Utah Lake Water Quality Study
Science Panel Call #16
Call Summary
October 21, 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 Science Panel in general. A list of attendees can be found at the end of the document.

Upcoming Meeting/Call	When & Where	Suggested Agenda Items
• SP Call #17	October 28, 2020; Zoom	○ Update on progress toward developing responses to the Steering Committee Management Goals questions.
• SP Call #18	November 4, 2020; Zoom	○ Seek approval on responses to the Steering Committee Management Goals questions.

I. Action Items

Meeting Summaries	Who	Due Date	Date Completed
1. Share draft meeting summary	Facilitation Team	Oct. 23	Oct. 23
2. Review and share comments on summary	Science Panel	Oct. 30	
3. Finalize summary and post to Dropbox	Facilitation Team	Nov. 2	
Approach for Responding to SC Questions	**Who**	**Due Date**	**Date Completed**
4. Share potential approaches for assessing magnitude, duration, and frequency targets for assessment of algal bloom-related measures.	Science Panel	Oct. 26	
5. Move forward with approach presented in Call #16 and discuss progress on Call #17	Tetra Tech	Oct. 28	
6. Share mass-balance tech memo	Mike Brett	TBD	

II. Decisions/Approvals

This section provides an overview of decisions made by the Science Panel during the call; related key discussion points can be found below in the document. In this call, no formal decisions were made.

III. Meeting Recording

Recordings of the meeting (also available on the DWQ website in the near future) can be found at the following link: https://www.youtube.com/watch?v=xrAFTI2btzc&feature=youtu.be

IV. Key Discussion Points

Management Goals Document

- The Co-chairs of the ULWQS Steering Committee – Erica Gaddis, UDWQ, and Eric Ellis, Utah Lake Commission, provided an overview of the Steering Committee's effort over the last several months to describe the desired future condition of Utah Lake through a set of Management Goals. Dr. Gaddis briefly discussed the layout of the Management Goals table, examples of measures and targets for some goals, and highlighted some of the changes made to previous versions of the document.
- In response to an SP member question, Dr. Gaddis explained that the Jordan River is not currently being used as a drinking water source and there is no intention for future use. However, based on a recent conversation with the Jordan Valley Water Conservancy District, downstream water users do intend to retain the drinking water use for the Jordan River.

Steering Committee Questions to the Science Panel

- Dr. Gaddis and Mr. Ellis introduced each of the Steering Committee questions to the Science Panel, discussed the intention of each question, and how the SP responses would help inform the Steering Committee in developing a complete list of management goals.
- An SP member asked if any of the measures in the Management Goals document are used by other States to inform similar goals and suggested that the Tetra Tech team conduct an initial literature review to identify potential measures.
- An SP member suggested that relationships between nutrients and algal growth might not be straightforward to demonstrate due to the potential influence of other covariates. Several Panel members discussed potential mechanisms that might influence nutrient availability and the potential implications for developing a direct relationship to algal growth.
- Rich Mickelsen, Timpanogos Special Service District and a member of the ULWQS Steering Committee, provided some clarification on questions 2e and 2f. Mr. Mickelsen indicated he, and the SC, is interested in these questions because they have direct relevance to his effluent permit and how the relationship between nutrients, cyanobacteria density, and toxin production could have implications on future management scenarios. He clarified that sub-bullet 2 in question 2f should be focused on determining if there is a demonstrated relationship between cyanobacteria cells and dermatological effects.

Approach for Developing Responses to Steering Committee Questions

- Hans Paerl, SP member, presented two slides of relationships between cyanobacterial and toxins from Lake Taihu and Lake Erie to demonstrate how the relationship may look in Utah Lake. Kateri Salk, Tetra Tech, described the efforts undertaken so far to assemble relevant literature and data. Dr. Salk also described the approach for how this information will be analyzed to provide information to the SP for answering each SC question.
- One SP member suggested looking at Klamath Lake for examples related to toxin and cyanobacteria relationships. In addition to the variables discussed by Dr. Salk, he suggested the Panel should also look at the influence of seasonality on the relationships. Another SP member provided a link to a relevant paper describing HAB conditions in Lake Sevan, Armenia (https://onlinelibrary.wiley.com/doi/pdf/10.1002/iroh.202002060)
- Scott Daly, UDWQ, shared an example form that the SP may consider using to record their responses to the SC. He also discussed the timeline for additional meetings (October 28th and November 4th) and for assembling information and ultimately developing and approving responses.

Public Involvement

- Dan Potts commented that he appreciated the work being done by the Science Panel on this topic.

V. Participation

Members of the Science Panel:

- Michael Brett, University of Washington
- Soren Brothers, Utah State University
- Mitch Hogsett, Forsgren Associates, Science Panel Chair
- Ryan King, Baylor University
- James Martin, Mississippi State University
- Theron Miller, Wasatch Front Water Quality Council
- Michael Mills, June Sucker Recovery Program
- Hans Paerl, University of North Carolina

Members of the Steering Committee:

- Eric Ellis, Co-Chair, Utah Lake Commission
- Erica Gaddis, Co-Chair, Utah Division of Water Quality
- Richard Mickelsen, Timpanogos Special Service District

Members of the Public:

- Tina Laidlaw, EPA
- Renn Lambert, Limnotech
- David Richards, Oreo Helix Ecological
- Dan Potts

Utah Division of Water Quality Staff:

- Scott Daly
- Jodi Gardberg

Technical Consultants to ULWQS Science Panel:

- Michael Paul, Tetra Tech
- Kateri Salk, Tetra Tech

Facilitation Team:

- Paul De Morgan, RESOLVE
- Dave Epstein, SWCA