

# **IMPLEMENTATION AND DEVELOPMENT OF A GREAT SALT LAKE WETLAND ASSESSMENT FRAMEWORK**

## **1.0 Strategy**

The Assessment Framework for Impounded Wetlands of the Great Salt Lake is a plan that guides wetland monitoring and assessment activity for the Great Salt Lake. This schedule for the development and implementation of the Framework was prepared to help (a) secure financial resources, (b) gain stakeholder acceptance and (c) organize partnerships to complete monitoring and assessment tasks. This schedule is aggressive and is therefore dependent on DWQ continuing to obtain the resources necessary to complete the tasks following the schedule outlined in this document. However, this general approach represents our best attempt at capturing feasible long-term objective for the assessment, management, and remediation of Great Salt Lake's wetland ecosystems. Updates to this schedule and additional details of the broad tasks outlined here will be included in Utah's *Integrated Report*.

## **2.0 Objectives**

One objective of the Assessment Framework is to report the ecological health of Great Salt Lake wetlands, starting with impounded-class systems. The initial reporting of ecological health provides a baseline for documenting if and how the beneficial uses of impounded wetlands are protected. Beneficial uses will be assessed using narrative water quality criteria.

A second objective of the Assessment Framework is to produce environmental information that forms the foundation of water quality management plan for GSL wetlands. The water quality management plan will be based on adaptive management principles. Those principles are used to develop and deploy required control measures, as needed, to ensure attainment of applicable water quality standards in a reasonable period of time (i.e., Integrated Reporting Category 4(b)).

The third objective of the current Assessment Framework is to expand the scope of monitoring and assessment activity to include all GSL wetland classes. Wetland monitoring and assessment will be integrated with other aquatic monitoring activity.

The fourth objective of the Assessment Framework is to build the scientific information needed to characterize how GSL wetlands "work" and how they respond to disturbance and adaptive management practices.

## **3.0 Schedule of Tasks**

The tasks listed below are DEQ managed activities. Other tasks will be added to the schedule as program partners join to implement the Assessment Framework. While DWQ is committed to meeting the schedule outlined in this document, modifications may be necessary to

### **3.1 Calendar Year 2010**

- 3.1.1 Present the GSL Assessment Framework (Impounded Class) in 2010 Utah WQ Integrated Report
- 3.1.2 Apply for the EPA Wetland Protection Development Grant.

- 3.1.3 Test multi-metric indices developed for impounded class wetlands.
  - Year-to-year variation
  - Hydrology
  - Testing with independently collected data, preferably at new sites
  - Evaluate the potential of adding additional lines of evidence
- 3.1.4 Prepare a wetland landscape profile of GSL wetlands (i.e., abundance and distribution by wetland class). Note collaboration with Utah Geological Survey.
  - Cooperative agreement with DNR with funding from EPA
  - Maps will be generated to identify and delineate wetland classes
- 3.1.5 Design a survey to report the ecological condition of GSL Impounded wetlands (50 randomly selected sites). The survey will be conducted in tandem with the 2011 EPA National Wetland Condition Assessment. Survey results also will be used to complete assessment protocols of GSL impounded wetlands.
- 3.1.6 Begin preliminary study on the feasibility of using constructed wetlands or other mitigation efforts (e.g. altering N:P ratios, hydrologic modifications etc.) to help manage nutrient loads into GSL wetlands.
- 3.1.7 Begin technical study to document variability in the response of impounded wetlands to nutrient loads, metals, and other pollutants.

### **3.2 Calendar Year 2011**

- 3.2.1 Conduct survey of GSL impounded wetlands
- 3.2.2 Continue and complete Task 3.1.5 and Task 3.1.6
- 3.2.2 Develop reference wetland network for GSL fringe class (“sheetflow”) wetlands
- 3.2.3 Begin to evaluate the potential ramifications of the Jordan River TMDL and its associated implementation schedule on the condition of impounded wetlands.

### **3.3 Calendar Year 2012**

- 3.3.1 Report condition (“Health”) of GSL impounded wetlands in Utah’s *Integrated Report*
- 3.3.2 Begin preparation of GSL Wetland and Water Quality Management Strategy
- 3.3.2 Develop and test MMI assessment protocols for GSL fringe wetlands
- 3.3.3 Complete report on the feasibility of constructed wetlands for the Great Salt Lake
- 3.3.4 Begin new technical study examining use of a “Conservation Pool” as part of a wetlands and water quality management strategy (maintain the water level fluctuations of the Great Salt Lake)

### **3.4 Calendar Year 2013**

- 3.4.1 Design survey to report the ecological health of GSL fringe wetlands.
- 3.4.2 Begin design of constructed wetland demonstration project
- 3.4.3 Complete “Year 1” of Task 3.3.4, including technical workshop.

### **3.5 Calendar Year 2014**

- 3.5.1 Conduct survey to report the ecological condition of GSL fringe wetlands
- 3.5.2 Monitor construction and operation of constructed wetland demonstration project
- 3.5.3 Begin study to examine the feasibility of a GSL wetland and water quality trading program