

Nutrients STAG (Stakeholder Technical and Advisory Group)

January 9, 2015

Meeting Summary

Note: The list of attendees follows the meeting summary. The Central Valley Water Board has developed a webpage for the Nutrient Research Plan project, which can be found at: http://www.waterboards.ca.gov/centralvalley/water_issues/delta_water_quality/delta_nutrient_research_plan/index.shtml Additional materials from the STAG meeting (e.g., agenda, presentations, background documents) have been posted to the project website at: http://www.waterboards.ca.gov/centralvalley/water_issues/delta_water_quality/public_involvement_stag_meetings/index.shtml. The summary captures the major issues presented and discussed during the meeting, though they are not intended as an exhaustive record of all comments made. Rather the summary is intended to provide participants and other interested parties with a general description of topics addressed and different perspectives on those topics, as well as to record commitments and decisions made by the Group and its members.

Note: The person(s) assigned to complete specific items are identified in parentheses following the description of that item.

Meeting Objectives

- Review and approve STAG charter, including STAG membership
- Form and approve Executive Subcommittee
- Review, discuss, and approve Science Work Group charges
- Decide next steps

1 Introduction and Announcements

Brock Bernstein reviewed the agenda and meeting objectives. Board staff anticipates STAG meetings will be held quarterly but the schedule will be flexible in order to keep pace with the progress of the science work groups. STAG meetings are open to all interested participants.

2 Background

Chris Foe briefly summarized the genesis of the project, which responds to Recommendation #8 in Chapter 6 (Water Quality) of the Delta Stewardship Council's Delta Plan, which was to develop a Nutrient Study Plan (i.e., a research plan) for the Delta. Chris also reviewed the role of the Science Work Groups in preparing white papers that will form the basis for the research plan. The Board's initial research plan will not be able to address all problems potentially related to nutrients because of resource limitations and must necessarily focus on a subset of problems identified by the DSC's Delta Plan and reiterated in the Board's 2014 Delta Strategic Plan. However, Board staff is proposing a Phase 2 that would address additional issues such as drinking water and low dissolved oxygen in back sloughs. Language would be added to the STAG Charter to this effect.

Discussion

Chris Foe clarified that the NNE independent science panel will be used for this Delta project. Chris also noted that developing a solid scientific foundation is a necessary prerequisite for any decisions about creating nutrient objectives and determining how they would be implemented. However, Board staff is working internally to ensure the necessary coordination across programs (e.g., NPDES, Irrigated Lands).

3 Charter and Governance Document

Brock Bernstein reviewed revisions to the earlier draft charter document and opened discussion of proposals for additional revisions.

Discussion

Discussion resulted in a number of agreements on revisions to the charter. These included:

1. The description of “consensus with accountability” at the top of p. 4 will be revised to reduce the emphasis on consensus with its potentially problematic aspects and to clarify the underlying intent of this passage, which was to motivate participants to address multiple interests (Brock Bernstein and Jennifer Clary)
2. In the description of the science work groups (pp. 4 – 5), add language that the Board and its staff are not obligated to accept their recommendations, to be consistent with descriptions of the STAG and the Independent Science Review Panel (Brock Bernstein)
3. Modify the description of “associated waterways” on p. 2 to refer specifically to the legal boundary of the Delta (Brock Bernstein)
4. Add to the charter the process diagram that is used in the Science Work Group charges (Brock Bernstein) (see adjustments to diagram in #2 under Charges to the Science Work Groups below)
5. Add the new paragraph (to Section 5 on p. 6) that describes a 2nd phase to address additional issues and to begin after the research plan is accepted by the Regional Water Quality Control Board (Chris Foe and Brock Bernstein)
6. Replace “nonnative aquatic plants/organisms” in the charter and the proposed additional language with “nonnative aquatic macrophytes” (Chris Foe and Brock Bernstein)
7. Better define back sloughs to clarify that the initial intent is to look only at 303d listed waterbodies (Chris Foe)
8. The water agencies will form an informal workgroup on drinking water now to begin laying necessary groundwork for Phase 2 and a brief mention of the workgroup will be added to the new paragraph (see #5 above), including a reporting mechanism back to the STAG. Workgroup meetings will be open to any STAG members interested in participating (Chris Foe and Brock Bernstein)
9. Note in the charter that the Science Work Group rosters have been constructed to foster coordination with related efforts in San Francisco Bay and in the Delta RMP (Brock Bernstein)
10. Change the name of the “Environmental Protection” interest area to “Environmental Groups” (Brock Bernstein)
11. Separate the “POTW” interest area into “Large POTWs” and “Small POTWs”, with Debbie Webster as the primary representative for small POTWs and other representatives found as alternates for the large and small POTW seats (Brock Bernstein and Debbie Webster)
12. Add “Agriculture Agencies” to the STAG roster, with Amrith Gunasekara from the CA Dept. of Food and Agriculture as the Primary representative; get suggestion for an alternate from Amrith (Brock Bernstein and Amrith Gunasekara)
13. Confirm that Drinking Water and Water Supply will remain as separate interest areas; Elaine Archibald will help identify a contact from the State Water Board (Brock Bernstein and Elaine Archibald)
14. On p. 4 of the charter, remove the “Not yet confirmed” statement for the interest group categories (Brock Bernstein)
15. On p. 4 of the charter, change “State Water Board toxins group” to “State Water Board Division/Dept (?) of Drinking Water” (Brock Bernstein)
16. In the 1st bullet on p. 7, revise language to remove “request direction on next steps” and state the staff will report to the Delta Stewardship Council on their recommendations, but does not require

	<p>or request direction from the Council on their next steps (Chris Foe)</p> <p>Commitments Brock Bernstein and Chris Foe will make the agreed-on revisions and distribute an updated version of the charter for review and comment, along with the draft guiding principles document. The agenda for the next STAG meeting will include an item for acceptance of both documents.</p>
<p>4</p>	<p>Form Executive Subcommittee</p> <p>Discussion Discussion resulted in the following agreements on the Executive Subcommittee:</p> <ol style="list-style-type: none"> 1. Such a subcommittee should be formed 2. The subcommittee will be named “Administrative Subcommittee” 3. The charter should be revised to describe the subcommittee, its roles, and the scope of its decision making authority. The subcommittee should be able to recommend that a meeting of the full STAG is needed to address a particular issue that is beyond its scope 4. The subcommittee will provide updates on its activities and decisions to the STAG 5. Volunteers include: Kyle Ericson, Dave Tamayo (only if needed), Terrie Mitchell, Lynda Smith, and Mary Junqueiro <p>Commitments Chris Foe and Brock Bernstein will oversee finalizing membership in the Administrative Subcommittee and will draft the needed charter language.</p>
<p>6</p>	<p>Charges for the Science Work Groups</p> <p>Chris Foe reviewed the role of the Science Work Groups in the context of the Board’s overall plan for nutrient management. The Science Work Groups focus on macrophytes, cyanobacteria, and nutrient concentrations, forms and ratios are intended to assess the fundamental question of whether there is evidence that nutrients contribute to these problems. In other words, is the presence and magnitude of these problems a function of nutrient levels? The Modeling Work Group will lay the groundwork for placing this information in the larger context of planned and potential future nutrient load reductions. As part of any objective setting process in the future, the Board would also assess information about the variety and magnitude of different sources and the likely costs and benefits (including for other species and beneficial uses) of managing each. The Science Work Group’s white papers will recommend research priorities and these will be integrated into an overall set of priorities in the Regional Board’s nutrient research plan. If additional peer review is needed (in addition to what the State Water Board’s Independent Science Panel will provide), the Delta Stewardship Program could organize a workshop of experts to provide review.</p> <p>A suggestion that the Science Work Groups be reconvened after research results are available will be considered by Regional Board staff but any decision on such a review will be made in the future.</p> <p>Discussion</p> <p>Discussion resulted in the following agreements on the Science Work Groups:</p> <ol style="list-style-type: none"> 1. Change the following sentence in each charge (usually on p.2), “The Water Board also formed several Science Work Groups to help develop white papers on the three identified nutrient related problems” to, “The Water Board also formed several Science Work Groups to help develop white papers on three potential nutrient related problems” (Chris Foe) 2. Revise the process figure in the charges to a) move the “Revised by STAG & Others” box over

	<p>the box to the left, “SWG Develop White Papers”, b) add a box near the end of the process showing the STAG having input to the Board staff white paper before it is presented to the Regional Board and the Delta Stewardship Council</p> <ol style="list-style-type: none"> 3. Add a new box after the one with the 2018 due date stating that the Regional Board may or may not proceed with a Basin Plan Amendment depending on the research results (Chris Foe) 4. STAG members may submit additional questions that will be reviewed and added to the questions posed to each work group; however, it should be recognized that the work groups will likely have more success with the fundamental question of whether anthropogenic inputs contribute to the problem than with questions related to nutrient management (Chris Foe) 5. Consider adding the CALFED ammonia recommendations to the charge questions (Chris Foe and Debbie Webster) 6. The STAG agreed that Chris Foe can proceed with empaneling the Macrophytes, Modeling, and Cyanobacteria Science Work Groups and scheduling meetings, using the revised rosters appended at the end of this meeting summary. The Nutrient Forms and Ratios Science Work Group requires one additional step (see below) (Chris Foe) 7. Reorganize the sequence of meetings for all the Science Work Groups as follows to include providing access to background documents and outlines (Chris Foe) 8. STAG members may submit additional candidates as potential Science Work Group members for consideration; Chris Foe and the Administrative Subcommittee will decide whether to add new members to the Science Work Groups <p><u>Macrophytes</u></p> <ol style="list-style-type: none"> 1. Consider the quality and quantity of water in the approach to what can be controlled (Chris Foe) 2. Develop the conceptual model for the work group (Kathy Boyer) <p><u>Cyanobacteria</u></p> <ol style="list-style-type: none"> 1. Develop the conceptual model for the work group (Mine Berg) <p><u>Modeling</u></p> <ol style="list-style-type: none"> 1. On p. 9, Table 3, 3rd row, remove the reference to “CASCADE II” and replace with, “Compatible with hydrodynamic models and other...” (Chris Foe) 2. Consider additional factors to be considered in phytoplankton model (Chris Foe and Tim Mussen) 3. Make provision for additional criteria to be forwarded to the Modeling Work Group as the other groups complete their work (Chris Foe) <p><u>Nutrients Forms and Ratios</u></p> <ol style="list-style-type: none"> 1. Revise the charge to ensure that other cofactors are considered by the work group when they devise research projects to address the “paradox” (Chris Foe and Tim Mussen, Lynda Smith, Debbie Webster, Diane Engle, Jennifer Clary, Stephanie Fong) 2. Develop the conceptual model for the work group (Chris Foe and subgroup identified in #1 above) 3. Identify a facilitator for the work group (Chris Foe and subgroup identified in #1 above) 4. Invite Jim Cloern to present to the work group (Chris Foe) <p><u>Commitments</u></p> <ol style="list-style-type: none"> 1. Chris Foe and Tom Grovhaug will work on a rough nutrient mass balance to provide to the Science Work Groups, particularly the modeling work group with some context to shape their discussions 2. Chris Foe will manage the revision of all Science Work Group charges and post them on the project website 3. Chris Foe will convene the Science Work Groups and schedule their meetings
7	<p>Wrap Up Brock Bernstein summarized the main takeaways and next steps:</p> <ul style="list-style-type: none"> • The charter and governance document will be finalized based on discussion

- Chris Foe will finalize the charge for each Science Work Group
- Chris Foe will convene the Science Work Groups
- Chris Foe will prepare periodic progress reports for the STAG to keep them updated on activities between full STAG meetings

Science Work Group Rosters

The following tables summarize the roster for each Science Work Group as agreed on at the January 9, 2015 STAG meeting.

Macrophyte Science Work Group

Individual	Agency/Institution	Status
Louise Conrad	Department of Water Resources	?
Shruti Khanna	LAWR, U.C. Davis	?
Patrick Moran	USDA, Agricultural Research Service	?
John Madsen	U.C. Davis/USDA, Agricultural Research Service	?
Kathy Boyer	San Francisco State University	X
Martha Sutula (Facilitator)	Southern California Coastal Water Research Project	X
Judy Drexler	U.S. Geological Survey	?
John Durand	U.C. Davis	?
Diana Engle	Larry Walker Associates	X
Jeff Cornwell	Horn Point Laboratory, U of Maryland	?

Cyanobacteria Science Work Group

Individual	Agency/Institution	Status
David Senn	San Francisco Estuary Institute	X
Lisa Thompson	Sacramento Regional County Sanitation District	X
Tim Mussen	Sacramento Regional County Sanitation District	X
Alex Parker	California Maritime Academy	X
Stephanie Fong	State and Federal Contractors Water Authority	X
Peggy Lehman	Department of Water Resources	X
Rafael Kudela	U.C. Santa Cruz	?
Mine Berg	Applied Marine Sciences	X
Martha Sutula (Facilitator)	Southern California Coastal Water Research Project	X
Karen Taberski	San Francisco Water Board	?
Kim Ward	State Water Resources Control Board	?
Daniel Orr	California Department of Fish and Wildlife	?

Modeling Science Work Group

Individual	Agency	Status
David Senn	San Francisco Estuary Institute	X
Joe Domagalski	U.S. Geological Survey	X
Chris Enright	Delta Stewardship Council	X
Lisa Thompson	Sacramento Regional County Sanitation District	X
Bill Fleenor	U.C. Davis	?
Phil Trowbridge	San Francisco Estuary Institute	X
Edward Gross	Resource Management Associates	?
Michael Deas (Facilitator?)	Watercourse Engineering, Inc.	?
Frances Chung	Department of Water Resources	?
Lisa Lucas or Lori Flint	U.S. Geological Survey	?
Joel Herr	Systech Water Resources	?

Concentrations, Forms, and Ratios Science Work Group

Individual	Agency	Status
David Senn	San Francisco Estuary Institute	X
Lisa Thompson	Sacramento Regional County Sanitation District	X
Tim Mussen	Sacramento Regional County Sanitation District	X
Stephanie Fong	State and Federal Contractors Water Authority	X
Frances Brewster	Santa Clara Valley Water District	?
Peggy Lehman	Department of Water Resources	X
Randy Dahlgren	U.C. Davis	X
Richard Connon	U.C. Davis	X
Erwin Van Nieuwenhuyse	U.S. Bureau of Reclamation	X
Rafael Kudela	U.C. Santa Cruz	?

Workgroup needs a facilitator.

Attendees

Staff	Agency
Jeanne Chilcott	Central Valley Regional Water Board
Chris Foe	Central Valley Regional Water Board
Christine Joab	Central Valley Regional Water Board
Brock Bernstein	Facilitator

STAG members	Agency	Representing	Position
Terrie Mitchell	Sacramento Regional County Sanitation	POTWs	Primary
Debbie Webster	Central Valley Clean Water Association	POTWs	Alternate
Dalia Fadl	City of Sacramento	MS4	Primary
Kyle Ericson	City of Sacramento	MS4	Alternate
Renee Pinel	Western Plant Health Association	Irrigated Agriculture	Primary
Mary Junqueiro	Western Plant Health Association	Irrigated Agriculture	Alternate
Amrith Gunasekara	CA Dept. Food & Agriculture	Agriculture Agencies	Primary
Lynda Smith	Metropolitan Water District S. CA	Water Supply	Primary
Rachel Pisor	CA Dept. Water Resources	Water Supply	Alternate
Leandro Ramos	CA State Parks – Boating & Waterways	Waterways	Alternate
Elaine Archibald	CA Urban Water Agencies	Drinking Water	Primary
Stephen Louie (P)	CA Dept. Fish and Wildlife	Resource	Primary
Jennifer Clary	Clean Water Action	Environmental NGOs	Alternate

Other participants	Agency
Christine Askari	CA Dept. Fish and Wildlife
Mine Berg (P)	Applied Marine Sciences
Kathy Boyer (P)	San Francisco State University
Steve Camacho (P)	State Water Resources Control Board
Richard Connon	U.C. Davis
Mitch Dion (P)	
Joe Domagalski	U.S. Geological Survey
Linda Dorn	Sacramento Regional County Sanitation District
Diana Engle	Larry Walker Associates
Stephanie Fong	State and Federal Contractors Water Agency
Tom Grovhaug	Larry Walker Associates
Sam Harader	Delta Stewardship Council - Delta Science Program
Yumiko Henneberry	Delta Stewardship Council - Delta Science Program
Dawn Koepke (P)	
Brian Laurensen (P)	Larry Walker Associates
Anne Lee (P)	G. Fred Lee & Associates
G. Fred Lee (P)	G. Fred Lee & Associates
Otome Lindsey (P)	Department of Water Resources
Timothy Mussen	Sacramento Regional County Sanitation District
Martha Sutula (P)	Southern California Coastal Water Research Project

Dave Tamayo (P)	Sacramento County Stormwater Program
Lisa Thompson	Sacramento Regional County Sanitation District
Phil Trowbridge	San Francisco Estuary Institute
Mike Wackman	San Joaquin Delta Coalition

(P) indicates participated remotely via Webex and phone