City of Los Angeles
Department of Water and Power

Lower Owens River Project

FINAL
Supplemental Environmental Impact Report
May 2006

State Clearinghouse No. 2000011075

Lower Owens River Project

Final
Supplemental Environmental Impact Report

SCH No. 2000011075

May 2006

City of Los Angeles Department of Water and Power
300 Mandich Street
Bishop, California 93514

This Page Intentionally Left Blank

Table of Contents

Section Name **Page Number**

Appendices

List of Tables

Table Name **Page Number**

List of Figures

Figure Name **Page Number**

This Page Intentionally Left Blank

Section 1
Summary

1.1 INTRODUCTION

This Supplemental Environmental Impact Report (SEIR) has been prepared by the City of Los Angeles Department of Water and Power (LADWP), the lead agency under the California Environmental Quality Act (CEQA) for the Lower Owens River Project (LORP or proposed project). The agency and public comments received on the Draft SEIR and responses to these comments are presented in **Appendix C** of this Final SEIR. This document is supplemental to the Final EIR for the LORP (LADWP, 2004a). LORP is a large-scale habitat restoration project for approximately 62 river miles of the Lower Owens River (River) and adjacent areas in Inyo County, California. It would be implemented through a joint effort by LADWP and Inyo County.

In June 2004, LADWP completed and published the Final EIR for the LORP (LADWP, 2004a), and the City of Los Angeles Board of Water and Power Commissioners certified the Final EIR and adopted the project in July 2004. On October 6, 2004, a lawsuit was filed by the Sierra Club challenging the adequacy of the Final EIR with respect to analysis of project impacts on an area described as the "brine pool transition area." As a result of the lawsuit, in July 2005, a stipulated judgment was entered in Inyo County Superior Court (Case Number S1CVPT04-37217, Sierra Club v. City of Los Angeles et al., July 25, 2005). The stipulated judgement requires LADWP to:

- Prepare and circulate for public review and comment a focused environmental analysis that addresses the impacts of the LORP to the "brine pool transition area."
- Proceed with construction of the LORP-related facilities (including the pump station) and implementation of the LORP, but not begin operation of the pump station pending consideration and certification of the focused environmental analysis.

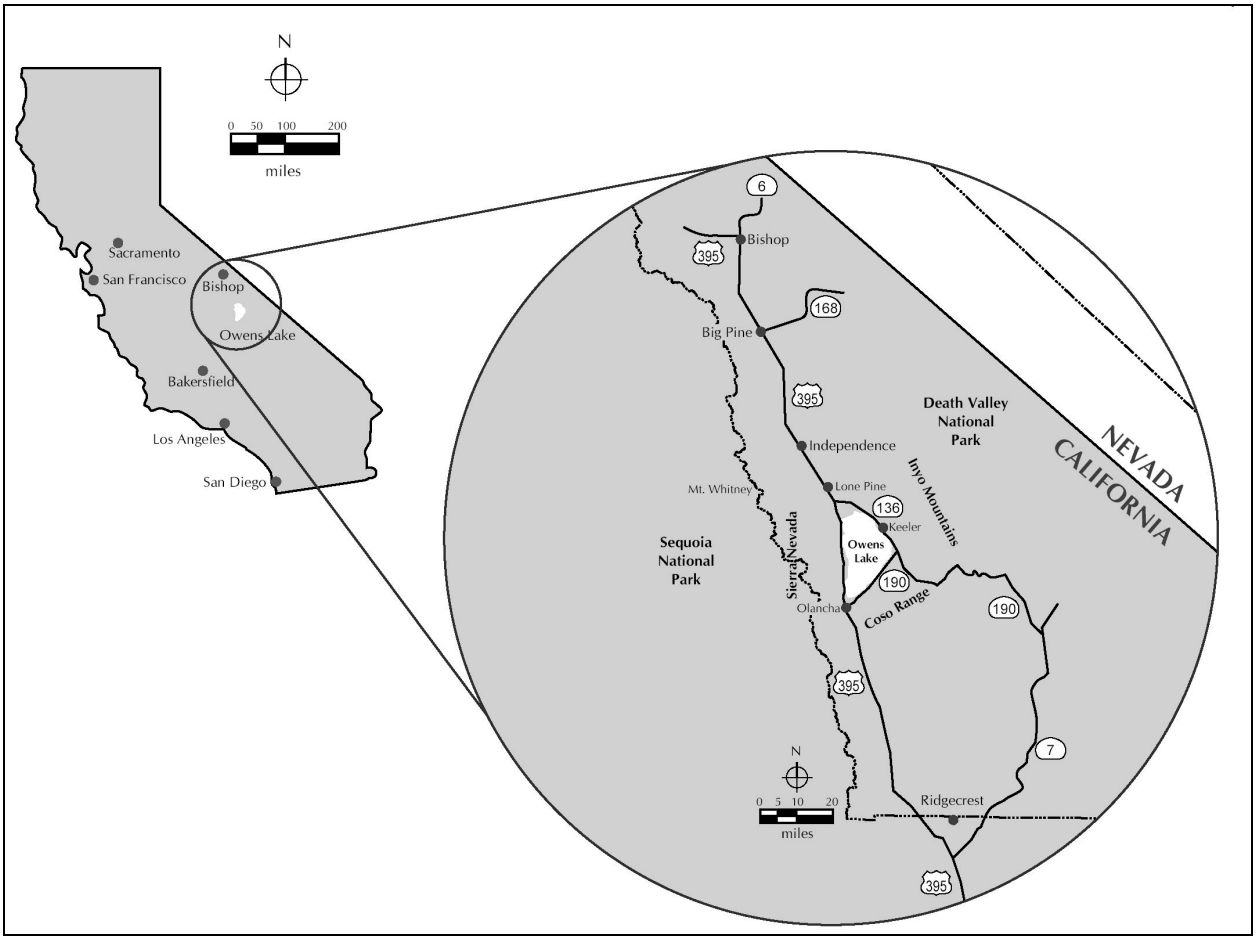
The SEIR documents the focused environmental analysis required by the July 2005 judgement.

1.2 PROJECT LOCATION

The project area is in the Owens Valley in the eastern Sierra Nevada (Inyo County, California) (see **Figure 1-1**). The overall LORP project area includes approximately 62 river miles of the River and adjacent areas. The northern boundary of the project area is the River Intake structure, and the southern boundary is the Delta Habitat Area (a total of 3,578 acres that includes all of the vegetated portions of the Owens River Delta, some of the adjacent unvegetated playa areas and a small portion of the brine pool). The overall LORP project area encompasses much of the valley floor east of the Los Angeles Aqueduct (Aqueduct) and west of the Inyo Mountains. Communities located near the project area include Independence, Lone Pine and Keeler. Regional access to the project area is provided by U.S. Highway 395.

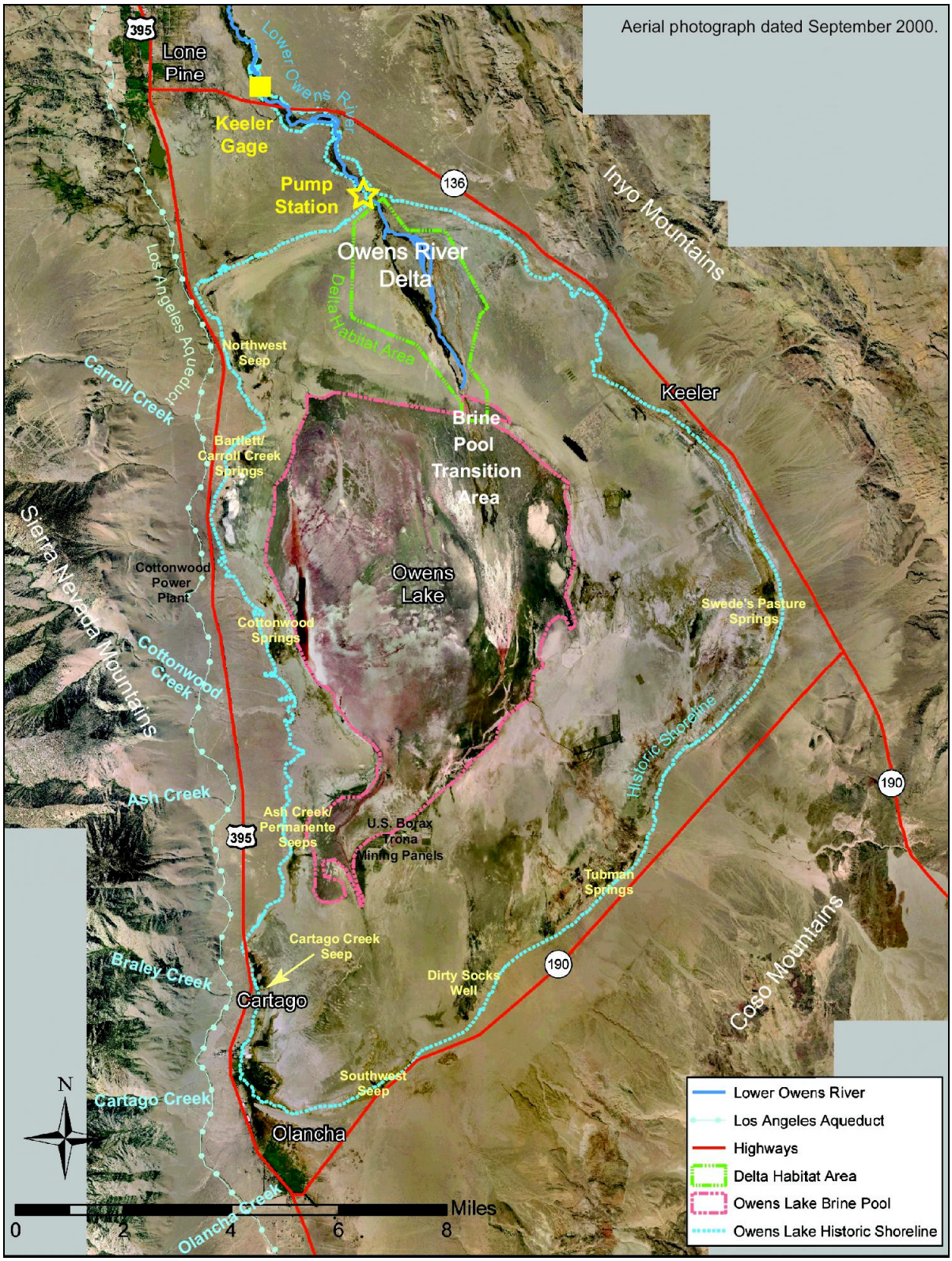
The specific area of interest for the focused environmental analysis presented in the SEIR is the "brine pool transition area" of the Owens Lake (see **Figure 1-2**). The brine pool transition area is the area of the Owens Lake bed located south of the vegetated portions of the Owens River Delta, including the northeastern portion of the brine pool that is influenced by outflows from the Delta. The brine pool transition area is bounded to the northwest and northeast by Zone 1 and Zone 2, respectively, of the Owens Lake Dust Mitigation Program shallow flood areas. Vegetation is absent in the brine pool transition area. The hydrologic conditions in the brine pool transition area can vary seasonally and from year-to-year from completely dry, partially covered with meandering rivulets formed by outflows from the Delta, to partially or nearly completely inundated with standing water. Outflows from the Delta to the brine pool transition area generally occur from October/November through March/April. From May through September/October, there are typically no outflows from the Delta (i.e., the brine pool transition area is dry).

Figure 1-1
Regional Location Map



Source: GBUAPCD, 2003.

Figure 1-2
Owens Lake and Vicinity



1.3 PROJECT DESCRIPTION

The proposed project description for the LORP has not changed from that described in the Final EIR for the LORP (LADWP, 2004a). A summary of the proposed project description is provided below. A detailed project description is provided in the Final EIR, which can be reviewed at the following locations: LADWP offices in Bishop (300 Mandich Street, Bishop, California 93514); LADWP offices in Los Angeles (111 North Hope Street, Room 1468, Los Angeles, California 90012); and on the LADWP website at: http://ladwp.com/ladwp/cms/ladwp005749.jsp.

LORP is a large-scale habitat restoration project that would be implemented through a joint effort by LADWP and Inyo County. LORP includes: restoration of the River by providing flows to the river to enhance fish, wetland, and riparian habitats; creation of new wetlands through seasonal flooding at the Blackrock Waterfowl Habitat Area; release of flows to the Delta Habitat Area to maintain and enhance wetlands; and modification of grazing practices on LADWP leases adjacent to the river.

The project component relevant to the focused environmental analysis presented in the SEIR is the operation of the pump station proposed under the LORP, which would change the quantity and timing of Lower Owens River flows that reach the brine pool transition area as compared with existing conditions. Under LORP, water would be released to the River from the River Intake to provide a continuous and year-round baseflow of approximately 40 cubic feet per second (cfs) from the River Intake to the proposed pump station site (located approximately 4.5 river miles upstream of the Owens River Delta). In addition, higher flows of up to approximately 200 cfs ("seasonal habitat flows") would be released from the River Intake (to be ramped up and down over a period of up to approximately 14 days) in late May or early June (to provide hydrologic conditions similar to natural flood flows).

The proposed pump station would capture and divert some of the baseflows so that the amount of River flows released towards the Owens River Delta would range from approximately 6 to 9 cfs on an annual average basis; minimum releases at any time would be approximately 3 cfs. Within the 6 to 9 cfs annual average, four "pulse flows" (periods of higher flows) would be released, consisting of: 25 cfs released for 10 days in March/April (Period 1), 20 cfs released for 10 days in June/July (Period 2), 25 cfs released for 10 days in September (Period 3), and 30 cfs released for 5 days in November/December (Period 4). In addition, portions of the seasonal habitat flows would bypass the pump station and be released towards the Owens River Delta. Water not released towards the Owens River Delta would be conveyed via a pipeline to the Owens Lake Dust Control Mitigation Program (see **Section 3.2.2.2**) and/or to the Aqueduct.

Operation of the proposed pump station as part of LORP would change the quantity and timing of flows that reach the brine pool. The focus of the analysis for this SEIR is the potential impacts on biological resources of the brine pool transition area resulting from changes in hydrologic conditions related to operation of the pump station under LORP.

1.4 SUMMARY OF ENVIRONMENTAL IMPACTS

As described above, this SEIR addresses the environmental impacts of the LORP on the brine pool transition area as required by the July 2005 judgement. This SEIR is specifically focused on expansion and reconsideration of the impact assessment presented in Section 6.3.5 of the Final EIR (Impacts to the Intermittently Flooded Playa within the Brine Pool Transition Area). The determinations of environmental impacts in all other sections of the Final EIR are unchanged. In particular, the determination that impacts to existing aquatic and wetland habitats of the Delta would range from beneficial to less than significant (Final EIR Section 6.3.6) is unchanged except for the portion of the brine pool transition area that is in the Delta. This SEIR is focused only on the geographic area described as the "brine pool transition area" of Owens Lake, which for purposes of this analysis is considered a distinct geographic area from the Delta of Owens Lake.

From approximately April through September, operation of the pump station under LORP is not expected to result in substantial change to existing hydrologic conditions of the brine pool transition area (i.e., typically no outflow from the Delta) except during periods of higher flow releases (pulse flows and seasonal habitat flow bypass). The Period 2 and 3 pulse flows (20 cfs for 10 days in June/July and 25 cfs for 10 days in September, respectively) and the seasonal habitat flow bypass (up to 12 to 88 cfs over 5 days in May/June in some years depending on the forecasted runoff for the Owens Valley) are anticipated to result in surface water in the brine pool transition area during periods when the area is typically dry under existing conditions.

During most of the period from approximately October through March, flows to the Delta under LORP would be lower than under existing conditions. However, the proposed minimum baseflow of 3 cfs to be released from the pump station is expected to result in some outflow to the brine pool transition area due to low evapotranspiration in the Delta during the non-growing season. Therefore, under LORP, the areal extent and depth of surface water of the rivulets in the brine pool transition area would be smaller compared to existing conditions, but would not be eliminated. During releases of the Period 1 and 4 pulse flows (25 cfs for 10 days in March and 30 cfs for 5 days in November/December, respectively), a larger extent and depth of surface water would be present in the brine pool transition area than under typical existing conditions.

The following presents a summary of the environmental effects addressed in this SEIR. No significant impacts, including significant and unavoidable impacts, on the brine pool transition area were identified. Therefore, no new mitigation is required beyond measures identified in the Final EIR.

- **Impacts on sensitive habitat/community** – Operation of the pump station under LORP would result in reduced winter outflows to the brine pool transition area, an alkali playa habitat used by birds. The alkali playa habitat of the brine pool transition area is similar to and is a small fraction of the habitat provided by the shallow flood areas of the Dust Mitigation Program, which are immediately adjacent to the brine pool transition area. In addition to the shallow flood areas, this habitat type is also present at the outflows of seeps and springs, which would not be affected by LORP. There are no bird species that are found only in the brine pool transition area. Furthermore, the reduction in outflows to the brine pool transition area would occur during the time of the year when water is

abundant at other places around the lake (shallow flooding areas and the seeps and springs). Additionally, after October/November, when outflows to the brine pool transition area would be reduced under the proposed project, fewer shorebirds are present in the Owens Valley in general because it is past the peak migration period. Within the context of existing conditions of the Owens Lake, the impact of reduced winter outflow to the brine pool transition area on the value of this alkali playa habitat would be less than significant.

In addition, under the proposed project, hundreds of acres of shallow flooded areas in the Blackrock Waterfowl Habitat Area and rewatering of the River (including restoration of floodplain wetlands) would create and enhance shorebird and waterfowl habitat well beyond existing conditions. Furthermore, implementation of the proposed project would result in increased flows to the vegetated portions of the Delta in the summer (period of the year when the Delta is dry under existing conditions) which would improve habitat conditions for and attract resident populations of waterfowl and shorebirds. Overall, habitat for waterfowl, wading birds, and shorebirds (including species currently present in the brine pool transition area) will be increased after implementation of LORP.

- **Impacts on sensitive species** – The following California Species of Special Concern are known to occur in other unvegetated playa areas of the lake bed, but are not known and are not expected to occur in the brine pool transition area: white-faced ibis, osprey, burrowing owl, mountain plovers, and spotted bat. Long-billed curlew has not been observed in the brine pool transition area since spring of 2000 and currently is not expected to occur.

  Several birds of prey (peregrine falcon [State Endangered]; northern harrier, prairie falcon, and ferruginous hawk [California Species of Special Concern]) have been observed to or may occur as flyovers above the brine pool transition area and may hunt for birds in this area. However, the brine pool transition area is not considered primary foraging area for these species because these species prefer to hunt in areas with higher densities of prey birds (e.g., shallow flood areas of the Dust Mitigation Program) than typically present in the brine pool transition area. In addition, the brine pool transition area is not a nesting habitat for any of these species.

  California gulls (California Species of Special Concern for nesting colony) have been observed in the brine pool transition area, but use of the brine pool transition area is likely incidental to their primary use of the nearby shallow flood areas. Furthermore, California gulls are not known and are not expected to nest in the brine pool transition area since the area is accessible to potential predators such as coyotes.

  While small numbers of snowy plovers have been observed in the brine pool transition area, no nests have been seen since operation of the Zone 2 shallow flood area began in the beginning of 2002. Since invertebrate food production in the brine pool transition area would not be substantially affected and no snowy plovers are currently expected to nest in the brine pool transition area, implementation of the project would not adversely affect this species.

  Small-footed myotis and Yuma myotis (locally important species, no agency status) are not known to occur but may forage in the brine pool transition area for aerial insects. However, reduction of the surface water in the brine pool transition area in the winter

(period of decreased invertebrate activity due to lower temperatures) would not result in substantial reduction of invertebrate food sources for these species.

The presence of alkali flats tiger beetle, slender-girdled tiger beetle, and Owens Valley tiger beetle (locally important species, no agency status) is not known in the brine pool transition area. Increased flows during the warmer months (seasonal habitat flows and pulse flows) under LORP may create additional habitat for these species in the brine pool transition area. Reduction of winter flows is not anticipated to substantially affect these species of tiger beetles (if these species are present in the brine pool transition area under existing conditions).

- **Impacts on migratory corridors or nursery sites –** The Owens Lake as a whole is considered to be a part of the migratory pathway. However, implementation of LORP does not involve physical modifications or other creation of obstacles to migration in the Owens Lake. The alteration in the magnitude and timing of flows discharged from the Delta to the brine pool transition area would not interfere with the movement of wildlife species or migratory corridors. While small numbers of snowy plovers have been observed in the brine pool transition area, no nests have been seen since operation of the Zone 2 shallow flood area began in the beginning of 2002. Therefore, operation of the pump station would not affect nursery sites.
- **Impacts on federally protected wetlands –** The portion of the brine pool transition area below elevation 3,553.5 feet would be considered a water of the U.S.; however, no part of the brine pool transition area would be considered a federally protected wetland since it lacks the vegetative characteristic requisite for designation as a jurisdictional wetland by the U.S. Army Corps of Engineers. Therefore, no impacts on federally protected wetlands would occur.
- **Consistency with local policies or ordinances protecting biological resources –** Aside from the Inyo County General Plan [the project is consistent as discussed in Section 13 of the LORP Final EIR (LADWP, 2004a)], there are no local government policies or ordinances protecting biological resources that are relevant to the brine pool transition area.
- **Consistency with adopted Habitat Conservation Plans** – There are no adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional or state habitat conservation plans that are applicable to the Project area, including the brine pool transition area.
- **Water quality –** Operation of the pump station and release of River flows to the Delta would not include discharges of any wastes or significant changes to water quality of the flows reaching the brine pool transition area. The lower volume of water reaching the brine pool transition area during the winter under LORP would not result in significant effects on water quality. Overall, implementation of LORP would maintain and enhance the beneficial uses of Owens Lake.
- **Groundwater resources –** The brine pool transition area is currently saturated, and is expected to remain saturated under LORP due to the upward vertical gradient of groundwater in this area. Because surface water in the brine pool transition area is not

recharging groundwater, alterations of surface flows in this area would not change groundwater recharge or water table conditions.

- **Drainage** – Implementation of LORP would not alter the existing drainage pattern of the area; therefore, there would be no impacts on stormwater drainage to the brine pool transition area. Due to the low gradient and low velocities of the proposed pulse flows and bypass of seasonal habitat flows, impacts in the brine pool transition area related to erosion/siltation would be less than significant.
- **Flooding** – Relative to the brine pool transition area, operation of the pump station under LORP would not affect flooding or flood hazards. The project does not include the placement of housing within a flood hazard area or in any other way expose people or habitable structures to a risk of loss or injury from flooding, seiches, tsunami, or mudflows.

1.5 ALTERNATIVES

Alternatives focused on avoidance or reduction of the significant environmental effects of the project related to water quality degradation and fish kills during initial releases were sufficiently analyzed in a previous document (LORP Final EIR, LADWP, 2004a). Since additional significant effects of the project have not been identified for the brine pool transition area, additional alternatives (in addition to the alternative discussed in the LORP Final EIR) have not been defined or analyzed in this SEIR.

1.6 AREAS OF KNOWN CONTROVERSY AND ISSUES TO BE RESOLVED

Operation of the proposed pump station would change the quantity and timing of flows that reach the brine pool. The focus of the analysis for this SEIR is the potential impacts on biological resources of the brine pool transition area resulting from changes in hydrologic conditions related to operation of the pump station under LORP.

Section 2
Introduction and Project Description

This Supplemental Environmental Impact Report (SEIR) has been prepared by the City of Los Angeles Department of Water and Power (LADWP), the lead agency under the California Environmental Quality Act (CEQA) for the Lower Owens River Project (LORP or proposed project). This document is supplemental to the Final EIR for the LORP (LADWP, 2004a). LORP is a large-scale habitat restoration project for approximately 62 river miles of the Lower Owens River (River) and adjacent areas in Inyo County, California. It would be implemented through a joint effort by LADWP and Inyo County. This SEIR has been prepared by LADWP to analyze and disclose the potential environmental impacts of the LORP specifically with respect to the hydrology and biological resources of the "brine pool transition area," the area of the Owens Lake bed located south of the vegetated portions of the Owens River Delta, including the northeastern portion of the brine pool that is influenced by outflows from the Delta.

2.1 BACKGROUND

LORP was identified in a 1991 Environmental Impact Report (LADWP, 1991) as mitigation for impacts related to LADWP's groundwater pumping activities in the Owens Valley from 1970 to 1990. The project description was augmented in a Memorandum of Understanding (MOU), signed in 1997 by LADWP, Inyo County, California Department of Fish and Game, California State Lands Commission, Sierra Club, and the Owens Valley Committee. The MOU describes the general goals of the LORP, timeframe for development and implementation, and specific actions. It also provides certain minimum requirements for the LORP related to flows, locations of facilities, and habitat and species to be addressed.

In November 2002, LADWP, Inyo County, and the U.S. Environmental Protection Agency (EPA) published a joint Draft Environmental Impact Report / Environmental Impact Statement for the project (LADWP, et al., 2002). The EPA involvement was triggered by a special appropriation for funding to carry out the LORP. Based on further negotiations amongst the MOU parties, additional details related to the LORP project description and schedule were specified in a February 2004 Stipulation and Order (Case Number S1CVCV01-29768, Sierra Club and Owens Valley Committee v. City of Los Angeles et al., February 13, 2004). In June 2004, LADWP completed and published the Final EIR for the LORP (LADWP, 2004a), and the City of Los Angeles Board of Water and Power Commissioners certified the Final EIR and adopted the project on July 20, 2004; the CEQA Notice of Determination was filed on July 22, 2004. A Final EIS was not prepared and EPA funding will not be used for the initial phases of the project.

On October 6, 2004, a lawsuit was filed by the Sierra Club challenging the adequacy of the Final EIR with respect to analysis of project impacts on an area described as the "brine pool transition area," which is a portion of the brine pool within the Owens Lake. As a result of the lawsuit, in July 2005, a stipulated judgment was entered in Inyo County Superior Court (Case Number

S1CVPT04-37217, Sierra Club v. City of Los Angeles et al., July 25, 2005). The stipulated judgement requires LADWP to:

- Prepare and circulate for public review and comment a focused environmental analysis that addresses the impacts of the LORP to the "brine pool transition area."
- Proceed with construction of the LORP-related facilities (including the pump station) and implementation of the LORP, but not begin operation of the pump station pending consideration and certification of the focused environmental analysis.

2.2 PURPOSE AND SCOPE OF THE SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT

This SEIR has been prepared in accordance with the CEQA Statute (Public Resources Code Section 21000 et seq.), and the State CEQA Guidelines (Title 14, California Code of Regulations Section 15000 et seq., as amended). Pursuant to CEQA, discretionary decisions by public agencies regarding certain public and private projects are subject to environmental review. Since the LORP is a "project" as defined by Section 21065 of the Public Resources Code and Section 15378 of the State CEQA Guidelines, CEQA compliance is required.

The SEIR documents the focused environmental analysis required by the July 2005 judgement described above. The SEIR focuses on evaluation of impacts on the "brine pool transition area," and includes detailed description of the existing biologic resources and hydrologic conditions (at the time of publication of the Notice of Preparation for the SEIR; see **Section 2.4**), detailed descriptions of the changes in hydrologic and habitat conditions expected under LORP, and analysis of potential impacts on habitat and wildlife, particularly birds.

Since this is a supplement to a previously approved EIR, existing conditions, environmental analysis, mitigation measures and other information contained in the Final EIR relevant to areas other than the "brine pool transition area" are not repeated here. This SEIR is very specifically focused on expansion and reconsideration of the impact assessment presented in Section 6.3.5 of the Final EIR (Impacts to the Intermittently Flooded Playa within the Brine Pool Transition Area). The determinations of environmental impacts in all other sections of the Final EIR are unchanged. In particular, the determination that impacts to existing aquatic and wetland habitats of the Delta would range from beneficial to less than significant (Final EIR Section 6.3.6) is unchanged except for the portion of the brine pool transition area that is in the Delta. This SEIR is focused only on the geographic area described as the "brine pool transition area" of Owens Lake, which for purposes of this analysis is considered a distinct geographic area from the Delta of Owens Lake (see **Section 2.5**, below).

2.3 AGENCIES AND APPROVALS

LADWP is the lead agency pursuant to State CEQA Guidelines Section 15367 for this SEIR. A lead agency is the public agency that has the principal responsibility for carrying out or approving a project subject to CEQA. The lead agency is responsible for preparing the environmental documents on a project according to the full disclosure requirements of CEQA.

Under CEQA, a responsible agency is a public agency, other than the lead agency, which has responsibility for implementing or approving a project. A responsible agency typically has permitting authority or approval over some aspect of a proposed project. The responsible agency relies on the lead agency's environmental document in acting on whatever aspect of the project requires its approval. The lead agency is required to consult with responsible agencies and solicit comments from them regarding the choice and content of the environmental document.

Table 2-1 lists the agencies expected to use this SEIR for decision-making and the environmental permits, approvals and reviews required to implement the LORP.

2.4 SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT PROCESS

LADWP prepared and circulated a Notice of Preparation (NOP) of the SEIR for public review for 30 days, from September 7, 2005 to October 6, 2005. In addition, a public scoping meeting was held on September 14, 2005 at LADWP offices in Bishop, California, to receive oral comments on the NOP. A copy of the NOP, written comment letters on the NOP, and a summary of the oral comments received during the scoping meeting are presented in **Appendix A**.

The Draft SEIR was circulated for a 45-day public review period from December 23, 2005 through February 6, 2006. The Notice of Availability (NOA) and the Draft SEIR were mailed to a total of 18 agencies, organizations, and interested individuals. In addition, the NOA was mailed to over 200 agencies, organizations, and interested individuals. The NOA was filed with the Inyo County Clerk for public posting, and the Notice of Completion, NOA, and the Draft SEIR were submitted to the State Clearinghouse. Copies of the Draft SEIR were made available for public review at LADWP offices in Bishop, four local libraries, and on the LADWP website.

Appendix C of this Final SEIR presents the four written comment letters received on the Draft SEIR and the responses to those comments. In response to the comments and to clarify the information presented, text in following sections of the Final SEIR has been modified from the text in the Draft SEIR:

- Section 3.2.2.2, page 3-10, last paragraph
- Section 3.2.2.2, page 3-12, third paragraph
- Section 3.2.2.2, page 3-13, last paragraph
- Section 3.2.2.2, page 3-27, second bullet
- Section 3.2.2.2, page 3-28, first paragraph
- Section 3.2.3.2, page 3-51, last paragraph
- Section 3.4.1.1, page 3-59, sixth bullet from the bottom of the page
- Section 3.4.1.2, page 3-65, second paragraph
- Section 3.4.2.1, page 3-67, third paragraph

As required by the July 2005 judgement described above, LADWP has proceeded with construction of the LORP-related facilities (including the pump station) and implementation of the LORP upon acquisition of all required permits, but LADWP will not begin operation of the pump station until the City of Los Angeles Board of Water and Power Commissioners has considered and certified the Final SEIR.

Table 2-1
List of Permits, Approvals and Reviews

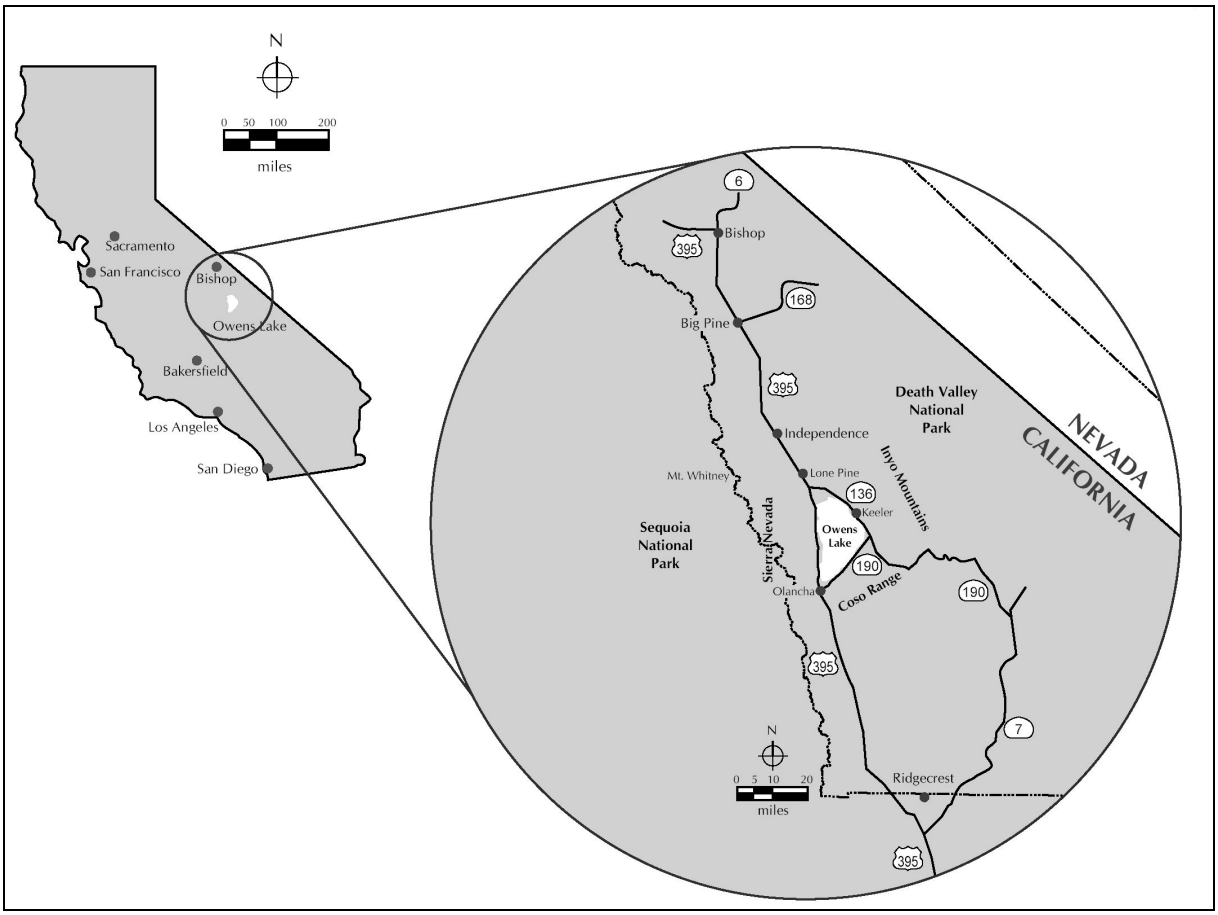
Agency	Type of Permit, Approval, or Review	Status of Permit, Approval, or Review
Inyo County Board of Supervisors	Adoption of Final EIR and Final SEIR and project approval	Final EIR adopted on 11/21/2005. Adoption of Final SEIR pending.
U.S. Army Corps of Engineers	Section 404 permit for discharge of dredge or fill materials into waters of the U.S.	Section 404 Permit received 1/10/2006 (Permit No. 200200632-BAH).
U.S. Fish and Wildlife Service	Consultation by U.S. Army Corps of Engineers in connection with the Clean Water Act Section 404 permit regarding Endangered Species Act compliance, as applicable	
State Historic Preservation Officer	Consultation by U.S. Army Corps of Engineers in connection with the Clean Water Act Section 404 permit	
California Department of Fish and Game	Streambed Alteration Agreement (Fish and Game Code 1602)	Agreement signed 2/22/2005 (Agreement No. 1600-2004-0127-R6).
California Department of Transportation	Encroachment permit for a portion of the proposed power line crossing Caltrans right-of-way (Highway 395)	Permit received 10/19/2004; Permit rider to extend date of completion received 11/3/2004 (Permit No. 0904-NUC 0268).
U.S. Department of Interior Bureau of Land Management	Right-of-way grant for the power line to the proposed pump station	Proposed actions covered by existing right-of-way grant (CAC 42347); confirmed by BLM on 9/1/2004.
Regional Water Quality Control Board, Lahontan Region	Water Quality Certification, Waste Discharge Requirements, and National Pollutant Discharge Elimination System Permit	Permit issued 7/14/2005 (R6V-2005-0020); proposed amendment to incorporate the Storm Water Pollution Prevention Plan into the permit published 10/4/2005 (R6V-2005-0020A1).
California State Lands Commission	Land use approvals for installation of temporary stream gages in the Delta and a portion of the proposed power line crossing State lands	Land use agreement authorized 12/9/04 and signed 2/28/2005 (file refs. W25920).
Inyo County Public Works Department	Grading and building permits for the proposed pump station	Permits issued in December 2005.

2.5 PROJECT LOCATION

The project area is in the Owens Valley in the eastern Sierra Nevada (Inyo County, California) (see **Figure 2-1**). The overall LORP project area includes approximately 62 river miles of the River and adjacent areas (see **Figure 2-2**). The northern boundary of the project area is the River Intake structure, and the southern boundary is the Delta Habitat Area (a total of 3,578 acres that includes all of the vegetated portions of the Owens River Delta, some of the adjacent unvegetated playa areas and a small portion of the brine pool). The overall LORP project area encompasses much of the valley floor east of the Los Angeles Aqueduct (Aqueduct) and west of the Inyo Mountains. Communities located near the project area include Independence, Lone Pine and Keeler. Regional access to the project area is provided by U.S. Highway 395.

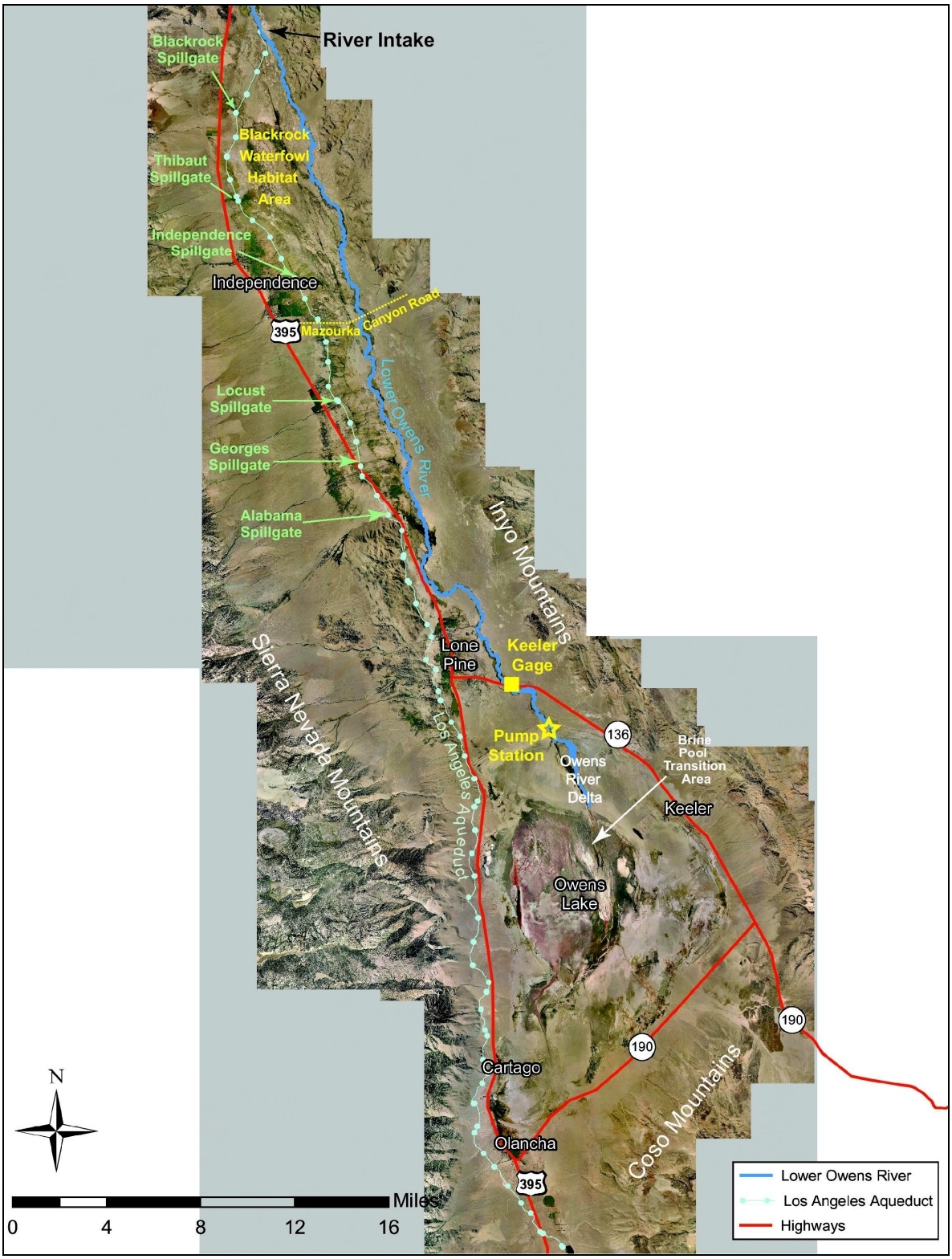
The specific area of interest for the focused environmental analysis presented in the SEIR is the "brine pool transition area" of the Owens Lake (see **Figure 2-2** and **Section 3.2 – Environmental Setting**). Also referred to as the "Delta outflow area", this is the area of the Owens Lake bed located south of the vegetated portions of the Owens River Delta, including the northeastern portion of the brine pool that is influenced by outflows from the Delta.

Figure 2-1
Regional Location Map



Source: GBUAPCD, 2003.

Figure 2-2
Project Area Map



2.6 PROJECT OBJECTIVES

The overall objective of the LORP is to establish/enhance and maintain healthy, functioning ecosystems in the four geographic areas of the LORP (Riverine-Riparian, Blackrock Waterfowl Habitat Area, Off-River Lakes and Ponds, and Delta Habitat Area) for the benefit of biodiversity and threatened and endangered species, while providing for the continuation of sustainable uses such as recreation, livestock grazing, agriculture, and other activities.

2.7 PROJECT DESCRIPTION

The proposed project description for the LORP has not changed from that described in the Final EIR for the LORP (LADWP, 2004a). A summary of the proposed project description is provided below. A detailed project description is provided in the Final EIR, which can be reviewed at the following locations: LADWP offices in Bishop (300 Mandich Street, Bishop, California 93514); LADWP offices in Los Angeles (111 North Hope Street, Room 1468, Los Angeles, California 90012); and on the LADWP website at: http://ladwp.com/ladwp/cms/ladwp005749.jsp. Additionally, permit conditions specified by the Regional Water Quality Control Board, Lahontan Region are described in **Section 3.4.1.1.**

LORP is a large-scale habitat restoration project that would be implemented through a joint effort by LADWP and Inyo County. LORP includes: restoration of the River by providing flows to the river to enhance fish, wetland, and riparian habitats; creation of new wetlands through seasonal flooding at the Blackrock Waterfowl Habitat Area; release of flows to the Delta Habitat Area to maintain and enhance wetlands; and modification of grazing practices on LADWP leases adjacent to the river.

The project component relevant to the focused environmental analysis presented in the SEIR is the operation of the pump station proposed under the LORP. Under LORP, water would be released to the River from the River Intake to provide a continuous and year-round baseflow of approximately 40 cubic feet per second (cfs) from the River Intake to the proposed pump station site (located approximately 4.5 river miles upstream of the Owens River Delta). In addition, higher flows of up to approximately 200 cfs ("seasonal habitat flows") would be released from the River Intake (to be ramped up and down over a period of up to approximately 14 days) in late May or early June (to provide hydrologic conditions similar to natural flood flows). The proposed pump station would capture and divert some of the baseflows so that the amount of River flows released towards the Owens River Delta would range from approximately 6 to 9 cfs on an annual average basis; minimum releases at any time would be approximately 3 cfs. In addition, portions of the seasonal habitat flows would bypass the pump station and be released towards the Owens River Delta. Water not released towards the Owens River Delta would be conveyed via a pipeline to the Owens Lake Dust Control Mitigation Program (see **Section 3.2.2.2**) and/or to the Aqueduct.

Operation of the proposed pump station as part of LORP would change the quantity and timing of flows that reach the brine pool. The focus of the analysis for this SEIR is the potential impacts on biological resources of the brine pool transition area resulting from changes in hydrologic conditions related to operation of the pump station under LORP.

This Page Intentionally Left Blank

Section 3
Environmental Analysis

3.1 INTRODUCTION

The area of interest for the focused environmental analysis presented in the SEIR is the "brine pool transition area" which is the portion of the Owens Lake bed located south of the vegetated portion of the Owens River Delta, including the northeastern portion of the brine pool that is influenced by outflows from the Owens River Delta (see **Figure 3-1**). The project component relevant to the focused environmental analysis is the operation of the proposed pump station, which would change the quantity and timing of Lower Owens River flows that reach the brine pool transition area as compared with existing conditions. The focus of the analysis for this SEIR is the potential impacts on biological resources, particularly birds and their habitat, of the brine pool transition area that would result from this hydrologic change.

3.2 ENVIRONMENTAL SETTING

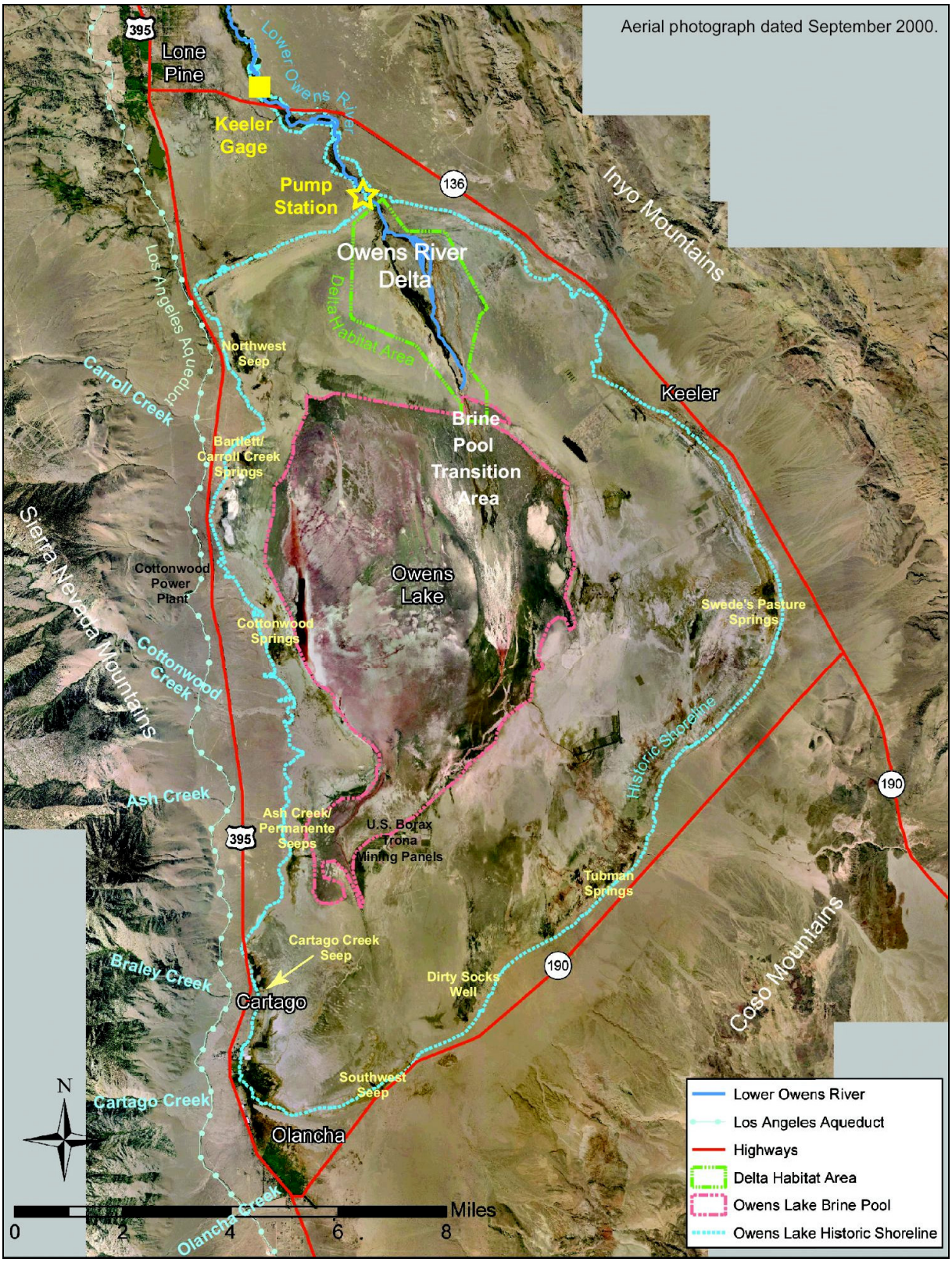
3.2.1 General Environmental Setting

The Owens Lake is located at the terminus of the Lower Owens River and at the southern end of the Owens Valley, approximately 200 miles north of Los Angeles (see **Figures 2-1** and **2-2**). The Owens Valley is a north-south trending valley located in Inyo County, California, and is bounded by the Sierra Nevada Mountains to the west, Inyo and White Mountains to the east and Coso Mountains to the south. Major roads in the vicinity of the Owens Lake include U.S. Highway 395 to the west, State Highway 136 to the northeast, and State Highway 190 to the southeast (see **Figure 3-1**). The Los Angeles Aqueduct, which approximately parallels U.S. Highway 395, is located to the west of the lake. Communities (unincorporated Inyo County) in the vicinity include Lone Pine (to the northwest), Keeler (to the east), Cartago (to the southwest), and Olancha (to the southwest).

In pre-historic times, the Owens Lake had a maximum elevation of 3,880 feet above mean sea level (msl) and overflowed to the south through Rose Valley and into China Lake (GBUAPCD, 1997; GBUAPCD, 2003). By approximately 3,000 years ago, however, natural geologic and climatic processes (uplifting of the Coso Mountains and the post-glacial drying trend) eliminated the outflows, turning the Owens Lake into a terminal lake (GBUAPCD, 2003). By the late 1800s, Owens Lake had an elevation of approximately 3,600 feet msl, and due to evapoconcentration of naturally-occurring minerals and salts dissolved in the water, was about 1.5 times as saline as seawater (GBUAPCD, 2003).

Since the late 1800s, surface water diversions from the River (initially for agriculture and later for water supply to the City of Los Angeles) have substantially reduced inflows to the Owens Lake. As a result, the water surface area of the lake decreased substantially, and the lake was virtually dry by 1930 (GBUAPCD, 2003). As the lake dried up, dissolved minerals and salts in the water crystallized into a salt crust, covering much of the lake bed.

Figure 3-1
Owens Lake and Vicinity



Today, the Owens Lake bed is delineated by its historic shoreline at approximately 3,600 feet msl, which corresponds to approximately 110 square miles or 70,000 acres in surface area (GBUAPCD, 1997). The lake bed is nearly flat (see **Figure 3-2**). The lowest portion is located in the west-central part of the lake bed, and was reported in 1915 to be approximately 3,542 feet msl; however, the current lowest elevation is estimated to be higher due to subsequent deposition of salts (up to 8- to 9-feet thick) (GBUAPCD, 1997).

The lake bed is surrounded on the south, east and west by alluvial fans consisting of coarse-grained sediments transported from the surrounding mountains and deposited in a radial pattern from the mouths of the canyons (GBUAPCD, 1997; Danskin, 1998). To the north, the lake bed is bounded by fluvial and lacustrine deposits (Danskin, 1998). The lake bed is underlain by a sequence of clay deposits interbedded with several sand/gravel deposits (GBUAPCD, 1997). The sedimentary deposits of the lake bed are displaced by several faults that generally trend northwest-southeast (GBUAPCD, 1997).

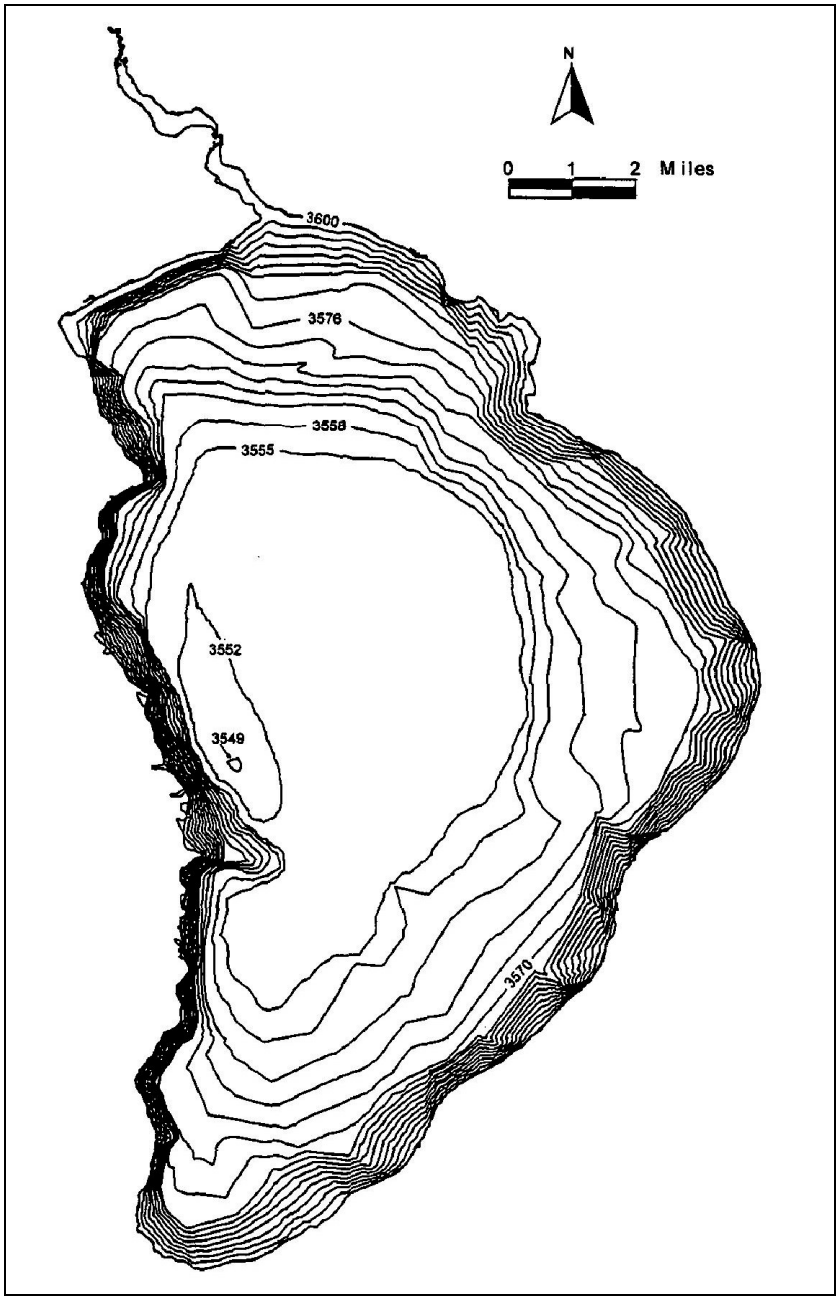
Based on its hydrologic and biologic characteristics, areas of the Owens Lake bed can be classified into the following major categories (see **Figure 3-1**):

- **Playa areas** – The outer area of the lake bed between the historic shoreline (3,600 feet msl) and 3,553.5 feet msl is commonly referred to as the Owens Lake playa (GBUAPCD, 1997) and is a total of approximately 50,000 acres. The playa includes the following:
  - **Unvegetated Playa** – Prior to 2001, most of the playa areas were dry (except during extremely large storm events), largely unvegetated, and consisted of fine-grained exposed lake bed sediments, portions of which are covered with sand sheets and small sand dunes. Currently, over 12,000 acres of the playa are covered by shallow flooding and managed vegetation as part of the Owens Lake Dust Mitigation Program (see description below and **Section 3.2.2.2**).
  - **Owens River Delta**[1] – The Owens River Delta (Delta) is located at the terminus of the Lower Owens River and within the northern part of the playa. The Delta contains various riparian and wetland vegetation types that have developed on the playa over time and are supported by River flows. Based on an evaluation of aerial photographs taken in September 2000, the Delta included approximately 824 acres of wetland or riparian vegetation types (primarily alkali marsh and alkali meadow) and approximately 1,237 acres of upland vegetation types (primarily Parry saltbush) (LADWP, 2004a).
  - **Seeps and Springs** – In addition to the Delta, portions of the playa areas along the historic shoreline contain wetland vegetation supported by springs and seeps.
- **Brine Pool** – South of the Delta is the brine pool (approximately 20,000 acres), which is located on the west-central portion of the Owens Lake bed and below elevation 3,553.5 feet msl (designated as the ordinary high water mark by the U.S. Army Corps of Engineers) (GBUAPCD, 1997). The brine pool is a broadly concave area consisting of

[1] The term "Delta Habitat Area" is used in the LORP Final EIR (LADWP, 2004a) for the purpose of defining the LORP project area. The "Delta Habitat Area" (a total of 3,578 acres) includes all of the vegetated portions of the Owens River Delta, some of the adjacent unvegetated playa areas and a small portion of the brine pool (see **Figure 3-1**). The Delta Habitat Area does not reflect the full extent of the area influenced by river outflows.

salt deposits and lake bed sediments. Vegetation is absent in the brine pool. Surface water is present year-round only in a small portion along the west flank of the brine pool (fed by Cottonwood Springs). Surface water can be present in the other portions of the brine pool, but the areal extent varies substantially (from none to covering the entire brine pool) on a seasonal basis and from year to year (see also **Section 3.2.2.2**).

Figure 3-2
Topographic Map of Owens Lake



Source: GBUAPCD, 1997.
Note: Contour interval is 3 feet. Developed from shallow piezometer monitoring network elevation data, satellite data, and Lee (1915; as cited in GBUAPCD, 1997).

Most of the Owens Lake bed is owned by the State of California and managed by the California State Lands Commission (SLC). Small portions of the lake bed are owned by the City of Los Angeles and private entities. Portions of the lake bed are leased by SLC and LADWP for grazing. In addition, U.S. Borax, Inc. leases approximately 16,120 acres (primarily in the brine pool area) from SLC for extracting trona (carbonate minerals) from the salt deposits on the lake bed (Inyo County, 2004a)[2].

Large portions of the playa areas have been leased to LADWP for implementation of the Owens Lake Dust Mitigation Program. Dust blowing from the Owens Lake bed is a major contributor to existing violations of federal and state air quality standards for particulate matter 10 microns or smaller in diameter (PM10) in the southern Owens Valley. In accordance with the State Implementation Plan (SIP) for the Owens Lake PM10 Planning Area prepared by the Great Basin Unified Air Pollution Control District (GBUAPCD) (prepared in 1998 and revised in 2003), LADWP has been implementing various measures to reduce dust emissions from the playa areas of the lake bed since January 2002. Dust control measures include the use of shallow flooding (applying water to the lake bed until it is either inundated with a few inches of water or the soil becomes saturated to the surface), managed vegetation (irrigated playa with saltgrass), and gravel layers (see **Figure 3-5**). Facilities constructed to implement the dust control measures include a pipeline system to convey water from the Aqueduct to the dust control areas, berms delineating the shallow flooding areas, and raised access roads.

The public has access to the lake bed for recreational uses, including bird watching and seasonal hunting (deer, waterfowl, tule elk and game birds); hunting takes place primarily in the Delta and in the southern portion of the lake bed near Cartago and Dirty Socks Well where game animals are present (GBUAPCD, 2003).

3.2.2 Water Resources

3.2.2.1 Precipitation and Evaporation/Evapotranspiration

The climate of the Owens Lake area is typical of the high desert, and is characterized by low humidity except during infrequent storms. Temperatures in the Owens Lake area range from approximately 18 to 70 degrees Fahrenheit (°F) during the winter and 45 to 103 °F during the summer (GBUAPCD, 1997). Temperatures are typically highest in July and August and lowest in December and January. High winds in the area can exceed average speeds of 40 mph as measured at a 33-foot height (GBUAPCD, 1997).

[2] To prevent damage to the mineral deposits and facilities on the Owens Lake bed, a court injunction in 1950 originally prohibited the City of Los Angeles from diverting any water from its aqueduct system onto Owens Lake (People vs. City of Los Angeles, et al., 34 Cal.2d 695, 701; 214 P.2d 1., 1950). This injunction was modified in 2000 to specifically allow release of water onto Owens Lake as necessary for the purpose of implementing the LORP and the Owens Lake Dust Mitigation Program (People vs. City of Los Angeles, et al., Riverside Superior Court No. 34042, amended September 29, 2000). The modified injunction also requires the City of Los Angeles to: (1) notify SLC and the lessee, at least annually, of planned releases of water onto or into Owens Lake for the purpose of implementing the LORP and the Dust Mitigation Program, and (2) implement reasonable measures to avoid damage to the mining facilities and the mineral deposits.

Precipitation

Precipitation is monitored at several locations in the Owens Lake area, including LADWP's weather monitoring station in Lone Pine[3] and GBUAPCD monitoring stations located on the lake bed and its margin within or near the dust control project areas. Annual precipitation in the Owens Lake area varies substantially from year to year, ranging between less than 1 inch to approximately 10 inches. Average annual precipitation at the Lone Pine monitoring station for the period of record (from 1934/1935 to 2003/2004 water years[4]) is 3.8 inches; from 1990/1991 to 2003/2004 water years, the average was 4.0 inches per year, with most of the precipitation occurring between November and April (LADWP, 2005a). Average annual precipitation at the GBUAPCD monitoring stations ranged between 2 to 6 inches (for the 2 to 5 years of record at five stations known as A-tower, B-tower, Keeler, Mill, and Cartago; GBUAPCD, 2005). At higher elevations in the mountains surrounding the lake and the Owens Valley, average annual precipitation (both snow and rainfall) can be as high as 20 inches (GBUAPCD, 1997).

Assuming an average annual precipitation of 3.8 inches, direct precipitation onto the lake bed (approximately 70,000 acres) provides approximately 22,000 acre-feet per year of water on average. In terms of total volume, direct precipitation is the largest native source of freshwater input for the Owens Lake bed. However, except during large storm events, most of the precipitation falling on the lake bed is likely lost to evaporation and percolation, and does not result in surface runoff toward the brine pool. Direct precipitation onto the brine pool (approximately 20,000 acres) is estimated to be approximately 6,300 acre-feet per year on average.

Evaporation and Evapotranspiration

Evaporation and evapotranspiration from various types of surfaces present at the Owens Lake bed as described in the SIP EIR (GBUAPCD, 1997) are summarized in **Table 3-1**. This illustrates the wide range of evaporation and evapotranspiration rates.

3.2.2.2 Surface Water

Surface water inputs to the Owens Lake bed include direct precipitation, Lower Owens River flows, mountain streams, releases from nearby Aqueduct spillgates, seeps and springs, and water diverted from the Aqueduct and applied to the lake bed for dust control. The relative contributions of these different sources are summarized in **Table 3-2**. No surface outflows to the south (to Rose Valley) occur from the Owens Lake (GBUAPCD, 1997). Surface water features that drain into or are located within the lake bed are described below.

[3] LADWP's monitoring station at Cottonwood Gates is closer to Owens Lake than Lone Pine in distance. However, precipitation measurements at Lone Pine (at 3,661 feet msl) are more representative of Owens Lake conditions since the Cottonwood Gates station is located at a much higher elevation (3,775 feet msl) than the Owens Lake (3,600 feet msl).

[4] A water year is defined as the one-year period that begins on October 1 and ends on September 30 – i.e., the 2000/2001 water year refers to period from October 1, 2000 through September 30, 2001.

Table 3-1
Estimated Evaporation and Evapotranspiration at Owens Lake

Type of Surface	Evaporation / ET Rate (inches/year)
Evaporation	
Playa areas with bare soil – Areas with thick sand deposits	3.4
Playa areas with bare soil – Areas dominated by clay/salt-crust	4.1
Open water areas of the brine pool – February - May	32.1
Open water areas of the brine pool – June - January	39.1
Evapotranspiration from Vegetated Areas	
Springs and Seeps	24.0 - 46.8
Owens River Delta (riparian and wetland vegetation)	30.0 - 60.0
Playa areas with sparse saltgrass (*Distichlis spicata* var. *stricta*)	8.4 - 15.6

Source: GBUAPCD, 1997. ET = evapotranspiration

Table 3-2
Summary of Surface Water Inputs to Owens Lake

Source and Summary Description	Approximate Average Annual Discharge* (acre-feet)
Direct Precipitation – Direct precipitation onto the lake bed provides approximately 22,000 acre-feet per year of water on average; however, most of the precipitation is likely lost to evaporation and percolation, and does not result in surface runoff toward the brine pool. (Direct precipitation onto the brine pool (approximately 20,000 acres) is estimated to be approximately 6,300 acre-feet per year on average.)	22,000
Lower Owens River – Since 1986, flows released from several Aqueduct spillgates to the lower portion of the River reach the lake bed and maintain the vegetation in the Owens River Delta. Outflows from the Delta toward the brine pool occur seasonally (typically from October/November through March/April).	8,000 at Keeler gage (located 4.5 river miles upstream of the LORP pump station site)
Dust Mitigation Program – Since operation began in 2002, water applied for dust control is the largest source of freshwater input onto the lake bed.	26,700
Seeps and Springs – Seeps and springs located along the lake margin support wetland vegetation and create outflow areas on the playa.	4,800
Mountain streams and Aqueduct spillgates – Intermittent flows, vary substantially seasonally and from year to year.	<1,000

* Sources for discharge data cited in text below and above in Section 3.2.2.1.

Lower Owens River and Owens River Delta

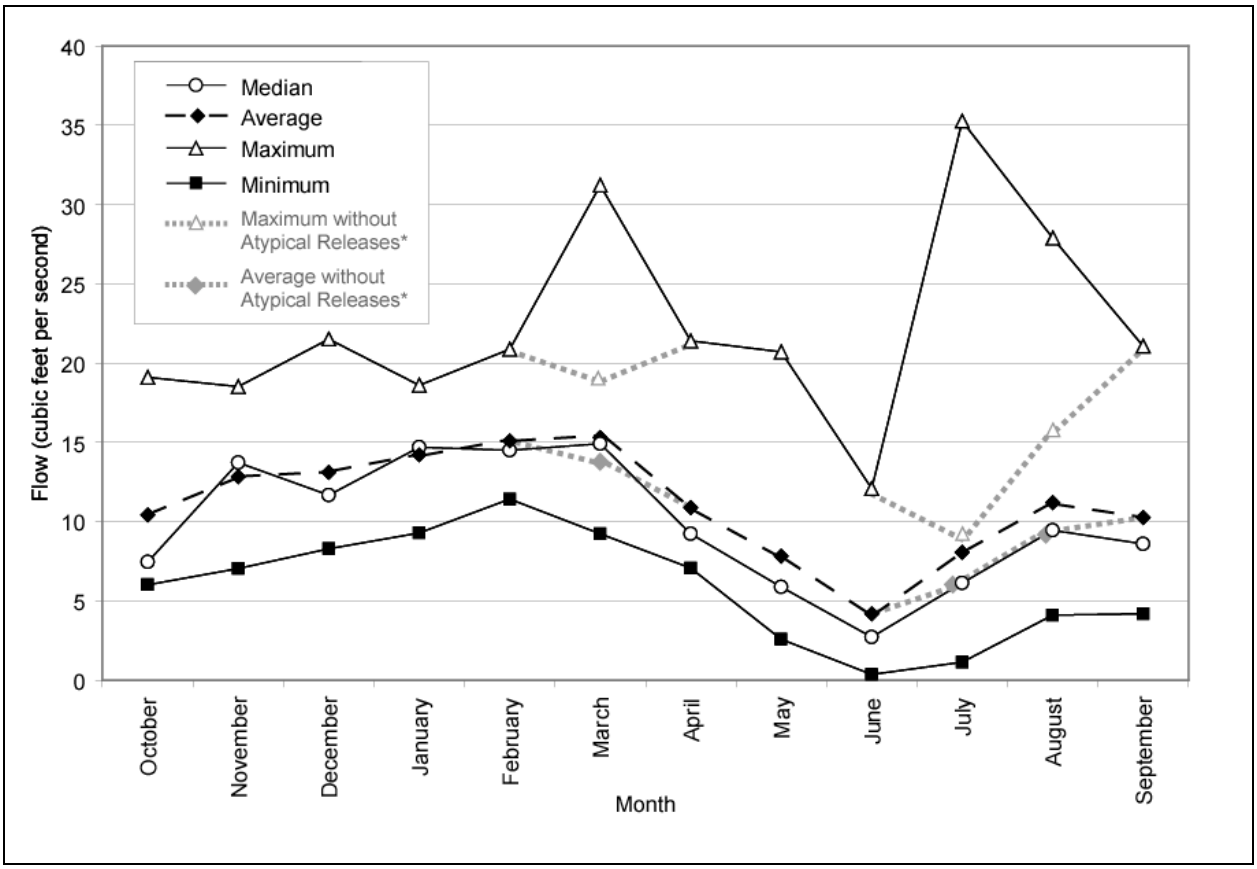
Under existing conditions, the River Intake structure (completed in 1913) impounds and diverts all of the Lower Owens River flows to the Los Angeles Aqueduct (except during extremely large storms). In the upper 24-river-mile portion (from south of the River Intake to just north of Mazourka Canyon Road), the River channel contains no flow under dry weather conditions except in rare instances of releases from the Aqueduct for maintenance or emergencies. In the lower 38-river-mile portion (from south of Mazourka Canyon Road to the historic shoreline of the Owens Lake), the channel contains flows released from several spillgates along the Aqueduct (see **Figure 2-2**) since 1986 as an Enhancement/ Mitigation project.

LADWP's Keeler gage, located just upstream of the State Route 136 crossing, is the only existing flow monitoring station on the River downstream of the River Intake (see **Figure 3-1**). Water flowing through the Keeler gage continues downstream toward the proposed LORP pump station and to the Delta. In the Delta, the River channel splits into two main branches (east and west), approximately 0.4 miles after the River crosses the historic shoreline of the Owens Lake. These two branches consist of braided channels, swales and pools with varying water depths (ranging from approximately 6 feet at the northern end to less than 1 inch at the southern end; LADWP, 2004a). The two branches converge approximately 4 miles southeast of the historic shoreline (approximately 0.6 miles north of the northern boundary of the brine pool) (see **Figure 3-1**). The amount of water from the Delta that reaches the brine pool varies seasonally and from year to year, as described below.

The Keeler gage is located approximately 4.5 river miles (approximately 2.5 linear miles) upstream of the proposed LORP pump station. Flow monitoring at Keeler gage began in 1927. Flow measurements for the past 15 years (i.e., since the 1990/1991 water year) are considered in the discussion below since this period is after commencement of the spillgate releases in 1986 and also coincides with the period when daily flow data have been tabulated from Keeler gage.

Figure 3-3 shows the average, median, minimum and maximum values of the monthly average flows measured at Keeler Gage from water years 1990/1991 to 2004/2005. As shown in **Figure 3-3**, flows at Keeler gage are typically highest from November through March and lowest from May through July. **Figure 3-4** shows the annual discharge at Keeler gage from water years 1990/1991 to 2004/2005; the average and median values for this period were 8,044 and 7,308 acre-feet per year, respectively (LADWP, 2005b).

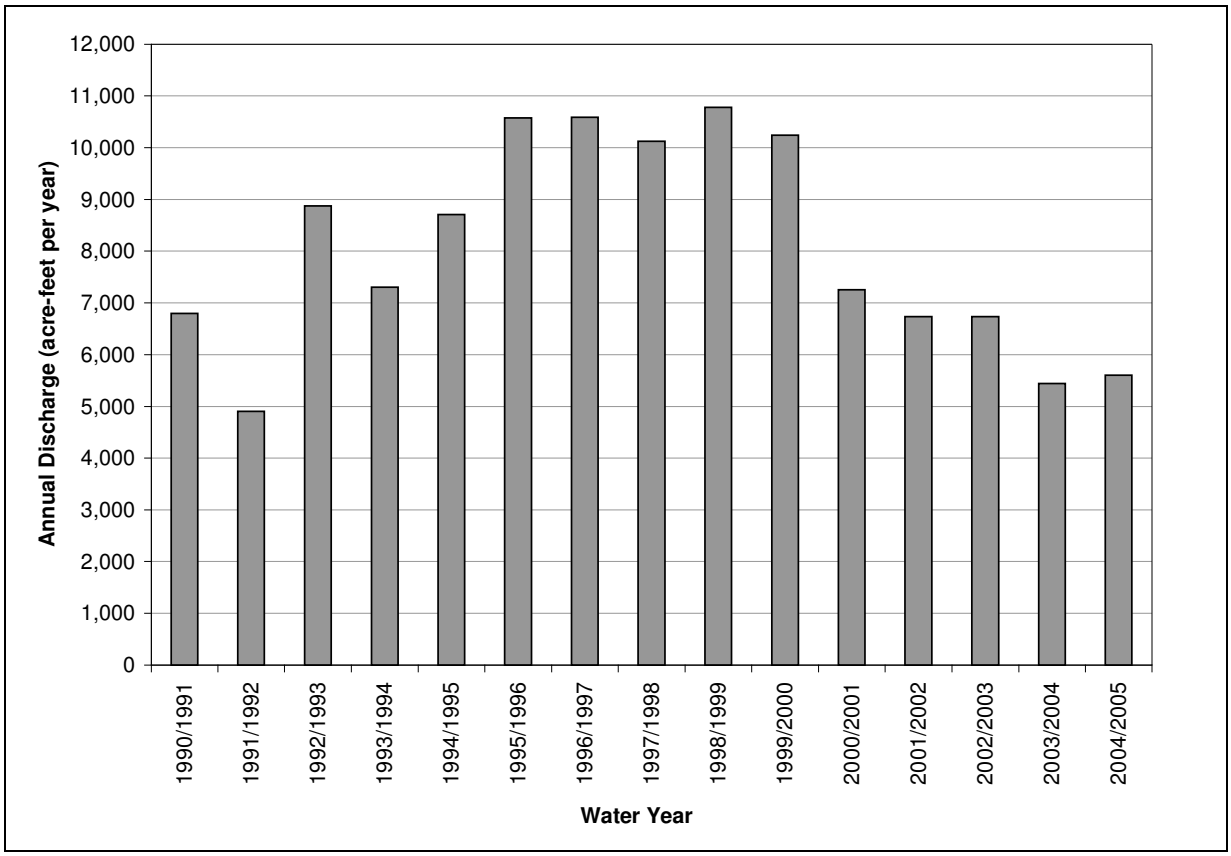
Figure 3-3
Monthly Flows at Keeler Gage – 1990/1991 to 2004/2005 Water Years



Source: LADWP, 2005b.

* Atypical releases included in the above graph include: (1) experimental releases from the River Intake in July and August of 1993 (up to 92 cfs daily average flow at Keeler gage) (described in Section 4.3.2 of the Final EIR; LADWP, 2004a); (2) an operations release from the Aqueduct to the River in March 1999 (up to 71 cfs daily average flow at Keeler gage); and (3) an emergency release from the Aqueduct to the River in August 2003 (up to 115 cfs daily average flow at Keeler gage). Without these atypical releases, the maximum flows for March, July and August would be 19, 9 and 16 cfs, respectively, and the average flows for July and August would be 14, 6 and 9 cfs, respectively.

Figure 3-4
Annual Discharge at Keeler Gage – 1990/1991 to 2004/2005 Water Years



Source: LADWP, 2005b.

Except for direct runoff during large storm events, there are no surface inflows into the River downstream of Keeler gage. Therefore, the flow reaching the brine pool is less than that measured at Keeler gage due to channel losses. Channel losses include evaporation from the water surface, evapotranspiration (defined as water evaporated from soils and wet plant surfaces and water transpired by vegetation present along the River channel downstream of Keeler gage and in the Delta) and percolation into the alluvial aquifer. It has been estimated that the channel loss rate between Keeler gage and the proposed pump station is approximately 0.35 cfs per mile (equivalent to approximately 1.6 cfs over the 4.5 river miles; LADWP, 2004a). The channel loss rate through the Delta has not been estimated, but is expected to be greater than 0.35 cfs per mile due to the more extensive vegetation in the Delta. The channel loss rate is expected to fluctuate seasonally (highest during the summer and lowest during the winter) due to varying evaporation and evapotranspiration rates throughout the year.

Because there are no existing flow monitoring stations located downstream of Keeler gage, the amount of Lower Owens River flow reaching the brine pool cannot be specifically quantified. However, based on review of remote imagery (see discussion below under the heading "Brine Pool Transition Area"), it is estimated that the outflows from the Delta toward the brine pool generally occur from October/November through March/April when flows at Keeler gage are typically highest and evaporation and evapotranspiration are lowest. From May through

September/October, there are typically no outflows from the Delta into the brine pool. Additional descriptions of the hydrologic conditions of the brine pool are provided below.

Sierra Nevada / Inyo / Coso Mountain Stream Flows and Aqueduct Spillgate

In addition to the outflows from the Delta, several streams perennially or periodically reach the Owens Lake bed as described below (see **Figure 3-1** for locations).

- **Sierra Nevada mountain streams:**
  - Carroll Creek, Cottonwood Creek, Ash Creek and Braley Creek. Under normal conditions, these perennial streams that collect runoff from the Sierra Nevadas are diverted entirely into the Aqueduct; however, when the Aqueduct is near or at capacity or is undergoing maintenance, some of the creek flow is directed over the Aqueduct and toward the western portion of the Owens Lake bed. Annual discharges from these creeks toward the Owens Lake bed from the 1990/1991 to 2003/2004 water years ranged from 0 to 667 acre-feet, with average and median values of 116 and 30 acre-feet, respectively (LADWP, 2005b). Except for Cottonwood Creek, flows released from these creeks mostly percolate into the alluvial fan before resulting in substantial surface runoff that reaches the brine pool.
  - Walker Creek, Olancha Creek and Cartago Creek. These Sierra Nevada streams typically do not discharge into Owens Lake due to diversion for irrigated agriculture in the Olancha-Cartago area and infiltration into the alluvial fan (GBUAPCD, 1997). Discharges from these creeks to the southern portion of the Owens Lake bed may occur in extremely wet years, but are not monitored.
- **Cottonwood Spillgate –** Cottonwood spillgate is a flow control facility constructed on the Aqueduct and is used to occasionally release flows from the Aqueduct toward the Owens Lake bed when the Aqueduct is near or at capacity, undergoing normal maintenance, or for emergency Aqueduct releases. Annual discharges from the Cottonwood spillgate to the Owens Lake bed from the 1990/1991 to 2003/2004 water years ranged from 0 to 919 acre-feet, with average and median values of 196 and 59 acre-feet, respectively (LADWP, 2005b). Portions of the flow released from the Cottonwood spillgate typically reach the brine pool.
- **Inyo and Coso mountain streams –** There are no perennial streams from the Inyo and Coso mountains that reach the Owens Lake bed (GBUAPCD, 1997). Runoff from these mountains occurs only periodically when ephemeral stream channels contain flow in response to major precipitation events (GBUAPCD, 1997). Long-term monitoring of these ephemeral stream channels is not conducted. During stream flow monitoring conducted in 1994 and 1995 for the SIP EIR, a peak flow exceeding 918 cfs was observed during a large precipitation event at one of the Coso Mountain stream channels; no runoff was observed in the two Inyo Mountain stream channels during the monitoring period (GBUAPCD, 1997).

Seeps and Springs

Seeps and springs occur along the perimeter of the Owens Lake bed between the 3,560-foot and 3,600-foot elevation contours (GBUAPCD, 1997). The seeps and springs range from approximately 15 to 770 acres in size (GBUAPCD, 1997). They are located where the alluvial fans (consisting of coarser and more permeable sediments) intersect the surface of the playa (composed of less permeable lacustrine sediments of clay and silt) (GBUAPCD, 1997). Several abandoned artesian wells are located within or adjacent to many of the seeps and springs; these wells flow freely and contribute to discharges from the spring and seeps (GBUAPCD, 1997). Major seeps and springs located on and around the lake bed are labeled on **Figure 3-1**.

Discharge at seeps and springs has been estimated to be 4,800 acre-feet per year (GBUAPCD, 1997). Cottonwood Springs is one of the largest springs located on the west side of the lake bed. Most of the discharge from Cottonwood Springs flows through a downstream flume used by LADWP for measuring spring flow; annual discharges from Cottonwood Springs to the Owens Lake bed from the 1990/1991 to 2003/2004 water years ranged from 1,142 to 1,560 acre-feet, with average and median values of 1,328 and 1,293 acre-feet, respectively (LADWP, 2005b). Flows typically range from 1 to 3 cfs, and are fairly consistent throughout the year (LADWP, 2005b).

Dust Mitigation Program Areas

As described in **Section 3.2.1**, an extensive program to reduce dust emissions from the Owens Lake bed has been conducted since January 2002, which has substantially changed the environmental conditions of large portions of the Owens Lake playa. Dust control measures include the use of shallow flooding (applying water to the lake bed until it is either inundated with a few inches of water or the soil becomes saturated to the surface), managed vegetation (irrigated playa with saltgrass), and gravel layers (see **Figure 3-5**). The SIP provides that, with approval from the GBUAPCD, LADWP may transition from one approved control method to another or identify a new control method. Completed and planned dust control areas are presented in **Table 3-3** and **Figure 3-5**. As of November 2005, completed dust control areas consist of approximately 12,200 acres of shallow flooding and 2,400 acres of managed vegetation. (Managed vegetation areas are watered between mid-March and early November using drip irrigation, and therefore do not result in substantial ponding of water.)

Shallow flooding areas are operated for 9 months between October 1 and June 30 each year ("dust season"). Water used for shallow flooding is diverted from the Aqueduct at Lubken and Cartago spillgates and conveyed to the lake bed via a system of pipelines and irrigation risers. Shallow flooding areas are separated into irrigation blocks (typically 500 to 1,000 acres per block) by berms (approximately 3 to 5 feet in height). Water applied to shallow flooding areas is recirculated, with freshwater added to compensate for evaporation and infiltration losses. Due to local topographic relief within the irrigation blocks, the shallow flooding operation results in a mosaic of shallow ponds (1 to 6 inches deep), saturated soil surfaces, unsaturated areas (such as mounds) and deep ponds (1 to 2 feet deep) (LADWP, 2004b).

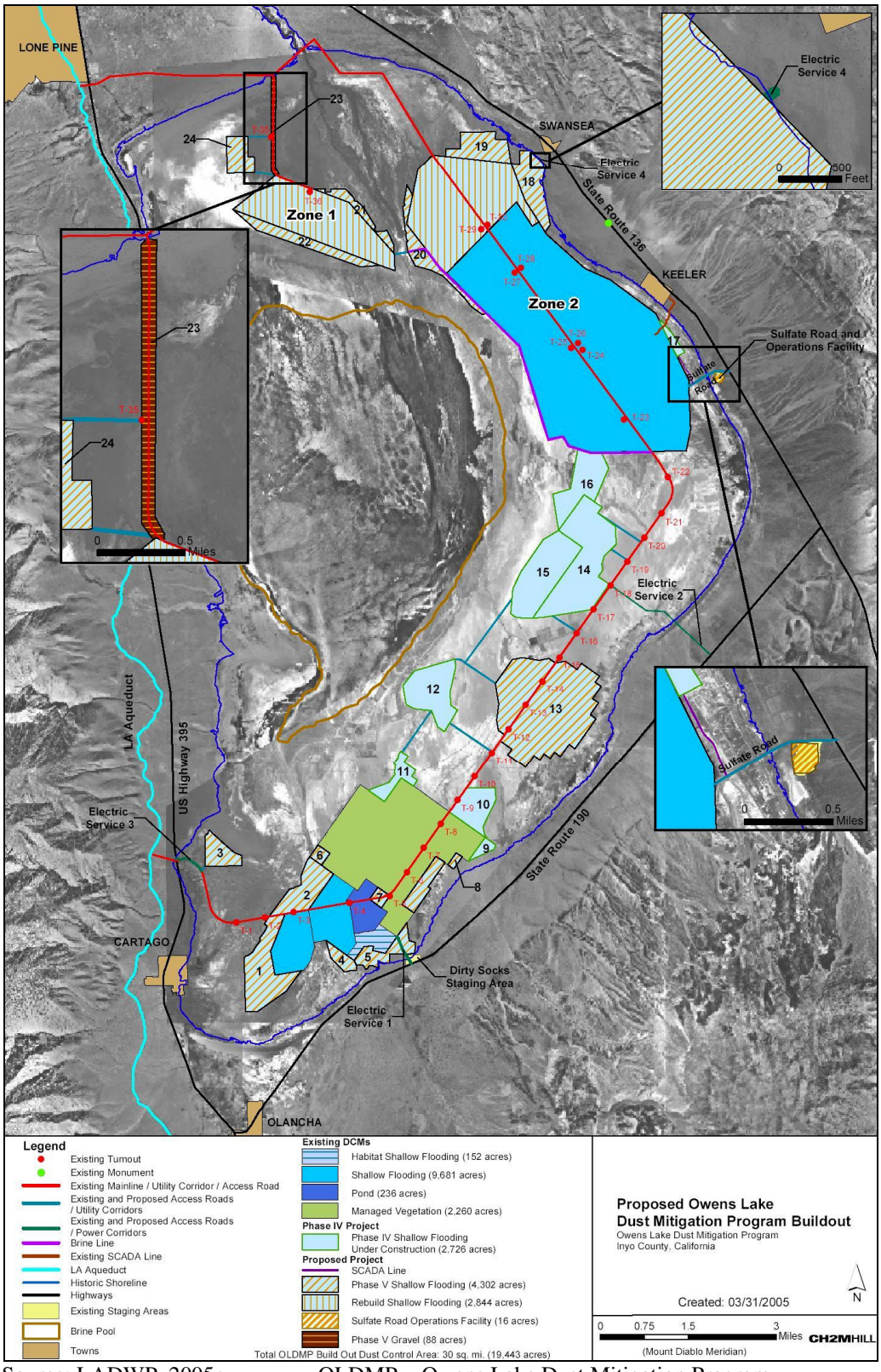
Since November 2001, over 24,000 acre-feet per year of Aqueduct water has been applied to the dust control areas on the lake bed (annual average of approximately 26,700 acre-feet from

2001/2002 through 2004/2005 water years). Once all planned areas are completed, dust control activities are expected to require approximately 54,000 acre-feet per year. **Figure 3-6** presents the amount of water applied onto the lake bed for dust control purposes on a monthly basis since November 2001.

As part of current permit conditions for the Lakebed Alteration Agreement with the California Department of Fish and Game (CDFG) and the SLC lease agreement for dust control activities in the southern portion of the lake bed, LADWP is maintaining 1,000 acres of shorebird habitat within the Zone 2 shallow flood area in accordance with a habitat management plan (LADWP, 2004b). Habitat management includes additional shallow flooding between July 1 and July 20 and monitoring for shorebird populations, predators of shorebirds, water quality and vegetation (LADWP, 2004b).

In addition, approximately 152 acres of the shallow flooding areas within the southeastern portion of the lake bed are designated as a Habitat Shallow Flood area, which are managed according to specific criteria to provide suitable foraging habitat for shorebirds. Management of the Habitat Shallow Flood areas includes maintenance of TDS concentrations to below 120,000 mg/L to support development of invertebrate forage species (alkali flies) (Regional Board Order no. R6V-2002-0011, adopted February 2002).

Figure 3-5
Existing and Future Dust Control Areas



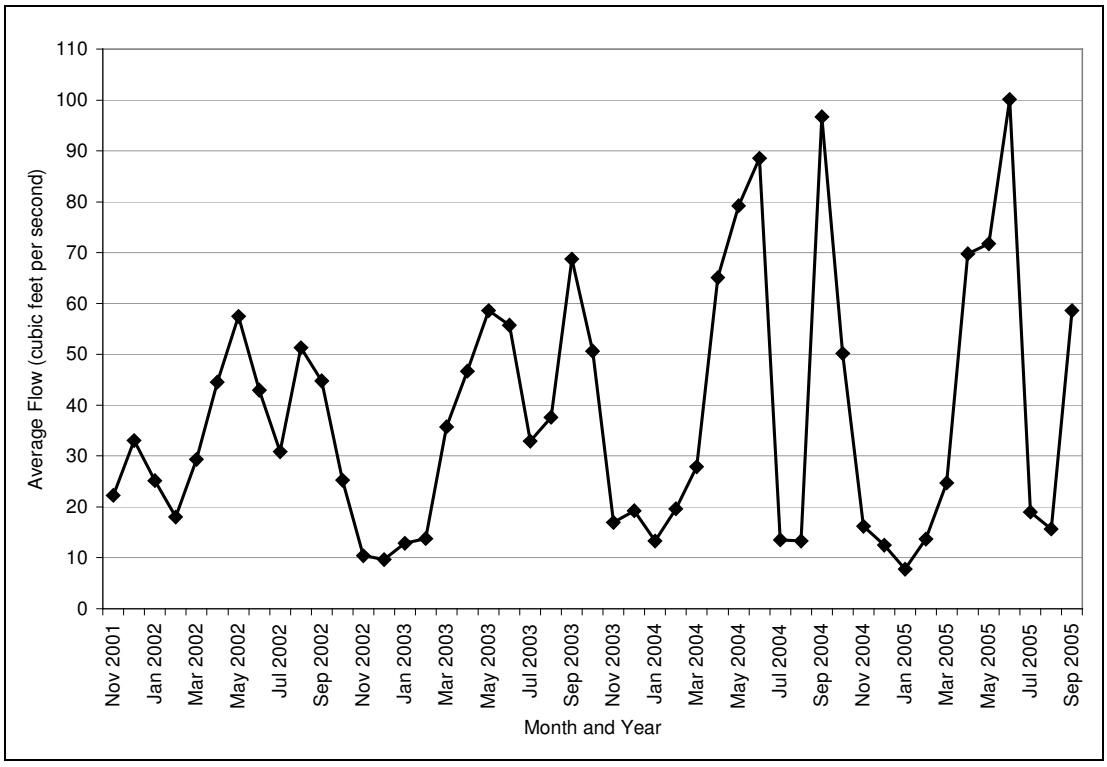
Source: LADWP, 2005c. OLDMP = Owens Lake Dust Mitigation Program

Table 3-3
Owens Lake Dust Mitigation Program Areas

Dust Control Area (see **Figure 3-1**)	Start of Operation	Approximate Surface Area (acres)				
		Shallow Flooding	**Operation Pond**	**Managed Vegetation**	**Gravel**	**Total**
Completed Areas						
North Sand Sheet Zone 2	January 2002	7,639	0	0	0	7,639
North Sand Sheet Zone 1	September 2002	1,179	0	0	0	1,179
Southern Zones	July 2002	0	211	2,401	0	2,612
Southern Zones	March 2003	1,004[(1)]	0	0	0	1,004
Phase IV	October 2005	2,387	0	0	0	2,387
Subtotal Completed Areas		*12,209*	*211*	*2,401*	*0*	*14,821*
Planned						
Phase V	November 2006[(2)]	4,435 [(3)]	0	-141[(3)]	88	4,382
Total		**16,644**	**211**	**2,260**	**88**	**19,203**

(1) Acreage includes 152 acres of Habitat Shallow Flood.
(2) Estimated schedule.
(3) Acreages include conversion of a portion of the existing managed vegetation area in the Southern Zones to shallow flooding. Shallow flooding acreage does not include the existing shallow flooding areas to be rebuilt (Zone 1 and the northern portion of Zone 2, a total of 2,844 acres) as part of Phase V (placing riprap on berms and modification to the pump system).

Figure 3-6
Aqueduct Water Delivered to the Owens Lake Dust Mitigation Program (November 2001 – September 2005, in cubic feet per second)



Brine Pool

The brine pool is defined as the portion of the Owens Lake bed below elevation 3,553.5 feet msl, (which is designated as the ordinary high water mark by the U.S. Army Corps of Engineers) (GBUAPCD, 1997). The brine pool has a surface area of approximately 20,000 acres, and its capacity has been estimated to be around 20,000 to 40,000 acre-feet (LADWP, 1947; GBUAPCD 2001 as cited in Jackson, 2001). The brine pool is a broadly concave and unvegetated area consisting of evaporative salt deposits and lake bed sediments. The brine pool substrate is saturated or covered with concentrated brine, and the brine level fluctuates from just below the surface to several inches above the surface, due to changes in evaporation and runoff conditions (GBUAPCD, 1997). The extent of surface water in the brine pool varies substantially on a seasonal basis and from year to year with the changes in the quantity of hydrologic inputs. The large fluctuation is also attributable to the fact that a small change in volume can result in substantial effects on the surface area because the brine pool is very shallow. Water in the brine pool can be red in color due to the presence of salt-tolerant bacteria.

Lake level records between 1938 and 1987 show that the extent of surface water within the brine pool was at least 20,000 acres in 31 out of 39 years and dropped below 5,000 acres in 26 out of those years (MHA 1995 as cited in Inyo County, 2004a). The range of surface water areas within the brine pool in more recent years is described below based on a review of Landsat images (satellite imagery, 15-meter or 30-meter resolution) that cover the entire lake bed and were taken in 2002 (two dates), 2004 (19 dates) and 2005 (eight dates) for the Owens Lake Dust Mitigation Program (see **Table 3-4**). The areal extent of surface water within the brine pool was delineated from these images by "heads-up" digitizing (the process of tracing outlines from a raster image on-screen).

As shown in **Table 3-4**, the acreage of surface water in the brine pool in 2002, 2004 and 2005 as delineated from the Landsat images ranged from less than 50 acres (less than 1 percent of the brine pool area) to approximately 20,000 acres (almost 100 percent of the brine pool area). Substantial seasonal and year-to-year fluctuations are evident. The general trend appears to be that the extent of surface water in the brine pool is minimal from approximately July through September, increases through fall and winter, and peaks around March before beginning to diminish. As shown in **Figure 3-7** through **Figure 3-10**, number and location of inundated areas can also vary.

Figure 3-7 (image dated September 17, 2004) represents the typical condition from approximately July through September, when surface water is present only in a small area along the west flank of the brine pool, which is topographically the lowest portion of the lake bed. Surface water in this area is likely maintained by the relatively consistent flow from the nearby Cottonwood Springs.

Figure 3-8 (image dated February 6, 2004) represents a condition in the winter where several bodies of water are present within the brine pool. The two main areas with surface water are the western margin (assumed to be supplied primarily by flows from Cottonwood Springs) and the northeastern portion directly south of the Delta. In addition, two smaller surface water areas are present in the far east portion (assumed to be supplied primarily by flows from Sulfate Well) and in the northwest portion (assumed to be supplied primarily by flows from Carroll Creek Springs).

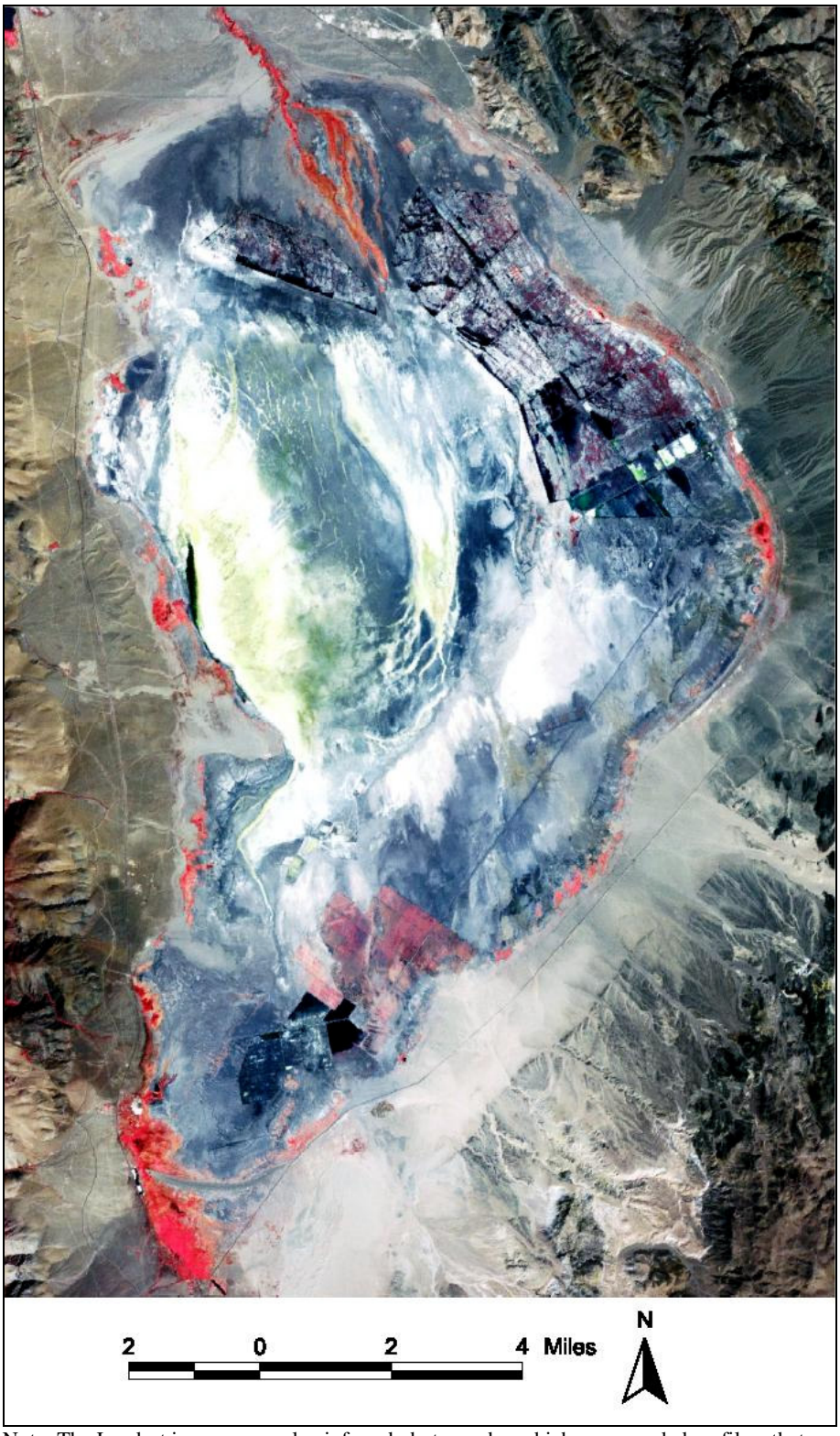
As shown in **Figure 3-9** (image dated November 15, 2002) and **Figure 3-10** (image dated March 12, 2005), these separate inundated areas can become connected as the water level rises in the brine pool. **Figure 3-10** represents the condition when the brine pool is almost entirely inundated.

Table 3-4
Areal Extent of Surface Water in the Brine Pool
Delineated from Satellite Imagery (2002, 2004, and 2005)

Month	2002		2004		2005	
	Date of Imagery	Estimated Acreage*	Date of Imagery	Estimated Acreage*	Date of Imagery	Estimated Acreage*
January	---		1/21	3,420	1/23	18,890
February	---		2/6	3,480	---	
March	---		3/9	6,440	3/12	20,330
			3/25	4,090		
April	---		4/10	1,130	4/13	18,750
			4/26	390	4/29	6,730
May	---		5/12	210	5/31	3,880
June	6/24	140	6/13	200	---	
			6/29	160		
July	---		7/23	130	7/2	40
					7/18	70
			7/31	110	7/26	50
August	---		---		---	
September	---		9/1	100	---	
			9/17	130	---	
October	---		10/3	190	---	
November	11/15	9,880	11/4	650	---	
			11/20	2,660		
			11/28	3,950		
December	---		12/14	1,660	---	
			12/22	3,630		

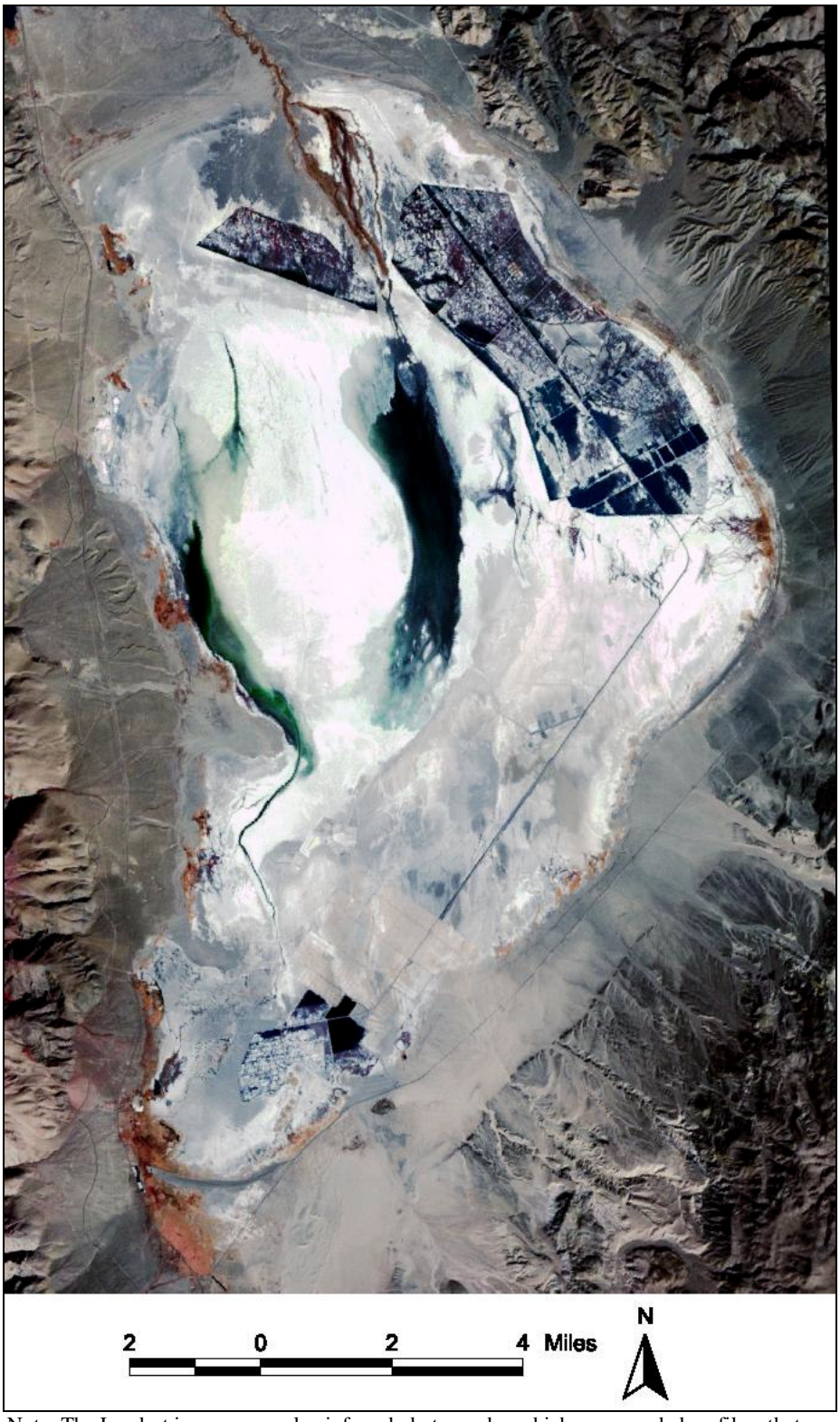
--- = No data
* Estimated acreage of surface water is based on delineation from Landsat images conducted by White Horse Associates.
Note: Precipitation in the Owens Valley was below average during the winter of 2003/2004, but was above average during the winter of 2004/2005.

Figure 3-7
Landsat Image of the Owens Lake Bed – September 17, 2004



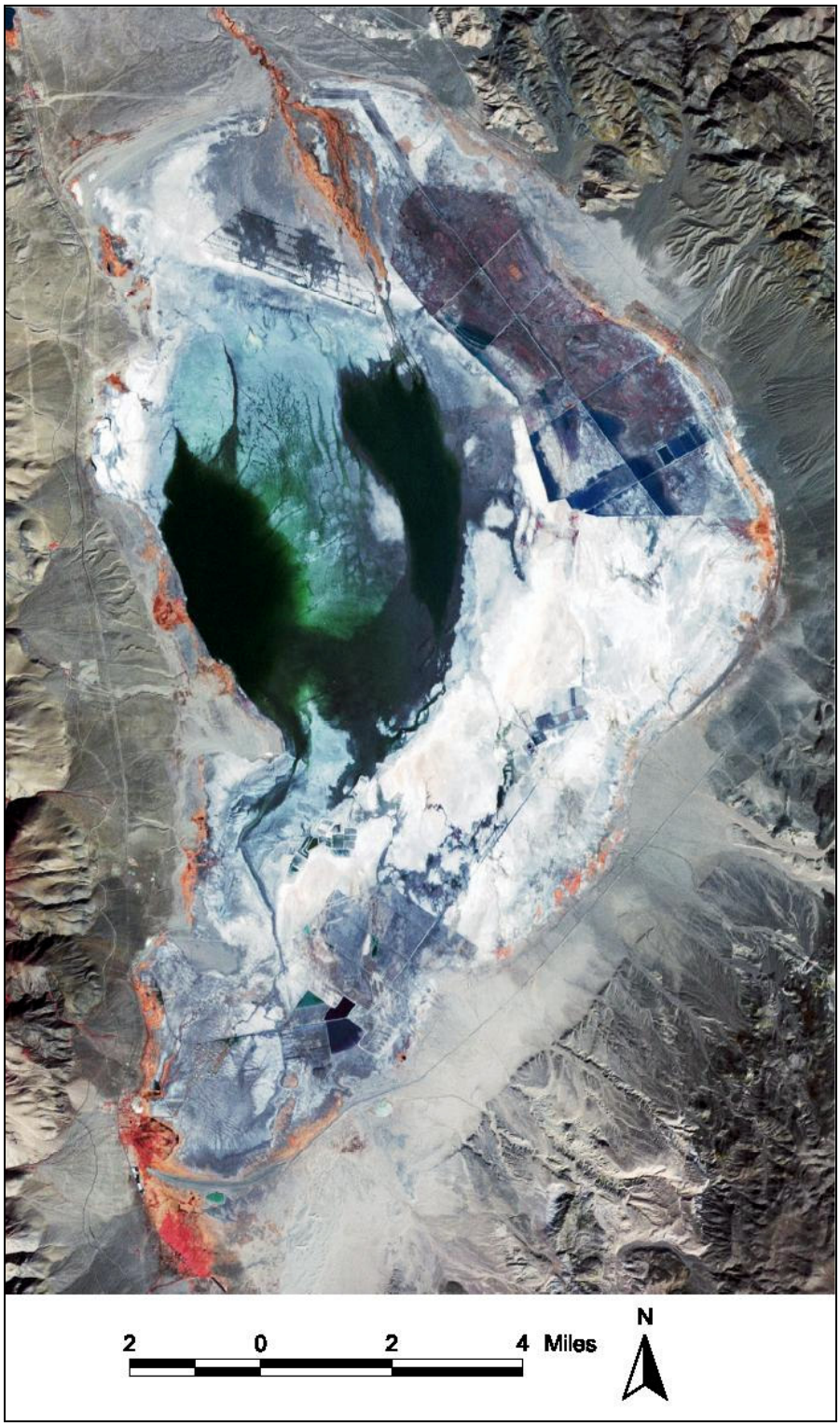
Note: The Landsat images are color-infrared photographs, which are recorded on films that are more sensitive to the near-infrared portion of the spectrum. Infrared energy reflected by active vegetation is represented by tones of red, and water is represented by black.

Figure 3-8
Landsat Image of the Owens Lake Bed – February 6, 2004



Note: The Landsat images are color-infrared photographs, which are recorded on films that are more sensitive to the near-infrared portion of the spectrum. Infrared energy reflected by active vegetation is represented by tones of red, and water is represented by black.

Figure 3-9
Landsat Image of the Owens Lake Bed – November 15, 2002



Note: The Landsat images are color-infrared photographs, which are recorded on films that are more sensitive to the near-infrared portion of the spectrum. Infrared energy reflected by active vegetation is represented by tones of red, and water is represented by black.

Figure 3-10
Landsat Image of the Owens Lake Bed – March 12, 2005

Note: The Landsat images are color-infrared photographs, which are recorded on films that are more sensitive to the near-infrared portion of the spectrum. Infrared energy reflected by active vegetation is represented by tones of red, and water is represented by black.

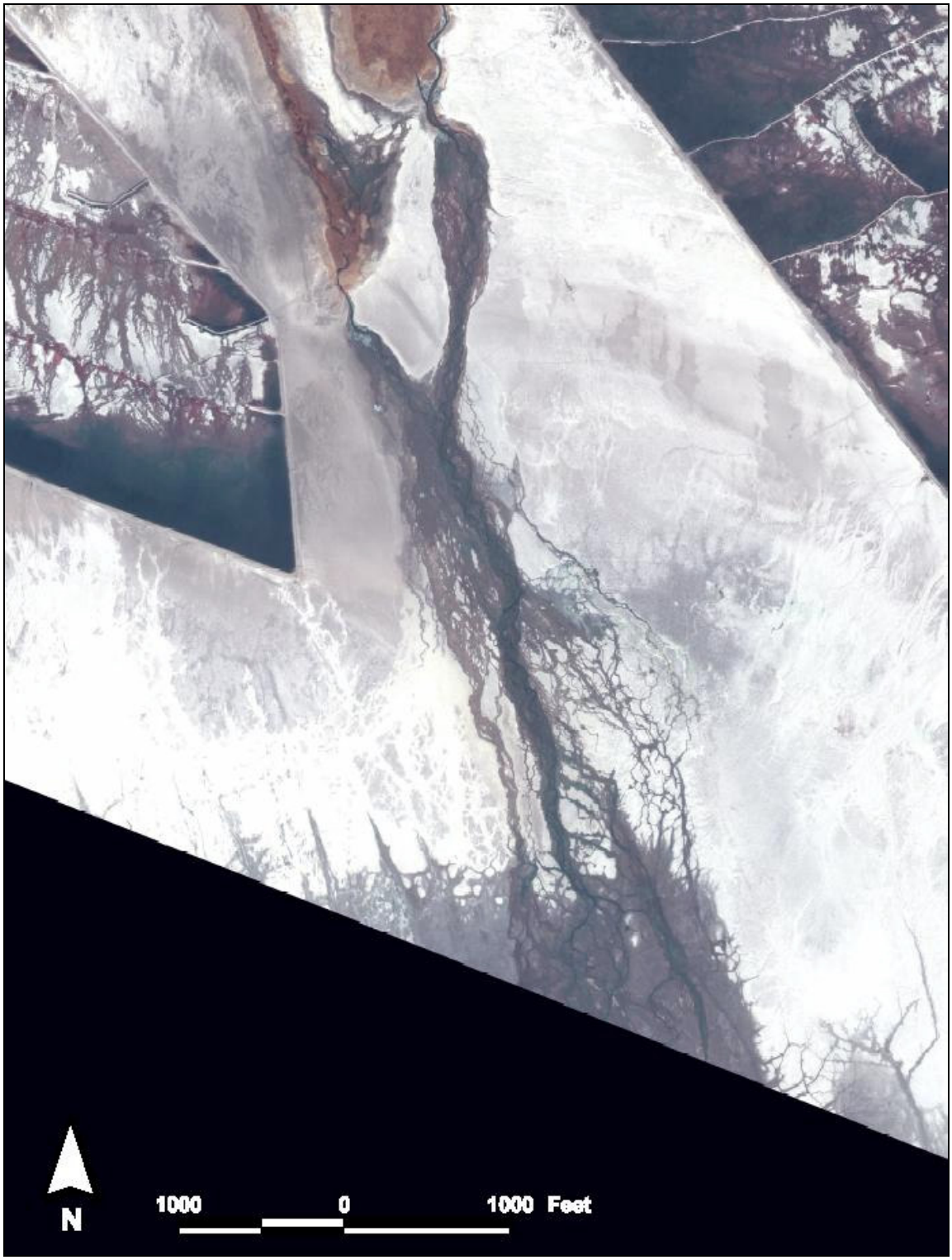
Brine Pool Transition Area

The focus of the analysis for this SEIR is the potential impacts on the lake bed that would result from operation of the proposed pump station, which would change the quantity and timing of Lower Owens River flows that reach the brine pool via the Delta. The specific area of interest is the brine pool transition area, which is a portion of the lake bed influenced by outflows from the Delta. This area is generally located in the northeastern portion of the brine pool and immediately south (downstream) of the end of the vegetated portions of the Delta (see **Figure 3-1**). The Zone 2 shallow flood area is located immediately to the northwest, Zone 1 shallow flood area is immediately to the northeast, and the Delta vegetation area is to the north. Vegetation is absent in the brine pool transition area. As described in further detail below, the hydrologic conditions in the brine pool transition area can vary seasonally and from year-to-year from completely dry, partially covered with meandering rivulets formed by outflows from the Delta, to partially or nearly completely inundated with standing water (see **Figure 3-11**, **Figure 3-12**, **Figure 3-13**, and **Figure 3-14**).

There are no gages that measure outflows from the Delta. Measurements at Keeler gage can be used to estimate inflows to the Delta but since specific channel loss rates (percolation, evaporation and evapotranspiration) are not known, the following sources of information (in addition to the Landsat images described above) were reviewed to qualitatively describe the hydrologic conditions in the brine pool transition area (the images and photographs that were reviewed are listed in **Table 3-5)**:

- Aerial photographs (1:12,000 scale, color images) covering the entire Delta and northeastern margin of the brine pool and taken in July 1993, August 1996 and April 1999
- Aerial photographs (2-foot resolution) taken in September 2000 and covering the entire lake bed
- Twenty-nine Landsat (satellite) 15-meter resolution images covering the entire lake bed and taken between June 2002 and July 2005
- Six QuickBird (satellite) 2-foot resolution images that cover the Delta, adjacent dust control areas (North Sand Sheet Zones 1 and 2), and northeastern portion of the brine pool, taken between January 2004 and February 2005
- One set of IKONOS (satellite) 1-meter resolution images covering most of the lake bed and taken in August 2005
- Photographs taken from a helicopter between January 2001 and March 2005
- Ground photographs and/or field observations between May 2001 and November 2005

Figure 3-11
Rivulets Formed by Outflows from the Owens River Delta
(QuickBird Satellite Imagery dated January 4, 2004)



Note: The QuickBird images are color-infrared photographs, which are recorded on films that are more sensitive to the near-infrared portion of the spectrum. Infrared energy reflected by active vegetation is represented by tones of red, and water is represented by black.

Figure 3-12
Helicopter Photographs of the Brine Pool Transition Area
(January 29, 2003)

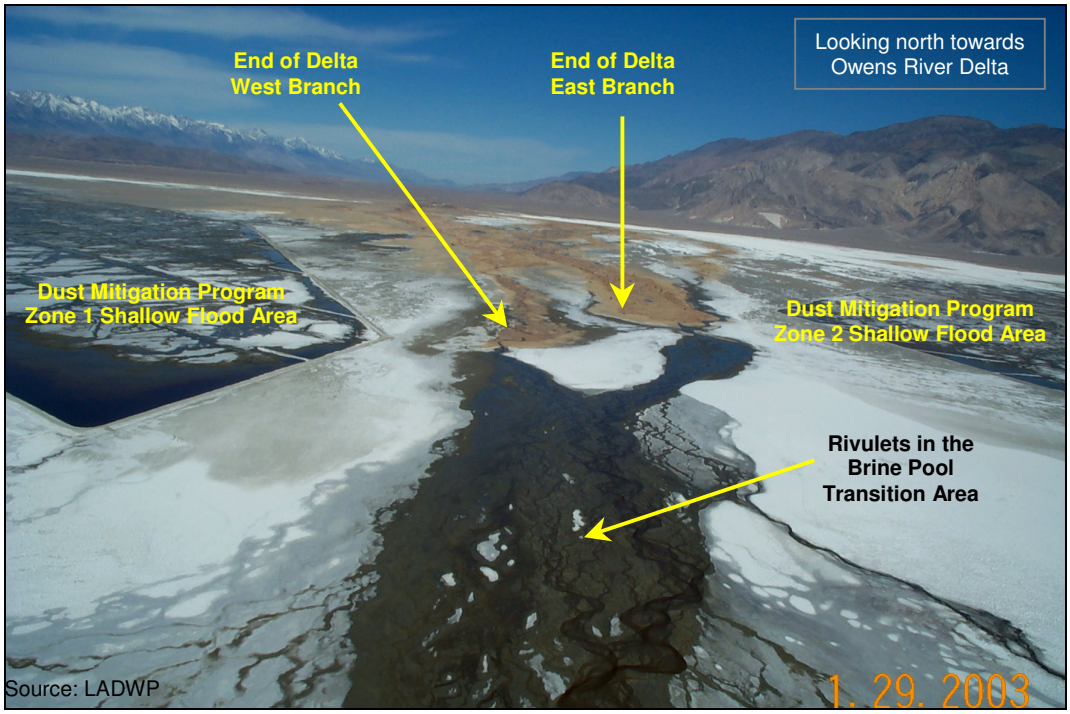
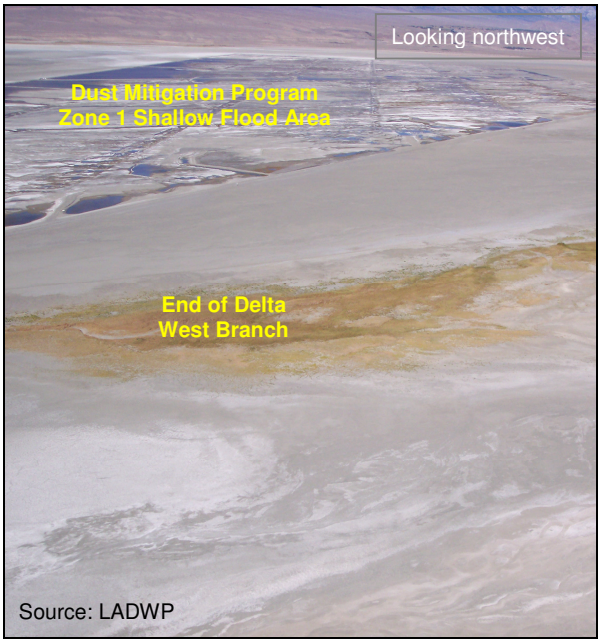
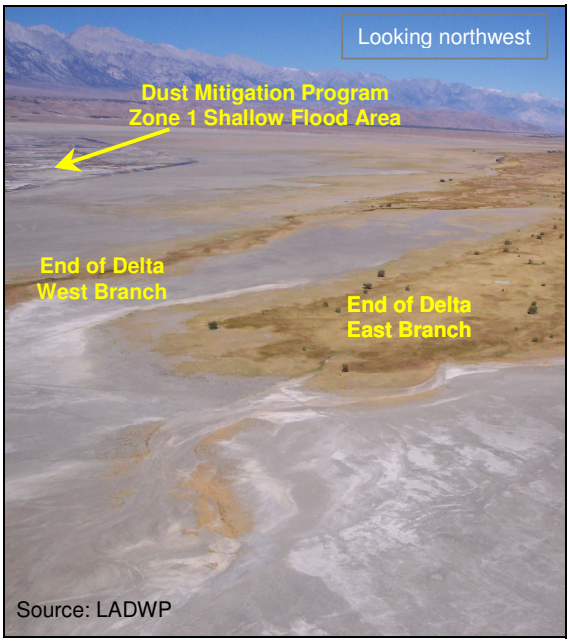


Figure 3-13
Helicopter Photographs of the Brine Pool Transition Area
(September 20, 2004)





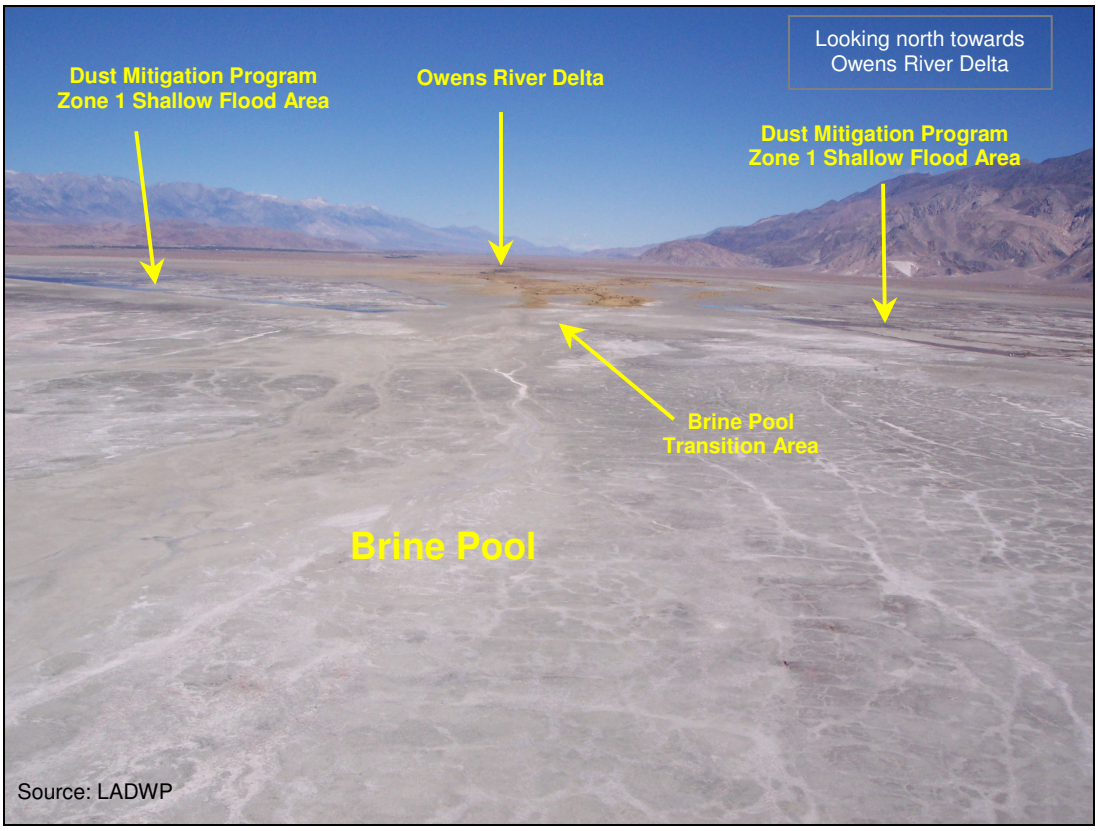
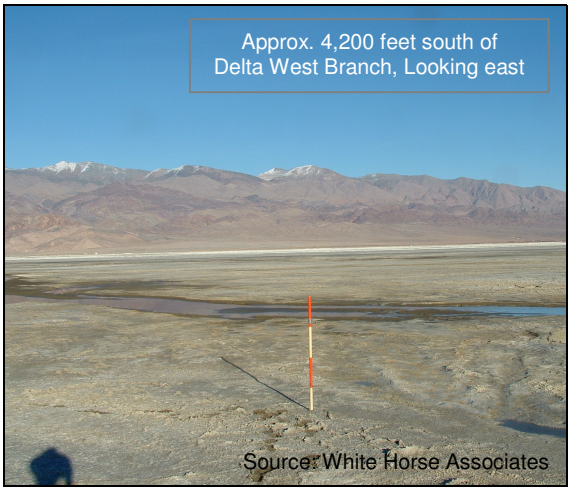
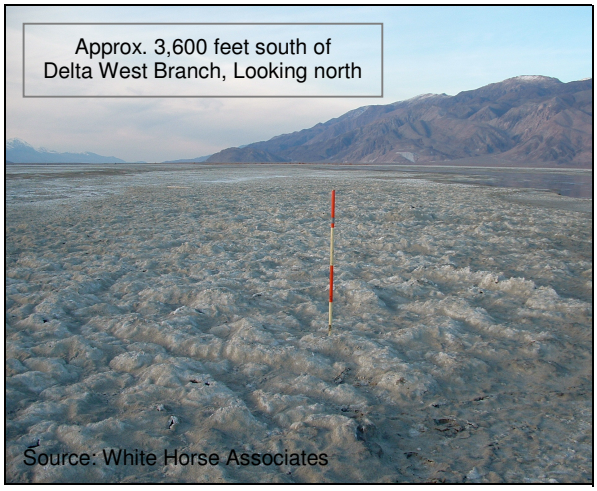
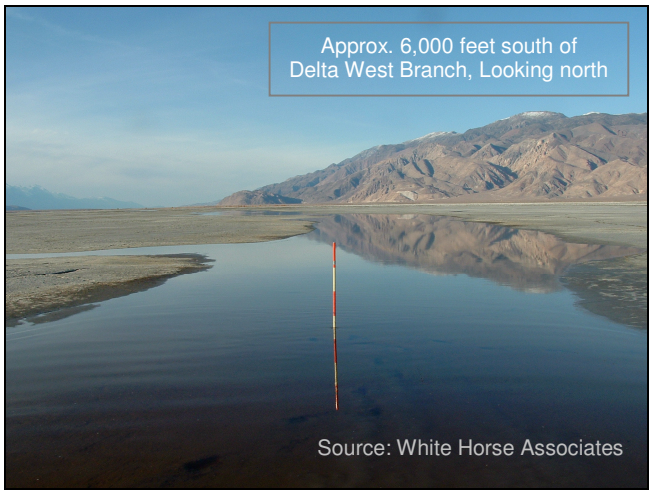


Figure 3-14
Ground Photographs of the Brine Pool Transition Area
(November 15, 2004)







Based on review of the above, the presence and absence of outflow from the Delta is noted in **Table 3-5** for each date of observation (remote imagery, helicopter/ground photographs, or field observations). The average daily flow measured at Keeler gage on the date of observation is also noted so that the presence/absence of outflow can be correlated to the discharge at Keeler gage; in addition, the minimum and maximum average daily flows for the 5-day period preceding and including the date of observation are noted.

The years covered by these data (1993, 1996, and 1999 through 2005) represent a range of precipitation/runoff conditions for the Owens Valley, from dry (2002), dry to average (1999, 2000, 2001, 2003 and 2004), and average to wet (2005).

The following observations are based on review of these data:

- Outflows from the Delta toward the brine pool generally occur from October/November through March/April.
- From May through September/October after 2000, there are typically no outflows from the Delta into the brine pool.
- In the summers after 2000, even relatively high River flows (greater than 9 cfs) measured at Keeler gage do not result in outflow from the Delta (see, for example, data for August 2002 and September 2004).
- In the winter when there are lower evapotranspiration rates, even lower River flows (as low as 5 cfs) measured at Keeler gage result in outflow from the Delta (see, for example, data for November 2004). However, the absolute minimum flow at Keeler gage which would result in outflow to the brine pool transition area cannot be determined from review of these data due to the high variability of seasonal and annual temperatures and hydrologic conditions.
- The rivulets of flowing water in the brine pool transition area can be observed within an area up to approximately 0.5-mile wide and extending up to approximately 2.5 miles into the brine pool from the southern end of the vegetated portions of the Delta. The rivulets drain into the northeastern portion of the brine pool (see **Table 3-4**). When the water level in the brine pool increases (i.e., boundary of the inundated portion moves north), the linear extent of the rivulets decreases to less than 1 mile.
- Based on field observations on November 15, 2004 by S. Jensen, White Horse Associates, outflows to the brine pool transition area were visually estimated to be less than 3 cfs, and the depth of water in the rivulets was estimated to range up to 2 to 3 inches. Flow at the Keeler gage was measured at 7.9 cfs on this date.
- Since the width of an individual rivulet is often less than 15 meters, the resolution of the Landsat images (15-meter or 30-meter) described above is not high enough to allow delineation of the wetted rivulets within the brine pool transition area. The QuickBird images have a higher resolution than the Landsat images, but they only cover approximately the northern one-third of the brine pool transition area, and are only available for a limited number of days. Therefore, the acreage of rivulets with flowing water within the brine pool transition area was approximated by using the following approach. First, the high-resolution (2-foot pixels) aerial photograph of the brine pool

transition area dated September 2000 was used to delineate the portion of the brine pool transition area with topography suitable for flooding by outflows from the Delta (a total of approximately 220 acres). Second, based on the delineation of the inundated portions of the brine pool from the Landsat images (see description above and **Table 3-4**), the acreage of the inundated portion of the brine pool transition area was subtracted from the 220 acres; the remaining acreage represents the approximate extent of the rivulets containing flowing water. This approach is based on the assumption that the locations of the rivulets (i.e., areas with topography suitable for flooding by outflows from the Delta) do not change substantially from year to year, and provides an estimate that is rounded to the nearest 10 acres.

Based on this approach, the extent of the rivulets with flowing water was approximated to range from around 10 to 30 acres (e.g., November, February and March of 2004 and January, March and Aril of 2005), 50 to 90 acres (January 2004, November 28, 2004, and December 2004), to 140 to 170 acres (November 4 and 20, 2004).

- Portions of the brine pool transition area that are outside of the rivulets (i.e., areas typically not subject to seasonal flooding by outflows from the Delta) consist of substrate that is saturated with hyper-saline water at or near the surface and are not distinguishable from the rest of the brine pool.

Table 3-5
Presence / Absence of Outflow from Owens River Delta

Data Source*	Data Type / Method of Observation	Date of Observation			Keeler Gage Flow (cfs)		Outflow from Delta?	Bird Use*** (See Section 3.2.3.1 and Appendix B)
		Year	Month	Day	Avg. Daily Flow on Date of Observation	Min-Max Avg. Daily Flows Previous 5-day Period**		
1993								
[1]	Aerial	1993	July	16	0.0	0.0-0.1	No	---
1996								
[2]	On Foot	1996	March	23	18.0	18.0	Yes	Yes
[2]	On Foot	1996	May	6	14.0	14.0-20.0	Yes	Yes
[1]	Aerial	1996	August	7	8.8	8.8-11.8	Yes	---
1999								
[1]	Aerial	1999	April	13	11.0	10.0-11.0	Yes	---
[2]	On Foot	1999	August	17	9.8	9.8-11.3	Yes	Yes
[2]	On Foot	1999	August	24	10.6	9.3-10.6	Yes	Yes
[2]	On Foot	1999	August	29	14.9	11.3-15.4	Yes	Yes
[2]	On Foot	1999	September	12	13.6	13.4-16.6	Yes	Yes
[2]	On Foot	1999	September	26	15.5	14.2-15.5	Yes	Yes
[2]	On Foot	1999	October	17	15.7	15.6-16.2	Yes	Yes
[2]	On Foot	1999	October	23	16.0	15.4-16.0	Yes	Yes

Table 3-5 (Continued)
Presence / Absence of Outflow from Owens River Delta

Data Source*	Data Type / Method of Observation	Date of Observation			Keeler Gage Flow (cfs)		Outflow from Delta?	Bird Use*** (See Section 3.2.3.1 and Appendix B)
		Year	Month	Day	Avg. Daily Flow on Date of Observation	Min-Max Avg. Daily Flows Previous 5-day Period**		
2000								
[2]	On Foot	2000	January	3	16.0	16.0-16.3	Yes	Yes
[2]	On Foot	2000	March	25	16.2	16.2-19.2	Yes	Yes
[2]	On Foot	2000	April	2	20.4	17.1-20.4	Yes	Yes
[2]	On Foot	2000	April	9	15.1	15.1-16.7	Yes	Yes
[2]	On Foot	2000	April	12	15.1	15.1-15.5	Yes	Yes
[2]	On Foot	2000	April	21	15.5	15.3-15.5	Yes	Yes
[2]	On Foot	2000	May	20	6.3	6.1-7.6	****	Yes
[2]	On Foot	2000	June	3	5.3	3.6-5.3	No	Yes
[2]	On Foot	2000	July	24	9.1	7.3-9.1	Yes	No
[2]	On Foot	2000	August	1	12.0	10.0-12.0	Yes	Yes
[2]	On Foot	2000	August	14	9.2	9.2-11.8	Yes	Yes
[2]	On Foot	2000	August	22	11.6	9.6-11.9	Yes	Yes
[1]	Aerial	2000	September	(Date un-known)	12.3 (average for September)	3.4-31.3 (min-max for September)	No	---
[3]	ATVs	2000	December	21	14.5	14.5-30.0	Yes	Yes
2001								
[3]	Helicopter	2001	January	3	13.8	13.1-13.8	Yes	No
[2]	On Foot	2001	April	1	11.0	11.0-16.4	Yes	Yes
[2]	On Foot	2001	April	15	9.2	8.1-9.2	Yes	Yes
[2]	On Foot	2001	April	22	6.9	6.9-9.3	Yes	Yes
[3]	On Foot	2001	May	15	3.6	3.3-4.1	No	No
[3]	Helicopter	2001	May	16	3.3	3.3-4.1	No	No
[2]	On Foot	2001	May	20	2.3	2.3-3.3	No	No
[3]	On Foot	2001	May	31	0.9	0.9-1.2	No	No
[2]	On Foot	2001	June	2	0.9	0.9-1.2	No	No
[2]	On Foot	2001	June	14	0.2	0.2-0.5	No	No
[2]	On Foot	2001	June	22	0.3	0.0-0.3	No	No
[2]	On Foot	2001	August	20	3.0	2.4-3.0	No	No
[2]	On Foot	2001	September	1	4.5	4.5-23.3	No	No
[2]	On Foot	2001	September	15	10.8	10.3-11.4	No	Yes
[2]	On Foot	2001	October	26	16.3	14.5-16.3	Yes	No

Table 3-5 (Continued)
Presence / Absence of Outflow from Owens River Delta

Data Source*	Data Type / Method of Observation	Date of Observation			Keeler Gage Flow (cfs)		Outflow from Delta?	Bird Use*** (See Section 3.2.3.1 and Appendix B)
		Year	Month	Day	Avg. Daily Flow on Date of Observation	Min-Max Avg. Daily Flows Previous 5-day Period**		
2002								
[2]	On Foot	2002	January	13	13.1	13.0-13.4	Yes	Yes
[2]	On Foot	2002	February	2	12.3	12.2-12.4	Yes	Yes
[2]	On Foot	2002	March	11	13.1	12.2-13.3	Yes	Yes
[2]	On Foot	2002	April	25	10.1	10.1-11.0	Yes	Yes
[4]	On Foot	2002	April	26	10.8	10.1-11.0	Yes	Yes
[2]	On Foot	2002	May	3	8.9	8.9-10.9	Yes	Yes
[4]	On Foot	2002	May	24	4.6	3.7-5.3	Yes	Yes
[4]	On Foot	2002	June	20	3.2	3.2-3.7	No	Yes
[6]	Landsat	2002	June	24	2.5	2.5-3.2	No	---
[4]	On Foot	2002	August	16	9.0	7.7-9.0	No	Yes
[4]	On Foot	2002	October	11	7.8	7.1-7.8	No	Yes
[6]	Landsat	2002	November	15	13.2	13.2-14.5	Yes	---
2003								
[3]	Helicopter	2003	January	29	11.6	11.2-11.6	Yes	---
[4]	On Foot	2003	January	30	11.4	11.2-11.6	Yes	Yes
[3]	Helicopter	2003	August	7	55.0*****	48.0-115.0	No	No
[2]	On Foot	2003	October	26	8.0	7.7-8.0	Yes	No
2004								
[7]	QuickBird	2004	January	4	9.6	9.5-9.8	Yes	---
[8]	Helicopter	2004	January	12	9.8	9.5-9.8	Yes	---
[6]	Landsat	2004	January	21	10.3	10.3-10.7	Yes	---
[7]	QuickBird	2004	February	4	10.8	10.3-10.9	Yes	---
[6]	Landsat	2004	February	6	10.5	10.3-10.9	Yes	---
[6]	Landsat	2004	March	9	11.7	11.7-12.3	Yes	---
[6]	Landsat	2004	March	25	9.2	9.2-9.7	Yes	---
[7]	QuickBird	2004	April	6	7.8	7.6-9.5	Yes	---
[6]	Landsat	2004	April	10	7.5	7.5-7.8	No	---
[6]	Landsat	2004	April	26	6.0	5.8-6.4	No	---
[7]	QuickBird	2004	May	4	5.0	5.0-5.6	No	---
[6]	Landsat	2004	May	12	3.4	3.4-4.8	No	---
[7]	QuickBird	2004	June	7	0.9	0.9-1.1	No	---
[6]	Landsat	2004	June	13	0.7	0.7-0.9	No	---
[6]	Landsat	2004	June	29	2.4	0.7-2.4	No	---
[6]	Landsat	2004	July	23	4.1	4.1-4.7	No	---
[6]	Landsat	2004	July	31	3.1	3.0-3.3	No	---

Table 3-5 (Continued)
Presence / Absence of Outflow from Owens River Delta

Data Source*	Data Type / Method of Observation	Date of Observation			Keeler Gage Flow (cfs)		Outflow from Delta?	Bird Use*** (See Section 3.2.3.1 and Appendix B)
		Year	Month	Day	Avg. Daily Flow on Date of Observation	Min-Max Avg. Daily Flows Previous 5-day Period**		
[6]	Landsat	2004	September	1	27.6	8.2-27.6	No	---
[8]	On Foot	2004	September	3	14.2	14.2-27.6	No	---
[6]	Landsat	2004	September	17	4.8	4.7-5.0	No	---
[8]	Helicopter	2004	September	20	4.9	4.7-4.9	No	---
[6]	Landsat	2004	October	3	7.8	7.2-7.8	No	---
[6]	Landsat	2004	November	4	4.7	4.7-5.4	Yes	---
[9]	On Foot	2004	November	15	7.9	6.7-7.9	Yes	---
[6]	Landsat	2004	November	20	8.4	8.0-8.5	Yes	---
[6]	Landsat	2004	November	28	7.4	7.4-8.2	Yes	---
[6]	Landsat	2004	December	14	8.5	7.9-8.5	Yes	---
[6]	Landsat	2004	December	22	9.2	8.8-9.2	Yes	---
2005								
[6]	Landsat	2005	January	23	13.4	13.4-13.5	Yes	---
[7]	QuickBird	2005	February	24	14.8	13.4-16.6	Yes	---
[6]	Landsat	2005	March	12	11.2	11.2-11.9	Yes	---
[3]	Helicopter	2005	March	28	9.5	9.5-9.9	Yes	No
[5]	On Foot	2005	April	1	9.6	9.5-9.6	Yes	Yes
[10]	On Foot	2005	April	3	9.7	9.5-9.7	Yes	Yes
[10]	On Foot	2005	April	11	8.9	8.6-8.9	Yes	Yes
[6]	Landsat	2005	April	13	8.8	8.8-8.9	Yes	---
[5]	On Foot	2005	April	14	8.4	8.4-8.9	Yes	Yes
[6]	Landsat	2005	April	29	7.0	6.7-7.0	Yes	---
[5]	On Foot	2005	April	29	7.0	6.7-7.0	Yes	Yes
[10]	On Foot	2005	May	1	7.1	6.7-7.2	Yes	Yes
[10]	On Foot	2005	May	8	6.0	6.0-6.6	Yes	Yes
[5]	On Foot	2005	May	13	5.5	5.5-5.9	Yes	Yes
[6]	Landsat	2005	May	31	2.0	2.0-2.9	No	---
[5]	On Foot	2005	June	2	2.3	2.0-2.6	No	Yes
[5]	On Foot	2005	June	24	1.3	1.1-1.5	No	Yes
[6]	Landsat	2005	July	2	1.2	1.1-1.2	No	---
[6]	Landsat	2005	July	18	5.9	4.6-5.9	No	---
[6]	Landsat	2005	July	26	4.8	4.8-6.3	No	---

Table 3-5 (Continued)
Presence / Absence of Outflow from Owens River Delta

Data Source*	Data Type / Method of Observation	Date of Observation			Keeler Gage Flow (cfs)		Outflow from Delta?	Bird Use*** (See Section 3.2.3.1 and Appendix B)
		Year	Month	Day	Avg. Daily Flow on Date of Observation	Min-Max Avg. Daily Flows Previous 5-day Period**		
[11]	IKONOS	2005	August	1	4.3	3.6-4.3	No	---
[5]	On Foot	2005	August	4	3.5	3.5-4.3	No	Yes
[12]	On Foot	2005	August	11	4.1	3.5-4.1	No	---
[5]	On Foot	2005	August	24	4.1	4.1-4.7	No	No
[5]	On Foot	2005	September	12	3.9	2.8-3.9	No	Yes
[5]	On Foot	2005	September	26	9.4	8.8-9.4	No	Yes
[5]	On Foot	2005	October	12	9.2	9.2-10.1	No	Yes
[5]	On Foot	2005	November	16	9.0	9.0-9.6	Yes	Yes

--- = Not noted.

* Data Sources:

[1] Aerial photographs analyzed by White Horse Associates (2004).

[2] Unpublished information submitted by M. Prather, Owens Valley Committee, to LADWP with a comment letter (dated September 20, 2005) on the NOP for this SEIR (see **Appendix A**). Based on personal communication (telephone) from M. Prather to A. Kawaguchi, MWH (November 1, 2005), water in the outflow area was assumed to be present for survey dates with no specific notation regarding presence or absence of flow.

[3] Unpublished information recorded during general habitat and condition surveys and compiled by D. House, LADWP Watershed Resources Specialist.

[4] Unpublished information collected by LADWP and Inyo County, and local volunteers for the Lower Owens River Project Baseline Bird Monitoring Survey and compiled by D. House, LADWP Watershed Resources Specialist.

[5] Unpublished information collected by LADWP for the Lower Owens River Project Baseline Bird Monitoring Survey and compiled by D. House, LADWP Watershed Resource Specialist

[6] Landsat satellite imagery obtained by LADWP for the Owens Lake Dust Mitigation Program.

[7] QuickBird satellite imagery obtained by LADWP for the Owens Lake Dust Mitigation Program.

[8] Photographs taken by LADWP staff from a helicopter.

[9] Photographs and field observations by S. Jensen, White Horse Associates, on November 15, 2004.

[10] Unpublished information (data recorded as part of the International Shorebird Survey) submitted by M. Prather, Owens Valley Committee (personal communication to W. Bamossy, LADWP, October 12, 2005)

[11] IKONOS satellite imagery obtained by LADWP for the Owens Lake Dust Mitigation Program.

[12] Photographs and field observations by S. Garber, MWH, on August 11, 2005.

** Range of values indicate the minimum and maximum average daily flows measured at Keeler gage during the 5-day period preceding and including the date of observation.

*** For each date of observation with "Yes" in this column, the number and species of birds observed on that date are presented in **Appendix B**. "No" indicates that there were no birds observed on that date. "---" indicates that there are no bird data available for that date.

**** Noted as central channel dry by source [2].

***** High flows at Keeler gage due to an emergency release from the Aqueduct to the River as a result of flash floods in the southern Owens Valley caused by thunderstorms. While not outflows from the Delta were noted on the date of observation, it is likely that outflows were present in the preceding days since substantial flooding of the northeastern portion of the brine pool is evident in the helicopter photographs.

3.2.2.3 Groundwater

The Owens Lake is underlain by the Owens Lake groundwater subbasin, which is the southern most part of the Owens Valley groundwater basin. The Owens Valley groundwater basin extends 120 miles north from Haiwee Reservoir (located south of Owens Lake) to the California-Nevada border in Mono County (Inyo County, 2004a), and is bounded by the Benton Range on the north, the Coso Range on the south, the Sierra Nevada on the west, and the White and Inyo Mountains on the east (CDWR, 2004). The general trend of groundwater flow is toward the center of the valley and to the south (GBUAPCD, 2003).

In the upper 1,000 feet below the Owens Lake bed, it is postulated that there are four aquifer bodies, consisting of a sequence of clay deposits (aquitards) interbedded with several sand/gravel deposits (aquifers) (GBUAPCD, 2003). An upward gradient of groundwater is present within the lake bed (GBUAPCD, 1997). Artesian conditions are common on the margins of the lake and the lake itself. Because of this upward vertical flow, the lower elevations of the lake bed are saturated, and groundwater is at or near the surface over a wide area of the lake bed. The playa areas of the lake bed are underlain by shallow groundwater, with depths to groundwater ranging between zero at seeps and springs, 2 to 4 feet in the Delta and 10 to 16 feet in the crusted clay areas in the southeastern portion of the lake bed (Inyo County, 2004a; Regional Board, 2005a). The general hydrologic gradient in the shallow groundwater is toward the brine pool (GBUAPCD, 2003). The gradients in the deeper aquifers are thought to be generally toward the southern portion of the lake (GBUAPCD, 2003).

Sources of groundwater inflows into the Owens Lake subbasin include (GBUAPCD, 1997):

- Subsurface flows from the northern portion of the Owens Valley basin (5,000 to 20,000 acre-feet per year) and Centennial Flat/other areas (1,500 to 3,400 acre-feet per year)
- Stream channel recharge in the surrounding mountains (5,550 to 9,800 acre-feet per year)
- Mountain block recharge (water entering the groundwater basin via cracks and crevices of the bedrock in the mountains; 4,000 to 10,000 acre-feet per year)
- Infiltration into the shallow groundwater system through the Delta [Note, infiltration was estimated by GBUAPCD to be 3,840 to 7,800 acre-feet per year based on long-term (since 1927) average flow data.]
- Recharge through the alluvial fan due to direct precipitation and infiltration (330 to 980 acre-feet per year)

Groundwater is naturally discharged from the underlying aquifers as spring flow or through evaporation of confined water leaking upward; the artesian flowing wells/springs in this area of the lake draw from these aquifers. Groundwater discharges from the Owens Lake due to evaporation from the playa and brine pool are estimated to average 20,190 and 17,600 acre-feet per year, respectively (GBUAPCD, 1997). Groundwater discharges from seeps and springs (evapotranspiration and outflow) are estimated to average 12,250 acre-feet per year (GBUAPCD, 1997).

In the valley, groundwater is pumped for domestic, grazing, and irrigation use, and for export to the City of Los Angeles via the Los Angeles Aqueduct. Groundwater pumping from the Owens Lake aquifers occurs to supply the potable water needs of nearby communities, as well as exportation for commercial uses (GBUAPCD, 2003). As reported by GBUAPCD (2003), the estimated average annual Owens Lake basin groundwater pumpage is approximately 5,173 acre-feet per year. A more recent analysis conducted for the Crystal Geyser Roxane Beverage Bottling Plant EIR estimated that the total groundwater use in the Owens Lake sub-basin is on the order of 1,170 acre feet per year (Inyo County, 2004b).

3.2.2.4 Water Quality

Basin Plan Objectives

The Owens Lake lies within the jurisdiction of the California Regional Water Quality Control Board, Lahontan Region (Regional Board). The Regional Board establishes water quality standards for the Lahontan Region in its Water Quality Control Plan, commonly known as the Basin Plan (Regional Board, 1994). The Basin Plan presents designated beneficial uses for surface and ground waters and numeric and narrative water quality objectives necessary to achieve the beneficial uses. In addition, the Basin Plan includes the Nondegradation Objective, which applies to all waters of the Lahontan Region. The Nondegradation Objective requires continued maintenance of existing high quality waters; whenever the existing quality of water is better that the quality of water established in this Basin Plan as objectives, such existing quality is to be maintained unless appropriate findings are made under the policy.

The Basin Plan does not contain numeric water quality objectives specific to Owens Lake. Of the Basin Plan water quality objectives that apply to all surface waters (including wetlands) within the Lahontan Region (Basin Plan Chapter 3, "Water Quality Objectives"), the following may be relevant to the proposed project.

Nondegradation of Aquatic Communities and Populations

- All wetlands shall be free from substances attributable to wastewater or other discharges that produce adverse physiological responses in humans, animals, or plants; or which lead to the presence of undesirable or nuisance aquatic life.
- All wetlands shall be free from activities that would substantially impair the biological community as it naturally occurs due to physical, chemical and hydrologic processes.

Temperature

- The natural receiving water temperature of all waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such an alteration in temperature does not adversely affect the water for beneficial uses.
- For waters designated WARM, water temperature shall not be altered by more than five degrees Fahrenheit (5°F) above or below the natural temperature. For waters designated COLD, the temperature shall not be altered.

- Temperature objectives for COLD interstate waters and WARM interstate waters are as specified in the "Water Quality Control Plan for Control of Temperature in The Coastal and Interstate Waters and Enclosed Bays and Estuaries of California" including any revisions.

Basin Plan Chapter 4 ("Implementation") describes the actions (to be implemented by Regional Board, other state agencies, or others) necessary to achieve the water quality objectives. Chapter 4.9 ("Resources Management and Restoration") describes the water quality protection policies, resource management and restoration activities, their related water quality problems and control actions. The Regional Board identified the following subsections of Chapter 4.9 as potentially relevant to the proposed project (Regional Board comment letter on the NOP for this SEIR, see **Appendix A**): Water Quality/Quantity Issues, Wetlands Protection and Management, Floodplain and Riparian Area Protection, Sensitive Species and Biological Communities, and Watershed Restoration. The operation of the proposed LORP pump station would not conflict with the policies described in these subsections, and would not hinder implementation of the control actions and recommended future actions described in these subsections.

Designated beneficial uses for surface and ground waters of the Owens Lake area are shown in **Table 3-6**.

Table 3-6
Beneficial Uses for Surface and Ground Waters of the Owens Lake Area

Beneficial Use	Surface Water				Ground-water
	Owens Lake (Intermittent Lake)	Owens Lake Wetlands (Wetlands)	Minor Surface Waters of the Lower Owens Hydrologic Area	Minor Wetlands of the Lower Owens Hydrologic Area	Owens Valley Basin
Municipal and Domestic Supply (MUN) – Community, military, or individual water supply systems including, but not limited to, drinking water supply	X*	X*	X	X	X
Agricultural Supply (AGR) – Farming, horticulture, or ranching, including, but not limited to, irrigation, stock watering, and support of vegetation for range grazing		X	X	X	X
Industrial Service Supply (IND) – Industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, geothermal energy production, hydraulic conveyance, gravel washing, fire protection, and oil well repressurization			X		X
Groundwater Recharge (GWR) – Natural or artificial recharge of ground water for purposes of future extraction, maintenance of water quality, or halting of saltwater intrusion into freshwater aquifers		X	X	X	
Freshwater Replenishment (FRSH) – Natural or artificial maintenance of surface water quantity or quality (e.g., salinity).				X	X
Water Contact Recreation (REC-1) – Recreational activities involving body contact with water where ingestion of water is reasonably possible	X	X	X	X	
Non-contact Water Recreation (REC-2) – Recreational activities involving proximity to water, but not normally involving body contact with water where ingestion of water is reasonably possible	X	X	X	X	
Commercial and Sportfishing (COMM) – Commercial or recreational collection of fish or other organisms including, but not limited to, uses involving organisms intended for human consumption.	X		X	X	
Warm Freshwater Habitat (WARM) – Warm water ecosystems including, but not limited to, preservation and enhancement of aquatic habitats, vegetation, fish, and wildlife, including invertebrates	X	X	X	X	
Cold Freshwater Habitat (COLD) – Cold water ecosystems including, but not limited to, preservation and enhancement of aquatic habitats, vegetation, fish, and wildlife, including invertebrates	X	X	X	X	
Inland Saline Water Habitat (SAL) – Inland saline water ecosystems including, but not limited to, preservation and enhancement of aquatic saline habitats, vegetation, fish, and wildlife, including invertebrates	X				

Table 3-6 (Continued)
Beneficial Uses for Surface and Ground Waters of the Owens Lake Area

Beneficial Use	Surface Water				Ground-water
	Owens Lake (Intermittent Lake)	Owens Lake Wetlands (Wetlands)	Minor Surface Waters of the Lower Owens Hydrologic Area	Minor Wetlands of the Lower Owens Hydrologic Area	Owens Valley Basin
Wildlife Habitat (WILD) – Wildlife habitats including, but not limited to, the preservation and enhancement of vegetation and prey species used by wildlife, such as waterfowl	X	X	X	X	X
Rare, Threatened, or Endangered Species (RARE) – Habitat necessary for the survival and successful maintenance of plant or animal species established under state and/or federal law as rare, threatened or endangered.			X		
Spawning, Reproduction, and Development (SPWN) – High quality aquatic habitat necessary for reproduction and early development of fish and wildlife.			X		
Water Quality Enhancement (WQE) – Beneficial uses of waters that support natural enhancement or improvement of water quality in or downstream of a water body including, but not limited to, erosion control, filtration and purification of naturally occurring water pollutants, streambank stabilization, maintenance of channel integrity, and siltation control		X		X	
Flood Peak Attenuation/Flood Water Storage (FLD) – Riparian wetlands in flood plain areas and other wetlands that receive natural surface drainage and buffer its passage to receiving waters.		X		X	

Source: Regional Board, 1994.

* In April 2005, the Regional Board proposed to remove the MUN designation from surface waters of Owens Lake (Regional Board, 2005a). In addition, the proposal included dividing the existing entry "Owens Lake Wetlands" into "Owens Lake Wetlands Below 3600 Feet" and "Owens Lake Wetlands Above 3600 Feet" to clarify that the MUN designation would not apply to wetlands and other surface waters below the historic shoreline of Owens Lake. These proposed Basin Plan amendments were approved by the Regional Board in July (2005b) and by the State Water Resources Control Board in October (SWRCB, 2005), and final approval from the U.S. Environmental Protection Agency is pending.

Existing Water Quality

As a terminal lake, Owens Lake had high salinity even before diversions from the Owens River and other streams draining to the lake began in the late 1800's. In a USGS study (Smith and Bischoff 1993, as cited in Regional Board, 2005a) the salinity of the lake in 1872 was estimated to be 90,000 milligrams per liter (mg/L). According to a USGS paper in 1920, measured concentrations of total dissolved solids (TDS) in Owens Lake between 1890 and 1914 ranged from 16,000 to 240,000 mg/L (Williams 2002, as cited in Regional Board, 2005a)[5].

[5] For reference, the concentration of TDS in sea water is generally around 35,000 mg/L. In drinking water, TDS are regulated since they may adversely affect the taste, odor or appearance of drinking water. Per California drinking

In addition to high salinity, water quality in the Owens Lake exhibits high concentrations of arsenic[6]. Arsenic is a naturally occurring constituent from geothermal sources in the headwaters, and becomes concentrated through evaporation. A summary of water quality characteristics of water features draining to or located within the Owens Lake bed is provided below.

- **Lower Owens River –** The mean TDS concentration measured over a 10-year period from portions of the Owens River upstream of the River Intake was less than approximately 300 mg/L (Hollett et al. 1991, as cited in GBUAPCD, 1997). TDS concentrations in downstream reaches of the River are generally higher than in the upstream reaches. In a study conducted by Inyo County in 1995 and 1996 (as cited in LADWP, 2004a), average TDS values in the River were 178 mg/L at Mazourka Canyon Road, 421 mg/L near Keeler gage, and 603 mg/L at the proposed LORP pump station site. In a study conducted in 1999 by Inyo County (as cited in LADWP, 2004a), TDS values in the River were around 600 mg/L near the pump station site and 300 to 600 mg/L near Keeler gage.
- **Other Stream Flows –** Average TDS concentrations in runoff from the Coso and Inyo Mountains have been reported as 508 and 532 mg/L, respectively (GBUAPCD, 1997).
- **Seeps and Springs / Groundwater –** The groundwater quality beneath the lake bed can be classified as non-potable, due in part to high TDS concentrations (GBUAPCD, 1997). Deep groundwater discharged from the seeps, springs and wells along the lake margin is generally brackish (TDS values in the 1,000 to 6,000 mg/L range), with locations in the north typically having lower TDS concentrations than those in the south (GBUAPCD, 1997). Brackish water is found in all of the aquifers underlying the top lake bed clay layer (GBUAPCD, 1997). Arsenic concentrations in deep wells have been reported to be generally less than 40 micrograms per liter (µg/L) but range up to 790 µg/L (November 2002 reports by Sierra Geosciences prepared for GBUAPCD, as cited in Regional Board, 2005a). Water quality in shallow groundwater is generally poor. In a GBUAPCD sampling of shallow groundwater in May to June of 2001, TDS concentrations ranged from approximately 40,000 to 114,000 mg/L, and arsenic concentrations ranged from approximately 11,000 to 164,000 µg/L (Regional Board, 2005a).
- **Dust Mitigation Program Areas** – Water applied to the dust control areas comes from the Aqueduct, which is fed by runoff from the eastern slopes of the Sierra Nevada mountains. Water applied to shallow flooding areas is recirculated, with freshwater added to compensate for evaporation and infiltration losses. In samples collected from Aqueduct spillgates located north of the lake, average TDS concentrations ranged from 119 to 129 mg/L in the 1995/1996 Inyo County study (as cited in LADWP, 2004a) and from 220 to 230 mg/L in a study conducted in April 2002 (Inyo County and LADWP,

water regulations, the secondary maximum contaminant levels for TDS are 500 mg/L (recommended), 1,000 mg/L (upper), and 1,500 mg/L (short-term) (California Code of Regulations, Title 22, Division 4, Chapter 15, Article 16).

[6] For reference, per federal drinking water regulations, the new arsenic maximum contaminant level of 10 µg/L becomes effective on January 23, 2006 (66 Federal Register 6976-7066). Arsenic is regulated since ingestion can pose a risk of cancer.

2004). In the April 2002 study, arsenic concentrations in the Aqueduct were approximately 25 µg/L (Inyo County and LADWP, 2004). TDS concentrations in surface water in Zone 2 shallow flooding areas ranged from 6,000 to 150,000 mg/L (LADWP, 2004b).

- **Brine Pool** – Concentrations of TDS in the brine pool are estimated to range from 250,000 to 400,000 mg/L, depending on the seasonally-variable freshwater inputs (GBUAPCD, 1997). When storm flows partially refill the brine pool, TDS concentrations range from 120,000 mg/L to over 200,000 mg/L (GBUAPCD, 2003). In an unpublished study by the Regional Board and CDFG in 2001, the concentration of TDS in the brine pool was reported to be 430,000 mg/L (Regional Board, 2005a). In a study conducted in support of the NPDES permit application for U.S. Borax facilities, concentration of arsenic in the brine pool was reported as 110,000 µg/L (Regional Board, 2005a).
- **Owens River Delta Outflows** – There are limited water quality data for Delta outflows. In the unpublished study by the Regional Board and CDFG in 2001, the concentration of TDS in the "wetland runoff" was reported to be 1,000 mg/L, and arsenic concentration was below the reporting limit of 0.2 micrograms per gram (µg/g) (Regional Board, 2005a). The concentration of TDS in the "runoff pool" was reported to be 28,500 mg/L, and the concentration or arsenic was 9 µg/g (Regional Board, 2005a). Natural runoff pools on the Owens Lake playa dissolve surface salts and become more saline through evaporation (Regional Board, 2005a).

3.2.3 Biological Resources

3.2.3.1 General Biological Resources

Vegetated Areas

Due to the arid and saline conditions, the majority of the lake bed is devoid of vegetation or sparsely vegetated. Vegetation is present primarily in the Delta, around the seeps and springs located along the lake bed margin, and in the managed vegetation areas where saltgrass has been planted as part of the Dust Mitigation Program. The boundary between wetland vegetation and surrounding desert scrub or bare playa is typically stark, with little transition area (GBUAPCD, 1997). Wetland / riparian plant community types present in the Owens Lake area include Alkali Seep, Modoc-Great Basin Cottonwood-Willow Riparian Forest, and Transmontane Alkali Meadow[7] (GBUAPCD, 1997). The upland areas along the margin of and surrounding the lake bed generally consist of the Shadscale Scrub community (GBUAPCD, 1997). Detailed descriptions of species found in the Alkali Seep, Modoc-Great Basin Cottonwood-Willow Riparian Forest, and Transmontane Alkali Meadow are provided in the EIR for the SIP (GBUAPCD, 1997; GBUAPCD, 2003).

[7] In the LORP Final EIR (LADWP, 2004a), different names are used to describe the wetland/riparian vegetation types based on a study that focused specifically on the Owens River Delta. The classification used in the GBUAPCD 1997 EIR is based on a study of vegetation types present in the Owens Lake area as a whole.

Most of the vegetated areas on the lake bed consist of the Alkali Meadow community, which is comprised of various plant species that tolerate soil conditions ranging from permanently saturated to relatively dry (GBUAPCD, 1997). Species diversity decreases with distance from water sources, and in areas farthest from available water sources, vegetation is usually composed of a single species, inland saltgrass (*Distichlis spicata*) (GBUAPCD, 1997).

Approximately 2,400 acres of managed vegetation areas for dust control have been developed in the southeastern portion of the formerly unvegetated portions of the lake bed playa. These areas consist of irrigation fields that have been planted with saltgrass. A subsurface drip irrigation system is used to supply water to the fields. Depending on the density of saltgrass, the nature of the landscape and surrounding area, and the level of human disturbance, the managed vegetation areas may support some of the wildlife species observed in the Transmontane Alkali Meadow community or unvegetated playa of the lake bed.

Unvegetated Playa

Most of the Owens Lake bed consists of unvegetated playa areas covered with salt crusts and sand. Portions of the unvegetated playa are wetted perennially or seasonally from natural water sources, including discharges from seeps and springs or outflows from the Delta (see **Section 3.2.2.2**). These areas serve as wildlife habitat, primarily for invertebrates and shorebirds and other birds that feed on the invertebrates. There are no fish, reptile or amphibian species that are known or expected to occur on the unvegetated playa.

In addition, as described in **Section 3.2.2.2**, shallow flooding for dust control is implemented in large portions of the unvegetated playa areas from October 1 to June 30 each year. Since the first phase of the Dust Mitigation Program began in January 2002, the shallow flooding areas have resulted in creation of extensive shorebird habitat, including ponds and shallow pools with saturated perimeter mudflats, all within areas of open playa (LADWP, 2004b).

Invertebrates

Invertebrates known to occur in the unvegetated playa habitat include at least four species of tiger beetles (*Cicindela* species), alkali flies (Family Ephydridae, also called brine flies), midges (Family Chironomidae), water boatmen (Family Corixidae), water scavenger beetles (Family Hydrophilidae), soldier flies (Family Stratiomyidae), predaceous diving beetles (Family Dytiscidae), backswimmers (Family Notonectidae), biting midges (Family Ceratoponidae), and horse flies (Family Tabanidae) (GBUAPCD, 1997).

Alkali flies are abundant in areas where spring mounds and freshwater streams discharge into alkaline playa habitats; they play an important role as the dominant consumer species in these habitats, and serve as an essential food source to a majority of the shorebirds and waterfowl using standing water on the playa (GBUAPCD, 1997). Since implementation of the Dust Mitigation Program the shallow flood areas have been colonized by invertebrates and have shown high production of alkali flies (LADWP, 2004b). Species of alkali flies that serve as primary prey for waterbirds include *Ephydra hians* and *Ephydra auripes* (LADWP, 2004b). *Ephydra hians* occurs at higher salinities (optimal 25,000 to 75,000 mg/L), and *Ephydra auripes* is present at lower salinities (optimal 15,000 to 20,000 mg/L) (LADWP, 2004b).

The following descriptions of the biology of *Ephydra hians* are taken from various references, including the Mono Basin EIR (SWRCB, 1993) and studies conducted at the Owens Lake (Herbst, 1997; Herbst, 1998; Herbst, 1999; Herbst, 2001a; Herbst, 2001b). Adult females lay eggs in the summer on benthic algal mats or other substrate (e.g., rocks, submerged vegetation). They lay a daily average of approximately 10 eggs over a 2-week period. Eggs hatch in 1 to 3 days into larvae, which undergo a series of development phases (first, second and third instars). Larval development ranges from 4 weeks to more than 5 months, depending on temperature, salinity and food availability; larvae can survive near zero temperatures. Laboratory studies show that growth and development at 20 ˚C usually require a total of 25 days. Mature larvae attach to the underside of a rock or other substrate to pupate. Pupae cannot survive long at water temperatures below 5 ˚C. The non-feeding, inactive pupa emerges as an adult fly within 1 to 3 weeks, depending on temperature. At 20 ˚C, pupation time is 13 days. Normal adult life span is 10 to 14 days, but overwintering adults may survive for months. Increasing water temperatures in spring cause rapid growth and development of overwintering larvae and increase rates of development, increasing the fly population during spring. The population remains abundant through the summer, until declining temperatures and shortened photo-period in autumn cause adult flies to cease laying eggs. Pupal densities are highest in early autumn. Population density drops rapidly in October when cooling temperatures cause high moralities of all lifestages. In Mono Lake, densities of larvae and pupae are much higher on hard substrates (e.g., rocks) than soft substrates (e.g., algal mats) due to better protection from wind and waves. Benthic algae (composed of diatoms, filamentous green algae, blue-green algae, and perhaps various bacteria and protozoa associated with detritus) are the food sources for adult and larval alkali flies. Alkali flies are well adapted to high salinities. However, high salinities have a negative effect on larval growth and development rates, survivorship and pupation success.

Birds

Portions of the unvegetated playa that are wetted from seeps and springs, outflows from the Delta, and the Dust Mitigation Program serve as habitat for many species of birds, particularly shorebirds and other waterbirds[8]. The largest number of waterbirds are observed during the spring and fall migration periods. Spring migrants are present from late February to early June, with peak populations typically present in late April; fall migrants are present from late July or early August to the end of October). More than 80 species of waterbirds have been observed during the spring and fall migration surveys since 1999 (PRBO, 2003). Specifically for shorebirds, the peak spring migration period is mid-April to early May, and the peak fall migration period is late August to early September (observations by LADWP Watershed Resources staff; Skagen et al., 1999).

[8] The term waterbirds is used to refer to shorebirds, waterfowl, wading birds and other birds that are generally associated with open water and marsh habitats. The term shorebirds is used to refer to members of the order Charadriiformes, excluding the web-footed seabirds [such as gulls and terns (Laridae) and auks (Alcidae)], and includes sandpipers, phalaropes, plovers, avocets and stilts. The term waterfowl is used to refer to members of the order Anseriformes, and includes ducks and geese. The term wading birds is used to refer to long-legged birds such as herons, egrets and ibis that wade in water to search of food.

Prior to start of the Dust Mitigation Program in 2002, areas with the largest numbers of birds observed in the fall were Cottonwood Marsh, the Delta, Cartago Springs[9], Dirty Socks Well, Sulfate Well East and West, and Northwest Seep; areas with the largest numbers of birds in the spring were the Delta, Northwest Seep, Cartago Springs, Dirty Socks Well, Sulfate Well East and Cottonwood Marsh (PRBO, 2001a). Since the shallow flood areas for the Dust Mitigation Program became established in 2002 and 2003, the shallow flood areas have become the predominant areas used by migrating waterbirds, sometimes supporting 95 percent or more of the lake-wide population at any given time (LADWP, 2004b). The lake-wide population of waterbirds has increased substantially since implementation of the Dust Mitigation Program. The mean numbers of water birds at Owens Lake were approximately 5,500 in the spring of 2002 and approximately 8,900 in the spring of 2003 (PRBO, 2003).

Birds that are known to occur on or near the wetted playa include (GBUAPCD, 1997; LADWP, 2004a; LADWP, 2004b; PRBO, 1999; PRBO, 2000; PRBO, 2001a; **Appendix B**):

- Resident, migratory, or wintering shorebirds that feed on invertebrates present on the wet playa and/or use the area for roosting (e.g., black-bellied plover, snowy plover, semipalmated plover, killdeer, black-necked stilt, American avocet, greater yellowlegs, lesser yellowlegs, willet, spotted sandpiper, whimbrel, long-billed curlew, marbled godwit, western sandpiper, least sandpiper, dunlin, ring-billed gull, and California gull)
- Shorebirds that nest in or near wet unvegetated playa (e.g., snowy plover, American avocet, and black-necked stilts)

  Western snowy plovers are discussed below in **Section 3.2.3.2**. American avocets are known to nest in large numbers on the Owens Lake bed, mostly in the shallow flood dust control areas; 157 nests were found in 2002, and over 500 nests were found in 2003 (LADWP, 2004b; PRBO, 2003). Compared to snowy plovers, avocets use deeper and larger ponds and tolerate some vegetation around nest sites (areas with saltgrass or wet meadow areas) (LADWP, 2004b). Black-necked stilts are known to nest in small numbers in or near American avocet colonies in shallow flood areas and other areas of the lake (LADWP, 2004b). American avocets and black-necked stilts are not known to and are not expected to nest in the brine pool transition area under current hydrologic conditions.
- Birds of prey (e.g., prairie falcon) that fly over the playa in transition to other habitats or to look for prey birds
- Passerines and other birds that fly over the playa to feed on flying insects (e.g., several species of swallows and white-throated swift) or forage on the ground for insects (horned lark)
- Waterfowl (e.g., Canada goose, snow goose, green-winged teal, cinnamon teal, and mallard) that use the area (when sufficient amounts of water are present) primarily for roosting, although some feeding may occur

[9] In 2004, approximately 218 acres of wetland habitat in Cartago Springs were purchased by the State of California to be managed as a wildlife area.

A list of birds that have been observed specifically in the brine pool transition area (see **Table 3-7**) was compiled from the following sources (a total of 65 survey days between March 1996 and October 2005):

- Data recorded and compiled by D. House, LADWP Watershed Resources specialist (a total of 25 days, consisting of 1 in 2000, 4 in 2001, 5 in 2002, 2 in 2003, and 13 in 2005)
- Data submitted to LADWP by M. Prather, Owens Valley Committee, with a comment letter (dated September 20, 2005) on the NOP for this SEIR (see **Appendix A**)[10] (a total of 37 days, consisting of 2 in 1996, 7 in 1999, 11 in 2000, 11 in 2001, 5 in 2002, and 1 in 2003)
- Data recorded as part of the International Shorebird Survey and submitted by M. Prather, Owens Valley Committee (personal communication to W. Bamossy, LADWP, October 12, 2005) (Of the 16 days of lake-wide surveys conducted from March through September 2005, the brine pool transition area [referred to as the Delta outflow area in the data sheets] was surveyed on 2 days in April and 2 days in May.)

The number of birds observed by species and by date of survey is presented in **Appendix B**. In general, shorebirds (except killdeers) are not present when there is no water in the brine pool transition area. However, the presence of water has not always correlated with the use of the brine pool transition area by shorebirds, especially since the initiation of shallow flood operations.

[10] Data submitted do not include notations regarding bird behavior (including whether birds included in the counts were observed flying over the brine pool transition area or on the ground).

Table 3-7
List of Bird Species Observed in the Brine Pool Transition Area (1996 – 2005)

Common Name	Scientific Name	Month and Year of Most Recent Observation	No. of Days Observed	
			Total	Since January 2002
Anseriformes (Waterfowl)				
Snow Goose	*Chen caerulescens*	February 2002	4	2
Canada Goose	*Branta canadensis*	December 2000	1	0
Mallard	*Anas platyrhynchos*	November 2005	3	2
Cinnamon Teal	*Anas cyanoptera*	May 1996	1	0
Northern Pintail	*Anas acuta*	May 1996	1	0
Unidentified duck species	---	April 2005	5	3
Ciconiiformes (Storks and relatives)				
Snowy Egret	*Egretta thula*	May 1996	1	0
Falconiformes (Diurnal birds of prey)				
Northern Harrier*	*Circus cyaneus*	February 2002	1	1
Peregrine Falcon*	*Falco peregrinus*	August 2000	2	0
Prairie Falcon*	*Falco mexicanus*	August 2005	2	1
Charadriiformes (Shorebirds and relatives)				
Black-bellied Plover	*Pluvialis squatarola*	May 2002	7	2
Snowy Plover*	*Charadrius alexandrinus*	April 2005	18	5
Semipalmated Plover	*Charadrius semipalmatus*	April 2005	7	3
Killdeer	*Charadrius vociferus*	May 2005	14	2
Black-necked Stilt	*Himantopus mexicanus*	May 2005	5	1
American Avocet	*Recurvirostra americana*	May 2005	19	6
Greater Yellowlegs	*Tringa melanoleuca*	April 2005	7	2
Solitary Sandpiper	*Tringa solitaria*	August 2000	3	0
Willet	*Catoptrophorus semipalmatus*	May 2002	3	1
Spotted Sandpiper	*Actitis macularius*	May 2002	1	1
Whimbrel	*Numenius phaeopus*	April 2000	1	0
Long-billed Curlew*	*Numenius americanus*	April 2000	6	0
Unidentified Turnstone species	*Arenaria* sp.	August 1999	1	0
Western Sandpiper	*Calidris mauri*	May 2002	10	3
Least Sandpiper	*Calidris minutilla*	April 2005	17	7
Baird's Sandpiper	*Calidris bairdii*	September 1999	1	0
Pectoral Sandpiper	*Calidris melanotos*	May 2002	2	1
Dunlin	*Calidris alpina*	January 2002	3	1
Unidentified *Calidris* species / Western and/or Least Sandpiper	*Calidris* sp.	May 2002	13	2
Long-billed Dowitcher	*Limnodromus scolopaceus*	March 1996	1	0
Unidentified Dowitcher species	*Limnodromus* sp.	April 2000	5	0
Red-necked Phalarope	*Phalaropus lobatus*	September 1999	2	0
Unidentified Phalarope species	*Phalaropus* sp.	May 2000	3	0
California Gull*	*Larus californicus*	August 2005	10	10

Table 3-7 (Continued)
List of Bird Species Observed in the Brine Pool Transition Area (1996 – 2005)

Common Name	Scientific Name	Month and Year of Most Recent Observation	No. of Days Observed	
			Total	Since January 2002
Apodiformes (Hummingbirds and Swifts)				
White-throated Swift	*Aeronautes saxatalis*	April 2002	1	1
Passeriformes (Perching birds)				
Western Kingbird	*Tyrannus verticalis*	August 2005	1	1
Common Raven	*Corvus corax*	September 2005	2	2
Horned Lark	*Eremophila alpestris*	November 2005	7	7
Tree Swallow	*Tachycineta bicolor*	April 2002	1	1
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	June 2005	2	2
Cliff Swallow	*Petrochelidon pyrrhonota*	April 2002	1	1
Barn Swallow	*Hirundo rustica*	October 2005	4	4
Unidentified swallow species	---	April 2002	1	1
American Pipit	*Anthus rubescens*	November 2005	1	1
Savannah Sparrow	*Passerculus sandwichensis*	June 2005	3	3

List compiled from data recorded by LADWP and M. Prather, Owens Valley Committee between 1996 and 2005. See additional explanation above this table and in **Appendix B**.

Note: Shaded cells in the table indicate species that have been observed since the first phase of shallow flooding became operational in January 2002.

* See **Section 3.2.3.2** for additional discussion on special status species.

Mammals

The unvegetated playa offers little in the way of resources for mammals due to lack of vegetation and other types of cover or forage (GBUAPCD, 1997). Some mammals (carnivores, tule elk, and bats) may occur on or over the unvegetated playa as they travel between other types of habitats (GBUAPCD, 1997). Coyotes (or their tracks) have been detected during snowy plover surveys of the dust control project areas (PRBO, 1999; PRBO, 2000; PRBO, 2001b; PRBO, 2002; PRBO, 2003).

Brine Pool

Due to lack of vegetation and freshwater supply, the brine pool generally does not provide habitat for plants or wildlife other than for temporary roosting to avoid disturbance (e.g., predation and hunting [by humans]). In portions of the brine pool adjacent to vegetated communities, birds or other wildlife that use the adjacent communities may pass through the brine pool area. Areas of the brine pool that receive freshwater discharged from the Delta or seeps/springs (e.g., Sulfate Well, Ash Creek/Permanente Seeps, Cottonwood Springs) provide habitat similar to unvegetated playa discussed above. Standing water present in the brine pool is too saline for vegetation or algae or aquatic invertebrates; salt-tolerant bacteria (halobacteria) are present. Microbes that derive energy from arsenic were recently discovered in Searles Lake, located in the eastern Sierra Nevada (ISSLR, 2005) under similar conditions to the Owens Lake brine pool.

3.2.3.2 Special Status / Sensitive Species

Many special status species are known to occur in the Owens Lake area, primarily in the vegetated habitats. Special status species that are known or have the potential to occur in the vegetated habitats are described in the EIR for the SIP (GBUAPCD, 1997; GBUAPCD, 2003).

Special status species that are known or have the potential to occur on the unvegetated playa, including areas that are influenced by outflows from the seeps/springs and the Delta (brine pool transition area) and shallow flooding areas, are discussed below. These species were identified based on review of previous EIRs for projects located on the lake bed (GBUAPCD, 1997; GBUAPCD, 2003; LADWP, 2004a; Inyo County, 2004a) and other biological surveys conducted on the lake bed (PRBO, 1999; PRBO, 2000; PRBO, 2001a; PRBO, 2001b; PRBO, 2002; PRBO, 2003; PRBO, 2004; PRBO, 2005; LADWP, 2004b; BioEnvironmental Associates, 2005) as determined to be relevant for the habitat type of the brine pool transition area by LADWP Watershed Resources specialists. No plants, fish, reptiles or amphibians with special status are known or expected to occur on the unvegetated playa areas of the Owens Lake bed (including the brine pool transition area).

Listed Species

Listed species are those provided legal protection under the federal Endangered Species Act and/or the California Endangered Species Act. American peregrine falcon (*Falco peregrinus anatum*), a species listed as Endangered under the California Endangered Species Act and a Fully Protected Species per the California Fish and Game Code, is the only listed species known or with the potential to occur in the unvegetated playa areas of the Owens Lake bed. The Threatened species status for the western snowy plover under the federal Endangered Species Act applies only to the Pacific coast population (USFWS, 1999); western snowy plovers are discussed below as a CDFG Species of Special Concern.

The American peregrine falcon's range includes most of California, except in deserts, during migrations and in winter. The California breeding range includes the Channel Islands, coast of southern and central California, inland north coastal mountains, Klamath and Cascade ranges, and the Sierra Nevada (CDFG, 2003c). Nesting sites are typically on ledges of large cliff faces, but some pairs nest on buildings and bridges (CDFG, 2003c). Nesting and wintering habitats are varied, including wetlands, woodlands, other forested habitats, cities, agricultural areas and coastal habitats (CDFG, 2003c). Peregrine falcons feed on birds that are caught in flight (CDFG, 2003c).

American peregrine falcons migrate through the Owens Valley in spring and fall in association with the waterfowl and shorebirds that migrate through the area. Known occurrences of this species in the Owens Lake area include the playa near Cartago Creek in March 1996 (GBUAPCD, 1997), Zone 1 shallow flooding area in April 2005, Zone 2 shallow flooding area in April 2005 (two occasions), and at Dirty Stocks in August 2005 (data provided by M. Prather, Owens Valley Committee, see **Appendix B**). No peregrine falcons were observed during the spring 2003 survey for the SIP EIR (GBUAPCD, 2003).

A peregrine falcon was observed in the brine pool transition area in May 2000 and August 2000; this species has not been detected in the area in subsequent surveys (see **Table 3-7** in **Section 3.2.3.1**). Suitable nesting sites (cliffs, building, or bridges) for the peregrine falcon are absent in the brine pool transition area.

Species of Special Concern

Species of Special Concern status is designated by the CDFG to animal species that are not listed under the federal or California Endangered Species Act, but are declining at a rate that could result in listing or historically occurred in low numbers and known threats to their persistence currently exist (CDFG, 2003a). The list of Species of Special Concern is intended for use as a management tool and for information, and Species of Special Concern have no special legal status (CDFG, 2003b). Many of the species on the list are common migrants through California, and, for most species on the list, it is primarily the breeding population that is of special concern (CDFG, 2003b).

The list of Species of Special Concern is divided into the following three categories (CDFG, 2003b; CDFG, 2005):

- Highest Priority – Species that face immediate extirpation of their entire California population or their California breeding population if current trends continue
- Second Priority – Species that are definitely on the decline in a large portion of their range in California, but their populations are still sufficiently substantial that danger is not immediate
- Third Priority – Species that are not in any present danger of extirpation whose populations do not appear to be declining seriously within most of their range

The following Species of Special Concern are known to or have the potential to occur in unvegetated playas of the lake bed and are described in detail below (the priority category for each species is indicated based on CDFG, 2003b):

- White-faced Ibis (*Plegadis chihi*) – Highest Priority (rookery site)
- Osprey (*Pandion haliaetus*) – Second Priority (nesting)
- Northern Harrier (*Circus cyaneus*) – Second Priority (nesting)
- Ferruginous Hawk** (*Buteo regalis*) – Addition to list, no priority category (wintering)
- Prairie Falcon (*Falco mexicanus*) – Third Priority (nesting)
- Burrowing Owl (*Athene cunicularia*) – Second Priority (burrow sites)
- Western Snowy Plover* (*Charadrius alexandrinus nivosus*) – Second Priority (nesting)
- Mountain Plover* (*Charadrius montanus*) – Addition to list, no priority category (wintering)
- Long-billed Curlew* (*Numenius americanus*) – Addition to list, no priority category (nesting)
- California Gull (*Larus californicus*) – Third Priority (nesting colony)
- Spotted Bat (*Euderma maculatum*) – Addition to list, no priority category

The western snowy plover is the only Species of Special Concern that is known that has the potential to use the unvegetated playa for nesting.

Species listed above with one or two asterisks (*) are those on the Audubon WatchList (National Audubon Society, 2002), which is a synthesis of species assessments compiled by BirdLife International and Partners In Flight. One asterisk indicates species on the WatchList red category (species that are "declining rapidly, have very small populations or limited ranges, and face major conservation threats"). Two asterisks indicate species on the WatchList yellow category (species that are "declining but at a slower rate than those in the red category").

White-faced Ibis

The white-faced ibis is considered a common migrant in the Owens Valley (Appendix D in LADWP, 2004a). It prefers to feed in freshwater emergent wetlands, shallow lacustrine waters, and muddy ground of wet meadows and irrigated or flooded pastures and croplands (CDFG, 1983). It feeds on earthworms, insects, crustaceans, amphibians, small fishes, and miscellaneous invertebrates (CDFG, 1983). It probes deep in mud with its long bill, and also feeds in shallow water or on the water surface (CDFG, 1983). Nesting habitat is dense, freshwater emergent wetland (CDFG, 1983). This species is not expected to breed at Owens Lake (GBUAPCD, 1997), but occurs consistently at ponds and marshes near Owens Lake seeps and springs during the spring and fall migration periods (GBUAPCD, 2003; PRBO, 2003). It was observed in playa habitat at Cartago Creek and Sulfate Well in the fall of 1995 and at North Seep in 1996 (GBUAPCD, 1997).

White-faced ibis have not been observed in the brine pool transition area (see **Table 3-7** in **Section 3.2.3.1** and **Appendix B**). This species is seen most frequently in vegetated wetlands and pastures, which are absent in the brine pool transition area. Therefore, use of the brine pool transition area by white-faced ibis is not expected. Suitable nesting sites (emergent wetland) for this species are absent in the brine pool transition area.

Osprey

Ospreys feed primarily on fish but may also take other wildlife including birds and invertebrates (GBUAPCD, 1997). They nest on a platform of sticks at the top of large snags, dead-topped trees, on cliffs, or on human made structures (CDFG, 1983). Ospreys are considered a summer visitor in the Owens Valley (LADWP, 2004a), and are expected uncommonly during migration at Owens Lake (GBUAPCD, 1997). Ospreys are rarely observed in the winter in the Owens Valley. One individual was observed at Owens Lake in the fall of 1995, and another was observed perched on an unidentified object on the playa in the fall of 1996 (GBUAPCD, 1997). This species was not observed during the 2002-2003 sensitive bird surveys (GBUAPCD, 2003).

Ospreys have not been observed in the brine pool transition area (see **Table 3-7** in **Section 3.2.3.1** and **Appendix B**). This species is not expected to use the brine pool transition area since it feeds primarily on fish (which are absent in the transition area) and suitable roosting and nesting sites (trees) for ospreys are also absent in the brine pool transition area.

Northern Harrier

Northern harriers frequent meadows, grasslands, desert sinks, and freshwater emergent wetlands, and nest in shrubby vegetation usually on the edge of, or in, marshes (CDFG 1990a, as cited in GBUAPCD, 1997). Harriers predominantly feed on small mammals, mainly, *Microtus* (vole) species, but may also feed on reptiles, amphibians, birds and invertebrates (California Partners in Flight, 2000). Northern harriers are considered resident in the Owens Valley (LADWP, 2004a) and are occasionally observed hunting at Owens Lake. This species was found in marsh areas (nesting and hunting) during the 1995-1996 and 2002 surveys at the Delta, Keeler Ponds and Swedes Pasture; individuals or their nests were not observed in the dust control project areas during the spring 2003 surveys (GBUAPCD, 2003).

Two northern harriers were observed in the brine pool transition area in February 2002; this species has not been detected in the area in subsequent surveys (see **Table 3-7** in **Section 3.2.3.1** and **Appendix B**). Suitable nesting sites (shrubby vegetation adjacent to or in marshes) for the northern harrier are absent in the brine pool transition area.

Ferruginous Hawk

Ferruginous hawks search for prey from low flights over open, treeless areas, and glide to intercept prey on the ground, and also hover and hunt from high mound perches (CDFG, 1983). They feed mostly on lagomorphs (rabbits and hares), ground squirrels, and mice, but also take birds, reptiles, and amphibians (CDFG, 1983). This species is not known to breed in California (CDFG, 1983). It is considered a fall migrant and winter visitor in the Owens Valley (LADWP, 2004a). This species was observed near Dirty Socks Well and the Delta during the 1995-1996 and 2002 bird surveys for the dust control project, but was not observed in the dust control project area during the spring 2003 survey (GBUAPCD, 2003).

Ferruginous hawks have not been observed in the brine pool transition area (see **Table 3-7** in **Section 3.2.3.1** and **Appendix B**). This species is not known to breed in California, and suitable nesting sites (cliffs, trees or other elevated structures) are absent in the brine pool transition area. While the brine pool transition area is an open habitat preferred by ferruginous hawks in the winter, the area does not support mammalian prey species preferred by ferruginous hawks. Therefore, ferruginous hawks are not expected to use the brine pool transition area.

Prairie Falcon

Prairie falcons feed mostly on small mammals, some small birds, and reptiles (CDFG, 1983). It catches prey in air and on ground in open areas (CDFG, 1983). It nests on sheltered ledges of cliffs, bluffs or rock outcrops (CDFG, 1983). This species was observed in marsh and meadows of the Delta and seeps and springs during the 1995-1996 surveys, and was observed flying over the playa at Cottonwood Springs in 1995 (GBUAPCD, 1997). It is a year-round resident in the Owens Valley (LADWP, 2004a). It was not observed during the 2002-2003 survey for the dust control project (GBUAPCD, 2003).

A prairie falcon was observed in the brine pool transition area in January 2000; another individual was observed flying over the area in August 2005 (see **Table 3-7** in **Section 3.2.3.1**

and **Appendix B**). Suitable nesting sites (cliffs / rock outcrops) for the prairie falcon are absent in the brine pool transition area.

Burrowing Owl

Burrowing owls nest and take cover in abandoned mammal burrows in habitat that includes open, well-drained grasslands, steppes, deserts, prairies and agricultural lands (Haug 1993, as cited in GBUAPCD, 1997). They hunt from low perches, and eat mostly insects and occasionally small mammals, reptiles, and birds (GBUAPCD, 1997). GBUAPCD has documented burrowing owl use of dust control pipes (GBUAPCD, 2003).

Burrowing owls have not been observed in the brine pool transition area (see **Table 3-7** in **Section 3.2.3.1**). This species is not expected to occur in the brine pool transition area since the substrate is not suitable (high alkalinity and high moisture content) for burrow construction by this species, or by mammals whose burrows the owls may utilize.

Western Snowy Plover

The Owens Lake bed has historically been used by nesting western snowy plovers., Both the number of adults and nests have increased substantially since implementation of the Dust Mitigation Program. At Owens Lake, the nesting season for snowy plovers begins in March, with the majority of nests found in May and June (LADWP, 2004b). With implementation of the Dust Mitigation Program, nesting season has become longer; in 2003, the chick-fledging period extended into September for nests established in July (LADWP, 2004b). Migration to wintering areas (coastal or inland areas of Southern California or Baja California) typically begins in July and extends into October and probably November in some years (LADWP, 2004b). Small numbers have been found occasionally at Owens Lake in winter (LADWP, 2004b).

At inland sites, western snowy plovers primarily forage on alkali fly (*Ephydra* species) larvae, pupae and adults (LADWP, 2004b). Snowy plovers are primarily visual foragers, using the run-stop-peck method of feeding that is typical of *Charadrius* species (USFWS, 2001). They forage in the wet sand, on salt pans, on spoil sites, and along the edges of salt marshes, salt ponds, and lagoons; they sometimes probe for prey in the sand and pick insects from low-growing plants (USFWS, 2001).

At Owens Lake, optimal breeding habitat for snowy plovers appears to be open, dry lakebed within 0.5 mile of springs, seeps, outflows or shallow flooding that support invertebrate production (LADWP, 2004b). Plovers avoid areas with any but sparse vegetation, but they do prefer some topographic or substrate color variability to obscure nest sites if there is good visibility around the nest (LADWP, 2004b). Snowy plovers require a water source to support invertebrate production for forage, and possibly also for drinking, although adults may be able to meet water requirements from their food supply alone (LADWP, 2004b). However, nesting can occur as much as 0.7 miles or more from the nearest water source on the lake bed (LADWP, 2004b).

Since the 1980s, surveys for snowy plover and other shorebirds have been conducted at the Owens Lake by several organizations. Surveys for snowy plover have been conducted annually during the breeding season since 1999 by the Point Reyes Bird Observatory (PRBO) for

LADWP in connection with the Dust Mitigation Program (PRBO, 1999; PRBO, 2000; PRBO, 2001b; PRBO, 2002; PRBO, 2003; PRBO, 2004; PRBO, 2005). **Table 3-8** compares the estimated number of adult snowy plovers based on lake-wide surveys conducted in May from 2001 through 2005.

Lake-wide, the number of adult snowy plovers has increased substantially since operation of the Zone 2 shallow flood area began in January 2002. Since 2002, approximately 50 percent of the total number of snowy plovers has been found in the Zone 2 shallow flood area, which is the largest of the shallow flood areas. Since 2003, 13 to 28 percent has been found in the Zone 1 shallow flood area, and 15 to 29 percent has been found in the non-dust control areas (seeps, springs and the Delta). The number of snowy plovers observed in the non-dust control areas has been relatively stable since 2002, ranging between 114 and 144.

Prior to implementation of the Dust Mitigation Program, snowy plovers have been found to nest on the lake bed near seeps and springs and other outflow areas, including the outflows of Sulfate Well, Hutchinson Flowing Well, North Keeler Seeps, Tubman Springs, Swede's Pasture Springs, Cartago Creek outflow area, Dirty Socks Well, and the Delta (PRBO, 1999; PRBO, 2000; PRBO, 2001b). (Note: Hutchinson Flowing Well and North Keeler Seeps are not part of the Zone 2 shallow flood area.) Since implementation of the Dust Mitigation Program, large numbers of nests and broods have been found at shallow flood areas, particularly the Zone 2 shallow flood area (PRBO, 2002; PRBO, 2003; PRBO, 2004). In 2004, most of the broods were found in shallow flood areas, which accounted for 72 percent of the total, compared with 42 percent in 2003 and 45 percent in 2002 (PRBO, 2004).

Based on 25 days of data recorded and compiled by D. House, LADWP Watershed Resources specialist, two snowy plovers were observed on one survey date (December 2000) in the brine pool transition area (see **Appendix B**). Based on data submitted by M. Prather, snowy plovers have been observed in the brine pool transition area nearly every year, primarily from March to May (beginning to middle of breeding season) and occasionally in the winter (**see Table 3-9** and **Appendix B**). They have not been observed in the brine pool transition area when there are no outflows from the Delta (see **Appendix B**). In 1999, 2000, 2001, and 2002, relatively small numbers of snowy plover nests and/or broods were found during the surveys conducted by PRBO in or outside the southwestern margin of the Delta (the current Zone 1 shallow flood area) and south of the Delta in or near the brine pool transition area (PRBO, 1999; PRBO, 2000; PRBO, 2001b; PRBO, 2002). (During the 2002 PRBO survey, a small number of broods (but not nests) were found in or near the brine pool transition area.) However, it should be noted that in 2001 and 2002, snowy plovers nesting near the Delta may have been using the construction dewatering area (in association with construction of the Zone 1 shallow flood area) as the nearest water source rather than the outflows from the Delta. In 2003, no snowy plover nests were recorded in the brine pool transition area (PRBO, 2003), though this area was not part of the intensive search area for nests. In 2004 and 2005, surveys for nests were not conducted; surveys for adults and broods were conducted but the search area by PRBO did not specifically include the brine pool transition area (PRBO, 2004; PRBO, 2005). Since operation of the Zone 2 shallow flood area began in the beginning of 2002, snowy plover nests have not been observed in the brine pool transition area, presumably due to the large expanse of more preferred nesting habitat created by the shallow flooding.

Table 3-8
Total Population of Snowy Plovers at Owens Lake
(Lake-Wide Surveys Conducted in May, 2001 – 2005)

Area	2001	2002	2003	2004	2005
West Shore (Non-Dust Control Project Areas)(1)	58	56	58	78	48
East Shore (Non-Dust Control Project Areas)(2)	90	41	37	18	66
Phase 1 Habitat Shallow Flood(3)	--	6	11	48	23
Phase 2 Shallow Flood(4)	--	--	0	4	8
Managed Vegetation(5)	--	--	0	4	0
Zone 2 Shallow Flood(6)	15	152	224	325	259
Zone 1 Shallow Flood(7)	--	--	51	181	71
Owens River Delta(8)	4	17	20	0	30
Total	**167**	**272**	**401**	**658**	**505***

Source: LADWP, 2004b; PRBO, 2003; PRBO, 2005.

(1) Includes Northwest Seep, Bartlett/Carroll Creek, North Cottonwood, South Cottonwood, Permanente/Ash Creek, Cartago Creek, and Olancha Pond (2005 only).

(2) Includes Sulfate Well East and West, Swede's Pasture Springs, North Tubman Seep (not surveyed in 2001), Tubman Springs, Whiskey Creek (not surveyed in 2001), Dirty Socks Well, and Southwest Seep. Labeled as Zones 3/4 Non-Project Areas in PRBO, 2005.

(3) Operation of the Phase 1 habitat shallow flood area began in March 2003.

(4) Operation of the Phase 2 shallow flood area began in March 2003.

(5) Operation of the managed vegetation area began in July 2002.

(6) Operation of the Zone 2 shallow flood area began in January 2002. In May 2001, the surveyed areas consisted of North Keeler Seep, Keeler Seep, and Hutchinson Well, which are now part of the Zone 2 shallow flood area.

(7) Operation of the Zone 1 shallow flood area began in September 2002.

(8) In 2001 and 2002, included wet areas from Zone 1 dewatering sites.

* The decline in the lake-wide number of snowy plovers observed in 2005 from 2004 is thought to be attributable to several factors, including the earlier survey date in 2005 and a later than usual commencement of breeding season in 2005 (possibly due to inclement weather during migration and the beginning of the breeding season) (PRBO, 2005).

Table 3-9
Number of Snowy Plovers Observed in the Brine Pool Transition Area

1996		1999		2000		2001		2002		2003		2005	
Date	**No.**	**Date**	**No.**	**Date**	**No.**	**Date**	**No.**	**Date**	**No.**	**Date**	**No.**	**Date**	**No.**
3/23	1	8/17		1/3		1/3		1/13	20	1/30		3/28	
5/6	30	8/24	1	3/25	4	4/1	3	2/2	1	8/7		4/1	
		8/29		4/2	9	4/15	16	3/11		10/26		4/3	2
		9/12	1	4/12		4/22	7	4/25				4/11	2
		9/26		4/21	8	5/15		4/26				4/14	
		10/17		5/20	12	5/16		5/3	13			4/29	
		10/23	3	6/3		5/20		5/24				5/1	
				7/24		5/31		6/2				5/8	
				8/1		6/2		8/16				5/13	
				8/14		6/14		10/11				6/2	
				8/22		6/22						6/24	
				12/21	2	8/20						8/4	
						9/1						8/24	
						9/15						9/12	
						10/26						9/26	
												10/12	
												11/16	

Source: Data compiled from data recorded by LADWP and M. Prather, Owens Valley Committee between 1996 and 2005. See additional explanation provided above in **Table 3-7** and in **Appendix B**.
Note: Blank cells indicate surveyed dates when no snowy plovers were observed.

Mountain Plover

Mountain plovers feed primarily on insects such as beetles, grasshoppers, crickets, and ants (USFWS, 2003). Mountain plovers nest in the Rocky Mountain and Great Plains States from Montana south to Mexico (USFWS, 2003); this species is not known to nest in California. California is the primary wintering ground for mountain plovers, supporting up to 95 percent of the U.S. population of mountain plovers (USFWS, 2003). Wintering mountain plovers are found mostly on cultivated fields, but can also can be found on grasslands or landscapes resembling grasslands (USFWS, 2003). Mountain plovers are a rare migrant in the Owens Valley (LADWP, 2004a). Mountain plovers occur on the Owens Lake in small numbers (5 or less) casually each fall and spring at wet playa habitats (GBUAPCD, 2003). Four mountain plovers were observed feeding on the wet playa at Horse Pasture in December of 1995 (GBUAPCD, 1997). This species was observed during lake-wide surveys in 1999, 2001, and 2002 (PRBO, 2003).

Mountain plovers have not been observed in the brine pool transition area (see **Table 3-7** in **Section 3.2.3.1** and **Appendix B**). This species is not expected to occur in the brine pool transition area since its preferred habitat is dry meadow with some vegetation in more upland areas. This species is not known to breed in California.

Long-billed Curlew

Long-billed curlews use their long bills to probe deep into substrate, or to grab prey from the mud surface, while at times wading in belly-deep water (CDFG, 1983). In inland habitats, it feeds on insects (adults and larvae), worms, spiders, berries, crayfish, snails, and small crustaceans, and occasionally takes nestling birds (CDFG, 1983). In California, it nests on elevated interior grasslands and wet meadows, usually adjacent to lakes or marshes (CDFG, 1983). It is considered a summer visitor in the Owens Valley (LADWP, 2004a). This species was observed at North Seep, Cottonwood Springs, Sulfate Well, northeastern playa, Cartago Creek and Ash Creek Meadows in 1995-1996 (GBUAPCD, 1997). Although this species was not detected during surveys in 2002 and 2003 at dust control project sites (GBUAPCD, 2003), it is observed consistently in lake-wide surveys during the spring and fall migration periods (PRBO, 2003).

Up to 11 individuals of this species were observed in the brine pool transition area in the fall of 1999 and winter/spring of 2000 on 6 survey days; this species has not been detected in the area in subsequent surveys (see **Table 3-7** in **Section 3.2.3.1** and **Appendix B**). Suitable nesting sites for this species (grasslands and wet meadows) are absent in the brine pool transition area. Long-billed curlew are therefore not expected to nest in the brine pool transition area, although this species may occasionally forage in the brine pool transition area during migration.

California Gull

California gulls are omnivorous and feed on garbage, carrion, earthworms, adult insects, and larvae (CDFG, 1983). In inland areas, they frequent lacustrine, riverine, and cropland habitats, landfill dumps, and open lawns in cities (CDFG, 1983). They nest on islands in alkali or freshwater lakes and salt ponds in California (CDFG, 1983), and nests are scrapes lined with grasses, feathers, or rubble, on sparsely vegetated portions of isolated islands (CDFG, 1983). This species nests in large numbers at Mono Lake. This species was observed on wet playa at various seeps and springs around the Owens Lake bed in fall 1995 and spring 1996 (GBUAPCD, 1997). Breeding California gulls were not observed at Owens Lake during directed surveys conducted in spring 1996. In 2002 and 2003, gulls were found foraging in or flying over shallow flood areas (GBUAPCD, 2003). Lake-wide, the number of gulls (predominantly California gulls) observed during the May snowy plover surveys have increased greatly in the last several years, from approximately 100 to 200 in 2002 and 2003 to over 700 in 2004 and over 7,000 in 2005 (PRBO, 2005).

California gulls have been observed in the brine pool transition area on 10 survey days since May 2002 (see **Table 3-7** in **Section 3.2.3.1** and **Appendix B**). In the spring of 2005, when water was abundant in the brine pool transition area, between 10 and 270 individuals were observed (**Appendix B**). During the snowy plover surveys conducted in 2004 and 2005, small numbers of California gulls were documented nesting at Owens Lake; although gull nests were not specifically searched for, none were suspected or detected during surveys from 2001 to 2003 PRBO, 2005). California gulls are not likely to nest in the brine pool transition area since the area is easily accessible to potential predators (e.g., coyotes).

Spotted Bat

The spotted bat prefers to roost in cliffs, and forages over open marshes, fields and riparian corridors, and preys almost exclusively on moths (Barbour and Davis 1969, as cited in GBUAPCD, 1997). This species was encountered foraging over the riparian areas and meadows of the Delta and many of the seeps and springs; it was also found over open playa in the northeast portion of the lake bed, possibly in route to other habitats since it is not known to forage over unvegetated playa (GBUAPCD, 1997). The presence or absence of this species in the brine pool transition area is not known since no night-time surveys have been conducted specifically in this area. However, it is not likely to occur in the brine pool transition area since unvegetated playa is not a preferred habitat type for this species and moths, the primary prey, are not expected to be present in the brine pool transition area.

Other Sensitive Species

In addition to the listed species and the CDFG Species of Special Concern, the following species that are known to or have the potential to occur in the unvegetated playa may be considered sensitive or locally important species:

- **Yuma Myotis** (*Myotis yumanensis*) and **Small-footed Myotis** (*Myotis ciliolabrum*) – These two bat species are designated as Sensitive Species by the Bureau of Land Management (BLM); it is BLM policy to provide sensitive species with the same level of protection that is given federal candidate species (CDFG, 2005). These species are also designated as "low-medium priority" (Yuma myotis) and "medium priority" (small-footed myotis) by the Western Bat Working Group (WBWG), which is comprised of agencies, organizations and individuals interested in bat research, management, and conservation in the western U.S. and Canada (CDFG, 2005). "Medium priority" indicates a level of concern that should warrant closer evaluation, more research, and conservation actions of both the species and possible threats, where as "low priority" is an indication that most of the existing data support stable populations of the species (WBWG, 2005).

  Yuma myotis occurs in a variety of habitats including riparian, arid scrublands and deserts, and forests; small-footed myotis occurs in deserts, chaparral, riparian zones and western coniferous forests (WBWG, 2005). They feed on various small insects and roost in bridges, buildings, cliff crevices, caves, mines, and trees (WBWG, 2005). Both species were observed on unvegetated playa habitats in 1995-1996 surveys (GBUAPCD, 1997). Presence of these species in the brine pool transition area is not known, but they may forage in the area for aerial insects. In the winter when temperatures are lower and food is less abundant, these species are likely to be inactive or migrate out of the Owens Valley.

- **Alkali Flats Tiger Beetle** (*Cicindela willistoni pseudosenilis*)**, Slender-girdled Tiger Beetle** (*Cicindela tenuicincta*)**,** and **Owens Valley Tiger Beetle** (*Cicindela tranquebarica inyo*) – These three species of tiger beetles have no official sensitive status but are endemic to the Owens Valley and therefore are considered locally important species, but are common on the Owens Lake (GBUAPCD, 1997; GBUAPCD, 2003). These species are found on damp unvegetated playa, and feed on other insects (such as alkali flies); the Owens Valley tiger beetle also occurs on moist and saturated alkaline

meadows (GBUAPCD, 1997). Tiger beetles do not stray far from damp areas, and are also restricted in their habitat range by the availability of food (alkali flies) (GBUAPCD, 1997). They were observed in seeps and springs at Owens Lake during the 1995-1996 surveys (GBUAPCD, 1997). The Owens Valley and alkali-flats tiger beetles were found in saltgrass-dominated Transmontane Alkali Meadow in 2003; habitat for slender-girdled tiger beetle was found in saltgrass-dominated Transmontane Alkali Meadow in 2003 (GBUAPCD, 2003). Presence of these species in the brine pool transition area has not been documented.

3.2.3.3 Agency Plans and Policies Relevant to Biological Resources Management in the Project Area

There are no adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional or state habitat conservation plans that are applicable to the Project area. However, there are several documents prepared by federal and local agencies that contain plans and policies related to biological resources management in the Owens Lake area as summarized below.

U.S. Fish and Wildlife Service Owens Basin Wetland and Aquatic Species Recovery Plan

The U.S. Fish and Wildlife Service (USFWS) prepared the Owens Basin Wetland and Aquatic Species Recovery Plan (USFWS, 1998) to describe actions necessary to restore the populations and enhance habitat for three federally listed species that occur in the Owens Valley – Owens pupfish, Owens tui chub, and Fish Slough milk-vetch. The recovery plan also identifies conservation actions and programs to serve as a foundation for future Habitat Conservation Plans for these species, as well as several others that could be listed in the future – Owens Valley vole, Owens Valley speckled dace, Long Valley speckled dace, Owens Valley springsnail, Fish Slough springsnail, Owens Valley checkerbloom, and Inyo County mariposa lily. The plan describes various Conservation Areas to be established in the valley to achieve recovery of these species. This recovery plan is a guidance document; implementation of actions outlined in this plan is not legally required. None of these species are known or expected to occur in the brine pool transition area.

Bureau of Land Management Bishop Resource Management Plan

BLM prepared the Bishop Resource Management Plan for the Bishop Resource Area (BLM, 1991). The Bishop Resource Area encompasses 750,000 acres of public land and approximately 9,000 acres of federal mineral estate underlying privately owned land in the Eastern Sierra Nevada (Mono County and Inyo County). The Management Plan is intended to provide a comprehensive framework for managing BLM-administered public lands in the Bishop Resource Area. The Management Plan divides the Resource Area into nine Management Areas. The Owens Lake Management Area covers Owens Lake from approximately Olancha on the south, to Lone Pine on the north. BLM administers approximately 15,790 acres in this Management Area. In addition to protecting scenic resources, the overall management goal for the Owens Lake Management Area is to protect wildlife and enhance habitat in the area. The brine pool transition area is located on State-lands and is not BLM-administered land.

Inyo County General Plan

The Inyo County General Plan (Inyo County, 2001) has established policies that are related to biological resources issues in the County. As discussed in Section 13 of the LORP Final EIR (LADWP, 2004a), the proposed project is consistent with the applicable Inyo County General Plan policies related to biological resources.

Inyo County / Los Angeles Long Term Water Agreement

The 1991 Inyo County / Los Angeles Long Term Water Agreement is a joint groundwater management agreement between LADWP and Inyo County. The overall goal of the agreement is to manage the water resources within Inyo County in a manner that "avoid[s] certain described decreases and changes in vegetation and to cause no significant effect on the environment which cannot be acceptably mitigated while providing a reliable supply of water for export to Los Angeles and for use in Inyo County." Implementation of the proposed project is consistent with Section XII ("Lower Owens River" section) of the agreement, as amended by other documents including the 1991 EIR, the MOU and court stipulations.

3.2.3.4 Other Plans and Designations Relevant to the Project Area

The following describes plans and designations that identify the Owens Lake area as important bird habitat.

U.S. Shorebird Conservation Plan

The U.S. Shorebird Conservation Plan is a collaborative document prepared by a partnership of agencies and organizations throughout the United States committed to the conservation of shorebirds. The Plan outlines conservation goals for each region of the country, identifies critical habitat conservation needs and key research needs, and proposes education and outreach programs to increase awareness. Owens Lake is identified as a key shorebird area of the Intermountain West Region, especially in providing breeding habitat for snowy plovers and habitat for transient sandpipers (USSCPC, 2000).

Audubon Important Bird Area

Owens Lake has been designated an Important Bird Area by Audubon California (2005), a non-profit, non-governmental organization whose mission is to conserve and restore natural ecosystems, focusing on birds, other wildlife and their habitats. The Important Bird Areas Program works through partnerships to identify places that are important habitats for birds and to focus conservation efforts on protecting these sites. Approximately 150 sites in California have been designated as Important Bird Areas by Audubon California (2005). The Important Bird Area designation reflects the efforts of a non-profit organization and is not a regulatory program.

3.3 SIGNIFICANCE THRESHOLDS

Based on State CEQA Guidelines, Appendix G, the proposed project would have significant impacts on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service
- 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
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan

CEQA Section 21001 (c) states that it is the policy of the state of California to "prevent the elimination of fish and wildlife species due to man's activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities."

Based on the State CEQA Guidelines, Appendix G, the proposed project would have a significant impact with respect to hydrology and water quality if it would:

- Violate any water quality standards or waste discharge requirements;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation onsite or offsite;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite;

- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or
- Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow.

3.4 IMPACTS

3.4.1 Hydrologic Changes Resulting from the Project

3.4.1.1 Summary of Proposed Flow Releases toward the Delta

Under the proposed project, flows will be released toward the Delta from the proposed pump station (to be located approximately 4.5 river miles downstream of Keeler gage) as described in Section 2.4.2 of the Final EIR (LADWP, 2004a) and summarized below:

- **Minimum Flow.** At any time, flows released from the pump station will be a minimum of approximately 3 cfs.
- **Baseflows and Pulse Flows.** Flows released from the proposed pump station will be an annual average of approximately 6 to 9 cfs (equivalent to 4,344 and 6,516 acre-feet per year, respectively), excluding the amount released from the pump station during seasonal habitat flows (described below). Within this 6 to 9 cfs annual average, the following two types of flows will be released:
  - **Baseflows** – Baseflows released from the pump station will be adjusted during the first year to maintain an average daily outflow of approximately 0.5 cfs from the vegetated portion of the Delta (while still maintaining the 3 cfs minimum flow at any time). (The intent of this approach is to calibrate the discharge to the Delta to match evapotranspiration demand and storage capacity in the Delta.)
  - **Pulse Flows** – Pulse flows will be released as follows beginning in the second year, and will consist of the following:
    - Period 1 – 25 cfs released for 10 days in March/April (496 acre-feet)
    - Period 2 – 20 cfs released for 10 days in June/July (397 acre-feet)
    - Period 3 – 25 cfs released for 10 days in September (496 acre-feet)
    - Period 4 – 30 cfs released for 5 days in November/December (298 acre-feet)

Within the range of 6 to 9 cfs annual average, the magnitude, duration and timing of both baseflows and pulse flows will be adjusted based on monitoring triggers (acreage of vegetated wetlands and water and habitat suitability index) described in Section 2.4.2.2 of the Final EIR (LADWP, 2004a).

- **Bypass of Seasonal Habitat Flows.** In years when the forecasted runoff for the Owens Valley is above 50 percent of "normal" (defined as the 50-year mean), seasonal habitat flows will be released from the River Intake to the River in late May or early June. Seasonal habitat flows will be ramped up from 40 cfs to a peak flow and ramped back down to 40 cfs over several days. The magnitude of the seasonal habitat flow released each year will vary from zero (years with a forecasted runoff of 50 percent or less of "normal") to 200 cfs at peak flow (years with a forecasted runoff of 100 percent or more of "normal") in proportion to the forecasted runoff.

  The seasonal habitat flow would be reduced by channel losses between the River Intake and the pump station. Seasonal habitat flows reaching the pump station will be diverted up to the capacity of the pump station (50 cfs), and the remaining amount ("seasonal habitat flow bypass"), if any, will be released toward the Delta.

- **Bypass of Winter Habitat Flow and Alabama Release (first year only).** During only the first year of project implementation, a "winter habitat flow" of up to 200 cfs (ramped up and down over 14 days) will be released at the River Intake in lieu of the seasonal habitat flow described above. In conjunction with this winter habitat flow, additional releases will be made to the River from the Aqueduct at the Alabama spillgate ("Alabama Release") to achieve a combined minimum flow of 200 cfs in the River below Alabama Spillgate for a minimum period of 96 hours. [The Alabama Release was specified as a permit condition by the Regional Board (Order No. R6V-2005-0020 NPDES No. CA0103225, WDID No. 6B140407009, Water Quality Certification, Waste Discharge Requirements, and National Pollutant Discharge Elimination System Permit, adopted July 13, 2005)]. A portion of the winter habitat flow and Alabama Release will be lost to channel losses prior to reaching the pump station; the portion of the winter habitat flow and Alabama Release reaching the pump station will be diverted up to the capacity of the pump station (50 cfs), and the remaining amount will be released toward the Delta.

As summarized above, the specific magnitude of baseflows released from the pump station toward the Delta under LORP will be determined during the first year, with possible adjustments in subsequent years. For the purpose of analysis presented in this SEIR, however, conceptual release scenarios were developed based on the following assumptions:

- Pulse flows will be released four times a year as described above. The Period 1 pulse flow will be released in late March.
- From October through March (non-growing season), baseflows will be 3 cfs (i.e., the proposed minimum flow).
- The quantity remaining after deducting the pulse flows (1,687 acre-feet) and minimum winter baseflows (1,000 acre-feet) from the 6 to 9 cfs annual average (4,344 to 6,516 acre-feet) is the amount available for baseflows from April to September (growing season) (1,657 to 3,829 acre-feet, or an average flow of approximately 5 to 12 cfs).

- During seasonal habitat flows, the total channel loss between the River Intake and the pump station (62 river miles) is assumed to be 62 cfs (based on an estimated channel loss rate of 1 cfs per mile[11]; LADWP, 2004a). Based on this channel loss assumption:
  - Little or no seasonal habitat flow bypass (above the baseflow) would occur in years when the seasonal habitat flow at the River Intake is less than 115 cfs at peak flow (i.e., forecasted runoff is approximately 73 percent or less; estimated to occur approximately 30 percent of the time).
  - In years with a forecasted runoff of 100 percent or more (i.e., 200 cfs peak flow at River Intake), seasonal habitat flow bypass (above the minimum 3 cfs baseflow) would range from approximately 12 to 88 cfs over 5 days. This represents the maximum bypass, and is expected to occur approximately 45 percent of the time.

Based on the above assumptions, the following four conceptual scenarios were developed to describe a range of flow conditions (flows released from the pump station toward the Delta) possible under the proposed project:

- **Scenario 1** – Total of baseflows and pulse flows is 6 cfs annual average, and it is a year when the forecasted runoff is 73 percent or less (i.e., no seasonal habitat flow bypass). This represents the minimum release regime in drier years.
- **Scenario 2** – Total of baseflows and pulse flows is 9 cfs annual average, and it is a year when the forecasted runoff is 73 percent or less (i.e., no seasonal habitat flow bypass). This represents the maximum release regime in drier years.
- **Scenario 3** – Total of baseflows and pulse flows is 6 cfs annual average, and it is a year when the forecasted runoff is 100 percent or more (i.e., seasonal habitat flow is 200 cfs at peak flow). This represents the minimum release regime in normal or wet years.
- **Scenario 4** – Total of baseflows and pulse flows is 9 cfs annual average, and it is a year when the forecasted runoff is 100 percent or more (i.e., seasonal habitat flow is 200 cfs at peak flow). This represents the maximum release regime in normal or wet years.

Table 3-10 and **Figure 3-15** compare estimated existing discharges at the proposed pump station site with the above four release scenarios under LORP. The conceptual scenarios presented in Table 3-10 and Figure 3-15 are not applicable to the first year of project implementation. During the first year, no pulse flows will be released, and a winter habitat flow will be released in lieu of the seasonal habitat flow (see **Figure 3-16**).

[11] After establishment of the 40-cfs baseflow in the River under LORP, the channel loss rate during seasonal habitat flows may be reduced over time as the system reaches equilibrium. Under a lower channel loss rate estimate of 0.35 cfs per mile, seasonal habitat flow bypass would range from 7 to 128 cfs over 9 days.

Table 3-10
Summary of Estimated Existing Flows at the Pump Station Site and Proposed Releases from the Pump Station under LORP (Conceptual Scenarios)

Period	Existing Average at Keeler Gage[3]	Estimated Existing Average at Pump Station Site[4]	Proposed Releases From Pump Station			
			Years with Below 73% of Normal Runoff (No Seasonal Habitat Flow Bypass)		Years with 100% or more of Normal Runoff (Seasonal Habitat Flow[5] = peak flow 200 cfs at River Intake)	
			Scenario 1 (6 cfs annual avg.)	**Scenario 2** (9 cfs annual avg.)	**Scenario 3** (6 cfs annual avg.)	**Scenario 4** (9 cfs annual avg.)
October – March[1] (183 days)						
Discharge (acre-feet)	4,872	4,295	1,794	1,794	1,794	1,794
Average Flow (cfs)	13.4	11.8	4.9	4.9	4.9	4.9
Change	---	---	*-58%*	*-58%*	*-58%*	*-58%*
April – September[2] (182 days)						
Discharge (acre-feet)	3,172	2,593	2,550	4,722	2,909	5,014
Average Flow (cfs)	8.8	7.2	7.1	13.1	8.1	13.9
Change	---	---	*-2%*	*+82%*	*+12%*	*+93%*
Annual Total						
Discharge (acre-feet)	8,044	6,888	4,344	6,516	4,703	6,808
Average Flow (cfs)	11.1	9.5	6.0	9.0	6.5	9.4
Change	---	---	*-37%*	*-5%*	*-32%*	*-1%*

cfs = cubic feet per second

(1) Includes 3 cfs baseflows and Period 1 and Period 4 pulse flows.

(2) Includes baseflows of 5.2 to 12.0 cfs, Period 2 and Period 3 pulse flows, and seasonal habitat flows.

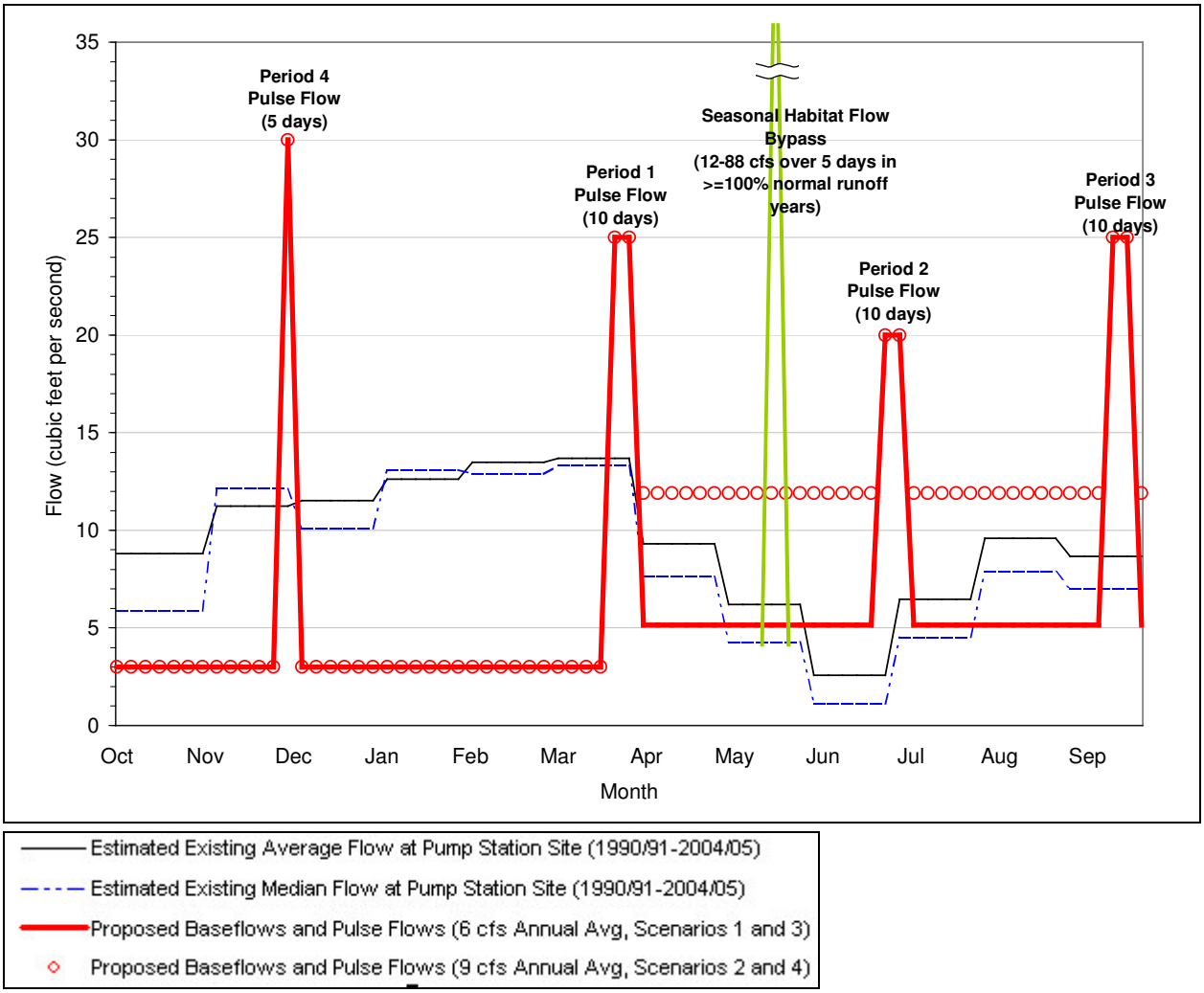
(3) 15-year average for the 1990/1991 to 2004/2005 water years. Source: LADWP, 2005a.

(4) Existing average at Keeler gage minus 1.6 cfs (channel loss over the 4.5 river miles between Keeler gage and pump station site at a rate of 0.35 cfs per mile). This estimated channel loss rate is for steady state conditions, as described in the Final EIR (LADWP, 2004a).

(5) Assumes a channel loss rate of 1 cfs per mile (a total of 62 cfs channel loss over 62 river miles from River Intake to Pump Station) and pump station diversion of up to 50 cfs. This estimated channel loss rate during seasonal habitat flows are described further in the Final EIR (LADWP, 2004a).

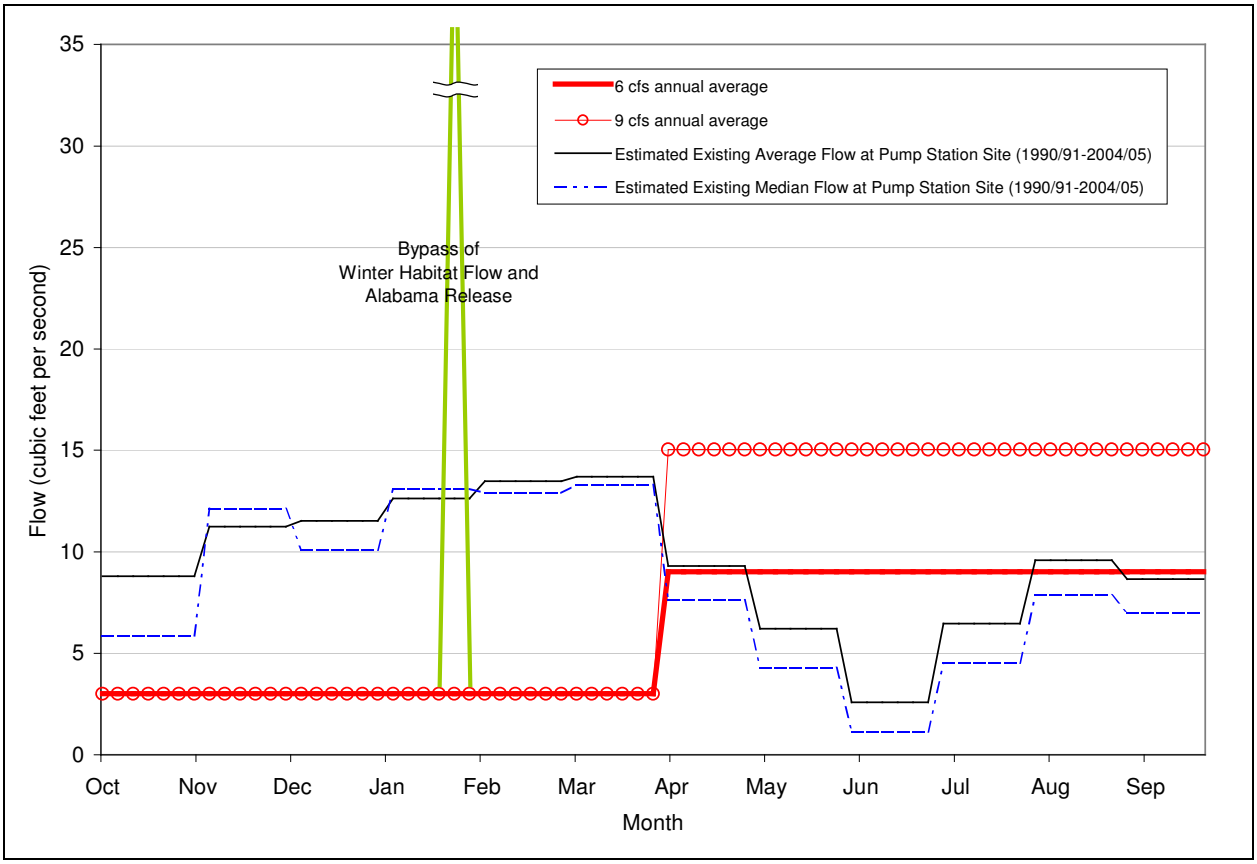
Note: This table presents simplified, conceptual scenarios of proposed releases for illustration purposes only. In reality, the specific baseflows (especially during the growing season) would be determined during the first year based on outflow monitoring as described above. Average flows from April through September are expected to be higher than 7.1 cfs (Scenario 1) or 8.1 cfs (Scenario 3) since the amount of inflow needed to result in 0.5 cfs outflow from the Delta would be greater based on observation of existing conditions.

Figure 3-15
Conceptual Hydrographs – Estimated Existing Flows at the Pump Station Site and Proposed Releases from the Pump Station under LORP (Sample Scenarios)



Note: This graph presents simplified, conceptual hydrographs of the proposed releases for illustration purposes only. In reality, the specific baseflows (especially during the growing season) would be determined during the first year based on outflow monitoring as described above. Baseflows during the growing season are expected to be higher than 5 cfs (shown in the graph above as a solid red line, under Scenarios 1 and 3), since the amount of inflow needed to result in 0.5 cfs outflow from the Delta would be greater than 5 cfs based on observation of existing conditions.

Figure 3-16
Conceptual Hydrographs – Estimated Existing Flows at the Pump Station Site and Proposed Releases from the Pump Station under LORP (First Year)



Note: This graph presents simplified, conceptual hydrographs of the proposed releases for illustration purposes only. In reality, the specific baseflows (especially during the growing season) would be determined during the first year based on outflow monitoring as described above.

3.4.1.2 Anticipated Changes in Delta Outflow to the Brine Pool Transition Area

As described above, the focus of the analysis for this SEIR is the potential impacts to the brine pool transition area that would result from the changes in outflows from the Delta under the proposed project. There are currently no gages that measure outflows from the Delta. Measurements at Keeler gage can be used to estimate inflows to the Delta; however, since specific channel loss rates (percolation and evapotranspiration) are not known, outflows to the brine pool transition area and the resulting hydrologic conditions under existing conditions have been described qualitatively based on review of remote imagery and other photographs (see **Section 3.2.2.2**).

The following presents the analysis of anticipated changes in Delta outflows to the brine pool transition area based on the description of existing conditions presented in **Section 3.2.2.2** and the conceptual scenarios for proposed releases from the pump station described above.

For the discussion presented below, a water year is divided two portions: April through September (typical growing season or "summer", characterized by higher temperatures, lower precipitation and higher evapotranspiration) and October through March ("winter," characterized by lower temperatures, higher precipitation and lower evapotranspiration). It is recognized, however, that environmental conditions are variable from year to year.

April through September

As described in **Section 3.2.2.2**, after 2000, in the period from May through September/October, there have been typically no outflows from the Delta into the brine pool. This is due to the combination of generally low inflows to the Delta under existing conditions and high water consumption (evapotranspiration) in the Delta. Even relatively high River flows (greater than 9 cfs) measured at Keeler gage have resulted in no outflow from the Delta.

As described in **Table 3-10**, from April through September, the overall discharge to the Delta under LORP is estimated to range from similar to existing conditions (Scenario 1 -- 6 cfs annual average with no seasonal habitat flow bypass) to an increase of 93 percent (Scenario 4 -- 9 cfs annual average with high seasonal habitat flow bypass). The overall average flow to the Delta during the growing season is expected to range from 7 to 14 cfs (compared to existing average flow of approximately 7 cfs). More specifically, this will consist of the following (see **Figure 3-15**):

- **Baseflow of 5- to 12-cfs** (average flow over approximately 160 days) – Due to high evapotranspiration in the Delta, baseflow released to the Delta during the growing season is not likely to result in outflow from the Delta to the brine pool transition area.
- **20 cfs for 10 days in June/July (Period 2 pulse flow) –** Under LORP, the flows released in June would be higher than existing conditions, and are expected to saturate soils and meet evapotranspiration needs of existing vegetation in the Delta. Therefore, it is anticipated that channel losses in the Delta during the release of higher flows in late June/early July (Period 2 pulse flow) would primarily be from percolation and evapotranspiration in areas not wetted under baseflow conditions and evaporation from free water surface. Therefore, it is anticipated that a portion of the pulse flow would outflow from the Delta for up to approximately 10 days, creating rivulets in the brine pool transition area.
- **25 cfs for 10 days in September (Period 3 pulse flow) –** Similar to the Period 2 pulse flow, it is anticipated that a portion of the Period 3 pulse flow would result in outflow from the Delta for up to approximately 10 days, creating rivulets in the brine pool transition area.
- **Seasonal habitat flow bypass (up to 12 to 88 cfs over 5 days in May/June in some years depending on the forecasted runoff for the Owens Valley) –** It is anticipated that a portion of the seasonal habitat flow bypass to the Delta would result in outflows to the brine pool transition area for a few days. Over the life of the project, this is expected to occur approximately 50 percent of the years.

In summary, from April through September, operation of the pump station under LORP is not expected to result in substantial change to existing hydrologic conditions of the brine pool

transition area (i.e., typically no outflow from the Delta) except during periods of higher flow releases (pulse flows and seasonal habitat flow bypass). The Period 2 and 3 pulse flows and the seasonal habitat flow bypass are anticipated to result in surface water in the brine pool transition area during periods when the area is typically dry under existing conditions.

October through March

As described in **Section 3.2.2.2**, under existing conditions, outflows from the Delta to the brine pool transition area generally occur from October/November through March/April. Due to lower evapotranspiration rates during this period, even lower River flows (as low as 5 cfs) measured at Keeler gage result in outflow from the Delta. However, the absolute minimum flow at Keeler gage which would result in outflow to the brine pool transition area cannot be determined from review of these data due to the high variability of seasonal and annual temperatures and hydrologic conditions.

As described in **Table 3-10**, from October through March, the overall discharge to the Delta under LORP is estimated to be reduced by approximately 58 percent under all of the sample scenarios compared to existing conditions, since the proposed flows are designed to provide higher flows during the growing season. The overall average flow during the non-growing season would be 5 cfs. More specifically, this will consist of the following (see **Figure 3-15**):

- Baseflow of 3-cfs (approximately 170 days) – Flows to the Delta under LORP from October through March would be lower than under existing conditions. However, the proposed minimum baseflow of 3 cfs is expected to result in some outflow to the brine pool transition area due to low evapotranspiration in the Delta during the non-growing season. Therefore, under LORP, the areal extent and depth of surface water of the rivulets in the brine pool transition area would be smaller compared to existing conditions, but would not be eliminated.
- 30 cfs for 5 days in November/December (Period 4 pulse flow) – Period 4 pulse flow would result in flows to the Delta that are more than twice as high compared to existing average conditions for November/December. For up to approximately 5 days, the Period 4 pulse flow would result in larger extent and depth of surface water in the brine pool transition area than under typical existing conditions.
- 25 cfs for 10 days in March (Period 1 pulse flow) – Period 1 pulse flow would result in flows to the Delta that are approximately twice as high as existing average conditions for March. For up to approximately 10 days, the Period 1 pulse flow would result in larger extent and depth of surface water in the brine pool transition area than under typical existing conditions.

In summary, from October through March, operation of the pump station under LORP is expected to result in a reduction in the outflows from the Delta and thus a reduction (but not an elimination) in the areal extent and depth of surface water in the brine pool transition area, except during periods of higher flow releases (pulse flows). The Period 1 and 4 pulse flows are anticipated to result in larger extent and depth of surface water in the brine pool transition area than under typical existing conditions for up to approximately 15 days.

3.4.2 Impacts on Biological Resources

3.4.2.1 Impacts on Riparian Habitat or Other Sensitive Community

Alkali playa is considered by CDFG to be a community that is known or believed to be of high priority for inventory in the California Natural Diversity Database (CDFG, 2003d). The community type of the brine pool transition area can generally be characterized as alkali playa. Implementation of LORP would not require any construction or other development in the brine pool transition area.

However, as described above, operation of the pump station would reduce the amount of surface water in the brine pool transition area in the winter compared to existing conditions. In the summer, operation of the pump station would not substantially change the hydrologic conditions in the brine pool transition area except during releases of pulse flows and seasonal habitat flow bypass, which are expected to increase surface water in the brine pool transition area for short periods of time.

Alkali flies are expected to be the dominant consumer species in the brine pool transition area. Under existing conditions, the brine pool transition area is essentially dry from May through September/October, the period when temperature conditions are most suitable for alkali fly reproduction. Additionally, vegetation and other suitable substrate for alkali fly larvae/pupae attachment are generally absent in the brine pool transition area. Therefore, it is likely that the adult flies found in the brine pool transition area are displaced individuals that can take shelter and feed in cracks in the salt playa. Operation of the pump station would reduce (but not eliminate) the extent and water depth of rivulets in the brine pool transition area. The reduction of surface water in the brine pool transition area during the colder months may have some effect on alkali fly populations, particularly in the transition months in spring and fall when temperatures are higher and more suitable for reproduction. However, since this is not optimal habitat for alkali flies, the change in flows during the colder months is not expected to substantially affect alkali fly populations (food source for birds that feed on insects).

As described above in **Section 3.2.3.1**, the alkali playa habitat of the brine pool transition area provides habitat for the following type of birds (and bats) (see also **Appendix B**). Project-related impacts on the use of this habitat are described below. Since the project related changes to hydrologic conditions in the brine pool transition area would be limited to approximately October through March, the following description is focused on that period.

- Resident, migratory, or wintering shorebirds that feed on invertebrates present on the wet playa and/or use the area for roosting (e.g., black-bellied plover, snowy plover, semipalmated plover, killdeer, black-necked stilt, American avocet, greater yellowlegs, lesser yellowlegs, willet, spotted sandpiper, whimbrel, long-billed curlew, marbled godwit, western sandpiper, least sandpiper, dunlin, ring-billed gull, and California gull)
    - Prior to the implementation of the dust control project in 2002, hundreds to thousands of individuals have been observed in the brine pool transition area (based primarily on data submitted by M. Prather, see also **Section 3.2.3.1** and **Appendix B**). Since 2002, observed use of the brine pool transition area has decreased, ranging from less than 10 up to low hundreds. After implementation of LORP, reduced winter flows to

the brine pool transition area from operation of the pump station are expected to reduce but not completely eliminate use of this area for these species. It is anticipated that these individuals would also make use of other nearby habitats on the lake bed, including the shallow flood areas and seeps and springs.

- Shorebirds that nest in or near wet unvegetated playa (e.g., snowy plover, American avocet, and black-necked stilts)
  - As noted above, American avocets and black-necked stilts are not known to and are not expected to nest in the brine pool transition area. Therefore, operation of the pump station under LORP would not affect the availability of nesting habitat for these species. (In the summer, the anticipated increases in outflows to the brine pool transition area during Period 1 and 4 pulse flows and seasonal habitat flow bypass under LORP may improve nesting habitat for these species.) Additional discussion regarding western snowy plovers is provided in **Section 3.4.2.2**.
- Birds of prey that fly over the playa in transition to other habitats or to look for prey birds (e.g., prairie falcon and northern harrier)
  - Harriers prefer marshes and other habitats that are vegetated; therefore, the brine pool transition area is not considered suitable habitat for harriers. Falcons may feed on the limited number of birds currently present in the brine pool transition area. However, falcons prefer to hunt in areas with higher densities of prey birds (e.g., shallow flood areas of the Dust Mitigation Program) than typically present in the brine pool transition area under existing conditions. Therefore, the possible reduction in the number of birds in the brine pool transition area in winter under LORP would not substantially affect the food supply for the birds of prey.
- Passerines, other birds and bats that fly over the playa to feed on flying insects (e.g., several species of swallows and white-throated swift) or forage on the ground for insects (horned lark and Savannah sparrow)
  - Under existing conditions, these types of birds are observed in small numbers (generally fewer than 10) on any given survey date, and have been observed foraging on the dry playa. They are observed when outflows to the brine pool transition area are present and when flows are absent. Bats have not been observed but may forage above the brine pool transition area. As described above, reduction of surface water in the brine pool transition area in the winter would not result in substantial reduction of invertebrate food sources for these species.
- Waterfowl that use the area (when sufficient amounts of water are present) for roosting, swimming or drinking (e.g., Canada goose, snow goose, green-winged teal, cinnamon teal, and mallard)
  - Prior to the implementation of the dust control project in 2002, hundreds up to a thousand waterfowl individuals have been observed in the brine pool transition area (based primarily on data submitted by M. Prather, see also **Section 3.2.3.1** and **Appendix B**). Since early 2002, few waterfowl have been observed in the brine pool transition area. Under existing conditions, the primary use of the brine pool transition area by waterfowl, if any, is expected to be for temporary roosting and escaping from predation, hunting or other disturbance. Since LORP does not involve any

construction or other development in the brine pool transition area, this area would remain available for roosting and escaping after implementation of LORP. Therefore, reduction of surface water in the brine pool transition area in the winter would not substantially affect waterfowl species.

Currently, the shallow flood areas for the Dust Mitigation Program are the predominant areas of the Owens Lake used by waterbirds. Bird populations observed at the brine pool transition area (and the seeps and springs) are a small fraction of the total Owens Lake populations. The alkali playa habitat of the brine pool transition area is similar to and is a small fraction of the habitat provided by the shallow flood areas, which are immediately adjacent to the brine pool transition area. In addition to the shallow flood areas, this habitat type is also present at the outflows of seeps and springs, which would not be affected by LORP. There are no bird species that are found only in the brine pool transition area. In addition, no birds are currently expected to nest in this area. Furthermore, the reduction in outflows to the brine pool transition area would occur during the time of the year when water is abundant at other places around the lake (shallow flooding areas and the seeps and springs). Additionally, after October/November, when outflows to the brine pool transition area would be reduced under the proposed project, fewer shorebirds are present in the Owens Valley in general since it is past the peak migration period. For these reasons, the brine pool transition area is considered marginal habitat for birds. Therefore, within the context of existing conditions of the Owens Lake, the impact of reduced winter outflow to the brine pool transition area on the value of this alkali playa habitat would be less than significant. No mitigation is required.

In addition, under the proposed project, hundreds of acres of shallow flooded areas in the Blackrock Waterfowl Habitat Area, rewatering of the River, and increased summer flows to the vegetated portions of the Delta would create and enhance shorebird and waterfowl habitat. Overall, habitat for waterfowl, wading birds, and shorebirds (including species currently present in the brine pool transition area) will be increased after implementation of LORP. Specifically:

- Existing conditions in the River (low flow conditions and lack of seasonally flooded habitats along the channel) are not optimal as habitat for waterfowl and shorebirds. Establishment of the 40-cfs baseflow and release of seasonal habitat flows would create riparian forest (potential nesting areas for herons, egrets, wood ducks), seasonally flooded habitats adjacent to or in the floodplain (foraging areas for a variety of waterbirds including ducks, wading birds and shorebirds), and seasonally exposed areas in the river channel (side bars or mud shore left exposed after seasonal habitat flows, which would serve as foraging areas for wading birds and possibly shorebirds such as spotted sandpipers and killdeers).
- Existing conditions in the Blackrock area (static hydrologic conditions and expansive marsh with low habitat diversity and edge-ratio) are not optimal as habitat for waterfowl and shorebirds. The proposed water management for the Blackrock area involves wetting and drying cycles that will provide the periodic disturbance essential for enhancing shorebirds and waterfowl habitat (e.g., shallow inundated areas which would improve feeding opportunities, and increased vegetation diversity which would improve nesting habitat). However, these enhancements would not be expected to provide significant habitat in the Blackrock area for snowy plovers and black-bellied plovers, which prefer

habitats of the Delta. (The proposed water management is in part based on waterfowl census conducted by CDFG and LADWP in the 1980s; bird populations were observed to be positively correlated with flooding in the Blackrock area.)

- Increased flows to the vegetated portions of the Delta in the summer are expected to be highly beneficial to shorebirds. Under existing conditions, except for some permanent ponds created due to beaver activity in the northern portion, much of the Delta is dry in the summer. Under LORP, the presence of water in the vegetated portions in the summer (during a time of year when water supplies are more limited in the area) would attract shorebirds to nest. Under existing conditions, the numbers of shorebirds and waterfowl observed in the vegetated areas of the Delta are generally greater than the numbers observed in the brine pool transition area on a given survey date (unpublished information collected for the Lower Owens River Project Baseline Bird Monitoring Survey and compiled by D. House, LADWP Watershed Resource Specialist). Other similar vegetated areas in the Blackrock area that are flooded during the summer currently attract nesting American avocets, black-necked stilts, and long-billed curlews. Southbound shorebird migration begins in mid- to late June with the majority of shorebirds migrating south in the period from August through early fall. Implementation of LORP would increase flows to the vegetated portions of the Delta in the summer, and therefore would be expected to attract southbound migrant shorebirds and also establish resident breeding populations. Other parts of the valley that are flooded during mid-summer are currently used by *Calidris* sandpipers, phalaropes, and ibis.

3.4.2.2 Impacts on Sensitive Species

Except for the peregrine falcon (see discussion below), there are no plant or wildlife species listed as Endangered or Threatened under the federal or State Endangered Species Act that are known or have the potential to occur in the brine pool transition area. In addition, there are no special status plant, fish, amphibian, reptile or mammalian species that are known or have the potential to occur in the brine pool transition area.

As described above in **Section 3.2.3.2**, several birds designated by the CDFG as California Species of Special Concern are known or have the potential to occur in the unvegetated playa habitat of the Owens Lake. As described above, although white-faced ibis, osprey, burrowing owl, and mountain plovers are known to occur in other unvegetated playa areas of the lake bed, they are not known and are not expected to occur in the brine pool transition area.

Long-billed curlew has not been observed in the brine pool transition area since spring of 2000 and currently is not expected to occur. The northern harrier and prairie falcon have been observed flying over the brine pool transition area, and may forage in this area for small birds; Peregrine falcon has not been observed since 2000. The ferruginous hawk has not been observed, and is not expected to forage in this area. Harriers prefer marshes and other habitats that are vegetated; therefore, the brine pool transition area is not considered suitable habitat for northern harriers. Falcons may feed on the limited number of birds currently present in the brine pool transition area. However, falcons prefer to hunt in areas with higher densities of prey birds (e.g., shallow flood areas of the Dust Mitigation Program) than typically present in the brine pool transition area under existing conditions. Therefore, the possible reduction in the number of

birds in the brine pool transition area in winter under LORP would not substantially affect the food supply for peregrine falcons and prairie falcons. The brine pool transition area is not a suitable nesting habitat for any of these birds of prey.

California gulls have been observed in the brine pool transition area only since May 2002; use of the brine pool transition area by this species is likely incidental to their primary use of the nearby shallow flood areas. Furthermore, California gulls are not known and are not expected to nest in the brine pool transition area.

Operation of the pump station would reduce (but not completely eliminate) flows in March, which is the beginning of the nesting season for snowy plovers on Owens Lake. Additionally, the seasonal habitat flow bypass would increase outflows to the brine pool transition area for short periods during the peak nesting season (May/June). However, while small numbers of snowy plovers have been observed in the brine pool transition area, no nests have been seen since operation of the Zone 2 shallow flood area began in the beginning of 2002. Since invertebrate food production in the brine pool transition area would not be substantially affected (see **Section 3.4.2.1**) and no snowy plovers are currently expected to nest in the brine pool transition area, implementation of the project would not adversely affect this species.

One bat species (spotted bat) designated by the CDFG as a Species of Special Concern has been found foraging over the riparian area and meadows of the Delta and many of the seeps and springs; it was also found over open playa in the northeast portion of the lake bed. The presence or absence of this species in the brine pool transition area is not known, but it is not likely to occur since unvegetated playa is not a preferred habitat for this species. Reduced flows in the winter (when bat activity is low) would not impact this species, whereas the increased availability of water to the vegetated wetlands of the Delta during the growing season may provide more foraging opportunities for this species.

Although not an agency-listed species or Species of Special Concern, two species of bats (small-footed myotis and Yuma myotis) may be considered sensitive or locally important species. Both species have been observed on unvegetated playa habitats in the Owens Lake. Presence of these species in the brine pool transition area is not known, but they may forage in the area for aerial insects. In the winter when temperatures are lower and food is less abundant, these species are likely to be inactive or to migrate out of the Owens Valley. Furthermore, as described above, reduction of the surface water in the brine pool transition area in the winter would not result in substantial reduction of invertebrate food sources for these species.

Alkali flats tiger beetle, slender-girdled tiger beetle, and Owens Valley tiger beetle have no official status but are endemic to the project area, and may be considered sensitive or locally important species. These species have been observed at Owens Lake, including seeps and springs and saltgrass-dominated Transmontane Alkali Meadow habitats. Presence of these species in the brine pool transition area is not known. Since implementation of LORP would increase flows during the warmer months (seasonal habitat flows and pulse flows), additional habitat for these species may be created in the brine pool transition area. Reduction of winter flows is not anticipated to substantially affect the tiger beetles (if these species are present in the brine pool transition area under existing conditions).

Therefore, project-related impacts on sensitive species would be less than significant, and no mitigation is required.

3.4.2.3 Impacts on Migratory Corridors or Nursery Sites

There are no fish, amphibians or reptiles that use the brine pool transition area. Mammals may pass through the brine pool transition area in transition to other habitats. However, implementation of the proposed project would not obstruct their movement. With respect to birds, the Owens Lake as a whole is considered to be a part of the migratory pathway. However, implementation of LORP does not involve physical modifications or other creation of obstacles to migration in the Owens Lake. The alteration in the magnitude and timing of flows discharged from the Delta to the brine pool transition area would not interfere with the movement of wildlife species or migratory corridors.

The vegetated portions of the Delta are used by elk for calving; however, they are not known or expected to use the brine pool transition area due to lack of vegetation. While small numbers of snowy plovers have been observed in the brine pool transition area, no nests have been seen since operation of the Zone 2 shallow flood area began in the beginning of 2002 (see also **Section 3.4.2.2**). Therefore, operation of the pump station would not affect nursery sites.

Therefore, project-related impacts on wildlife movement, migratory corridors and nursery sites would be less than significant, and no mitigation is required.

3.4.2.4 Impacts on Federally Protected Wetlands

The brine pool is the area of the Owens Lake bed located below elevation 3,553.5 feet msl, which is designated as the ordinary high water mark by the U.S. Army Corps of Engineers and is thus considered a water of the U.S. (GBUAPCD, 1997; MHA Environmental Consulting, Inc. 1994, as cited in Regional Board, 2005a). As described above, the brine pool transition area is generally located in the northeastern portion of the brine pool and immediately south of the end of the vegetated portions of the Delta. Vegetation is absent in the brine pool transition area. The portion of the brine pool transition area below elevation 3,553.5 feet would be considered a water of the U.S.; however, no part of the brine pool transition area would be considered a federally protected wetland since it lacks the vegetative characteristic requisite for designation as a jurisdictional wetland by the U.S. Army Corps of Engineers. Therefore, no impacts on federally protected wetlands would occur, and no mitigation is required.

3.4.2.5 Consistency with Local Policies or Ordinances

Local plans and policies related to protection of biological resources are described in **Section 3.2.3.3.** Aside from the Inyo County General Plan [the project is consistent as discussed in Section 13 of the LORP Final EIR (LADWP, 2004a)], there are no local government policies or ordinances relevant to the brine pool transition area. However, there are two planning documents that address bird habitat of Owens Lake (U.S. Shorebird Conservation Plan and the Important Bird Area designation). The project would not conflict with these plans since it would not significantly affect the bird habitat of the brine pool transition area (see also **Section 3.4.2.1**).

3.4.2.6 Consistency with Adopted Habitat Conservation Plans

There are no adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional or state habitat conservation plans that are applicable to the Project area, including the brine pool transition area. Therefore, the project would not conflict with such plans, and no impacts would occur. No mitigation is required.

3.4.3 Impacts on Hydrology and Water Quality

3.4.3.1 Water Quality

Operation of the pump station and release of River flows to the Delta would not include discharges of any wastes or significant changes to water quality of the flows reaching the brine pool transition area. During the winter, the lower volume of water reaching the brine pool transition area would result in shallower inundation and therefore potentially increase water temperatures under sunny weather conditions. During releases of higher flows (seasonal habitat flow bypass and pulse flows), depths in the rivulets of the brine pool transition area would increase and temperatures could potentially decrease. Water temperatures in the brine pool transition area would continue to fluctuate widely as under existing conditions. Therefore, impacts on water quality of the brine pool transition area would be less than significant.

Project implementation would have less-than-significant impacts on water quality and biological resources of the brine pool transition area (see **Section 3.4.2**). Enhancement of habitat quality in the Delta through flow management would be expected to enhance the existing beneficial uses of the Owens Lake wetlands related to habitat and recreation. Overall, implementation of LORP would maintain and enhance the beneficial uses of Owens Lake.

3.4.3.2 Groundwater Resources

As described above in **Section 3.2.2.3**, the general hydrologic gradient in the shallow groundwater of the lake bed is from the lake margins toward the brine pool, where water is discharged via evaporation. As with most of the lake bed, the brine pool transition area is saturated at or near the surface due to the upward gradient of groundwater, and groundwater is discharged from the area via evaporation. In addition, the Zone 1 and Zone 2 shallow flooding areas of the Dust Mitigation Program are located immediately to the northwest and northeast of the brine pool transition area (see **Figure 3-5**), and would also contribute to maintaining saturated conditions in the brine pool transition area. Therefore, under existing conditions, surface water inflows to the brine pool transition area are not expected to contribute to groundwater recharge.

As described above in **Section 3.4.1**, implementation of LORP would alter surface water conditions in the brine pool transition area, resulting in less flow in the winter months but similar or increased flow in the summer months. However, the brine pool transition area is currently saturated, and is expected to remain saturated under LORP due to the upward vertical gradient of groundwater in this area. Since surface water in the brine pool transition area is not recharging

groundwater, alterations of surface flows in this area would not change groundwater recharge or water table conditions, and therefore would have no impacts on groundwater supplies.

Implementation of LORP would increase flows in the River (from an average of approximately 11 cfs at Keeler gage under existing conditions to the 40-cfs baseflow proposed under LORP). This increase in River flows would likely increase seepage to the alluvial materials north of the Delta, which in turn may increase recharge to the sediments underlying the brine pool transition area (and increase the upward gradient), although this effect is difficult to quantify. This increased recharge from the additional River flows may be expected to improve the water quality in the underlying groundwater basin, but would not change the non-potable character of the groundwater in the brine pool transition area which is influenced by the salt-laden sediments.

3.4.3.3 Drainage

Implementation of LORP would not require any construction or other development in the brine pool transition area, and therefore would not alter the existing drainage pattern of the area. Operation of the pump station as part of LORP would alter outflows to the brine pool transition area. As described above, outflows would be reduced in winter, similar in the summer, and increased over existing conditions during up to five times of the year – one seasonal habitat flow bypass and four pulse flows. Due to the low gradient and low velocities of these releases, impacts in the brine pool transition area related to erosion/siltation would be less than significant. Since the drainage pattern of the brine pool would not be affected by the project, there would be no impacts on stormwater drainage to the brine pool transition area.

3.4.3.4 Flooding

Relative to the brine pool transition area, operation of the pump station under LORP would not affect flooding or flood hazards. The project does not include the placement of housing within a flood hazard area or in any other way expose people or habitable structures to a risk of loss or injury from flooding, seiches, tsunami, or mudflows. There would be no impacts related to flooding.

3.4.4 Cumulative Impacts

A discussion of related projects that have the potential for cumulative impacts with LORP is presented in Section 12 of the Final EIR (LADWP, 2004a). Updated information is provided in this SEIR for the following related projects, which are relevant to impacts on the brine pool transition area:

- Owens Lake Dust Mitigation Program
- US Borax Trona Processing Upgrade Project
- Crystal Geyser Roxanne Beverage Bottling Plant

As described below, the cumulative effects of the proposed project with these related projects would not be cumulatively considerable and would result in less-than-significant cumulative impacts.

3.4.4.1 Owens Lake Dust Mitigation Program

As described above, a total of approximately 12,200 acres of shallow flood areas and 2,400 acres of managed vegetation have been completed to date as part of the Owens Lake Dust Mitigation Program. An additional 4,400 acres of shallow flooding (Dust Mitigation Program Phase V project) is expected to begin operation in November 2006 (see **Table 3-3** and **Figure 3-5**). Since the existing 12,200 acres of shallow flood areas and 2,400 acres of managed vegetation are considered existing conditions for the proposed project, only cumulative effects with Phase V are considered below.

An Initial Study and proposed Mitigated Negative Declaration for the Phase V project were prepared in June 2005 (LADWP, 2005c), and the Mitigated Negative Declaration was approved in September 2005 (LADWP, 2005d). The 4,400 acres of new shallow flood areas to be constructed as part of the Phase V project include areas adjacent to the existing Zones 1 and 2 shallow flood areas as well as southeastern and southern portions of the lake bed (see **Figure 3-5**). A portion of the new shallow flood areas (a portion of the area labeled "20" in **Figure 3-5**) would be located in the northeastern portion of the brine pool transition area. In addition, the Phase V project includes modifications (placing riprap on berms and modification to the pump system) of Zone 1 and the northern portion of Zone 2 (total of 2,844 acres).

Construction of Phase V is scheduled for 2006, and operation of the shallow flooding areas is expected to begin in November 2006, prior to operation of the pump station under LORP. Therefore, short-term construction effects (disturbance of snowy plover habitat) of the Phase V project would not be cumulative with the effects of the proposed project. Since snowy plovers are not currently expected to nest in the brine pool transition area, operation of the LORP pump station would not result in cumulative effects on snowy plover nesting habitat with operation of the Dust Mitigation Program. Operation of the Phase V project would expand the shallow flood areas that currently serve as habitat for large numbers of shorebirds and waterfowl and are located in close proximity to the brine pool transition area.

3.4.4.2 U.S. Borax Trona Processing Upgrade Project

The U.S. Borax Trona Processing Upgrade Project (U.S. Borax project) consists of upgrades to trona processing facilities located on or near the Owens Lake bed, including:

- Installation of mobile ore washing equipment on the southwestern portion of the lakebed (on or near the currently active mining panels)
- Installation of an artesian non-potable well on the lakebed near the currently active mining panels to supply water to the washing equipment
- Installation of an outfall for wastewater discharge onto the lakebed
- Installation of a calcining/drying facility within existing U.S. Borax facilities on the western lakeshore and associated pipelines, power transmission lines, and a potable water well

The upgrade would allow increased trona production to 144,000 tons per year (from the current 30,000 to 50,000 tons per year). Implementation of the upgrade would not increase the area to be mined beyond that already leased. The Draft EIR for the U.S. Borax project was prepared by Inyo County in January 2004 (Inyo County, 2004a), and the Final EIR was certified in May 2004.

The Draft EIR (Inyo County, 2004a) for the U.S. Borax project identified a potentially significant impact on snowy plover nests and nesting activity from increased truck traffic on the onsite haul roads located on the lake bed. Mitigation measures have been included as part of the U.S. Borax project to reduce the potentially significant impact to a less-than-significant level. Since snowy plovers are not currently expected to nest in the brine pool transition area, operation of the LORP pump station would not result in cumulative effects on snowy plover nesting habitat with the U.S Borax project.

3.4.4.3 Crystal Geyser Roxanne Beverage Bottling Plant

The Crystal Geyser Roxanne Beverage Bottling Plant is located 3.2 miles south of Olancha. The 120-acre project site extends west from the intersection of Highway 395 and the Aqueduct. The Crystal Geyser project consists of development and operation of a mineral water, juice, and tea beverage bottling plant, including importing fruit and tea concentrates to the project site and adding these concentrates to the well water.

The Draft EIR for the Crystal Geyser project was prepared by Inyo County in December 2004 (Inyo County, 2004b). Potential impacts to nesting birds during construction were found to be less than significant with mitigation (avoidance of breeding season and pre-construction survey); impacts to raptor foraging habitat were found to be less than significant due to the small acreage impacted by the project and the presence of large areas of similar, suitable foraging habitat in adjacent areas. Impacts to snowy plovers or other shorebirds were not identified. As described above, the possible reduction in the number of birds in the brine pool transition area in winter under the proposed would not substantially affect the food supply for birds of prey, and cumulative effects of the proposed project with the Crystal Geyser project would not be significant.

3.4.5 Growth-Inducing Impacts

An EIR shall include a discussion of the potential for growth-inducing impacts (Public Resources Code Section 21100). The focus of this analysis is on the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. As described in the LORP Final EIR Section 10.7 (LADWP, 2004a), implementation of the LORP would not result in growth-inducing impacts. Operation of the pump station and impacts to the brine pool transition area were included in this previous assessment. No additional consideration of the growth-inducing impacts is necessary.

3.4.6 Alternatives

Analysis within an EIR shall include a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.

In addition to the No Project alternative, the LORP Final EIR (LADWP, 2004a) described an evaluation of three CEQA alternatives focused on reducing the significant environmental impacts of the proposed project, which are water quality degradation and fish kills during release of initial flows. The No Project alternative would avoid these significant short-term impacts but this alternative was not identified as environmentally superior to the proposed project since habitat conditions in the LORP area would not be enhanced. None of the alternative release regimes (gradual release, early flushing flow, or delayed baseflows) were identified as environmentally superior to the proposed flow release regime. Under these alternative flow regimes, outflows to the brine pool transition area would be the same as under the proposed project after year 3 of project implementation (and essentially the same for the first 3 years).

Additional NEPA alternatives were described in the Final EIR related to pump station size, physical modifications to the Delta, alternative releases for the seasonal habitat flows, alternative regimes for the pulse flows to the Delta, cowbird trapping, native fish stocking in Blackrock Waterfowl Habitat Area, modified flooding regime in Blackrock Waterfowl Habitat Area, and alternative sediment stockpiling sites. Of these NEPA alternatives, alternative release regimes for the seasonal habitat flows and the pulse flows, and potentially physical modifications to the Delta, would affect outflows to the brine pool transition area, the subject of this SEIR.

The alternative to physically modify the Delta was found to be infeasible and to result in new significant impacts (loss of wetland and playa habitats). The alternative seasonal habitat flow regime scenario (200 cfs maintained throughout the River) was rejected for the following reasons: impacts to habitats in the Delta could range from significant and adverse to beneficial, the alternative is not required to meet MOU requirements, and the alternative would not reduce any significant impact. Two alternative regimes for pulse flows were identified as NEPA alternatives. The first would slightly modify the timing of the four pulse flows and is considered a feasible adaptive management action that may be considered in the future. If implemented, this alternative could potentially reduce the volume of outflows to the brine pool transition area since fall and winter pulse flows would be released slightly earlier (August instead of September, and later October through November instead of November/December) when evapotranspiration rates are higher. The second NEPA alternative related to pulse flows includes six instead of four pulse flows (one for 10 days at 25 cfs, four for 10 days at 20 cfs, and one for 5 days at 15 cfs). This alternative is considered a feasible adaptive management action that may be considered in the future. While this proposed regime would potentially increase shallow flooding in the Delta (and therefore bird habitat), it would likely reduce outflows to the brine pool transition area since it would reduce the November/December 5-day pulse flow to 15 cfs (instead of 30 cfs).

Additional CEQA alternatives are not identified in this SEIR since additional significant effects of the project have not been identified. Discussion of alternatives in an EIR shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening

any significant effects of the project (Public Resources Code Section 21002). Under LORP, impacts to hydrologic resources of the brine pool transition area and resultant impacts on biological resources would be less than significant as described above. Overall, the impacts of the project on biological resources including waterbirds would be beneficial. Alternatives focused on avoidance or reduction of the significant environmental effects of the project related to water quality degradation and fish kills during initial releases were sufficiently analyzed in a previous document (LORP Final EIR, LADWP, 2004a). Therefore, additional alternatives (in addition to the alternative discussed in the LORP Final EIR) have not been defined or analyzed in this SEIR.

Section 4
Report Preparation, References and Glossary

4.1 PREPARERS OF THE EIR

City of Los Angeles Department of Water and Power
Debbie House
Clarence Martin
Milad Taghavi
Brian Tillemans
Brian White (consulted regarding impacts on alkali flies)

MWH Americas, Inc.
Sarah M. Garber
Victor E. Harris
Akiko Kawaguchi

White Horse Associates
Sherm Jensen

4.2 AGENCIES, ORGANIZATIONS AND PERSONS CONSULTED

Phill Kiddoo, Great Basin Unified Air Pollution Control District

Jim Paulus, Great Basin Unified Air Pollution Control District

Michael Prather, Owens Valley Committee

4.3 REFERENCES

Audubon California. 2005. Important Bird Areas. Available: http://ca.audubon.org/IBA.htm. Accessed: November 30, 2005.

BioEnvironmental Associates. 2005. Technical Memorandum – Report for Bi-Annual Wildlife Surveys Conducted in the Southern Zones of the Owens Lake Dust Mitigation Project, April 2005. Prepared for Adrienne Disbrow, California Department of Fish and Game. Prepared by BioEnvironmental Associates for Ray Romero, CH2MHILL. Date: June 2005.

Bureau of Land Management (BLM). 1991. Bishop Resource Management Plan and Environmental Impact Statement. BLM-CT-PT-91-019-1610.

California Department of Fish and Game (CDFG). 1983. California's Wildlife, California Wildlife Habitat Relationships System. Available: http://www.dfg.ca.gov.

-----. 2003a. California's Plants and Animals, Species of Special Concern. Page Revised: August 5, 2003. Available: http://www.dfg.ca.gov/hcpb/species/ssc/ssc.shtml.

-----. 2003b. California's Plants and Animals, Bird Species of Special Concern, List and Species Accounts. Page Revised: May 2, 2003. Available: http://www.dfg.ca.gov/hcpb/species/ssc/sscbird/sscbird.shtml

-----. 2003c. California's Plants and Animals, American Peregrine Falcon. Available: http://www.dfg.ca.gov/hcpb/cgi-bin/read_one.asp?specy=birds&idNum=37. Accessed: November 4, 2005.

-----. 2003d. The Vegetation Classification and Mapping Program List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database, September 2003 Edition. Available: http://www.dfg.ca.gov/whdab/pdfs/natcomlist.pdf.

-----. 2005. California Natural Diversity Database Special Animals (817 taxa). July 2005. Available: http://www.dfg.ca.gov/whdab/pdfs/spanimals.pdf.

California Department of Water Resources (CDWR). 2004. California's Groundwater, Bulletin 118. South Lahontan Hydrologic Region, Owens Valley Groundwater Basin. Last update: 2/27/04. Available: http://www.dpla2.water.ca.gov/publications/groundwater/bulletin118/basins/pdfs_desc/6-12.pdf.

California Partners in Flight. 2000. Grassland Bird Conservation Plan. Species Account for Northern Harrier (Circus cyaneus). Prepared by Kristi Cripe, California Department of Fish and Game. Available: http://www.prbo.org/calpif/htmldocs/species/grassland/nohaacct.html.

CDM. 2000. Work Plan for Future Studies and Management - Owens Lake Groundwater Evaluation. June 2000. Submitted to Inyo County Water Department.

Danskin, W.R. 1998. Evaluation of the Hydrologic System and Selected Water-Management Alternatives in the Owens Valley, California. United States Geological Survey Water-Supply Paper 2370-H. Prepared in cooperation with Inyo County and the Los Angeles Department of Water and Power. Available: http://ca.water.usgs.gov/archive/reports/wsp2370/.

Great Basin Unified Air Pollution Control District (GBUAPCD). 1997. Final Environmental Impact Report and Appendices, Owens Valley PM10 Planning Area Demonstration of Attainment State Implementation Plan. Bishop, California.

-----. 2003. 2003 Owens Valley PM10 Planning Area Demonstration of Attainment State Implementation Plan – Draft Environmental Impact Report and Technical Appendices. State Clearinghouse Number 2002111020.

-----. 2005. Unpublished precipitation data provided to LADWP on August 23, 2005.

Herbst, D. 1997. Aquatic Habitat Formed on Owens Dry Lake by Flood Irrigation Dust Mitigation: Renewal of a Biological Community in Seasonal Habitats." Invertebrate Studies at Owens Lake. J. Paulus, editor. 2002. GBUAPCD.

-----. 1998. "Survey of Aquatic Invertebrates Associated with Irrigation Waters on Owens Lake at the Agrarian Project Site and the South Flood Irrigation Project Site." Invertebrate Studies at Owens Lake. J. Paulus, editor. 2002. GBUAPCD.

-----. 1999. Biogeography and physiological adaptations of the brine fly genus Ephydra (Diptera: Ephydridae) in saline waters of the Great Basin. Great Basin Naturalist 59: 127-135.

-----. 2001a. "An Overview of Information on Aquatic Invertebrate Life of the Owens Lake Basin and Evaluation of Habitat Suitability of Irrigation Drainwater." Invertebrate Studies at Owens Lake. J. Paulus, editor. 2002. GBUAPCD.

-----. 2001b. "An Evaluation of Aquatic Habitats Formed by Irrigation and Drainage of Managed Vegetation Tracts and Shallow Flooding on the Owens Lake Playa, Inyo County, California." Invertebrate Studies at Owens Lake. J. Paulus, editor. 2002. GBUAPCD.

Inyo County and Los Angeles Department of Water and Power (LADWP). 2004. Inyo/LA Geochemical Cooperative Study. Prepared by MWH and Geochemical Technologies Corporation (GTC). March 2004.

Inyo County. 2001. Goals and Policies Report for the Inyo County General Plan. December 2001. Available: http://countyofinyo.org/planning/goals.htm.

-----. 2004a. Trona Processing Upgrade Project Environmental Impact Report. SCH #2003041127.

-----. 2004b. Draft Environmental Impact Report – Crystal Geyser Roxane: Beverage Bottling Plant Light Industrial Project SCH #2002121051. December 2004. Submitted to Inyo County Planning Department by Quad Knopf, Inc. Available: http://www.countyofinyo.org/planning/eir.html.

International Society for Salt Lake Research (ISSLR). 2005. Scientists Hope Lake Findings will Lead to Clues about Other Planets. By G. Chui, Mercury News. June 29, 2005. Available: http://www.isslr.org/news/newsone.asp?qnewsid=268.

Jackson, R. 2001. Memorandum Report to Greg James and LORP EIR/EIS Working Group dated August 28, 2001. Subject: Estimate of the quantity of water passing the pumpback given the currently planned flushing flow in the May 1999 draft of the Lower Owens River Project Ecosystem Management Plan (Ecosystem Sciences, 1999). Estimate of the effects of flows on the Owens lake. Prepared by Randy Jackson, Inyo County Water Department.

Los Angeles Department of Water and Power (LADWP), Environmental Protection agency (EPA) and Inyo County. 2002. Draft Environmental Impact Report / Environmental Impact Statement – Lower Owens River Project. November 1, 2002.

Los Angeles Department of Water and Power (LADWP). 1947. Capacity of Owens Lake Basin – Assumptions of February 13, 1947. Prepared by J.E. Jones.

-----. 1991. 1991 Environmental Impact Report – Water from the Owens Valley to Supply the Second Los Angeles Aqueduct 1970 to 1990 and 1990 Onward, Pursuant to a Long Term Groundwater Management Plan.

-----. 2000. Initial Study – North Sand Sheet Shallow Flooding Project, Owens Lake Dust Mitigation Program, Owens Lake, California. February 2000.

-----. 2001. Revised Initial Study, Mitigated Negative Declaration, Response to Comments, and Errata Sheet. Southern Zones Dust Control Project. Owens Lake Dust Mitigation Program, Owens Lake, California. September 2001.

-----. 2004a. Final Environmental Impact Report, Lower Owens River Project. June 23, 2004. Three volumes.

-----. 2004b. Zone 2 Shallow Flood Shorebird Habitat Management Plan. Prepared for California Department of Fish and game and California State Lands Commission. July 2004. Prepared by LADWP in association with CH2MHILL

-----. 2005a. Unpublished precipitation data from Lone Pine Yard

-----. 2005b. Unpublished gaging data.

-----. 2005c. Proposed Mitigated Negative Declaration and Initial Study, Owens Lake Dust Mitigation Program Phase V Project. June 2005. Prepared by CH2MHILL.

-----. 2005d. Mitigated Negative Declaration, Owens Lake Dust Mitigation Program Phase V Project. September 2005. Prepared by CH2MHILL.

National Audubon Society. 2002. Audubon WatchList 2002. Available: http://www.audubon.org/bird/watchlist/index.html.

-----. 2004. Important Bird Areas Program. Available: http://www.audubon.org/bird/iba/index.html. Accessed: January 15, 2004.

Point Reyes Bird Observatory (PRBO). 1999. Summary of CH2MHILL 1999 Surveys for Snowy Plovers at Owens Lake. Prepared by G.W. Page and S.K Heath. September 1999.

-----. 2000. Summary of Surveys for Snowy Plovers at Owens Lake, April through August, 2000. Prepared by S.E. Hudson and G.W. Page. October 2000.

-----. 2001a. Summary of Surveys for Shorebirds and Other Waterbirds at Owens Lake in 2001. Prepared by E.Z. Ruhlen, T.D. Ruhlen, and G.W. Page for CH2MHILL. November 2001.

-----. 2001b. Summary of Surveys for Snowy Plovers at Owens Lake in 2001. Prepared by T.D. Ruhlen and G.W. Page for CH2MHILL. October 2001.

-----. 2002. Summary of Surveys for Breeding Snowy Plovers and American Avocets at Owens Lake in 2002. Prepared by T.D. Ruhlen and G.W. Page for CH2MHILL. October 1, 2002.

-----. 2003. Snowy Plovers, American Avocets, and Migrating Waterbirds at Owens Lake in 2003. Prepared by T.D. Ruhlen, C. Laczek-Johnson, and G.W. Page for CH2MHILL. September 8, 2003.

-----. 2004. Results of the 2004 Breeding Season Surveys for Snowy Plovers, American Avocets, and Common Ravens at Owens Lake. Prepared by G.W. Page and T.D. Ruhlen for CH2MHILL. July 2004.

-----. 2005. Results of the 2005 Breeding Season Surveys for Snowy Plovers and Common Ravens at Owens Lake. Prepared by G.W. Page and T.D. Ruhlen for CH2MHILL. July 2005

Regional Water Quality Control Board, Lahontan Region (Regional Board). 1994. Water Quality Control Plan for the Lahontan Region, North and South Basins. As amended. Available: http://www.waterboards.ca.gov/lahontan/BPlan/BPlan_Index.htm.

-----. 2005a. Technical Staff Report – Proposed Amendments to the Water Quality Control Plan for the Lahontan Region, Removal of the Municipal and Domestic Supply (MUN) Beneficial Use Designation from Surface Waters of Owens Lake, Inyo County. April 2005. Available: http://www.waterboards.ca.gov/lahontan/BPlan/BPlan_Index.htm.

-----. 2005b. Resolution R6T-2005-0021 – Approval of Amendments to the Water Quality Control Plan for the Lahontan Region to Remove the Municipal and Domestic Supply (MUN) Beneficial Use Designation from Owens Lake, Inyo County, and Approval of an Associated Environmental Document. Adopted July 14, 2005. Available: http://www.waterboards.ca.gov/lahontan/Adopted_Orders/2005/r6t_2005_0021.pdf.

Skagen, S. K., P. B. Sharpe, R. G. Waltermire, and M. B. Dillon. 1999. Biogeographical profiles of shorebird migration in midcontinental North America. Biological Science Report USGS/BRD/BSR—2000-0003. U. S. Government Printing Office, Denver, Colo. 167 pp.

State Water resources Control Board (SWRCB). 1993. Draft Environmental Impact Report for the Review of Mono Basin Water Rights of the City of Los Angeles. May 1993. Prepared by Jones & Stokes Associates. Available: http://www.monobasinresearch.org/onlinereports/mbeir.htm.

-----. 2005. Resolution No. 2005-0074 – Approving an Amendment to the Water Quality Control Plan for the Lahnotan Region to Remove the Municipal and Domestic Supply (MUN) Beneficial Use Designation from Surface Waters of Owens Lake, Inyo County. Adopted October 20, 2005. Available: http://www.waterboards.ca.gov/resdec/resltn/2005/rs2005-0074.pdf.

U.S. Fish and Wildlife Service (USFWS). 1998. Owens Basin Wetland and Aquatic Species Recovery Plan, Inyo and Mono Counties, California. Portland, Oregon.

-----. 1999. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Pacific Coast Population of the Western Snowy Plover – Final Rule. Federal Register, Vol. 64, No. 234. December 7, 1999. 68508-68544.

-----. 2001. Western Snowy Plover, (Charadrius alexandrinus nivosus), Pacific Coast Population, Draft Recovery Plan. May 2001. Available: http://ecos.fws.gov/docs/recovery_plans/2001/010501.pdf.

-----. 2003. Endangered and Threatened Wildlife and Plants; Withdrawal of the Proposed Rule to List the Mountain Plover as Threatened - Proposed rule; withdrawal. Federal Register, Vol. 68, No. 174. September 9, 2003. 53803-53101.

U. S. Shorebird Conservation Plan and Council (USSCPC). 2000. U.S. Shorebird Conservation Plan - Intermountain West Regional Shorebird Plan - Version 1.0. Prepared by Lewis W. Oring, Larry Neel, and Kay E. Oring. September 2000. Appendix XI: Key Shorebird Areas of the Inter-Mountain West Owens Lake, CA, prepared by Michael Prather. Available: http://shorebirdplan.fws.gov/RegionalShorebird/downloads/IMWEST4.doc.

Western Bat Working Group (WBWG). 2005. Western Bat Working Group website. Available: http://www.wbwg.org/. Accessed: November 4, 2005.

White Horse Associates. 2004. Delta Habitat Area Vegetation Inventory – 2000 Conditions. Prepared for Ecosystems Sciences, LADWP, and Inyo County. May, 2004.

4.4 ACRONYMS AND ABBREVIATIONS

Aqueduct	Los Angeles Aqueduct
BLM	Bureau of Land Management
CDFG	California Department of Fish and game
CDWR	California Department of Water Resources
CEQA	California Environmental Quality Act
cfs	cubic feet per second
Delta	Owens River Delta
EPA	U.S. Environmental Protection Agency

Final EIR	June 2004 Final Environmental Impact Report for the Lower Owens River Project
GBUAPCD	Great Basin Unified Air Pollution Control District
ISSLR	International Society for Salt Lake Research
LADWP	City of Los Angeles Department of Water and Power
LORP	Lower Owens River Project
mg/L	milligrams per liter
MOU	Memorandum of Understanding
msl	above mean sea level
NEPA	National Environmental Policy Act
NOP	Notice of Preparation
ºF	degrees Fahrenheit
PM10	particulate matter 10 microns or smaller in diameter
PRBO	Point Reyes Bird Observatory
Regional Board	Regional Water Quality Control Board, Lahontan Region
River	Lower Owens River
SEIR	Supplemental Environmental Impact Report
SIP	State Implementation Plan
SLC	(California) State Lands Commission
SWRCB	State Water Resources Control Board
TDS	total dissolved solids
USFWS	U.S. Fish and Wildlife Service
USSCPC	U. S. Shorebird Conservation Plan and Council
WBWG	Western Bat Working Group
µg/g	micrograms per gram
µg/L	micrograms per liter

This Page Intentionally Left Blank

Appendix A

Appendix A
Notice of Preparation and Comments Received

Appendix A contains the following materials:

- Notice of Preparation (NOP) for the Draft Supplemental Environmental Impact Report (September 2005);
- Summary of oral comments received during the public scoping meeting (held on September 14, 2005); and
- Written comments received on the NOP (four letters were received as listed in **Table A-1**).

Table A-1
List of Written Comments Received on the Notice of Preparation

Date	Commentor
9/20/2005	Michael Prather **Owens Valley Committee**
9/28/2005	Stephen Jenkins, Assistant Chief **California State Lands Commission, Division of Environmental Planning and Management**
10/6/2005	Phil McDowell, Interim Director **Inyo County Water Department**
11/1/2005	Alan Miller, Chief, North Basin Regulatory Unit **Lahontan Regional Water Quality Control Board**

Summary of Oral Comments Received at the Public Scoping Meeting

A public scoping meeting was held on September 14, 2005 at the City of Los Angeles Department of Water and Power offices in Bishop for the Lower Owens River Project Draft Supplemental Environmental Impact Report. In addition to LADWP and consultant staff, attendees included Michael Prather (Owens Valley Committee) and Greg James (Inyo County). Bird survey data were submitted at the meeting by Mr. Prather, which is included in this appendix. The following oral comments and questions were received during the meeting:

- When will document be ready?
- Who was on the mailing list for the NOP?
- Impacts would occur outside of the LORP area (on State lands).
- Concerned about depicting the existing biological conditions adequately, especially for birds. Data have been collected by Audubon, volunteers, and PRBO. Concerned that

PRBO studies were targeted for certain species such as snowy plover and PRBO studies occurred at a time when study area (for the Supplemental EIR) was dry. Study area usually dries up in May. Water does not start coming out the end till it cools down. PRBO studies looked more into the vegetated Delta because there are no outflows when they surveyed. Commentor will submit bird data that covers the study area in the winter. In addition, at least one season's worth of surveys October through May should be completed, unless there are other available data for the winter period. Commentor will ask others such as Audubon, although they do not necessarily walk out to the study area there when there is water. If there are data on birds other than PRBO report, they should be cited.

- Regarding flow conditions, photographs would be able to cover some information, but there is no gage there. Uncertain how one can quantify that flow.
- With respect to the dust control shallow flood areas, it is appropriate to say that they are part of the existing conditions. However, unless there is dedicated mitigation in perpetuity in the dust control areas, dust control zone cannot be used mitigate impacts in study area. Dust control method may be changed to gravel.
- Will Inyo County be a responsible agency?
- Nutrient flows need to be quantified (productivity for algae and flies). Dust control zones grow a lot of flies and have birds, but they don't have the nutrient load that the study area (river) gets.
- It would be important for Inyo County to know when the Supplemental EIR would be completed so that County could adopt the document.
- Will there be any primary research for algae and brine flies? David Herbst at Sierra Nevada Aquatic Research Lab would be the expert for insects.
- This year, the outflow area was under water because of the high water year. But water retreats quickly when it gets warmer then the brine flies start hatching. The importance of the area is a little bit in the fall and in the winter. There are hundreds of ducks, some shorebirds. In April, there are good numbers of shorebirds (migrants, sandpipers) when there is some outflow still.

Notice of Preparation

To: Agencies, Organizations, and Interested Parties

Subject: **Notice of Preparation of a Draft Supplemental Environmental Impact Report on the Lower Owens River Project in Compliance with Title 14, (CEQA Guidelines) Sections 15082(a), 15103, and 15375 of the California Code of Regulations**

The City of Los Angeles Department of Water and Power (LADWP) will be the Lead Agency under the California Environmental Quality Act (CEQA) for the preparation of a Supplemental Environmental Impact Report (Supplemental EIR) for the Lower Owens River Project (LORP).

The Supplemental EIR will amend the Final EIR for the project (State Clearinghouse No. 2000011075), which was completed and published by LADWP on June 23, 2004 and certified by the City of Los Angeles Board of Water and Power Commissioners on July 20, 2004.

The description, location, and potential environmental effects of the project are summarized below. Documents related to the proposed project are available for review at LADWP offices in Bishop (see contact information below).

Project Title: Lower Owens River Project (LORP)

Project Location: The LORP area is in the Owens Valley in the eastern Sierra Nevada (Inyo County, California). The area includes approximately 62-river miles of the Lower Owens River and adjacent areas. The northern boundary of the LORP area is the River Intake structure, and the southern boundary is the Owens River Delta. The project area encompasses much of the valley floor east of the Los Angeles Aqueduct and west of the Inyo Mountains. The specific location of interest for the Supplemental EIR is the Owens Lake "brine pool transition area."

Project Description: The proposed project description for the LORP has not changed from that described in the Final EIR. LORP is a large-scale habitat restoration project that will be implemented through a joint effort by LADWP and Inyo County. The overall objective of the LORP is to establish/enhance and maintain healthy, functioning ecosystems in the four geographic areas of the LORP for the benefit of biodiversity and threatened and endangered species, while providing for the continuation of sustainable uses such as recreation, livestock grazing, agriculture, and other activities.

LORP includes: restoration of the Lower Owens River by providing flows to the river to enhance fish, wetland, and riparian habitats; creation of new wetlands through seasonal flooding at the Blackrock Waterfowl Habitat Area; release of flows to the Delta Habitat Area to maintain and enhance wetlands; and modification of grazing practices on LADWP leases adjacent to the river.

A detailed description of the proposed project is provided in the Final EIR dated June 23, 2004, which can be reviewed at the following locations: LADWP offices in Bishop (see contact information below); LADWP offices in Los Angeles (111 North Hope Street, Room 1468, Los Angeles, California 90012); and on the LADWP website at: http://ladwp.com/ladwp/cms/ladwp005749.jsp.

Background: LORP was identified in a 1991 Environmental Impact Report (1991 EIR) as mitigation for impacts related to groundwater pumping by LADWP from 1970 to 1990. The project was augmented in a Memorandum of Understanding (MOU), signed in 1997 by LADWP, Inyo County, California

Department of Fish and Game, California State Lands Commission, Sierra Club, and the Owens Valley Committee. The MOU describes the general goals of the LORP, timeframe for development and implementation, and specific actions. It also provides certain minimum requirements for the LORP related to flows, locations of facilities, and habitat and species to be addressed.

Based on further negotiations amongst the MOU parties, additional details related to the LORP project description and schedule were specified in a February 2004 Stipulation and Order (Case Number S1CVCV01-29768, Sierra Club and Owens Valley Committee v. City of Los Angeles et al., February 13, 2004).

In June 2004, LADWP completed and published the Final EIR for the LORP, and the City of Los Angeles Board of Water and Power Commissioners certified the Final EIR and adopted the project on July 20, 2004; the Notice of Determination was filed on July 22, 2004. On October 6, 2004, a lawsuit was filed by the Sierra Club challenging the adequacy of the Final EIR with respect to analysis of project impacts on an area described as the "brine pool transition area." The "brine pool transition area" is not a clearly delineated area, but is located south of the vegetated wetlands of the Owens River Delta and is a portion of the brine pool within the Owens Lake. The brine pool is a broadly concave, depressed area of barren substrate, evaporative deposits, and brine. Parts of the brine pool are intermittently flooded through flows from the Owens River Delta and other flows.

As a result of the lawsuit, in July 2005, a stipulated judgment was entered in Inyo County Superior Court (Case Number S1CVPT04-37217, Sierra Club v. City of Los Angeles et al., July 25, 2005). The stipulated judgement requires LADWP to:

- Prepare and circulate for public review and comment a focused environmental analysis that addresses the impacts of the LORP to the "brine pool transition area."
- Proceed with construction of the LORP-related facilities (including the pump station) and implementation of the LORP, but postpone the operation of the pump station pending consideration and certification of the focused environmental analysis.

Supplemental EIR Focus: The Supplemental EIR will document the focused environmental analysis required by the July 2005 judgement. The Supplemental EIR will focus on evaluation of impacts on the "brine pool transition area," and will include detailed description of the existing biologic resources and hydrologic conditions (at the time of publication of this NOP for the Supplemental EIR), detailed description of the change in hydrologic and habitat conditions expected under LORP, and analysis of potential impacts on wildlife, particularly birds.

To Agencies: We request the views of your agency as to the scope and content of the environmental information which is relevant to your agency's statutory responsibilities in connection with the proposed project. Your agency may need to use the Supplemental EIR prepared by LADWP when considering your permit or other approval for the project.

To Organizations and Interested Parties: Comments and concerns regarding the scope and content of the environmental information to be included in the Supplemental EIR are requested from organizations and individuals.

Scoping Meeting: A public scoping meeting will be held to receive oral comments on the scope and content of the Supplemental EIR. Written comments will also be accepted at this meeting. The scoping meeting will be held:

Wednesday September 14, 2005 at 6:00 p.m.
City of Los Angeles Department of Water and Power (LADWP)
Multi-Purpose Room
300 Mandich Street
Bishop, California 93514

The public review period for the Notice of Preparation is scheduled to begin on September 7, 2005 and end on October 6, 2005. Due to the time limits mandated by State law, your response must be sent at the earliest possible date but no later than 30 days after receipt of this notice. Please indicate a contact person in your response, and send your response to the address below:

Mr. Clarence Martin
City of Los Angeles Department of Water and Power (LADWP)
300 Mandich Street
Bishop, California 93514
Phone: (760) 872-1104
Fax: (760) 873-0266

Gene S Coufal — **Signature**

9/1/05 — **Date**

Gene Coufal
Printed Name

Manger, Los Angeles Aqueduct Business Group
Title

Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.

This Page Intentionally Left Blank

Submitted by Mike Prather at LORP SEIR NOP Scoing Meeting, 9/14/2005

Methodology:

Walking surveys from the junction of the two delta channels south following the water for as far as you can walk in the mud - approximately 1.5 miles. Equipment - 7X binoculars and 22X spotting telescope. Data sent to Manomet Conservation Center, Manomet, MA (as part of the International Shorebird Survey-Fall1999 through Spring2002.) and CADFG, Bishop Office.

Data: (fieldwork by Michael Prather)

1996Mar23 Delta outflow
- 1 Long-billed Dowitcher
- 9 Greater Yellowlegs
- 1 Snowy Plover
- 170 Least Sandpiper

1996May06 Delta outflow
- 30 American Avocet
- 12 Black-necked Stilt
- 2 Western Sandpiper
- 6 Mallard
- 30 Snowy Plover (3 chicks)
- 48 Least Sandpipers
- 62 Semi-palmated Plover
- 1 Greater Yellowlegs
- 2 Northern Pintail
- 8 Cinnamon Teal
- 9 Dowitcher spp (unidentified)
- 6 Red-necked Phalarope
- 3 Snowy Egret

1999Aug17 Delta outflow
- 2 Solitary Sandpiper
- 1 Willet
- 950 Western/Least Sandpiper (mixed flock)

1999Aug24 Delta outflow
- 1 Snowy Plover
- 6 Semi-palmated Plover
- 26 Killdeer
- 1 Solitary Sandpiper
- 1202 Western Sandpiper
- 120 Least Sandpiper
- 1 Dowitcher spp.
- 100 Western/Least Sandpipers (mixed flock)
- 2 Turnstone spp (unidentified)

1999Aug29 Delta outflow
- 1 Semi-palmated Plover
- 150 American Avocet

400 Western Sandpiper
32 Phalarope spp.
700 Western/Least Sandpiper (mixed flock)

1999Sept12 Delta outflow
1 Black-bellied Plover
1 Snowy Plover
20 Killdeer
30 Black-necked Stilt
1000 American Avocet
10 Long-billed Curlew
80 Western Sandpiper
30 Least Sandpiper
1 Pectoral Sandpiper
7 Red-necked Phalarope
5000 Western/Least Sandpiper (mixed flock)

1999Sept26 Delta Outflow
1 Black-bellied Plover
500 American Avocet
2 Greater Yellowlegs
1 Willet
2 Bairds Sandpiper
4 Dowitcher spp.
11 Phalarope spp.
7000 Western/Least Sandpiper (mixed flock)

1999Oct17 Delta outflow
4 Black-bellied Plover
31 Killdeer
1 American Avocet
20 Greater Yellowlegs
4 Long-billed Curlew
70 Least Sandpiper
180 Dunlin
1770 Western/Least Sandpipers (mixed flock)

1999Oct23 Delta Outflow
3 Snowy Plover
51 Killdeer
85 American Avocet
11 Long-billed Curlew
15 Western Sandpiper
1200 Least Sandpiper
1050 Duck spp. (a distance on wet playa)
82 Snow Goose

2000Jan03 Delta outflow
33 Killdeer
1 Long-billed Curlew
762 Least Sandpiper

8 Dunlin
1 Prairie Falcon
950 Snow Goose
1000 Duck spp.

2000Mar25 Delta outflow
7 Black-bellied Plover
4 Snowy Plover
50 American Avocet
80 Least Sandpiper
1 Dowitcher spp.

2000April02 Delta outflow
9 Snowy Plover
7 Killdeer
202 American Avocet
1 Long-billed Curlew
8 Dowitcher spp.
1 Wilsons Snipe
39 Western/Least Sandpiper (mixed flock)

2000April09 Delta outflow
691 American Avocet
2 Killdeer
2 Whimbrel
1 Long-billed Curlew
10 Western Sandpiper
55 Least Sandpiper
8 Dowitcher
4000 Western/Least Sandpiper (mixed flock)

2000April12 Delta outflow
10 Black-necked Stilt
1 Whimbrel
2 Long-billed Curlew

2000April21 Delta outflow
2 Black-billed Plover
8 Snowy Plover
6 Semi-palmated Plover
24 Killdeer
1000 American Avocet
3700 Western/Least Sandpiper (mixed flock)

2000May20 Delta outflow (central channel dry)
12 Snowy Plover
1 Killdeer adult w/ 4 chicks
4 American Avocet
11 Phalarope spp.
1 Peregrine Falcon

2000June03 Delta outflow (no water reaching transition or brine pool)
4 Killdeer

2000July24 Delta outflow (small flow from delta channel junction for 300 meters. This is within the LORP Delta Habitat Area)

0 birds

2000Aug01 Delta outflow (water braiding out from delta 30-40 meters wide for approximately 1.0 mile; few flies)

4 Killdeer

2000Aug14 Small flow of water reaching the playa. Few brine flies, few shorebirds.

2000Aug22 Delta outflow (water flowing from delta ~1.5 miles; few brine flies)

1 Solitary Sandpiper
6 Least Sandpiper
1 Peregrine Falcon

2001Apr101 Delta outflow

3 Snowy Plover
254 American Avocet
2 Greater Yellowlegs
40 Western/Least Sandpiper (mixed flock)

2001April15 Delta outflow

16 Snowy Plover
2 Killdeer
500 American Avocet
2000 Western/Least Sandpiper (mixed flock)

2001April22 Delta outflow

7 Snowy Plover
1 Semi-palmated Plover
1 Greater Yellowlegs
72 Western/Least Sandpiper (mixed flock)
1 Peregrine Falcon

2001May06 Delta outflow

2 Snowy Plover
1 Black-necked stilt
7 American Avocet
6 Western Sandpiper

2001May20 No water reaching the playa from the delta. PRBO had several snowy plover nests immediately west of west side delta road within the LORP delta habitat area.

0 birds

2001June02 No water reaching playa. Snowy plover seeps on west side are dry.

0 birds

2001June14 No water reaching playa. Snowy plover seeps on west side are dry.

0 birds

2001June22 No water reaching playa. Snowy plover seeps on west side are dry.

0 birds

2001Aug20 Delta completely dry top to bottom. No water reaching playa.

0 birds

2001Sept01 Delta completely dry top to bottom. No water reaching playa.

0 birds

2001Sept15 Water reaching end of vegetation (near junction of two channels). No water on playa.

2 Killdeer

2001Oct26 Delta outflow

0 birds

Zone 2 was operational November, 2001. Zone 1 was operational in the winter of 2002 (December 2002 or January 2003?)

2002Jan13 Delta outflow - transition to brine pool area within LORP and 0.5 miles south of convergence of the two delta channels (~2,000feet south of LORP Delta Habitat Area boundary).

20 Snowy Plover adults.
17 Dunlin
87 Least Sandpipers
12 Western Sandpipers
200 Snow Goose
40 Duckspp. (unidentified)

2002Feb02 Delta outflow

1 Snowy Plover
34 Mallard
8 Greater Yellowlegs
40 American Avocets
800 Least Sandpipers
2 Northern Harrier
300 Snow Goose
63 Duck spp. (unidentified)

2002Mar11 Delta outflow

2 Black-bellied Plover

2002April25 Delta outflow

2 Killdeer
11 American Avocet
134 Least Sandpiper

2002May03 Delta outflow

1 Black-bellied Plover
13 Snowy Plover
14 Semi-palmated Plover
1 Willet
1 Spotted Sandpiper
600 Western Sandpiper
35 Least Sandpiper
2 Pectoral Sandpiper
75 Western/Least Sandpiper (mixed flock)
32 California Gull

2003Oct26 Water seen leaving the delta and braiding across the playa. No birds. Not sure when water began flowing from the delta.

END OF DATA

.....

Additional information regarding the value of the delta outflow

1.) "The Owens River Delta is very important for shorebirds and waterbirds when it has water, however there was no outflow during most of the fall 2001 survey period. In spite of a paucity of water, Owens River Delta had the highest number of birds during spring surveys and the second highest during fall surveys for all years combined."
Contribution 984 Point Reyes Bird Observatory

2.) Two nests found close to the delta western edge and within the LORP Delta Habitat Area.
Summary of Snowy Plovers at Owens Lake, April-August, 2000
October 2000 Point Reyes Bird Observatory

3.) One nest found within the Delta Habitat Area
Summary of Surveys of Snowy Plovers at Owens Lake; Preliminary Results for March 15-May 31, 2001.Point Reyes Bird Observatory

4.) 1 nest found in area immediately south (outside) of LORP Delta Habitat Area boundary.
10 broods found in same locatio
Summary of Surveys for Snowy Plovers at Owens Lake 2001. Point Reyes Bird Observatory, October 15, 2001

September 20, 2005

Subject: Owens Valley Committee and Sierra Club comments for the NOP of the Draft Supplemental Impact Report on the Lower Owens River Project.

Comments:

1.) There is a gap in the data needed to adequately describe the existing biological condition particularly for birds. Previous surveys took place when the study area was dry and were directed at a narrow range of species. We have included our bird data and methodology, but suggest that further surveys occur from October 2005 through May 2006. We suggest the use of the Point Reyes Bird Observatory.
2.) There is a gap in the hydrological data needed to describe the existing condition. Flows from the delta should be measured.
3.) Dust control Zones 1 and 2 are part of the current biological condition, but aren't a mitigation for delta outflow (transition to brine pool) impacts unless appropriate acreages are dedicated in perpetuity for wildlife as well as dust.
4.) No physical components of the LORP provide comparable offsetting mitigation for the impacts to wildlife in delta outflow area (transition to brine pool).
5.) The study area is entirely on State Lands.
6.) Inyo County should be listed as the Responsible Agency.

This concludes our comments,

Michael Prather
Policy Coordinator
Owens Valley Committee

Drawer D
Lone Pine, CA 93545
760.876.1845 ovc@lonepinetv.com

we watch the water

	A	B	C	D	E	F	G
1	DATE	LOCATION	SPECIES	NUMBER	NOTES/OBSERVERS: Michael Prather et al.		
2	96.03.23	Delta outflow	LBDO	1	Drawer D		
3			GRYE	9	Lone Pine CA 93545		
4			SNPL	1	prather@gnet.com		
5			LESA	170	760. 876. 5807		
6							
7	96.05.06		AMAV	30			
8			BNST	12			
9			WESA	2			
10			LESA	48			
11			SNPL	30	3 CHICKS		
12			SPPL	62			
13			GRYE	2			
14			XXDO	9			
15			MALL	6			
16			NOPI	2			
17			CITE	8			
18			SNEG	3			
19			RNPH	6			
20							
21	99.08.17		SOSA	2			
22			WILL	1			
23			PEEPS'	950	WESA/LESA MIXED FLOCK		
24							
25	99.08.24		SNPL	1			
26			SPPL	6			
27			KILL	26			
28			SOSA	1			
29			WESA	1202			
30			LESA	120			
31			XXDO	1			
32			PEEPS'	100	WESA/LESA MIXED FLOCK		
33			TURNSTONE S	2			
34							
35	99.08.29		SPPL	1			
36			AMAV	150			
37			WESA	400			
38			XXPH	32			
39			PEEPS'	700	WESA/LESA MIXED FLOCK		
40							
41	99.09.12		BBPL	1			
42			SNPL	1			
43			KILL	20			
44			BNST	30			
45			AMAV	1000			

	A	B	C	D	E	F	G
46			LBCU	10			
47			WESA	80			
48			LESA	30			
49			PESA	1			
50			RNPH	7			
51			PEEPS'	5000	WESA/LESA MIXED FLOCK		
52							
53	99.09.26		BBPL	1			
54			AMAV	500			
55			GRYE	2			
56			WILL	1			
57			BASA	2			
58			XXDO	4			
59			XXPH	11			
60			PEEPS'	7000	WESA/LESA MIXED FLOCK		
61							
62	99.10.17		BBPL	4			
63			KILL	31			
64			AMAV	1			
65			GRYE	20			
66			LBCU	4			
67			LESA	70			
68			DUNL	180			
69			PEEPS'	1770	WESA/LESA MIXED FLOCK		
70							
71	99.10.23		SNPL	3			
72			KILL	51			
73			AMAV	85			
74			LBCU	11			
75			WESA	15			
76			LESA	1200			
77			SNGO	82			
78			DUCK SP.	1050			
79							
80	00.01.03		KILL	33			
81			LBCU	1			
82			LESA	762			
83			DUNL	8			
84			PRFA	1			
85			SNGO	950			
86			DUCK SP.	1000			
87							
88	00.03.25		BBPL	7			
89			SNPL	4			
90			AMAV	50			

	A	B	C	D	E	F	G
91			LESA	80			
92			XXDO	1			
93							
94	00.04.02		SNPL	9			
95			KILL	7			
96			AMAV	202			
97			LBCU	1			
98			WESA	10			
99			LESA	55			
100			XXDO	8			
101			PEEPS'	4000	WESA/LESA MIXED FLOCK		
102							
103	00.04.12		BNST	10			
104			WHIM	1			
105			LBCU	2			
106							
107	00.04.21		BBPL	2			
108			SNPL	8			
109			SPPL	6			
110			KILL	4			
111			AMAV	1000			
112			PEEPS'	3700			
113							
114	00.05.20		SNPL	12	CENTRAL CHANNEL DRY		
115			KILL	5	1ad. 4 chicks		
116			KILL				
117			AMAV	4			
118			XXPH	11			
119			PEFA	1			
120							
121	00.06.03		KILL	3	NO WATER REACHING		
122							
123	00.07.24		NO BIRDS		SMALL FLOW FROM DELTA, ~300 METERS		
124							
125	00.08.01		KILL	1	WATER BRAIDING, 30-40 METERS WIDE FOR ~1 MILE, FEW FLIES		
126							
127	00.08.14		UN ID SP.		SMALL FLOW REACHING PLAYA, FEW FLIES		
128							
129	00.08.22		SOSA	1	WATER FLOWING ~1.5 MILES, FEW FLIES		
130			LESA	6			
131			PEFA	1			
132							
133	01.04.01		SNPL	3			
134			AMAV	254			
135			GRYE	2			

	A	B	C	D	E	F	G
136			PEEPS'	40	WESA/LESA MIXED FLOCK		
137							
138	01.04.15		SNPL	16			
139			KILL	2			
140			AMAV	500			
141			PEEPS'	2000	WESA/LESA MIXED FLOCK		
142							
143	01.04.22		SNPL	7			
144			BNST	1			
145			AMAV	7			
146			WESA	6			
147							
148	01.05.20		NO BIRDS		NO WATER REACHING PLAYA		
149							
150	01.06.02		NO BIRDS		NO WATER REACHING PLAYA, SNOWY PLOVR SEEPS ON WEST SIDE ARE DRY		
151							
152	01.06.14		NO BIRDS		NO WATER REACHING PLAYA, SNOWY PLOVR SEEPS ON WEST SIDE ARE DRY		
153							
154	01.06.22		NO BIRDS		NO WATER REACHING PLAYA, SNOWY PLOVR SEEPS ON WEST SIDE ARE DRY		
155							
156	01.08.20		NO BIRDS		DELTA COMPLETELY DRY TOP TO BOTTOM. NO WATER REACHING PLAYA		
157							
158	01.09.01		NO BIRDS		DELTA COMPLETELY DRY TOP TO BOTTOM. NO WATER REACHING PLAYA		
159							
160	01.09.15		KILL	2	WATER REACHING END OF VEGETATION, NO WATER ON PLAYA		
161							
162	01.10.26		NO BIRDS				
163							
164	02.01.13		SNPL	20	0.5 MLES SOUTH OF DELTA CHANNEL CONVERGENCE		
165			DUNL	17			
166			LESA	87			
167			WESA	12			
168			SNGO	200			
169			DUCK SP.	40			
170							
171	02.02.02		SNPL	1			
172			GRYE	8			
173			AMAV	40			
174			LESA	800			
175			NOHA	2			
176			SNGO	300			
177			DUCK SP.	63			
178			MALL	34			
179							
180	02.03.11	Delta Outflow	BBPL	2			

	A	B	C	D	E	F	G
181							
182	02.04.25		KILL	2			
183			AMAV	11			
184			LESA	134			
185							
186	02.05.03		BBPL	1			
187			SNPL	13			
188			SPPL	14			
189			WILL	1			
190			SPSA	1			
191			WESA	600			
192			LESA	35			
193			PESA	2			
194			PEEPS'	75	WESA/LESA MIXED FLOCK		
195			CAGU	32			
196							
197	03.10.26	Delta Outflow	NO BIRDS		WATER FLOWING FROM DELTA, BRAIDNG.		

Michael Prather
Drawer D
Lone Pine, CA 93545
760.876.5807
prather@qnet.com
FAX 760.876.1845
www.ovcweb.org

- Resident of Inyo County since 1972.
- Actively working on land and water issues in the Owens Valley since 1980 with the Owens Valley Committee, Eastern Sierra Audubon and Sierra Club.
- Retired public school teacher - taught in Death Valley and Lone Pine for 30 years.

1970 BS Biology CSU Chico
1972 MS Botany CSU Chico

1.) Sapphos Environmental – Owens Lake Dust Environmental Impact Report (EIR), wildlife-birds, 1995-1996

2.) Point Reyes Bird Observatory (PRBO) – Owens Lake Snowy Plover / shorebird surveys 2001, 2002 and 2003 field seasons.

3.) PRBO Pacific Flyway Project – Owens Lake 1989-1994

4.) USFWS Breeding Bird Surveys since 1973 - 2002

5.) National Audubon Society Christmas Bird Counts– since 1970

6.) International Shorebird Survey, Owens Lake, [Manomet Conservation Center, MA] 1999-2002

7.) U. S. Shorebird Conservation Plan – authored the Owens Lake section.

8.) Fall 2002 and spring 2003 - Sapphos Environmental and the Great Basin Unified Air Pollution Control District for bird surveys at Owens Lake for a revised Dust Mitigation EIR.

9.) 30 years teaching with Death Valley and Lone Pine Unified School Districts. Elementary grades and middle school science, retired.

10.) Spring 2003 bird surveys on the Lower Owens River for the PRBO.

11.) Spring 2005 bird surveys on the Lower Owens River for the PRBO

12.) International Shorebird Survey, Owens Lake, [Manomet Conservation Center, MA] Spring2005-Fall2005

STATE OF CALIFORNIA ARNOLD SCHWARZENEGGER, *Governor*

CALIFORNIA STATE LANDS COMMISSION
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

PAUL D. THAYER, *Executive Officer*
(916) 574-1800 FAX (916) 574-1810
Relay Service From TDD Phone **1-800-735-2929**
from Voice Phone **1-800-735-2922**

September 28, 2005

FAX TRANSMITTAL

CALIFORNIA STATE LANDS COMMISSION

DIVISION OF ENVIRONMENTAL PLANNING AND MANAGEMENT

PHONE: (916) 574-1890
FAX: (916) 574-1885

FROM: Madeline Cavalieri
PHONE NUMBER: (916) 574-1956

TO: Clarence Martin, LADWP
PHONE NUMBER:
FAX NUMBER: 760-873-0266
TOTAL PAGES (INCLUDING COVER): 17 pages
MESSAGE: Comment letter for NOP for the Lower Owens River Project, SCH#: 2000011075

STATE OF CALIFORNIA ARNOLD SCHWARZENEGGER, *Governor*

CALIFORNIA STATE LANDS COMMISSION
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

PAUL D. THAYER, *Executive Officer*
(916) 574-1800 FAX (916) 574-1810
Relay Service From TDD Phone **1-800-735-2929**
from Voice Phone **1-800-735-2922**

Contact Phone: **(916) 574-1833**
Contact FAX: **(916) 574-1835**

September 28, 2005

File Ref: SCH 2000011075

Nadell Gayou
The Resources Agency
901 P Street
Sacramento, CA 95814

Clarence Martin
City of Los Angeles
Department of Water and Power
300 Mandich Street
Bishop, California 93514

Dear Mr. Martin:

Subject: Notice of Preparation (NOP) for the Lower Owens River Project (LORP)

This responds to your request for comments from the California State Lands Commission (CSLC) on the NOP for the preparation of a Supplemental Environmental Impact Report (EIR) for the LORP at Owens Lake. The specific location of interest for the Supplemental EIR is the Owens Lake "brine pool transition area."

As you are aware, upon admission to the Union in 1850, California acquired nearly four million acres of sovereign land underlying the State's navigable waterways. Such lands include, but are not limited to, the beds of more than 120 navigable rivers and sloughs, nearly 40 navigable lakes, and the three-mile wide band of tide and submerged land adjacent to the coast and offshore islands of the State. The CSLC holds its sovereign interest in these lands subject to the Public Trust for commerce, navigation, fisheries, open space, and preservation of natural environments, among others. The CSLC is particularly concerned with the natural resources and public recreational opportunities of lands under its jurisdiction.

The proposed project identified in the NOP includes Owens Lake, which is sovereign land of the State of California as described above. The CSLC has a legal responsibility for, and a strong interest in, protecting the ecological and Public Trust

values associated with the State's sovereign lands, including the use of these lands for habitat preservation, open space and recreation. Proposed development located within Owens Lake would be subject to the CSLC's application process and the Commission would be a Responsible Agency under the California Environmental Quality Act (CEQA).

As previously advised, the document should discuss the full range of environmental issues required under CEQA, including, but not limited to, water quality and hydrology, including runoff, sedimentation, degradation, erosion, and drainage; biology, including, native, rare, endangered, and threatened plant, animal, and aquatic species, and species of special concern; and the loss of wetland and upland habitats.

All studies which may be needed to evaluate the environmental effects of the proposed project, including biotic studies and inventories of plans, animals and aquatic resources, should be conducted as part of the preparation of the Supplemental EIR. Relevant project alternatives to reduce the significant effects to a level of insignificance or proposed mitigation measures that will be incorporated into the project should be included in the document. Maps, charts or other graphics should also be included to illustrate the location of biotic species and their habitats in the relation to the project site, and the proposals for their protection.

Additionally, enclosed are comments on the DEIR/EIS that were previously prepared by the CSLC in our letters of February 29, 2000 and January 13, 2003 each of which is incorporated herein by this reference. We also incorporate herein any additional comments that may be submitted by the Office of the Attorney General on behalf of the CSLC.

Further, on December 9, 2004, the CSLC authorized the issuance of a General Lease – Public Agency Use, Lease No. PRC 8576.9, for the installation and maintenance of a 34.5kV overhead electrical transmission facility located on sovereign land at Owens Lake and the placement of two stream gages in the Owens River Delta as components of the LORP. It is our understanding that the proposed brine pool transition area is located south and some distance from the lease premises in the Owens River Delta area. Once staff has reviewed the Supplemental EIR, the City will be advised if an application to amend the existing lease will be required for this additional component of the LORP.

We appreciate the opportunity to comment on the NOP and look forward to our review of the draft document. If you have any questions concerning the CSLC's leasing process, please contact Susan Young at (916) 574-1879. For questions concerning the proposed environmental document, please contact Judy Brown at (916) 574-1868

Sincerely,

Stephen Jenkins

Stephen Jenkins, Assistant Chief
Division of Environmental Planning and
Management

STATE OF CALIFORNIA GRAY DAVIS, *Governor*

CALIFORNIA STATE LANDS COMMISSION
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

PAUL D. THAYER, *Executive Officer*
(916) 574-1800 FAX (916) 574-1810
California Relay Service From TDD Phone **1-800-735-2922**
from Voice Phone **1-800-735-2929**

Contact Phone: **(916) 574-1833**
Contact FAX: **(916) 574-1925**

February 29, 2000

File Ref: SCH 2000011075

Gene L. Coufal
City of Los Angeles,
Department of Water and Power
300 Mandich Street
Los Angeles, California 93514

Dear Mr. Coufal:

Subject: Lower Owens River Plan SCH# 2000011075

This responds to your request for review and comments from the California State Lands Commission (CSLC) on the Notice of Preparation (NOP) for the Lower Owens River Plan Draft Environmental Impact Report (DEIR).

Upon admission to the Union in 1850, California acquired nearly four million acres of sovereign land underlying the State's navigable waterways. Such lands include, but are not limited to, the beds of more than 120 navigable rivers and sloughs, nearly 40 navigable lakes, and the three-mile wide band of tide and submerged land adjacent to the coast and offshore islands of the State. The CSLC holds its sovereign interest in these lands subject to the Public Trust for commerce, navigation, fisheries, open space, and preservation of natural environments, among others.

The proposed project area includes the Owens River and Owens Lake, which are sovereign lands of the State of California as described above. The CSLC has a legal responsibility for, and a strong interest in, protecting the ecological and Public Trust values associated with the State's sovereign lands, including the use of these lands for habitat preservation, open space and recreation. Proposed development located within these waterways is subject to the CSLC's leasing process and the Commission is a Responsible Agency under the California Environmental Quality Act (CEQA).

The document should discuss the full range of environmental issues required under CEQA, including, but not limited to, water quality and hydrology, including runoff, sedimentation, degradation, erosion and drainage; biology, including native, rare,

endangered, and threatened plant, animal, and aquatic species, and species of special concern; and the loss of wetland and upland habitats.

All studies which may be needed to evaluate the environmental effects of this project, including biotic studies and inventories of plants, animals, and aquatic resources, should be conducted as part of the preparation of the Draft EIR. Relevant impact analyses should be incorporated into the document. In addition, proposed project alternatives to reduce the significant effects to a level of insignificance or proposed mitigation measures that will be incorporated into the project should be included in the document. Maps, charts, or other graphics should also be included to illustrate the location of biotic species and their habitats in relation to the project site, and the proposals for their protection.

We appreciate the opportunity to comment and look forward to our review of the draft document. If you have questions concerning the CSLC's leasing process, please contact Barbara Dugal at (916) 574-1833. For questions concerning the proposed environmental document, please contact Betty Silva at (916) 574-1872.

Sincerely,

Mary Griggs

Mary Griggs, Assistant Chief
Division of Environmental Planning
and Management

cc: Barbara Dugal
Betty Silva

STATE OF CALIFORNIA GRAY DAVIS, Governor

CALIFORNIA STATE LANDS COMMISSION
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

PAUL D. THAYER, *Executive Officer*
(916) 574-1800 FAX (916) 574-1810
California Relay Service From TDD Phone **1-800-735-2922**
from Voice Phone **1-800-735-2929**

Contact Phone: **(916) 574-1880**
Contact FAX: **(916) 574-1885**

January 13, 2003

File: Lower Owens River Project
SCH# 2000011075

Mr. Clarence Martin
Los Angeles Department of Water and Power
300 Mandich Street
Bishop, CA 93514
FAX: 760-873-0266

Ms. Gail Louis
U.S. Environmental Protection Agency
75 Hawthorne Street , WTR-3
San Francisco, CA 94105

Subject: **Draft Environmental Impact Report/Statement (DEIR/S), Lower Owens River Project (LORP), November 1, 2002**

Dear Mr. Martin and Ms. Louis:

The California State Lands Commission (CSLC) staff thanks you for the opportunity to comment on the subject DEIR/S. The LORP is compensatory mitigation required for impacts to wetland and riparian habitats resulting from groundwater pumping in the Owens Valley; impacts that a 1991 Final EIR considered difficult to quantify or mitigate directly. Preparation of this DEIR/S must be founded on a "project description" that mirrors that contained in an April 1997 Memorandum of Understanding (MOU) between the Los Angeles Department of Water and Power (LADWP), County of Inyo, CSLC, and other parties. The goal of the LORP, as stated in the MOU, is "the establishment of a healthy, functioning Lower Owens River riverine-riparian ecosystem, and the establishment of healthy, functioning ecosystems in the other physical features of the LORP, for the benefit of biodiversity and Threatened and Endangered species, while providing for the continuation of sustainable uses including recreation, livestock grazing, agriculture and other activities." (MOU, p. 8.)

The proposed project includes the Owens River and has potential significant impacts to the Owens Lake, which are sovereign lands of the State of California.[1] The CSLC has a

[1] Upon admission to the Union in 1850, California acquired nearly four million acres of sovereign land underlying the State's navigable waterways. Such lands include, but are not limited to, the beds of more than 120 navigable rivers and sloughs, nearly 40 navigable lakes, and the three-mile-wide band of tide and submerged land adjacent to the coast and offshore islands of the State. The CSLC holds its sovereign interest in those lands subject to the Public Trust

legal responsibility for, and a strong interest in, protecting the ecological and Public Trust values associated with the State's sovereign lands, including the use of these lands for habitat preservation, open space and recreation. Proposed development located within these waterways is subject to the CSLC's leasing process, and the CSLC is a Responsible Agency under the California Environmental Quality Act (CEQA).

The CSLC staff has reviewed the subject document and believes that the project as proposed in the DEIR/S does not meet the LORP goal specified in the MOU. The project description is the foundation on which the analyses of an EIR/S should be conducted. An inaccurate project description will, by definition, result in inaccurate analyses. The project, as defined within the MOU, is not carried forward into the subject EIR/S. As such, the document's analyses, even if they were adequate, do not address the actual project. Additional key areas of concern include: (1) the failure of the DEIR/S to provide for adaptive management and effective monitoring as required by the MOU and/or the CEQA; (2) the failure of the DEIR/S properly to set forth habitat goals that are consistent with the needs of indicator species listed in the MOU; and (3) the DEIR/S's repeated conclusion that "funding limitations" prohibit the LADWP from mitigating certain significant impacts to less than significant, and may also limit the ability of the LADWP and Inyo County to conduct the monitoring associated with the LORP. Staff also recommends that the LADWP thoroughly and promptly revise the DEIR/S. The LADWP has not prepared a DEIR that meets the requirements of the CEQA. The remedies now required add further delay to the LADWP's failure to meet the MOU deadline for completion of the DEIR. The result is that ongoing environmental harm attributed to the LADWP's groundwater pumping remains unmitigated.

The comments provided here and in Attachment 1, which are not exhaustive due to the extensive shortcomings of the DEIR/S, are submitted for your consideration and response. Please call Cy Oggins at (916) 574-1884 or Barbara Dugal at (916) 574-1833, if you have any questions concerning these comments.

Sincerely,

Dwight E. Sanders

Dwight E. Sanders, Chief
Division of Environmental Planning and Management

Attachment

cc: State Clearinghouse
Paul Thayer, Executive Officer
Jack Rump, Chief Legal Counsel
Cy Oggins
Barbara Dugal
Maurya Falkner
Jim Frey
Eric Gillies

ATTACHMENT 1, ADDITIONAL COMMENTS

Key Concerns

1) **The DEIR/S does not adequately ensure that the LORP will be adaptively managed to achieve the goal specified in the MOU, and does not ensure that an effective mitigation monitoring program will be implemented as required by the MOU and the CEQA.** Adaptive management is a critical element in the MOU. Section II.E of the MOU (p. 18) states:

> "Monitoring sites and water flow gaging stations will be identified and a program for data collection, analysis, and reporting (which will identify pathways to allow feedback to indicate where adaptive modifications to management are necessary) will be described as part of this plan. Should the reported information reveal that adaptive modifications to the LORP management are necessary to ensure the successful implementation of the project, or the attainment of the LORP goals, **such adaptive modifications will be made**" (emphasis added).

Similarly, the LORP Ecosystem Management Plan (August 2002, pp. 68, 72, & 73) states:

> "Successful adaptive management is dependent upon a monitoring program that provides a reliable measure of change in ecosystem components.... Under adaptive management, monitoring is not the last chapter of a plan; rather, monitoring and management plans are developed concurrently to form a single adaptive-management approach.... Adaptive management is the singular comprehensive approach for managing the river ecosystem in order to reach the desired goals of a healthy and functional ecosystem."

Although the DEIR/S acknowledges the importance of adaptive management and monitoring, it fails to provide for the implementation of a monitoring and adaptive management program that contains measurable performance criteria to ensure that the LORP goal will be met. An example of these deficiencies is the apparent failure of the DEIR/S to include monitoring requirements that would allow for scientific assessments of the progress of the LORP to achieve MOU goals such as: (1) the benefit to biodiversity and Threatened and Endangered Species and their habitats, (2) the continuation of sustainable uses, including recreation, grazing, agriculture, etc.; or (3) the creation of diverse natural habitats consistent with the needs of specified habitat indicator species.

Furthermore, there does not appear to be the necessary commitment by the LADWP to implement the proposed monitoring and adaptive management approach identified in the MOU, Ecosystem Management Plan, or DEIR/S. For example, the DEIR/S on page 2-4 states "**To the extent funding is available**, the County and LADWP will conduct the monitoring associated with the LORP..." (emphasis added).

2) **Funding limitations are cited throughout the DEIR/S as the primary reason why significant impacts cannot be mitigated to a level of insignificance.** The LORP is compensatory mitigation for existing significant impacts resulting from historic groundwater pumping and diversion activities, and the LADWP should ensure that the LORP is properly funded, implemented, mitigated and maintained. The claim in the DEIR/S that limited funds prevent the mitigation of significant impacts to a level of insignificance should be placed in the context of the economic benefits the LADWP receives from the water it takes from the Owens River. The DEIR/S should estimate the costs to fund implementation of each of the mitigation measures needed to meet the goal of the LORP, and should compare these costs to the historic (1970 to 1990, according to the timeframe stated on DEIR/S p. 2-1), subsequent, and continuing economic benefits of these water withdrawals.

DEIR/S Executive Summary *(Comments on the Executive Summary also apply to the related sections of the main document, which may or may not be noted below.)*

3) **Page S-1, last paragraph & Page 1-5, paragraph 3.** The DEIR/S states: "As provided in the MOU, the LORP will be adaptively managed. This means that, subject to funding limitations and consistency with the MOU...." This meaning is not consistent with the MOU, which defines Adaptive Management as "...a method for managing the [LORP] that provides for modifying project management to ensure the project's successful implementation, and/or the attainment of the project goals should ongoing data collection and analysis reveal that such modifications are necessary." (Section I.D, pp. 2-3.) This definition does not include any reference to "funding limitations" and the DEIR/S should be revised to reflect this.

4) **Page S-2, last paragraph & Page 2-33 (Section 2.4.2).** The DEIR/S states:

> "The management action for creating and enhancing habitats in the Delta is to establish baseflows to the Delta with an average annual flow of 6 to 9 cfs as specified in the MOU. ... While no minimum baseflow has been established for the Delta the daily baseflow would be the amount necessary to maintain Delta conditions and to conserve water for use in the Delta during other times of the year (within the 6-9 annual average)...."

The statement "within the 6-9 annual average" incorrectly implies that the MOU establishes a maximum baseflow. In contrast, the MOU identifies an annual average of **approximately** 6 to 9 cfs (Section II.C.2, p. 15, emphasis added) and requires that baseflows be adaptively managed to ensure successful implementation of the LORP, or the attainment of the LORP goals. Consequently, flows into the Delta of greater than 9 cfs may be required pursuant to the MOU to meet the goals of the LORP. The DESIR/S should first set forth the goals for the delta, e.g., create and maintain habitat consistent with the needs of the indicator species specified in the MOU, then determine what flows and other actions are needed to meet those goals.

5) **Page S-3, paragraph 1.** The DEIR/S states: "The facility [pump station] is designed to capture flows in the river and divert the water to the Owens Lake dust control project...." How will the water be diverted to the Owens Lake dust control project? Please discuss or add a reference to the DEIR/S section that discusses this.

6) **Page S-3, paragraph 5, last sentence.** Please add the word "areas" after the word "lease" (change to "... throughout the lease areas ...").

7) **Page S-5, bullet 2, 1st & 3rd sentences.** The first sentence would be clarified by adding the word "created" after the word "conditions" ("The temporary adverse water quality conditions created during the initial releases..."). The 3rd sentence states that the fishery is expected to recover once water quality conditions improve. Please add a range of time anticipated for the fishery to recover.

8) **Page S-5, bullet 4.** The DEIR/S states: "The rewatering of the river would create new wetted channel areas, including areas that are barren and could cause saltcedar infestation in these and other areas.... There is no feasible mitigation measure to avoid this impact in the future due to funding limitations." Please explain how the goal of the LORP can be met if deleterious species such as saltcedar are not controlled? This statement in the DEIR/S is in direct conflict with the letter and spirit of the MOU, which states that the goal of the LORP includes:

> "Establishment and maintenance of diverse riverine, riparian and wetland habitats in a healthy ecological condition...." (Section II.B.1, p. 8.)
>
> "Control of deleterious species whose presence within the Planning Area interferes with the achievement of the goals of the LORP. These control measures will be implemented jointly with other responsible agency programs." (Section II.B.4, p. 9.)

9) **Page S-5, bullets 5-6.** Bullet 5 states: "The amount of water flowing from the Delta Habitat Area to the brine pool transition will be less than existing flows...." Bullet 6 states: "This reduction [in the amount of water released to the Delta from that released over the past 15 years] could possibly reduce the extent of existing aquatic and wetland habitats (including the brine pool transition)...." This significant impact contradicts the MOU's goal to maintain and, in some instances, create habitat consistent with the needs of the indicator species. Table S-1 (p. S-11) states that no feasible mitigation is available due to an existing court injunction that prohibits water inputs to the brine pool that may affect trona-mining operations on the lakebed. The DEIR/S should identify and assess potential project alternatives that meet the dual goals of enhancing/creating habitat consistent with the needs of the indicator species and diverting water from mining operations.

10) **Page S-7, Table S-2.** Please explain the statement that "a higher baseflow of 9 cfs is not feasible unless the MOU goals are not being met." Why isn't it feasible (see comments for Page S-2, last paragraph)? Does the statement that the 50 cfs alternative is feasible and no institutional or technical obstacles exist contradict the

argument that mitigation is infeasible due to a court injunction? Moreover, as noted above, the DEIR/S does not properly set forth the MOU goals or a monitoring program that can determine whether they are satisfactorily met. Please clarify.

11) **Page S-9, Section 7 (Comparison of Impacts Between a 150 cfs and 50 cfs Pump Station).** Please list and compare the energy requirements and air pollution emissions associated with the operation of each station. Can the smaller pump station be operated without construction of power poles (a potential significant adverse impact to raptors and aesthetics) and/or by using alternative power sources? In light of the numerous delays that have occurred since the LORP was required to be implemented, the CSLC staff does not concur with the argument in paragraph 5 that 50 cfs stand-alone station is not feasible because design drawings will take up to six months to complete (resulting in a delay in project implementation). The staff strongly recommends that the LADWP start and complete the design drawings prior to certification of this document so that this option may be considered feasible. (See also related comments for Page 2-40.)

12) **Page S-16, Table S-1 (Mitigation Measure P-1).** Three years may be an insufficient time to control colonization of non-native aggressive or noxious weeds resulting from construction of the pump station. Weed control should be an integral part of, and occur throughout, the proposed restoration monitoring and maintenance program, and the program should be concluded only upon achieving the success criteria approved by the California Department of Fish and Game (CDFG) and other Responsible Agencies.

13) **Page S-25, Table S-1 (Description of Impact by Issue Area, Rangelands).** Table S-1 discusses the possibility that cattle drift onto BLM lands may occur, but no mention is made of cattle drift onto State-owned lands within the Delta. Table S-1 should also identify State lands, and proposed mitigation measure LM-1 should include development of lease-specific measures in consultation with the CSLC.

DEIR/S Sections 1-18

14) **Page 1-5, paragraph 5.** The DEIR/S states: "Although the MOU specifies that a Habitat Conservation Plan (HCP) will be prepared as one part of the LORP Plan, LADWP has concluded, after conferring with MOU parties, to delay initiating the development of an HCP..." Please include in the DEIR/S a proposed timetable, prepared in consultation with the MOU parties, for completion of the HCP.

15) **Page 1-6, paragraph 1.** The DEIR/S states that the proposed LORP does not include any specific actions to manage recreation (other than the current land management practices by LADWP); however, the LORP will provide new recreational opportunities over time. If recreation is not managed, how will the LADWP ensure that the LORP goal to provide for the continuation of sustainable uses including recreation (see MOU, p. 8) is met? How will the LADWP ensure that existing and new recreational uses are "sustainable" and will not cause

environmental degradation (see definition of sustainable uses in MOU, p. 5)? How will achievement of these goals be monitored?

16) **Page 1-6, Section 1.3.1 (CEQA Lead Agency and Responsible Agencies).** The CSLC also has discretionary actions to take, since development located on CSLC lands is subject to the CSLC's leasing process. Please include the CSLC in the list of Responsible Agencies under the CEQA.

17) **Page 1-11, Table 1-1.** The CSLC has a discretionary action to take on elements of the project as proposed. For example, a lease will need to be issued for portions of the overhead power line and for the stream gages proposed at the lower east and west branch.

18) **Pages 2-2 to 2-3.** As stated in other sections of these comments, the CSLC staff does not agree with the conclusion stated in the DEIR/S that the project description incorporates the adaptive management concept and provides the specificity required for environmental analysis of impacts and subsequent project approval and implementation. In particular, staff believes that the proposed adaptive management and monitoring program cannot effectively monitor the progress of the project as proposed to achieve the goal stated in the MOU.

19) **Page 2-4, paragraph 3.** The DEIR/S states that "To the extent that funding is available, the County and LADWP will conduct the monitoring associated with the LORP...." The LADWP and/or Inyo County should ensure that the necessary funds are set aside to conduct effective monitoring associated with the LORP. See the related comment below.

20) **Page 2-5, paragraph 3 and Page 2-6, Table 2-1 & paragraph 2.** The DEIR/S states that installation of the 50 cfs pump station would cost approximately $3 million to $3.3 million less than would installation of a 150 cfs station. Page 2-6, paragraph 2 states that the costs of monitoring are approximately $2.6 million. Please clarify how the DEIR/S can emphasize limited funds in certain instances, but not, in this instance, support installation of a 50 cfs pump station and the placement of the approximately $3-3.3 million saved into a fund for monitoring and mitigation.

21) **Page 2-6, Table 2-1.** This table outlines the costs of the two pump station options, but does not include the differences, if any, of the maintenance costs associated with the two options. Please add this information to the DEIR/S.

22) **Page 2-23, Section 2.3.5.3 (Seasonal Habitat Flows).** Paragraph 3 of this section states that "No flows above the 40 cfs baseflow will be released...in years when the runoff is predicted to be 50 percent or less of the average (normal) runoff." The MOU states on p. 12 that "In years when runoff is forecasted to be less than average, the habitat flows will be reduced from 200 cfs to as low as 40 cfs **in general proportion** to the forecasted runoff in the watershed" (emphasis added). The "no flows above the 40 cfs baseflow" limit in the DEIR/S appears to contradict

does not provide information regarding the size of the berm, what the berm will be constructed of, etc. Please provide these details.

28) **Page 2-39, paragraph 4 (Pipeline).** The DEIR/S states: "A 400-foot long, 48-inch diameter pipeline will extend from the pump station to the existing 60-inch diameter dust control project pipeline as shown on Figure 2-7." Does the existing pipeline depicted in Figure 2-7 continue east and terminate? The entire existing pipeline should be depicted.

29) **Page 2-40 *et seq.* (New Power Line).** This section does not identify specific power requirements for a 50 cfs pump station. This is required to determine which project alternative (50 cfs or 150 cfs) is the Environmentally Preferred Project pursuant to the CEQA. The DEIR/S also states that a new seven-mile long single conductor power line will be constructed between LADWP's Cottonwood Power Plant west of Owens Lake to a tie-in point on an existing line; however, the document does not appear to describe the proposed line or to include mitigation measures to address potential impacts to raptors, snowy plovers, and other shorebirds. Please provide this information. The power line should include deterrents to minimize raptor deaths resulting from flying into the line, as well as anti-predator perches to minimize predation on snowy plovers and other shorebirds nesting at Owens Lake. Since a portion of the proposed power line will occur on lands under the jurisdiction of the CSLC, the LADWP will need to submit an application to the CSLC.

30) **Page 2-41, paragraph 6.** The DEIR/S states that "The pump station will recover river flows in excess of the flows to the Delta...flows above the amount needed by the dust control project will be diverted to the Aqueduct. No valve will be installed to direct the flows – they will follow a pressure gradient, first to the lake, then to the Aqueduct..." If the excess flows will go to the lake first and then to the Aqueduct, how will the excess flows from the dust control project be diverted to the Aqueduct?

31) **Page 2-65, Protect Continued Recreational Access to the River.** The DEIR/S states: "fences across the river will be designed to avoid interference with boats or other watercraft when feasible". The Owens River is subject to a public navigational easement. This easement provides that members of the public have the right to navigate and exercise the incidences of navigation in a lawful manner on State waters that are capable of being physically navigated by oar or motor-propelled small craft. Such uses may include, but not be limited to, boating, rafting, sailing, rowing, fishing, fowling, bathing, skiing, and other water-related recreational public uses. Therefore, fences should not be placed across the River.

32) **Page 2-69, paragraph 4.** The figure referred to should be 2-23, not 2-22.

33) **Page 2-70, paragraph 2.** This section of the DEIR/S discusses future management of the Delta Lease. The document states changes in fencing and the addition of new watering sites will result in better livestock distribution and forage use.

the general proportionality requirement of the MOU, despite the statement in the last sentence of paragraph 3 that seasonal habitat flows will be established in accordance with the provisions of the MOU. Moreover, the amount and duration of the seasonal flows (together with the base flows and land management) must be calculated to meet the goals of the project, including the delta habitat goals. The DEIR/S does not explain how the proposed flow regime will meet these goals, particularly in light of the proposed *reduction* in base flows to the delta and the proposed 150 cfs pump station, which would capture most (or all) of the seasonal habitat flows. Nor is there a proper explanation of why flows will not be augmented by downstream spillgates or how this squares with the MOU and the goals for the lower reaches of the river and the delta. Please explain.

23) **Page 2-30, Section 2.4, Delta Habitat Area Including Pump Station.** The DEIR/S states: "The Delta contains two major channels (see Figure 2-5)." Figure 2-5 depicts the Owens River Delta Habitat Area and the location for two proposed stream gages to be located at the end of the Lower West Branch and the Lower East Brach. These lands are under the jurisdiction of the CSLC, and the LADWP must submit an application to the CSLC for all gages or other structures in the CSLC's jurisdiction. Please contact Barbara Dugal for specific requirements.

24) **Page 2-31, paragraph 2.** The DEIR/S states:

> "Most of the Delta Habitat Area occurs on State-owned lands, managed by the State Lands Commission (Figure 2-6). These lands are grazed by a single private party, which is in the process of acquiring approvals to continue grazing operations on State property..."

This statement is incorrect. The CSLC previously advised the private party that until the DEIR/S was prepared and adopted, the CSLC would not consider leasing State-owned lands in the Delta, and that the CSLC staff would consider the private party to be in trespass.

25) **Pages 2-34 to 2-35.** The copy of the DEIR/S mailed to the CSLC does not include these pages (the flip side to page 2-33 is 2.36).

26) **Pages 2-35 & 6-19.** Twenty (20) percent or greater reduction of habitat suitability measured at 15-year interval following baseflow releases to the Delta is too long before considering adjusting the releases. The interval should be revised to ensure that significant amounts of habitat are not lost. A 20 percent or more reduction of habitat may potentially occur in considerably less time than a 15-year time interval. Moreover, if the delta habitat goals are impeded for a known cause that can be remedied, there is no need to wait until year 15. Adaptive management is more timely and flexible than that.

27) **Page 2-39, paragraph 2.** The DEIR/S states that a sheet pile cut-off wall with a minor berm will be constructed to elevation 3,590.5 feet. However, the document

However, the new watering sites are not identified. Please add details on these new watering sites (location, size, etc.) to the DEIR/S.

34) **Table 2-21, 2-23, 2-25, and Page 9-4 to 9-5.** The EIR/S identifies several rare plant populations within the LORP and the adaptive management plan provides monitoring triggers to better protect these species; however, there are no baseline survey data, e.g., existing population size, extent, trend, etc., and specific monitoring parameters to determine if the project measures are beneficial to these rare plant populations.

35) **Page 4-41, last paragraph, Section 4.6.3, Mitigation Measures.** The DEIR/S states: "If water quality remains degraded during the baseflows or seasonal habitat flows....and conditions for fish remain degraded, LADWP shall **consider** releasing higher quality water..." Since this is mitigation for impacts, the mitigation measure should state that the LADWP **shall** release higher quality water from spillgates.

36) **Page 6-3, paragraph 1, Section 6.1.2, Uses of the Delta.** The DEIR/S states: "Most of the Delta Habitat Area occurs on State-owned lands, managed by the State Lands Commission...The total area of LADWP land in the Delta Habitat Area is 420 acres..." As outlined in the MOU, the goal of the LORP for the Delta Habitat Area is to enhance and maintain approximately 325 acres of existing habitat consisting of riparian areas and ponds suitable for shorebirds, waterfowl and other animals and to establish and maintain new habitat consisting of riparian areas and ponds suitable for shorebirds, waterfowl and other animals within the Delta Habitat Area. Therefore, since the LADWP's property in the Delta Habitat Area is not fenced and cattle trespass onto State land and the LADWP's acreage is small compared to State land in the Delta Habitat Area, the LADWP should consider eliminating grazing on the 420 acres in the Delta Habitat Area.

37) **Page 6-47, Potential Impacts to Brine Pool (Both Options).** As has been acknowledged in the DEIR/S (Page 6-47), existing mining operations are located on the lakebed and can be affected by water levels in the brine pool. Such mining operations, located on State-owned lands, are currently under lease from the CSLC. The DEIR/S states that LORP will not affect existing mining operations. In this regard, the proposed LORP cannot conflict and/or impact those operations and/or the CSLC's Lessee. The LORP will require coordination with the CSLC and the State's Lessee to preclude negative impacts to a significant mineral resource. Please add this information to the DEIR/S.

38) **Page 9-2, Section 9.1.2 (re. potential impacts associated with grazing).** An additional feasible "Best Management Practice" to address potential impacts of grazing on water quality is the participation by grazing lessees in the Statewide Rangeland Water Quality Management Program. This project educates rangeland owners, ranch operators and other interested persons about protecting rangeland water quality through improved grazing practices.

39) **Page 9-8, Section 9.3.2 (State Lands Commission Lands in the Delta).** The DEIR/S states that the impact of cattle drift onto public lands would be similar to that described for BLM lands and the same mitigation measure would apply. Therefore, please revise proposed Mitigation Measure No. LM-1 by adding the underlined text as follows:

"The grazing management plan for individual leases shall be modified to incorporate herd and grazing practices.... These lease-specific measures shall be developed in consultation with BLM and CSLC and shall include...."

40) **Page 10-5, first full paragraph, & Page 10-7, last paragraph.** Please refer to the CSLC's staff's comments above regarding the DEIR/S's emphasis on funding limitations. The LADWP should be required to set aside the necessary funds to implement programs to control saltcedar and other deleterious species that interfere with the goals of the LORP.

41) **Page 11-7, Reduction in Existing Flows to the Delta (Class I Impact).** The DEIR/S states: "releases to the Delta under the LORP would be about 35 percent less than under current release regimes unrelated to the LORP..." As stated in the MOU, the goal is to establish and maintain existing habitat and new habitat. Based on the alternatives presented, at this time, the CSLC supports the Alternative: 50 cfs Pump Station with Higher Baseflows and Modified Seasonal Habitat Flows. However, again, to comply with the MOU and the CEQA, the only proper alternative is one designed to meet the goals set forth in the MOU, e.g., the habitat consistent with the needs of the indicator species. The goals have not changed, and will not change. The City is obligated to meet these goals regardless of the physical features of the project that it selects. It must begin by setting forth the goals clearly, designing and analyzing a project to meet those goals, and including provisions for monitoring and adaptive management that ensure that the goals are met over time. (See key comments, above.)

42) **Page 12-2, Environmental Impacts of the LORP.** The DEIR/S lists potentially significant impacts associated with the proposed LORP and identifies the impacts as Class I Impacts (Significant and Unmitigable). However, Paragraph 5 states that..."the amount of water flowing from the Delta Habitat Area to the brine pool transition will at certain times of the year be less than existing flows...will result in a decrease in shorebird habitat in the brine pool transition area. As outlined in Paragraph 22 above, the LADWP could avoid this significant impact by implementing the 50 cfs Pump Station Alternative or taking other action. Moreover, in light of the fact that shorebirds are an indicator species for the delta, please explain how this complies with the goals of the MOU.

43) **Page 12-4, paragraph 12.** Please add the following to Paragraph No. 12: New land management on LADWP leases could cause cattle draft on BLM and State Land Commission lands.

Appendices

44) The MOU (April 1997) and the Lower Owens River Project Ecosystem Management Plan (August 2002) should be incorporated as Appendices of the DEIR/S.

(760) 872-1168
FAX: (760) 873-5695

EMAIL: mail@inyowater.org
WEB: www.inyowater.org

163 May Street
Bishop, CA 93514

COUNTY OF INYO
WATER DEPARTMENT

October 6, 2005

Mr. Clarence Martin
City of Los Angeles
Department of Water and Power
300 Mandich Street
Bishop, California 93514

Subject: Comments on Notice of Preparation of a Draft Supplemental Environmental Impact Report on the Lower Owens River Project in Compliance with Title 14, (CEQA Guidelines) Sections 15082(a), 15103, and 15375 of the California Code of Regulations

Dear Mr. Martin:

On behalf of the County of Inyo, the Inyo County Water Department offers the following comments concerning the Notice of Preparation of a Draft Supplemental Environmental Impact Report on the Lower Owens River Project in Compliance with Title 14, (CEQA Guidelines) Sections 15082(a), 15103, and 15375 of the California Code of Regulations ("NOP").

Role of the County of Inyo

Section 1.3.1 of the Final EIR on the LORP acknowledges that the County is a CEQA Responsible Agency on the LORP because of its independent responsibility to fund a portion of project implementation (up to $3.75 million) and for funding one half of, and jointly managing, most post-implementation project activities. Given these obligations, the County will consider certification of the Supplemental EIR in its capacity as a CEQA Responsible Agency.

Location of Evaluation of Impacts

The NOP references a Stipulated Judgment in Inyo County Superior Court Case Number S1CVPT04-37217. Section 1 of the judgment entered in that case requires "*LADWP to prepare a focused environmental analysis that addressed the impacts of the LORP to the 'brine pool transition area,' as described in Paragraph 1(b) above and shown on Exhibit A, consistent with CEQA.*" Although the NOP does not reference Paragraph 1(b) or the map attached as Exhibit A to the judgment, the focus of the Supplemental EIR should be on impacts to the area described in Paragraph 1(b) of the Stipulation and shown on Exhibit A.

Baseline Information

The NOP states that the Supplemental EIR "*will include detailed description of the existing biologic resources and hydrologic conditions (at the time of the publication of the NOP for the Supplemental EIR), detailed description of the change in hydrologic and habitat conditions expected under LORP, and analysis of potential impacts on wildlife, particularly birds.*" In order to adequately describe the impacts of the LORP on the brine pool transition area, the Supplemental EIR should contain sufficient baseline data on wildlife, particularly birds, gathered over an appropriate period of time. Such baseline information is necessary to enable the Supplemental EIR to fully assess and describe the impacts on wildlife, if any, caused by the seasonal reductions in water supply to the brine pool transition area that will result from the LORP.

Postponement of the Operation of the LORP Pump Station

The NOP states that the Stipulated Judgment described above requires LADWP to "*postpone the operation of the pump station pending consideration and certification of the focused environmental analysis.*" It should be noted that the Stipulated Judgment does not require LADWP to postpone operation of the pump station. The relevant portion of the Stipulated Judgment, Section 4, enjoins LADWP "*from operation of the portion of the LORP that could affect the brine pool transition area...pending the consideration and certification of the focused environmental analysis, consistent with the requirements of CEQA.*"

Conclusion

Thank you for the opportunity to comment on the NOP. The contact person for the County is the Water Department Director, who can be reached at the address and telephone number above.

Very truly yours,

Phil Mc Dowell
Interim Director, Water Department

California Regional Water Quality Control Board
Lahontan Region

Alan C. Lloyd, Ph.D.
Agency Secretary

2501 Lake Tahoe Boulevard, South Lake Tahoe, California 96150
(530) 542-5400 • Fax (530) 544-2271
http://www.waterboards.ca.gov/lahontan

Arnold Schwarzenegger
Governor

November 1, 2005

Clarence Martin
City of Los Angeles Department of Water and Power (LADWP)
300 Mandich Street
Bishop, CA 93514

COMMENTS ON THE NOTICE OF PREPARATION FOR SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT REPORT ON THE LOWER OWENS RIVER BRINE POOL TRANSITION AREA, INYO COUNTY

The staff of the California Regional Water Quality Control Board, Lahontan Region (Regional Board) has received the Notice of Preparation (NOP) for the Draft Supplemental Environmental Impact Report (EIR) on the Lower Owens River Project (LORP). The Supplemental EIR must address the impacts of the LORP to the brine pool transition area between Owens Lake and the Delta Habitat Area. Thank you for the opportunity to provide comments on the scope of the environmental document.

Project Description

The LORP was identified in a 1991 EIR as mitigation for impacts related to groundwater pumping by Los Angeles Department of Water and Power (LADWP) from 1970 to 1990. The LORP is a large-scale habitat restoration project with four primary components: (1) releasing water to the Lower Owens River to enhance fisheries and riparian habitats along 62 miles of the River; (2) providing water to the Delta Habitat Area to maintain and enhance 325 acres of existing wetland and aquatic habitats; (3) enhancing a 1,500-acre off-river area, the Blackrock Waterfowl Habitat Area, with seasonal flooding and land management activities to benefit wetland and waterfowl; and (4) maintaining several off-river lakes and ponds near the Blackrock Waterfowl Habitat Area.

The Final EIR for the LORP, dated June 23, 2004, did not include impacts to the southern-most portion of the Delta Habitat Area known as the brine pool transition area. This area is located between the vegetated wetlands of the Delta Habitat Area and the Owens Lake brine pool to the southwest. A lawsuit filed by the Sierra Club resulted in a Court-ordered judgment requiring LADWP to prepare and circulate a focused environmental analysis that addresses the impacts of the LORP to the brine pool transition area. The purpose of the Supplemental EIR will be to evaluate potential impacts on this brine pool transition area from the LORP by describing in detail the existing biological resources and hydrologic conditions and the changes in hydrologic and habitat conditions expected under the LORP.

Water Quality Protection Standards

The Regional Board is a responsible agency pursuant to the California Environmental Quality Act (CEQA) for this proposed NOP and Supplemental EIR. The Water Quality Control Plan for the Lahontan Region (Basin Plan) lists water quality objectives and beneficial uses, including

wildlife habitat, for the Lower Owens River and other related waters within the project area. Other beneficial uses for the Owens Lake and minor surface waters and wetlands in the area are: Groundwater Recharge; Freshwater Replenishment; Water Contact Recreation; Non-contact Water Recreation; Commercial and Sportfishing; Warm Freshwater Habitat; Cold Freshwater Habitat; Inland Saline Water Habitat; Rare, Threatened, or Endangered Species; Spawning, Reproduction, and Development; Water Quality Enhancement; and Flood Peak Attenuation/Flood Water Storage. Water quality objectives include the Nondegradation Objective as well as both narrative and numeric water quality objectives listed in Chapter 3 of the *Water Quality Control Plan for the Lahontan Region* (Basin Plan), including Nondegradation of Aquatic Communities and Populations.

General Comments

The Supplemental EIR should include a description of these objectives and beneficial uses. Both surface and ground water resources must be considered. Where significant or potentially significant effects are identified, feasible mitigation measures must be evaluated, together with appropriate monitoring for proposed mitigations. The water quality control standards applicable to this NOP for the Owens Hydrologic Unit (HU) are contained in the Basin Plan, (website address http://www.waterboards.ca.gov/lahontan/BasinPlan/Index.htm).

The plans and policies in Section 4.9 of the Basin Plan should be reviewed and addressed in the Supplemental EIR, particularly the subsections pertaining to Water Quality/Quantity Issues, Wetlands Protection and Management, Floodplain and Riparian Area Protection, Sensitive Species and Biological Communities, and Watershed Restoration. In regard to species and biological communities affected, the Supplemental EIR should address the potential effects on recently discovered microorganisms surviving in salt pans that use arsenic as a source of energy (see, for example, http://www.isslr.org/news/newsone.asp?qnewsid+268, copy enclosed).

Specific Comments

1) Comments and Responses in the DEIR and FEIR related to the Brine Pool Transition Area

a) Impacts from Reduced Flow into and out of the Delta Habitat Area

The Draft EIR indicated that the "amount of water flowing from the Delta Habitat Area to the brine pool transition area will be less than existing flows, and as such will result in a decrease in shorebird habitat in the brine pool transition area." In the Final EIR, it was estimated that 35% less water will pass to the Delta Habitat Area than the current or recent annual average flow rate of about 11 cubic feet per second (cfs), which will likely cause a decrease in shorebird habitat in the brine pool transition area. This is contrary to policies of the Regional Board to maintain existing beneficial uses of state waters, including habitat for terrestrial and aquatic life forms. Effects of reduced water flow on beneficial uses include reduced habitat (area), impaired habitat (value) and reduced freshwater inputs that may increase salt concentration. The Supplemental EIR must fully address any potentially significant adverse effects on beneficial uses and propose mitigation to reduce the impacts to insignificant levels. One feasible means to prevent adverse effects may be to maintain present conditions and water flows to the brine pool transition area.

b) Previous Regional Board Comments Requesting that Impacts be Addressed

In the Regional Board's comments on the Draft EIR, dated November 1, 2002, we had requested that the impacts to the brine pool and the transition area be addressed in the Final EIR. The following is an excerpt from our January 14, 2003 letter:

> "Section 6.5 POTENTIAL IMPACTS TO BRINE POOL
> ...The proposed water management plan with a 150 cfs pump station (Option 1) of the LORP will result in a smaller consistent outflow of about 0.5 cfs from the Delta to the brine pool. The proposed water management is likely to decrease the extent of freshwater flooding on the brine pool in winter months (relative to existing conditions) and to increase the extent of freshwater flooding in summer months.
>
> Under Option 2 with a 50 cfs pump station there would be a potential reduction of 2,000 acre-feet of water passing through the Delta to the brine pool with an average annual flow of 7.1 cfs in the future. This option would result in a reduction of the surface area of the brine pool over a long period of time. This impact may be offset in part, or wholly, by ground water infiltration due to re-watering of the river under the LORP plus the water applied to Owens Lake associated with the dust control project. The final EIR should include a more specific discussion related to the potential impacts and mitigation of any adverse impacts of both Option 1 and Option 2 upon the brine pool and its associated wetland/freshwater interface areas."

LADWP's response to these comments follows:

> "Based on available information, impacts to the Delta Habitat Area including the brine pool transition area have been predicted to the extent known and are described in revised Section 6.3. Regarding impacts to the brine pool transition area, please see response to comment 26-5 and revised Section 6.3.5. Impacts on the mining operation located adjacent to the brine pool are discussed in Section 6.4."

Section 6.3.5 of the Final EIR states, in part, the following:

> "...mapping from aerial photographs indicates that the areal extent of this intermittently flooded playa in the brine pool transition area is approximately 58 acres, or approximately 2 percent of the total Delta Habitat Area. ... since baseflow to the Delta Habitat Area will be managed to minimize outflow, the project is likely to decrease the volume of water reaching the brine pool transition area and, consequently, reduce the extent of sheet flow in the intermittently flooded playa habitat area during the months of October to April relative to existing conditions [which is the time of year this area serves as habitat for waterfowl, wading birds, and shorebirds]. ...The area of the Delta brine pool transition area that would be affected by the project is small relative to the amount of similar habitat that is currently available in close proximity, i.e., the shallow flooding areas of the Owens Lake Dust Mitigation Program. ... Within the context of existing conditions in the Delta and the overall increase of shallow flooded playa habitat types created under LORP, the potential reduction in this type of habitat within the Delta brine pool transition area is considered less than significant. ..."

With regard to the size of the impact area, 58 acres is not an insignificant or irrelevant area. The size of the area is very relevant if one of the stated goals of the project is to maintain existing habitat. Again, the Supplemental EIR should fully address potential adverse impacts to the brine pool transition area to the extent feasible and propose mitigation for those impacts. The mitigation currently under way for the Owens Lake Dust Control, which was intended to mitigate other impacts, should not be included as mitigation for impacts to the brine pool transition area.

In Section 6.3.2.3 (Ecological Effects of Reduced Flows to the Delta), the Final EIR discusses the impacts of reduced flows to the Delta Habitat Area and concludes that "Under the proposed monitoring adaptive management program, LADWP shall make adjustments to the amount and timing of the baseflows and pulse flows up to an average

annual flow of 9 cfs [instead of 7.1 cfs] to reduce any possible adverse effects on the extent and condition of existing aquatic and wetland habitats in the Delta Habitat Area."

In response to above, Section 6.3.6 (Impact Summary) of the Final EIR concludes:

> "LADWP does not concur with the view point [as presented in 6.3.2 (Impact Assessment No. 2 prepared by URS)] that reduction in the outflow from the Delta would adversely affect habitat (except in the brine pool transition area as described in Section 6.3.5)."

Although admitting affects on habitat in the brine pool transition area, LADWP dismisses the assessment presented in Section 6.3.2.3. We disagree with LADWP's dismissal of this assessment, which was not adequately explained.

With regard to the response that "releasing flows in excess of 9 cfs annual average to increase flows to the brine pool transition area is infeasible due to the September 2000 injunction" (Response 26-5), an amendment or other alternatives regarding the Court injunction should be explored as an option.

2) Adaptive Management Plan

In addition, an Adaptive Management Plan, which may include surface and groundwater monitoring, should be developed for the brine pool transition area and be included in the Supplemental EIR. Monitoring the salinity and alkalinity in the surface water and groundwater in the brine pool transition area should be incorporated into this plan to ensure that salinity or other effects do not adversely affect water quality or beneficial uses in fresh or brackish waters.

In summary, the Supplemental EIR must address all beneficial uses and objectives pertaining to this area and ensure that all impacts are mitigated, monitored and adaptively managed to ensure successful mitigation.

Please contact Tobi Tyler at (530) 542-5435 or by email at ttyler@waterboards.ca.gov if you have any questions regarding this matter. You may also contact me at (530) 542-5430.

Alan Miller, PE
Chief, North Basin Regulatory Unit

Enclosure: Mercury News article, 6/29/2005

cc: Environmental Protection Agency, San Francisco
U.S. Fish and Wildlife Service, Ventura
California Department of Fish and Game, Bishop
State Clearinghouse, Office of Planning and Research, Sacramento
Inyo County Water Department, Bishop

TT/didT:/Cmnts LORP NOP for suppl EIR.doc
[Pending/ Inyo County /LORP

Appendix B

Appendix B
Bird Data for the
Brine Pool Transition Area

Appendix B presents the number of birds that have been observed specifically in the area of specific interest for the SEIR, the brine pool transition area (see **Section 3.2.2.2** for a detailed description). Bird data from the following sources are presented:

- Data submitted to LADWP by M. Prather, Owens Valley Committee, with a comment letter (dated September 20, 2005) on the NOP for this SEIR (see Appendix A) (noted as [1] below the survey date in **Table B-2** through **Table B-13**)
- Data recorded and compiled by D. House, LADWP Watershed Resources Specialist (noted as [2] below the survey date in **Table B-2** through **Table B-13**)
- Data recorded as part of the International Shorebird Survey and submitted by M. Prather, Owens Valley Committee (personal communication to W. Bamossy, LADWP, October 12, 2005) (noted as [3] below the survey date in **Table B-2** through **Table B-13**)

The number of survey days (three sources combined) is presented by month and year in **Table B-1**. **Table B-2** through **Table B-13** (beginning on the following page) present the number of birds observed by species and by date of survey.

Table B-1
Number of Survey Days

Month	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Total
January					1	1	1	1			**4**
February							1				**1**
March	1				1		1			1	**4**
April					3	3	2			5	**13**
May	1				1	4	2			3	**11**
June					1	3	1			2	**7**
July					1						**1**
August				3	3	1	1	1		2	**11**
September				2		2				2	**6**
October				2		1	1	1		1	**6**
November										1	**1**
December					1						**1**
Total	**2**	**0**	**0**	**7**	**12**	**15**	**10**	**3**	**0**	**17**	**66**

Table B-2
Number of Waterbirds Observed by Species and by Date of Survey (1996 and 1999)

Common Name	Scientific Name	3/23/96 [1]	5/6/96 [1]	8/17/99 [1]	8/24/99 [1]	8/29/99 [1]	9/12/99 [1]	9/26/99 [1]	10/17/99 [1]	10/23/99 [1]
Snow Goose	*Chen caerulescens*									82
Canada Goose	*Branta canadensis*									
Mallard	*Anas platyrhynchos*		6							
Cinnamon Teal	*Anas cyanoptera*		8							
Northern Pintail	*Anas acuta*		2							
Duck Spp.	---									1,050
Snowy Egret	*Egretta thula*		3							
Black-bellied Plover	*Pluvialis squatarola*						1	1	4	
Snowy Plover	*Charadrius alexandrinus*	1	30		1		1			3
Semipalmated Plover	*Charadrius semipalmatus*		62		6	1				
Killdeer	*Charadrius vociferus*				26		20		31	51
Black-necked Stilt	*Himantopus mexicanus*		12				30			
American Avocet	*Recurvirostra americana*		30			150	1,000	500	1	85
Greater Yellowlegs	*Tringa melanoleuca*	9	2					2	20	
Solitary Sandpiper	*Tringa solitaria*			2	1					
Willet	*Catoptrophorus semipalmatus*			1				1		
Spotted Sandpiper	*Actitis macularius*									
Whimbrel	*Numenius phaeopus*									
Long-billed Curlew	*Numenius americanus*						10		4	11
Turnstone Spp.	*Arenaria spp.*				2					
Western Sandpiper	*Calidris mauri*		2		1,202	400	80			15
Least Sandpiper	*Calidris minutilla*	170	48		120		30		70	1,200
Baird's Sandpiper	*Calidris bairdii*							2		
Pectoral Sandpiper	*Calidris melanotos*						1			
Dunlin	*Calidris alpina*								180	
Calidris Spp.	*Calidris Spp.*									
Western, Least, or other small Sandpipers	---			950	100	700	5,000	7,000	1,770	
Long-billed Dowitcher	*Limnodromus scolopaceus*	1								
Dowitcher spp.	*Limnodromus spp.*		9		1			4		
Red-necked Phalarope	*Phalaropus lobatus*		6				7			
Phalarope spp.	*Phalaropus spp.*					32		11		
Unidentified shorebird	---									
California Gull	*Larus californicus*									
Total Waterbirds		**181**	**220**	**953**	**1,459**	**1,283**	**6,180**	**7,521**	**2,080**	**2,497**
Outflow from Delta? (from Table 3-5, Section 3.2.2.2 of the SEIR)		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

Table B-3
Number of Non-waterbirds Observed by Species and by Date of Survey (1996 and 1999)

Common Name	Scientific Name	3/23/96 [1]	5/6/96 [1]	8/17/99 [1]	8/24/99 [1]	8/29/99 [1]	9/12/99 [1]	9/26/99 [1]	10/17/99 [1]	10/23/99 [1]
Northern Harrier	*Circus cyaneus*									
Peregrine Falcon	*Falco peregrinus*									
Prairie Falcon	*Falco mexicanus*									
White-throated Swift	*Aeronautes saxatalis*									
Western Kingbird	*Tyrannus verticalis*									
Common Raven	*Corvus corax*									
Horned Lark	*Eremophila alpestris*									
Tree Swallow	*Tachycineta bicolor*									
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*									
Cliff Swallow	*Petrochelidon pyrrhonota*									
Barn Swallow	*Hirundo rustica*									
Swallow Spp.	---									
American Pipit	*Anthus rubescens*									
Savannah Sparrow	*Passerculus sandwichensis*									
Unidentified	---									
Total Non-waterbirds		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Outflow from Delta? (from Table 3-5, Section 3.2.2.2 of the SEIR)		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

Table B-4
Number of Waterbirds Observed by Species and by Date of Survey (2000)

Common Name	1/3/00 [1]	3/25/00 [1]	4/2/00 [1]	4/12/00 [1]	4/21/00 [1]	5/20/00 [1]	6/3/00 [1]	7/24/00 [1]	8/1/00 [1]	8/14/00 [1]	8/22/00 [1]	12/21/00 [2]
Snow Goose	950											
Canada Goose												7
Mallard												
Cinnamon Teal												
Northern Pintail												
Duck Spp.	1,000											
Snowy Egret												
Black-bellied Plover		7			2							
Snowy Plover		4	9		8	12						2
Semipalmated Plover					6							
Killdeer	33		7		4	5	3		1			
Black-necked Stilt				10								
American Avocet		50	202		1,000	4						
Greater Yellowlegs												
Solitary Sandpiper											1	
Willet												
Spotted Sandpiper												
Whimbrel				1								
Long-billed Curlew	1		1	2								
Turnstone Spp.												
Western Sandpiper			10									
Least Sandpiper	762	80	55								6	
Baird's Sandpiper												
Pectoral Sandpiper												
Dunlin	8											
Calidris Spp.												300-400
Western, Least, or other small Sandpipers			4,000		3,700							
Long-billed Dowitcher												
Dowitcher spp.		1	8									
Red-necked Phalarope												
Phalarope spp.						11						
Unidentified shorebird												
California Gull												
Total Waterbirds	**2,754**	**142**	**4,292**	**13**	**4,720**	**32**	**3**	**0**	**1**	**	**7**	**409**
Outflow from Delta? (from Table 3-5, Section 3.2.2.2 of the SEIR)	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	*	**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

* Noted as central channel dry. ** Unidentified species.

Table B-5
Number of Non-waterbirds Observed by Species and by Date of Survey (2000)

Common Name	1/3/00	3/25/00	4/2/00	4/12/00	4/21/00	5/20/00	6/3/00	7/24/00	8/1/00	8/14/00	8/22/00	12/21/00
	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[2]
Northern Harrier												
Peregrine Falcon						1					1	
Prairie Falcon	1											
White-throated Swift												
Western Kingbird												
Common Raven												
Horned Lark												
Tree Swallow												
Northern Rough-winged Swallow												
Cliff Swallow												
Barn Swallow												
Swallow Spp.												
American Pipit												
Savannah Sparrow												
Unidentified												
Total Non-waterbirds	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**
Outflow from Delta? (from Table 3-5, Section 3.2.2.2 of the SEIR)	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	*	**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

* Noted as central channel dry.

Table B-6
Number of Waterbirds Observed by Species and by Date of Survey (January – August 2001)

Common Name	1/3/01 [2]	4/1/01 [1]	4/15/01 [1]	4/22/01 [1]	5/15/01 [2]	5/16/01 [2]	5/20/01 [1]	5/31/01 [2]	6/2/01 [1]	6/14/01 [1]	6/22/01 [1]	8/20/01 [1]
Snow Goose												
Canada Goose												
Mallard												
Cinnamon Teal												
Northern Pintail												
Duck Spp.												
Snowy Egret												
Black-bellied Plover												
Snowy Plover		3	16	7								
Semipalmated Plover												
Killdeer			2									
Black-necked Stilt				1								
American Avocet		254	500	7								
Greater Yellowlegs		2										
Solitary Sandpiper												
Willet												
Spotted Sandpiper												
Whimbrel												
Long-billed Curlew												
Turnstone Spp.												
Western Sandpiper				6								
Least Sandpiper												
Baird's Sandpiper												
Pectoral Sandpiper												
Dunlin												
Calidris Spp.												
Western, Least, or other small Sandpipers		40	2,000									
Long-billed Dowitcher												
Dowitcher spp.												
Red-necked Phalarope												
Phalarope spp.												
Unidentified shorebird												
California Gull												
Total Waterbirds	**0**	**299**	**2,518**	**21**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Outflow from Delta? (from Table 3-5, Section 3.2.2.2 of the SEIR)	**Yes**	**Yes**	**Yes**	**Yes**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

Table B-7
Number of Non-waterbirds Observed by Species and by Date of Survey (January – August 2001)

Common Name	1/3/01	4/1/01	4/15/01	4/22/01	5/15/01	5/16/01	5/20/01	5/31/01	6/2/01	6/14/01	6/22/01	8/20/01
	[2]	[1]	[1]	[1]	[2]	[2]	[1]	[2]	[1]	[1]	[1]	[1]
Northern Harrier												
Peregrine Falcon												
Prairie Falcon												
White-throated Swift												
Western Kingbird												
Common Raven												
Horned Lark												
Tree Swallow												
Northern Rough-winged Swallow												
Cliff Swallow												
Barn Swallow												
Swallow Spp.												
American Pipit												
Savannah Sparrow												
Unidentified												
Total Non-waterbirds	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Outflow from Delta? (from Table 3-5, Section 3.2.2.2 of the SEIR)	**Yes**	**Yes**	**Yes**	**Yes**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

Table B-8
Number of Waterbirds Observed by Species and by Date of Survey (September 2001 – October 2002)

Common Name	9/1/01 [1]	9/15/01 [1]	10/26/01 [1]	1/13/02 [1]	2/2/02 [1]	3/11/02 [1]	4/25/02 [1]	4/26/02 [2]	5/3/02 [1]	5/24/02 [2]	6/20/02 [2]	8/16/02 [2]	10/11/02 [2]
Snow Goose				200	300								
Canada Goose													
Mallard					34								
Cinnamon Teal													
Northern Pintail													
Duck Spp.				40	63								
Snowy Egret													
Black-bellied Plover						2			1				
Snowy Plover				20	1				13				
Semipalmated Plover								3	14				
Killdeer		2					2						
Black-necked Stilt													
American Avocet					40		11						
Greater Yellowlegs					8								
Solitary Sandpiper													
Willet									1				
Spotted Sandpiper									1				
Whimbrel													
Long-billed Curlew													
Turnstone Spp.													
Western Sandpiper				12				26	600				
Least Sandpiper				87	800		134	14	35				10*
Baird's Sandpiper													
Pectoral Sandpiper									2				
Dunlin				17									
Calidris Spp.								4					
Western, Least, or other small Sandpipers									75				
Long-billed Dowitcher													
Dowitcher spp.													
Red-necked Phalarope													
Phalarope spp.													
Unidentified shorebird												25*	
California Gull									32				
Total Waterbirds	**0**	**2**	**0**	**376**	**1,246**	**2**	**147**	**47**	**774**	**0**	**0**	**25**	**10**
Outflow from Delta? (from Table 3-5, Section 3.2.2.2 of the SEIR)	**No**	**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**No**	**No**	**No**

* Fly over

Table B-9
Number of Non-waterbirds Observed by Species and by Date of Survey (September 2001 – October 2002)

Common Name	9/1/01	9/15/01	10/26/01	1/13/02	2/2/02	3/11/02	4/25/02	4/26/02	5/3/02	5/24/02	6/20/02	8/16/02	10/11/02
	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[2]	[1]	[2]	[2]	[2]	[2]
Northern Harrier					2								
Peregrine Falcon													
Prairie Falcon													
White-throated Swift								4					
Western Kingbird													
Common Raven													
Horned Lark										14	4	2	2
Tree Swallow								1					
Northern Rough-winged Swallow										2			
Cliff Swallow								1					
Barn Swallow								1		1			
Swallow Spp.								3					
American Pipit													
Savannah Sparrow								2					
Unidentified													
Total Non-waterbirds	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**12**	**0**	**17**	**4**	**2**	**2**
Outflow from Delta? (from Table 3-5, Section 3.2.2.2 of the SEIR)	**No**	**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**No**	**No**	**No**

Table B-10
Number of Waterbirds Observed by Species and by Date of Survey (2003 and March – June 2005)

Common Name	1/30/03 [2]	8/7/03 [2]	10/26/03 [1]	3/28/05 [2]	4/1/05 [2]	4/3/05 [3]	4/11/05 [3]	4/14/05 [2]	4/29/05 [2]	5/1/05 [3]	5/8/05 [3]	5/13/05 [2]	6/2/05 [2]	6/24/05 [2]
Snow Goose	**													
Canada Goose														
Mallard														
Cinnamon Teal														
Northern Pintail														
Duck Spp.	**				***									
Snowy Egret														
Black-bellied Plover														
Snowy Plover						2	2							
Semipalmated Plover								3****						
Killdeer												1		
Black-necked Stilt												2		
American Avocet						9	5			3		10		
Greater Yellowlegs							8							
Solitary Sandpiper														
Willet														
Spotted Sandpiper														
Whimbrel														
Long-billed Curlew														
Turnstone Spp.														
Western Sandpiper														
Least Sandpiper								42****						
Baird's Sandpiper														
Pectoral Sandpiper														
Dunlin														
Calidris Spp.														
Western, Least, or other small Sandpipers														
Long-billed Dowitcher														
Dowitcher spp.														
Red-necked Phalarope														
Phalarope spp.														
Unidentified shorebird														
California Gull					10	270	23		34	58	79	19*	1*	
Total Waterbirds	**0**	**0**	**0**	**0**	**10**	**281**	**38**	**45**	**34**	**61**	**79**	**32**	**1**	**0**
Outflow from Delta? (from Table 3-5, Section 3.2.2.2 of the SEIR)	**Yes**	**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**No**	**No**

* Fly over ** Approximately 200 snow geese and 100 ducks (species not identified) were seen resting near the brine pool, but not in the transition area.
*** Approximately 100 ducks (species not identified) were seen resting next to the brine pool, but not in the transition area. **** Observed adjacent to wetland vegetation in Delta.

Table B-11
Number of Non-waterbirds Observed by Species and by Date of Survey (2003 and March – June 2005)

Common Name	1/30/03	8/7/03	10/26/03	3/28/05	4/1/05	4/3/05	4/11/05	4/14/05	4/29/05	5/1/05	5/8/05	5/13/05	6/2/05	6/24/05
	[2]	[2]	[1]	[2]	[2]	[3]	[3]	[2]	[2]	[3]	[3]	[2]	[2]	[2]
Northern Harrier														
Peregrine Falcon														
Prairie Falcon														
White-throated Swift														
Western Kingbird														
Common Raven										2				
Horned Lark	2													
Tree Swallow														
Northern Rough-winged Swallow														2
Cliff Swallow														
Barn Swallow														
Swallow Spp.														
American Pipit														
Savannah Sparrow													1	2
Unidentified														
Total Non-waterbirds	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**4**
Outflow from Delta? (from Table 3-5, Section 3.2.2.2 of the SEIR)	**Yes**	**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**No**	**No**

Table B-12
Number of Waterbirds Observed by Species and by Date of Survey (August – November 2005)

Common Name	8/4/05 [2]	8/24/05 [2]	9/12/05 [2]	9/26/05 [2]	10/12/05 [2]	11/16/05 [2]
Snow Goose						
Canada Goose						
Mallard						3*
Cinnamon Teal						
Northern Pintail						
Duck Spp.						
Snowy Egret						
Black-bellied Plover						
Snowy Plover						
Semipalmated Plover						
Killdeer						
Black-necked Stilt						
American Avocet						
Greater Yellowlegs						
Solitary Sandpiper						
Willet						
Spotted Sandpiper						
Whimbrel						
Long-billed Curlew						
Turnstone Spp.						
Western Sandpiper						
Least Sandpiper						1**
Baird's Sandpiper						
Pectoral Sandpiper						
Dunlin						
Calidris Spp.						
Western, Least, or other small Sandpipers						
Long-billed Dowitcher						
Dowitcher spp.						
Red-necked Phalarope						
Phalarope spp.						
Unidentified shorebird						
California Gull	1*					
Total Waterbirds	**1**	**0**	**0**	**0**	**0**	**4**
Outflow from Delta? (from Table 3-5, Section 3.2.2.2 of the SEIR)	**No**	**No**	**No**	**No**	**No**	**Yes**

* Fly over ** Identified by call.

Table B-13
Number of Non-waterbirds Observed by Species and by Date of Survey (August – November 2005)

Common Name	8/4/05	8/24/05	9/12/05	9/26/05	10/12/05	11/16/05
	[2]	[2]	[2]	[2]	[2]	[2]
Northern Harrier						
Peregrine Falcon						
Prairie Falcon	1*					
White-throated Swift						
Western Kingbird	4**					
Common Raven			1*			
Horned Lark					5	12
Tree Swallow						
Northern Rough-winged Swallow						
Cliff Swallow						
Barn Swallow				2	1	
Swallow Spp.						
American Pipit						2
Savannah Sparrow						
Unidentified						
Total Non-waterbirds	**5**	**0**	**1**	**2**	**6**	**14**
Outflow from Delta? (from Table 3-5, Section 3.2.2.2 of the SEIR)	**No**	**No**	**No**	**No**	**No**	**Yes**

* Fly over **Seen foraging on barren playa adjacent to wet alkali meadow.

This Page Intentionally Left Blank

Appendix C

Appendix C
Comments and Responses

Table C-1 lists the agencies and organizations who provided comment letters on the Draft SEIR for the LORP. This section presents the comment letters followed by LADWP's responses to those comments.

Table C-1
List of Comment Letters Received on the
Draft Supplemental Environmental Impact Report

Letter Number	Date	Commentor
1	2/2/2006	Thomas A. Brooks, Director County of Inyo Water Department
2	2/6/2006	Alan Miller, Chief, North Basin Regulatory Unit California Regional Water Quality Control Board, Lahontan Region
3	2/6/2006	Laurens Silver and Donald Mooney On behalf of Sierra Club and Owens Valley Committee
4	2/6/2006	Mark Bagley, MOU Representative, Sierra Club Carla Scheidlinger, President, Owens Valley Committee

(760) 872-1168
FAX: (760) 873-5695

EMAIL: mail@inyowater.org

163 May Street
Bishop, CA 93514

COUNTY OF INYO
WATER DEPARTMENT

February 2, 2006

Comment Letter No. 1

Mr. Clarence Martin
Los Angeles Department of Water and Power
300 Mandich Street
Bishop, CA 93514

Subject: Comments on the Draft Supplemental Environmental Impact Report SCH # 000011075

Dear Mr. Martin:

Thank you for the opportunity to review and provide comment on the Draft Supplemental Environment Impact Report (Draft SEIR) for the Lower Owens River Project (LORP). The Water Department offers the following comments concerning the Draft SEIR.

General Comments on the Draft SEIR

1. SEIR does not address the potential changes in the existing condition of Owens Lake.

With regard to the LORP reducing the amount of water supplied to the brine pool transition area, the SEIR states on page 3-66:

> *In summary, from October through March, operation of the pump station under LORP is expected to result in a reduction in the outflows from the Delta and thus a reduction (but not an elimination) in the areal extent and depth of surface water in the brine pool transition area, except during period of higher flow releases (pulse flows).*

The SEIR concludes that the reduction in water supply to the brine pool transition area under the LORP will not cause an adverse impact on biological resources. At page 3-69, the SEIR states:

> *Therefore, within the context of existing condition of the Owens Lake, the impact of reduced winter outflow to the brine pool transition area on the value of this alkali playa habitat would be less than significant. No mitigation is required. (Underlining added for emphasis.)*

Concerning the existing condition of the Owens Lake, the SEIR reports on page 3-5:

> *In accordance with the State Implementation Plan (SIP) for the Owens Lake PM10 Planning Area prepared by the Great Basin Unified Air Pollution Control District (GBUAPCD) (prepared in 1998 and revised in 2003), LADWP has been implementing various measures to reduce dust emissions from the playa areas of the lake bed since January 2002.*

On page 3-12, the SEIR notes the implementation of dust control measures "*…has substantially changed the environmental conditions of large portion of the Owens Lake playa*" and identifies the three measures that may be implemented by LADWP to reduce dust emissions as follows:

> *Dust control measures include the use of shallow flooding (applying water to the lake bed until it is ether inundated with a few inches of water or the soil becomes saturated to the surface), managed vegetation (irrigated playa with saltgrass, and gravel layers (see Figure 3-5). As of November 2005, completed dust control areas consist of approximately 12,200 acres of shallow flooding and 2,400 acres of managed vegetation.*

With regard to the impact of the shallow flooding on waterbirds, the SEIR reports on page 3-42 that:

> *Since the shallow flood areas for the Dust Mitigation Program became established in 2002 and 2003, the shallow flood areas have become the predominant areas used by migrating waterbirds sometimes supporting 95 percent or more of the lake-wide population at any given time (LADWP 2004b).*

Further, at page 3-69, the SEIR notes that:

> *Currently, the shallow flood areas for the Dust Mitigation Program are the predominant areas of the Owens Lake used by waterbirds. Bird populations observed at the brine pool transition area (and at seeps and springs) are a small fraction of the total Owens Lake populations.*

1-1

Although the SEIR concludes that the loss of habitat and the impacts on waterbirds and other biological resources caused by the reduction in the amount of water available to the brine pool transition area will not be significant under the "existing condition of the Owens Lake," the SEIR does not state whether the "existing condition" will be maintained. The SEIR should explain whether LADWP has discretion to modify the "existing condition" by reducing or eliminating the shallow flood areas by substituting managed vegetation and/or gravel layers.

A significant reduction or elimination of the shallow flood areas would reduce or eliminate the "predominate areas of Owens Lake used by waterbirds." If such shallow flood areas are substantially reduced or eliminated, the reduction in habitat for waterbirds at the brine pool transition area caused by the LORP would become more significant.

If LADWP does have discretion to alter the "existing condition," the SEIR should explain whether a CEQA document will be prepared by LADWP that will address the impacts of a LADWP proposed alteration (including the impacts on waterbirds and other biological resources). If a CEQA document addressing a LADWP proposed alteration will not be prepared, the SEIR should commit that a supplemental CEQA document will be prepared by LADWP that addresses the impacts of the LORP on the brine pool transition area in the context of any reductions in the amount of shallow flood areas proposed by LADWP. Such a CEQA analysis is necessary to ascertain whether within the context of altered existing condition of the Owens Lake, the impact on the LORP on the brine pool transition area will remain insignificant.

2. Adequacy of Impact Analysis of Changed Flow Regime in the Brine Pool Transition Zone.

The Draft SEIR presented an analysis of the potential impacts resulting from changes in the quantity and timing of Owens River flows that reach the brine pool transition zone from the planned operation of the LORP pump station. There are no measurements of flows to the brine pool from the Owens River Delta, and the analysis presented in the Draft SEIR unavoidably had to rely on various sources of information to qualitatively assess the existing hydrology. The primary sources of information used were the flows in the Owens River measured at the Keeler Bridge station (upstream of the Delta) as well as visual confirmation (remotely sensed and ground truth) of the presence or absence of water flows out of the Delta.

Comparison of the Owens River flows from 1990 to the present with the planned releases from the pumpback station showed there will be a substantial change from the average Delta hydrology (Figure 3-15, pg. 3-63). Major changes included a reduction in winter flows and approximately the same or higher total summer flows. Potential impacts to the brine pool transition zone during each season were evaluated separately.

Plant water use in the delta is negligible in the winter and the reduced flows downstream of the pumpback station were assumed to propagate to the brine pool transition area. Use of the area by water birds during winter since implementation of the shallow flooding areas is not extensive, and the conclusion in the Draft SEIR was that the reduction in winter flows would not result in a significant environmental change.

The analysis of possible effects in the summer period is more complicated. Changes in the Owens River flow could not be assumed to directly correlate to changes in flow to the brine pool transition zone because higher plant water use in the delta utilizes an unknown portion of the available water. The Draft SEIR concluded:

> *... from April through September, operation of the pump station under LORP is not expected to result in substantial change to existing hydrologic conditions of the brine pool transition area (i.e., typically no outflow from the Delta) except during periods of higher flow releases (pulse flows and seasonal habitat flow bypass). Period 2 and 3 pulse flows and the seasonal habitat flow bypass are anticipated to result in surface water in the brine pool transition area during periods when the area is typically dry under existing conditions* (from p. 3-65, 66).

Data presented in the Draft SEIR do not support these conclusions entirely and, therefore, the determination of no impact can be reasonably questioned.

1-2

The assessment of "typical" summer conditions is largely based on observations after 2000. After 2000, summer Owens River flow was relatively low, and there were no flows to the brine pool transition area from June to September. During 1999 and 2000, however, summer flows in the Owens River were relatively high, and flows reached the brine pool transition area (SEIR Table 3-5). If, under the new hydrologic regime, higher summer flows are captured at the pumpback station, the future result may be no summer flows to the brine pool. The available data suggests there could be a reduction in the number of years that summer flows reach the brine pool.

The Draft SEIR correctly observed that greater summer flows did not always result in flow out of the Delta. Again, this was true only after 2000 when the higher summer flows were preceded by several weeks of low flow. The lack of outflow suggests the surface and groundwater storage capacity of the Delta were depleted and had "absorbed" the higher flows. It is not prudent to assume, therefore, that pulse flows will necessarily reach the brine pool transition zone as stated in the Draft SEIR.

Contrary to the conclusion stated in the Draft SEIR, every April observation from 1999 to 2005 recorded flows to the brine pool transition zone (SEIR Table 3-5). The Draft SEIR suggests that migratory birds frequently use the brine pool transition area in April (p. 3-41). If winter flows are reduced as planned, the Period 1 pulse flow, in combination with the potentially reduced April base flow (SEIR Figure 3-15, pg. 3-63), may fill the storage capacity of the Delta instead of producing outflow. In this scenario, flows to the brine pool transition area may be reduced at a critical time of year.

The LORP EIR specifies monitoring during the first year of flows to the Delta to calibrate the long term flow regime. Outflows from the Delta during this period will be maintained at a minimum 0.5 cfs. Given the admitted uncertainty and qualitative nature of the analysis, the overall conclusion of no impact warrants additional monitoring for a period of years to ensure the long-term suitability of the new hydrologic regime.

Specific Comments on the Environmental Analysis contained in the Draft SEIR

1-3

1. The SEIR limits the Keeler Bridge data period without adequate explanation

The SEIR provides data from Keeler gauge beginning in 1990/1991 in Figure 3-3 and 3-4. The explanation for beginning with water year 1991 as a starting point rather than 1986 when the initial "re-watering project" was initiated is, ("[it] coincides with the period when daily flow data have been tabulated"). However, the data presented in SIER Figure 3-3 is monthly and Figure 3-4 is annual. Therefore the data from 1986 – 1991 could have been used as well.

1-4

2. The SEIR limits the time period of observations of outflows from the delta and provides an inaccurate description of the existing flow conditions.

On page 3-27 the SEIR states:

From April/May through September/October after 2000, there are typically no outflows from the Delta into the brine pool.

It is not clear why the SEIR chooses to only view data after 2000, especially since available data is scant. However, the data shows that before and after 2000, April and often May had outflow from the delta (Table 1). In addition, October had outflows for half of the years.

Table 1

Observed Presence or Absence of Outflow from the Owens River Delta

Data extracted from Table 3-5 in the Draft SEIR showing individual observations. "Y" if water was observed flowing from the delta on the visitation date or "N" if no water was flowing.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
1993							N					
1994												
1995												
1996			Y		Y			Y				
1997												
1998												
1999				Y				YYY	YY	YY		
2000	Y		Y	YYYY		N	Y	YYY	N			Y
2001	Y			YYY	NNNN	NNN		N	NN	Y		
2002	Y	Y	Y	YY	YY	NN		N		N	Y	
2003	YY							N		Y		
2004	YYY	YY	YY	YNN	NN	NNN	NN		NNNN	N	YYYY	YY
2005	Y	Y	YY	YYYYYYY	YYYN	NN	NNN	NNNN	NN	N	Y	

1-5

3. In describing the lack of summer outflow from the Delta, the data used is restricted and may be an inaccurate assessment of conditions.

The Draft SEIR states:

1-5 (Cont'd)

In the summers after 2000, even relatively high River flows (greater than 9 cfs) measured at Keeler gage do not result in outflow from the Delta (see, for example, data for August 2002 and September 2004).

There is no explanation why consideration is given only to data after 2000. Prior to 2000, it is common that summer flows, as low as 4.6 cfs, resulted in delta outflow (see Table 2). After 2000, low and high Keeler gauge readings often resulted in delta outflow. The examples cited in the Draft SEIR, August 2002 and September 2004, seem to indicate that the occurrence of flows greater than 9 cfs and no delta outflows may be due to low flows in the months prior to the high River flows. If this is true, low flows of 3 cfs prior to the March pulse flow may not result in delta outflows. Similarly summer pulse flows may not provide Delta outflows.

Table 2

Data extracted from Table 3-5 of the Draft SEIR showing summer dates (interpreted as April through September) when delta outflows were observed and accompanying flow readings from Keeler gauge.

Year	Month	Day	avg. daily flow on date of obs	min-max avg. daily flows previous 5 day period
1996	August	7	8.8	8.8-11.8
1999	August	17	9.8	9.8-11.3
		24	10.6	9.3-10.6
		29	14.9	11.3-15.4
	September	12	13.6	13.4-16.6
		26	15.5	14.2-15.5
2000	April	2	20.4	17.1-20.4
		9	15.1	15.1-16.7
		12	15.1	15.1-15.5
		21	15.5	15.3-15.5
	July	24	9.1	7.3-9.1
	August	1	12	10.0-12.0
		14	9.2	9.2-11.8
		22	11.6	9.6-11.9
After 2000				
2002	April	25	10.1	10.1-11.0
		26	10.8	10.1-11.0
	May	3	8.9	8.9-10.9
		24	4.6	3.7-5.36
2004	April	6	7.8	7.6-9.5
2005	April	1	9.6	9.5-9.6
		3	9.7	9.5-9.7
		11	8.9	8.6-8.9
		13	8.8	8.8-8.9
		14	8.4	8.4-8.9
		29	7	6.7-7.0
	May	1	7.1	6.7-7.2
		8	6	6.0-6.6
		13	5.5	5.5-5.9

4. The Draft SEIR does not provide adequate information on invertebrates to assess potential impacts

The SEIR describes the invertebrates known to occur in unvegetated playa habitat on the Owens Lake. Three of these species

1-6

> *are endemic to the project area, and may be considered sensitive or locally important species (p 3-71).*

No inventory was conducted to determine the presence or absence of invertebrate populations in the brine pool transition area. In addition, with the exception of the alkali flies, no biological information on the species was provided such that assessment of potential impacts (e.g. winter drying, increases in salinity) could be made.

5. The Draft SEIR presents misleading information regarding the presence of Western Snowy Plover in the Brine Pool Transition Area

The SEIR states:

> *Since operation of the Zone 2 shallow flood area began in the beginning of 2002, snowy plover nests have not been observed in the brine pool transition area, presumably due to the large expanse of more preferred nesting habitat created by the shallow flooding (page 3-51).*

1-7

Although this statement may be true, information provided in the same paragraph state that in 2002,

> *...relatively small numbers of snowy plover nests and/or broods were found in or outside the southwestern margin of the Delta . . . and south of the Delta in or near the brine pool transition area (page 3-51).*

According to Table 3-9, Number of Snowy Plovers Observed in the Brine Pool Transition Area, 13 nests or broods were observed in 2002. In 2003 the SEIR states the brine pool transition area "*was not part of the intensive search area for nests*" (page 3-51). Further, the Draft SEIR states for 2004 and 2005

> *...survey for nests were not conducted; surveys for adults and broods were conducted but the search area did not specifically include the brine pool transition area (page 3-51).*

However, Appendix B, Bird Data for the Brine Pool Transition Area, Table B-10 shows five survey dates in April 2005. Two of those survey dates noted the presence of two Snowy Plovers.

6. The description of the intent of the first year flows from the Delta should be the same in the Draft SEIR as is provided in the Final LORP EIR.

1-8

The Draft SEIR describes the first year flows from the Delta will be to managed to maintain an average daily outflow of 0.5 cfs with the intent to "calibrate the discharge to the Delta to match evapotranspiration demand in the Delta." However, the Final LORP EIR recognizes that both evapotranspiration and maintaining the storage capacity of the Delta is necessary before outflows would occur. The Final LORP EIR describes the first year managed flows from the Delta will indicate that "evapotranspiration demands have been met and the storage capacity has been exceeded." Meeting the storage capacity is an important consideration if outflow objectives are being considered to avoid negative impacts to the brine pool transition area.

1-9

7. Incorrect Figure number
On page 3-12, the figure number for the completed and planned dust control area should be changed from Figure 3-1 to Figure 3-5.

Completed and planned dust control areas are presented Table 3-3 and Figure 3-1.

Summary
The Draft SEIR needs to address potential changes to the existing condition of Owens Lake and provide a clearer presentation of data and analyses of changes to the flow regime and to the biological resources. Please call me if you have any questions or comments.

Respectfully submitted,

Thomas A. Brooks
Director, County of Inyo Water Department

c: County of Inyo Board of Supervisors
Water Commission Members

Responses to Comment Letter No. 1
County of Inyo Water Department

Response to Comment 1-1

As required by CEQA, the SEIR includes a description of the physical environmental conditions in the vicinity of the project, as they existed at the time the Notice of Preparation (NOP) for the SEIR was published. This environmental setting constitutes the baseline physical conditions by which the lead agency determines whether an impact is significant. Aside from the planned modifications to the Dust Mitigation Program described in SEIR Sections 3.2.2.2 (Figure 3-5, page 3-14, and Table 3-3, page 3-15) and 3.4.4.1 (page 3-75), no changes to the shallow flooding areas are currently proposed. Therefore, the effects of the LORP on the brine pool transition area of the Owens Lake were described in the context of existing conditions at the time of publication of the NOP for the SEIR.

However, it is acknowledged that the SIP provides that, with approval from the GBUAPCD, LADWP may transition from one approved control method to another or identify a new control method. SEIR Section 3.2.2.2 (page 3-12) has been revised to clarify this point. If future modifications are considered "projects" under CEQA, appropriate environmental impact documentation would be prepared.

Please also see Response to Comment 3-1 regarding the Dust Mitigation Program.

Response to Comment 1-2

Comments regarding impacts on summer flows are addressed below in Responses to Comments 1-4 and 1-5.

Response to Comment 1-3

Due to a change in the methodology of stream flow data collection at Keeler gage, data subsequent to 1990/1991 are considered more reliable. In addition, due to changes in vegetation conditions (and evapotranspiration) between the point of release and the measurement point (at Keeler gage) over time since releases to the River began in 1986, more recent data are more representative of existing conditions. Therefore, Figures 3-3 and 3-4 reflect data from 1990/1991. The Final EIR for LORP (LADWP, 2004a) presents the average annual flows at Keeler gage from 1984/1985 through 2000/2001 (Chart 4-3, page 4-5) and the monthly average, median, maximum and minimum flows at Keeler gage for the period from 1986 through 2001 (Chart 4-4, page 4-5).

Response to Comment 1-4

During SEIR preparation, available data (including pre-2000 data) were reviewed. Impact analysis primarily focused on post-2000 conditions since flow and bird data specific to the brine pool transition area prior to that time are very limited and since more recent data are more reflective of existing conditions (defined as the time of NOP publication for the SEIR).

As noted by the commentor, outflows from the Delta to the brine pool transition area have been noted for April and sometimes May. The SEIR has been revised to indicate that the time of year with no outflow generally begins in May (see SEIR Sections 3.2.2.2, 3.4.1.2 and 3.4.2.1).

Since conditions in the brine pool transition area are variable from year to year, it was stated that there are typically no outflows from the Delta to the brine pool in September/October. Considering both months combined, greater than 50 percent of the observations in September and October did not indicate flow from the Delta to the brine pool.

Response to Comment 1-5

During SEIR preparation, available data (including pre-2000 data) were reviewed. Impact analysis primarily focused on post-2000 conditions since flow and bird data specific to the brine pool transition area prior to that time are very limited and since more recent data are more reflective of existing conditions (defined as the time of NOP publication for the SEIR). Additionally, since data on the presence or absence of outflows from the Delta prior to 2000 are limited (few dates of observation), available data do not support the conclusion that summer flows prior to 2000 commonly resulted in Delta outflow.

The relationship between flows to the Delta and outflows from the Delta depends on various factors, including temperature, vegetation extent (and evapotranspiration), and soil moisture conditions. Under LORP, baseflows to the Delta will be calibrated during the first year to meet evapotranspiration and storage capacity demands in the Delta. The proposed baseflows are anticipated to create saturated conditions in the Delta channels, and as a result, percolation losses in the Delta during higher flow releases under LORP (i.e., pulse flows), particularly in the summer, would be lower than under existing conditions. While the baseflows preceding the Period 1 (March/April) pulse flow release would likely be lower than existing average conditions, channel losses during Period 1 pulse flows would be limited due to the lower temperatures (and thus lower evapotranspiration and free water surface evaporation rates). Furthermore, pulse flows will be substantially higher than the existing average flows, and these higher releases will be maintained for 5 to 10 days (see SEIR Figure 3-15). Therefore, it is anticipated that the pulse flows would result in outflows from the Delta, in March (Period 1) as well as during the summer (Period 2 – June/July and Period 3 – September).

Response to Comment 1-6

Biological information on beetles is presented in SEIR Section 3.2.3.2 (page 3-55). Impact assessment presented in the SEIR is based on general invertebrate biology, which includes these beetle species. Reduced flows to the brine pool transition area in the winter are not expected to substantially affect alkali fly reproduction and therefore would not substantially affect forage for tiger beetles. Please also see Responses to Comments 4-3 and 4-4.

Response to Comment 1-7

SEIR Section 3.2.3.2 (page 3-51) has been revised to clarify the information regarding the presence of snowy plovers in the brine pool transition area. Please note that SEIR Table 3-9 (page 3-53, extracted from data presented in SEIR Appendix B) shows the number of snowy

plover individuals (not broods or nests) observed specifically in the brine pool transition area based on data recorded by LADWP and M. Prather, Owens Valley Committee. The nest/brood searches referenced in the SEIR are part of an ongoing monitoring activity conducted by PRBO in association with the Dust Mitigation Program. SEIR Section 3.2.3.2 (page 3-51) has been revised to clarify that the statement regarding the brine pool transition area not being part of the search area in 2004 and 2005 referred specifically to the surveys conducted by PRBO (and not the data collected by LADWP or M. Prather). It should be noted, however, that even when the primary search location is the Dust Mitigation Program areas, observers commonly note nests and broods in the brine pool transition area, if any are present, since they would be visible during the surveys of the adjacent Zones 1 and 2 shallow flooding areas (Tony DeJulio, CH2MHill, personal communication to B. Tillemans, LADWP, November 2005).

Response to Comment 1-8

The proposed management of flows to the Delta has not changed since preparation of the Final EIR (LADWP, 2004a). The sentence in SEIR Section 3.4.1.1 (page 3-59) has been revised to state, "The intent of this approach is to calibrate the discharge to the Delta to match evapotranspiration demand and storage capacity in the Delta."

Response to Comment 1-9

SEIR Section 3.2.2.2 (page 3-12) has been revised as follows: "Completed and planned dust control areas are presented in Table 3-3 and ~~Figure 3-1~~Figure 3-5."

California Regional Water Quality Control Board
Lahontan Region

Alan C. Lloyd, Ph.D.
Agency Secretary

2501 Lake Tahoe Boulevard, South Lake Tahoe, California 96150
(530) 542-5400 • Fax (530) 544-2271
http://www.waterboards.ca.gov/lahontan

Arnold Schwarzenegger
Governor

Comment Letter No. 2

February 6, 2006

Clarence Martin
City of Los Angeles Department of Water and Power (LADWP)
300 Mandich Street
Bishop, CA 93514

COMMENTS ON THE DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT ON THE LOWER OWENS RIVER PROJECT'S AFFECT ON THE BRINE POOL TRANSITION AREA, INYO COUNTY, SCH NO. 2000011075

The California Regional Water Quality Control Board, Lahontan Region (Lahontan Water Board) has received the Draft Supplemental Environmental Impact Report (SEIR) on the Lower Owens River Project (LORP). The Draft SEIR is intended to address the impacts of the LORP on the brine pool transition area (BPTA) between Owens Lake and the Delta Habitat Area. Thank you for the opportunity to provide comments on the Draft SEIR.

Project Description

The LORP is a large-scale habitat restoration project with four primary components: (1) releasing water to the Lower Owens River to enhance fisheries and riparian habitats along 62 miles of the Lower Owens River; (2) providing water to the Delta Habitat Area to maintain and enhance 325 acres of existing wetland and aquatic habitats; (3) enhancing a 1,500-acre off-river area, the Blackrock Waterfowl Habitat Area, with seasonal flooding and land management activities to benefit wetland and waterfowl; and (4) maintaining several off-river lakes and ponds near the Blackrock Waterfowl Habitat Area.

The Final EIR for the LORP, dated June 23, 2004, did not include an evaluation of adverse environmental impacts to the southern-most portion of the Delta Habitat Area known as the brine pool transition area. This area is located between the vegetated wetlands of the Delta Habitat Area and the Owens Lake brine pool to the southwest. A lawsuit filed by the Sierra Club resulted in a Court-ordered judgment requiring Los Angeles Department of Water and Power (LADWP) to prepare and circulate a focused environmental analysis that addresses any significant or potentially significant impacts of the LORP on the brine pool transition area. The Supplemental EIR evaluates potential impacts on this brine pool transition area from the LORP by describing the existing biological resources and hydrologic conditions and the changes in hydrologic and habitat conditions expected under the LORP.

Water Quality Protection Standards

The Lahontan Water Board is a responsible agency pursuant to the California Environmental Quality Act (CEQA) for this proposed NOP and Supplemental EIR. The Water Quality Control Plan for the Lahontan Region (Basin Plan) lists water quality objectives and beneficial uses, including wildlife habitat, for the Lower Owens River and other related waters within the project area. Other beneficial uses for the Owens Lake and minor surface waters and wetlands in the area are: Groundwater Recharge; Freshwater Replenishment; Water Contact Recreation; Non-contact Water Recreation; Commercial and Sportfishing; Warm Freshwater Habitat; Cold Freshwater Habitat; Inland Saline Water Habitat; Rare, Threatened, or Endangered Species; Spawning, Reproduction, and Development; Water Quality Enhancement; and Flood Peak Attenuation/Flood Water Storage. Water quality objectives include the Nondegradation Objective as well as both narrative and numeric water quality objectives listed in Chapter 3 of the *Water Quality Control Plan for the Lahontan Region* (Basin Plan), including Nondegradation of Aquatic Communities and Populations.

General Comments

The Draft SEIR provided a description of these objectives and beneficial uses for both surface and ground water resources. A discussion of plans and policies in the Basin Plan are also included. The Draft SEIR did not discuss all potential effects identified in our November 1, 2005 response to the Notice of Preparation (NOP) for the Draft SEIR.

2-1 Lahontan Water Board staff does not agree with the conclusion of the Draft SEIR that "impacts to hydrologic resources of the brine pool transition area and resultant impacts on biological resources would be less than significant," as discussed below.

Specific Comments

1) Conclusion of no significant impact

Our comments on the NOP included a statement that the Draft SEIR must fully address any potentially significant adverse effects on beneficial uses and propose mitigation to reduce the impacts to insignificant levels. The Draft SEIR (page 1-5) states that the "operation of the pump station under LORP would result in reduced winter outflows to the brine pool transition area, an alkali playa habitat used by birds." … "The reduction in outflows to the brine pool transition area would occur during the time of the year when water is abundant at other places around the lake." Also on page 1-5, the Draft SEIR

2-2 states, "under LORP, the areal extent and depth of surface water of the rivulets in the brine pool transition area would be smaller compared to existing conditions." The proposed flow regime would cause decreased flows in the winter, increased flows in the summer, and four pulse event flows throughout each year. We disagree with the conclusion that these impacts to the BPTA are not significant because (1) this altered flow regime could significantly affect water quality chemical and physical characteristics that could impair the waters for beneficial uses of the BPTA due to the reduction of flows during the winter, and (2) a decrease in winter flows and increase in summer flows during pulse events could result in significant impacts to water quality for beneficial uses due to the higher summer temperatures causing greater evaporation and greater probability for

2-2 (Cont'd) algal blooms. The potential effects on water quality due to the proposed flow regime are not adequately analyzed. This is needed to determine whether the impacts are significant or potentially significant. An additional monitoring component should be proposed for the LORP to determine potential impacts from this altered flow regime on water quality and beneficial uses.

2) *Inappropriate Reliance on Other Required Restoration Efforts and Out-of-Kind Mitigation*

2-3 The Draft SEIR goes on to conclude that impacts on biological resources noted under Section 3.4.2.1 (reducing the amount of surface water in the BPTA in the winter compared to existing conditions, reducing the extent and water depth of rivulets in the BPTA, reducing the surface water in the BPTA during the colder months may affect alkali fly populations) will be mitigated by habitat improvements in the region by the LORP and the Dust Mitigation Project. There are several references in the Draft SEIR (pages 1-6, 3-13, 3-69) to the Blackrock Waterfowl Habitat Area, which is part of the LORP, and nearby habitats such as the Habitat Shallow Flood area, which is part of the Owens Lake Dust Mitigation Project, as alternative habitats for species that currently use the BPTA or have used the BPTA in the past. The Blackrock Waterfowl Area is not the same type of habitat as that of the BPTA; therefore, the Blackrock Waterfowl Area cannot be used to mitigate for significant or potentially significant impacts to the BPTA since the mitigation proposed is not "in-kind" mitigation for habitats affected. The organisms dependent on this resource will either have to adopt or die.

Likewise, the shallow flooded areas proposed as part of the Owns Lake Dust Mitigation Program are dissimilar from the rivulets in the BPTA and should not be considered in-kind mitigation. It is also inappropriate to rely on the requirements mandated by the Great Basin Unified Air Pollution Control District for the Owens Lake Dust Mitigation Program to mitigate impacts resulting from the LORP (via impacts to the BPTA). Habitat enhancement proposed as part of the Dust Mitigation Project should not be used twice to mitigate for habitat loss or any significant or potentially significant impacts in the BPTA.

3) *Impacts to the BPTA From the Dust Mitigation Project Could be Further Exacerbated by the LORP*

2-4 The statement on page 3-67 to 3-68 indicates that beneficial use impacts in the BPTA may have already occurred from the Dust Mitigation Project, and may increase due to the LORP:

> "Prior to the implementation of the dust control project in 2002, hundreds to thousands of individuals [of shorebirds] have been observed in the brine pool transition area." … "Since 2002, observed use of the brine pool transition area [by shorebirds] has decreased, ranging from less than 10 up to low hundreds. After implementation of LORP, reduced winter flows to the brine pool transition area from operation of the pump station are expected to reduce but not completely eliminate use of this area for these species [shorebirds]."

Under a discussion of the waterfowl use in the area, the Draft SEIR states (page 3-69) that the BPTA "is considered marginal habitat for birds." This contradicts a previous

2-4 (Cont'd) statement on page 3-67 and 3-68 (for shorebirds and waterfowl, respectively) that "hundreds to thousands" of shorebirds and "hundreds up to a thousand waterfowl" used the BPTA in years previous to 2002. The Draft SEIR bases its conclusion of no significant impact upon existing degraded conditions rather than conditions at the BPTA prior to full-scale implementation of LADWP dust control projects and activities, and concludes that, "within the context of existing conditions of the Owens Lake, the impact of reduced winter outflow to the brine pool transition area on the value of the alkali playa habitat would be less than significant. No mitigation is required." The basis for this conclusion relies on limited post-2002 data, and should be reexamined in the Final SEIR.

2-5 The Final SEIR should include both water quality and quantity monitoring as well as bird counts to determine if impacts to the BPTA from either the Dust Mitigation Project or the LORP are occurring, or have occurred, and prevent any additional impacts due to the LORP by identifying appropriate mitigation measures for the impacts. These impacts should be considered also as cumulative impacts in the Final SEIR, and be evaluated on that basis.

4) *Lack of Adaptive Management Plan for Future Potential Impacts from Altered Flow Regime*

2-6 Our comments on the NOP stated that an Adaptive Management Plan, which may include surface and groundwater monitoring, should be developed for the brine pool transition area and be included in the Supplemental EIR. Monitoring the changes in salinity and alkalinity in the surface water and groundwater in the brine pool transition area should be incorporated into the LORP to ensure that salinity or other effects do not adversely affect water quality for beneficial uses in fresh or brackish waters. No such Adaptive Management plan was proposed in the Draft SEIR, nor was any monitoring proposed to ensure water quality and beneficial uses would not be impacted in the BPTA by the proposed altered flow regime. The only section that included any mention of adaptive management action was Section 3.4.6, which stated that a feasible adaptive management action that may be considered in the future is increasing pulse flows from four events per year to six.

2-7 On what basis will it be determined that this adaptive management action is needed and what impacts will this action attempt to ameliorate? Further alternatives and criteria for adaptive management strategies should be developed.

5) *Changes to the BPTA in the Delta*

2-8 The Draft SEIR states on page 1-5 that "the determination that impacts to existing aquatic and wetland habitats of the Delta would range from beneficial to less than significant (Final EIR Section 6.3.6) is unchanged except for the portion of the brine pool transition area that is in the Delta." This statement implies that there would be significant impacts within the portion of the BPTA that is within the Delta. If there are impacts to the BPTA in the Delta, they must be mitigated to a level that is less than significant. Appropriate mitigation would be to provide additional water to the area during the winter, to levels that existed prior to the LORP or the Dust Mitigation Program.

2-9 6) *Reference on page 3-13 to R6V-2002-001 should refer to R6V-2002-011.*

Please contact Tobi Tyler at (530) 542-5435 or by email at ttyler@waterboards.ca.gov if you have any questions regarding this matter. You may also contact me at (530) 542-5430.

Alan Miller, PE
Chief, North Basin Regulatory Unit

cc: Environmental Protection Agency, San Francisco
U.S. Fish and Wildlife Service, Ventura
California Department of Fish and Game, Bishop
State Clearinghouse, Office of Planning and Research, Sacramento
Inyo County Water Department, Bishop
Larry Silver, Sierra Club, San Francisco

TT/chs T:Cmnts on SEIR for BPTA of LORP.doc
[Pending/ Inyo County /LORP]

Responses to Comment Letter No. 2
California Regional Water Quality Control Board, Lahontan Region

Response to Comment 2-1

Please see responses to specific comments below.

Response to Comment 2-2

Potential changes in water quality characteristics in the brine pool transition area from implementation of the LORP were discussed in SEIR Section 3.4.3.1 (page 3-73). As stated in this section, operation of the pump station and release of River flows to the Delta would not include discharges of any wastes or significant changes to water quality of the flows reaching the brine pool transition area. As compared to existing conditions, the altered flow regime would include periods of reduced flows to the brine pool transition area and periods of increased flows (pulse flows and seasonal habitat flow bypass). Water temperatures in the outflow waters would continue to fluctuate widely, as under existing conditions, but since there would be no discharge of wastes, there would be no violation of narrative and numeric water quality objectives (as described in Chapter 3 of the Basin Plan for ammonia, bacteria, biostimulatory substances, chemical constituents, chlorine, color, dissolved oxygen, floating materials, oil and grease, pesticides, pH, radioactivity, sediment, settable materials, suspended materials, taste and odor, temperature, toxicity, and turbidity). The proposed project would not violate the narrative water quality objective for the nondegradation of aquatic communities and populations since there would be no discharge of wastewaters or other discharges, and since the biological community of the brine pool transition area would not be substantially impaired and wetlands in the project area overall would be enhanced. Since post-project water quality in the brine pool transition area would be within the range of existing conditions, there would be no violation of the nondegradation objective.

Regarding the description of flow regime in comment 2-2 beginning on line 9, please note that aside from two pulse flow periods of 10 days in June/July and 10 days in September, increased summer outflows to the brine pool transition area are not anticipated. Therefore, increased algal blooms in the brine pool transition area under the project are not anticipated. [Please also note that there are no fish species present in the brine pool transition area that could be affected by oxygen depletion resulting from algal die-off (the typical concern regarding algal blooms). Even under a scenario where increased flows resulted in algae, the algae would serve as an invertebrate food source.]

As summarized in SEIR Section 3.4.2.1 (page 3-70), enhancement of habitat quality in the Delta through flow management is expected to enhance the existing beneficial uses of the Owens Lake wetlands related to habitat and recreation. Overall, implementation of LORP would maintain and enhance the beneficial uses of Owens Lake.

Since discharge of wastes to the brine pool transition area during project operation is not proposed, and since significant changes in water quality from the proposed altered flow regime are not anticipated, the analysis of water quality impacts presented in the SEIR is adequate. Potentially significant adverse effects on water quality, including significant impairment of

beneficial uses, were considered but not identified for the project. Substantial evidence to support a different conclusion has not been presented to LADWP, including in the public comments on the Draft SEIR.

Regarding monitoring, since the LORP is based on the concept of adaptive management, extensive monitoring is already a part of the proposed project (see Section 2.10 of the Final EIR; LADWP, 2004a). Additionally, LADWP is committed to conducting all monitoring requirements of the permit issued by the Regional Board for the project (Order No. R6V-2005-0020). Since impairment of the beneficial uses of Owens Lake is not predicted, additions to the proposed monitoring program are not proposed.

Response to Comment 2-3

CEQA requires assessment of impacts of the whole of the project as compared to existing conditions, normally defined as the time of NOP publication. The SEIR does not state that any impacts would be mitigated by habitat improvements in the region by the LORP or the Dust Mitigation Program. As required by CEQA, the determination of impact significance takes into account existing conditions (including the Dust Mitigation Program, existing seeps/springs, and the entire habitat of Owens Lake) and the whole of the proposed action.

In determining the significance of the proposed project on biological resources and specifically shorebirds, it is both appropriate and required to consider the impact of the whole of the proposed action on relevant species. While the Blackrock Waterfowl Habitat area is not a river delta habitat, and has different soil types than in the brine pool transition area, it does provide analogous habitat values for many species that also currently use the brine pool transition area. LADWP watershed resources staff have observed a diversity of shorebirds and waterfowl utilizing Blackrock that are also found in the brine pool transition area. The management concept for the Blackrock area is to retain open water mixed with emergent vegetation. As in the brine pool transition area, the open water habitat in the Blackrock area will have shallows and mudflats that support aquatic invertebrates and provide foraging habitat for yellowlegs, sandpipers, plovers, and other shorebirds. Managed water level fluctuations along with the undulating topography of the Blackrock area would ensure creation and maintenance of shallow flooding / mudflat habitats. Similar to the brine pool transition area, the Blackrock area will also have some areas of alkali slicks that will be flooded. These types of habitats will be sustained, since flooding cycles in the Blackrock area will be rotated to prevent extensive stands of emergent vegetation and retain habitat values for shorebirds. This is the same management scheme Klamath and Tule Lake wildlife refuges successfully employ to attract shorebirds and other waterfowl.

The observed shift in bird distribution since operation of the shallow flooding areas illustrates that birds do move from one location to another in the region and that shorebird habitat requirements are not that specific or narrow.

The shallow flooding of the Dust Mitigation Program area is not considered in-kind mitigation for LORP-related impacts in the brine pool transition area, but the shallow flood areas, and the related GBUAPCD requirements, are part of existing conditions at Owens Lake. The shallow flooding of the Dust Mitigation Program area is similar to the brine pool transition area, as both

occur on former lake bottom sediments and both receive a mix of fresh and brackish water. The shallow flooding areas provide more consistent and larger expanses of habitat (unlike the constantly shifting rivulets in the brine pool transition area that are sometimes subject to inundation by more saline water).

Please also see Response to Comment 3-1 (regarding the Owens Lake Dust Mitigation Program) and Response to Comment 3-2 (regarding the Blackrock Waterfowl Habitat Area).

Response to Comment 2-4

Construction and operation of the Dust Mitigation Program shallow flood areas did not degrade the habitat conditions or values of the brine pool transition area. The observed change in bird distribution is a result of preference for the shallow flood areas by shorebirds and other waterbirds since the area provides more favorable conditions, not due to degradation of habitat in the brine pool transition area. The shift illustrates that birds do move from one location to another in the region; this redistribution does not illustrate habitat loss or degradation. As compared with other areas available for these bird species, the brine pool transition area is considered marginal habitat since water and forage availability is unpredictable and nests can be flooded.

As required by CEQA, project-related impacts on the brine pool transition area are compared to existing conditions, which includes the shallow flood areas of the Dust Mitigation Program. Therefore consideration of bird data post-2002 is most reflective of existing conditions.

Response to Comment 2-5

As noted above, mitigation, including additional monitoring specifically for the brine pool transition area, is not proposed because significant environmental impacts are not identified. Since substantial evidence of significant effects has not been provided, LADWP's significance conclusions presented in the SEIR remain unchanged.

Cumulative effects of the LORP with other related projects, including the Owens Lake Dust Mitigation Program, have been considered in the Final EIR (LADWP, 2004a; Section 12) and the SEIR (Section 3.4.4, pages 3-74 to 3-76). Cumulative effects on snowy plover nesting habitat were not identified for these two projects. Furthermore, operation of Phase V of the Dust Mitigation Program would expand the shallow flood areas that currently serve as habitat for large numbers of shorebirds and waterfowl and are located in close proximity to the brine pool transition area.

Response to Comment 2-6

During the SEIR process, LADWP considered whether an Adaptive Management Plan specifically for the brine pool transition area, as requested in the Regional Board NOP comment letter, was needed for the project. Since no significant impacts to water quality and beneficial uses of the brine pool transition area have been identified, no mitigation, including monitoring or adaptive management, is necessary.

Response to Comment 2-7

Adaptive management related to pulse flows (as summarized in SEIR Section 3.4.6, page 3-77, and described in further detail in Sections 2.4.2.3 and 11.4.4 of June 2004 Final EIR; LADWP, 2004a), is not intended to and would not be implemented to ameliorate effects on the brine pool transition area. Adaptive management of pulse flows is intended to enhance the aquatic and wetland habitats of the Delta, and would be implemented based upon the triggers described in Section 2.4.2.2 of the Final EIR (LADWP, 2004a). Please also see Section 2.10 of the Final EIR (LADWP, 2004a) regarding the overall adaptive management strategies for the LORP.

Response to Comment 2-8

The statement on SEIR page 1-5 does not imply that impacts to portions of the brine pool transition area that are within the Delta are significant. The statement is intended to clarify that impacts to the Delta outside of the brine pool transition area, which were determined to be less than significant, were addressed in the Final EIR (LADWP, 2004a) and are not being re-evaluated in the SEIR. The subject of the SEIR is evaluation of impacts to the overall brine pool transition area, including, but not limited to, portions within the Delta. As discussed in SEIR Section 3.4, LADWP has determined that impacts to the brine pool transition area are less than significant, and therefore no mitigation is necessary.

Response to Comment 2-9

The last line on page 3-13 of the Draft SEIR is revised to read "no. R6V-2002-0011, adopted February 2002)."

CALIFORNIA ENVIRONMENTAL LAW PROJECT
A Non-Profit Legal Corporation

Comment Letter No. 3

Of Counsel

Laurens H. Silver, Esq.
P.O. Box 667
Mill Valley, CA 94942
Phone: 415.383-7734
Facsimile: 415.383.7995

February 6, 2006

VIA Facsimile and U.S. Mail
(760) 873-0266

Clarence Martin
City of Los Angeles, Dept. of Water and Power
300 Mandich Street
Bishop, CA 93514

Dear Mr. Martin:

The following are the general comments of the Sierra Club and OVC relating to the LORP SEIR. More detailed comments will be sent under separate cover today.

The SEIR uses as the environmental baseline for determining environmental impacts conditions existing at the time of the Notice of Preparation for the SEIR. The existing environment includes shallow water flooding in Zones 1 and 2 of the Owens Lake Dust Mitigation Program, which, according to the SEIR, provides substitute habitat for shorebirds, waterfowl, and other birds that no longer use the Brine Pool Transition Area.

3-1 Section 15125 of the CEQA Guidelines requires that the EIR "demonstrate that the significant environmental impacts of the proposed project were adequately investigated and discussed and it must permit the significant effects of the project to be considered in the full environmental context." (emphasis added)

The SEIR does not adequately investigate and discuss the significant environmental impacts of the project in a full environmental context. To evaluate the full effects of LORP in the appropriate environmental context, there must be evaluation of the impacts of LORP in the event the existing environment produced by shallow flooding in the dust control project changes. In fact, the text of the SEIR states that in the Brine Pool Transition Area, prior to initiation of the shallow flooding in Units 1 and 2, there was substantial use of the Overflow Area by wading

birds, shorebirds, and waterfowl. Western Snowy Plover nested in the area as well. SEIR at 3-42 et seq.

The shallow water flooding areas are not dedicated in perpetuity for habitat purposes. Under the Dust Mitigation Program, the City, without additional environmental documentation, under its existing authorizations, consistent with the State Implementation Plan, may at any time control dust through vegetation management or emplacement of gravel. See Board Order 031113-01 (pp 8-6 – 8-8).

Mr. Gewe testified at his deposition (in evidence in OVC Sierra Club v. City of Los Angeles) that the City's commitment is to control the dust coming from the Owen Lake bed "by whatever technology is cost effective and appropriate." .Mr. Gewe continued:

> "At the moment, we have found the most cost effective and appropriate technology for most of the lake is spreading; the remaining areas have been by managed vegetation. The mix of those could change with time, and new methods could come into play which could change the water use.

3-1 (Cont'd)

Deposition, Vol. II at 216 (emphasis added)

Mr. Gewe testified that the City was allowed to use [by the GBUAPCD] gravel to control dust but that the City had not used this means because it was not cost-effective. Vol. II, 216.

Mr. Gewe was then asked:

Q. So, I take it, in light of the testimony you just made that in future years the commitment…of water could be substantially less if alternative modalities, including management of vegetation were used.

A. It could be less.

Q. So that, in effect, there's no obligation on the part of the City in perpetuity to commit a certain amount of water to use on Owens Lake for purposes of dust control?

A. The Agreement has no mention of water. The Agreement mentions it will control dust.

Vol. II, 217-218.

Mr. Gewe further testified that given the approval process required to change measures, it would take lead time of approximately six years to shift to another control modality. Id.

The Courts have required that an EIR analyze all aspects of a project that are a reasonably foreseeable consequence of the Project. See Laurel Heights Improvement Ass'n v. Regents of Univ. of Cal. (1988) 47 C3d 376, in which the court set forth a general standard for determining when a future activity must be analyzed in the EIR for a project:

> "We hold that an EIR must include an analysis of the environmental effects of future expansion or other action if: (1) it is a reasonably foreseeable

consequence of the initial project, and (2) the future expansion or action will be significant in that it will likely change the scope or nature of the initial project or its environmental effects." 47 Cal.3d at 396.

Decisions that have applied the Laurel Heights standard have indicated that future activities must be analyzed if they are a reasonably foreseeable consequence of the project. In Kings County Farm Bureau v. City of Hanford (1990) 221 CA3d 692, the court applied the Laurel Heights test and concluded that describing a cogeneration plant as having a 20-year life span was proper. Although the facility might have the capacity to operate for 30 years, there was no evidence that the owner would operate the project beyond the 20-year Pacific Gas & Electric Company contract. Here, the LORP project is to take place in perpetuity; the Dust Mitigation Program contains particulate standards that may be achieved by means other than shallow flooding.

A future action related to the present project, LORP, would be cessation of the shallow water flooding in Zones 1 and 2, either because of a change in standards relating to PM^{10} particulates or because the City has decided to control dust through emplacement of gravel or through vegetation management.

3-1 (Cont'd)

Once LORP is finally approved after certification of the SEIR, future discretionary approvals will not be needed unless the project subsequently changes. Thus, in the event that the City shifts to another dust control strategy and no longer maintains the shallow water flooding habitat in Units one and two, and although that would likely result in significant impacts occurring in the Brine Pool Transition Area), the City would not be legally obligated to do an SEIR at that future time. Guideline § 15162(c).

The Guidelines require that although an "agency must use its best efforts to find out and disclose all it reasonably can." Guidelines, §15144. The Guidelines and statute require the Lead Agency to disclose significant impacts that may occur if the project is implemented. §21080(c). "May" means a reasonable possibility. See Pub. Res. Code §§21082(a), 21100,I 21151(a). See also League for Protection of Oakland's etc. Historic Resources v. City of Oakland (1997), 52 Cal.App.4th 896, 904-905.

Sierra Club and OVC believe it is legally required for the SEIR to consider what the environmental impacts of LORP would be in the event that there are changes in the Dust Mitigation Program that would significantly reduce or eliminate the "replacement" habitat. Such changes are clearly foreseeable, especially when the time-span of LORP is taken into account. In LORP, the City has dedicated 40 cfs flows, and a 200 cfs maximum habitat flow in perpetuity for restoration of the Lower-Owens River and the Delta Habitat Area, and for other restoration purposes, as mitigation for unquantified damage done as a result of its augmented ground-water pumping program, commenced in 1970.

Given the dedication of these flows in perpetuity, for habitat restoration purposes, it is incumbent on the City to consider now, in its SEIR, what foreseeable impacts may occur in the future with respect to the Brine Pool Transition Area, as defined in the SEIR. If such impacts

may occur, it is legally required that the City determine now whether such impacts will be significant and, if they are, to have a mitigation plan in place, at the time of certification of the SEIR, that will either commit to dedication of substitute habitat in perpetuity or restoration of flows to the Delta Habitat Overflow Area that will be adequate to restore and sustain the use of that area for shorebirds, wading birds, and waterfowl, as well as nesting habitat for snowy plovers, in the same manner as existed prior to initiation of Zone 1 and 2 shallow flooding.

3-1 (Cont'd) It is not unduly speculative that there may be a change in the federal regulations pertaining to PM^{10}. On January 17, 2006 EPA published proposed rules that would abolish federal requirements relating to dust control (fugitive dust) in rural areas of California. According to an LA Times article of January 18, 2006, the proposed rule would "particularly affect places such as the Owens Valley, which has the worst dust storms in the nation as a product of Los Angeles' draining of Owens Lake." See January 17, 2006 Fed. Reg. at ____. See www.epa.gov/oar/particlepollution/actions. These proposed rules would abolish PM^{10} standards in rural areas such as the Owens Valley. After opportunity for comments, EPA will promulgate a final rule.

The SEIR implies that damage to the Brine Pool Transition Area will be outweighed by the creation of shallow flooded areas in the Blackrock Waterfowl Habitat Area, rewatering of the river, and "increased summer flows to the vegetated portions of the Delta (SEIR, p. 3-69). Augmentation of habitat in the Blackrock Waterfowl Habitat Area, an rewatering of the River are part of the LORP project description. The LORP itself is a mitigation project to compensate for environmental damage done in the Owens Valley as a result of augmented groundwater pumping commenced in 1970. It is not lawful to use project features that are part of the project description as mitigation for environmental effects of the project in the Brine Pool Transition Area.

3-2 Under Guideline § 15126.4, an EIR must describe feasible measures which would minimize significant environmental impacts of the project. The project itself cannot serve as mitigation for its effects. The SEIR should not suggest that creation of habitat in the Blackrock Waterfowl Habitat Area in any manner can serve as adverse mitigation for impacts in the Brine Pool Transition Area.

Thank you for this opportunity to comment.

Laurens Silver
Donald Mooney
Oh behalf of Sierra Club
and Owens Valley Committee

Responses to Comment Letter No. 3
Laurens Silver and Donald Mooney
On behalf of Sierra Club and Owens Valley Committee

Response to Comment 3-1

The SEIR includes analyses of all aspects of LORP that are reasonably foreseeable consequences of the project. Modification of shallow flooding areas to alternative dust control methods is not a reasonably foreseeable consequence of LORP. Furthermore, while it is acknowledged that the SIP provides that LADWP may transition from one approved control method to another or identify a new control method (with approval from the GBUAPCD), no changes to the shallow flooding areas (either due to a transition to another control method or due to a change in air pollution regulations) are currently proposed aside from the planned modifications described in Sections 3.2.2.2 (Figure 3-5, page 3-14, and Table 3-3, page 3-15) and 3.4.4.1 (page 3-75) of the SEIR. The specifics of other future changes in the shallow flooding areas (including extent, timing, nature of the change, and effects on habitat), if any, cannot be defined, are too speculative to consider in the SEIR, and are therefore not part of the "full environmental context." If future modifications are considered "projects" under CEQA, appropriate environmental impact documentation would be prepared.

Response to Comment 3-2

As presented in SEIR Section 3.4.2.1, the impact of the project on the brine pool transition area was determined to be less than significant even without consideration of similar habitats that would be created by the LORP in the Blackrock Waterfowl Habitat Area, vegetated portions of the Delta, and in the River. Since no significant impacts were identified, no mitigation was described. Additional discussion of the benefits of the LORP in these other geographies was presented in keeping with the CEQA requirement to consider the whole of an action as compared to existing conditions, not to claim that the project benefits serve as mitigation for effects on the brine pool transition area.

Furthermore, as described in the Final EIR (LADWP, 2004a), implementation of LORP is conservatively estimated to result in a net increase of approximately 158 acres of open water and 749 acres of wetlands in the short-term (1 to 5 years); over the long-term (more than 5 years), wetlands in the riverine-riparian areas are expected to expand further (LADWP permit application material submitted to Regional Board, November 2004). These acreages far exceed both the quantified and unquantified impacts identified in the 1991 EIR (LADWP, 1991). The description of the LORP as a mitigation project contained in the 1991 EIR (page 5-22) was to rewater the river channel allowing for restoration of riparian vegetation along the river. The acreage of habitats to be restored under LORP is not specified in the 1991 EIR. It is noted in the 1991 EIR that LORP is intended to mitigate: less than 100 acres of riparian and meadow vegetation that was lost due to elimination of spring flow due to groundwater pumping (page 10-62); unquantified loss and reduction of marsh vegetation in the Thibaut-Sawmill area (page 10-69); and unquantified meadow and riparian vegetation that was supported by tailwater from formerly irrigated lands (page 10-64). For the Thibaut-Sawmill area, the Enhancement and Mitigation project that created the Off-River Lakes and Ponds has restored habitat in this area since 1986.

Comment Letter No. 4

Mark Bagley
Sierra Club MOU Representative
P.O. Box 1431
Bishop, CA 93515

Carla Scheidlinger
Owens Valley Committee President
P.O. Box 77
Bishop, CA 93515

February 6, 2006

Clarence Martin
City of Los Angeles, Department of Water and Power
300 Mandich Street
Bishop, CA 93514

Subject: Sierra Club and OVC comments on LORP Draft Supplemental EIR

Dear Mr. Martin:

The following are comments of the Sierra Club and the Owens Valley Committee relating to the LADWP Lower Owens River Project (LORP) Draft Supplemental Environmental Impact Report (DSEIR). In addition, a letter has been submitted under separate cover by Larry Silver and Don Mooney on behalf of the Sierra Club and Owens Valley Committee.

4-1

The DSEIR Impact Analysis Of The Summer Outflow To The Brine Pool Transition Area Is Inadequate

The DSEIR states that from April/May through September/October the brine pool transition area is dry (p. 1-2, 3-27, 3-65) and that approximately April through September there is typically no outflow from the Delta to the brine pool transition area (DSEIR p. 1-5, ¶ 2; 3-10, 3-11; 3-27; 3-65).

4-2

However, data presented on Table 3-5 contradicts these statements in regards to April and May outflows. Table 3-5 shows there were April surveys conducted in 1999-2002 and 2004-2005. In each year, outflow from the Delta was recorded in April. Of the 19 April observation days, outflow was occurring on 17 days and the two days with no outflow occurred in the same year. May surveys were conducted in 1996, 2000-2002 and 2004-2005. The 2000 survey result is ambiguous (this was on a single day in May), but in three of the remaining five years outflow from the Delta was recorded in May. In those five years, outflow was observed in the brine pool transition area on 6 of the 13 observation days.

The conclusion that operation of the pump station from April through September *"under LORP is not expected to result in substantial change to existing hydrologic conditions of*

the brine pool transition area (i.e., typically no outflow from the Delta) except during periods of higher flow releases (pluse flows and seasonal habitat flow bypass)" (DSEIR p. 3-65, 3-66) does not appear to match the data presented in the document for the months of April and May. From the data presented in Table 3-5, discussed above, flows to the Delta have regularly been observed in April and according to Figure 3-15, under senarios 1 and 3, average flows to the Delta would be reduced by approximately 45% in April. The data also indicate that outflows from the Delta occur in about half the years (Table 3-5) and according to Figure 3-15, under senarios 1 and 3, average flows to the Delta would be reduced by approximately 16% in May.

4-2 (Cont'd)

Migrating shorebirds in spring move through in a narrow window of time that generally peaks during the second half of April. Reductions in April and May flows to the transition to brine pool area under senarios 1 and 3 would affect these migrating birds (Figure 3-15). The DSEIR fails to address this.

Summer flows in July, August, and September are especially important for the fall migrating birds. Migratory non-breeding shorebirds return south as early as July 15, followed soon thereafter by breeding females, then breeding males and finally in September by the juvenile shorebirds. The peak of the "fall" shorebird migration is in the second half of August. Fall migration continues over a longer period of time than spring migration, continuing with the waterfowl to the end of October. The reductions in July, August and September flows to the transition to brine pool area under senarios 1 and 3 would affect these migrating birds (Figure 3-15). The DSEIR fails to address this.

The DSEIR Impact Analysis Of The Winter Reduction In Outflow To The Brine Pool Transition Area Is Inadequate

The DSEIR states (p. 3-10), regarding existing flows, *"...it is estimated that the outflows from the Delta toward the brine pool generally occur from October/November through March/April."* As discussed above, data in the DSEIR indicate that outflows may often continue well into or through April. The DSEIR states that from October through March flows to the Delta would be reduced from existing conditions by approximately 58% under all the sample senarios and the areal extent and depth of surface water in the brine pool transition area would be reduced except during the pulse flows. (DSEIR p. 3-66) A very substantial change from the existing average Delta hydrology is shown on Figure 3-15.

4-3

The DSEIR states (p. 3-69) *"within the context of existing conditions of the Owens Lake, the impact of reduced winter outflow to the brine pool transition area on the value of this alkali playa habitat would be less than significant."* The analysis in the DSEIR to support this conclusion is inadequate as discussed below.

The DSEIR Does Not Provide An Adequate Analysis Of The Extent Of The Reduction In Preproject Wildlife Habitat In The Brine Pool Transition Area. The DSEIR (p. 3-67) states, *"The reduction of surface water in the brine pool transition area during the colder months may have some effect on alkali fly populations, particularly in the transition months in spring and fall when temperatures are higher and more suitable for*

reproduction. However, since this is not optimal habitat for alkali flies, the change in flows during the colder months is not expected to substantially affect alkali fly populations (food source for birds that feed on insects)." Based on the information in the SDEIR on the reduction in flows to the Delta under the LORP during the period from October into April, it is reasonable to conclude that rather than having *"some effect on alkali fly populations"* the effect of the project would be quite substantial in reducing the extend of the surface water in the brine pool transition area and thus substantially reducing the habitat and therefore substantially reducing the alkali fly populations. This in turn would have an adverse affect on the waterbirds that feed primarily on the alkali fly, including fall and spring migrants and resident birds that overwinter in the area. The DSEIR conclusion that *" the change in flows during the colder months is not expected to substantially affect alkali fly populations"* is based on speculation and not on data presented in the document. A good case can be made from the data in the DSEIR that the project is likely to have a significant adverse affect on the alkali fly populations and thus on the waterbirds that feed on them.

4-3 (Cont'd)

The DSEIR does not estimate the area of the habitats used by waterbirds in the brine pool transition area. The estimate of the area of the braided channels, the rivulets with flowing water, discussed on p. 3-28 does not provide the full area of the habitat used by waterbirds. That estimate is also rather crude; as stated it is *"an order of magnitude estimate"* (DSEIR p. 3-28). The area below the Delta, shown on Figure 3-8, that is wetted by the outflow from the Delta is quite extensive, even compared to dust control Zones 1 and 2. Based on the observations of Mike Prather (pers. comm.) much of that area may be influenced by the relatively fresh water flowing from the Delta and may support brineflies and the waterbirds that feed on them. An adequate analysis of the area affected by the low winter flows is not included in the document. How much of a reduction in areal extent of the area is not addressed, other than to state it will be reduced, but not eliminated.

4-4

The DSEIR Lacks an Adequate Description of Existing Invertebrate Populations in the Brine Pool Transition Area and Therefore an Adequate Impact Analysis. No data was presented in the DSEIR and no inventory appears to have been conducted to determine the presence or absence or the extent and abundance of invertebrate species populations in the brine pool transition area. This lack of information precludes an adequate analysis of potential project impacts due to the reduction in outflow during the October-April (or May) period.

4-5

The DSEIR Analysis of Impacts to Waterfowl in the Brine Pool Transition Area is Faulty. The conclusion that *"reduction of surface water in the brine pool transition area in the winter would not substantially affect waterfowl species"* (DSEIR p. 3-69) does not take into account that the likely substantial reduction in the area with surface water will reduce the area that is attractive to waterfowl. It appears that the waterfowl prefer temoprary roosting and escape sites that are near surface water and not out in the middle of the dry playa. The DSEIR conclusion is also predicated on the statement (p. 3-68), *"Since early 2002, few waterfowl have been observed in the brine pool transition area."* However, data in Appendix B, Table shows that there were 1246 waterbirds observed on February 2, 2002, then on five observation days a total of 970 waterbirds (ranging from

4-5 (Cont'd)

0-774 per day) were observed March 11-May 24, 2002 when water was flowing from the Delta; there were no observation days in 2003 from February through July; there were no observation days in 2004; and in 2005 there were 9 observation days with a total of 580 waterbirds (ranging from 0-281 per day) between March 28 and May 13 when water was flowing from the Delta. The conclusion that few waterbirds use the brine pool transition area is based almost exclusively on the data from 2005. The analysis in the DSEIR did not do any statistical test on the data to check whether that conclusion is supported by the data and did not consider whether, in the single year of observations of few birds since the dust control projects were implemented (2005), the low numbers might be attributable to the high rainfall that winter and spring that may have dispersed the waterbird populations.

Comments and Conclusions Regarding Project Effects on Snowy Plover are Misleading and Speculative. The DSEIR states (p. 1-6), *"While small numbers of snowy plovers have been observed in the brine pool transition area, no nests have been seen since operation of the Zone 2 shallow flood area began in the beginning of 2002. Since invertebrate food production in the brine pool transition area would not be substantially affected and no snowy plovers are currently expected to nest in the brine pool transition area, implementation of the project would not adversely affect this species."*

The DSEIR also states (p. 3-51, last ¶), *"Since operation of the Zone 2 shallow flood area began in the beginning of 2002, snowy plover nests have not been observed in the brine pool transition area, presumably due to the large expanse of more preferred nesting habitat created by the shallow flooding."*

4-6

These statements appear to be misleading and the conclusion is totally speculative. The lack of observation of snowy plover nests in the brine pool transition area might more logically be explained by the fact, explained earlier in the same paragraph on p. 3-51, that no surveys were conducted in that area since then. To conclude from this, as in the DSEIR statement above, that the Zone 1 and 2 shallow flooding area have *"more preferred nesting habitat"* is based on no evidence presented in the document and is completely speculative and self-serving. The DSEIR goes on later to state (p. 3-69) that *"no birds are currently expected to nest in this (brine pool transition) area."* This, again, is complete speculation not based on any data because detailed surveys for nests have never been conducted over most of the brine pool transition area.

The statement (DEIR p. 1-6) that *"...invertebrate food production in the brine pool transition area would not be substantially affected..."* is not supported by any data in the document and is totally speculative. The admitted reductions in extent and depth of surface water in the transition to brine pool area due to the LORP actually suggest the opposite, that invertebrate food would decline in this area.

Observation data from the brine pool transition area, shows that Snowy plover were observed in the area in every year that surveys were conducted during periods when water was flowing from the Delta (see Table 1, below). Since the Zone 2 shallow flood area began in the beginning of 2002, the data shows that Snowy plover were observed in both years that surveys were conducted.

Table 1. Snowy plover observations in the brine pool transition area, 1996-2005 (from DSEIR Tables B-2, 4, 6, 8, 10, 12; water was flowing from the Delta on all of the observation dates listed).

Date	Number Observed
3/23/96	1
5/6/96	30
Subtotal for 1996	31
no surveys in 1997 or 1998	
8/24/99	1
9/12/99	1
10/23/99	3
Subtotal for 1999	5
3/25/00	4
4/2/00	9
4/21/00	8
5/20/00	12
12/21/00	2
Subtotal for 2000	35
4/10/01	3
4/15/01	16
4/22/01	7
Subtotal for 2001	26
1/13/02	20
2/2/02	1
5/3/02	13
Subtotal for 2002	34
No surveys in 2003 except in January, August and October.	
No surveys in 2004	
4/5/05	2
4/11/05	2
Subtotal for 2005	4

4-6 (Cont'd)

The DSEIR Does Not Adequately Address The Significant Environmental Impacts In A Full Environmental Context, Including Potential Changes to Existing Conditions. To evaluate the full effects of LORP in the appropriate environmental context, there must be evaluation of the impacts of LORP in the event the existing environment produced by shallow flooding in the dust control project changes.

In the FEIR for the LORP and the draft SEIR, it's noted that the Dust Mitigation program (part of an unrelated legal agreement to reduce the environmental impacts of dry lake dust) has provided new habitat for bird species that were using the brine pool transition area (see DSEIR pages 1-5, 3-12, 3-13, 3-41, 3-42, and 3-67 to 3-69). Although it is admitted in the DSEIR that, before the advent of the Dust Mitigation project, *"hundreds to thousands"* of birds were observed in the brine pool transition area (pages 3-67 and 3-68), it is asserted that loss of that area would not be a significant impact because dust mitigation projects provide a replacement for the habitat that would be lost.

4-7

Under rules of the current dust control project, however, such habitat could be converted to managed vegetation (saltgrass) or gravel as alternative dust control measures. LADWP is only currently required to maintain approximately 1,152 acres as shorebird habitat (see p. 3-13 of SEIR), but that is mitigation for dust control project impacts to previously existing wetlands in other areas of the lake bed. This is mitigation for impacts unrelated to the LORP. Management methods for the rest of the dust control areas could easily change if flooding becomes more expensive than other methods. Because the LORP is a mitigation measure that should be maintained in perpetuity, it's disingenuous to imply that the other habitat will be available in perpetuity and that consequently the brine pool transition area is redundant.

For additional comment on this issue, see the February 6, 2005 SDEIR comment letter from Larry Silver, attorney for Sierra Club, and Don Mooney, attorney for Owens Valley Committee. Attached to the current letter are two items referenced in the Silver and Mooney letter: Attachment A, excerpts from the deposition testimony of Gerald Gewe, in evidence in Sierra Club and OVC v City of Los Angeles (No. S1CVCV01-29768, Inyo Co. Superior Court); and Attachment B, Great Basin Unified Air Pollution Control District Order 031113-01 (Implementation of PM_{10} Control Measures on the Owens Lake Bed).

The DSEIR Impact Analysis Improperly Uses The LORP As Mitigation For Impacts Of The LORP. The DSEIR states that overall, habitat for waterfowl, wading birds, and shorebirds will be increased after implementation of LORP (DSEIR p. 1-6, ¶ 2). It should as this project is a required mitigation measure for environmental impacts due to LADWP groundwater pumping in the Owens Valley. The DSEIR states (p. 3-69),

4-8

apparently as another reason why no mitigation is required for the impact of reduced winter outflow to the brine pool transition area, that the LORP will increase habitats for waterbirds by creating *"...shallow flooded areas in the Blackrock Waterfowl Habitat Area, rewatering of the Rive, and increased summer flows to the vegetated portions of the Delta..."* Enhancement and creation of habitat in the Blackrock Waterfowl Habitat Area, maintenance and enhancement of existing Delta wetlands, establishment and maintenance

of new Delta wetlands, and rewatering of the River are part of the LORP project description.

4-8 (Cont'd) The creation of new habitat by the LORP is meant to make up for previous damage to habitat, not to mitigate for further future damage to habitat. Furthermore, the destruction of the brine pool transition area is neither a necessary or unavoidable effect of creating this new habitat. For additional comment on this issue, see the February 6, 2005 SDEIR comment letter from Larry Silver, attorney for Sierra Club, and Don Mooney, attorney for Owens Valley Committee.

Impacts Of The October-April Reduction In Outflow To The Brine Pool Transition Area, And Possible Reductions in May, July And August, Are A Violation Of Lahontan RWQCB Basin Plan Policies

The Lahontan Regional Water Quality Control Board stated in comments on NOP (p. 2 of letter presented in the DSEIR Appendix A) that, *"In the Final EIR, it was estimated that 35% less water will pass to the Delta Habitat Area than the current or recent annual average flow rate of about 11 cubic feet per second (cfs), which will likely cause a decrease in shorebird habitat in the brine pool transition area. This is contrary to policies of the Regional Board to maintain existing beneficial uses of state waters, including habitat for terrestrial and aquatic life forms. Effects of reduced water flow on beneficial uses include reduced habitat (area), impaired habitat (value) and reduced freshwater inputs that may increase salt concentration."*

4-9

The DSEIR states the under CEQA Guidelines, Appendix G, the proposed project would have significant impacts on biological resources if it would *"have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service."* (DSEIR p. 3-58)

Contrary to the statement on DSEIR p. 3-35, the proposed operation of the LORP pump station will result in substantial reductions in water flowing to the transition to brine pool area and will be in conflict with the Lahontan RWQCB policies in the Basin Plan regarding protecting beneficial uses of the aquatic habitats on Owens Lake (see DSEIR Table 3-6). The DSEIR should acknowledge a significant impact to biological resources due to this violation of the Basin Plan.

Impacts Of The Winter Reduction In Outflow To The Brine Pool Transition Area Are Not a Necessary Consequence of the LORP

LADWP's primary goal in managing the Delta still appears to be minimizing outflows to the brine pool transition area rather than attaining MOU goals. Impacts to the brine pool transition area are a consequence of that management plan rather than a necessary consequence of the LORP.

4-10

Base flows to the Delta Habitat Area are to be established in the first year of the project. DWP proposes to manage flows to the Delta so that a maximum daily amount of 0.5 cfs flows out of the "vegetated portion" of the Delta Habitat Area to the brine pool transition

area. The rationale for that amount is described in the FEIR, section 2.4.1, p. 2-31: *"...it is the smallest flow rate that can be measured reliably and can be used to confirm that water is overflowing from the Delta Habitat Area"* (or more accurately, the vegetated portion of the Delta Habitat Area). LADWP confirms its commitment to this rationale on pages 3-59, 3-62, 3-63, and 3-64 of the DSEIR. Thus, the primary goal appears to be to minimize water use rather than to maintain and enhance the Owens River Delta Habitat Area, which includes part of the soon-to-be-stranded brine pool transition area.

However, MOU goals for the Owens River Habitat Area are to enhance and maintain existing habitat and to establish new habitat, not to minimize flows to existing habitat. To review the goals of the 1997 MOU:

1. From MOU Section IIC2, p. 14: For the Owens River Delta Habitat Area, *"The goal is to enhance and maintain approximately 325 acres of existing habitat...and to establish and maintain new habitat..."*
2. From MOU Section IIC2, p. 15: For the Owens River Delta Habitat Area, *"The plan will recommend how existing habitats should be maintained, which existing habitats should be enhanced, what new habitats should be established, and how the water should be released and used so that these habitats are maintained in a healthy ecological condition."*

4-10 (Cont'd)

Nowhere does the MOU state that the first goal of Delta management should be to minimize water going to the Delta, regardless of the effect it has on the area. Even if the brine pool transition area weren't part of the Delta, and the upper portion of it is, flows should be managed for the health of the Delta, not to eliminate the water flowing out of it.

The DSEIR states that habitat quality in the Delta will be enhanced by the LORP (Section 3.4.3.1, p. 3-73, ¶ 2). At best, current habitat will be maintained rather than enhanced. The amount of water flowing to the Delta and to the transition to brine pool area will decrease under the LORP and therefore any expected vegetation increase in the Delta is highly speculative. If vegetation does somehow increase by 10 percent or more during a three-year period and there is an increase in "the habitat suitability index" (an as-yet undefined parameter in the FEIR) of 20% or more at five-year measurement intervals, flows to the Delta will be reduced (p. 2-31, section 2.4.2.2, FEIR v.1). Thus the management goal is to more or less maintain existing Delta vegetation and not *"to establish and maintain new habitat consisting of riparian areas and ponds..."* as stated in the 1997 MOU (p. 14). By asserting that potential impacts to the transition to brine pool area are not significant, the only thing to manage in the future under the proposed plans is maintaining the Delta vegetation, regardless of the consequences to the transition to brine pool area.

Monitoring Of Outflow To The Brine Pool Transition Area Is Inadequate

4-11

Base flows to the Delta Habitat Area are to be established in the first year of the project. LADWP proposes to manage flows to the Delta so that a maximum daily amount of 0.5 cfs flows out of the "vegetated portion" of the Delta Habitat Area to the brine pool transition area. There is a great deal of uncertainty with this approach and there should

4-11 (Cont'd) be a longer monitoring period, for at least 3-5 years, to make sure that the new hydrologic regime is behaving as predicted.

Thank you for the opportunity to comment on this important project.

Sincerely,

Mark Bagley
Sierra Club

Mark Bagley for
Carla Scheidlinger
Owens Valley Committee

Sierra Club and Owens Valley Committee
LORP DSEIR Comments

Attachment A

CERTIFIED COPY

SUPERIOR COURT OF CALIFORNIA

FOR THE COUNTY OF INYO

SIERRA CLUB AND OWENS VALLEY COMMITTEE,	)	
PLAINTIFFS/PETITIONERS,	)	
VS.	)	NO. S1CVCV01-29768
CITY OF LOS ANGELES; LOS ANGELES DEPARTMENT OF WATER AND POWER; BOARD OF COMMISSIONERS OF THE DEPARTMENT OF WATER AND POWER; GERALD GEWE; GENE COUFAL; AND DOES 1-50,	)	
DEFENDANTS.	)	

VOLUME II

DEPOSITION OF GERALD GEWE

LOS ANGELES, CALIFORNIA

THURSDAY, MARCH 17, 2005

REPORTED BY:

BARBARA A. STAUFFER, RPR
CSR NO. 12282

JOB NO.
41089DOJ

LUDWIG KLEIN
REPORTERS & VIDEO, INC.
10868 KLING STREET
TOLUCA LAKE, CALIFORNIA 91602
800.540.0681 FAX 818.508.6326
e-mail: lois@ludwigklein.com

SUPERIOR COURT OF CALIFORNIA

FOR THE COUNTY OF INYO

SIERRA CLUB AND OWENS VALLEY COMMITTEE,	)
PLAINTIFFS/PETITIONERS,	)
VS.	) NO. S1CVCV01-29768
CITY OF LOS ANGELES; LOS ANGELES DEPARTMENT OF WATER AND POWER; BOARD OF COMMISSIONERS OF THE DEPARTMENT OF WATER AND POWER; GERALD GEWE; GENE COUFAL; AND DOES 1-50,	)
DEFENDANTS.	)

DEPOSITION OF GERALD GEWE, VOLUME II, TAKEN ON BEHALF OF CROSS-COMPLAINANTS AT 111 NORTH HOPE STREET, THIRD FLOOR, LOS ANGELES, CALIFORNIA, COMMENCING AT 7:51 A.M. ON THURSDAY, MARCH 17, 2005, BEFORE BARBARA A. STAUFFER, RPR, CSR NO. 12282, A CERTIFIED SHORTHAND REPORTER IN AND FOR THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA.

VOLUME II

APPEARANCES:

FOR THE PLAINTIFF SIERRA CLUB:

CALIFORNIA ENVIRONMENTAL LAW PROJECT
BY: LAURENS H. SILVER
ATTORNEY AT LAW
208 RICHARDSON DRIVE
MILL VALLEY, CALIFORNIA 94941
415.383.5688

FOR THE PLAINTIFF OWENS VALLEY COMMITTEE:

LAW OFFICE OF DONALD B. MOONEY
BY: DONALD B. MOONEY
ATTORNEY AT LAW
129 C STREET
SUITE 2
DAVIS, CALIFORNIA 95616
530.758.2377

FOR THE STATE CROSS-COMPLAINANTS:

OFFICE OF THE ATTORNEY GENERAL
BY: GORDON B. BURNS
DEPUTY ATTORNEY GENERAL
1300 I STREET
SUITE 1101
P.O. BOX 944255
SACRAMENTO, CALIFORNIA 94244-2550
916.324.3081

FOR THE DEFENDANT THE DEPARTMENT OF WATER AND POWER; AND THE WITNESS:

DEPARTMENT OF WATER AND POWER
BY: ARTHUR WALSH (SPECIAL COUNSEL)
DEPUTY CITY ATTORNEY
111 NORTH HOPE STREET
ROOM 340
P.O. BOX 51111
LOS ANGELES, CALIFORNIA 90051
213.367.4509

ALSO PRESENT: JON SEIDEL, VIDEOGRAPHER

VOLUME II

I N D E X

E X H I B I T S

QUESTIONS MARKED

(NONE)

INFORMATION TO BE SUPPLIED

(NONE)

MR. MOONEY: DO YOU WANT ME TO -- 09:16:00
THE VIDEOGRAPHER: SHALL WE GO OFF THE 09:16:00
RECORD FOR A SECOND? 09:16:04
MR. MOONEY: GO OFF THE RECORD. 09:16:05
THE VIDEOGRAPHER: OFF THE RECORD. THE 09:16:05
TIME IS 9:16. 09:16:06
(BRIEF RECESS.) 09:18:15
THE VIDEOGRAPHER: WE ARE BACK ON THE 09:18:15
RECORD. THE TIME IS 9:18. 09:18:20
09:18:26
EXAMINATION 09:18:26
BY MR. SILVER: 09:18:26
Q SO, MR. GEWE, I JUST HAVE SOME 09:18:26
MISCELLANEOUS QUESTIONS SOMEWHAT BASED ON YOUR 09:18:29
PREVIOUS TESTIMONY. I'D LIKE TO BEGIN, WITH RESPECT 09:18:33
TO THE DUST-CONTROL PROJECT. WHAT IS YOUR 09:18:38
UNDERSTANDING CONCERNING THE COMMITMENT OF -- BY THE 09:18:42
CITY OF LOS ANGELES TO PROVIDING WATER FOR DUST 09:18:44
CONTROL ON THE LAKE IN FUTURE YEARS? AND BY THAT 09:18:48
QUESTION I'M PARTICULARLY REFERRING TO WHETHER OR 09:18:52
NOT YOU SEE THAT AS A COMMITMENT OVER AN INDEFINITE 09:18:56
PERIOD OF TIME? OR WHETHER OR NOT THAT MAY BE A 09:19:01
COMMITMENT THAT CHANGES IN LIGHT OF ALTERNATIVE 09:19:03
MODALITIES FOR HANDLING THE DUST-CONTROL PROBLEM? 09:19:07
A L.A.'S COMMITMENT IS TO CONTROL THE DUST 09:19:11

BY WHATEVER TECHNOLOGY IS COST EFFECTIVE AND APPROPRIATE. AT THE MOMENT, WE HAVE FOUND THE MOST COST EFFECTIVE AND APPROPRIATE TECHNOLOGY FOR MOST OF THE LAKE IS SPREADING. THE REMAINING AREAS HAVE BEEN BY MANAGED VEGETATION. THE MIX OF THOSE COULD CHANGE OVER TIME, AND NEW METHODS COULD COME INTO PLAY WHICH WOULD CHANGE THE WATER USE. 09:19:15 09:19:20 09:19:24 09:19:26 09:19:29 09:19:34 09:19:37

WE ALSO STILL HAVE A BELIEF THAT IT WILL BE APPROPRIATE AT SOME POINT IN TIME TO PUMP SUBPOTABLE WATER UNDERNEATH THE LAKE SERVICE TO DISPLACE A PORTION OF THE CURRENT POTABLE SUPPLY THAT IS GOING TO THE LAKE. SO THIS IS AN OPEN BOOK SUBJECT TO FURTHER LEARNING. THIS IS THE FIRST PROJECT OF ITS KIND IN THE WORLD. AND WE'RE LEARNING AS WE GO. 09:19:39 09:19:42 09:19:44 09:19:49 09:19:52 09:19:54 09:19:57 09:20:00

Q AND WERE THERE OTHER MODALITIES, INCLUDING THE LAYING OF SOME KIND OF GRAVEL TOGETHER WITH MANAGED VEGETATION, ALSO TO CONTROL DUST ON THE LAKE? 09:20:02 09:20:04 09:20:08 09:20:12

A WE DID HAVE PERMISSION FROM THE GREAT BASIN DISTRICT TO USE GRAVEL TO CONTROL IT; HOWEVER, AS OUR SCIENTISTS RESEARCHED IT, IT DID NOT APPEAR TO BE COST EFFECTIVE AND POTENTIALLY NOT EVEN EFFECTIVE IF YOU DID NOT TOTALLY CONTROL THE DUST ADJACENT TO THE GRAVEL SUCH THAT THE DUST PARTICLES 09:20:13 09:20:15 09:20:20 09:20:24 09:20:28 09:20:32

COULD GROW BACK WITHIN THE GRAVEL AND BLOW OFF AND YOU'D HAVE TO REPLACE THE GRAVEL AGAIN. 09:20:36 09:20:37

Q SO IN YOUR EARLIER TESTIMONY, WHEN YOU MENTIONED THE NUMBER OF ACRE-FEET -- AND I DON'T RECALL THE -- WAS THERE AT ONE POINT A MENTION THAT THIS DOES -- OR HAS COST THE CITY AS MUCH AS 60,000 ACRE-FEET -- 09:20:40 09:20:42 09:20:44 09:20:47 09:20:51

A 60,000 -- 09:20:54

Q -- IN A YEAR? 09:20:54

MR. WALSH: WAIT TILL HE FINISHES HIS QUESTION. 09:20:55 09:20:56

MR. SILVER: I THINK I DID FINISH MY QUESTION. 09:20:58 09:20:59

Q WAS IT PART OF YOUR EARLIER TESTIMONY THAT YOU SAID THAT IN SOME PREVIOUS YEAR THERE WAS COMMITMENT OR USE OF 60,000 ACRE-FEET? 09:21:00 09:21:02 09:21:05

A 60,000 ACRE-FEET IS THE ESTIMATE AT BUILD-OUT WITH THE CURRENT TECHNOLOGIES. THE CURRENT NUMBER -- I BELIEVE MY NUMBER I GAVE WAS AROUND 40,000. 09:21:08 09:21:10 09:21:14 09:21:16

Q RIGHT. SO I TAKE IT, IN LIGHT OF THE TESTIMONY THAT YOU JUST MADE, THAT IN FUTURE YEARS THE COMMITMENT COULD BE -- OF WATER COULD BE SUBSTANTIALLY LESS IF ALTERNATIVE MODALITIES INCLUDING MANAGEMENT OF VEGETATION WERE USED? 09:21:18 09:21:19 09:21:23 09:21:26 09:21:30

Sierra Club and Owens Valley Committee
LORP DSEIR Comments

Attachment B

8.2 THE BOARD ORDER

The following order of the Great Basin Unified Air Pollution Control District is incorporated into this State Implementation Plan and constitutes an integral part thereof.

BOARD ORDER # 031113-01
Implementation of PM_{10} Control Measures on the Owens Lake Bed

With regard to the control of PM_{10} emissions from the bed of Owens Lake, the governing Board of the Great Basin Unified Air Pollution Control District (District) orders the City of Los Angeles (City) as follows:

PREAMBLE

WHEREAS, the Owens Valley PM_{10} Planning Area Demonstration of Attainment State Implementation Plan (1998 SIP), dated November 16, 1998, requires a series of actions to reduce particulate emissions from the Owens Lake bed so that the Owens Valley Planning Area (OVPA) will attain and maintain the National Ambient Air Quality Standards (NAAQS) for particulate matter (PM_{10}) by the statutory deadlines, including a revision to the 1998 SIP in 2003;

WHEREAS, the District is required by law to maintain its discretion to protect the environment, public health and safety, and this Order is intended to fulfill those duties without improperly constraining that lawful exercise of discretion;

WHEREAS, in consideration of the District's continuing duties under federal and state law, including but not limited to the Clean Air Act, to control particulate emissions from the Owens Lake bed without interruption, the District intends, if this Order is stayed or disapproved, that Board Order #981116-01 shall immediately be in effect so that at all times there will be continuous control of these emissions;

WHEREAS, the District thereby intends that if this Order is stayed due to a legal challenge, including but not limited to a challenge to this Order under Health and Safety Code Section 42316, to the State Implementation Plan, or to the Environmental Impact Report for this revised SIP, or if this Order is disapproved by the California Air Resources Board, the District will revert to enforce the terms of Board Order #981116-01 which shall immediately be in effect and shall remain in full force for the duration of any stay or, in the case of disapproval, until another Order is issued by this Board; and

WHEREAS, to prevent the deterioration of air quality due to dismantling or "backsliding" on control measures that have already been implemented before any such stay or disapproval, the District intends that the City shall continue to continuously operate and maintain all control measures already implemented at the time of any such stay or disapproval without interruption, unless and until a further Order of the District allows for such interruption, if the City has not appealed the control measures under Section 42316 within 30 days of the effective date of this Order, and if those control measures were not invalidated as a result of that appeal;

IT IS HEREBY ORDERED as follows:

ORDER

1. **Requirement for controls** – From the date of adoption of this order until December 31, 2002, the City shall continue to operate and maintain PM_{10} control measures, as described in Paragraph 2 hereof, on 13.5 square miles of the Owens Lake bed within the approximately 29.8 square mile envelope shown in Exhibit 1. The City shall complete implementation of PM_{10} control measures, as described in Paragraph 2 hereof, on 16.5 square miles of the Owens Lake bed within the approximately 29.8 square-mile envelope shown in Exhibit 1 by December 31, 2003, and complete implementation of PM_{10} control measures as described in Paragraph 2 hereof on the entire approximately 29.8 square miles of the Owens Lake bed shown in Exhibit 1 by December 31, 2006. Upon implementation, the City shall continuously operate and maintain the control measures without interruption to comply with the performance standards set forth in the Control Measures descriptions contained in this Order.

Control measures - The City shall implement Best Available Control Measures (BACM) for PM_{10} as set forth in this Order, described herein in the section entitled "Control Measures." To complete implementation of a specified control measure by a date as required by this Order means that the control measure shall be constructed, installed, operated and maintained so as to comply with the performance standards for the specified control measure not later than 5:00 p.m. on the required date.

3. **Contingencies – Supplemental Control Measures** - At least once in 2004, and in each subsequent calendar year, the District's Air Pollution Control Officer (APCO) will make a written determination as to whether any areas, in addition to those described in Exhibit 1, meet the criteria set out in Paragraph 4 of this Order and thereby automatically require air pollution control measures in order to attain or maintain compliance with the NAAQS for PM_{10}. In making that determination, the APCO shall employ the methods described in Paragraph 4 of this Order.

   A. If the APCO determines under this Paragraph that additional areas require air pollution control measures, the APCO shall issue a written directive to the City informing them that the automatic provisions of Paragraph 4 of the Order require the City to implement, operate and maintain air pollution control measures on additional areas of the Owens Lake bed. The directive will include information on how the control measures as applied to the additional areas were analyzed under the California Environmental Quality Act (CEQA) and suggest any further action necessary for the City to comply with CEQA for such control measures.

   B. Unless the procedure for issuance of the written directive by the APCO, as provided in Paragraph 4 of this Order, is appealed by the City under Health & Safety Code Section 42316 within 30 days of the issuance of this Order, and unless the procedure is invalidated as a result of that appeal, any such directive is not, and shall not be construed to be, a further requirement for mitigation measures that may be appealed to the California State Air Resources Board

under that Section. The District acknowledges that the issuance of such a directive is final agency action subject to challenge by the City in state court for review under the abuse of discretion standard.

C. Paragraph 4 fixes the period of time within which the implementation of the additional control measures must be completed. Upon implementation, the City shall continuously operate and maintain, without interruption, the control measures to comply with performance standards set forth for such measures in the control measure descriptions contained in this Order.

4. **Criteria for Determining Additional Controls** - The criteria and methods for making the determinations described in Paragraph 3 shall be those described in detail in Exhibit 2. Where Exhibit 2 and/or its attached protocols provide for actions to be authorized by joint agreement of the parties, neither party shall be obligated to agree.

5. **Adjustments to BACM and Transitions of Implemented Control Measures** - This Order further provides for the City to transition from one control measure to another provided that, at all times, the performance standards of one or the other control measure are continuously met during the transition to assure that the transition shall not prevent the OVPA from attaining or maintaining the NAAQS for PM_{10}. This Order also provides for adjustments to BACM. The absence of a stable BACM description due to the terms of this Paragraph precludes the application of the U.S. Environmental Protection Agency's Natural Events Policy for any purpose under this Order. The APCO shall have full discretion to consider any such application for a change in BACM, and to accept, reject or condition its approval of such application. Non-compliance with any such condition shall be enforceable as noncompliance with a District Order. Without limiting the District's discretion as provided herein, the procedures for transitions of implemented control measures or adjustments to BACM shall be those described in Exhibit 3.

6. **Alternative Methods for Supplemental Controls** - Notwithstanding any other provision of this Order, the District shall maintain its ability under Health and Safety Code Section 42316 to order the City to implement additional controls, and/or to control additional areas of the lake bed, to prevent the OVPA from failing to attain or maintain the NAAQS for PM_{10} if circumstances arise that are not specifically addressed in Paragraphs 3 or 5 of this Order.

7. **Relationship to Board Order 981116-01** - The District hereby stays the force and effect of Board Order 981116-01 for all times that this Order is in full force and effect. In the event this Order, or any provision of this Order, is stayed due to a legal challenge, including but not limited to a challenge to this Order under Health & Safety Code Section 42316 or any other law, to the State Implementation Plan, or to the Environmental Impact Report for this Revised SIP, or in the event the Order is disapproved by the California Air Resources Board, the following shall apply:

A. If the stay or disapproval causes Paragraph 1 of this Order to cease its operative force and effect, Board Order #981116-01 shall immediately be in effect and shall remain in full force for the duration of any stay or, in the case of disapproval, until another Order is issued by this Board. In addition, the City

shall continue to operate and maintain without interruption all control measures already implemented in any area if those control measures were not appealed under Health & Safety Code Section 42316 within 30 days of the date of this Order, and if those measures were not invalidated as a result of that appeal.

B. If the stay or disapproval causes Paragraph 3 and/or 4 of this Order to cease its operative force and effect, but does not affect Paragraph 1 of this Order, the City shall continue to operate and maintain all control measures already implemented without interruption. Board Order # 981116-01 Paragraphs 7 and 9 (as supplanted by the Control Measures provided for in this Order) shall immediately be in effect and shall remain in full force for the duration of any stay, along with any other terms of this Order that are not stayed or disapproved.

C. If the stay or disapproval does not affect Paragraphs 1, 3, or 4 of this Order, those Paragraphs and any other terms of this Order that are not stayed or disapproved shall be in effect, and shall remain in full force for the duration of any stay. The City shall continue to operate and maintain, without interruption, all control measures already implemented.

D. If a stay of this Order is imposed, then lifted so that this Order is in effect, the City shall, within one year after the lifting of the stay, meet all requirements and deadlines set by this Order as if no stay had been imposed. The City shall not remove or decrease any control measures during this one-year period without the express written permission of the APCO, and the provisions of Board Order 981116-01 shall again be stayed. If the stay of this Order is only partially lifted such that any portion of this Order remains stayed, Board Order 981116-01 shall remain in effect as provided under Paragraphs 7.A., 7.B. and 7.C herein.

Control Measures

Shallow Flooding

The "shallow flooding" dust control measure will apply water to the surface of those areas of [illegible]ked where shallow flooding is used as a dust control measure. Water shall be applied in amounts and by means sufficient to achieve the following performance standard commencing on October 1 of each year, and ending on June 30 of the next year: at least 75 percent of each square mile of the designated areas shall continuously consist of standing water or surface-saturated soil, substantially evenly distributed. If a contiguous shallow flood dust control area is less than one square mile, 75 percent of the entire contiguous area shall consist of standing water or surface-saturated soil. Aerial photography, satellite imagery or other methods approved by the APCO shall be used to confirm coverage.

The following portions of the areas designated for control with shallow flooding are exempted from the requirement of 75 percent saturated surface:

1) raised berms, roadways and their shoulders necessary to access, operate and maintain the control measure which are otherwise controlled and maintained to

render them substantially non-emissive and

2) raised pads containing vaults, pumping equipment or control equipment necessary for the operation of shallow flooding infrastructure which are otherwise controlled and maintained to render them substantially non-emissive.

"Substantially non-emissive" shall be defined to mean that the surface is protected with gravel, durable pavement or other APCO-approved surface protections sufficient to meet the requirements of District Rules 400 and 401 (visible emissions and fugitive dust).

Process surface waters and shallow groundwaters above the annual average water table before the construction that reach the lower boundary of the dust control areas will be collected and recirculated for reapplication to dust control areas or otherwise discharged. The dust control measure areas will have lateral boundary edge berms and/or drains as necessary to contain excess waters in the control areas and to isolate the dust control measure areas from each other and from areas not controlled. If drains are used, they shall be designed and constructed so that they may be regulated such that groundwater levels, surface water extent and wetlands in adjacent uncontrolled areas are not impacted.

The City shall remove any exotic pest plants, including salt cedar (*Tamarix ramosissima*), that invade any of the areas designated for control by shallow flooding. As necessary to protect human health, the City shall prevent, avoid and/or abate mosquito and other pest vector breeding and swarming in and around the control areas by effective means that minimize adverse effects upon adjacent wildlife.

Managed Vegetation

In areas where "managed vegetation" is used as a dust control measure, the following performance standard shall be achieved commencing on October 1 of each year, and ending on June 30 of the next year: substantially evenly distributed live or dead vegetation coverage of at least 50 percent on each acre designated for managed vegetation. Vegetation coverage shall be measured by the point-frame method, by ground-truthed remote sensing or by other methods approved by the APCO. The vegetation shall consist only of locally-adapted native species approved by the APCO or species approved by both the APCO and the California State Lands Commission. To date, the only locally-adapted native species approved by the APCO is saltgrass (*Distichlis spicata*).

The following portions of the areas designated for control with managed vegetation are exempted from the requirement of 50 percent vegetative coverage:

1) portions consistently inundated with water, such as reservoirs, ponds and canals,

2) roadways and equipment pads necessary to access, operate and maintain the control measure which are otherwise controlled and maintained to render them substantially non-emissive, and

3) portions used as floodwater diversion channels or desilination/retention basins.

"Substantially non-emissive" shall be defined to mean that the surface is protected with gravel, durable pavement or other APCO-approved surface protections sufficient to meet the requirements of District Rules 400 and 401 (visible emissions and fugitive dust).

Excess surface waters and shallow groundwaters above the root zone depths that reach the lower boundary of the dust control areas will be collected and recirculated for reapplication to dust control areas or otherwise discharged. The dust control measure areas will have lateral boundary edge berms and/or drains as necessary to contain excess waters in the control areas and to isolate the dust control measure areas from each other and from areas not controlled. Drains shall be designed and constructed so that they may be regulated such that groundwater levels, surface water extent and wetlands in adjacent uncontrolled areas are not impacted.

To protect the managed vegetation control measure from flooding, the City shall incorporate stormwater control facilities (e.g. weirs, channels, drains and spillways) into and around managed vegetation areas adequate to maintain the dust mitigation function of managed vegetation, and outlet flood waters into the Owens Lake brine pool, shallow flood areas, or reservoirs. The drains and channels shall be designed to incorporate features such as desiltation/retention basins that are adequate to capture the alluvial material carried by flood waters and to avoid greater than normal deposition of this material into the Owens Lake brine pool.

The City shall remove any exotic pest plants, including salt cedar (*Tamarix* spp.), that invade any of the areas designated for control by managed vegetation. As necessary to protect human health, the City shall prevent, avoid and/or abate mosquito and other pest vector breeding and swarming in and around the control areas by effective means that minimize adverse effects upon adjacent wildlife.

Gravel Cover

In areas where gravel is used as a control measure, the City shall meet the following performance standard: one hundred percent of the control area shall be covered with a layer of gravel at least four inches thick. All gravel material placed must be screened to a size greater than one-half inch (½ inch) in diameter. Where it is necessary to support the gravel blanket, it shall be placed over a permanent permeable geotextile fabric. The gravel shall have resistance to leaching and erosion. It shall be no more toxic than the gravel from the Keeler fan site analyzed by the District in the Final Environmental Report prepared for the 1997 SIP. To minimize visual impacts, all gravel used shall be comparable in coloration to the existing lake bed soils.

To protect the gravel control measure from flooding, the City shall incorporate drains and channels into and around the control measure areas adequate to maintain the dust mitigation function of the gravel, and outlet flood waters into the Owens Lake brine pool, shallow flood areas, or reservoirs. The drains and channels shall be designed to incorporate features such as desiltation or retention basins that are adequate to capture the alluvial material carried by the flood waters and to avoid greater than normal deposition of this material into the Owens Lake brine pool.

The gravel placement design and implementation shall adequately protect the graveled areas from the deposition of wind- and water-borne soil or infiltration of sediments from below. All graveled areas will be visually monitored to ensure that the gravel blanket is not filled with sand, dust or salt and that it has not been inundated or washed out from flooding. If any of these conditions are observed over areas larger than one acre, additional gravel will be

transported to the playa and applied to the playa surface such that the original blanket performance standard is maintained. The City will apply best available control measures [illegible] and New Source Performance Standard (NSPS) emission limits to its gravel mining and transportation activities occurring within the District's geographic boundaries as required by the District in the City's District-issued Authority to Construct and Permit to Operate.

Increment 2 Extreme Violators

On areas 25 and 26 in Exhibit 1, the City shall implement one of the Control Measures listed below, and described in this Section, above, to achieve 99.5 percent PM_{10} control effectiveness. On area 27 in Exhibit 1, the City shall implement one of the Control Measures listed below and described in this Section, above, to achieve 99.75 percent control effectiveness.

1) Gravel, or
2) 100 percent coverage with shallow flooding, or
3) Enhanced managed vegetation with greater than 50 percent cover with sand flux and/or PM_{10} monitoring to determine if the daily minimum control efficiency of 99.5 percent or 99.75 percent control effectiveness has been achieved, or
4) Enhanced shallow flood with greater than 75 percent water cover with sand flux and/or PM_{10} monitoring to determine if the daily minimum control efficiency of 99.5 percent or 99.75 percent control effectiveness has been achieved, or
5) Modified BACM that has been tested on that extreme cell in accordance with this Board Order #031113-01, Exhibit 3 and is demonstrated to achieve a daily minimum control efficiency of 99.5 percent or 99.75 % control effectiveness in the extreme area where modified BACM is applied.

Stormwater Management

The bed of Owens Lake is subject to flooding, alluvial deposits and fluctuating brine pool levels caused by stormwater runoff flows. In order to protect the PM_{10} control measures installed on the lake bed, the City shall design, install, operate and maintain flood and siltation control facilities. Flood and siltation control facilities shall be designed to provide levels of protection appropriate for the PM_{10} control measures being protected. Flood and siltation control facilities shall be integrated into the design and operation of the PM_{10} control measures. All flood and siltation control facilities shall be continually operated and maintained to provide their designed level of protection. All flood and siltation control facilities and PM_{10} control measures damaged by stormwater run off or flooding shall be promptly repaired and restored to their designed level of protection and effectiveness. Flood and siltation control facilities shall be designed and constructed so that groundwater levels, surface water extent, and wetlands in adjacent uncontrolled areas are not impacted by induced drainage. All flood and siltation control facilities shall be designed so as not to cause the existing trona mineral deposit lease area (State Lands Commission leases PRC 5464.1, PRC 2811 and PRC 2969.1) to be subjected to any greater threat of alluvial material contamination than would have occurred under natural conditions prior to the installation of PM_{10} control measures.

Schedule

The Control Measures shall be implemented on the areas set forth in Paragraph 1 by the dates set forth in that Paragraph. Supplemental Control Requirements will be met on the schedule shown in Exhibit 2.

Additional **Requirements**

Furthermore, the Board orders the City of Los Angeles to satisfy the following requirements related to the implementation of the shallow flooding, managed vegetation, and gravel control measures:

1. The City's construction, operation and maintenance activities will comply with all Mitigation Measures set forth in Final Environmental Impact Reports, EIR Addendum and Mitigated Negative Declarations associated with the areas on which dust controls are placed and all subsequent environmental documents adopted by the District for implementation of the requirements of this SIP.

2. The City shall comply with any and all applicable requirements of the Mitigation Monitoring and Reporting Programs adopted by the District concurrently with its certification of the Final Environmental Impact Reports and Final Environmental Impact Report Addendum for this project and all subsequent environmental documents adopted by the District for implementation of the requirements of this SIP.

3. The City shall apply best available control measures (BACM) to control air emissions from its construction/implementation activities occurring in the District's geographic boundaries.

Exhibits

Exhibit 1 – Map and Coordinates of PM_{10} Control Area

Exhibit 2 – Owens Valley Planning Area Supplemental Control Requirements

Exhibit 3 – Modifying Owens Valley Planning Area BACM

Responses to Comment Letter No. 4
Mark Bagley, MOU Representative, Sierra Club
Carla Scheidlinger, President, Owens Valley Committee

Response to Comment 4-1

Please see Responses to Comment Letter No. 3.

Response to Comment 4-2

As noted by the commentor, outflows from the Delta to the brine pool transition area have been noted for April and sometimes in May. The SEIR has been revised to indicate that the time of year with no outflow generally begins in May (see Sections 3.2.2.2, 3.4.1.2 and 3.4.2.1).

As noted in SEIR Section 3.4.1.2 (page 3-65), it is recognized that environmental conditions are variable from year to year, particularly in the transitional months such as March and April; March conditions in one year may be similar to April conditions in another year, for example. The variability in the hydrologic conditions of the brine pool transition area under existing conditions was considered in the impact analysis. The Period 1 pulse flow in March/April (25 cfs for 10 days) could overlap with the peak migration period, which would benefit migrating shorebirds, and would also enhance Delta wetlands. Taking into account the range of baseflows possible within the 6 to 9 cfs annual average and the proposed Period 1 pulse flow in March/April, it is concluded that operation of the pump station is not expected to result in substantial change to existing hydrologic conditions of the brine pool transition area from April through September.

More importantly, the analysis of impacts on biological resources was based on biological use of the brine pool transition area for all available months of the year and was not conducted as a month-by-month comparison. Inclusion of April (or even May) in the "winter" category would not alter overall impact conclusion of less than significant within the context of existing conditions of the Owens Lake as discussed in SEIR Section 3.4.2.1.

No outflows to the brine pool transition area have been observed in July, August or September after 2000. Therefore, during these months, LORP would not result in a reduction in outflows to the brine pool transition area, and therefore would have no impact during these months on the use of the brine pool transition area by the fall migrating birds.

Response to Comment 4-3

Impact assessment in the SEIR is based on invertebrate biology, including information on substrate and temperature conditions suitable for alkali fly reproduction and development presented in Section 3.2.3.1 (pages 3-40 and 3-41). As noted in Section 3.4.2.1 (page 3-67), the brine pool transition area is not considered optimal habitat for alkali flies since it lacks suitable substrate for larvae/pupae attachment and lacks water during the period when temperature conditions are most suitable for reproduction; therefore, it is reasonable and not speculative to conclude that the project is not expected to substantially affect alkali fly populations. Substantial

evidence to support a different conclusion has not been presented to LADWP, including in the public comments on the Draft SEIR.

The full extent of the general area within which the rivulets in the brine pool transition area can be observed is described on page 3-27 (an area up to approximately 0.5-mile wide and extending up to approximately 2.5 miles into the brine pool from the southern end of the vegetated portions of the Delta). This general area includes the entire area delineated as "Intermittently flooded brine pool transition area to be analyzed" in Exhibit A of the July 2005 stipulated judgement. The descriptions of the rivulets and the areas outside of the rivulets (but still within the brine pool transition area) are presented on pages 3-28 and 3-29, and consider the full area of brine pool transition area habitat. The extent of the rivulets were estimated using aerial photographs that cover the entire Owens Lake using the method described on pages 3-27 and 3-28. The statement in the SEIR that the estimate is "an order of magnitude estimate" is intended to indicate that a precise delineation of the rivulets was not conducted due to the limited resolution of the available aerial photograph. The precision of the estimate can be more appropriately described as "rounded" to the nearest 10 acres; Section 3.2.2.2 (page 3-28) has been revised accordingly.

While the area below the Delta shown on Figure 3-8 referenced by the commentor is in part influenced by water from the Delta, much of the area is inundated (part of brine pond) and not considered part of the brine pool transition area. Based on the known optimal salinity ranges for alkali flies (SEIR Section 3.2.3.1, page 3-40), known ranges of brine pond salinity (SEIR Section 3.3.2.4, page 3-39), and general lack of substrate for larvae/pupae attachment, it is reasonable to assume that the brine pond does not support substantial alkali fly reproduction.

The reduction in the areal extent of outflows cannot be estimated due to the large number of factors (temperature, evapotranspiration, precipitation, runoff) that vary substantially from year to year, seasonally and over even shorter timeframes. However, as described above, the SEIR presents adequate descriptions of the area that could be affected, and the full extent of this area was considered in the assessment of impact significance.

Response to Comment 4-4

Analysis of impacts on invertebrates presented in the SEIR is based on review of existing information, including previous invertebrate inventories and studies conducted in the Owens Lake area and other habitats (e.g., Mono Lake for alkali flies) similar to the brine pool transition area. Biological information on tiger beetles is presented in SEIR Section 3.2.3.2 (page 3-55), and biological information on alkali flies is presented in SEIR Sections 3.2.3.1 (pages 3-40 and 3-41) and 3.4.2.1 (page 3-7). Since an invertebrate inventory specific to the brine pool transition area has not been conducted and the presence or absence in the brine pool transition area could not be determined based on existing data, the impact evaluation is based on a worst-case assumption that invertebrates known to occur at other similar areas of the Owens Lake (i.e., shallow flooding areas and alkali playa habitat near springs/seeps) may be present in the brine pool transition area (see Sections 3.4.2.1 and 3.4.2.2). Therefore, absence of data from an inventory specific to the brine pool transition area does not preclude adequate analysis.

Response to Comment 4-5

As noted on page 3-41 (Footnote 8) of the SEIR, the term waterfowl is used in the SEIR (including in the statements on page 3-68 and 3-69) to refer to members of the order Anseriformes, and includes ducks and geese. As shown in Appendix B, from March 2002 through November 2005 (a total of 28 observation days), waterfowl species have not been observed within the brine pool transition area except for the three cinnamon teals observed flying over the area. Also as shown in Appendix B, the majority of the waterbirds observed in the brine pool transition area, including on the observation days referenced by the commentor, are shorebirds, which are discussed in SEIR Section 3.4.2.1 (pages 3-67 and 3-68) separately from waterfowl.

Since there are a number of factors that may influence bird use of the brine pool transition area (including surface water in the transition area, shallow flood operations in adjacent areas, precipitation, and timing of bird migration) and these factors are highly variable seasonally and from year to year, statistical analysis was not deemed appropriate. All available bird data for the brine pool transition area, including those collected prior to 2005, were considered in the impact analysis and are presented in the SEIR. The data support the general conclusion that waterfowl use of the transition area has been limited, particularly since initiation of shallow flooding, even when water is present in the brine pool transition area. As shown in **Appendix B**, waterfowl species were observed in or near the brine pool transition area on only 8 of the 66 total observation days, and there were 35 observation days when water was present in the brine pool transition area but waterfowl were not observed.

Response to Comment 4-6

The statement in the SEIR that no snowy plovers are currently expected to nest in the brine pool transition area is based on review of available data from various sources (including PRBO reports, observations submitted by M. Prather, and observations by LADWP staff, as cited in the SEIR) and LADWP biologists' professional opinion, and is not based on speculation. In addition to the observed distribution of snowy plover individuals and nests in Owens Lake, the statement is also based on the opinion of LADWP biologists that the brine pool transition area is not optimal nesting habitat for snowy plovers, especially in comparison with the shallow flooding areas and also the seeps and springs. The brine pool transition area is not considered optimal nesting habitat in part due to the inconsistent availability of water, higher risk of nest flooding due to the topography, and lower invertebrate productivity. The brine pool transition area also appears to be less preferred foraging habitat as compared with the shallow flooding areas and the seeps and springs.

It should be noted that, with respect to the nest surveys conducted by PRBO, even when the primary search location is the Dust Mitigation Program areas, observers commonly note nests and broods in the brine pool transition area, if any are present, since they would be visible during the surveys of the adjacent Zones 1 and 2 shallow flooding areas (Tony DeJulio, CH2MHill, personal communication to B. Tillemans, LADWP, November 2005).

Regarding invertebrate food production, please see Responses to Comments 4-3 and 4-4.

Regarding the number of snowy plovers observed in the brine pool transition area, please note that the same information presented as Table 1 in the comment letter is presented in Table 3-9 of the SEIR. The commentor's statement that "snowy plovers were observed in the area in every year that surveys were conducted during periods when water was flowing from the Delta" is not accurate, since in 2003, there were two survey days (1/30/2003 and 10/26/2003) when outflow from the Delta was present but no snowy plovers were observed. It is acknowledged, as already stated in the SEIR (see page 3-51), that "snowy plovers have been observed in the brine pool transition area *nearly* every year," and that "[t]hey have not been observed in the brine pool transition area when there are no outflows from the Delta." Substantial evidence regarding snowy plover use of the brine pool transition area that is different from or in addition to the data already presented in the SEIR, and already considered in the SEIR impact analysis, has not been presented to LADWP, including in the public comments on the Draft SEIR. Therefore, no change has been made to the SEIR conclusion of less than significant impact on snowy plovers.

It should be noted that there have also been a number of days in addition to the two dates in 2003 mentioned above when outflows from the Delta were present but no snowy plovers were observed in the brine pool transition area. **Table C-2** shows the same table presented as Table 3-9 in the Draft SEIR, except with cells highlighted in gray for days when outflows from the Delta were present but no snowy plovers were observed.

Table C-2
Number of Snowy Plovers Observed in the Brine Pool Transition Area

1996		1999		2000		2001		2002		2003		2005	
Date	**No.**	**Date**	**No.**	**Date**	**No.**	**Date**	**No.**	**Date**	**No.**	**Date**	**No.**	**Date**	**No.**
3/23	1	8/17		1/3		1/3		1/13	20	1/30		3/28	
5/6	30	8/24	1	3/25	4	4/1	3	2/2	1	8/7		4/1	
		8/29		4/2	9	4/15	16	3/11		10/26		4/3	2
		9/12	1	4/12		4/22	7	4/25				4/11	2
		9/26		4/21	8	5/15		4/26				4/14	
		10/17		5/20	12	5/16		5/3	13			4/29	
		10/23	3	6/3		5/20		5/24				5/1	
				7/24		5/31		6/2				5/8	
				8/1		6/2		8/16				5/13	
				8/14		6/14		10/11				6/2	
				8/22		6/22						6/24	
				12/21	2	8/20						8/4	
						9/1						8/24	
						9/15						9/12	
						10/26						9/26	
												10/12	
												11/16	

Source: Data compiled from data recorded by LADWP and M. Prather, Owens Valley Committee between 1996 and 2005. See additional explanation provided above in Appendix B.
Note: Blank cells indicate surveyed dates when no snowy plovers were observed.

Response to Comment 4-7

The SEIR does not imply that the shallow flooding areas would be maintained in perpetuity, or that shallow flooding areas are "replacement" habitats. Please also see Responses to Comments 1-1 and 3-1.

Response to Comment 4-8

Please see Response to Comment 3-2.

Response to Comment 4-9

Please see Responses to Comment Letter No. 2.

Response to Comment 4-10

Consistency between the LORP project description and the MOU is not a CEQA-related issue. Furthermore, impacts to vegetated portions of the Delta have been addressed in the Final EIR for LORP (LADWP, 2004a) and are not being re-evaluated in the SEIR (see SEIR Section 2.2, page 2-2).

Not withstanding, it should be noted that the goal for Delta management under LORP is not to minimize flows to the Delta or the brine pool transition area. The proposed flow management is intended to optimize water use by vegetation in the Delta by matching the flow regime to the evapotranspiration demand and storage capacity of the Delta within the approximately 6-9 cfs annual average flow specified in the MOU. With respect to meeting the MOU goal of establishing and maintaining new habitat, the extent of wetland and aquatic habitat present in the Delta as of 2000 has far exceeded the 325 acres of "existing habitat" identified in the MOU. As discussed in the Final EIR (Section 6.3.6), the proposed flow management is expected to maintain and enhance the 325 acres specified in the MOU as well as the additional aquatic and wetland habitat that exists at the time of project implementation.

Response to Comment 4-11

No mitigation, including monitoring of Delta outflows for a longer period than proposed in the project description, is required since no significant impacts have been identified as a result of analysis conducted for the SEIR, and no substantial evidence to support a different conclusion has been presented to LADWP, including in the public comments on the Draft SEIR.