



The February 11, 2010 meeting will be held at:

**San Francisco Bay Area Boy Scout Council**  
**1001 Davis Street**  
**San Leandro, CA 94577**  
<http://www.sfbac.org/>  
**(510) 577-9000**

**9:00 a.m. – 12:00 p.m.**

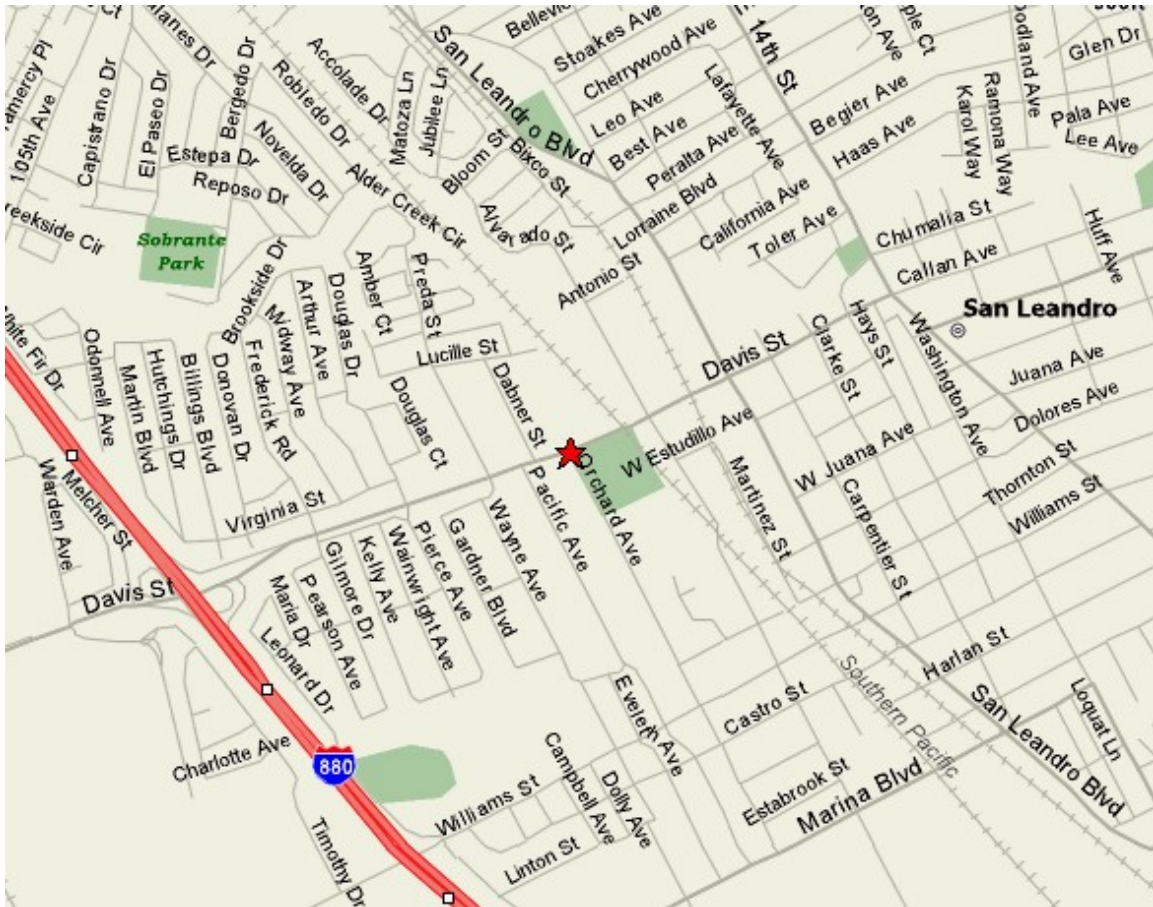
General Meeting & Water Committee  
Theatre Room

Land Committee  
Bank of America Conference Room

**Next Meeting**

March 11, 2010

Location  
TBD



## Driving Directions

From the Oakland Airport:

- Right on Doolittle
- Left on Davis

Participants should not incur a costly taxicab fee, as this location is about 2.5 miles from the airport. The following website provides a link to MapQuest for driving directions: [http://www.sfbac.org/facilities/fac\\_yltc.cfm](http://www.sfbac.org/facilities/fac_yltc.cfm)

Please note that the Boy Scout Council is located within walking distance of the San Leandro BART station. Detailed information can be obtained on the BART website: [www.bart.gov/stations/stationguide/localareamap.asp](http://www.bart.gov/stations/stationguide/localareamap.asp)

# **TRI-TAC MEETING**

**San Francisco Bay Area Boy Scout Council  
1001 Davis Street  
San Leandro, CA 94577**

**General Meeting & Water Committee  
Theatre Room**

**Land Committee  
Bank of America Room**

**THURSDAY, FEBRUARY 11, 2010  
9:00 A.M. – 12:00 P.M.**

## **9:00 A.M. – GENERAL MEETING**

## **ATTACHMENTS**

1. INTRODUCTIONS
2. WHO'S WHO
3. APPROVAL OF THE JANUARY 12, 2010  
TRI-TAC MEETING SUMMARY P. 4
4. FUTURE MEETING SCHEDULE/COMMITTEE ASSIGNMENTS P. 5-7
5. CROSS-MEDIA ISSUES AND CWCCG UPDATE
6. OTHER BUSINESS/NEW ISSUES

## **9:45 –12:00 P.M. – COMMITTEE MEETINGS**

- A. LAND AGENDA - BANK OF AMERICA ROOM P. 8
- B. WATER AGENDA - THEATRE ROOM P. 9-10

**NOTE: NO COMMITTEE REPORT-OUTS**

MEETING SUMMARY  
WEDNESDAY, JANUARY 12, 2010  
ONTARIO, CALIFORNIA

**GENERAL MEETING**

THE FOLLOWING MEMBERS AND INTERESTED PARTIES WERE PRESENT:

Layne Baroldi, Synagro Technologies	Al Javier, Eastern Municipal Water District
Crystal Bell, City of San Bernardino	Chandra Johannesson, EBMUD
Tish Berge, RMC	Diane Jones, City of Los Angeles
Stephanie Cheng, EBMUD	Jackie Kepke, CH2MHill
Paul Cobian, City of Los Angeles	Greg Kester, CASA
Vince DeLange, EBMUD	Bobbi Larson, CASA
Ed Filadelfic, EMCD	Jason Lofton, SRCSD
Brennon Flahive, SOCWA	Anant Mokashi, City of Los Angeles
Lorien Fono, Carollo Engineers	Michael Moore, HDR
Dan Gallagher, DSRSD	Liz Ostoich, Synagro Technologies
Preeti Ghuman, LACSD	Hassan Rad, City of Los Angeles
Bob Gillette, Carollo Engineers	Jim Sandoval, CH2MHill
Shannon Grund, LACSD	John Shaffer, EEC
Bobby Gustafson, San Bernardino Water	Jim Sullivan, Biosolids
Jon Hay, Black & Veatch	Natalie Sierra, San Francisco PUC
Valerie Housel, City of San Bernardino	Jeff Ziegenbein, IEUA

**Introductions, Announcements, and Discussion Items**

Self introductions were made by all participants. The meeting was chaired by Natalie Sierra.

**Approval of Last Meeting's Action Items**

The Meeting Summary from the December 3, 2009, meeting was approved.

**Committee Issue Summaries**

The Committees will update the summaries on a quarterly basis. Updated summaries from the Air, Land and Water Committees will be posted on the web site at [www.tritac.org](http://www.tritac.org).

**Future Meeting Schedule, Roster, and Committee Assignments**

These items were reviewed and updated, as appropriate.

**Other Business**

No other business

## TRI-TAC MEETING LOCATION & SCHEDULE 2010

TRI-TAC MEETING DATE <sup>1</sup>	LOCATION/HOTEL	COMMENTS
FEBRUARY 11, 2010	Boy Scout Council 1001 Davis Street San Leandro, CA 94577 510-577-9000	
MARCH 11, 2010	TBD ( <a href="#">Sacramento</a> )	CASA D.C. Conference, March 8 – 10
APRIL 8, 2010	Boy Scout Council 1001 Davis Street San Leandro, CA 94577 510-577-9000	★  CWEA – April 20-24 Sacramento, CA  CASA – April 28-30 Newport Beach, CA
MAY 13, 2010	Orange County Sanitation District 10844 Ellis Avenue Fountain Valley, CA 92708 (Shuttle bus offered from John Wayne Airport at about 8:40am)	
JUNE 10, 2010	TBD ( <a href="#">Sacramento</a> )	
JULY 8, 2010	Boy Scout Council 1001 Davis Street San Leandro, CA 94577 510-577-9000	★
AUGUST 12, 2010	DARK	CASA – August 18-20 Monterey, CA
SEPTEMBER 9, 2010 <i>(NOTE: This is a holiday.)</i>	Boy Scout Council 1001 Davis Street San Leandro, CA 94577 510-577-9000	
OCTOBER 14, 2010	Orange County Sanitation District 10844 Ellis Avenue Fountain Valley, CA 92708 (Shuttle bus offered from John Wayne Airport at about 8:40am)	WEFTEC.10 – October 2-6 New Orleans, LA  ★
NOVEMBER 11, 2010 <i>(NOTE: This is a holiday.)</i>	TBD ( <a href="#">Sacramento</a> )	Tri-TAC Retreat Pardee Valley Springs, CA
DECEMBER 2, 2010	Boy Scout Council 1001 Davis Street San Leandro, CA 94577 510-577-9000	Holiday Luncheon

TRI-TAC MEETING DATE <sup>1</sup>	LOCATION/HOTEL	COMMENTS
<p><sup>1</sup> If you would like to add an agenda item or schedule a presentation for an upcoming meeting, please contact one of the committee co-chairs at least 14 days before the designated meeting date</p> <p><sup>2</sup> If you would like an “after Tri-TAC” meeting noted in the agenda package, please contact Ben Horenstein at least ten days before the designated meeting date.</p> <p>★ Air Committee will meet.</p>		

Notes for 2010 **revise as needed.**

1. Confirmations are underway.

## TRI-TAC SPONSOR REPRESENTATION 2010

<b>League of California Cities</b>	<b>CASA</b>	<b>CWEA</b>
Rodney Anderson Phil Bobel Chandra Johannesson Valerie Housel Dave Tucker	Layne Baroldi Sharon Green Ben Horenstein, Tri-TAC Chair Terrie Mitchell Dave Williams	Nichole Baker Gail Chesler Jim Clark Jim Colston Bob Gillette Tom Grovhoug Jon Hay Jackie Kepke Monica Oakley Chuck Weir

### Tri-TAC Liaison Representation

BACWA	Amy Chastain
CASA	Roberta Larson, Greg Kester
SCAP	John Pastore
CVCWA	Debbie Webster
CWEA	Nichole Baker

### COMMITTEES

<b>AIR</b>	<b>LAND</b>	<b>WATER</b>	
<b>Co-Chairs:</b> Jim Sandoval & Jay Witherspoon	<b>Co-Chairs:</b> Greg Baatrup & Matt Bao	<b>Co-Chairs:</b> Gail Chesler & Lorien Fono <b>Finance Subcommittee Chair:</b> Dave Bruns	
Gregory Adams Stephanie Cheng James H. Clark Joyce Clark Vicki Fry Jackie Kepke Vlad Kogan Dan McGivney Dipak Patel Paul Pau John Schroeter Jennifer Smith Wynn W. Yin	Layne Baroldi Stephanie Cheng Vince DeLange Diane Jones Robert Gillette Jon Hay Ray Kearney Greg Kester Derrick Lee Lorrie Loder Ed McCormick Mike Moore Liz Ostoich Ruben Robles Natalie Sierra, Tri-TAC Vice-Chair Mike Sullivan	Nichole Baker Rebecca Bjork Phil Bobel Stephanie Cheng Gail Chesler Joyce Clark Jim Colston Mike Connor Dan Gallagher Sharon Green Tom Grovhoug Tom Hall F. Patrick Hassey Ben Horenstein, Tri-TAC Chair Valerie Housel	Chandra Johannesson Roberta Larson Patricia McGovern Terrie Mitchell Arleen Navarret Monica Oakley Curt Swanson Bonnie Teaford Melissa Thorme David Tucker Roger W. Turner Ray Von Dohren Debbie Webster Chuck Weir

### Cal-FOG Work Group

#### Steering Committee:

Nadia Borisova  
Jack Dickinson  
Linda Dorn  
Anntonette Duncan  
Bill Garrett  
Karen Harris  
Ryan Harrison  
Jun Rieza  
Merrill Seiler  
John Shaffer

**Tri-TAC LAND COMMITTEE AGENDA**  
**February 11, 2010**  
**San Leandro, CA**

<b>Item No.</b>	<b>Topic</b>	<b>Lead Person</b>	<b>Est. Time (minutes)</b>	<b>Attachments</b>
<b>1.</b>	<b>Legislative Update</b>			
	• <b>Ordinances Update (Imperial, SLO, Solano, Kern)</b>	<b>M. Bao, G. Kester, L. Ostoich</b>	<b>15</b>	
	• <b>Air District Update</b>	<b>M. Bao</b>	<b>5</b>	
	• <b>SJVAPCD CEQA Policy</b>	<b>G. Kester</b>	<b>15</b>	
	• <b>AB222 Adams/Ma</b>	<b>N.Sierra</b>		
<b>2.</b>	<b>San Francisco compost and opposition from the Center for Food Safety</b>	<b>N.Sierra</b>	<b>15</b>	
<b>3.</b>	<b>CASA DC Conference</b>	<b>G. Kester</b>	<b>10</b>	
<b>4.</b>	<b>Regional Facilities Update</b>			
	• <b>Bay Area Agencies</b>	<b>G. Baatrup</b>	<b>5</b>	
	• <b>So. Cal. &amp; C.V.</b>	<b>E. Ostoich</b>	<b>5</b>	
	• <b>EnerTech</b>	<b>R. Kearney</b>	<b>5</b>	
	• <b>TIRE</b>	<b>D. Gilbert</b>	<b>5</b>	
<b>5.</b>	<b>Regional Associations' Report</b>			
	• <b>SCAP</b>	<b>D. Gilbert</b>	<b>5</b>	
	• <b>BACWA</b>	<b>G. Baatrup</b>	<b>5</b>	
	• <b>CVCWA</b>	<b>B. Gillette</b>	<b>5</b>	
	• <b>CASA</b>	<b>G. Kester</b>	<b>5</b>	
	• <b>CWEA</b>	<b>J. Hay</b>		
<b>6.</b>	<b>Pyrethroid Working Group</b>	<b>G. Kester</b>	<b>5</b>	
<b>7.</b>	<b>UC Davis Biosolids Compost VOC Study</b>	<b>G. Kester</b>	<b>5</b>	
<b>8.</b>	<b>EPA Biofuels Rulemaking</b>	<b>G. Kester</b>	<b>5</b>	
<b>9.</b>	<b>Trace Organics Activities</b>	<b>G. Kester</b>	<b>15</b>	
<b>10.</b>	<b>Climate Change Legislation</b>	<b>G. Kester</b>	<b>10</b>	
<b>11.</b>	<b>Biosolids Research and Conferences</b>	<b>All</b>	<b>10</b>	

## Tri-TAC Water Committee Agenda – February 11, 2010

ITEM #	Topic	LEAD	time	Relevant material
<b>Discussion Items:</b>				
<b>General Meeting Items</b>				
1.	Cross-media pesticide issues	Greg Kester/ Matt Bao?		
2.	Nutrient issues: EPA & ammonia, Florida criteria, Nancy Stoner's appt	Tom Grovhoug, others		
<b>New</b>				
3.	CEQA meeting - proposed amendment to state water quality control policy for developing California's Clean Water Act section 303(d) list	Shannon ?	5	Proposed amendment to SWQCB policy for developing California's 303(d) lists (Attachment 1)
4.	Biological Objectives for California	Gail	5	Where is this going? Should we worry? (Attachment 2)
<b>Updates</b>				
5.	Ammonia Criteria	Tom Grouvho g	10	Report from Workgroup and next steps (Attachment 3 – from Phil Markle's SCAP update)
6.	Blanket Permit Amendment for dioxin in SF Bay	Monica Oakley	5	Informational Item
7.	CECs in Coastal and Marine Ecosystems	Jim Colston	10	Update from January meeting
8.	EPA draft Whole Effluent Toxicity (WET) guidance	Phil Markle	10 mins	Workgroup update
9.	DPR's Pyrethroid activities	Kelly Moran	10	Update
10.	Hamonization of pesticide toxicity guidelines	Preeti Ghuman	5 mins	Report from January 22 meeting with EPA
11.	Inert Ingredient disclosure	Preeti Ghuman	5 mins	Status Update

12.	CIWQS/ECHO	All contribute & Shannon Grund	5 mins	What did you find when you checked the two systems on behalf of your agency?
13.	MMP Reform Legislation	Bobbi Larson	10 mins	Update
14.	Marking of Abandoned Lines – Common Ground Alliance & SSO WDR Update	Morrison attended  Larson (for CASA & CASA's attys)	10 mins	Update from Jan 29 meeting and next steps
15.	Legislation for nursing facility drug disposal rules	Phil Bobel	10 min	& other considerations as FDA weighs in

<b>Informational Items:</b>			
DTSC's move into dental amalgam			We provided comments on the DTSC survey
<b>Items that are out there:</b>			
Flushables & disposable wipes	Gail		NACWA workgroup
Emerging Contaminants – Pesticides emerging; nanomaterials			Jeff Wong, DTSC Chief Scientist, will come to March meeting to discuss nanomaterials
SF Bay TMDLs (Mercury, Selenium, PCBs)			
EPA's notion that enforcement is insufficient	Monica Oakley		
Bacteria Standards for REC-1 Waters			



**Linda S. Adams**  
Secretary for  
Environmental Protection

# State Water Resources Control Board

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## Division of Water Quality

1001 I Street • Sacramento, California 95814 • (916) 341-5455  
Mailing Address: P.O. Box 100 • Sacramento, California • 95812-0100  
FAX (916) 341-5463 • Internet Address: <http://www.waterboards.ca.gov>



**Arnold Schwarzenegger**  
Governor

## NOTICE OF PUBLIC CALIFORNIA ENVIRONMENTAL QUALITY ACT SCOPING MEETING

### PROPOSED AMENDMENT TO STATE WATER QUALITY CONTROL POLICY FOR DEVELOPING CALIFORNIA'S CLEAN WATER ACT SECTION 303(d) LIST

**Monday, March 29, 2010**  
**2:00 p.m.**

Byron Sher Auditorium  
Joe Serna, Jr. Cal/EPA Headquarters Building  
1001 "I" Street, Sacramento, CA 95814

**NOTICE IS HEREBY GIVEN THAT** the State Water Resources Control Board (State Water Board) staff will hold a California Environmental Quality Act (CEQA) scoping meeting to seek input on the scope and content of the environmental information that should be considered in amending the State Water Board's Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List (Listing Policy). The proposed amendment will incorporate State Water Quality Control Policy for Sediment Quality Objectives for Enclosed Bays and Estuaries, which were effective in August 2009.

The scoping meeting will provide a forum for early public consultation on the amendment of the Policy and the environmental impacts thereof. This consultation will assist the State Water Board and its staff to determine the scope and content of the environmental review, and to consider input from Responsible and Trustee Agencies, as well as other interested parties.

Scoping is helpful to the State Water Board in identifying the range of actions, alternatives, mitigation measures, and significant environmental effects that must be analyzed before it makes a decision regarding the policy. Scoping is an effective way to bring together and resolve the concerns of affected federal, state, and local agencies, the proponent of the action, and other interested persons, including those who might not agree with the proposed action on environmental or other grounds.

#### DOCUMENT AVAILABILITY

An informational scoping document explaining the proposed amendment to the Listing Policy may be obtained on the Internet, on the State Water Board Web site at [http://www.waterboards.ca.gov/water\\_issues/programs/tmdl/docs/303d\\_policydocs/info\\_doc02031\\_0.pdf](http://www.waterboards.ca.gov/water_issues/programs/tmdl/docs/303d_policydocs/info_doc02031_0.pdf). You may also receive a copy by writing Ms. Shakoora Azimi-Gaylon, Division of Water Quality, State Water Resources Control Board, 1001 I Street, Sacramento, CA 95814, or by contacting Ms. Azimi-Gaylon at (916) 341-5508, email: [sagaylon@waterboards.ca.gov](mailto:sagaylon@waterboards.ca.gov).

*California Environmental Protection Agency*

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## SUBMISSION OF CEQA SCOPING COMMENTS


The State Water Board will accept both written and oral suggestions on the scope and content of the information included in the scoping meeting documents. Comments should be limited to identifying the range of actions, alternatives, mitigation measures, and potential significant environmental effects to be analyzed in the amendment to the Listing Policy. Comment letters to the State Water Board **must be received by 12 p.m. on April 12, 2010**. After the deadline, State Water Board staff will not accept additional written comments. Please send comments to: Jeanine Townsend, Clerk to the Board, by email at ([commentletters@waterboards.ca.gov](mailto:commentletters@waterboards.ca.gov)) (If less than 15 megabytes in size or less), (916) 341-5620 (fax), or by mail addressed to State Water Resources Control Board, 1001 I Street, Sacramento, CA 95814. Please indicate in the subject line, "Comment Letter – State Water Quality Control Policy for Sediment Quality Objectives as listing criteria for enclosed bays and estuaries." Electronic submission by email is preferred.

## PARKING AND ACCESSIBILITY

For a map to show the location of the Cal/EPA Headquarters building, directions and public parking sites in Sacramento, they are on our website at: <http://www.calepa.ca.gov/epabldg/location.htm>. The facilities will be accessible to persons with disabilities. Individuals requiring special accommodations are requested to contact Xochitl Rivera at (916) 341-5566 at least five working days prior to the meeting. TTY users may contact the California Relay Service at 1-800-735-2929 or voice line at 1-800-735-2922.

For security purposes, all visitors are required to sign in and receive a visitor's badge prior to attending any meeting in the building. The Visitor and Environmental Services Center is located just inside and to the left of the Cal/EPA Building's public entrance. Valid picture identification may be required due to security requirements. Please allow up to 15 minutes for receiving clearance, and then proceed to the Byron Sher Auditorium on the 2nd floor.

February 4, 2010  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Jeanine Townsend  
Clerk to the Board





**Linda S. Adams**  
Secretary for  
Environmental Protection

# State Water Resources Control Board

## Office of Information Management and Analysis

1001 I Street • Sacramento, California 95814 • (916) 327-9848  
Mailing Address: P.O. Box 100 • Sacramento, California • 95812-0100  
FAX (916) 341-5463 • <http://www.waterboards.ca.gov>



**Arnold Schwarzenegger**  
Governor

2 February 2010

Dear Water Quality Stakeholders:

### **DEVELOPMENT OF BIOLOGICAL OBJECTIVES FOR CALIFORNIA**

The State Water Board is initiating the process to develop biological objectives for freshwater streams and rivers in California. You are invited to participate in the project kickoff meetings on 8 and 11 March 2010.

8 March 2010, 1:00 – 4:00 p.m.  
Cal EPA Building  
1001 I Street, Sacramento

11 March 2010, 9:00 a.m. – 12:00 p.m.  
SCCWRP  
3535 Harbor Blvd., Suite 110, Costa Mesa

The purpose of these meetings is to educate stakeholders on the project and initiate the process of assembling the stakeholder, regulatory, and scientific committees that will help guide the effort. A brief discussion of the purpose and background of the project is provided below.

Protecting the integrity of biological resources in streams and rivers is one of the primary goals of California's water quality regulatory efforts. Historically, the Water Boards focused their monitoring, assessment, and regulatory efforts almost exclusively on chemical and physical criteria. Recognizing the value of directly measuring biological integrity, several Water Board programs conduct bioassessment monitoring and some require bioassessment in permits. However, State and Regional Water Board plans and policies do not contain numeric objectives or guidance for using biological data in regulatory decision-making. Therefore, biological objectives are needed to provide the narrative or numeric benchmarks that describe conditions necessary to protect aquatic life beneficial uses. This initial effort will focus on wadeable perennial streams and rivers.

The absence of biological objectives or the lack of guidance has limited the effectiveness of many Water Board programs, leading to:

- the inability to objectively assess whether aquatic life beneficial uses are supported;
- the inability to assess whether chemical and physical criteria are sufficient to protect aquatic life (i.e., whether permits relying on chemical and physical criteria alone are achieving healthy streams & rivers);
- inconsistencies in identifying impaired waterbodies;
- costly development of biological targets on a project-by-project basis.

These problems can be resolved by employing modern tools for directly measuring and protecting aquatic life and developing thresholds and guidance for assessing the data.

*California Environmental Protection Agency*

2 February 2010

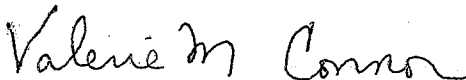
State Water Board managers are committed to developing biological objectives for assessing the health of streams statewide.

The state has invested significant resources to develop the technical tools needed to directly measure biological condition (assessing the organisms living in streams) laying the groundwork for using these tools in regulatory programs. The State Water Board plans to develop biological objectives for all perennial, wadeable streams and rivers in California taking into account the range of natural variation and degree of development in the state. The objectives likely will be in the form of a narrative statement that will be applied statewide. This narrative objective will be accompanied by a detailed implementation plan that, where possible, sets regionally appropriate numeric targets. Where data are not sufficient to define numeric targets, the implementation plan will describe the process for developing them.

Three oversight committees will be established for the development and public vetting of the regulatory and technical policy statements: 1) a **Stakeholder Committee** that will communicate the project goals to interested stakeholders and carry their input back to the scientific and regulatory committees to ensure that stakeholder input is incorporated into the technical and policy elements throughout the process, and play a key role in advising the State Water Board; 2) a **Scientific Steering Committee** of external experts that will provide review of the technical aspects of the project; and 3) a **Regulatory Oversight Committee** that will coordinate with staff in other State Water Board programs and at all Regional Water Boards to ensure that the project delivers the tools that regulators and managers need, and to provide outreach and training to ensure that the tools are used correctly and equitably.

We look forward to working with you and encourage you to forward this letter to those we may have missed. Your participation at this early stage in the project is critical to ensure that the range of public interests is represented throughout the process. Thank you in advance for your participation in this important effort. We look forward to seeing you in March. If you have any questions or would like additional information regarding this matter please contact Karen Larsen at (916) 319-9769 or [klarsen@waterboards.ca.gov](mailto:klarsen@waterboards.ca.gov).

Sincerely,



Valerie M. Connor, PhD, Director  
OFFICE OF INFORMATION MANAGEMENT AND ANALYSIS

## **EPA's Proposed 2009 Water Quality Criteria Update for Ammonia – What Has Changed and What Are the Potential Regulatory Impacts?**

On December 30, 2009, the USEPA announced the availability of a draft 2009 Update Aquatic Life Ambient Water Quality Criteria for Ammonia – Freshwater in the Federal Register (<http://edocket.access.gpo.gov/2009/E9-30992.htm>) and are seeking “scientific views” to be submitted no later than March 1, 2010. Specific information regarding the document including fact sheets and the complete draft update can be found on the EPA website (<http://www.epa.gov/waterscience/criteria/ammonia/>)

In addition to relatively minor adjustments in various species-specific ammonia sensitivity estimates due to the inclusion of more recent data, this latest draft update contains two very significant changes from the current 1999 ammonia criteria. The first is the inclusion of native freshwater mussel data. Inclusion of ammonia toxicity sensitivity data from this group of highly sensitive organisms has been considered and evaluated by EPA staff for over five years. After several workshops, consideration of stakeholder comments, and expert input, the draft 2009 ammonia criteria now contain ammonia sensitivity for several native freshwater mussel species. Inclusion of these data results in a drastic reduction in the protective water quality objectives for ammonia compared to the 1999 criteria objectives. The second significant change was the deletion of all *Hyalella* ammonia sensitivity data in the draft 2009 criteria. *Hyalella* was the most sensitive species to ammonia in the current 1999 criteria. However, in their review, EPA determined that the *Hyalella* ammonia sensitivity results were not reliable due to potential interferences observed in the original studies. In the absence of the sensitive freshwater mussel data, exclusion of the *Hyalella* ammonia sensitivity estimates would result in an approximately 50% increase in the chronic ammonia water quality objective as compared to the current 1999 criteria. However, the inclusion of the highly sensitive freshwater mussel data negates the increase.

There are nearly 300 different species of these sensitive native mussels east of the Rocky Mountains with about three quarters of them federally listed as endangered, threatened, species of concern, or already extinct. West of the Rockies, there are only seven native freshwater mussel species and only one of these species is federally listed as a species of concern (the California Floater) and a second species is likely to be designated as a species of concern (the Western Ridged Mussel) in the near future. In southern California, at least two species (the California Floater and Western Ridged Mussel) were once historically resident with a native range extending from northern Mexico to the south and into Arizona and Utah to the east. However, native mussels have been considered extirpated in southern California for over 50 years, presumably due to water diversions, fluctuating water levels in reservoirs, and non-native fish species introductions. In addition to the two native mussel species originally inhabiting southern California, several non-native species are also commonly found. This includes the invasive quagga mussel as well as the Asian Clam and possibly/eventually the zebra mussel. Recognizing that freshwater mussels are not equally distributed across all watersheds in the nation, the draft 2009 ammonia criteria contains a provision for calculating protective ammonia water quality objectives with freshwater mussels present or absent. Objectives for waters with freshwater mussels are much lower than the 1999 criteria while those without freshwater mussels

are 50% higher than the 1999 criteria (see Table 1 for a comparison of 2009 and 1999 ammonia water quality objectives at several pHs and a temperature of 25 degrees C.).

**Table 1.** A comparison of ammonia objectives at a constant temperature of 25° C.

pH	Draft 2009 Ammonia Objectives				1999 Ammonia Objectives	
	With FW Mussels		No FW Mussels		Salmonids Absent	
	Acute	Chronic	Acute	Chronic	Acute	Chronic
7.00	12.3 ppm	0.62 ppm	21.4 ppm	4.5 ppm	36.1 ppm	3.0 ppm
7.50	6.8 ppm	0.46 ppm	11.8 ppm	3.3 ppm	19.9 ppm	2.2 ppm
8.00	2.9 ppm	0.29 ppm	5.0 ppm	1.8 ppm	8.4 ppm	1.2 ppm

Are freshwater mussels present in southern California watersheds? The answer is yes for most watersheds if you include non-native species. The draft 2009 criteria document is somewhat ambiguous in its intent on whether the presence/absence provision pertains to any freshwater mussel or just the sensitive native mussels species. The Executive Summary states “given the wide distribution of freshwater mussels, including unionid mussels, it is important that this criteria update consider ammonia toxicity information specific to freshwater mussels”. This statement seems to indicate that the EPA’s concern is more general and not directly related to the sensitive native species (Unionids). However, the table headings on pages 9 and 31 clearly state “with and without freshwater bivalve data from the family Unionidae”. Unionidea is the family that contains the sensitive native freshwater mussel species. The non-native species (Asian Clam, Quagga, and Zebra Mussels) are not in Unionidae family. This is hopefully something that can easily be resolved during EPA public comment period. Additionally, all southern California watersheds are within the historic range of one or more of the native freshwater mussel species. However, the sensitive native freshwater mussels have not been observed in southern California for over 50 years due to significant habitat alterations. The decision on whether to use historic or current range in determining which criteria to apply will be an implementation decision. Such determinations are not addressed in water quality criteria and are left to the discretion of state or regional regulatory authorities.