

**STATE BOARD MONITORING SPECIAL STUDY**  
**Technical Workgroup Meeting #7 – SCHISM and Data Assimilation**  
**December 7, 2022**  
**1 pm – 2:30 pm**

**MEETING NOTES**

**Attendees**

- Ibraheem Alsufi/DWR
- Eli Ateljevich/DWR
- Bryant Barnhart/DWR
- Erika Britney/ICF
- Thomas Burke/Hydrologic Systems for SDWA
- Chandra Chilmakuri/SWC
- David Colvin/DWR
- Daniel Deeds/USBR
- Jared Frantzich/DWR
- Bryant Giorgi/DWR
- Parviz Hader-Tehrani/DWR
- Thomas Handley/DWR
- Stephen Louie/SWRCB
- Maureen Martin/Contra Costa Water District
- Jacob McQuirk/DWR O&M
- Prabhjot (Nicky) Sandhu/DWR
- Patrick Scott/DWR
- Jane Tannous/DWR
- Karen Tolentino/DWR
- Zhenlin Zhang/DWR
- Jenna O’Neill/ICF
- Tom Boardman/Westlands Water District
- Thomas Burke/Hydrologic Systems for SDWA
- Ching-Fu Chang/Contra Costa Water District
- Janis Cooke/SWRCB
- Lisa Crowley/SWRCB
- Jelena Hartman/SWRCB

**Action Items:**

- Schedule follow-up meeting on data assimilation in January. (*Eli and Zhenlin*)
- Send out Program updates. (*Karen Tolentino*)
- Schedule the next Stakeholder Group meeting (likely in March). (*Program team*)

- Send out High-Speed Mapping and Point-Source Sampling report when ready. (*Karen Tolentino*)

## Welcome and Updates

Today's meeting will be about SCHISM set-up and assumptions and data assimilation updates. There is a lot to cover, so Karen Tolentino will send Program updates out later.

## Presentation

See attached presentation for details.

## Discussion

*Jacob McQuirk, DWR:*

- You recommended removing Doughty Cut and adding a new downstream station, is that correct?
  - *Response (Eli Ateljevich):* Yes, the Grant Line station would allow us to see this data better. Jacob remembers having a station there before, but Eli doesn't remember that. Eli said that we shouldn't put stations right at junctions, because the mixed flow impacts the data. A long reach of Grant Line downstream of Tracy Road can (and probably does) have spatially uniform EC most of the time, but we don't have a station on the west end that is well situated to detect this.

*Tom Burke, Hydrologic Systems for SDWA:*

- You want to get rid of Doughty Cut because it's giving you the same data as Grant Line East, is that correct?
  - *Response (Eli Ateljevich):* Yes, that's correct. The group direction had been to add flow to Doughty Cut. We want our gauges to be high-value. It would be better to have this gauge downstream somewhere in order to maximize budget.
  - Tom Burke: That makes sense if they're giving us the same info. But perhaps do a couple of spot measurements to confirm this theory before removing the gauge.
- How did you measure barrier leakage?
  - *Response (Eli Ateljevich):* Dave Huston's group waited until the culverts were shut, and that water was not overtopping the weir. Then they took boat measurements to collect that data. With the culverts, they actually had sensors inside a fraction of the culverts, and those were all behaving similarly.
  - Tom Burke: I would expect the overtopping of the weir to be related to the head difference.
  - Eli Ateljevich: Yes, that's correct.
- Tom Burke: When you're looking at the null zone analysis and looking at the difference between ORM and OLD, what was the average?
  - *Response (Eli Ateljevich):* It was a daily average, which removes the time period of tides and averages about 25 hours.

*Jelena Hartman, SWRCB:*

- If a new station is put in at Grant Line Canal, GLC and GLE are so far apart—how well would they track for EC because they are so far apart?

- *Response (Eli Ateljevich):* I've looked at this a lot but I would have to research more to pull the time series out. But this very time series is how I discovered that we were picking up too much water at GLC. They seem like they should be more similar, but water is mixing in from the western side for GLC and skewing those numbers. This is why I don't want to use this as the basis of comparison.

*Ching-Fu Chang, Contra Costa Water District:*

- Regarding the very last slide and the "hope regarding thin margins" statement: If we are using this conclusion to develop some sort of action to improve compliance, what would it be like? This is a concept-level question.
  - *Response, Jacob McQuirk:* One of the things we've been thinking about and planning for is to replace the temporary agricultural barriers with permanent operational gates. This would reduce the restriction in the channel so there is a better rise. They are also fully operational, which would allow us to control circulation better. If we can drive circulation, then we can help with water quality, dissolved oxygen, salinity, etc. We are trying to advance this and are hoping to do it in the near future, but it will take awhile. Another thing it could be to remove SAV from the channels. The permanently operated gates are a win-win for the projects and the water users in the South Delta. They are also better for adaptive measurement and the fish. When we have to put them up every year, that takes time. Permanent gates could be raised in minutes instead of 30 days.
  - *Eli Ateljevich:* I would like to bring these assumptions into the modeling. But we don't want to have sources in the wrong places, have the discharges wrong, etc.

*Dan Deeds (USBR) via chat:*

- "We have a bunch of spare EC sensors in my group. If DWR wants to deploy a sonde for a bit, let me know. We could put something out in GLC before committing to remove Doughty Cut."

*Patrick Scott (DWR) via chat:*

- "Our office has a stage monitoring station upstream of GLC. Not transmitted to CDEC, but is on Water Data Library (ID: B95295)."

*Tom Burke via chat:*

- "The measured barrier leakage shown by the black dots seems to fall on the grey dots of the existing rating curve on Slide 13. It seems to fit what we are already using."
  - *Response (Zhenlin Zhang):* "Thomas Burke, the gray dots were the revised DSM2 after taking into account of barrier leakage. The gray dots don't exist for the original DSM2."

*Tom Burke (Hydrologic Systems for SDWA) via chat:*

- What do you mean by "Reach Based EC"?
  - *Response (Karen Tolentino, post-meeting):* Salinity compliance within the reach (river segments) as opposed to compliance at specific point locations.

*Tom Burke, Hydrologic Systems for SDWA:*

- I would like another session about data assimilation and how it's being collected, used, and implemented into a final modeling product. How are you implementing this process?
  - *Response (Eli Ateljevich)*: Yes, we can have a session on that. We can be ready for this in early to mid-January.

**Closing and Next Steps**

- We will likely have a larger group meeting sometime in March.
- The team is reviewing the High-Speed and Point Source Sampling report now and will send it out in the next couple of weeks.