

Biological Objectives Stakeholder Advisory Group

Meeting Summary

October 11, 2012

Note: The list of attendees follows the meeting minutes. Additional materials from the meeting (agenda, presentations) have been posted on the project website (http://www.waterboards.ca.gov/plans_policies/biological_objective.shtml).

Another note: 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. 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 Group expressed general agreement are indicated **in bold**, although it is important to emphasize that the Group did not vote on these items and achieving consensus is not a goal of the Group. Specific commitments by State Board staff, SCCWRP, the facilitator, or Group members are also indicated **in bold**.

Meeting objectives

The objectives of the meeting were to:

- Review results of the recent CEQA scoping meetings held at several locations throughout the state
- Present a technical update on the most recent revisions to the assessment scoring tool
- Present an update on the progress and results of the causal assessment case studies
- Review a draft policy implementation framework and identify and categorize key issues associated with the framework

Notes on the discussion are organized according to the major topics addressed.

CEQA scoping meetings update

(See Karen Larsen's presentation (CEQA Scoping Update) on the project website)

Karen Larsen briefly summarized the recent CEQA scoping meetings held September 5 in Riverside, September 7 in Sacramento, September 12 in Redding, and September 14 in Oakland. There were no significant comments or suggestions that affected the overall direction of the policy. The draft policy implementation flowchart is thus still consistent with the four alternatives shown at the CEQA scoping meetings. Additional scoping may still occur as the program proceeds and as policy drafts are written.

Technical update

(See Pete Ode's presentation (Scoring Tool Update) on the project website)

The technical team has addressed the Scientific Advisory Group's recommendation to investigate a multi-metric index (MMI) as an alternate scoring tool and Pete summarized the method used. After development and calibration, the MMI was compared to the observed vs. expected (O/E) method. The MMI performs better in some respects and the technical team is recommending a hybrid scoring approach that would incorporate both methods. The O/E is essentially a measure of species loss while the MMI evaluated changes in community composition.

Specific issues raised during the discussion included:

- Development of the MMI included testing and validating the scoring tool with respect to a greater number of metrics and natural gradients within the reference condition
- Many of the metrics not included in the MMI model (e.g., slope) are highly correlated with metrics that are included
- Only natural metrics / gradients were included in the MMI development process
- The amount of riparian cover, which can affect temperature, was not included / evaluated and perhaps should be
- Streams without perennial flow were not included in the scoring tool development
- Perenniality can be a complicated issue because some streams are not perennial only because of year-round POTWs discharge and other streams exhibit a mosaic of perennial and non-perennial segments
- It could be useful to define the scale at which perenniality is defined (e.g., watershed, reach, site)
- The evaluation of the scoring tools showed that as much as 50% of the variability in scores could not be explained by the (natural) stressor variables used in the model; the most likely explanation is that there are many stressors at a site not accounted for in this test. This performance measure is meant to provide a comparison among indices, but shouldn't be viewed as an absolute measure of responsiveness to all stresses, and additional stressors would likely be included in a causal assessment. In contrast, the natural variable test indicated that all three indices were unaffected by residual natural variation
- metrics would be measured as part of any causal assessment
- While the different thresholds led to somewhat different results, these were not considered extreme enough to be a significant issue; other issues, such as how the policy will be implemented, will be more important
- More important than the thresholds is the issue of the datasets that will be used for assessments; in most cases, permittees will be working with much less data than the large-scale and long-term dataset the project has available
- The gray areas may be useful because they provide a way of managing the risk of both Type I and Type II errors

Causal assessments

(See Ken Schiff's presentation (Causal Assessment Update) on the project website)

Ken Schiff briefly reviewed the CADDIS process that structured the causal assessment case studies and the preliminary results of the studies. The major goal of the case studies is to develop material that can be organized into guidance that will accompany the policy.

Specific issues raised during the discussion included:

- The CADDIS approach emphasizes development of a detailed conceptual model for each case
- The CADDIS approach is a weight of evidence approach
- While light and riparian canopy structure were not included in the causal assessment, and can both affect primary productivity, they are correlated with other aspects of physical habitat that were measured
- When conducting a causal assessment, it may be important to recognize instances in which a stressor for bugs (e.g., lower light levels which may lower primary production) are a desired feature for other goals (e.g., a byproduct of increasing shade to lower temperatures to benefit anadromous fish); what is a stressor from one perspective may be a desired feature from another

- Because bugs are the only biological indicator available at present, it will be important to avoid tunnel vision and remain aware of other policies/goals and their attendant biological features
- In the CADDIS framework, correlations are considered relatively strong evidence to refute a possible cause but relatively weak to confirm one
- Comparator sites in the analysis are not necessarily reference sites; they are sites that provide one or more specific contrasts with the test site; in fact, comparison with a reference site may be confusing if there are too many differences
- SWAMP's statewide data and the data the project has used for its analyses will be made available to permittees and other users
- Issues related to data quality and data requirements (e.g., how much, how far back in time) will be addressed in the guidance
- Given that most of the easy fixes related to impacts have already been implemented, how much actual influence will the CADDIS weight of evidence approach have on management decisions about restoration and/or remediation?
- The CADDIS process does not provide an answer to the situation where there is an observed impairment but the causal assessment provides no answers about causes; the policy should address this

Implementation framework

(See Karen Larsen's presentation (Assessment Framework & Implementation Issues and Assessment Framework & Implementation Issues Flow Chart) on the project website)

Karen Larsen walked through the steps in the implementation flowchart.

Specific issues raised during the discussion included:

- The term "alternatives" in this context refers to options (e.g., list for impairment before vs. after a causal assessment) and not to the policy alternatives described in the CEQA scoping document
- It is not clear how the process illustrated by the flowchart would be implemented in different regulatory programs; the flowchart is a simplification designed to help highlight key issues
- Differences among regulatory programs may provide opportunities for improved coordination and/or applying creative solutions in one program to other programs
- It would be valuable to identify ways in which regulatory programs can be conducted using bioassessment
- Suggestions about adjusting the flowchart to provide more realism (e.g., provide a pathway to account for the situation where a causal assessment is not needed because existing information is adequate)
- The flowchart appears to reflect situations with ongoing monitoring; this may not be suitable for 401 certifications because that involves one-time monitoring for a specific purpose
- The spatial extent of "site" at the top of the flowchart is a foundational issue and has implications for other aspects of the policy
- The flowchart is missing a box that refers to program implementation, the consequences of alternatives
- The "modified streams" label on the box related to exceptions is overly restrictive because events (e.g., fires) could also lead to exceptions
- The nature of the exception for areas that lack a definition of reference condition should be clarified
- Would exception classes be specified in the Basin Plan or simply be defined by the Regional Board, either explicitly or through priority setting
- A causal assessment may not always be required if the cause is known

- It is not clear how the flow chart would apply if monitoring is only conducted for a specific project rather than as an ongoing program
- The flowchart could use a box for program implementation
- A stand-alone box for defining spatial and temporal scale would be useful

After discussing the flowchart and the issues related to different aspects of the flowchart, participants voted in order to prioritize issues for the subsequent brainstorming discussion. The two issues that received the most votes were Monitoring Requirements / Site Assessment and Exceptions.

Brainstorming discussion

The following notes capture the raw comments, questions, and suggestions put forward by participants. These will be summarized and organized prior to the next meeting to provide a basis for further discussion.

Monitoring Requirements / Site Assessment

- Would bioassessment be a requirement in all Water Board programs?
 - Which programs?
 - All programs?
 - Subset of programs?
 - Based on type or size of discharge?
- Would monitoring requirements be left to the discretion of Regional Boards?
- Would the program require participation in regional monitoring?
 - If so, would there be incentives for participation in Regional Monitoring?
- Would monitoring requirements be phased in over time?
- Would there be minimum protocols, QA, or data standardization requirements?
- What frequency of monitoring would be required?
- What is the spatial scale of a waterbody assessment?
 - One sample, reach, other?
- What is the temporal scale of a waterbody assessment?
 - One sample, one season, one year, one permit?
- What number of sites would be required to answer spatial and/or temporal questions?
- Is the original assessment in the flowchart different from the re-assessment?
 - Could statewide data be used as the initial monitoring, with local follow-up?
- What is the link between the listing and delisting box?
 - Monitoring supports 303d decisions
- How would streams be prioritized for monitoring?
 - High quality, near threshold, other?
 - Focus on important streams for achievable goals?
 - Using predictive model/tools as first pass?
 - Effective use of resources on streams that can be addressed?
 - Targeted monitoring?
- Would monitoring requirements apply only to perennial streams?
- How will sites be selected?
 - How many?
- What stream prioritization criteria will be used?
 - Barriers to migration?
 - Salmon/steelhead?
 - Other?

- How can existing monitoring be utilized for achieving coordination and efficiency?
 - Chemistry, toxicity, others
- How will affordability be assessed?
 - Save some \$ for follow-on activities (causal, restorations, etc.)
- Use a working definition of “perennial” for monitoring design and implementation
 - Year-to-year, along reach. Spatial/temporal
 - Index period for monitoring; perhaps move from spring to fall for defining perennial
- What is the difference between modified vs. degraded?
 - Should focus on actual impairments
 - In setting monitoring priorities be sure to separate “degraded streams” from those that are modified to achieve an alternate beneficial use or are effluent-dominated or effluent dependent. An alternative could be to initially focus on the degraded stream reaches.
- Indicators?
 - Bugs
 - Add algae, other?
- How do we manage data for combining different data sets?
- Need adequate procedures for protecting against spreading invasive species through sampling
- How do we ensure monitoring designs are statistically robust and not biased?
- Is there taxonomic capacity to process all the new samples?
- Design issues related to choice of sites include bottom of watershed vs. further upstream and targeted vs. probabilistic
- Monitoring should be done to inform decisions – do we have all the questions/decisions on the table?
 - Antidegradation, impairments, other?
- How will inadequate monitoring be defined?
- How will monitoring responsibility be allocated?
 - By regulatory program
 - Ongoing vs. episodic vs. one-time discharge
 - Cumulative sources
- How evaluate monitoring effort relative to cost of restoration/remediation?
 - There is a nexus between monitoring requirements and source inputs
- How will regional monitoring be implemented in locations where there are few resources/discharges?
- What monitoring designs would fit adaptive management strategies?
- How to monitor in locations where regulatory tools are mismatched between priority and capacity?
 - Headwater streams, lack of permitted dischargers, special districts
- What are the monitoring questions?
 - Answering larger-scale questions, not just site-specific
 - Trends
 - What are the proximate candidate causes?
- Is trade-off of monitoring with existing monitoring efforts allowable?
 - Based on cost-benefit
 - Incentivization
 - Removing redundant, wasteful, useless monitoring
- Utilizing proof-of-concept demonstration examples?
- Are there any other outcome categories than good, bad, or uncertain?
 - Should think about additional categories of impact outcomes
- What is an appropriate [relative] level of resources a program should spend on biological monitoring?
 - Should additional State resources be added to cover the monitoring?
 - Can a program be implemented with current resources (state, regulated, NGO)?
- How would this monitoring be incorporated into general permits?

Exceptions

- Make sure exceptions can incorporate conflicting resource needs
 - Support multiple conflicting resources
 - Anadromous fishes may require conditions that are less suitable for bugs
 - Threatened and endangered species may require conditions that are less suitable for bugs
- What are the potential exception classes?
 - Vector control because are *temporarily* protecting public health
 - Stream poisoning to eradicate invasive species
 - Construction projects that result in temporary or permanent damage
 - Flood control
 - Water delivery
 - Competing beneficial use
 - Required POTW discharges for minimum flow requirements because these are legal requirements
 - Concrete lined trapezoidal channels because they are designed for flood control and have very little intrinsic habitat value
 - Agricultural drains when / where they discharge excess salts
 - Agricultural conveyance facilities because they're constructed solely to convey water
 - Following a wildfire because of temporary changes to habitat and water quality during natural recovery
 - Dam releases because flood control is necessary
 - Where streams are dominated by invasive species because these may have become permanently established
 - Where perennality was created artificially to meet other needs / beneficial uses because the stream was not naturally perennial
- Do we have sufficient beneficial use designation resolution for creating exception classes?
- How do we incorporate Use Attainability Analysis or Site Specific Objectives into the policy?
 - Perhaps use UAA for each exempted stream reach
 - Can state develop a blanket UAA if an exempted stream type is well-defined?
- Recapture clause for excepted sites with restoration potential?
 - 404 exceptions
 - Quantify current stream loss with exceptions
- Specify where biological objectives are applicable, not just where it's exempted
- Consider 13241 requirements when developing and applying the policy
- Where no reasonable reference is available?
- Where there is no reasonable expectation of achieving reference condition
 - Use a best attainable threshold
 - Still need to meet existing objectives
- Three types of exceptions: Exempt from policy, temporary exceptions, not exempt but alternative thresholds
- How are exception classes defined, specifically?
- How have other states developed exemption classes?
 - Workshop potential
- Concern about abusing exemption designations to sidestep the policy
- Best attainable
 - How to define
 - What is the ecological benefit if it's not reference?
 - Value relative to cost
 - Categories of modified streams
- Is there a link between best attainable and antidegradation?

- The policy could be phased to incorporate exceptions at a later date
 - Could be one of the CEQA scoping alternatives
- Policy needs to consider perennial streams that have been diverted and thereby became non-perennial
- Does antidegradation apply to exempted streams?
- Identify practical constraints
 - Flow related
- Who [and how] will decide whether an exception is granted?
 - Should be clearly defined to avoid inconsistency
 - Will there be a process for applying for an exception?

Next meeting and next steps

Participants agreed to continue with joint meetings of the Stakeholder and Regulatory Advisory Groups for the purpose of discussing other elements of the flowchart. The next such meeting will be on December 3 at SCCWRP in Costa Mesa.

Karen Larsen agreed to summarize the issues discussed and combine them into specific alternatives, with the ultimate goal of more fully specified options that deal with core policy implementation issues. This process will also highlight topics the Scientific Advisory Group can be asked to provide advice on.

Participants agreed to assist in preparing draft language for sections of the draft policy document, but will wait to do so until Karen Larsen has developed a strawman framework to help organize thinking and writing.

Attendees

Name	Organization	Representing
<i>Staff</i>		
Brock Bernstein	Facilitator, Committee Chair	
Karen Larsen	State Water Board	
Peter Ode	CA Dept. Fish and Game	
Ken Schiff	SCCWRP	
<i>Stakeholder group members</i>		
Chris Sommers	CASQA / EOA	Flood / Munic / SW
Ruth Kolb	City of San Diego	Flood / Munic / SW
Ed Struffenegger (P)	CA Forestry Association	Forestry / Timber
Ed Cheslak (P)	Pacific Gas & Electric	Hydro / Utilities
Theresa Dunham	Somach Simmons & Dunn	Pesticide Manufacturers
Phil Markle	LA County Sanitation Districts	POTW
David Bolland	Assoc. CA Water Agencies	Water Agencies
<i>Other participants</i>		
Geremew Amenu (P)	LA County Dept. Public Works	
Arne Anselm (P)	Ventura County Watershed Protection	
Karen Ashby	Larry Walker Associates	
Steve Blecker (P)	Delta Council	
Shirley Birosik (P)	LA Regional Water Board	
Clay Brandow	Cal Fire	
Lilian Busse (P)	San Diego Regional Water Board	
Matthew Buttleben	Water Boards	
Scott Cantrell	CA Dept. Fish & Game	
Lisa Carlson (P)	City of Los Angeles	
Seth Carr (P)	City of Los Angeles	
Beckie Challender (P)	Dept. of Agriculture	
Joe Dillon	NOAA Fisheries	
Jan Dougall (P)	Las Virgenes Municipal Water District	
Kelly Dorsey (P)	Water Boards	
Tessa Fojut (P)	Water Boards	
Edward Filadelfia (P)	City of Riverside	
Dave Gibson	San Diego Regional Water Board	
David Gillett (P)	SCCWRP	
Christine Gracco (P)	Brown and Winters	
Bobby Gustafson	City of Santa Barbara	
LeAnne Hamilton (P)	Inland Empire Utilities Agency	
Rick Haywood (P)	Southern California Edison	
Ann Heil	LA County Sanitation Districts	
Arne Hultgren (P)	RFPCO	
Emiko Innes (P)	LA County Dept. Public Works	
Fred Jacobsen (P)	Sempra Utilities	
Scott Johnson (P)	Aquatic Bio Consulting	
Afiquar Khan	Western Plant Health Association	
Nardy Khan (P)	Orange County Public Works	
Cassandra Lamerdin (P)	Moss Landing Marine Lab / SWAMP	
Lyndy Lewis (P)		
Cindy Lin	USEPA	
Clifton Lollar	KRWA	

Name	Organization	Representing
Christopher Lopex	LA County Dept. Public Works	
Kevin Lunde	SF Bay Regional Water Board	
Lisa McCann	Water Boards	
Heather Merenda	City of Santa Clarita	
Alan Miller	Lahontan Regional Water Board	
Kristy Morris	Council for Watershed Health	
LB Nye	Los Angeles Regional Water Board	
Katherine Pease (P)	Heal the Bay	
John Rudolph	AMEC	
Doug Shibberu	Santa Ana Regional Water Board	
Jeffrey Shu (P)	CA Dept. Fish & Game	
Tom Suk	Lahontan Regional Water Board	
Claus Suverkropp	Larry Walker Associates	
Pavlova Vitale (P)	CA Dept. Fish & Game / OSPR	
Mike Wackman	SSC & DWQL	
Guangyu Wang (P)	Santa Monica Bay Restoration Commission	
Debbie Webster	Central Valley Clean Water Authority	
Dennis Westcot	SJRG / SJTA	
Josh Westfall	LA County Sanitation Districts	

(P) indicates remote participation by phone and Webex