

6.0 Cumulative Impacts

6.1 Requirements for the Analysis of Cumulative Impacts

Cumulative impacts are defined as the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions causing similar impacts, regardless of what agency or person undertakes other actions (section 15130, CEQA Guidelines and section 1508.7, CEQA Regulations for Implementing NEPA). Significant cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time. A mandatory finding of significant impacts is warranted if the project has possible environmental effects which are individually limited, but cumulatively considerable. Cumulatively significant means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past, current, and probable future projects.

6.2 Conservation Plans Considered in the Cumulative Analysis

In addition to the proposed Plan, various other conservation plan efforts are underway, or have been completed, in San Diego and Riverside counties. The conservation plans considered in the cumulative analysis are listed in Table 6-1. The plans listed in Table 6-1 are in various stages of planning as described in more detail in Section 3.2 of the Plan (see Appendix B). All of the plans considered in the cumulative analysis have been, or are being, designed to be consistent with the NCCP conservation guidelines and the overall goal of the NCCPA. The overall goal of the NCCPA is to balance preservation of biological resources, land use, and economics.

The multi-species conservation programs in San Diego and Riverside counties are intended to provide a framework for habitat preservation to protect the region's biodiversity. The cumulative benefits of these programs and plans are to:

1. Provide a regional and habitat-based approach to protect endangered, threatened, and rare species, and to reduce the need to list more species as endangered and threatened.
2. Allow economic development of the region, including development of public and private projects.

**TABLE 6-1
CONSERVATION PLANS WITHIN THE PLAN AREA**

Subregional Plan	Abbreviation	Subarea Plans	Status*
Multiple Species Conservation Program	MSCP	City of Chula Vista	Approved 2005
		City of La Mesa	Approved 1999
		City of Poway	Approved 1996
		City of San Diego	Approved 1998
		City of Coronado	No Progress
		City of Del Mar	No Progress
		City of El Cajon	No current progress on draft plan
		City of Santee	In Preparation
		City of National City	N/A [†]
		City of Imperial Beach	N/A
Draft MSCP North County_Plan		City of Lemon Grove	N/A
		South County Subarea Plan	Approved 1998 In Preparation
Draft MSCP East County_Plan			Early Planning
North County Multiple Habitat Conservation Plan	MHCP	City of Carlsbad	Approved 2004
		City of Encinitas	In Preparation
		City of Escondido	In Preparation
		City of Oceanside	In Preparation
		City of San Marcos	In Preparation
		City of Solana Beach	No Progress
		City of Vista	In Preparation
Western Riverside County Multiple Species Habitat Conservation Plan	MSHCP	None	Approved 2004
Joint Water Agency Subregional Conservation Plan	JWA NCCP/HCP	Helix Water District	In Preparation
		Padre Dam Municipal Water District	In Preparation
		Sweetwater Authority	In Preparation
		Otay Water District	In Preparation
San Diego Gas & Electric Subregional NCCP	SDG&E NCCP	None	Approved 1995

* Current NCCP status can be accessed at: www.dfg.ca.gov/habcon/nccp/status.html

[†] Indicates jurisdictions that are not participating in the subregional plan.

3. Achieve a workable balance between preservation of natural resources and regional growth and economic prosperity.

6.3 Cumulative Impact Analysis

This discussion evaluates potential cumulative impacts to biological resources, water resources and water quality, land use, public services and utilities, socioeconomics, and environmental justice by considering the cumulative effects of the proposed Plan and alternatives in light of existing conservation plans and plans currently being developed. As indicated in the analysis below, impacts associated with implementation of the Plan or alternatives could be associated with cumulative adverse, as well as beneficial, effects.

A detailed description of the proposed Plan and alternatives that would allow the Water Authority to conduct activities required to fulfill ongoing mandates and agreements is provided in Section 2.0 of this draft EIR/EIS. In summary, the proposed action is the issuance of federal and state incidental take authorizations to allow the Water Authority to conduct certain activities while complying with federal ESA and state CESA/NCCPA listed species regulations. Under all alternatives, the Water Authority would continue to comply with existing environmental programs and prior agreements to address impacts to sensitive species and habitats that might result from Water Authority activities. The alternatives are variations to the incidental take permitting process. Alternative 1: No Action/No Permit would result in no change to the current process followed by the Water Authority, meaning that it would obtain individual permits as needed for the take of listed species on a project-by-project basis. Alternative 2: Permit Issuance proposes that the Water Authority's Plan serve as the mechanism to obtain permits for incidental take of 63 listed and sensitive species (Covered Species) caused by Covered Activities occurring within the Plan Area. The Plan would streamline environmental regulations compliance for biological resources and provide an overall conservation benefit to Covered Species and their habitats. Implementation of the Plan would also result in a comprehensive and coordinated approach to mitigation and conservation of biological resources at a regional level. Under Alternative 3: Full Species List, the Water Authority proposes to obtain ESA/NCCPA compliance by implementing the Plan as described for Alternative 2 and obtaining permits for incidental take for up to 89 species within the Plan Area. The measures to avoid and minimize impacts and to mitigate where impacts are unavoidable would be the same as those under Alternative 2. Under Alternative 4: Reduced Plan Area, the Water Authority proposes to obtain ESA/NCCPA compliance by implementing the Plan as described for Alternative 2, but would only obtain permits for incidental take of up to 39 species within the PIZ. The measures to avoid and minimize impacts and to mitigate where impacts are unavoidable would be the same as those under Alternatives 2 and 3, with the exception that species-specific measures would be limited to the up to 39 species covered by Alternative 4.

6.3.1 Biological Resources

Issuance of federal and state Permits under the proposed Plan or alternatives would allow for the take of endangered and threatened species or modification of their critical habitat, resulting in potentially significant impacts to biological resources. Many of the endangered and threatened species that would be impacted by the Plan and alternatives are also covered by various other habitat conservation plans in the area. The individual plans and the conservation planning efforts within the region include measures to protect and manage listed and sensitive species. The avoidance, minimization, and mitigation measures and conservation strategies outlined in the proposed Plan (Alternatives 2, 3, and 4) are expected to protect and conserve population viability for Covered Species and contribute to the recovery of Covered Species. The Preserve Area would also be managed to provide and maintain suitable habitat for Covered Species. These efforts, combined with the management of the Preserve Area within the larger regional core habitat areas and as contributions to habitat linkages, benefit the movement of species and migratory wildlife corridors. The additional conservation afforded to species and preserve lands under the plans is more likely to lead to species recovery and prevent future listings than a project-by-project mitigation approach as would occur in Alternative 1. Thus, implementation of the proposed Plan or alternatives, in conjunction with other habitat conservation plans in the region, potentially could result in cumulatively considerable impacts to sensitive species and associated habitats. However, as is the intent of an NCCP/HCP, potentially significant cumulative biological effects that may result from implementation of Plan Alternatives 2, 3, and 4, and other habitat conservation plans, would be reduced to a level less than significant through the large-scale interconnected habitat preserve that will be assembled in combination with established mitigation requirements and other regional habitat conservation plans, and through the long-term adaptive management of areas conserved by these plans. Alternative 1 would not necessarily provide the same level of coordination among preserve systems; nonetheless, mitigation for impacts would be provided, and cumulative impacts would be less than significant.

Most habitat conservation plans in the region identify preserve lands and areas where development would occur. In most cases, development under these plans refers to typical residential and commercial areas where people live and work. This Plan differs in that development refers to facilities and infrastructure for the water delivery system. The majority of Covered Activities represent infrastructure construction and O&M, and many areas would remain as they are, regardless of the development that occurs around them. For example, installation of a new water pipeline would result in disturbed vegetation, but once installation is complete, the area would typically be revegetated. The resulting right-of-way would substantially remain in a natural state and may serve as a wildlife corridor for the foreseeable future. Construction of certain types of facilities and O&M Activities proposed under the Plan may cause less impact than the typical types of activities (i.e., development such as residential and commercial uses) that occur under

most conservation plans. Generally, many Water Authority Covered Activities would not remove all biological values, such as occurs with most other land use development. Thus, compared to other plans in the region which include development for a range of uses, the Water Authority's Plan represents a small contribution to cumulative effects on Covered Species.

In addition to the direct cumulative impacts to Covered Species discussed above, indirect cumulative impacts that may result from the implementation of any of the alternatives, combined with multiple regional habitat conservation plans, include potential habitat fragmentation and edge effects. Most edge effects result from development that occurs adjacent to preserve areas. Regional coordination of conservation planning efforts in the San Diego region have minimized the potential for fragmentation of preserve areas by maximizing the connectivity between the core regional preserve areas as a whole. However, as development continues in the San Diego area, the potential for edge effects to preserve lands increases. Edge effects in preserve lands may involve noise, light, and invasive species issues. The potential for edge effects associated with this Plan and other conservation plans has been minimized by directing impacts away from preserve lands and by focusing conservation and mitigation into large areas designated for preservation. The Covered Activities described under all alternatives involve infrastructure and facilities occurring mostly in or adjacent to existing rights-of-way that have been disturbed. Compared to other activities in the region, the Water Authority's activities represent a relatively small contribution to cumulative indirect/edge effects. The proposed Covered Activities, with the exception of a Water Treatment Plant that is staffed, are visited infrequently, substantially reducing associated edge effects of occupied residential and commercial land uses, such as noise, lighting, trespass, trash, pets, irrigation and storm water runoff, invasive species, and pests. Because the Water Authority would provide mitigation for project impacts and most of the rights-of-way areas would remain in a natural state after Water Authority project implementation, potential for cumulative impacts resulting from edge effects or habitat fragmentation would not be significant for all alternatives.

6.3.2 Water Resources and Water Quality

Under all four alternatives, the Water Authority would conduct the same menu of activities required to fulfill ongoing water supply and water quality mandates and agreements. The majority of these Water Authority activities would not result in significant impacts to water resources. The First and Second San Diego aqueducts are of such significant regional importance that they have been mapped on U. S. Geologic Survey (USGS) topographic maps that are used as base mapping for regional conservation planning. These primary known water system features have thus been taken into consideration in other multiple-species planning efforts in the region. Water Authority facilities, much like utility corridors, have been designated as conditionally compatible uses within the preserve systems identified in other habitat conservation

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plans. When considered in the context of other conservation planning efforts and in relation to the proposed Plan and alternatives, cumulative impacts to water resources would not be significant.

There are many watershed management planning efforts that have been initiated in the San Diego region, and that portion of Riverside County within the proposed Plan Area. The cumulative impact from habitat conservation plans would result in water quality improvements due to the preservation of large watershed areas as natural open space. Only beneficial water quality improvements would result from watershed management plans and regional conservation plans. As an example, the Water Authority's acquisition funding of the Rancho Cañada HMA and preservation of an important segment of San Vicente Creek and adjacent vegetation protects on-site as well as downstream water quality. None of the alternatives would result in significant effects to water quality; there would be no significant cumulative impacts to water quality.

6.3.3 Land Use

Water projects undertaken by the Water Authority are not subject to local jurisdictions' land use plans, policies, ordinances, and zoning classifications. The Water Authority's Facilities Master Plan describes planned/future projects and timing of construction necessary to respond to anticipated water demands projected by local jurisdictions' land use plans and development. Water Authority projects are typically constructed near or within the alignment or rights-of-way for existing water delivery infrastructure or build off that infrastructure to serve the water demand needs of two or more Member Water Agencies.

Regional habitat conservation plans identify large areas for inclusion in their preserve systems as well as areas where development is allowed. The proposed Plan identifies a Preserve Area comprised of key habitat lands (Preserve Area) acquired and preserved by the Water Authority to meet existing and future mitigation needs for upland and wetland vegetation communities and associated species. The Plan also identifies other key habitat lands acquired by the Water Authority (MMAs) that contribute to the baseline of regional conservation within the Plan Area. As described under Section 6.3.1 above, development under the other conservation plans typically involves permanent large-scale residential and commercial areas, as compared with the substantially smaller temporary footprint of the activities covered in Alternatives 2, 3, and 4. This Plan identifies a PIZ, primarily along the pipeline corridors, where most Covered Activities and associated impacts would likely occur. In addition, Alternatives 2, 3, and 4 differ from other habitat conservation plans in that development involves mostly facilities and pipeline infrastructure that are necessary to ensure reliable water delivery to existing and new residential and commercial areas addressed by other regional habitat conservation plans. Land use impacts typically arise when projects are incompatible with existing or future adjacent land uses.

The cumulative effects of development or activities allowed under existing conservation plans and this Plan would result in the potential for cumulative land use impacts. However, given the goals and specific commitments of existing habitat conservation plans, impacts would be avoided or reduced to below a level of significance. The low acreage (373 acres) of permanent habitat impacts projected for the Water Authority's Covered Activities over the 55-year term are minor compared to development allowed under the other plans.

The designation of the Preserve Area by the Water Authority, in combination with preserved lands from other agencies' regional conservation efforts, will permanently establish significant areas of conservation for habitats that benefit biological resources and avoid or minimizes land use adjacency impacts. The proposed Plan (Alternative 2) and Alternatives 3 and 4 are designed to contribute to and enhance the preserve systems identified by other regional conservation plans. Much of the land within the pipeline "development" areas will retain native and naturalized vegetation that can augment specified wildlife corridors and preserve lands in other habitat conservation plans. Implementation of the Water Authority's Plan would not result in significant impacts to land use and, when evaluated with respect to other habitat conservation plans, would not result in significant cumulative impacts to land use. While Alternative 1 would not provide the same level of coordination among preserved lands as the other alternatives, it would also not result in significant land use impacts because mitigation for Water Authority projects pursuant to CEQA and required permits would be provided.

6.3.4 Public Services and Utilities

The proposed Plan would streamline the construction and maintenance of water supply facilities that are essential public services within the Plan Area. These facilities are necessary to provide the water supply to individual retail water entities that directly serve the region's residential, commercial, and agricultural water needs. Those local water suppliers, the Water Authority's Member Water Agencies, develop and implement their own master plans and CIPs. Communication and coordination between the Water Authority and its Member Agencies results in efficient planning and development of the region-wide water supply and delivery infrastructure (an essential public service).

Because CIPs are managed with flexibility to adapt to changes in growth forecasts and water supply (e.g., future recycled water use supplementing current potable water supplies), no facilities would be constructed unless they are determined necessary to meet forecasted needs. The proposed Plan supports the public water supply and delivery service by streamlining the Water Authority's biological permitting process and cutting associated costs in time and expenditure.

Implementation of the proposed Plan (Alternative 2) or Alternatives 3 and 4 in conjunction with other habitat conservation plans would not result in significant

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cumulative impacts to public services and utilities given the coordinated, long-term regional water supply/delivery planning by the Water Authority and Member Water Agencies. Alternative 1 would not provide the coordinated conservation planning of the other alternatives and could result in potentially significant cumulative impacts due to delays in providing required services.

6.3.5 Socioeconomics

The Water Authority's mission is to provide a safe, reliable water supply to the San Diego region. Under all of the alternatives, the Water Authority would conduct its activities and expand its water delivery system to accommodate future projected increases in population, housing, and economic development. Water Authority Covered Activities, the development and maintenance of facilities, respond to – and do not induce – population and economic growth. This support of economic growth would occur under each of the alternatives.

Social and economic effects are not treated as significant effects on the environment under CEQA (CEQA Guidelines section 15131), but under NEPA they are treated as part of the human environment that must be evaluated. Future growth forecasts for the region include substantial increases in population, housing, and economic activity. The existing regional habitat conservation plans, the proposed Plan (Alternative 2), and Alternatives 3 and 4 accommodate planned growth and provide certainty for future conservation and development. Regional habitat conservation plans are prepared to be consistent with General Plans, zoning regulations, and other land use considerations that provide the framework for development. Habitat conservation plans take that information and, after evaluating the needs of the Covered Species, reconcile potential conflicts with habitat and species conservation to accommodate development and growth. The proposed Plan (Alternative 2) and Alternatives 3 and 4, in conjunction with other land use and conservation plans, do not create significant cumulative impacts to socioeconomics. Alternative 1 would not provide this same level of coordination with regional plans and could result in potentially significant cumulative impacts due to delays in providing required infrastructure.

6.3.6 Environmental Justice

Potential adverse impacts resulting from this proposed Plan and existing habitat conservation plans would not disproportionately affect minority or low-income populations. Every area in the San Diego region is associated with at least one habitat conservation plan, and some areas may be affected by two or more plans. This Plan applies to areas along a linear aqueduct system, facilities such as reservoirs and pump stations, as well as conservation areas primarily located in more rural portions of the Plan Area. Some rights-of-way or easements cross private property boundaries; however, there are few residents within the PIZ or other potential areas of impact.

Minority or low-income populations, located primarily in the urbanized areas within the city of San Diego and other incorporated jurisdictions, would not be disproportionately affected by the proposed Plan and alternatives. Therefore, no significant cumulative environmental justice impacts are anticipated.

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