

Review potential applications of models to the ULWQS – Michael Paul, Tetra Tech [10 min.]

Mike Paul and Jon Butcher will discuss generally how the model products may be used for the ULWQS while touching briefly on the items listed below. The Science Panel will discuss specifically how to apply the models at a future meeting. These topics are provided for the Science Panel to consider during the remainder of the conversation.

- Discuss potential model applications of the model suite:
 - To Determine reference conditions of Utah Lake by simulating background nutrient loading
 - To Develop stressor-responses to look at a range of nutrient loading scenarios
 - To establish criteria end points, in-lake response to inputs, Phase 3 nutrient reduction scenarios, etc.
- Does the Science Panel plan to use all of the models
 - Watershed: DHSVM , SWMM
 - Systems: GoldSim
 - Receiving Water: EFDC, WASP
- If the models are applied in these ways, what are the specific data requirements, processes, simulation periods, etc. needed to be successful?
 - Will these be provided by the U of U?
 - If not, what additions and modifications are needed?

Review recent information exchange between U of U and the Science Panel – Mitch Hogsett, Forsgren [10 min.]

- Briefly review the SP memo to U of U outlining questions related to model set up, included processes, and inputs
- Briefly review the U of U response letter
- Today, we'll revisit any unresolved topics

Identify the specific deliverables from the U of U to the Science Panel – James Martin [20 min.]

- What is the U's timeline for the overall project?
- What models will be produced and delivered to DWQ and the Science Panel?
- Briefly, how will the watershed models be applied to the U's project
- Briefly review the approach for calibrating and coupling the model suite
- What is the plan for delivering models to DWQ and Science Panel?
 - When will the models be delivered?

- What models will be delivered?

Discuss and review the U of U EFDC and WASP QAPP James Martin [20 min.]

- Review model data requirements of interest to the Science Panel (Table 6.2)
 - What is the approach for including atmospheric deposition?
 - What is the approach for computing a nutrient budget for the lake?
 - What is the approach for characterizing ground water inflow?
- For each model:
 - What are the calibration, validation, and simulation periods?
 - What data is being used for calibration and validation (source, type, period of record)?
- Discuss the approach for EFDC and WASP calibration performance evaluation
- Discuss the approach for determining model sensitivity
- Discuss the approach for characterizing model uncertainty

Discuss outstanding questions and topics addressed in the memo exchange James Martin [30 min.]

- Following the previous conversations, discuss any unresolved topics:
 - The role of EFDC and WASP in simulating bioturbation and sediment transport mechanisms
 - The approach for sediment diagenesis in EFDC and WASP
 - Orthophosphate binding with calcite
 - Food web elements
- Discuss how each topic is addressed in models and their ability to achieve goals of ULWQS

Develop an approach, including milestones, for model calibration and delivery of models to DWQ and the Science Panel James Martin [20 min.]

- With consideration of the U of U timeline discussed previously, jointly develop an approach for delivering model products to the Science Panel for application to the ULWQS
 - Determine opportunities for future Science Panel input
 - Determine when model calibration will be complete
 - Determine when calibrated models will be delivered to the Science Panel