

# **Agricultural Expert Panel Public Meeting #3**

**Friday May 9, 2014 – 8:30**

**(Invited Testimony and Public Comment)**

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

THIS MEETING IS A CONTINUATION OF THE EFFORTS ASSOCIATED WITH THE STATE WATER RESOURCES CONTROL BOARD CHAPTER 1 OF THE SECOND EXTRAORDINARY SESSION OF 2008 (SBX2 1, PERATA) REPORT TO THE LEGISLATURE – RECOMMENDATION 14, EXPERT PANEL AND ADVISORY COMMITTEE FORMATION. THE MEETING WILL BE CONDUCTED BY THE EXPERT PANEL. A QUORUM OF STATE WATER BOARD MEMBERS MAY BE IN ATTENDANCE, BUT NO BOARD ACTION WILL BE TAKEN AT THIS MEETING.

## **AGENDA**

- I. Call the meeting to order**
- II. Declaration of a quorum**  
Dr. Charles Burt, Panel Chair; Dr. Robert Hutmacher; Till Angermann; Bill Brush; Daniel Munk; James duBois; Mark McKean; Dr. Lowell Zelinski
- III. Housekeeping announcements**
- IV. Review Agenda**
- V. Panel Introduction and opening remarks by panel members**
- VI. Review the Charge of the Panel and take invited and public comments**
  - Presentation of charge to the panel and specific questions – Darrin Polhemus, State Water Resources Control Board
  - Dr. Thomas Harter, UC Davis
  - Brock Taylor, Certified Crop Advisor
  - Dr. Melanie Harrison, NOAA National Marine Fisheries Service
  - Public Comment (Any member of the public may present comments or remarks to the Panel. Commenters will be limited to 5 minutes or otherwise at the discretion of the Chair. Commenters will be asked to fill out a speaker card if they wished to be called to speak. Written comments are due by May 14, 12:00 pm noon.)
- VII. Panel Discussion**
- VIII. Adjournment**

**Parking, Accessibility and Security**

The Cal/EPA Building is accessible to people with disabilities. Individuals who require special accommodations, including real-time translation services, at any of the public meetings are requested to contact Ashley Zellmer at (916) 341-5911.

Due to enhanced security precautions at the Cal/EPA Building, all visitors are required to register with security staff prior to attending any meeting. To sign in and receive a visitor's badge, visitors must go to the Visitor and Environmental Services Center, located just inside and to the left of the building's public entrance. Depending on their destination and the building's security level, visitors may be asked to show valid picture identification. Valid picture identification can take the form of a current driver's license, military identification card, or state or federal identification card. Depending on the size and number of meetings scheduled on any given day, the security check-in could take up to fifteen minutes. Please allow adequate time to sign in before being directed to the hearing.

## **Background**

Chapter 1 of the Second Extraordinary Session of 2008 (SBX2 1, Perata), required the State Water Resources Control Board (State Water Board) to develop pilot projects focusing on nitrate in groundwater in the Tulare Lake Basin and Salinas Valley, and to submit a report to the Legislature on the scope and findings of the pilot projects, including recommendations. The State Water Board made 15 recommendations in 4 key areas to address the issues associated with nitrate contaminated groundwater. The key areas to address these issues are:

1. Providing safe drinking water.
2. Monitoring, notification, and assessment.
3. Nitrogen tracking and reporting.
4. Protecting groundwater.

## **Expert Panel**

Recommendation 14 of the State Water Board's report to the Legislature was to convene a panel of experts to assess existing agricultural nitrate control programs and develop recommendations, as needed, to ensure that ongoing efforts are protective of groundwater supply quality. The State Water Board has contracted with the Irrigation Training and Research Center (ITRC), a center established within the BioResource and Agricultural Engineering Department of the California Polytechnic State University, San Luis Obispo to assemble the expert panel of up to 10 persons. The Expert Panel members have been selected and information about the panel members is available on the ITRC website at <http://www.itrc.org/001/swrcb.htm>. Questions to be presented to the Expert Panel for consideration are provided below.

## **Written Public Comments**

The State Water Board will accept written comments from the public for the Expert Panel's consideration. Comments and remarks must be received by **12:00 noon on Wednesday, May 14, 2014** and addressed to:

Jeanine Townsend, Clerk to the Board  
State Water Resources Control Board  
1001 I Street, 24th Floor  
Sacramento, CA 95814

Comments and remarks may be submitted electronically, in pdf text format (if less than 15 megabytes in total size), to the Clerk to the Board via e-mail at [commentletters@waterboards.ca.gov](mailto:commentletters@waterboards.ca.gov).

If the file is greater than 15 megabytes in total size, then the document(s) may be submitted by fax at (916) 341-5620. Please indicate in the subject line: "**Agricultural Expert Panel Comments.**"

Couriers delivering hard copies of documents must check in with lobby security personnel, who can contact Jeanine Townsend at (916) 341-5600.

**Schedule** (some dates may be changed at a later date and all changes will be noticed).

<b>Date</b>	<b>Event</b>	<b>Location</b>
Completed	Advisory Committee Kickoff Meeting	Cal/EPA Building Sierra Hearing Room, Sacramento
May 5 <sup>th</sup> -6 <sup>th</sup> , 2014*	Expert Panel Public Meeting #1	San Luis Obispo 5th: Irrigation Training and Research Center 6th: Monday Club
May 7 <sup>th</sup> , 2014	Expert Panel Public Meeting #2	SCE Energy Education Center, Tulare
May 9 <sup>th</sup> , 2014	Expert Panel Public Meeting #3	Cal/EPA Building Byron Sher Auditorium, Sacramento
June 30 <sup>th</sup> , 2014	Expert Panel Draft Report Released	N/A
July 1 <sup>st</sup> – July 30 <sup>th</sup> , 2014	Public Comment Period on Expert Panel Draft Report	N/A
July 18 <sup>th</sup> , 2014	Expert Panel Public Meeting on Draft Report	Cal/EPA Building Byron Sher Auditorium, Sacramento
July 28 <sup>th</sup> , 2014	Advisory Committee Meeting	Cal/EPA Building Sierra Hearing Room, Sacramento
September 23 <sup>rd</sup> , 2014	Expert Panel presents Final Report at Board Meeting	Cal/EPA Building Coastal Hearing Room, Sacramento

**Project Tools and Information**

Project information, including meeting notices, agendas, meeting minutes, and other pertinent material/documents will be posted online at <http://www.itrc.org/001/swrcb.htm> and at [http://www.waterboards.ca.gov/water\\_issues/programs/agriculture/](http://www.waterboards.ca.gov/water_issues/programs/agriculture/).

To receive updates by email, please subscribe to our email list: Nitrate Project - SBX2 1 - Expert Panel. (Located in the "Water Quality Topics" section at [http://www.waterboards.ca.gov/resources/email\\_subscriptions/swrcb\\_subscribe.shtml](http://www.waterboards.ca.gov/resources/email_subscriptions/swrcb_subscribe.shtml).)

Please direct any questions about this agenda to Johnny Gonzales at (916) 341-5510 or Ashley Zellmer at (916) 341-5911.

# Agricultural Expert Panel Questions

## Call for an Expert Panel

Chapter 1 of the Second Extraordinary Session of 2008 (SBX2 1, Perata), required the State Water Board to develop pilot projects focusing on nitrate in groundwater in the Tulare Lake Basin and Salinas Valley, and to submit a report to the Legislature on the scope and findings of the pilot projects, including recommendations. The State Water Board made 15 recommendations in 4 key areas to address the issues associated with nitrate contaminated groundwater. The key areas to address these issues are:

1. Providing safe drinking water.
2. Monitoring, notification, and assessment.
3. Nitrogen tracking and reporting.
4. Protecting groundwater.

Recommendation 14 of the State Water Board's report to the Legislature was to convene a panel of experts to assess existing agricultural nitrate control programs and develop recommendations, as needed, to ensure that ongoing efforts are protective of groundwater quality.

The State Water Board in its subsequent adoption of Order WQ 2013-0101 also tasked the Expert Panel with certain issues related to impacts of agricultural discharges on surface water.

## Regulatory Context

The charge and questions below directed to the Agricultural Expert Panel are done so in the context of the State Water Resources Control Board's *Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program, May 20, 2004*, and Regional Water Quality Control Boards' Irrigated Lands Regulatory Programs as implemented through various separate orders.

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## **Charges to the Expert Panel**

Assess existing agricultural nitrate control programs and develop recommendations, as needed, to ensure that ongoing efforts are protective of groundwater quality. (Recommendations Addressing Nitrates in Groundwater, State Water Board's Report to the Legislature, February 20, 2013)

- and -

Provide a more thorough analysis and long-term statewide recommendations regarding many of the issues implicated in State Water Board Order WQ 2013-0101, including indicators and methodologies for determining risk to surface and groundwater quality, targets for measuring reductions in risk, and the use of monitoring to evaluate practice effectiveness.

## **Questions for the Panel**

### Vulnerability and Risk Assessment

Regulatory programs are most effective when they are able to focus attention and requirements on those discharges or dischargers (i.e. growers) that pose the highest risk or threat because of the characteristics of their discharge or the environment into which the discharge occurs. The various Irrigated Lands Regulatory Program (ILRP) orders issued throughout the state by the Regional Water Boards have taken different approaches in their prioritization schemas, some using specific criteria or methodologies, others utilizing measurements of previous known impacts.

1. How can risk to or vulnerability of groundwater best be determined in the context of a regulatory program such as the ILRP?
2. Evaluate and develop recommendations for the current approaches taken to assessing risk to or vulnerability of groundwater:
  - a. Nitrate Hazard Index (as developed by the University of California Center for Water Resources, 1995),
  - b. Nitrate Loading Risk Factor (as developed by the Central Coast Regional Water Quality Control Board in Order R3-2012-0011),
  - c. Nitrogen Consumption Ratio,
  - d. Size of the farming operation,

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- e. High Vulnerability Areas Methodology (as developed by the Central Valley Regional Water Board in a series of Waste Discharge Requirements issued to agricultural coalitions in the ILRP).
3. How can risk to or vulnerability of surface water best be determined in the context of a regulatory program such as the ILRP?
4. Evaluate and develop recommendations for the current approaches taken to assessing risk to or vulnerability of surface water:
  - a. Proximity to impaired water bodies.
  - b. Usage of particular fertilizer or pesticide materials.
  - c. Size of farming operation.
  - d. High Vulnerability Areas Methodology (as developed by the Central Valley Regional Water Board in a series of Waste Discharge Requirements issued to agricultural coalitions in the ILRP)

## Application of Management Practices

The application and use of management practices for the control of nonpoint source pollution is a fundamental approach taken by many Water Board orders, and considered a key element in the State Water Board's *Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program, May 20, 2004*. Management practices that are cost-effective and are easy to implement have the best chance of being adopted and successful. However, when comparing management practices, consideration should also be given to the likelihood that a management practice will be effective in reducing nitrogen loading to surface and groundwater. The Regional Water Boards have included specific management practices in their various orders, as well as requiring the growers to identify and implement management practices on their own.

5. What management practices are expected to be implemented and under what circumstances for the control of nitrogen?
6. What management practices are recommended for consideration by growers when they are selecting practices to put in place for the control of nitrogen?
7. Evaluate and make recommendations regarding the usage of the following management practices:
  - a. Nitrogen mass balance calculations and tracking of nitrogen applied to fields. This should include consideration of measuring and tracking Nitrogen:
    - i. Applied to crops or fields.
    - ii. In soil.

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- iii. In irrigation water.
  - iv. Removed from field.
  - v. Estimation of losses.
  - b. Templates for determining nitrogen balance.
  - c. The usage of nitrogen balance ratios.
  - d. Nutrient management plans.
8. Evaluate and make recommendations regarding the most effective methods for ensuring growers have the knowledge required for effectively implementing recommended management practices. Consider the following:
- a. Required training.
  - b. Required certifications.
  - c. Workshops sponsored by third parties such as: CDFA, County Agricultural Commissioners, Farm Bureau, UC Cooperative Extension.
  - d. Usage of paid consultants – e.g., CCAs/PCAs.
  - e. UC Cooperative Extension specialists.

## Verification Measures

Utilization of verification measures to determine whether management practices are being properly implemented and achieving their stated purpose is another key element to the success of a nonpoint source control program. Because of the nature of nonpoint source discharges, direct measurements are often difficult or impossible to obtain and other means of verifications may be required.

- 9. What measurements can be used to verify that the implementations of management practices for nitrogen are as effective as possible?
- 10. Evaluate and make recommendations regarding the usage of the following verification measurements of nitrogen control:
  - a. Sampling first encountered groundwater via shallow monitoring wells.
  - b. Direct sampling of groundwater from existing wells, such as an irrigation well or domestic drinking water well, near the field(s) where management practices for nitrogen are being implemented.
  - c. Sampling of the soil profile to determine the extent to which nitrogen applied to a field moved below the root zone.
  - d. Representative sampling of a limited area and applying the results broadly.
  - e. Sampling water in surface water containment structures for their potential discharge to groundwater.

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- f. Estimating discharge to groundwater based on nitrogen balance model and measured irrigation efficiency.
11. Evaluate the relative merits, and make recommendations regarding the usage of, surface water measurement systems derived from either receiving water or a discharge monitoring approach to identify problem discharges.

## Reporting

The ILRP orders issued by the Regional Water Boards require reporting to both determine compliance and inform overall management of the discharges associated with agriculture. Also, specifically in regards to nitrogen, the California Department of Food and Agriculture convened the Nitrogen Tracking and Reporting System Task Force, called for by Recommendation 11 of the State Water Board's report to the Legislature, which makes recommendations on a potential reporting system.

12. Evaluate and make recommendation on how best to integrate the results of the Nitrogen Tracking and Reporting System Task Force with any above recommendation regarding management practices and verification measures.
13. Evaluate and make recommendations on the reporting requirements to report budgeting and recording of nitrogen application on a management block basis versus reporting aggregated numbers on a nitrate loading risk unit level. (Definitions of "management block" and "nitrate loading risk unit" are contained in State Water Board Order WQ 2013-0101.)