

**Utah Lake Water Quality Study: Stakeholder Process
Science Panel Calls #3 and #4
Call Summaries
August 28 and 30, 2018**

This document includes a list of future meetings/calls, action items, and a brief summary of the discussions on each day. Please review the action item list for tasks assigned to you and/or the Science Panel in general (highlighted in yellow). A list of attendees, for each day, can be found at the end of the document.

Upcoming Meeting/Call	When & Where	Suggested Agenda Items
ULWQS Steering Committee Meeting #5	<i>Thursday, September 6 1:00 p.m. to 4:00 p.m.</i>	<ul style="list-style-type: none"> ○ Review and discuss SC and SP Operating Principles, SP Charge, discuss public involvement strategy, discuss schedule moving forward, Introduce RFI for treatment of HABs
ULWQS Science Panel Call #5	<i>TBD</i>	<ul style="list-style-type: none"> ○ TBD

Action Items

Meeting Summaries	Who	Due Date	Date Completed
1. Share draft Meeting Summary	Facilitation Team	September 17	September 17
2. Review and share comments on summary	Science Panel	September 24	September 25
3. Finalize summary and post to Dropbox	Facilitation Team	September 25	September 25
Science Panel Operating Principles	Who	Due Date	Date Completed
4. Send out final SP Operating Principles, once approved by SC, including updated sharing protocols	Facilitation Team	September 12	September 12
Charge (SC to SP) Document	Who	Due Date	Date Completed
5. Share redline version of the updated Charge document with the SC	Facilitation Team	August 31	August 31
6. Share final Charge with SP (pending SC approval)	Facilitation Team	September 12	September 12
7. Share “working content” related to working Charge with SP	DWQ/Facilitation Team	September 28	

Technical Contractor	Who	Due Date	Date Completed
8. Share update, as necessary, on details of the procurement process	UDWQ	September 13	September 13
9. Share draft SOW for technical consultants and share with SP	UDWQ	September 14	September 14
10. Review draft SOW for technical consultants and share comments	Science Panel	September 21	
Other Items	Who	Due Date	Date Completed
11. Develop proposal to the SP for evaluating data and data quality	UDWQ	TBD	
12. Schedule upcoming Science Panel Calls	Facilitation Team	TBD	

Day 1: Tuesday, August 28; 10:00 a.m. to 12:00 noon

I. Key Points of Discussion – August 28

A recording of the August 28th call (also available on the DWQ website in the near future) can be found at the following link: <http://resolv.adobeconnect.com/p7jd176t8ywj/>. Please use the video scroll bar along the bottom of the recording window to find the appropriate time in the webinar recording for the session you would like to watch. There are bookmarks in the ‘Events Index’ on the left side of the screen identifying each session.

UDWQ: Update on Science Panel Tasks

Scott Daly, Utah Division of Water Quality (DWQ), went over the most recent changes to the ULWQS Science Panel Operating Principles document. Mr. Daly then asked the members of the Science Panel if they agreed with the changes and there was unanimous approval. Mr. Daly explained that the next step would be to send the updated version of the Operating Principles to the ULWQS Steering Committee for their comments and approval.

Steering Committee Charge to the Science Panel

Paul De Morgan, RESOLVE, went over the most up-to-date version of the Charge document and solicited comments from the members of the Science Panel. Some of the edits Mr. De Morgan went over had been made by members of the Science Panel directly to the Facilitation Team and had not been previously discussed with the whole panel. Numerous edits to the document were discussed by the Science Panel and an updated version was created for distribution to the ULWQS Steering Committee. Mr. De Morgan also proposed to the Science Panel that the Facilitation Team create a document that, building on the notes previously in the draft Charge document and the Attachment A from the Science Panel’s August 8 and 9 meetings, would summarize study objectives, data needs, and potential studies and analyses for future use by the Science Panel. He suggested it ultimately could be arranged in

relation to the High-level Questions and the Sub-questions from the Charge. There was support for this proposal and Mr. De Morgan committed to sharing the document with the Science Panel in the coming weeks.

Information Sharing Efforts

Mr. De Morgan went over a memo that describes a protocol for the sharing of public and confidential information with and among the Science Panel. The members of the Science Panel expressed their support for the approach described in the memo. Mr. De Morgan also requested that he, Dave Epstein (SWCA), and Scott Daly be copied on all information-sharing emails to the Science Panel. The Panel members agreed with the proposed approach and the idea of integrating the text into the SP Operating Principles document.

Some discussion ensued regarding the compilation of Wasatch Front Water Quality Council monitoring data with monitoring data from DWQ. Members of the Science Panel expressed their opinion that it would be valuable to have the two data sets integrated. Additional discussion ensued regarding the format that data should be compiled into, but the group did not come to an agreement; however, Theron Miller and UDWQ staff agreed to continue working on the integration and to provide an update to the Science Panel in the near future.

II. Public Comments – August 28

One member of the public expressed his desire to speak during the public comment period. Additionally, there were several comments received in the chat box of the Adobe Connect web meeting.

- Dan Potts, Utah Anglers Coalition: The importance of emergent macrophytes cannot be overstated. There has been some discussion that submergent macrophytes are most important. Early reports of UL indicated that expanses of bulrush and other emergent macrophytes were massive and helped keep the lake water much clearer. I suggest we do not overlook emergent macrophytes.
- Juhn-Yuan Su, University of Utah (Adobe Connect chat box): I seem to exhibit a question regarding the “Nutrient Loading data. [SWMM and GoldSim].” under “Information Needs:”. Are you referring to the SWMM and GoldSim Modeling that are being conducted at the University of Utah, or is this a separate modeling study conducted for the purposes of the Utah Lake Water Quality Study?

Day 2: Thursday, August 30; 1:00 p.m. to 3:00 p.m.

III. Key Points of Discussion – August 30

A recording of the meeting (also available on the DWQ website in the near future) can be found at the following link: <http://resolv.adobeconnect.com/peyaetafja42/>. Please use the video scroll bar along the bottom of the recording window to find the appropriate time in the webinar recording for the session you would like to watch. There are bookmarks in the ‘Events Index’ on the left side of the screen identifying each session. In addition, a ‘recording agenda’ is attached at the end of the summary which also provides the timestamps for when each session begins in the webinar recording.

Utah Lake Modeling Efforts

Dr. Michael Barber, University of Utah, presented an overview of the University of Utah Modeling Study and the various models that have been linked together to simulate Utah Lake and its watershed. Dr. Barber also explained what data is available to inform the various models and that they are manually linked together. Several questions from members of the Science Panel were addressed to Dr. Barber and some discussion of data sources, model parameters, and potentially important gaps in the models ensued. Scott Daly, DWQ, provided the Science Panel with an overview of the modeling discussion from the August 9 Joint Steering Committee/Science Panel Meeting. Mr. Daly stated that DWQ plans on sketching out a plan for calibration of the model once the model has been fully developed by the University of Utah. Mr. Daly also went over some of the potential shortcomings of the model identified by the Science Panel during the August meetings and discussed potential methods for overcoming them.

Technical Consultant

Mr. Daly presented DWQ's current thinking for bringing a technical consultant on board to support the Science Panel in their efforts. Mr. Daly explained that the Science Panel would be involved in developing a scope of work and that DWQ would hope to have a consultant selected by mid-October if possible. Members of the Science Panel asked questions about the process for hiring a consultant and some discussion ensued around the potential need for recusal of Science Panel Ex Officio members, whose organization(s) may be interested in submitting a proposal for the consideration, from the review of the draft scope.

Information Sharing (continued from SP Call #3)

Mr. Daly gave an update on a couple of DWQ efforts related to information sharing with the Science Panel. He stated that the headwaters water quality criteria that was developed with both a biological response and nutrient criteria approach should be finalized in roughly one month. The headwaters criteria is not an effort directly connected to the ULWQS but is of interest to the Science Panel. Additionally, he provided an update on the Utah Lake literature summary that is being completed by Limnotech (consultant to DWQ). Despite a Science Panel request, Limnotech indicated they do not recommend a deeper dive into the documents included in the first draft of the literature summary. A second draft of the literature summary including an executive summary and a bibliography should be completed very soon.

Confirming Specific Science Panel Tasks

Mr. Daly went over DWQ's method for evaluating data and the various components of data quality (accessibility, credibility, etc.). He stated that DWQ will put together a proposal for the Science Panel to adopt DWQ's method. Mr. Daly also went over DWQ's approach to handling uncertainty and suggested that the Science Panel should consider whether a tool for evaluating the amount of uncertainty needs to be developed for the ULWQS.

IV. Public Comments – August 30

Dan Potts: Dan the fisherman. Has been involved representing anglers and environmental interests for the June Sucker Recovery Implementation Program for over 10 years. There is an energy flow-type model being developed by Jereme Gaeta and Kevin Landom. There may be a need for the technical

consultant to look at how those different models may integrate with each other. Some might be more bottom-up and others top-down. This should be considered in developing the scope for the technical consultant.

David Richards (via Adobe Connect chat box): FYI: By far one of the most important (bio)indicators of Utah Lake ecosystem health are the native mollusks. I just finished a qualitative sampling on Goshen Bay this morning and found well weathered shells of at least 7 mollusk taxa, including Anodonta our native mussel. These taxa have varying niches and ecological needs and why they are gone from Utah Lake is still a mystery. Some taxa, for example, Fluminicola sp., are more cold water, well oxygenated taxa. They are gone everywhere we look. Only their shells remain. Even Sphaeriidae taxa, our native clams, seem to be absent, as is for the most part the invasive clam, Corbicula but this taxon does occur in other sections of the lake at very low abundances. So, it doesn't appear to be lack of secondary fish hosts or ammonia that has caused the decline or extinction of Utah Lake's native molluscan fauna. Thus, the return of the native mollusks or even some of them will be in my mind the number one metric/indicator of improved conditions.

David Richards (via Adobe Connect chat box): Highly recommend taking 5 minutes out of busy schedules to read the introduction paragraphs of Brandenburg et al. 2018. Intraspecific trait variation and trade-offs within and across populations of a toxic dinoflagellate. Ecology Letters. doi: 10.1111/ele.13138. Also, FYI: We estimated roughly 20K avocets and white-faced ibis feeding on midge larvae in shallow Provo Bay two days ago. Obviously, nutrients are extremely important in this sub-ecosystem of Utah Lake. i.e. DWQ beneficial use is to protect waterfowl and shorebirds.

V. Participation – August 28 and 30

Meeting Participants (Name, Organization) – August 28

Members of the Science Panel:

- Mike Brett – University of Washington
- Soren Brothers – Utah State University
- Greg Carling – Brigham Young University
- Mitch Hogsett – Forsgren Associates
- Ryan King – Baylor University
- James Martin – Mississippi State University
- Theron Miller – Wasatch Front Water Quality Council
- Hans Paerl – University of North Carolina

Members of the Public:

- Eric Ellis, ULWQS SC Co-chair
- J. Kinsey
- Kevin Kratt
- Renn Lambert
- Mike Mills
- Dan Potts
- David Richards
- Juhn Yuan Su

State of Utah Staff:

- Carl Adams, Utah Division of Water Quality
- Scott Daly, Utah Division of Water Quality
- Erica Gaddis, Utah Division of Water Quality
- Jim Harris, Utah Division of Water Quality

Facilitation Team:

- Paul De Morgan, RESOLVE
- Dave Epstein, SWCA

Meeting Participants (Name, Organization) – August 30**Members of the Science Panel:**

- Mike Brett – University of Washington
- Soren Brothers – Utah State University
- Greg Carling – Brigham Young University
- Mitch Hogsett – Forsgren Associates
- Ryan King – Baylor University
- James Martin – Mississippi State University
- Hans Paerl – University of North Carolina

Members of the Public:

- Mike Barber
- Eric Ellis, ULWQS SC Co-chair
- Mark Illum
- Renn Lambert
- Mike Paul
- Mike Mills
- David Richards
- Juhn Yuan Su

State of Utah Staff:

- Carl Adams, Utah Division of Water Quality
- Scott Daly, Utah Division of Water Quality
- Erica Gaddis, Utah Division of Water Quality
- Jim Harris, Utah Division of Water Quality
- Jake Vander Laan, Utah Division of Water Quality

Facilitation Team:

- Paul De Morgan, RESOLVE
- Dave Epstein, SWCA