

STATE BOARD COMPREHENSIVE OPERATIONS PLAN AND MONITORING SPECIAL STUDY

Stakeholder Meeting 1

May 6, 2021

3:00 pm – 5:00 pm

Attendees

Project Team

- Ibraheem Alsufi/DWR
- Eli Ateljevich/DWR
- Josh Baar/DWR
- Emily Cummings/DWR
- Randi Field/Reclamation
- Jared Frantzich/DWR
- Anna Hegedus/DWR
- Jacob McQuirk/DWR
- Elizabeth Kiteck/Reclamation
- Daniel Deeds/Reclamation
- Karen Tolentino/DWR
- Zhenlin Zhang/DWR
- Erika Britney/ICF
- Jenna O’Neill/ICF
- Kate/Captioner

Attendees (listed alphabetically)

- Barbara Barrigan-Parrilla/Restore the Delta
- Tom Boardman/ Westlands Water District
- Tom Burke/Hydraulic Systems
- Ching-Fu Chang/Contra Costa Water District
- Eric Chapman/State Water Contractors
- Tasha Cheney/not stated
- Chandra Chilmakuri/State Water Contractors
- David Colvin/DWR
- David Coupe/State Water Resources Control Board
- Erich Delmas, City of Tracy
- Gabriel Duong-City of Tracy-Utilities Laboratory
- Bill Fleenor/UC Davis
- Erin Foresman/State Water Resources Control Board
- Michael George/Delta Water Master
- Bryant Giorgi/DWR
- Jose Guterrez/Westlands Water District
- Kevin He/DWR
- John Herrick/South Delta Water Agency
- Stephanie Hiestand, City of Tracy
- Mary Hildebrand
- Peyman Hosseinzadeh Namadi/DWR
- Lindsay Kammeier/Delta Water Master
- Paul Larson/DWR
- Michelle Leinfelder-Miles/UC Extension
- Mariah Looney/Restore the Delta
- Stephen Louie/State Water Resources Control Board
- Amanda Maguire/DWR
- Maureen Martin/Contra Costa Water District
- Jenny Reina/not stated
- Richard Pellegrini/Pescadero Irrigation District
- Patrick Scott/DWR
- Kuldeep Sharma/Tracy Wastewater
- Ian Uecker/DWR
- Aloke Vaid, City of Tracy

Action Items

- Update Restore the Delta's emails from .com to .org.
- Send a copy of slides with meeting notes.
- John Herrick and Jared Frantzitch to discuss Salinity Point Source Sampling & Increased Ion Sampling to inform study plan development.
- Consider groundwater in study design and explain how it is accounted for/included in analyses.
- Eli Ateljevich to send John Herrick, Tom Burke, Maureen Martin and Ching-Fu Chang existing bathymetry maps and work to identify areas where new bathymetry is needed and/or incorporate data they have. Specifically update data for Five Points Area and Paradise Cut. Include them in study development.
- Include Maureen Martin on SCHISM study development.
- Zhenlin Zhang and Ching-Fu Chang will continue their discussion about Zhenlin's model. Include Tom Burke and Maureen Martin.
- Jacob McQuirk to follow up with Tom Burke about the source of the historical South Delta ion data.
- DWR will keep stakeholders involved in the generation of the technical workgroup schedule.
- Stakeholders asked to think about the study questions and hypotheses and send comments in preparation for the next meeting.
- DWR/USBR: Discuss citizen data collecting before the next technical meeting and stakeholder meeting.

Meeting Notes

Presentation 1: Salinity Point Source Sampling & Increased Ion Sampling

John Herrick, South Delta Water Agency:

- Grant Line Canal is part of the tidal system so it's an important area to be considered.
- Groundwater slope and accumulation in the San Joaquin River have not been addressed.
- **Follow-up:** John would like to have a follow-up discussion about these studies with Jared before things start (to inform study plan development).

Maureen Martin and Ching-Fu Chang, Contra Costa Water District:

- Ching-Fu: Elaborate on how monitoring data would answer whether you can use ion fingerprinting to determine salinity sources?
- Maureen: What are examples of ion fingerprinting? How precise is it? Different water sources have different compositions. Groundwater has a different ionic signature than direct return flow from agriculture. It's not clear to me what fingerprinting you're going to use to distinguish the different sources, when you have all of the mixing happening in the area. How will this sampling identify the contributing point source?
 - *Response* (Eli): Conceptually, we have to break these sampling locations up. There are areas that might receive distinctive mixes of water. Some sources are easy to

distinguish, like Paradise Cut. But others are less distinguishable. Old River at Tracy Bridge is an example of an area where it's easy to distinguish different sources. We're parsing the problem in the same way that you're talking about. Regarding how precise ion fingerprinting is—it's very good at showing distinguishing features upstream of Paradise Cut water.

John Herrick, South Delta Water Agency:

- Paradise Cut itself is not producing salt, so where is it coming from? CVP water is applied from the south, which changes the water table and the hydrostatic pressure. If Paradise Cut is adding salt (other than what comes in from the San Joaquin River and Old River), it will be difficult to identify where the salt is coming from with so many different sources (sumps, groundwater, Old River, San Joaquin River, excess surface water from Tom Paine Slough, etc.). That is the problem.

Barbara Barrigan-Parrilla, Restore the Delta:

- That answer on precision did not help. For comparison, testing by SWRCB can figure out that an E coli source is ag vs. human waste etc. It doesn't show source? Or water source?
Response (Eli): We can't determine the source location from one ion, we find it from the mix.

John Herrick, South Delta Water Agency:

- The area in between Tom Payne Slough and Paradise Cut is Pescadero. I test the supply ditch in the channel and they're applying 2-point EC water or above. They apply that water to their land and then it gets into Paradise Cut through excess surface application or seepage into the ground, which causes hydrostatic pressure.
- How will we check on where the salt comes from except to say "this is from Paradise Cut?" There may be five or six sources.
- We need to ask more questions before we spend money on testing. It depends on where you are and what the water is. If it's excess surface water, it's not concentrated salt. If it's going in the groundwater, it's getting the groundwater salt. That could be a source, too.
- We must look at the issue of the slope of the groundwater from southeast to northwest.
- Some of the places where they say, "oh, there's salt here and nothing's changed in 50 years", we have to ask, why would that be a problem now and not 30 years ago?

Tom Burke, Hydraulic Systems:

- We'd like to see a more focused analysis of salt sources that are coming into Tom Paine Slough and Paradise Cut to see where the salt really is. To understand how to manage it, we need to know what the sources are.

Presentation 2: Paradise Cut Flushing Study

John Herrick, South Delta Water Agency:

- There is a district that pumps from the San Joaquin River into Paradise Cut, and we might be able to use their pumps and water. That would be cheaper than renting other pumps.
- We have to figure out how much volume of water we want to try. In 2017, we were getting a couple thousand CFS through there during high flows, but we won't be able to get that again.
- There are also two channels, but they are not the same depth and we may not be able to get flow through them evenly.
- If we are taking water out, where is it going downstream?

Maureen Martin, Contra Costa Water District:

- Whose water (water rights) are going to be used for the flushing study?
 - *Response:* Not yet known

Stephen Louie/State Water Resources Control Board

- What is the history of it being connected or disconnected from the San Joaquin River, e.g., weir construction?
 - *Response:* Paradise cut was man-made. When the Corps of Engineers put in the system, it was a bypass. They put in the weir and, before that, the end of the channel approached the San Joaquin River...They probably improved the existing channel as a flood cut-off.
- DWR would probably have to request a change the point of diversion to send water over the weir.

Michael George, Delta Water Master

- The pumping capacity under the license at that weir is likely much larger than what is actually used, so there would be more capacity to move water under the license, which wouldn't require a change in the point of diversion.

Ching-Fu, Contra Costa Water District:

- Has flux measurement been considered as one of the methods of source identification? It seems more intuitive than fingerprinting because the latter is only an inference from ion composition.
 - *Response (Eli):* One of the issues is that the flux is subtle. Some flux work has been done and it continues to be done as an alternative to ions, ion measurement is one of the three or four prongs of attack to get at some of the same questions.

Presentation 3: SCHISM 3D

John Herrick, South Delta Water Agency:

- Will there be new bathymetry in the Five Points area that will be incorporated into the model?

- *Response* (Eli): Yes, we are willing to go over existing maps and sources of bathymetry with you and agree on which parts need the most work.
- **Follow-up:** Review maps and existing bathymetry data with John and Tom.

Maureen Martin, Contra Costa Water District:

- How does SCHISM perform in shallow/narrow channels when frictional forces may dominate in ways that might be different in other parts of the Delta?
 - *Response* (Eli): It does pretty well, especially in the highly resolved portions of his slides.
- **Follow-up:** Include Maureen on study development.

Tom Burke, Hydraulic Systems:

- Is the ultimate goal to get to the end of Paradise Cut, Tom Paine, and Sugar Cut? Or just as far as the model takes you? Given enough data, would you like to extend it all the way down?
 - *Response* (Eli): We will look at your bathymetry and if it is detailed enough, we will use it.
 - *Response* (Jacob): Building the tool on the South Delta is important and we do encourage your participation.

Presentation 4: Water Quality Data Integration

Ching-Fu, Contra Costa Water District:

- It's unclear to me - how is "modeling without data assimilation" different from "under-calibrated model"? Is this a step in addition to routine model calibration/testing/validation?
 - *Note:* Because this is such a detailed technical discussion, Zhenlin and Ching-Fu will talk about this further. Tom Burke and Maureen Martin are interested in further discussion on this.

Barbara Barrigan-Parrilla, Restore the Delta:

- How are these models going to be made transparent and understandable to the general public?
- How can citizen scientists participate in any kind of on-the-ground data collection, like collecting data or providing data?
- When you start talking about adding something hypothetical to a model, how do you make that accessible and understandable to the public?
 - *Response* (Zhenlin): This study is the perfect place for that; especially if we have a place where that data can be stored.

Monitoring Special Studies

Jacob McQuirk, DWR:

- Continued stakeholder involvement and input from the technical workgroup will also be important and provide opportunities to really engage at different levels.
- DWR can refer stakeholders to references, so that they can see the science.
- Local knowledge and data are critical—they will help us develop a better plan.
- The technical work group will allow us to get into the details and work on the technical design questions.
- The MSS will inform recommending a long-term plan to the State Water Resources Control Board that's founded in science and it takes the local knowledge into account - Something we can all be behind.

Closing Questions

Tom Burke, Hydraulic Systems:

- Where is the historical South Delta ion data coming from?
 - ***Follow-up:*** Jacob will get back to Tom on the source of the historical ion data.
- Is there is a technical workgroup schedule out yet.
 - ***Response*** (Jacob): No, but that the stakeholders will be involved in generating that schedule.

Jacob McQuirk, DWR:

- Next meeting, we want to spend time talking about the study questions & hypotheses—making sure that the MSS is designed to answer the questions that need to be answered.
 - ***Follow-up:*** Stakeholders asked to think about study questions & hypotheses and send us your comments so we can have a good discussion next time we get together.

Final Exchange Regarding the Effects of Groundwater

- John Herrick: If groundwater is moving south to north, and that is contributing to the salinity problems, then we will have problems. The plan to meet standards will evaporate.
- There is a long history of exports being put on land south of us, requiring a new drainage district. We have 50 years of salt being put on the land in an area where groundwater moves towards us. If this is the case, everything will fall apart. The approach is correct, but there's a problem when we get to the “why” of the salt being there.
- Maureen Martin: Groundwater water levels and water quality would be helpful if it is possible to get.

Final Exchange Regarding Transparency and Citizen Science

- Michael George: The technical modelers will have to make this all understandable/accessible. We should train people how to collect data correctly—teach them what info we need, how to get it, how to get it to us, and have a feedback loop so that efforts are not wasted.

- There have been too many studies done over the years that are just sitting on a shelf and we are reaching a tipping point of system failure.
- John Herrick: Concerns about quality control (and data quality) and reliability.
- Barbara Barrigan-Parrilla: I am suggesting an EPA citizen science certification.
 - **Follow-up:** DWR/USBR to discuss citizen science and idea of EPA citizen science certification before the next technical meeting and stakeholder meeting.

Wrap-Up

Erika: Stakeholder participation is going to help create a stronger overall study. We will circulate meeting minutes and a copy of the presentation after this meeting.

If there are further comments or follow-up, contact:

Erika: Erika.britney@icf.com

Jacob: Jacob.McQuirk@water.ca.gov

The next stakeholder meeting is anticipated to be held in early August.