

The South Washoe Lake Wetlands was created by the Nevada Department of Transportation, with Federal Highway Administration funding. It is a mitigation bank to offset impacts to wetlands from Federal highway construction projects along the US 395 corridor from north of Reno to south of Gardnerville.

The 335 acre site was developed in two phases over an 11 year period from 1988 to 1999. A series of 5 east-west main levees and 4 north-south cross-levees form 17 varied-depth "impoundments," or ponds. These ponds create a diverse mosaic of open water, wetland, and upland habitat that benefits plant and wildlife species diversity.

NDOT is required to maintain a minimum of 155 acres of mitigated wetlands to offset 72 acres of impacted wetlands. In 2006, a wetlands delineation mapped 224 acres of wetlands. Irrigation is required to maintain the wetlands. Usually, the site is irrigated from April through August during bird nesting season. Monthly bird surveys are conducted from March-September by NDOT biologists.

The State has 2,180 acre feet of shared annual surface water rights from Washoe Lake (State of Nevada, NDWR Permit No. 38973, Cert. No. 11633). This amount of water can easily maintain the 224 acres of wetlands.

A well 14" diameter, 620' deep well was drilled in November 1996, on the west side of the wetlands. It was tested to perform at an optimum pumping rate of 850 gpm. NDOT purchased 700 acre feet of groundwater rights from an NDOW well at Scripps Wildlife Management Area and transferred those rights to the groundwater well NDOT drilled at the wetland site (State of Nevada, NDWR Permit No. 62701, Cert. No. 15660). The 700 acre feet of groundwater was estimated to adequately maintain 140 surface acres of open water and wetland habitat. The ground water well was intended to be supplemental to the surface water and not the primary water source. This well meets agricultural irrigation water quality standards, not potable drinking water standards.

In drought years (2003, 2004, 2005, half of 2008, and 2009) the surface water pump could not be used and the NDOT/NSP had to rely exclusively on groundwater to maintain the site. By 2005, the pump could only be run for 4 days with a 3 day rest for recharge. The wetlands lose water through seepage into the ground as a function of the lake level gradient dropping, and evapotranspiration as temperatures rise water loss rises. In 2008 and 2009, only 50 acres of the wetlands (3.5 impoundments) could be maintained using water from the ground water pump. Based on previous years of drought, the vegetation will recover if the water supply returns to adequate levels within the next two years.

The site has three areas of concern:

1. **Water.** The original assumption that water from Washoe Lake would be available to maintain adequate water levels in the wetlands has proven to be invalid. The ground water pump can only maintain ¼ of the site.
2. **Maintenance.** The impoundments require irrigation to maintain water levels, so site maintenance is labor intensive, expensive, and perpetual. Park staff reductions mean they no longer have a person dedicated to wetland irrigation monitoring.
3. **Noxious weeds.** Perennial pepperweed (*Lepidium latifolium*), a state listed noxious weed which is highly invasive and difficult to control, is prevalent throughout the wetlands and around the lake. NDOT and State Parks have been diligently attempting to control the spread for the last six years through chemical treatment, with only limited success.

A research proposal has been submitted to conduct a study and create a report which addresses the issues listed above and answers the following questions:

- What changes can be made and what management strategies can be employed to maintain a functional wetland system which meets the wildlife habitat objectives and minimizes hands-on day-to-day management?
- Is it possible to have a more naturally functioning, self-maintaining, diversified wetland system at this site?

The estimate to drill another well is \$500,000. Minimum \$350,000 to drill, plus pump house, pipes, and outflow.

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