Meeting Summary

WILLARD SPUR SCIENCE PANEL MEETING
JANUARY 12, 2012

NAME/AFFILIATION

Jim Hagy*	U.S. EPA, Office of Research & Development
John Luft*	Utah Division of Wildlife Resources
Theron Miller*	Farmington Bay/Jordan River Water Quality Council
Jeff Ostermiller*	Utah Division of Water Quality
David Tarboton*	Utah State University
Jeff DenBleyker	CH2M HILL
Emilie Flemer	Utah Division of Water Quality
Suzan Tahir	Utah Division of Water Quality
Pam Kramer	Utah Division of Wildlife Resources
Dave Naftz	USGS
Bob Barrett	USFWS

* Indicates Science Panel member

The following represents a summary of discussion. It is not intended to represent meeting minutes. An audio recording of the meeting may be found at http://www.willardspur.utah.gov/panel/meetings.htm.

MEETING GOALS

The goals of the meeting were to 1) review preliminary observations made from 2011 datasets, 2) review lessons learned, 3) review status of requests for proposals, and 4) review goals for 2012.

OVERVIEW OF WORK COMPLETED IN 2012

WATERFOWL STUDY

Dr. John Cavitt's team was able to collect a total of 18 birds representing 5 species of waterfowl from Willard Spur. Protocols were observed but initial dissections did not find food items in each bird's esophogus. John is still processing gut contents. Final report with a comparison of Willard Spur findings against what was found at other Great Salt Lake wetlands is expected by April 2012.

DATABASE & SUMMARY OF 2011 DATA

Database structure is currently in design. Goal is to house all project data in a database independent but compatible with DWQ's AWQMS database. Database will be accessible to the project team via ftp site. Data was received from the laboratories later than expected and required a significant amount of formatting. As a result, a draft Microsoft Access database of water and sediment chemistry was developed just this week. We have not had adequate time to fully QC and evaluate 2011 data. Work will continue on this task through March 2012.

FLOW MONITORING

Jeff DenBleyker provided an overview of flow monitoring activities in 2011. Preliminary water level data from the open water of Willard Spur seems to indicate that wind does not significantly change the water surface elevation (both in depth or duration). The water surface elevation seems to fluctuate in response to inflows much more significantly on the eastern end of Willard Spur than the western end. This may allow us to measure outflow from Willard Spur by measuring flow velocity and water depth (i.e., add a velocimeter to the station with the pressure transducer). Water surface elevations closely followed the pattern of inflow to Willard Spur. Preliminary flow estimates indicate that inflows from the Refuge represented the most significant source of water to Willard Spur in 2011. Willard Bay was the second most significant source with Harold Crane WMA a distant third. The treatment plant provided minimal inflow as compared to other

sources. Dave Naftz suggested using flow monitoring data from Bear River Bay as a comparison to Willard Spur outflows. Preliminary nutrient load estimates followed the same pattern as observed for inflows. Although nutrient concentrations from the treatment plant effluent were observed to be highest, loads from other sources appear to be much more significant. Jeff noted that we will be working with USFWS and DWR in 2012 to better document changes in the operation of their weirs, measure flows more frequently to validate flow estimates, and determine actual elevations for stage measurements.

Macroinvertebrate Data

Dr. Larry Gray provided an overview of his initial observations of the 2011 dataset. He noted that the species he observed in collected samples were identical to observed at other GSL impounded wetlands sites with the exception of a new damselfly species he had not seen before. He reviewed various indices that he has used to evaluate macroinvertebrates in GSL wetlands and noted that indices for Willard Spur were lower than other GSL wetlands in 2011 which were all lower than observed in 2010. Possible reasons include higher flow rates, colder water that extended longer into the growing season, and perhaps more available habitat. Larry noted that previous work in GSL wetlands seemed to link macroinvertebrate indices to water concentrations of nitrogen and presence of submerged aquatic vegetation. Dr. Gray recommended that we carefully define how macroinvertebrate data might be used as it will impact how the data is collected and evaluated. All agreed that we should discuss this further with Larry.

Diatom/Phytoplankton Data

Dr. Sam Rushforth provided an overview of his initial observations of the 2011 dataset via telephone. He noted that sediment diatoms appeared to be in good shape and species were similar to what he has observed at other GSL impounded wetlands. They seemed to indicate low-moderate salinity and higher water quality than what he had expected and he noted that he did not observe any noxious species. His initial evaluation did not seem to indicate an impact from nutrients or salinity. Phytoplankton were more abundant and were typically of the species he expected. They were of a smaller structure than expected and had low quantities of cyanobacteria. Sam noted that he is still finishing his work and his report would provide a more thorough evaluation.

Water and Sediment Chemistry

Jeff Ostermiller provided an overview of the work he and Dr. Jim Hagy had completed in the last day. Water and sediment chemistry was very consistent along the center transect of Willard Spur. They observed some localized higher metal values that may be linked to specific inputs or areas that experience longer periods of inundation than others. Theron Miller recommended that we take a close look at ammonia and how it is released from the sediment. Jeff noted that most nutrient indicators increased in August and then decreased in October. Unfortunately DWQ was unable to sample in September to capture when conditions likely changed. All agreed that something appears to be happening in that time frame that needs to be looked at more closely. Bob Barrett asked if Jeff and Jim had looked at any indicators of health. Jeff said that an initial comparison with past metrics used to evaluate nutrients did not identify anything of concern; some locations had higher metal concentrations that will require further evaluation.

Status of Requests for Proposal

Jeff DenBleyker provided a brief summary of the status of proposals for each of the research areas. See slides.

Science Panel Membership

Jeff DenBleyker reviewed the skill sets that Dr. Karin Kettenring had brought to the Science Panel and led a discussion about skill sets that would be useful in a new candidate. All agreed that Karin brought significant understanding of GSL wetland ecology and provided specific expertise in plant ecology and invasive species. Her knowledge will still be incorporated by her involvement as a Principal Investigator (PI) but with her departure the Science Panel lost her expertise on plant ecology and invasive species. Comments generally agreed that plant ecology was important but that having someone with GSL wetland experience was probably more important. It was noted that while Karin is not on the Science Panel, her expertise is still available with her as a Principal Investigator. Theron Miller suggested Dr. Heidi Hoven as a candidate. He said he would talk to her to see if she was interested. All agreed that it would be beneficial to have someone join sooner rather than later.

GOALS FOR 2012

Jeff DenBleyker reviewed goals, deliverables, and schedule for 2012. The Science Panel will be asked to review and score proposals for Research Area No. 3. The next Science Panel meeting was tentatively scheduled for April 5 with the assumption that we would need a conference call in mid to late March to discuss the proposals. Jeff concluded the meeting and thanked all for their participation.