SECTION 1

INTRODUCTION

This Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) evaluates the impacts of alternative methods of implementing the Salton Sea Species Conservation Habitat Project (SCH Project or Project). The SCH Project is intended to serve as a proof of concept for the restoration of shallow water habitat that currently supports fish and wildlife dependent upon the Salton Sea (the Sea); this habitat is being lost due to salinity increases and the declining Sea elevation. This section of the EIS/EIR presents background and introductory information, and describes the authorities of the lead agencies (United States [U.S.] Army Corps of Engineers [Corps] and the California Natural Resources Agency) in preparing this EIS/EIR, the public outreach program, and the scope and contents of the EIS/EIR. This EIS/EIR has been prepared in accordance with the requirements of the National Environmental Policy Act (NEPA) (42 United States Code section 4341 et seq.), and in conformance with the Council on Environmental Quality NEPA guidelines and the Corps' NEPA Implementing Regulations. The document also fulfills the requirements of the California Environmental Quality Act (CEQA) (Public Resources Code section 21000 et seq.) and the State CEQA Guidelines (Title 14, California Code of Regulations section 15000 et seq.). The Corps is the NEPA lead agency, and the California Natural Resources Agency is the CEQA lead agency. The EIS/EIR was prepared under the direction of the California Department of Fish and Game (DFG) and California Department of Water Resources (DWR) on behalf of the Natural Resources Agency and the Secretary for Natural Resources.

1.1 PROJECT LOCATION

The Project would be located at the southern end of the Salton Sea in Imperial County, California. Alternative sites for implementing the SCH Project are located near the mouths of the New and Alamo rivers (Figure 1-1).

1.2 BACKGROUND

The Salton Sea, located in southern Riverside and northern Imperial counties in Southern California, is California's largest lake. Although large seas have cyclically formed and dried over historic time in the basin due to natural flooding from the Colorado River, the current Salton Sea was formed when Colorado River floodwater breached an irrigation canal being constructed in the Imperial Valley in 1905 and flowed into the Salton Sink. The Sea has since been maintained by irrigation runoff in the Imperial and Coachella valleys and local rivers. Because the Sea is a terminal lake, increasingly concentrated salts have resulted in a salinity that is currently 50 percent greater than that of the ocean. The increasing salinity and other water quality issues, including temperature extremes, eutrophication, and related anoxia and algal productivity, are adversely influencing the Sea's fish and wildlife resources.

The Salton Sea functions both as a sump for agricultural runoff and an important wildlife area. The Imperial Valley has approximately 430,000 acres of farmland under cultivation that are irrigated with water from the Colorado River (Imperial Irrigation District [IID] 2010), while about 50,000 acres are farmed in the Coachella Valley (County of Riverside, Agricultural Commissioner's Office 2010).

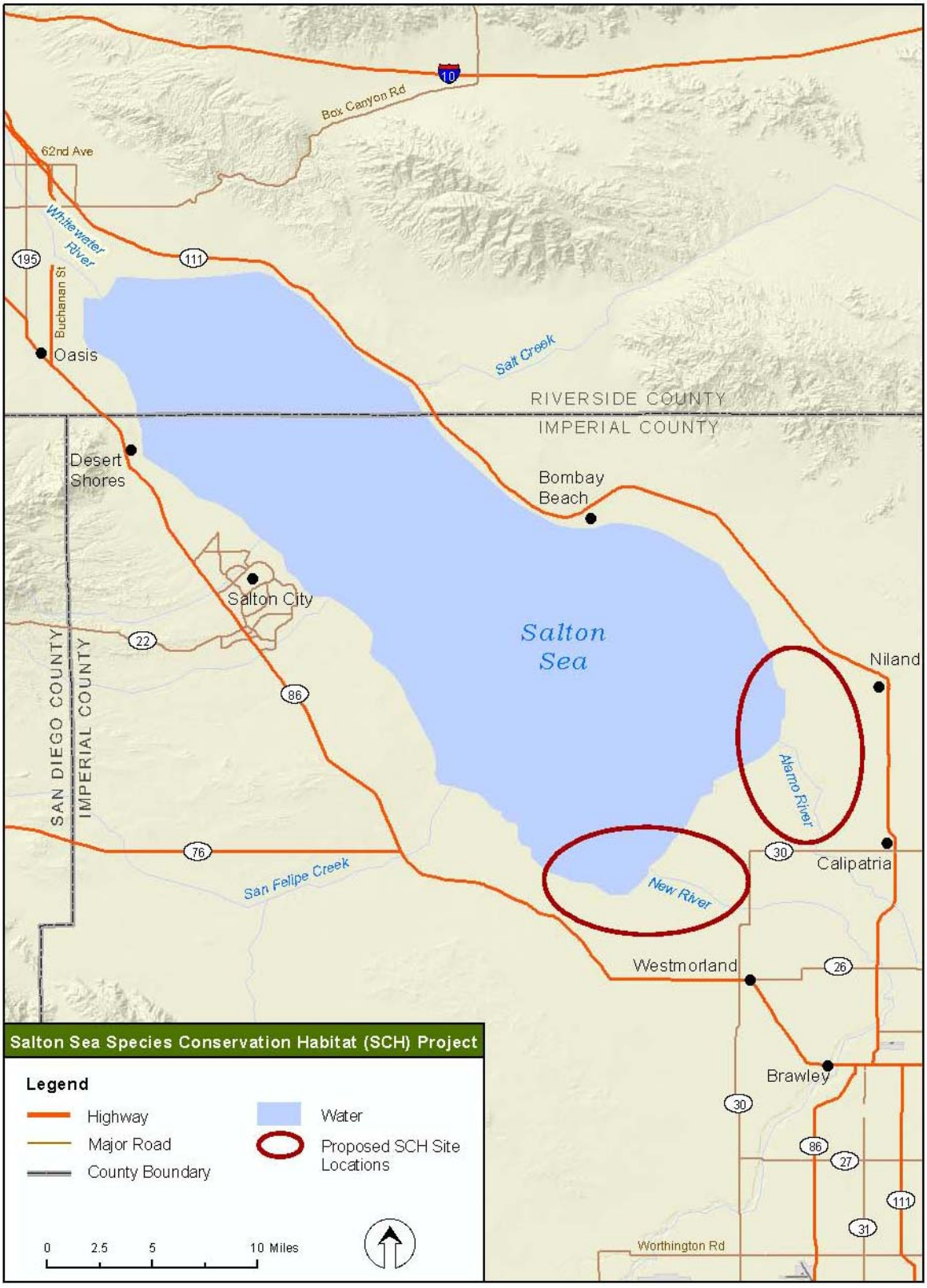

Figure 1-1 Regional Setting and Generalized Locations of SCH Alternative Sites

Although it has only existed for about 100 years, the Salton Sea has become an extremely critical resource for many species of resident and migratory birds, including several species of special concern, due to widespread loss of wetland habitat in the United States and Mexico.

Until recently, the Sea also supported a robust marine sport fishery that included orangemouth corvina (*Cynoscion xanthulus*), Gulf croaker (*Bairdiella icistia*), and sargo (*Anisotremus davidsoni*). Increasing salinity has eliminated the marine fishery, leaving only the euryhaline tilapia to provide sport fishing. Tilapia and several smaller nonsport fish species, of which only the endangered desert pupfish (*Cyprinodon macularius*) is native, currently sustain a number of bird species.

Declining inflows in future years will result in collapse of the Salton Sea ecosystem due to increasing salinity and other water quality issues, such as temperature, eutrophication, and related anoxia and algal productivity. Pileworms and barnacles, primary components of the Salton Sea food web, already appear to be impacted by deteriorating water quality. Tilapia, which is presently the primary forage species for piscivorous (fish-eating) birds at the Salton Sea, may be eliminated when salinity exceeds 60 parts per thousand (ppt). Salinity reached 50 ppt in 2008 and could exceed 60 ppt as early as 2018. Tilapia would likely continue to persist in areas of lower salinity where the rivers, creeks, and agricultural drains enter the Salton Sea. However, the loss of fish populations from the open water area would significantly reduce and possibly eliminate use of the Salton Sea by piscivorous birds, such as pelicans, double-crested cormorants, and black skimmers by the early 2020s. Some of these birds could use the areas where the rivers, creeks, and drains enter the Salton Sea if fish continue to persist in these locations. In addition, the relative abundance of bird species that forage on invertebrates likely would change over time with increases in salinity and resultant changes in the invertebrate community.

The Quantification Settlement Agreement (QSA)[1] is one of the factors contributing to declining inflows to the Salton Sea. California historically used more than its normal year apportionment of Colorado River water, obtaining the excess from water apportioned to Arizona and Nevada but not used by those states, and by water designated as surplus by the Secretary of the Interior. The amount of unused apportionment previously available to California has diminished, however, and is unlikely to be available in the future. After prolonged negotiations between the Federal government and the California water districts that have entitlements to Colorado River water, a series of agreements, collectively known as the QSA, were made among the Federal government, State of California, IID, Metropolitan Water District of Southern California , San Diego County Water Authority, and Coachella Valley Water District in October 2003. The QSA imposes water conservation measures within the IID service area to allow the transfer of this water elsewhere, which reduces the volume of agricultural runoff that constitutes the Salton Sea's chief source of water. IID is required to provide conserved water to the Sea to mitigate the effects of the transfer on salinity until 2017. After 2017, however, the Sea's salinity is expected to exceed the tolerance limit for fish and, thus, mitigation for effects on salinity ceases at that time. The reduction in water to the Sea after 2017 is anticipated to result in loss of the fishery, exposure of soils to wind erosion, and bird declines due to loss of food. Reduction of inflows to the Sea from other factors, such as water recycling in Mexico, is also contributing to increases in salinity and a declining sea elevation.

1.3 CEQA PROJECT GOALS AND OBJECTIVES / NEPA PURPOSE AND NEED

The Salton Sea currently supports a wide variety of bird species and a limited aquatic community. Over many decades, the components of the aquatic-dependent community have shifted in response to receding water levels and increasing salinity. The Salton Sea is currently a hypersaline ecosystem (about 51 ppt)

[1] The Quantification Settlement Agreement is one of more than thirty agreements executed concurrently among certain Southern California water agencies in 2003. The State of California, the Federal government, and others signed some of the agreements. That set of agreements is commonly referred to as "the QSA." One of those agreements, the QSA/Joint Powers Authority Creation and Funding Agreement, was invalidated on January 10, 2009 in Sacramento County Superior Court on constitutional grounds and is currently on appeal at the Third District Court of Appeal. The appellate court has not scheduled a hearing date.

(C. Holdren, Reclamation, unpublished data). Without restoration, declining inflows in future years will result in the Sea's ecosystem collapse due to increasing salinity (expected to exceed 60 ppt by 2018, which is too saline to support fish) and other water quality stresses, such as temperature extremes, eutrophication, and related anoxia due to algal productivity.

The most serious and immediate threat to the Salton Sea ecosystem is the loss of fishery resources that support piscivorous birds. The birds that feed on invertebrates have more options and resources, because the invertebrate fauna has a wider range of salinity tolerances. Piscivorous birds, on the other hand, are at risk of decline. To address this immediate need, the California Legislature appropriated funds for the purpose of implementing "conservation measures necessary to protect the fish and wildlife species dependent on the Salton Sea, including adaptive management measurements" (California Fish and Game Code section 2932(b)). Therefore, under CEQA the SCH Project's goals are two-fold: (1) develop a range of aquatic habitats that will support fish and wildlife species dependent on the Salton Sea; and (2) develop and refine information needed to successfully manage the SCH Project habitat through an adaptive management process. The specific objectives associated with each of these goals are detailed below, along with the rationale for their selection.

Goal 1: Develop a range of aquatic habitats that will support fish and wildlife species dependent on the Salton Sea.

First, the SCH Project's purpose is to provide in-kind replacement for near-term habitat losses. The Project's target species are those piscivorous bird species that use the Salton Sea and that are dependent on shallow saline habitat for essential habitat requirements and the viability of a significant portion of their population.

OBJECTIVES FOR GOAL 1:

Provide appropriate foraging habitat for piscivorous bird species – The SCH Project would provide sufficient prey necessary to support target piscivorous bird species. The prey would include fish of appropriate sizes and accessibility (not benthic fish that are difficult for birds to capture). The fish would include nonnative fish species that fulfill a key habitat function, such as introduced tilapia, which are currently the most abundant fish in the Salton Sea and the primary forage for piscivorous birds. The exact species composition of prey species is less critical than maintaining sufficient quantity of fish for target bird species (e.g., the size and location of prey items) because of the Sea's challenging (or narrow) parameters. The SCH Project also would have ancillary benefits for invertebrate-eating birds that use the Salton Sea such as eared grebe (*Podiceps nigricollis*), American avocet (*Recurvirostra americana*), and black-necked stilt (*Himantopus mexicanus*).

Develop habitats required to support piscivorous bird species – The SCH Project would develop appropriate physical structure and microhabitat elements to support life-history needs of target piscivorous bird species (e.g., islands for roosting and nesting, sufficient depth for different foraging needs). Habitat elements that are complementary for other aquatic bird species would be included where feasible and consistent, such as suitable slopes and substrate near shoreline for invertebrate-foraging birds. However, habitat components that are associated with the tributaries, drains, and surrounding agricultural lands (e.g., riparian habitat, freshwater wetlands) would not be incorporated.

Support a sustainable, productive aquatic community – A stable aquatic community is one that can recover and persist in the face of short-lived disturbances, with minimal change in species composition and/or food-web dynamics. A stable aquatic community has persistent populations of prey to support the community, as well as a variety of water-dependent birds. Maintaining a variety of prey species and prey life stages increases the likelihood of resilience and persistence in the face of harsh and variable environmental conditions. The Salton Sea aquatic food chain is characterized by limited diversity but high abundance (DWR and DFG 2007). Measures of the aquatic community's health include species

composition (individual species and functional guilds), population size of fish species, and age/size structure of population (indicator of demographic dynamics and reproduction).

Provide suitable water quality for fish – The Salton Sea typically experiences wide fluctuations in water temperature and dissolved oxygen on a daily or seasonal basis, variable salinities across spatial gradients, and high concentrations of nutrients from inflows. The SCH Project would be designed to attenuate variations in these parameters, to the extent feasible, to within a range that target aquatic species and their prey can survive and persist, and it would include habitat components that provide refugia, such as physical habitat structure and microhabitat diversity.

Minimize adverse effects on desert pupfish – Desert pupfish is a state and Federally listed species that occupies and moves among freshwater and brackish habitat in tributaries and drains surrounding the Salton Sea. The SCH Project would be designed to maintain connectivity among pupfish populations (i.e., not block movement via nearshore habitats that are currently used by pupfish). Desert pupfish would likely become established in the SCH ponds during construction. The ponds would be designed to minimize impacts on desert pupfish (e.g., the fish selected would be species that currently share pupfish habitat).

Minimize risk of selenium – Selenium is present in the freshwater supply, and also the sediments and soils in ponds and the Salton Sea. As a result of biological uptake, selenium could bioaccumulate in aquatic and terrestrial species, possibly resulting in reproductive impacts in birds that prey on fish and invertebrates. The SCH ponds would be designed to minimize risk of selenium bioaccumulation. Minimization measures being considered include managing salinity gradients in the ponds and sediment basin to interrupt selenium uptake by vegetation.

Minimize risk of disease/toxicity impacts – In the past, botulism and avian cholera have resulted in bird die-offs during some seasons at the Salton Sea. The SCH Project would be designed to minimize the potential for these occurrences, to the extent feasible. Measures include regular monitoring of fish and bird health for early intervention and incorporating easy access to remove sick and dead birds.

Goal 2: Develop and refine information needed to successfully manage the SCH Project habitat through an adaptive management process.

The SCH Project's second goal would be to serve as a proof of concept for the restoration of shallow water habitat that supports fish and wildlife currently dependent upon the Salton Sea. The Project would incorporate an adaptive management framework to guide evaluation and improved management of the newly created habitat as well as to inform future restoration. An adaptive management framework provides a flexible decision-making process for ongoing knowledge acquisition, monitoring, and evaluation, leading to continuous improvement in management planning and Project implementation to achieve specified objectives. The information obtained would be used to measure Project effectiveness, to refine operations and management of the ponds, to reduce uncertainties about key issues, and to inform subsequent stages of habitat restoration at the Salton Sea.

OBJECTIVES FOR GOAL 2:

Identify uncertainties in achieving the objectives of providing habitat and prey for piscivorous birds (e.g., maintaining suitable water temperature and dissolved oxygen) and minimizing impacts on species (e.g., selenium ecorisk).

Design science-based means to test alternatives and reduce uncertainty.

Develop and implement a monitoring plan – The monitoring plan would measure key indicators of SCH Project performance. Examples include measures of habitat (e.g., area, depth, physical structure, aquatic plant species/cover, water quality), target species (richness, diversity, abundance, habitat use), trophic function (e.g., composition and density of forage species), and stressors (e.g., water quality,

selenium). Other indicators of general ecosystem health may also be monitored to determine other ancillary benefits (e.g., to nonpiscivorous bird species) and/or stressors.

Develop a decision-making framework – The framework would evaluate data, adjust management, and refine operations and monitoring as needed to achieve Goal 1. Because not all the SCH ponds would be constructed at once, information from the first constructed ponds would be used to refine the design and operations of subsequent ponds.

Provide proof of concept for future restoration – Proof of concept would verify that the core ideas are functional and feasible prior to full-scale restoration of the Salton Sea. The SCH Project would help establish viability, technical issues, and overall direction, as well as providing feedback for costs and requirements of construction, operations, and management.

The purpose of the Project under NEPA is to develop a range of aquatic habitats that will support fish and wildlife species dependent on the Salton Sea in Imperial County, California.

1.4 DRAFT SECTION 404(B)(1) ALTERNATIVES ANALYSIS BASIS AND OVERALL PROJECT PURPOSE

The Clean Water Act (CWA) section 404(b)(1) Guidelines (Guidelines) promulgated by the U.S. Environmental Protection Agency explain that, when an action is subject to NEPA and the Corps is the permitting agency, the analysis of alternatives prepared for NEPA will, in most cases, provide the information needed for analysis under the Guidelines. The Guidelines also state that, in some cases, the NEPA document may have addressed "a broader range of alternatives than required to be considered under [the Guidelines] or may not have considered alternatives in sufficient detail to respond to the details of these Guidelines. In the latter case, it may be necessary to supplement these NEPA documents with this additional information" (40 Code of Federal Regulations [CFR] section 230.10(a)(4)). In light of this statement in the Guidelines, and because the Project purpose statement under NEPA and the Guidelines are not necessarily identical, the Corps has reviewed and refined the Project purpose to ensure it meets the standards of the Guidelines.

For CWA section 404 purposes, the Draft Section 404(b)(1) Alternatives Analysis, to be included as an appendix in the Final EIS/EIR, provides the following statement of basis and overall project purpose:

> The basic project purpose comprises the fundamental, essential, or irreducible purpose of the proposed action, and is used by the Corps to determine whether an applicant's project is water dependent (i.e., whether it requires access or proximity to or siting within a special aquatic site). The basic project purpose for the SCH Project is aquatic habitat restoration. The SCH Project is water dependent. Therefore, the rebuttable presumptions that there is a less damaging practicable alternative for the proposed activity that would not affect jurisdictional waters do not apply (40 CFR section 230.10(a)(3)).

The overall Project purpose is to develop a range of aquatic habitats that will support fish and wildlife species dependent on the Salton Sea in Imperial County, California.

1.5 SPECIES SUPPORTED BY THE SPECIES CONSERVATION HABITAT PROJECT

1.5.1 Aquatic Species

Aquatic organisms that currently or in the recent past comprise the food web supporting fish in the Salton Sea include phytoplankton, zooplankton, and benthic and water column macroinvertebrates. Macroinvertebrate species include diptera (flies), corixids (water boatmen), benthic polychaetes such as pileworms (*Neanthes succinea*) and a spionid worm (*Streblospio benedicti*), amphipods (*Gammarus mucronatus* and *Corophium louisianum*), ostracods (seed shrimp), and a barnacle (*Balanus amphitrite*)

(Detwiler et al. 2002; Miles et al. 2009), while zooplankton is dominated by copepods (Miles et al. 2009). These or other species with similar habitat functions and food-web functions would become established or would be introduced into the SCH ponds.

Although a number of fish species were present in the Salton Sea while salinity was in the range of marine waters, those fish were introduced for recreational fishing and not as forage for birds. Tilapia that inhabit the Sea are hybrids between the Mozambique tilapia (*Oreochromis mossambicus*) and Wami River tilapia (*O. urolepis hornorum*) (Costa-Pierce 2001). These fish, called California Mozambique hybrids ("Mozambique hybrid tilapia"), are currently the most abundant fish in the Sea and have been extensively used as forage by birds because their size range and location within the water column makes them easily accessible.

To support piscivorous birds, the SCH Project would need to provide fish of a size and quantity that the birds can use. Many of the plankton and macroinvertebrate components of the aquatic food web that support the fish will be present in the water used to fill the SCH ponds and would multiply there. For species of macroinvertebrates that are no longer present or present in very low numbers (e.g., pileworms and barnacles), inoculation with those species (or species with similar ecological functions) would be considered. Fish species that are currently present, or have been present in the past, and that would be suitable for the SCH ponds include several species and hybrids of tilapia, sailfin molly (*Poecilia latipinnna*), and threadfin shad (*Dorosoma petenense*). These species have been selected as the most likely to survive and have the least potential for adverse effects on the desert pupfish. Other species could also be used, particularly if some of these do not become abundant enough to support bird foraging.

1.5.2 Piscivorous Birds

The SCH ponds are designed to accommodate those piscivorous bird species that will experience significant declines when the quality of Salton Sea habitat deteriorates substantially in the future. For many of these species, a significant proportion of their population uses the Sea. Examples of those focal species that the SCH ponds would support are shown in Table 1-1. If the amount of habitat used by these species at the Sea were substantially reduced, some individuals could use other habitats in the region up to their capacity, but it is unlikely that all of the piscivorous birds using the Sea could find suitable habitat elsewhere.

The SCH ponds would also benefit other bird species, such as the eared grebe, western snowy plover (*Charadrius alexandrinus nivosus)*, ruddy duck (*Oxyura jamaicensis*), black tern *(Chlidonias niger)*, and California brown pelican (*Pelecanus occidentalis*). These species are either not piscivorous (invertebrate prey is easier to support than fish) and/or only a small proportion of their population depends on the Salton Sea. Also, some subspecies or population segments would likely use the restored habitats as well, such as the least tern (interior subspecies of the California least tern or Mexican least tern, whichever is present at the Salton Sea) and the Baja population of the California brown pelican, which uses the Sea as a post-breeding site. While the SCH ponds would provide ancillary benefits for these species, they are not the principal species served by the SCH Project and, therefore, their habitat needs would not be considered criteria for design.

Table 1-1 Focal Species of Piscivorous Birds that Would Be Served by the Species Conservation Habitat Project

Species	Food	Notes
American white pelican (*Pelecanus erythrorhynchos*)	Fish	Thirty-three percent of the North American population winters at the Salton Sea; does not plunge-dive, but dips bill into water. Favors shallow bays with forage fish and exposed loafing sites. Forages on small to moderately large fish in shallow water 0.3 to 2.5 meters deep.
Black skimmer	Fish	Largest breeding population is at the Salton Sea. Colony nester in open sandy

Table 1-1 Focal Species of Piscivorous Birds that Would Be Served by the Species Conservation Habitat Project

Species	Food	Notes
(*Rynchops niger*)		areas or gravel or shell bars with sparse vegetation. Forages on small fish in water less than 20 centimeters deep within 2 meters of land.
Caspian tern (*Hydroprogne caspia*)	Fish	Largest breeding population is at the Salton Sea. Forages on small fish by plunge-diving, typically along coast or shoreline over waters 0.5 to 5 meters deep. Colony nester among driftwood and debris on low flat sandy or rocky islands.
Double-crested cormorant (*Phalacrocorax auritus*)	Fish	Largest breeding population at the Salton Sea. Dive from surface and hunt for relatively small fish underwater. Forage in shallow water less than 8 meters, typically less than 30 kilometers from colony. Nest in large colonies. May nest on mats of emergent vegetation and may nest in trees standing in or near water.
Gull-billed tern (*Gelochelidon nilotica*)	Fish (40 percent), lizards, invertebrates, and chicks of other species	Breeds at two locations in the western portion of the United States: San Diego Bay and the Salton Sea. Up to 200 pairs are estimated to have nested at the Salton Sea recently, predominately at Morton Bay and Mullet Island (personal communication, K. Molina 2010).

1.6 DEVELOPMENT OF THE SALTON SEA SPECIES CONSERVATION HABITAT PROJECT

Several reports have suggested the use of constructed habitat to replace habitat that will be lost as the salinity continues to increase and the surface water elevation decreases in the Salton Sea. In addition, some current projects at the Sea have developed shallow water habitats that provide at least some of the Sea's habitat benefits. The concept of SCH evolved from the ideas and concepts in these reports and projects.

1.6.1 Salton Sea Restoration Program

The Salton Sea Ecosystem Restoration Program Final Programmatic Environmental Impact Report (PEIR) (DWR and DFG 2007) identified the need for shallow saline habitat to replace habitat values that would be lost as the Salton Sea became more saline and receded due to reduced inflows. The saline habitat would be created by mixing seawater with drainwater, which was suggested as a possible means to help reduce the selenium concentrations in the drainwater to be used as the water supply. The shallow habitat was termed Saline Habitat Complex and Early Start Habitat. These shallow water complexes are part of the Preferred Alternative that was presented to the California Legislature in May 2007. However, the California Legislature has not taken any action to approve or provide funding for any alternative for restoration of the Salton Sea ecosystem.

Early Start Habitat was defined as a temporary feature consisting of 2,000 acres of pond habitat constructed between elevations -228 to -232 feet mean sea level along the southern shoreline where the flat slope of the seabed would provide a large area for the shallow water cells. Agricultural drains in this area could provide a stable source of inflows into the Early Start Habitat. Saline water from the Sea would be mixed with fresher water from the drains to provide salinity between 20 to 60 ppt. The 2,000 acres of habitat would be divided into cells with dikes constructed from excavated seabed materials. Average water depths within each cell would be less than 4 feet. The PEIR assumed that the Early Start Habitat could be implemented before 2011, following approval of the Preferred Alternative by the California Legislature, if easements or deeds could be acquired. The SCH Project is consistent with the description of Early Start Habitat identified in the PEIR.

Saline Habitat Complex would be permanent habitat ranging in acreage from 38,000 acres for Alternative 1 to 75,000 acres for Alternative 2 of the PEIR. The Preferred Alternative identified 62,000 acres of Saline Habitat Complex. Each pond in the complex would be 1,000 acres in size, with salinity in the ponds ranging from 20 to 200 ppt. Water depth would be up to 4 feet deep, with deeper holes up to 15 feet deep.

1.6.2 Bureau of Reclamation Restoration of the Salton Sea

Shortly after release of the PEIR, the U.S. Department of the Interior, Bureau of Reclamation (Reclamation) released the report entitled *Restoration of the Salton Sea* (2007). Reclamation identified a Progressive Habitat Development Alternative as a recommended future course of action by the Federal government for potentially restoring historical wildlife values at the Sea. This alternative would provide a successive and phased approach to developing habitat. Each phase could include between 200 and 500 acres of Saline Habitat Complex, with engineering designs and wildlife management criteria and strategies derived from a previous phase. Detailed evaluations concerning water quality, habitat values and use, biologic issues, and engineering performance would be continuous. The information obtained would be used to refine the design and adaptive strategies for the next phase of complexes. The adaptive and flexible strategies would reduce risks and uncertainties associated with operating larger complexes. Actual habitat values would be determined through continuous observations and study, while habitat areas could continue to be added up to what is determined to be historic values at the Sea.

The maximum buildout of habitat acreage would be dependent upon the success of developing adaptive and flexible strategies for managing or mitigating observed problems, risks, and uncertainties. This phased approach would allow for studying adaptations of embankment and water conveyance designs and construction methods to determine the most cost-effective methods. Each phase of design and construction would rely on lessons learned from previous phases. Reclamation is providing technical assistance to the Salton Sea Authority and the Natural Resources Agency on habitat development.

1.6.3 U.S. Geological Survey/Reclamation Saline Habitat Ponds

The U.S. Geological Survey (USGS) and Reclamation developed saline habitat ponds (SHP) at the Salton Sea's southern end in 2006. Objectives of the study were to evaluate (a) avian use and species diversity; (b) nesting success and post-hatch survival of black-necked stilts; (c) risk of reproductive impairment associated with egg selenium concentrations; (d) water, sediments, and aquatic invertebrate response to blended water; and (e) construction techniques and the durability of levees and islands. The 100-acre project, decommissioned in 2010, was divided into four 25-acre ponds less than 2 feet deep. Water pumped from the Salton Sea was mixed with water from the Alamo River in an attempt to maintain salinities in the series of ponds between 20 and 60 ppt. Extensive monitoring was conducted to determine pond colonization by phytoplankton and invertebrates, bird use, and water quality. The ponds attracted a number of bird species that fed on the invertebrates and fish produced in the ponds. A key product from the study was an ecological risk assessment of adverse affects on avian populations inhabiting the SHP (Miles et al. 2009).

1.6.4 Torres Martinez Ponds

The Torres Martinez Desert Cahuilla Indian Tribe (Torres Martinez Tribe) has constructed a series of shallow freshwater habitat ponds at the Salton Sea's northern end using flow from the Whitewater River. The purpose of the initial ponds was to treat river water to remove contaminants, such as fertilizers, pesticides, and bacteria. The 85 acres of freshwater ponds have been successful in creating habitat used by a wide variety of wildlife, including over 130 bird species, due in large part to the presence of robust fish populations that have developed in the ponds. The ponds provide additional opportunity to obtain information about wetland design and implementation at the Salton Sea. Additional ponds are being planned that should provide increased habitat for a wide variety of bird and other wildlife species.

1.6.5 Species Conservation Habitat Project's Relationship to Other Projects

Although the ponds developed by the Torres Martinez Tribe provide habitat for fish and wildlife, the limited acreages are not sufficient to offset the many thousands of acres of habitat expected to be lost over the next few years as the Salton Sea ecosystem degrades. As such, the SCH Project is needed to achieve larger-scale, long-term habitat benefits that can offset some of the anticipated habitat losses that will soon occur at the Sea. In addition, creation of SCH ponds would provide an opportunity to address numerous issues and uncertainties at the proof-of-concept scale.

The SCH Project draws on the concepts contained in the PEIR for Early Start Habitat and Saline Habitat Complex, Reclamation's Progressive Habitat Development Alternative, the USGS/Reclamation SHP, and the Torres Martinez Tribe ponds. The SCH Project's purpose is to provide some of the "conservation measures" needed to replace declining fish and wildlife habitat at the Salton Sea. Considering the success of existing smaller projects, it is reasonable to expect that the larger SCH Project would provide suitable habitat for invertebrates, fish, and birds, especially because a more varied and robust set of habitat features would be incorporated in the design. Preliminary findings from the SHP and habitat ponds developed by the Torres Martinez Tribe demonstrate that creation of shallow ponds can provide habitat for the fish and wildlife that are dependent on the Sea.

1.7 ENVIRONMENTAL REVIEW PROCESS

Public scoping was conducted to help identify areas of concern and specific issues that should be addressed in the EIS/EIR. In compliance with NEPA, the Corps issued a Notice of Intent for the preparation of the EIS/EIR on June 23, 2010. In compliance with CEQA, the Natural Resources Agency issued a Notice of Preparation for the EIS/EIR on June 21, 2010. These notices are included in Appendix A, Scoping Process. The notices were sent to over 1,300 responsible and involved agencies and interested organizations and individuals. To solicit additional comments on the scope and content of the EIS/EIR, the lead agencies held four public scoping meetings in Palm Desert, Thermal, Calipatria, and Brawley on July 7 and 8, 2010. The four scoping meetings attracted over 50 people, some of whom provided oral comments on the scope and content of the EIS/EIR, including Project design and impacts. Twelve written responses to the notices were received during the comment period which ended on July 24, 2010. The most common topics mentioned included the Project description, water supplies, adaptive management, siting criteria, baseline conditions, resource-specific impacts and mitigation measures, as well as impacts of expanding the range of species that would be benefited by the SCH Project, addressing issues associated with selenium exposure, and the need to address the potential creation of breeding habitat for mosquitoes, which are disease vectors. Additionally, a number of commenters, including the U.S. Environmental Protection Agency, Reclamation, San Diego County Water Authority, and a group of non-governmental organizations, expressed overall support for the SCH Project. The information from scoping was used to shape the scope, content, and level of detail in the EIS/EIR and in all phases of document preparation. A complete description of the scoping process and comments received is included in the scoping report provided in Appendix A.

1.8 PURPOSE OF THE EIS/EIR

This joint EIS/EIR is intended to identify to agency decision makers and the public the potential range of impacts associated with the implementation of the Project alternatives, including significant and beneficial environmental impacts. As described below, each of the lead agencies has independent regulatory compliance needs that are served by this EIS/EIR.

1.8.1 NEPA and the Purpose of an EIS

NEPA requires decision makers from Federal agencies to document and consider the impacts on the environment from their actions before making decisions and take actions that protect, restore, and enhance the environment. An EIS is prepared when an agency determines that an action could result in one or more significant impacts on the environment in order to provide a full disclosure of anticipated

impacts. The EIS informs decision-makers and the public of reasonable alternatives that would avoid or minimize significant impacts or enhance the quality of the human environment.

1.8.2 CEQA and the Purpose of an EIR

CEQA requires state and local agency decision makers to consider the environmental consequences of their actions. An EIR is prepared when such agencies determine that a project has the potential to result in one or more significant environmental impacts. The purpose of an EIR is to identify the environmental impacts resulting from a project, identify alternative ways of implementing a project that could reduce or avoid significant impacts, and identify ways in which significant impacts can be reduced or avoided. When feasible mitigation measures do not exist, a project may still be carried out if the approving agency finds that economic, legal, social, technological, or other benefits outweigh the unavoidable significant impacts.

1.9 INTENDED USES OF THE DRAFT EIS/EIR

The Draft EIS/EIR has been prepared in accordance with applicable Federal and state environmental statutes, regulations, and policies and is intended to inform Federal and state decision makers regarding the potential impacts of the Project alternatives and help them identify the preferred alternative. The Draft EIS/EIR is an informational document and does not recommend approval or denial of the Project. The Draft EIS/EIR is being provided to the public in order to obtain comments on the scope and impacts of the Project alternatives. A Final EIS/EIR will be prepared that takes into consideration comments received from agencies, organizations, and individuals; and responses to each comment will be provided. The Final EIS/EIR will be the basis for decision making by the Corps, the Natural Resources Agency, and other concerned agencies.

1.9.1 Corps' Use of the EIS/EIR

The Corps will use this EIS/EIR in determining whether to issue a Department of the Army permit for the SCH Project under section 404 of the CWA. The EIS/EIR will also support the Corps' consultations with the California State Historic Preservation Office regarding potential impacts on cultural resources and with the U.S. Fish and Wildlife Service (USFWS) regarding potential impacts on endangered species. The Corps will issue a Record of Decision that documents its decision on the preferred alternative pursuant to its regulatory authority under section 404 of the CWA.

1.9.2 Natural Resources Agency's Use of the EIS/EIR

The Natural Resources Agency will use the EIS/EIR in deciding whether to approve and implement the preferred alternative and also will use the EIS/EIR as the basis for its applications for approval under section 401 and 404 of the CWA and other required permits. The Natural Resources Agency will certify the EIR, as appropriate, and issue a Notice of Completion, Findings of Fact, and Statement of Overriding Considerations (if necessary) that will document its decision regarding the adequacy of the EIR.

1.9.3 Cooperating, Responsible, and Trustee Agency Actions

Under NEPA, cooperating agencies are agencies other than the lead agency that have discretionary authority over a proposed action, jurisdiction by law, or special expertise with respect to the environmental impacts expected to result from an action. Reclamation is a cooperating agency for the preparation of this EIS/EIR and has special expertise related to restoration planning, as well as jurisdiction by law over lands located near the Project area. The USFWS also is a cooperating agency because portions of the ponds at the New River sites would be located on land that is part of Sonny Bono Salton Sea National Wildlife Refuge and managed by the USFWS.

Under CEQA, responsible agencies are all agencies other than the lead agency that have discretionary approval power over a project. DFG will use the EIS/EIR in deciding whether to issue a Streambed Alteration Agreement under section 1602 or 1605 of the California Fish and Game Code and Incidental

Take Permit under section 2081 of the California Endangered Species Act. IID also is a responsible agency because the SCH Project primarily would be located on land that is owned by IID. The Colorado River Basin Regional Water Quality Control Board is a responsible agency because it would be required to issue a CWA section 401 water quality certification.

The California State Lands Commission (SLC) is a trustee agency, defined in section 15386 of the CEQA Guidelines as "...a state agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California." The SLC will use the EIS/EIR in determining whether to issue a lease agreement for impacts on the Salton Sea for any portion of the SCH Project within its jurisdiction. The SLC has determined that one parcel included in the potential SCH Project sites is within its jurisdiction. Parcel 010-020-030, shown on Figure 1-2, is located within the Alternatives 4 and 6 sites, and its use would require a lease agreement with the SLC.

1.10 REQUIRED PERMITS AND CONSULTATIONS

The following permits and consultations are expected to be required:

- Federal CWA section 404 Standard Individual Permit from the Corps;
- Federal CWA section 401 water quality certification from the Colorado River Basin Regional Water Quality Control Board;
- National Historic Preservation Act section 106 consultation with State Historic Preservation Office;
- Federal Endangered Species Act section 7 consultation with the USFWS;
- California Fish and Game Code section 1602 or 1605 Streambed Alteration Agreement from DFG;
- California Endangered Species Act section 2081 Incidental Take Permit from DFG;
- SLC lease agreement for impacts on the Salton Sea for the use of parcel 020-010-030; and
- IID Board approval of the SCH Project lease agreement.

Additionally, the Imperial County Air Pollution Control District would require preparation of a Fugitive Dust Control Plan under Regulation VIII, Fugitive Dust Rules (800–806). Easements would be required from landowners for Project facilities during construction and operations. Haul permits and encroachment permits may be required for the use of area roadways during construction.

1.11 DOCUMENT ORGANIZATION

The EIS/EIR is organized as follows:

- **Chapter 1, Introduction** provides background on the Salton Sea and relevant legislation, and describes the purpose of and need for the Project, goals and objectives, targeted bird species, other projects considered in the development of the SCH Project, environmental review process, uses of the EIS/EIR, and required actions and permits.
- **Chapter 2, Alternatives** describes the alternatives development process, the No Action Alternative, and the six Project alternatives carried forward for detailed analysis.
- **Chapter 3, Affected Environment, Impacts, and Mitigation Measures** describes the current conditions and environmental impacts of the No Action Alternative and Project alternatives. Mitigation measures to reduce significant impacts to a less than significant level are proposed whenever feasible.
- **Chapter 4, Cumulative Impacts** addresses the combined impacts of the Project alternatives and other closely related projects.

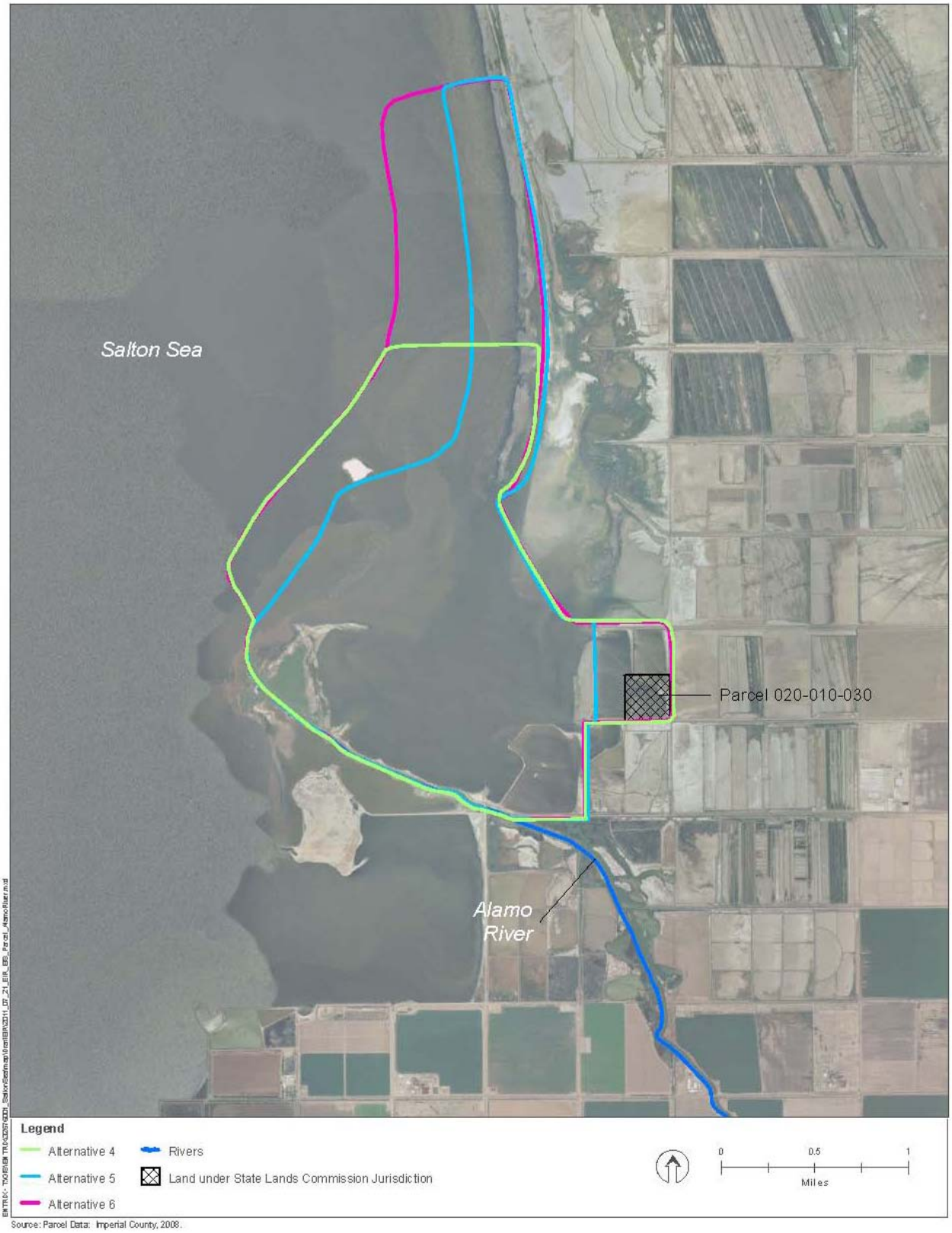

Figure 1-2 Portion of SCH Sites under State Lands Commission Jurisdiction

- **Chapter 5, Other Sections Required by NEPA and/or CEQA** includes growth-inducing impacts, the relationship between short-term uses of the environment and long-term productivity, irreversible and irretrievable commitments of resources, and a list of significant, unavoidable impacts.
- **Chapter 6, Compliance, Consultation, and Coordination** includes a discussion of regulatory compliance, consultation, and coordination.
- **Chapter 7, Summary Comparison of Alternatives** provides a comparison of the Project alternative compared to the existing environmental setting and the No Action Alternative.

The remaining sections include a list of references and persons/agencies contacted, definitions of acronyms and a glossary of technical terms, and a list of preparers.

The EIS/EIR also includes the following appendices:

A – Scoping Process

B – Alternatives Development Process

C – Geotechnical Investigations

D – Conceptual Project Operations

E – Monitoring and Adaptive Management Framework

F – Mosquito Control Plan

G – Air Quality Documentation

G1 – Imperial County Air Pollution Control District, Regulation VIII, Fugitive Dust Control Measures

G2 – Air Quality Emissions Calculations

H – Special-Status Species Evaluated but not Affected by the SCH Project

I – Selenium Management Strategies

J – Summary of Special Studies Supporting the EIS/EIR Impact Analysis

K – Tribal Consultation and Coordination

1.12 SCOPE AND CONTENTS OF THE DRAFT EIS/EIR

This Draft EIS/EIR includes all of the sections required by NEPA and CEQA. The scope of the Federal review is normally defined by 33 CFR part 325, Appendix B, which states: "…the district engineer should establish the scope of the NEPA document to address the impacts of the specific activity regarding the Department of the Army permit and those portions of the entire project over which the district engineer has sufficient control and responsibility to warrant Federal review."

The Corps' regulations require the Corps to determine if their "scope of review" or "scope of analysis" should be expanded to account for indirect and/or cumulative effects of the issuance of a permit (33 CFR part 325, Appendix B). Typical factors considered in determining "sufficient control and responsibility" include:

- Whether or not the activity constitutes merely a link in a corridor-type project;
- Whether aspects of the upland facility in the immediate vicinity of the regulated activity affect the location and configuration of the regulated activity;
- Extent to which the entire project will fall within Corps jurisdiction; and

- Extent of Federal cumulative control and responsibility.

Based on 33 CFR part 325, Appendix B, the appropriate scope of analysis for the Federal review of the selected action consists of the entire Project footprint.

Additionally, U.S. Environmental Protection Agency section 404(b)(1) Guidelines require the Corps to issue a permit only for the "least environmentally damaging practicable alternative," which is the most practicable alternative that would result in the least damage to aquatic resources. The factors that influence whether an alternative is practicable include cost, logistics, technology, and the ability of the alternative to achieve the overall project purpose. The section 404(b)(1) Guidelines focus on the impacts on the aquatic environment of discharges of dredged or fill material in waters of the U.S. As such, the scope of the section 404(b)(1) analysis is typically narrower than that of the NEPA analysis and could reach different conclusions regarding the practicability of an alternative.

The section 404(b)(1) Guidelines (40 CFR section 230) state that no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge that would have a less significant impact on the aquatic ecosystem, so long as the alternative does not have other significant environmental consequences (40 CFR section 230.10[a]). A section 404(b)(1) evaluation typically includes the following type of analysis:

- Factual determinations (e.g., on the physical substrate, water circulation, fluctuation, and salinity, suspended particulates/turbidity, contaminants, aquatic ecosystem and organisms, proposed disposal sites, and cumulative effects on the aquatic ecosystem);
- Findings of compliance or noncompliance with restrictions on discharge, including evaluation of the availability of practicable alternatives that would have a less significant impact on the aquatic ecosystem, and compliance with a variety of regulations (e.g., applicable state water quality standards, toxic effluent standards or prohibitions under section 307 of the CWA, the Federal Endangered Species Act, and the Marine Protection, Research and Sanctuaries Act);
- Identification of practical steps taken to minimize potential significant impacts of the discharge on the aquatic ecosystem; and
- Conclusion about the compliance of the proposed Project with the section 404(b)(1) Guidelines.

The information presented in this Draft EIS/EIR specific to impacts on the aquatic environment would be used by the Corps as part of any proposed permit action subject to section 404 of the CWA.

The following issues have been determined to be potentially significant and, therefore, are evaluated in this Draft EIS/EIR.

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy Consumption
- Environmental Justice
- Geology and Soils
- Greenhouse Gas Emissions

- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use
- Noise
- Paleontological Resources
- Population and Housing
- Public Services
- Recreation
- Socioeconomics
- Transportation
- Utilities and Service Systems

This Draft EIS/EIR has been prepared by Cardno ENTRIX, Dudek, Ducks Unlimited, Chambers Group, Inc., and the University of California, Riverside under contract to DWR. It has been reviewed independently by the Corps and Natural Resources Agency staff. The scope of the document, methods of analysis, and conclusions represent the independent judgments of the Corps and the Natural Resources Agency. Staff members from the Corps, Natural Resources Agency, DFG, DWR, and those contractors who helped prepare this Draft EIS/EIR are identified in Section 9, List of Preparers.

1.13 REFERENCES

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California Department of Water Resources (DWR) and California Department of Fish and Game (DFG). 2007. Salton Sea Ecosystem Restoration Program Final Programmatic Environmental Impact Report.

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1.14 PERSONAL COMMUNICATIONS

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