

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.

4.0 Environmental Impacts/Consequences of Alternatives

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

4.0 Environmental Impacts/Consequences of Alternatives

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:

4.0 Environmental Impacts/Consequences of Alternatives

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**

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

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

Scientific Name	Common Name	Potential Habitat		CNDDB		SDNHM		Federal/ State Status	CNPS List
		Survey Area	PIZ**	Survey Area	PIZ	Survey Area	PIZ		
<i>Asio otis</i>	Long-eared owl	38,530	9,007	0	0	N/A	N/A	CSC	N/A
<i>Athene cunicularia hypugaea</i>	Western burrowing owl	35,454	8,692	36	23			CSC	N/A
<i>Campylorhynchus brunneicapillus sandiegensis</i>	San Diego cactus wren	43,439	9,456	34	5	N/A	N/A	CSC, *	N/A
<i>Circus cyaneus</i>	Northern harrier	76,795	17,435	2	0	N/A	N/A	CSC	N/A
<i>Dendroica petechia brewsteri</i>	Yellow warbler	4,940	975	3	0	N/A	N/A	CSC	N/A
<i>Elanus leucurus</i>	White-tailed kite	38,278	9,075	2	0	N/A	N/A	CFP *	N/A
<i>Empidonax traillii extimus</i>	Southwestern willow flycatcher	4,081	772	4	0	N/A	N/A	FE, CH, CE	N/A
<i>Eremophila alpestris californica</i>	California horned lark	30,110	7,283	3	0	N/A	N/A	CSC	N/A
<i>Falco peregrinus anatum</i>	American peregrine falcon	34,079	8,057	1	0	N/A	N/A	CE, CFP	N/A
<i>Haliaeetus leucocephalus</i>	Bald eagle	4,103	1,450	2	0	N/A	N/A	CE, CFP, BEPA	N/A
<i>Icteria virens</i>	Yellow-breasted chat	5,265	1,034	8	1	N/A	N/A	CSC	N/A
<i>Lanius ludovicianus</i>	Loggerhead shrike	111,906	25,154	0	0	N/A	N/A	CSC	N/A
<i>Pelecanus occidentalis californicus</i>	California brown pelican	4,103	1,450	0	0	N/A	N/A	FE, CE, CFP	N/A
<i>Poliotila californica californica</i>	Coastal California gnatcatcher	44,754	9,862	152	26	N/A	N/A	FT, CH, CSC	N/A
<i>Vireo belli pusillus</i>	Least Bell's vireo	5,265	1,034	30	6	N/A	N/A	FE, CH, CE	N/A
Mammals									
<i>Chaetodipus californicus femoralis</i>	Dulzura pocket mouse	40	4	9	2	N/A	N/A	CSC	N/A
<i>Chaetodipus fallax fallax</i>	Northwestern San Diego pocket mouse	108,928	23,167	13	4	N/A	N/A	CSC	N/A
<i>Dipodomys stephensi</i>	Stephens' kangaroo rat	39,667	9,690	21	5	N/A	N/A	FE, CT	N/A
<i>Felis concolor</i>	Mountain lion	122,606	26,042	0	0	N/A	N/A	*	N/A
<i>Lepus californicus bennettii</i>	San Diego black-tailed jackrabbit	68,792	17,570	15	4	N/A	N/A	CSC	N/A
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	90,682	18,024	13	6	N/A	N/A	CSC	N/A
<i>Onychomys torridus ramona</i>	Southern grasshopper mouse	109,102	23,181	0	0	N/A	N/A	CSC	N/A
<i>Perognathus longimembris brevinasus</i>	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 proportion of Survey Area	Projected Impacts as proportion of PIZ	Federal/ State Status
Plants							
<i>Acanthomintha ilicifolia</i>	San Diego thorn-mint	240	641	2.7	0.26%	1.33%	CE/FT/CH
<i>Adolphia californica</i>	California adolphia	162	518	3.2	0.37%	1.72%	—/—
<i>Allium munzii</i>	Munz's onion	195	0	0.0	0.99%	3.49%	CT/FE/CH
<i>Ambrosia pumila</i>	San Diego ambrosia	289	132	0.5	0.25%	1.19%	—/FE
<i>Arctostaphylos rainbowensis</i>	Rainbow manzanita	78	0	0.0	N/A	N/A	—/—
<i>Baccharis vanessae</i>	Encinitas baccharis	36	0	0.0	0.10%	0.44%	CE/FT
<i>Brodiaea filifolia</i>	Thread-leaved brodiaea	5	0	0.0	N/A	N/A	CE/FT/CH
<i>Brodiaea orcuttii</i>	Orcutt's brodiaea	6	1	0.2	N/A	N/A	—/—
<i>Calochortus dunnii</i>	Dunn's mariposa lily	78	8	0.1	1.59%	7.45%	CR/—
<i>Ceanothus cyaneus</i>	Lakeside ceanothus	78	0	0.0	1.59%	7.45%	—/—
<i>Ceanothus verrucosus</i>	Wart-stemmed ceanothus	78	0	0.0	0.22%	0.96%	—/—
<i>Centromadia parryi</i> ssp. <i>australis</i>	Southern tarplant	6	9	1.6	0.13%	0.53%	—/—
<i>Centromadia pungens</i> ssp. <i>laevis</i>	Smooth tarplant	57	47	0.8	1.05%	5.28%	—/—
<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>	Summer holly	78	0	0.0	0.22%	0.96%	—/—
<i>Cordylanthus orcuttianus</i>	Orcutt's bird's-beak	0	0				—/—
<i>Cylindropuntia californica</i> var. <i>californica</i>	Snake cholla	162	0	0.0	0.39%	1.79%	—/—
<i>Deinandra conjugens</i>	Otay tarplant	10	8	0.8	0.24%	0.98%	CE/FT/CH
<i>Dudleya variegata</i>	Variiegated dudleya	274	649	2.4	0.24%	1.13%	—/—
<i>Dudleya viscida</i>	Sticky-leaved dudleya	240	641	2.7	0.27%	1.36%	—/—
<i>Ericameria palmeri</i> ssp. <i>palmeri</i>	Palmer's goldenbush	169	1	0.0	0.40%	1.86%	—/—
<i>Eryngium aristulatum</i> var. <i>parishii</i>	San Diego button-celery	5	0	0.0	N/A	N/A	CE/FE
<i>Ferocactus viridescens</i>	San Diego barrel cactus	162	123	0.8	0.36%	1.64%	—/—
<i>Githopsis diffusa</i> ssp. <i>filicaulis</i>	Mission Canyon bluecup	78	123	1.6	0.17%	0.96%	—/—
<i>Hazardia orcuttii</i>	Orcutt's hazardia	78	0	0.0	N/A	N/A	CT/FC
<i>Iva hayesiana</i>	San Diego marsh-elder	14	21	1.5	0.63%	2.63%	—/—
<i>Lepechinia cardiophylla</i>	Heart-leaved pitcher sage	94	130	1.4	0.19%	1.05%	—/—
<i>Monardella hypoleuca</i> ssp. <i>lanata</i>	Felt-leaved monardella	78	123	1.6	0.17%	0.96%	—/—
<i>Monardella viminea</i>	Willowy monardella	14	0	0.0	0.81%	4.67%	CE/FE/CH
<i>Muilla clevelandii</i>	San Diego goldenstar	240	641	2.7	0.26%	1.33%	—/—
<i>Myosurus minimus</i> ssp. <i>apus</i>	Little mousetail	0	0		N/A	N/A	—/—
<i>Navarretia fossalis</i>	Spreading navarretia	5	0	0.0	2.96%	14.79%	—/FT/CH
<i>Navarretia prostrata</i>	Prostrate navarretia	0	0		N/A	0.00%	—/—
<i>Nolina cismontana</i>	Chaparral nolina	162	0	0.0	0.39%	1.79%	—/—
<i>Orcuttia californica</i>	California Orcutt grass	0	0		0.00%	N/A	CE/FE
<i>Packera ganderi</i>	Gander's ragwort	78	0	0.0	0.17%	0.96%	CR/—
<i>Pogogyne abramsii</i>	San Diego mesa mint	5	0	0.0	N/A	N/A	CE/FE
<i>Pogogyne nudiuscula</i>	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 proportion of Survey Area	Projected Impacts as proportion of PIZ	Federal/ State Status
<i>Quercus dumosa</i>	Nuttall's scrub oak	78	123	1.6	0.17%	0.96%	—/—
<i>Quercus engelmannii</i>	Engelmann oak	16	0	0.0	N/A	N/A	—/—
<i>Salvia munzii</i>	Munz's sage	240	641	2.7	0.26%	1.33%	—/—
<i>Satureja chandleri</i>	San Miguel savory	135	130	1.0	0.26%	1.45%	—/—
<i>Tetracoccus dioicus</i>	Parry's tetracoccus	78	0	0.0	N/A	N/A	—/—
Invertebrates							
<i>Branchinecta lynchi</i>	Vernal pool fairy shrimp	0	0		0.00%	N/A	FT, CH
<i>Branchinecta sandiegonensis</i>	San Diego fairy shrimp	5	0	0.0	N/A	N/A	FE, CH
<i>Euphyes vestris harbisoni</i>	Harbison's dun skipper	57	33	0.6	0.76%	3.77%	*
<i>Euphydryas editha quino</i>	Quino checkerspot butterfly	273	649	2.4	0.24%	1.12%	FE, CH
<i>Lycaena hermes</i>	Hermes copper butterfly	162	518	3.2	12.19%	43.64%	*
<i>Streptocephalus woottoni</i>	Riverside fairy shrimp	5	0	0.0	N/A	N/A	FE, CH
Amphibians							
<i>Anaxyrus (=Bufo) californicus</i>	Arroyo toad	55	46	0.8	0.94%	4.33%	FE, CH, CSC
<i>Spea (=Scaphiopus) hammondii</i>	Western spadefoot toad	47	28	0.6	0.19%	0.72%	CSC
Reptiles							
<i>Actinemys marmorata pallida</i>	Southern Pacific (Southwestern) pond turtle	7	1	0.2	0.16%	0.47%	CSC
<i>Aspidoscelis hyperythra beldingi</i>	Belding's orange-throated whiptail	295	686	2.3	0.31%	1.55%	CSC
<i>Aspidoscelis tigris stejnegeri</i>	Coastal (western) whiptail	297	674	2.3	0.30%	1.52%	*
<i>Coleonyx variegates abbottii</i>	San Diego banded gecko	240	641	2.7	0.26%	1.33%	
<i>Crotalus ruber ruber</i>	(Northern) red diamond rattlesnake	240	518	2.2	0.53%	2.43%	CSC
<i>Diadophis punctatus similis</i>	San Diego ring-neck snake	316	641	2.0	0.29%	1.35%	*
<i>Eumeces skiltonianus interparietalis</i>	Coronado skink	296	658	2.2	0.25%	1.18%	CSC
<i>Lichanura trivirgata roseofusca</i>	Coastal rosy boa	240	641	2.7	0.26%	1.33%	*
<i>Phrynosoma coronatum blainvillii</i>	Coast (San Diego horned) lizard	256	526	2.1	0.52%	2.40%	CSC *
<i>Thamnophis hammondii</i>	Two-striped garter snake	219	565	2.6	0.43%	2.00%	—/—
Birds							
<i>Agelaius tricolor</i>	Tricolored blackbird	16	21	1.3	0.26%	0.87%	CSC
<i>Aimophila ruficeps canescens</i>	Southern California rufous-crowned sparrow	162	518	3.2	0.36%	1.64%	*
<i>Ammodramus savannarum</i>	Grasshopper sparrow	41	9	0.2	0.18%	0.66%	CSC
<i>Amphispiza belli belli</i>	Bell's sage sparrow	240	641	2.7	0.27%	1.36%	*
<i>Athene cunicularia hypugaea</i>	Western burrowing owl	195	8	0.0	0.55%	2.24%	CSC
<i>Campylorhynchus brunneicapillus sandiegensis</i>	San Diego cactus wren	162	518	3.2	0.37%	1.71%	CSC *
<i>Dendroica petechia brewsteri</i>	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 proportion of Survey Area	Projected Impacts as proportion of PIZ	Federal/ State Status
<i>Empidonax traillii extimus</i>	Southwestern willow flycatcher	55	26	0.5	1.35%	7.13%	FE, CH, CE
<i>Eremophila alpestris californica</i>	California horned lark	34	0	0.0	0.11%	0.47%	CSC
<i>Icteria virens</i>	Yellow-breasted chat	55	45	0.8	1.04%	5.32%	CSC
<i>Lanius ludovicianus</i>	Loggerhead shrike	274	123	0.4	0.24%	1.09%	CSC
<i>Poliophtila californica californica</i>	Coastal California gnatcatcher	162	518	3.2	0.36%	1.64%	FT, CH, CSC
<i>Vireo belli pusillus</i>	Least Bell's vireo	55	26	0.5	1.04%	5.32%	FE, CH, CE
<i>Accipiter cooperii</i>	Cooper's hawk	16	8	0.5	0.32%	1.61%	CSC *
<i>Asio otis</i>	Long-eared owl	92	33	0.4	0.24%	1.02%	CSC
<i>Circus cyaneus</i>	Northern harrier	202	9	0.0	0.26%	1.16%	CSC
<i>Elanus leucurus</i>	White-tailed kite	49	16	0.3	0.13%	0.54%	CFP *
<i>Falco peregrinus anatum</i>	American peregrine falcon	49	8	0.2	0.14%	0.61%	CE, CFP
<i>Haliaeetus leucocephalus</i>	Bald eagle	2	0	0.0	0.05%	0.14%	CE, CFP, BEPA
<i>Aquila chrysaetos</i>	Golden eagle	198	526	2.7	0.29%	1.23%	CFP, BEPA
<i>Pelecanus occidentalis californicus</i>	California brown pelican	2	0	0.0	0.05%	0.14%	FE, CE, CFP
Mammals							
<i>Chaetodipus californicus femoralis</i>	Dulzura pocket mouse	10	0	0.0	N/A	N/A	CSC
<i>Chaetodipus fallax fallax</i>	Northwestern San Diego pocket mouse	274	641	2.3	0.25%	1.18%	CSC
<i>Dipodomys stephensi</i>	Stephens' kangaroo rat	34	8	0.2	0.09%	0.35%	FE, CT
<i>Felis concolor</i>	Mountain lion	344	702	2.0	0.28%	1.32%	*
<i>Lepus californicus bennettii</i>	San Diego black-tailed jackrabbit	34	8	0.2	0.05%	0.19%	CSC
<i>Neotoma lepida intermedia</i>	San Diego woodrat	240	641	2.7	0.26%	1.33%	CSC
<i>Onychomys torridus ramona</i>	Southern grasshopper mouse	274	641	2.3	0.25%	1.18%	CSC
<i>Perognathus longimembris brevinasus</i>	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).

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

4.0 Environmental Impacts/Consequences of Alternatives

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 proportion of Survey Area	Projected Impacts as proportion of PIZ	Federal/ State Status
Covered Species							
Plants							
<i>Acanthomintha ilicifolia</i>	San Diego thorn-mint	240	641	2.7	0.26%	1.33%	CE/FT/CH
<i>Adolphia californica</i>	California adolphia	162	518	3.2	0.37%	1.72%	-/-
<i>Ambrosia pumila</i>	San Diego ambrosia	289	132	0.5	0.25%	1.19%	-/FE
<i>Baccharis vanessae</i>	Encinitas baccharis	36	0	0.0	0.10%	0.44%	CE/FT
<i>Brodiaea filifolia</i>	Thread-leaved brodiaea	5	0	0.0	N/A	N/A	CE/FT/CH
<i>Brodiaea orcuttii</i>	Orcutt's brodiaea	6	1	0.2	N/A	N/A	-/-
<i>Calochortus dunnii</i>	Dunn's mariposa lily	78	8	0.1	1.59%	7.45%	CR/-
<i>Ceanothus cyaneus</i>	Lakeside ceanothus	78	0	0.0	1.59%	7.45%	-/-
<i>Centromadia parryi</i> ssp. <i>australis</i>	Southern tarplant	6	9	1.6	0.13%	0.53%	-/-
<i>Centromadia pungens</i> ssp. <i>laevis</i>	Smooth tarplant	57	47	0.8	1.05%	5.28%	-/-
<i>Deinandra conjugens</i>	Otay tarplant	10	8	0.8	0.24%	0.98%	CE/FT/CH
<i>Dudleya variegata</i>	Variiegated dudleya	274	649	2.4	0.24%	1.13%	-/-
<i>Dudleya viscida</i>	Sticky-leaved dudleya	240	641	2.7	0.27%	1.36%	-/-
<i>Eryngium aristulatum</i> var. <i>parishii</i>	San Diego button-celery	5	0	0.0	N/A	N/A	CE/FE
<i>Ferocactus viridescens</i>	San Diego barrel cactus	162	123	0.8	0.36%	1.64%	-/-
<i>Iva hayesiana</i>	San Diego marsh-elder	14	21	1.5	0.63%	2.63%	-/-
<i>Monardella hypoleuca</i> ssp. <i>lanata</i>	Felt-leaved monardella	78	123	1.6	0.17%	0.96%	-/-
<i>Monardella viminea</i>	Willowly monardella	14	0	0.0	0.81%	4.67%	CE/FE/CH
<i>Muilla clevelandii</i>	San Diego goldenstar	240	641	2.7	0.26%	1.33%	-/-
<i>Navarretia fossalis</i>	Spreading navarretia	5	0	0.0	N/A	N/A	-/FT/CH
<i>Nolina cismontana</i>	Chaparral nolina	162	0	0.0	0.39%	1.79%	-/-
<i>Pogogyne abramsii</i>	San Diego mesa mint	5	0	0.0	N/A	N/A	CE/FE
<i>Pogogyne nudiuscula</i>	Otay Mesa mint	5	0	0.0	N/A	N/A	CE/FE
<i>Quercus dumosa</i>	Nuttall's scrub oak	78	123	1.6	0.17%	0.96%	-/-
<i>Salvia munzii</i>	Munz's sage	240	641	2.7	0.26%	1.33%	-/-
<i>Tetracoccus dioicus</i>	Parry's tetracoccus	78	0	0.0	N/A	N/A	-/-
Invertebrates							
<i>Branchinecta sandiegonensis</i>	San Diego fairy shrimp	5	0	0.0	N/A	N/A	FE, CH
<i>Euphyes vestris harbisoni</i>	Harbison's dun skipper	57	33	0.6	0.76%	3.77%	*
<i>Euphydryas editha quino</i>	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 proportion of Survey Area	Projected Impacts as proportion of PIZ	Federal/ State Status
<i>Lycaena hermes</i>	Hermes copper butterfly	162	518	3.2	12.19%	43.64%	*
<i>Streptocephalus woottoni</i>	Riverside fairy shrimp	5	0	0.0	N/A	N/A	FE, CH
Amphibians							
<i>Anaxyrus (=Bufo) californicus</i>	Arroyo toad	55	46	0.8	0.94%	4.33%	FE, CH, CSC
<i>Spea (=Scaphiopus) hammondi</i>	Western spadefoot toad	47	28	0.6	0.19%	0.72%	CSC
Reptiles							
<i>Actinemys marmorata pallida</i>	Southern Pacific (Southwestern) pond turtle	7	1	0.2	0.16%	0.47%	CSC
<i>Aspidoscelis hyperythra beldingi</i>	Belding's orange-throated whiptail	295	686	2.3	0.31%	1.55%	CSC
<i>Aspidoscelis tigris stejnegeri</i>	Coastal (western) whiptail	297	674	2.3	0.30%	1.52%	*
<i>Coleonyx variegates abbottii</i>	San Diego banded gecko	240	641	2.7	0.26%	1.33%	
<i>Crotalus ruber ruber</i>	(Northern) red diamond rattlesnake	240	518	2.2	0.53%	2.43%	CSC
<i>Diadophis punctatus similis</i>	San Diego ring-neck snake	316	641	2.0	0.29%	1.35%	*
<i>Eumeces skiltonianus interparietalis</i>	Coronado skink	296	658	2.2	0.25%	1.18%	CSC
<i>Lichanura trivirgata roseofusca</i>	Coastal rosy boa	240	641	2.7	0.26%	1.33%	*
<i>Phrynosoma coronatum blainvillii</i>	Coast (San Diego horned) lizard	256	526	2.1	0.52%	2.40%	CSC *
Birds							
<i>Agelaius tricolor</i>	Tricolored blackbird	16	21	1.3	0.26%	0.87%	CSC
<i>Aimophila ruficeps canescens</i>	Southern California rufous-crowned sparrow	162	518	3.2	0.36%	1.64%	*
<i>Ammodramus savannarum</i>	Grasshopper sparrow	41	9	0.2	0.18%	0.66%	CSC
<i>Amphispiza belli belli</i>	Bell's sage sparrow	240	641	2.7	0.27%	1.36%	*
<i>Athene cunicularia hypugaea</i>	Western burrowing owl	195	8	0.0	0.55%	2.24%	CSC
<i>Campylorhynchus brunneicapillus sandiegensis</i>	San Diego cactus wren	162	518	3.2	0.37%	1.71%	CSC *
<i>Dendroica petechia brewsteri</i>	Yellow warbler	55	26	0.5	1.11%	5.64%	CSC
<i>Empidonax traillii extimus</i>	Southwestern willow flycatcher	55	26	0.5	1.35%	7.13%	FE, CH, CE
<i>Eremophila alpestris californica</i>	California horned lark	34	0	0.0	0.11%	0.47%	CSC
<i>Icteria virens</i>	Yellow-breasted chat	55	45	0.8	1.04%	5.32%	CSC
<i>Lanius ludovicianus</i>	Loggerhead shrike	274	123	0.4	0.24%	1.09%	CSC
<i>Polioptila californica californica</i>	Coastal California gnatcatcher	162	518	3.2	0.36%	1.64%	FT, CH, CSC
<i>Vireo belli pusillus</i>	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 proportion of Survey Area	Projected Impacts as proportion of PIZ	Federal/ State Status
Mammals							
<i>Chaetodipus californicus femoralis</i>	Dulzura pocket mouse	10	0	0.0	N/A	N/A	CSC
<i>Chaetodipus fallax fallax</i>	Northwestern San Diego pocket mouse	274	641	2.3	0.25%	1.18%	CSC
<i>Dipodomys stephensi</i>	Stephens' kangaroo rat	34	8	0.2	0.09%	0.35%	FE, CT
<i>Felis concolor</i>	Mountain lion	344	702	2.0	0.28%	1.32%	*
<i>Lepus californicus bennettii</i>	San Diego black-tailed jackrabbit	34	8	0.2	0.05%	0.19%	CSC
<i>Neotoma lepida intermedia</i>	San Diego woodrat	240	641	2.7	0.26%	1.33%	CSC
<i>Onychomys torridus ramona</i>	Southern grasshopper mouse	274	641	2.3	0.25%	1.18%	CSC
<i>Perognathus longimembris brevinasus</i>	Los Angeles pocket mouse	47	21	0.4	0.23%	0.82%	CSC
Major Amendment Species							
Plants							
<i>Allium munzii</i>	Munz's onion	195	0	0.0	0.99%	3.49%	CT/FE/CH
<i>Orcuttia californica</i>	California Orcutt grass	0	0		0.00%	N/A	CE/FE
Invertebrate							
<i>Branchinecta lynchi</i>	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.

4.0 Environmental Impacts/Consequences of Alternatives

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 proportion of Survey Area	Projected Impacts as proportion of PIZ	Federal/ State Status
Covered Species							
Plants							
<i>Acanthomintha ilicifolia</i>	San Diego thorn-mint	240	641	2.7	0.26%	1.33%	CE/FT/CH
<i>Adolphia californica</i>	California adolphia	162	518	3.2	0.37%	1.72%	-/-
<i>Allium munzii</i>	Munz's onion	195	0	0.0	0.99%	3.49%	CT/FE/CH
<i>Ambrosia pumila</i>	San Diego ambrosia	289	132	0.5	0.25%	1.19%	-/FE
<i>Arctostaphylos rainbowensis</i>	Rainbow manzanita	78	0	0.0	N/A	N/A	-/-
<i>Baccharis vanessae</i>	Encinitas baccharis	36	0	0.0	0.10%	0.44%	CE/FT
<i>Brodiaea filifolia</i>	Thread-leaved brodiaea	5	0	0.0	N/A	N/A	CE/FT/CH
<i>Brodiaea orcuttii</i>	Orcutt's brodiaea	6	1	0.2	N/A	N/A	-/-
<i>Calochortus dunnii</i>	Dunn's mariposa lily	78	8	0.1	1.59%	7.45%	CR/-
<i>Ceanothus cyaneus</i>	Lakeside ceanothus	78	0	0.0	1.59%	7.45%	-/-
<i>Ceanothus verrucosus</i>	Wart-stemmed ceanothus	78	0	0.0	0.22%	0.96%	-/-
<i>Centromadia parryi</i> ssp. <i>australis</i>	Southern tarplant	6	9	1.6	0.13%	0.53%	-/-
<i>Centromadia pungens</i> ssp. <i>laevis</i>	Smooth tarplant	57	47	0.8	1.05%	5.28%	-/-
<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>	Summer holly	78	0	0.0	0.22%	0.96%	-/-
<i>Cordylanthus orcuttianus</i>	Orcutt's bird's-beak	0	0				-/-
<i>Cylindropuntia californica</i> var. <i>californica</i>	Snake cholla	162	0	0.0	0.39%	1.79%	-/-
<i>Deinandra conjugens</i>	Otay tarplant	10	8	0.8	0.24%	0.98%	CE/FT/CH
<i>Dudleya variegata</i>	Variegated dudleya	274	649	2.4	0.24%	1.13%	-/-
<i>Dudleya viscida</i>	Sticky-leaved dudleya	240	641	2.7	0.27%	1.36%	-/-
<i>Ericameria palmeri</i> ssp. <i>palmeri</i>	Palmer's goldenbush	169	1	0.0	0.40%	1.86%	-/-
<i>Eryngium aristulatum</i> var. <i>parishii</i>	San Diego button-celery	5	0	0.0	N/A	N/A	CE/FE
<i>Ferocactus viridescens</i>	San Diego barrel cactus	162	123	0.8	0.36%	1.64%	-/-
<i>Githopsis diffusa</i> ssp. <i>filicaulis</i>	Mission Canyon bluecup	78	123	1.6	0.17%	0.96%	-/-
<i>Hazardia orcuttii</i>	Orcutt's hazardia	78	0	0.0	N/A	N/A	CT/FC
<i>Iva hayesiana</i>	San Diego marsh-elder	14	21	1.5	0.63%	2.63%	-/-
<i>Lepechinia cardiophylla</i>	Heart-leaved pitcher sage	94	130	1.4	0.19%	1.05%	-/-
<i>Monardella hypoleuca</i> ssp. <i>lanata</i>	Felt-leaved monardella	78	123	1.6	0.17%	0.96%	-/-
<i>Monardella viminea</i>	Willow monardella	14	0	0.0	0.81%	4.67%	CE/FE/CH
<i>Muilla cleavelandii</i>	San Diego goldenstar	240	641	2.7	0.26%	1.33%	-/-
<i>Myosurus minimus</i> ssp. <i>apus</i>	Little mousetail	0	0		N/A	N/A	-/-
<i>Navarretia fossalis</i>	Spreading navarretia	5	0	0.0	2.96%	14.79%	-/FT/CH
<i>Navarretia prostrata</i>	Prostrate navarretia	0	0		N/A	0.00%	-/-
<i>Nolina cismontana</i>	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 proportion of Survey Area	Projected Impacts as proportion of PIZ	Federal/ State Status
<i>Orcuttia californica</i>	California Orcutt grass	0	0		0.00%	N/A	CE/FE
<i>Packera ganderi</i>	Gander's ragwort	78	0	0.0	0.17%	0.96%	CR/-
<i>Pogogyne abramsii</i>	San Diego mesa mint	5	0	0.0	N/A	N/A	CE/FE
<i>Pogogyne nudiuscula</i>	Otay Mesa mint	5	0	0.0	N/A	N/A	CE/FE
<i>Quercus dumosa</i>	Nuttall's scrub oak	78	123	1.6	0.17%	0.96%	-/-
<i>Quercus engelmannii</i>	Engelmann oak	16	0	0.0	N/A	N/A	-/-
<i>Salvia munzii</i>	Munz's sage	240	641	2.7	0.26%	1.33%	-/-
<i>Satureja chandleri</i>	San Miguel savory	135	130	1.0	0.26%	1.45%	-/-
<i>Tetracoccus dioicus</i>	Parry's tetracoccus	78	0	0.0	N/A	N/A	-/-
Invertebrates							
<i>Branchinecta lynchi</i>	Vernal pool fairy shrimp	0	0		0.00%	N/A	FT, CH
<i>Branchinecta sandiegonensis</i>	San Diego fairy shrimp	5	0	0.0	N/A	N/A	FE, CH
<i>Euphyes vestris harbisoni</i>	Harbison's dun skipper	57	33	0.6	0.76%	3.77%	*
<i>Euphydryas editha quino</i>	Quino checkerspot butterfly	273	649	2.4	0.24%	1.12%	FE, CH
<i>Lycaena hermes</i>	Hermes copper butterfly	162	518	3.2	12.19%	43.64%	*
<i>Streptocephalus woottoni</i>	Riverside fairy shrimp	5	0	0.0	N/A	N/A	FE, CH
Amphibians							
<i>Anaxyrus (=Bufo) californicus</i>	Arroyo toad	55	46	0.8	0.94%	4.33%	FE, CH, CSC
<i>Spea (=Scaphiopus) hammondii</i>	Western spadefoot toad	47	28	0.6	0.19%	0.72%	CSC
Reptiles							
<i>Actinemys marmorata pallida</i>	Southern Pacific (Southwestern) pond turtle	7	1	0.2	0.16%	0.47%	CSC
<i>Aspidoscelis hyperythra beldingi</i>	Belding's orange-throated whiptail	295	686	2.3	0.31%	1.55%	CSC
<i>Aspidoscelis tigris stejnegeri</i>	Coastal (western) whiptail	297	674	2.3	0.30%	1.52%	*
<i>Coleonyx variegates abbottii</i>	San Diego banded gecko	240	641	2.7	0.26%	1.33%	
<i>Crotalus ruber ruber</i>	(Northern) red diamond rattlesnake	240	518	2.2	0.53%	2.43%	CSC
<i>Diadophis punctatus similis</i>	San Diego ring-neck snake	316	641	2.0	0.29%	1.35%	*
<i>Eumeces skiltonianus interparietalis</i>	Coronado skink	296	658	2.2	0.25%	1.18%	CSC
<i>Lichanura trivirgata roseofusca</i>	Coastal rosy boa	240	641	2.7	0.26%	1.33%	*
<i>Phrynosoma coronatum blainvillii</i>	Coast (San Diego horned) lizard	256	526	2.1	0.52%	2.40%	CSC *
<i>Thamnophis hammondii</i>	Two-striped garter snake	219	565	2.6	0.43%	2.00%	-/-
Birds							
<i>Agelaius tricolor</i>	Tricolored blackbird	16	21	1.3	0.26%	0.87%	CSC
<i>Aimophila ruficeps canescens</i>	Southern California rufous-crowned sparrow	162	518	3.2	0.36%	1.64%	*
<i>Ammodramus savannarum</i>	Grasshopper sparrow	41	9	0.2	0.18%	0.66%	CSC
<i>Amphispiza belli belli</i>	Bell's sage sparrow	240	641	2.7	0.27%	1.36%	*
<i>Athene cunicularia hypugaea</i>	Western burrowing owl	195	8	0.0	0.55%	2.24%	CSC
<i>Campylorhynchus brunneicapillus sandiegensis</i>	San Diego cactus wren	162	518	3.2	0.37%	1.71%	CSC *
<i>Dendroica petechia brewsteri</i>	Yellow warbler	55	26	0.5	1.11%	5.64%	CSC
<i>Empidonax traillii extimus</i>	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 proportion of Survey Area	Projected Impacts as proportion of PIZ	Federal/ State Status
<i>Eremophila alpestris californica</i>	California horned lark	34	0	0.0	0.11%	0.47%	CSC
<i>Icteria virens</i>	Yellow-breasted chat	55	45	0.8	1.04%	5.32%	CSC
<i>Lanius ludovicianus</i>	Loggerhead shrike	274	123	0.4	0.24%	1.09%	CSC
<i>Polioptila californica californica</i>	Coastal California gnatcatcher	162	518	3.2	0.36%	1.64%	FT, CH, CSC
<i>Vireo belli pusillus</i>	Least Bell's vireo	55	26	0.5	1.04%	5.32%	FE, CH, CE
<i>Accipiter cooperii</i>	Cooper's hawk	16	8	0.5	0.32%	1.61%	CSC *
<i>Asio otis</i>	Long-eared owl	92	33	0.4	0.24%	1.02%	CSC
<i>Circus cyaneus</i>	Northern harrier	202	9	0.0	0.26%	1.16%	CSC
<i>Elanus leucurus</i>	White-tailed kite	49	16	0.3	0.13%	0.54%	CFP *
<i>Falco peregrinus anatum</i>	American peregrine falcon	49	8	0.2	0.14%	0.61%	CE, CFP
<i>Aquila chrysaetos</i>	Golden eagle	198	526	2.7	0.29%	1.23%	CFP, BEPA
<i>Haliaeetus leucocephalus</i>	Bald eagle	2	0	0.0	0.05%	0.14%	CE, CFP, BEPA
<i>Pelecanus occidentalis californicus</i>	California brown pelican	2	0	0.0	0.05%	0.14%	FE, CE, CFP
Mammals							
<i>Chaetodipus californicus femoralis</i>	Dulzura pocket mouse	10	0	0.0	N/A	N/A	CSC
<i>Chaetodipus fallax fallax</i>	Northwestern San Diego pocket mouse	274	641	2.3	0.25%	1.18%	CSC
<i>Dipodomys stephensi</i>	Stephens' kangaroo rat	34	8	0.2	0.09%	0.35%	FE, CT
<i>Felis concolor</i>	Mountain lion	344	702	2.0	0.28%	1.32%	*
<i>Lepus californicus bennettii</i>	San Diego black-tailed jackrabbit	34	8	0.2	0.05%	0.19%	CSC
<i>Neotoma lepida intermedia</i>	San Diego woodrat	240	641	2.7	0.26%	1.33%	CSC
<i>Onychomys torridus ramona</i>	Southern grasshopper mouse	274	641	2.3	0.25%	1.18%	CSC
<i>Perognathus longimembris brevinasus</i>	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 proportion of PIZ	Federal/ State Status
Covered Species						
Plants						
<i>Acanthomintha ilicifolia</i>	San Diego thorn-mint	240	641	2.7	1.33%	CE/FT/CH
<i>Adolphia californica</i>	California adolphia	162	518	3.2	1.72%	-/-
<i>Ambrosia pumila</i>	San Diego ambrosia	289	132	0.5	1.19%	-/FE
<i>Baccharis vanessae</i>	Encinitas baccharis	36	0	0.0	0.44%	CE/FT
<i>Brodiaea filifolia</i>	Thread-leaved brodiaea	5	0	0.0	N/A	CE/FT/CH
<i>Brodiaea orcuttii</i>	Orcutt's brodiaea	6	1	0.2	N/A	-/-
<i>Ceanothus cyaneus</i>	Lakeside ceanothus	78	0	0.0	7.45%	-/-
<i>Centromadia pungens</i> ssp. <i>laevis</i>	Smooth tarplant	57	47	0.8	5.28%	-/-
<i>Deinandra conjugens</i>	Otay tarplant	10	8	0.8	0.98%	CE/FT/CH
<i>Dudleya variegata</i>	Variegated dudleya	274	649	2.4	1.13%	-/-
<i>Dudleya viscida</i>	Sticky-leaved dudleya	240	641	2.7	1.36%	-/-
<i>Eryngium aristulatum</i> var. <i>parishii</i>	San Diego button-celery	5	0	0.0	N/A	CE/FE
<i>Ferocactus viridescens</i>	San Diego barrel cactus	162	123	0.8	1.64%	-/-
<i>Muilla clevelandii</i>	San Diego goldenstar	240	641	2.7	1.33%	-/-
<i>Navarretia fossalis</i>	Spreading navarretia	5	0	0.0	14.79%	-/FT/CH
<i>Nolina cismontana</i>	Chaparral nolina	162	0	0.0	1.79%	-/-
<i>Salvia munzii</i>	Munz's sage	240	641	2.7	1.33%	-/-
<i>Tetracoccus dioicus</i>	Parry's tetracoccus	78	0	0.0	N/A	-/-
Invertebrates						
<i>Branchinecta sandiegonensis</i>	San Diego fairy shrimp	5	0	0.0	N/A	FE, CH
<i>Euphydryas editha quino</i>	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 proportion of PIZ	Federal/ State Status
Amphibians						
<i>Anaxyrus (=Bufo) californicus</i>	Arroyo toad	55	46	0.8	4.33%	FE, CH, CSC
<i>Spea (=Scaphiopus) hammondi</i>	Western spadefoot toad	47	28	0.6	0.72%	CSC
Reptiles						
<i>Actinemys marmorata pallida</i>	Southern Pacific (Southwestern) pond turtle	7	1	0.2	0.47%	CSC
<i>Aspidoscelis hyperythra beldingi</i>	Belding's orange-throated whiptail	295	686	2.3	1.55%	CSC
<i>Aspidoscelis tigris stejnegeri</i>	Coastal (western) whiptail	297	674	2.3	1.52%	*
<i>Crotalus ruber ruber</i>	(Northern) red diamond rattlesnake	240	518	2.2	2.43%	CSC
<i>Diadophis punctatus similis</i>	San Diego ring-neck snake	316	641	2.0	1.35%	*
<i>Lichanura trivirgata roseofusca</i>	Coastal rosy boa	240	641	2.7	1.33%	*
<i>Phrynosoma coronatum blainvillii</i>	Coast (San Diego horned) lizard	256	526	2.1	2.40%	CSC *
Birds						
<i>Aimophila ruficeps canescens</i>	Southern California rufous-crowned sparrow	162	518	3.2	1.64%	*
<i>Athene cunicularia hypugaea</i>	Western burrowing owl	195	8	0.0	2.24%	CSC
<i>Campylorhynchus brunneicapillus sandiegensis</i>	San Diego cactus wren	162	518	3.2	1.71%	CSC *
<i>Polioptila californica californica</i>	Coastal California gnatcatcher	162	518	3.2	1.64%	FT, CH, CSC
<i>Vireo belli pusillus</i>	Least Bell's vireo	55	26	0.5	5.32%	FE, CH, CE
Mammals						
<i>Chaetodipus californicus femoralis</i>	Dulzura pocket mouse	10	0	0.0	N/A	CSC
<i>Chaetodipus fallax fallax</i>	Northwestern San Diego pocket mouse	274	641	2.3	1.18%	CSC
<i>Dipodomys stephensi</i>	Stephens' kangaroo rat	34	8	0.2	0.35%	FE, CT
<i>Lepus californicus bennettii</i>	San Diego black-tailed jackrabbit	34	8	0.2	0.19%	CSC
<i>Neotoma lepida intermedia</i>	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).

4.0 Environmental Impacts/Consequences of Alternatives

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
<u>Upland Habitats</u>		
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 Big Sagebrush Scrub (Great Valley)
	Sage-Scrub, Montane/Trans-montane	
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) Montane Chaparral
	Chaparral, Montane/Trans-montane	
	Grasslands III	Redshank Chaparral 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
	Disturbed/Developed	Intensive Agriculture (Dairies, Nurseries, Chicken Ranches) Orchards and Vineyards Bare Ground Disturbed
	Exotic Landscapes	Urban/Developed Land Eucalyptus/Non-native woodland Ornamental
<u>Wetland Habitats</u>		
I	Aquatic, Marine I Riparian I	Saltpan/Mudflats 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 Aquatic, Marine II Riparian II	Open Freshwater (Freshwater, Open Water, Water) Open Saltwater (Bays, Estuarine, Subtidal) 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 Riparian III	Non-vegetated Floodplain or Channel 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

4.0 Environmental Impacts/Consequences of Alternatives

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)
<u>Upland Habitats</u>					
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
III	Sage-Scrub, Montane/Trans-montane	--	--	--	--
	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
<u>Wetland Habitats</u>					
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.

4.0 Environmental Impacts/Consequences of Alternatives

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 than 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.

4.0 Environmental Impacts/Consequences of Alternatives

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,

4.0 Environmental Impacts/Consequences of Alternatives

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 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

4.0 Environmental Impacts/Consequences of Alternatives

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

4.0 Environmental Impacts/Consequences of Alternatives

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 protect 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

4.0 Environmental Impacts/Consequences of Alternatives

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.

4.0 Environmental Impacts/Consequences of Alternatives

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:

4.0 Environmental Impacts/Consequences of Alternatives

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

4.0 Environmental Impacts/Consequences of Alternatives

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.