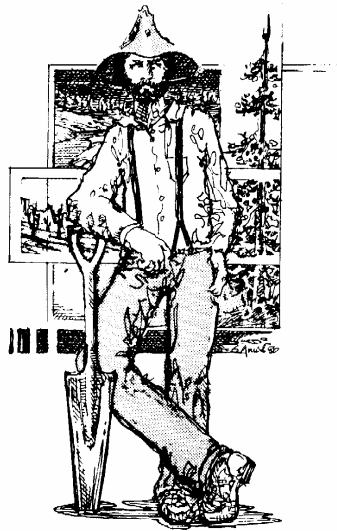


DELTA HABITAT AREA VEGETATION INVENTORY 2000 CONDITIONS

Prepared for:

LADWP and Inyo County



WHITEHORSE ASSOCIATES
Smithfield, Utah

Whitehorseassociates.com

Revised October 2004

EXECUTIVE SUMMARY

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. This vegetation inventory will serve as a baseline for monitoring changes following implementation of the Lower Owens River Project (LORP) and as “existing conditions” for assessing impacts of LORP on wetland resources in the DHA.

Existing information pertinent to vegetation resources in the DHA was reviewed and assembled. Information included hydrologic parameters measured at the Keeler gage, topographic surveys in the DHA, hydrologic modeling, previous mapping studies and historic aerial photos. Mapping was conducted from high-resolution (2 foot pixels) digital orthophotos. Map units denote areas of distinctive landtype/soil, hydrologic and vegetative character. Field descriptions of vegetation, soil and hydrologic attributes of vegetation types in the DHA were conducted May 1-5, 2000 (WHA 2000). Vegetative, soil and hydrologic criteria listed in the Wetland Delineation Manual (U.S. Army Corps of Engineers 1987) were used to determine the wetland status of each site. The accuracy of mapping was assessed in fall, 2002. This report was compiled as digital WORD (doc) and ADOBE (pdf) files on DVD. Arc-View shapefiles and TFF images are also compiled on disks.

Average winter flow at the Keeler gage for the 1927/86 period (22 cfs) was highly variable, ranging from 4 to 214 cfs. In 1986 preliminary release to the lower Owens River commenced. Average winter flow for the 1986/2001 period (14 cfs) was less variable than the 1927/86 period, ranging from 8 to 21 cfs. Inflow to the DHA is augmented by alluvial groundwater. Assuming 5 inches annual rainfall, direct precipitation provides about 1,491 acre-ft/year to the DHA.

Map units consist of a single dominant landtype, water regime and vegetation type. Four landtypes were identified in the DHA (*floodplain, low terrace, eolian land, and lacustrine land*). Six water regimes were identified in the DHA (*permanently flooded, saturated, intermittently flooded, high water table, low water table, and very low water table*). Nine vegetation associations and/or more general series were identified -- water, alkali marsh (*bulrush/cattail*), wet alkali meadow (*saltgrass-rush*), *Goodding-red willow/bulrush-cattail*, *Goodding-red willow/creeping wildrye-saltgrass*, alkali meadow (*saltgrass*), *Parry saltbush-Torrey seepweed*, dune, and playa. The total area of wetland in 2000 was 824 acres.

A historical perspective of changes in the extent of wetlands in the DHA was developed from aerial photos. Between 1944 and 1967 the extent of vegetated wetlands in the DHA decreased from about 167 to 42 acres, probably a response to negligible summer inflows (< 1 cfs). Since 1993 the extent of vegetated wetland and water increased from 422 to 824 acres in 2000, an increase of about 60 acres per year. The expansion of wetlands corresponds to a subtle rise in the effective water surface. As vegetated wetlands expand, water is spread over a broader area, the amount of water storage in the DHA increases, and the rate of flow-through decreases. When inflow exceeds water storage and plant utilization, the DHA overflows to the brine pool. This overflow to the brine pool is a good indication that the water needs of existing wetland are being met and that storage capacity has been exceeded.