

Nutrients STAG (Stakeholder Technical and Advisory Group)

November 3, 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.

Meeting Objectives

- Finalize the Governance and Ground Rules document
- Accept the Macrophyte White Paper as final
- Solicit comments on the Macrophyte Knowledge Gaps document
- Update STAG on the status of the Modeling and Drinking Water Work Groups' progress and products
- Finalize the Cyanobacteria Knowledge Gap document
- Update STAG on plans for the Ammonia Paradox and Ecological Stoichiometry workshop
- Update STAG on progress of the nutrient research ranking process

1 Introduction and Announcements

There were no substantive announcements. A quorum was established (see list of attendees at end of meeting summary for STAG participants attending).

2 Administrative Subcommittee Report Out

The Administrative Subcommittee interacted to discuss the agenda for the upcoming STAG meeting.

3 Finalize Governance and Ground Rules Document

Christine Joab and Brock Bernstein reviewed the final comments received at the previous STAG meeting, presented the proposed revisions to the document, and walked the STAG through the specific steps for accepting STAG products (slides #5 – 8).

Commitments:

- ✓ Upon motion made and seconded, the STAG accepted the Governance and

	Ground Rules document as final by a unanimous vote of STAG members present, with none abstaining.
4	<p>Macrophyte White Paper</p> <p>The Macrophyte White Paper was revised based on comments received at the previous STAG meeting and was presented for final acceptance by the STAG (see slides #9 – 14).</p> <p>Commitments:</p> <ul style="list-style-type: none"> · Upon motion duly made and seconded, the STAG accepted the Macrophyte White Paper as final by a unanimous vote of STAG members present, with none abstaining.
5	<p>Macrophyte Knowledge Gap Document</p> <p>Chris Foe summarized the status of the draft Macrophyte Knowledge Gap document prepared by the Macrophyte Science Work Group. A draft document is presented here to the STAG to solicit comments (see slides #15 – 24).</p> <p>Discussion:</p> <p>Key points, questions, and other issues raised included:</p> <ul style="list-style-type: none"> · This document represents the Science Work Group’s opinion, based on the White Paper · Table 1 (slide #19) represents what the Science Work Group is confident we know <ul style="list-style-type: none"> ○ Nutrient management alone will not control excess macrophyte growth ○ Additional potentially problematic species exist just beyond the boundaries of the Delta · Table 2 (slides #20 – 22) represents key knowledge gaps that must be filled to answer the management questions <ul style="list-style-type: none"> ○ Dissolved oxygen under thick macrophyte beds is close to 0 and this is likely to be a problem, but its magnitude and extent have not been defined ○ The White Paper focused on the Delta and does not include information about whether similar species are causing problems elsewhere. Chris Foe responded that it is likely, based on his reading of the literature ○ Management Questions 4 and 9 address factors other than nutrients ○ For Management Question 7 <ul style="list-style-type: none"> § Would the absence of nutrient management affect the effectiveness of other macrophyte control factors? § Can current control measures be adapted to control macrophytes in the absence of nutrient management? · Tables 1 and 2 are the focus of the document and are supported by the text <p>Commitments:</p> <ul style="list-style-type: none"> ✓ The STAG will submit comments by November 17 to Christine Joab ✓ Bring the knowledge gaps document to the STAG for acceptance as final at the next STAG meeting
6	<p>Modeling White Paper</p> <p>Phil Trowbridge (SFEI) presented the draft Modeling White Paper entitled, <i>“Recommendations for a Modeling Framework to Answer Nutrient Management Questions in the Sacramento-San Joaquin Delta”</i>.</p>

	<p>Discussion:</p> <p>Phil emphasized that the Modeling Work Group concluded that multiple models will be needed and that it is people that answer questions, not models alone. Thus, the White Paper focuses attention on the staffing requirements to develop, maintain, and run the models, and help interpret the results.</p> <p>Key points, questions, and other issues raised include:</p> <ul style="list-style-type: none"> · Models do not answer questions; they are part of the process for understanding and are limited by the knowledge we can bring to bear on the model structure and algorithms · The White Paper emphasizes ready access to the model code rather than calling for open source code. This is because some of the applicable models are not open source · The White Paper describes a basic modular structure of connected models that include the range of factors thought to affect nutrient dynamics, plankton, macrophytes, and other endpoints in the Delta · The White Paper presents specific recommendations to guide the development and implementation of the needed models, as well as an estimated budget for 10 years, divided into two five-year periods · The budget will be affected by the relative priority assigned to questions · The Regional Board has not yet allocated any funds for this effort · There are opportunities for coordination with analogous efforts in the Bay, particularly for the water quality and hydrodynamics modules · Parts of the modeling effort for the Delta could apply to other Delta RMP priorities such as pesticide and mercury, and contaminants of emerging concern · Additional modules could be added as needed · While seemingly large, the estimated budget is only a very small percentage of infrastructure costs; it therefore represents a cost-effective investment in improving understanding of nutrient-related issues in the Delta <p>Commitments:</p> <ul style="list-style-type: none"> ✓ The STAG will submit comments by December 4 to Christine Joab
8	<p>Finalize the Cyanobacteria Knowledge Gap Document</p> <p>Christine Joab and Brock Bernstein reviewed the final comments received on the document and walked the STAG through the specific steps for accepting STAG products (slides #27 – 33).</p> <p>Discussion:</p> <ul style="list-style-type: none"> · Tim Mussen suggested that the clarity of Paul Bedore’s comment appended to the document could be improved by minor editing. <p>Commitments:</p> <ul style="list-style-type: none"> ✓ Tim Mussen and Paul Bedore agreed to work together to provide a revised comment ✓ Upon motion duly made and seconded, the STAG accepted the Cyanobacteria Knowledge Gap document as final by a unanimous vote of STAG members present, with none abstaining, with the understanding that Tim and Paul would

	submit a revised comment to Christine Joab by November 13
9	<p>Ammonia Paradox and Ecological Stoichiometry Workshop Update</p> <p>Chris Foe provided an update on the activities of the small workshop planning subcommittee that was formed at the last STAG meeting. In October, the subcommittee met weekly to discuss and develop the workshop questions, identify candidates for white paper author, areas of expertise for panel members, and potential panel members and presenters (see slides #34 – 49).</p> <p>Discussion:</p> <p>Key points, questions, and other issues raised included:</p> <ul style="list-style-type: none"> • Debbie Webster expressed reservations that the workshop approach was best for this issue and asked why the approach used for the other white papers was not used here. Chris Foe responded that this issue is different because there is a long-standing conflict between scientists that must be addressed before productive research on this issue can move forward. A straightforward summary of existing knowledge will thus not be adequate. The planning subcommittee therefore focused on crafting testable questions that would lead the workshop panelists to make recommendations on specific studies or analyses that would help address the conflict in the science. • The workshop’s overarching question (slide #39) takes advantage of the known reductions to nutrient loads expected to occur because of permit-mandated treatment upgrades to POTWs. While reductions from other sources (e.g., agriculture, stormwater) may also occur, it is difficult to estimate/predict what these will be. <ul style="list-style-type: none"> ○ While the predicted reductions in nutrient loadings shown (slide #40) are estimates of future reductions, this is all we have to work with at the moment unless we want to wait 10 years to observe actual reductions • The cost of the workshop will be slightly more than that for the other Science Work Groups, but costs will be shared with partners from the Bay, with the result that Delta’s share of costs will be about equal to that for the other work groups <ul style="list-style-type: none"> ○ Budget would include: \$30,000 for review panel and presenter costs, \$10-15,000 for the white paper author, and \$5,000 for a facilitator • STAG members noted that they had not previously seen the workshop questions developed by the planning group and would need additional time to review them • Chris Foe asked the STAG for approval to have the planning group identify the white paper author and select the review panel and contact them. The accelerated schedule is due to the fact that \$20,000 of State Water Board money will disappear if it is not invoiced by March 2016 • The Delta RMP is planning a nutrients workshop for January 2016 and it will be important to coordinate with that effort • There were serious concerns about the tight timeline needed to take advantage of the State Water Board funds and discomfort about the impacts this would have on the STAG’s ability to carefully review the workshop questions, process, and participants. After substantial discussion, the STAG agreed on the steps outlined in the Commitments section below that would proceed as rapidly as possible without sacrificing the STAG’s ability to conduct their review and provide comments

	<p>Commitments:</p> <ul style="list-style-type: none"> ✓ Send the planning group’s questions and proposed workshop process to the STAG as soon as possible for review and provide comments to Christine Joab prior to the next STAG meeting ✓ Initial comments and concerns on the workshop questions, areas of expertise, and local experts are requested to be sent to Christine Joab prior to the November 13 planning group’s meeting ✓ The planning group will identify the top three – five candidates for the White Paper author within the next few weeks and send their background information to the STAG and the Bay partners, along with a ranking system ✓ The STAG will provide comments on the White Paper authors and a conference call to discuss the selection will be scheduled if needed ✓ Once the White Paper author is identified, Regional Board staff will work with the planning group to identify a short list of three – five candidates for each topic area needed for the review panel
<p>10</p>	<p>Nutrient Research Ranking Process Update</p> <p>There was little progress to report on the ranking process and discussion was curtailed because of time constraints at the end of the meeting. Tom Grovhaug has been asked to organize meetings for the ranking subcommittee and he requested a list of the subcommittee members so he can begin contacting them.</p> <p>Commitments</p> <ul style="list-style-type: none"> ✓ The subcommittee will provide a progress report at the next STAG meeting
<p>11</p>	<p>Update on the Drinking Water Science Work Group</p> <p>Tom Grovhaug presented an update on the Drinking Water Science Work Group, which has developed an outline for the white paper and is currently working on language to develop the first draft of the white paper. The next work group meeting will be scheduled in the next several weeks after a draft is available for review.</p>

This page intentionally left blank.

Record of Decision for the Delta Nutrient Research Plan STAG

Number	Date	Decision	Type	Yes	No	Abstain
2015-1	07/13/2015	The STAG adopted the Charter Document – Process to Develop a Delta Nutrient Management Strategy as final.	Consensus			
2015-2	07/13/2015	The STAG adopted the Governance Principles and Ground Rules document as final.	Consensus			
2015-3	07/13/2015	The STAG accepted the Cyanobacteria White Paper <i>“Factors affecting Growth of Cyanobacteria With Special Emphasis on the Sacramento-San Joaquin Delta”</i> as a final work product from the Cyanobacteria Science Work Group.	Consensus			
2015-4	09/23/2015	The STAG agreed to form a ranking subcommittee that would develop a written evaluation process. The STAG agreed that this evaluation process would be used to rank the research recommendations.	Consensus			
2015-5	09/23/2015	The STAG approved the formation of a joint planning subcommittee with the Bay Area Nutrient Management Steering Committee to assist in organizing the “nutrient forms and ratios” workshop.	Consensus			
2015-5	11/03/2015	The STAG accepted the minor revisions to the Governance Principles and Ground Rules Document and accepted the entire document as final.		8	0	0
2015-6	11/03/2015	The STAG accepted the Macrophyte White Paper as final.		8	0	0
2015-7	11/03/2015	The STAG accepted the Cyanobacteria Knowledge Gaps document as final, with the understanding that Tim Mussen and Paul Bedore would submit a revision on Paul’s comment to Regional Board staff by November 13.		8	0	0

This page intentionally left blank.

Attendees

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

Stakeholder and Technical Advisory Group (STAG) - Interest Group Members:

Attendance	STAG members	Agency	Representing	Position
Present	Terrie Mitchell	Sacramento Regional County Sanitation District	Large POTWs	Primary
	VACANT		Large POTWs	Alternate
Present	Debbie Webster	Central Valley Clean Water Ass.	Small POTWs	Primary
	VACANT		Small POTWs	Alternate
	Dalia Fadl	City of Sacramento	MS4	Primary
Present	Kyle Ericson	City of Sacramento	MS4	Alternate
Present	Renee Pinel	Western Plant Health Assoc.	Irrigated Agriculture	Primary
	VACANT			Alternate
	Amrith Gunasekara	CA Dept. Food and Agriculture	Agriculture Agencies	Primary
Present	Mark Cady	CA Dept. Food and Agriculture	Agriculture Agencies	Alternate
	Kirk Wilbur	California Cattlemen	CAFOs	Primary
	VACANT		CAFOs	Alternate
Present	Lynda Smith	Metropolitan Water District S. CA	Water Supply	Primary
Present (P)	Elaine Archibald	CA Urban Water Agencies	Drinking Water	Primary
Present (A)	Rachel Pisor	CA Dept. Water Resources	Drinking Water	Alternate
Present	Paul Bedore	Port of Stockton	Waterways	Primary
	Leandro Ramos	CA State Parks – Boating & Waterways	Waterways	Alternate
	Stephen Louie	CA Dept. Fish and Wildlife	Resource Mgmt	Primary
	VACANT		Resource Mgmt	Alternate
	Eddie Lucchesi	Mosquito & Vector Control Ass..	Mosquito Abatement	Primary
	David Smith	Mosquito & Vector Control Ass.	Mosquito Abatement	Alternate
	Jon Rosenfield	The Bay Institute	Environmental NGOs	Primary
Present	Andria Ventura	Clean Water Action	Environmental NGOs	Alternate

A blank under Attendance category indicates individual was absent from the meeting

An "A" next to "Present" indicates the STAG member was present as a non-voting alternate

(P) indicates participated remotely via WebEx / phone

Other Interested Parties:

<i>Other participants</i>	<i>Agency</i>
Tania Brenes	MLJ-LLC
Steve Camacho (P)	State Water Resources Control Board
Selina Cole	Central Valley Regional Water Board
Eric Danner (P)	NOAA Fisheries (Santa Cruz)
Joe Domagalski	US Geological Survey
Linda Dorn	Sacramento Regional County Sanitation District
Diana Engle (P)	Larry Walker Associates
Bill Fleenor (P)	U.C. Davis
Tom Grovhaug	Larry Walker Associates
Tom Hall (P)	
Yumiko Henneberry	Delta Stewardship Council - Delta Science Program
Brian Laurenson (P)	Larry Walker Associates
Tim Mussen	Sacramento Regional County Sanitation District
Lisa Thompson	Sacramento Regional County Sanitation District
Phil Trowbridge	San Francisco Estuary Institute
Others (P)	Several other unidentified participants who attended remotely

(P) indicates participated remotely via Webex / phone