

**LOWER OWENS RIVER PROJECT  
DELINEATION, PREDICTION,  
AND ASSESSMENT  
OF  
WETLAND/RIPARIAN RESOURCES**

*Prepared for:*

**LADWP and Inyo County**



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## EXECUTIVE SUMMARY

This report addresses riparian/wetland resources in the Lower Owens River Project (LORP) area. Jurisdictional wetland/water resources are identified. Future conditions resulting from implementation of LORP are predicted. The relative functional qualities of riparian/wetland resources are assessed. The LORP area includes several components:

- *Lower Owens River Project (LORP) riparian area* follows the Owens River from the Los Angeles Aqueduct diversion to the Delta Habitat Area (DHA) on the Owens Lake bed. The LORP riparian area is 6,437 acres and includes 53.3 linear miles of the Owens River channel.
- The *Delta Habitat Area (DHA)* is in the mouth of the Owens River on the bed of historic Owens Lake and is 3,578 acres.
- The *Blackrock Waterfowl Management Area and vicinity (BWMA)* is between the Los Angeles Aqueduct and the lower Owens River riparian area. The southern boundary is south of Mazourka Canyon Road, about where drainage through the BWMA and the 1872 fault line intersect the Owens River riparian area. Several off river lakes and ponds are included in the BWMA, which is 20,461 acres.

Wetland delineations were derived from inventories of landtype, water regime, and vegetation types (series and association) for the LORP riparian area, DHA, and BWMA. Wetlands are characterized by hydric soils, wetland hydrology and hydrophytic vegetation. Riverine wetland delineations were integrated by reaches distinguished by valley-form, stream channel morphology, and hydrologic character. Reach types correspond with distinctive assemblages of landtypes, water regimes, and vegetation types. Reaches are expected to respond to management in distinctive manners and will serve as an integrated unit for interpretations guiding adaptive management. The DHA was considered a distinctive reach in its entirety. The BWMA was divided into 7 management units defined by hydrologic source and topographic restraints. Wetland/water resources comprise 1,843 acres of the LORP riparian area, 831 acres of the DHA, 1,139 acres of the BWMA, and 3,813 acres of all project areas.

Short-term and long-term future conditions resulting from re-watering the Owens River were predicted for the LORP riparian area. In the short-term, wetlands/water is predicted to increase 1,032 acres, relative to 2000 conditions. Long-term predicted changes in channel morphology towards more graded and aggraded reaches will cause further expansion of wetland/water resources in the LORP riparian area. Conditions that exist in the DHA at the time of project implementation are expected to be maintained. Analyses of two water management cycles proposed for the BWMA indicate a net loss of about 122 acres of wetland/water resources. The short-term net gain of wetland/water in the LORP, DHA, and BWMA is predicted to be 910 acres relative to 2000 conditions.

Hydrogeomorphic (HGM) *functional assessments* were compiled for existing and predicted future conditions. Fourteen *hydrologic, biogeochemical* and *habitat functions* were indexed from several dozen *variables* assigned to reach type, landtype/water regime, or vegetation association classes. *Functional indexes* (0-1) weighted by area (acres) of the parcel are the *functional unit*. A functional unit may represent 1 acre of habitat with an optimal functional index (1.0), 2 acres of habitat with a moderate index (0.5), or 10 acres with a low index (0.1).

In the LORP riparian area, hydrologic functional units are predicted to increase 348 acres in the short-term, relative to 2000 conditions. Average biogeochemical functional units are predicted to increase 516 acres. Average habitat functional units are predicted to increase 481 acres. The average of hydrologic, biogeochemical, and habitat functional units is predicted to increase 448 acres. Subsequent long-term expansion of wetland/water resources in response to changes in channel morphology will further increase functional units. Conditions that exist when LORP is implemented will be maintained in the DHA.

A predicted decrease in HGM functions for the BWMA is based on liberal estimates of wetland/water losses in the Waggoner unit. Large expanses of open water created in the Waggoner unit when water was first released in 1986 to supply Goose Lake have been replaced by an expansive marsh with low habitat diversity and edge-ratio, corresponding with a decline in values to waterfowl and shorebirds. The predicted declines in hydrologic function (94 acres for cycle 1 and 72 acres for cycle 2) and biogeochemical functions (124 acres for cycle 1 and 94 acres for cycle 2) may not be germane, since the Waggoner unit is maintained by controlled releases from the Blackrock Ditch and will no longer drain to Goose Lake. Smaller predicted declines in habitat function (58 acres for cycle 1 and 49 acres for cycle 2), estimated based on functional indexes for discrete vegetation associations, are expected to be off-set by factors not considered in the HGM analyses (e.g. habitat diversity, edge-ratios, proximity to open water). The intent of hydrologic management in the BWMA is to create conditions more favorable to waterfowl and shorebirds.