September 28, 2015

Hello! We have just wrapped up field work for the season and it seems like a good time to provide a program update. First, we want to set up a meeting to discuss the Utah Wetland Program Plan. If you are not interested in being actively involved in the development of this plan, skip down to the project updates, below. For those that are interested, please fill in your availability in the Doodle Poll by the end of the day October 2nd:

http://doodle.com/poll/5kgtqz2hzb84bsyu

The meeting will continue the discussion that began in February regarding how to maximize the utility of wetland assessment work. We will also briefly discuss a new project that will begin this winter seeking to identify core indicators of wetland condition or function that could potentially be collected by partners across the state.

Project Updates

Watershed-based assessments

The Wetland Program conducted wetland condition surveys across the Weber watershed in 2014 and conducted the first year of a two year study in the Jordan watershed in 2015. For both projects, sites were randomly selected from a sample frame of wetlands on private, state, and federally owned lands so that results can be used to make inference to the entire watershed. Data on common stressors, plant community composition, and general wetland health were collected at 72 sites in the Weber watershed and, so far, at 50 sites in the Jordan Watershed. A final report for the Weber watershed project is due out in the early spring. Funding for this work was provided by the Environmental Protection Agency and the Uinta-Wasatch Cache National Forest.

North Slope assessment

The Wetland Program, in partnership with the Uinta-Wasatch Cache National Forest, conducted research in 2014 to better quantify the location and condition of wetlands on the north slope of the Uinta Mountains in the Upper Blacks Fork and Smiths Fork watersheds. The three project

goals were to compare accuracy of different wetland mapping techniques, assess wetland condition at randomly selected field sites, and develop a landscape model to predict wetland condition. The final report for this project will be released as soon as technical review is complete.

Boreal toad habitat assessments

The Wetland Program, with support from the Endangered Species Mitigation Fund, conducted research in 2015 to compare habitat characteristics between occupied and unoccupied historic boreal toad locations. The aim of the project is to better characterize good-quality boreal toad habitat and to evaluate potential indicators of boreal toad decline. Results will be used in conjunction with data collected for the watershed-based assessments to estimate the availability and condition of boreal toad habitat in the Jordan Watershed. Thanks to the new focus on amphibians, field crews working on an unrelated project were lucky enough to identify and document a boreal toad at a location where it had not been seen in over 30 years. Data from this project will be analyzed this winter and finalized by the summer of 2016.

Landscape Stress Model

The Wetland Program developed a 30-m resolution spatial dataset, the Landscape Integrity Model, to summarize the distribution and intensity of stressors on wetland and aquatic resources in Utah. The model was developed through extensive literature review, compilation of appropriate geospatial data, and testing of different methods of combination. The model focuses on local stressors to aquatic resources rather than watershed-based stressors and thus is most appropriate for evaluation of headwater systems or more isolated wetlands. We applied the landscape model to key aquatic habitats used in the Utah Department of Wildlife Resource's Wildlife Action Plan and to a focal species, the boreal toad (*Anaxyrus boreas*). The final report and data for this project is complete and will be made available online shortly on the Wetland Program website (http://geology.utah.gov/resources/wetlands). Funding for this project was provided by the Endangered Species Mitigation Fund; additional funding will be used this winter to further develop the model and incorporate cumulative watershed-based stressor data.

Wetland water level data

The Wetland Program, with funding from the Environmental Protection Agency and the Endangered Species Mitigation Fund, has installed and maintained shallow wetland piezometers in Snake Valley, starting in 2009, and in wetland complexes around Mills and Mona, starting in 2014. Piezometer data can be used to map water levels across wetlands and to better understand habitat requirements for species of concern. The data also serves as a baseline to document any future changes in water levels. Data from the Snake Valley piezometers are uploaded biannually and are available online at http://geology.utah.gov/resources/data-databases/groundwater-monitoring.

Mapping

The Wetland Program has embarked on an effort to update wetland geospatial data for Utah to better understand the current distribution and classification of wetlands in the state. Wetlands are being mapped using National Wetland Inventory standards and the associated Cowardin classification system (http://www.fws.gov/wetlands). In 2014, the Wetland Program mapped the shorelines and main waterbody of Bear Lake. This winter, mapping will be completed for wetlands in the upper Bear River drainage in Rich County and groundwater-dependent wetland complexes near the towns of Mills and Mona. The Wetland Program also has ongoing mapping projects around Great Salt Lake and along the Jordan River. Mapping projects have been funded by the Environmental Protection Agency, the Utah Division of Forestry, Fire and State Lands, and the Endangered Species Mitigation Funds. Final mapped products will be publically available through AGRC.