



SOIL AND PLANT SCIENCE DIVISION

Technical Soil Services

Southwest Soil Survey Region

Ogden and Richfield, Utah, Major Land Resource Area (MLRA) Soil Survey Offices (SSOs)

Soil Survey Staff Assist With Wetland Reserve Easement Request

Purpose

The staff of the Ogden and Richfield MLRA SSOs assisted in identifying and interpreting soils and plant species wetland indicators for a wetland reserve easement (WRE).

Background

Owners of a local farm applied to the Agricultural Conservation Easement Program to obtain a WRE for their land. The proposed easement area covers approximately 110 acres of wetland and historic farmland in Weber County. Aerial photographs suggest that prior to 1950 the eastern portion of the proposed easement area was covered by a contiguous wetland fed by two streams. Since the 1950s, these streams have been channelized, and an embankment has reduced the size of the natural wetland. Portions of the proposed easement area have been land leveled and farmed. The farming operations ceased in the 1980s when the Great Salt Lake level rose and inundated the property for 2 years. In recent years, cattle grazed the property in the fall and winter. Several invasive plant species have established on the site, including various thistles, Russian olive, and tamarisk.

Retired Natural Resources Conservation Service (NRCS) Soil Scientist Randy Lewis previously produced an order 2 soil map of the proposed WRE. As new staff came into the office to work on the project, they needed field assistance to interpret the detailed map.

Key Outcomes

NRCS Ecologist Sarah Quistberg and Soil Scientist Leah Carter visited the easement site with conservation staff to assess data previously collected and to reflect current conditions. Quistberg, Carter, and other conservation staff concluded that conditions are



similar and may appear wetter due to a couple of high snowpack winters. Using data from the National Soil Information System (NASIS), Soil Scientist Keith Crossland filled out the U.S. Army Corps of Engineers Arid West Region Wetland Determination Data Form. This form helps staff determine whether a soil meets hydric conditions and identifies the hydric indicators. Crossland's data led to the creation of a color-coded hydric soil map with acre breakdown, which was distributed to conservation staff.

Soils in the area have a very high pH and salinity, which can mask wetland indicators. Soils that did not meet the hydric soil requirements still indicated some level of wetness, with hydric indicators just slightly too deep in the profile. The soils in the area indicated a mosaic pattern of wetness.

A plant species inventory was collected, indicating that the dominant grasses are saltgrass (*Distichlis spicata*) and intermediate wheatgrass (*Thinopyrum intermedium*). The areas around ponded water had a narrow fringe of spikerush (*Eleocharis*). Several non-native species were identified including tamarisk (*Tamarix* sp.), Russian olive (*Elaeagnus angustifolia*), and Medusahead (*Taeniatherum caput-medusae*).