Utah Lake Water Quality Study
Steering Committee Call #6
Call Summary
September 30, 2020

This document includes a list of future meetings, action items, and a brief summary of the discussions. Please review the action item list for tasks assigned to you and/or the Steering Committee in general. A list of attendees can be found at the end of the document.

Upcoming Meeting/Call	When & Where	Suggested Agenda Items
SC Call #7	*TBD*	○ Seek approval of Management Goals
SC Call #8	*TBD*	○ Seek approval of Framework and Strategic Research Plan

I. Action Items

Meeting Summaries	Who	Due Date	Date Completed
1. Share draft Meeting Summary	Facilitation Team	October 8	October 8
2. Review and share comments on summary	SC members	October 15	
3. Finalize summary and post to Dropbox	Facilitation Team	October 16	
ULWQS Management Goals	**Who**	**Due Date**	**Date Completed**
4. Send management goals document (including specific questions) to the Science Panel	DWQ/Facilitation Team	October 2	October 2
5. Confirm JVWCD is no longer interested in using their water right for Utah Lake as a drinking water source	Jon Hilbert	October 23	
6. Science Panel to review and comment on management goals table and associated specific questions	Science Panel	TBD	

II. Decisions/Approvals

This section provides an overview of decisions made by the Steering Committee during the call; related key discussion points can be found below in the document.

1. Approved sharing the draft Management Goals Table including specific questions with the Science Panel to get their feedback as described in the document. The document noted some concerns related to the use of cyanobacteria densities (cell counts) as management targets.

   Decision: Support of 11 of 13 (2 abstain/live with) SC members on the call – CONSENSUS APPROVAL

III. Meeting Recording

A link to the webinar recording can be found here: **http://resolv.adobeconnect.com/pr8x3uft4wlf/**

Please note, this is a different viewing experience than you may be used to if you watched prior recordings. You can use the video scroll bar along the bottom of the recording window to find the appropriate time in the webinar recording for the session (bullet list below) you would like to watch. There are bookmarks in the 'Events Index' identifying each session which can be pulled up by clicking on the "three lines" in the bottom left hand corner of the screen.

- Welcome and Agenda Review [0:00:00]
- ULWQS Management Goals [0:02:10]
- Poll [02:27:41]
- Updates on Other Science Panel Related Activities [02:31:21]
- Brief update on Science Panel Research [02:31:51]
- Public Involvement [02:38:47]
- Brief update on Technical Consultant's ongoing work [02:43:17]
- Wrap Up [02:47:39]

IV. Key Discussion Points

<u>ULWQS Management Goals:</u>

- Co-chair Dr. Erica Gaddis, DWQ, went over the management goals document, both the organization/table of contents and the specific changes that have been made since the last version that was presented to the SC.
- Co-chair Eric Ellis, Utah Lake Commission, went over the recreational use management goals and targets.
- Dr. Gaddis went over aquatic use management goals and targets.
    - There was a question from the Steering Committee related to what "main basin" refers to and whether it should be broken out to North, Middle, and South (as is done for other Measures)
    - A comment was made that the target source for mollusk diversity/abundance should be UDWR and not JSRIP
    - Concern was expressed that there could be risks associated with taking on a cost-benefit analysis. One member of the Steering Committee explained that a cost-benefit

approach could potentially lead to a conclusion that it wouldn't be worth spending the money to improve nutrient concentrations because it wouldn't make a difference for specific organisms such as macroinvertebrates or waterfowl. Part of the concern is that it would be easier to quantify the cost but harder to quantify the economic benefit of certain management actions.
    - Dr. Gaddis responded that some benefits could be expressed by metrics other than dollar values
    - Members of the Steering Committee indicated ecological function should be included in any cost-benefit analysis.
  - The group agreed to remove the water rights section at the bottom of the table, as downstream water rights are covered by the agricultural and 1C goals.
  - There was substantial conversation around breaking the lake up into different areas to characterize Current Conditions. For some Targets, different Current Condition concentrations (for North, Middle, and South) are listed in the Management Goals table.
    - Scott Daly, DWQ, and Dr. Kateri Salk, Tetra Tech, explained that the different Current Conditions concentrations are a result of fixed water quality sonde locations within the lake.
  - Concern was expressed that there is no management goal related to non-algal turbidity.
    - Scott Daly and Dr. Gaddis explained that because there is no biological or nutrient-related cause of non-algal turbidity, it would not make sense to develop a management goal specific to non-algal turbidity. Also, Mr. Daly explained that the Science Panel and the University of Utah modeling team are investigating and modeling the variables that influence non-algal turbidity.
  - A question was raised as to whether DWQ is monitoring green algae and tracking relative abundance compared to cyanobacteria.
    - Scott Daly responded that DWQ does collect data and that there are algal data analysis tools on the Utah Lake Data Explorer (and the link was shared in the chat box).
  - The question of whether the export of nutrients in midges is taken into account in the lake nutrient balance was raised by a member of the Steering Committee.
- Paul De Morgan went over the list of questions at the beginning of the Management Goals document for consideration by the Science Panel. Members of the Steering Committee recommended adding a few questions and the removal of a question related to adaptive management practices.
  - The Steering Committee agreed to add the following questions for the Science Panel to address:
    - Specifically, can and how do you predict change in toxin conditions under different scenarios?
    - The EPA 2019 document is read by some to say no relationship between toxins and recreational use, is that your understanding?
    - Is there a relationship between cell counts and nutrients?
    - Is there a relationship between cell counts and toxins?
    - How should we group monitoring sites in evaluating current and future conditions?

Motion to approve the document for SP review

- A motion was made to approve the management goals document for review and comment by the Science Panel.

- One member of the Steering Committee expressed concern with the use of cyanobacteria cell counts (density) as a management target; however, he ultimately indicated willingness to share the document with the Science Panel given the addition of a reference to the issue in the referral note as well as the addition of a related questions. 11 of 13 Steering Committee seats that participated in the poll expressed approval for the sharing of the document with the Science Panel.

Updates on Other Science Panel-Related Activities:

- Dr. Mitch Hogsett, Science Panel Chair, provided an update on ongoing research projects that the Science Panel is overseeing in addition to new studies that are being pursued.
  - Dr. Hogsett mentioned that the Science Panel was recently made aware of parallel studies undertaken by the WFWQC that the Science Panel had not previously been made aware of.
- Dr. Kateri Salk, Tetra Tech, provided a very brief overview of the status of the various technical documents that Tetra Tech has been working on for the Science Panel.

V. Public Comment

Dan Potts, member of the public, provided a public comment. He indicated carp resuspend sediments, specifically during their spawn; there is a need to sort data specifically; and he has never experienced off-flavor in fish in the lake year-round.

The following public comment was submitted, in the Adobe Connect chat box, by David Richards, Oreo Helix Ecological:

- David Richards: I have another meeting scheduled at noon, so here are my, Public Comments:1. I didn't see a fish diversity/abundance metric in the warm water fisheries goal, Carp are but one fish species in the lake.2. Macroinvertebrate abundance is directly linked to nutrients via primary productivity3. We likely are initiating Utah Lake food web/nutrient dynamics models starting in 2021.They will be a combination of Joint Species Distribution Models, Bayesian Hierarchical Species Community models, and mechanistic mass-balance food web models linked with spatial Habitat Foraging Capacity models. Food web sections will include benthic invertebrates, zooplankton, and fishes as well as benthic algae and phytoplankton. These models should also have the ability to link to UofU-DWQ Utah Lake nutrient model as an add on. Our goal is to have these models be predictive of future changes to Utah Lake. Will be discussing/collaborating with UL Science Panel in the near future.

VI. Participation

Members of the Steering Committee:

- Scott Bird, Utah County Stormwater Association – Stormwater
- Craig Bostock, Utah County Health Department – Public Health [Alternate]
- Gary Calder, Provo City – Municipal
- Chris Cline, U.S. Fish and Wildlife Service – Fish and Wildlife (Alternate to George Weekly)
- Eric Ellis, Utah Lake Commission – Co-Chair
- Erica Gaddis, Utah Division of Water Quality – Co-Chair
- Heidi Hoven, National Audubon Society – Conservation and Environment
- Christopher Keleher, UDNR – Rec, Fishing, Sovereign Lands

- Rich Mickelson, Timpanogos Special Service District – POTW
- Jay Olsen, Utah Department of Agriculture and Food – Agriculture
- Dennis Shiozawa, Brigham Young University – Academia
- Jesse Stewart, Utah Lake Water Users Association – Ag/Water Rights/Water Users
- Neal Winterton, City of Orem – Municipal
- Gerard Yates, Central Utah Water Conservancy District – Water Management

Alternate Members of the Steering Committee:

- David Barlow, Timpanogos Special Service District – POTW
- Jamie Barnes, UDNR – Rec, Fishing- Sovereign Lands
- Sam Braegger, Utah Lake Commission – Co-Chair Alternate
- Jon Hilbert, Jordan Valley Water Conservancy District, – Ag/Water Rights/Water Users
- Nancy Mesner, Utah State University - Academia
- Dave Norman, Lehi City – Municipal
- Cory Pierce, Spanish Fork City – Municipal
- Mike Rau, Central Utah Water Conservancy District – Water Management of Utah Lake

Members of the ULWQS Science Panel

- Mitch Hogsett, Forsgren Associates, ULWQS Science Panel (Chair)
- Theron Miller, Wasatch Front Water Quality Council

Members of the Public:

- Dan Potts
- David Richards

Utah Division of Water Quality Staff:

- Scott Daly
- Jodi Gardberg
- John Mackey

Tetra Tech

- Michael Paul
- Kateri Salk

Facilitation Team:

- Paul De Morgan, RESOLVE
- Dave Epstein, SWCA