northwestern Baja California, Mexico (Reiser 2001). Clay soils in valley grasslands, and open coastal sage scrub and chaparral, particularly in association with mima mound topography or vernal pools, are the preferred habitat of this perennial corm. According to CNDDB and SDNHM specimen records, San Diego goldenstar is known from 21 occurrences within the Survey Area, with four of those occurrences within the PIZ. A high density population of San Diego goldenstar is present at San Miguel HMA within the perennial grassland (Merkel 1997).

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 240 acres of potential habitat for this species could be impacted over the permit term. Approximately 641 acres of potentially

suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species, including an un-quantified number of acres known to support this species at the San Miguel HMA. Due to this species restriction to clay soils, the actual acres of impacts and conservation to/for this species are anticipated to be lower than the estimates provided above. Impacts to this species will be avoided and minimized through implementation of the Vernal Pool Protection Policy where this species occurs in vernal pool habitat, and other general conservation measures provided in the NCCP/HCP (see Section 2.1 of Appendix B). Mitigation for unavoidable impacts to this species will be habitat-based consistent with the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP. Where impacts to vernal pools supporting San Diego goldenstar are unavoidable, mitigation will include salvage of corms to be included in any suitable vernal pool restoration.

Implementation of the NCCP/HCP will benefit San Diego goldenstar and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage and by the conservation of large blocks of habitat on which this species is known or has the potential to occur. Therefore, coverage is warranted for San Diego goldenstar.

Chaparral nolina (*Nolina cismontana*)

Chaparral nolina ranges from Ventura to San Diego counties on the coastal side of the interior mountain ranges below 3,000 feet (Hess and Dice 1995). This distinctive shrub generally grows in xeric Diegan coastal sage scrub and open chaparral on sandstone or shale substrates. According to CNDDB and SDNHM specimen records, chaparral nolina is known from two occurrences within the Survey Area, with one of those occurring within the PIZ. No known locations or potentially suitable habitat for this species have been documented within the current Preserve Area.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 162 acres of potential habitat for this species could be impacted over the permit term. Based on the analysis of available vegetation and species data, no occupied and/or suitable habitat is provided in the existing Preserve Area for this species. Impacts to this species will be avoided and minimized through implementation of the general conservation measures provided in the NCCP/HCP (see Section 2.1 of Appendix B). Unavoidable impacts to chaparral nolina will be mitigated through the conservation of habitat with known species occurrences, or the potential to support the species in suitable habitat, consistent with the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit chaparral nolina and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage. Where the existing Preserve Area is not known to have sufficient credits of suitable and/or occupied habitat, the Water Authority will satisfy the vegetation community and Covered Species mitigation obligations by one or more of the following methods: demonstrating that adequate suitable habitat exists within the current

Preserve Area, obtaining credits from an approved conservation/wetland bank, acquiring additional habitat acreage with known populations or habitat suitability to add to a Preserve Area, or providing a biologically superior alternative that is acceptable to the Wildlife Agencies. Therefore, coverage is warranted for chaparral nolina.

Nuttall's scrub oak (*Quercus dumosa*)

Nuttall's scrub oak has a disjunct distribution that includes Orange and San Diego counties. Coastal chaparral on flat terrain and/or sandy soils with a relatively open canopy is the preferred habitat for this evergreen shrub species. Although the species' range is fairly well defined along the immediate coast, its inland extent is not as clearly established. According to CNDDB and SDNHM specimen records, Nuttall's scrub oak is known from 9 occurrences within the Survey Area, with one of those occurring within the PIZ. Although no known locations for this species have been documented within the current Preserve Area, Nuttall's scrub oak has the potential to occur within the Preserve Area in suitable habitat.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 78 acres of habitat where this species may occur could be impacted over the permit term. Approximately 123 acres of potentially suitable habitat for this species is provided in the existing Preserve Area. Impacts to this species will be avoided and minimized through implementation of the general conservation measures provided in the NCCP/HCP (see Section 2.1 of Appendix B). Unavoidable impacts to Nuttall's scrub oak will be mitigated through the conservation of habitat with known species occurrences, or the potential to support the species in suitable habitat, consistent with the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit Nuttall's scrub oak and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage and conservation of large blocks of habitat where this species has the potential to occur. Where the existing Preserve Area is not known to have sufficient credits of suitable and/or occupied habitat, the Water Authority will satisfy the vegetation community and Covered Species mitigation obligations by one or more of the following methods: demonstrating that adequate suitable habitat exists within the current Preserve Area, obtaining credits from an approved conservation/wetland bank, acquiring additional habitat acreage with known populations or habitat suitability to add to a Preserve Area, or providing a biologically superior alternative that is acceptable to the Wildlife Agencies. Therefore, coverage is warranted for Nuttall's scrub oak.

Munz's sage (*Salvia munzii*)

The range of Munz's sage includes San Diego County and northern Baja California, Mexico (Reiser 2001). Munz's sage is found primarily on metavolcanic soils in coastal sage scrub and chaparral habitats below 2,500 feet. According to CNDDB and SDNHM specimen records, Munz's sage is known from 13 occurrences within the Survey Area,

with no occurrences in the PIZ. Munz's sage is common in the coastal sage scrub at the San Miguel HMA (Merkel 1997).

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 240 acres of potential habitat for this species could be impacted over the permit term. Approximately 641 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species, including an un-quantified number of acres known to support this species at the San Miguel HMA. Impacts to this species will be avoided and minimized through implementation of the general conservation measures provided in the NCCP/HCP (see Section 2.1 of Appendix B). Mitigation for unavoidable impacts to Munz's sage will be habitat-based consistent with the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit Munz's sage and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage and by the conservation of large blocks of habitat on which this species is known or has the potential to occur. Therefore, coverage is warranted for Munz's sage.

Parry's tetracoccus (*Tetracoccus dioicus*)

Parry's tetracoccus occurs in Orange, Riverside, and San Diego Counties, and in Baja California, Mexico (Reiser 2001). Low-growing chamise chaparral with moderately dense canopy cover on gabbroic soils is the typical habitat of this robust shrub. According to CNDDB and SDNHM specimen records, Parry's tetracoccus is known from 23 occurrences within the Survey Area, with six of those occurrences within the PIZ. Although no known locations for this species have been documented within the current Preserve Area, Parry's tetracoccus has the potential to occur within the Preserve Area in suitable habitat.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 28 acres of habitat where this species may occur could be impacted over the permit term. Although not quantified, there is potential for Parry's tetracoccus to occur within the Preserve Area at the Rancho Cañada HMA based on the presence of suitable habitat and proximity to known occurrences of this species in contiguous habitat. Impacts to this species will be avoided and minimized through implementation of the general conservation measures provided in the NCCP/HCP (see Section 2.1 of Appendix B). Unavoidable impacts to Parry's tetracoccus will be mitigated through the conservation of habitat with known species occurrences, or the potential to support the species in suitable habitat, consistent with the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit Parry's tetracoccus and contribute to the regional conservation of this species in the Plan Area through implementation of the

general conditions of coverage and conservation of large blocks of habitat where this species has the potential to occur. Where the existing Preserve Area is not known to have sufficient credits of suitable and/or occupied habitat, the Water Authority will satisfy the vegetation community and Covered Species mitigation obligations by one or more of the following methods: demonstrating that adequate suitable habitat exists within the current Preserve Area, obtaining credits from an approved conservation/wetland bank, acquiring additional habitat acreage with known populations or habitat suitability to add to a Preserve Area, or providing a biologically superior alternative that is acceptable to the Wildlife Agencies. Therefore, coverage is warranted for Parry's tetracoccus.

Hermes copper butterfly (*Lycaena hermes*)

Apart from a few isolated records in Baja California, Mexico, the Hermes copper butterfly is known only from western San Diego County. Within the county, its range extends from the Bonsall/Fallbrook area inland to Guatay and Pine Valley. The preferred habitat of this species is mature mixed chaparral/sage scrub in which its larval host plant, spiny redberry (*Rhamnus crocea*), constitutes at least five percent of the shrub cover (Faulkner and Klein 2006). Hermes copper is considered a sedentary species and rarely disperses more than 50 to 100 yards from the larval host plant in a single season (Rahn et al. 2008). According to the CNDDB, there are 5 known occurrences of Hermes copper butterfly in the Survey Area, and no known occurrences within the PIZ. This species is known to occur at both the San Miguel HMA and Crestridge HMA (Klein-Edwards 2004, CNDDB 2011).

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat-association projections, approximately 162 acres of potential habitat for this species could be impacted over the permit term. Approximately 518 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species, including 108 acres of occupied and suitable Hermes copper habitat at the San Miguel HMA and approximately 43 acres of suitable habitat supporting spiny redberry at the Crestridge HMA. Impacts to this species will be avoided and minimized through implementation of the general conservation measures provided in the NCCP/HCP (see Section 2.1 of Appendix B). Mitigation for unavoidable impacts to this species will be habitat-based consistent with the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP. If deemed appropriate by the Wildlife Agencies, in areas with unavoidable impacts to Hermes copper, larvae and possibly adults may be salvaged for relocation or other purposes. In addition, spiny redberry will be incorporated into native habitat restoration plans, where appropriate.

Implementation of the NCCP/HCP will benefit Hermes copper butterfly and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage and by the conservation of large blocks of habitat on which this species is known or has the potential to occur. Therefore, coverage is warranted for Hermes copper butterfly.

Quino checkerspot butterfly (*Euphydryas editha quino*)

Quino checkerspot butterfly historically occurred from Los Angeles County south through western Riverside, western San Bernardino, Orange, and San Diego counties, and in Mexico from Baja California to Santo Tomas (Faulkner and Klein 2006; USFWS 2009b). In San Diego County, the Quino checkerspot is known to occur at Otay Mesa, Otay Lake, Otay Mountain, Marron Valley, Jamul, Alpine, San Vicente Reservoir, and Jacumba (Mattoni et al. 1997, Faulkner and Klein 2006). The Quino checkerspot's distribution is defined primarily by that of its primary larval host plant, dot-seed plantain (*Plantago erecta*). Potential habitat for Quino checkerspot within the Plan Area includes vernal pools, lake margins, and open areas within grasslands and shrub communities. Bare hilltops and ridgelines are also important components of suitable Quino habitat as locations for male hilltopping behavior.

Approximately 8,094 acres of designated critical habitat for Quino checkerspot occur within the Plan Area; the entire San Miguel HMA is within designated critical habitat for this species. According to the CNDDB, there are 18 known occurrences of Quino checkerspot butterfly in the Survey Area, of which seven occur within the PIZ. Approximately 127 acres of suitable habitat for Quino checkerspot containing dot-seed plantain, and an additional 65 acres of habitat with known nectar sources, occur at the San Miguel HMA (Klein-Edwards 2004).

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 273 acres of potential habitat for this species could be impacted over the permit term. Approximately 649 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species. Impacts to this species will be avoided and minimized to the maximum extent feasible through project design and the maintenance of avoidance buffers around occupied habitat. Unavoidable impacts to suitable but unoccupied habitat (as determined by protocol adult flight season surveys) will be mitigated in accordance with the habitat ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP. Unavoidable impacts to occupied Quino checkerspot butterfly habitat will be mitigated at a 2:1 ratio with occupied habitat. If proposed impacts to occupied Quino checkerspot butterfly habitat exceed one acre, the Water Authority will consult with the Wildlife Agencies to ensure that project implementation will not cause the extirpation of a Quino checkerspot butterfly population. When appropriate, temporarily disturbed areas will be reseeded with a native seed mix that includes Quino checkerspot butterfly nectar sources and dot-seed plantain in order to enhance re-colonization efforts.

Implementation of the NCCP/HCP will benefit Quino checkerspot butterfly and contribute to the regional conservation of this species in the Plan Area through implementation of the species-specific conditions of coverage and by the conservation of large blocks of habitat on which this species is known or has the potential to occur. Therefore, coverage is warranted for Quino checkerspot butterfly.

Arroyo toad (*Anaxyrus [Bufo] californicus*)

The historical and current range of the arroyo toad extends from the Salinas River Basin in Monterey County southward through the Santa Ynez, Santa Clara and Los Angeles River Basin to Orange, Riverside, and San Diego Counties and southward to the Arroyo San Simeon system, Baja California Mexico (USFWS 1999; Jennings and Hayes 1994). This species occurs along the sandy or gravelly banks of clear, slow-moving streams and rivers that sustain a sufficient flow and still backwaters to allow the development of eggs and tadpoles (Stebbins 2003; Sweet 1992). Adults forage and burrow in friable soils within both riparian and upland habitats adjacent to breeding areas. Upland habitats include oak woodlands, open grasslands, coastal sage scrub, and fallow agricultural fields.

On February 9, 2011, the USFWS released a revised final critical habitat rule (USFWS 2011). Approximately 20,260 acres of proposed critical habitat occur within the Plan Area, including 2.5 acres in the San Luis Rey HMA and 288 acres within the Rancho Cañanda HMA. Approximately 768 acres of proposed critical habitat for arroyo toad occur within the PIZ. According to the CNDDB, there are seven known occurrences of arroyo toad in the Survey Area, of which two occur within the PIZ. Arroyo toad has been observed at the Rancho Cañada HMA, where suitable breeding, sheltering, and foraging habitat occur on approximately 35 acres of southern coast live oak riparian forest along San Vicente Creek (TNC 2006). This species is also expected to occur at the San Luis Rey River HMA.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 55 acres of potential habitat for this species could be impacted over the permit term. Approximately 46 acres of known occupied and/or suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species. Impacts to this species will be avoided and minimized to the maximum extent feasible through implementation of the Wetland Protection Program, the application of impact minimization measures for drawdowns and draindowns, breeding season avoidance, bullfrog control activities, and the maintenance of avoidance buffers around occupied habitat. Any unavoidable impacts to arroyo toad will be mitigated with occupied habitat in accordance with the habitat ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit arroyo toad and contribute to the regional conservation of this species in the Plan Area through implementation of the species-specific conditions of coverage and by the conservation of large blocks of habitat on which this species is known or has the potential to occur. Therefore, coverage is warranted for arroyo toad.

Coronado skink (*Eumeces skiltonianus interparietalis*)

The Coronado skink ranges from the Peninsular Ranges to the coast; from approximately San Gorgonio Pass in Riverside County to San Quentin, Baja California, Mexico. It is

also found on Todos Santos Island, the Los Coronado Islands, and Santa Catalina Island. This species is often associated with mesic conditions and occurs in a variety of habitats including grassland, chaparral, areas of mature sage scrub, and pine-oak forests. According to the CNDDB, there are nine known occurrences of Coronado skink in the Survey Area. Although there are no records of Coronado skink occurring within the PIZ, there is potential for this species to occur in the PIZ based on the presence of suitable habitat. The Coronado skink is known to occur in the Preserve Area at the Rancho Cañada HMA (TNC 2006), the San Miguel HMA, and the Crestridge HMA (Pacific Southwest 1994).

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 296 acres of potential habitat for Coronado skink could be impacted over the permit term. Approximately 658 acres of potentially suitable habitat are provided in the existing Preserve Area that may be used to mitigate for impacts to this species, including known occupied habitat within all three upland HMAs . Impacts to this species will be avoided and minimized through implementation of the general conditions for coverage provided in the NCCP/HCP (see Section 2.1 of Appendix B). Mitigation for unavoidable impacts to this species will be habitat-based consistent with the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit Coronado skink and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage and by the conservation of large blocks of habitat on which this species is known or has the potential to occur. Therefore, coverage is warranted for Coronado skink.

Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*)

In southern California, Belding's orange-throated whiptail is found in Orange, Riverside, San Diego, and San Bernardino counties, from sea level to 3,400 feet (CNDDB). Belding's orange-throated whiptails are typically found in association with loose, friable soils in sage scrub, open chaparral, and along the edges of riparian zones. Populations of this species are also closely associated with sites that support their principal food source, western subterranean termites. According to the CNDDB, there are 60 known occurrences of Belding's orange-throated whiptail in the Survey Area, with 12 of those occurrences within the PIZ. This species is known to occur within the Preserve Area at the San Miguel HMA and the Rancho Cañada HMA, and has the potential to occur at the Crestridge HMA based on the presence of suitable habitat and proximity to known locations.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 295 acres of potential habitat for Belding's orange-throated whiptail could be impacted over the permit term. Approximately 686 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species, including known occupied habitat at the San

Miguel and Rancho Cañada HMAs. Impacts to this species will be avoided and minimized through implementation of the general conditions for coverage provided in the NCCP/HCP (see Section 2.1 of Appendix B) and by measures to minimize potential negative effects from introduced ant species that may exclude this species' native termite prey base. Mitigation for unavoidable impacts to this species will be habitat-based consistent with the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit Belding's orange-throated whiptail and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage and by the conservation of large blocks of habitat on which this species is known or has the potential to occur. Therefore, coverage is warranted for Belding's orange-throated whiptail.

Coastal (western) whiptail (*Aspidoscelis tigris stejnegeri*)

This subspecies of whiptail is found from Santa Barbara County southward through the northern two-thirds of Baja California, Mexico. In San Diego County, coastal (western) whiptail ranges from the coast into the inland foothills. This species typically occupies semi-open areas and arid microhabitats in sage scrub, chaparral, open woodlands, and the peripheral edges of riparian zones and washes. According to the CNDDB, there are 13 known occurrences of coastal whiptail in the Survey Area, with 2 of those occurrences within the PIZ. The coastal whiptail is known to occur within the Preserve Area at the Rancho Cañada HMA (TNC 2006) and the San Miguel HMA, and is expected to occur at the Crestridge HMA (Pacific Southwest 1994) based on the presence of suitable habitat.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 297 acres of potential habitat for coastal whiptail could be impacted over the permit term. Approximately 674 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species, including known occupied habitat at the San Miguel and Rancho Cañada HMAs. Impacts to this species will be avoided and minimized through implementation of the general conditions for coverage provided in the NCCP/HCP (see Section 2.1 of Appendix B). Mitigation for unavoidable impacts to this species will be habitat-based consistent with the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit coastal whiptail and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage and by the conservation of large blocks of habitat on which this species is known or has the potential to occur. Therefore, coverage is warranted for coastal whiptail.

San Diego banded gecko (*Coleonyx variegates abbottii*)

The range of this subspecies of gecko is from coastal southern California southward into Baja California, Mexico. This nocturnal gecko is generally associated with granite and

rocky outcrops and large boulders with deep fissures in coastal sage scrub or chaparral habitats. The combination of nocturnal activity and inaccessible habitat make this species very difficult to census. While there are no known records of this species within the Survey Area and PIZ, due to potential CNDDB under sampling of this species and the availability of suitable rocky habitat within the Survey Area and PIZ, San Diego banded gecko are expected to occur in both areas. This species has a high potential to occur within the Preserve Area at the Rancho Cañada HMA, as it is known from contiguous suitable habitat (TNC 2006), and at the Crestridge HMA.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 240 acres of potential habitat for San Diego banded gecko could be impacted over the permit term. Approximately 641 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species. Impacts to this species will be avoided and minimized through implementation of the general conditions for coverage provided in the NCCP/HCP (see Section 2.1 of Appendix B) and by measures to avoid suitable microhabitat conditions for this species through project siting and design. Mitigation for unavoidable impacts to this species will be habitat-based consistent with the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit San Diego banded gecko and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage and by the conservation of large blocks of habitat on which this species has the potential to occur. Therefore, coverage is warranted for San Diego banded gecko.

Coast (San Diego) horned lizard (*Phrynosoma coronatum blainvillii*)

The coast (San Diego) horned lizard ranges from southern Kern County, southern Ventura County, and the Los Angeles basin southward through Orange, San Bernardino, Riverside, and San Diego Counties into northern Baja California, Mexico. The distribution of coast horned lizards is locally patchy and dependent upon a variety of factors including microhabitat and the availability of its primary food item, harvester ants (e.g., *Pogonomyrmex* and *Pheidole* spp.). Coast horned lizards utilize chamise chaparral, sage scrub, and lower montane forest habitats with spare understory vegetation on relatively level or gently sloping terrain. According to the CNDDB, there are 38 known occurrences of coast horned lizard in the Survey Area, with 8 of those occurrences within the PIZ. The coast horned lizard is common at the Rancho Cañada HMA (TNC 2006), regularly observed at the San Miguel HMA (Merkel 1997), and is present in similar habitat adjacent to the Crestridge HMA (Pacific Southwest 1994).

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 256 acres of potential habitat for coast horned lizard could be impacted over the permit term. Approximately 526 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to

mitigate for impacts to this species, including known occupied habitat at the San Miguel and Rancho Cañada HMAs. Impacts to this species will be avoided and minimized through implementation of the general conditions for coverage provided in the NCCP/HCP (see Section 2.1 of Appendix B) and by measures to minimize potential negative effects from introduced ant species that may exclude this species native prey base. Mitigation for unavoidable impacts to this species will be habitat-based consistent with the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit coast horned lizard and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage and by the conservation of large blocks of habitat on which this species is known or has the potential to occur. Therefore, coverage is warranted for coast horned lizard.

Coastal rosy boa (*Lichanura trivirgata roseofusca*)

The coastal rosy boa ranges from the lower slopes of the Peninsular Ranges and Transverse Mountains of extreme southern California, southward into Baja California, Mexico. In San Diego County, most records of this species are from the hilly regions near the coast and the montane foothills, with numerous sightings from Pamo Valley southward to the border at Tecate, Mexico. The coastal rosy boa inhabits a wide range of habitats, including coastal sage scrub, chaparral, and desert habitat. It shows a preference for areas with high annual sun exposure and can be found under cap rock, on sandy alluvial fans, or among granitic boulder piles. According to the CNDDB, there are 3 known occurrences of coastal rosy boa in the Survey Area, of which none occur within the PIZ; although this species has the potential to occur within the PIZ in suitable habitat. The coastal rosy boa is known to occur within the Preserve Area at the San Miguel HMA (Merkel 1997) and has a high potential to occur at the Rancho Cañada HMA (TNC 2006).

Implementation of the NCCP/HCP could impact this species through direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 240 acres of potential habitat for coastal rosy boa could be impacted over the permit term. Approximately 641 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species, including known occupied habitat at the San Miguel HMA. Impacts to this species will be avoided and minimized through implementation of the general conditions for coverage provided in the NCCP/HCP (see Section 2.1 of Appendix B) and by measures that avoid impacts to potential microhabitats for this species through project siting and design. Mitigation for unavoidable impacts to this species will be habitat-based consistent with the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit coastal rosy boa and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage and by the conservation of large blocks of habitat on

which this species is known or has the potential to occur. Therefore, coverage is warranted for coastal rosy boa.

San Diego ring-neck snake (*Diadophis punctatus similis*)

The San Diego ring-neck snake is found in Orange, western Riverside, and San Diego counties, southward to northern Baja California, Mexico. In San Diego County, this species occurs along the immediate southern coast and at scattered locales in the interior mountains. This small snake prefers mesic areas in chaparral, sage scrub, non-native grassland, and oak woodlands, often with high numbers of boulders (Stebbins 2003). According to the CNDDB, there is one known occurrence of San Diego ring-neck snake in the Survey Area, which is also within the PIZ. The San Diego ring-neck is known to occur in the Preserve Area at the Rancho Cañada HMA (TNC 2006).

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 316 acres of potential habitat for San Diego ring-neck snake could be impacted over the permit term. Approximately 641 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species, including known occupied habitat at the Rancho Cañada HMA. Impacts to this species will be avoided and minimized through implementation of the general conditions for coverage provided in the NCCP/HCP (see Section 2.1 of Appendix B) and by measures that avoid boulder-dominated microhabitats through project siting and design. Mitigation for unavoidable impacts to this species will be habitat-based consistent with the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit San Diego ring-neck snake and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage and by the conservation of large blocks of habitat on which this species is known to occur. Therefore, coverage is warranted for San Diego ring-neck snake.

Red diamond rattlesnake (*Crotalus exsul*)

Northern red diamond rattlesnakes are found from extreme southern Los Angeles County southward into Baja California, Mexico (Stebbins 2003). Within its limited U.S. range, this species is confined primarily to areas from the Peninsular Ranges westward to the coast. In San Diego County, records of this species have been made throughout the coastal slope but are extremely sparse at higher elevations. This snake frequents rocky outcrops and areas of heavy brush or rugged terrain in chamise chaparral, sage scrub, or desert scrub on both coastal and desert slopes. According to the CNDDB, there are 14 known occurrences of red diamond rattlesnake in the Survey Area, of which 5 occur within the PIZ. This species is known to occur within the Preserve Area at the San Miguel HMA, and is expected to occur at the Rancho Cañada and Crestridge HMAs due to the presence of suitable habitat and proximity to known locations.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 240 acres of potential habitat for red diamond rattlesnake could be impacted over the permit term. Approximately 518 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species, including known occupied habitat at the San Miguel HMA. Impacts to this species will be avoided and minimized through implementation of the general conditions for coverage provided in the NCCP/HCP (see Section 2.1 of Appendix B) and by measures to remove and/or exclude this species from construction areas. Mitigation for unavoidable impacts to this species will be habitat-based consistent with the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit red diamond rattlesnake and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage and by the conservation of large blocks of habitat on which this species is known to occur. Therefore, coverage is warranted for red diamond rattlesnake.

Loggerhead shrike (*Lanius ludovicianus*)

The loggerhead shrike is found throughout most of the continental U.S. and Mexico, and it is a year-round resident of southern California. In San Diego County, the species is most abundant in the Anza-Borrego desert; it is also found in the Tecate Divide, Campo Plateau, Otay Mesa, all along the Mexican border to the coast, and in some parts of Camp Pendleton and Marine Corps Air Station Miramar (Unitt 2004). Suitable habitat for this species in the Plan Area occurs in western Riverside County around Temecula, Lake Skinner, and Diamond Valley Lake. The loggerhead shrike prefers open habitat such as grassland, agricultural fields, or open scrub and chaparral, with perches for hunting and fairly dense shrubs for nesting (Yosef 1996). Although there are no known records of this species within the Survey Area or PIZ, loggerhead shrikes are expected to occur in low densities within suitable habitat in both areas. The loggerhead shrike is known to occur within the Preserve Area at the San Miguel HMA (Merkel 1997) and has the potential to occupy suitable habitat at the Crestridge HMA (Pacific Southwest 1994).

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 274 acres of potential habitat for loggerhead shrike could be impacted over the permit term. Approximately 123 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species, including known occupied habitat at the San Miguel HMA. Impacts to this species will be avoided and minimized through pre-activity nesting surveys, breeding season avoidance measures, and the maintenance of avoidance buffers around active nest sites. There will be no direct take of loggerhead shrike individuals or nests under the NCCP/HCP. Any unavoidable impacts to this species will be mitigated with occupied habitat in accordance with the habitat ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP. Furthermore, Water Authority rights-of-way may

provide suitable foraging habitat for this species where vegetation is regularly cleared adjacent to suitable nesting habitat with a few large shrubs for perching.

Implementation of the NCCP/HCP will benefit loggerhead shrike and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage, mitigation of impacts with occupied habitat, and by the conservation of large blocks of habitat on which this species is known or has the potential to occur. Therefore, coverage is warranted for loggerhead shrike.

California horned lark (*Eremophila alpestris californica*)

The range of the California horned lark includes the coastal slopes of California from Sonoma County south to northwestern Baja California, Mexico, and most of the San Joaquin Valley (Grinnell and Miller 1944). This ground-dwelling species is a migratory songbird that breeds primarily in open or sparsely vegetated grasslands (Garrett and Dunn 1981). According to the CNDDB, there are 3 known occurrences of this species within the Survey Area and no known occurrences with the PIZ; however, California horned lark are expected to occur within the PIZ based on the presence of suitable habitat and proximity of known locations. This species is known to occur within the Preserve Area at the San Miguel HMA, where breeding pairs have been recorded (Merkel 1997).

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 34 acres of potential habitat for California horned lark could be impacted over the permit term. Although this species has been documented at the San Miguel HMA, suitable habitat within the Preserve Area has not been quantified. Impacts to this species will be avoided and minimized through pre-activity nesting surveys, breeding season avoidance measures, and the maintenance of avoidance buffers around active nest sites. There will be no direct take of California horned lark individuals or nests under the NCCP/HCP. Mitigation for unavoidable impacts to this species will be habitat-based in accordance with the habitat ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit California horned lark and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage and by the conservation of large blocks of habitat on which this species is known or has the potential to occur. Therefore, coverage is warranted for California horned lark.

Coastal California gnatcatcher (*Polioptila californica californica*)

The coastal California gnatcatcher is a non-migratory songbird found within coastal sage scrub habitats on the coastal slopes of southern California. This species shows a preference for coastal sage scrub dominated by California sagebrush (*Artemisia californica*) and flat-topped buckwheat (*Eriogonum fasciculatum*). Approximately 58,984 acres of designated critical habitat for coastal California gnatcatcher (USFWS 2007a) occur within the Plan Area, of which 5,372 acres are present in the PIZ). Critical

habitat is also present within the Preserve Area: approximately 1,608 acres in the San Miguel HMA (Unit 1), approximately 4.7 acres in the Manchester HMA (Unit 3), and approximately 14.5 acres in the San Luis Rey River HMA (Unit 5). According to the CNDDB, there are 152 known occurrences of coastal California gnatcatcher in the Survey Area, with 26 of those occurrences within the PIZ. This species occurs within the Preserve Area at the San Miguel HMA (Merkel 1997), Crestridge HMA (Pacific Southwest 1994), and Manchester HMA (EDAW 2007).

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 162 acres of potential habitat for coastal California gnatcatcher could be impacted over the permit term. Approximately 518 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species, including occupied habitat at the San Miguel, Crestridge, and Manchester HMAs. Impacts to this species will be avoided and minimized through focused pre-activity surveys to identify potential impacts to suitable and/or occupied habitat, breeding season avoidance measures, and the maintenance of avoidance buffers around occupied habitat.

There will be no direct take of coastal California gnatcatcher individuals or nests under the NCCP/HCP. Mitigation for unavoidable impacts to coastal California gnatcatcher will be habitat-based in accordance with the habitat ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP. For temporary impacts to suitable coastal California gnatcatcher habitat, the work site would be returned to pre-existing contours, where appropriate, and revegetated with appropriate native species and structural elements to support this species. Any unavoidable impacts to critical habitat will be fully mitigated with comparable value habitat, including, but not limited to, permanently protecting unprotected critical habitat, acquiring and/or permanently protecting essential habitat, restoring/creating additional suitable habitat, or other actions that provide those habitat values.

Implementation of the NCCP/HCP will benefit coastal California gnatcatcher and contribute to the regional conservation of this species in the Plan Area through implementation of the species-specific conditions of coverage and by the conservation of large blocks of habitat on which this species is known or has the potential to occur. Therefore, coverage is warranted for coastal California gnatcatcher.

Yellow warbler (*Dendroica petechia* brewsteri)

The local subspecies of yellow warbler comprises the majority of those breeding and migrating through southern California. Breeding occurs in most rivers and major creeks within San Diego County (Unitt 2004). This species is also known from Temecula and Murrieta Creeks within the Plan Area in Riverside County (RCIP 2003). Yellow warbler is primarily found in mature riparian forest habitat. According to the CNDDB, there are 3 known occurrences of yellow warbler in the Survey Area, none of which occur within the PIZ; however, this species is expected to occur within the PIZ where suitable riparian habitat is present. The yellow warbler is known to occur within the Preserve Area at the

Rancho Cañada HMA (TNC 2006), and has the potential to occur within the San Luis Rey River, Manchester, and Tijuana River Valley HMAs based on presence of suitable habitat and proximity to known locations.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 55 acres of potential habitat for yellow warbler could be impacted over the permit term. Approximately 26 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species, including known occupied habitat at the Rancho Cañada HMA. Impacts to this species will be avoided and minimized through pre-activity nesting surveys, breeding season avoidance measures, and the maintenance of avoidance buffers around active nest sites. There will be no direct take of yellow warbler individuals or nests under the NCCP/HCP. Any unavoidable impacts to this species will be mitigated with occupied habitat in accordance with the habitat ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit yellow warbler and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage, mitigation of impacts with occupied habitat, and by the conservation of large blocks of habitat on which this species is known or has the potential to occur. Therefore, coverage is warranted for yellow warbler.

Yellow-breasted chat (*Icteria virens*)

The yellow-breasted chat is an uncommon, localized, breeding summer resident of riparian woodland and scrub habitats on the coastal plain and foothills of California. Most sizeable stands of dense riparian woodland habitat within the Plan Area could potentially support this species. According to the CNDDB, there are 8 known occurrences of yellow-breasted chat in the Survey Area, of which one occurs within the PIZ. The yellow-breasted chat is known to occur in the Preserve Area at the San Miguel HMA (Merkel 1997), and is expected to occur in suitable habitat at the Rancho Cañada HMA, the San Luis Rey River HMA, and the Tijuana River Valley HMA.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 55 acres of potential habitat for yellow-breasted chat could be impacted over the permit term. Approximately 45 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species, including known occupied habitat at the San Miguel HMA. Impacts to this species will be avoided and minimized through pre-activity nesting surveys, breeding season avoidance measures, and the maintenance of avoidance buffers around active nest sites. There will be no direct take of yellow-breasted chat individuals or nests under the NCCP/HCP. Any unavoidable impacts to this species will be mitigated with occupied habitat in accordance with the habitat ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit yellow-breasted chat and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage, mitigation of impacts with occupied habitat, and by the conservation of large blocks of habitat on which this species is known or has the potential to occur. Therefore, coverage is warranted for yellow-breasted chat.

Bell's sage sparrow (*Amphispiza belli belli*)

Bell's sage sparrow ranges from coastal northern California to Baja California, Mexico, and is resident in San Diego County. This species is locally uncommon in suitable habitat in San Diego County (Johnson and Marten 1992), and locally common in suitable habitat in southwestern Riverside County. Bell's sage sparrow habitat includes coastal sage scrub and open chaparral on relatively flat terrain. According to the CNDDB, there are 52 known occurrences of this species within the Survey Area, of which 10 occur within the PIZ. Bell's sage sparrow is known to occur within the Preserve Area at the San Miguel HMA (Merkel 1997) and at the Crestridge HMA (Pacific Southwest 1994).

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 240 acres of potential habitat for Bell's sage sparrow could be impacted over the permit term. Approximately 641 acres of potentially suitable habitat for this species is provided in the existing Preserve Area. Impacts to this species will be avoided and minimized through pre-activity nesting surveys, breeding season avoidance measures, and the maintenance of avoidance buffers around active nest sites. There will be no direct take of Bell's sage sparrow individuals or nests under the NCCP/HCP. Mitigation for unavoidable impacts to this species will be habitat-based in accordance with the habitat ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit Bell's sage sparrow and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage and by the conservation of large blocks of habitat on which this species is known or has the potential to occur. Therefore, coverage is warranted for Bell's sage sparrow.

Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)

The southern California subspecies of rufous-crowned sparrow (ssp. *canescens*) is a common resident of scrub habitats of the coastal plain of Southern California and Baja California, Mexico. Southern California rufous-crowned sparrows are locally common in open coastal sage scrub in San Diego County. Potential habitat for this species also includes open chaparral, often on slopes that are steep, sparsely vegetated, and rocky or recently burned. According to the CNDDB, there are 82 known occurrences of this species within the Survey Area, of which 14 occur within the PIZ. The southern California rufous-crowned sparrow is known to occur within the Preserve Area at the San Miguel HMA (Merkel 1997), Rancho Cañada HMA (TNC 2006), and Crestridge HMA (Pacific Southwest 1994).

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 162 acres of potential habitat for Southern California rufous-crowned sparrow could be impacted over the permit term. Approximately 518 acres of potentially suitable habitat for this species is provided in the existing Preserve Area, including known occupied habitat within all three upland HMAs. Impacts to this species will be avoided and minimized through pre-activity nesting surveys, breeding season avoidance measures, and the maintenance of avoidance buffers around active nest sites. There will be no direct take of Southern California rufous-crowned sparrow individuals or nests under the NCCP/HCP. Mitigation for unavoidable impacts to this species will be habitat-based in accordance with the habitat ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit Southern California rufous-crowned sparrow and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage and by the conservation of large blocks of habitat on which this species is known to occur. Therefore, coverage is warranted for Southern California rufous-crowned sparrow.

Grasshopper sparrow (*Ammodramus savannarum*)

The grasshopper sparrow breeds and occasionally winters in southern California. San Diego County represents the southern extent of the breeding range along the west coast. There are currently five main breeding areas in San Diego County: Camp Pendleton, Los Peñasquitos Canyon Preserve, Marine Corps Air Station Miramar/Mission Trails Park, Rancho Jamul, and Ramona. There are also scattered colonies in the mountains near Wynola, Lake Henshaw, and Willow Spring (Unitt 2004). Lake Skinner, Diamond Valley Lake, and Murrieta Hot Springs are core areas for this species in Riverside County (RCIP 2003). The grasshopper sparrow is typically restricted to mesic grasslands, especially those dominated by native bunchgrasses and forbs. Although there are no known records of this species within the Survey Area or PIZ, grasshopper sparrows are expected to occur within suitable habitat in both areas. This species is known to occur within the Preserve Area at the San Miguel HMA (Merkel 1997).

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 41 acres of potential habitat for grasshopper sparrow could be impacted over the permit term. Approximately 9 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species, including known occupied habitat at the San Miguel HMA. Impacts to this species will be avoided and minimized through pre-activity nesting surveys, breeding season avoidance measures, and the maintenance of avoidance buffers around active nest sites. There will be no direct take of grasshopper sparrow individuals or nests under the NCCP/HCP. Any unavoidable impacts to this species will be mitigated with occupied habitat in accordance with the habitat ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP. Where the existing Preserve Area does not have

sufficient credits of suitable and/or occupied habitat, the Water Authority would obtain the necessary credits or additional habitat to satisfy the vegetation community (and Covered Species) obligations by one of the following methods: obtaining credits from an approved conservation/wetland bank, acquiring additional habitat acreage to add to a Preserve Area, or providing a biologically superior alternative that is acceptable to the Wildlife Agencies.

Implementation of the NCCP/HCP will benefit grasshopper sparrow and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage, mitigation of impacts with occupied habitat, and by the conservation of large blocks of habitat on which this species is known or has the potential to occur. Therefore, coverage is warranted for grasshopper sparrow.

San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)

The San Diego black-tailed jackrabbit ranges from near Mount Pinos (at the Kern-Ventura County line) southward and west of the Peninsular Range into northwestern Baja California, Mexico. Typical habitat for this species includes grasslands, open coastal sage scrub or chaparral, and agricultural areas. According to the CNDDB, there are 14 known occurrences of San Diego black-tailed jackrabbit in the Survey Area, of which 4 occur within the PIZ. This species is common to abundant at the San Miguel HMA (Merkel 1997) and also occurs at the Crestridge HMA (Pacific Southwest 1994).

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 34 acres of potential habitat for San Diego black-tailed jackrabbit could be impacted over the permit term. Approximately 8 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species, including known occupied habitat at the San Miguel and Crestridge HMAs. Impacts to this species will be avoided and minimized through implementation of the general conditions for coverage under the NCCP/HCP (see Section 2.1 of Appendix B). Any unavoidable impacts to this species will be mitigated with occupied habitat in accordance with the habitat ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit San Diego black-tailed jackrabbit and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage, mitigation of impacts with occupied habitat, and by the conservation of large blocks of habitat on which this species is known to occur. Where the existing Preserve Area is not known to have sufficient credits of suitable and/or occupied habitat, the Water Authority will satisfy the vegetation community and Covered Species mitigation obligations by one or more of the following methods: demonstrating that adequate suitable habitat exists within the current Preserve Area, obtaining credits from an approved conservation/wetland bank, acquiring additional habitat acreage with known populations or habitat suitability to add to a Preserve Area, or providing a biologically superior alternative that is acceptable to the

Wildlife Agencies. Therefore, coverage is warranted for San Diego black-tailed jackrabbit.

Dulzura (California) pocket mouse (*Chaetodipus californicus femoralis*)

The Dulzura pocket mouse ranges throughout most of San Diego County into northern Baja California, Mexico. This species is generally found on chaparral-covered slopes in coastal and montane regions where sandy loams and other soils conducive to burrow excavation are present. According to the CNDDB, there are 9 known occurrences of Dulzura pocket mouse in the Survey Area, of which 2 occur within the PIZ. This species is known to occur within the Preserve Area at the San Miguel HMA (Merkel 1997) and the Crestridge HMA (CNDDB 2011, Pacific Southwest 1994).

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 10 acres of potential habitat for Dulzura pocket mouse could be impacted over the permit term. Although this species is known to occur within the Preserve Area, acres of suitable habitat have not been quantified. Impacts to this species will be avoided and minimized through implementation of the general conditions for coverage under the NCCP/HCP (see Section 2.1 of Appendix B), pre-construction surveys for burrows, use of a trapping and relocation program (in consultation with the Wildlife Agencies) where impacts are unavoidable, and the use of exclusion measures during construction activities. Any unavoidable impacts to this species will be mitigated with occupied habitat in accordance with the habitat ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit Dulzura pocket mouse and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage, mitigation of impacts with occupied habitat, and by the conservation of large blocks of habitat on which this species is known to occur. Where the existing Preserve Area is not known to have sufficient credits of suitable and/or occupied habitat, the Water Authority will satisfy the vegetation community and Covered Species mitigation obligations by one or more of the following methods: demonstrating that adequate suitable habitat exists within the current Preserve Area, obtaining credits from an approved conservation/wetland bank, acquiring additional habitat acreage with known populations or habitat suitability to add to a Preserve Area, or providing a biologically superior alternative that is acceptable to the Wildlife Agencies. Therefore, coverage is warranted for Dulzura pocket mouse.

Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*)

The San Diego pocket mouse ranges from Los Angeles County and extreme southern San Bernardino County southward through western Riverside and San Diego counties into west-central Baja California, Mexico. There are two subspecies of the San Diego pocket mouse in California; the coastal subspecies is called the northwestern San Diego pocket mouse. The northwestern San Diego pocket mouse inhabits sparse or disturbed coastal sage scrub, chaparral, or grasslands with sandy soils suitable for burrowing. According

to the CNDDB, there are 13 known occurrences of northwestern San Diego pocket mouse in the Survey Area, of which 4 occur within the PIZ. This species is known to occur in the Preserve Area at the Crestridge HMA (CNDDB 2011, Pacific Southwest 1994). Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 274 acres of potential habitat for northwestern San Diego pocket mouse could be impacted over the permit term. Approximately 641 acres of potentially suitable habitat are provided in the existing Preserve Area, including known occupied habitat at the Crestridge HMA. Impacts to this species will be avoided and minimized through implementation of the general conditions for coverage under the NCCP/HCP (see Section 2.1 of Appendix B), pre-construction surveys for burrows, the use of a trapping and relocation program (in consultation with the Wildlife Agencies) where impacts are unavoidable, and the use of exclusion measures during construction activities. Mitigation for unavoidable impacts to this species will be habitat-based in accordance with the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit northwestern San Diego pocket mouse and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage and by the conservation of large blocks of habitat on which this species is known to occur. Therefore, coverage is warranted for northwestern San Diego pocket mouse.

Southern grasshopper mouse (*Onychomys torridus ramona*)

The southern grasshopper mouse occurs throughout the southwestern U.S. and northwestern Mexico. In southern California, this species is confined to inland areas west of the Peninsular Range in San Diego and Riverside counties. Typical habitat for the southern grasshopper mouse includes grassland, sage scrub, and open chaparral with friable soils. The southern grasshopper mouse feeds primarily on arthropods, although it may also rarely eat small vertebrates such as salamanders, lizards, and frogs. This carnivorous rodent is rarely encountered during trapping programs, because traps are typically baited with seeds. Although no records for this species are known from the Survey Area or PIZ, southern grasshopper mouse has the potential to occur in these areas where suitable habitat is present. This species is also expected to occur in the Preserve Area within all three upland HMAs.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 274 acres of potential habitat for southern grasshopper mouse could be impacted over the permit term. Approximately 641 acres of potentially suitable habitat are provided in the existing Preserve Area. Impacts to this species will be avoided and minimized through implementation of the general conditions for coverage under the NCCP/HCP (see Section 2.1 of Appendix B), pre-construction surveys for burrows, the use of a trapping and relocation program (in consultation with the Wildlife Agencies) where impacts are unavoidable, and the use of exclusion measures during construction activities. Mitigation for unavoidable impacts to this species will be

habitat-based in accordance with the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit southern grasshopper mouse and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage and by the conservation of large blocks of habitat on which this species has the potential to occur. Therefore, coverage is warranted for southern grasshopper mouse.

San Diego desert woodrat (*Neotoma lepida intermedia*)

The desert woodrat (*Neotoma lepida*) ranges from Inyo County and north-central Tulare County, California, southward through the Mojave Desert and Colorado Desert – then westward to the coast. Three subspecies of the desert woodrat exist within San Diego County. The coastal subspecies, the San Diego desert woodrat, has declined somewhat due to habitat encroachment and loss. This species typically inhabits areas of dense vegetation in coastal sage scrub and chaparral. Its small stick nests are often encountered in areas of rocky outcrops and wedged against the base of larger, shielding shrubs. According to the CNDDB, there are 13 known occurrences of San Diego desert woodrat in the Survey Area, of which 6 occur within the PIZ. This species is known to occur within the Preserve Area at the San Miguel HMA (Merkel 1997), where it is common, and the Rancho Cañada HMA (TNC 2006).

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat association projections, approximately 240 acres of potential habitat for San Diego desert woodrat could be impacted over the permit term. Approximately 641 acres of potentially suitable habitat are provided in the existing Preserve Area. Impacts to this species will be avoided and minimized through implementation of the general conditions for coverage, pre-construction surveys for stick nests, avoidance of nests through project siting and design, the use of a trapping and relocation program (in consultation with the Wildlife Agencies) where impacts are unavoidable, and the use of exclusion measures during construction activities. Mitigation for unavoidable impacts to this species will be habitat-based in accordance with the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit San Diego desert woodrat and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage and by the conservation of large blocks of habitat on which this species is known or has the potential to occur. Therefore, coverage is warranted for San Diego desert woodrat.

Mountain lion (*Felis concolor*)

The mountain lion has a large range throughout much of the U.S., Canada, and Mexico. In California, it occurs as an uncommon but permanent resident. In San Diego and western Riverside counties, mountain lions occur mainly in the mountains and foothills.

This species can be found in nearly all habitats, but shows a preference for rocky, rugged terrain with dense vegetation cover. Although no records for this species are known from the Survey Area or PIZ, mountain lion is expected to occur within these areas where large blocks of native habitat are present. This species is known to occur within the Preserve Area at the San Miguel HMA (Merkel 1997), and is known from the vicinity and has the potential to occur at the Crestridge HMA (Pacific Southwest 1994) and the Rancho Cañada HMA (TNC 2006).

Although no direct take of individual mountain lions is authorized under this NCCP Permit, implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities, particularly where these activities affect local or regional movement corridors. Based on habitat-association projections, approximately 344 acres of potential habitat for mountain lion could be impacted over the permit term. Approximately 702 acres of potentially suitable habitat are provided in the existing Preserve Area. Impacts to this species will be avoided and minimized through implementation of the general conditions for coverage, including measures to avoid and/or minimize impacts to local and regional habitat linkages and wildlife movement corridors. Mitigation for unavoidable impacts to this species will be habitat-based in accordance with the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit mountain lion and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage and by the conservation of large blocks of habitat on which this species is known or has the potential to occur. Therefore, coverage is warranted for mountain lion.

Finding 4.7.3 **CDFG finds that the following species are authorized for take under the NCCP/HCP and coverage is warranted based on site-specific considerations and the identification of specific conservation and management conditions for species within a narrowly defined habitat or limited geographic area within the plan area (2821(a)(3)).**

For the analyses presented below and in Attachment 1, anticipated impacts to species are based on projected acreage of suitable habitat and known point locations that are expected to be directly and indirectly impacted under the NCCP/HCP as a result of Covered Activities. The anticipated conservation level to species identifies acreage of suitable or occupied habitat or individual populations (if known) conserved and managed within the Preserve Area (see Appendix B of the NCCP/HCP). In addition to the general Conditions for Coverage provided in Section 2.1, Appendix B of the NCCP/HCP, species-specific conditions were developed for all proposed Covered Species as described in the following sections. In all cases, a biologically superior conservation alternative for a species may be implemented with concurrence from the Wildlife Agencies; potential alternatives include the restoration and/or enhancement of habitat, contribution of funds to other regional conservation efforts, or species-specific management programs. The NCCP/HCP primarily contributes to population viability and recovery of Covered

Species through the contribution of a core regional Preserve Area, resource management within Water Authority rights-of-way and fee-owned parcels (including control of edge effects and habitat degradation), and protection of species within the Plan Area in accordance with species-specific conservation measures.

Three additional species, Munz's onion (*Allium munzii*), California orcutt grass (*Orcuttia californica*), and vernal pool fairy shrimp (*Branchinecta lynchi*), were evaluated for coverage but it was determined that these species only had potential for occurrence relative to Water Authority activities within Riverside County, and would therefore only be addressed during a Major Amendment process. Although discussed in the Subregional Plan and identified in the Implementing Agreement, no take is allowed for these species under the NCCP Permit.

Adequate landscape level considerations and species-specific conservation measures (management) within narrowly defined areas will be implemented for the following species:

Encinitas baccharis (*Baccharis vanessae*)

Encinitas baccharis is endemic to San Diego County. This shrub generally occurs in southern maritime chaparral in the vicinity of Encinitas and extends inland to Mount Woodson and Poway where it is associated with dense southern mixed chaparral. Edaphic requirements may significantly restrict dispersal, given the limited range of this species. Soil types associated with this species include Corralitos loamy sand and Cieneba rocky coarse sandy loam where large granitic boulders occur (Reiser 2001). No critical habitat has been designated for this species. According to CNDDB and SDNHM specimen records, Encinitas baccharis is known from 16 occurrences within the Survey Area, with 6 of those occurrences within the PIZ. Although no known locations or potential habitat for Encinitas baccharis have been documented within the Preserve Area, a sizeable population occurs within areas controlled by the Water Authority at the upper elevations within the Elfin Forest Reserve (MMA) surrounding Olivenhain Reservoir.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat-association projections, approximately 36 acres of potential habitat for this species could be impacted over the permit term. Based on the analysis of available vegetation and species data, no occupied and/or suitable habitat is provided in the existing Preserve Area for this species. However, per the Narrow Endemic Policy, populations of Encinitas baccharis within the Plan Area will be avoided to the maximum extent practicable, with a minimum 80% avoidance for Planned and Future Projects. Impacts to this species will be further minimized through focused pre-activity surveys to identify potential impacts to populations and suitable habitat, limiting soil disturbance within 50 feet of populations to minimize the encroachment of nonnative species, and the establishment of a minimum habitat buffer when feasible around populations to support the natural suite of pollinators.

Due to the high sensitivity and limited population distribution of this species, a no-net-loss of individuals and occupied acreage will be achieved through complete avoidance, or additions to and/or restoration and enhancement of the Preserve Area to support this species. Since this species is dioecious, care will be taken in plantings and transplantations to maintain a mixture of male and female individuals in restoration efforts. Implementation of the NCCP/HCP will benefit Encinitas baccharis and contribute to the regional conservation of this species in the Plan Area through implementation of the Narrow Endemic Policy, by the establishment of avoidance and minimization measures for all Covered Activities, and maintaining a no-net-loss of populations and occupied habitat within the Plan Area. Therefore, coverage is warranted for Encinitas baccharis.

Thread-leaved brodiaea (*Brodiaea filifolia*)

Thread-leaved brodiaea is an herbaceous perennial plant arising from a corm. This species is known from Los Angeles, Orange, Riverside, San Bernardino, and San Diego counties (CNPS 2001). In San Diego County, thread-leaved brodiaea is concentrated in Oceanside, Carlsbad, Vista, San Marcos, and south through La Costa and Olivenhain to Rancho Santa Fe (Reiser 2001). Suitable habitat for this species includes vernally moist grasslands with clay soils and the periphery of vernal pools. According to CNDDB and SDNHM specimen records, thread-leaved brodiaea is known from 15 occurrences within the Survey Area, with 3 of those occurrences within the PIZ. Although no known locations or potential habitat for this species have been documented within the Preserve Area, there is potential for thread-leaved brodiaea to occur within the Myers MMA based on proximity of known locations and the presence of suitable habitat.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat-association projections, approximately 62 acres of potential habitat for this species could be impacted over the permit term. Based on the analysis of available vegetation and species data, no occupied and/or suitable habitat is provided in the existing Preserve Area for this species. However, per the Narrow Endemic Policy, populations of thread-leaved brodiaea within the Plan Area will be avoided to the maximum extent practicable, with a minimum 80% avoidance for Planned and Future Projects. Impacts to this species will be further minimized through application of the Vernal Pool Protection Policy where this species occurs in vernal pool watersheds. This requires focused pre-activity surveys to identify potential impacts to populations and suitable habitat, limiting soil disturbance within 50 feet of populations to minimize the encroachment of nonnative species, and the establishment of a minimum habitat buffer when feasible around populations to support the natural suite of pollinators.

Due to the high sensitivity and limited population distribution of this species, a no-net-loss of individuals and occupied acreage will be achieved through complete avoidance, or additions to and/or restoration and enhancement of the Preserve Area to support this species. In addition, any unavoidable impacts to critical habitat will be fully mitigated with comparable-value habitat including, but not limited to, permanently protecting unprotected critical habitat, acquiring and/or permanently protecting essential habitat,

restoring/creating additional suitable habitat, or other actions that provide those habitat values.

Implementation of the NCCP/HCP will benefit thread-leaved brodiaea and contribute to the regional conservation of this species in the Plan Area through implementation of the Narrow Endemic Policy and Vernal Pool Protection Policy, by the establishment of avoidance and minimization measures for all Covered Activities, and maintaining a no-net-loss of populations and occupied habitat within the Plan Area. Therefore, coverage is warranted for thread-leaved brodiaea.

Dunn's mariposa lily (*Calachortus dunnii*)

Dunn's mariposa lily is endemic to San Diego County and is mainly restricted to the interior mountains. This geophyte typically occurs in rocky openings in chaparral or in the grassland/chaparral ecotone, and is generally restricted to metavolcanic and gabbroic derived soils. According to CNDDB and SDNHM specimen records, Dunn's mariposa lily is known from 1 occurrence within the Survey Area, east of Sweetwater Reservoir, and has not been documented within the PIZ; however, due to the presence of suitable habitat, this species has the potential to occur in the PIZ. Although Dunn's mariposa lily has not been documented within the Preserve Area, this species occurs within the Survey Area buffer north of the San Miguel HMA and thus has the potential to occur at the San Miguel HMA where suitable soils are present.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat-association projections, approximately 78 acres of potential habitat for this species could be impacted over the permit term. Approximately 8 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species. Impacts to populations of Dunn's mariposa lily will be minimized to the maximum extent practicable under the Narrow Endemic Policy, and mitigated to a no-net-loss standard. Impacts to this species will be further minimized through focused pre-activity surveys to identify potential impacts to populations and suitable habitat, limiting soil disturbance within 50 feet of populations to minimize the encroachment of nonnative species, and the establishment of a minimum habitat buffer when feasible around populations to support the natural suite of pollinators. Unavoidable impacts to this species will be mitigated at the appropriate habitat ratio (Tables 6-6 and 6-7 of the NCCP/HCP) through conservation of habitat with known species locations, or the potential to support the species in suitable habitat in association with a Wildlife Agency-approved restoration plan.

Implementation of the NCCP/HCP will benefit Dunn's mariposa lily and contribute to the regional conservation of this species in the Plan Area through implementation of the Narrow Endemic Policy, by the establishment of avoidance and minimization buffers for all Covered Activities, and by the conservation of contiguous blocks of suitable habitat at San Miguel on which this species has the potential to occur. Where the existing Preserve Area is not known to have sufficient credits of suitable and/or occupied habitat, the Water Authority will satisfy the vegetation community and Covered Species mitigation

obligations by one or more of the following methods: demonstrating that adequate suitable habitat exists within the current Preserve Area, obtaining credits from an approved conservation/wetland bank, acquiring additional habitat acreage with known populations or habitat suitability to add to a Preserve Area, or providing a biologically superior alternative that is acceptable to the Wildlife Agencies. Therefore, coverage is warranted for Dunn's mariposa lily.

Lakeside ceanothus (*Ceanothus cyaneus*)

Lakeside ceanothus is a shrub restricted to a narrow range in interior San Diego County (Reiser 2001). This species occurs in dense inland mixed chaparral, specifically in the region from Crest to the Lakeside foothills. According to CNDDB and SDNHM specimen records, Lakeside ceanothus is known from 13 occurrences within the Survey Area, with 4 of those occurrences within the PIZ. Lakeside ceanothus is known to occur within the Crestridge HMA (Pacific Southwest 1994) and has the potential to occur within the Rancho Cañada HMA, as it is known from adjacent contiguous habitat (TNC 2006).

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat-association projections, approximately 78 acres of potential habitat for this species could be impacted over the permit term. Lakeside ceanothus is conserved within the Crestridge HMA, although credits have not yet been quantified for the population. There are also approximately 84 acres of suitable habitat for this species present at the Rancho Cañada HMA. Impacts to populations of Lakeside ceanothus will be minimized to the maximum extent practicable under the Narrow Endemic Policy, and mitigated to a no-net-loss standard. Impacts to this species will be further minimized through focused pre-activity surveys to identify potential impacts to populations and suitable habitat, limiting soil disturbance within 50 feet of populations to minimize the encroachment of nonnative species, and the establishment of a minimum habitat buffer when feasible around populations to support the natural suite of pollinators. Unavoidable impacts to this species will be mitigated at the appropriate habitat ratio (Tables 6-6 and 6-7 of the NCCP/HCP) through conservation of habitat with known species locations, or the potential to support the species in suitable habitat in conjunction with a Wildlife Agency-approved restoration plan.

Implementation of the NCCP/HCP will benefit Lakeside ceanothus and contribute to the regional conservation of this species in the Plan Area through implementation of the Narrow Endemic Policy, by the establishment of avoidance and minimization buffers for all Covered Activities, and by the conservation of contiguous blocks of habitat on which this species is known or has the potential to occur. Where the existing Preserve Area does not have sufficient credits of suitable and/or occupied habitat, the Water Authority will satisfy the vegetation community and Covered Species mitigation obligations by one or more of the following methods: demonstrating that adequate suitable habitat exists within the current Preserve Area, obtaining credits from an approved conservation/wetland bank, acquiring additional habitat acreage with known populations or habitat suitability to add to a Preserve Area, or providing a biologically superior

alternative that is acceptable to the Wildlife Agencies. Therefore, coverage is warranted for Lakeside ceanothus.

Southern tarplant (*Centromadia parryi* ssp. *australis*)

Southern tarplant occurs in San Diego County, Orange County, Ventura County, Los Angeles County, and Santa Barbara County (Reiser 2001). Southern tarplant is generally found on alkaline soils along the margins of marshes and swamps, in vernally mesic grassland areas, and near vernal pools. In San Diego County, small colonies occur on the periphery of the salt marsh in Del Mar, around a large vernal pool in Ramona, and in downtown San Marcos. According to CNDDB and SDNHM specimen records, southern tarplant is known from 3 occurrences within the Survey Area, with none of those occurring within the PIZ. No known locations or potentially suitable habitat for this species have been documented within the current Preserve Area.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat-association projections, approximately 6 acres of potential habitat for this species could be impacted over the permit term. Based on the analysis of available vegetation and species data, no occupied and/or suitable habitat is provided in the existing Preserve Area for this species. Impacts to this species will be avoided and minimized through implementation of the general conservation measures provided in the NCCP/HCP (see Section 2.1 of Appendix B) and the Vernal Pool Protection Policy, where it occurs within vernal pool habitat. Unavoidable impacts to southern tarplant will be mitigated through the conservation of habitat with known species occurrences, or the potential to support the species in suitable habitat, consistent with the ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit southern tarplant and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage. Where the existing Preserve Area is not known to have sufficient credits of suitable and/or occupied habitat, the Water Authority will satisfy the vegetation community and Covered Species mitigation obligations by one or more of the following methods: demonstrating that adequate suitable habitat exists within the current Preserve Area, obtaining credits from an approved conservation/wetland bank, acquiring additional habitat acreage with known populations or habitat suitability to add to a Preserve Area, or providing a biologically superior alternative that is acceptable to the Wildlife Agencies. Therefore, coverage is warranted for southern tarplant.

Otay tarplant (*Deinandra conjugens*)

Otay tarplant is an annual plant species restricted to southern San Diego County and northern Baja California, Mexico (Reiser 2001; USFWS 2009c). This species is restricted to fractured clay soils and is most often associated with low elevation grasslands, but can occur in grassy areas with sparse shrub cover (Munz and Keck 1968, Reiser 2001). Critical habitat for Otay tarplant was designated in 2002 on 6,330 acres in San Diego County (USFWS 2002). A total of approximately 6,318 acres of designated

critical habitat occur within the Plan Area, with 547 acres of designated critical habitat occurring within the PIZ. According to CNDDB and SDNHM specimen records, Otay tarplant is known from 24 occurrences within the Survey Area, with 3 of those occurrences within the PIZ. A population of approximately 12,260 plants on 25.5 acres is conserved at the San Miguel HMA (Merkel 1997). In addition, approximately 754 acres of designated critical habitat occur within the Preserve Area at the San Miguel HMA (Sub-unit 1B, USFWS 2002).

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat-association projections, approximately 10 acres of potential habitat for this species could be impacted over the permit term. Approximately 25.5 acres of occupied habitat at the San Miguel HMA, and an additional 8 acres of potentially suitable habitat, is provided in the existing Preserve Area that may be used to mitigate for impacts to this species. Furthermore, any unavoidable impacts to critical habitat will be fully mitigated with comparable-value habitat including, but not limited to, permanently protecting unprotected critical habitat, acquiring and/or permanently protecting essential habitat, restoring/creating additional suitable habitat, or other actions that provide those habitat values.

Per the Narrow Endemic Policy, populations of Otay tarplant within the Plan Area will be avoided to the maximum extent practicable, with a minimum 80% avoidance for Planned and Future Projects, and mitigated to a no-net-loss standard. Impacts to this species will be further minimized through focused pre-activity surveys to identify potential impacts to populations and suitable habitat, limiting soil disturbance within 50 feet of populations to minimize the encroachment of nonnative species, and the establishment of a minimum habitat buffer when feasible around populations to support the natural suite of pollinators. For unavoidable temporary impacts, this species would be salvaged and restored in accordance with an approved restoration plan to be prepared in advance of project impacts and approved by the Wildlife Agencies.

Implementation of the NCCP/HCP will benefit Otay tarplant and contribute to the regional conservation of this species in the Plan Area through implementation of the Narrow Endemic Policy, by the establishment of avoidance and minimization buffers for all Covered Activities, by the conservation and management of occupied and/or suitable habitat on which this species does/has the potential to occur, by maintaining a no-net-loss of populations and occupied habitat within the Plan Area, and through conservation measures to maintain suitable habitat, where possible, within the ROWs. Therefore, coverage is warranted for Otay tarplant.

San Diego button-celery (*Eryngium aristulatum* var. *parishii*)

San Diego button-celery is found in Riverside and San Diego counties, and in Baja California, Mexico (Reiser 2001). Vernal pools or mima mound areas with vernally moist conditions and clay soils are the preferred habitats for this species. San Diego button-celery may also occur in coastal sage scrub or chaparral where appropriate mesic conditions and clay soils are present. According to CNDDB and SDNHM specimen

records, San Diego button-celery is known from 2 occurrences within the Survey Area, with 2 of those occurrences within the PIZ. No known locations or potential habitat for this species have been documented within the current Preserve Area.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat-association projections, approximately 5 acres of potential habitat for San Diego button-celery could be impacted over the permit term. Based on the analysis of available vegetation and species data, no occupied and/or suitable habitat is provided in the existing Preserve Area for this species. However, per the Narrow Endemic Policy, populations of San Diego button-celery within the Plan Area will be avoided to the maximum extent practicable, with a minimum 80% avoidance for Planned and Future Projects. Impacts to this species will be further minimized through application of the Vernal Pool Protection Policy where this species occurs in vernal pool watersheds, focused pre-activity surveys to identify potential impacts to populations and suitable habitat, limiting soil disturbance within 50 feet of populations to minimize the encroachment of nonnative species, and the establishment of a minimum habitat buffer when feasible around populations to support the natural suite of pollinators. Due to the high sensitivity and limited population distribution of this species, a no-net-loss of individuals and occupied acreage will be achieved through complete avoidance, or additions to and/or restoration and enhancement of the Preserve Area to support this species.

Implementation of the NCCP/HCP will benefit San Diego button-celery and contribute to the regional conservation of this species in the Plan Area through implementation of the Narrow Endemic Policy and Vernal Pool Protection Policy, by the establishment of avoidance and minimization measures for all Covered Activities, and maintaining a no-net-loss of populations and occupied habitat within the Plan Area. Therefore, coverage is warranted for San Diego button-celery.

Felt-leaved monardella (*Monardella hypoleuca* ssp. *lanata*)

Felt-leaved monardella is a suffrutescent perennial species that ranges from Orange County south into San Diego County and Baja California, Mexico (Reiser 2001). In San Diego County, populations occur in the understory of mature chaparral habitat on undeveloped peaks and ridgelines with gabbroic or metavolcanic soils. According to CNDDB and SDNHM specimen records, felt-leaved monardella is known from 4 occurrences within the Survey Area, with one of those occurring within the PIZ. This species is not known from the current Preserve Area, but it has the potential to occur based on the presence of suitable habitat. It also has potential to occur within the Elfin Forest Reserve MMA.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat-association projections, approximately 78 acres of potential habitat for this species could be impacted over the permit term. Approximately 123 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for

impacts to this species. Impacts to populations of felt-leaved monardella will be avoided or minimized in accordance with the Narrow Endemic Policy, and mitigated to a no-net-loss standard. Impacts to this species will be further minimized through focused pre-activity surveys to identify potential impacts to populations and suitable habitat, limiting soil disturbance within 50 feet of populations to minimize the encroachment of nonnative species, and the establishment of a minimum habitat buffer when feasible around populations to support the natural suite of pollinators.

Implementation of the NCCP/HCP will benefit felt-leaved monardella and contribute to the regional conservation of this species in the Plan Area through implementation of the Narrow Endemic Policy, by the establishment of avoidance and minimization buffers for all Covered Activities, and by the conservation of large blocks of suitable habitat on which this species has the potential to occur. Where the existing Preserve Area is not known to have sufficient credits of suitable and/or occupied habitat, the Water Authority will satisfy the vegetation community and Covered Species mitigation obligations by one or more of the following methods: demonstrating that adequate suitable habitat exists within the current Preserve Area, obtaining credits from an approved conservation/wetland bank, acquiring additional habitat acreage with known populations or habitat suitability to add to a Preserve Area, or providing a biologically superior alternative that is acceptable to the Wildlife Agencies. Therefore, coverage is warranted for felt-leaved monardella.

Willowy monardella (*Monardella viminea*)

The range of willowy monardella is limited to central San Diego County and northwestern Baja California, Mexico (Reiser 2001). Open riparian scrub with sandy soils and cobbles along the periphery of seasonal drainages or intermittent creeks is the typical habitat of this small subshrub. Willowy monardella is likely adapted to occasional flooding episodes that may serve to expand local populations downstream; pioneering in newly created embankments of cobble and silty materials. Seventy-three acres of critical habitat for willowy monardella were designated in 2006 (USFWS 2006). All of the critical habitat for this species is within San Diego County and occurs within the Plan Area, but outside the PIZ. There are now only 7 known occurrences of willowy monardella, and most of these are small and fragmented by surrounding development (USFWS 2008b). This species is not currently known or expected to occur in the Preserve Area.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat-association projections, approximately 38 acres of potential habitat for this species could be impacted over the permit term. However, suitable conditions for willowy monardella are expected to be substantially more limited within this potential 38 acres. Currently, no critical habitat for this species is located within the PIZ. However, any unavoidable impacts to critical habitat will be fully mitigated with comparable-value habitat including, but not limited to, permanently protecting unprotected critical habitat, acquiring and/or permanently protecting essential habitat, restoring/creating additional suitable habitat, or other actions that provide those habitat values.

Impacts to populations of willowy monardella will be avoided or minimized to the maximum extent practicable in accordance with the Narrow Endemic Policy and the Wetland Protection Program. Impacts to this species will be further minimized through focused pre-activity surveys to identify potential impacts to populations and suitable habitat, limiting soil disturbance within 50 feet of populations to minimize the encroachment of nonnative species, and the establishment of a minimum habitat buffer when feasible around populations to support the natural suite of pollinators. Any unavoidable impacts to this species will be mitigated through conservation of habitat with known species locations, or the potential to support the species in suitable habitat in conjunction with a Wildlife Agency-approved restoration plan, at a ratio appropriate to achieve a no-net-loss of populations and occupied habitat.

Implementation of the NCCP/HCP will benefit willowy monardella and contribute to the regional conservation of this species in the Plan Area through implementation of the Narrow Endemic Policy, by the establishment of avoidance and minimization buffers for all Covered Activities, and through the mitigation of unavoidable impacts at a no-net-loss standard. Therefore, coverage is warranted for willowy monardella.

Spreading navarretia (*Navarettia fossalis*)

Spreading navarretia is an annual herb that occurs in western Riverside County, southwestern San Diego County, and in northwestern Baja California, Mexico (Reiser 2001). This species is found primarily in vernal pools and swales, and in alkali grasslands, sinks, and playas with clay soils. Depth of pool is a significant factor determining suitable habitat for this species; it is typically found in deeper, more permanent pools and is rarely found in shallower pools. According to CNDDB and SDNHM specimen records, spreading navarretia is known from 30 occurrences within the Survey Area, with 5 of those occurrences within the PIZ. No known locations or potential habitat for this species have been documented within the current Preserve Area.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. No impacts are anticipated from Planned Projects identified in the Plan; however, based on habitat-association projections, approximately 5 acres of potential habitat for this species could be impacted over the permit term by Future Projects and operations and maintenance activities. Based on the analysis of available vegetation and species data, no occupied and/or suitable habitat is provided in the existing Preserve Area for this species. However, per the Narrow Endemic Policy, populations of spreading navarretia within the Plan Area will be avoided to the maximum extent practicable, with a minimum 80% avoidance for Planned and Future Projects. Impacts to this species will be further minimized through application of the Vernal Pool Protection Policy where this species occurs in vernal pool watersheds, focused pre-activity surveys to identify potential impacts to populations and suitable habitat, limiting soil disturbance within 50 feet of populations to minimize the encroachment of nonnative species, and the establishment of a minimum habitat buffer when feasible around populations to support the natural suite of pollinators.

Due to the high sensitivity and limited population distribution of this species, a no-net-loss of individuals and occupied acreage will be achieved through complete avoidance, or additions to and/or restoration and enhancement of the Preserve Area to support this species. In addition, any unavoidable impacts to critical habitat will be fully mitigated with comparable-value habitat including, but not limited to, permanently protecting unprotected critical habitat, acquiring and/or permanently protecting essential habitat, restoring/creating additional suitable habitat, or other actions that provide those habitat values.

Implementation of the NCCP/HCP will benefit spreading navarretia and contribute to the regional conservation of this species in the Plan Area through implementation of the Narrow Endemic Policy and Vernal Pool Protection Policy, by the establishment of avoidance and minimization measures for all Covered Activities, and maintaining a no-net-loss of populations and occupied habitat within the Plan Area. Therefore, coverage is warranted for spreading navarretia.

San Diego mesa mint (*Pogogyne abramsii*)

San Diego mesa mint is an annual species endemic to San Diego County (Reiser 2001). Vernal pools associated with pronounced mima mound areas are the preferred habitat for this species. According to CNDDB and SDNHM specimen records, San Diego mesa mint is known from 7 occurrences within the Survey Area, with one of those occurring within the PIZ. No known locations or potential habitat for this species have been documented within the current Preserve Area.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat-association projections, approximately 5 acres of potential habitat for San Diego mesa mint could be impacted over the permit term. Based on the analysis of available vegetation and species data, no occupied and/or suitable habitat is provided in the existing Preserve Area for this species. However, per the Narrow Endemic Policy, populations of San Diego mesa mint within the Plan Area will be avoided to the maximum extent practicable, with a minimum 80% avoidance for Planned and Future Projects. Impacts to this species will be further minimized through application of the Vernal Pool Protection Policy, focused pre-activity surveys to identify potential impacts to populations and suitable habitat, limiting soil disturbance within 50 feet of populations to minimize the encroachment of nonnative species, and the establishment of a minimum habitat buffer when feasible around populations to support the natural suite of pollinators. Due to the high sensitivity and limited population distribution of this species, a no-net-loss of individuals and occupied acreage will be achieved through complete avoidance, or additions to and/or restoration and enhancement of the Preserve Area to support this species.

Implementation of the NCCP/HCP will benefit San Diego mesa mint and contribute to the regional conservation of this species in the Plan Area through implementation of the Narrow Endemic Policy and Vernal Pool Protection Policy, by the establishment of

avoidance and minimization measures for all Covered Activities, and maintaining a no-net-loss of populations and occupied habitat within the Plan Area. Therefore, coverage is warranted for San Diego mesa mint.

Otay Mesa mint (*Pogogyne nudiuscula*)

Otay Mesa mint is an annual species found only in southern San Diego County (Reiser 2001). This species is restricted to vernal pool habitat, especially where pools occur in open grasslands with mima mound topography. According to CNDDB and SDNHM specimen records, Otay Mesa mint is known from 3 occurrences within the Survey Area, of which none occur within the PIZ. No known locations or potential habitat for this species have been documented within the current Preserve Area.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat-association projections, approximately 5 acres of potential habitat for Otay Mesa mint could be impacted over the permit term. Based on the analysis of available vegetation and species data, no occupied and/or suitable habitat is provided in the existing Preserve Area for this species. However, per the Narrow Endemic Policy, populations of Otay Mesa mint within the Plan Area will be avoided to the maximum extent practicable, with a minimum 80% avoidance for Planned and Future Projects. Impacts to this species will be further minimized through application of the Vernal Pool Protection Policy, focused pre-activity surveys to identify potential impacts to populations and suitable habitat, limiting soil disturbance within 50 feet of populations to minimize the encroachment of nonnative species, and the establishment of a minimum habitat buffer when feasible around populations to support the natural suite of pollinators. Due to the high sensitivity and limited population distribution of this species, a no-net-loss of individuals and occupied acreage will be achieved through complete avoidance, or additions to and/or restoration and enhancement of the Preserve Area to support this species.

Implementation of the NCCP/HCP will benefit Otay Mesa mint and contribute to the regional conservation of this species in the Plan Area through implementation of the Narrow Endemic Policy and Vernal Pool Protection Policy, by the establishment of avoidance and minimization measures for all Covered Activities, and maintaining a no-net-loss of populations and occupied habitat within the Plan Area. Therefore, coverage is warranted for Otay Mesa mint.

San Diego fairy shrimp (*Branchinecta sandiegonensis*)

The best available scientific information indicates that the San Diego fairy shrimp has always been restricted to Orange and San Diego counties in the United States and to northwestern Baja California in Mexico (USFWS 2008c). This species is typically found in vernal pools less than 12 inches deep, but has been found in deeper pools. San Diego fairy shrimp are also occasionally found in ditches and road ruts in degraded vernal pool habitat. Critical habitat for San Diego fairy shrimp was designated in December 2007 (USFWS 2007b). Approximately 2,854 acres of designated critical habitat are present in

the Plan Area, of which 46 acres occur within the PIZ. According to the CNDDB, San Diego fairy shrimp are known from 10 occurrences within the Survey Area, with one of those occurring within the PIZ. This species is not currently known or expected to occur in the Preserve Area.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat-association projections, approximately 5 acres of potential habitat for this species could be impacted over the permit term. Impacts to San Diego fairy shrimp will be avoided and minimized to the maximum extent practicable through implementation of the Narrow Endemic Policy and the Vernal Pool Protection Policy. Impacts to this species will be further minimized through focused pre-activity surveys to identify potential impacts to populations and suitable habitat and the establishment of avoidance buffers around occupied habitat to preserve hydrologic conditions within the vernal pool watershed. The majority of potential impacts to San Diego fairy shrimp are expected to occur where this species occupies road ruts and will be temporary in nature.

Any unavoidable impacts to this species will be mitigated to a no-net-loss standard through the conservation of habitat with known species locations and/or the potential to support the species in suitable habitat in conjunction with a Wildlife Agency-approved restoration plan. Where impacts to habitat (including road ruts) occupied by this species occur, mitigation would include salvage of inoculum to be included in a suitable vernal pool restoration plan approved by the Wildlife Agencies. Furthermore, any unavoidable impacts to critical habitat will be fully mitigated with comparable-value habitat including, but not limited to, permanently protecting unprotected critical habitat, acquiring and/or permanently protecting essential habitat, restoring/creating additional suitable habitat, or other actions that provide those habitat values.

Implementation of the NCCP/HCP will benefit San Diego fairy shrimp and contribute to the regional conservation of this species in the Plan Area through implementation of the Narrow Endemic Policy and Vernal Pool Protection Program, by the establishment of avoidance and minimization buffers for all Covered Activities, and by maintaining a no-net-loss of populations and occupied habitat within the Plan Area. Where the existing Preserve Area is not known to have sufficient credits of suitable and/or occupied habitat, the Water Authority will satisfy the vegetation community and Covered Species mitigation obligations by one or more of the following methods: demonstrating that adequate suitable habitat exists within the current Preserve Area, obtaining credits from an approved conservation/wetland bank, acquiring additional habitat acreage with known populations or habitat suitability to add to a Preserve Area, or providing a biologically superior alternative that is acceptable to the Wildlife Agencies. Therefore, coverage is warranted for San Diego fairy shrimp.

Riverside fairy shrimp (*Streptocephalus woottoni*)

Riverside fairy shrimp are known from Ventura, Los Angeles, Orange, Riverside, and San Diego counties and northern Baja California, Mexico (USFWS 2008d). Riverside fairy shrimp are found in larger vernal pools and other temporal aquatic freshwater

habitats where depths generally exceed 11 inches. According to the CNDDB, Riverside fairy shrimp are known from 5 occurrences within the Survey Area, with none occurring within the PIZ. This species is not currently known or expected to occur in the Preserve Area.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat-association projections, approximately 5 acres of potential habitat for this species could be impacted over the permit term. Impacts to Riverside fairy shrimp will be avoided and minimized to the maximum extent practicable through implementation of the Narrow Endemic Policy and the Vernal Pool Protection Policy. Impacts to this species will be further minimized through focused pre-activity surveys to identify potential impacts to populations and suitable habitat and the establishment of avoidance buffers around occupied habitat to preserve hydrologic conditions within the vernal pool watershed. The majority of potential impacts to Riverside fairy shrimp are expected to be temporary in nature.

Any unavoidable impacts to this species will be mitigated to a no-net-loss standard through the conservation of habitat with known species locations and/or the potential to support the species in suitable habitat in conjunction with a Wildlife Agency-approved restoration plan. Where impacts to habitat (including road ruts) occupied by this species occur, mitigation would include salvage of inoculum to be included in a suitable vernal pool restoration plan approved by the Wildlife Agencies. Furthermore, any unavoidable impacts to critical habitat will be fully mitigated with comparable-value habitat including, but not limited to, permanently protecting unprotected critical habitat, acquiring and/or permanently protecting essential habitat, restoring/creating additional suitable habitat, or other actions that provide those habitat values.

Implementation of the NCCP/HCP will benefit Riverside fairy shrimp and contribute to the regional conservation of this species in the Plan Area through implementation of the Narrow Endemic Policy and Vernal Pool Protection Program, by the establishment of avoidance and minimization buffers for all Covered Activities, and by maintaining a no-net-loss of populations and occupied habitat within the Plan Area. Where the existing Preserve Area is not known to have sufficient credits of suitable and/or occupied habitat, the Water Authority will satisfy the vegetation community and Covered Species mitigation obligations by one or more of the following methods: demonstrating that adequate suitable habitat exists within the current Preserve Area, obtaining credits from an approved conservation/wetland bank, acquiring additional habitat acreage with known populations or habitat suitability to add to a Preserve Area, or providing a biologically superior alternative that is acceptable to the Wildlife Agencies. Therefore, coverage is warranted for Riverside fairy shrimp.

Harbison's dun skipper (*Euphyes vestris harbisoni*)

This butterfly is found only in San Diego County, with the exception of one possibly extirpated population in Silverado Canyon, Orange County. Harbison's dun skipper is restricted to riparian areas, inland streams, chaparral, and oak woodlands where its larval

host plant, San Diego sedge (*Carex spissa*), is present. San Diego sedge usually occurs in scattered patches on channel banks of undisturbed streams with perennial water flow (Faulkner and Klein 2006). Although no records of this species were found in the Survey Area or current Preserve Area, this species is most likely under-sampled and is expected to occur within the Plan Area in association with San Diego sedge. Potential habitat for this species is present within the Rancho Cañada HMA, where stands of San Diego sedge are known to occur.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat-association projections, approximately 57 acres of potential habitat for this species could be impacted over the permit term. Impacts to Harbison's dun skipper will be avoided and minimized to the maximum extent practicable through implementation of the Narrow Endemic Policy and the Wetland Protection Program. Impacts to this species will be further minimized through focused pre-activity surveys to identify potential impacts to populations and suitable habitat and the establishment of avoidance buffers around occupied habitat.

Any unavoidable impacts to this species will be mitigated to a no-net-loss standard through the conservation of habitat with known species locations and/or the potential to support the species in suitable habitat in conjunction with a Wildlife Agency-approved restoration plan. Where impacts to occupied habitat occur, mitigation will include salvage and reestablishment of suitable stands of San Diego sedge as directed by an approved restoration program. Furthermore, San Diego sedge will be incorporated into the restoration plant palette for wetland enhancement, restoration, and/or creation projects, where appropriate.

Implementation of the NCCP/HCP will benefit Harbison's dun skipper and contribute to the regional conservation of this species in the Plan Area through implementation of the Narrow Endemic Policy and Wetland Protection Program, by the establishment of avoidance and minimization buffers for all Covered Activities, and by maintaining a no-net-loss of populations and occupied habitat within the Plan Area. Where the existing Preserve Area is not known to have sufficient credits of suitable and/or occupied habitat, the Water Authority will satisfy the vegetation community and Covered Species mitigation obligations by one or more of the following methods: demonstrating that adequate suitable habitat exists within the current Preserve Area, obtaining credits from an approved conservation/wetland bank, acquiring additional habitat acreage with known populations or habitat suitability to add to a Preserve Area, or providing a biologically superior alternative that is acceptable to the Wildlife Agencies. Therefore, coverage is warranted for Harbison's dun skipper.

Western spadefoot toad (*Spea hammondii*)

The western spadefoot toad occurs west of the coastal ranges from Point Conception, Santa Barbara County, to northern Baja California, Mexico, and in the Central Valley of California (Zeiner et al. 1988). This species is primarily found in association with vernal pools (including road ruts) or seasonal ponds within open vegetation where the soil is

sandy or gravelly (e.g., coastal sage scrub, chaparral, and grasslands). During the dry season of the year, western spadefoot aestivate in burrows in upland habitats in proximity to suitable aquatic breeding sites. The range of the western spadefoot in San Diego County closely parallels the distribution of vernal pool habitat in the coast and foothills. This species is also found in playas, vernal pools, and other suitable habitat throughout western Riverside County, including the Skunk Hollow vernal pools (RCIP 2003). According to the CNDDB, there are 13 known occurrences of western spadefoot toad in the Survey Area, of which 3 occur within the PIZ. Western spadefoot toads are known to occur in the Preserve Area at the San Miguel HMA on approximately 4 acres of suitable breeding and aestivation habitat (Merkel 1997), and at the Crestridge HMA in unknown numbers (Pacific Southwest 1994). Given the presence of suitable habitat in San Vicente Creek and adjacent known locations, this species is also expected to occur at the Rancho Cañada HMA.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat-association projections, approximately 47 acres of potential habitat for this species could be impacted over the permit term. The majority of impacts that may occur are expected to be temporary in nature. Approximately 28 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species, including known occupied habitat at the San Miguel HMA and Crestridge HMA. Impacts to this species will be avoided and minimized through implementation of the Vernal Pool Protection Policy and/or Wetland Protection Program, focused pre-activity surveys to identify potential impacts to suitable and/or occupied habitat, breeding season avoidance measures, bullfrog control activities, and the maintenance of avoidance buffers around occupied habitat. Any unavoidable impacts western spadefoot toad will be mitigated with occupied habitat at a ratio appropriate to ensure a no-net-loss of occupied breeding habitat.

Implementation of the NCCP/HCP will benefit western spadefoot toad and contribute to the regional conservation of this species in the Plan Area through implementation of the species-specific conditions of coverage and by the conservation of large blocks of habitat on which this species is known or has the potential to occur. Where the existing Preserve Area does not have sufficient credits of suitable and/or occupied habitat, the Water Authority would obtain the necessary credits or additional habitat to satisfy the vegetation community (and Covered Species) obligations by acquiring additional habitat acreage to add to a Preserve Area or providing a biologically superior alternative that is acceptable to the Wildlife Agencies. Therefore, coverage is warranted for western spadefoot toad.

Southwestern pond turtle (*Actinemyus marmorata pallida*)

The range of the southern Pacific (southwestern) pond turtle extends from San Francisco Bay to northern Baja California, Mexico. The southwestern pond turtle inhabits slow-moving permanent or intermittent streams, small ponds, and lakes. Water depth greater than two meters is generally preferred. This species also requires adjacent uplands (up to 1,500 feet on either side of a populated watercourse) for nesting. Other important habitat components for this species include logs, rocks, or vegetation mats for basking, and

emergent marsh vegetation for cover. According to the CNDDB, there are 7 known occurrences of southwestern pond turtle in the Survey Area, of which 2 occur within the PIZ. This species has the potential to occur in suitable habitat within the Preserve Area at the San Luis Rey River HMA, and on approximately 40 acres of riparian forest and freshwater marsh habitat along San Vicente Creek at the Rancho Cañada HMA (TNC 2006).

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat-association projections, approximately 7 acres of potential habitat for southwestern pond turtle could be impacted over the permit term. The majority of impacts that may occur are expected to be temporary in nature. Approximately 41 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species. Impacts to this species will be avoided and minimized through implementation of the Wetland Protection Program, focused pre-activity surveys to identify potential impacts to suitable and/or occupied habitat, breeding season avoidance measures, relocation and/or capture and reintroduction procedures (where appropriate and only in consultation with the Wildlife Agencies), bullfrog control activities, restoration or enhancement of hydrologic and vegetative conditions, and the maintenance of avoidance buffers around occupied habitat. Any unavoidable impacts southwestern pond turtle will be mitigated with occupied habitat in accordance with the habitat ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit southwestern pond turtle and contribute to the regional conservation of this species in the Plan Area through implementation of the species-specific conditions of coverage and by the conservation of large blocks of habitat on which this species has the potential to occur. Therefore, coverage is warranted for southwestern pond turtle.

Western burrowing owl (*Athene cunicularia hypugaea*)

Historically, the western subspecies of burrowing owl was a common resident of coastal southern California, but its current distribution within this range been reduced to a few scattered areas. Western burrowing owl habitat includes grasslands, open scrub, pastures, and the edges of agricultural fields. This species may also occur in disturbed habitats where burrowing sites are available. These owls use burrows of small mammals, especially the California ground squirrel (*Spermophilus beecheyi*), for cover and nesting. Recent observations indicate that breeding colonies of western burrowing owl have become severely reduced within San Diego County (Unitt 2004). According to the CNDDB, there are 36 known occurrences of western burrowing owl in the Survey Area, mostly in the western Riverside County portion of the Plan Area. Of these 36 occurrences, 23 occur within the PIZ. This species is not currently known to occur within the Preserve Area. Western burrowing owls have been observed foraging at the San Miguel HMA, although no colonies have been found (Merkel 1997). Nesting occurs both on the Sweetwater Reservoir vernal pool mitigation bank and on adjacent San Diego National Wildlife Refuge.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat-association projections, approximately 195 acres of potential habitat for western burrowing owl could be impacted over the permit term. Approximately 8 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species. Impacts to this species will be avoided and minimized through focused pre-activity surveys to identify potential impacts to suitable and/or occupied habitat, breeding season avoidance measures, restoration or enhancement of foraging and nesting conditions within the Preserve Area, and the maintenance of avoidance buffers around occupied habitat. There will be no direct take of western burrowing owl individuals or nests under the NCCP/HCP. Any unavoidable impacts to western burrowing owl habitat will be mitigated with occupied habitat in accordance with the habitat ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP. Mitigation may also be required for land cover types that typically do not require mitigation (i.e., agriculture, disturbed habitat) where such habitat is found to be supporting this species; impacts to Tier IV habitat occupied by western burrowing owl will be mitigated at a 0.5:1 ratio. The mitigation program may also include the establishment of artificial burrows within suitable habitat in accordance with a monitoring and management program approved by the Wildlife Agencies.

Implementation of the NCCP/HCP will benefit western burrowing owl and contribute to the regional conservation of this species in the Plan Area through implementation of the species-specific conditions of coverage, mitigation of impacts with habitat occupied by this species, and by the conservation of large blocks of habitat on which this species has the potential to occur. Therefore, coverage is warranted for western burrowing owl.

Southwestern willow flycatcher (*Empidonax traillii extimus*)

This subspecies of willow flycatcher is restricted to a few major river drainages in the southwestern U.S. Habitat for southwestern willow flycatcher is mature, closed canopy riparian forest with a high cover of willow species located in close proximity to slow moving streams, standing water, or seeps. According to the CNDDB, there are 4 known occurrences of southwestern willow flycatcher in the Survey Area, none of which occur within the PIZ. However, this species has the potential to occur within the PIZ due to the presence of suitable riparian habitat. Although there are no known locations for southwestern willow flycatcher within the current Preserve Area, it has the potential to occur where suitable riparian habitat is present.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat-association projections, approximately 55 acres of potential habitat for southwestern willow flycatcher could be impacted over the permit term. Approximately 26 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species. Impacts to this species will be avoided and minimized through focused pre-activity surveys to identify potential impacts to suitable and/or occupied habitat, breeding season avoidance measures, monitoring and

control of brown-headed cowbirds within the Preserve Area, and the maintenance of avoidance buffers around occupied habitat.

There will be no direct take of southwestern willow flycatcher individuals or nests under the NCCP/HCP. Any unavoidable impacts to southwestern willow flycatcher habitat will be mitigated with occupied habitat in accordance with the habitat ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP. For temporary impacts to occupied southwestern willow flycatcher habitat, the work site would be returned to preexisting contours, where appropriate, and revegetated with appropriate native species and structural elements to support this species. In addition, wetland creation and/or restoration projects will be designed to provide age class and structure diversification to help promote the expansion of existing, or establishment of new, populations of southwestern willow flycatcher, where feasible. Finally, any unavoidable impacts to critical habitat will be fully mitigated with comparable value habitat, including, but not limited to, permanently protecting unprotected critical habitat, acquiring and/or permanently protecting essential habitat, restoring/creating additional suitable habitat, or other actions that provide those habitat values.

Implementation of the NCCP/HCP will benefit southwestern willow flycatcher and contribute to the regional conservation of this species in the Plan Area through implementation of the species-specific conditions of coverage, mitigation of impacts with habitat occupied by this species, and by the conservation of large blocks of habitat on which this species has the potential to occur. Therefore, coverage is warranted for southwestern willow flycatcher.

Least Bell's vireo (*Vireo bellii pusillus*)

The least Bell's vireo is a migratory songbird restricted to willow and mule fat-dominated riparian woodlands in southern California, with the majority of breeding pairs found along major drainages in San Diego, Santa Barbara, and Riverside counties. This species tends to prefer semi-open riparian woodlands with dense shrub understory. Approximately 11,258 acres of designated critical habitat for this species (USFWS 1994) occurs within the Plan Area, of which 459 acres occur within the PIZ. According to the CNDDB, there are 30 known occurrences of least Bell's vireo in the Survey Area, with 6 of those occurrences within the PIZ. Least Bell's vireo has the potential to occur within the Preserve Area, based on the presence of suitable habitat and proximity to known locations, at the Rancho Cañada HMA (TNC 2006), the San Luis Rey River HMA, and the Tijuana River Valley HMA (CNDDB 2011; EDAW 2004).

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat-association projections, approximately 55 acres of potential habitat for least Bell's vireo could be impacted over the permit term. Approximately 26 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species. Impacts to this species will be avoided and minimized through application of the Wetland Protection Program, focused pre-activity surveys to identify potential impacts to suitable and/or occupied habitat, breeding season avoidance

measures, monitoring and control of brown-headed cowbirds within the Preserve Area, and the maintenance of avoidance buffers around occupied habitat.

There will be no direct take of least Bell's vireo individuals or nests under the NCCP/HCP. Any unavoidable impacts to least Bell's vireo habitat will be mitigated with occupied habitat in accordance with the habitat ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP. For temporary impacts to occupied least Bell's vireo habitat, the work site would be returned to preexisting contours, where appropriate, and revegetated with appropriate native species and structural elements to support this species. In addition, wetland creation and/or restoration projects will be designed to provide age class and structure diversification to help promote the expansion of existing, or establishment of new, populations of least Bell's vireo, where feasible. Finally, any unavoidable impacts to critical habitat will be fully mitigated with comparable value habitat, including, but not limited to, permanently protecting unprotected critical habitat, acquiring and/or permanently protecting essential habitat, restoring/creating additional suitable habitat, or other actions that provide those habitat values.

Implementation of the NCCP/HCP will benefit least Bell's vireo and contribute to the regional conservation of this species in the Plan Area through implementation of the species-specific conditions of coverage, mitigation of impacts with habitat occupied by this species, and by the conservation of large blocks of habitat on which this species has the potential to occur. Therefore, coverage is warranted for least Bell's vireo.

San Diego cactus wren (*Campylorhynchus brunneicapillus sandiegensis*)

The San Diego subspecies of cactus wren occurs on the coastal plain of southern California and has a relatively disjunct distribution within San Diego County. Populations are concentrated in four primary areas: southern Camp Pendleton/Fallbrook; Lake Hodges/San Pasqual; Lake Jennings; and Sweetwater/Otay (Unitt 2004). San Diego cactus wrens are a non-migratory bird restricted to coastal sage scrub and maritime succulent scrub habitats containing thickets of tall cactus (*Opuntia* spp.). According to the CNDDB, there are 34 known occurrences of this species within the Survey Area, of which 5 occur within the PIZ. The San Diego cactus wren is known to occur within the Preserve Area at the San Miguel HMA (Merkel 1997).

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat-association projections, approximately 162 acres of potential habitat for San Diego cactus wren could be impacted over the permit term. Approximately 518 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species, including known occupied habitat at the San Miguel HMA. Actual impacts and conservation levels for this species are likely to be lower than the estimates provided above due to that fact that suitable microhabitat requirements for this species are not recognized at the scale of vegetation data used for the habitat association projections.

Per the Narrow Endemic Policy, populations and occupied habitat of San Diego cactus wren within the Plan Area will be avoided to the maximum extent practicable, with a minimum 80% avoidance for Planned and Future Projects, and mitigated to a no-net-loss standard. Impacts to this species will be further minimized through pre-activity nesting surveys, breeding season avoidance measures, and the maintenance of avoidance buffers around active nest sites. There will be no direct take of San Diego cactus wren individuals or nests under the NCCP/HCP. For temporary impacts to suitable cactus wren habitat, cactus plants will be salvaged for use in restoration projects in appropriate locations, where possible.

Implementation of the NCCP/HCP will benefit San Diego cactus wren and contribute to the regional conservation of this species in the Plan Area through implementation of the species-specific conditions of coverage, mitigation of unavoidable impacts at a no-net-loss standard, and by the conservation of large blocks of habitat on which this species is known or has the potential to occur. Therefore, coverage is warranted for San Diego cactus wren.

Tricolored blackbird (*Agelaius tricolor*)

The tricolored blackbird is found throughout California, although populations have declined substantially due to habitat loss, particularly in southern California. This species breeds colonially in freshwater marsh and riparian scrub habitats. Suitable foraging habitat for tricolored blackbirds includes grasslands and agricultural fields adjacent to the nesting colony. According to the CNDDB, there is one known occurrence of tricolored blackbird in the Survey Area, and no known occurrences within the PIZ; however, this species is expected to occur in the PIZ where suitable habitat is present. Suitable foraging habitat for tricolored blackbird is conserved at the San Miguel HMA (Merkel 1997); however, no nesting sites are known to occur within the current Preserve Area.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat-association projections, approximately 16 acres of potential habitat for tricolored blackbird could be impacted over the permit term. Approximately 21 acres of potentially suitable habitat is provided in the existing Preserve Area that may be used to mitigate for impacts to this species. Impacts to this species will be avoided and minimized through implementation of the Wetland Protection Program for nesting sites, pre-activity nesting surveys, breeding season avoidance measures, and the maintenance of avoidance buffers around active nest sites. There will be no direct take of tricolored blackbird individuals or nests under the NCCP/HCP. Any unavoidable impacts to this species will be mitigated with occupied habitat in accordance with the habitat ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit tricolored blackbird and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage, mitigation of impacts with occupied habitat, and by the conservation of large blocks of habitat on which this species is known or has the potential to occur. Therefore, coverage is warranted for tricolored blackbird.

Stephens' kangaroo rat (*Dipodomys stephensi*)

Stephens' kangaroo rat has a very limited southern California range, with populations generally found below 2,000 feet in elevation in western Riverside County and northwestern San Diego County. Suitable habitat consists of relatively level, sparsely vegetated grassland, fallow agricultural land, or open coastal sage scrub. Soils must typically be low in clay content to allow for burrowing. According to the CNDDB, there are 21 known occurrences of Stephens' kangaroo rat in the Survey Area, mostly in Riverside County, of which 5 occur within the PIZ. This species is not currently known or expected to occur within the Preserve Area.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat-association projections, approximately 34 acres of potential habitat for Stephens' kangaroo rat could be impacted over the permit term. Impacts to this species will be avoided and minimized through implementation of the general conditions for coverage under the NCCP/HCP (see Section 2.1 of Appendix B), pre-construction surveys for burrows, use of a trapping and relocation program (in consultation with the Wildlife Agencies) where impacts are unavoidable, and the use of exclusion measures during construction activities. Any unavoidable impacts to this species will be mitigated with occupied habitat in accordance with the habitat ratios provided in Tables 6-6 and 6-7 of the NCCP/HCP.

Implementation of the NCCP/HCP will benefit Stephens' kangaroo rat and contribute to the regional conservation of this species in the Plan Area through implementation of the general conditions of coverage and mitigation of impacts with occupied habitat. Where the existing Preserve Area is not known to have sufficient credits of suitable and/or occupied habitat, the Water Authority will satisfy the vegetation community and Covered Species mitigation obligations by one or more of the following methods: demonstrating that adequate suitable habitat exists within the current Preserve Area, obtaining credits from an approved conservation/wetland bank, acquiring additional habitat acreage with known populations or habitat suitability to add to a Preserve Area, or providing a biologically superior alternative that is acceptable to the Wildlife Agencies. Therefore, coverage is warranted for Stephens' kangaroo rat.

Los Angeles pocket mouse (*Perognathus longimembris brevinasus*)

The range for the Los Angeles pocket mouse is limited to the Los Angeles Basin, from Burbank and San Fernando on the northwest to San Bernardino on the northeast, and Cabazon, Hemet, and Aguanga on the east and southeast (CNDDB 2011). Within the Plan Area, this species is known from western Riverside County, where it is widespread but uncommon. The Los Angeles pocket mouse is a burrow-dwelling, mostly granivorous rodent that is generally found in riverine habitats and grasslands with fine, sandy soils. According to the CNDDB, there are 4 known occurrences of Los Angeles pocket mouse in the Survey Area in Riverside County, of which 4 occur within the PIZ. Los Angeles pocket mouse is not currently known or expected to occur within the Preserve Area, which is outside the known range of this species.

Implementation of the NCCP/HCP could impact this species though direct loss of habitat and other indirect impacts as a result of disturbance from Covered Activities. Based on habitat-association projections, approximately 47 acres of potential habitat for Los Angeles pocket mouse could be impacted over the permit term. Impacts to this species will be avoided and minimized through implementation of the general conditions for coverage under the NCCP/HCP (see Section 2.1 of Appendix B), pre-construction surveys for burrows, use of a trapping and relocation program (in consultation with the Wildlife Agencies) where impacts are unavoidable, and the use of exclusion measures during construction activities. Any impacts to this species in Riverside County would be mitigated through contributions to the MSHCP Preserve, separate acquisitions that build the Preserve, purchase of mitigation credits from an approved mitigation bank, or other equivalent action determined suitable in consultation with the Wildlife Agencies.

Implementation of the NCCP/HCP will benefit Los Angeles pocket mouse and contribute to the regional conservation of this species in the Plan Area through implementation of the species-specific conditions of coverage and mitigation of impacts with occupied habitat. Therefore, coverage is warranted for Los Angeles pocket mouse.

Finding 4.8 **CDFG finds that the mitigation measures specified in the NCCP/HCP and imposed by the plan participants are consistent with subdivision (d) of Section 2801. (2821(b))**

For the reasons set forth in the preceding findings, CDFG has determined that the NCCP/HCP specifies and imposes mitigation measures that meet the standards of 2801 (d) regarding coordination and cooperation, cumulative impact concerns, conservation and management of unfragmented diverse habitat for multiple species, options to ensure rough proportionality of impacts to conservation, and conservation of broad-based natural communities and species diversity (Findings 4.1.2, 4.1.3, 4.1.4 A, 4.1.4 C, 4.1.9, 4.6.1 F, 4.7.2, and 4.7.3: NCCP Permit).

5.0 OTHER FINDINGS

5.1 Fully Protected Covered Species

Finding 5.1 **CDFG finds that the Covered Activities authorized in this approval will not result in take of fully protected Covered Species**

No fully protected species are included on the NCCP/HCP list of proposed Covered Species; therefore, issuance of this Permit will not result in take of fully protected species.

5.2 Fully Protected Non-Covered Species

Finding 5.2 **CDFG finds that the Covered Activities authorized in this approval will not result in take of fully protected non-covered species**

Several non-covered wildlife species that occur in the inventory area are listed as fully protected (as defined under Section 3511 of the California Fish and Game Code): white-tailed kite, peregrine falcon, brown pelican, bald eagle, and golden eagle. CDFG cannot issue permits for take of these species, except as provided in the Fish and Game Code for take associated with necessary scientific research. Covered Activities will avoid any take of fully protected wildlife species as defined under the California Fish and Game Code, unless a separate permit is obtained for take associated with necessary scientific research. These species are expected to benefit indirectly from the NCCP/HCP through the protection and management of potentially suitable foraging and nesting habitat within the Preserve Area.

6.0 APPROVAL OF THE NCCP PERMIT

Based on the foregoing findings, CDFG concludes that the NCCP/HCP meets all necessary requirements for approval as an NCCP. CDFG hereby approves the NCCP/HCP for implementation as an NCCP and authorizes the Water Authority to take the species identified below in Section 6.2 (subject to the limitations in this Permit) incidental to the activities described below in Section 6.1. This Permit is specifically conditioned on the Water Authority's compliance with requirements of the NCCP/HCP and the Implementing Agreement.

6.1 Covered Activities

This Permit covers take of Covered Species and habitat resulting from Covered Activities that are subject to and covered by the NCCP/HCP and the Implementing Agreement. Covered Activities include project activities, facility operations and management, and conservation and management activities (including all ground-disturbing projects and activities that may occur within the Plan Area as described in Sections 5 and 6 of the NCCP/HCP) to be carried out by the Water Authority or third parties under the Authority's direct control in the Permit Area that may result in Authorized Take of Covered Species during the term of the NCCP/HCP, and that are otherwise lawful. Covered activities in the NCCP/HCP fall into three categories.

1. CIP Projects covered for construction and expansion (i.e., Planned or Future CIP projects that have not already been authorized/permitted by Wildlife Agencies under past authorizations/permits);
2. O&M for Planned and Future Projects, and the O&M of Existing Projects and Water Authority facilities, where their maintenance, repair, and operation has not already been authorized pursuant to an existing BO; and,

3. Preserve Area Management, Monitoring, and Adaptive Management.

Water Authority projects are classified as Existing, Planned, and Future Projects (Section 5.1 and Appendix C of the NCCP/HCP). Existing Projects are constructed or in the process of being constructed under existing permits and approvals. Take for impacts associated with Existing Projects that have been previously authorized (e.g., federal BO or CESA permit) will not be covered by the NCCP/HCP. If the Water Authority proposes project changes that could result in new or previously unidentified impacts, these projects could be reclassified as Planned Projects. Planned Projects are in the planning or design phase for which a purpose and need, as well as approximate or definite project locations, have been identified. Planned Projects could apply to new construction or modification of existing facilities and include the projects identified in the current CIP. Planned Projects will be Covered Activities if they comply with the requirements of the NCCP/HCP. Future Projects were not designated as CIP-budgeted projects at the time of NCCP/HCP approval. Site-specific impacts and take information were not available to analyze, but the anticipated potential impacts are estimated in the NCCP/HCP. Future Projects and/or Activities proposed outside the Survey Area/PIZ, or which increase take beyond that analyzed and permitted under the approved NCCP/HCP, are subject to the amendment process for take coverage.

6.2 Covered Species

Table 6-1 of the NCCP/HCP Subregional Plan lists the 63 Covered Species, all of which are authorized for take.

6.2.1 List of 63 Covered Species

Plants
California adolphia, *Adolphia californica*
Chaparral nolina, *Nolina cismontana*
Dunn's mariposa lily, *Calochortus dunnii*
Encinitas baccharis, *Baccharis vanessae*
Felt-leaved monardella, *Monardella hypoleuca* ssp. *lanata*
Lakeside ceanothus, *Ceanothus cyaneus*
Munz's sage, *Salvia munzii*
Nuttall's scrub oak, *Quercus dumosa*
Orcutt's brodiaea, *Brodiaea orcuttii*
Otay Mesa mint, *Pogogyne nudiuscula*
Otay tarplant, *Deinandra conjugens*
Parry's tetracoccus, *Tetracoccus dioicus*
San Diego ambrosia, *Ambrosia pumila*
San Diego barrel cactus, *Ferocactus viridescens*
San Diego button-celery, *Eryngium aristulatum* var. *parishii*
San Diego goldenstar, *Muilla clevelandii*
San Diego marsh-elder, *Iva hayesiana*
San Diego mesa mint, *Pogogyne abramsii*
San Diego thorn-mint, *Acanthomintha ilicifolia*

Smooth tarplant, *Centromadia pungens* ssp. *laevis*
Southern tarplant, *Centromadia parryi* ssp. *australis*
Spreading navarretia, *Navarretia fossalis*
Sticky-leaved dudleya, *Dudleya viscida*
Thread-leaved brodiaea, *Brodiaea filifolia*
Variegated dudleya, *Dudleya variegata*
Willowy monardella, *Monardella viminea*

Invertebrates
Harbison's dun skipper, *Euphyes vestris harbisoni*
Hermes copper butterfly, *Lycaena hermes*
Quino checkerspot butterfly, *Euphydryas editha quino*
Riverside fairy shrimp, *Streptocephalus woottoni*
San Diego fairy shrimp, *Branchinecta sandiegonensis*

Amphibians
Arroyo toad, *Anaxyrus* (=*Bufo*) *californicus*
Western spadefoot toad, *Spea* (=*Scaphiopus*) *hammondii*

Reptiles
Belding's orange-throated whiptail, *Aspidoscelis hyperythra beldingi*
Coast (San Diego) horned lizard, *Phrynosoma coronatum blainvillii*
Coastal (western) whiptail, *Aspidoscelis tigris stejnegeri*
Coastal rosy boa, *Lichanura trivirgata roseofusca*
Coronado skink, *Eumeces skiltonianus interparietalis*
(Northern) red diamond rattlesnake, *Crotalus exsul*
San Diego banded gecko, *Coleonyx variegates abbottii*
San Diego ring-neck snake, *Diadophis punctatus similis*
Southern Pacific (Southwestern) pond turtle, *Actinemys marmorata pallida*

Birds
Bell's sage sparrow, *Amphispiza belli belli*
California horned lark, *Eremophila alpestris californica*
Coastal California gnatcatcher, *Polioptila californica californica*
Grasshopper sparrow, *Ammodramus savannarum*
Least Bell's vireo, *Vireo belli pusillus*
Loggerhead shrike, *Lanius ludovicianus*
San Diego cactus wren, *Campylorhynchus brunneicapillus sandiegensis*
Southern California rufous-crowned sparrow, *Aimophila ruficeps canescens*
Southwestern willow flycatcher, *Empidonax traillii extimus*
Tricolored blackbird, *Agelaius tricolor*
Western burrowing owl, *Athene cunicularia hypugaea*
Yellow warbler, *Dendroica petechia brewsteri*
Yellow-breasted chat, *Icteria virens*

Mammals
Dulzura pocket mouse, *Chaetodipus californicus femoralis*

Los Angeles pocket mouse, *Perognathus longimembris brevinasus*
Mountain lion, *Felis concolor*
Northwestern San Diego pocket mouse, *Chaetodipus fallax fallax*
San Diego black-tailed jackrabbit, *Lepus californicus bennettii*
San Diego woodrat, *Neotoma lepida intermedia*
Southern grasshopper mouse, *Onychomys torridus ramona*
Stephens' kangaroo rat, *Dipodomys stephensi*

Species by Coverage Categories

Regarding take authorization, the list of Covered Species is divided into three categories: 1) Species that can be taken upon permit issuance, 2) Species protected by the Migratory Bird Protection Act and 3) California fully protected species

Species that can be taken upon permit issuance.

The Applicants are requesting take coverage under this NCCP Permit (Permit) for a total of 63 species (Covered Species). This Permit allows incidental take of 8 state endangered plant species (San Diego thorn-mint, Encinitas baccharis, thread-leaved brodiaea, Otay tarplant, San Diego button-celery, willowy monardella, San Diego mesa mint, and Otay Mesa mint), and one state rare plant species (Dunn's mariposa lily). This Permit also allows incidental take of 2 state endangered animal species (southwestern willow flycatcher and least Bell's vireo), 1 state threatened animal species (Stephens' kangaroo rat), and 21 California Species of Special Concern (arroyo toad, western spadefoot toad, Southern Pacific pond turtle, Belding's orange-throated whiptail, red diamond rattlesnake, Coronado skink, coast horned lizard, tricolored blackbird, grasshopper sparrow, western burrowing owl, San Diego cactus wren, yellow warbler, yellow-breasted chat, loggerhead shrike, coastal California gnatcatcher, Dulzura pocket mouse, Northwestern San Diego pocket mouse, San Diego black-tailed jackrabbit, San Diego desert woodrat, Southern grasshopper mouse, and Los Angeles pocket mouse).

In addition, this Permit authorizes incidental take of 17 currently state unlisted plant species (California adolphia, San Diego ambrosia, Orcutt's brodiaea, Lakeside ceanothus, southern tarplant, smooth tarplant, variegated dudleya, sticky-leaved dudleya, San Diego barrel cactus, San Diego marsh-elder, felt-leaved monardella, San Diego goldenstar, spreading navarretia, chaparral nolina, Nuttall's scrub oak, Munz's sage, and Parry's tetracoccus) and 12 currently state unlisted animal species (San Diego fairy shrimp, Riverside fairy shrimp, Quino checkerspot butterfly, Harbison's dun skipper, Hermes copper butterfly, coastal whiptail, San Diego banded gecko, San Diego ring-neck snake, coastal rosy boa, Southern California rufous-crowned sparrow, Bell's sage sparrow, and mountain lion (which is a specially protected mammal under Section 4800 *et seq.* of the Fish and Game Code)). This Permit allows for continuing incidental take of currently unlisted species in the event that they become listed in the future.

Species Protected by the Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, or possessing of migratory birds. The MBTA identifies a variety of prohibited actions including the taking of individual birds, young, feathers, eggs, nests, etc. Actions conducted under the NCCP/HCP and its Implementing Agreement will comply with the provisions of the MBTA and avoid taking, killing, or possessing Covered Species that are protected by the MBTA unless the applicant obtains an MBTA Special Purpose Permit consistent with the terms of the NCCP/HCP.

California Fully Protected Species

No fully protected species are included on the NCCP/HCP list of proposed Covered Species. Consistent with the terms of the Implementing Agreement, the Water Authority may apply for an amendment to this Permit for inclusion of fully protected species in the event that the relevant sections of the Fish and Game Code are repealed or amended in a manner that allows CDFG to authorize take of these species under the Natural Community Conservation Planning Act. In processing any such application, CDFG shall give good faith consideration to take avoidance and mitigation measures already provided in the NCCP/HCP and shall issue the amendment or Permit under the same terms and conditions as the existing NCCP Permit, to the extent permitted by law.

6.3 Limitations

This take authorization does not constitute or imply compliance with, or entitlement to proceed with, any project under laws and regulations beyond the authority and jurisdiction of CDFG. The Water Authority has independent responsibility for compliance with any and all applicable federal, state, and local laws and regulations.

7.0 AMENDMENTS

This NCCP Permit may be amended in a manner consistent with provisions in the NCCP/HCP and the Implementing Agreement. For example, an amendment will be considered in the event a species not identified in this NCCP Permit is listed as endangered or threatened pursuant Fish and Game Code Section 2070, or becomes a candidate for such listing pursuant to Fish and Game Code Section 2074.2, provided the Water Authority provides for the conservation and management of the species.

8.0 SUSPENSION AND TERMINATION

This Permit will be in effect for a period of 55 years. This Permit is subject to suspension or termination by action of the Director of CDFG in accordance with the terms of Section 19 of the Implementing Agreement.

Under these provisions, should the Water Authority request early termination of this Permit, the Water Authority will be required to fulfill the mitigation obligations for all authorized development approved, authorized, or carried out prior to termination. Mitigation obligations will be in accordance with the NCCP/HCP and the Implementing Agreement for any permitted activities that have been approved, authorized, or carried out.

CDFG may suspend or revoke this Permit as a result of a violation of the Permit and/or pursuant to any applicable State laws or regulations. If this Permit is revoked or suspended, the Water Authority shall remain obligated to fulfill all of its responsibilities under this Permit for any permitted activity approved, authorized, or carried out by the Water Authority between the effective date of this Permit and date of Permit suspension or revocation.

9.0 DURATION

This NCCP Permit shall remain effective for 55 (fifty-five) years from the effective date below, unless suspended, terminated or extended by earlier action of the Director of CDFG.

Approved by:

Sandra Morey

Date: 12/21/11

Sandra Morey, Deputy Director
California Department of Fish and Game

10.0 LITERATURE CITED

Atkinson, A. J., P. C. Trenham, R. N. Fisher, S. A. Hathaway, B. S. Johnson, S. G. Torres, and Y. C. Moore. 2004. Designing Monitoring Programs in an Adaptive Management Context for Regional Multiple Species Conservation Plans. U.S. Geological Survey, Western Ecological Research Center, Sacramento, CA. Available: http://www.dfg.ca.gov/nccp/pubs/monframewk10-04.pdf

California Native Plant Society (CNPS). 2001. Inventory of Rare and Endangered Vascular Plants of California, 6th Edition.

California Native Plant Society (CNPS). 2005. Inventory of Rare and Endangered Plants (online edition, v6-05d). Accessed on Tue, Nov. 29, 2005 from http://www.cnps.org/action

California Natural Diversity Database (CNDDB). 2011. RareFind 3. Version 3.1.1. (April 30, 2011 update). California Department of Fish and Game. Sacramento, CA|

EDAW, Inc. 2004. Habitat Management Plan for the Myers Property, Oceanside, California. Prepared for the City of Oceanside. July 2004.

EDAW, Inc. 2007. First Annual Mitigation Monitoring Report for the San Diego County Water Authority Emergency Water Storage Project (ESP) Manchester Wetland Creation Site. Prepared for the San Diego County Water Authority. July 2007.

Faulkner, D. K. and M. W. Klein. 2006. Sensitive Butterflies of San Diego County, California: A Workshop Focusing on Nine Local Species.

Garrett, K. and J. Dunn. 1981. Birds of Southern California: Status and Distribution. Los Angeles Audubon Society, Los Angeles, California.

Grinnell, J., and A. H. Miller. 1944. The Distribution of the Birds of California. Pac. Coast Avifauna.

Hess, W. J. and J. C. Dice. (1995). *Nolina cismontana* (Nolinaceae), a new species name for an old taxon. *Novon* 5:2 162-4.

Jennings, M. R. and M. P. Hayes. 1994. Amphibian and reptile species of special concern in California. Final Report Submitted to the California Department of Fish and Game Inland Fisheries Division, Rancho Cordova, CA.

Johnson, N.K. and J.A. Marten. 1992. Macrogeographic patterns of morphometric and genetic variation in the Sage Sparrow complex. Condor 94:1-19.

Klein-Edwards Professional Services, 2004. Letter report of the results for a search of the Quino checkerspot butterfly on the San Miguel Mitigation Bank. Prepared for the San Diego County Water Authority. April 30, 2004.

Mattoni, R., G. F. Pratt, T. R. Longcore, J. F. Emmel, and J. N. George. 1997. The endangered Quino checkerspot, *Euphydryas editha quino* (Lepidoptera: Nymphalidae). Journal of Research on the Lepidoptera 34:99-118.

Merkel and Associates, Inc. 1997. General Description and Overview of Biological Features of the San Miguel Conservation Bank, an Associated 500 Acre Acquisition Parcel and 166 Acre Mitigation Site. August 19.

Munz, P.A, and D.D Keck. 1968. A California Flora with Supplement. University of California Press, Berkeley, CA.

Nature Conservancy, The (TNC). 2006. Ecological Summary of La Cañada Ranch Mesa Del Padre Barona, San Diego County, California. February 9.

Ogden Environmental (Ogden). 1995. San Diego County Water Authority Emergency Water Storage Project Executive Summary for Draft EIR/EIS, U.S. ACOE #95-20092-DZ. Prepared for San Diego County Water Authority and Army Corps of Engineers, L.A. Dist., November 1995.

Pacific Southwest Biological Services, Inc. (Pacific Southwest). 1994. Crestridge Habitat Management Area Interim Habitat Management Plan, San Diego County, California. January 26.

Rahn, M., D. Faulkner, M.A. Hawke, B. Hollingsworth, and P. Unitt. 2008. Report of Independent Science Advisors: San Diego County Water Authority NCCP/HCP. Unpublished, 55 pp.

Reiser, C. 2001 February. Rare Plants of San Diego County. Aquafir Press. 2001 edition. 299 pp.

Riverside County Integrated Project (RCIP). 2003. Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). Prepared for County of Riverside Transportation and Land Management Agency. Prepared by Dudek and Associates. June17. (Online) Available: http://www.rctlma.org/mshcp/volume2/birds.html #TOC1_44 September 30, 2003.

San Diego Association of Governments (SANDAG). 2008. Vegetation information in the San Diego Region. (Originally created by SANDAG in 1995 and subsequently updated by San Diego County Department of Planning and Land Use.)

San Diego, City of 2004. Draft Black Mountain Open Space Park Natural Resource Management Plan. Prepared in Conjunction with City of San Diego Park and Recreation. Planning Department. February.

San Diego Natural History Museum (SDNHM). San Diego Plant Atlas Project. PhD Rebman, Jon and Jeannie Gregory. 2008-2010. May 24, 2011. http://www.sdplantatlas.org/(S(utlw2t45whnz0q45z1yije45))/index.aspx

Stebbins, T.C. 2003. A Field Guide to Western Reptiles and Amphibians. Third Edition. Houghton Mifflin Company, Boston.

Sweet, S. S. 1992. Ecology and status of the arroyo toad (*Bufo microscaphus californicus*) on the Los Padres National Forest of southern California, with management recommendations. Report to United States Department of Agriculture, Forest Service, Los Padres National Forest, Goleta, California. ii + 198 pp.

Unitt, Phillip. 2004. San Diego County Bird Atlas. San Diego Natural History Museum. San Diego, California. 31 October 2004.

U.S. Fish and Wildlife Service (USFWS):

1994. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Least Bell's Vireo. Federal Rule. Vol.56, No.22. February 2. Rules and Regulation. 4845-4867.

1999. Arroyo toad (*Bufo microscaphus californicus*) recovery plan. U.S. Fish and Wildlife Service, Portland, Oregon. vi + 119 pp.

2002. Endangered and Threatened Wildlife and Plants; Rules and Regulations. Designation of critical habitat for Otay tarplant (*Deinandra conjugens*); Federal Register 67: 76030-76053. December 10, 2002

2006. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for *Monardella linoides* ssp. *viminea* (Willowy Monardella). Federal Register Vol. 71, No. 216. November 8. Rules and Regulation 65662-65683.

2007a. Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for the Coastal California Gnatcatcher (*Polioptila californica californica*). Federal Register. Vol. 72, No. 243. December 19, 2007. Rules and Regulation.

2007b. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the San Diego Fairy Shrimp (*Branchinecta sandiegonensis*). Federal Register. Vol. 72, No.238, December 12, 2007. Rules and Regulation. 70648-70714.

2008a. Designation of critical habitat for *Acanthomintha ilicifolia* (San Diego thornmint); final rule. Federal Register 73: 50454-50496.

2008b. Willowy Monardella (*Monardella linoides* ssp. *viminea*) 5-year Review: Summary and Evaluation. Prepared by the Carlsbad Fish and Wildlife Office, Carlsbad, California. 22 pp.

2008c. San Diego Fairy Shrimp (*Branchinecta sandiegonensis*) 5-year Review: Summary and Evaluation. Prepared by the Carlsbad Fish and Wildlife Office, Carlsbad, California. 56 pp. + Appendices.

2008d. Riverside fairy shrimp (*Streptocephalus woottoni*) 5-year review: Summary and evaluation. Prepared by the Carlsbad Fish and Wildlife Office, Carlsbad, California. 57 pp. + Appendices.

2009a. San Diego thornmint (*Acanthomintha ilicifolia*) 5-year Review: Summary and Evaluation. Prepared by the Carlsbad Fish and Wildlife Office, Carlsbad, California. 39 pp.

2009b. Quino checkerspot butterfly (*Euphydryas editha quino*) 5-year review: Summary and evaluation. Prepared by the Carlsbad Fish and Wildlife Office, Carlsbad, California. 54 pp.

2009c. Otay tarplant (*Deinandra conjugens*) 5-year Review: Summary and Evaluation. Prepared by the Carlsbad Fish and Wildlife Office, Carlsbad, California. 33 pp +Appendices.

2011. Endangered and threatened wildlife and plants; Final designation of critical habitat for the arroyo toad (*Bufo californicus*); final rule. Federal Register 76 (27): 7246-7440.

Yosef, R. 1996. Loggerhead Shrike (*Lanius ludovicianus*). In: The Birds of North America, No. 231 (A. Poole and F. Gill [eds.]). The Academy of Natural Sciences, Philadelphia, and The American Ornithologists' Union, Washington, D.C.

Zeiner, D.C., W.F. Laudenslayer, Jr., and K.E. Mayer. 1988. California's Wildlife. Volume I. Amphibians and Reptiles. California Statewide Wildlife Habitat Relationships System, California Department of Fish and Game, Sacramento, California.

SAN DIEGO COUNTY WATER AUTHORITY HCP/NCCP
NCCP PERMIT – ATTACHMENT 1

Scientific Name	Common Name	Federal/State Status	CNPS List	Plan Policies	Occurrence[1]			Estimated Total Impacts[2]	HMA Mitigation Credit[3]
					Survey Area	PIZ	Preserve Area		
COVERED SPECIES									
PLANTS									
Acanthomintha ilicifolia	San Diego thorn-mint	CE/FT/CH	1B	NE	K	K	P	240	641
Adolphia californica	California adolphia	–/–	2	--	K	K	K	162	518
Ambrosia pumila	San Diego ambrosia	–/FE/CH	1B	NE	K	K	P	289	132
Baccharis vanessae	Encinitas baccharis	CE/FT	1B	NE	K	K	N	36	0
Brodiaea filifolia	Thread-leaved brodiaea	CE/FT/CH	1B	NE, VP	K	K	N	5	0
Brodiaea orcuttii	Orcutt's brodiaea	–/–	1B	VP	K	K	P	6	1
Calochortus dunnii	Dunn's mariposa lily	CR/–	1B	NE	K	P	P	78	8
Ceanothus cyaneus	Lakeside ceanothus	–/–	1B	NE	K	K	K	78	0‡
Centromadia parryi ssp. *australis*	Southern tarplant	–/–	1B	VP	K	P	N	6	0
Centromadia pungens ssp. *laevis*	Smooth tarplant	–/–	1B	WET	K	K	P	57	47
Deinandra conjugens	Otay tarplant	CE/FT/CH	1B	NE	K	K	K	10	33
Dudleya variegata	Variegated dudleya	–/–	1B	NE, VP	K	K	K	274	649
Dudleya viscida	Sticky-leaved dudleya	–/–	1B	--	K	K	P	240	641
Eryngium aristulatum var. *parishii*	San Diego button-celery	CE/FE	1B	NE, VP	K	K	N	5	0
Ferocactus viridescens	San Diego barrel cactus	–/–	2	--	K	K	K	162	123
Iva hayesiana	San Diego marsh-elder	–/–	2	WET	K	K	K	14	21
Monardella hypoleuca ssp. *lanata*	Felt-leaved monardella	–/–	1B	NE	K	K	P	78	123
Monardella viminea	Willowy monardella	CE/FE/CH	1B	NE	K	K	N	14	0
Muilla clevelandii	San Diego goldenstar	–/–	1B	VP	K	K	K	240	641

SAN DIEGO COUNTY WATER AUTHORITY HCP/NCCP
NCCP PERMIT – ATTACHMENT 1 (continued)

Scientific Name	Common Name	Federal/State Status	CNPS List	Plan Policies	Occurrence[1]			Estimated Total Impacts[2]	HMA Mitigation Credit[3]
					Survey Area	PIZ	Preserve Area		
Navarretia fossalis	Spreading navarretia	–/FT/CH	1B	NE, VP	K	K	N	5	0
Nolina cismontana	Chaparral nolina	–/–	1B	--	K	K	N	162	0
Pogogyne abramsii	San Diego mesa mint	CE/FE	1B	NE, VP	K	K	N	5	0
Pogogyne nudiuscula	Otay Mesa mint	CE/FE	1B	NE, VP	K	N	N	5	0
Quercus dumosa	Nuttall's scrub oak	–/–	1B	--	K	K	P	78	123
Salvia munzii	Munz's sage	–/–	2	--	K	P	K	240	641
Tetracoccus dioicus	Parry's tetracoccus	–/–	1B	--	K	K	P	28	0‡
WILDLIFE									
Invertebrates									
Branchinecta sandiegonensis	San Diego fairy shrimp	FE, CH	NA	NE, VP	K	K	N	5	0
Euphydryas editha quino	Quino checkerspot butterfly	FE, CH	NA	--	K	K	K	273	649
Euphyes vestris harbisoni	Harbison's dun skipper	*	NA	NE, WET	P	P	P	57	33
Lycaena hermes	Hermes copper butterfly	*	NA	--	K	P	K	162	518
Streptocephalus woottoni	Riverside fairy shrimp	FE, CH	NA	NE, VP	K	N	N	5	0
Amphibians									
Anaxyrus (=Bufo) californicus	Arroyo toad	FE, CSC, CH	NA	WET	K	K	K	55	46
Spea hammondii	Western spadefoot toad	CSC	NA	VP, WET	K	K	K	47	28
Reptiles									
Actinemys marmorata pallida	Southern Pacific (southwestern) pond turtle	CSC	NA	WET	K	K	P	7	41
Aspidoscelis hyperythra beldingi	Belding's orange-throated whiptail	CSC	NA	--	K	K	K	295	686
Aspidoscelis tigris stejnegeri	Coastal (western) whiptail	*	NA	--	K	K	K	297	674

SAN DIEGO COUNTY WATER AUTHORITY HCP/NCCP
NCCP PERMIT – ATTACHMENT 1 (continued)

Scientific Name	Common Name	Federal/State Status	CNPS List	Plan Policies	Occurrence[1]			Estimated Total Impacts[2]	HMA Mitigation Credit[3]
					Survey Area	PIZ	Preserve Area		
Coleonyx variegates abbottii	San Diego banded gecko		NA	--	P	P	P	240	641
Crotalus ruber	(Northern) red-diamond rattlesnake	CSC	NA	--	K	K	K	240	518
Diadophis punctatus similis	San Diego ring-neck snake	*	NA	--	K	K	K	316	641
Eumeces skiltonianus interparietalis	Coronado skink	CSC	NA	--	K	P	K	296	658
Lichanura trivirgata roseofusca	Coastal rosy boa	*	NA	--	K	P	K	240	641
Phrynosoma coronatum blainvillii	Coast (San Diego) horned lizard	CSC, *	NA	--	K	K	K	256	526
Birds									
Agelaius tricolor	Tricolored blackbird	CSC	NA	WET	K	P	K	16	21
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	*	NA	--	K	K	K	162	518
Ammodramus savannarum	Grasshopper sparrow	CSC	NA	--	P	P	K	41	9
Amphispiza belli belli	Bell's sage sparrow	*	NA	--	K	K	K	240	641
Athene cunicularia hypugaea	Western burrowing owl	CSC	NA	--	K	K	P	195	8
Campylorhynchus brunneicapillus sandiegensis	San Diego cactus wren	CSC, *	NA	NE	K	K	K	162	518
Dendroica petechia brewsteri	Yellow warbler	CSC	NA	WET	K	P	K	55	26
Empidonax traillii extimus	Southwestern willow flycatcher	FE, CE, CH	NA	WET	K	P	P	55	26
Eremophila alpestris californica	California horned lark	CSC	NA	--	K	P	K	34	0‡
Icteria virens	Yellow-breasted chat	CSC	NA	WET	K	K	K	55	45

SAN DIEGO COUNTY WATER AUTHORITY HCP/NCCP
NCCP PERMIT – ATTACHMENT 1 (continued)

Scientific Name	Common Name	Federal/State Status	CNPS List	Plan Policies	Occurrence[1]			Estimated Total Impacts[2]	HMA Mitigation Credit[3]
					Survey Area	PIZ	Preserve Area		
Lanius ludovicianus	Loggerhead shrike	CSC	NA	--	P	P	K	274	123
Polioptila californica californica	Coastal California gnatcatcher	FT, CH, CSC	NA	--	K	K	K	162	518
Vireo bellii pusillus	Least Bell's vireo	FE, CE, CH	NA	WET	K	K	P	55	26
Mammals									
Chaetodipus californicus femoralis	Dulzura (California) pocket mouse	CSC	NA	--	K	K	K	10	0‡
Chaetodipus fallax fallax	Northwestern San Diego pocket mouse	CSC	NA	--	K	K	K	274	641
Dipodomys stephensi	Stephens' kangaroo rat	FE, CT	NA	--	K	K	N	34	0
Felis concolor	Mountain lion	*	NA	--	P	P	K	344	702
Lepus californicus bennettii	San Diego black-tailed jackrabbit	CSC	NA	--	K	K	K	34	8
Neotoma lepida intermedia	San Diego desert woodrat	CSC	NA	--	K	K	K	240	641
Onychomys torridus ramona	Southern grasshopper mouse	CSC	NA	--	P	P	P	274	641
Perognathus longimembris brevinasus	Los Angeles pocket mouse	CSC	NA	--	K	K	N	47	0

Federal and State Listed Species

FE = Federally listed, endangered
FT = Federally listed, threatened
FC = Federal Candidate for listing
CH = Critical Habitat
CE = State listed, endangered
CT = State listed, threatened
CR = State listed, rare

Other

CSC = CDFG Species of Special Concern
* = Taxa listed with an asterisk fall into one or more of the following categories:

- Taxa considered under Section 15380(d) of CEQA guidelines.
- Taxa that are biologically rare, very restricted in distribution, or declining throughout their range
- Population(s) in California that may be peripheral to the major portion of a taxon's range, but which are threatened with extirpation within California.
- Taxa closely associated with a habitat that is declining in California at an alarming rate (e.g., wetlands, riparian, old growth forests, desert aquatic systems, native grasslands).

California Native Plant Society (CNPS) Lists

1B = Species rare, threatened, or endangered in California and elsewhere.
2 = Species rare, threatened, or endangered in California, but more common elsewhere.
3 = Species for which more information is needed (a review list).
4 = A watch list of species of limited distribution.

Plan Policies

NE = Narrow Endemic Policy (applies to all populations and occupied habitat for that species)
VP = Vernal Pool Protection Policy (applies when a species occurs within vernal pool habitat)
WET = Wetland Protection and Mitigation Program (applies when a species occurs within wetland habitat)

Occurrence

K = Known to occur
N = Not known to occur
P = Potential to occur

NA = Not applicable

[1] Species occurrences based on California Natural Diversity Database (CNDDB) records, San Diego Natural History Museum (SDNHM) Plant Atlas records, biological survey reports, and existing habitat management plans for the HMAs. Refer to individual species accounts in Appendix B of the HCP/NCCP for details on the number of known occurrences and potential habitat locations within the Survey Area, PIZ, and Preserve Area.

[2] Represents a best estimate of potential habitat (in acres) anticipated to be impacted from Covered Activities (includes Planned and Future Projects and O&M) for each Covered Species over the 55-year permit term. Data from existing geographic databases were supplemented with known information about Planned Projects and on-going O&M activities; includes estimated project impacts from the Pipeline 6 Alternative.

[3] Includes estimated acres of occupied and/or suitable habitat currently present within the Preserve Area based on Table 6-8 of the HCP/NCCP. Data from existing geographic databases were supplemented with information from biological survey reports and existing habitat management plans for the HMAs when available.

‡ Although no habitat occurs within HMAs based on habitat association projections, these species are expected or known to occur based on observations on or near the Preserve Area. See Appendix B of the HCP/NCCP for details.