

Nutrients STAG (Stakeholder Technical and Advisory Group)

December 15, 2015

Meeting Summary

	<p>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.</p>
	<p>Meeting Objectives</p> <ul style="list-style-type: none">· Continue discussion and planning for the Ammonium Workshop· Accept the Cyanobacteria Knowledge Gaps document as final· Update STAG on the status of the Macrophyte Knowledge Gaps document and the Modeling White Paper· Update STAG on the Drinking Water Work Group's progress and products· Update STAG on progress of the nutrient research ranking process· Update STAG on the progress of the mass balance report
1	<p>Introduction and Announcements</p> <p>There were no substantive announcements. A quorum was established (see list of attendees at end of meeting summary for STAG participants attending).</p>
2	<p>Ammonium Workshop Planning</p> <p>Background and Context:</p> <p>Brock Bernstein briefly reviewed the history of planning for this issue, noting the need to determine if nutrients were “on or off the table” as a controllable factor and whether water quality objectives would be needed. Janis Cooke (RWQCB) reviewed (see slides #4 – 9) the Delta Science Plan’s recommendation for a review of nutrients, which specifically identified the decrease in plankton abundance and changing phytoplankton species mix as issues of concern. A preliminary step to developing the nutrient research strategy is to evaluate the roles of nutrient forms and ratios in those algal species and abundance changes.</p> <p>Unlike for the other issues addressed by the science work groups, the presence of an active scientific conflict, with conflicting laboratory and field results and interpretations, hampers the ability to develop a consensus white paper with summary and knowledge gaps. To move forward, it has been proposed to have an independent panel review of</p>

	<p>Delta nutrient data and hypotheses within a workshop setting. The end goal of the workshop and associated report is to identify areas of agreement and disagreement, mechanisms that should be tested, and studies needed to resolve differences in the scientific interpretations.</p> <p>Concerns about the wording of the proposed questions to the panel and the process proposed for the workshop and white paper, prompted additional discussion.</p> <p>Key points, questions, and concerns raised during discussion:</p> <ul style="list-style-type: none">✓ Resolving the scientific conflicts regarding nutrient forms and ratios is essential to developing integrative assessment and modeling for the system, e.g., identifying inputs, and rate constants.✓ Identifying changes to POTW loads in the workshop overarching question implies that POTWs are the only source of nutrients to the Delta when, in fact, there are other sources.✓ If the workshop focuses only on the two hypotheses about nutrient forms and ratios, we will not have gained information about the relative importance of other factors that affect phytoplankton.✓ The workshop goal appears to differ from the charges for the other water quality issues (e.g., cyanobacteria and macrophytes). The workshop overarching question focuses directly and narrowly on scientific conflicts while the other charges asked broader questions about the role of nutrients along with other factors.✓ One way to frame this issue is to say that other factors besides nutrients affect phytoplankton but we cannot characterize nutrients' relative contribution to changes without addressing the conflict surrounding the nutrient forms and ratios hypotheses. A process for how other factors will be incorporated more holistically is needed.✓ It was suggested that the white paper charge address the larger issue of nutrients' role in causing changes in phytoplankton, with the conflicting hypotheses being addressed within a workshop and then incorporated into the white paper.✓ The title of the white paper should reflect a focus wider than just the nutrient forms and ratios hypotheses (example: "Role of Nutrients in Shifts in Phytoplankton Abundance and Species Composition").✓ The goal of the workshop is not to pick a "winner" but to determine needed studies and next steps based on current knowledge. <p>Steps to Move Forward</p> <ul style="list-style-type: none">✓ The STAG considered a proposal for a two-part process that would embed a workshop on the nutrient hypotheses within a larger process, as follows:<ul style="list-style-type: none">○ Create charge for white paper○ Select white paper lead author and panel **○ Hold joint fact-finding workshop with outside participants, focused on the nutrient hypotheses○ White paper author combines workshop with more information on other factors for a final, broader white paper○ Prepare white paper that addresses overall charge, including results of the joint fact-finding workshop, and makes recommendations targeted at the nutrient research plan✓ Keys to success of the process are a clear charge, an effective chair, a balance of interests and biases in the workgroup and workshop members. The context should be clearly described in terms of:
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	<ul style="list-style-type: none">○ What we have today○ What we anticipate for the future (mass balance)○ Understanding that what may be seen in discharges may not be what is seen in the Delta itself (due to transformation processes) <p>✓ **To parallel the process for the cyanobacteria and macrophyte work groups, we would form a local science work group to develop the white paper with the lead author. However, STAG members expressed concerns about the ability of local scientists to work together in a collaborative process.</p> <p>Potential Funding and Sponsorship</p> <p>✓ The Delta Science Program would like to be involved in both planning and funding of these efforts. Further discussion with the STAG and Regional Board is needed to identify appropriate level of Delta Science Program involvement. The Delta Nutrient Research Plan along with its associated tasks is being developed under a stakeholder process and it is important not to lose this fundamental aspect.</p> <p>✓ Previously discussed time constraint on the funding(\$20,000) from the Delta Science Program is no longer an issue. This means that there is no need to rush planning for the workshop process, although planning should target a late spring completion date in order to meet the Regional Board's schedule for the nutrient research plan, which is targeted for completion by the end of 2016.</p> <p>General Agreement:</p> <p>✓ The process would include a joint fact-finding workshop focused on the two hypotheses related to nutrient forms and ratios</p> <p>✓ The white paper panel will likely be broader than the workshop panel and may include additional, invited experts (to be determined whether local or external or both)</p> <p>✓ The workshop and white paper process will require:</p> <ul style="list-style-type: none">○ A clear charge○ A balanced panel with known biases (so that biases may be balanced)○ A white paper author who will chair the workshop and work group developing the white paper <p>✓ For the workshop, presenters will have the option to agree, or not, with the findings in the workshop report and white paper</p> <p>✓ The white paper author will lead the effort in preparing a workshop report and white paper</p> <p>Commitments:</p> <p>✓ The Workshop Planning Subcommittee will meet to:</p> <ul style="list-style-type: none">○ Develop charge for white paper○ Revise the overarching question and sub-questions<ul style="list-style-type: none">§ Rewrite the workshop overarching question to remove the focus on POTWs; move mention of sources to the sub-questions○ Consider options for two-step process (workshop + other information/meeting for final white paper)○ Revisit list of identified panel members for the workshop and/or white paper <p>✓ Workshop Planning Subcommittee will bring recommendations to the next STAG meeting</p> <p>✓ Board staff will talk with Delta Science Program staff then confer with the Workshop Planning Subcommittee and STAG.</p>
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3	<p>Break</p>
4	<p>Update on the Cyanobacteria Knowledge Gaps document and Acceptance</p> <p>Christine Joab provided an update (see slides #11 – 14) on the Cyanobacteria Knowledge Gaps document. The revision suggested at the November 3 STAG meeting was completed and presented to the STAG for approval.</p> <p>Commitments:</p> <ul style="list-style-type: none"> · The STAG accepted the revised language by consensus and the document is now final.
5	<p>Update on the Macrophyte Knowledge Gap Document</p> <p>Christine Joab provided an update (see slides #15 – 17) on the Macrophyte Knowledge Gaps document. Comments were due December 14 and the revised document will be presented to the STAG for review in early 2016.</p>
6	<p>Update on the Modeling White Paper</p> <p>Christine Joab provided an update (see slides (#18 – 20) on the Modeling White Paper. Comments were due December 4 and the revised document will be presented to the STAG for review in early 2016.</p>
7	<p>Update on the Drinking Water Work Group Effort</p> <p>Tom Grovhaug provided an update on the efforts of the Drinking Water Work Group. The work group will meet on January 8, from 2 – 4 PM. A revised version of the draft white paper will be distributed and will be discussed at the meeting.</p>
8	<p>Update on the Nutrient Research Prioritization Process</p> <p>Tom Grovhaug provided an update on the research prioritization process. The first meeting of the subcommittee will be on January 5, from 2 – 4 PM. The subcommittee has been charged with developing a process for ranking the many research recommendations being produced by the work groups. They plan to develop prioritization criteria and a time frame. An agenda and meeting materials will be distributed prior to the meeting.</p>
9	<p>Update on the Mass Balance Report</p> <p>Tom Grovhaug provided an update on the effort to create a nutrient mass balance for the Delta. A goal is to create a knowledge base of how the Delta looks now. Data for N and P are being drawn from the IEP and MWQ1 databases for 5 locations in the Delta over a 30 year period. This will form a baseline for describing current ambient conditions. Preliminary information will be acquired from the Central Valley Drinking Water project. Current conditions will not be the ambient conditions 10 years from now because of management actions to reduce nutrient loads.</p> <p>Key points, questions, and other issues raised during discussion:</p> <ul style="list-style-type: none"> · Although future reductions in nutrient loads may not occur on the planned timeframe, estimated future conditions will nevertheless help estimate the boundary conditions of future nutrient management · The end results of planned reductions in nutrient loads are uncertain, as illustrated in the white paper findings; narrowing the uncertainty is one goal of the nutrient research plan

10	Next Steps and Wrap Up Action items: <ul style="list-style-type: none">· Develop a revised charge, overarching question and sub-questions for the workshop· Pursue discussions with the Delta Science Program about co-sponsoring the workshop· Identify candidate participants for the phytoplankton workshop and white paper· Send out Doodle poll for next STAG meeting, late January or early February· Distribute revised Macrophyte Knowledge Gaps document in early 2016 for review· Distribute revised Modeling white paper in early 2016 for review· Drinking Water work group will meet January 8· Research prioritization subcommittee will meet January 5
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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 “Factors affecting Growth of Cyanobacteria With Special Emphasis on the Sacramento-San Joaquin Delta” 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
2015-8	12/15/2015	The STAG agreed to revise the name, charge, and process for the ammonium (phytoplankton) work group and to enter into discussions with the Delta Science Program on options for cosponsoring the work group.	Consensus			
2015-9	12/15/2015	The STAG accepted the revised language in the Cyanobacteria Knowledge Gaps document and finalized the entire document.	Consensus			

Attendees

Staff	Agency
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		Irrigated Agriculture	Alternate
	Amrith Gunasekara	CA Dept. Food and Agriculture	Agriculture Agencies	Primary
	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	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
Present (A)	Leandro Ramos	CA State Parks – Boating & Waterways	Waterways	Alternate
Present	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:

Other participants	Agency
Tania Brenes (P)	MLJ-LLC
Steve Camacho (P)	State Water Resources Control Board

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Linda Dorn	Sacramento Regional County Sanitation District
Diana Engle (P)	Larry Walker Associates
Stephanie Fong	State and Federal Water Contractors Association
Tom Grovhaug	Larry Walker Associates
Rachel Kubiak	Western Plant Health Association
Yumiko Henneberry	Delta Stewardship Council - Delta Science Program
G. Fred Lee (P)	G. Fred Lee & Associates
Otome Lindsay (P)	Department of Water Resources
Lisa Thompson	Sacramento Regional County Sanitation District
Laura Young (P)	Santa Clara Valley Water District
Others (P)	Several other unidentified participants who attended remotely

(P) indicates participated remotely via Webex / phone