FINAL ENVIRONMENTAL IMPACT REPORT/ ENVIRONMENTAL IMPACT STATEMENT (EIR/EIS) FOR THE SAN DIEGO COUNTY WATER AUTHORITY SUBREGIONAL NATURAL COMMUNITY CONSERVATION PLAN/ HABITAT CONSERVATION PLAN (NCCP/HCP) STATE CLEARINGHOUSE NO. 2003121012

VOLUME I: EIR/EIS
VOLUME II: APPENDICES
VOLUME III: DRAFT EIR/EIS COMMENTS, RESPONSES, AND REVISIONS

San Diego County Water Authority

PREPARED BY:

San Diego County Water Authority
and
United States Fish and Wildlife Service

WITH TECHNICAL ASSISTANCE FROM:

RECON Environmental, Inc.

October 2010

4677 Overland Avenue
San Diego, CA 92123
P 858.522.6758 F 858.268.7881

TABLE OF CONTENTS

VOLUME I: FINAL EIR/EIS

VOLUME II: APPENDICES

TABLE OF CONTENTS (CONT.)

VOLUME III: DRAFT EIR/EIS COMMENTS, RESPONSES, AND REVISIONS

Executive Summary

The San Diego County Water Authority (Water Authority) has prepared this joint draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS; No. 2003121012) to evaluate a Subregional Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP, or Plan). The NCCP/HCP has been prepared to fulfill the requirements for issuance of an incidental take permit under section 10 of the federal Endangered Species Act (ESA) and incidental take authorization under Section 2835 of the state Fish and Game Code (California Natural Community Conservation Planning Act; NCCPA).

Project Description

The Water Authority's NCCP/HCP is a comprehensive program designed to facilitate conservation and management of Covered Species and habitats associated with Water Authority activities and contribute to ongoing regional conservation efforts. The Plan identifies the types of activities proposed for coverage and an assessment of expected impacts on Covered Species. The Plan addresses potential impacts to sensitive resources and provides a habitat-based assessment of take associated with the ongoing installation, use, and maintenance of its aqueduct and associated water treatment, conveyance, and storage systems, and typical expansion to those systems throughout the Water Authority's rights of way.

The Plan Area covers 992,000 acres where Water Authority Covered Activities would take place. The Plan Area was modified from the boundaries identified by the Notice of Preparation (NOP) released in 2003. At that time, the planning area included approximately two million acres, extending east to the San Diego watershed boundary in the Laguna Mountains. The Scoping Report prepared for this project is included as Appendix A to the EIR/EIS.

The majority of the activities covered under the proposed Plan would occur in an area identified as the Probable Impact Zone (PIZ) which covers the 64,600-acre area around existing Water Authority infrastructure and within associated rights-of-way. Approximately 373 acres of Covered Species habitat are estimated to be permanently impacted as a result of the Covered Activities identified within this Plan over a 55-year period. Additional impacts will occur to disturbed habitats, agricultural lands, or non-native vegetation communities (e.g., eucalyptus woodlands) that would not require mitigation pursuant to this Plan.

Covered Species are listed and non-listed species whose conservation and management are provided for by the Plan and for which limited take is authorized by the

Wildlife Agencies pursuant to the Permits. To address potential impacts to sensitive species and habitat associated with existing and future installation, use, maintenance, expansion, and repair of its aqueduct and water storage, treatment, and delivery systems, the Water Authority proposes a Plan to cover 63 species (26 plant species and 37 wildlife species), 19 of which are narrow endemic. The species list was developed based on a preliminary list of more than 100 species that could be potentially impacted by Water Authority activities. At the time the NOP was released, 84 species were proposed for coverage. A total of 89 species were analyzed in the conservation analysis.

The Plan includes mitigation measures designed to avoid and minimize potential impacts to biological resources and to provide appropriate mitigation to ensure the protection of Covered Species where impacts are unavoidable. The Preserve Area has been established in order to provide adequate conservation for all Covered Activities to be permitted under the Plan. Those components of the Preserve Area which function as conservation banks will provide mitigation credits which the Water Authority can use to offset the impacts of Covered Activities. The Water Authority's fee-owned lands and easements also play an important role in regional conservation by providing habitat connectivity in areas where little natural habitat remains. The Plan is included in full as Appendix B to this EIR/EIS.

Environmental Setting

Topographical features for San Diego County and southwestern Riverside County include coastal beaches; mesas, canyons and rolling hills; plains, buttes, and plateaus; foothills and mountains; and rivers, creeks, and drainages. Habitat types include freshwater wetland and vernal pools, sage scrub, chaparral, grasslands, coastal lowland oak woodland, high foothill, and montane habitats. Other land types include agricultural and exotic landscapes as well as developed and urbanized lands.

The Plan identifies the Water Authority Service Area, the Plan Area, and the PIZ. The Water Authority Service Area extends over 920,463 acres of western San Diego County. The Service Area encompasses properties or easements where the Water Authority owns and operates facilities that provide a safe, reliable water supply to its Member Water Agencies. For the preparation of this Plan, the Water Authority identified lands in San Diego and southwestern Riverside Counties where water conveyance, water treatment, water storage, and local water supply development form a critical component of the current and future water reliability in San Diego County, and where the Water Authority has existing and planned facilities or interests. As described above under Project Description, an area of approximately 992,000 acres is defined as the Plan Area for which the Water Authority is seeking permit coverage. Within the Plan Area, the PIZ is a more specific area where most of the Covered Activities and take are expected to occur.

Environmental Analysis

This joint EIR/EIS has been prepared to evaluate the potential environmental effects from the Plan, the implementation of which could result in the take of Covered Species and their habitats. This EIR/EIS evaluates the potential environmental consequences and impacts associated with implementation of the proposed Plan and alternatives, and thereby satisfies the requirements of both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) in a single, combined document. The combined document also allows for concurrent regulatory review and processing. As required by both CEQA and NEPA, lead and responsible/trustee/cooperating agencies are responsible for review and approval of the environmental document.

The analysis is developed pursuant to the CEQA (California Public Resources Code Section 21000 et. seq. and CEQA Guidelines Section 15168) and NEPA, as implemented by the Council on Environmental Quality Regulations (Title 40 Code of Federal Regulations Parts 1500-1508). Section 4.0, Environmental Impacts/Environmental Consequences and Alternatives, evaluates the potentially significant effects from implementation of the proposed Plan and Alternatives. Issues evaluated and determined to not result in a potentially significant impact or significant adverse effect from one or more of the alternatives include water resources and water quality, land use, socioeconomics, and environmental justice. The issues evaluated and determined to result in a potentially significant impact or significant adverse effect from one or more of the alternatives are biological resources and public services and utilities. The summary of potentially significant impacts for the environmental issues analyzed in this EIR/EIS is included in Table S-1 at the end of this chapter.

The discussion of growth inducement is presented in Section 5.0 of this EIR/EIS. The proposed Plan and Alternatives do not pose a potentially significant growth inducement impact.

Section 6.0 evaluates the cumulative impacts of the proposed Plan and Alternatives. Issues evaluated and determined to not result in significant cumulative impacts or significant cumulative adverse effects include water resources and water quality, land use, socioeconomics, and environmental justice. Issues that could result in cumulative adverse effects resulting from at least one of the alternatives include biological resources and public services.

Section 7.0 discusses effects of the proposed Plan and the alternatives that were found not to be significant, and which were therefore not analyzed in the EIR/EIS. The effects determined not to be significant in this EIR/EIS include aesthetics, air quality/climate change, cultural resources, geology and soils, hazardous materials, mineral and energy sources, noise, recreation, and transportation/circulation. Finally, Significant

Unavoidable Environmental Effects/Irreversible Environmental Changes are addressed in Section 8.0.

Project Alternatives

The U.S. Fish and Wildlife Service (USFWS) is required to respond to the Water Authority's request for a section 10(a)(1)(B) permit, to protect, conserve, and enhance federally listed species and their habitat, and to ensure compliance with the ESA, NEPA, and other applicable federal laws and regulations. The Water Authority is required to meet the demands of regional water supply by constructing, expanding, operating, and maintaining its extensive water distribution, treatment, storage facilities, and rights-of-way. The impetus behind the planning and investment for an NCCP/HCP is to allow the Water Authority to continue activities in a streamlined manner with an increased level of certainty as it relates to biological resources and for the Wildlife Agencies to provide a mechanism for the Water Authority to receive take authorizations for Covered Species while ensuring the long-term survival of those species through a large scale planning effort. The proposed NCCP/HCP also provides an opportunity to implement avoidance and minimization measures to ensure the level of incidental take occurring as a result of Water Authority actions would not appreciably reduce the survival and recovery of federally and/or state-listed, candidate, or otherwise Covered Species.

This EIR/EIS presents alternatives considered but rejected and fully analyzes four alternatives. For the alternatives analyzed, the USFWS would issue an incidental take permit to otherwise lawful activities, such as the development, installation, maintenance, operation, and repair of facilities that are, or would be, necessary for the Water Authority to provide water. Because the proposed action is issuance of permits for incidental take, the range of alternatives analyzed is limited to permitting options for the Water Authority and Wildlife Agencies.

- **Alternative 1: No Action/No Permit Alternative.** This EIR/EIS includes a No Action/No Permit Alternative under which the Water Authority would not adopt the proposed Plan and continue to conduct its actions on a project-by-project basis, with standards that conform to good planning, engineering, and construction practices. The No Action/No Permit Alternative would not implement comprehensive measures to address impacts to listed species arising as a result of Water Authority activities. It would not be required to apply the same levels of mitigation and conservation to unlisted species. The Water Authority has already secured the Preserve Area, and mitigation credits could be used to offset impacts from Planned and Future Projects. However, the Water Authority would not pursue the level of management/monitoring that is proposed in the NCCP/HCP.

- **Alternative 2: Proposed Plan Alternative.** The second alternative is the proposed Plan. The Proposed Plan Alternative proposes the implementation of a subregional conservation plan and issuance of a section 10(a)(1)(B) permit for incidental take of 63 Covered Species within the Plan Area and issuance of Section 2835 incidental take authorizations. This alternative represents a comprehensive approach to conservation within the Plan Area. Under the Plan, the Water Authority agrees to implement avoidance, minimization, and mitigation measures that have been designed to adequately protect and mitigate the incidental take of Covered Species and their habitats. The Plan identifies a managed Preserve Area acquired and funded by the Water Authority. These lands provide strategic habitat connections and serve as the Water Authority's contribution to regional conservation efforts.

- **Alternative 3: Full Species List Alternative.** The third alternative is for the Water Authority to propose coverage and receive an incidental take permit for a full list of 89 species. The Full Species List Alternative would require the Water Authority to justify the need for coverage and conservation of all the species considered in the conservation analysis. All elements contained within the Plan, such as the minimization, avoidance, and mitigation measures, would apply to a longer list of species. However, not all of the 89 species are reasonably likely to be listed or to require coverage from impacts. This alternative may include additional conservation measures for species whose occurrence has not been confirmed or determined to be likely to occur, or a species whose adequate conservation and management requires verification.

- **Alternative 4: Reduced Plan Area Alternative.** The fourth alternative is the Reduced Plan Area Alternative. This alternative would include a reduced Plan Area that only encompasses the PIZ and a reduced species list. The Plan Area that would be permitted would be limited to the PIZ, an area encompassing approximately 64,600 acres. Covered Activities under this alternative would be the same as those covered under the Proposed Plan Alternative. The Reduced Plan Area Alternative would allow the Water Authority to adopt the Plan as currently proposed, only with coverage proposed for those 39 species (18 plant species and 21 wildlife species) that are known to occur within the PIZ. This alternative would provide conservation for fewer species than covered in the Proposed Plan and the Full Species List Alternatives.

The following provides a brief description of the four alternatives which are discussed in more detail in Section 2.0 of this EIR/EIS. All alternatives fulfill at least part of the Water Authority and USFWS' purpose and need, except for Alternative 1. Under all four alternatives, the Water Authority would also enforce existing Biological Opinions (BO) when carrying out Existing Projects and continue to meet the federal and state requirements for protection of listed species for all Covered Activities. Under the No

Action/No Permit Alternative, the USFWS and California Department of Fish and Game (CDFG) would have to issue individual permits for any project that would incidentally take a federally or state-listed species. With the adoption of the Proposed Plan, the Full Species List Alternative, or the Reduced Plan Area Alternative, one federal and one state take permit would be granted for all Covered Activities. Because Water Authority activities would be the same under all of the alternatives, including the No Action/No Permit Alternative, the expected impacts to Covered Species and their habitats (and the need for an incidental take permit) would be the same. Unlike the project-by-project approach of Alternative 1, the conservation plan developed for Alternatives 2, 3, and 4 would streamline the current permitting process, contribute to regional conservation efforts, and provide a benefit to Covered Species and their habitats. Alternatives 2, 3, and 4 would also establish and utilize the same HMAs to mitigate impacts from the alternatives. The distinction between the alternatives is further described below. The summary of impacts for the four alternatives is provided in Table S-1 at the end of this chapter.

Under Alternative 1: No Action/No Permit Alternative, the Water Authority would continue to implement mitigation on a project-by-project basis. In recent years, the Water Authority has addressed as many as 16 federally and/or state-listed species during the planning, constructing, and/or maintenance of facilities. The project-by-project approach would not apply the same levels of mitigation and conservation to unlisted species (or possibly not have to explicitly mitigate for impacts to certain unlisted species), would not necessarily mitigate for impacts to certain vegetation communities, potentially could mitigate in areas that are not specifically part of the regional conservation effort, and would not provide the comprehensive management of mitigation areas (it would be more species-specific oriented). This would result in less coordinated and less comprehensive conservation of vegetation communities and species. The Preserve Area acquired by the Water Authority to support the preparation of an NCCP/HCP could be used to mitigate Planned and Future Projects. However, under Alternative 1, the Water Authority may not be required to provide for the level of management/monitoring that the other alternatives would require. In addition, the Water Authority would address only the listed species associated with the project-specific take permits, and would not provide comprehensive management/monitoring reports that could be linked with other regional conservation reporting.

Alternative 1 would meet the USFWS need to ensure that any proposed take of federally listed species would be authorized through other sections of the ESA. However, the comprehensive program described for the Proposed Plan Alterative, which outlines avoidance, minimization, and mitigation measures and identifies conservation areas, would not apply. Implementing project-specific minimization and mitigation measures often results in the piecemeal acquisition of small parcels of suitable habitat that lead to less conservation than could be accomplished through regional planning. Additionally, the Water Authority would not attempt to achieve the goals of the NCCPA. Alternative 1

was not selected as the proposed alternative because it would not provide the same levels of protection for Covered Species and their habitats, would not contribute to regional conservation efforts, and would not provide certainty in the permitting process for Water Authority activities. Furthermore, Alternative 1 would not fully meet the purpose of the USFWS to provide a means to protect, conserve, and enhance those proposed Covered Species that are not listed, but are regionally significant, since unlisted, yet regionally sensitive, species proposed as "covered" under the other alternatives would not receive any additional conservation as mitigation for Water Authority projects.

Alternative 2: Proposed Plan involves approval and implementation of the proposed Plan. This alternative would create a process to streamline environmental compliance for biological resources and contribute to regional conservation efforts with a total of 63 species proposed for coverage. In developing the Plan, the Water Authority has prepared and will implement a long-term management and monitoring agreement between the Water Authority, USFWS, and CDFG for the conservation and management of Covered Species and habitats in the Preserve Area. In addition, the Plan provides a level of regulatory certainty as it relates to biological resources for the Water Authority to carry out activities related to delivering the region's water supply. Alternative 2 is the preferred alternative because this alternative provides: a comprehensive program for long-term conservation of sensitive biological resources, while also ensuring compliance with the ESA for the specific Water Authority activities that take place within the Plan Area; an increase in the level of regulatory certainty for the Water Authority; and a streamlined environmental compliance process, which will save time and money. Under this alternative, the Water Authority would expand the list of vegetation communities, ecosystems, and sensitive species that require compensatory mitigation when impacted by a Water Authority Covered Activity over those that would be mitigated under Alternative 1. For example, communities such as non-native grassland and southern mixed chaparral would require mitigation to be consistent with the requirements of the Plan. Without the Plan, the Water Authority's CEQA analyses have, to date, identified these as non-sensitive vegetation communities that do not require mitigation pursuant to CEQA. This alternative would meet all of the specific purposes and needs of the USFWS and Water Authority.

Alternative 3: Full Species List proposes an identical conservation plan as Alternative 2, except that the Covered Species list would be expanded. Up to 26 additional species would be covered by the Plan. Alternative 3 was developed from the conservation analysis that addressed 89 species. Instead of obtaining permits for listed species on a project-specific basis, Alternative 3 of the Plan would provide a level of regulatory certainty as it relates to biological resources for the Water Authority to carry out activities related to the region's water supply. Similar to Alternative 2, communities, such as non-native grasslands and southern mixed chaparral, would require mitigation to be in compliance with the Plan if impacted by Water Authority activities. However, the Water

Authority's analysis determined that not all of the 89 species are reasonably likely to require coverage, given that the additional 26 species are not expected to occur within the PIZ and Survey Area. Although this alternative would meet the purpose and need of the USFWS and Water Authority, funds would be expended on managing and monitoring species that may not have a need for additional conservation to compensate for project impacts, potentially diminishing the efforts toward conservation of the other Covered Species whose conservation needs are greater. In addition, without adequate information that all of the 89 species are present or likely to occur where impacts and management activities would take place, the Water Authority may not be able to demonstrate that there would be potential take or applicable conservation.

Alternative 4: Reduced Plan Area proposes a similar approach to conservation as Alternatives 2 and 3, except that the Plan Area would be reduced to the PIZ. The Plan would only provide an incidental take permit for a subset of the species proposed for coverage in Alternatives 2 and 3 (39 species versus 63 and 89 species, respectively). The covered species list would include only those species known to occur on habitat lands within the PIZ. The Plan commits to conserving 39 Covered Species. However, Alternative 4 would not be required to provide comparable conservation for those additional species proposed for coverage under Alternatives 2 and 3 if they are impacted by Covered Activities. While this alternative would meet the purpose and needs of the USFWS and Water Authority, it would not provide the level of conservation for regionally sensitive species that was originally intended by either agency.

TABLE S-1
SUMMARY OF POTENTIAL ENVIRONMENTAL EFFECTS OF EACH ALTERNATIVE[1]

Issue	Alternative 1 (No Action/No Permit)	Alternative 2 (Proposed Plan)	Alternative 3 (Full Species List)	Alternative 4 (Reduced Plan Area)
Biological Resources				
Effects on sensitive species	Significant Impact BIO-1 would be less than significant after mitigation	Significant Impact BIO-1 would be less than significant after mitigation	Significant Impact BIO-1 would be less than significant after mitigation	Significant Impact BIO-1 would be less than significant after mitigation
Effects on sensitive habitat	Significant Impact BIO-2 would be less than significant after mitigation	Significant Impact BIO-2 would be less than significant after mitigation	Significant Impact BIO-2 would be less than significant after mitigation	Significant Impact BIO-2 would be less than significant after mitigation
Effects on wetlands	Significant Impact BIO-3 would be less than significant after mitigation	Significant Impact BIO-3 would be less than significant after mitigation	Significant Impact BIO-3 would be less than significant after mitigation	Significant Impact BIO-3 would be less than significant after mitigation
Effects on wildlife movement corridors	Significant Impact BIO-4 would remain significant and unmitigated	Significant Impact BIO-4 would be less than significant after mitigation	Significant Impact BIO-4 would be less than significant after mitigation	Significant Impact BIO-4 would be less than significant after mitigation
Effects on policies and plans	Significant Impact BIO-5 would remain significant and unmitigated	No impact	No impact	No impact
Water Resources and Quality				
Effects on surface water and water quality	No impact	No impact	No impact	No impact
Effects on drainage patterns	No impact	No impact	No impact	No impact
Land Use				
Conflict with land uses	Significant Impact LU-1 would be less than significant after mitigation	No impact	No impact	No impact
Public Services and Utilities				
Effects on services and utility infrastructure	Significant Impact PS&U-1 would remain significant and unmitigated	No impact	No impact	Significant Impact PS&U-1 would remain significant and unmitigated
Socioeconomics				
Effects on socioeconomics	No impact	No impact	No impact	No impact
Environmental Justice				
Effects on minority and low-income populations	No impact	No impact	No impact	No impact

[1] Impacts are labeled and numbered according to issue.

This page intentionally left blank.

1.0 Purpose and Need

1.1 Introduction

This joint draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS; No. 2003121012) has been prepared to evaluate the potential environmental effects from the issuance of Federal and State permits for incidental take of Covered Species for the proposed San Diego County Water Authority (Water Authority) Subregional Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP or Plan). This draft EIR/EIS describes the potential environmental issues that would be affected by issuance of permits and discusses the potential environmental consequences associated with this action.

This draft EIR/EIS has been prepared in compliance with the California Environmental Quality Act (CEQA) (California Public Resources Code Section 21000 *et. seq.*) and the National Environmental Policy Act (NEPA) as implemented by the Council on Environmental Quality Regulations (Title 40 Code of Federal Regulations [CFR] Parts 1500–1508).

1.1.1 Lead Agencies and Actions Needed

The Water Authority, as lead agency under CEQA, the U.S. Fish and Wildlife Service (USFWS), as lead agency under NEPA, and California Department of Fish and Game (CDFG), as a responsible agency under CEQA, collectively referred to as the Wildlife Agencies, will use this draft EIR/EIS to make the following decisions:

- Whether the Water Authority, as a lead agency under CEQA, should adopt the Plan and Implementing Agreement (IA);
- Whether USFWS, as a lead agency under NEPA, should issue or deny a permit under section 10 of the Federal Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*); and
- Whether CDFG, as a responsible agency under CEQA, should issue or deny incidental take authorization under Section 2835 of the Natural Community Conservation Planning Act (NCCPA), and utilize the provisions in the Plan when determining lake and stream avoidance and impact minimization measures and compensatory mitigation when administering Section 1600 *et seq.* of the California Fish and Game Code.

1.2 Purpose and Need

1.2.1 Purpose and Need for the NCCP/HCP

The goal of the Water Authority Plan is to establish and implement a long-term agreement with the Wildlife Agencies for the conservation and management of Covered Species habitats necessary to maintain the continued viability of biological communities. Proposed actions associated with the proposed Plan include:

- The proposed Water Authority action is adoption of the Plan and its IA, the implementation of which could result in the take of Covered Species and their habitats. With the proposed Plan, the Water Authority seeks the approval of an incidental take permit from USFWS pursuant to section 10(a)(1)(B) of the ESA and management authorizations from CDFG pursuant to Section 2835 of the NCCPA (Permits). The Water Authority is requesting a 55-year permit term to cover the incidental take of species that would occur over the permit period.

- The proposed USFWS action is the issuance of a section 10(a)(1)(B) permit for the incidental take for Covered Species within the Plan Area. The proposed take would be incidental to otherwise lawful Covered Activities that are, or would be, necessary to provide water to the Water Authority's Member Water Agencies.

- The proposed CDFG action is the authorization of take under Section 2835 of the NCCPA by the CDFG. Also, CDFG will rely on the provisions in the Plan when issuing Agreements Regarding Proposed Stream or Lake Alteration pursuant to Division 2, Chapter 6, Sections 1600 *et seq.* of the California Fish and Game Code.

The proposed actions would allow incidental take of Covered Species (including federally and/or state-listed species) that would result from implementation of the Plan and the Covered Activities. Covered Species are listed and non-listed species whose conservation and management are provided for by the NCCP/HCP and for which limited take is authorized by the Wildlife Agencies pursuant to the Permits. This draft EIR/EIS analyzes the proposed issuance of the Permits for activities that would result in the take of Covered Species. Covered Activities could require subsequent review and approvals, which would be determined in individual environmental review as required by CEQA and NEPA.

The purpose of the proposed NCCP/HCP is to comply with the HCP provisions of the ESA of 1973, as amended, and the NCCPA of 1991, as amended (California Fish and Game Code Section 2800 *et. seq.*).

In the NCCP/HCP, the Water Authority proposes a streamlined approach to project permitting and environmental compliance. Take of Covered Species could result from implementation of the following Covered Activities:

1. Capital Improvement Program (CIP) Projects – includes the construction of new projects and the expansion of existing facilities required to meet the water demands of the Member Water Agencies;

2. Operation 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.

1.2.2 Purpose and Need (Water Authority and USFWS)

1.2.2.1 Purpose (Water Authority)

The purpose for which this draft EIR is being prepared for the Water Authority is to analyze the impacts of the Proposed Action and other alternatives in order to decide whether or not to adopt the proposed NCCP/HCP and sign the IA. The specific purpose of the Proposed Action is 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, O&M, and rights-of-way management for various Covered Activities;

- Have a regulatory mechanism for allowing incidental take of currently listed species and Covered Species that may become listed in the future; and

- Maintain their autonomy from land use jurisdictions.

1.2.2.2 Need (Water Authority)

The need for the Water Authority's Proposed Action is based on the potential that activities proposed by the Water Authority as covered under the draft NCCP/HCP could result in the take of species, thus providing the need for take authorizations from the Wildlife Agencies.

1.2.2.3 Purpose (USFWS)

The purpose for which this draft EIS is being prepared for USFWS is to analyze the impacts of the Proposed Action (i.e., permit issuance) and other alternatives in response

to the application for an Incidental Take Permit for the Covered Species related to activities that have the potential to result in incidental take, pursuant to section 10(a)(1)(B) of the ESA and its implementing regulations and policies. The specific purposes of the Proposed Action are:

- Respond to the Water Authority's application for an incidental take permit for the proposed Covered Species related to activities that have the potential to result in take, pursuant to the ESA section 10(a)(1)(B) and its implementing regulations and policies;

- Protect, conserve, and enhance the proposed Covered Species and their habitat for the continuing benefit of the people of the U.S.;

- Provide a means and take steps to conserve the ecosystems depended on by the proposed Covered Species;

- Ensure the long-term survival of the proposed Covered Species through protection and management of the species and their habitat;

- Ensure compliance with the ESA, NEPA, and other applicable federal laws and regulations.

1.2.2.4 Need (USFWS)

The need for the USFWS's Proposed Action is based on the potential that activities proposed by the Applicant could result in the take of federally listed species, thus providing the impetus for an Incidental Take Permit.

At the same time, the USFWS, with concurrence from CDFG, must also meet a set of objectives related to the Plan and compliance with the ESA and NCCPA:

- Satisfy the legal requirements under the ESA and the NCCPA for incidental take of Covered Species and adverse modification of critical habitat during otherwise lawful activities conducted by the Water Authority;

- Ensure measures to avoid and minimize the level of incidental take occurring as a result of Water Authority actions such that Water Authority actions would not appreciably reduce the survival and recovery of federally and/or state-listed, candidate, or otherwise Covered Species; and

- Provide measures which will contribute to the recovery of listed species.

1.2.3 Purpose of the Joint Draft EIR/EIS

This joint draft EIR/EIS is an informational document intended to provide public decision-makers, responsible and trustee agencies, other interested agencies and parties, and the general public with an assessment of potential environmental effects of the Proposed Action. This joint EIR/EIS identifies the proposed project and alternatives. This joint EIR/EIS evaluates the potential environmental consequences and impacts associated with implementation of the Proposed Action and alternatives. If it is determined that potential significant environmental impacts would result from the project or any of the alternatives, this draft EIR/EIS identifies feasible mitigation measures available to reduce impacts to a level less than significant.

This joint draft EIR/EIS concurrently satisfies the requirements of both CEQA and NEPA in one document. As required by both CEQA and NEPA, lead agencies would be responsible for review and approval of the environmental document. The Water Authority is identified as the lead agency for the CEQA compliance requirements of the proposed project. USFWS is identified as the lead NEPA agency for the proposed project.

As required by Section 15096 of the CEQA guidelines, CDFG, as a responsible agency, is required to utilize the analysis contained within this EIR/EIS and make findings as required by CEQA.

Once approved, the Water Authority would be responsible for implementation of the Plan. The Water Authority and the Wildlife Agencies would have cooperative implementation obligations under the IA.

1.3 Background

1.3.1 San Diego County Water Authority

The mission of the Water Authority is to provide a safe and reliable supply of water to San Diego County. San Diego voters approved the formation of the San Diego County Water Authority as a public agency on June 9, 1944, pursuant to the County Water Authority Act of 1943. The Water Authority's initial interest was to manage the region's Colorado River water rights. The Water Authority became a member agency of the Metropolitan Water District of Southern California (MWD) in 1946 to gain access to Colorado River water. The Water Authority continues to purchase imported water from MWD today and receives water from the Colorado River and the Sacramento–San Joaquin River Delta area in Northern California.

San Diego County is one of the fastest growing areas in the country. The County's approximately three million residents typically rely on imported water for up to 90 percent of their total supply. The Water Authority provides imported water to its 24 Member

Water Agencies which deliver the water to individual homes and businesses in the county. Because the San Diego region has more rare, threatened, and endangered species than any comparable land area in the continental U.S., no other environmental issue holds more uncertainty with respect to implementation of Water Authority actions than federally and state-listed endangered and threatened species.

Federal and state Endangered Species Acts (ESA and CESA, respectively) prohibit the "take" of threatened and endangered species except by permit. Regarding the take prohibition under section 9 of the ESA, the term take means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." "Harm" is further defined by USFWS regulation (50 CFR 17.3) to include significant habitat modification or degradation which actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. "Harass" is defined by USFWS as an intentional or negligent action that creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take refers to taking of listed species that results from, but is not the purpose of, carrying out an otherwise lawful activity by a federal agency or applicant (50 CFR 402.02). Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Activities and projects undertaken by the Water Authority could result in direct impacts to species as well as the loss of habitat resulting from facility development, operations, maintenance, and repair of facilities and ancillary infrastructure. A long-term solution to ensure compliance with these Acts, particularly in areas such as San Diego County where there are multiple listed species, is to develop a multi-species habitat conservation plan.

1.3.1.1 Water Authority Planning Documents

To ensure that the Water Authority is able to fulfill its mission, the Water Authority prepares, reviews, and updates the following documents and plans:

- The **Regional Water Facilities Master Plan (Master Plan)** serves as a roadmap for implementing major capital improvements necessary to ensure a safe and reliable water supply through 2030 and beyond. The Master Plan evaluation is based on current plans for water supply and facility improvements, with consideration of additional facility improvements and new facilities needed to cost-effectively meet the Water Authority's mission. The Master Plan focuses on long-term planning for the entire system rather than construction of individual projects.

- The **Capital Improvement Program** outlines how best to provide the facilities necessary for meeting water demands. The CIP is reviewed on an annual basis

and has the flexibility to be adjusted for changes in demand projections, economic factors, and the needs of Member Water Agencies. The current CIP includes the construction of new projects and the expansion of existing facilities. Individual projects in the CIP are subject to environmental review under the appropriate CEQA and/or NEPA requirements.

- The **Long-range Financing Plan** is a comprehensive policy document that guides how the Water Authority funds its CIP and operations over an extended period of time. It is supported by a Financial Rate Modeling program, which helps develop the most cost-effective financial strategy to fund capital projects and operating costs.

1.3.2 Conservation Planning History

The California NCCPA of 1991, and subsequent amendments, is the impetus behind regional conservation efforts in southern California. Prompted by the loss of coastal sage scrub in California, and the listing of the coastal California gnatcatcher (*Polioptila californica californica*) pursuant to the ESA, the State responded with an approach to balance development and conservation interests by developing comprehensive programs for the conservation of regional ecosystems and streamlining the regulatory process.

As early as 1991, the Water Authority committed to participating in regional conservation planning efforts under the NCCPA. The Water Authority understood that the development and implementation of NCCPA conservation plans have the potential to prevent future listing of Covered Species, assist in the recovery of listed species, and streamline the compliance with regulations and protection of biological resources. Prior to the decision to prepare an NCCP/HCP, the Water Authority contributed to multiple regional planning efforts in San Diego County, as described below.

In 1991, the Water Authority's Board of Directors authorized $250,000 for Multiple Species Conservation Program (MSCP) planning costs. At the time, this contribution represented 8 percent of the anticipated planning cost to develop a regional multi-species conservation plan covering the southern half of the Water Authority Service Area. On December 5 of the same year, the Board of Directors also agreed to participate in the northern San Diego County Multiple Habitat Conservation Program (MHCP), which covered the northern half of the service area. Water Authority records indicate that the Board of Directors contributed a total of $300,000 for the planning effort. Several years later in 1995, the Board of Directors authorized an additional $75,000 for MHCP planning which was subsequently allocated and paid.

In consideration of its project types and on-going maintenance and operation activities (i.e., collectively covered activities), together with its geographic scope, statutory authority as it pertains to implementing water related projects, and its need to serve its

Member Water Agencies, the Water Authority began developing a comprehensive conservation plan for Water Authority activities that would meet the issuance of take requirements under section 10(a)(1)(B) of the ESA and Section 2835 of the California Fish and Game Code. In 1995, while the MSCP and MHCP planning efforts were still underway, the Water Authority started preparation of its own NCCP/HCP to fulfill federal and state ESA requirements and serve as a model for Member Water Agencies.

A comprehensive approach allows the Water Authority to plan and implement projects and perform routine operations with increased certainty as it relates to protection and mitigation of biological resources. Based on the types of facilities that the Water Authority constructs and operates to meet its mission, the Water Authority began the planning process by reviewing other conservation plans in the region. To formulate the approach, coverage, and terms for the proposed Plan (i.e., projects, species, habitat-based mitigation, species-specific measures, etc.) and project alternatives, regular meetings and consultations were held between Water Authority staff, environmental consultants, and the Wildlife Agencies. Several draft plans prepared for administrative review and development in the late 1990's were refined and further revised due to the added specificity and requirements for regional conservation plans.

The passage of Senate Bill (SB) 572 (Ducheny) in July 2003 reconciled inconsistencies regarding the NCCP planning process for water agencies and the NCCPA. Specifically, Section 2830 of the NCCPA exempts the Water Authority, along with other water districts, from having a planning agreement in place with CDFG; however, the Water Authority's NCCP/HCP conforms with and fulfills all other requirements and obligations of the NCCPA. Also in 2003, the Water Authority initiated the EIR/EIS process for the NCCP/HCP, held a scoping meeting, and prepared but did not circulate or certify a draft EIR/EIS. Subsequent revisions to the proposed NCCP/HCP have resulted in the preparation of a new draft EIR/EIS.

1.3.3 Plan Summary

The Water Authority's proposed Plan is a comprehensive program designed to facilitate conservation of Covered Species and habitats anticipated to be impacted by the Covered Activities identified in the Plan. The Plan covers necessary Water Authority activities, including O&M Activities, rights-of-way activities, covered CIP project construction, and Preserve Area management. The Plan provides measures for the conservation of Covered Species and Water Authority lands for the benefit of Covered Species. In addition, species-specific measures contribute to the ongoing conservation and management efforts in San Diego County and southwestern Riverside County. The Plan contains an amendment process that provides mechanisms for the following: updates and additions of activities and projects; expansion of the region of Plan coverage and boundaries to cover activities of future facilities, if necessary; and for adding species to be covered as information becomes available or as the need arises.

One of the most important aspects of Plan development has been the acquisition of the Preserve Area which consists of strategic parcels which contribute to regional conservation planning. Water Authority lands also include undeveloped rights-of-way and habitat in and around facilities which provide connectivity to other open space lands and supplement the existing preserve system in the region.

The Notice of Preparation/Intent (NOP/NOI; 68 FR 66478) indicated that the Water Authority was seeking coverage for a total of 84 species; however, a total of 89 species are reviewed in the conservation analysis of this draft EIR/EIS (Appendix A). Of the species analyzed, the Water Authority is seeking permit coverage for 63 species (26 plant species and 37 wildlife species). Three additional species (two plant species and one wildlife species) occur within the NCCP/HCP's Major Amendment Area in Riverside County. Take authorization for these two species will require a Major Amendment to the NCCP/HCP and Permits.

To ensure the protection of Covered Species, the proposed Plan describes the conservation strategy as well as the protection measures designed to avoid and minimize potential impacts to biological resources and to provide appropriate mitigation where impacts are unavoidable. The Water Authority estimates that activities covered under the Plan would impact up to 373 acres of habitat that will require mitigation as described in Section 2.3.2.1 of this draft EIR/EIS.

The proposed Plan contains a draft IA to establish a long-term commitment among the Water Authority, USFWS, and CDFG. The IA reflects the decisions, terms, and conditions of the Permits. The Plan also includes a separate Conservation Analysis; a list of Covered Projects, including existing and planned CIP projects; and supporting documents and information. The Plan and all its appendices are included as Appendix B.

Compared to almost all other conservation plans in the region, the Water Authority Plan is unique as it is not a land-use-based plan. The nature of linear water delivery systems and regionally-significant Preserve Area require Planned and Future Projects and management that involve multiple jurisdictions. The Water Authority's Plan was developed to function as an independent permitting process for Water Authority projects and activities (i.e., Covered Activities), but one that is compatible with and complementary to the other regional plans. Unlike other conservation plans in preparation or approved in San Diego and Riverside Counties, the Water Authority's Plan does not impose new regulations on local, state, federal, or independent land-use agencies, private citizens, or other parties of interest within the Plan Area.

1.3.4 Planning Area

To accomplish its mission of providing safe and reliable drinking water to the San Diego region, the Water Authority must maintain and operate existing facilities, plan and

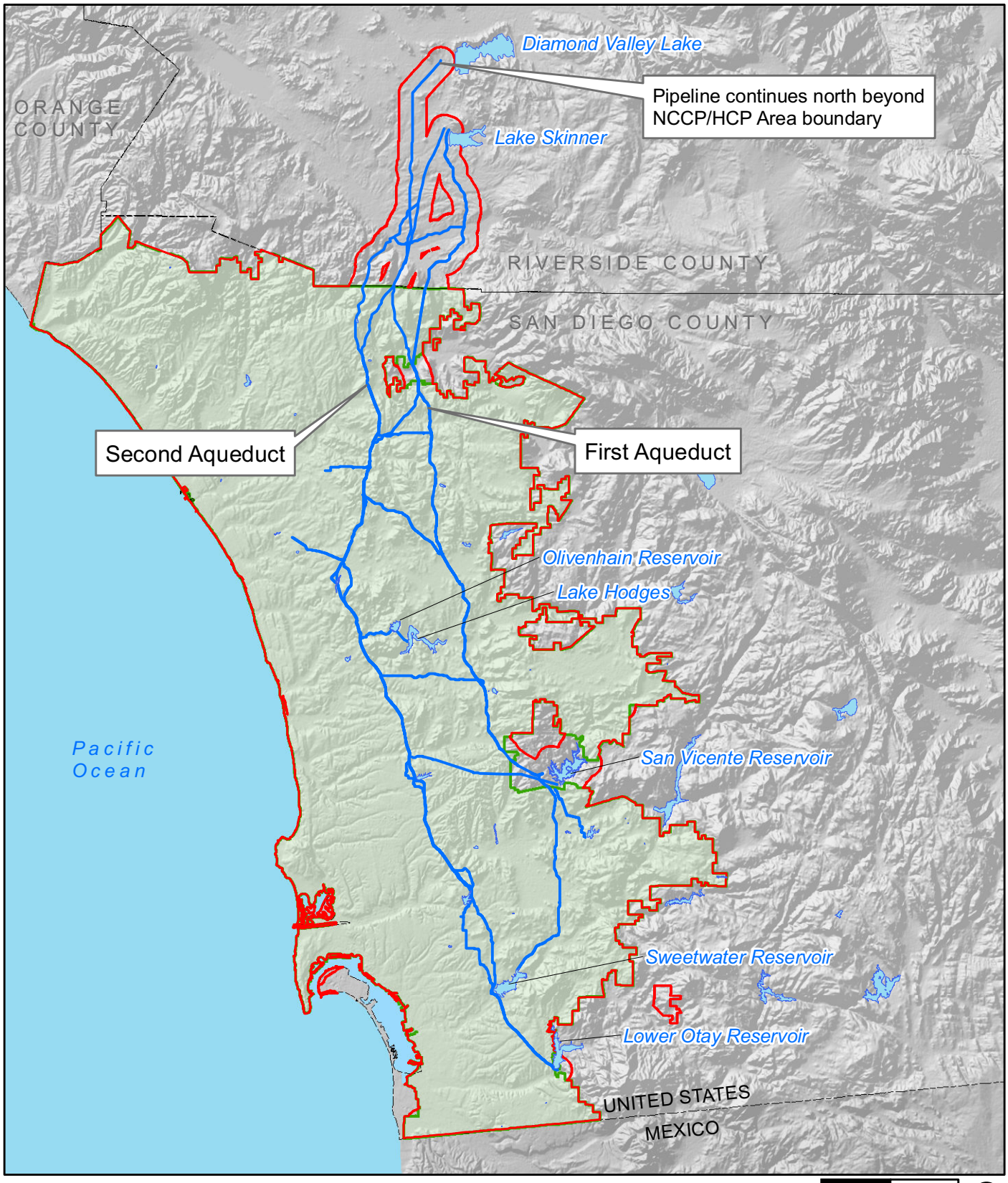
construct new facilities, and be responsive to projected future regional water demands. The Water Authority distributes water to its Member Water Agencies through 286 miles of pipeline, including five main aqueduct pipelines, and associated facilities. These pipelines carry both treated and untreated water to San Diego from MWD's storage, treatment, and conveyance facilities in southwestern Riverside County. The Water Authority's 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. Figure 1-1 shows the locations of major Water Authority features and the Water Authority's Service Area.

In addition to their Service Area, the Water Authority identified several boundaries. The boundaries, which are defined below, include a Plan Area, which is the area that would be covered by the proposed HCP and NCCP Permits. The Water Authority also identified a Probable Impact Zone (PIZ) and Survey Area, within which HCP/NCCP impacts are most likely to occur, a Preserve Area, and Managed Mitigation Areas (MMA). Finally, a portion of the Plan Area in Riverside County has been identified as a Major Amendment Area.

In order to develop the Plan, the Water Authority identified the geographic area for which coverage is needed based on the location of Water Authority activities and potential for sensitive species. The variation in landform and vegetation communities affects the type and number of species within the Plan Area that require coverage under the Permits. Originally, the proposed planning area included approximately two million acres, extending east to the San Diego watershed boundary in the Laguna Mountains. The Plan Area was modified to better reflect the Service Area of the Water Authority, lands under Water Authority control, and the areas where species and their habitats are most likely to require coverage.

Key terms related to the Plan are described below and displayed on Figure 1-2.

- **Plan Area.** The Plan Area is an area of approximately 992,000 acres in western San Diego and southwestern Riverside counties within which incidental take will be permitted. 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 Plan Area includes the Survey Area and the PIZ.

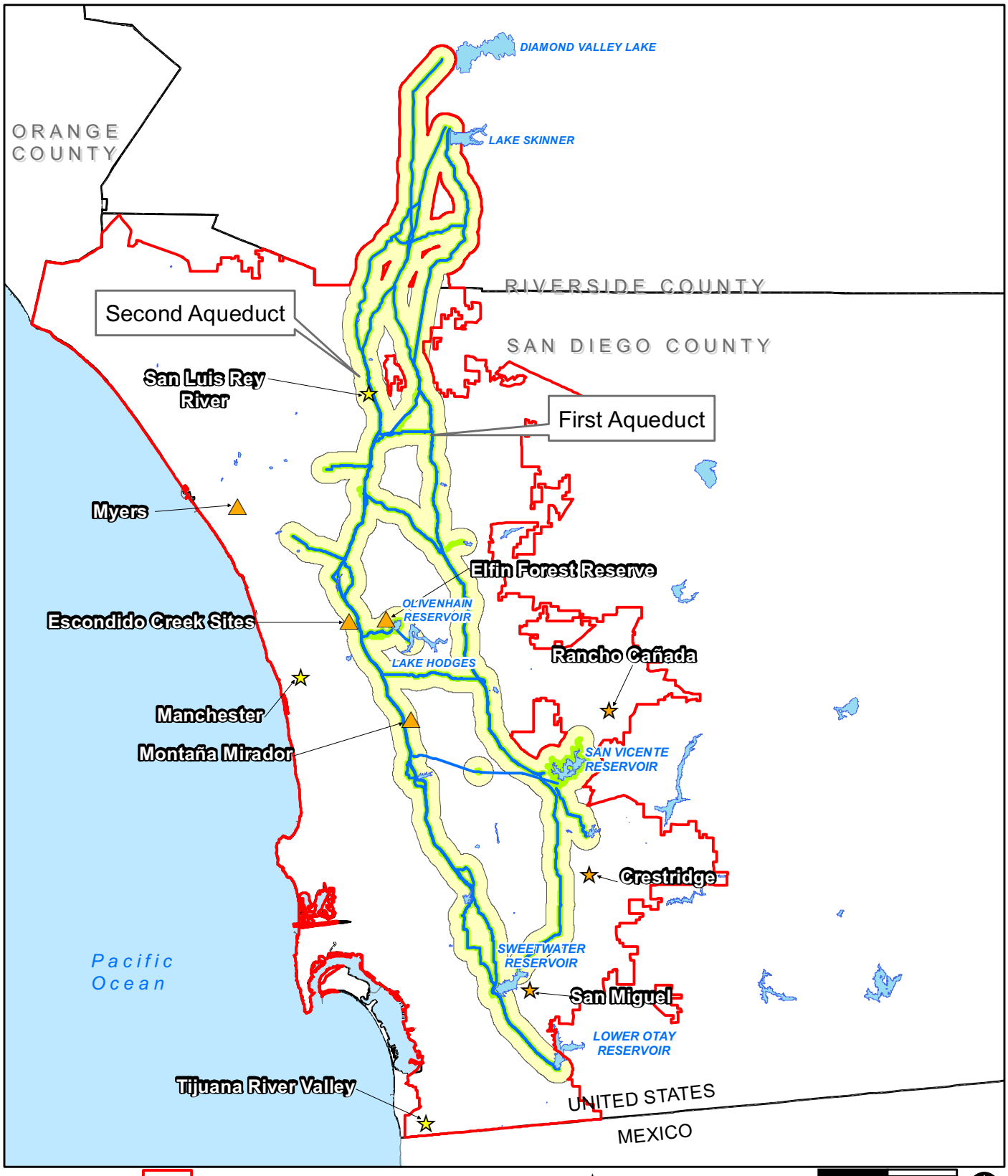


RECON

M:\jobs2\3639\env\gis\EIR_EIS\fig1-1_EIS.mxd 11/09/09

FIGURE 1-1

Water Authority Service Area



*Boundary displayed represents Plan Area under Alternatives 1, 2, and 3.
See Figure 1-4 for the boundary of the Plan Area under Alternative 4.

RECON

M:\jobs2\3639\env\gis\EIR_EIS\fig1-2_EIS.mxd 10/12/10

FIGURE 1-2
Location of Water Authority Preserve Area and MMAs

- **Survey Area.** The Survey Area is a planning designation within the Plan Area that provides the basis for determining which species would be appropriate for inclusion in the Covered Species list. The Survey Area encompasses 272,648 acres in western San Diego and southwestern Riverside counties that encompasses existing facilities and lands owned by or under control of the Water Authority, including infrastructure rights-of-way (with and without underlying fee ownership) together with MWD's rights-of-way originating in 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 includes the PIZ.

- **Probable Impact Zone (PIZ).** The PIZ is the linear, inter-connected configuration of the Water Authority's water supply system that 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 Plan identifies an area of approximately 64,600 acres in western San Diego and southwestern Riverside counties as the PIZ, where most of the Covered Activities and take are expected to occur.

- **Preserve Area.** Within the Plan Area, the Water Authority has designated specific areas as the Preserve Area. The Preserve Area consists of the combined area of the Habitat Management Areas (HMAs), which were acquired as part of the Water Authority's NCCP/HCP development, and any future permanently conserved and managed lands (i.e., new HMAs) that are subsequently added to the Plan's commitments as a result of satisfying mitigation obligations pursuant to the Plan. The Preserve Area contributes to other regional conservation efforts in San Diego County based on the type and quality of habitat and connectivity of the HMAs to other large scale preserve lands. Within the 1,920-acre Preserve Area (also referred to as mitigation properties or HMAs), over 700 acres are available or will be created to be used as credits to compensate project impacts to upland and wetland habitats. The remaining acreage is defined as existing mitigation areas created to address impacts of previous projects, as they have been dedicated to conservation as a requirement of previous endangered species take permits or authorizations.

- **Managed Mitigation Areas (MMAs).** While not part of the Preserve Area described above, the Water Authority has also permanently conserved approximately 1,147 acres of regionally important habitat lands. The MMAs serve as previous mitigation contributions to regional habitat conservation and are not included in the Preserve Area for the Plan. As such, they are not used as mitigation for Covered Activities. The MMAs exist to mitigate previous projects. MMAs are defined as follows: properties that were acquired and/or funded by the Water Authority as biological resource mitigation for the Emergency Storage Project or other Water Authority projects, and provide baseline conservation

associated with this Plan. MMAs were priority acquisitions that significantly contributed to regional conservation, but do not provide mitigation credits for the Plan's Planned or Future Projects.

- **Major Amendment Area – Riverside County.** Future Covered Activities (Projects and O&M Activities) in Riverside County could not be analyzed and permitted at the time of drafting this proposed NCCP/HCP; therefore, an area of approximately 48,700 acres in Riverside County within the Plan Area has been designated as a "Major Amendment Area" and no take of Covered Species is proposed under the Plan. Therefore, future Covered Activities within that portion of the Plan Area will be processed as Major Amendments to the NCCP/NCP and Permits. The Major Amendment Area excludes the Pipeline 6 alignments and their associated PIZ. Because three species (vernal pool fairy shrimp, California Orcutt grass, and Munz's onion) primarily occur within the Riverside County portion of the Plan Area, they would require a Major Amendment and have been categorized as Major Amendment Species.

The Plan Area would be different under one of the four alternatives analyzed in this EIR/EIS. Therefore, Figure 1-3 displays the Plan Area in relation to the Survey Area and PIZ for Alternatives 1, 2, and 3, and Figure 1-4 displays the Plan Area under Alternative 4. Alternative 4, the Reduced Plan Area Alternative, identifies the 64,600-acre PIZ as the Plan Area.

It is anticipated that the Plan Area will eventually need to be modified to reflect future facilities, rights-of-way adjustments, additions to the Preserve Area, etc. In particular, the Water Authority may annex additional lands to the Plan Area to incorporate lands which will receive imported water service (Water Authority's Service Area). Areas annexed will likely be adjacent to the existing Service Area and would, therefore, be representative of the Plan Area analyzed by the NCCP/HCP. Annexation, in and of itself, does not necessarily require the Water Authority to undertake any activities that may result in take since it only serves to rectify the Water Authority Service Area boundary with that of its Member Water Agencies. However, in the event that the Water Authority needs to undertake activities that affect Covered Species within those annexed areas, take would be processed under the Major Amendment process.

1.4 NCCP/HCP Regulatory Framework

1.4.1 Federal Requirements

The proposed Plan was prepared to fulfill the federal mandatory requirements of an HCP pursuant to section 10(a)(1)(B) of the ESA, as amended. Section 10(a)(1)(B) allows the issuance of Permits for the incidental take of threatened or endangered species, and the

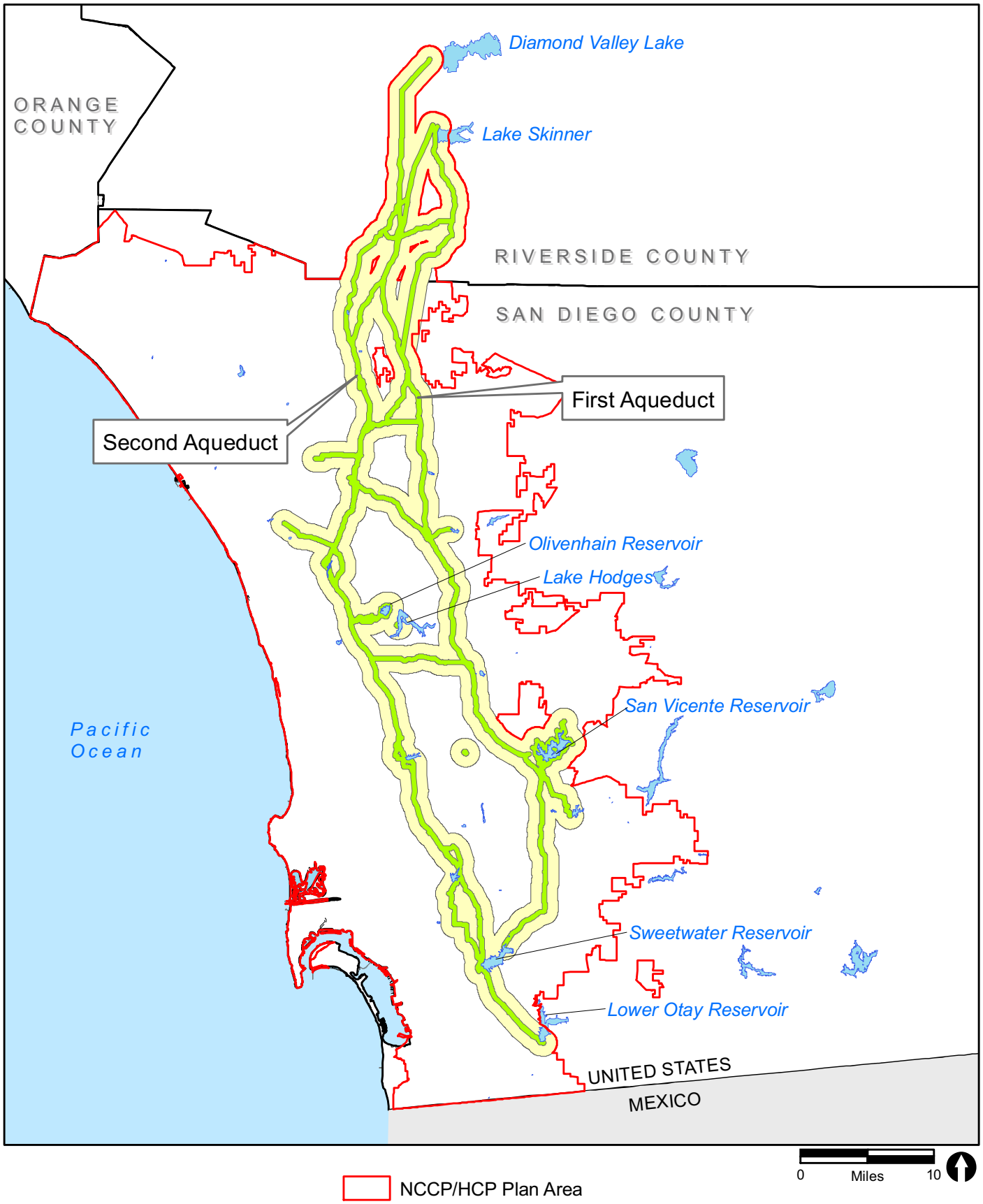
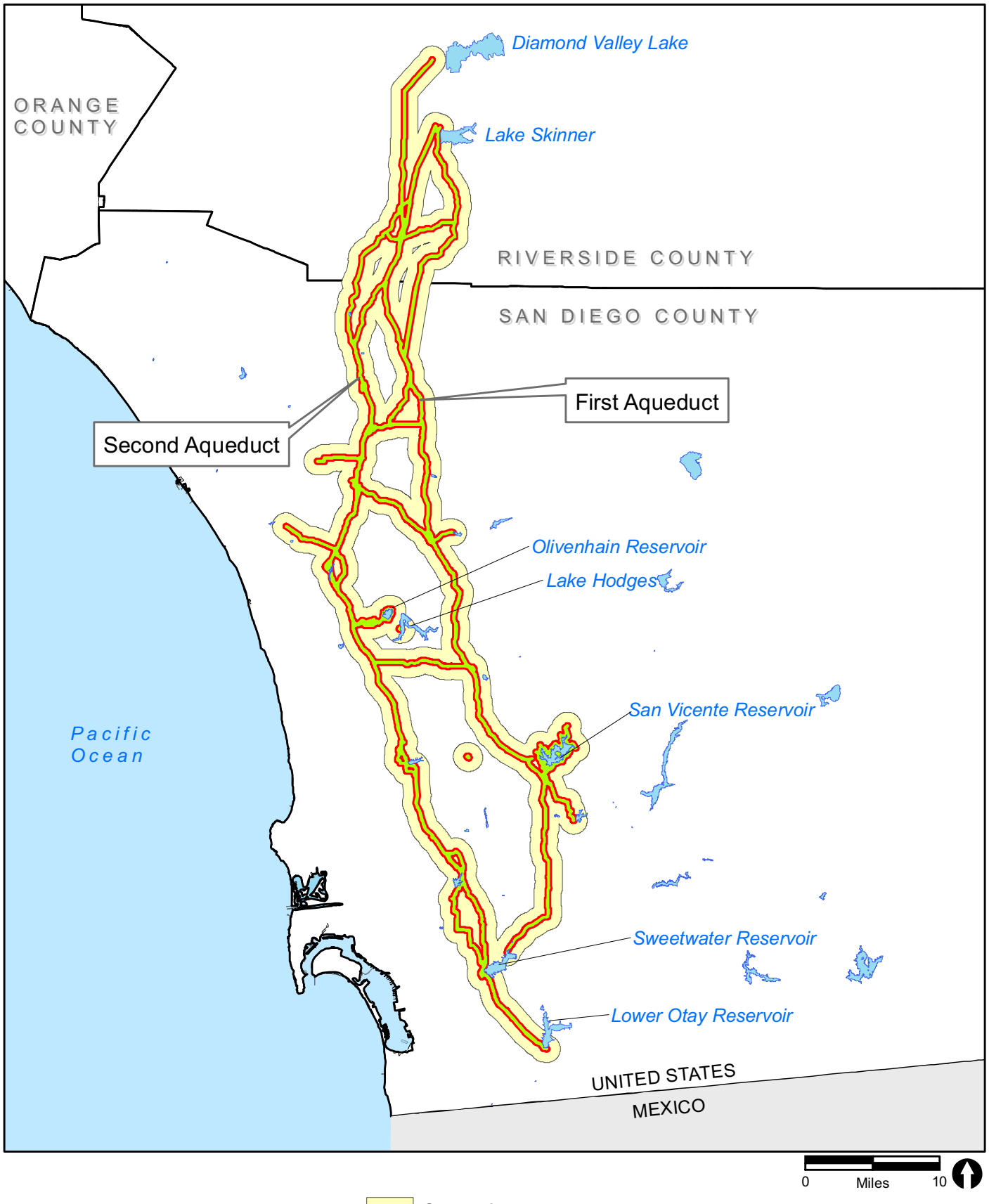


FIGURE 1-3

Plan Area Boundaries under Alternatives 1, 2, and 3

RECON

M:\JOBS2\3639\env\gis\EIR_EIS\Fig1-3_EIS.mxd 11/10/09



RECON

M:\JOBS2\3639\env\gis\EIR_EIS\Fig1-4_EIS.mxd 11/10/09

FIGURE 1-4

Plan Area Boundaries under Alternative 4

inclusion of unlisted species in the permit (in anticipation of their potential to be listed in the future) so long as conservation actions for these species treat them as if they were listed.

In accordance with the USFWS HCP Handbook (USFWS 1996), the Water Authority included the following required elements in the Plan:

- Identification and quantification of impacts likely to result from the proposed taking of the species for which permit coverage is requested;
- Measures to monitor, minimize, and mitigate such impacts; the funding that will be made available to undertake such measures; and the procedures to deal with Changed and Unforeseen Circumstances;
- Alternative actions considered that would not result in take, and the reasons why such alternatives are not being utilized; and
- Additional measures USFWS may require as necessary or appropriate for purposes of the Plan.

USFWS will be responsible for deciding whether to issue or deny a section 10(a)(1)(B) incidental take permit, based on approval of the proposed HCP. USFWS may choose to issue a permit conditioned on implementation of the HCP, to issue a permit conditioned on implementation of the HCP together with other measures specified by USFWS, or to deny the permit. The decision to issue an incidental take permit is based upon whether the proposed habitat conservation plan assures the following (50 CFR 17.22(b)(2) and 50 CFR 17.21(b)(2)):

- Take will be incidental to otherwise lawful activities;
- The Water Authority will, to the maximum extent practicable, minimize and mitigate the impacts of such taking;
- The Water Authority has ensured that adequate funding will be provided to implement the measures proposed in the Plan and provide procedures to deal with Unforeseen Circumstances;
- The proposed take will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; and
- The Water Authority will ensure that any other measures required as a condition of the permit will be implemented.

As part of the “other measures” required for an HCP, an IA between the USFWS and the Water Authority would serve as a legal contract. The IA would also need to be approved

and signed by USFWS, CDFG, and the Water Authority prior to implementation of the Plan.

HCPs are also required to distinguish Changed Circumstances from Unforeseen Circumstances in accordance with the HCP Assurances ("No Surprises") Final Rule published in the *Federal Register* on February 23, 1998 (63 FR 8859-8873). The "No Surprises" policy provides assurances to HCP permit holders that no commitment of additional land, water, or financial compensation or additional restrictions on the use of land, water, or other natural resources beyond the level otherwise agreed to in the HCP without the consent of the permitee, would be required even if Unforeseen Circumstances arise after the permit is issued. For an approved HCP that adequately addresses species mitigation, no further mitigation would be required as long as the permittee is implementing the terms and conditions of the HCP, permit, and IA. The "No Surprises Rule" was re-affirmed in January 2005 and again in August 2007.

1.4.2 State Requirements

In addition to federal ESA requirements, the Water Authority Plan was prepared pursuant to the NCCPA of 1991, as amended (California Fish and Game Code Section, 2800 *et. seq*.). The purpose of the NCCPA is to sustain and restore those species and their habitat identified by CDFG that are necessary to maintain their continued viability (California Fish and Game Code, Section 2801). Under the NCCPA, the State of California can authorize the take of listed or unlisted species (California Fish and Game Code, Section 2835). In addition, the impacts of the authorized take must be minimized and fully mitigated. The Plan must ensure adequate funding to implement all required measures, to monitor plan compliance, and to monitor plan effectiveness in meeting its conservation goals and standards.

CDFG will be responsible for deciding whether to issue or deny take authorization pursuant to California Fish and Game Code Section 2835. Authorizations for activities which would result in the take of state-listed species would be granted by the CDFG under Section 2835 of the NCCPA for listed and non-listed species conserved under the Plan. The decision to issue an NCCP Permit is based upon whether the conservation plan assures the following:

- The Plan is consistent with the approved San Diego MSCP and MHCP, and has been developed and is otherwise in conformance with the NCCPA.

- Independent scientific review of the Conservation Analysis has been conducted by a panel of Independent Science Advisors with a focus on those species which are proposed for coverage under the Plan and that are not otherwise covered by the MSCP or MHCP.

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

1.5 Other Required Actions

As outlined in Section 1.1.1 of this draft EIR/EIS, the Water Authority action is the adoption and implementation of the proposed conservation plan and authorizing execution of the IA to obtain and maintain the Permits. The USFWS action would be whether to issue an incidental take permit under section 10(a)(1)(B) of the ESA. The CDFG action would be whether to authorize incidental take under section 2835 of the Fish and Game Code (NCCPA). If the Water Authority does not approve the Plan, there is no need for USFWS or CDFG action.

Before a decision can be made regarding the issuance of section 10(a)(1)(B) permit, the USFWS must comply with the consultation requirements stipulated in section 7 of the ESA. No other formal federal, state, or local permits or approvals would be required prior to the decision by the USFWS.

The proposed NCCP/HCP identifies streamlined procedures for CDFG and the Water Authority to process Covered Activities that are subject to California Fish and Game Code Sections 1602 and 1603(a). Although the Plan does not identify equivalent procedures to address Federal Clean Water Act permits, such as those pursuant to sections 401 and 404, it does include policies for wetlands preservation and mitigation to facilitate ESA section 7 consultations.

While no other permits or approvals are required for implementation of the Plan, the following sections discuss additional regulations that may apply to Planned and Future Projects conducted under the Plan.

1.5.1 Section 404 of the Clean Water Act

The Clean Water Act provides authority to the U.S. Army Corps of Engineers (USACE) to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands and jurisdictional non-wetland waters. Permits for impacts to wetlands or jurisdictional non-wetlands are issued through section 404 of the Clean Water Act. As a condition of the 404 permitting process, USACE is required to consult with USFWS under section 7 of the ESA if the proposed permit action may affect federally listed species. It is expected that all future section 7 consultations will be consistent with the terms of the Plan and the IA.

1.5.2 Section 1600 *et seq.* of the California Fish and Game Code

CDFG regulates streambed and lake alterations through the development of an Agreement Regarding Proposed Stream or Lake Alteration pursuant to Division 2, Chapter 6, Sections 1600 *et seq.* of the California Fish and Game Code. The statutes cover all lakes, rivers, streams, and streambeds that flow at least intermittently through a bed or channel, including ephemeral streams, desert washes, and water courses with subsurface flow. The draft NCCP/HCP outlines and directs species-specific protection measures, as well as habitat based minimization measures and mitigation measures. Measures in the Plan include habitat restoration measures and wetland protection (including a no-net-loss wetland standard). The Water Authority has also conserved wetland habitat within the Preserve Area. The Plan contains Preserve Area management and adjacency guidelines, plan monitoring and reporting, and adaptive management for Water Authority Covered Activities. The comprehensive measures in the Plan ensure protection of areas covered by Section 1600 *et seq*., thus narrowing the focus of Section 1602 agreements to address the following: substantial adverse impact to non-covered aquatic or riparian dependent species that the Plan does not otherwise provide adequate avoidance, minimization or mitigation; or for impacts to riparian or wetland habitats not covered under this EIR/EIS. This draft EIR/EIS may be utilized by CDFG to issue a master or long-term Agreement Regarding Proposed Stream or Lake Alteration for Covered Activities identified in the NCCP/HCP.

1.5.3 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. 703-712), is the domestic law that affirms, or implements, the United States' commitment to four international conventions (with Canada, Japan, Mexico, and Russia) for the protection of a shared migratory bird resource. Each of the conventions protect selected species of birds that are common to both countries (i.e., they occur in both countries at some point during their annual life cycle). The most prominent regulatory elements of the MBTA require the protection of active nest sites, eggs, and young of species covered under MBTA. USFWS has regulatory authority over implementation and enforcement of the MBTA. For species that are listed under both the ESA and MBTA, USFWS has the authority to authorize incidental take with special terms and conditions under section 10(a)(1)(B) and have this permit also serve as a Special Purpose Permit under 50 CFR 21.27 of the MBTA. Special Purpose Permits are required in the event that an action would take, possess, or involve the sale or transport of birds protected by MBTA. The Water Authority's Plan would serve as the basis for incorporation of the MBTA Special Purpose Permit into the 10(a)(1)(B) permit for species that are protected by the MBTA. If the section 10(a)(1)(B) permit is issued, any such take would not be in violation of the MBTA.

1.5.4 Bald and Golden Eagle Protection Act of 1940, as Amended

The Bald and Golden Eagle Protection Act of 1940 (BEPA), as amended (16 U.S.C. 668–668d), prohibits the taking of bald or golden eagles and provides for criminal and civil prosecution if taken. There are no provisions within the BEPA that are comparable to the Special Purpose Permit of the MBTA. The Covered Activities described in the Plan do not anticipate take of bald or golden eagles.

1.6 Scoping Process

1.6.1 NCCP/HCP Public Input and Scoping Process

The proposed adoption of the Water Authority Plan provides for various public noticing, review, and comment opportunities. The Plan requires public review pursuant to CEQA and NEPA. Public review and comment can occur during plan adoption, project review process, and plan modifications.

CEQA and NEPA regulations require an early and open process for determining the scope of issues related to a proposed action. To identify key issues and concerns relevant to the scope of this draft EIR/EIS, the Wildlife Agencies and Water Authority encouraged public participation in the environmental review process from many different public agencies, organizations, and members of the public. In addition to the required notices, a scoping meeting was held. The Water Authority's NOP/NOI, notices, and comments received on the NOP/NOI are attached to this draft EIR/EIS (Appendix A) and are summarized below.

A NOP of an EIR for the Water Authority's NCCP/HCP was published on November 28, 2003, in 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. A Notice of Intent (NOI) to prepare a joint EIR/EIS in compliance with NEPA was published in the Federal Register on November 26, 2003 (USFWS 2003; 68 FR 66478).

On December 11, 2003, the Water Authority and Wildlife Agencies held a public scoping meeting to solicit public comments during the 30-day NOP/NOI public scoping period. The meeting was advertised in both the NOP and NOI and held at the San Diego County Water Authority offices, located at 4677 Overland Avenue, San Diego, California 92123.

In response to this scoping process, one letter of comment was received. Additionally, three people spoke at the public meeting. A transcript of the meeting is included in the Scoping Report (Appendix A). Various issues were identified, including:

- Importance of determining the baseline to use to evaluate the potential impacts of the alternatives;
- Water resource potential impacts including water quality, wetlands, floodplains, and aquatic ecosystems;
- Air quality including standards, ambient conditions, and potential air quality impacts;
- The need for consultation and coordination with Tribal Governments;
- Discussion of Plan funding and administration;
- Plan coordination and potential impact on other conservation efforts;
- Adequate protection of rare and sensitive species and vegetation;
- Cumulative and growth inducing effects; and
- Contribution to regional funding for conservation efforts.

1.6.2 Identification of the Potentially Significant Issues

Issues and concerns raised through the public involvement and scoping process contributed to the development of the overall scope of this draft EIR/EIS, in conjunction with an evaluation of the potential for significant impacts on the affected environment. After analyzing the potential for significant impacts to federally listed species, the Water Authority and USFWS jointly determined that the following issues could be significantly affected by the proposed action:

- Biological resources;
- Water resources and water quality;
- Land use;
- Public services and utilities (water distribution);
- Socioeconomics; and
- Environmental justice.

All of these issues are analyzed in this draft EIR/EIS. For potential significant environmental impacts that could result from the project or any of the alternatives, this EIR/EIS identifies mitigation measures available to reduce impacts to a level less than significant. A Mitigation Monitoring and Reporting Program (MMRP) will be prepared with the Final EIR/EIS.

1.7 Relevant Statutes, Regulations, and Guidelines

This joint EIR/EIS has been prepared in compliance with the following statues and guidelines:

- NEPA of 1969, as amended (42 U.S.C. 4321 *et. seq*.);
- Council on Environmental Quality (CEQ) NEPA regulations (Title 40 CFR Parts 1500–1508);
- CEQA of 1970, as amended (California Public Resources Code Section 21000 *et. seq*.);
- State of California CEQA Guidelines, as amended (California Code of Regulations, Section 15000 *et. seq*.);
- NCCPA of 1991, as amended (California Fish and Game Code, Section 2800 *et. seq*.);
- HCP guidelines pursuant to Section 10(a)(1)(B) of the ESA, as amended in 1982; and
- Fish and Wildlife Act of 1956 (16 U.S.C. Section 742(a)-754).

This page intentionally left blank.

10.0 Consultation and Coordination

The Water Authority consulted with federal, state, and local agencies in the preparation of this joint EIS/EIR to satisfy both NEPA and CEQA requirements. Entities consulted during the development of the NCCP/HCP and EIS/EIR included the following responsible and trustee agencies:

Federal Agencies

- National Park Service
- National Resource Conservation Service
- National Wildlife Refuges (USFWS)
- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service

State Agencies

- California Department of Fish and Game
- California Department of Water Resources

Local Agencies

- Metropolitan Water District of Southern California
- San Diego Air Pollution Control District
- San Diego Association of Governments
- San Diego Regional Water Quality Control Board

This page intentionally left blank.

11.0 List of Preparers

The following professional staff contributed to the preparation of this EIR/EIS:

San Diego County Water Authority

4677 Overland Drive, San Diego, CA 92103

Laurence Purcell, Project Director; Contributing Author; Document Review
Don Chadwick, Project Manager; Contributing Author; Document Review
Bill Tippets, Project Manager; Contributing Author; Document Review
David Shaari, GIS Mapping
Gina Molise; Reader's Guide
Additional Water Authority reviewers from various departments

RECON Environmental, Inc.

1927 Fifth Avenue, San Diego, CA 92101-2358

Paul Fromer, Principal, Document Review
Randy Hankamer, Senior Environmental Analyst, Document Review
Karen Bowling, Senior Environmental Analyst, Contributing Author
Lisa Lind, Environmental Analyst, Contributing Author
Jesse Fleming, Acoustical Analyst
Frank McDermott, GIS Mapping
Steven Gaughran, Production Specialist

Wildlife Agencies Review

Jenness McBride, HCP Coordinator, Pacific Southwest Region, Fish and Wildlife Office
Karen A. Goebel, Assistant Field Supervisor, Carlsbad Fish and Wildlife Office
Kathleen Brubaker, Division Chief, Carlsbad Fish and Wildlife Office
Doreen Stadtlander, Division Chief, Carlsbad Fish and Wildlife Office
Heidi Crowell, Fish and Wildlife Biologist, Carlsbad Fish and Wildlife Office
Amber Himes, Fish and Wildlife Biologist, Carlsbad Fish and Wildlife Office
Eric Porter, Fish and Wildlife Biologist, Carlsbad Fish and Wildlife Office
John P. Robles, Fish and Wildlife Biologist, U.S. Fish and Wildlife Service
Brenda Johnson, Program Manager, Conservation Planning, CDFG
David Mayer, Senior Environmental Scientist, San Diego CDFG Office
Katie Perry, Staff Environmental Scientist, Sacramento CDFG Headquarters
Heather Schmalbach, Environmental Scientist, San Diego CDFG Office

This page intentionally left blank.

12.0 Acronyms

AAQS	Ambient Air Quality Standards
APP	Aqueduct Protection Program
Basin Plan	San Diego Basin Water Quality Control Plan of 1994
BEPA	Bald and Golden Eagle Protection Act of 1940
BLM	Bureau of Land Management
BMP	Best Management Practice
BO	Biological Opinion
Board	San Diego County Water Authority Board of Directors
BSRA	Biologically Significant Resource Area
Camp Pendleton	Marine Corps Base Camp Pendleton
CDFG	California Department of Fish and Game
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CIP	Capital Improvement Program
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CSP	Carryover Storage Project
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ESA	Endangered Species Act (Federal)
ESP	Emergency Storage Project
FPA	Focused Planning Area
FRS	Flow Regulatory Structure
HCP	Habitat Conservation Plan
HMA	Habitat Management Area
HMP	Habitat Management Plan
HU	Hydrologic Unit
I-8	Interstate 8
IA	Implementing Agreement
LSAA	CDFG Notification of Lake or Streambed Alteration
LUP	Linear Underground/Overhead Projects
Master Plan	Regional Water Facilities Master Plan
MBTA	Migratory Bird Treaty Act
MCAS	Marine Corps Air Station
MGD	Million gallons per day
MHCP	Multiple Habitat Conservation Program
MMA	Managed Mitigation Area
MMRP	Mitigation Monitoring and Reporting Program
MSCP	Multiple Species Conservation Program

MSHCP	Multiple Species Habitat Conservation Program
MWD	The Metropolitan Water District of Southern California
NCCP	Natural Community Conservation Plan
NCCPA	Natural Community Conservation Planning Act
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
NOI	Notice of Intent
NOP	Notice of Preparation
O&M	Operation and Maintenance
PAMP	Preserve Area Management Plan
PCCP	Pre-stressed Concrete Cylinder Pipe
PIZ	Probable Impact Zone
Plan	NCCP/HCP
Plan Area	Lands covered by NCCP/HCP Permits
PSF	Pre-activity Survey Form
RCIP	Riverside County Integrated Project
RCP	Regional Comprehensive Plan
Refuge	San Diego National Wildlife Refuge Complex
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SanGIS	San Diego Geographic Information Source
SB	Senate Bill
SDAB	San Diego Air Basin
SDG&E	San Diego Gas & Electric
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TNC	The Nature Conservancy
U.S.	United States of America
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
Water Authority	San Diego County Water Authority
Wildlife Agencies	USFWS and CDFG
WTP	Water Treatment Plant

2.0 Description of Proposed Action (Project) and Alternatives

This section describes the proposed Plan and alternatives that would allow the Water Authority to meet its mission and comply with endangered species regulations. Because the proposed action is issuance of permits for incidental take, the reasonable range of alternatives considered is limited to permitting options for the Water Authority and Wildlife Agencies. After the description of alternatives considered but eliminated is a discussion of Alternative 1: the No Action/No Permit Alternative; Alternative 2: Proposed Plan, and Alternative 3: Full Species List Alternative; and Alternative 4: Reduced Plan Area Alternative. The discussion of alternatives is followed by a comparison of alternatives and identification of the Water Authority's and USFWS's preferred alternative.

Alternative 1: No Action/No Permit 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. USFWS would be responsible for reviewing the incidental take permit applications for each individual project. Alternative 2: Proposed Plan provides an overview of the proposed 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. Upon approval of the proposed Plan, USFWS would issue an incidental take permit for 63 Covered Species and rely on annual monitoring and reporting to verify Plan implementation and status of impacts. Alternative 3: Full Species List is similar to Alternative 2 in that the Water Authority would implement the proposed NCCP/HCP prepared for the Plan Area; however, Alternative 3 would make it possible for the Water Authority to receive coverage under the Plan for the full list of 89 species analyzed (see Appendix B of the Plan). Finally, Alternative 4: Reduced Plan would call for a reduced Plan Area that only encompasses the PIZ and a reduced species list that covers only those 39 species that are known to occur in the PIZ.

2.1 Existing Environmental Programs and Commitments

The Water Authority's actions are governed by a number of existing environmental programs (e.g., Quagga and Zebra Mussel Response and Control Plan), state and

federal regulations, and legislative mandates designed to ensure protection of environmental quality while allowing the Water Authority to meet its obligations to provide a safe and reliable water supply. As background for discussion of alternatives, information is provided on existing environmental programs and permits. Since the Water Authority is not a general land use agency and does not have broad land use authority, the primary way that the Water Authority can participate in regional efforts is through the acquisition and preservation of land (i.e., Preserve Area). The Water Authority Water Resources Department is responsible for ensuring that Water Authority activities conform to environmental policies and regulations described below.

2.1.1 Existing Biological Opinions

BOs are documents that describe the results of USFWS section 7 consultations pursuant to the ESA. Environmental review and ESA compliance for Water Authority projects have resulted in the issuance of five BOs from USFWS and the establishment and/or acquisition of mitigation properties (also called the Preserve Area). The existing Water Authority BOs discussed in Section 1.1.4 of the Plan include:

- BO (1-6-93-F-28), issued in 1993, addressed impacts to the coastal California gnatcatcher (*Polioptila californica;* gnatcatcher) from 12 CIP projects, one of which is within the Water Authority right-of-way on Marine Corps Air Station (MCAS) Miramar. The BO was issued as part of a section 7 consultation between the Navy and USFWS. The projects include: Ramona Pipeline; Sweetwater Bypass and Flow/Pressure Control Facility; San Marcos Pipeline; La Mesa/Lemon Grove Pipeline; Scripps Ranch Pipeline; Lower Otay Pipeline; Mission Trails Pipeline and Flow Regulatory Structure; Pipeline 2A and Pump Station; San Diego Pipeline No. 6; Rancho Peñasquitos Pipeline and Diversion Structure; Helix Treatment Plant Expansion; and the North County Distribution Pipeline. Two of these projects (Sweetwater Bypass and Ramona Pipeline) had already been completed at the time of BO issuance, yet were mitigated as though they had not been constructed. This BO outlined measures to avoid and minimize construction and operation impacts to the gnatcatcher and the coastal sage scrub vegetation community. In addition, the BO included a habitat-based compensation program for impacts to Diegan coastal sage scrub. The BO concluded that the listed CIP projects would not likely jeopardize the continued existence of the gnatcatcher. Measures were identified to avoid and minimize adverse effects resulting from project construction and operation. A total of 195.8 credits (acres) was deducted from the Crestridge HMA to satisfy the requirements of this BO.

- BO (1-6-97-F-13), issued in 1997, addressed impacts to 14 species resulting from the Water Authority's Emergency Water Storage Project (ESP) for issuance of a section 404 permit from USACE. Of the 14 species addressed, the BO

concluded that the ESP project is not likely to jeopardize the continued existence of the 13 evaluated species; one species was determined not to be within the project's boundaries. Measures were identified to avoid and minimize adverse effects resulting from project construction and operation. This BO included an extensive habitat-based compensation program for impacts to species and habitats. A total of 200 credits (acres) was deducted from the San Miguel HMA to satisfy the requirements of this BO.

- BO (FWS-SD 1373.2), issued in 2001, related to the Moreno-Lakeside Pipeline project and addressed impacts to the gnatcatcher and arroyo toad (*Bufo californicus)* resulting from the Water Authority's Moreno-Lakeside Pipeline Project for issuance of a section 404 permit from USACE. The BO concluded that the project was not likely to jeopardize the continued existence of the gnatcatcher or arroyo toad. Measures were identified to avoid and minimize adverse effects resulting from project construction. A total of 3.23 credits (acres) were deducted from the Crestridge HMA to partially satisfy the requirements of this BO.

- BO (2007-B-14/2007-F-22), issued in 2007, addressed impacts to the least Bell's vireo (*Vireo bellii pusillus*; vireo), San Diego fairy shrimp (*Branchinecta sandiegonensis*), and Quino checkerspot butterfly (*Euphydryas editha quino*; Quino) from related CIP projects at Mission Trails Regional Park. The projects included the Water Authority's Flow Regulatory Structure, Pipeline Tunnel, and Stabilized Crossing Project for issuance of a section 404 permit from USACE. The BO concluded that the project is not likely to adversely affect the gnatcatcher or Quino; is not likely to jeopardize the continued existence of the vireo or San Diego fairy shrimp; is not likely to result in adverse modification of vireo critical habitat; and does not affect designated or proposed critical habitat for the San Diego fairy shrimp. Measures were identified to avoid and minimize adverse effects resulting from project construction and operation. Mitigation credit (equaling 0.73 acre) at the Crestridge HMA has been reserved for the project to satisfy the requirements of this BO. Mitigation credit will be deducted at the time the Water Authority issues a Notice to Proceed with project construction.

- BO (2008B0061-2008F0732), issued in 2008, addressed impacts to the gnatcatcher, vireo, and arroyo toad related to the Carryover Storage and San Vicente Dam Raise Project (CSP) for issuance of a section 404 permit from USACE. The BO concluded that the project as designed may affect, but is not likely to adversely affect, San Diego thornmint (*Acanthomintha ilicifolia*); and is not likely to jeopardize the continued existence of the Quino, gnatcatcher, vireo, or arroyo toad. In 2009, Quino was recorded during a pre-construction survey; therefore, USFWS amended the BO to cover this species. Measures were identified to avoid and minimize adverse effects resulting from project construction and operation. A total of 220.72 credits (acres) was deducted from

the San Miguel HMA, and an additional 18.96 credits are specifically held in reserve at the HMA to satisfy the requirements of this BO.

2.1.2 Preserve Area and MMAs

As discussed in Section 1.3.4 (Planning Areas) of this draft EIR/EIS, the Preserve Area consists of the combined area of the HMAs, while the MMAs are properties acquired by the Water Authority as biological resource mitigation for previously authorized projects and cannot be used to mitigate Covered Activities. The Water Authority has established Preserve Area and MMAs as conserved habitat lands for permanent habitat/species conservation and management. Although purchased by the Water Authority, the perpetual management of the Preserve Area and MMAs has been transferred to the Wildlife Agencies or local land use agencies. The Preserve Area contains lands (acres) which are available or will be created to be used as mitigation credits (e.g., suitable and/or occupied habitat) to compensate for project impacts associated with the proposed NCCP/HCP. MMAs are permanently conserved lands which were acquired to mitigate previous projects. As such, they contribute to the existing regional habitat conservation and are evaluated in the context of the proposed Plan. The MMAs do not have acres or credits available for future mitigation under the Plan.

2.1.2.1 Habitat Management Areas (HMA)

The Preserve Area has suitable and/or Covered Species-occupied habitat to provide mitigation credits for Covered Activities defined in the proposed Plan. The Water Authority has acquired mitigation credits or mitigation rights in three existing upland properties and one wetland property, and has two more wetland creation projects in process. Lands within the Preserve Area were acquired by the Water Authority as mitigation for previously approved projects while others were strategic acquisitions as part of the Water Authority's commitment to regional conservation efforts. Therefore, the amount (number of acres) of mitigation credits at each of the HMAs available to offset Plan impacts may be less than the total area indicated below, because portions of these properties have already been designated to mitigate specific approved projects. Refer to Figure 1-2 for the location of the Preserve Area and Section 6.8 of the Plan for a full account of the type of available mitigation credits at each HMA. Finally, some HMAs are in the process of being constructed and will provide wetland mitigation credits depending on the success and size of the restoration areas.

- Crestridge HMA is a 261.05-acre area which provides as-needed pre-approved mitigation for CIP project impacts. The multiple-parcel site is located south of Interstate 8 (I-8) at the eastern edge of the city of El Cajon in San Diego County. Crestridge HMA is owned and managed by CDFG. Approximately 215 credits have been used and the remaining 33.14 credits are available for mitigating Covered Activities as described by the proposed Plan.

- San Miguel HMA is a 1,186-acre area which is part of the larger 1,852-acre San Miguel Ranch conserved land, located north of the city of Chula Vista near Mother Miguel and San Miguel Mountains. The HMA is part of the San Diego National Wildlife Refuge Complex (Refuge) and is managed in accordance with the management plan prepared for the property by the USFWS. The Water Authority acquired 820.85 credits of the San Miguel HMA in 2003 in anticipation of mitigation requirements under the proposed Plan. Approximately 581 credits remain, and these are available for mitigating Covered Activities as described by the proposed Plan.

- Rancho Cañada HMA is a 390-acre site 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 San Diego MSCP. Rancho Cañada HMA, in conjunction with adjacent lands owned by CDFG, San Diego County Parks and Recreation, and Bureau of Land Management (BLM), is an important core habitat conservation area. The property is also part of an identified wildlife corridor between larger non-contiguous areas of open space to the southwest that are managed by MCAS Miramar, CDFG, the city of San Diego, and the county of San Diego, and lands to the northeast that are managed by the county of San Diego, BLM, and Cleveland National Forest (The Nature Conservancy [TNC] 2006). Although classified as an HMA, Rancho Cañada HMA will not provide debitable mitigation credits for Plan impacts because it is intended specifically to meet the requirements of the NCCPA for an additional conservation contribution beyond mitigation required for impacts to Covered Species.

- Manchester HMA, completed in 2005, created approximately 7.83 acres of wetland habitats. The Manchester HMA is on Lux Canyon Creek in the city of Encinitas. Monitoring conducted in April 2008 showed that performance of the site exceeded all of the year-three success standards. The county of San Diego, per a cooperative agreement with the Water Authority, will manage the Manchester HMA developed by the Water Authority on county of San Diego property. Approximately 1.73 credits remain, and these are available for mitigating Covered Activities as described by the proposed Plan.

- Tijuana River Valley HMA is a wetland creation project currently in the design phase. The site is currently a relatively flat area of agricultural fields and does not support native habitat. Tijuana River Valley HMA is expected to be completed in 2010. Once constructed, the wetland area is anticipated to provide approximately 40 acres of wetlands and riparian habitats. Approximately 19 acres of created habitat would be allocated to mitigate impacts for CSP and ESP. Similar to the arrangement with the Manchester HMA, the county of San Diego would manage the Tijuana River Valley HMA developed by the Water Authority. Approximately

21 credits would be available for mitigating Covered Activities as described by the proposed Plan.

- San Luis Rey River HMA is a planned wetland creation project anticipated to be under construction in 2012. The San Luis Rey River HMA project is anticipated to create approximately 33 acres of wetlands and riparian habitats along the San Luis Rey River. The Water Authority would either manage the San Luis Rey River HMA or enter into a management and funding agreement with a natural lands manager entity approved by the Wildlife Agencies. All created credits would be available to address mitigation required for Covered Activities as described by the proposed Plan.

2.1.2.2 Managed Mitigation Areas (MMA)

MMAs are conserved habitat lands acquired to satisfy the mitigation requirements of previously permitted or authorized projects; MMAs do not provide mitigation credits for impacts associated with Covered Activities that are implemented pursuant to the proposed Plan. Although the Water Authority cannot use these lands as mitigation for Covered Activities, the lands contribute to the baseline of regional habitat conservation and conservation of Covered Species by protecting contiguous blocks of suitable habitat.

- The Myers property is a 35-acre site located in the south-central portion of the city of Oceanside. It is owned and managed by the city of Oceanside and serves as part of the last remaining western/coastal wildlife corridor link between northern Carlsbad and Marine Corps Air Station (MCAS) Camp Pendleton.

- The Montaña Mirador property is located on a 538-acre site within the southern portion of the 1,314-acre Black Mountain Open Space Park in the community of Rancho Los Peñasquitos in the city of San Diego. A 325-acre portion of the Montaña Mirador parcel was purchased by the Water Authority for the city of San Diego and dedicated as open space, and the remaining 213 acres were purchased through a Wildlife Conservation Board grant for inclusion in the Black Mountain Open Space Park. The Black Mountain Open Space Park is owned and managed by the city of San Diego.

- The Escondido Creek Uplands located in the vicinity of Escondido Creek in the northern part of San Diego County are made up of two properties: the 24-acre Meyerhoff property and 13-acre Rohan property. They are owned and managed by the county of San Diego.

- The Water Authority owns the 750-acre Elfin Forest Recreational Reserve (Elfin Forest Reserve) located in the city of San Marcos. Olivenhain Municipal Water District, with funding provided by the Water Authority, operates and manages the

property. Portions of the Elfin Forest Reserve encompass the area immediately surrounding the Olivenhain Reservoir.

2.2 Alternatives Considered but Eliminated

2.2.1 No Take

A “No Take” Alternative was considered as part of the planning process. This alternative was eliminated from further review because it is considered to be infeasible. The Water Authority is responsible for providing a safe, reliable water supply. In doing so, the Water Authority must conduct activities which have the potential for significant environmental impacts, including impacts to listed species. The No Take Alternative would preclude the Water Authority from effectively implementing its CIP and O&M Activities to provide a safe, reliable water supply because of the unpredictable nature of future listings and potential lengthy processing of individual project take permits. The No Take Alternative would not meet the needs of USFWS since it would result in a fragmented and unmanaged landscape. In these fragmented landscapes, habitat would eventually degrade due to benign neglect, or become highly modified through succession of non-native plant communities to the point where habitat would not support listed species and may well lead to the decline of many species not currently listed. Therefore, the No Take Alternative is not a reasonable or feasible alternative and does not warrant detailed analysis as part of this draft EIR/EIS.

2.2.2 Participation in Existing Conservation Plans Alternative

Under the Participation in Existing Conservation Plans Alternative, the Water Authority would voluntarily participate in one or more of the existing conservation plans in the region in order to resolve ESA and CESA sensitive species and habitat issues resulting from Water Authority actions. A federal section 10(a)(1)(B) permit and state Section 2835 take authorization would not be issued for the proposed Water Authority Plan, but ESA/CESA compliance and associated take authorization would be obtained instead by participating in an already existing conservation plan or plans.

The Water Authority would continue to balance its mission of providing safe and reliable water to the region, with regional sensitive species and habitat conservation goals. Because of the linear and wide-ranging scale of the proposed Covered Activities and the diverse list of plant and wildlife species needing coverage, the Water Authority would likely be required to participate in multiple plans, including the San Diego MSCP, San Diego MHCP, the draft North County MSCP, and the Western Riverside County Multiple Species Habitat Conservation Program (MSHCP). In order to participate in existing subregional plans, the Water Authority would be required to request amendments to

permitted subregional and subarea plans to include its Covered Activities. The Water Authority would prepare subarea plans that would be consistent with these subregional plans. This would require cooperation by those plans' permitees. However, participation in these plans would require the Water Authority to implement multiple permits that could create timing and consistency problems. In some cases, where the alignment of a linear project (e.g., pipeline) crosses multiple jurisdictions, coordination and compliance during planning and implementation phases could require the Water Authority to conform to different measures and permit conditions for different segments of the project. USFWS would also be required to administer multiple permits and IAs associated with the Water Authority's activities throughout the Plan Area.

Despite participation in multiple plans, the Water Authority might not be able to obtain the same coverage for species as requested in this proposed Plan. If the Covered Species are not currently covered under existing plans, the Water Authority would need to request amendment to each existing subregional or subarea plan to include incidental take of proposed Covered Species that could result from Water Authority activities, or apply for separate take authorizations from the Wildlife Agencies. These plans may not allow or support use of the Water Authority's existing mitigation credits, thus requiring the Water Authority to purchase new preserve areas or mitigation credits. Similar to the other alternatives considered and analyzed, the Water Authority would comply with its existing BOs, planning documents, and established environmental programs.

Participation in existing plans could require a separate permit and IA for each subarea plan the Water Authority develops. Under this alternative, the Water Authority would relinquish its independence from the land-use based agencies. Implementation of multiple subarea plans throughout its Service Area could also result in cumbersome and inconsistent approaches to biological mitigation and conservation. Although the Water Authority is not the only water agency to undertake the planning process for an NCCP/HCP, the Water Authority is unique in that it is a regional entity with many Member Water Agencies and a complex system for water supply and distribution that stretches across multiple jurisdictions. For these reasons, the Participation in Existing Conservation Plans Alternative does not meet the purpose and needs of the Water Authority or USFWS, and is not a reasonable or feasible alternative and does not warrant detailed analysis as part of this draft EIR/EIS.

2.3 Alternatives to be Evaluated in the Draft EIR/EIS

Initial development of the alternatives focused on meeting established objectives for Water Authority lands, blending elements of Water Authority activities and Plan measures for species and their habitats in a way that would be mutually beneficial and maximize positive effects of the Plan at a regional level. Six alternatives were initially

developed, but the No Take and Participation in Existing Conservation Plan Alternatives were eliminated as infeasible and not meeting the purpose and need of the Water Authority or the Wildlife Agencies, as described above. The result is the four alternatives evaluated in this document: Alternative 1: No Action/No Permit Alternative; Alternative 2: Proposed Plan; Alternative 3: Full Species List; and Alternative 4: Reduced Plan Area Alternative.

2.3.1 Alternative 1: No Action/No Permit

Under the No Action/No Permit Alternative, the Water Authority would continue to comply with applicable environmental programs and prior agreements to address impacts to biological species and habitats that might result from Water Authority activities. The Water Authority would remain subject to take prohibitions of the ESA and CESA, and would continue to obtain individual permits and management authorizations for listed species on a project-by-project basis. The Water Authority would continue to comply with existing and future BOs.

The No Action/No Permit Alternative would continue the current project-by-project, species-by-species approach used by the Water Authority to obtain federal and state incidental take permits and authorizations. There are several ways in which the Water Authority would seek compliance with the federal ESA and state CESA. Where feasible, the Water Authority would attempt to redesign or modify its actions to avoid impacts to either state- or federally listed species. Where impacts from proposed activities are unavoidable, the Water Authority may obtain coverage for impacts to federally listed species through a section 7 consultation for projects that also are federal actions. If the Water Authority proposes activities which could result in the incidental take of a federally listed specie(s), but where there is no federal action associated with the project, the Water Authority may be required to prepare a project-specific HCP that addresses take of federally listed species under section 10(a)(1)(B) of the ESA (e.g., “Low-Effect” HCP). Similarly, unavoidable impacts to state-listed species would require the Water Authority to obtain a permit under Section 2081 of CESA.

The No Action/No Permit Alternative would not implement comprehensive measures to address endangered and threatened species issues arising as a result of Water Authority activities. It would not be required to apply the same levels of mitigation and conservation to unlisted species (or possibly not have to explicitly mitigate for impacts to certain unlisted species), would not necessarily mitigate for impacts to certain vegetation communities (certain chaparral and non-native grassland communities), and potentially could elect to mitigate in areas that are not specifically part of the regional conservation effort.

Under this alternative, the Water Authority would meet the demands of regional water supply by continuing to construct, expand, operate, and maintain facilities and rights-of-

way while obtaining individual take permits for each activity. Current and future activities of the Water Authority under the No Action/No Permit Alternative would be the same as those described under the Proposed NCCP/HCP Alternative. Individual project construction and expansion would be implemented through the Water Authority's CIP as guided by the Master Plan. Construction and expansion of CIP Projects and O&M Activities would be conducted in accordance with the Water Authority's existing protocols for industry-accepted planning, engineering, construction, and environmental impact minimization practices.

The Water Authority has already acquired mitigation/conservation properties (i.e., the Preserve Area). These properties were strategic purchases that provide mitigation for previously approved projects and support regional conservation efforts. Under Alternative 1, management of the Preserve Area would be conducted in accordance with the requirements of existing BOs. Because the Water Authority has already secured the Preserve Area, those HMAs which have available mitigation credits could be used to offset impacts from Planned and Future Projects. The Water Authority could also pursue the sale of available mitigation credits from San Miguel HMA to other public or private entities.

2.3.2 Alternative 2: Proposed Plan

The proposed action is issuance of a section 10(a)(1)(B) permit by USFWS and Section 2835 take authorization by CDFG for incidental take of Covered Species in the Plan Area, after USFWS and CDFG approval of the proposed NCCP/HCP and adoption of the IA by the Water Authority and the Wildlife Agencies. Under this alternative, the Water Authority would also continue to comply with its existing BOs, planning documents, and environmental programs as discussed in Section 2.1 of this draft EIR/EIS. The terms and conditions of existing BOs are not altered by the terms and conditions of the proposed Plan. The Water Authority is not a general land use agency, but a special purpose governmental agency that has a general set of project and activity types that traverse many other agencies' conservation plan reserves, and it assembled its conservation plan primarily by providing additional habitat lands to complement those reserves rather than creating a stand-alone preserve system. The following provides an overview of the proposed Plan's conservation strategy, Covered Activities, and conservation plan as presented in greater detail within Sections 5.0 and 6.0 of the Plan (see Appendix B).

2.3.2.1 Plan Overview

The proposed Plan Area covers 992,000 acres where Water Authority Covered Activities would take place (see Figure 1-3). Covered Activities are defined in Section 5.0 of the Plan and include those Water Authority activities and projects that would receive take authorization for Covered Species impacts under the Plan. The majority of the activities covered under the proposed Plan would occur in the PIZ which covers the 64,600-acre

area around existing Water Authority infrastructure and within associated rights-of-way (see Section 1.3.4 and Figure 1-3 in this EIR/EIS).

To address potential impacts to sensitive species and habitat associated with existing and future installation, use, maintenance, expansion, and repair water storage, treatment, and delivery systems, the Water Authority proposes a Plan to cover 63 species (26 plant species and 37 wildlife species), 19 of which are narrow endemic. Three additional species are known to primarily occur in the Plan's Major Amendment Area in Riverside County and would not be included in the proposed incidental take permits, but are considered Major Amendment Species.

In addition to identifying the types of Water Authority activities covered under the proposed Plan and Permits, the Plan requires that Covered Activities demonstrate compliance with the implementation commitments, in particular measures to avoid, minimize, and mitigate impacts. All permanent impacts will be mitigated by deducting appropriate upland and wetland habitat acres (credits) from the Preserve Area or by obtaining credits from other banks within the Plan Area, or by acquiring and protecting additional qualifying habitat within the Plan Area that contributes to the Preserve Area or other regional preserve lands.

Within the 992,000-acre Plan Area, Covered Activities are estimated to impact up to 373 acres of habitat that will require mitigation (Table 2-1). Additional impacts will occur to disturbed habitats, agricultural lands, or non-native vegetation communities (e.g., Eucalyptus woodlands) that do not require habitat-specific mitigation pursuant to the Plan. The Plan provides a habitat-based impact summary for Planned and Future Projects and O&M Activities of the anticipated permanent impacts from Covered Activities. Take of the Covered Species, typically quantified in terms of acres of actual or potential habitat impacted by Covered Activities, is summarized in Table 2-1 and described in greater detail within Section 5.5 of the Plan. Impacts to Covered Species associated with Preserve Area management are presumed to be minimal and temporary, and overall will provide a net benefit to Covered Species.

Of the 373 acres of impacts that will require mitigation, impacts from Future CIP Projects are estimated to be 149.8 acres. Although the impacts from Future Projects cannot be measured exactly at this time, the estimated impacts given in Table 2-1 are based on the assumption that impacts from Future Projects would be similar in scope/extent on a per-year basis to the Planned Projects. The estimate of impacts from O&M Activities (totaling approximately 33 acres) accounts for uncertainties regarding those impacts throughout the Permit term.

TABLE 2-1
ALTERNATIVES 2, 3, AND 4: IMPACT SUMMARIES FOR COVERED ACTIVITIES (acres)
(EXCLUDING EXISTING PROJECTS)

Vegetation Community/Land Cover Type and Subcommunities	Estimated Impacts from Pipeline 6 Alternative Alignment[1]	Estimated Impacts from Planned CIP Projects[2]	Estimated Impacts from Future CIP[1] Projects[3]	Estimated Impacts from O&M[4]	Total Impacts Requiring Mitigation
Upland Habitats					
Agricultural	**185.0**	**139.8**	**293.5**	--	**--**
General Agriculture/Extensive Agriculture (Row Crops, Pastures)/Intensive Agriculture (Dairies, Nurseries, Chicken Ranches)	23.6	99.6	209.1	--	--
Orchards and Vineyards	161.4	40.2	84.4	--	--
Chaparral, Coastal	**30.1**	**16.3**	**34.3**	**7.6**	**88.3**
Chamise Chaparral (Granitic Chamise Chaparral)	0.0	0.1	0.1	--	--
Chaparral	0.0	0.0	0.0	--	--
Ceanothus Crassifolius Chaparral	0.0	0.0	0.0	--	--
Interior Live Oak Chaparral	0.0	0.0	0.0	--	--
Northern Mixed Chaparral	0.0	0.0	0.0	--	--
Northern Mixed Chaparral (Granitic)	0.0	0.0	0.0	--	--
Northern Mixed Chaparral (Mafic)	0.0	0.0	0.0	--	--
Scrub Oak Chaparral	0.0	0.0	0.0	--	--
Southern Maritime Chaparral	0.0	0.0	0.0	--	--
Southern Mixed Chaparral	30.1	16.2	34.2	--	--
Southern Mixed Chaparral (Granitic)	0.0	0.0	0.0	--	--
Southern Mixed Chaparral (Mafic)	0.0	0.0	0.0	--	--
Chaparral, Montane/Trans-montane	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Montane Chaparral	0.0	0.0	0.0	--	--
Redshank Chaparral	0.0	0.0	0.0	--	--
Coastal	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Open Beach	0.0	0.0	0.0	--	--
Southern Foredunes	0.0	0.0	0.0	--	--
Coniferous Forest	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Big Cone Spruce-Canyon Oak Forest	0.0	0.0	0.0	--	--
Mixed Coniferous Forest	0.0	0.0	0.0	--	--
Southern Interior Cypress Forest, Tecate Cypress Forest	0.0	0.0	0.0	--	--
Torrey Pine Forest	0.0	0.0	0.0	--	--
Disturbed/Developed	**103.2**	**71.8**	**150.8**	**--**	**--**
Bare Ground	0.0	0.0	0.0	--	--
Disturbed	0.0	10.1	21.3	--	--
Urban/Developed Land	103.2	61.7	129.5	--	--
Exotic Landscapes	**0.0**	**0.7**	**1.4**	**--**	**--**
Eucalyptus/Non-native vegetation	0.0	0.7	1.4	--	--
Ornamental	0.0	0.0	0.0	--	--
Grasslands	**28.3**	**7.9**	**16.5**	**3.6**	**56.3**
Native Grassland (Valley Needle Grassland, Valley, and Foothill Grassland)	0.0	0.0	0.0	--	--
Non-Native Grassland (Grassland)	28.3	7.9	16.5	--	--
Oak Woodland and Forest	**11.5**	**3.9**	**8.2**	**1.7**	**25.3**
Black Oak Forest	0.0	0.0	0.0	--	--
Black Oak Woodland	0.0	0.0	0.0	--	--
Coast Live Oak Forest (Dense Coast Live Oak Woodland)	0.0	0.0	0.0	--	--
Coast Live Oak Woodland (Open Coast Live Oak Woodland)	11.5	3.9	8.2	--	--

TABLE 2-1
ALTERNATIVES 2, 3, AND 4: IMPACT SUMMARIES FOR COVERED ACTIVITIES (acres)
(EXCLUDING EXISTING PROJECTS)
(continued)

Vegetation Community/Land Cover Type and Subcommunities	Estimated Impacts from Pipeline 6 Alternative Alignment[1]	Estimated Impacts from Planned CIP Projects[2]	Estimated Impacts from Future CIP[1] Projects[3]	Estimated Impacts from O&M[4]	Total Impacts Requiring Mitigation
Engelmann Oak Forest (Dense Engelmann Oak Woodland)	0.0	0.0	0.0	--	--
Engelmann Oak Woodland (Open Engelmann Oak Woodland)	0.0	0.0	0.0	--	--
Mixed Oak Woodland (Oak Woodland)	0.0	0.0	0.0	--	--
Sage-Scrub, Coastal	**42.2**	**30.4**	**63.8**	**14.1**	**150.5**
Alluvial Fan Scrub	0.0	0.0	0.0	--	--
Cactus Scrub	0.0	0.0	0.0	--	--
Coastal Sage-Chaparral Scrub	0.0	8.6	18.1	--	--
Coastal Sage Scrub (Diegan)	42.2	21.8	45.7	--	--
Coastal Sage Scrub (Inland)	0.0	0.0	0.0	--	--
Flat-topped Buckwheat Scrub	0.0	0.0	0.0	--	--
Maritime Succulent Scrub	0.0	0.0	0.0	--	--
Riversidean Alluvial Fan Scrub	0.0	0.0	0.0	--	--
Riversidean Sage Scrub	0.0	0.0	0.0	--	--
Southern Coastal Bluff Scrub	0.0	0.0	0.0	--	--
Sage-Scrub, Montane/Trans-montane	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Big Sagebrush Scrub (Great Valley)	0.0	0.0	0.0	--	--
Wetland Habitats					
Aquatic, Freshwater	**0.0**	**0.5**	**1.0**	**0.0**	**1.5**
Non-vegetated Floodplain, Channel, Lakeshore Fringe	0.0	0.0	0.0	--	--
Open Freshwater (Freshwater, Open Water, Water)	0.0	0.5	1.0	--	--
Aquatic, Marine	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Open Saltwater (Brackish Water, Deep Bay, Estuarine, Intertidal, Shallow Bay, Subtidal)	0.0	0.0	0.0	--	--
Saltpan/Mudflats	0.0	0.0	0.0	--	--
Riparian	**6.80**	**11.9**	**25.0**	**6.0**	**49.7**
Arrowweed Scrub	0.0	0.0	0.0	--	--
Mule Fat Scrub	1.84	0.1	0.2	--	--
Southern Arroyo Willow Riparian Forest	0.0	0.0	0.0	--	--
Southern Coast Live Oak Riparian Forest	0.0	7.4	15.4	--	--
Southern Cottonwood-Willow Riparian Forest	3.61	0.0	0.0	--	--
Southern Sycamore Woodland	0.0	0.0	0.0	--	--
Southern Sycamore-Alder Riparian Woodland	0.0	1.0	2.2	--	--
Southern Willow Scrub	1.35	3.4	7.2	--	--
White Alder Riparian Forest	0.0	0.0	0.0	--	--
Riparian (Disturbed)	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Arundo Scrub	0.0	0.0	0.0	--	--
Tamarisk Scrub	0.0	0.0	0.0	--	--
Wetland	**0.0**	**0.5**	**1.0**	**0.0**	**1.5**
Alkali Wetlands (Alkali Seep, Alkali Marsh, Cismontane Alkali Marsh)	0.0	0.0	0.0	--	--
Freshwater Meadow or Seep	0.0	0.0	0.0	--	--
Freshwater Marsh (Coastal and Valley Freshwater Marsh, Emergent Wetland)	0.0	0.5	1.0	--	--
Montane Meadow	0.0	0.0	0.0	--	--
Southern Coastal Salt Marsh	0.0	0.0	0.0	--	--
Wetland (Disturbed)	0.0	0.0	0.0	--	--
Alkali Vernal Pools	0.0	0.0	0.0	--	--

TABLE 2-1
ALTERNATIVES 2, 3, AND 4: IMPACT SUMMARIES FOR COVERED ACTIVITIES (acres)
(EXCLUDING EXISTING PROJECTS)
(continued)

Vegetation Community/Land Cover Type and Subcommunities	Estimated Impacts from Pipeline 6 Alternative Alignment[1]	Estimated Impacts from Planned CIP Projects[2]	Estimated Impacts from Future CIP[1] Projects[3]	Estimated Impacts from O&M[4]	Total Impacts Requiring Mitigation
San Diego Mesa Claypan Vernal Pools	0.0	0.0	0.0	--	--
San Diego Mesa Hardpan Vernal Pools	0.0	0.0	0.0	--	--
Vernal Lake	0.0	0.0	0.0	--	--
Subtotal -- Communities/Land Covers not subject to mitigation	**288.2**	**212.3**	**445.7**	**N/A**	**--**
Subtotal – Communities subject to mitigation	**118.9**	**71.4**	**149.8**	**33.0**	**373.1**
Total	**407.1**	**283.7**	**595.5**	**33.0**	**--**

[1] Possible Pipeline 6 alternative alignment impacts to mitigatable vegetation communities addressed by this Plan. Current Pipeline 6 alignment impacts are treated as an Existing Project, are covered under that project's individual permit, and are not addressed by this Plan.
[2] Permanent impacts to mitigatable vegetation communities from Planned Projects included in the CIP project list, as fully described in Appendix C.
[3] Permanent impacts to mitigatable vegetation communities 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 full Permit term as during the 20-year period of the CIP projects, and increased by 20 percent to account for future project planning uncertainties. Impacts were assigned to the same vegetation community types as for the Planned Projects.
[4] Permanent Impacts to mitigatable vegetation communities from O&M Activities were calculated assuming 0.5 acres/year for the full 55-year Permit term, and increased by 20 percent to account for future project uncertainties.

The proposed term of the Plan's Permits is 55 years. Throughout the term of the Permits, the Water Authority will monitor the implementation of the Plan and report to the Wildlife Agencies on an annual basis. In addition, the Preserve Area will be managed and monitored in perpetuity to demonstrate that suitable conditions are maintained on those lands to support Covered Species. Permit amendments are anticipated to be necessary to adjust to changes in geographic scope, types of projects covered, or incidental take authorization. Minor and Major Amendments are categorized and described in more detail in Section 8.0 of the Plan. As described in the Plan and Section 1.3.4 of this draft EIR/EIS, future Covered Activities in Riverside County will require a Major Amendment.

2.3.2.2 Conservation Strategy

The overall conservation strategy for Covered Species under the proposed NCCP/HCP focuses on establishing and ensuring the permanent management of a regionally significant Preserve Area that supports Covered Species and that provides conservation above the anticipated required compensation for future impacts. It also includes avoiding, minimizing, and mitigating impacts to Covered Species and sensitive habitats, full compensation for all new impacts to conserved habitats and any incidental take of covered species, potentially additional habitat land contributions, and funding to ensure monitoring and management of the Preserve Area in perpetuity.

The conservation strategy for covered plant species focuses on avoidance/minimization of impacts to major plant populations, narrow endemic species, and important locations in Water Authority rights-of-way where feasible, and mitigation within conservation areas for unavoidable impacts. Species-specific management actions will be implemented as necessary to enhance or protect habitat quality and increase population size. These may include measures such as enhancing declining populations, restoring damaged habitat, and establishing seed banks (see Appendix B of the draft NCCP/HCP).

The conservation strategy for covered wildlife species focuses on avoidance/minimization of occupied habitat within rights-of-way when feasible and mitigation for unavoidable impacts through preservation of occupied and potential habitat within the Preserve Area. Maintenance of existing rights-of-way habitat and minimization of and mitigation for impacts within rights-of-way habitat will maintain linkages between habitat blocks that consist of upland and riparian vegetation types suitable for breeding, foraging, and dispersal of covered wildlife species.

As part of its conservation strategy and commitments, the Water Authority has acquired or created approximately 3,067 acres of regionally significant habitat which support Covered Species (1,920 acres in the Preserve Area and 1,147 acres in the MMAs). A number of the HMA properties include habitat acreage credits in excess of current and already planned mitigation needs, which can be credited towards offsetting impacts

associated with the proposed Plan. The Water Authority's Plan is and will continue to stay ahead of its anticipated mitigation needs (see Section 6.5.1.1 in the Plan).

The Plan provides further assurance that during the 55-year permit term, the available upland or wetland habitat credits will be sufficient to satisfy the projected mitigation obligation requirements for the next two years, based on estimated impacts from Covered Activities for that period (see Section 6.5.1.2 in the Plan). That is, the Plan will "look ahead" and project the anticipated mitigation needs for the next two years, and ensure that sufficient credits exist in the HMAs or will acquire additional credits or additional property to add to the Preserve Area to fully satisfy the anticipated need. This will be done every two years, concurrent with the Water Authority's two-year budget cycle.

2.3.2.3 Plan Goals and Objectives

The Water Authority will protect Covered Species and their habitats by meeting the Plan goals and implementing habitat conservation measures. The following goals were developed to guide implementation of the Plan:

1. Ensure habitat and species diversity through the identification and protection of lands for the benefit of Covered Species. To accomplish this, the Water Authority will provide the Preserve Area to support Covered Species and their habitats.

2. Provide and implement conservation measures that meet the environmental needs of the Covered Species, based on the best available scientific information. To accomplish this goal, the Water Authority will document the conserved habitats and credits (acres) available for mitigation at the Preserve Area.

3. Identify and implement environmentally sensitive methods for planning, construction, and O&M Activities (Covered Activities) that minimize project impacts and ensure that activities are compatible with the habitats and species conservation and ecological functions. To accomplish this goal, the Water Authority will implement the minimization and protection measures outlined in the Plan and document that management plans developed for the Preserve Area specify procedures and practices to minimize impacts.

4. Provide and implement an adaptive management program with measurable objectives for vegetation types and Covered Species, where appropriate. To accomplish this, the Water Authority will document that each HMA within the Preserve Area has (or will have) a management plan that is adequately funded and contains an adaptive management element.

5. Provide and implement a monitoring and reporting process. To accomplish this, the Water Authority will provide an annual report which summarizes impacts and

mitigation, conservation, and management/monitoring which has occurred under the Plan and indicates the timeline or status of the annual monitoring and reporting plan for the Preserve Area.

2.3.2.4 Covered Activities

The Water Authority owns, operates, and maintains pipelines and numerous ancillary facilities along the aqueduct pipeline corridors (see Figure 1-1). Routine maintenance is required to assure a safe and reliable supply of water to its Member Water Agencies whose service areas are generally within western San Diego County. The Plan identifies certain projects and maintenance activities as Covered Activities. Covered Activities serve a public need (providing a safe and reliable water supply) and are considered compatible uses when implemented by the Water Authority in conformance with the Plan, even when required within existing preserves.

As detailed in Section 5.0 of the Plan, the activities to be covered by the Plan Area are organized into the following 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);
2. O&M for Planned and Future Projects constructed pursuant to the Plan, 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.

Covered Activities, which are summarized below and described in more detail in Section 5.0 of the Plan, are expected to result in take of Covered Species and loss of habitat. The extent of impacts to Covered Species and native habitats varies based on several factors, including the location, duration, and magnitude of the projects. The Water Authority will make all feasible efforts to avoid or minimize impacts from Covered Activities to Covered Species and their conserved habitats (vegetation communities). Included in the summary of Covered Activities is a description of the typical or expected impacts to Covered Species and their habitats as well as the additional protections and design considerations that would be included in project design and construction practices to avoid or minimize impacts to Covered Species and their habitats. Unavoidable impacts from Covered Activities will be mitigated by compliance with a set of habitat-based compensation criteria that reflect the biological significance of the impact and mitigation sites, as well as by meeting species-specific conditions.

It is important to distinguish between those projects that are already permitted and those projects that require coverage under the Plan. Water Authority projects are classified as

Existing, Planned, and Future Projects. Each of these project categories is described below. Certain projects within the CIP have existing approvals and/or permits under separate actions. Take for species previously authorized by an existing BO for a project cannot be permitted under the Plan. Existing BOs are described above in Section 2.1.1 of this EIR/EIS. Incidental take of Covered Species not previously authorized may be permitted for Covered Activities under the Plan. In addition, the Water Authority would seek permit coverage under the Plan if there are changes to a project that would result in take to a Covered Species that is not authorized by the existing BOs. Table 2-2 summarizes the existing permit status of Existing and Planned Projects based on their type.

- Existing Projects refer to those facilities and water system components which are constructed or in the process of being constructed under existing permits and approvals. Existing Projects were permitted based on an agreed-upon site, design, project footprint, or alignment. If the Water Authority proposes project changes that could result in new or previously unidentified impacts, these projects would be reclassified as Planned Projects, as described below.

- Planned Projects apply to facilities and water system components that 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 current CIP. Planned Projects may or may not require environmental review through CEQA, review through NEPA if a federal nexus exists, and/or permits through the Wildlife Agencies depending on their location and the impacts identified.

- Future Projects and/or Activities are those that were not designated as CIP budgeted projects at the time of Plan development. Site-specific impacts and take information were not available to analyze, but the impact acres and potential impact are estimated in the Plan. Future Projects and/or Activities proposed outside the Survey Area/PIZ would be subject to the amendment process for take coverage.

- Planned Projects and Existing Projects that may need coverage under the Plan are described in more detail in Section 5.1 and Appendix C of the Plan. Future Projects could involve Covered Activities for existing or new facilities and associated O&M Activities.

2.3.2.4.1 Capital Improvement Program (CIP) Activities

The CIP includes, but is not limited to, buried pipelines with above-ground hydraulic structures and access roads; pump station, flow control, and metering facilities; and water treatment and regulatory storage facilities of various sizes.

TABLE 2-2
SUMMARY OF PROPOSED COVERED PROJECTS AND PERMIT STATUS

Projects	Project Status	Permit Status
Flow control facilities (FCF)		
San Diego 12 Expansion	Planned	--
San Diego 24/25/26 FCF	Planned	--
System Regulatory Storage		--
Hubbard Hill FRS	Planned	--
North County Distribution Pipeline FRS	Planned	--
Slaughterhouse Terminal Reservoir Tank	Planned	--
First and Second Aqueduct and other Pipelines		
Second Crossover Pipeline	Planned	
Pipeline 6[4]	Existing	Permitted under BO 1-6-93-F-28[1]
Restore Untreated Water Delivery in La Mesa-Sweetwater Extension	Planned	--
Ramona Reservoir Bypass	Planned	--
Conversion of Pipeline 3 to Untreated Water; Crossover to Miramar	Planned	--
Long-Term Replacement/Relining of Pre-stressed Concrete Cylinder Pipeline	Existing	Permitted under BO 1-6-93-F-28[1]
Pipeline 4 Relining	Existing	Permitted under BO 1-6-93-F-28[1]
Pipeline 3 Relining	Existing	Permitted under BO 1-6-93-F-28[1]
Escondido-Vista WTP Connection		
a. Escondido-Vista Pipeline Connection	Planned	--
b. Escondido-Vista Pump Station	Planned	--
c. Escondido-Dixon Pipeline	Planned	--
Poway Pump Station and Treated Water Connection	Planned	--
Pump Stations		
San Diego 17 Pump Station	Planned[1]	--
Lower Otay Pump Station	Planned	--
Pump Stations for Pipeline 3 and Pipeline 4	Existing	Permitted under 1-6-97-F-13[1]
Padre Dam Pump Station Expansion	Planned	--
Water Treatment Plants		
Twin Oaks Valley Water Treatment Plant	Existing	No permits required
Dam/ Reservoir		
San Vicente Dam Raise	Existing	A portion of this project associated with the ESP is permitted under BO 1-6-97-F-13, and under BO 2008B0061-2008F0732; implementing this project as one action requires coverage under the Plan.[2]
Olivenhain-Hodges Pumped Storage O&M	Existing	Permitted under BO 1-6-97-F-13[3]
Lake Hodges and San Vicente	Existing	Permitted under BO 1-6-97-F-13[3]
Wetland Mitigation		
Tijuana River Valley (MHA) Wetlands Mitigation Project	Planned	--
San Luis Rey River (MHA) Wetland Mitigation Project	Planned	--

[1] Species covered: coastal California gnatcatcher.

[2] Species covered: coastal California gnatcatcher, least Bell's vireo, and arroyo toad.

[3] Species covered: coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, arroyo toad, and quino checkerspot butterfly. Olivenhain Reservoir is not covered under BO 1-6-97-F-13.

[4] An alternative alignment is being considered for this project.

Site preparation for CIP projects may involve grubbing and brushing of vegetation, and grading or excavation, depending on topography. Temporary construction staging areas may be needed to stockpile material and equipment. During construction, Covered Species may be displaced by the temporary and/or permanent removal of habitat, and indirectly affected by construction related impacts such as noise, fugitive dust, temporary disruption to wildlife movement, and occasional night lighting. When needed, safety/security lighting would be directed downward, so that it does not illuminate adjacent habitat areas. The use of previously disturbed areas will minimize disruptions to native habitat. For certain types of the CIP Projects, the Plan contains corresponding protection measures in Section 6.4.2 of the Plan (e.g., pipeline siting, new access roads, etc.).

Pipelines

In order to accommodate the Water Authority's need to transport water throughout the Plan Area, construction of new pipelines and underground and surface appurtenances is required between existing or new facilities. Pipelines are installed using conventional open trench or tunneling construction. Pipelines are constructed of reinforced concrete cylinder pipe, welded steel pipe, or polyvinyl chloride. Where open cut trenching is not feasible, tunneling techniques, such as boring, jacking, microtunneling, or similar methods, are used. Trenching installation occurs at a rate of 200 to 400 feet per day, but is entirely dependent on the actual geologic conditions and topography encountered. Because pipeline construction is fairly rapid, Covered Species impacts associated with construction activity are typically considered to be of short duration and have limited prolonged effects on species in the vicinity.

In some areas, blasting would be required to loosen formational rock for excavation or removal from its existing position. Blasting would be accomplished by the controlled discharge of an explosive that has been placed in a hole drilled and prepared especially for this purpose. Typically, drilling holes for a blasting pattern can last from several hours to several days. The drilling time period per blast depends on the number of holes, the depth of the holes, and the effort required to drill through the rock. Blasting operations would be in conformance with the specifications prepared by the U.S. Bureau of Mines and any required blasting permits.

The maximum length of open trench in undeveloped areas will not normally exceed 4,000 feet per heading (direction of pipeline orientation). The maximum length of open trench in urban areas and in crossing improved streets will not normally exceed 500 feet per heading. The required work area and the time it takes for a contractor to move through any given area are controlled by factors such as trench depth, construction methods, soil properties, and terrain steepness. Additional factors such as stormwater runoff control requirements, presence of groundwater, and equipment and materials storage may also have an impact on the amount of work area needed for pipeline construction.

Typical vehicle traffic associated with pipeline construction would consist of construction equipment, work force transportation, material deliveries, soil removal and transport, access to staging areas from public roads, access to pipeline right-of-way, and new roads where existing roads are not available. Minor support facilities, ancillary facilities, and major ancillary facilities associated with pipeline construction are discussed in Section 5.0 of the Plan.

Impacts to Covered Species and their habitats caused by the construction of new pipeline facilities may include the temporary and/or permanent removal of vegetation, loss of occupied or potential Covered Species habitat, and disruption of dispersal and travel corridors. In addition, potential construction effects from noise, dust, introduction of weedy species, or provisions of new access into previously undisturbed habitats may be factors adversely affecting vegetation communities and Covered Species. In general, the linear nature and limited width of pipeline construction corridors (80 feet to 150 feet), and the limited extent and number of ancillary surface features, minimizes habitat fragmentation or isolation occurring as a result of pipeline construction. While total impact acreage from pipeline construction may be substantial, impacts are typically spread over a long distance, thus resulting in a limited and localized impact.

In addition to construction of new pipelines, the Water Authority may also require pipeline conversions and relining. Pipeline conversions occur when a treated water service pipeline is converted to an untreated water service pipeline, or vice versa. The construction would be open trench construction ranging in length from 30 to 100 feet. Therefore, the project footprint is relatively minor. Where replacement of pipeline is required, the damaged pipeline would be removed or a new adjacent pipeline would be installed. This would have similar impacts to those associated with constructing a new pipeline, except that substantial portions of the impact would be restricted to the previously disturbed corridor.

The Long-Term Replacement/Relining of Pre-stressed Concrete Cylinder Pipes (PCCP) project requires the excavation of several portals to access the pipeline, followed by the insertion of sections of new pipeline within the existing pipeline. Relining will re-disturb numerous localized sites along portions of the aqueduct. Pipeline relining projects would include environmental fencing and flagging, clearing and grubbing, dewatering, installation of interior bulkheads, temporary erosion control, excavation, shoring and bracing, cutting and demolishing a segment of the existing PCCP, placing a field-applied cement mortar lining, installing cathodic protection systems, placing reinforcing steel and concrete encasement, backfill, disinfection of piping, hydroseeding, revegetation, and other appurtenant work. However, depending on location, a relining project may not impact large amounts of native habitat, given that native habitat communities are fragmented throughout the rights-of-way, and there is some limited flexibility in locating portal sites.

System Regulatory Storage

A Flow Regulatory Structure (FRS) is a large buried, partially buried, or above ground tank that holds water for storage or to control hydraulic functions, and is considered a major ancillary facility to the pipeline system. The facility may include a small, unstaffed, above-ground control building (10 feet to 30 feet on a side, and approximately 10 feet in height) for monitoring equipment, access ways, valves, and other appurtenances. The control building would typically be fenced and locked, with external low intensity safety/security lighting and security surveillance cameras.

Depending of the facility's size and site condition (e.g., slope), the impact area could vary from two to 20 acres. Construction of these facilities is typically localized and generally involves normal daylight work hours. Differing from new pipeline construction described above, these facilities often are constructed over an extended period of time and may include a larger number of differing construction trades. Therefore, localized ground disturbance may be more prolonged than with a pipeline.

To minimize impacts to biological resources and lessen post construction visual affects, the Water Authority will revegetate the tops of buried concrete FRS facilities with grasses and native shrubs that can persist in shallow soils (18 to 24 inches maximum depth).

Flow Control Structures

Flow Control Structures include facilities and equipment for water flow metering, velocity and pressure reduction, and appurtenant valves. Often, this equipment is housed in a pre-fabricated concrete reinforced building or vault which may be above, at, or below grade. These facilities vary in size and typically occupy a permanent footprint of a few hundred square feet. The construction methods for these facilities are similar to a FRS, but the disturbance footprint and construction duration may be substantially less. Construction of such facilities is typically completed within a one- to two-acre footprint of disturbance. Because of the low activity around the ancillary structures, their small size, and their sporadic occurrence along pipeline alignments, long-term biological impacts are typically considered to be limited to direct footprint habitat losses with no substantial secondary effects.

Pump Stations

Pump stations convey water from a lower elevation, or hydraulic head, to a higher elevation or head. The Water Authority's aqueduct operates primarily on gravity flow; however, pumping may be necessary in order to move water due to substantial changes in topography. The pump station equipment is usually housed in a reinforced concrete building above grade level. Pump station structures can range in size from 1,200 square feet up to 13,000 square feet, depending on capacity and topography. Construction of

such facilities is typically completed within a one- to five-acre footprint of disturbance. Therefore, localized ground disturbance is greater than with a pipeline, and the construction period in a given area is prolonged (generally 18-24 months).

Water Treatment Plants

Water Treatment Plants (WTPs) treat water that is served for potable use that meets all state and federal drinking water standards. WTPs can be used for the treatment of surface water, groundwater, brackish groundwater, recycled water, or seawater. Either conventional processes or membrane technologies can be utilized for the core treatment process, each affecting the type and size of buildings required on-site. Although no new WTPs or expansion of existing WTPs that require coverage under the Plan are currently proposed for construction by the Water Authority, the Plan is designed to cover construction of new WTPs and expansion of existing WTP facilities. Construction of a new WTP 100 million gallons per day (MGD) capacity facility would require an area of approximately 12 to 15 acres. Site preparation and construction operation is similar to new pipeline construction utilizing open trench construction described above, with the exception that work activities are fixed at the WTP site until construction is complete. The WTP would have permanent staffing at the site to operate and maintain the facility.

Hydroelectric Generating Stations

Water Authority currently operates hydroelectric generating facilities, and may build future hydroelectric generating facilities. Typically, high-pressure station equipment consists of generators, water pipelines, valves, pressure reducing/control equipment, electric conduit, lines, control and monitoring equipment, electric transmission lines, and interconnect facilities (switch yard) to connect to the electric power grid. The equipment is usually housed in a reinforced concrete building partially below grade level. Hydroelectric station structures can range in size from 1,400 square feet up to 13,000 square feet, depending on capacity and topography. Construction of such facilities is typically completed within a one- to five-acre disturbance footprint. Site preparation and construction operation is similar to pump station activities because they often are constructed over an extended period of time and include a larger number of differing construction trades. Therefore, localized ground disturbance is greater than with a pipeline and the construction period in a given area is prolonged.

Access Road Construction, Re-Establishment, and Improvements

To the greatest extent feasible, existing maintenance roads within rights-of-way would be used in order to minimize potential impacts associated with new access road construction. In areas where existing roads are not available and steepness of the right-of-way precludes its use, new roads may need to be graded and easements obtained. Certain temporary road improvements would be made to allow passage of construction vehicles for specific projects. When new road construction is required, it will be

implemented pursuant to Plan Minimization Measures identified in Section 6.4 of the Plan, particularly Sections 6.4.2.6, Stormwater Best Management Practices, and 6.4.2.7, New Access Roads. Following construction, disturbed road sections would be restored to original contours. Typically, access roads are compacted native soil, but in areas of steep slopes or other site-specific requirements, the road surface is generally paved with concrete. New access roads through drainage channels and streams may be unimproved crossings or improved crossings (Arizona “at-grade” crossings or culverts) subject to appropriate state and federal agreements and permits authorizing such activities. Access road re-establishment may involve abandoning a severely overgrown road and constructing a new access road that will be easier to maintain. Re-establishing roads could include permanent habitat removal at previously disturbed sites, increased access for invasive species, noise, dust, and human activity for a limited period of time (two to 10 days, depending on site conditions). When re-establishing access with an altered road alignment, the road segment to be abandoned will be subject to the applicable provisions of the Habitat Restoration Program, including weed control (see Section 6.6 of the Plan). Site preparation and construction operation is similar to open trenching pipeline. Permanent roads are to have regular maintenance activities, such as mowing and grading, which will occur annually to properly maintain the road.

Feasibility Studies and Data Collection

The Water Authority typically conducts feasibility studies for its projects to establish baseline conditions as a precursor to environmental document preparation. Projects requiring feasibility studies include, but are not limited to, CIP projects and groundwater investigations. Typically, the impacts associated with feasibility studies are considered to be temporary and could involve biological surveys, topographical surveying, surface and limited core sampling for soils, and geological assessments.

Aqueduct Protection Program

The Water Authority’s Aqueduct Protection Program (APP) addresses the structural integrity, maintenance, and protection of the large pipeline facilities of both aqueducts. Its objective is to determine the condition and, if feasible, extend the service lives of these facilities to maintain a safe and reliable water supply to the Member Water Agencies. Initial investigative phases of the program do not result in take of species or habitats. Repair activity as a result of APP investigations may result in temporary impacts to habitat, depending on the location and nature of the repair.

Groundwater Storage and Recovery Program Studies

It is anticipated that various groundwater studies may ultimately lead to one or more programs for basin recharge and extraction. Analyses have been conducted on multiple alluvial basins within San Diego County to determine storage capacity, extraction potential, and preliminary environmental effects.

The field investigations and feasibility studies conducted by the Water Authority involve the following activities: data collection, vegetation clearing, and grading and fill activities for access and drilling pads. Removal or alteration of hydrology necessary to construct a pad to operate a drilling rig may result in a direct impact to riparian areas. Any groundwater discharge associated with testing a well production capacity would be temporary any comply with applicable state and federal laws governing the discharge of waters.

Wetland and Riparian Mitigation Site Implementation and Interim Management

The Water Authority anticipates that implementing some Covered Activities will result in unavoidable permanent loss of wetlands which will be mitigated to achieve a no-net-loss of wetlands (see Section 6.7 of the Plan). To achieve this standard and provide conservation for Covered Species, the Water Authority is creating three wetland habitat management areas as part of the Plan (see Section 6.8.2 of the Plan). Wetland creation and restoration requires professional engineering design expertise to predict and address any change to localized hydrology. Although not a routine Water Authority construction activity, wetland and riparian creation and restoration activities are included as a subset of CIP Covered Activities. Tasks associated with wetland creation can be divided into two phases: the first phase covers construction of the project, and the second phase covers interim habitat management activities (e.g., planting, weeding, and irrigation that may last several months to a year until the habitat is established). The construction phase includes site preparation (delineating limits of work and removal of debris, structures, and vegetation), earthwork (grading and placement of soil), and installation (temporary irrigation system, container plants, cuttings and seeding). Earth moving equipment is used to remove soil or structures to achieve the desired elevation and flow gradient needed to sustain the desired wetland and/or riparian communities.

Impacts to Covered Species are considered temporary and may include a temporary reduction in habitat, construction noise, and fugitive dust, and increased human presence. Management activities include maintenance (routine weeding and invasive species control, replacement of plants and cuttings, and re-seeding, as needed), monitoring (qualitative and quantitative vegetation assessments, wildlife observation), and report preparation.

2.3.2.4.2 O&M Activities

O&M Activities are expected to result in impacts associated with maintaining components of Existing, Planned, and Future Projects. The Water Authority's maintenance and scheduled repairs include, but are not limited to: re-grading of access roads; fire clearance around surface structures; pipeline inspections; valve and pipeline section replacements; pipeline, tank, and reservoir drainage into natural waterways to allow for interior inspection and work; and cathode/anode renewal. The majority of O&M Activities occur in developed and disturbed areas, or other non-sensitive habitat areas.

O&M Activities at existing structures will not appreciably affect Covered Species or habitat. Impacts could include temporary habitat removal or trimming of vegetation at previously disturbed sites and increased noise, light, and human activity for a limited period of time. Disturbance generally occurs at specific locations which are regularly inspected or serviced, such as anode beds or valve structures along existing access roads, mainly within previously cleared and mitigated areas. For certain types of the O&M Activities, the Plan contains corresponding protection measures in Section 6.4.3 of the Plan (e.g., weeding and mowing, tree trimming, fire protection, etc.). O&M Activities are discussed in Section 5.2 of the Plan.

Aqueduct Security and Surveillance

To secure the aqueduct system and provide surveillance along the system, security camera systems are installed along with security lighting, fencing, alarm systems, and real-time water quality monitoring stations. Security cameras and lighting are typically mounted on structures along the aqueduct system, and routine inspections and maintenance is expected to have no effect on Covered Species. Vegetation is managed on each side of security fencing, as needed, to maintain visibility and the effectiveness of the fence as a barrier.

Pipelines and Minor Support Facilities

O&M Activities specific to pipelines include, but are not limited to: (1) weekly visual inspections; (2) mowing within pipeline alignments; (3) access road grading; (4) testing and servicing of valves as needed; (5) yearly walking of pipeline alignment and inspection of the cathodic protection system; (6) draining for internal inspection; (7) replacement of pipeline and pipeline appurtenances, such as air-release valves, vents, and blow-off structures; and (8) pressure testing pipeline, painting pipeline appurtenances, repairing tunnel entrances, and repairing minor leaks in buried pipeline joints or segments as needed.

System Regulatory Storage

O&M Activities typically associated with system-wide storage facilities include, but are not limited to: (1) routinely visiting and inspecting the site; (2) performing routine maintenance and cleaning of equipment on-site; and (3) responding to outages or other emergency situations.

Pump Stations

O&M activities typically associated with pump stations include, but are not limited to: (1) routine operation checks; (2) routine general pump station cleaning and maintenance; (3) routine maintenance of pump station exteriors; (4) routine testing and replacement of pumps and other equipment during non-emergency periods and

verification of operational readiness; (5) annual major maintenance and clean-up; and (6) as-needed service to the motor cooling system (emergency pumps), replacement of pump seals, painting pump station and equipment, and disassembling pumps to inspect bearings and impeller (recirculation pumps and emergency pumps).

Water Treatment Plants (WTP)

O&M Activities generally associated with WTP facilities include, but are not limited to: (1) inspecting the site on a routine basis; (2) performing periodic routine maintenance and cleaning of equipment at the site; (3) taking delivery and/or hook-up of disinfection chemicals on an as needed basis; (4) performing major maintenance or replacement of pumps and other equipment on an as needed basis; and, (5) responding to outages or other similar situations.

Hydroelectric Generating Stations

O&M activities typically associated with hydroelectric stations include, but are not limited to: (1) routine operation checks; (2) routine general generation station cleaning and maintenance; (3) routine maintenance of station exteriors; (4) routine testing and replacement of generators, electric control systems, and other equipment; (5) annual major maintenance and clean-up; and (6) as-needed service to electric generation system.

Reservoir Drawdown

Water levels in a reservoir are expected to fluctuate for a variety of operational reasons. Maximum operational capacity refers to the spillway elevation; however, actual operational elevation is typically several feet below spillway height. Drawdown, the controlled lowering of the surface water level, may occur due to seasonal demand or to conduct maintenance on some reservoir feature. Under normal operational circumstances, routine drawdown results in no discharge of water into waterways; drawdown occurs by controlled inflow relative to outflow until the desired water level is achieved.

Prolonged drawdown periods, for example three years or greater, could provide sufficient time for Covered Species' habitat to colonize an exposed reservoir bed. The subsequent refilling of the reservoir would inundate any opportunistic habitat, any burrows, dens, or nest sites resulting in the loss of habitat, and any eggs and nestlings. The rise in water level is relatively slow (i.e., less than one foot per day); therefore, it is expected that adult and juvenile wildlife would evacuate the area in advance of the rising water level. Drawdown protection measures are addressed in Section 6.4.3.4 of the Plan.

Access Road Maintenance and Repair

The Water Authority owns and operates facilities that require regular access on established roads. These access roads must be maintained and repaired on an annual basis. O&M Activities associated with this maintenance would include access road grading, upgrades, stream-crossing improvements, and culvert cleaning. Access road maintenance includes filling, grading, paving, and spot-repair of areas subject to scouring and erosion. Road repairs are performed as necessary to access facilities, usually following seasonal rains.

Mowing

In addition to maintaining the road surfaces and facilities, adjacent vegetation must be controlled so that it does not expand into the roadway or encroach into facilities. Mowing and/or trimming of vegetation around facilities is needed to maintain access and comply with fire regulations. In general, the Water Authority clears approximately 15 feet from facilities and four feet on each side of roads, with the exception of urban and developed areas where the Water Authority also clears all vegetation inside fenced areas and up to four feet outside the fences with permission from the landowner. Mowing reduces or eliminates habitat suitability for many species because of change in native vegetation structure, density, and diversity. However, mowing also provides a successional vegetation edge effect that can be exploited by some species. If a Covered Species cannot move away from a mower, mortality could occur.

Protection of Underground Facilities in Waterways

Protection of underground facilities is required wherever facilities cross a waterway within the Plan Area. When scouring threatens a facility, measures to protect the facility and to minimize future erosion must be taken. Maintenance activities to protect underground facilities include grading, addition of fill material to repair erosion damage, repair of adjacent slopes with placement of riprap or concrete, installation of sheet pile, compaction of soil, control of species with invasive root structures, and other activities as necessary.

Fire Protection

A clearing of a minimum 15 feet around facilities and mowing four feet adjacent to roadways is needed for fire protection after construction. Vegetation clearing may involve mowing, weed abatement, or removal of dead or dying trees or foliage, or the dead, diseased, or dying limbs of trees or foliage. The local Fire Marshall typically identifies areas requiring fire maintenance.

Weed Abatement in the Preserve Area

Weed control may be necessary in the Preserve Areas and during Covered Activities such as post-construction revegetation efforts. Weed abatement would be used in order to improve the habitat for Covered Species or for fire protection and may involve mechanical or chemical (herbicide) methods.

Tree Trimming and Removal

Tree trimming for routine maintenance or entire tree removal can be required to protect facilities and to keep areas around facilities and access roads clear. Tree trimming is done generally with lift trucks and a chipper trailer.

Pest Control

Facilities require pest control, usually to control problems with non-native rats, mice, and other rodents. Pest control is more common to facilities located adjacent to urbanized areas where food is more plentiful. When necessary, pest control measures will be used in accordance with the written recommendation of a licensed, registered Pest Control Advisor.

Urgent Repairs

Urgent repairs are required when a facility or structure is compromised and requires repairs to remain functional. Urgent repairs do not pose an immediate threat to life or property, but are among the top priorities of the Water Authority to ensure continued service. They may also become emergency repairs if not addressed in a timely manner. Construction activities and impacts to Covered Species and habitats for an urgent repair would be similar to constructing the corresponding Covered Activity type described above (e.g., new pipeline construction). Standard procedures for addressing an urgent repair are listed in Section 5.2.15 of the Plan.

Rights-of-Way Activities

Approximately 85 percent of Water Authority rights-of-way land is held as easements, with the remaining 15 percent as fee-owned parcels. The Water Authority maintains full control of fee-owned parcels and can grant encroachment permits to public and private individuals. The Water Authority does not limit activities in easements under private ownership that do not jeopardize facilities or block access, but the activities of underlying private landowners where the Water Authority has an easement are not covered under the Plan. Use of easements and fee ownership is discussed further in Section 5.2.16.1. Rights-of-way management and surveying activities are discussed in Sections 5.2.16.2 and 5.2.16.3, respectively, in the Plan.

Emergency Actions

Emergency Actions would not be required to be a Covered Activity by this Plan.

Emergency actions are required when a facility or structure has failed or is about to fail and requires immediate action to minimize or avoid catastrophic failure of all or part of the water treatment, storage, or delivery system. Emergency actions include, but are not limited to, emergency release of reservoir water in a storm or earthquake event, reservoir or groundwater drawdown during severe drought, repair of broken pipelines, and search and rescue operations on Water Authority lands. Emergency actions could also include a discharge of treated or untreated water or an accidental spill of a substance or chemical used for the treatment of water or disinfection. Protocols to reduce impacts to sensitive resources may include signage, maps, or fact sheets that clearly indicate preferred access routes, communications protocols, and areas to be avoided, if possible, during emergency operations.

In an emergency situation, the Water Authority will immediately conduct the necessary activities to alleviate the situation. An Environmental Surveyor (a qualified biologist working under the Water Authority's Plan who conducts/oversees environmental compliance of Covered Activities) will conduct an assessment during the incident, if possible, or after the incident is complete. Once the situation has stabilized, incidental take of Covered Species or habitat affected will be assessed and recommendations for revegetation activities proposed.

2.3.2.4.3 Preserve Area Management, Monitoring, and Adaptive Management

A Preserve Area Management Plan (PAMP) provides detailed descriptions of the land management activities, restrictions, and practices that will be undertaken to maintain or enhance Covered Species habitat on lands set aside for that purpose. Management activities that would be implemented as site-specific measures, where applicable, are discussed in Section 5.4 of the Plan. Covered Species protection and conservation are primary goals of the Preserve Area and all management activities, including monitoring, maintenance, and adaptive management activities, will comply with state and federal endangered species regulations as well as the Plan. Management of the Preserve Area may include 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.

To the extent feasible, all future management activities will incorporate appropriate avoidance measures, such as temporary fencing to protect riparian areas from grazers, prescribed burn protocols, and appropriate use of herbicides and pesticides, into the

design of the management activity. Preserve Area management activities, including monitoring, research, maintenance, and adaptive management activities, provide a net benefit to Covered Species; however, temporary impacts to suitable habitats and potential take of Covered Species may occur when carrying out those activities.

2.3.2.5 Covered Species

Under the state NCCPA standards, the Plan must assure that the Covered Species are conserved and managed. Therefore, Covered Species are those plant and animal species, listed or unlisted, that are conserved and managed by actions outlined in the Plan, and for which impacts will be avoided or minimized and mitigated such that impacts to these species and loss of their habitat can occur pursuant to the Plan and IA. Covered Species proposed by the Plan are listed in Table 2-3. This table includes a summary of the species' status and any Plan policies that would apply (e.g., narrow endemic and/or vernal pool species). The Covered Species include a total of 63 species, including 26 plants, five invertebrates, two amphibians, nine reptiles, 13 birds, and eight mammals. Major Amendment Species include three species, California Orcutt grass, vernal pool fairy shrimp, and Munz's Onion, which are not covered under the proposed Plan and would require a Major Amendment. Analysis conducted for the Plan determined that the appropriate process for potential take of California Orcutt grass, vernal pool fairy shrimp, and Munz's Onion would be through the Major Amendment process for the Riverside County portion of the Plan Area.

Plan implementation will support the Covered Species' viability in the Plan Area. In order to adequately cover a species under the Plan, the Water Authority must provide reasonable assurance that, even with estimated levels of take, implementation of the Plan would not result in the extirpation of that species from the Plan Area and, by extension, from the region. Species included are federally and/or state-listed as rare, threatened, endangered, or are likely candidates for future listing as rare, threatened, or endangered based on present population declines, diminishing habitat, or existing levels of sensitivity. Covered Species are those that have been documented within the PIZ or Survey Area (as described in Section 1.3.4 of this EIR/EIS) or have a reasonable probability of occurring based on geographic range and the presence of suitable habitat conditions. Species were also determined to be in need of coverage by the Plan if affirmative conservation and management within the Plan Area would substantially benefit the species and, for listed species, contribute to their recovery.

Both general and species-specific conditions have been identified for Covered Species (see Section 2.1 and the Conditions for Coverage for each Covered Species in Appendix B of the Plan). The conservation and mitigation commitments for many of the Covered Species will be provided by the use of habitat credits available at the Preserve

TABLE 2-3
ALTERNATIVE 2: COVERED SPECIES

Scientific Name	Common Name	Federal/State Status	CNPS List	Plan Policies	Occurrence		
					Survey Area	PIZ	Preserve Area**
PLANTS							
Acanthomintha ilicifolia	San Diego thorn-mint	CE/FT/CH	1B	NE	K	K	P
Adolphia californica	California adolphia	–/–	2	--	K	K	K
Ambrosia pumila	San Diego ambrosia	–/FE/CH	1B	NE	K	K	N
Baccharis vanessae	Encinitas baccharis	CE/FT	1B	NE	K	K	N
Brodiaea filifolia	Thread-leaved brodiaea	CE/FT/CH	1B	NE, VP	K	K	N
Brodiaea orcuttii	Orcutt's brodiaea	–/–	1B	--	K	K	N
Calochortus dunnii	Dunn's mariposa lily	CR/–	1B	NE	K	N	P
Ceanothus cyaneus	Lakeside ceanothus	–/–	1B	NE	K	K	K
Centromadia parryi ssp. *australis*	Southern tarplant	–/–	1B	--	K	N	N
Centromadia pungens ssp. *laevis*	Smooth tarplant	–/–	1B	--	K	K	N
Deinandra conjugens	Otay tarplant	CE/FT/CH	1B	NE	K	K	K
Dudleya variegata	Variegated dudleya	–/–	1B	NE	K	K	K
Dudleya viscida	Sticky-leaved dudleya	–/–	1B	--	K	K	N
Eryngium aristulatum var. *parishii*	San Diego button-celery	CE/FE	1B	NE, VP	K	K	N
Ferocactus viridescens	San Diego barrel cactus	–/–	2	--	K	K	K
Iva hayesiana	San Diego marsh-elder	–/–	2	--	K	K	K
Monardella hypoleuca ssp. *lanata*	Felt-leaved monardella	–/–	1B	NE	K	K	N
Monardella viminea	Willowy monardella	CE/FE/CH	1B	NE	K	K	N
Muilla clevelandii	San Diego goldenstar	–/–	1B	--	K	K	K
Navarretia fossalis	Spreading navarretia	–/FT/CH	1B	NE, VP	K	K	N
Nolina cismontana	Chaparral nolina	–/–	1B	--	K	K	N
Pogogyne abramsii	San Diego mesa mint	CE/FE	1B	NE, VP	K	K	N
Pogogyne nudiuscula	Otay Mesa mint	CE/FE	1B	NE, VP	K	N	N
Quercus dumosa	Nuttall's scrub oak	–/–	1B	--	K	K	N
Salvia munzii	Munz's sage	–/–	2	--	K	P	K
Tetracoccus dioicus	Parry's tetracoccus	–/–	1B	--	K	K	P
WILDLIFE							
Invertebrates							
Branchinecta sandiegonensis	San Diego fairy shrimp	FE, CH	NA	NE, VP	K	K	P
Euphydryas editha quino	Quino checkerspot butterfly	FE, CH	NA	--	K	K	K
Euphyes vestris harbisoni	Harbison's dun skipper	*	NA	NE	P	P	P
Lycaena hermes	Hermes copper butterfly	*	NA	--	K	P	K
Streptocephalus woottoni	Riverside fairy shrimp	FE, CH	NA	NE, VP	K	N	N

TABLE 2-3
ALTERNATIVE 2: COVERED SPECIES (continued)

Scientific Name	Common Name	Federal/State Status	CNPS List	Plan Policies	Occurrence		
					Survey Area	PIZ	Preserve Area**
Amphibians							
Anaxyrus (=Bufo) californicus†	Arroyo toad	FE, CSC, CH	NA	--	K	K	K
Spea hammondii	Western spadefoot toad	CSC	NA	VP	K	K	K
Reptiles							
Actinemys marmorata pallida	Southern Pacific (southwestern) pond turtle	CSC	NA	--	K	K	P
Aspidoscelis hyperythra beldingi	Belding's orange-throated whiptail	CSC	NA	--	K	K	K
Aspidoscelis tigris stejnegeri	Coastal (western) whiptail	*	NA	--	K	K	K
Coleonyx variegatus abbottii	San Diego banded gecko	*	NA	--	P	N	P
Crotalus ruber ruber	(Northern) red-diamond rattlesnake	CSC	NA	--	K	K	K
Diadophis punctatus similis	San Diego ring-neck snake	*	NA	--	K	K	K
Eumeces skiltonianus interparietalis	Coronado skink	CSC	NA	--	K	P	K
Lichanura trivirgata roseofusca	Coastal rosy boa	*	NA	--	K	N	K
Phrynosoma coronatum blainvillii	Coast (San Diego) horned lizard	CSC, *	NA	--	K	K	K
Birds							
Agelaius tricolor	Tricolored blackbird	CSC	NA	--	K	N	K
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	*	NA	--	K	K	K
Ammodramus savannarum	Grasshopper sparrow	CSC	NA	--	P	N	K
Amphispiza belli belli	Bell's sage sparrow	*	NA	--	K	K	K
Athene cunicularia hypugaea	Western burrowing owl	CSC	NA	--	K	K	N
Campylorhynchus brunneicapillus sandiegensis	San Diego cactus wren	CSC, *	NA	NE	K	K	K
Dendroica petechia brewsteri	Yellow warbler	CSC	NA	--	K	P	K
Empidonax traillii extimus	Southwestern willow flycatcher	FE, CE, CH	NA	--	K	P	N
Eremophila alpestris californica	California horned lark	CSC	NA	--	K	P	K
Icteria virens	Yellow-breasted chat	CSC	NA	--	K	K	K
Lanius ludovicianus	Loggerhead shrike	CSC	NA	--	P	N	K
Polioptila californica californica	Coastal California gnatcatcher	FT, CH, CSC	NA	--	K	K	K
Vireo bellii pusillus	Least Bell's vireo	FE, CE, CH	NA	--	K	K	P

TABLE 2-3
ALTERNATIVE 2: COVERED SPECIES (continued)

Scientific Name	Common Name	Federal/State Status	CNPS List	Plan Policies	Occurrence		
					Survey Area	PIZ	Preserve Area**
Mammals							
Chaetodipus californicus femoralis	Dulzura (California) pocket mouse	CSC	NA	--	K	K	K
Chaetodipus fallax fallax	Northwestern San Diego pocket mouse	CSC	NA	--	K	K	K
Dipodomys stephensi	Stephens' kangaroo rat	FE, CT	NA	--	K	K	N
Felis concolor	Mountain lion	*	NA	--	P	P	K
Lepus californicus bennettii	San Diego black-tailed jackrabbit	CSC	NA	--	K	K	K
Neotoma lepida intermedia	San Diego desert woodrat	CSC	NA	--	K	K	K
Onychomys torridus ramona	Southern grasshopper mouse	CSC	NA	--	P	N	P
Perognathus longimembris brevinasus	Los Angeles pocket mouse	CSC	NA	--	K	K	N

Federal and State Listing
FE = Federally listed, endangered
FT = Federally listed, threatened
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 (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.

Plan Policies
NE = Narrow Endemic Policy
VP = Vernal Pool Protection Policy

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

NA = Not applicable

** Refer to species-specific Conservation Analysis in the Plan for details on potential habitat locations in Survey Area, PIZ, and Preserve Area.

Area, which supports key vegetation communities used by a number of the Covered Species.

As a further protection of listed species, the ESA requires the USFWS to designate critical habitat for species. Critical habitat for Covered Species is addressed in Section 3.3.1.1 of this EIR/EIS. As discussed in the Conservation Analysis for the Plan, with the exception of the Tijuana River Valley HMA and the San Luis Rey River Valley HMA, the proposed locations of the Planned Projects are not expected to impact designated or proposed critical habitat for any Covered Species. Current areas of critical habitat at the Tijuana River Valley HMA and the San Luis Rey River Valley HMA include disturbed habitat and former agricultural lands, respectively. The two wetland creation projects are expected to improve the areas of critical habitat within the restoration project area. The locations of Future Projects have not been determined, but the Plan will attempt to avoid and minimize impacts to any critical habitat through the planning process described in Section 6.0 of the Plan. Implementation of the Covered Activities will attempt to avoid and minimize impacts to all critical habitat, but this may not always be possible. When impacts to critical habitat cannot be avoided, the Plan will attempt to limit impacts to temporary effects. If permanent impacts cannot be avoided, then the Water Authority will first attempt to mitigate with credits in the HMAs that have critical habitat or acquire other lands that are designated as critical habitat. Only if no critical habitat is available from the Preserve Area or as an acquisition of the new habitat lands, the Water Authority will provide a justification for acquiring suitable habitat land that will benefit the species, with the concurrence of the Wildlife Agencies.

For Covered Species whose presence has not been documented in the Preserve Area, coverage will require demonstration that certain general conditions as listed in the Conservation Analysis, Section 2.1, Conditions of Coverage, are met, as well as implementation of the species-specific criteria identified for that species (see Appendix B of the Plan). 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.

2.3.2.6 Species Not Currently Covered Under the Plan

All other listed species that occur within the Plan Area will continue to be regulated under the ESA and CESA. Take of uncovered, listed species can be authorized separately from the Plan under section 7 or section 10 of the ESA, and take exceptions under Section 2081 of the Fish and Game Code. Impacts to species not covered under the Plan can also be addressed through the amendment process described in Section

8.0 of the Plan. Adding species to the Covered Species list may involve additional mitigation, including reprioritized management practices or habitat acquisition.

2.3.2.7 Plan Minimization Measures

The Plan Minimization Measures represent appropriate, environmentally-sound approaches to reduce effects to Covered Species and their habitats from construction, O&M Activities, and rights-of-way activities that will be implemented by the Water Authority. These standard minimization measures will be applied to all activities covered by the Plan, as described below:

Avoidance and minimization protocols for project development and construction activities are discussed in Section 6.4.2 of the Plan. These protocols include provisions for planning and coordination, facility siting, pipeline siting, existing pipeline relining, design and construction controls, stormwater Best Management Practices (BMPs), new access roads, and clean-up. All field personnel will adhere to all the measures for any covered construction activities, and project-specific minimization and mitigation measures will be outlined within the CEQA document prepared for the particular activity as well as in the Pre-Activity Survey Form (PSF) (see below).

Section 6.4.3 of the Plan describes the O&M Activities that have the potential to impact sensitive habitats and Covered Species. The Water Authority would be required to conduct all O&M Activities in a manner that avoids and/or minimizes impacts to sensitive resources, primarily by staying within the limits of existing disturbance. These measures apply to a range of activities performed by the Water Authority on a regular basis as part of maintaining their infrastructure, rights-of-way, and access roads. Some routine O&M Activities described in the Plan, such as erosion control, stormwater BMPs, dewatering, and revegetation, already employ minimization techniques. The protection measures outlined in the Plan would be consistent with the standards in the Water Authority's General Conditions and Standard Specifications manual, most recently updated in 2005. As shown in Table 2-1, much of the Water Authority's Existing and Planned Projects and O&M Activities would take place in disturbed areas or areas that do not contain sensitive habitats that require mitigation (e.g., agriculture). In order to adequately protect Covered Species and their habitats, additional protection measures are outlined for activities including: weeding and mowing; clearing and grubbing; fire protection activities; draindowns and drawdowns; stream crossings; erosion control activities; tree trimming and removal; vehicles operations; cut and fill slopes; urgent repairs; and maintenance of access roads.

An Environmental Surveyor will oversee pre-project evaluations/needs of Covered Activities and work with the project engineer and contractors to ensure implementation compliance of Covered Activities with Plan commitments. The Environmental Surveyor may be one or more firms or individuals retained by the Water Authority, or qualified

Water Authority staff whom would be designated to function as an Environmental Surveyor and be responsible for pre-activity surveys and determining the appropriate minimization measures (e.g., flagging sensitive zones and habitats) prior to the commencement of construction or O&M Activities.

To ensure all Water Authority Covered Activities comply with the Plan, an Environmental Surveyor must complete a Pre-Activity Survey Form (PSF; Appendix F of the Plan). This process includes a survey of the project area for sensitive biological resources within 30 days of initiation of ground disturbing activities for new construction and O&M.

Field personnel working within sensitive habitat areas, including both Water Authority employees and contractors, will participate in a Field Personnel Education Training at the start of each project. The program will be conducted on-site by an Environmental Surveyor under the direction of the Water Authority.

Field personnel (and contractor) responsibilities include prohibiting personnel from collecting plants or wildlife unless authorized; harming or harassing wildlife or damaging nests; driving excessively fast on unpaved roads; parking in areas where vegetation may be ignited; littering; and other activities which may harm wildlife or vegetation. The measures for Water Authority staff, field personnel (and contractors), and the Environmental Surveyor are outlined in the Plan and would be regularly monitored by the Water Resources staff at the Water Authority. In addition, the Water Authority is responsible for documenting compliance with the Plan's measures as part of the annual report to the Wildlife Agencies.

2.3.2.8 Plan Mitigation Measures

The Plan's biological mitigation approach is habitat-based. All of the vegetation communities and land covers (habitat types) known to occur within the Plan Area are grouped into tiers (Section 6.5.1.3 and Table 6-5 in the Plan) that are deemed to have similar ecological values based on rarity, Covered Species diversity, environmental sensitivity, etc. Impacts to habitats caused by Covered Activities will be mitigated with the same or biologically-equivalent habitat. Mitigation ratios reflect the different relative ecological values among the tiers, as well as the location of the impact and mitigation sites.

The Plan will ensure that impacts from Covered Activities are fully compensated by providing the required acres of appropriate mitigation credits from the Preserve Area. In the event that there is no in-kind habitat credit available at the Preserve Area for mitigation of impacts, the Water Authority may obtain habitat credits from conservation banks within the Plan Area or acquire additional appropriate habitat lands to add to the Preserve Area.

To calculate the final mitigation ratio, the project activity must identify the vegetation community/habitat tier as well as the impact and mitigation site locations. The following factors determine the appropriate mitigation: whether the impacts are proposed within a biologically significant resource area (BSRA); whether the mitigation is proposed within a BSRA; whether the impact is permanent or temporary; and whether the activity is proposed within an existing right-of-way. These factors are described below.

Biologically Significant Resource Area

Some habitat areas support rare vegetation types and species; support greater species diversity; are part of core areas of habitat; or function as key linkages or corridors for species. These types of habitat areas are generally the focus for conservation by the proposed Plan and other conservation plans operating in the Plan Area. The Plan uses the term BSRA to include the following types of habitat areas within the Plan Area:

- An upland or wetland HMA (e.g., all Water Authority-committed lands in the Plan);

- Areas that have been designated in approved (or in-approval stage) conservation plans as biological resource core areas, pre-approved mitigation areas, focused planning areas, corridors/linkages, or equivalent designated/defined terms. The approval stage includes jurisdictions/entities formally committed to preparing a conservation plan, and that have produced a draft, publicly-released map of priority areas for conservation and areas proposed for development; and/or

Existing rights-of-way are excluded from the BSRA because they have and continue to be impacted by O&M Activities. Based on the above conditions, each project will identify the impact area and mitigation area and determine whether the sites are within BSRA. That determination will affect the final mitigation ratio requirement.

The distribution of BSRA within the Plan Area in relation to the existing Preserve Area and MMAs is shown on Figure 6-2 in the Plan (see Appendix B). The Plan has been designed to avoid/minimize conflicts with and complement other conservation planning efforts, with an emphasis on maintaining and/or expanding habitat linkages and wildlife corridors. To maintain key biological resources, Covered Activities implemented under the Plan will not significantly compromise core areas and linkages/corridors (see Sections 6.4.2.1, 6.4.2.2, and 6.11.3.1 of the Plan).

Permanent and Temporary Impacts

Permanent impacts result from Covered Activities that cause the removal of habitat (e.g., sensitive vegetation community or Covered Species) that cannot be mitigated on-site through revegetation and other restoration efforts. Tables 6-6 and 6-7 in the Plan, which are replicated here as Tables 2-4 and 2-5, provide mitigation ratios for impacts by

Covered Activities for upland and wetland vegetation communities. The mitigation ratios reflect the impacted vegetation community's tier and the biological status of the impact and mitigation sites.

Temporary impacts are those which occur to sensitive vegetation communities from Covered Activities that do not disturb or remove vegetation root stock or that can be mitigated on-site through revegetation and other restoration efforts. The Water Authority identifies two types of temporary impacts: (1) one-time disturbance, or (2) repeated disturbance within the duration of the Plan's permit. The Water Authority will use different approaches when dealing with these two types of temporary impacts as follows:

- For one-time temporary impacts, disturbed areas will be restored. The specific habitat enhancement (restoration and revegetation) measures will be selected to address site-specific needs. No off-site mitigation will be required for one-time temporary impacts unless the restoration is determined unsuccessful according to identified criteria.

- For repeated disturbance, the Water Authority will restore the disturbed area and also mitigate off-site at the appropriate mitigation ratio. No performance criteria will be associated with the on-site restoration efforts in this case.

Existing Rights-of Ways and Facilities

Water Authority rights-of-ways and facilities that pre-existed a subsequent designation of the surrounding area as a preserve, reserve, or BSRA designation will be treated as being outside of those designations. Therefore, impacts to habitats by Covered Activities within these areas will mitigate at the lower ratios consistent with lands that are physically outside a BSRA. Similar to the approaches noted above, temporary impacts to sensitive habitat areas within rights-of-way will be revegetated on-site, and any new, permanent impacts to sensitive habitats will be mitigated off-site.

2.3.2.8.1 Additional Policies and Programs

In addition to the habitat-based mitigation requirements, the Water Authority developed several policies to further ensure the protection of sensitive species and habitats.

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. The Narrow Endemic Policy, described in Section 6.5.1.6 of the proposed Plan, applies to all species identified as narrow endemic species (see Table 2-3 and

TABLE 2-4
UPLAND HABITAT MITIGATION RATIOS

Mitigation Site	Impacted Land Classification	
	Meets criteria for Biologically Significant Resource Area	Does not meet criteria for Biologically Significant Resource Area
Tier I		
Meets criteria for Biologically Significant Resource Area	2:1	1:1
Does not meet criteria for Biologically Significant Resource Area	3:1	2:1
Tier II		
Meets criteria for Biologically Significant Resource Area	1.5:1	1:1
Does not meet criteria for Biologically Significant Resource Area	2:1	1.5:1
Tier III		
Meets criteria for Biologically Significant Resource Area	1:1	0.5:1
Does not meet criteria for Biologically Significant Resource Area	1.5:1	1:1
Tier IV	No mitigation required	No mitigation required

TABLE 2-5
WETLAND HABITAT MITIGATION RATIOS

Mitigation Site	Impacted Land Classification	
	Meets criteria for Biologically Significant Resource Area	Does not meet criteria for Biologically Significant Resource Area
Tier I		
Meets criteria for Biologically Significant Resource Area	2.5:1	2:1
Does not meet criteria for Biologically Significant Resource Area	4:1	3:1
Tier II		
Meets criteria for Biologically Significant Resource Area	2:1	1.5:1
Does not meet criteria for Biologically Significant Resource Area	3:1	2:1
Tier III		
Meets criteria for Biologically Significant Resource Area	1.5:1	1:1
Does not meet criteria for Biologically Significant Resource Area	2:1	1.5:1

Appendix B); however, the Plan acknowledges that 80 percent avoidance criteria may not be achievable for rights-of-way that pre-date the Plan and IA, if those documents are approved and implemented. The Plan sets forth mitigation measures for narrow endemic species including, but not limited to, avoiding, minimizing, and mitigating populations of narrow endemic species to the maximum extent practicable.

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. 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. Specific components of these restoration plans are discussed in detail within Section 6.6.1 in the Plan. Restoration for temporarily impacted areas subject to future, repeat disturbance will conform to the protocols for seeding/planting, weed control, erosion control, species relocation, and soil and plant salvage set forth in Section 6.6.2 in the Plan.

Wetland Protection and Mitigation Program

The Wetland Protection and Mitigation Program (Wetland Program) will protect and achieve no-net-loss of wetlands. A functional wetland mitigation site means that the site meets performance criteria established in the approved wetland mitigation site plan. To offset unavoidable impacts to wetlands, thereby achieving an overall no-net-loss of wetland functions and values, 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 USACE (if warranted). The Wetland Program will ensure adequate mitigation based upon habitat type to address federal and state regulatory obligations.

Impacts to waters and wetlands mainly occur when the Water Authority conducts activities on linear facilities that pass through wetlands. Avoidance and minimization of impacts to wetlands within designated preserve/reserve areas will be assured through the implementation of measures outlined in Section 6.4 in the Plan. Uses within easements inside preserve lands are generally limited to O&M Activities at existing facilities. The Wetland Program will be implemented within the Plan Area through individual project review and the associated CEQA process. 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 (see Table 2-5).

Compliance with Fish and Game Code Sections 1602 and 1603(a)

Section 6.7.2 in the Plan identifies streamlined procedures for CDFG and the Water Authority to process Covered Activities that are subject to Fish and Game Code Sections 1602 and 1603(a). The CDFG Notification of Lake or Streambed Alteration (LSAA) form requires the applicant to identify measures to protect fish, wildlife, and plant resources. By implementing the Plan and the Lake, Stream, and River Work Conditions (see Appendix I of the Plan), and by entering into a binding IA together with a standardized LSAA, described below, the Plan 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.

Vernal Pool Protection Policy

If a vernal pool may be impacted by Covered Activities, the Plan 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 listed in Section 6.7.3.1 of the Plan require temporary impacts or unavoidable permanent impacts to be mitigated in-kind in consultation with the Wildlife Agencies (see Table 2-5).

Quagga and Zebra Mussel Response and Control Action Plan

Together with CDFG, Member Water Agencies, and others, the Water Authority developed and released the San Diego Regional *Dreissena* Mussel Response and Control Plan, dated June 25, 2008. The Response and Control Plan is intended as a reference guide to prevent mussel larva from entering surface waters. Based on this larger plan, the Water Authority then developed its own Response and Control Plan called the San Diego County Water Authority Quagga and Zebra Mussel Response and Control Action Plan.

2.3.2.8.2 Preserve Area and MMAs

Preserve Area

Implementation of the proposed Plan will contribute to the regional conservation of important habitat areas and Covered Species in the Preserve Area within the Plan Area. These Preserve Area sites are within BSRAs and often adjacent to, or managed as part of, other regionally significant conserved habitat areas. The conservation strategy for Covered Species focuses on establishing a regionally significant Preserve Area that supports Covered Species and potentially occupiable habitat. The Plan’s Preserve Area provides native habitat occupied by Covered Species, and the remaining upland and

wetland habitat acres/credits in the Preserve Area provides or will provide appropriate habitat to compensate for unavoidable impacts from Covered Activities. Currently, the Water Authority has three upland HMAs in the Preserve Area: Crestridge HMA, San Miguel HMA, and Rancho Cañada HMA. In addition to available wetland habitat at the Manchester HMA, the Water Authority is also in the process of creating additional wetland habitat for use as credit. The wetland creation sites are: Tijuana River Valley HMA in the city of San Diego, and San Luis Rey River Valley HMA within unincorporated San Diego County. The Preserve Area and the credits available for mitigation are described further in Section 6.8 of the Plan.

Preserve Management and Adjacency Guidelines

The Plan establishes practices to manage the Preserve Area and avoid and minimize, and mitigate when necessary, impacts to preserve lands within the Plan Area. Unlike most other conservation plans, the Plan does not authorize major public recreational uses, agriculture, general development, mineral extractions, or other activities that could affect areas adjacent to or within its Preserve Area or other plans' preserved areas. A PAMP will identify and provide detailed descriptions of the land management actions, restrictions, and practices that will be undertaken to maintain effective habitat for the Covered Species. Section 6.11 of the Plan describes the guidelines which are used when preparing the management plans in order to ensure that they adequately address management and adjacency issues, such as fire management, public use, fencing, trash removal, noise and lighting, signage, feral and domestic animal control, cowbird trapping, species introduction and re-introduction, and invasive exotic species control.

Plan Monitoring and Adaptive Management

Monitoring and adaptive management of the Preserve Area will be implemented to ensure that the Water Authority is in compliance with Plan 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. Adaptive management, a key component in conservation plans, provides a strategy to deal with the changes and variability of natural systems. The Plan expects that the land managers will prepare HMPs (with an Adaptive Management component). Interim monitoring and adaptive management requirements and guidelines are discussed in Sections 6.12.1 through 6.12.3 of the Plan.

2.3.2.9 Plan Funding

As explained in more detail in Section 7.0 of the Plan, 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, Preserve Area endowment funds, etc.).

2.3.2.10 Changed and Unforeseen Circumstances

In Section 8.0 of the Plan, the Water Authority defines Changed Circumstances and Unforeseen Circumstances. Changed Circumstances are those conditions that can reasonably be anticipated to occur during the Plan's proposed permit term, and that will be addressed in the proposed Plan, Permit, and IA. Unforeseen Circumstances refer to situations that arise after NCCP/HCP adoption and that could not reasonably have been anticipated over the duration of the Permit, and that involve an unexpected species decline. Changed Circumstances addressed in the Plan include: flooding; fire; extended periods of reduced precipitation; invasive non-native species; toxic spills, dumping, vandalism, and other illegal human activity; and future listings of non-Covered Species.

2.3.3 Alternative 3: Full Species List Alternative

The Full Species List Alternative would allow the Water Authority to adopt the proposed Plan as it is described in Alternative 2 and to increase the list of Covered Species. The USFWS would consider issuing a section 10(a)(1)(B) permit from USFWS and CDFG would consider authorizing a Section 2835 take authorization for incidental take for the full list of species analyzed in Appendix B of the Plan, which is a total of 89 species (42 plant species and 47 wildlife species). These 89 species are listed in Tables 2-1 and 2-6. Similar to the approach proposed in Alternative 2, the Water Authority would continue to comply with applicable environmental programs and prior agreements, such as the existing BOs. Alternatives 2 and 3, unlike Alternative 1, provide a benefit to Covered Species. As described above, the Plan identifies the types of Water Authority activities which would be covered under the Plan and Permits, and includes conservation measures to avoid, minimize, and mitigate potential biological impacts, including deducting credits from the Preserve Area. All elements contained within the Plan, as described under Alternative 2, would apply under Alternative 3 with the measures in the Plan implemented for the full list of species. The Preserve Area conserved by this alternative would encompass the same HMAs as described in Alternative 2. In the HMAs, the Water Authority would be responsible for funding the management and monitoring all 89 covered species.

This alternative is similar to Alternative 2 since the Water Authority would have a mechanism to address not only federally and/or state-listed species, but all of those species which have been identified as having any likelihood to become listed during the proposed term of the permit. The Plan includes a Conservation Analysis which addressed 89 species (see Appendix B). The benefit to covering more species is that even if some species are unlikely to ever be listed as threatened/endangered, inclusion on the Covered Species list directs conservation and avoidance/minimization of impacts toward these species. The Plan's minimization, avoidance, and mitigation during projects and protection in the Preserve Area would apply to a longer list of species. However, the Plan, as proposed in Alternative 2, has not yet fully demonstrated that there is adequate

TABLE 2-6
ALTERNATIVE 3: ADDITIONAL SPECIES TO BE COVERED

Scientific Name	Common Name	Federal/State Status	CNPS List	Plan Policies	Occurrence		
					Survey Area	PIZ	Preserve Area**
PLANTS							
Arctostaphylos rainbowensis	Rainbow manzanita	–/–	1B	--	K	K	N
Ceanothus verrucosus	Wart-stemmed ceanothus	–/–	2	--	K	K	P
Comarostaphylis diversifolia ssp. *diversifolia*	Summer holly	–/–	1B	--	K	K	P
Cordylanthus orcuttianus	Orcutt's bird's-beak	–/–	2	--	N	N	N
Cylindropuntia californica var. *californica*	Snake cholla	–/–	1B	NE	K	N	N
Ericameria palmeri ssp. *palmeri*	Palmer's goldenbush	–/–	2	NE	K	K	N
Githopsis diffusa ssp. *filicaulis*	Mission Canyon bluecup	–/–	3	--	K	N	K
Hazardia orcuttii	Orcutt's hazardia	CT/FC	1B	--	N	N	N
Lepechinia cardiophylla	Heart-leaved pitcher sage	–/–	1B	--	K	N	N
Myosurus minimus ssp. *apus*	Little mousetail	–/–	3	NE, VP	K	N	N
Navarretia prostrata	Prostrate navarretia	–/–	1B	NE, VP	N	N	N
Packera ganderi	Gander's ragwort	CR/–	1B	--	P	N	N
Quercus engelmannii	Engelmann oak	–/–	4	--	K	K	K
Satureja chandleri	San Miguel savory	–/–	1B	--	K	N	P
WILDLIFE							
Reptiles							
Thamnophis hammondii	Two-striped garter snake	CSC, *	NA	--	K	K	K
Birds							
Accipiter cooperii	Cooper's hawk	CSC, *	NA	--	K	N	K
Aquila chrysaetos	Golden eagle	CFP, CSC, BEPA	NA	--	K	P	K
Asio otis	Long-eared owl	CSC	NA	--	P	N	P
Circus cyaneus	Northern harrier	CSC	NA	--	K	P	K
Elanus leucurus	White-tailed kite	CFP, *	NA	--	K	P	K
Falco peregrinus anatum	American peregrine falcon	CE, CFP	NA	--	K	N	K
Haliaeetus leucocephalus	Bald eagle	CE, CFP, BEPA	NA	--	K	N	N
Pelecanus occidentalis californicus	California brown pelican	FE, CE, CFP	NA	--	N	N	N

TABLE 2-6
ALTERNATIVE 3: ADDITIONAL SPECIES TO BE COVERED (continued)

Federal and State Listing
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
BEPA = Bald and Golden Eagle Protection Act
CFP = California Fully Protected Species. No take of individuals is permitted.
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 (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
VP = Vernal Pool Protection Policy

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

NA = Not applicable

** Refer to species-specific Conservation Analysis in the Plan for details on potential habitat locations in Survey Area, PIZ, and Preserve Area.

conservation and protection for the full list of species. Therefore, the Water Authority would be required to supplement NCCP/HCP funding, conduct research and surveys to supplement existing species information, and direct strategic acquisition of additional lands for the Preserve Area to adequately mitigate for impacts to all 89 species.

This alternative is distinct from Alternative 2 because the number of species that would be protected under the NCCP/HCP would be increased from 63 to 89, and conservation would be provided for 26 additional species above and beyond those covered by Alternative 2. The additional 26 Covered Species would include those whose occurrence has not been confirmed or determined to be likely to occur in the Plan Area, or species whose adequate conservation and management requires verification. Consideration of coverage by the USFWS for the additional 26 species would require further surveys to determine the location of those species in the Survey Area, PIZ, and Preserve Areas, and may require conservation measures beyond those described in the proposed Plan to be implemented by the Water Authority.

Under Alternative 3, the Water Authority would implement one or more of the following conservation options for the additional 26 Covered Species:

1. Demonstrate that adequate suitable habitat already exists (either occupied or not) within the Preserve Area to justify coverage.

2. Acquire additional habitat with known Covered Species' occurrences or the potential to support the species with suitable occupiable habitat. Suitable habitat should have enhancement or restoration potential and should be biologically viable for the species' persistence. Such habitat must be added to the Preserve Area and managed and monitored in perpetuity consistent with the Plan.

3. Restore and/or enhance habitat within the Plan Area's existing mitigation properties/Preserve Area. Restoration or enhancement sites should be managed and monitored in perpetuity consistent with the Plan.

4. Contribute funds to other species-specific regional conservation efforts or species-specific management programs.

5. Implement a biologically superior conservation alternative for the species at appropriate locations within the Plan Area.

6. Propagate species for reintroduction and/or introduction into biologically suitable habitat within the Plan Area in accordance with a Wildlife Agency-approved restoration and monitoring program.

7. Salvage and relocate species into suitable, occupiable habitat in accordance with a Wildlife Agency-approved restoration and monitoring program.

8. Purchase mitigation bank credits within established mitigation banks that support and provide active management for the species.

2.3.4 Alternative 4: Reduced Plan Area Alternative

The Reduced Plan Area Alternative would allow the Water Authority to adopt the Plan as described in Alternative 2, with coverage proposed only for those 39 species that are known to occur within the PIZ. The list of species is provided in Table 2-7. The Plan Area that would be permitted would be limited to the PIZ, encompassing approximately 64,600 acres (see Figure 1-4), and the Covered Activities would be the same as those covered under Alternative 2 (Proposed Plan Alternative). The Preserve Area conserved by this alternative would also encompass the same HMAs as Alternatives 2 and 3. The USFWS would consider issuing a section 10(a)(1)(B) permit and CDFG would consider authorizing a Section 2835 take authorization for incidental take only for species that are known to occur in the PIZ as they are analyzed in Appendix B of the Plan, which is a total of 39 species (18 plant species and 21 wildlife species). Alternative 4 would provide conservation for fewer species than covered in Alternatives 2 and 3. The anticipated impacts from this alternative are summarized along with those from Alternatives 2 and 3 in Table 2-1.

Similar to the approach proposed in Alternatives 2 and 3, the Water Authority would continue to comply with applicable environmental programs and prior agreements, such as the existing BOs. Alternatives 2, 3, and 4, unlike Alternative 1, provide a benefit to Covered Species. As described above, the proposed Plan identifies the types of Water Authority activities which would be covered under the Plan and Permits, and includes conservation measures to avoid, minimize, and mitigate potential biological impacts, including deducting credits from the Preserve Area. All elements contained within the Plan, as described under Alternative 2, would apply under Alternative 4 with the measures in the Plan implemented for the 39 species.

This alternative is similar to Alternatives 2 and 3 since the Water Authority would have a mechanism to address not only federally and/or state-listed species, but those species which have been identified as having any likelihood to become listed during the proposed term of the permit. The 39 species proposed for coverage under Alternative 4 have all been analyzed in Appendix B of the Plan. The benefit to providing coverage only for planned activities within the Water Authority's rights-of-way and fee-owned lands is that it would provide certainty for both the Water Authority and USFWS regarding take authorization and minimization, avoidance, and mitigation measures for those projects already planned for in the CIP. However, by restricting the Plan Area to the PIZ, the Water Authority would have take authorization only within the PIZ; therefore, separate permits would need to be obtained for projects conducted outside of the PIZ (e.g., extension of a pipeline that cannot feasibly be located within the existing pipeline alignments).

TABLE 2-7
ALTERNATIVE 4: COVERED SPECIES

Scientific Name	Common Name	Federal/State Status	CNPS List	Plan Policies	Occurrence		
					Survey Area	PIZ	Preserve Area**
PLANTS							
Acanthomintha ilicifolia	San Diego thorn-mint	CE/FT/CH	1B	NE	K	K	P
Adolphia californica	California adolphia	–/–	2	--	K	K	K
Ambrosia pumila	San Diego ambrosia	–/FE/CH	1B	NE	K	K	N
Baccharis vanessae	Encinitas baccharis	CE/FT	1B	NE	K	K	N
Brodiaea filifolia	Thread-leaved brodiaea	CE/FT/CH	1B	NE, VP	K	K	N
Brodiaea orcuttii	Orcutt's brodiaea	–/–	1B	--	K	K	N
Ceanothus cyaneus	Lakeside ceanothus	–/–	1B	NE	K	K	K
Centromadia pungens ssp. *laevis*	Smooth tarplant	–/–	1B	--	K	K	N
Deinandra conjugens	Otay tarplant	CE/FT/CH	1B	NE	K	K	K
Dudleya variegata	Variegated dudleya	–/–	1B	NE	K	K	K
Dudleya viscida	Sticky-leaved dudleya	–/–	1B	--	K	K	N
Eryngium aristulatum var. *parishii*	San Diego button-celery	CE/FE	1B	NE, VP	K	K	N
Ferocactus viridescens	San Diego barrel cactus	–/–	2	--	K	K	K
Muilla clevelandii	San Diego goldenstar	–/–	1B	--	K	K	K
Navarretia fossalis	Spreading navarretia	–/FT/CH	1B	NE, VP	K	K	N
Nolina cismontana	Chaparral nolina	–/–	1B	--	K	K	N
Salvia munzii	Munz's sage	–/–	2	--	K	P	K
Tetracoccus dioicus	Parry's tetracoccus	–/–	1B	--	K	K	P
WILDLIFE							
Invertebrates							
Branchinecta sandiegonensis	San Diego fairy shrimp	FE, CH	NA	NE, VP	K	K	P
Euphydryas editha quino	Quino checkerspot butterfly	FE, CH	NA	--	K	K	K
Amphibians							
Anaxyrus (=Bufo) californicus†	Arroyo toad	FE, CSC, CH	NA	--	K	K	K
Spea hammondii	Western spadefoot toad	CSC	NA	VP	K	K	K
Reptiles							
Actinemys marmorata pallida	Southern Pacific (southwestern) pond turtle	CSC	NA	--	K	K	P
Aspidoscelis hyperythra beldingi	Belding's orange-throated whiptail	CSC	NA	--	K	K	K
Aspidoscelis tigris stejnegeri	Coastal (western) whiptail	*	NA	--	K	K	K
Crotalus ruber ruber	(Northern) red-diamond rattlesnake	CSC	NA	--	K	K	K
Diadophis punctatus similis	San Diego ring-neck snake	*	NA	--	K	K	K

TABLE 2-7
ALTERNATIVE 4: COVERED SPECIES (continued)

Scientific Name	Common Name	Federal/State Status	CNPS List	Plan Policies	Occurrence		
					Survey Area	PIZ	Preserve Area**
Lichanura trivirgata roseofusca	Coastal rosy boa	*	NA	--	K	N	K
Phrynosoma coronatum blainvillii	Coast (San Diego) horned lizard	CSC, *	NA	--	K	K	K
Birds							
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	*	NA	--	K	K	K
Athene cunicularia hypugaea	Western burrowing owl	CSC	NA	--	K	K	N
Campylorhynchus brunneicapillus sandiegensis	San Diego cactus wren	CSC, *	NA	NE	K	K	K
Polioptila californica californica	Coastal California gnatcatcher	FT, CH, CSC	NA	--	K	K	K
Vireo bellii pusillus	Least Bell's vireo	FE, CE, CH	NA	--	K	K	P
Mammals							
Chaetodipus californicus femoralis	Dulzura (California) pocket mouse	CSC	NA	--	K	K	K
Chaetodipus fallax fallax	Northwestern San Diego pocket mouse	CSC	NA	--	K	K	K
Dipodomys stephensi	Stephens' kangaroo rat	FE, CT	NA	--	K	K	N
Lepus californicus bennettii	San Diego black-tailed jackrabbit	CSC	NA	--	K	K	K
Neotoma lepida intermedia	San Diego desert woodrat	CSC	NA	--	K	K	K

TABLE 2-7
ALTERNATIVE 4: COVERED SPECIES (continued)

Federal and State Listing
FE = Federally listed, endangered
FT = Federally listed, threatened
CH = Critical Habitat
CE = State listed, endangered
CT = State listed, threatened

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 (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.

Plan Policies
NE = Narrow Endemic Policy
VP = Vernal Pool Protection Policy

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

^{NA} = Not applicable

** Refer to species-specific Conservation Analysis in the Plan for details on potential habitat locations in Survey Area, PIZ, and Preserve Area.

This page intentionally left blank.

3.0 Environmental Setting/Affected Environment

3.1 Regional Environmental Setting

The proposed Plan Area covers approximately 992,000 acres in western San Diego County and southwestern Riverside County (see Figure 1-1). As described in Section 1.3.4, the proposed Plan Area under Alternatives 1, 2, and 3 encompasses the Water Authority's 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 and Pipeline 6 (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 (see Figure 1-3). The area of the PIZ, in which most of the impacts from Covered Activities are expected to occur, covers approximately 64,600 acres within the proposed Plan Area. The proposed Plan Area under Alternative 4 would be the area of the PIZ (see Figure 1-4).

Over this diverse terrain, landform ranges from flat to mountainous, with relatively gentle slopes on the coastal terraces and broad valleys, and steep hills and mountains in the inland portions. Topographical features include coastal beaches; mesas, canyons and rolling hills; plains, buttes, and plateaus; foothills and mountains; and rivers, creeks and drainages. Steep canyons are associated with drainages that have cut through hills and mesas. Streams flow down the slopes into canyons, eventually merging with one of the several major rivers that terminate in lagoons and estuaries near the Pacific Ocean. The relief map shown in Figure 1-1 illustrates the region's varying landform.

The San Diego area is known for its mild Mediterranean climate, which makes it a popular recreational and tourist destination. While most of the area is developed, particularly along the coast, other areas in the region are undeveloped and support natural vegetation communities. Major land uses include residential, commercial, and industrial development. Other uses include parks, preserves, and agriculture. As a result of diverse topography and microclimates, a number of unique habitats and vegetation communities that support a host of native plant and wildlife species are located within the proposed Plan Area. In fact, the San Diego region has more rare, threatened, and endangered species than any comparable land area in the continental U.S., including endemic plants, and has been identified as a major "hot spot" for biodiversity and species endangerment (Dobson et al. 1997; Myers et al. 2000). Nevertheless, human activities have modified many of the region's plant communities and replaced large tracts of native vegetation with agriculture and urban development.

3.2 Biological Resources

The following biological resources discussion is based on information provided in Section 4.0 of the Plan (see Appendix B).

3.2.1 Vegetation Communities and Habitat Types

Habitat and vegetation communities in the proposed Plan Area reflect the diverse topography and climate of the region. As a result, a large number of habitat and vegetation types that support a host of native plant and wildlife species exist within the proposed Plan Area. Vegetation communities found within the proposed Plan Area include coastal fringe environments, freshwater wetland, sage scrub, chaparral, grasslands, oak woodlands, high foothill, montane, and vernal pool habitats. Other land types include agricultural and non-native landscapes, as well as developed and urbanized lands.

Figure 3-1 displays the generalized vegetation communities and land cover types that are representative of the overall proposed Plan Area and the PIZ based on regional vegetation community mapping from San Diego Geographic Information Source (SanGIS) and Riverside County that was most recently updated in 2008 and 2007, respectively. The acreage of each vegetation or land cover type and subcommunity is also shown for both the proposed Plan Area and the PIZ in Table 3-1. As noted on Figure 3-1 and Table 3-1, the proposed Plan Area under Alternative 4 would be the same as the PIZ. In the following descriptions of upland and wetland communities, the acres for the proposed Plan Area and PIZ are reported for Alternatives 1, 2, and 3. The acres of each community in the proposed Plan Area under Alternative 4 would be the same as the PIZ.

3.2.1.1 Upland Communities

Upland communities range from agricultural and disturbed areas to a variety of chaparral, sage scrub, and woodland communities. Brief descriptions provided for each community are based on more detailed information in Section 4.2.1 of the Plan.

Active agricultural lands include a variety of agricultural areas, including those currently under cultivation and those supporting other agricultural activities involving crop production practices (e.g., nurseries, orchards, field crops, and regularly maintained pastures). There are 123,240 acres of agricultural lands in the proposed Plan Area. Within the PIZ, 11,469 acres are agricultural lands.

TABLE 3-1
APPROXIMATE AREA OF VEGETATION COMMUNITIES/LAND COVER TYPES
(acres)

Vegetation Community/Land Cover Type and Subcommunities	Approximate Area[1] Plan Area[2]	PIZ[3]
Upland Habitats		
Agricultural	**123,240**	**11,469**
General Agriculture	12,348	2,092
Extensive Agriculture (Row Crops, Pastures)	39,055	2,597
Intensive Agriculture (Dairies, Nurseries, Chicken Ranches)	5,189	259
Orchards and Vineyards	66,648	6,521
Chaparral, Coastal	**142,204**	**8,139**
Chamise Chaparral (Granitic Chamise Chaparral)	5,425	29
Chaparral[4]	36,025	1,664
Ceanothus Crassifolius Chaparral	4,231	0
Interior Live Oak Chaparral	0	0
Northern Mixed Chaparral	140	0
Northern Mixed Chaparral (Granitic)	14	0
Northern Mixed Chaparral (Mafic)	1	0
Scrub Oak Chaparral	301	0
Southern Maritime Chaparral	3,025	4
Southern Mixed Chaparral (Granitic)	92,848	6,435
Southern Mixed Chaparral (Mafic)	194	7
Chaparral, Montane/Trans-montane	**0**	**0**
Montane Chaparral	0	0
Redshank Chaparral	0	0
Coastal	**459**	**0**
Open Beach	301	0
Southern Foredunes	158	0
Coniferous Forest	**902**	**0**
Big Cone Spruce- Canyon Oak Forest	721	0
Mixed Coniferous Forest	2	0
Southern Interior Cypress Forest, Tecate Cypress Forest	17	0
Torrey Pine Forest	162	0
Disturbed/Developed	**378,251**	**25,024**
Bare Ground	0	0
Disturbed	352,165	1,387
Urban/Developed Land	26,086	23,637
Grasslands	**100,579**	**6,222**
Native Grassland (Valley Needle Grassland, Valley and Foothill Grassland)	52,635	2,705
Non-Native Grassland (Grassland)	47,944	3,517
Exotic Landscapes	**2,851**	**215**
Eucalyptus/Non-native vegetation	2,851	215
Ornamental	0	0
Oak Woodland and Forest	**17,548**	**775**
Black Oak Forest	28	0
Black Oak Woodland	781	33
Coast Live Oak Forest (Dense Coast Live Oak Woodland)	2,246	103
Coast Live Oak Woodland (Open Coast Live Oak Woodland)	9,976	636
Engelmann Oak Forest (Dense Engelmann Oak Woodland)	2,837	2
Engelmann Oak Woodland (Open Engelmann Oak Woodland)	1,391	1
Mixed Oak Woodland (Oak Woodland)	289	0

Vegetation Community/Land Cover Type and Subcommunities	Approximate Area[1] Plan Area[2]	PIZ[3]
Sage Scrub, Coastal	**179,708**	**9,856**
Alluvial Fan Scrub	133	0
Cactus Scrub	0	0
Coastal Sage-Chaparral Scrub	15,933	368
Coastal Sage Scrub (Diegan)	160,215	8,534
Coastal Sage Scrub (Inland)	302	500
Flat-topped Buckwheat Scrub	103	0
Maritime Succulent Scrub	1,434	35
Riversidean Alluvial Fan Scrub	172	14
Riversidean Sage Scrub	1,131	405
Southern Coastal Bluff Scrub	285	0
Sage Scrub, Montane/Trans-montane	**4**	**0**
Big Sagebrush Scrub (Great Valley)	4	0
Undefined[5]	**1,627**	**0**
Wetland Habitats		
Aquatic Freshwater	**8,529**	**1,638**
Non-vegetated Floodplain, Channel, Lakeshore Fringe	2,316	0
Open Freshwater (Freshwater, Open Water, Water)	6,213	1,639
Aquatic Marine	**1,365**	**0**
Open Saltwater (Brackish Water, Deep Bay, Estuarine, Intertidal, Shallow Bay, Subtidal)	1,189	0
Saltpan/Mudflats	176	0
Riparian	**29,231**	**1,132**
Arrowweed Scrub	0	0
Mule Fat Scrub	830	60
Southern Arroyo Willow Riparian Forest	413	5
Southern Coast Live Oak Riparian Forest	6,023	207
Southern Cottonwood-Willow Riparian Forest	6,079	377
Southern Sycamore Woodland	0	0
Southern Sycamore-Alder Riparian Woodland	3,999	151
Southern Willow Scrub	11,867	332
White Alder Riparian Forest	20	0
Riparian (Disturbed)	**457**	**4**
Arundo Scrub	14	0
Tamarisk Scrub	443	4
Wetland	**5,351**	**125**
Alkali wetlands (Alkali Seep, Alkali Marsh, Cismontane Alkali Marsh)	921	34
Freshwater Meadow or Seep	148	11
Freshwater Marsh (Coastal and Valley Freshwater Marsh, Emergent Wetland)	1,397	36
Montane Meadow	3	0
Southern Coastal Salt Marsh	1,837	0
Wetland (Disturbed)	769	44
Alkali Vernal Pools	0	0
San Diego Mesa Claypan Vernal Pools	0	0
San Diego Mesa Hardpan Vernal Pools	260	0
Vernal Lake	16	0
Total	**992,306**	**64,599**

Vegetation Community/Land Cover Type and Subcommunities	Approximate Area[1] Plan Area[2]	PIZ[3]

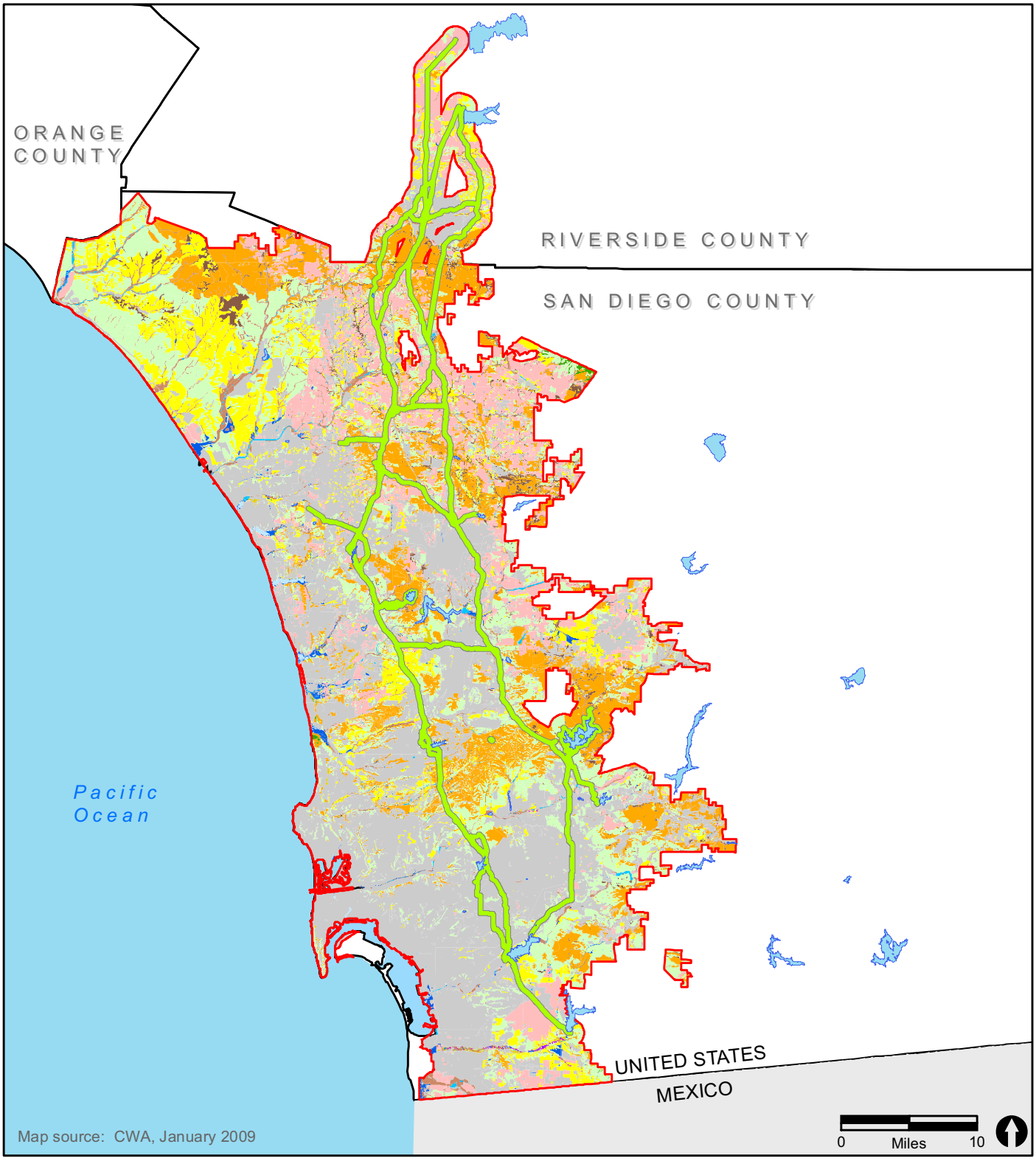
[1] The total area of the Plan Area is estimated to be 992,000 acres. At present, the area of the PIZ is approximately 64,600 acres (approximately six percent of the Plan Area). Due to slight differences in the boundaries for the Plan Area and vegetation data used in the analysis, there is a difference in the acreage presented in this table. As this table represents approximate acres, the area of each community has been rounded to the nearest acre.

[2] Plan Area under Alternatives 1, 2, and 3.

[3] PIZ under Alternatives 1, 2, and 3 and Plan Area/PIZ under Alternative 4.

[4] Due to general mapping, portions of the Plan Area are not specifically categorized as a specific subcommunity.

[5] Due to variances in the coastline for the Plan Area boundary and available regional data, vegetation mapping is not available for approximately 1,627 acres; therefore, these acres are listed as undefined.



NCCP/HCP Plan Area*

Probable Impact Zone (PIZ)

Vegetation Communities/ Land Cover Types

Agricultural

Aquatic Marine

Aquatic Freshwater

Chaparral

Coastal

Coniferous Forest

Disturbed/Developed

Grasslands

Non-Native Vegetation

Oak Woodland and Forest

Disturbed Riparian

Riparian

Sage Scrub

Wetland

*Boundary displayed represents Plan Area under Alternatives 1, 2, and 3.
See Figure 1-4 for the boundary of the Plan Area under Alternative 4.

RECON

M:\JOBS2\3639\env\gis\EIR_EIS\Fig3-1_EIS.mxd 8/6/2010

FIGURE 3-1

Vegetation Communites/Land Cover Types in the NCCP/HCP Plan Area

Coastal chaparral communities include a wide variety of semi-arid shrubs. Within the proposed Plan Area, there are 11 coastal subcommunities. Chamise chaparral (granitic chamise chaparral) is a low-growing chaparral community dominated by chamise (*Adenostoma fasciculatum*), with limited shrub diversity and arid understory conditions. Ceanothus crassifolius chaparral is dominated by hoary–leaf ceanothus (*Ceanothus crassifolius*) and chamise. Interior live oak chaparral refers to the tall and dense chaparral community dominated by interior live oak (*Quercus wislizenii*), scrub oak (*Quercus berberidifolia)*, and other evergreen shrub species. Northern mixed chaparral is a dense, near impenetrable community dominated by scrub oak and chamise. Northern mixed chaparral (Granitic) is another chaparral community characterized by tall, dense chaparral distinguished by a few shrub species and little or no understory growth on poorly developed soils above substantial granite-derived surface rock. Northern mixed chaparral (Mafic) is characterized by tall, dense chaparral with growth limited to a few shrub species and little or no understory growth, occurring on depauperate soils high in magnesium and iron (Mafic soils) above substantial surface rock. Scrub oak chaparral is a tall chaparral community dominated by scrub oak and associated with large, evergreen shrubs such as lilac/buckbrush (*Ceanothus* spp.) Southern maritime chaparral is a low-growing but sometimes densely canopied chaparral restricted to sandstone soils in areas heavily influenced by a coastal climate. Southern mixed chaparral (Granitic) is a mid-sized to tall woody chaparral dominated by chamise often situated on steep north- and east-facing slopes in soils derived from granite parent material. Finally, southern mixed chaparral (Mafic) contains mid-sized to tall woody chaparral dominated by chamise often situated on steep north- and east-facing slopes. There are 142,204 acres of chaparral communities in the proposed Plan Area. Within the PIZ, 8,139 acres are made up of chaparral.

There are also two montane or trans-montaine chaparral subcommunities associated with higher elevations. Montane chaparral is characterized by dense stands dominated by several shrub species, such as manzanita (*Arctostaphylos* spp.) and lilac/buckbrush. Redshank chaparral is a tall-growing chaparral community dominated by redshank (*Adenostoma sparsifolium*). There are currently no montane or trans-montane chaparral subcommunities mapped within the proposed Plan Area or PIZ.

Within the proposed Plan Area, open beach and southern foredunes are classified as coastal communities. Open beach habitats are sandy, unvegetated areas along the shoreline between the tideline and southern foredune communities. Southern foredunes is a distinctive habitat which occurs beyond the high tide line and is composed of dunes with low-lying sandy areas supporting sparse woody shrubs and native annuals such as sand-verbena (*Abronia* spp.), sea-rocket (*Cakile maritima*), beach saltbush (*Atriplex leucophylla*), and coastal saltgrass (*Distichlis spicata*). There are 459 acres of coastal communities within the proposed Plan Area; however, there are no coastal communities located within the PIZ.

The proposed Plan Area also includes several subcommunities within the coniferous forest vegetation community. Big cone spruce – canyon oak forest is dominated big cone spruce (*Psuedotsuga macrocarpa*) with a shorter, dense sub-canopy of canyon oak (*Quercus chrysolepis*) and a very sparsely vegetated herbaceous layer. Mixed coniferous forest habitats include Coulter pine forest, ponderosa pine forest, Sierran coniferous forest, mixed oak-coniferous big pine/coulter pine, mixed evergreen forest, and Jeffrey pine forest. Southern interior cypress forest and Tecate cypress forest consist of isolated stands of cypress (*Cupressus forbesii* or *C. arizonica* ssp. *stephensonii*), which are relictual elements from a more widespread Pleistocene flora. Torrey pine forest is an open forest of relict Torrey pines (*Pinus torreyana*) and sandstone soils that occur along the coastline where significant fogs and mesic microhabitats are present. There are 902 acres of coniferous forest in the proposed Plan Area, but none of these acres are mapped within the PIZ.

Disturbed and developed areas make up the largest proportion of the proposed Plan Area (more than one-third). Disturbed areas can consist of bare ground, or when vegetated, are dominated by weedy indicator species. Disturbed land is identified as areas having less than 20 percent cover (by area or frequency of occurrence as determined during the site assessment) of native plants. Urban/Developed lands include areas that have been permanently altered for human use. There are 378,251 acres of disturbed/developed lands in the proposed Plan Area. Within the PIZ, 25,024 acres are disturbed/developed.

Grasslands within the proposed Plan Area include both native and non-native grasslands. Native grasslands, including valley needle grassland and valley and foothill needle grassland, are found on clay substrates and support perennial native bunchgrass species. Non-native grassland (Grassland) is typified by a dense-to-open cover of annual and broadleaf, herbaceous grasses. The proposed Plan Area includes 100,579 acres of grasslands, while the PIZ includes 6,222 acres of grasslands.

Exotic landscapes include non-native eucalyptus woodlands as well as ornamental landscapes dominated by non-native plant species, including intentionally or actively planted areas usually associated with aesthetic improvement of developments. There are 2,851 acres of exotic landscapes in the proposed Plan Area. Within the PIZ, 215 acres are mapped as exotic landscapes.

Within the proposed Plan Area, oak woodland and forest includes a range of subcommunities. The black oak forest community is a persistent subclimax vegetation community dominated by black oak (*Quercus kelloggii*). Black oak woodland is dominated by black oak and has a well developed understory and is associated with Ponderosa pine (*Pinus ponderosa*) (Holland 1986). Coast live oak forest, also known as dense coast live oak woodland, is very similar to the coast live oak woodland habitat described above except that it is characterized by having a denser, closed canopy. Coast live oak woodland, also known as open coast live oak woodland, is an evergreen

woodland characterized by a sparse distribution coast live oak (*Quercus agrifolia*) with varying, relatively open understory components. Engelmann oak forest (dense Engelmann oak woodland) is similar to Engelmann oak woodland, except for tree density. Engelmann oak forests have a denser, more closed canopy than Engelmann oak woodlands and contain a less dense understory. Engelmann oak woodland (open Engelmann oak woodland) includes woodlands dominated by Engelmann oaks, and usually contains some coast live oaks as well. Mixed oak woodland (oak woodland) refers to broad-leaved, forest/woodland habitats which exhibit a strongly tiered canopy of oaks (*Quercus kelloggii* and *Q. chrysolepis*) and mid-sized trees. There are 17,548 acres of oak woodlands and forest in the proposed Plan Area. Within the PIZ, 775 acres are oak woodlands and forest.

Similar to the chaparral communities, coastal sage scrub communities are a prominent vegetation community within the proposed Plan Area. The coastal sage scrub communities include 10 subcommunities. Alluvial fan scrub forms in washes and alluvial fans and is characterized by a co-dominance of woody coastal sage scrub, chaparral, riparian plants, and annual herbaceous species within a short distance of one another. Coastal sage-chaparral scrub refers to a transitional habitat containing plant species representative of both sage scrub and chaparral vegetation. Diegan coastal sage scrub comprises low-growing, aromatic shrubs that are drought-deciduous. Cactus scrub is a subtype of Diegan coastal sage scrub that supports a high density (greater than 60 percent) of prickly pear (*Opuntia littoralis*) (U.S. Forest Service 1997). Coastal sage scrub (Inland) occurs within San Diego County at elevations above 1,000 feet above mean sea level. Flat-topped buckwheat scrub is a scrub community dominated by flat-topped buckwheat (*Eriogonum fasciculatum*) and is found in interior valleys 10 to 24 miles from the coast. Maritime succulent scrub is a low-growing, relatively open vegetation community often dominated by drought-deciduous shrubs with a rich mixture of cactus and other succulents. Riversidean sage scrub is a form of coastal sage scrub characterized by low-stature, aromatic, drought-deciduous shrubs and sub-shrubs. Riversidean alluvial fan scrub is a Mediterranean-type shrubland restricted to floodplains and the periphery of drainages where deeply bedded, sandy alluvium supports plant species adapted to nutrient poor soils. Southern coastal bluff scrub applies to an open mix of native succulents and low-lying shrubs that are adapted to moisture-laden winds and salt spray. There are 179,708 acres of sage scrub coastal communities in the proposed Plan Area, with 9,856 acres within the PIZ.

The sage scrub communities also include big sagebrush scrub, which is a montane/trans-montane subcommunity. Big sagebrush scrub is dominated by big sagebrush (*Artemesia tridentata*) and is found on a variety of soils and terrain. There are four acres of big sagebrush scrub mapped within the proposed Plan Area; however, there are no montane/trans-montane subcommunities mapped within the PIZ.

3.2.1.2 Wetland Communities

Although wetland communities represent a smaller percentage (less than 5 percent) of the proposed Plan Area, this category includes a variety of distinct subcommunities. Brief descriptions provided for each community are based on more detailed information in Section 4.2.2 of the Plan.

There are two aquatic subcommunities: freshwater and marine. Aquatic freshwater communities include non-vegetated channels, floodways, lakeshore fringe, and open water. Aquatic marine communities include open saltwater (brackish water, deep/shallow bay, intertidal, estuarine) and saltpan/mudflats. There are 8,529 acres of freshwater subcommunities within the proposed Plan Area, and 1,638 acres of aquatic freshwater in the PIZ. There are 1,365 acres of marine subcommunities within the proposed Plan Area, although none of these acres are mapped within the PIZ.

There are nine riparian subcommunities within the proposed Plan Area. Arrowweed scrub is composed of moderate to dense cover of arrowweed (*Pluchea sericea*). Mule fat scrub is a tall, herbaceous riparian scrub strongly dominated by mule fat (*Baccharis salicifolia*). Southern arroyo willow riparian forest is a riparian vegetation community that is dominated by arroyo willows (*Salix lasiolepis*). Southern coast live oak riparian forests are open to locally dense evergreen woodlands primarily dominated by coast live oak. Southern cottonwood willow riparian forest is a riparian community dominated by cottonwood and willow trees. Southern sycamore woodlands are sparse riparian communities dominated by California sycamore (*Platanus racemosa*) and coast live oak. Southern sycamore-alder riparian woodland is a tall, open canopy, broadleafed, winter-deciduous streamside woodland dominated by western sycamore (*Platanus racemosa*) and often white alder (*Alnus rhombifolia*). Southern willow scrub is a dense riparian community dominated by broad-leafed, winter-deciduous willow trees (*Salix* spp.). Finally, white alder riparian forest is a riparian community dominated by white alder. There are 29,231 acres of riparian communities in the proposed Plan Area, with 1,132 acres within the PIZ.

There are also two disturbed riparian subcommunities. Arundo scrub is characterized by the dominance of *Arundo donax*, a large, bamboo-like plant from Mediterranean Europe and southern Asia. Tamarisk scrub is a type of riparian scrub dominated by non-native, highly invasive tamarisk (*Tamarix* spp.). Within the proposed Plan Area, there are 457 acres of disturbed riparian, and there are four acres of disturbed riparian mapped within the PIZ.

Wetlands are a sensitive biological habitat that are regulated at the federal, state, and local levels. Alkali wetlands, including alkali seep, alkali marsh, and cismontane alkali marsh, are characterized by saturated soils dominated by emergent, herbaceous monocots. Species typical of this habitat include yerba mansa (*Anemopsis californica*), spiny rush (*Juncus acutus*), and San Diego marsh elder (*Iva hayesiana*). Freshwater

meadows or seeps are localized microhabitats situated in moist or wet soil around springs or seeps, where wetland herbs and herbaceous perennials, especially sedges and grasses, are concentrated. Freshwater seeps are often associated with grasslands or meadows. Freshwater marsh includes coastal and valley freshwater marsh, and emergent wetlands. Freshwater marsh habitat consists of saturated soils that remain wet through much of the year and support stands of perennial, emergent monocots. Uniform stands of bulrushes (*Scirpus* spp.) or cattails (*Typha* spp.) often characterize this habitat. The montane meadow vegetation communities include wet and dry montane meadows and wildflower fields. Montane meadows support mesic fields of herbaceous perennials, bunchgrasses, and sedges. Southern coastal salt marsh and mudflats are coastal lagoon habitats that are characterized by low-energy tidal movement, river inputs, and increased sedimentation. Common species include California cordgrass (*Spartina foliosa*), pickleweed (*Salicornia virginica*), saltwort (*Batis maritima*), and sea-blite (*Suaeda californica*). Disturbed wetland habitat includes those areas with less than 20 percent cover (by area or frequency of occurrence as determined during the site assessment) of native plants. Within the proposed Plan Area, there are 5,351 acres of wetland communities, and 125 acres of wetlands mapped within the PIZ. As described below, some of these acres are mapped as vernal pools.

Among the wetland subcommunities are vernal pools, ephemeral wetlands that support a unique association of biota adapted to periodic or continuous inundation during the wet season and the absence of soil moisture during the dry season. Vernal pool habitat designation may include both road rut vernal pools and naturally formed pools, and includes the watershed that feeds the pool. In San Diego County, natural vernal pools are usually either San Diego mesa hardpan vernal pools or San Diego mesa claypan vernal pools. Within the proposed Plan Area, there are vernal pools identified as San Diego mesa hardpan vernal pools and vernal lakes. Alkali vernal pools and San Diego mesa claypan vernal pools may also exist. Named after their saline-alkali soils, alkali vernal pools form over a large area in the inland valleys. There is an alkali vernal pool at the Salt Creek vernal pool complex in southwestern Riverside County (Riverside County Integrated Project [RCIP] 2003). San Diego mesa claypan vernal pools are similar to hardpan vernal pools except they have basins sealed by a thick veneer of clay. These pools occur on marine terraces on the coastal plain and have finer textured soils than the hardpan pools. They are often associated with mima mound topography. San Diego mesa hardpan vernal pools are a very low-growing plant community of herbaceous perennials and annuals that are adapted to seasonal ponding on hardpan iron and silica rich substrates relatively impervious to the downward flow of water. As a result, the rainfall in these coastal basins slowly evaporates over an extended period, allowing a unique assemblage of plants to grow during the interim. Large vernal pools that form in a basin and remain saturated for a longer duration are called vernal lakes. For some vernal lakes, vegetation in deeper portions may resemble freshwater marshes (RCIP 2003).

3.3 Sensitive Vegetation Communities

Vegetation communities considered sensitive by the Water Authority within the proposed Plan Area are those considered to be rare or threatened in the region, including all wetlands, riparian habitats, waterways, coastal sage scrub, native grasslands, and oak woodlands.

3.3.1 Sensitive Habitats

Sensitive habitats within the proposed Plan Area are those in the region that support sensitive plant and wildlife species, and/or are under the protection of federal or state regulations. Sensitive habitats in the proposed Plan Area include all wetlands, riparian habitats, and waterways. Other sensitive habitats include upland scrub habitats, native grasslands, and native woodlands. Assessments of the sensitivity of habitats are based primarily on Holland (1986) and the California Natural Diversity Data Base (CNDDB; 2008).

3.3.1.1 Critical Habitat

Critical habitat includes areas determined to be essential to the conservation of listed species. There is critical habitat designated or proposed for seven covered plant species and seven covered wildlife species. There is also critical habitat for vernal pool fairy shrimp, which is a Major Amendment Species. The location of critical habitat within the PIZ and Plan Area is displayed on figures in the Conservation Analysis (see Attachment B-1 of the Conservation Analysis which is included as Appendix B of the Plan).

There is critical habitat located within the PIZ for San Diego ambrosia, thread-leaved brodiaea*,* Otay tarplant, and spreading navarretia. Critical habitat for San Diego thorn-mint and willowy monardella is present within the Plan Area but not the PIZ. There is designated final critical habitat for Munz's onion within Riverside County; however, critical habitat does not occur within either the PIZ or the Plan Area. Table 3-2 provides a summary of the acres of critical habitat within the PIZ and the Plan Area as compared to the total critical habitat designated or proposed for each plant species.

TABLE 3-2
CRITICAL HABITAT FOR COVERED PLANT SPECIES (acres)

Covered Species	Critical Habitat		
	Within the PIZ	Within the Plan Area	Total Critical Habitat
San Diego thorn-mint *Acanthomintha ilicifolia*	0	83	671
Munz's onion[‡] *Allium munzii*	0	0	176
San Diego ambrosia[1] *Ambrosia pumila*	76	693	802
Thread-leaved brodiaea *Brodiaea filifolia*	38	54	597
Otay tarplant *Deinandra conjugens*	547	6,318	6,330
Willowy monardella *Monardella viminea*	0	73	73
Spreading navarretia[2] *Navarretia fossalis*	118	1,057	6,872

[‡] Major Amendment Species
[1] Proposed critical habitat only.
[2] Acreages in Table 3-2 reflect the area of re-proposed critical habitat. Of the total final critical habitat for spreading navarretia, there are 49 acres designated within the PIZ and 327 acres designated within the Plan Area.

There is critical habitat located within the PIZ for San Diego fairy shrimp, Quino checkerspot butterfly, southwestern willow flycatcher, least Bell's vireo, and coastal California gnatcatcher. As recently as October 2009, re-proposed critical habitat indicated that there is also critical habitat for arroyo toad within the PIZ. It should be noted that the critical habitat for Riverside fairy shrimp is present within the Plan Area but not the PIZ. There is designated final critical habitat for vernal pool fairy shrimp within Riverside County; however, critical habitat does not occur within either the PIZ or the Plan Area. Table 3-3 provides a summary of the acres of critical habitat within the PIZ and the Plan Area as compared to the total critical habitat designated or proposed for each wildlife species.

TABLE 3-3
CRITICAL HABITAT FOR COVERED WILDLIFE SPECIES (acres)

Covered Species	Critical Habitat		
	Within the PIZ	Within the Plan Area	Total Critical Habitat
Invertebrates			
Vernal pool fairy shrimp‡ *Branchinecta lynchi*	0	0	597,821
San Diego fairy shrimp *Branchinecta sandiegonensis*	46	2,854	3,085
Riverside fairy shrimp *Streptocephalus woottoni*	0	25	306
Quino checkerspot butterfly *Euphydryas editha quino*	997	23,499	62,125
Amphibians			
Arroyo toad[1] *Anaxyrus* (=*Bufo*) *californicus*	768	20,260	109,110
Birds			
Southwestern willow flycatcher *Empidonax traillii extimus*	147	3,326	120,824
Least Bell's vireo *Vireo bellii pusillus*	459	11,258	38,000
Coastal California gnatcatcher *Polioptila californica californica*	5,372	58,984	197,303

‡ Major Amendment Species
[1] Acreages in Table 3-3 reflect the area of re-proposed critical habitat. Of the total final critical habitat for arroyo toad, there is no critical habitat designated within the PIZ or Plan Area.

3.3.2 Sensitive Species

Numerous plant and animal species listed as rare, threatened, or endangered are known or expected to occur within the proposed Plan Area. Biological evaluation for the Plan determined which of several thousand sensitive species occurring within the area warranted consideration for coverage. Ultimately, 89 sensitive species were analyzed. The evaluation considered species' present population declines, diminishing habitat, levels of sensitivity, and survival risk. Assessments of the sensitivity of species were based primarily on California Native Plant Society (CNPS; 2001), State of California (2004a, 2004b), and USFWS (2004).

Based on current listing and sensitivity information, habitat distribution data, and best professional judgment of Water Authority biologists, a total of 63 species (26 plant species and 37 wildlife species) occurring within the proposed Plan Area were determined to warrant coverage under the Proposed Plan and are proposed for coverage. Species identified for coverage under the Plan represent those most likely to be affected by Water Authority activities and those meeting biological sensitivity criteria (see Section 1.2 of Appendix B of the Plan).

3.4 Water Resources and Water Quality

3.4.1 Surface Water

Water resources are affected by natural conditions such as annual precipitation variability, landform and flow patterns as well as human activity. In the San Diego area, all waterways west of the Peninsular Range mountains ultimately reach the Pacific Coast. All streams, tributaries, and rivers have an associated watershed. The proposed Plan Area spans nine of San Diego's 11 watersheds. Many of the watersheds are delineated into smaller sub-watersheds or hydrologic units (HUs) that drain to specific water bodies or features. Watershed boundaries follow the major ridgelines around river channels and meet where the water flows out of the watershed, usually the mouth of a stream or river. Most streams in the region have surface water impoundments that capture and regulate flow. Surface water originates as snow melt and rainfall runoff and runoff from imported water supplies. Annual precipitation in San Diego varies from less than 11 inches near the coast to more than 25 inches farther inland near the Laguna Mountains.

Regional Water Quality Control Boards (RWQCBs) have the responsibility of protecting water quality in nine regions throughout California. The San Diego Basin Water Quality Control Plan of 1994 (Basin Plan) forms the basis for the regulatory programs of the San Diego RWQCB. The Basin Plan contains water quality goals and policies, descriptions of existing conditions, and discussions of solutions. It also includes an implementation plan describing actions by the RWQCB and others that are necessary in order to achieve and maintain the water quality standards. In San Diego, the Basin Plan covers most of San Diego County and portions of southwestern Riverside County and Orange County. Increasingly, water quality standards and planning efforts focus on watersheds and hydrologic units.

RWQCB sets forth water quality objectives for constituents to protect the quality of surface waters. The RWQCB is responsible for implementing the National Pollution Discharge Elimination System (NPDES) Program, which regulates surface waters and groundwater. The NPDES Program is a set of permits that apply to various activities that generate pollutants with potential to impact water quality. These permits regulate point (industrial) and non-point (stormwater) sources of pollutants into water resources. Compliance with the permit requires that a Storm Water Pollution Prevention Plan (SWPPP) be prepared and implemented for any project larger than one acre in size. During the preparation of a SWPPP, BMPs are identified that would prevent a discharge of sediment and other pollutants into nearby waters and drainage courses. Typically, post-development BMPs to treat water quality are concerned with nuisance water and first flush events.

Surface water quality is affected by development and urbanization. Any activity in a watershed can affect water quality, quantity, and/or rate of movement. Pollutants in urban

runoff can result in degradation of water quality. Different geographic areas in the proposed Plan Area have different water quality issues, depending on land use activities in the watershed. Common water quality concerns in the area include coliform bacteria, sediments, trace metals, nutrients, and pesticides. Impaired water bodies are those that do not meet required water quality standards, as identified by Section 303(d) of the federal Clean Water Act.

Under Section 1602 of the California Fish and Game Code, CDFG regulates activities that would divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. CDFG has jurisdiction over riparian habitats (e.g., southern willow scrub) associated with watercourses. Jurisdictional waters are delineated by the outer edge of riparian vegetation or at the top of the bank of streams or lakes, whichever is wider. CDFG jurisdiction does not include tidal areas or isolated resources. The California Fish and Game Code requires a Streambed Alteration Agreement with CDFG for projects affecting riparian and wetland habitats.

3.4.2 Water Supply and Use

The Water Authority supplies water to the San Diego region. Up to 90 percent of the region's water supply is imported from outside the county. MWD supplies imported water to the Water Authority from the California State Water Project and the Colorado River. The remainder is obtained from surface runoff to reservoirs, recycled water, groundwater resources, and through water conservation. Water in surface reservoirs comes from surface water as well as imported water. The Water Authority distributes water to its Member Water Agencies that, in turn, deliver water to end consumers.

Water uses in the region include residential, commercial, industrial, and agricultural activities. Agricultural, commercial, and industrial activities consume the most water. The Water Authority's demand projections change in response to regional population growth forecasts as reported by the San Diego Association of Governments (SANDAG), and changes in water use practices within the county. The Water Authority responds to the various service demands by increasing imports, modifying its distribution system, and increasing efforts to develop local yield and conservation practices which make water use as effective and efficient as possible. The Water Authority has pursued efforts to provide greater dependability of service through expansion of its emergency supply and delivery capabilities. The Water Authority works with Member Water Agencies to develop local water supplies while reducing regional water demand through conservation programs.

The Water Authority does not provide recycled water; however, many of the Member Water Agencies have recycled water treatment facilities and provide recycled water. Recycled water is used for irrigation of agriculture, park areas, and landscaping, as well

as industrial uses. Recycled water is non-potable, and its use is restricted in areas that drain into surface reservoirs used for potable water.

3.5 Land Use

The proposed Plan Area is located in 17 municipalities plus the county of San Diego and the county of Riverside. The tribal lands within the proposed Plan Area are limited to those of the Pechanga Band of Luiseno Indians located in southern Riverside County. The PIZ overlays tribal lands in two locations; however, future improvements are anticipated to be limited to pre-existing rights-of-way. Land use agencies designate land uses for parcels and properties within their jurisdictions as part of long-range or general planning process in order to facilitate local land use decisions. Table 3-4 provides a breakdown of general land use categories for the proposed Plan Area and the PIZ. The land use classifications have been compiled as general categories for all the jurisdictions in San Diego and Riverside counties (Table 3-4). The information in Table 3-4 represents existing or allowed land uses, which differs from the large-scale vegetation mapping used to display land cover types in Table 3-1. General land uses within the proposed Plan Area include agriculture, commercial and business centers, industrial, military, open space and preserves, parks, public facilities and utilities, and residential areas. Areas for roadways and vacant lots are also included in the land use categories for the proposed Plan Area.

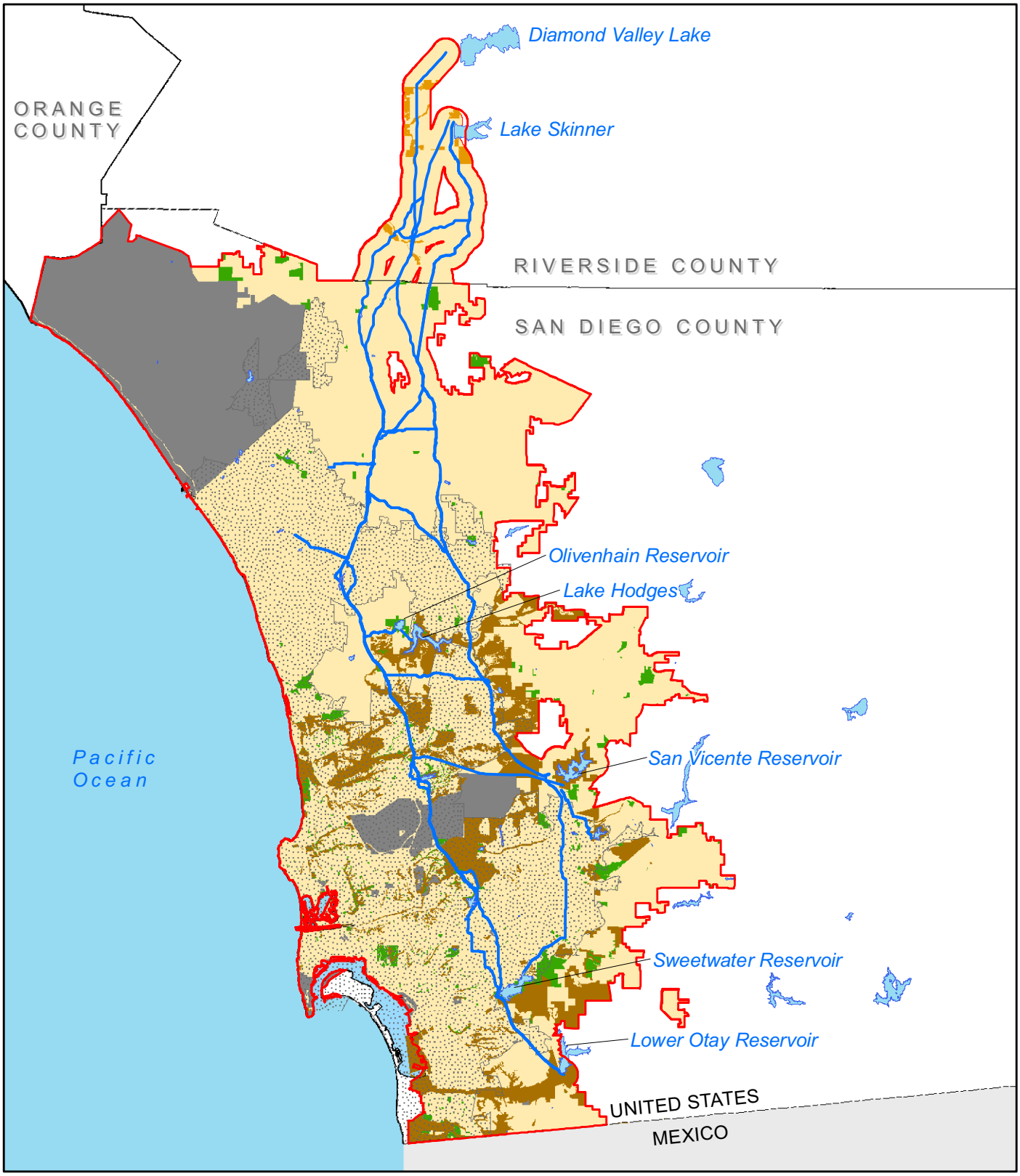
TABLE 3-4
LAND USE IN THE PROPOSED PLAN AREA (acres)[1]

Land Use Category	Proposed Plan Area	PIZ
Agricultural	79,646	7,198
Commercial/Office	18,247	1,402
Industrial	18,894	1,027
Parks and Recreation	183,252	12,775
Public Facilities and Utilities	183,272	3,742
Residential	269,919	18,856
Vacant/Transportation	239,166	19,542

Source: Land use information compiled from SANDAG (2008) and Riverside County TLMA Geographic Services (2007)

[1] The total area of the proposed Plan Area is estimated to be 992,000 acres. At present, the area of the PIZ is approximately 64,600 acres (approximately six percent of the proposed Plan Area). Due to slight differences in the boundaries for the proposed Plan Area and data, there is a difference in the acreage presented in this table. As this table represents approximate acres, the area of each land use category has been rounded to the nearest acre.

Urban development covers much of the San Diego area, particularly along the coast, around the city of San Diego, and the portion of southwest Riverside within the proposed Plan Area. Open space, parks, and recreation areas are typically along ridges and mountain ranges, and in the east county area of San Diego County. Figure 3-2 illustrates the general locations and boundaries of state and county parks, national forests, and



*Boundary displayed represents Plan Area under Alternatives 1, 2, and 3. See Figure 1-4 for the boundary of the Plan Area under Alternative 4.

RECON

M:\jobs2\3639\env\gis\EIR_EIS\fig3-2_EIS.mxd 11/06/09

FIGURE 3-2

Parks and Preserves in NCCP/HCP Plan Area

preserve lands covered by an existing or proposed NCCP and/or HCP. Many parks, offering passive recreation opportunities such as hiking, are located in the undeveloped areas. Other activities associated with this land use include camping, biking, and picnicking.

Urban and residential development is more extensive in the lower elevations of the coastal plain of San Diego County. Residential land uses include single-family and multi-family residential housing, as well as rural and low density single family lots. Agricultural uses are predominantly the orchard crops (e.g., avocado and citrus) of northern San Diego County and portions of Riverside County. Agricultural uses continue to be displaced by new development as substantial tracts of agricultural land are currently proposed for, or are actively being converted to, residential development.

The remainder of the proposed Plan Area is made up of commercial, office, industrial, military institutions, public facilities, and roadways. Commercial land uses typically consist of business parks, retail shops, restaurants, and local businesses. Industrial areas are usually plant operations, such as manufacturing. Public facilities include government offices, schools, universities, and churches. Utilities include areas for power plants, water treatment plants, electrical substations, and associated easements and rights-of-way.

The Water Authority develops projects and maintains infrastructure to accommodate current and future regional water demands. The development and maintenance of water infrastructure projects is determined in part by the condition and location of the existing water supply infrastructure in relation to the projected demand. Planning for Water Authority facilities is based on population and growth projections provided by SANDAG, which considers planning and decisions of local land use agencies. The Water Authority's CIP is reviewed on an annual basis in order to account for changes in long-term projections and respond to the region's water demands in accordance with planned growth.

3.5.1 Conserved Lands

Within the proposed Plan Area, conserved lands include State, County, and city parks, preserves, and ecological study areas, national forests, private and public lands covered by open space or conservation easements, and habitat mitigation banks. Preserve lands are managed for joint use with a priority on protecting sensitive plant and wildlife species and their habitats. The Water Authority has established more than 3,000 acres of Preserve Area and MMAs throughout San Diego County (see Section 2.1.2, Preserve Area and MMAs).

3.5.2 Regional Conservation Planning

A number of conservation planning efforts have been developed and implemented in the San Diego region and proposed Plan Area. These regional conservation plans include the San Diego MSCP, the San Diego MHCP, the Western Riverside County MSHCP, the AD161 Multiple Species Subregional Habitat Conservation Plan, and the San Diego Gas and Electric (SDG&E) NCCP/HCP. In addition, a number of plans are currently being developed, including the MSCP North County, the MSCP East County, and the Joint Water Agencies NCCP/HCP. Generally, all of these plans identify specific areas within their area of coverage that should be preserved to assure that habitat in sufficient quality and quantity remains in the county to support the numerous species encompassed by the plans. The proposed Plan provides more detail on conservation plans in the region (see Section 3.2 of the Plan).

3.5.3 Habitat Linkages and Wildlife Corridors

Wildlife linkages and corridors can function to increase the habitat value of blocks of habitat or to mitigate the effects of habitat fragmentation. Linkages are generally considered to be any connective land between larger blocks of habitat that promotes movement of a variety of species and/or ecosystem processes. These connections can facilitate the movement of larger animals and can serve as “live-in” habitat for smaller species – both of which can improve gene flow among populations. Corridors are generally considered to be linear (often narrow) features that connect larger blocks of habitat and provide for movement, dispersal, and migration of wildlife species. The linkage or corridor may not have continuous natural habitat but form a series of viable habitat patches (“stepping stones”) or may have very narrow constrictions (“bottlenecks”). The geographic area, time scale, and species of interest will affect the functional level of the linkage or corridor, which can be generally described as regional corridors and local corridors.

Regional corridors are important in promoting dispersal of individuals that allow a species to repopulate areas (e.g., following a wildfire or other catastrophic event) and to exchange genetic materials among larger, disjunct populations. Due to the high incidence of habitat fragmentation in coastal southern California, regional wildlife corridors have begun to receive significant attention by Wildlife Agencies and conservation groups. The development of regional conservation plans with proposed reserve systems has increased the importance of and attention paid to conserving or establishing/enhancing these features. Despite this attention, substantial uncertainty surrounds the design of and key features for specific linkages and corridors (Beier, Majka and Spencer 2008). The San Diego MSCP adopted a general guideline that a significant corridor should have an average width of 1,000 feet to provide for most larger wildlife species’ movement, including some edge buffering. Pinch points less than

1,000 feet may be permissible for relatively short distances, but must have a minimum width of 400 feet for no more than 500 feet linear distance (City of San Diego 1998).

Local corridors often are short, relatively narrow linkages between two or more small, connected patches of habitat, which allows them to function as a larger block of habitat. The larger interconnected block enables viability and promotes population stability through regular genetic interchange, even though each individual habitat patch may be too small for the long-term survival of a wildlife population. The length and width (including any buffering from incompatible land uses/activities) and habitat patchiness within a corridor can greatly affect its effectiveness. The more effective wildlife corridors allow unobstructed movement of the species; however, some local linkage/corridors are comprised of closely-spaced patches of habitat. Limiting activities within and adjacent to local corridors can have a great effect on the suitability of corridors. Depending upon the particular species' needs for a linkage/corridor, utility service corridors, emergency access routes, and recreational trails may function as corridors.

Crestridge HMA, San Miguel HMA, and Rancho Cañada HMA occur within county of San Diego MSCP core habitat linkages. The Tijuana River Valley and San Luis Rey River HMAs are also located along key river corridors. In addition, Water Authority rights-of-way may be used as local wildlife linkages and corridors where they occur in native habitats and rural settings. Habitat linkages and wildlife corridors are important to the viability of regional planning efforts. In some instances, the presence of a utility corridor may serve to link habitat patches and ensure the long-term persistence of habitat connections. In other instances, surface features or prolonged construction activities may permanently or temporarily block corridors.

3.6 Public Services and Utilities

3.6.1 Water Distribution

The Water Authority imports up to 90 percent of the region's water from MWD and transmits the water through a system of two aqueducts and 286 miles of pipeline and associated facilities. The aqueducts consist of five major pipelines with the capacity to transport 900 million gallons of water a day. Regional distribution facilities are connected to Member Water Agencies that then deliver water to businesses and residences. The Water Authority coordinates with Member Water Agencies to fully develop local water resources through water reclamation, groundwater recovery, and conservation. The Member Water Agencies are listed in Table 3-5.

TABLE 3-5
WATER AUTHORITY MEMBER WATER AGENCIES

1.	Carlsbad Municipal Water District
2.	City of Del Mar
3.	City of Escondido
4.	Fallbrook Public Utility District
5.	Helix Water District
6.	City of National City
7.	City of Oceanside
8.	Olivenhain Municipal Water District
9.	Otay Water District
10.	Padre Dam Municipal Water District
11.	Pendleton Military Reservation
12.	City of Poway
13.	Rainbow Municipal Water District
14.	Ramona Municipal Water District
15.	Rincon del Diablo Municipal Water District
16.	City of San Diego
17.	South Bay Irrigation District
18.	San Dieguito Water District
19.	Santa Fe Irrigation District
20.	Valley Center Municipal Water District
21.	Vista Irrigation District
22.	Vallecitos Water District
23.	Yuima Municipal Water District
24.	Lakeside Water District

The Water Authority developed its Master Plan and CIP to provide the San Diego area with storage and delivery facilities necessary to meet the region's future demands. As discussed in Section 1.3.1.1, the Master Plan provides long range planning and a roadmap for individual construction projects administered by the CIP. Projects identified in the CIP provide the necessary infrastructure and capacity to provide water to Member Water Agencies in the region.

3.7 Socioeconomics

3.7.1 Population, Housing, and Employment

SANDAG and local jurisdictions of San Diego County periodically prepare forecasts of population, housing, and economic growth for the region, cities, unincorporated communities, and other geographic subdivisions. The San Diego region's population was estimated at approximately three million people for 2006 (SANDAG 2007a). The region's population is projected to grow to approximately 3.9 million people in 2030 of which two-thirds of the growth is expected to be from in-county births. For this same period, housing units and civilian employment are projected to increase to accommodate the population growth (SANDAG 2006).

Historically, most population growth occurred around the general area of the City of San Diego and coastal areas. A significant increase in growth also occurred in the southern portion of San Diego County and in the northern coastal cities as well. The rapidly growing population has increased the demand for housing. Between 1990 and 2000, total housing units increased by slightly less than ten percent, which was substantially less than the region's population growth. Total housing units are projected to grow an additional 13 percent by 2010, while the population growth is projected to grow 15 percent during this period (SANDAG 2006a, 2006b). The Regional Comprehensive Plan (RCP) adopted by SANDAG in 2004 serves as the long-term planning framework for the San Diego region. It provides a broad context in which local and regional decisions can be made that balances housing demand, directs growth to urbanized areas, and integrates local land use and transportation decisions.

The San Diego region includes numerous community facilities, such as government offices, public facilities, military facilities, school districts, universities, as well as residential, agricultural, and commercial areas. Much of the economic activity has historically centered around the city of San Diego. Employment in the region includes private sector, government, military, civilian non-military, self-employment, and domestic workers. Employment in the private sector, particularly software, computer services, electronics, biotechnology, and communication industries, have been increasing since the mid 1990s.

3.8 Environmental Justice

Environmental justice requires that no person, because of race, color, religion, national origin, sex, age, income, or handicap, be disproportionately affected by adverse health or environmental impacts resulting from any federal activity (Title VI and federal Executive Order 12898). An initial step in analyzing environmental justice is to identify the occurrence of an environmental justice population within a project area. The proposed Plan Area covers almost one million acres and includes the majority of the population in the San Diego region and a portion of southwestern Riverside Count. Minority and low-income populations are not concentrated or disproportionately located within the area of affect of the proposed Plan.

This page intentionally left blank.

4.0 Environmental Impacts/ Environmental Consequences of Alternatives

This section analyzes and compares the environmental consequences of implementing the proposed action and alternatives. This document is intended to comply with both CEQA requirements (Title 14 CCR, Section 15000 *et seq.*) and NEPA/Council on Environmental Quality Regulations (40 CFR 1508.27). CEQA requires that a determination of significance be made. NEPA requires evaluation of environmental consequences of the project and alternatives through examination of the overall effects of the totality of the impacts. Under NEPA, however, project effects are characterized as adverse, neutral, or beneficial. Evaluation of environmental effects is based on the existing conditions established in Section 3.0 of this draft EIR/EIS, and CEQA and NEPA guidelines for determining significant impacts (in the case of CEQA) or significant adverse effects (in the case of NEPA). For the purposes of this document, significant impacts identified under CEQA would also be significant adverse impacts under NEPA. Where impacts are identified, they are labeled and numbered according to the environmental issue (e.g., BIO-1, LU-1). Under CEQA, there is a requirement to identify and establish feasible mitigation to reduce impacts to less than significant. These measures would also satisfy the requirements of NEPA.

The Water Authority action is the adoption and implementation of the proposed NCCP/HCP and IA needed to obtain and maintain incidental take Permits. The federal action is the issuance of an incidental take permit under section 10(a)(1)(B) of the ESA. The state action is the authorization of incidental take under section 2835 of the Fish and Game Code (NCCPA). Since similar Water Authority activities and projects would be implemented under all four alternatives, the impacts to listed species resulting from the issuance of the Permits also would be the similar under all alternatives, but would differ in scale according to the number of species covered.

The alternatives considered involve incidental take permitting options that would allow the Water Authority to meet existing and future projected water demand. While the Water Authority would conduct the same types of projects and activities under all four alternatives, the permitting mechanism and the level of protection and conservation for listed and unlisted species differ. In addition to considering potential adverse impacts from the permitting options, the analysis also considers which alternative best achieves the purpose and need of the Wildlife Agencies, and also assures the greatest conservation for Covered Species.

The alternatives evaluated in this draft EIR/EIS include:

- Alternative 1: No Action/No Permit – Under this alternative, the Water Authority would not adopt a conservation plan and would not obtain federal and state take authorizations associated with the proposed Plan. USFWS and CDFG would continue to consider impacts to state- and/or federally listed species and the need for incidental take permits on a project-by-project basis. This is the Water Authority's existing procedure, so there would be no change to the current process to obtain authorization to take a listed species. When Water Authority activities encountered state- and/or federally listed species, the Water Authority would have to comply with federal and state endangered species acts (ESA/CESA). Water Authority activities that take wildlife species listed by the state as threatened or endangered under CESA would require a permit under section 2081 of the Fish and Game Code. Where a federal nexus occurs and no federal permit is in place, a section 7 consultation with USFWS would be needed to address ESA issues. Where no federal nexus exists, the Water Authority would apply for a section 10(a)(1)(B) incidental take permit from USFWS for an individual project to address impacts to listed species. Under this alternative, the Water Authority would continue to comply with applicable environmental programs and prior agreements and permits.

  Up to 373 acres of impacts to vegetation communities would occur associated with proposed Water Authority activities, and could result in impacts to 89 sensitive species, including 27 listed species, which rely on those communities for habitat, foraging, and other biological requirements. Only when identified projects and activities are implemented by the Water Authority under Permits issued by USFWS and CDFG could the potential incidental take of the 27 listed species occur.

  Under the No Action/No Permit Alternative, there would be no comprehensive management plan or implementing agreement adopted. Individual project review would be conducted for separate discretionary actions. When non-listed species are encountered, the Water Authority would continue to evaluate impact significance on a project-by-project case as part of the CEQA review process. Mitigation of impacts would be established on a case-by-case basis and could vary over time.

- Alternative 2: Proposed Plan – Under this alternative, the Water Authority would use the proposed Plan as the mechanism to comply with federal and state endangered species acts and achieve the goals of the NCCPA. The USFWS would issue a permit for incidental take, and CDFG would issue a management authorization (permit) for 63 species, including 18 listed species, proposed for coverage under the Plan (Covered Species). Approval of the proposed Plan by the Wildlife Agencies and its adoption by the Water Authority, through entering

into the IA with the Wildlife Agencies, would commit the Water Authority to implement procedures in the Plan. Implementation of the proposed Plan, IA, and Permits would not relieve the Water Authority of the requirement to process individual discretionary CIP projects or other Water Authority activities through CEQA.

The Plan estimates that Covered Activities could result in up to 373 acres of impacts to vegetation communities which could result in the incidental take of 63 Covered Species that rely on those communities for habitat, foraging, and other biological requirements. Only when projects and activities identified in the Plan are implemented by the Water Authority under Permits issued by USFWS and CDFG would the impacts to habitat estimated in the Plan and potential incidental take of Covered Species occur.

The proposed Plan provides assurances for the conservation of multiple species under the ESA and the NCCPA, and a mechanism to streamline environmental compliance for biological resources, thereby providing a level of regulatory certainty for the Water Authority as it relates to endangered and threatened species. With the proposed NCCP/HCP, the Water Authority would be more efficient in planning and scheduling Planned and Future Projects, providing comprehensive mitigation, performing long-range financial planning, and addressing their goal to contribute to regional conservation efforts. With an approved Plan in place, the Water Authority would have a process and standards to address issues such as amendments to the Plan and the need to respond to Changed and Unforeseen Circumstances. Ensuring that measures are in place to assist in the recovery of listed species and prevention of new listings is an important aspect of habitat conservation planning. This Plan, when combined with other planning efforts in the region, works toward this goal. In addition, the Wildlife Agencies would have increased oversight of Covered Activities and Covered Species.

The proposed Plan includes three upland HMAs and three wetland HMAs that will be used to mitigate for the impacts of Planned and Future Projects. Under the proposed Plan, for each HMA, there would be a comprehensive management plan and implemented in conformance to the adopted Plan and IA.

- Alternative 3: Full Species List – Under this alternative, the Water Authority would obtain ESA compliance and meet the goals of the NCCPA by implementing the Plan as described for Alternative 2, except that the USFWS would issue a permit for incidental take and CDFG would authorize management actions for all 89 species considered for coverage under the Plan, including 27 listed species. Covered Activities under this alternative would impact up to 373 acres of vegetation communities. The measures from the Plan to avoid and minimize impacts and mitigate where impacts are unavoidable would be the same as

those under Alternative 2; however, the Water Authority would receive coverage for the full list of 89 species considered in the conservation analysis, including the 27 listed species. All six HMAs anticipated to be used for mitigation for Plan impacts in Alternative 2 would also be used to mitigate impacts from the Plan under the Full Species List alternative.

- Alternative 4: Reduced Plan Area – This alternative would include the same Covered Activities as the proposed Plan, but limit species' coverage to 39 sensitive species that are known to occur within the PIZ. Of the species that would be considered for coverage, 13 are listed species. The Plan Area that would be permitted would be limited to the PIZ, encompassing approximately 64,600 acres. The Preserve Area conserved by this alternative would encompass the same HMAs as Alternatives 2 and 3. The USFWS would consider issuing a section 10(a)(1)(B) permit and CDFG would consider authorizing a Section 2835 take authorization for incidental take only for species that are known to occur in the PIZ as they are analyzed in Appendix B of the Plan, which is a total of 39 species (18 plant species and 21 wildlife species). Alternative 4 would provide conservation for fewer species than covered in Alternatives 2 and 3.

The issuance of individual incidental take permits on a project by project basis (Alternative 1) or issuance of a comprehensive incidental take permit by USFWS and authorization from CDFG under an NCCP/HCP (Alternatives 2, 3, and 4) would allow the Water Authority to incidentally take species during otherwise lawful activities, such as construction of CIP projects, O&M Activities, and management of mitigation sites or properties (i.e., Preserve Area). Therefore, this draft EIR/EIS analyzes the issuance of Permits and adoption of the NCCP/HCP, the implementation of which could result in the take of Covered Species and their habitats. Individual Planned and Future Projects would require project-specific environmental review by the Water Authority and Wildlife Agencies, including documenting how their approval and implementation is consistent with the provisions of the Plan, at the time that they are proposed.

4.1 Biological Resources

4.1.1 Criteria for Determining Significant Impacts or Significant Adverse Effects

Criteria for evaluating the biological effects of a project are listed below. These criteria have been grouped into five issue areas for evaluation: sensitive species; sensitive habitats; wetlands; wildlife movement corridors; and policies and plans. Based on CEQA and federal guidelines, the proposed project or alternatives would result in significant impacts or significant adverse effects if they would:

1. Have a substantial adverse effect, either directly, indirectly, or cumulatively, on any species identified as a candidate, sensitive, or special-status species in policies, regulations, or by the CDFG or USFWS, including harm through habitat modifications;

2. Have substantial adverse effect on any riparian habitat or other sensitive natural community identified by the CDFG or USFWS;

3. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

4. Interfere substantially with the movement of any native resident, migratory fish, or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

5. Substantially conflict with local policies protecting biological resources, such as tree preservation policies or ordinances; or

6. Substantially conflict with the provisions of an adopted HCP, NCCP, or other approved local or regional conservation program.

Each of these potentially significant biological impacts (Issue 1, Issue 2, etc.) is addressed in the following subsections.

4.1.1.1 Effects on Sensitive Species

Issue 1: *Would the proposed action or alternatives have a substantial adverse effect, either directly, indirectly, or cumulatively, on any species identified as a candidate, sensitive, or special-status species in policies, regulations, or by the CDFG or USFWS, including harm through habitat modifications?*

Sensitive species are those plant or wildlife species that are listed by State or Federal agencies as threatened or endangered, are proposed for listing, or have a State or Federal special status. In addition, plant species are considered sensitive if they are endangered throughout their range or endangered in California. The diversity of terrain, microclimates, and vegetation communities in the proposed Plan Area supports a number of species identified as candidate, sensitive, or special-status by CDFG, USFWS, and CNPS. Table 4-1 lists the species (both listed and unlisted) that occur or have the potential to occur within the Plan Area that could be considered sensitive (see Appendix B of the Plan for more details).

TABLE 4-1
STATUS OF SPECIES CONSIDERED WITHIN THE SURVEY AREA AND PIZ

		Potential Habitat		CNDDB		SDNHM			
Scientific Name	Common Name	Survey Area	PIZ**	Survey Area	PIZ	Survey Area	PIZ	Federal/ State Status	CNPS List
Plants									
Acanthomintha ilicifolia	San Diego thorn-mint	90,684	18,024	30	4	10	4	CE/FT/CH	1B
Adolphia californica	California adolphia	43,367	9,422	45	6	17	5	–/–	2
Allium munzii	Munz's onion	19,634	5,582	4	1	0	0	CT/FE/CH	1B
Ambrosia pumila	San Diego ambrosia	114,060	24,208	10	5	4	0	–/FE/CH	1B
Arctostaphylos rainbowensis	Rainbow manzanita	7	0	10	2	1	0	–/–	1B
Baccharis vanessae	Encinitas baccharis	35,865	8,134	11	5	5	1	CE/FT	1B
Brodiaea filifolia	Thread-leaved brodiaea	24	0	13	2	2	1	CE/FT/CH	1B
Brodiaea orcuttii	Orcutt's brodiaea	69	11	24	5	5	2	–/–	1B
Calochortus dunnii	Dunn's mariposa lily	4,902	1,046	1	0	0	0	CR/–	1B
Ceanothus cyaneus	Lakeside ceanothus	4,902	1,046	8	0	5	4	–/–	1B
Ceanothus verrucosus	Wart-stemmed ceanothus	35,865	8,134	8	3	0	0	–/–	2
Centromadia parryi ssp. *australis*	Southern tarplant	4,677	1,132	3	0	0	0	–/–	1B
Centromadia pungens ssp. *laevis*	Smooth tarplant	5,439	1,079	10	1	0	0	–/–	1B
Comarostaphylis diversifolia ssp. *diversifolia*	Summer holly	35,832	8,131	19	1	3	0	–/–	1B
Cordylanthus orcuttianus	Orcutt's bird's-beak	0	0	0	0	0	0	–/–	2
Cylindropuntia californica var. *californica*	Snake cholla	42,078	9,054	1	0	0	0	–/–	1B
Deinandra conjugens	Otay tarplant	4,199	1,018	13	1	11	2	CE/FT/CH	1B
Dudleya variegata	Variegated dudleya	113,370	24,233	17	3	9	3	–/–	1B
Dudleya viscida	Sticky-leaved dudleya	89,497	17,629	3	1	0	0	–/–	1B
Ericameria palmeri ssp. *palmeri*	Palmer's goldenbush	42,156	9,069	4	1	2	2	–/–	2
Eryngium aristulatum var. *parishii*	San Diego button-celery	24	0	11	1	1	1	CE/FE	1B
Ferocactus viridescens	San Diego barrel cactus	44,794	9,865	42	7	0	0	–/–	2
Githopsis diffusa ssp. *filicaulis*	Mission Canyon bluecup	45,928	8,163	1	0	0	0	–/–	3
Hazardia orcuttii	Orcutt's hazardia	696	28	0	0	0	0	CT/FC	1B
Iva hayesiana	San Diego marsh-elder	2,235	532	21	1	5	1	–/–	2
Lepechinia cardiophylla	Heart-leaved pitcher sage	49,867	8,936	3	0	0	0	–/–	1B
Monardella hypoleuca ssp. *lanata*	Felt-leaved monardella	45,928	8,163	4	1	0	0	–/–	1B
Monardella viminea	Willowy monardella	1,734	299	6	1	0	0	CE/FE/CH	1B
Muilla clevelandii	San Diego goldenstar	90,682	18,024	18	3	3	1	–/–	1B
Myosurus minimus ssp. *apus*	Little mousetail	24	0	1	0	0	0	–/–	3
Navarretia fossalis	Spreading navarretia	169	34	27	4	3	1	–/FT/CH	1B
Navarretia prostrata	Prostrate navarretia	169	34	0	0	0	0	–/–	1B
Nolina cismontana	Chaparral nolina	42,078	9,054	2	1	0	0	–/–	1B
Orcuttia californica	California Orcutt grass	24	0	2	0	0	0	CE/FE	1B
Packera ganderi	Gander's ragwort	45,884	8,159	1	0	0	0	CR/–	1B
Pogogyne abramsii	San Diego mesa mint	24	0	7	1	0	0	CE/FE	1B
Pogogyne nudiuscula	Otay Mesa mint	24	0	2	0	1	0	CE/FE	1B
Quercus dumosa	Nuttall's scrub oak	45,921	8,163	5	1	4	0	–/–	1B

TABLE 4-1
STATUS OF SPECIES CONSIDERED WITHIN THE SURVEY AREA AND PIZ

		Potential Habitat		CNDDB		SDNHM			
Scientific Name	Common Name	Survey Area	PIZ**	Survey Area	PIZ	Survey Area	PIZ	Federal/ State Status	CNPS List
Quercus engelmannii	Engelmann oak	75	2	0	0	3	1	–/–	4
Salvia munzii	Munz's sage	90,682	18,024	10	0	3	0	–/–	2
Satureja chandleri	San Miguel savory	51,361	9,312	2	0	1	0	–/–	1B
Tetracoccus dioicus	Parry's tetracoccus	696	28	15	6	8	0	–/–	1B
Invertebrates									
Branchinecta lynchi	Vernal pool fairy shrimp	24	0	1	0	N/A	N/A	FT, CH	N/A
Branchinecta sandiegonensis	San Diego fairy shrimp	24	0	10	1	N/A	N/A	FE, CH	N/A
Euphydryas editha quino	Quino checkerspot butterfly	113,542	24,267	18	7	N/A	N/A	FE, CH	N/A
Euphyes vestris harbisoni	Harbison's dun skipper	7,540	1,513	0	0	N/A	N/A	*	N/A
Lycaena hermes	Hermes copper butterfly	1,329	371	5	0	N/A	N/A	*	N/A
Streptocephalus woottoni	Riverside fairy shrimp	24	0	5	0	N/A	N/A	FE, CH	N/A
Amphibians									
Anaxyrus (=Bufo) californicus	Arroyo toad	5,846	1,271	7	2	N/A	N/A	FE, CH, CSC	N/A
Spea (=Scaphiopus) hammondii	Western spadefoot toad	24,422	6,508	13	3	N/A	N/A	CSC	N/A
Reptiles									
Actinemys marmorata pallida	Southern Pacific (Southwestern) pond turtle	4,365	1,497	7	2	N/A	N/A	CSC	N/A
Aspidoscelis hyperythra beldingi	Belding's orange-throated whiptail	95,949	19,059	60	12	N/A	N/A	CSC	N/A
Aspidoscelis tigris stejnegeri	Coastal (western) whiptail	98,184	19,534	13	2	N/A	N/A	*	N/A
Coleonyx variegatus abbottii	San Diego banded gecko	90,684	18,024	0	0	N/A	N/A	*	N/A
Crotalus ruber ruber	(Northern) red diamond rattlesnake	45,492	9,894	14	5	N/A	N/A	CSC	N/A
Diadophis punctatus similis	San Diego ring-neck snake	110,111	23,423	1	1	N/A	N/A	*	N/A
Eumeces skiltonianus interparietalis	Coronado skink	117,514	25,052	9	0	N/A	N/A	CSC	N/A
Lichanura trivirgata roseofusca	Coastal rosy boa	90,684	18,024	3	0	N/A	N/A	*	N/A
Phrynosoma coronatum blainvillii	Coast (San Diego horned) lizard	49,422	10,665	38	8	N/A	N/A	CSC, *	N/A
Thamnophis hammondii	Two-striped garter snake	50,453	10,976	6	1	N/A	N/A	CSC, *	N/A
Birds									
Accipiter cooperii	Cooper's hawk	4,969	993	6	0	N/A	N/A	CSC, *	N/A
Agelaius tricolor	Tricolored blackbird	6,268	1,830	1	0	N/A	N/A	CSC	N/A
Aimophila rufuceps canescens	Southern California rufous-crowned sparrow	44,756	9,862	82	14	N/A	N/A	*	N/A
Ammodramus savannarum	Grasshopper sparrow	22,904	6,253	0	0	N/A	N/A	CSC	N/A
Amphispiza belli belli	Bell's sage sparrow	89,534	17,633	52	10	N/A	N/A	*	N/A
Aquila chrysaetos	Golden eagle	67,444	16,070	2	0	N/A	N/A	CFP, BEPA	N/A

TABLE 4-1
STATUS OF SPECIES CONSIDERED WITHIN THE SURVEY AREA AND PIZ

		Potential Habitat		CNDDB		SDNHM			
Scientific Name	Common Name	Survey Area	PIZ**	Survey Area	PIZ	Survey Area	PIZ	Federal/ State Status	CNPS List
Asio otis	Long-eared owl	38,530	9,007	0	0	N/A	N/A	CSC	N/A
Athene cunicularia hypugaea	Western burrowing owl	35,454	8,692	36	23			CSC	N/A
Campylorhynchus brunneicapillus sandiegensis	San Diego cactus wren	43,439	9,456	34	5	N/A	N/A	CSC, *	N/A
Circus cyaneus	Northern harrier	76,795	17,435	2	0	N/A	N/A	CSC	N/A
Dendroica petechia brewsteri	Yellow warbler	4,940	975	3	0	N/A	N/A	CSC	N/A
Elanus leucurus	White-tailed kite	38,278	9,075	2	0	N/A	N/A	CFP *	N/A
Empidonax traillii extimus	Southwestern willow flycatcher	4,081	772	4	0	N/A	N/A	FE, CH, CE	N/A
Eremophila alpestris californica	California horned lark	30,110	7,283	3	0	N/A	N/A	CSC	N/A
Falco peregrinus anatum	American peregrine falcon	34,079	8,057	1	0	N/A	N/A	CE, CFP	N/A
Haliaeetus leucocephalus	Bald eagle	4,103	1,450	2	0	N/A	N/A	CE, CFP, BEPA	N/A
Icteria virens	Yellow-breasted chat	5,265	1,034	8	1	N/A	N/A	CSC	N/A
Lanius ludovicianus	Loggerhead shrike	111,906	25,154	0	0	N/A	N/A	CSC	N/A
Pelecanus occidentalis californicus	California brown pelican	4,103	1,450	0	0	N/A	N/A	FE, CE, CFP	N/A
Polioptila californica californica	Coastal California gnatcatcher	44,754	9,862	152	26	N/A	N/A	FT, CH, CSC	N/A
Vireo belli pusillus	Least Bell's vireo	5,265	1,034	30	6	N/A	N/A	FE, CH, CE	N/A
Mammals									
Chaetodipus californicus femoralis	Dulzura pocket mouse	40	4	9	2	N/A	N/A	CSC	N/A
Chaetodipus fallax fallax	Northwestern San Diego pocket mouse	108,928	23,167	13	4	N/A	N/A	CSC	N/A
Dipodomys stephensi	Stephens' kangaroo rat	39,667	9,690	21	5	N/A	N/A	FE, CT	N/A
Felis concolor	Mountain lion	122,606	26,042	0	0	N/A	N/A	*	N/A
Lepus californicus bennettii	San Diego black-tailed jackrabbit	68,792	17,570	15	4	N/A	N/A	CSC	N/A
Neotoma lepida intermedia	San Diego desert woodrat	90,682	18,024	13	6	N/A	N/A	CSC	N/A
Onychomys torridus ramona	Southern grasshopper mouse	109,102	23,181	0	0	N/A	N/A	CSC	N/A
Perognathus longimembris brevinasus	Los Angeles pocket mouse	20,725	5,723	4	3	N/A	N/A	CSC	N/A

Listed/Proposed

FE = Federally listed, endangered

FT = Federally listed, threatened

CH = Critical Habitat

CE = State-listed, endangered

CT = State-listed, threatened

CR = California Rare

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).

N/A = Not applicable

** = Existing geographic databases used in the Conservation Analysis were supplemented with additional information about potential for occurrence of a species.

Areas of proposed or designated critical habitat also are located within the Plan Area for six plant species and seven wildlife species proposed for coverage by the Plan. Some of the critical habitat for these species also occurs within the Survey Area and PIZ, the areas within which most impacts are expected to occur.

Alternative 1: No Action/No Permit

Under the No Action/No Permit Alternative, the Water Authority would not adopt the NCCP/HCP and the Wildlife Agencies would not issue comprehensive permits for incidental take. The species that could be affected are on Table 4-2. However, Water Authority activities essential to the Water Authority's mission, such as construction of CIP projects (Planned and Future Projects), O&M Activities, and management of mitigation sites, would continue. Construction projects and activities in and around Water Authority facilities, work areas, or proposed alignments could occur in or adjacent to habitats occupied or used by sensitive species. These activities, affecting 373 acres in total, have the potential to impact most of the 89 sensitive species identified in the Plan Area, including 27 listed species (see Table 4-2).

Under Alternative 1, the Water Authority would continue to address potential significant impacts to sensitive species as it currently does for existing projects and routine operations, and USFWS and CDFG would continue to consider impacts and authorize permits for incidental take of the 27 listed species in the Plan Area on a project-by-project basis. Where impacts are unavoidable, the Water Authority would mitigate significant impacts to sensitive species and implement measures to reduce potential significant adverse effects as required. With Water Authority compliance with the ESA and CESA regarding incidental take of listed sensitive species and habitat, the Water Authority would ensure that incidental take resulting from Covered Activities would not appreciably reduce the likelihood of survival and recovery of listed species by appropriately minimizing and fully mitigating impacts to the species.

Approval of Water Authority discretionary projects requires compliance with CEQA and, if a federal nexus exists, NEPA. Planned and Future Projects conducted by the Water Authority are also required to comply with the policies and standards outlined in applicable regulations protecting natural resources. Covered Activities would comply with CEQA and/or NEPA, as required by law. O&M Activities are conducted by the Water Authority as routine activities that involve work in primarily disturbed or developed areas; preserve management similarly constitutes routine activities. O&M and preserve management activities generally would not require public review under CEQA and/or NEPA, or notification to the Wildlife Agencies. In all cases, any project or activity that would affect a listed species requires conformance to ESA/CESA. Without an adopted comprehensive conservation plan and incidental take permits, activities undertaken by the Water Authority that affected a state- or federally listed species would require individual permits if the activities involved the potential for incidental take.

TABLE 4-2
IMPACTS AND MITIGATION ASSESSMENT OF SPECIES IN ALTERNATIVE 1: NO ACTION/NO PERMIT ALTERNATIVE

Scientific Name	Common Name	Planned and Future Impacts	HMA Mitigation Credit	Ratio of Current HMA Credits to Projected Impacts	Projected Impacts as proprotion of Survey Area	Projected Impacts as proprotion of PIZ	Federal/ State Status
Plants							
Acanthomintha ilicifolia	San Diego thorn-mint	240	641	2.7	0.26%	1.33%	CE/FT/CH
Adolphia californica	California adolphia	162	518	3.2	0.37%	1.72%	–/–
Allium munzii	Munz's onion	195	0	0.0	0.99%	3.49%	CT/FE/CH
Ambrosia pumila	San Diego ambrosia	289	132	0.5	0.25%	1.19%	–/FE
Arctostaphylos rainbowensis	Rainbow manzanita	78	0	0.0	N/A	N/A	–/–
Baccharis vanessae	Encinitas baccharis	36	0	0.0	0.10%	0.44%	CE/FT
Brodiaea filifolia	Thread-leaved brodiaea	5	0	0.0	N/A	N/A	CE/FT/CH
Brodiaea orcuttii	Orcutt's brodiaea	6	1	0.2	N/A	N/A	–/–
Calochortus dunnii	Dunn's mariposa lily	78	8	0.1	1.59%	7.45%	CR/–
Ceanothus cyaneus	Lakeside ceanothus	78	0	0.0	1.59%	7.45%	–/–
Ceanothus verrucosus	Wart-stemmed ceanothus	78	0	0.0	0.22%	0.96%	–/–
Centromadia parryi ssp. *australis*	Southern tarplant	6	9	1.6	0.13%	0.53%	–/–
Centromadia pungens ssp. *laevis*	Smooth tarplant	57	47	0.8	1.05%	5.28%	–/–
Comarostaphylis diversifolia ssp. *diversifolia*	Summer holly	78	0	0.0	0.22%	0.96%	–/–
Cordylanthus orcuttianus	Orcutt's bird's-beak	0	0				–/–
Cylindropuntia californica var. *californica*	Snake cholla	162	0	0.0	0.39%	1.79%	–/–
Deinandra conjugens	Otay tarplant	10	8	0.8	0.24%	0.98%	CE/FT/CH
Dudleya variegata	Variegated dudleya	274	649	2.4	0.24%	1.13%	–/–
Dudleya viscida	Sticky-leaved dudleya	240	641	2.7	0.27%	1.36%	–/–
Ericameria palmeri ssp. *palmeri*	Palmer's goldenbush	169	1	0.0	0.40%	1.86%	–/–
Eryngium aristulatum var. *parishii*	San Diego button-celery	5	0	0.0	N/A	N/A	CE/FE
Ferocactus viridescens	San Diego barrel cactus	162	123	0.8	0.36%	1.64%	–/–
Githopsis diffusa ssp. *filicaulis*	Mission Canyon bluecup	78	123	1.6	0.17%	0.96%	–/–
Hazardia orcuttii	Orcutt's hazardia	78	0	0.0	N/A	N/A	CT/FC
Iva hayesiana	San Diego marsh-elder	14	21	1.5	0.63%	2.63%	–/–
Lepechinia cardiophylla	Heart-leaved pitcher sage	94	130	1.4	0.19%	1.05%	–/–
Monardella hypoleuca ssp. *lanata*	Felt-leaved monardella	78	123	1.6	0.17%	0.96%	–/–
Monardella viminea	Willowy monardella	14	0	0.0	0.81%	4.67%	CE/FE/CH
Muilla clevelandii	San Diego goldenstar	240	641	2.7	0.26%	1.33%	–/–
Myosurus minimus ssp. *apus*	Little mousetail	0	0	N/A	0.00%	N/A	–/–
Navarretia fossalis	Spreading navarretia	5	0	0.0	2.96%	14.79%	–/FT/CH
Navarretia prostrata	Prostrate navarretia	0	0	N/A	0.00%	0.00%	–/–
Nolina cismontana	Chaparral nolina	162	0	0.0	0.39%	1.79%	–/–
Orcuttia californica	California Orcutt grass	0	0		0.00%	N/A	CE/FE
Packera ganderi	Gander's ragwort	78	0	0.0	0.17%	0.96%	CR/–
Pogogyne abramsii	San Diego mesa mint	5	0	0.0	N/A	N/A	CE/FE
Pogogyne nudiuscula	Otay Mesa mint	5	0	0.0	N/A	N/A	CE/FE

TABLE 4-2
IMPACTS AND MITIGATION ASSESSMENT OF SPECIES IN ALTERNATIVE 1: NO ACTION/NO PERMIT ALTERNATIVE

Scientific Name	Common Name	Planned and Future Impacts	HMA Mitigation Credit	Ratio of Current HMA Credits to Projected Impacts	Projected Impacts as proprotion of Survey Area	Projected Impacts as proprotion of PIZ	Federal/ State Status
Quercus dumosa	Nuttall's scrub oak	78	123	1.6	0.17%	0.96%	–/–
Quercus engelmannii	Engelmann oak	16	0	0.0	N/A	N/A	–/–
Salvia munzii	Munz's sage	240	641	2.7	0.26%	1.33%	–/–
Satureja chandleri	San Miguel savory	135	130	1.0	0.26%	1.45%	–/–
Tetracoccus dioicus	Parry's tetracoccus	78	0	0.0	N/A	N/A	–/–
Invertebrates							
Branchinecta lynchi	Vernal pool fairy shrimp	0	0		0.00%	N/A	FT, CH
Branchinecta sandiegonensis	San Diego fairy shrimp	5	0	0.0	N/A	N/A	FE, CH
Euphyes vestris harbisoni	Harbison's dun skipper	57	33	0.6	0.76%	3.77%	*
Euphydryas editha quino	Quino checkerspot butterfly	273	649	2.4	0.24%	1.12%	FE, CH
Lycaena hermes	Hermes copper butterfly	162	518	3.2	12.19%	43.64%	*
Streptocephalus woottoni	Riverside fairy shrimp	5	0	0.0	N/A	N/A	FE, CH
Amphibians							
Anaxyrus (=Bufo) californicus	Arroyo toad	55	46	0.8	0.94%	4.33%	FE, CH, CSC
Spea (=Scaphiopus) hammondii	Western spadefoot toad	47	28	0.6	0.19%	0.72%	CSC
Reptiles							
Actinemys marmorata pallida	Southern Pacific (Southwestern) pond turtle	7	1	0.2	0.16%	0.47%	CSC
Aspidoscelis hyperythra beldingi	Belding's orange-throated whiptail	295	686	2.3	0.31%	1.55%	CSC
Aspidoscelis tigris stejnegeri	Coastal (western) whiptail	297	674	2.3	0.30%	1.52%	*
Coleonyx variegates abbottii	San Diego banded gecko	240	641	2.7	0.26%	1.33%	
Crotalus ruber ruber	(Northern) red diamond rattlesnake	240	518	2.2	0.53%	2.43%	CSC
Diadophis punctatus similis	San Diego ring-neck snake	316	641	2.0	0.29%	1.35%	*
Eumeces skiltonianus interparietalis	Coronado skink	296	658	2.2	0.25%	1.18%	CSC
Lichanura trivirgata roseofusca	Coastal rosy boa	240	641	2.7	0.26%	1.33%	*
Phrynosoma coronatum blainvillii	Coast (San Diego horned) lizard	256	526	2.1	0.52%	2.40%	CSC *
Thamnophis hammondii	Two-striped garter snake	219	565	2.6	0.43%	2.00%	–/–
Birds							
Agelaius tricolor	Tricolored blackbird	16	21	1.3	0.26%	0.87%	CSC
Aimophila rufuceps canescens	Southern California rufous-crowned sparrow	162	518	3.2	0.36%	1.64%	*
Ammodramus savannarum	Grasshopper sparrow	41	9	0.2	0.18%	0.66%	CSC
Amphispiza belli belli	Bell's sage sparrow	240	641	2.7	0.27%	1.36%	*
Athene cunicularia hypugaea	Western burrowing owl	195	8	0.0	0.55%	2.24%	CSC
Campylorhynchus brunneicapillus sandiegensis	San Diego cactus wren	162	518	3.2	0.37%	1.71%	CSC *
Dendroica petechia brewsteri	Yellow warbler	55	26	0.5	1.11%	5.64%	CSC

TABLE 4-2
IMPACTS AND MITIGATION ASSESSMENT OF SPECIES IN ALTERNATIVE 1: NO ACTION/NO PERMIT ALTERNATIVE

Scientific Name	Common Name	Planned and Future Impacts	HMA Mitigation Credit	Ratio of Current HMA Credits to Projected Impacts	Projected Impacts as proprotion of Survey Area	Projected Impacts as proprotion of PIZ	Federal/ State Status
Empidonax traillii extimus	Southwestern willow flycatcher	55	26	0.5	1.35%	7.13%	FE, CH, CE
Eremophila alpestris californica	California horned lark	34	0	0.0	0.11%	0.47%	CSC
Icteria virens	Yellow-breasted chat	55	45	0.8	1.04%	5.32%	CSC
Lanius ludovicianus	Loggerhead shrike	274	123	0.4	0.24%	1.09%	CSC
Polioptila californica californica	Coastal California gnatcatcher	162	518	3.2	0.36%	1.64%	FT, CH, CSC
Vireo belli pusillus	Least Bell's vireo	55	26	0.5	1.04%	5.32%	FE, CH, CE
Accipiter cooperii	Cooper's hawk	16	8	0.5	0.32%	1.61%	CSC *
Asio otis	Long-eared owl	92	33	0.4	0.24%	1.02%	CSC
Circus cyaneus	Northern harrier	202	9	0.0	0.26%	1.16%	CSC
Elanus leucurus	White-tailed kite	49	16	0.3	0.13%	0.54%	CFP *
Falco peregrinus anatum	American peregrine falcon	49	8	0.2	0.14%	0.61%	CE, CFP
Haliaeetus leucocephalus	Bald eagle	2	0	0.0	0.05%	0.14%	CE, CFP, BEPA
Aquila chrysaetos	Golden eagle	198	526	2.7	0.29%	1.23%	CFP, BEPA
Pelecanus occidentalis californicus	California brown pelican	2	0	0.0	0.05%	0.14%	FE, CE, CFP
Mammals							
Chaetodipus californicus femoralis	Dulzura pocket mouse	10	0	0.0	N/A	N/A	CSC
Chaetodipus fallax fallax	Northwestern San Diego pocket mouse	274	641	2.3	0.25%	1.18%	CSC
Dipodomys stephensi	Stephens' kangaroo rat	34	8	0.2	0.09%	0.35%	FE, CT
Felis concolor	Mountain lion	344	702	2.0	0.28%	1.32%	*
Lepus californicus bennettii	San Diego black-tailed jackrabbit	34	8	0.2	0.05%	0.19%	CSC
Neotoma lepida intermedia	San Diego woodrat	240	641	2.7	0.26%	1.33%	CSC
Onychomys torridus ramona	Southern grasshopper mouse	274	641	2.3	0.25%	1.18%	CSC
Perognathus longimembris brevinasus	Los Angeles pocket mouse	47	21	0.4	0.23%	0.82%	CSC

Listed/Proposed

FE = Federally listed, endangered

FT = Federally listed, threatened

CH = Critical Habitat

CE = State-listed, endangered

CT = State-listed, threatened

CR = California Rare

N/A = Not applicable

** = Existing geographic databases used in the Conservation Analysis were supplemented with additional information about potential for occurrence of a species. Planned PIZ impacts include estimated project impacts from Pipeline 6 Alternative. Impacts to vegetation communities from Future Projects/O&M are based on known information about Planned Projects/O&M and may not represent the full range of impacts within the PIZ. Once project specific informatio is available, impacts to vegetation communities with the preferred habitat for species may occur.

†= Future impacts to the nine vernal pool species, Otay tarplant, and Dulzura pocket mouse include the potential for Survey Area impacts (see Appendix B, Section 1.2.1).

Critical habitat designated or proposed for certain species under section 4 of the ESA occurs within the Survey Area and PIZ and could be affected by Water Authority activities. The Plan Area overlaps with designated critical habitat for the following covered plant species: San Diego thorn-mint, San Diego ambrosia, thread-leaved brodiaea, Otay tarplant, willowy monardella, and spreading navarretia. Of these species, San Diego ambrosia, thread-leaved brodiaea, Otay tarplant, and spreading navarretia have critical habitat within the PIZ. There is also critical habitat within the Plan Area for wildlife species covered by the Plan: San Diego fairy shrimp, Riverside fairy shrimp, Quino checkerspot butterfly, arroyo toad, southwestern willow flycatcher, least Bell's vireo, and coastal California gnatcatcher. Of these species, all except for the Riverside fairy shrimp, also have critical habitat located within the PIZ. Tables 3-2 and 3-3 provide a list of Covered Species and the acres of proposed or designated critical habitat within the PIZ where most of the Covered Activities and take are expected to occur.

The proposed locations of the Planned Projects are not expected to adversely affect designated or proposed critical habitat for any Covered Species. Areas of critical habitat at the Tijuana River Valley HMA and the San Luis Rey River Valley HMA would be improved by the wetland restoration work (see Section 2.3.2.5 of this EIR/EIS). The areas of low/degraded habitat are expected to be restored to improve the conservation value of the critical habitat. The Water Authority would ensure that project impacts would not destroy or adversely modify critical habitat for those species. The Plan provides measures to mitigate impacts by enhancing habitat designated as critical habitat within the Plan Area and establishing the species. Implementation of the Covered Activities will attempt to avoid and minimize impacts to all critical habitat, but this may not always be possible. When impacts to critical habitat cannot be avoided, the Plan will attempt to limit impacts to temporary effects. If permanent impacts cannot be avoided, then the Water Authority will first attempt to mitigate with credits in the HMAs that have critical habitat or acquire other lands that are designated as critical habitat. Only if no critical habitat is available from the Preserve Area or as an acquisition of the new habitat lands, the Water Authority will provide a justification for acquiring suitable habitat land that will benefit the species, with the concurrence of the Wildlife Agencies.

Significance of Impact

Activities carried out by the Water Authority on a project-by-project basis could reduce the quantity and/or quality of habitat and directly impact sensitive species, which could result in significant impacts. Because the nature of specific impacts and protection measures that would occur from individual projects in particular locations will be identified later, when these projects are planned for implementation, these impacts or the specific measures required to avoid them are not known in detail at this time. Mitigation to reduce significant impacts to sensitive species from implementation of Water Authority activities to a level less than significant would be identified at the time the discretionary project is reviewed and approved. Individual Water Authority projects

that are necessary to meet their mission would require conformance with CESA and ESA. State and federal permit conditions would only apply to species subject to CESA/ESA; the Water Authority would determine appropriate mitigation measures for sensitive, but non-CESA/ESA listed species.

The significance of the impacts resulting from the Water Authority's projected activities is framed in the context of the regional scale and nature of the proposed actions. Out of a Plan area of 992,000 acres and a PIZ of 64,600 acres, the total anticipated impact to all vegetation types is 373 acres (Significant Impact BIO-1). For broadly defined individual species habitats, the potential impacts range from less than one acre to 344 acres (for mountain lion). In most cases, the impacts to potential habitat for individual species represents less than 1 percent of the potential habitat identified in the Survey Area and less than 3 percent of the potential habitat identified within the PIZ (see Table 4-2). Because of the linear nature of the Water Authority's activities, the impacts are spread throughout the Plan Area, with no large contiguous areas of habitat loss.

Mitigation

For Significant Impact BIO-1 under Alternative 1, mitigation measures and compliance with ESA/CESA would be determined on a project-by-project basis. For each individual discretionary project, the Water Authority would be required to evaluate potential significant adverse impacts and to identify potential mitigation to sensitive species. Any potential impacts to listed species would also require the Water Authority to obtain state and/or federal permits.

Where significant impacts to sensitive species require compensatory mitigation in suitable or occupied habitat, the Water Authority could make use of available credits in their existing mitigation properties. The Water Authority's HMAs currently provide habitat mitigation credit for 33 sensitive species in the Plan Area, including three listed species (see Table 4-2). In implementing projects and activities, the Water Authority would follow current operational protocols and comply with its existing environmental programs and BOs discussed in Section 2.1 of this draft EIR/EIS.

Without comprehensive permits that address multiple species (not just listed species on a project-by-project basis), mitigation efforts that benefit the conservation of species would be fragmented. Without a comprehensive incidental take permit from USFWS for all species proposed for coverage, incidental take of species currently listed or listed in the future would have to be avoided or dealt with on a case-by-case basis. The Water Authority would pursue small-scale HCPs for individual permits, or section 7 consultations where federal actions are involved. These case-by-case solutions would only provide limited benefit to sensitive species compared to a coordinated, comprehensive conservation program.

Level of Significance with Mitigation

The No Action/No Permit Alternative, in the context of the significance of the impacts of projected Water Authority activities, the avoidance, minimization, and mitigation measures already put in place, and the measures that would be required on a project-by-project basis, would result in impacts to sensitive species that are less than significant. In most cases, the impacts to potential habitat for individual species represents less than 1 percent of the potential habitat identified in the Survey Area and less than 3 percent of the potential habitat identified within the PIZ (see Table 4-2).

However, the No Action/No Permit Alternative lacks an implementation strategy (including a monitoring and adaptive management plan) to ensure the protection of sensitive species that are not listed. Existing HMAs meet the requirements for some listed species and some non-listed species. However, it is not assured that land acquisitions for future mitigation requirements would complement regional multiple species planning. The No Action/No Permit Alternative provides no assurances that mitigation properties would be managed for the benefit of multiple sensitive species to meet long-term regional biological conservation goals beyond those already incorporated into the specific management agreements already in place (e.g., previous BOs resulting from section 7 consultations). The absence of a comprehensive conservation strategy does not provide the same level of protection to non-listed species that would be achieved under a comprehensive conservation plan.

Alternative 2: Proposed Plan

The conservation analysis for the proposed Plan estimates the levels of take of 63 covered plant and animal species that would potentially result from Water Authority Covered Activities (see Appendix B of the Plan for details). As shown on Table 4-3, this list includes 18 listed species. The Plan identifies a worst-case scenario for impacts to vegetation communities of up to 373 acres. The areas of likely impacts from Planned Projects are identified, but the locations and timing of specific impacts to species resulting from Future Projects and O&M are not known at this time, as explained under Alternative 1.

Critical habitat designated or proposed for certain species under section 4 of the ESA occurs within the Survey Area and PIZ and could be affected by Water Authority activities. The Water Authority would ensure that project impacts would not destroy or adversely modify critical habitat for those species.

Significance of Impact

The impacts of implementing Alternative 2 would be similar in significance to those identified in the No Action/No Permit Alternative, except that Incidental Take affecting up to 18 listed species in association with Covered Activities would be authorized

TABLE 4-3
IMPACTS AND MITIGATION ASSESSMENT OF COVERED SPECIES IN ALTERNATIVE 2: PROPOSED PLAN ALTERNATIVE

Scientific Name	Common Name	Planned and Future Impacts	HMA Mitigation Credit	Ratio of Current HMA Credits to Projected Impacts	Projected Impacts as proprotion of Survey Area	Projected Impacts as proprotion of PIZ	Federal/ State Status
Covered Species							
Plants							
Acanthomintha ilicifolia	San Diego thorn-mint	240	641	2.7	0.26%	1.33%	CE/FT/CH
Adolphia californica	California adolphia	162	518	3.2	0.37%	1.72%	–/–
Ambrosia pumila	San Diego ambrosia	289	132	0.5	0.25%	1.19%	–/FE
Baccharis vanessae	Encinitas baccharis	36	0	0.0	0.10%	0.44%	CE/FT
Brodiaea filifolia	Thread-leaved brodiaea	5	0	0.0	N/A	N/A	CE/FT/CH
Brodiaea orcuttii	Orcutt's brodiaea	6	1	0.2	N/A	N/A	–/–
Calochortus dunnii	Dunn's mariposa lily	78	8	0.1	1.59%	7.45%	CR/–
Ceanothus cyaneus	Lakeside ceanothus	78	0	0.0	1.59%	7.45%	–/–
Centromadia parryi ssp. *australis*	Southern tarplant	6	9	1.6	0.13%	0.53%	–/–
Centromadia pungens ssp. *laevis*	Smooth tarplant	57	47	0.8	1.05%	5.28%	–/–
Deinandra conjugens	Otay tarplant	10	8	0.8	0.24%	0.98%	CE/FT/CH
Dudleya variegata	Variegated dudleya	274	649	2.4	0.24%	1.13%	–/–
Dudleya viscida	Sticky-leaved dudleya	240	641	2.7	0.27%	1.36%	–/–
Eryngium aristulatum var. *parishii*	San Diego button-celery	5	0	0.0	N/A	N/A	CE/FE
Ferocactus viridescens	San Diego barrel cactus	162	123	0.8	0.36%	1.64%	–/–
Iva hayesiana	San Diego marsh-elder	14	21	1.5	0.63%	2.63%	–/–
Monardella hypoleuca ssp. *lanata*	Felt-leaved monardella	78	123	1.6	0.17%	0.96%	–/–
Monardella viminea	Willowy monardella	14	0	0.0	0.81%	4.67%	CE/FE/CH
Muilla clevelandii	San Diego goldenstar	240	641	2.7	0.26%	1.33%	–/–
Navarretia fossalis	Spreading navarretia	5	0	0.0	N/A	N/A	–/FT/CH
Nolina cismontana	Chaparral nolina	162	0	0.0	0.39%	1.79%	–/–
Pogogyne abramsii	San Diego mesa mint	5	0	0.0	N/A	N/A	CE/FE
Pogogyne nudiuscula	Otay Mesa mint	5	0	0.0	N/A	N/A	CE/FE
Quercus dumosa	Nuttall's scrub oak	78	123	1.6	0.17%	0.96%	–/–
Salvia munzii	Munz's sage	240	641	2.7	0.26%	1.33%	–/–
Tetracoccus dioicus	Parry's tetracoccus	78	0	0.0	N/A	N/A	–/–
Invertebrates							
Branchinecta sandiegonensis	San Diego fairy shrimp	5	0	0.0	N/A	N/A	FE, CH
Euphyes vestris harbisoni	Harbison's dun skipper	57	33	0.6	0.76%	3.77%	*
Euphydryas editha quino	Quino checkerspot butterfly	273	649	2.4	0.24%	1.12%	FE, CH

TABLE 4-3
IMPACTS AND MITIGATION ASSESSMENT OF COVERED SPECIES IN ALTERNATIVE 2: PROPOSED PLAN ALTERNATIVE

Scientific Name	Common Name	Planned and Future Impacts	HMA Mitigation Credit	Ratio of Current HMA Credits to Projected Impacts	Projected Impacts as proprotion of Survey Area	Projected Impacts as proprotion of PIZ	Federal/ State Status
Lycaena hermes	Hermes copper butterfly	162	518	3.2	12.19%	43.64%	*
Streptocephalus woottoni	Riverside fairy shrimp	5	0	0.0	N/A	N/A	FE, CH
Amphibians							
Anaxyrus (=Bufo) californicus	Arroyo toad	55	46	0.8	0.94%	4.33%	FE, CH, CSC
Spea (=Scaphiopus) hammondii	Western spadefoot toad	47	28	0.6	0.19%	0.72%	CSC
Reptiles							
Actinemys marmorata pallida	Southern Pacific (Southwestern) pond turtle	7	1	0.2	0.16%	0.47%	CSC
Aspidoscelis hyperythra beldingi	Belding's orange-throated whiptail	295	686	2.3	0.31%	1.55%	CSC
Aspidoscelis tigris stejnegeri	Coastal (western) whiptail	297	674	2.3	0.30%	1.52%	*
Coleonyx variegates abbottii	San Diego banded gecko	240	641	2.7	0.26%	1.33%	
Crotalus ruber ruber	(Northern) red diamond rattlesnake	240	518	2.2	0.53%	2.43%	CSC
Diadophis punctatus similis	San Diego ring-neck snake	316	641	2.0	0.29%	1.35%	*
Eumeces skiltonianus interparietalis	Coronado skink	296	658	2.2	0.25%	1.18%	CSC
Lichanura trivirgata roseofusca	Coastal rosy boa	240	641	2.7	0.26%	1.33%	*
Phrynosoma coronatum blainvillii	Coast (San Diego horned) lizard	256	526	2.1	0.52%	2.40%	CSC *
Birds							
Agelaius tricolor	Tricolored blackbird	16	21	1.3	0.26%	0.87%	CSC
Aimophila rufuceps canescens	Southern California rufous-crowned sparrow	162	518	3.2	0.36%	1.64%	*
Ammodramus savannarum	Grasshopper sparrow	41	9	0.2	0.18%	0.66%	CSC
Amphispiza belli belli	Bell's sage sparrow	240	641	2.7	0.27%	1.36%	*
Athene cunicularia hypugaea	Western burrowing owl	195	8	0.0	0.55%	2.24%	CSC
Campylorhynchus brunneicapillus sandiegensis	San Diego cactus wren	162	518	3.2	0.37%	1.71%	CSC *
Dendroica petechia brewsteri	Yellow warbler	55	26	0.5	1.11%	5.64%	CSC
Empidonax traillii extimus	Southwestern willow flycatcher	55	26	0.5	1.35%	7.13%	FE, CH, CE
Eremophila alpestris californica	California horned lark	34	0	0.0	0.11%	0.47%	CSC
Icteria virens	Yellow-breasted chat	55	45	0.8	1.04%	5.32%	CSC
Lanius ludovicianus	Loggerhead shrike	274	123	0.4	0.24%	1.09%	CSC
Polioptila californica californica	Coastal California gnatcatcher	162	518	3.2	0.36%	1.64%	FT, CH, CSC
Vireo belli pusillus	Least Bell's vireo	55	26	0.5	1.04%	5.32%	FE, CH, CE

TABLE 4-3
IMPACTS AND MITIGATION ASSESSMENT OF COVERED SPECIES IN ALTERNATIVE 2: PROPOSED PLAN ALTERNATIVE

Scientific Name	Common Name	Planned and Future Impacts	HMA Mitigation Credit	Ratio of Current HMA Credits to Projected Impacts	Projected Impacts as proprotion of Survey Area	Projected Impacts as proprotion of PIZ	Federal/ State Status
Mammals							
Chaetodipus californicus femoralis	Dulzura pocket mouse	10	0	0.0	N/A	N/A	CSC
Chaetodipus fallax fallax	Northwestern San Diego pocket mouse	274	641	2.3	0.25%	1.18%	CSC
Dipodomys stephensi	Stephens' kangaroo rat	34	8	0.2	0.09%	0.35%	FE, CT
Felis concolor	Mountain lion	344	702	2.0	0.28%	1.32%	*
Lepus californicus bennettii	San Diego black-tailed jackrabbit	34	8	0.2	0.05%	0.19%	CSC
Neotoma lepida intermedia	San Diego woodrat	240	641	2.7	0.26%	1.33%	CSC
Onychomys torridus ramona	Southern grasshopper mouse	274	641	2.3	0.25%	1.18%	CSC
Perognathus longimembris brevinasus	Los Angeles pocket mouse	47	21	0.4	0.23%	0.82%	CSC
Major Amendment Species							
Plants							
Allium munzii	Munz's onion	195	0	0.0	0.99%	3.49%	CT/FE/CH
Orcuttia californica	California Orcutt grass	0	0		0.00%	N/A	CE/FE
Invertebrate							
Branchinecta lynchi	Vernal pool fairy shrimp	0	0		0.00%	N/A	FT, CH

Listed/Proposed

FE = Federally listed, endangered

FT = Federally listed, threatened

CH = Critical Habitat

CE = State-listed, endangered

CT = State-listed, threatened

CR = California Rare

N/A = Not applicable

** = Existing geographic databases used in the Conservation Analysis were supplemented with additional information about potential for occurrence of a species. Planned PIZ impacts include estimated project impacts from Pipeline 6 Alternative. Impacts to vegetation communities from Future Projects/O&M are based on known information about Planned Projects/O&M and may not represent the full range of impacts within the PIZ. Once project specific information is available, impacts to vegetation communities with the preferred habitat for species may occur.

†= Future impacts to the nine vernal pool species, Otay tarplant and Dulzura pocket mouse include the potential for Survey Area impacts (see Appendix B of the Plan, Section 1.2.1).

(Significant Impact BIO-1). As with the No Action/No Permit Alternative, in most cases the impacts to potential habitat for individual species represents less than 1 percent of the potential habitat identified in the Survey Area and less than 3 percent of the potential habitat identified within the PIZ (see Table 4-3 and Appendix B of the Plan).

Mitigation

For Significant Impact BIO-1 under Alternative 2, the Water Authority would address potential significant impacts to listed and unlisted sensitive Covered Species under a comprehensive NCCP/HCP with incidental take authorization from USFWS and CDFG for take of Covered Species incidental to Covered Activities. The Plan establishes mitigation, conservation, and monitoring requirements for Covered Species. In addition, because of the broad, comprehensive nature of the Plan and Preserve Area management commitments, other non-Covered Species would benefit from implementation. Plan measures designed to be in compliance with ESA/NCCPA and applied prior to and during Water Authority activities would help to avoid and minimize potential biological impacts.

The proposed Plan also provides both general and species-specific conditions that must be met in order to obtain incidental take authorizations for each of the Covered Species while providing comprehensive conservation and protection during O&M Activities and construction of Planned and Future Projects. The Plan addresses both direct impacts to species from habitat reduction as well as indirect impacts from activities that could affect utilization of habitat. Avoidance and minimization measures have been developed to reduce impacts to adjacent habitat from lighting, noise, and vehicle and equipment operation. Where direct impacts to Covered Species are unavoidable, implementation of the comprehensive proposed Plan mitigation, restoration, and monitoring programs would minimize and mitigate significant adverse effects (see Sections 2.3.2.7 and 2.3.2.8 of this EIR/EIS). Permanent impacts would be mitigated at mitigation ratios established in the proposed Plan (see Tables 2-4 and 2-5).

The Plan requires surveys of each project site or work area prior to any work to provide a habitat assessment and document species that are known or have the potential to occur there. Pre-activity surveys will be used to identify avoidance, minimization, and mitigation requirements based on the general measures outlined in Section 6.0 of the Plan and the species-specific conditions in Appendix B of the Plan. These steps are part of a comprehensive program to avoid and minimize impacts to Covered Species. Permanent impacts will be mitigated at the Water Authority's Preserve Area, by obtaining credits from other banks within the Plan Area, or by acquiring and protecting additional qualifying habitat at mitigation ratios established in the Plan. Through the adoption and implementation of the Plan, impacts to habitat and Covered Species would be fully mitigated and impacts reduced to less than significant levels.

The Water Authority would avoid impacts to state- or federally-listed species where feasible. If a listed species not covered by the Plan may be impacted by a Covered Activity, the Water Authority would be required to comply with CESA and ESA. Unavoidable impacts to non-covered listed species would require the Water Authority to obtain a permit under section 2081 of CESA, and/or incidental take authorization under section 7 or section 10(a)(1)(B) of the ESA. The Water Authority could also choose to pursue a Major Amendment to the Plan in order to gain coverage for the species to be impacted.

Individual discretionary projects subject to CEQA and/or NEPA would continue to receive an environmental review. The review and approval of projects would occur as a subsequent action by the Water Authority Board of Directors. The proposed Plan and IA expand the oversight role of the Wildlife Agencies to include 63 Covered Species (some of which are unlisted) which could be affected by all activities identified as Covered Activities under the Plan. With an approved NCCP/HCP, the Wildlife Agencies would review projects for consistency with the Plan as part of the CEQA process.

Level of Significance with Mitigation

Implementation of the Plan would ensure that impacts are reduced to less than significant. The Preserve Area would be managed to provide and maintain effective habitat for Covered Species. In addition, measures and conservation strategies outlined in the proposed Plan are expected to protect and conserve population viability for Covered Species and contribute to the recovery of Covered Species.

Alternative 3: Full Species List

The impacts of Alternative 3 to vegetation communities that provide habitat and forage for sensitive species as a result of implementing Water Authority activities would be similar to those of the No Action/No Permit Alternative. A potential significant impact and significant adverse effect could result from issuance of the Permits which provide the mechanism for the incidental take of 89 sensitive species, including 27 listed species, which could occur during activities undertaken by the Water Authority. Table 4-4 provides a list of the additional species that would be considered under this alternative (in addition to the species covered under the Proposed Plan shown in Table 4-3). However, protection measures would be provided for those 89 species considered sensitive by the Plan under this alternative.

Critical habitat designated or proposed for certain species under section 4 of the ESA occurs within the Survey Area and PIZ and could be affected by Water Authority activities. The Water Authority would ensure that project impacts would not destroy or adversely modify critical habitat for those species.

TABLE 4-4
IMPACTS AND MITIGATION ASSESSMENT OF SPECIES IN ALTERNATIVE 3: FULL SPECIES LIST ALTERNATIVE

Scientific Name	Common Name	Planned and Future Impacts	HMA Mitigation Credit	Ratio of Current HMA Credits to Projected Impacts	Projected Impacts as proprotion of Survey Area	Projected Impacts as proprotion of PIZ	Federal/ State Status
Covered Species							
Plants							
Acanthomintha ilicifolia	San Diego thorn-mint	240	641	2.7	0.26%	1.33%	CE/FT/CH
Adolphia californica	California adolphia	162	518	3.2	0.37%	1.72%	–/–
Allium munzii	Munz's onion	195	0	0.0	0.99%	3.49%	CT/FE/CH
Ambrosia pumila	San Diego ambrosia	289	132	0.5	0.25%	1.19%	–/FE
Arctostaphylos rainbowensis	Rainbow manzanita	78	0	0.0	N/A	N/A	–/–
Baccharis vanessae	Encinitas baccharis	36	0	0.0	0.10%	0.44%	CE/FT
Brodiaea filifolia	Thread-leaved brodiaea	5	0	0.0	N/A	N/A	CE/FT/CH
Brodiaea orcuttii	Orcutt's brodiaea	6	1	0.2	N/A	N/A	–/–
Calochortus dunnii	Dunn's mariposa lily	78	8	0.1	1.59%	7.45%	CR/–
Ceanothus cyaneus	Lakeside ceanothus	78	0	0.0	1.59%	7.45%	–/–
Ceanothus verrucosus	Wart-stemmed ceanothus	78	0	0.0	0.22%	0.96%	–/–
Centromadia parryi ssp. *australis*	Southern tarplant	6	9	1.6	0.13%	0.53%	–/–
Centromadia pungens ssp. *laevis*	Smooth tarplant	57	47	0.8	1.05%	5.28%	–/–
Comarostaphylis diversifolia ssp. *diversifolia*	Summer holly	78	0	0.0	0.22%	0.96%	–/–
Cordylanthus orcuttianus	Orcutt's bird's-beak	0	0				–/–
Cylindropuntia californica var. *californica*	Snake cholla	162	0	0.0	0.39%	1.79%	–/–
Deinandra conjugens	Otay tarplant	10	8	0.8	0.24%	0.98%	CE/FT/CH
Dudleya variegata	Variegated dudleya	274	649	2.4	0.24%	1.13%	–/–
Dudleya viscida	Sticky-leaved dudleya	240	641	2.7	0.27%	1.36%	–/–
Ericameria palmeri ssp. *palmeri*	Palmer's goldenbush	169	1	0.0	0.40%	1.86%	–/–
Eryngium aristulatum var. *parishii*	San Diego button-celery	5	0	0.0	N/A	N/A	CE/FE
Ferocactus viridescens	San Diego barrel cactus	162	123	0.8	0.36%	1.64%	–/–
Githopsis diffusa ssp. *filicaulis*	Mission Canyon bluecup	78	123	1.6	0.17%	0.96%	–/–
Hazardia orcuttii	Orcutt's hazardia	78	0	0.0	N/A	N/A	CT/FC
Iva hayesiana	San Diego marsh-elder	14	21	1.5	0.63%	2.63%	–/–
Lepechinia cardiophylla	Heart-leaved pitcher sage	94	130	1.4	0.19%	1.05%	–/–
Monardella hypoleuca ssp. *lanata*	Felt-leaved monardella	78	123	1.6	0.17%	0.96%	–/–
Monardella viminea	Willowy monardella	14	0	0.0	0.81%	4.67%	CE/FE/CH
Muilla clevelandii	San Diego goldenstar	240	641	2.7	0.26%	1.33%	–/–
Myosurus minimus ssp. *apus*	Little mousetail	0	0	N/A	0.00%	N/A	–/–
Navarretia fossalis	Spreading navarretia	5	0	0.0	2.96%	14.79%	–/FT/CH
Navarretia prostrata	Prostrate navarretia	0	0	N/A	0.00%	0.00%	–/–
Nolina cismontana	Chaparral nolina	162	0	0.0	0.39%	1.79%	–/–

TABLE 4-4
IMPACTS AND MITIGATION ASSESSMENT OF SPECIES IN ALTERNATIVE 3: FULL SPECIES LIST ALTERNATIVE

Scientific Name	Common Name	Planned and Future Impacts	HMA Mitigation Credit	Ratio of Current HMA Credits to Projected Impacts	Projected Impacts as proprotion of Survey Area	Projected Impacts as proprotion of PIZ	Federal/ State Status
Orcuttia californica	California Orcutt grass	0	0		0.00%	N/A	CE/FE
Packera ganderi	Gander's ragwort	78	0	0.0	0.17%	0.96%	CR/–
Pogogyne abramsii	San Diego mesa mint	5	0	0.0	N/A	N/A	CE/FE
Pogogyne nudiuscula	Otay Mesa mint	5	0	0.0	N/A	N/A	CE/FE
Quercus dumosa	Nuttall's scrub oak	78	123	1.6	0.17%	0.96%	–/–
Quercus engelmannii	Engelmann oak	16	0	0.0	N/A	N/A	–/–
Salvia munzii	Munz's sage	240	641	2.7	0.26%	1.33%	–/–
Satureja chandleri	San Miguel savory	135	130	1.0	0.26%	1.45%	–/–
Tetracoccus dioicus	Parry's tetracoccus	78	0	0.0	N/A	N/A	–/–
Invertebrates							
Branchinecta lynchi	Vernal pool fairy shrimp	0	0		0.00%	N/A	FT, CH
Branchinecta sandiegonensis	San Diego fairy shrimp	5	0	0.0	N/A	N/A	FE, CH
Euphyes vestris harbisoni	Harbison's dun skipper	57	33	0.6	0.76%	3.77%	*
Euphydryas editha quino	Quino checkerspot butterfly	273	649	2.4	0.24%	1.12%	FE, CH
Lycaena hermes	Hermes copper butterfly	162	518	3.2	12.19%	43.64%	*
Streptocephalus woottoni	Riverside fairy shrimp	5	0	0.0	N/A	N/A	FE, CH
Amphibians							
Anaxyrus (=Bufo) californicus	Arroyo toad	55	46	0.8	0.94%	4.33%	FE, CH, CSC
Spea (=Scaphiopus) hammondii	Western spadefoot toad	47	28	0.6	0.19%	0.72%	CSC
Reptiles							
Actinemys marmorata pallida	Southern Pacific (Southwestern) pond turtle	7	1	0.2	0.16%	0.47%	CSC
Aspidoscelis hyperythra beldingi	Belding's orange-throated whiptail	295	686	2.3	0.31%	1.55%	CSC
Aspidoscelis tigris stejnegeri	Coastal (western) whiptail	297	674	2.3	0.30%	1.52%	*
Coleonyx variegates abbottii	San Diego banded gecko	240	641	2.7	0.26%	1.33%	
Crotalus ruber ruber	(Northern) red diamond rattlesnake	240	518	2.2	0.53%	2.43%	CSC
Diadophis punctatus similis	San Diego ring-neck snake	316	641	2.0	0.29%	1.35%	*
Eumeces skiltonianus interparietalis	Coronado skink	296	658	2.2	0.25%	1.18%	CSC
Lichanura trivirgata roseofusca	Coastal rosy boa	240	641	2.7	0.26%	1.33%	*
Phrynosoma coronatum blainvillii	Coast (San Diego horned) lizard	256	526	2.1	0.52%	2.40%	CSC *
Thamnophis hammondii	Two-striped garter snake	219	565	2.6	0.43%	2.00%	–/–
Birds							
Agelaius tricolor	Tricolored blackbird	16	21	1.3	0.26%	0.87%	CSC
Aimophila rufuceps canescens	Southern California rufous-crowned sparrow	162	518	3.2	0.36%	1.64%	*
Ammodramus savannarum	Grasshopper sparrow	41	9	0.2	0.18%	0.66%	CSC
Amphispiza belli belli	Bell's sage sparrow	240	641	2.7	0.27%	1.36%	*
Athene cunicularia hypugaea	Western burrowing owl	195	8	0.0	0.55%	2.24%	CSC
Campylorhynchus brunneicapillus sandiegensis	San Diego cactus wren	162	518	3.2	0.37%	1.71%	CSC *
Dendroica petechia brewsteri	Yellow warbler	55	26	0.5	1.11%	5.64%	CSC
Empidonax traillii extimus	Southwestern willow flycatcher	55	26	0.5	1.35%	7.13%	FE, CH, CE

TABLE 4-4
IMPACTS AND MITIGATION ASSESSMENT OF SPECIES IN ALTERNATIVE 3: FULL SPECIES LIST ALTERNATIVE

Scientific Name	Common Name	Planned and Future Impacts	HMA Mitigation Credit	Ratio of Current HMA Credits to Projected Impacts	Projected Impacts as proprotion of Survey Area	Projected Impacts as proprotion of PIZ	Federal/ State Status
Eremophila alpestris californica	California horned lark	34	0	0.0	0.11%	0.47%	CSC
Icteria virens	Yellow-breasted chat	55	45	0.8	1.04%	5.32%	CSC
Lanius ludovicianus	Loggerhead shrike	274	123	0.4	0.24%	1.09%	CSC
Polioptila californica californica	Coastal California gnatcatcher	162	518	3.2	0.36%	1.64%	FT, CH, CSC
Vireo belli pusillus	Least Bell's vireo	55	26	0.5	1.04%	5.32%	FE, CH, CE
Accipiter cooperii	Cooper's hawk	16	8	0.5	0.32%	1.61%	CSC *
Asio otis	Long-eared owl	92	33	0.4	0.24%	1.02%	CSC
Circus cyaneus	Northern harrier	202	9	0.0	0.26%	1.16%	CSC
Elanus leucurus	White-tailed kite	49	16	0.3	0.13%	0.54%	CFP *
Falco peregrinus anatum	American peregrine falcon	49	8	0.2	0.14%	0.61%	CE, CFP
Aquila chrysaetos	Golden eagle	198	526	2.7	0.29%	1.23%	CFP, BEPA
Haliaeetus leucocephalus	Bald eagle	2	0	0.0	0.05%	0.14%	CE, CFP, BEPA
Pelecanus occidentalis californicus	California brown pelican	2	0	0.0	0.05%	0.14%	FE, CE, CFP
Mammals							
Chaetodipus californicus femoralis	Dulzura pocket mouse	10	0	0.0	N/A	N/A	CSC
Chaetodipus fallax fallax	Northwestern San Diego pocket mouse	274	641	2.3	0.25%	1.18%	CSC
Dipodomys stephensi	Stephens' kangaroo rat	34	8	0.2	0.09%	0.35%	FE, CT
Felis concolor	Mountain lion	344	702	2.0	0.28%	1.32%	*
Lepus californicus bennettii	San Diego black-tailed jackrabbit	34	8	0.2	0.05%	0.19%	CSC
Neotoma lepida intermedia	San Diego woodrat	240	641	2.7	0.26%	1.33%	CSC
Onychomys torridus ramona	Southern grasshopper mouse	274	641	2.3	0.25%	1.18%	CSC
Perognathus longimembris brevinasus	Los Angeles pocket mouse	47	21	0.4	0.23%	0.82%	CSC

Listed/Proposed

FE = Federally listed, endangered

FT = Federally listed, threatened

CH = Critical Habitat

CE = State-listed, endangered

CT = State-listed, threatened

CR = California Rare

N/A = Not applicable

** = Existing geographic databases used in the Conservation Analysis were supplemented with additional information about potential for occurrence of a species. Planned PIZ impacts include estimated project impacts from Pipeline 6 Alternative. Impacts to vegetation communities from Future Projects/O&M are based on known information about Planned Projects/O&M and may not represent the full range of impacts within the PIZ. Once project specific information is available, impacts to vegetation communities with the preferred habitat for species may occur.

†= Future impacts to the nine vernal pool species, Otay tarplant, and Dulzura pocket mouse include the potential for Survey Area impacts (see Appendix B, Section 1.2.1).

Significance of Impact

The impacts of implementation of Alternative 3 would be similar in significance to those identified in the No Action/No Permit Alternative, except that Incidental Take affecting 27 listed species would be authorized (Significant Impact BIO-1). As with the previous two alternatives, in most cases the impacts to potential habitat for individual species represents less than 1 percent of the potential habitat identified in the Survey Area and less than 3 percent of the potential habitat identified within the PIZ (see Tables 4-3 and 4-4). Water Authority compliance with existing regulations for the take of listed sensitive species through implementation of the Plan would reduce potential sensitive biological resource impacts to below a level of significance.

Mitigation

For Significant Impact BIO-1 under Alternative 3, the proposed Water Authority NCCP/HCP would be implemented as described for Alternative 2, above, with protection measures and conditions for coverage extended to the full list of 89 species analyzed. Alternative 3 would provide conservation for 26 additional species than in Alternative 2. The additional 26 Covered Species would include those whose occurrence has not been confirmed or determined to be likely to occur, or a species whose adequate conservation and management requires verification. Consideration of coverage by the USFWS for the additional 26 species would require further surveys to determine the location of those species in the Survey Area, PIZ, and Preserve Areas, and may require conservation measures beyond those described in the Plan proposed by the Water Authority.

Under Alternative 3, the Water Authority would implement one or more of the following conservation options for the additional 26 Covered Species:

1. Demonstrate that adequate suitable habitat already exists (either occupied or not) within the Preserve Area to justify coverage.

2. Acquire additional habitat with known Covered Species' occurrences or the potential to support the species with suitable occupiable habitat. Suitable habitat should have enhancement or restoration potential and should be biologically viable for the species' persistence. Such habitat must be added to the Preserve Area and managed and monitored in perpetuity consistent with the Plan.

3. Restore and/or enhance habitat within the Plan Area's existing mitigation properties/Preserve Area. Restoration or enhancement sites would be managed and monitored in perpetuity consistent with the Plan.

4. Contribute funds to other species-specific regional conservation efforts or species-specific management programs.

5. Implement a biologically superior conservation alternative for the species at appropriate locations within the Plan Area.

6. Propagate species for reintroduction and/or introduction into biologically suitable habitat within the Plan Area in accordance with a Wildlife Agency-approved restoration and monitoring program.

7. Salvage and relocate species into suitable, occupiable habitat in accordance with a Wildlife Agency-approved restoration and monitoring program.

8. Purchase mitigation bank credits within established mitigation banks that support and provide active management for the species.

Level of Significance with Mitigation

Impacts from implementation of Alternative 3 could be mitigated to a level less than significant through implementation of the conservation measures above, although their implementation would occur over the course of several years and the costs and level of required effort to accomplish these measures are undetermined at this time.

Alternative 4: Reduced Plan Area

The impacts of Alternative 4 to vegetation communities that provide habitat and forage for sensitive species as a result of implementing Water Authority activities would be similar to those of the No Action/No Permit Alternative. A potential significant impact and significant adverse effect could result from issuance of the Permits which provide the mechanism for the incidental take of 39 sensitive species which could occur during activities undertaken by the Water Authority. As shown on Table 4-5, the list of 39 includes 13 listed species. However, protection measures would be provided for those 39 species considered sensitive by the Plan under this alternative.

Critical habitat designated or proposed for certain species under section 4 of the ESA occurs within the Survey Area and PIZ and could be affected by Water Authority activities. The Water Authority would ensure that project impacts would not destroy or adversely modify critical habitat for those species.

Significance of Impact

The impacts of implementation of Alternative 4 would be similar in significance to those identified in the No Action/No Permit Alternative, except that Incidental Take affecting 13 listed species would be authorized (Significant Impact BIO-1). As with the previous three alternatives, in most cases the impacts to potential habitat for individual species represents less than 3 percent of the potential habitat identified within the PIZ, but this alternative does not include potential future impacts within the Survey Area. Water Authority compliance with existing regulations for the take of listed sensitive species

TABLE 4-5
IMPACTS AND MITIGATION ASSESSMENT OF SPECIES IN ALTERNATIVE 4: REDUCED PLAN AREA ALTERNATIVE

Scientific Name	Common Name	Planned and Future Impacts	HMA Mitigation Credit	Ratio of Current HMA Credits to Projected Impacts	Projected Impacts as proprotion of PIZ	Federal/ State Status
Covered Species						
Plants						
Acanthomintha ilicifolia	San Diego thorn-mint	240	641	2.7	1.33%	CE/FT/CH
Adolphia californica	California adolphia	162	518	3.2	1.72%	–/–
Ambrosia pumila	San Diego ambrosia	289	132	0.5	1.19%	–/FE
Baccharis vanessae	Encinitas baccharis	36	0	0.0	0.44%	CE/FT
Brodiaea filifolia	Thread-leaved brodiaea	5	0	0.0	N/A	CE/FT/CH
Brodiaea orcuttii	Orcutt's brodiaea	6	1	0.2	N/A	–/–
Ceanothus cyaneus	Lakeside ceanothus	78	0	0.0	7.45%	–/–
Centromadia pungens ssp. *laevis*	Smooth tarplant	57	47	0.8	5.28%	–/–
Deinandra conjugens	Otay tarplant	10	8	0.8	0.98%	CE/FT/CH
Dudleya variegata	Variegated dudleya	274	649	2.4	1.13%	–/–
Dudleya viscida	Sticky-leaved dudleya	240	641	2.7	1.36%	–/–
Eryngium aristulatum var. *parishii*	San Diego button-celery	5	0	0.0	N/A	CE/FE
Ferocactus viridescens	San Diego barrel cactus	162	123	0.8	1.64%	–/–
Muilla clevelandii	San Diego goldenstar	240	641	2.7	1.33%	–/–
Navarretia fossalis	Spreading navarretia	5	0	0.0	14.79%	–/FT/CH
Nolina cismontana	Chaparral nolina	162	0	0.0	1.79%	–/–
Salvia munzii	Munz's sage	240	641	2.7	1.33%	–/–
Tetracoccus dioicus	Parry's tetracoccus	78	0	0.0	N/A	–/–
Invertebrates						
Branchinecta sandiegonensis	San Diego fairy shrimp	5	0	0.0	N/A	FE, CH
Euphydryas editha quino	Quino checkerspot butterfly	273	649	2.4	1.12%	FE, CH

TABLE 4-5
IMPACTS AND MITIGATION ASSESSMENT OF SPECIES IN ALTERNATIVE 4: REDUCED PLAN AREA ALTERNATIVE

Scientific Name	Common Name	Planned and Future Impacts	HMA Mitigation Credit	Ratio of Current HMA Credits to Projected Impacts	Projected Impacts as proprotion of PIZ	Federal/ State Status
Amphibians						
Anaxyrus (=Bufo) californicus	Arroyo toad	55	46	0.8	4.33%	FE, CH, CSC
Spea (=Scaphiopus) hammondii	Western spadefoot toad	47	28	0.6	0.72%	CSC
Reptiles						
Actinemys marmorata pallida	Southern Pacific (Southwestern) pond turtle	7	1	0.2	0.47%	CSC
Aspidoscelis hyperythra beldingi	Belding's orange-throated whiptail	295	686	2.3	1.55%	CSC
Aspidoscelis tigris stejnegeri	Coastal (western) whiptail	297	674	2.3	1.52%	*
Crotalus ruber ruber	(Northern) red diamond rattlesnake	240	518	2.2	2.43%	CSC
Diadophis punctatus similis	San Diego ring-neck snake	316	641	2.0	1.35%	*
Lichanura trivirgata roseofusca	Coastal rosy boa	240	641	2.7	1.33%	*
Phrynosoma coronatum blainvillii	Coast (San Diego horned) lizard	256	526	2.1	2.40%	CSC *
Birds						
Aimophila rufuceps canescens	Southern California rufous-crowned sparrow	162	518	3.2	1.64%	*
Athene cunicularia hypugaea	Western burrowing owl	195	8	0.0	2.24%	CSC
Campylorhynchus brunneicapillus sandiegensis	San Diego cactus wren	162	518	3.2	1.71%	CSC *
Polioptila californica californica	Coastal California gnatcatcher	162	518	3.2	1.64%	FT, CH, CSC
Vireo belli pusillus	Least Bell's vireo	55	26	0.5	5.32%	FE, CH, CE
Mammals						
Chaetodipus californicus femoralis	Dulzura pocket mouse	10	0	0.0	N/A	CSC
Chaetodipus fallax fallax	Northwestern San Diego pocket mouse	274	641	2.3	1.18%	CSC
Dipodomys stephensi	Stephens' kangaroo rat	34	8	0.2	0.35%	FE, CT
Lepus californicus bennettii	San Diego black-tailed jackrabbit	34	8	0.2	0.19%	CSC
Neotoma lepida intermedia	San Diego woodrat	240	641	2.7	1.33%	CSC

Listed/Proposed

FE = Federally listed, endangered

FT = Federally listed, threatened

CH = Critical Habitat

CE = State-listed, endangered

CT = State-listed, threatened

CR = California Rare

N/A = Not applicable

* = Existing geographic databases used in the Conservation Analysis were supplemented with additional information about potential for occurrence of a species. Planned PIZ impacts include estimated project impacts from Pipeline 6 Alternative. Impacts to vegetation communities from Future Projects/O&M are based on known information about Planned Projects/O&M and may not represent the full range of impacts within the PIZ. Once project specific information is available, impacts to vegetation communities with the preferred habitat for species may occur.

†= Future impacts to the nine vernal pool species, Otay tarplant, and Dulzura pocket mouse include the potential for Survey Area impacts (see Appendix B, Section 1.2.1).

through implementation of the Plan would reduce potential sensitive biological resource impacts to below a level of significance.

Mitigation

For Significant Impact BIO-1 under Alternative 4, the Water Authority NCCP/HCP would be implemented as described for Alternative 2 above, with protection measures and conditions for coverage extended to the list of 39 species known to occur within the PIZ. Alternative 4 would provide conservation for 24 fewer species than in Alternative 2. Mitigation for Alternative 4 would not include measures for those species whose occurrence has not been confirmed or determined to be likely to occur within the PIZ, or a species whose adequate conservation and management requires verification. Consideration of coverage by the USFWS for the additional 24 species that could be affected by future activities within the Survey Area would require further surveys to determine the location of those species in the Survey Area, and may require the preparation of a Major Amendment to the Plan.

Level of Significance with Mitigation

Impacts from implementation of Alternative 4 could be mitigated to a level less than significant through implementation of the conservation measures above within the PIZ, although their implementation would not address the potential effects of future Water Authority action in the Survey Area.

4.1.1.2 Effects on Sensitive Habitat

Issue 2: *Would the proposed action or alternatives have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in policies, regulations, or by the CDFG or USFWS?*

Sensitive habitats are those locations where a particular sensitive taxon of plant or animal lives and its surroundings, both biological and non-biological. Sensitive habitat includes the presence of a group of particular environmental conditions surrounding an organism, including air, water, soil, mineral elements, moisture, temperature, and topography. Sensitive vegetation communities are defined as: (1) those in substantial decline throughout all or a significant portion of its range due to human activities; or (2) those otherwise rare due to limited natural distribution. Sensitive vegetation communities include those that have been identified by CDFG as rare, natural communities (e.g. coast live oak woodland, wetland and riparian) that are a focus of statewide conservation. Sensitive communities are also those that have been designated or proposed as critical habitat by USFWS or provide habitat for a listed species. Vegetation communities identified within the Plan Area with the potential to be

affected by the Water Authority's activities are identified according to tier levels in Table 4-6.

Alternative 1: No Action/No Permit

Similar to current practices, the Water Authority would seek coverage through individual ESA and CESA incidental take permits for impacts to listed species. Impacts to vegetation communities that are designated or proposed critical habitat or provide habitat or foraging for listed species, and have a federal nexus would be addressed through section 7 consultations with USFWS.

As shown in Table 4-7 (and Table 2-1 of this EIR/EIS), activities and projects conducted in order to meet the Water Authority's mission are estimated to impact up to 373 acres of various vegetation communities within the Survey Area and PIZ. Of the estimated 373 acres of impacts, 104 acres would be to habitat types that are not currently considered sensitive by the Water Authority. The Water Authority policy currently does not recognize southern mixed chaparral or non-native grasslands as sensitive vegetation communities or habitat types. Under this alternative, there would be no change to current Water Authority protocol, and the Water Authority would not mitigate for impacts to chaparral or non-native grasslands which do not contain listed species.

Water Authority activities would also result in additional impacts to disturbed habitats, agricultural lands, exotic landscapes, and eucalyptus woodlands. These habitats do not provide important habitat for or support Covered Species; therefore, impacts are not considered significant.

Significance of Impact

Activities carried out by the Water Authority on a project-by-project basis could result in significant impacts to sensitive habitats (Significant Impact BIO-2). Even without a comprehensive habitat conservation plan, the Water Authority would continue to implement projects and O&M activities in areas that may affect sensitive natural communities and species.

Mitigation

Under Alternative 1, the Water Authority would continue to address potential significant impacts to sensitive habitats, including designated and proposed critical habitat, as it currently does for existing projects and activities, and USFWS and CDFG would continue to review impacts for individual projects as they are proposed. Where impacts to sensitive communities are unavoidable, the Water Authority would mitigate significant impacts and implement measures to reduce potential significant adverse effects as required.

TABLE 4-6
VEGETATION COMMUNITIES/LAND COVER TYPES TIER LEVELS

Vegetation Tier	Vegetation Community/Land Cover Type	Subcommunities
Upland Habitats		
I	**Chaparral I**	Northern Mixed Chaparral (Mafic)
		Southern Maritime Chaparral
		Southern Mixed Chaparral (Mafic)
	Coastal	Open Beach
		Southern Foredunes
	Coniferous Forest I	Southern Interior Cypress Forest
		Torrey Pine Forest
	Grasslands I	Native Grassland (Valley and Foothill Needle Grassland)
	Oak Woodland and Forest	Black Oak Forest
		Black Oak Woodland
		Coast Live Oak Forest
		Coast Live Oak Woodland
		Engelmann Oak Forest (Dense Engelmann Oak Woodland)
		Engelmann Oak Woodland (Open Engelmann Oak Woodland)
		Mixed Oak Woodland
	Coastal Sage-Scrub I	Alluvial Fan Scrub
		Cactus Scrub
		Maritime Succulent Scrub
		Riversidean Alluvial Fan Scrub
		Southern Coastal Bluff Scrub
II	**Coniferous Forest II**	Big Cone Spruce- Canyon Oak Forest
		Mixed Coniferous Forest
	Coastal Sage-Scrub II	Coastal Sage-Chaparral Scrub
		Coastal Sage Scrub (Diegan)
		Coastal Sage Scrub (Inland)
		Flat-topped Buckwheat Scrub
		Riversidean Sage Scrub
	Sage-Scrub, Montane/Trans-montane	Big Sagebrush Scrub (Great Valley)
III	**Chaparral III**	Ceanothus crassifolius Chaparral
		Chamise Chaparral (Granitic Chamise chaparral)
		Interior Live Oak Chaparral
		Northern Mixed Chaparral
		Northern Mixed Chaparral (Granitic)
		Scrub Oak Chaparral
		Southern Mixed Chaparral
		Southern Mixed Chaparral (Granitic)
	Chaparral, Montane/Trans-montane	Montane Chaparral
		Redshank Chaparral
	Grasslands III	Non-Native Grassland
IV	**Agricultural**	General Agriculture
		Extensive Agriculture (Row Crops, Pastures)

TABLE 4-6
VEGETATION COMMUNITIES/LAND COVER TYPES TIER LEVELS (continued)

Vegetation Tier	Vegetation Community/Land Cover Type	Subcommunities
		Intensive Agriculture (Dairies, Nurseries, Chicken Ranches)
		Orchards and Vineyards
	Disturbed/Developed	Bare Ground
		Disturbed
		Urban/Developed Land
	Exotic Landscapes	Eucalyptus/Non-native woodland
		Ornamental
Wetland Habitats		
I	**Aquatic, Marine I**	Saltpan/Mudflats
	Riparian I	Southern Arroyo Willow Riparian Forest
		Southern Coast Live Oak Riparian Forest
		Southern Cottonwood-Willow Riparian Forest
		Southern Sycamore Woodland
		Southern Sycamore-alder Riparian Woodland
		White Alder Riparian Forest
	Wetland I	Alkali wetlands (Alkali Seep, Alkali Marsh, Cismontane Alkali Marsh)
		Alkali Vernal Pools
		Montane Meadow
		San Diego Mesa Claypan Vernal Pools
		San Diego Mesa Hardpan Vernal Pools
		Southern Coastal Salt Marsh
		Vernal Lake
II	**Aquatic, Freshwater II**	Open Freshwater (Freshwater, Open Water, Water)
	Aquatic, Marine II	Open Saltwater (Bays, Estuarine, Subtidal)
	Riparian II	Arrowweed Scrub
		Mule Fat Scrub
		Southern Willow Scrub
	Wetland II	Freshwater Meadow or Seep
		Freshwater Marsh (Coastal and Valley Freshwater Marsh, Emergent Wetland)
III	**Aquatic, Freshwater III**	Non-vegetated Floodplain or Channel
	Riparian III	Arundo Scrub
		Tamarisk Scrub
	Wetland III	Wetland (Disturbed)

TABLE 4-7
SUMMARY OF IMPACTS FOR COVERED ACTIVITIES (acres)
(EXCLUDING EXISTING PROJECTS)

Vegetation Community/Land Cover Type and Subcommunities	Estimated Impacts from Pipeline 6 Alternative Alignment[1]	Estimated Impacts from Planned CIP Projects[2]	Estimated Impacts from Future CIP[1] Projects[3]	Estimated Impacts from O&M[4]	Total Impacts Requiring Mitigation
Upland Habitats					
Agricultural	**185.0**	**139.8**	**293.5**	--	**--**
General Agriculture/Extensive Agriculture (Row Crops, Pastures)/Intensive Agriculture (Dairies, Nurseries, Chicken Ranches)	23.6	99.6	209.1	--	--
Orchards and Vineyards	161.4	40.2	84.4	--	--
Chaparral, Coastal	**30.1**	**16.3**	**34.3**	**7.6**	**88.3**
Chamise Chaparral (Granitic Chamise Chaparral)	0.0	0.1	0.1	--	--
Chaparral	0.0	0.0	0.0	--	--
Ceanothus Crassifolius Chaparral	0.0	0.0	0.0	--	--
Interior Live Oak Chaparral	0.0	0.0	0.0	--	--
Northern Mixed Chaparral	0.0	0.0	0.0	--	--
Northern Mixed Chaparral (Granitic)	0.0	0.0	0.0	--	--
Northern Mixed Chaparral (Mafic)	0.0	0.0	0.0	--	--
Scrub Oak Chaparral	0.0	0.0	0.0	--	--
Southern Maritime Chaparral	0.0	0.0	0.0	--	--
Southern Mixed Chaparral	30.1	16.2	34.2	--	--
Southern Mixed Chaparral (Granitic)	0.0	0.0	0.0	--	--
Southern Mixed Chaparral (Mafic)	0.0	0.0	0.0	--	--
Chaparral, Montane/Trans-montane	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Montane Chaparral	0.0	0.0	0.0	--	--
Redshank Chaparral	0.0	0.0	0.0	--	--
Coastal	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Open Beach	0.0	0.0	0.0	--	--
Southern Foredunes	0.0	0.0	0.0	--	--
Coniferous Forest	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Big Cone Spruce-Canyon Oak Forest	0.0	0.0	0.0	--	--
Mixed Coniferous Forest	0.0	0.0	0.0	--	--
Southern Interior Cypress Forest, Tecate Cypress Forest	0.0	0.0	0.0	--	--
Torrey Pine Forest	0.0	0.0	0.0	--	--
Disturbed/Developed	**103.2**	**71.8**	**150.8**	**--**	**--**
Bare Ground	0.0	0.0	0.0	--	--
Disturbed	0.0	10.1	21.3	--	--
Urban/Developed Land	103.2	61.7	129.5	--	--
Exotic Landscapes	**0.0**	**0.7**	**1.4**	**--**	**--**
Eucalyptus/Non-native vegetation	0.0	0.7	1.4	--	--
Ornamental	0.0	0.0	0.0	--	--
Grasslands	**28.3**	**7.9**	**16.5**	**3.6**	**56.3**
Native Grassland (Valley Needle Grassland, Valley, and Foothill Grassland)	0.0	0.0	0.0	--	--
Non-Native Grassland (Grassland)	28.3	7.9	16.5	--	--
Oak Woodland and Forest	**11.5**	**3.9**	**8.2**	**1.7**	**25.3**
Black Oak Forest	0.0	0.0	0.0	--	--
Black Oak Woodland	0.0	0.0	0.0	--	--
Coast Live Oak Forest (Dense Coast Live Oak Woodland)	0.0	0.0	0.0	--	--
Coast Live Oak Woodland (Open Coast Live Oak Woodland)	11.5	3.9	8.2	--	--

TABLE 4-7
IMPACT SUMMARIES FOR COVERED ACTIVITIES (acres)
(EXCLUDING EXISTING PROJECTS)
(continued)

Vegetation Community/Land Cover Type and Subcommunities	Estimated Impacts from Pipeline 6 Alternative Alignment[1]	Estimated Impacts from Planned CIP Projects[2]	Estimated Impacts from Future CIP[1] Projects[3]	Estimated Impacts from O&M[4]	Total Impacts Requiring Mitigation
Engelmann Oak Forest (Dense Engelmann Oak Woodland)	0.0	0.0	0.0	--	--
Engelmann Oak Woodland (Open Engelmann Oak Woodland)	0.0	0.0	0.0	--	--
Mixed Oak Woodland (Oak Woodland)	0.0	0.0	0.0	--	--
Sage-Scrub, Coastal	**42.2**	**30.4**	**63.8**	**14.1**	**150.5**
Alluvial Fan Scrub	0.0	0.0	0.0	--	--
Cactus Scrub	0.0	0.0	0.0	--	--
Coastal Sage-Chaparral Scrub	0.0	8.6	18.1	--	--
Coastal Sage Scrub (Diegan)	42.2	21.8	45.7	--	--
Coastal Sage Scrub (Inland)	0.0	0.0	0.0	--	--
Flat-topped Buckwheat Scrub	0.0	0.0	0.0	--	--
Maritime Succulent Scrub	0.0	0.0	0.0	--	--
Riversidean Alluvial Fan Scrub	0.0	0.0	0.0	--	--
Riversidean Sage Scrub	0.0	0.0	0.0	--	--
Southern Coastal Bluff Scrub	0.0	0.0	0.0	--	--
Sage-Scrub, Montane/Trans-montane	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Big Sagebrush Scrub (Great Valley)	0.0	0.0	0.0	--	--
Wetland Habitats					
Aquatic, Freshwater	**0.0**	**0.5**	**1.0**	**0.0**	**1.5**
Non-vegetated Floodplain, Channel, Lakeshore Fringe	0.0	0.0	0.0	--	--
Open Freshwater (Freshwater, Open Water, Water)	0.0	0.5	1.0	--	--
Aquatic, Marine	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Open Saltwater (Brackish Water, Deep Bay, Estuarine, Intertidal, Shallow Bay, Subtidal)	0.0	0.0	0.0	--	--
Saltpan/Mudflats	0.0	0.0	0.0	--	--
Riparian	**6.80**	**11.9**	**25.0**	**6.0**	**49.7**
Arrowweed Scrub	0.0	0.0	0.0	--	--
Mule Fat Scrub	1.84	0.1	0.2	--	--
Southern Arroyo Willow Riparian Forest	0.0	0.0	0.0	--	--
Southern Coast Live Oak Riparian Forest	0.0	7.4	15.4	--	--
Southern Cottonwood-Willow Riparian Forest	3.61	0.0	0.0	--	--
Southern Sycamore Woodland	0.0	0.0	0.0	--	--
Southern Sycamore-Alder Riparian Woodland	0.0	1.0	2.2	--	--
Southern Willow Scrub	1.35	3.4	7.2	--	--
White Alder Riparian Forest	0.0	0.0	0.0	--	--
Riparian (Disturbed)	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Arundo Scrub	0.0	0.0	0.0	--	--
Tamarisk Scrub	0.0	0.0	0.0	--	--
Wetland	**0.0**	**0.5**	**1.0**	**0.0**	**1.5**
Alkali Wetlands (Alkali Seep, Alkali Marsh, Cismontane Alkali Marsh)	0.0	0.0	0.0	--	--
Freshwater Meadow or Seep	0.0	0.0	0.0	--	--
Freshwater Marsh (Coastal and Valley Freshwater Marsh, Emergent Wetland)	0.0	0.5	1.0	--	--
Montane Meadow	0.0	0.0	0.0	--	--
Southern Coastal Salt Marsh	0.0	0.0	0.0	--	--
Wetland (Disturbed)	0.0	0.0	0.0	--	--
Alkali Vernal Pools	0.0	0.0	0.0	--	--

TABLE 4-7
IMPACT SUMMARIES FOR COVERED ACTIVITIES (acres)
(EXCLUDING EXISTING PROJECTS)
(continued)

Vegetation Community/Land Cover Type and Subcommunities	Estimated Impacts from Pipeline 6 Alternative Alignment[1]	Estimated Impacts from Planned CIP Projects[2]	Estimated Impacts from Future CIP[1] Projects[3]	Estimated Impacts from O&M[4]	Total Impacts Requiring Mitigation
San Diego Mesa Claypan Vernal Pools	0.0	0.0	0.0	--	--
San Diego Mesa Hardpan Vernal Pools	0.0	0.0	0.0	--	--
Vernal Lake	0.0	0.0	0.0	--	--
Subtotal -- Communities/Land Covers not subject to mitigation	**288.2**	**212.3**	**445.7**	**N/A**	**--**
Subtotal – Communities subject to mitigation	**118.9**	**71.4**	**149.8**	**33.0**	**373.1**
Total	**407.1**	**283.7**	**595.5**	**33.0**	**--**

[1] Possible Pipeline 6 alternative alignment impacts to mitigatable vegetation communities addressed by this Plan. Current Pipeline 6 alignment impacts are treated as an Existing Project, are covered under that project's individual permit, and are not addressed by this Plan.
[2] Permanent impacts to mitigatable vegetation communities from Planned Projects included in the CIP project list, as fully described in Appendix C.
[3] Permanent impacts to mitigatable vegetation communities 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 full Permit term as during the 20-year period of the CIP projects, and increased by 20 percent to account for future project planning uncertainties. Impacts were assigned to the same individual vegetation community types as for the Planned Projects.
[4] Permanent Impacts to mitigatable vegetation communities from O&M Activities were calculated assuming 0.5 acres/year for the full 55-year Permit term, and increased by 20 percent to account for future project uncertainties.

Level of Significance with Mitigation

Water Authority compliance with compensatory mitigation requirements for each individual project would reduce potential sensitive biological resource impacts to below a level of significance. This project-by-project approach would not provide a coordinated and directed mitigation program or result in the management of mitigation sites for the benefit of multiple species. Effects would be measured and mitigated on a project-by-project basis without benefit of an overarching strategy for avoidance, minimization, and mitigation.

Alternative 2: Proposed Plan

The impacts of projected and proposed Covered Activities are similar for all four Alternatives, with the exception that timing of certain activities during the term of the permit could differ as the result of differing mechanisms to deal with listed and Covered Species; the number of Covered Species, and thus the scale of potential impacts, also differs among the four alternatives (see Table 4-7). Although the actions of the Wildlife Agencies to approve the Plan and issue Permits would not result in physical impacts to biological resources, the Wildlife Agencies cannot issue permits without first approving a habitat conservation plan that minimizes and mitigates the impacts of incidental take to the maximum extent practicable. The proposed Plan, IA, and Permits thus address a comprehensive list of Water Authority activities that could result in take, as well as activities that would avoid, minimize, and mitigate that take, as the Water Authority carries out projects and activities to meet their mission to construct and maintain a water delivery system to provide water to Member Water Agencies. The Permits provide a streamlined environmental process for the Water Authority to achieve protection measures for biological resources, including impacts to sensitive habitats.

Significance of Impact

Issuance of Permits and implementation of the Plan would provide the mechanism for avoiding, minimizing, and mitigating impacts to sensitive habitats as a result of implementation of Covered Activities. Covered Activities conducted by the Water Authority within the Plan Area could result in significant impacts to sensitive habitat (Significant Impact BIO-2).

Mitigation

Under this alternative, potential significant impacts to sensitive habitat from implementation of Water Authority activities would be addressed by a comprehensive NCCP/HCP. The Plan establishes habitat-based mitigation and conservation measures as part of the avoidance, minimization, and mitigation measures for Covered Species and their habitats (see Tables 2-4 and 2-5). In addition, the proposed Plan has identified a Preserve Area with available mitigation credits that may be used to offset unavoidable

permanent impacts that result from Water Authority activities. Table 4-8 provides a summary of impacts along with the available mitigation credits at the Preserve Area. The Plan provides for a "stay ahead" commitment such that the available mitigation (as HMA credits or through committed purchase of other credits or acquisition of fee title or conservation easement on qualifying habitat) will be sufficient to meet the expected mitigation requirements, based on the two-year, approved CIP projects. This ensures that the Water Authority's available mitigation will always be at least two years ahead of projected impacts. The Preserve Area includes native habitats that support Covered Species. In addition, the portion of the Rancho Cañada HMA that will not be available as mitigation for impacts provides conservation for sensitive habitats and species in excess of what would be required to mitigate for Covered Activities. This additional level of management and preservation of habitat represents a regional contribution to conservation under the NCCPA. The Plan also requires annual reporting and monitoring requirements to track actual impacts against estimates provided in the Plan.

Level of Significance with Mitigation

Implementation of Alternative 2 would ensure that impacts to sensitive habitat are reduced to less than significant. Where direct impacts to sensitive habitats are unavoidable, implementation of the comprehensive proposed Plan mitigation, restoration, and monitoring programs would minimize and mitigate significant adverse effects (see Sections 2.3.2.7 and 2.3.2.8). This alternative provides a comprehensive, long-term conservation strategy for mitigating impacts to sensitive habitats and species.

Alternative 3: Full Species List

The Water Authority would carry out the same Covered Activities as identified for Alternatives 1 and 2, and the same level of impacts to sensitive habitats would be expected to occur. The Water Authority would employ avoidance and minimization measures during all phases of work. The Full Species List Alternative Plan would incorporate a conservation strategy that includes a combination of avoidance and minimization measures for 89 Covered Species and their habitats, as well as acquisition and management of the Preserve Area.

Significance of Impact

Issuance of Permits and implementation of the Plan would provide the mechanism for impacts to sensitive habitats as a result of implementation of Covered Activities. Covered Activities conducted by the Water Authority within the Plan Area could cause significant impacts to sensitive habitat (Significant Impact BIO-2).

TABLE 4-8
SUMMARY OF IMPACTS TO MITIGATED VEGETATION/LAND COVER TYPES AND HMA MITIGATION ACRES

Vegetation Tier	Vegetation Community/Land Cover Type	Estimated Project Impacts from Pipeline 6 Alternate Alignment[1]	Estimated Planned Projects Impacts (acres)[2]	Estimated Future Projects and O&M Impacts (acres)[3]	Existing/ Proposed HMA Mitigation Credits (acres)
Upland Habitats					
I	**Chaparral I**	**--**	**--**	**--**	**--**
	Coastal	**--**	**--**	**--**	**--**
	Coniferous Forest I	**--**	**--**	**--**	**--**
	Grasslands I	**--**	**--**	--	8.3
	Oak Woodland and Forest	11.5	3.9	9.9	7.6
	Coastal Sage-Scrub I	**--**	**--**	--	**--**
II	**Coniferous Forest II**	**--**	**--**	**--**	**--**
	Coastal Sage-Scrub II	42.2	30.4	77.9	518.2
	Sage-Scrub, Montane/Trans-montane	--			
III	**Chaparral III**	30.1	16.3	41.9	122.7
	Chaparral, Montane/Trans-montane	--	--	**--**	--
	Grasslands III	28.3	7.9	20.1	**--**
	Subtotal – mitigated habitats	112.1	58.5	149.8	656.8
Wetland Habitats					
I	**Aquatic, Marine I**	**--**	**--**	**--**	**--**
	Riparian I	3.6	8.4	21.6	25.5
	Wetland I	**--**	**--**	**--**	**--**
II	**Aquatic, Freshwater II**	**--**	0.5	1.2	**--**
	Aquatic, Marine II	**--**	**--**	**--**	**--**
	Riparian II	3.2	3.5	8.8	19.8
	Wetland II	--	0.5	1.2	1.3
III	**Aquatic, Freshwater III**	--	--	--	1.0
	Riparian (Disturbed)	**--**	**--**	**--**	**--**
	Subtotal – mitigated habitats	6.8	12.9	33.0	47.6
	Total	**118.9**	**71.4**	**182.8**	**704.4**

[1] Estimated permanent and temporary impacts from potential alignment change to Pipeline 6, an Existing Project.
[2] Estimated permanent and temporary impacts from Planned CIP Projects
[3] Estimated impacts to individual vegetation communities from Future Projects and O&M Activities projected from Planned Projects' impacts.

Mitigation

Alternative 3 would include the same comprehensive program identified in Alternative 2 to avoid, minimize, and mitigate potential impacts that could result from Water Authority activities. Plan measures applied prior to and during Water Authority activities would help to avoid and minimize potential biological impacts to sensitive habitats. Additional habitat mitigation measures for the additional 26 Covered Species may need to be developed prior to occurrence of impacts. The Plan would be designed ensure that credits are available in the Preserve Area to offset unavoidable permanent impacts that result from Water Authority activities.

Level of Significance with Mitigation

Implementation of the Alternative 3 would ensure that impacts to sensitive habitat are reduced to less than significant, as discussed under Alternative 2.

Alternative 4: Reduced Plan Area

The Water Authority would carry out the same Covered Activities as identified for Alternatives 1, 2, and 3, and would result in the same level of habitat impacts, assuming that all the Covered Activities occurred within the PIZ/Permit Area. However, if a Covered Activity were to occur outside the Permit Area (PIZ) and impact a listed species, it would have to be permitted through a major amendment to the Reduced Plan Area Permit, or as a separate permit. The Water Authority would employ avoidance and minimization measures during all phases of work. The Reduced Plan Area Plan would incorporate a conservation strategy that includes a combination of avoidance and minimization measures for 39 Covered Species and their habitats, as well as acquisition and management of the Preserve Area.

Significance of Impact

Issuance of Permits and implementation of the Plan would provide the mechanism for impacts to sensitive habitats as a result of implementation of Covered Activities. Covered Activities conducted by the Water Authority within the Plan Area could cause significant impacts to sensitive habitat (Significant Impact BIO-2).

Mitigation

Alternative 4 would include the same comprehensive program identified in Alternatives 2 and 3 to avoid, minimize, and mitigate potential impacts that could result from Water Authority activities. Plan measures applied prior to and during Water Authority activities would help to avoid and minimize potential biological impacts to sensitive habitats.

Level of Significance with Mitigation

Implementation of Alternative 4 would ensure that impacts to sensitive habitat are reduced to less than significant, as discussed under Alternative 2.

4.1.1.3 Effects on Wetlands

Issue 3: *Would the proposed action or alternatives have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

Wetlands associated with or adjacent to streams and watercourses are covered by the provisions of the Clean Water Act and subject to state and federal regulations within the Plan Area. Wetland delineations are performed to determine the characteristics of on-site soils, hydrology, and vegetation which define the extent of jurisdictional wetlands over which the USACE has regulatory authority. Due to a requirement for no net loss of wetland functions or services (formerly “values”) implemented by resource agencies, the first consideration in project planning should be avoidance of jurisdictional resources.

Wetlands within the Plan Area include: alkali wetlands (alkali seep, alkali marsh, cismontane alkali marsh), freshwater meadow or seep, freshwater marsh (coastal and valley freshwater marsh, emergent wetland), montane meadow, southern coastal salt marsh, disturbed wetlands, and vernal pools. 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.

USACE issues permits for impacts to wetlands or jurisdictional non-wetlands in accordance with Section 404 of the Clean Water Act. As part of the permitting process under Section 404, USACE is required to consult with USFWS for actions which involve federally listed species. Impacts to USACE jurisdictional waters (including some wetlands) would require a 404 permit from USACE.

Under Section 1602 of the Fish and Game Code, CDFG regulates activities that would alter rivers, streams, or lakes that support fish or wildlife. This includes riparian habitats (e.g., southern willow scrub) associated with watercourses. Projects which propose to affect such a watercourse or habitat area are subject to a Lake or Streambed Alteration Agreement (LSAA), which is addressed further as part of the Water Quality discussion Section 4.2.1.1.

Alternative 1: No Action/No Permit

Wetland habitats are among the sensitive vegetation communities within the Plan Area. Impacts to wetlands as a sensitive habitat were previously discussed under Section 4.1.1.2, above (see Table 4-7). These wetlands within the Plan Area may be under the jurisdiction of USACE or CDFG. Impacts to wetland areas could result from activities such as direct removal, filling, or hydrological interruption. Any wetland areas under the jurisdiction of federal and/or state agencies would require conformance to existing regulations. Therefore, activities implemented by the Water Authority have the potential to occur in wetland communities regulated by USACE under Section 404 of the Clean Water Act and CDFG under Section 1600 of the California Fish and Game Code.

Under Alternative 1, the Water Authority would meet regulatory requirements for the area of potential impact but would not implement a comprehensive program to evaluate wetland avoidance options, specify minimization measures prior to compensatory mitigation, or implement specific measures to retain wetlands in designated preserve, reserve, and fee/easement areas within the Plan Area. In addition, vernal pools and vernal pool dependent species would not receive the added protection that policies and measures in comprehensive conservation plans provide.

Significance of Impact

Because the nature of specific impacts to wetlands resulting from individual projects is not known at this time, the nature of the specific measures required to avoid those effects are also not known. Nonetheless, activities carried out by the Water Authority on a project-by-project basis could significantly impact wetlands under the jurisdiction of USACE or CDFG (Significant Impact BIO-3).

Mitigation

Individual Water Authority projects would be subject to environmental review and are required to comply with the regulations, policies, and standards for wetlands. Mitigation for impacts to wetlands under the No Action/No Permit Alternative would be implemented by the Water Authority on a project-by-project basis. The Water Authority would continue to follow current operational protocols and comply with measures in existing BOs and permits as they relate to wetland protection in order to avoid and minimize potential significant impacts from Water Authority activities. Where disturbance to wetlands from Water Authority activities is unavoidable, the Water Authority would be required to mitigate through issuance of federal and state permits.

Level of Significance with Mitigation

Because existing regulations require a no-net-loss of wetlands, compliance with the federal and state mitigation requirements would reduce potential impacts to wetlands from Water Authority projects and activities to below a level of significance.

Alternative 2: Proposed Plan

Impacts to wetlands resources would be the same as those anticipated in the No Action/No Permit Alternative and would be regulated by policies and guidelines both within and independent of the NCCP/HCP process. The Plan includes a commitment by the Water Authority to ensure that avoidance of impacts to wetlands is considered early in the process to design, plan, and schedule projects. The Plan's Wetlands Program and Vernal Pool Protection Policy ensure measures specific to wetlands and vernal pools that stress avoidance and no net loss of habitat. In addition, impacts would still require permits under Section 404 of the Clean Water Act and Section 1600 of the California Fish and Game Code.

Significance of Impact

Issuance of Permits and implementation of Covered Activities described in the Plan could result in significant impacts to wetlands under the jurisdiction of USACE or CDFG (Significant Impact BIO-3).

Mitigation

Implementation of the Plan will protect and conserve sensitive wetland habitat through project design and minimization measures in conformance with the CDFG and USACE no-net-loss policy for wetlands. Where direct impacts cannot be avoided, the Water Authority will be required to mitigate at ratios established in the Plan (see Table 2-5). The Plan includes a Water Authority objective of establishing regionally significant wetland creation sites, which are not required under Alternative 1. The Plan ensures that mitigation credits are available to offset unavoidable permanent impacts that result from Water Authority activities (see Table 4-8).

The Plan also includes a Wetlands Program and a Vernal Pool Protection Policy that includes restoration and monitoring programs that would further minimize and mitigate impacts to wetland habitats, vernal pools, and dependent species. These wetland and vernal pool avoidance, minimization, and mitigation measures will be implemented for subsequent Water Authority CIP projects and activities through individual project reviews and the associated CEQA process. The Plan ensures no net loss of vernal pool habitat. Temporary impacts or unavoidable permanent impacts will be mitigated in-kind with additional measures when Covered Species are found to be present.

In addition, the NCCP/HCP outlines streamlined procedures for CDFG to ensure Covered Activities will comply with Fish and Game Code Sections 1602 and 1603(a) through avoidance, minimization, and mitigation of impacts, and fulfills the requirements of a LSAA as discussed further in Section 4.2.1.1. By implementing the Plan and by entering into a binding IA together with a standardized LSAA, the Plan 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.

Level of Significance with Mitigation

Implementation of the Plan would ensure that impacts to wetlands are reduced to less than significant.

Alternative 3: Full Species List

Issuance of permits and adoption of Alternative 3, as in Alternative 2, would provide the mechanism for the Water Authority to carry out Covered Activities. Potential impacts to wetlands from Water Authority activities would be expected to be the same as those of the previous two alternatives.

Significance of Impact

As with Alternative 2, issuance of Permits and implementation of Covered Activities under Alternative 3 could result in significant impacts to wetlands under the jurisdiction of USACE or CDFG (Significant Impact BIO-3).

Mitigation

Impacts to federally protected wetlands would be avoided, minimized, and mitigated through the proposed Wetland Program and the Vernal Pool Protection Policy, which provide wetlands and vernal pools with additional protection measures that promote avoidance, minimization, and mitigation for wetlands to achieve an overall no-net-loss of functions and services in accordance with existing regulations. Additional measures would be applied for vernal pools with Covered Species. Where disturbance to wetlands is unavoidable, the Water Authority would be required to mitigate through issuance of federal and state permits.

Level of Significance with Mitigation

Implementation of mitigation measures for Alternative 3 would ensure that impacts to wetlands are reduced to less than significant. Compliance with the Federal and State requirements would reduce potential impacts to wetlands from Water Authority projects and activities to below a level of significance.

Alternative 4: Reduced Plan Area

Issuance of permits and adoption of Alternative 4, as in Alternatives 2 and 3, would provide the mechanism for the Water Authority to carry out Covered Activities. Potential impacts to wetlands from Water Authority activities would be expected to be the same as those of the previous alternatives.

Significance of Impact

As with Alternatives 2 and 3, issuance of Permits and implementation of Covered Activities under Alternative 4 could result in significant impacts to wetlands under the jurisdiction of USACE or CDFG (Significant Impact BIO-3).

Mitigation

Impacts to federally protected wetlands would be avoided, minimized, and mitigated through the proposed Wetland Program and the Vernal Pool Protection Policy, which provide wetlands and vernal pools with additional protection measures that promote avoidance, minimization, and mitigation for wetlands to achieve an overall no-net-loss of functions and services in accordance with existing regulations. Additional measures would be applied for vernal pools with Covered Species. Where disturbance to wetlands is unavoidable, the Water Authority would be required to mitigate through issuance of federal and state permits.

Level of Significance with Mitigation

Implementation of mitigation measures for Alternative 4 would ensure that impacts to wetlands are reduced to less than significant. Compliance with the federal and state requirements would reduce potential impacts to wetlands from Water Authority projects and activities to below a level of significance.

4.1.1.4 Effects on Wildlife Movement Corridors

Issue 4: *Would the proposed action or alternatives interfere substantially with the movement of any native resident, migratory fish, or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

Wildlife movement corridors are defined as areas that connect suitable wildlife habitat areas in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features such as canyon drainages, ridgelines, or areas with vegetation cover provide corridors for wildlife travel. Wildlife movement corridors are important because they allow the dispersal of individuals away from high population density areas and into low density areas, and facilitate the exchange of genetic material

between populations. For some slow-dispersing species, they also provide live-in habitat between larger areas of preferred habitat.

Alternative 1: No Action/No Permit

Under the No Action/No Permit Alternative, the Water Authority would not adopt the NCCP/HCP and comprehensive permits for incidental take would not be issued. Water Authority activities, such as construction, operation, and maintenance of facilities, rights-of-way, and mitigation properties have the potential to occur in areas that serve as wildlife movement corridors. Without proper planning and sensitivity to wildlife movement, surface features or prolonged construction activities may permanently or temporarily block key wildlife corridors.

The Water Authority's properties and easements in natural areas provide a benefit of habitat connectivity. In some instances, the presence of a utility corridor may serve to link habitat patches and ensure the long-term persistence of habitat connections. However, the No Action/No Permit Alternative does not ensure that protection measures would be in place for areas designated as wildlife movement and regional linkages. The implementation of Water Authority activities on a project-by-project basis would occur without a comprehensive conservation strategy. The fragmented approach to regional conservation efforts and strategic protection of habitat, including wildlife corridors, would not provide an overall benefit to species.

Significance of Impact

Projects that involve above ground structures, fencing, or large features could restrict wildlife movement and result in significant impacts to wildlife corridors (Significant Impact BIO-4).

Mitigation

The Water Authority would locate large above-ground facilities outside wildlife corridors, if feasible. Projects that are installed underground would not pose a permanent impact to wildlife movement since any disruptions would be temporary and the ground would be restored to original condition.

The Water Authority has previously acquired mitigation properties with high biological diversity and habitat value, some of which are contiguous with existing preserves and serve as wildlife movement corridors. These Preserve Area properties complement and, in some cases, link important conserved lands. The regional contribution of conserved lands by the Water Authority includes the Crestridge HMA, the San Miguel HMA, and the Rancho Cañada HMA, which are within County of San Diego MSCP core resource areas and assist in conserving regionally important wildlife corridors. Additionally, the MMAs provide linkages and corridors that benefit wildlife movement within the Plan Area. The

proposed Tijuana River Valley and San Luis Rey River HMAs would be located along key river corridors. Similar to other linear utilities, Water Authority owned rights-of-way and other parcels in native habitats and rural settings also function as wildlife corridors.

Because the nature of specific impacts resulting from individual projects is not known at this time, the nature of the specific measures required to avoid those effects are also not known. Feasible mitigation for significant impacts to wildlife movement from implementation of Water Authority activities required to reduce impacts to a level less than significant would be identified at the time the discretionary project is reviewed and approved.

Level of Significance with Mitigation

While the Water Authority would attempt to avoid and minimize permanent impacts to wildlife corridors from large above ground facilities, it may not be possible to fully mitigate for impacts. In this case, impacts would remain significant. With mitigation, impacts from subsurface facilities would be less that significant.

Alternative 2: Proposed Plan

Under all alternatives, the Water Authority would carry out the same potentially impacting activities; some of these projects could occur in areas that function as wildlife movement corridors. Large projects potentially could restrict wildlife movement located in a wildlife movement corridor. Understanding the biological and planning context of habitat linkages is critical when considering the Plan, which is effectively a distinct overlay on other existing planning. The Plan includes a commitment to not permanently disrupt linkages/corridors by facility locations and O&M activities. The Plan identifies biologically significant resource areas, including linkages and corridors, and emphasizes avoiding or maintaining expanding habitat linkages and wildlife corridors within these areas.

Significance of Impact

Issuance of Permits and implementation of Covered Activities described in the Plan could significantly affect wildlife movement corridors (Significant Impact BIO-4).

Mitigation

In addition to the Preserve Area properties acquired by the Water Authority that generally improve habitat connectivity as discussed in the No Action/No Permit Alternative, the Plan requires specific measures to avoid and minimize effects on designated corridors. In instances where construction or routine maintenance would potentially affect a very narrow corridor during key wildlife movement periods, specific measures, such as restrictions on nighttime work, lighting, seasonal schedules, or other measures, would be applied.

The Plan requires facility siting and activities to avoid disruption of wildlife movement corridors or habitat linkages, to the extent feasible. Project design would avoid or accommodate designated corridors to ensure wildlife passage, thereby reducing potential impacts. For facilities with a footprint that has the potential to be located within a wildlife corridor, alternate corridors would be established and follow-up monitoring would be performed.

Proposed avoidance and minimization measures, combined with management of the Preserve Area, provide a benefit for the movement of species and migratory wildlife through corridors. Specifically, the Plan includes a measure to eliminate unnecessary fencing from interior habitat areas within the Preserve Area that may impede the movement of native wildlife. Measures in the Plan would ensure that impacts to wildlife movement corridors are reduced to less than significant through facility siting, eliminating unnecessary fencing, and other measures.

Level of Significance with Mitigation

Implementation of Plan measures to protect regional and local wildlife corridors would reduce impacts to a level less than significant.

Alternative 3: Full Species List

Impacts resulting from subsequent projects and Water Authority activities under the Full Species List Alternative would be similar to the projects and activities under implementation of Alternative 2.

Significance of Impact

The significance of the impacts of Authority activities to wildlife movement and corridors under Alternative 3 would be the same as under Alternative 2 (Significant Impact BIO-4).

Mitigation

The mitigation measures in Alternative 3 are the same as those described in Alternative 2.

Level of Significance with Mitigation

The level of significance with mitigation measures of Alternative 3 are the same as those described in Alternative 2.

Alternative 4: Reduced Plan Area

Impacts resulting from subsequent projects and Water Authority activities under Alternative 4 would be similar to the projects and activities under implementation of Alternatives 2 and 3.

Significance of Impact

The significance of the impacts of Authority activities to wildlife movement and corridors under Alternative 4 would be the same as under Alternatives 2 and 3 (Significant Impact BIO-4).

Mitigation

The mitigation measures in Alternative 4 are the same as those described in Alternatives 2 and 3.

Level of Significance with Mitigation

The level of significance with mitigation measures of Alternative 4 are the same as those described in Alternatives 2 and 3.

4.1.1.5 Effects on Policies and Plans

Issue 5: *Would the proposed action or alternatives substantially conflict with local policies protecting biological resources, such as tree preservation policies or ordinances?*

Issue 6: *Would the proposed action or alternatives substantially conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP?*

The Water Authority is mandated by the County Water Authority Act (stats. 1943, c. 545) to provide water to meet the needs of the Member Water Agencies in its Service Area. As defined under this Act, the Water Authority is not subject to local land use plans, policies, and ordinances. Furthermore, water facilities used for the production, generation, storage, or transmission of water are exempt from local zoning per California Government Code Section 53091(d) and (e).

Multiple conservation plans and policies exist to protect sensitive resources and balance conservation and development priorities within San Diego County and Riverside County. These plans, prepared at the local and regional level, protect sensitive areas and high-quality habitat in a preserve system or preservation criteria area while allowing growth and development in other areas subject to the plan and local ordinances. These plans, as discussed in Section 3.2 of the Plan, include the South San Diego County MSCP,

San Diego MHCP, Western Riverside County MSHCP, SDG&E's HCP/NCCP, and the Assessment District 161 Multiple Species Subregional Habitat Conservation Plan. These plans were developed to provide a conservation strategy which conforms to the requirements under ESA and NCCPA.

The existing regional and local conservation plans conserve viable populations of sensitive species and regional biodiversity while allowing for reasonable economic growth. Conservation of viable populations is secured through the dedication of open space lands or preserves that prohibit development. However, these plans typically allow for the maintenance and installation of public infrastructure to occur within the preserve system to meet the needs of the region. As an example, the MSCP and MHCP Subregional Plans identify linear utilities, including support facilities, as conditionally compatible projects.

Alternatives 1: No Action/No Permit

Under the No Action/No Permit Alternative, the Water Authority would not adopt the NCCP/HCP and comprehensive permits for incidental take would not be issued, but the Water Authority would continue to implement projects and conduct activities necessary to deliver the region's water supply.

Some Water Authority existing facilities, particularly pipelines, occur in areas currently designated as preserve land under existing conservation plans. Under the No Action/No Permit Alternative, Water Authority activities would be conducted pursuant to the Water Authority's statutory authority; under which the Water Authority is not subject to local land use plans, policies, and ordinances. In conformance with CEQA requirements, the Water Authority reviews the potential effects of its projects on general plans and regional plans, including HCPs and NCCPs. Because the Water Authority is not subject to local policies or other HCP or NCCP requirements, its projects may conflict with those policies and commitments. Potentially significant effects include land use conflicts with designated or approved preserve lands and mitigation for habitat and species' impacts.

The Water Authority considers all facility easements that existed prior to preserve establishment to be excluded from preserved lands. Thus, Water Authority activities within preserves or certain higher-quality areas designated by the plans as habitat for wildlife and linkages (such as the MSCP's Multi-Habitat Planning Area, the MHCP's Focused Planning Areas, and the MSHCP's criteria areas) may not be subject to additional mitigation measures or higher mitigation ratios otherwise required by the existing plan.

Significance of Impact

The Water Authority would attempt to avoid conflicts with local policies and plans and with habitat and species-specific commitments in relevant conservation plans. Where

impacts are unavoidable (Significant Impact BIO-5), the Water Authority would mitigate significant environmental impacts and potential significant adverse effects to listed species through project-specific CEQA mitigation measures and ESA or CESA permit conditions, if required.

Mitigation

Appropriate mitigation to reduce Significant Impact BIO-5 to a level of less than significant would be applied on a case-by-case basis, and would not necessarily be consistent with local policies or regulations or comparable to mitigation under other conservation plans. Under this alternative, the Water Authority would not provide a comprehensive conservation program. Existing mitigation sites were acquired as part of the Water Authority's contribution to regional conservation efforts, but these areas would be not be managed above and beyond the required conditions in any permits issued for the specific project.

Level of Significance with Mitigation

In the absence of its own comprehensive plan with commitments to support regional conservation, the Water Authority could implement individual projects that, even with mitigation, would remain significant for local policies and plans, including conservation plans.

Alternative 2: Proposed Plan

The Plan was designed to be compatible with other conservation plans in the region and cover specific Water Authority activities within a defined Plan Area. The Plan supports other regional conservation plans by providing a more coordinated and comprehensive approach to conservation efforts, as discussed in Section 1.0 of the Plan (see Appendix B). Preparation of the Plan included a review of its relationship to the various other habitat conservation plans in the region. No significant conservation conflicts between the Water Authority's Plan and other habitat conservation plans were identified. As the Water Authority is not a land use authority, the Plan is not proposed as a land-use based plan. Implementation of the Plan would not affect the authority of local, state, federal, or sovereign land-use agencies, private citizens, or other parties within the Plan Area. A discussion of compatibility of Water Authority activities and facilities within preserve areas designated by local plans has been included in the Plan.

Because local plans typically allow for the maintenance and installation of public infrastructure within existing preserve systems, the Plan describes subsurface pipelines, expansions of existing surface storage or water management facilities, and new, localized-impact surface facilities, including new enclosed storage, pumping, or confined water management facilities, to be compatible when undertaken in accordance with impact avoidance, minimization, and mitigation measures outlined in the Plan. The Plan

defines compatible uses as those that will not permanently interfere with the preserve area, linkage system, and biological resources, including Covered Species and habitats. To be compatible, it must be demonstrated that the facilities or activities will not permanently:

- Affect or jeopardize the preserved lands in a way that would appreciably reduce a population or cause a population to drop below self-sustaining levels for any Covered Species;
- Permanently block or otherwise impair the connectivity of habitats for wildlife movement or genetic exchanges as anticipated with the initial preserve system design;
- Reduce or jeopardize the continued existence of a Covered Species, including impacting the ability of a core population of a species to breed, forage, or find shelter; or,
- Interfere with the goals of the preserve management or planned enhancement progress within the preserves.

Incompatible uses are those that will result in unavoidable and unrecoverable significant impacts to preserve functions. To achieve compatibility for projects that may otherwise be considered to be incompatible, avoidance and minimization measures may be implemented either during project design or as habitat-based mitigation through deductions in established conservation banks or acquisition of habitat lands that complement regional habitat conservation plans. Measures included in the Plan ensure that the conservation goals of both the Water Authority and other jurisdictions' habitat conservation plans are achieved and that the compatibility as described above is achieved.

The proposed Plan identifies a Preserve Area comprised of key habitat lands acquired or funded by the Water Authority, as well as mitigation lands for previous projects that are now owned and managed by other jurisdictions per agreements with the Water Authority. The Water Authority Plan designates higher mitigation ratios for impacts that occur within (and lower mitigation ratios for mitigating within) biologically significant resource areas. As noted in the Plan, improvements and/or repairs to existing facilities located within preserve areas are periodically required for the Water Authority to conduct its mission. Although the Water Authority would practice avoidance and minimization measures within existing preserve lands to the maximum extent practicable, any projects or improvements proposed by the Water Authority would be subject to a higher mitigation ratio if the preserve lands pre-dated the Water Authority facility, as appropriate, to reduce any potential impacts from subsequent implementation of the Plan's Covered Activities to a level less than significant (see Tables 4-6 and 4-7).

The issuance of an incidental take permit for the Water Authority under section 10(a)(1)(B) of the ESA and incidental take authorization under section 2835 of the Fish and Game Code would not conflict with local goals protecting biological resources or the implementation of an adopted local or regional conservation plan. Measures in the Plan would also not significantly conflict with local or regional habitat conservation plans. The structure and the mitigation programs of regional conservation plans were considered in the development of the Plan. In applying the mitigation requirements in the Plan, the Water Authority would not conflict with the MSCP and MHCP and, in some cases, are more stringent than the Western Riverside County MSHCP. Further, implementation of the Water Authority's Plan would not interfere with the management goals and objectives of the existing plans and would serve to strengthen existing conservation efforts and preserve systems.

Significance of Impact

No significant impacts to plans and policies are anticipated as a result of implementing the Plan and granting Permits.

Mitigation

The Plan was developed with provisions for avoidance, minimization, and mitigation of impacts to sensitive resources. In implementing Covered Activities, the Water Authority would adhere to the measures within the Plan, including an evaluation of significant impacts to existing preserve areas and avoidance and minimization measures, as appropriate. No additional mitigation measures are required.

Level of Significance with Mitigation

Water Authority compliance with measures in the Plan, commitments to prioritize avoidance and minimization to preserve lands, and higher mitigation ratios for impacts within sensitive areas (including all preserve lands), would reduce potential impacts to below a level of significance.

Alternative 3: Full Species List

The impacts to plans and policies resulting from implementation of Alternative 3 are the same as those identified for Alternative 2.

Significance of Impact

The significance of the impacts of Authority activities to policies and plans under Alternative 3 would be the same as under Alternative 2.

Mitigation

This alternative would not result in significant impacts. Accordingly, no mitigation measures would be required.

Level of Significance with Mitigation

No significant impacts to plans and policies are anticipated as a result of implementing the Plan and granting Permits.

Alternative 4: Reduced Plan Area

The impacts to plans and policies resulting from implementation of Alternative 4 are the same as those identified for Alternatives 2 and 3.

Significance of Impact

The significance of the impacts of Water Authority activities to policies and plans under Alternative 4 would be the same as under Alternatives 2 and 3.

Mitigation

This alternative would not result in significant impacts. Accordingly, no mitigation measures would be required.

Level of Significance with Mitigation

No significant impacts to plans and policies are anticipated as a result of implementing the Plan and granting Permits.

4.2 Water Resources and Water Quality

4.2.1 Criteria for Determining Significant Impacts or Significant Adverse Effects

Criteria for evaluating the water quality effects of the Plan are listed below. These criteria have been grouped into two issue areas for evaluation: effects on surface water and water quality, and effects on drainage patterns. Based on CEQA and Federal guidelines, impacts associated with the proposed action or alternatives would result in significant impacts or significant adverse effects if they:

1. Violate any water quality standards or waste discharge requirements;

2. Degrade downstream or marine habitats or other biological resources; or

3. Alter the existing drainage pattern of facility sites and surrounding area in a manner that would increase flood risk or reduce minimum flows downstream of the site.

4.2.1.1 Effects on Surface Water and Water Quality

Issue 1: *Would the proposed action or alternatives violate any water quality standards or waste discharge requirements?*

Issue 2: *Would the proposed action or alternatives degrade downstream or marine habitats or other biological resources?*

Surface waters are a highly regulated resource. The quality of surface waters, including river systems, coastal lagoons, natural and constructed water bodies, and both shallow and deep groundwater bearing strata, are regulated at the Federal, State, and regional levels. A number of surface and subsurface water resources occur within or adjacent to the Plan Area. In addition, several major rivers cross the Water Authority, including the First and Second Aqueducts, including the Sweetwater River, San Diego River, San Dieguito River, Escondido Creek, San Luis Rey River, Santa Margarita River, and Temecula Creek.

The federal Clean Water Act directs states to establish water quality standards for all waters of the U.S. and to review and update such standards on a triennial basis. The federal Environmental Protection Agency has delegated responsibility for implementation of the Clean Water Act in California to the State Water Resources Control Board (SWRCB) and its regional boards. Responsibilities of these boards include implementation of water quality control planning and control programs, such as the National Pollutant Discharge Elimination System (NPDES) program and storm water discharge regulations, which serve to control water pollution through the issuance of permits regulating the discharge of pollutants into waters of the U.S.

As part of NPDES compliance, the SWRCB requires projects to submit a SWPPP. A SWPPP identifies the BMPs to be used on a project during the construction and post-construction phases in order to comply with regional ordinances and state and federal water quality standards. Construction phase BMPs are meant to prevent erosion and transport of on-site soil materials and pollutants to drainage courses. These BMPs thus address dust control; solid and sanitary waste management; concrete waste management; hazardous waste management; vehicle maintenance, washing, and fueling; appropriate material use and storage, including spill prevention and control; and employee and subcontractor training at construction sites. In addition, areas temporarily disrupted by construction activities are required to be revegetated to maximize on-site erosion control and filtration for water quality benefits. Post-construction BMPs, where applicable, address site design, source control, and treatment control. These are the BMPs that a project will have as an inherent characteristic (in the case of site design) or

continually maintain and operate (in the course of source and treatments controls) upon completion of project construction and during operation/occupancy of the project site. BMPs are intended to address not only the conditions necessary to intercept flows and sediment as a result of erosion and other on-site conditions, but also to preclude changes to ground or surface waters downstream of the project.

In addition to these regional, state, and federal regulations that require pollution prevention practices, section 1602 of the California Fish and Game Code regulates activities that would alter a watercourse or otherwise affect the flow or characteristics of a river, stream, or lake that supports wildlife. A LSAA is required for projects that would alter wetlands and requires avoidance and minimization of substantial adverse impacts, and compensatory mitigation for unavoidable temporary and permanent impacts. Section 1602(a)(1) of the Code requires written notification to CDFG that describes: the techniques that will be used to prevent sediment from entering watercourses during and after construction; the project avoidance and/or minimization measures to project fish, wildlife, and plant resources; and any project mitigation and/or compensation measures to protect fish, wildlife, and plant resources.

Adherence to these regional, state, and federal water quality regulations is required independently of the NCCPA, ESA, or other species protection regulations. Therefore, regardless of the nature of or mechanism for implementing species take permits, each of the alternatives is required to protect water resources similarly, through project compliance with existing mandatory water quality regulations.

Alternatives 1, 2, 3, and 4

Implementation of the No Action/No Permit (Alternative 1) would not adopt the Plan or issue comprehensive permits for Covered Activities, and would also not interfere with federal, state, and regional water quality requirements. The comprehensive species take permit issued pursuant to Alternatives 2, 3 and 4 does not address nor interfere with federal, state, and regional water quality requirements. In pursuing individual species take permits on a project-by-project basis, the Water Authority would also address impacts to water resources subject to existing water quality and streambed alteration regulations. Through compliance with these mandatory regulations, any potential significant or adverse effects to surface waters would be avoided or reduced.

Under this and all alternatives, the Water Authority would conduct activities and implement projects to meet existing and future projected water demand. In constructing projects, operating and maintaining facilities, and otherwise performing activities necessary to meet their mission, the Water Authority may require further environmental review and is required to conform to all state and regional regulations that protect water resources. In implementing projects and activities, the Water Authority would adhere to federal, state, and regional water quality regulations, including the NPDES program.

Significance of Impact

No significant impacts/adverse effects to surface water and water quality would result from Water Authority activities associated with any alternative that is implemented, pursuant to federal, state, and local water quality regulations.

Mitigation

Each alternative would require potentially significant impacts to surface water and water quality to be addressed (and mitigated) pursuant to current regulations. By conforming to those regulations, none of the alternatives would be required to provide additional measures.

Level of Significance with Mitigation

Water Authority compliance with federal and state water quality regulations would reduce surface water and water quality impacts to below a level of significance.

4.2.1.2 Effects on Drainage Patterns

Issue 3: *Would the proposed action or alternatives alter the existing drainage pattern of facility sites and surrounding area in a manner that would increase flood risk or reduce minimum flows downstream of the site?*

Water Authority construction activities associated with individual CIP projects have the potential to temporarily disrupt drainage flows in and around the proposed project area. Earthwork for projects also has the potential to modify land surface elevations in specific locations, thereby altering drainage systems. However, Water Authority facilities are designed to avoid altering natural or existing drainages, to the extent practicable, in accordance with applicable regulations. If drainages must be temporarily altered, ground surfaces are restored to pre-existing contours at the conclusion of the activity. In addition, the implementation of a site-specific SWPPP ensures that erosion control and temporary BMPs are in place to prevent runoff, on-site discharges, and significant adverse effects to downstream flows.

Alternatives 1, 2, 3, and 4

Alterations to watersheds and drainage patterns are regulated by existing regional ordinances and state and federal regulations and state and federal clean water and floodplain management regulations. Subsequent activities and individual projects implemented by the Water Authority under multiple take permits would be required to comply with existing regulations. As with water quality (see Section 4.2.1.1 above), projects within the Plan Area are subject to these regulations independently of regulations or permits required to protect species. In addition to complying with

mandated state and federal requirements pertaining to drainage and floodplains, operational protocols from the Water Authority's General Conditions and Standard Specifications provide additional operating procedures for carrying out Water Authority activities in order to comply with federal and state regulations.

Significance of Impact

No significant impacts to drainage patterns are would result from any of the alternatives.

Mitigation

None of the alternatives would result in significant impacts to drainage patterns. Accordingly, no mitigation measures would be required.

Level of Significance with Mitigation

No significant impacts to drainage patterns are would result from any of the alternatives.

4.3 Land Use

4.3.1 Criteria for Determining Significant Impacts or Significant Adverse Effects

The significance of potential land use impacts was determined based on CEQA guidelines (CCR Sections 15000–15387, Appendix G) and other relevant considerations. These guidelines identify certain thresholds that may be considered to determine whether an impact is significant. These thresholds have been grouped into one issue area for evaluation: conflicts with land uses. Using these thresholds, the proposed action or alternatives result in significant impacts or significant adverse effects if they would:

1. Conflict with sensitive land uses during construction;

2. Permanently displace existing, developing, or approved urban/industrial buildings or activities over a substantial area (i.e., residential, commercial, industrial, extractive, governmental, or institutional);

3. Conflict with an existing right-of-way;

4. Conflict with any applicable land use plan, zoning ordinance, land use policy, or regulation adopted for the purpose of avoiding or mitigating environmental effects, including applicable NCCP/HCPs and environmentally sensitive lands; or

5. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use.

4.3.1.1 Conflict with Land Uses

Issue 1: *Would the proposed action or alternatives conflict with sensitive land uses during construction?*

Issue 2: *Would the proposed action or alternatives permanently displace existing, developing, or approved urban/industrial buildings or activities over a substantial area (i.e., residential, commercial, industrial, extractive, governmental, or institutional)?*

Issue 3: *Would the proposed action or alternatives conflict with an existing right-of-way?*

Issue 4: *Would the proposed action or alternatives conflict with any applicable land use plan, zoning ordinance, land use policy, or regulation adopted for the purpose of avoiding or mitigating environmental effects, including applicable NCCP/HCPs and environmentally sensitive lands?*

Issue 5: *Would the proposed action or alternatives convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use?*

The Water Authority is mandated by the County Water Authority Act (stats. 1943, c. 545) to provide water to meet the needs of the Member Water Agencies in its Service Area. As defined under this Act, the Water Authority is not subject to local land use plans, policies, and ordinances. Furthermore, water facilities used for the production, generation, storage, or transmission of water are exempt from local zoning per California Government Code Section 53091(d) and (e). In many areas, the Water Authority's pipelines are located in public rights-of-way, and associated facilities are not subject to local land use regulations or in areas where they would displace existing development or housing. Water infrastructure and facilities for storage and delivery are typically compatible with the zoning and land use designations of local jurisdictions, including agricultural lands identified as important agricultural land. Additionally, Water Authority facilities are designed and located in areas to minimize potential impacts from Existing and Planned Projects.

Alternative 1: No Action/No Permit

Under the No Action/No Permit Alternative, the Water Authority would continue to conduct its activities per current practices. The Water Authority’s water system is linear in nature, and activities generally occur in or around existing water infrastructure. Activities necessary to ensure a safe and reliable water supply would not permanently displace buildings or activities over a substantial area. The Water Authority is also not subject to local zoning; therefore, projects and activities would not conflict with applicable land use plans and policies.

Projected impacts to non-sensitive vegetation communities and land cover from Planned and Future Projects include approximately 430 acres to agricultural lands (see Table 4-7). These impacts would occur over the next 55 years and represent an area of less than 4 percent of the land designated as agricultural land within the PIZ. Not all land designated as agricultural is currently in agricultural production or rated as Prime, Unique, or Important Farmland; the majority of the Water Authority activities would be conducted within existing easements and rights-of-way and therefore would not result in a conversion of farmland (State of California 2004c).

The Water Authority has identified sensitive land uses that could be affected during construction and maintenance of its facilities (see Tables 4-2 and 4-7). Therefore, there is the potential for Water Authority activities to conflict with sensitive land use designations, including environmentally sensitive lands, both with respect to land designated as sensitive by a local land use jurisdictions and land that is biologically sensitive because of the presence of threatened, endangered, or sensitive species. Without a comprehensive subregional NCCP/HCP in place and permits for incidental take, the Water Authority would comply with the measures in the applicable conservation plan and mitigation requirements for the jurisdiction where the project or activity would occur to ensure that impacts are reduced to less than significant.

Significance of Impact

This alternative could potentially result in significant land use impacts if Water Authority actions conflict with sensitive land use designations (Significant Impact LU-1). When these projects are planned for implementation, these impacts or the specific measures from the applicable plan required to avoid them would be identified.

Mitigation

In conformance with CEQA requirements, the Water Authority reviews the potential effects of its projects on local land use plans, policies, and regulations (see subsection 4.1.1.5). For Significant Impact LU-1, mitigation to reduce significant impacts from implementation of Water Authority activities to a level less than significant would be identified at the time the discretionary project is reviewed and approved. Compliance with the applicable NCCP/HCP would occur as determined on a project-by-project basis by the Water Authority as the CEQA lead agency, and USFWS and CDFG if listed species are impacted. Although the Water Authority is not subject to local plans and regulations, the mitigation based on existing plan(s) developed through the CEQA process or in consultation with the resource agencies is likely be essentially compatible with local requirements, especially with respect to the limited scale of anticipated effects of the Covered Activities outside of existing rights-of-way and easements.

Level of Significance with Mitigation

Project-by-project processing under the No Action/No Permit Alternative would have to address potential conflicts with those plans to ensure that impacts to existing land uses from Covered Activities would not be significant.

Alternative 2: Proposed Plan

In implementing projects and activities, the Water Authority would adhere to the measures within the Plan, including an evaluation for compatibility with preserve lands and implementation of avoidance, minimization, and mitigation measures, as appropriate. The Water Authority is exempt from local land use plans. However, HCPs and NCCPs are not “land use” plans, but are mitigation plans that applicants agree to implement in exchange for incidental take permits for listed species. The Plan will commit the Water Authority to implement its Covered Activities in a manner that avoids, minimizes, and mitigates incidental take of Covered Species within the Plan Area.

Significance of Impact

No significant land use impacts would result from implementation of Alternative 2.

Mitigation

The proposed action/Alternative 2 would not result in significant impacts from conflicts with land use plans. Accordingly, no mitigation measures would be required.

Level of Significance with Mitigation

No significant land use impacts would result from implementation of Alternative 2.

Alternative 3: Full Species List

Under this alternative, the Water Authority would seek biological compliance through the same mechanism (an HCP/NCCP) as in Alternative 2, but with additional species coverage.

Significance of Impact

No significant land use impacts would result from implementation of Alternative 3.

Mitigation

Alternative 3 would not result in significant impacts from conflicts with land use plans. Accordingly, no mitigation measures would be required.

Level of Significance with Mitigation

No significant land use impacts would result from implementation of Alternative 3.

Alternative 4: Reduced Plan Area

Under this alternative, the Water Authority would seek biological compliance through the same mechanism (an HCP/NCCP) as in Alternatives 2 and 3, but with fewer species covered.

Significance of Impact

No significant land use impacts would result from implementation of Alternative 4.

Mitigation

Alternative 4 would not result in significant impacts from conflicts with land use plans. Accordingly, no mitigation measures would be required.

Level of Significance with Mitigation

No significant land use impacts would result from implementation of Alternative 4.

4.4 Public Services and Utilities

4.4.1 Criteria for Determining Significant Impacts or Significant Adverse Effects

Criteria for evaluating effects of the Plan on public services and utilities have been grouped into one issue area for evaluation: effects on services and utility infrastructure. The proposed action or alternatives would result in significant impacts or significant adverse effects if they:

1. Result in a direct long-term service interruption or permanent disruption of essential public utilities;

2. Result in the need for additional capacity of utility infrastructure or additional service, which could not be supplied by existing utility service providers; or

3. Result in a substantial decrease in existing levels of service in the project area.

4.4.1.1 Effects on Services and Utility Infrastructure

Issue 1: *Would the proposed action or alternatives result in a direct long-term service interruption or permanent disruption of essential public utilities?*

Issue 2: *Would the proposed action or alternatives result in the need for additional capacity of utility infrastructure or additional service, which could not be supplied by existing utility service providers?*

Issue 3: *Would the proposed action or alternatives result in a substantial decrease in existing levels of service in the project area?*

The Water Authority is responsible for the supply and delivery of the region's supplemental water needs, providing an essential public service. This requires a water system infrastructure consisting of pipelines, reservoirs, treatment plants, pump stations, regulatory control structures, flow control facilities, and associated facilities and equipment. Planning documents, such as the Master Plan, identify capacity requirements based on the region's population growth and distribution. The CIP is developed in consideration of existing system capacity and projected needs to ensure that facilities are provided and maintained to service and support the region's water supply needs. The Water Authority updates the CIP as projections change and subsequently implements projects and activities to ensure a safe and reliable water supply for the region.

Alternative 1: No Action/No Permit

Under this alternative, the Water Authority would continue to implement its public service projects on an individual project basis. This approach has, and would likely continue to, result in delays in obtaining final project approvals related to biological permitting to construct projects and conduct required O&M Activities on water infrastructure if endangered species could be affected. Delays could affect the integrity or reliability of the water delivery system.

Significance of Impact

Delays in constructing and maintaining the water supply infrastructure could be significant and adversely affect the integrity or reliability of the water delivery system (Significant Impact PS&U-1).

Mitigation

Under Alternative 1, there are no feasible mitigation measures to address delays in providing water delivery system projects that pose potential impacts state and federal listed species.

Level of Significance with Mitigation

Potentially significant adverse effects to the integrity or reliability of the water delivery system would remain under Alternative 1.

Alternative 2: Proposed Plan

Implementation of the Plan would streamline the biological compliance aspect of activities required to maintain the existing infrastructure to deliver water for those species covered by the Plan. Implementation of the Plan would provide a level of certainty regarding permitting under ESA/NCCPA for the Water Authority to conduct the necessary construction, operation, maintenance, and management activities on water infrastructure. This alternative would not eliminate the need to obtain Plan amendments or individual permits for certain Water Authority projects or activities. However, this alternative would increase certainty regarding biological resources expected to be impacted by Water Authority activities (see Tables 4-3 and 4-7) and reduce project delays.

Significance of Impact

The Proposed Plan would not result in significant impacts or significant adverse effects to public services and water utilities.

Mitigation

The proposed action/Alternative 2 would not result in significant impacts to public services/utilities. Accordingly, no mitigation measures would be required.

Level of Significance with Mitigation

No significant impacts to public services/utilities from implementation of Alternative 2 would occur.

Alternative 3: Full Species List

This alternative would have the same result as Alternative 2, except more species would be covered by ESA permits. This could potentially result in the need to obtain fewer Plan amendments or individual project permits.

Significance of Impact

No significant impacts to public services/utilities from implementation of Alternative 3 would occur.

Mitigation

The proposed action/Alternative 3 would not result in significant impacts to public services/utilities. Accordingly, no mitigation measures would be required.

Level of Significance with Mitigation

No significant impacts to public services/utilities from implementation of Alternative 3 would occur.

Alternative 4: Reduced Plan Area

This alternative would cover Water Authority activities in a smaller area than Alternatives 2 or 3. This could potentially result in the need to obtain more Plan amendments or individual project permits as future activities are implemented in the Survey Area and outside the PIZ. The processing of Plan amendments or individual permits could result in substantial project delays.

Significance of Impact

Significant impacts to public services/utilities from implementation of Alternative 4 could occur as the result of the need to process Plan amendments or individual permits for future Water Authority activities in the Survey Area, but outside of the PIZ (Significant Impact PS&U-1).

Mitigation

The proposed action/Alternative 4 could result in significant impacts to public services/utilities. No mitigation measures have been identified.

Level of Significance with Mitigation

As no mitigation measures were identified, impacts to public services/utilities from implementation of Alternative 4 would remain significant.

4.5 Socioeconomics

4.5.1 Criteria for Determining Significant Impacts or Significant Adverse Effects

As required by NEPA (1508.14 of the CEQ regulations), the proposed action must be evaluated with respect to potential effects on the human environment, including social and economic effects. The proposed action or alternatives would result in significant adverse effects, as compared to the No Action/No Permit Alternative, if they:

1. Displace a substantial number of homes or businesses, substantially alter surface transportation patterns, divide or disrupt established communities, disrupt orderly, planned development, or create an appreciable change in employment.

4.5.1.1 Effects on Socio-Economics

Issue 1: *Would the proposed action or alternatives displace a substantial number of homes or businesses, substantially alter surface transportation patterns, divide or disrupt established communities, disrupt orderly, planned development, or create an appreciable change in employment?*

The Water Authority is responsible for meeting the projected water demands of the region, thereby responding to future population, housing, and economic growth. The Water Authority develops and adjusts its CIP in response to regional growth forecasts prepared by SANDAG and anticipated future water demands. New facilities are designed to improve system operations and maintenance or meet future water demands. Development of water delivery infrastructure is a response to projected growth, not a facilitator of growth. In addition, the Water Authority coordinates water conservation measures and programs with its Member Water Agencies to encourage consumers to use water wisely.

Execution of the Water Authority's mission to provide a safe and reliable water supply would support the current and projected population, housing, and economic growth in the region. It is not anticipated that any of the alternatives would displace any residents or businesses, or significantly effect employment.

Alternative 1: No Action/No Permit

Under this Alternative, the Water Authority would continue to implement projects as needed to meet regional growth projections. As the action is largely an issue of compliance with the ESA and CESA, this alternative would not change the current project-by-project process by which the Water Authority seeks environmental compliance. Without a permit in place, the No Action/No Permit Alternative may result in longer time frames for the Water Authority to obtain environmental compliance and greater uncertainty regarding mitigation requirements.

Without a comprehensive permitting program to deal with state and federal listed species issues, the Water Authority would not benefit from a more streamlined, efficient process for developing the required infrastructure to meet regional water demands. Without an approved NCCP/HCP in place to address any impacts to biological resources, there could be delays in future project planning. The Water Authority may also incur increased costs for implementation and indirect costs associated with extended project schedules. However, the No Action/No Permit alternative would not displace a substantial number of homes or businesses, substantially alter surface

transportation patterns, divide or disrupt established communities, disrupt orderly, planned development, or create an appreciable change in employment.

Significance of Impact

Under Alternative 1, there would be no significant impacts or significant adverse effects to socioeconomics.

Mitigation

No significant impacts to from implementation of Alternative 1 would occur.

Level of Significance with Mitigation

Alternative 1 would not result in significant impacts. Accordingly, no mitigation measures would be required.

Alternative 2: Proposed Plan

Implementation of the Plan would streamline the biological compliance aspect of Water Authority activities and provide for mitigation in advance of impacts, thereby allowing projects to proceed in a timely manner. This streamlining process would enable the Water Authority to be more efficient in developing the required infrastructure to meet future water demands.

Significance of Impact

Under Alternative 2, there would be no significant impacts or significant adverse effects to socioeconomics. Water Authority activities conducted under the Plan would provide comprehensive regulatory certainty to support the current and future socio-economic dynamics of the region.

Mitigation

Alternative 2 would not result in significant socioeconomic impacts. Accordingly, no mitigation measures would be required.

Level of Significance with Mitigation

No significant impacts to socioeconomics from implementation of Alternative 2 would occur.

Alternative 3: Full Species List

Similar to Alternative 2, there would be no significant socioeconomic impacts or significant adverse effects to socioeconomic factors under this alternative.

Significance of Impact

No significant impacts to socioeconomics from implementation of Alternative 3 would occur.

Mitigation

Alternative 3 would not result in significant impacts to socioeconomics. Accordingly, no mitigation measures would be required.

Level of Significance with Mitigation

No significant impacts to socioeconomics from implementation of Alternative 3 would occur.

Alternative 4: Reduced Plan Area

Similar to Alternative 2, there would be no significant socioeconomic impacts or significant adverse effects to socioeconomic factors under this alternative.

Significance of Impact

No significant impacts to socioeconomics from implementation of Alternative 4 would occur.

Mitigation

Alternative 4 would not result in significant impacts to socioeconomics. Accordingly, no mitigation measures would be required.

Level of Significance with Mitigation

No significant impacts to socioeconomics from implementation of Alternative 4 would occur.

4.6 Environmental Justice

4.6.1 Criteria for Determining Significant Impacts or Significant Adverse Effects

The proposed action or alternatives would result in significant impacts or significant adverse effects if they:

1. Create disproportionate and adverse effects on the health or environment of minority and low-income populations.

4.6.1.1 Effects on Minority and Low-Income Populations

Issue 1: *Would the proposed action or alternatives create disproportionate and adverse effects on the health or environment of minority and low-income populations?*

Federal law requires that no person, because of race, color, religion, national origin, sex, age, or handicap, be excluded from participation in, denied benefits of, or be subjected to discrimination by any federal aid activity. Executive Order 12898 "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" broadens this requirement to require that disproportionately high and adverse health or environmental impacts to minority and low-income populations be avoided or minimized to the extent feasible.

Implementation of the projects and activities would assist the Water Authority in delivery of water to meet customer demands, which benefits the entire San Diego region. Activities would be located primarily along the Water Authority's existing aqueduct system, which traverse a variety of neighborhoods. Water Authority activities are conducted within established rights-of-way and easements, or on other lands controlled by the Water Authority. These areas are not heavily populated and do not represent a concentration of minority or low-income populations. Water would be delivered to Water Authority Member Water Agencies and subsequently delivered to customers subject to health and safety regulations. For this reason, neither benefits nor risks associated with the proposed action would disproportionately affect minority or low-income populations.

Alternative 1: No Action/No Permit

Under this alternative, the Water Authority would conduct its activities seeking biological compliance on a project-by-project basis. No minority or low-income populations that could be adversely impacted by Water Authority activities have been identified.

Significance of Impact

No significant impacts to minority and low-income populations from implementation of Alternative 1 would occur.

Mitigation

Alternative 1 would not result in significant impacts to minority and low-income populations. Accordingly, no mitigation measures would be required.

Level of Significance with Mitigation

No significant impacts to minority and low-income populations from implementation of Alternative 1 would occur.

Alternative 2: Proposed Plan

The proposed Plan involves implementation of a comprehensive plan to conserve sensitive species as the Water Authority conducts its necessary activities to provide a safe, reliable water source. No minority or low-income populations that could be adversely impacted by the implementation of the Plan have been identified in the Plan Area.

Significance of Impact

No significant impacts to minority and low-income populations from implementation of Alternative 2 would occur.

Mitigation

Alternative 2 would not result in significant impacts to minority and low-income populations. Accordingly, no mitigation measures would be required.

Level of Significance with Mitigation

No significant impacts to minority and low-income populations from implementation of Alternative 2 would occur.

Alternative 3: Full Species List

Similar to Alternative 2, Covered Activities under Alternative 3 are not located in areas with a concentration of minority or low-income populations.

Significance of Impact

No significant impacts to minority and low-income populations from implementation of Alternative 3 would occur.

Mitigation

Alternative 3 would not result in significant impacts to minority and low-income populations. Accordingly, no mitigation measures would be required.

Level of Significance with Mitigation

No significant impacts to minority and low-income populations from implementation of Alternative 3 would occur.

Alternative 4: Full Species List

Similar to Alternative 2, Covered Activities under Alternative 4 are not located in areas with a concentration of minority or low-income populations.

Significance of Impact

No significant impacts to minority and low-income populations from implementation of Alternative 4 would occur.

Mitigation

Alternative 4 would not result in significant impacts to minority and low-income populations. Accordingly, no mitigation measures would be required.

Level of Significance with Mitigation

No significant impacts to minority and low-income populations from implementation of Alternative 4 would occur.

4.7 Comparison of Impacts by Alternative

Alternatives were evaluated in this draft EIR/EIS for their effect on biological resources, water resources and water quality, land use, public services and utilities, socio-economics, and environmental justice. The impacts to biological resources as a result of subsequent Water Authority projects and activities would be similar under all alternatives, with the key differences related to the greater uncertainty of timing: the timing of project implementation under the No Action/No Permit Alternative (Alternative 1), the timing of mitigation activities for the 26 additional species included in Full Species List Alternative (Alternative 3), and the timing necessary to amend the Plan to cover projects outside the PIZ in the Reduced Plan Area Alternative (Alternative 4). As mentioned in Section 2.0, the alternatives considered are permitting options for the Water Authority and Wildlife Agencies for the same impacts. The distinction between the alternatives is the mechanism the Water Authority would use to obtain state and federal incidental take permits for Covered Species, the geographic area of coverage, and the number of species that could be covered and afforded protection under the Permits.

Under Alternative 1 (No Action/No Permit), the Water Authority would continue to obtain permits for the take of species on a project-by-project basis. As stated above, the

piecemeal nature and resulting fragmented conservation that would result from a project-by-project mitigation strategy under the No Action/No Permit Alternative would not result in significant adverse effects to biological resources (see Section 4.1.1.1), but would not provide a comprehensive regional scale approach to minimizing and mitigating the effects of the Water Authority's activities. In addition, under current practices, comprehensive avoidance, minimization, and mitigation measures for sensitive but unlisted species are not assured. Implementing a NCCP/HCP provides the Water Authority and the Wildlife Agencies with increased certainty as it relates to the requirements and permits for impacting biological resources by providing a streamlined, coordinated, and comprehensive approach for complying with the ESA and CESA. As shown in Tables 4-2 through 4-5, Alternative 2: Proposed Plan, Alternative 3: Full Species List, and Alternative 4: Reduced Plan Alternative have a higher potential for positive effects for Covered Species and their habitat under the Plan, which includes comprehensive management and monitoring of the Preserve Area, than with Alternative 1: No Action/No Permit, which does not include a comprehensive plan. These lands provide a benefit to Covered Species and meet the goals of both the Water Authority and the requirements of the NCCPA.

Alternatives 2 (Proposed Plan) and 3 (Full Species List) are similar in that both cover the same geographic area and provide the Water Authority with a mechanism to address not only federally and/or State-listed species but all of those species which have been identified as having any likelihood to become listed during the proposed term of the permit. If a species on the Full Species List does not require coverage and additional conservation, this could detract from efforts for other Covered Species whose conservation needs are greater. In addition, because the protection of habitat at the existing Preserve Area may not be sufficient to ensure appropriate conservation of some species under the Full Species List Alternative, greater cost and time to fully implement Alternative 3 would be likely. Alternative 4 (Reduced Plan Area) is similar to Alternatives 2 and 3 in that it would adopt an NCCP/HCP to address federally and/or state-listed species; however, the geographic area that would be covered by the Plan is limited to the PIZ. For the Reduced Plan Area Alternative, species could be excluded from coverage because the Plan Area is limited to the PIZ and only provides an incidental take permit for a subset of the species proposed for coverage in Alternative 2. The Proposed Plan Alternative is considered superior to the Full Species List Alternative and the Reduced Plan Area Alternative because it provides the greatest assurance that the species in need of conservation will benefit in a timely manner from the NCCP/HCP.

4.7.1 Environmentally Superior Alternative

As required under Section 15126.6 (e)(2) of the CEQA Guidelines and the NEPA implementing regulations described in 40 C.F.R. 1502.14, this draft EIR/EIS identifies the environmentally superior alternative. Pursuant to the CEQA Guidelines, if the No Action/No Permit Alternative is determined to be the environmentally superior

alternative, then another alternative among the other alternatives evaluated must be identified as the environmentally superior project.

Activities undertaken by the Water Authority have the potential to impact biological resources, as outlined and quantified in Tables 4-1 and 4-5 and discussed in Section 4.1. The Proposed Plan outlines avoidance, minimization, and mitigation measures that would reduce the impacts to biological resources to a level less than significant and mitigate adverse effects. The Alternative 3: Full Species List also provides protection for a greater number of species (89 species) compared to Alternative 2: Proposed Plan (63 species). However, if species that would be covered by the NCCP/HCP under Alternative 3: Full Species List are not in need of the same level of conservation, funds expended on conservation would diminish or dilute the conservation of other Covered Species. Most importantly, although Alternative 3: Full Species List proposes a greater number of species for protection, the Plan does not adequately address conservation for the full list of species (see Appendix B, Conservation Analysis). Alternative 4: Reduced Plan Area Alternative, proposes a reduced Plan Area PIZ and coverage for less species (39 compared to 63 under Alternative 2). Under Alternative 4, the same level of conservation would not be provided for those additional species proposed for coverage under Alternatives 2.

Alternative 2 is considered the environmentally superior alternative. This Alternative balances the goal of providing a comprehensive plan for conservation and conserves habitat for Covered Species at the existing Preserve Area, while allowing the Water Authority to execute its mission of providing a safe, reliable water source to the region. Although implementation of the Plan could result in the take of Covered Species and their habitats, the proposed NCCP/HCP contains provisions to meet the USFWS and CDFG requirements to ensure that the take would be incidental to otherwise lawful activities conducted by the Water Authority. The NCCP/HCP has also been designed to meet the conservation goals of the NCCPA. Alternative 2: Proposed Plan, the environmentally superior alternative, was selected as the preferred alternative.

This page is intentionally blank.

5.0 Growth Inducement

5.1 Requirements for the Analysis of Growth Inducement

Section 15126.2(d) of CEQA Guidelines, as amended, requires the discussion of the ways in which a proposed project could either directly or indirectly foster economic or population growth or the construction of additional housing in the surrounding environment. Included in this are projects that would remove obstacles to population growth, and project characteristics which may encourage and facilitate other activities that could significantly affect the environment either individually or cumulatively. CEQA additionally states that growth in any area should not be assumed to be necessarily beneficial, detrimental, or of little significance to the environment. Growth inducement may be addressed under NEPA as indirect and/or cumulative effects, as appropriate, but no federal guidelines or criteria specific to growth inducement are applicable.

In accordance with section 15126.2(d), a project can be considered to foster spatial, economic, or population growth in an area if it directly or indirectly results in:

- Removal of an impediment to growth (e.g., the establishment of an essential public service or the provision of new access to an area);
- Foster economic expansion or growth (e.g., construction of additional housing, changes in revenue base, employment expansion, etc.);
- Establishment of a precedent-setting action (e.g., an innovation, a change in zoning or general plan designation); or
- Development or encroachment in an isolated or adjacent area of open space (being distinct from an “infill” type of development).

Should a project meet any of the above conditions, it can be considered growth inducing.

5.1.1 Other Related Environmental Documents

This draft EIR/EIS tiers from, and incorporates by reference, the Regional Water Facilities Master Plan Program EIR (State Clearinghouse #2003021052). Tiering is a process provided under both CEQA and NEPA, pursuant to State CEQA Guidelines section 15152 and CEQA Regulations at 40 CFR 1502.2. As discussed in CEQA Guidelines section 15152, “tiering” refers to using the analysis of general matters

contained in a broader EIR with later EIRs. Tiering is accomplished by incorporating by reference the general discussions from broader EIRs. Tiering allows the subsequent environmental document to focus on those issues most relevant to its preparation. State CEQA Guidelines section 15150 and CEQ Regulations at 40 CFR 1502.2 provide guidance for incorporation by reference, and require that relevant information be summarized in the subsequent environmental document and that the broader (tiered) environmental documents be made available for review by the public. This document is available to the public for review at the Water Authority office.

5.1.2 Regional Water Facilities Master Plan Program EIR

The Water Authority was the Lead Agency under CEQA for the Master Plan Program EIR, which evaluated the projects identified in the Master Plan on a broader or program level. The Water Authority's Board certified the Master Plan Final Program EIR on November 20, 2003. The Master Plan did not describe every facility in detail, but rather described the types of facilities needed to help the Water Authority achieve its mission of providing a safe and reliable water supply to the San Diego region. Therefore, only a broader environmental analysis of these planned facilities was achieved. The Master Plan Program EIR identified and included analysis, to the extent possible, of the Planned Projects identified on Table 2.2. However, the Program EIR recognized that detailed evaluations of specific projects would need to be conducted as part of future site-specific design and CEQA review. The Master Plan Program EIR is available to the public for review at the Water Authority office and on the Water Authority's website (www.sdcwa.org).

5.2 Analysis of Growth Inducement

5.2.1 Removal of an Impediment to Growth

Under the proposed project and alternatives, the Water Authority would construct, operate, and maintain water service facilities throughout its Service Area, and acquire and manage the properties and rights-of-way to support these facilities. The Water Authority develops and implements new facilities to increase the reliability and flexibility of the water delivery system. New facilities are located and sized based on the need to provide water to the Member Water Agencies, whose supply requirements respond to land use and zoning (i.e., development) decisions by local jurisdictions. Pipeline projects, for example, are necessary to increase capacity, relieve bottlenecks, and make the delivery system more reliable. Many other activities and projects are routine maintenance and management activities that the Water Authority has conducted in the past, and would continue to conduct in the future. These actions are deemed necessary

to serve the Water Authority mission of providing a safe and reliable water supply to the San Diego region. While this constitutes the provision of an essential public service and the removal of an impediment to growth (i.e., water supply), its effects can be considered to be growth accommodating rather than growth inducing.

The Water Authority is not a land use agency and does not make decisions regarding the timing, location, or magnitude of growth and development. However, the Water Authority plans and executes CIP projects and O&M Activities to meet current and future water demands derived from population projections and analysis conducted by SANDAG and the local general purpose governments. The Water Authority reviews and adjusts its CIP program on an annual basis to reflect changes in water demand projections, which can result in timing, capacity, or location changes for future water delivery facilities. The Water Authority CIP thus functions as a dynamic program that can be adapted to accommodate and reflect the changing environment of the area. Its activities can be viewed as accommodating existing and projected future water supply demands rather than providing excess capacity for unplanned growth.

The proposed Plan would provide a streamlined process for the Water Authority to comply with state and federal regulatory policies regarding sensitive biological resources. Because the action is issuance of permits, the alternatives considered involve alternatives to the permitting process. Therefore, none of the alternatives would have growth-inducing effects. Based on the environmental evaluation of individual projects under the No Action/No Permit Alternative (Section 2.3.1), compliance with the ESA and CESA would involve issuance of one or more section 7 or 10(a)(1)(B) and 2080.1 or 2081.1 permits, respectively, for impacts to listed species. The proposed Plan (Section 2.3.2), Full Species List Alternative (Section 2.3.3), and Reduced Plan Area Alternative (Section 2.3.4) would address the incidental take of covered species under section 10(a)(1)(B) of the ESA and section 2835 of the Fish and Game Code in compliance with the ESA and NCCPA.

The proposed Plan and alternatives would not have significant direct or indirect growth-inducing effects. Water Authority Covered Activities, i.e., the development and maintenance of facilities, respond to, and do not induce, population and economic growth. Issuance of permits for incidental take under section 10(a)(1)(B) of the ESA and section 2835 of the Fish and Game Code would allow incidental take of Covered Species in compliance with the ESA and NCCPA. Activities to be covered under the Plan include the construction, operation, and maintenance of facilities that are currently or potentially necessary to provide water to the Member Water Agencies. In the event of an annexation to the Water Authority's Service Area, the Plan Area may be modified to align the Plan Area to the Water Authority expanded Service Area boundary. An expansion of the Plan Area and any new take of Covered Species would be processed as a Major Amendment to the Plan, requiring subsequent CEQA and NEPA compliance, and if approved, a modification to the Permits. However, the Plan Area boundary

adjustment would not necessarily require the Water Authority to undertake any Covered Activities in the annexed area, or necessarily result in any change in Take associated with the Permits.

5.2.2 Economic Growth

The proposed Plan and alternatives would not directly induce long-term employment or population growth in the region. Coincident with Water Authority activities, short-term construction and other employment opportunities would be generated. It is likely that current and potential future Water Authority employees, both short-term and long-term, would originate within and reside in the San Diego region. These employees would be expected to commute to the different Water Authority activity sites from their permanent residences rather than relocate from other areas.

5.2.3 Precedent-Setting Action

Precedent-setting actions include, but are not limited to: a change in zoning, a change in general plan designation, a change in general plan text, and approval of exceptions to regulations that could have implications for other properties or actions. None of these actions is within the purview of the Water Authority nor is a part of the proposed action. The proposed Plan and alternatives involve the Water Authority conducting its currently planned activities in compliance with state and federal environmental laws and endangered species acts, and therefore would not result in precedent-setting actions that could induce the development of other projects. The proposed Plan and alternatives would have no effect on local jurisdiction policies, nor result in a precedent-setting action.

5.2.4 Development of or Encroachment into Isolated Open Space

Under the proposed Plan and alternatives, the Water Authority would construct, operate, and maintain water service facilities and rights-of-way within the Plan Area. The majority of these activities would occur within the PIZ, a long, narrow corridor comprising existing Water Authority infrastructure and right-of-ways (see Figure 1-2). Most of the disturbance from these activities would be confined to previously disturbed landscapes, although some impacts are expected to occur in undisturbed sensitive habitats. New encroachment into isolated open space from additions to and replacement of portions of the water supply delivery system will be avoided or minimized. In addition, the Plan directs impacts to areas of lesser sensitivity by proposing higher mitigation ratios within those areas that support rare vegetation types and species, greater species diversity, or are part of core areas of habitat, linkages or corridors identified as BSRAs.

6.0 Cumulative Impacts

6.1 Requirements for the Analysis of Cumulative Impacts

Cumulative impacts are defined as the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions causing similar impacts, regardless of what agency or person undertakes other actions (section 15130, CEQA Guidelines and section 1508.7, CEQA Regulations for Implementing NEPA). Significant cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time. A mandatory finding of significant impacts is warranted if the project has possible environmental effects which are individually limited, but cumulatively considerable. Cumulatively significant means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past, current, and probable future projects.

6.2 Conservation Plans Considered in the Cumulative Analysis

In addition to the proposed Plan, various other conservation plan efforts are underway, or have been completed, in San Diego and Riverside counties. The conservation plans considered in the cumulative analysis are listed in Table 6-1. The plans listed in Table 6-1 are in various stages of planning as described in more detail in Section 3.2 of the Plan (see Appendix B). All of the plans considered in the cumulative analysis have been, or are being, designed to be consistent with the NCCP conservation guidelines and the overall goal of the NCCPA. The overall goal of the NCCPA is to balance preservation of biological resources, land use, and economics.

The multi-species conservation programs in San Diego and Riverside counties are intended to provide a framework for habitat preservation to protect the region's biodiversity. The cumulative benefits of these programs and plans are to:

1. Provide a regional and habitat-based approach to protect endangered, threatened, and rare species, and to reduce the need to list more species as endangered and threatened.

2. Allow economic development of the region, including development of public and private projects.

TABLE 6-1
CONSERVATION PLANS WITHIN THE PLAN AREA

Subregional Plan	Abbreviation	Subarea Plans	Status*
Multiple Species Conservation Program	MSCP	City of Chula Vista	Approved 2005
		City of La Mesa	Approved 1999
		City of Poway	Approved 1996
		City of San Diego	Approved 1998
		City of Coronado	No Progress
		City of Del Mar	No Progress
		City of El Cajon	No current progress on draft plan
		City of Santee	In Preparation
		City of National City	N/A[†]
		City of Imperial Beach	N/A
		City of Lemon Grove	N/A
		South County Subarea Plan	Approved 1998
Draft MSCP North County Plan			In Preparation
Draft MSCP East County Plan			Early Planning
North County Multiple Habitat Conservation Plan	MHCP	City of Carlsbad	Approved 2004
		City of Encinitas	In Preparation
		City of Escondido	In Preparation
		City of Oceanside	In Preparation
		City of San Marcos	In Preparation
		City of Solana Beach	No Progress
		City of Vista	In Preparation
Western Riverside County Multiple Species Habitat Conservation Plan	MSHCP	None	Approved 2004
Joint Water Agency Subregional Conservation Plan	JWA NCCP/HCP	Helix Water District	In Preparation
		Padre Dam Municipal Water District	In Preparation
		Sweetwater Authority	In Preparation
		Otay Water District	In Preparation
San Diego Gas & Electric Subregional NCCP	SDG&E NCCP	None	Approved 1995

* Current NCCP status can be accessed at: www.dfg.ca.gov/habcon/nccp/status.html
[†] Indicates jurisdictions that are not participating in the subregional plan.

3. Achieve a workable balance between preservation of natural resources and regional growth and economic prosperity.

6.3 Cumulative Impact Analysis

This discussion evaluates potential cumulative impacts to biological resources, water resources and water quality, land use, public services and utilities, socioeconomics, and environmental justice by considering the cumulative effects of the proposed Plan and alternatives in light of existing conservation plans and plans currently being developed. As indicated in the analysis below, impacts associated with implementation of the Plan or alternatives could be associated with cumulative adverse, as well as beneficial, effects.

A detailed description of the proposed Plan and alternatives that would allow the Water Authority to conduct activities required to fulfill ongoing mandates and agreements is provided in Section 2.0 of this draft EIR/EIS. In summary, the proposed action is the issuance of federal and state incidental take authorizations to allow the Water Authority to conduct certain activities while complying with federal ESA and state CESA/NCCPA listed species regulations. Under all alternatives, the Water Authority would continue to comply with existing environmental programs and prior agreements to address impacts to sensitive species and habitats that might result from Water Authority activities. The alternatives are variations to the incidental take permitting process. Alternative 1: No Action/No Permit would result in no change to the current process followed by the Water Authority, meaning that it would obtain individual permits as needed for the take of listed species on a project-by-project basis. Alternative 2: Permit Issuance proposes that the Water Authority's Plan serve as the mechanism to obtain permits for incidental take of 63 listed and sensitive species (Covered Species) caused by Covered Activities occurring within the Plan Area. The Plan would streamline environmental regulations compliance for biological resources and provide an overall conservation benefit to Covered Species and their habitats. Implementation of the Plan would also result in a comprehensive and coordinated approach to mitigation and conservation of biological resources at a regional level. Under Alternative 3: Full Species List, the Water Authority proposes to obtain ESA/NCCPA compliance by implementing the Plan as described for Alternative 2 and obtaining permits for incidental take for up to 89 species within the Plan Area. The measures to avoid and minimize impacts and to mitigate where impacts are unavoidable would be the same as those under Alternative 2. Under Alternative 4: Reduced Plan Area, the Water Authority proposes to obtain ESA/NCCPA compliance by implementing the Plan as described for Alternative 2, but would only obtain permits for incidental take of up to 39 species within the PIZ. The measures to avoid and minimize impacts and to mitigate where impacts are unavoidable would be the same as those under Alternatives 2 and 3, with the exception that species-specific measures would be limited to the up to 39 species covered by Alternative 4.

6.3.1 Biological Resources

Issuance of federal and state Permits under the proposed Plan or alternatives would allow for the take of endangered and threatened species or modification of their critical habitat, resulting in potentially significant impacts to biological resources. Many of the endangered and threatened species that would be impacted by the Plan and alternatives are also covered by various other habitat conservation plans in the area. The individual plans and the conservation planning efforts within the region include measures to protect and manage listed and sensitive species. The avoidance, minimization, and mitigation measures and conservation strategies outlined in the proposed Plan (Alternatives 2, 3, and 4) are expected to protect and conserve population viability for Covered Species and contribute to the recovery of Covered Species. The Preserve Area would also be managed to provide and maintain suitable habitat for Covered Species. These efforts, combined with the management of the Preserve Area within the larger regional core habitat areas and as contributions to habitat linkages, benefit the movement of species and migratory wildlife corridors. The additional conservation afforded to species and preserve lands under the plans is more likely to lead to species recovery and prevent future listings than a project-by-project mitigation approach as would occur in Alternative 1. Thus, implementation of the proposed Plan or alternatives, in conjunction with other habitat conservation plans in the region, potentially could result in cumulatively considerable impacts to sensitive species and associated habitats. However, as is the intent of an NCCP/HCP, potentially significant cumulative biological effects that may result from implementation of Plan Alternatives 2, 3, and 4, and other habitat conservation plans, would be reduced to a level less than significant through the large-scale interconnected habitat preserve that will be assembled in combination with established mitigation requirements and other regional habitat conservation plans, and through the long-term adaptive management of areas conserved by these plans. Alternative 1 would not necessarily provide the same level of coordination among preserve systems; nonetheless, mitigation for impacts would be provided, and cumulative impacts would be less than significant.

Most habitat conservation plans in the region identify preserve lands and areas where development would occur. In most cases, development under these plans refers to typical residential and commercial areas where people live and work. This Plan differs in that development refers to facilities and infrastructure for the water delivery system. The majority of Covered Activities represent infrastructure construction and O&M, and many areas would remain as they are, regardless of the development that occurs around them. For example, installation of a new water pipeline would result in disturbed vegetation, but once installation is complete, the area would typically be revegetated. The resulting right-of-way would substantially remain in a natural state and may serve as a wildlife corridor for the foreseeable future. Construction of certain types of facilities and O&M Activities proposed under the Plan may cause less impact than the typical types of activities (i.e., development such as residential and commercial uses) that occur under

most conservation plans. Generally, many Water Authority Covered Activities would not remove all biological values, such as occurs with most other land use development. Thus, compared to other plans in the region which include development for a range of uses, the Water Authority's Plan represents a small contribution to cumulative effects on Covered Species.

In addition to the direct cumulative impacts to Covered Species discussed above, indirect cumulative impacts that may result from the implementation of any of the alternatives, combined with multiple regional habitat conservation plans, include potential habitat fragmentation and edge effects. Most edge effects result from development that occurs adjacent to preserve areas. Regional coordination of conservation planning efforts in the San Diego region have minimized the potential for fragmentation of preserve areas by maximizing the connectivity between the core regional preserve areas as a whole. However, as development continues in the San Diego area, the potential for edge effects to preserve lands increases. Edge effects in preserve lands may involve noise, light, and invasive species issues. The potential for edge effects associated with this Plan and other conservation plans has been minimized by directing impacts away from preserve lands and by focusing conservation and mitigation into large areas designated for preservation. The Covered Activities described under all alternatives involve infrastructure and facilities occurring mostly in or adjacent to existing rights-of-way that have been disturbed. Compared to other activities in the region, the Water Authority's activities represent a relatively small contribution to cumulative indirect/edge effects. The proposed Covered Activities, with the exception of a Water Treatment Plant that is staffed, are visited infrequently, substantially reducing associated edge effects of occupied residential and commercial land uses, such as noise, lighting, trespass, trash, pets, irrigation and storm water runoff, invasive species, and pests. Because the Water Authority would provide mitigation for project impacts and most of the rights-of-way areas would remain in a natural state after Water Authority project implementation, potential for cumulative impacts resulting from edge effects or habitat fragmentation would not be significant for all alternatives.

6.3.2 Water Resources and Water Quality

Under all four alternatives, the Water Authority would conduct the same menu of activities required to fulfill ongoing water supply and water quality mandates and agreements. The majority of these Water Authority activities would not result in significant impacts to water resources. The First and Second San Diego aqueducts are of such significant regional importance that they have been mapped on U. S. Geologic Survey (USGS) topographic maps that are used as base mapping for regional conservation planning. These primary known water system features have thus been taken into consideration in other multiple-species planning efforts in the region. Water Authority facilities, much like utility corridors, have been designated as conditionally compatible uses within the preserve systems identified in other habitat conservation

plans. When considered in the context of other conservation planning efforts and in relation to the proposed Plan and alternatives, cumulative impacts to water resources would not be significant.

There are many watershed management planning efforts that have been initiated in the San Diego region, and that portion of Riverside County within the proposed Plan Area. The cumulative impact from habitat conservation plans would result in water quality improvements due to the preservation of large watershed areas as natural open space. Only beneficial water quality improvements would result from watershed management plans and regional conservation plans. As an example, the Water Authority's acquisition funding of the Rancho Cañada HMA and preservation of an important segment of San Vicente Creek and adjacent vegetation protects on-site as well as downstream water quality. None of the alternatives would result in significant effects to water quality; there would be no significant cumulative impacts to water quality.

6.3.3 Land Use

Water projects undertaken by the Water Authority are not subject to local jurisdictions' land use plans, policies, ordinances, and zoning classifications. The Water Authority's Facilities Master Plan describes planned/future projects and timing of construction necessary to respond to anticipated water demands projected by local jurisdictions' land use plans and development. Water Authority projects are typically constructed near or within the alignment or rights-of-way for existing water delivery infrastructure or build off that infrastructure to serve the water demand needs of two or more Member Water Agencies.

Regional habitat conservation plans identify large areas for inclusion in their preserve systems as well as areas where development is allowed. The proposed Plan identifies a Preserve Area comprised of key habitat lands (Preserve Area) acquired and preserved by the Water Authority to meet existing and future mitigation needs for upland and wetland vegetation communities and associated species. The Plan also identifies other key habitat lands acquired by the Water Authority (MMAs) that contribute to the baseline of regional conservation within the Plan Area. As described under Section 6.3.1 above, development under the other conservation plans typically involves permanent large-scale residential and commercial areas, as compared with the substantially smaller temporary footprint of the activities covered in Alternatives 2, 3, and 4. This Plan identifies a PIZ, primarily along the pipeline corridors, where most Covered Activities and associated impacts would likely occur. In addition, Alternatives 2, 3, and 4 differ from other habitat conservation plans in that development involves mostly facilities and pipeline infrastructure that are necessary to ensure reliable water delivery to existing and new residential and commercial areas addressed by other regional habitat conservation plans. Land use impacts typically arise when projects are incompatible with existing or future adjacent land uses.

The cumulative effects of development or activities allowed under existing conservation plans and this Plan would result in the potential for cumulative land use impacts. However, given the goals and specific commitments of existing habitat conservation plans, impacts would be avoided or reduced to below a level of significance. The low acreage (373 acres) of permanent habitat impacts projected for the Water Authority's Covered Activities over the 55-year term are minor compared to development allowed under the other plans.

The designation of the Preserve Area by the Water Authority, in combination with preserved lands from other agencies' regional conservation efforts, will permanently establish significant areas of conservation for habitats that benefit biological resources and avoid or minimizes land use adjacency impacts. The proposed Plan (Alternative 2) and Alternatives 3 and 4 are designed to contribute to and enhance the preserve systems identified by other regional conservation plans. Much of the land within the pipeline "development" areas will retain native and naturalized vegetation that can augment specified wildlife corridors and preserve lands in other habitat conservation plans. Implementation of the Water Authority's Plan would not result in significant impacts to land use and, when evaluated with respect to other habitat conservation plans, would not result in significant cumulative impacts to land use. While Alternative 1 would not provide the same level of coordination among preserved lands as the other alternatives, it would also not result in significant land use impacts because mitigation for Water Authority projects pursuant to CEQA and required permits would be provided.

6.3.4 Public Services and Utilities

The proposed Plan would streamline the construction and maintenance of water supply facilities that are essential public services within the Plan Area. These facilities are necessary to provide the water supply to individual retail water entities that directly serve the region's residential, commercial, and agricultural water needs. Those local water suppliers, the Water Authority's Member Water Agencies, develop and implement their own master plans and CIPs. Communication and coordination between the Water Authority and its Member Agencies results in efficient planning and development of the region-wide water supply and delivery infrastructure (an essential public service).

Because CIPs are managed with flexibility to adapt to changes in growth forecasts and water supply (e.g., future recycled water use supplementing current potable water supplies), no facilities would be constructed unless they are determined necessary to meet forecasted needs. The proposed Plan supports the public water supply and delivery service by streamlining the Water Authority's biological permitting process and cutting associated costs in time and expenditure.

Implementation of the proposed Plan (Alternative 2) or Alternatives 3 and 4 in conjunction with other habitat conservation plans would not result in significant

cumulative impacts to public services and utilities given the coordinated, long-term regional water supply/delivery planning by the Water Authority and Member Water Agencies. Alternative 1 would not provide the coordinated conservation planning of the other alternatives and could result in potentially significant cumulative impacts due to delays in providing required services.

6.3.5 Socioeconomics

The Water Authority's mission is to provide a safe, reliable water supply to the San Diego region. Under all of the alternatives, the Water Authority would conduct its activities and expand its water delivery system to accommodate future projected increases in population, housing, and economic development. Water Authority Covered Activities, the development and maintenance of facilities, respond to – and do not induce – population and economic growth. This support of economic growth would occur under each of the alternatives.

Social and economic effects are not treated as significant effects on the environment under CEQA (CEQA Guidelines section 15131), but under NEPA they are treated as part of the human environment that must be evaluated. Future growth forecasts for the region include substantial increases in population, housing, and economic activity. The existing regional habitat conservation plans, the proposed Plan (Alternative 2), and Alternatives 3 and 4 accommodate planned growth and provide certainty for future conservation and development. Regional habitat conservation plans are prepared to be consistent with General Plans, zoning regulations, and other land use considerations that provide the framework for development. Habitat conservation plans take that information and, after evaluating the needs of the Covered Species, reconcile potential conflicts with habitat and species conservation to accommodate development and growth. The proposed Plan (Alternative 2) and Alternatives 3 and 4, in conjunction with other land use and conservation plans, do not create significant cumulative impacts to socioeconomics. Alternative 1 would not provide this same level of coordination with regional plans and could result in potentially significant cumulative impacts due to delays in providing required infrastructure.

6.3.6 Environmental Justice

Potential adverse impacts resulting from this proposed Plan and existing habitat conservation plans would not disproportionately affect minority or low-income populations. Every area in the San Diego region is associated with at least one habitat conservation plan, and some areas may be affected by two or more plans. This Plan applies to areas along a linear aqueduct system, facilities such as reservoirs and pump stations, as well as conservation areas primarily located in more rural portions of the Plan Area. Some rights-of-way or easements cross private property boundaries; however, there are few residents within the PIZ or other potential areas of impact.

Minority or low-income populations, located primarily in the urbanized areas within the city of San Diego and other incorporated jurisdictions, would not be disproportionately affected by the proposed Plan and alternatives. Therefore, no significant cumulative environmental justice impacts are anticipated.

This page intentionally left blank.

7.0 Effects Found Not to be Significant

The environmental review process under both CEQA and NEPA requires a brief description of the environmental issues that were determined during preliminary project review not to be significant and were therefore not discussed in detail in this draft EIR/EIS. These issues may be identified in the Initial Study or during the Scoping Process. As described in Section 1.5 (Scoping Process of this EIR/EIS), CEQA and NEPA regulations require an early and open process for determining the scope of issues related to a proposed action. To identify the key issues and concerns relevant to the scope of this draft EIR/EIS, the Wildlife Agencies and Water Authority published an NOP and NOI soliciting comments from other public agencies, organizations, and members of the public. In addition to these required notices, a public scoping meeting was held. The result of this scoping process, as well as an initial evaluation of the potential effects of the proposed action by the Wildlife Agencies and Water Authority, was the identification of potentially significant issues requiring further analysis. These issues are addressed in detail throughout this EIR/EIS, with impact assessments provided in Section 4.0.

For the alternatives analyzed in this draft EIR/EIS, the following environmental effects were determined not to be potentially significant, and therefore did not require detailed analysis: 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. These issues are addressed individually below, in the context of the potential effects of the alternatives.

Covered Activities under the proposed Plan or alternatives, including most CIP projects, and some O&M and Preserve Area management, may be required to undergo subsequent environmental review and approvals under CEQA, at which time a decision will be made whether there is a requirement to include a detailed analysis of any of these issues.

7.1 Aesthetics

For any of the proposed alternatives, aesthetic resources would not be directly affected and the issue was determined to not warrant further analysis. None of the alternatives would significantly degrade the existing visual character or quality of the Plan Area or have any direct effects on scenic resources including designated scenic highways or vistas. The requirements that Alternatives 2, 3, and 4 assure permanent conservation and management of the Preserve Area that complement regional open space areas will avoid and minimize impacts to aesthetic resources. Thus, aesthetics were not considered to be an issue that warranted further detailed analysis in this draft EIR/EIS.

Construction of and permanent location of some facilities associated with implementing the proposed Plan and alternatives may have the potential to result in visual impacts. These potential visual impacts by Covered Activities would be determined and mitigation provided through subsequent environmental review and approvals, when required.

7.2 Air Quality/Climate Change

The Plan Area is located within the San Diego Air Basin (SDAB). The U.S. EPA and the state of California have developed Ambient Air Quality Standards (AAQS) for pollutants of primary concern. These pollutants are ozone (O_3), carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), lead (Pb), suspended particulates that are 10 microns or less in diameter (PM_{10}), and suspended particulates that or 2.5 microns or less in diameter ($PM_{2.5}$). The AAQS represent the maximum levels of background pollution considered safe, with an adequate margin of safety, to protect the public health and welfare. The SDAB is in compliance with the Federal and State AAQS for all regulated air pollutants, with the exception of ozone (Federal and State) and total suspended particulates (PM_{10}, State only) (State of California 2006b). In general, air quality has improved in the SDAB, and pollutant levels continue to show a downward trend (County of San Diego 2007).

The most recent draft CEQ guidance (75 Fed. Reg. 8046 [Feb. 23, 2010]) advises agencies to conduct an emissions-related NEPA analysis where that analysis will provide meaningful information to decision-makers and the public. CEQ proposes a reference point of 25,000 metric tons of GHG emissions per year as a useful indicator that a project may meet the foregoing “meaningful” standard. But the draft guidance also clarifies that the 25,000 metric tons reference point is neither an absolute standard nor an indicator of a level of emissions that may “significantly” affect the quality of the human environment. Examples of actions that may warrant a discussion of emissions impacts include approval of a large solid waste landfill, approval of energy facilities such as a coal-fired power plant, and authorization of a methane-venting coal mine. The draft guidance cautions agencies about engaging in speculative analyses or attempting to link a particular project to specific climatological changes. The draft guidance discourages agencies from relying on the 25,000 metric tons reference point for use as a measure of indirect effects (for example, the growth-inducing impacts of a project), noting that such an analysis must be bounded by limits of feasibility in evaluating the upstream and downstream effects of federal agency actions. The guidance adheres to NEPA’s “rule of reason,” which ensures that agencies determine whether and to what extent to prepare their NEPA analysis based on the usefulness of new information to decision-makers and the public.

None of the proposed alternatives would obstruct implementation of any air quality plans or directly violate any air quality standards or generate pollutants or odors. These

actions would also not contribute substantial emissions of greenhouse gases, nor directly and adversely affect global climate change. Thus, air quality and climate change were not considered to be issues that warranted further detailed analysis in this draft EIR/EIS.

Implementation of Water Authority activities under each of the alternatives – constructing CIP projects and performing O&M and Preserve Area management – would involve the use of vehicles and equipment or activities, such as vegetation management (prescribed fire), that produce emissions that have the potential to directly affect air quality. Once constructed, most facilities (pipelines, flow regulator structures, vents, etc.) produce little or no point source pollutants. Air quality impacts could result from Water Authority vehicles as routine O&M Activities are conducted, and from construction vehicle emissions. Air quality impacts resulting from Water Authority activities would thus be attributed primarily to mobile emissions rather than point source emissions. Although it is not possible to provide quantitative information about future Covered Activities' specific emissions, the primary potential source of long-term greenhouse gas emissions would be related to the covered O&M Activities within the permit area, principally maintenance vehicles. To help place the magnitude of potential O&M emissions in perspective, 25,000 metric tons would equate to approximately 12.3 million diesel truck miles per year (10.15 kilograms CO_2/gallon diesel fuel / 0.2 gallon/mile for diesel trucks / 25,000 metric tons/year reference x 1,000 kilograms/ton = 12,315,271 miles/year). The actual historic vehicle miles per year associated with proposed Covered O&M Activities (approximately one million miles per year for all Water Authority vehicles) is less than 10 percent of the reference point, or about 2,000 metric tons per year. These sources of potential air pollution would occur under all of the proposed alternatives, even the No Action/No Permit Alternative. Potential air quality/climate change impacts by Covered Activities would be determined and mitigation provided through subsequent environmental review and approvals, when required.

7.3 Agricultural Resources

None of the proposed alternatives would directly affect agricultural resources, particularly since the majority of the actions identified in the Plan are within existing easements, rights-of-way, and the Preserve Area. Thus, effects on cultural resources were not considered to warrant further analysis in this draft EIR/EIS.

In some locations, implementation of Water Authority activities – constructing CIP projects, O&M, and, possibly, Preserve Area management – could potentially directly affect agricultural resources through ground disturbance or subsurface grading activities. Water Authority activities implemented under any of the alternatives, particularly construction projects, are anticipated to have to conduct an environmental analysis in compliance with CEQA, including assessing potential impacts on agricultural resources.

Potential agricultural resource impacts by Covered Activities would be determined and mitigation provided through subsequent environmental review and approvals, when required.

7.4 Cultural Resources

None of the proposed alternatives would directly affect cultural resources or obstruct or interfere with any existing plans that manage regional cultural resources. None of the alternatives specifically address cultural resource issues, but cultural resources that exist or are found within the Plan's Preserve Area would benefit from the protection given to these areas. Thus, effects on cultural resources were not considered to warrant further analysis in this draft EIR/EIS.

In some locations, implementation of Water Authority activities – constructing CIP projects, O&M, and, possibly, Preserve Area management – could potentially directly affect cultural resources through ground disturbance or subsurface grading activities. Water Authority activities, particularly construction projects, are anticipated to have to conduct an environmental analysis in compliance with CEQA, including assessing potential impacts on cultural resources. Potential cultural resources impacts by Covered Activities would be determined and mitigation provided through subsequent environmental review and approvals (including consultation under section 106 of the National Historic Preservation Act), when required.

7.5 Geology and Soils

None of the proposed alternatives would directly impact geology and soils or expose people to adverse effects related to geology and seismic activities. Thus, geology and soils were not considered to be issues that warranted further detailed analysis in this draft EIR/EIS.

Implementation of Water Authority activities in accordance with any of the alternatives may potentially affect geology and soils resources through grading or other ground and soil disturbance activities. Potential geology and soils impacts by Covered Activities would be determined and mitigation provided through subsequent environmental review and approvals, when required.

7.6 Hazards/Hazardous Materials

None of the proposed alternatives would directly involve the transport, storage, handling, or emission of any hazardous materials. However, implementation of Water Authority activities conducted under any of the alternatives, such as O&M Activities, could directly

involve the transport, use, or storage and disposal of chemicals related to water treatment and petroleum products. An accidental spill of these materials would require immediate clean-up and remediation as mandated by state and federal regulations, and the proposed Plan addresses hazardous materials spills and toxic materials. The use and storage of hazardous materials is also regulated by state agencies, as well as Water Authority protocols, and therefore, effects associated with Water Authority activities potential hazardous materials use are not anticipated to result in significant impacts. Potential hazardous materials impacts by Covered Activities would be determined and mitigation provided through subsequent environmental review and approvals, when required. In addition, none of the alternatives contain any provisions that would create safety hazards for any public airports, private airstrips, or interfere with any emergency response plans, or existing or future emergency response plans or emergency evacuation plans. The Water Authority currently complies, and will continue to comply, with all applicable hazardous materials regulations. Thus, the issue of safety hazards/hazardous materials was not considered to be a potentially significant issue that warranted detailed analysis in this draft EIR/EIS.

7.7 Mineral and Energy Sources

None of the proposed alternatives would directly impact valuable known mineral or energy resources or mineral or energy recovery sites. Further analysis of these resources was thus not considered to be warranted in this draft EIR/EIS. As stated previously, Water Authority activities may require further environmental review related to any potential effects on mineral resources as well as local or regional energy supplies and adopted energy conservation plans at the time that projects are proposed. There is a potential for the designation of a Preserve Area to restrict the recovery of mineral resources, although this would actually affect only a little over 1,920 acres within the entire Plan Area which has already been set aside for conservation. In general, this effect is expected to be minor because of the limited extent of potential resources affected relative to their distribution within the Plan area and because of preexisting land use or environmental constraints. For example, the establishment of the Tijuana Wetlands HMA does prevent the recovery of mineral resources, but the project would not have significant impacts because of preexisting restrictions at the site from land use jurisdictions that prevent their development. There is the potential that some lands brought into conservation have other public values related to use of mineral and energy resources, which would be precluded by conservation restrictions. Any mineral and energy resource impacts by Covered Activities would be determined and mitigation provided through subsequent environmental review and approvals, when required.

7.8 Noise

None of the proposed alternatives would generate or expose people or wildlife to any significant direct noise or vibrations, and in general, implementation of any of the alternatives is considered to have little adverse effect on the ambient noise environment. For these reasons noise was not considered to be an issue that warranted detailed analysis in this draft EIR/EIS.

Water Authority activities implemented under any of the alternatives have the potential to directly generate noise. Construction activities, routine vehicular use, and some operational machinery may generate noise in proximity to sensitive receptors. The Water Authority would use BMPs and similar practices to minimize noise effects in developed areas. However, it is not expected that implementation of any of the alternatives would significantly alter existing noise conditions. Noise generating activities, such as O&M Activities, are currently conducted by the Water Authority, and would continue in the future, with or without implementation of one of the alternatives. Temporary changes to the local noise environment may result from implementation of some projects and associated construction noise; however, these noise level increases would be short-term. Many of the Water Authority activities occur in undeveloped areas, where construction noises would not impact residences or businesses. For Water Authority activities located in undeveloped areas, temporary increases in noise levels would be constrained by noise requirements to minimize impacts on sensitive species. As stated in Sections 6.4.2.1, 6.4.2.5, and 6.11.6 of the Plan, the Water Authority will employ specific measures to minimize impacts to Covered Species from noise. These may include setbacks/buffers, temporary noise barriers, limited hours of work, and/or disseminating materials about edge effects. The Conservation Analysis (see Appendix B of the Plan) also includes additional measures for noise-sensitive species (e.g., least Bell's vireo). Potential operation, maintenance, and construction noise impacts by Covered Activities would be determined and mitigation provided through subsequent environmental review and approvals, when required.

7.9 Population and Housing

As discussed in Section 5.0 (Growth Inducement), the Water Authority is not a land use agency and does not make decisions regarding the timing, location, or magnitude of growth and development, the primary activities affecting population and housing within the Plan Area. However, the Water Authority plans and executes CIP projects and O&M activities to meet current and future water demands derived from population projections and analysis conducted by SANDAG and the local general purpose governments. The Water Authority reviews and adjusts its CIP program on an annual basis to reflect changes in population growth projections, which can result in timing, capacity, or location changes for future water delivery facilities. The Water Authority CIP thus functions as a

dynamic program that can be adapted to accommodate and reflect the changing environment of the area. Its activities can be viewed as accommodating existing and projected future water supply demands rather than providing excess capacity for unplanned growth. For these reasons, population and housing were not considered to be issues that warranted further analysis in this draft EIR/EIS. Potential population and housing impacts by Covered Activities would be determined and mitigation provided through subsequent environmental review and approvals, when required.

7.10 Recreation

None of the proposed alternatives would impact existing recreation resources, such as trails and opportunities for hiking. In some portions of the Preserve Area, compatible public recreational use may be allowed, providing an increase in outdoor recreational opportunities. None of the alternatives would negatively affect existing active recreation areas, such as ball fields or other facilities. The alternatives would also not generate an increased need for these types of recreation facilities. For these reasons, recreation was not considered to be an issue that warranted further analysis in this draft EIR/EIS.

Potential recreation impacts by Covered Activities would be determined and mitigation provided through subsequent environmental review and approvals, when required.

7.11 Transportation/Circulation

None of the proposed alternatives would directly generate any traffic or transportation related issues. The alternatives also would not impact the development of planned roadways nor interfere with regional traffic plans.

The majority of the Plan Area is addressed by SANDAG's 2020 Regional Transportation Plan (RTP) and the 2007 draft update that addresses transportation needs through 2030 (SANDAG 2007b). The purpose of the RTP is to reduce regional impacts related to regional growth and transportation. Implementation of the proposed Plan would not affect the rate or amount of development and associated transportation facilities. Therefore, transportation issues associated with growth and development would be similar under any of the alternatives. The same amount of growth and required transportation facilities would occur under all alternatives and independent of the proposed project and in all cases would conform with assumptions in the RTP. Traffic and circulation was thus not considered a potentially significant issue warranting further analysis in this draft EIR/EIS.

Water Authority activities under each of the alternatives, including construction of water supply facilities and vehicular use during construction and conducting O&M Activities, are not expected to significantly impact existing or planned transportation facilities.

Pipeline projects and ancillary support facilities have flexibility to be designed and constructed to avoid and minimize potential impacts to transportation facilities. Implementation of any of the alternatives is not expected to increase traffic congestion, affect levels of service, increase the need for parking, preclude development of planned roadways, or increase safety risks or affect emergency access. Potential transportation and circulation impacts by Covered Activities will be determined and mitigation provided through subsequent environmental review and approvals, when required.

8.0 Significant Unavoidable Environmental Effects/Irreversible Environmental Changes

The environmental review process under both CEQA and NEPA requires a brief discussion of the irreversible impacts or irretrievable commitment of resources associated with a proposed project/action. Specifically, CEQA Guidelines section 15126.2 (b) and (c) require that the significant unavoidable impacts of a proposed project, as well as any significant irreversible environmental changes that would result from project implementation, be addressed in an EIR. Section 40 CFR 1502.16 of CEQA's NEPA Regulations require a discussion of "…any irreversible or irretrievable commitments of resources which would be involved in the proposal should it be implemented."

8.1 Significant Environmental Effects Which Cannot Be Avoided if the Project Is Implemented

Any significant unavoidable impacts of a proposed project, including those impacts that can be mitigated but not reduced to below a level of significance despite the applicant's willingness to implement all feasible mitigation measures, must be identified in an EIR.

As evaluated in Section 4.0 of this draft EIR/EIS, there would be no significant unavoidable (i.e., unmitigable) impacts that would result from the proposed action. All potentially significant impacts resulting from project implementation would either be avoided or can be reduced to below a level of significance or adversity with the mitigation measures identified in the Plan and in the MMRP (which will be prepared for the Final EIR/EIS).

Issuance of the Permits and implementation of the proposed Plan or Alternatives 3 and 4 would permanently conserve portions of sensitive biological habitat areas in the San Diego area and would authorize incidental take of Covered Species on approximately 373 acres of habitat. The incidental take of Covered Species, including harm through habitat impacts as defined by federal ESA regulations, within this biological habitat is considered significant. However, mitigation (conservation and management) measures have been outlined in Alternatives 2, 3, and 4 that would reduce impacts to biological and other resources to below a level of significance.

8.2 Irreversible Environmental Changes Which Would Result if the Project Is Implemented

CEQA Guidelines section 15126.2 (c) states: "Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or use thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvements which provide access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified." Similarly, section 40 CFR 1502.16 of the CEQA's NEPA Regulations require that the discussion of environmental consequences include "…any irreversible or irretrievable commitment of resources which would be involved in the project should it be implemented."

Nonrenewable resources generally include biological habitat, agricultural land, mineral deposits, water, and some energy sources.

Issuance of the Permits and implementation of the proposed Plan, or one of the alternatives, would authorize incidental take of approximately 373 acres of Covered Species' habitat. These impacts would occur over the 55-year term of the permit and represent a very small increment of the development and land disturbance which will occur within the Plan Area described in Alternative 2. Mitigation measures have been outlined in the Plan (Alternatives 2, 3, and 4) that would reduce these biological resources impacts to below a level of significance or no adverse effects. However, the incidental take of Covered Species and associated habitat would still comprise a small, but irreversible, environmental change associated with implementation of any alternative.

Relatively minor impacts would also occur to previously disturbed habitats, non-native vegetation communities (e.g., Eucalyptus woodlands), agricultural lands, and potential mineral-bearing lands as a result of the proposed actions or alternatives. These environmental changes would be considered irreversible, but not significant.

In addition, implementation of Water Authority Covered Activities under the Plan or any of the alternatives would involve the irreversible consumption of natural resources and energy. This consumption would occur over the 55-year term of the permit and represents a very small increment of the effects of development and urbanization which will occur within the Plan Area as the result of activities not covered by Alternatives 2, 3, and 4.

9.0 References Cited

Beier, Majka, and Spencer

2008 Forks in the Road: Choices in Procedures for Designing Wildlife Linkages. Conservation Biology 22 (4): 836-851.

California, State of

2004a State and Federally Listed Endangered, Threatened, and Rare Plants of California. Natural Diversity Data Base. Department of Fish and Game. January.

2004b State and Federally Listed Endangered and Threatened Animals of California. Natural Diversity Data Base. Department of Fish and Game. January.

2004c Department of Conservation, Division of Land Resources Protection; Farmland Mapping and Monitoring Program (FMMP).

2006 State and National Area Designation Maps. California Air Resources Board Internet Site. URL http://www.arb.ca.gov/desig/adm/adm.htm. September.

2008 California Natural Diversity Database: Electronic Database with Annual Updates. Wildlife and Habitat Data analysis Branch, Department of Fish and Game.

Dobson, AP, J.P. Rodriguez, W.M Roberts, and D.S. Wilcove.

1997 Geographic Distribution of Endangered Species in the United States. *Science* Vol. 275, Issue 5299: 550-553. January.

Holland, R. F.

1986 Preliminary Descriptions of the Terrestrial Natural Communities of California. Nongame-Heritage Program, California Department of Fish and Game. October.

Myers, N., R.A. Mittermeier, C.G. Mittermeier, G.A. B. Fonseca, and J. Kent.

2000 Biodiversity hotspots for conservation priorities. *Nature* 403: 853-858.

Nature Conservancy, The (TNC)

2006 Ecological Summary of La Cañada Ranch Mesa Del Padre Barona, San Diego County, California. February 9.

Riverside County Integrated Project (RCIP)

2003 Western Riverside County Multiple Species Habitat Conservation Plan. Prepared for County of Riverside Transportation and Land Management Agency. Prepared by Dudek and Associates. June 17.

San Diego Association of Governments (SANDAG)

2006a Regional Transportation Plan (RTP). March.

2006b 2030 Regional Growth Forecast Update: San Diego Region. Profile Warehouse. Fall. http://profilewarehouse.sandag.org/profiles/fcst/reg999fcst.pdf

2007a Fast Facts: San Diego Region. http://www.sandag.org/resources/demographics_and_other_data/demographics/fastfacts/regi.htm. January.

2007b Draft 2007 Regional Transportation Plan. http://www.sandag.org/index.asp?projectid=292&fuseaction=projects.detail. June.

2008 Land Use GIS Data.

San Diego, City of.

1998 Final Multiple Species Conservation Program, MSCP Plan. August.

San Diego, County of

2007 *Frequently Asked Questions.* San Diego Air Pollution Control District. http://www.sdapcd.org/info/FAQS/faqs.html#improvement. October.

U.S. Fish and Wildlife Service (USFWS)

1996 Endangered Species Habitat Conservation Planning Handbook. November 1996.

2003 Preparation of an Environmental Impact Statement for Issuance of an Incidental Take Permit Associated With a Habitat Conservation Plan for the San Diego County Water Authority, California. *Federal Register* 68 (228): 66478-66479. November 26. http://www.fws.gov/policy/library/03-29605.html

2004 Endangered and Threatened Wildlife and Plants; Review of Species That Are Candidates or Proposed for Listing as Endangered or Threatened; Annual Notice of Findings on Resubmitted Petitions; Annual Description of Progress on Listing Actions; Proposed Rule. *Federal Register* 69(86):24876-24904, May 4.

U.S. Forest Service

1997 Forest Service Southern California Mapping Project: Santa Monica Mountains National Recreation Area Final Report. June 13.

This page intentionally left blank.