

**Summary of the Joint Meeting Between the EPA Region IX RTAG and the
California State RTAG (STRTAG).
June 7 - 8, 2001**

Prepared for

EPA Region IX
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I Meeting Background

An important element of the EPA Region IX Nutrient Criteria Program is the continued involvement of stakeholders through the Regional Technical Assistance Group (RTAG). The RTAG for nutrient criteria development in EPA Region IX has been meeting and evolving since 1998. The RTAG has increased in size since the publication of draft criteria proposed by the National Nutrient Criteria Program at U.S. EPA Headquarters. There have been several RTAG meetings and conference calls over the past two years. EPA Region IX worked with the RTAG on two pilot projects that were undertaken to develop nutrient criteria that would be more specifically tailored to *regionalization units* within Region IX. (Regionalization units defined at the meeting as geographic units and the associated waters that respond in a similar manner to nutrient inputs.) The meeting was composed of two distinct sessions. The first session (June 7) involved all members of the RTAG, which includes representatives from all state water quality programs within Region IX, and other stakeholders. Those in attendance for first session are listed alphabetically in Table 1.

A second session (June 8) was conducted to work with the recently established California State Nutrient Criteria Program. The second session involved the EPA Region IX Nutrient Criteria Lead (Suesan Saucerman), members of the California State Water Resources Control Board (SWRCB), and representatives from each of the 9 Regional Water Quality Control Boards (RWQCB). The session was organized to support the State=s efforts to organize its own RTAG-like structure. This State RTAG (STRTAG), is administered through the SWRCB, and tasked with addressing nutrient criteria development for the State of California.

Since there is considerable membership overlap between the RTAG and STRTAG, there was justifiable concern that efforts could be more efficiently utilized if both groups worked together as much as possible. The agendas for both sessions are included as attachments 1 and 2.

The meeting provided an opportunity for an update of the latest refinements on guidance from the National Program. The primary objective of the meeting was to lay the foundation for development of alternative nutrient criteria for Region IX using a strategy that is consistent with the national guidance. Complete transcripts of each day=s meeting are appended to this document (Attachments 3 and 4). This document provides a brief summary of those transcripts.

II Welcome and Convening of the Region IX Regional Technical Advisory Group (Suesan Saucerman)

Suesan Saucerman welcomed everyone to the first ever joint meeting of the EPA Region IX RTAG and the STRTAG. Introductions by all attendees were requested since many were first time participants in RTAG proceedings. Each attendee was asked to provide their name, organizational affiliation (if any), and involvement/interest in the nutrient criteria development process. There were 33 attendees from a broad spectrum of interests (government-regulatory, government-research, academia, private consultants, and environmental groups). The majority of the attendees were from the regulatory community (Table 1).

Table 1. Session 1 Participants

Name	Agency
Larry Bahr	Fairfield-Suisun Sewer District
Christine Bailey	SWRCB, California
Shirley Birosik	RWQCB-4
Gerald Bowes	SWRCB, California
Lisa Brown	RWQCB-9
Michelle Buzbee	Larry Walker Associates, Representing Tri-Tac
Jeff Church	RWQCB-1
Francisco Costa	RWQCB-7
Clayton Creager	Tetra Tech, Inc.
Peter Dileanis	USGS
Dave Evans	RWQCB-1
Peggy Fong	UCLA
Sharon Green	LA County Sanitation District
Krista Kamer	SCCWRP
Jim Keating	U.S. EPA OST
Howard Kolb	RWQCB-3
Heather Lamberson	LA County Sanitation District
G. Fred Lee	G. Fred Lee and Associates
Cindy Li	RWQCB-8
Jeremie Maehr	Tetra Tech, Inc.
L.B. Nye	RWQCB-4
Greig Peters	RWQCB-9
Maria de la Paz Carpio-Obeso	RWQCB-7
Sam Rector	AZ DEQ
Frank Roddy	SWRCB-DWQ, California
Jon Rokke	RWQCB-7
Sujoy Roy	Tetra Tech, Inc.
Suesan Saucerman	EPA Region IX
Mark Sylvester	USGS
Judith Unsicker	RWQCB-6
Kim Ward	SWRCB, California
Craig Wilson	SWRCB, California
Gary Wortham	Tetra Tech, Inc.

III National Nutrient Criteria Program (Jim Keating)

Jim Keating (U.S. EPA Office of Science and Technology, Washington, D.C.) provided the RTAG with an overview/update of the National Nutrient Criteria Program.

The overview explained the rationale, goals, and approach that EPA used in determining that national nutrient criteria are necessary to protect waterbodies of the U.S. and be in compliance with the Clean Water Act. These included:

The Need for Nutrient Criteria:

- Clean Water Act (CWA) goals: fishable/ swimmable waters, wherever attainable
- Over-enrichment is a top contributor to use impairments
- States and Tribes need quantifiable targets for nutrients in their water quality standards (for WQBELs and TMDLs)

Common Goals:

- Limitations on nutrients to address eutrophication impairments
- Better quantification of protective nutrient levels in water quality standards
- Flexibility for states and tribes in the development and adoption of criteria
- Clear and reasonable expectations

EPA approach:

- Utilize reference condition approach to represent minimally impacted conditions
- Tailor criteria by nutrient Ecoregion and waterbody type
- Address causal and response variables
- Establish Regional Technical Assistance Groups (RTAGs)

In 1997 and 1998 EPA, along with various experts, determined that nutrient criteria could be established based on regionally specific information, and could be done empirically using reference conditions.

Features of Nutrient Criteria:

- Empirically-derived for an indirect stressor (e.g., biocriteria that describe a desired condition)
- Relate broadly to fishable/swimmable uses, but not to specific uses (i.e., criteria that reflect minimally impacted conditions should protect all assigned aquatic life and recreation uses)

Typically, toxicity criteria are established using experimental data produced in a laboratory under very controlled conditions. Biological criteria must be established based on field measurements that are transferable to other similar areas. The approach for generating nutrient criteria is very similar to the development of biological criteria. Criteria will be derived empirically for stressors by looking at conditions and effects. Site-specific reference conditions are collected and used to define a target condition for all similar sites. This method addresses both causal and response variables. Both the level and the effect of the pollutant are being measured.

The criteria relate broadly to the fishable and swimmable goals; if waters meet these goals, it is

assumed that the criteria will be effective at protecting other beneficial uses.

Jim fielded several questions from the attendees. In general, these questions pertained to how flexible the EPA would be regarding States developing their own site-specific nutrient criteria. Jim responded that the EPA has built in abundant flexibility into the process and that, as long as the procedures were scientifically defensible and well underway, the EPA would have no difficulties in accepting locally derived criteria.

IV USGS National Water Quality Assessment Program (NAWQA) (Mark Sylvester)

Mark provided an overview of the NAWQA Program that included the history as well as the objectives of the program. NAWQA has completed Cycle I (status/assessment) and is now in transition to Cycle II (understanding trends).

Cycle II has three themes: (1) resources not previously sampled, (2) drinking water sources, and (3) contaminants not previously sampled. Public health and pesticide issues will garner an increased focus. These three themes will focus on contaminants and sources, groundwater and stream interactions, the effects of pollutants on biota and riparian ecosystems; looking at the contributions of baseflow and groundwater to the nutrient load in streams.

Trends will be assessed via monitoring variability in water quality status, effects of land-use changes (urbanization, agricultural practice, human population distributions, etc.).

Mark reaffirmed that the role of the USGS in the National Nutrient Criteria Development Program is to provide the RTAG with data and information, ways to apply criteria, and an understanding of water quality conditions based on results obtained from Cycle II of the NAWQA Program.

V Arizona Progress (Sam Rector, Arizona Department of Environmental Quality)

Arizona is focusing its efforts on an aggressive campaign to characterize effluent dominated stream systems. To date, these systems have been poorly characterized, yet they have become important ecosystems on their own.

Sam currently has three projects related to nutrients and effluent dominated systems: (1) aggressively characterize a small number (3-4) of effluent dominated streams by studying the biogeochemicophysical properties of these systems; (2) Arid West Water Quality Research Project. This project is broader in scale in that it will examine 10 streams in the arid west; and (3) developing an implementation guide for narrative nutrient standards, which includes remediation strategies for exceedances as well as acute nutrient criteria.

VI Regional Board/SCCWRP Presentations

Representatives from each of the nine Regional Boards presented the group with summaries of nutrient related projects underway in their respective regions. Representatives from the Southern California Coastal Water Research Project provided details of nutrient related coastal projects.

Details of these can be found in the Appendix to this summary report.

The SCCWRP is partially funded by Region IX as part of the nutrient criteria development program. There are several ongoing SCCWRP studies that may provide information for nutrient criteria development including:

- § Malibu Creek: UCSB is sampling for biomass, species composition, surrounding land use, macroinvertebrate communities, and other parameters.
- § Upper Newport Bay: sampling for nutrients in sediment, investigating macroinvertebrate and algal relationships, studying the flux of nutrients including storage and uptake, looking at nitrogen vs. phosphorus limitations, and the supply and storage of nutrients in the algal community.
- § Sampling in 5 estuaries has been expanded to Newport Bay and the project is monitoring 5 additional systems: Carpenteria, Mugu, Los Penesquitos, Upper Newport, and Malibu
- § The process of nutrient cycling in the west is a big unanswered question. Process oriented research is being used to develop knowledge about what sorts of nutrient loads are acceptable in a system. An indicator study for nutrient supplies to algae is using isotopic methods to determine sources and fate of nutrients.
- § A CALFED project in the San Joaquin is sampling 4 sites and 8 tributaries for nutrients and Chl-a.
- § UC Davis is investigating nutrient sources to the delta through monitoring at 16-18 sites.

It is hoped that information from these studies can be used to determine how coastal streams and estuaries in Southern California cycle nutrients. The research will provide the nutrient criteria program with more detailed information regarding system response to various levels of nutrient concentrations.

VII Development of Alternate Nutrient Criteria (Clayton Creager, Tetra Tech, Inc.)

This presentation and discussion focused on various options provided in EPA guidance that allows RTAGs to develop localized nutrient criteria. The EPA guidance states that abundant flexibility has been given to the regions via the RTAG process to develop their own criteria. The rationale for this option is based on the high level of knowledge that regional water managers have for waters within their specific regions.

EPA provides three approaches that RTAGs can use to develop nutrient criteria. These are:

- Use methods proposed in EPA's Technical Guidance Manuals.
- Adopt EPA's Section 304(a) criteria.

- Use other scientifically defensible methods.

Some issues that need to be considered in planning for and in developing nutrient criteria are presented below:

- Which of the three approaches will you use?
- If you are considering different approaches what is your preference?
- How will you relate criteria to use classifications?
- How will you group state waters (physical classification)?
- What data will you rely on?
- Will you collect new data?
- How will you analyze the data?
- How will compliance be determined?
- What staffing/resources will you need?
- What administrative procedures will you need to go through?
- Who is involved in critical decision making?
- How will you solicit public participation and stakeholder involvement?
- Will you utilize outside expertise?
- What are the major milestones and schedule for completion?

A plan with a schedule for completion of alternate methods and nutrient criteria needs to be established. Because of the time required to conduct monitoring and data analysis, work groups and development plans should be established as soon as possible. In CA it can take a long time to send something through the required administrative process; therefore some flexibility from EPA might be required. If reasonable progress can be demonstrated by 2004, EPA will be flexible about final adoption of the criteria. The goal of reasonable progress would be achieved if the criteria have been developed and they are going through the state review process. The time frame for review should be formalized to give EPA an outlook on that process.

Next Steps:

The following question to the group: AWhat level ecoregion or >regionalization unit= will be used to develop the criteria?@

Several members suggested using methods used by other programs. For example the USGS NAWQA Cycle II uses characteristics like hydrogeologic similarities. The Bay Toxic Protection Program in Southern California uses similarities in waterbody types (e.g., large harbors, small marinas, man-made vs. natural). Several participants noted the importance of using watershed characteristics as an important element in defining nutrient criteria categories. Others suggested using hydrodynamic and/or load responses/beneficial uses as possible delineators.

Finally, it was agreed that a separate meeting would be necessary for developing methods and conceptual plans.

End of Session One

VIII Day 2 Welcome and Convening the STRTAG (Kim Ward, SWRCB)

Kim Ward outlined the origins and purpose of the state nutrient criteria program. Each participant was asked to re-introduce himself or herself and to state their departure times so that the agenda could be adjusted to the available time. There were 20 members in attendance, all representing government-regulatory community, with the exception of Tetra Tech staff, who acted as meeting facilitators (Table 2, in alphabetical order).

The overall objectives of this day=s meeting were to sort out the logistics of having all nine RWQCB=s work together to produce nutrient criteria development plans. Specifically, they were:

- \$ Organizing the group into smaller sub-groups,
- \$ Determining the technical approach that will be used,
- \$ Preparing a plan, and
- \$ Next steps.

Group Organization/Technical Approach - The first order of business was to determine who could be a member of the group. Would the group allow members from other states in EPA Region IX to participate? The consensus of the group was that California must focus on itself, with other states and stakeholders participating and providing input through the larger EPA IX RTAG. It was agreed that local expertise would be used to assist the process. The STRTAG is to be composed of representatives from the State and Regional Boards.

The group identified the development of Aregionalization units@ as another key initial issue. Regionalization units were defined as the geographical breakdown of areas into manageable pieces that are similar enough to justify having common nutrient criteria. Individual RWQCB members would be assigned to focus their attention on a particular regionalization unit. Thus, depending upon the number/overlap of these regionalization units, several RWQCB=s could potentially be required to work in unison. Each group would be responsible for the technical approach agreed upon by its members and the larger group, however, the SWRCB reserves administrative authority.

The issue of regionalization units was addressed by an independent brainstorming exercise where each member of the work group listed the breakdowns they envisioned. Some individuals did the exercise statewide, others only within their regions. Overall the number of regionalization units was on the order of 6 to 10 per region and 10 to 30 statewide. These are

Table 2. Session 2 Participants

Name	Agency
Emily Alejandro	RWQCB-5
Christine Bailey	SWRCB, California
Shirley Birosik	RWQCB-4

Lisa Brown	RWQCB-9
Beth Christian	RWQCB-2
Jeff Church	RWQCB-1
Francisco Costa	RWQCB-1
Clayton Creager	Tetra Tech, Inc.
Jim Keating	U.S. EPA OST
Howard Kolb	RWQCB-3
Jeremie Maehr	Tetra Tech, Inc.
L.B. Nye	RWQCB-4
Greig Peters	RWQCB-9
Maria de la Paz Carpio-Obeso	RWQCB-7
Jon Rokke	RWQCB-7
Suesan Saucerman	U.S. EPA Region IX
Judith Unsicker	RWQCB-6
Kim Ward	SWRCB, California
Craig Wilson	SWRCB, California
Gary Wortham	Tetra Tech, Inc.

presented in the Appendix to this summary. Organization of individual work groups will not be possible until agreement is reached on the regionalization / waterbody classifications are determined.

Of great concern to the group was the level of staffing/resources that will be needed to undertake such an ambitious project. It was agreed upon by all that every Executive Officer would have to be fully updated by the SWRCB as to the level of participation and resources that each RWQCB will need to provide. SWRCB staff agreed to bring the issues before the Management Coordinating Committee (MCC) soon.

The group also discussed the importance of coordinating with the State Water Assessment Monitoring Program. Coordination is necessary to ensure that the monitoring plans incorporate the information objectives of the nutrient criteria development program. Craig Wilson, who is managing the development of SWAMP for the State Board, provided an overview of the program and its status. Each region was asked to conduct an inventory of monitoring needs and existing monitoring activities. The monitoring inventory is an initial step to develop information for the nutrient criteria development program.

Preparing a Schedule - The U.S. EPA=s schedule calls for having nutrient criteria developed by the end of 2004. This means that all of the technical work must be completed, or show a significant amount of progress by that time. The amount of time required for the administrative

process is not necessarily included in that time limit. This means that Regions seeking to develop alternate criteria must begin the process in the near future.

Sessions 1 and 2 Next Steps and Recommendations:

No clear consensus emerged from the sessions on the form and content of development plans for nutrient criteria development plans (i.e., work plans). However, several next steps and recommendations were identified that could be addressed before the next RTAG / STRTAG meetings. These include the following:

- § Tetra Tech will compile for distribution the different descriptions of regionalization units provided by the various members (included with these notes).
- § Tetra Tech will contact other EPA Regions (IV and VIII) to determine what approaches other RTAGS are taking to develop nutrient criteria in their regions.
- § The Omernick Level III ecoregions within Region IX capture most of the factors identified in the regionalization exercise. A large water quality database was compiled as part of the first nutrient criteria pilot project. Tetra Tech will organize the water quality data from the pilot project by Omernick Level III ecoregion and evaluate parameter distributions for each. EPA Region IX will distribute the results to the RTAG.
- § Tetra Tech will begin compiling nutrient TMDLs that have been completed and approved for ecoregions within EPA Region IX. Representatives from the TMDL program will be interviewed to determine how information from the TMDL program can be integrated into the nutrient criteria development process. This information will be presented at the next RTAG meeting.
- § Each RTAG representative will conduct an inventory of monitoring programs that their organizations are involved in that could provide data to the nutrient criteria development process. The objective is to collect existing and upcoming information that could contribute to nutrient criteria development.
- § Tetra Tech will continue to identify and compile water quality data that can be used in the nutrient criteria development process.
- § Tetra Tech will provide a work plan template that can be used as a starting point for the RTAG as they begin to prepare nutrient criteria development plans. The work plan template will provide general guidance for the types of information and analyses that RTAG work groups will have to collect and conduct to develop alternative nutrient criteria. The RTAG work groups will need to refine the general work plans for presentation to the Management Coordinating Committee (MCC).

