Attachment 2

Scientific assumptions, findings, and conclusions to be addressed by peer review for the San Diego Water Board Biological Objectives Basin Plan Amendment

The statutory mandate for external scientific peer review (Health and Safety Code Section 57004) states that the reviewer's responsibility is to determine whether the scientific portion of the proposed rule is based upon sound scientific knowledge, methods, and practices. We request that you make this determination for the assumptions, findings, and conclusions that constitute the scientific basis of the proposed regulatory action. An explanatory statement is provided below for each component of the review. The San Diego Water Board will upload materials to be reviewed, as well as associated references, as PDFs to the designated file transfer protocol (FTP) site.

Conclusion 1: Numeric Biological Objective Derivation for Perennial and Seasonal Streams

1. **The underlying method for deriving the numeric biological objective for streams is scientifically sound and protective of Beneficial Uses.**

The Basin Plan amendment proposes to incorporate a numeric water quality objective for streams using a reference-based predictive benthic macroinvertebrate scoring index (Mazor et al. 2016). The proposed Basin Plan amendment uses this index to set the water quality objective using a percentile of reference approach (Ode et al. 2016):

a. Use of benthic macroinvertebrates and the California Stream Condition Index – The underlying method for using benthic macroinvertebrates and the California Stream Condition Index is scientifically sound and will protect and restore the biological integrity associated with perennial and seasonal stream systems.

b. Use of a reference approach – The assumptions and methods used to identify and define "reference" as a biological integrity benchmark are scientifically sound and will protect and restore the biological integrity associated with perennial and seasonal stream systems.

c. Setting of index score threshold – The assumptions and methods to set the water quality objective as a percentile of reference using the California Stream Condition Index is scientifically sound, incorporates a margin of safety, and will identify sites that have a degraded biological condition. The allowance of site-specific scientific information on the physical, chemical, and biological condition of specific sites to prevent false positive identifications of impairment is scientifically sound.

This review should focus on Chapter 3 of the Basin Plan amendment and section 4 of the draft Staff Report. Conclusion 1.b will also require the review of Section 3 of the draft Staff Report, which includes a discussion of reference.

Conclusion 2: Implementation of Numeric Biological Objective

2. **The underlying methods and assumptions for implementation of the numeric biological objective for perennial and seasonal streams is scientifically sound and protective of Beneficial Uses.**

The Basin Plan Amendment proposes to incorporate a new implementation section within Chapter 4 of the San Diego Water Board Basin Plan. The implementation section, which is specific to biological objectives, identifies a framework for implementation of numeric biological objectives within various San Diego Water Board programs under the Clean Water Act and Porter-Cologne Water Quality Control Act.

This review should focus on Chapter 4 of the Basin Plan amendment and section 5 of the draft Staff Report, specifically on the methods of implementation, their discussion, and references to the literature, Clean Water Act, and Porter-Cologne Water Quality Control Act.

Conclusion 3: Narrative Biological Objective Guidance

3. **The underlying method for deriving narrative guidance to use for the development of future numeric waterbody-specific or waterbody-type biological objectives is scientifically sound and protective of aquatic wildlife Beneficial Uses.**

The Basin Plan amendment proposes narrative guidance for the development of future biological objectives for other surface waters within the San Diego Region (e.g. vernal pools, seagrass beds) or for using differing, additional, and/or higher trophic level organisms. The narrative guidance incorporates assumptions and conclusions regarding what constitutes attainment of biological integrity for the protection of aquatic ecosystem Beneficial Uses. The narrative guidance forms the basis for inclusion of proposed and future numeric biological objective translators.

This review should focus on Section 3 of the draft Staff Report, specifically on the proposed narrative guidance, its discussion, and references to the literature and Clean Water Act statute.

The Big Picture

Reviewers are to consider the following questions:

(a) *Taken as a whole, is the scientific portion of the proposed rule based upon sound scientific knowledge, methods, and practices?*

(b) *Have we missed anything?*

Reviewers should note that the San Diego Water Board has a legal obligation to consider and respond to all feedback on the scientific portions of the proposed rule. Because of this obligation, reviewers are encouraged to focus feedback on the scientific issues that are relevant to the central regulatory elements being proposed.

Reviewers should also note that some proposed actions may rely on professional judgment where available scientific data are not as extensive as desired to support the statutory requirement for absolute scientific rigor. In these situations, the proposed course of action is favored over no action.