

Sediment Quality Objectives Stakeholder Advisory Committee

Meeting Summary

September 17, 2013

Note: The list of attendees and the meeting agenda follow the meeting minutes. Additional materials from the meeting (PowerPoint presentations) have been sent to each Committee member and interested party along with this meeting summary.

Another note: The summary captures the major issues presented and discussed during the meeting, though they are not intended either as formal minutes, or 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.

Where it contributes to the readability of the summary, discussion of the same issue that occurred at more than one place during the meeting is summarized together. Items on which the Committee expressed general agreement are indicated **in bold**, although it is important to emphasize that the Committee did not vote on these items. General agreement was assessed by the facilitator although no votes were taken. Specific commitments by State Board staff, SCCWRP, the facilitator, or Committee members are also indicated **in bold**.

Meeting objectives

The objectives of the meeting were to provide an update on the progress of the technical effort to develop an assessment framework and tools for the human health SQO, review the case study focused on the Ports of Los Angeles and Long Beach, and begin a more in-depth discussion of assessment steps and policy implementation.

The format of this meeting summary differs from that used for past meetings. Rather than a simple listing of issues raised, the portion of this summary related to regulatory programs organizes issues into policy-related categories that make it easier to compare existing requirements with concerns and proposed alternatives. For background, see the meeting materials distributed with the meeting summary:

- Adv comm mtng 09-17-13 Bay presentation.pdf
- Adv comm mtng 09-17-13 Beegan presentation.pptx
- Adv comm mtng 09-17-13 Tiered Assessment straw man.pdf
- Adv comm mtng 09-17-13 Tier I straw man.pdf
- Adv comm mtng 09-17-13 Tier II straw man.pdf
- Adv comm mtng 09-17-13 Tier III straw man.pdf

Assessment framework

Discussion on the the Tier I and Tier II assessment process, decision support tool, and bioaccumulaiton modeling approach included the following topics:

Site linkage indicator

- The sediment contribution indicator in previous versions of the framework has been redefined as the sediment linkage factor. The revised indicator expresses the results as a ratio rather than as a percentage. This change stems from the desire to get away from potentially misleading estimates of the exact percentage of tissue contamination coming from sediment because that's more than the bioaccumulation models are capable of. The revised indicator is intended to indicate the relative importance of the sediments at the site in influencing tissue contamination levels
- When the sediment linkage > 1 , it means that site sediment contamination is more than sufficient to account for tissue contamination observed at the site
- There is no precedent for establishing thresholds for site sediment linkage categories in Tier II (Table 21); this is not related to the California Toxics Rule (CTR) because this is about linkage of sediments to tissue levels, not a direct impact
- Concern that the site linkage thresholds in the document are not calibrated; need technical rationale for thresholds based on real data. The current thresholds are based on quartiles of an expected distribution of ratios.

Consumption risk indicator

- The assessment framework analyzes each contaminant separately, as does OEHHHA, with no cumulative assessment of risk. Synergistic or additive effects of multiple contaminants are not addressed
- Human health risk is based on tissue level and consumption and the use of probabilistic distributions accounts for variability in these factors

Bioaccumulation model performance

- Preliminary calculations of the sediment linkage factor resulted in a sediment linkage factor of 400 for white croaker on PV Shelf, but a linkage factor of .6 – 1.0 in SF Bay
- Home range and associated site use factor estimates are very uncertain; the model estimates a distribution for home range that includes variability and this is included in the simulation
- The model may underpredict bioaccumulation if it does not account for sediment ingestion by fish. The current version of the assessment framework does include a sediment ingestion rate for some species
- The proposed Tier II assessment method includes a standardized consumption rate (for human consumers) across the state because we want to be able to do comparable analyses statewide
- It will be necessary to review and update model periodically re the Water Quality Control Plan's requirements
- The Scientific Steering Committee said that bioaccumulation processes for OCs are well enough understood for them to be built into the Tier II tool

Background documents

- Many of these issues raised in discussion have been addressed in past presentations, documents, and summaries of SSC meetings. These documents have had limited distribution and may not be available to current participants in the Advisory Committee meetings
- **The project team will update SCCWRP and Water Board webpages to include more complete background from previous SSC meetings and documents**
- **The project team will send out the link to the updated SCCWRP webpage**

Desire to review and conduct case studies with actual data

- Concern that can get different answers with same data if tool applied by different people
- Project team is applying Tier I and Tier II in as many places as possible and comparing the data. Committee would like to see these and other case study results

- **The project team will provide the decision tool and sample datasets for all to work with**

Economic analysis

- What are baseline questions? But it's not necessary to have a baseline for the 13241 analysis. The CEQA baseline is the no action alternative which is equivalent to the existing regulatory program
- What are the resources allocated to the economic analysis?
- Use case studies to better understand cost of assessment and of potential remedies. Conduct a statewide analysis to see baseline for what's achievable, and over what period of time (e.g., DDT, PCB)

Issues related to regulatory programs

Discussion identified the issues and alternatives described in the tables on the following pages. The first table identifies issues related to the human health protection SQO. The second table identifies issues related to the benthic community protection SQO and reflects discussion at the recent harbors workgroup meeting. It is included here for completeness.

Issues associated with the human health protection SQO

Subject	Existing Requirements	Issues	Resolution/Alternatives
Site Assessment	No existing language however approach could use results of assessment framework. Site sediments classified as impacted would be an exceedance	No explicit language in plan however the assumption is to use binomial statistic (although how samples / sites / areas are counted is not yet clear) Is Tier I required? Tier II also uses mean tissue and sediment values for the site Could Tiers I, II, and/or III allow for area weighted values for sediment contaminant concentrations? Would eliminate lot of data without spatial information What time limits, if any, should be placed on data used in the assessment? Should this be different for Tier II and Tier III? Need to balance focus on current conditions with making an adequate amount of data available Tier II lumps all DDT and PCB congeners into a single value, though separate isomers behave differently and treating them individually could increase accuracy and precision How specific should the criteria be for moving from Tier II to Tier III? Who makes this decision and decisions about moving to management actions vs. undertaking more studies? What is the role of permittees vs. Regional Boards?	If use binomial statistic, may need guidance on how to deal with space and time and the likelihood that a “site” will contain multiple sampling locations. Given that the current approach is to use mean tissue and sediment values for the site, the binomial statistic would be applied to the site as a whole. In this case, multiple assessments of the entire site would be needed to apply the binomial statistic. This could take many years Allow permittees to go directly to Tier II Strict timeframe (e.g., 6 years or newer) vs. data quality objectives that allow for broader range of data Allow a wider range of data for Tier III Treat congeners separately; develop a method for comparability with OEHA approach, which lumps congeners Science team will identify key assumptions Bypass Tier II and go directly to Tier III if parties agree or meet specific threshold criteria, e.g., trends Require Tier II analysis for comparison but not as basis for decision making

		There are many assumptions that lack site-specific realism, and many cumulative conservative assumptions in Tier II Useful to have Tier II result to compare with Tier III result Difference in application and interpretation among regional boards	Guidance to support regional board decision making
Exceedance – General	No existing language however approach could use results of assessment framework. Site sediments classified as impacted would be an exceedance	How to address smaller areas within sites, segments, or reaches Is there an area so small it would be de minimis? How does one account for multiple small areas that may have an overall adverse effect on beneficial uses? How are results from multiple sampling locations aggregated into the overall site assessment? See comment below on the binomial statistic (Site Assessment and Cleanup) re whether use results from individual sampling locations or from the entire site as input to the binomial May need to clarify that if fish are clean there is no SQO exceedance even if sediments are highly contaminated; sediments at the site are not contributing to elevated tissue levels	Base minimum size on fish activity, home ranges Input averages into assessment tool vs. run assessment tool on each individual sampling location. If have results for each sampling location, could use a threshold (e.g., 15% of locations) that would trigger an exceedance.
303(d) Listing	No existing language however approach could use results of assessment framework. Site sediments classified as impacted would be impaired as well	Would a single assessment be a reason for listing? Would the results of a Tier I or Tier II assessment be sufficient for a tissue listing if it showed tissue levels exceed guidelines, or would multiple assessments (i.e., binomial statistic) be needed for listing? Is it necessary to define the relationship between a listing for tissue and an OEHHA advisory? Given that the policy focuses on sediment contribution to elevated tissue levels, are the results of the assessment sufficient for a tissue	

		listing? How would the SQO assessment results be used to change the stressor in an existing listing, e.g., from DDT to PCB for health effects? Would the SQO assessment replace existing listings for DDT, PCB, and Chlordane? Should the listing policy include additional guidance about which tissue and sediment thresholds to use, i.e., the ones in the Tier II tool? Could the integrative report's Category 3 be used if a Tier II assessment suggests impairment but a pending Tier III assessment has not been completed?	
303(d) Delisting	No existing language however approach could use results of assessment framework. Site sediments classified as unimpacted or likely unimpacted would be delisted.	Would a single assessment be a reason for delisting? If listing is for fish tissue would a Tier I or Tier II assessment be sufficient for delisting if it showed no problem with fish? Or would multiple assessments (i.e., binomial statistic) be needed for delisting?	
Receiving Water Limits - NPDES Permits	See above. If an exceedance occurs as described above, must demonstrate cause or contribution for violation to occur. If assessment shows no cause or contribution for current discharges, then no violation.	Management actions would be conducted after stressor identification is completed and would be focused on chemicals or chemical groups responsible for observed effects. Framework would need to include upstream sources that transport contaminants to bay / harbor sediments If there is no current discharge but the site exceeds the SQO, then how would compliance be enforced? Who / what would remedy planning focus on?	
TMDLs		How demonstrate TMDL compliance under the SQO?	

		TMDLs offer more flexible management options than do cleanups Endpoints for chemicals in sediments derived through the SQO are more appropriate than arbitrary numeric endpoints.	
Remedy Planning	No existing language however approach could use results of assessment framework.	There is no bridge to another policy if the waterbody is above background everywhere. If there is no current discharge, can the SQO follow the Superfund strategy of doing more outreach and enhancing beneficial use options, e.g., artificial reefs? If so, who would pay for these efforts? Could / should the SQO be used to create more consistency across areas with different cleanup levels? Or is this an inherent result of different policies / projects operating at different times and places?	
Stressor Identification	Not necessary – assessment identifies responsible chemical(s)		
Response to Stressor Identification	Not necessary		

Issues associated with the benthic community protection SQO

Subject	Existing Requirements	Issues	Resolution/Alternatives
Exceedance – General	No specific language, though the plan requires a minimum of two stations	Assumption is to use binomial statistic How to address smaller areas within sites segments or reaches. Is there an area so small it would be de minimis?	
303(d) Listing	Plan states that the number of impacted stations relative to the total number of stations should be evaluated using Table 3.1 of Listing Policy (two or more impacted stations required)	Existing policy requires only two impacted stations for listing	
303(d) Delisting	Plan is silent on delisting, though the assumption would be to use Table 4.1 of the Listing Policy	Requires a large number of stations to delist	
Receiving Water Limits - NPDES Permits	Plan states that an exceedance occurs when the no. of impacted stations relative to the total no. of stations satisfies the binomial statistic (two or more stations required). Must demonstrate cause or contribution for violation to occur	Requires a minimum of two impacted stations for exceedance of receiving water limitation Management actions would be conducted after stressor identification is completed and would be focused on chemicals or chemical groups responsible for observed effects	
Site Assessment and Cleanup	Exceedance not defined for site assessment and cleanup	No explicit language in plan however the assumption is to use binomial statistic and then proceed to stressor identification	
Stressor	Plan requires stressor identification if there are at least	What is the level of support necessary to	

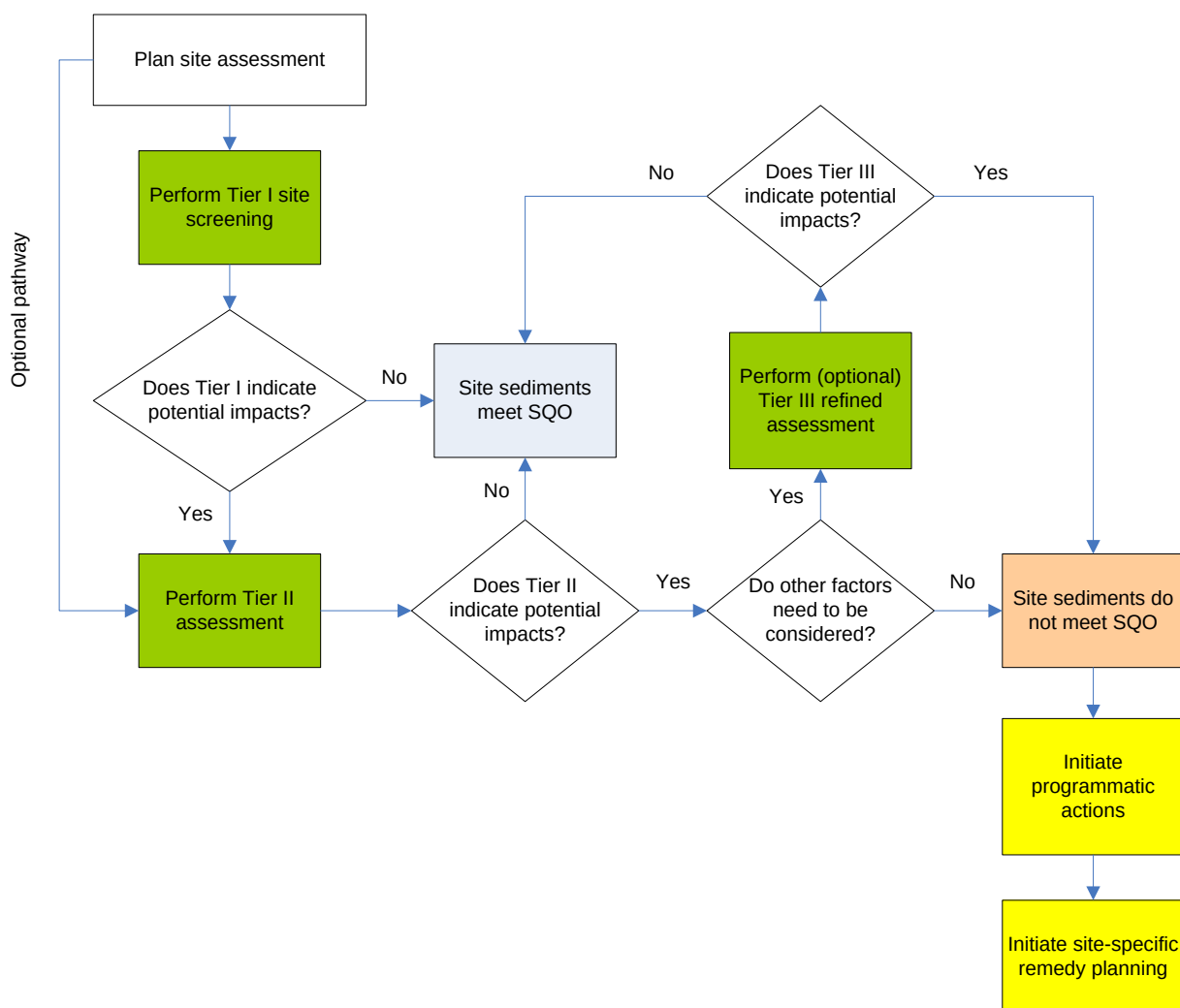
Identification	impacted stations and one of those is classified as “Likely” or “Clearly” impacted within a site segment or reach If the impacted station are classified as “Possibly” impacted an option exists to resample to confirm results before proceeding with Stressor Identification Management actions would be conducted after stressor identification is completed and would be focused on chemicals or chemical groups responsible for observed effects Note - Having stressors identified shifts the focus from effects based assessment to exposure based management, that is focusing on contaminants and their concentrations or mass in effluents and sediments	demonstrate a constituent is causing biological effects? What is the level of support necessary to demonstrate a constituent is not causing biological effects? What if stressor identification is unsuccessful?	
Response to Stressor Identification	All stressors should be evaluated using site sediment water column and effluent data and other information to estimate appropriate targets for discharges and sediments. This approach should be applicable for all programs (used to establish sediment cleanup targets, effluent limits or TMDL sediment targets). The plan states that if the stressor is <i>not a toxic pollutant</i> than the narrative SQO protecting benthic communities from toxic pollutants in sediment is met Other objectives may be exceeded such as those for biostimulatory substances or dissolved oxygen that the Regional Boards should apply If physical or natural stressors (propeller wash, scour, salinity) is identified as the cause than no further action is required	What would State and Regional Board need to do to revise list of stressors? 1. Revise Listing (List and Delist) 2. Revise TMDL	Are State and Regional Board formal approvals necessary? Are changes to the TMDL and Listing Policy necessary?

Revised detailed Tiers flowchart

Based on suggestions made during the meeting discussion, the detailed flowchart was modified to:

- Include an optional pathway directly to the Tier II assessment, bypassing Tier I
- Add a link from the Tier II assessment to the “Site sediments meet SGO” box
- Streamline the flowchart so that there is only one box for “meets SGO” and one box for “not meet SGO”

The suggested pathway directly to the Tier III assessment (bypassing both Tier I and Tier II) was not added because there was not a clear consensus that this would be available.



Next meeting and next steps

A date for the next Advisory Committee has not been set.

The project team will update the project webpage, which included key background documents, and distribute this link to participants. The project team will also provide the most current version of the decision tool and updated case study datasets to participants.

Attendees

Name	Organization	Representing	Position
<i>Staff</i>			
Steve Bay	SCCWRP		
Chris Beegan	State Water Resources Control Board		
Brock Bernstein	Facilitator		
<i>Committee</i>			
Chuck Anthony	Latham & Watkins	Legacy Pollutants	Primary
Kevin Buchan	Western States Petroleum Association	Industrial SW	Alternate
Karen Cowan	Larry Walker Associates	POTWs	Primary
Kathryn Curtis	Port of Los Angeles	Ports	Primary
Lisa Haney	Orange County Sanitation Districts	POTWs	Alternate
Ruth Kolb	City of San Diego	Municipal SW	Primary
<i>Other Participants</i>			
Shelly Anghera	Anchor QEA		
Jean Arblaster	Environ		
Matt Arms (P)	Port of Long Beach		
Mariela Paz Carpio-Obeso (P)	State Water Resources Control Board		
Jennifer Casler-Goncalves (P)	Latham & Watkins		
Molly Coyle (P)	Citrix		
Phil Gibbons (P)	Port of San Diego		
David Glaser (P)	Anchor QEA		
Joe Gully	Los Angeles County Sanitation Districts		
Molly Gonzalez (P)	Citrix		
Brian Hitchens (P)	Geosyntec Consultants		
Wendy Hovel	Anchor QEA		
Emiko Innes (P)	LA County of Public Works		
Andrew Jirik (P)	Port of Los Angeles		
Ed Kimura (P)			
Anne Lee (P)	G. Fred Lee & Associates		
Fred Lee (P)	G. Fred Lee & Associates		
Jamie Lu (P)	Central Valley Regional Water Board		
Danny McClure (P)	Central Valley Regional Water Board		
David Moore	Environ		
LB Nye	Los Angeles Regional Water Board		
Jeff Orell (P)	Brown and Winters		
Jian Peng (P)	County of Orange		
Abel Santana (P)	SCCWRO		
Kasey Skrivseth (P)	Nautilus Environmental		
Doris Vidal-Dorsch	SCCWRP		

Agenda

Sediment Quality Objectives Advisory Committee Meeting
September 17, 2013, from 9:30 to 3:30
Southern California Coastal Water Research Project
3535 Harbor Blvd., Suite 110, Costa Mesa, CA 92626.

9:30 – 9:45	Introductions	Brock Bernstein
9:45 – 10:00	Update on Previous Action Items	Brock Bernstein
10:00 – 12:00	Tiered Assessment Guidance for Human Health SQO	Steve Bay, Chris Beegan
12:00 – 1:00	Lunch	
1:00 – 3:00	Application of HH SQO Assessment in Regulatory Programs	Chris Beegan
3:00 – 3:30	Future meetings and next steps	Brock Bernstein