

# Biological Objectives Stakeholder Advisory Group

## Meeting Summary

May 24, 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](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 Scientific Advisory Group meeting, particularly the Group's recommendations
- Hear and discuss stakeholder proposals for implementing the biological objectives in the context of the antidegradation policy

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

### ***Scientific Advisory Group update***

See Scientific Advisory Group update posted on the project website.

Ken Schiff reviewed the Scientific Advisory Group's (SAG) comments and recommendations. The SAG confirmed the project's overall direction and identified specific areas where additional effort is needed. These included creating a definition of initial condition and controlling for potentially confounding natural temporal variability and human activities.

The SAG noted that the selection of the type of threshold (e.g., statistical vs. functional (species loss)), as well as the location of the threshold (s), are policy and not scientific decisions.

One alternative to the observed vs. expected (O/E) scoring tool is a multi-metric index based, for example, on functional categories such as grazers and predators. This could provide a more accurate picture of impacts on ecosystem function in cases where the O/E shows impact due to loss of reference species that have been simply replaced by other species (e.g., different types of mayfly). In theory, it might therefore be possible to have a functional community with an O/E score of 0. However, in most cases the two methods generally produce similar results. If the two approaches produce the same result then using both would be redundant. However, if a multi-metric method produced complementary insights, then a combination, or hybrid, approach could be useful.

## ***Stakeholder proposals***

The goal of soliciting the stakeholder proposals was to begin thinking more creatively and realistically about how the policy could be implemented in different policy contexts. Karen Larsen emphasized that there is a potential narrowing of perspective by discussing programs (e.g., NPDES stormwater, 401 certification) separately because the State Water Board's intent is to move toward more collaborative and watershed-scale approaches that coordinate across programs. Following the discussion today and in tomorrow's (May 25) Regulatory Advisory Group meeting, a joint meeting of the two groups will be planned. The focus on antidegradation reflects the fact that reference conditions are not available for all areas of the state and "best attainable" has not been defined for these areas; Water Board managers have agreed that, at a minimum, conditions should not be allowed to degrade from their current status.

There was strong support for a phased approach to policy development and implementation.

The agricultural community is very concerned about key aspects of the policy, including implications for additional monitoring requirements and how the policy will relate to existing policies and compliance requirements. Answers to these questions are concerns are needed now before the community can determine its willingness / ability to continue developing the policy. However, resolution of these concerns will require a combination of top down and bottom up thinking on the part of both the State Water Board and stakeholder groups.

Some sources are regulated by other agencies (USEPA, air quality, Department of Pesticide Regulation, aqueduct flushing) and are out of the control of stakeholder groups, making it difficult to develop clear strategies for addressing degradation from these sources. For example, agricultural activities can cause aquatic toxicity even if farmers follow application instruction. Identifying these types of issues will help in developing a phased implementation plan.

### **NPDES wastewater antidegradation implementation proposal**

The antidegradation baseline is the current condition as established by annual monitoring during an index period. The index period is intended to eliminate seasonal variability. Assessment is conducted at the site-specific scale below outfalls, which eliminates spatial variability and allows for more accurately locating problems. This tightly focused spatial approach will not be available to other programs with much greater numbers of more widely dispersed discharge points. Some number of years would be required to establish a baseline and many larger POTWs already have several years of monitoring data available for this purpose.

The proposal suggests a seven-year baseline period as a means of averaging out year-to-year variability in precipitation and also recognizing that precipitation was identified by the science team as an important predictor of condition. However, the science team found that the most recent years were not a good predictor and used a ten-year average of precipitation in their modeling.

A suggestion for a rolling baseline period (based on a rolling average of the most recent seven years) was met with skepticism. This raised concerns about the issue highlighted by the SAG, namely the danger of creeping changes in reference condition. With or without the moving baseline, the proposal demonstrated that a high degree of statistical confidence would be achieved after 14 years of monitoring, an approach based on buying higher certainty with an investment of more time for the assessment period.

## **Irrigated agriculture antidegradation implementation proposal**

There are serious concerns about increased monitoring and compliance costs associated with the policy, especially given the increased groundwater monitoring associated with new waste discharge requirements. Bioassessment monitoring would represent a new added cost for all agricultural entities with the exception of some on the central coast. The very large number of discharge points is the main issue (as it is for stormwater) and makes this program fundamentally different from the wastewater discharges. As a result, the agricultural community would be opposed to any simple mandate for bioassessment monitoring without some sort of incentive or tradeoff against existing monitoring requirements. For example, establishing baseline conditions for all waterbodies would be infeasible. There may be opportunities for coordination / collaboration with registrants.

Permitting and causal assessment at the watershed scale could help address problems related to large number of separate discharge points. For example, baseline conditions could be established at the watershed scale, which would make monitoring less onerous. However, stakeholders pointed out several impediments to such an approach, including the facts that permits are granted to individual activities, coordination / collaboration cannot always be required, different permits are granted under different laws and permitting authorities, regulatory programs themselves are often fragmented and uncoordinated, and there are no clear pathways for dealing with impacts that do not stem from NPDES permitted activities.

The issue of independent applicability was an important one for many stakeholders and critically so for the agricultural community. As discussed, this principle requires that separate standards / objectives and their associated compliance requirements (e.g., biological objectives, toxicity, levels of individual chemicals) be assessed and managed independently, without considering results from other frameworks. In contrast, some called for a more holistic approach in which the presence of good biological conditions could lead to reduced or deferred requirements for monitoring toxicity and/or chemical stressors. This would require a more coordinated policy implementation framework than currently exists. This could also involve a phased or prioritized approach to dealing with degradation. For example, if the primary cause of biological degradation is physical habitat and reducing toxicity would not improve conditions, then a phased approach would involve first dealing with the primary cause of degradation, physical habitat, and deferring toxicity reduction until later.

## **NPDES stormwater antidegradation implementation proposal**

This proposal defined baseline at the reach scale, in contrast to the site-specific scale of the wastewater proposal and the watershed scale discussed earlier. There is greater concern with interannual than with intraannual variability, stemming from differences in rainfall and runoff amounts from year to year. However, the degree and effect of interannual variability differs depending on a reach's condition. Variability in rainfall and runoff will have less of an effect in both pristine and highly degraded conditions, and more of an effect in somewhat impacted locations. The importance of interannual variability emphasizes the point made in the wastewater proposal that defining baseline conditions may require several years of data.

Stakeholders asked whether the antidegradation policy will apply pollutant by pollutant (as some current permits do) and whether antidegradation will apply in the absence of any application for new discharge. Karen Larsen responded that the Board staff's interest at present is more in developing the concept of preventing any further deterioration in condition than in the strict legalistic interpretation of the antidegradation policy. This seemed to some stakeholders a significant difference from current practice, in which the antidegradation policy is triggered only in response to an application for increased or new discharge. A broader interpretation may eventually require moving away from the more formal

antidegradation framework as it currently exists. Stakeholders pointed out that this will involve more clarity in terms of how this concept will be implemented in the context of legal frameworks.

### ***Open discussion***

(see Appendix 1 for an overall high-level summary of the meeting discussion)

Several participants agreed that biological data might be used as a screening tool for the presence of impacts with additional data on chemistry, toxicity, and other stressors collected subsequently. Because chemistry and toxicity data can be duplicative in the assessment of perennial stream condition, there was less interest in a multiple lines of evidence approach that combined these with biological data in a framework in which all indicators are sampled simultaneously. However, some participants argued that, while toxicity might be redundant with macroinvertebrate data, chemistry measures different aspects of the system and should not be a lower priority.

Causal assessments can be expensive and there was support for focusing these on high priority areas rather than attempting to follow up every finding of impact or degradation. Because degraded biological conditions in streams are often associated with changes to hydrology and habitat, there was also support for focusing causal assessment first on these factors rather than on chemistry and/or toxicity. There was also discussion of whether and how to limit the number of causal assessments performed per permit or per year because of their cost and impact on staff time.

Additional points raised during the discussion included:

- Regional monitoring coalitions could be valuable but it is not clear how they would be organized, required to collaborate, or determine cost sharing
- While antidegradation is a useful first step, the best attainable concept should not be abandoned
- Allowable recovery periods must be defined for channel maintenance, fires, floods, and other major disturbances. There is an immediate large impact and then recovery to pre-disturbance conditions in a few years
- Would there be any exceptions to the antidegradation approach?
- How will new baselines be established if degradation is allowed by permit?
- How will climate change be factored into the policy? New samples in reference areas continue to be collected, but not at the density needed to update the reference definition for the entire state. Additional samples could be targeted to high-sensitivity areas. However, climate change will probably affect primarily flow and temperature and it will be difficult to separate such changes from locally caused changes to flow and temperature. It will be necessary to compare local and regional changes / patterns to those at a larger scale
- How would a regional baseline be used in permits?
- It will be challenging to create regional monitoring coalitions in rural areas with fewer dischargers and lower monitoring budgets

### ***Next meeting and next steps***

The next meeting of the Stakeholder Advisory Group has not been scheduled. Plans are to hold a joint meeting of the Stakeholder and Regulatory Advisory Groups.

## 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>		
Chuck Katz (P)	US Navy	Department of Defense
Ruth Kolb	City of San Diego	Flood / Munic / SW
Ed Struffenegger (P)	CA Forestry Association	Forestry / Timber
Kim Anthony (P)	Southern California Edison	Hydro / Utilities
Jeremy Laurin (for E. Cheslak (P)	Pacific Gas and Electric	Hydro / Utilities
Perry LeBeouf (P)	CA Dept. Water Resources	Management Agencies
Joseph Furnish (P)	US Forest Service	Management Agencies
Theresa Dunham	Somach Simmons & Dunn	Pesticide Manufacturers
Phil Markle	LA County Sanitation Districts	POTW
Richard Hill (P)	Caltrans	Transportation
<i>Other participants</i>		
Arne Anselm	Ventura County Watershed Protection	
Karen Ashby	Larry Walker Associates	
Lauren Bauer (P)		
Lucy Buchan (P)	EOA, Inc.	
Lilian Busse (P)	San Diego Regional Water Board	
Amanda Carr	City of Irvine	
Jan Dougall (P)	Las Virgenes Municipal Water District	
Jessica Erickson	CASQA; City of San Diego	
Edward Filadelfia	City of Riverside	
Rebecca Franklin (P)		
David Gillett	SCCWRP	
Christine Gracco (P)	Brown and Winters	
Emiko Innes	LA County Dept. Public Works	
Al Javier	EMWD	
Scott Johnson	Aquatic Bioassay and Consulting	
Nardy Khan	Orange County Public Works	
Jeremy Laurin (P)	Pacific Gas & Electric	
Clifton Loller	Kings River Water	
Ron Manwill	City of Thousand Oaks	
Alan Miller	Lahontan Regional Water Board	
John Netherwood	Boeing	
Jeff Orrell (P)	Brown and Winters	
Robert Rodarte (P)	Orange County Public Works	
Sarah Rutherford (P)	Water Boards	
Jennifer Shepardson	City of San Bernardino Munic. Water Dist.	
Pamela Silkwood (P)		
Tom Suk (P)	Lahontan Regional Water Board	
Claus Suverkropp	Larry Walker Associates	
Jennifer Thiemann	BNSF Railway	
Guangyu Wang (P)	Santa Monica Bay Restoration Commission	

Name	Organization	Representing
Josh Westfall	LA County Sanitation Districts	
Joanna Wisniewska	County of San Diego	

(P) indicates remote participation by phone and Webex

## Appendix 1: High-Level Summary of Stakeholder Discussion

Summary of high-level issues related to proposals for implementing an antidegradation approach.

Broad agreement that defining baseline conditions as a starting point is a useful concept.

However:

- There are unresolved questions about the spatial and temporal scales at which baseline would be defined and tested against (e.g., site-specific, reach, watershed)
- A procedure for testing individual sites against baseline is easier to envision than one for testing larger-scale areas that would include multiple sites
- A procedure for dealing with variability when conditions are close to baseline must be developed because there may be uncertainty about whether an individual measurement is above or below baseline
- A procedure for dealing with uncontrolled disturbances (e.g., fires, floods) must be developed, perhaps a recovery period last a few years during which a failure to meet baseline conditions would not trigger management actions
- It is not clear how the baseline concept would be translated into permit conditions
- Would an allowable degradation (e.g., from a newly permitted discharge) require development of a new estimate of baseline conditions?

Broad agreement that assessing and managing at larger spatial scales is interesting and would provide more opportunities for flexibility and accommodating variability.

Broad agreement that multistakeholder partnerships would be valuable both in developing the estimate of baseline conditions and in assessing against the baseline over time.

However:

- Potential partners often operate at different spatial scales, which implies their respective baseline conditions might also be defined at different scales
- There are no watershed permits that would provide a vehicle for larger-scale partnerships
- It is not clear how the estimate of baseline, particularly at a regional or watershed scale, would be applied to specific programs

Broad agreement in the value of a phased approach to development of both the anti-degradation concept and the policy as a whole.

However:

- Stakeholders desire an overview of the overall policy context and how this and other pieces would fit together

Broad agreement that the assessment results should be used to prioritize streams for attention, with the highest quality streams a higher priority for antidegradation

However:

- A requirement for independent applicability of various standards would make prioritization more difficult
- Stakeholders disagreed somewhat about the need for a relaxation of independent applicability
- The flexibility to use the assessment results to prioritize management attention and actions differs across stakeholders and programs because of different legal frameworks

An important issue is the type of expectations of improvement in degraded areas. This needs more definition.