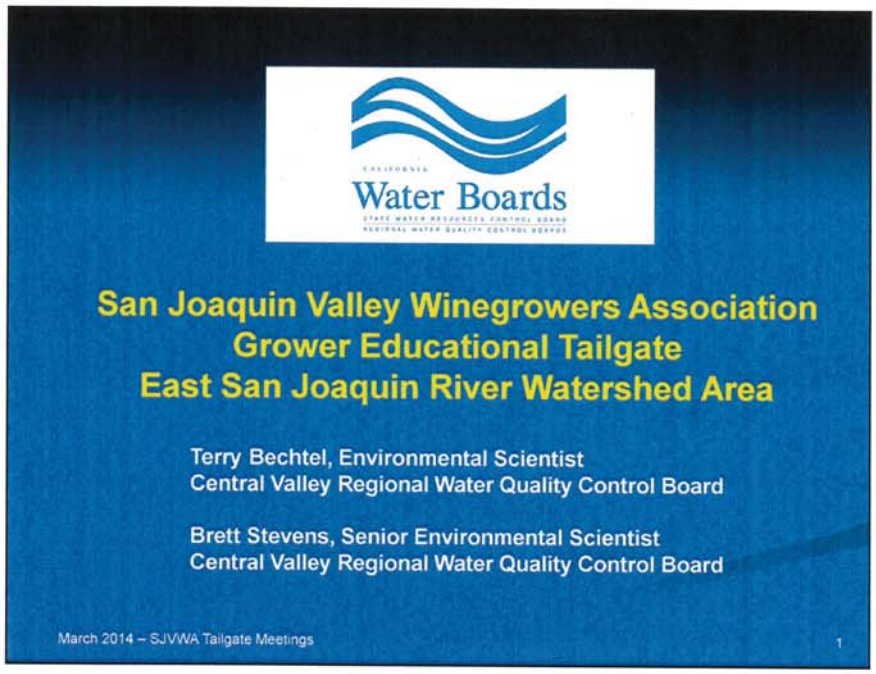


This e-handout is intended for growers who will attend the Madera or Ceres tailgate meetings. Central Valley Water Board staff Terry Bechtel will present at the former meeting, and Brett Stevens at the latter.

Central Valley Water Board staff from the board's Fresno office will also attend the Madera meeting to answer questions regarding grower requirements in the Tulare Lake Basin area (a separate handout is available for this area).

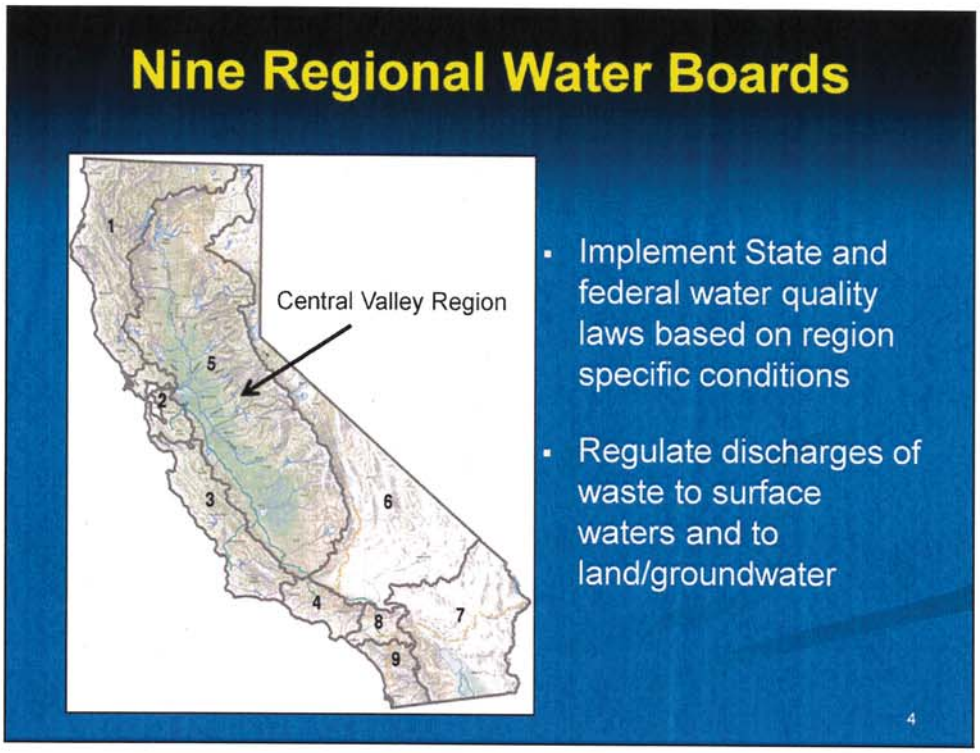
Program Goals:
What Are WE Trying to Accomplish?

WE = Water Board, Agriculture, Stakeholders

- Protect water quality for current and future generations
- Ensure any new requirements are consistent with sustaining agriculture in the Central Valley
- Learn and adapt as we move forward

The goals of the ILRP are to protect water quality for current and future users, to support sustainable agriculture in the Central Valley, and to be flexible enough to adapt to new information as it becomes available.

Board staff's discussion will address the above topics. Staff will also be available to answer grower questions during the tailgates.



There are nine regional water boards; the boundaries of the Central Valley Regional Water Quality Control Board (Central Valley Water Board or board) are shown in the figure above.

The Irrigated Lands Regulatory Program (ILRP) began in 2003 when the Central Valley Water Board approved a Coalition Conditional Waiver. This waiver authorized the creation of coalition groups and established a regional surface water monitoring program and management plans to address areas where agriculture-related surface water pollution was found.

The Coalition Conditional Waiver provided a surface water protection program only (no groundwater protection).

Direction from Central Valley Water Board, June 2011

- Tailor approach specific geographic areas or commodities
- Include requirements to protect surface and groundwater quality

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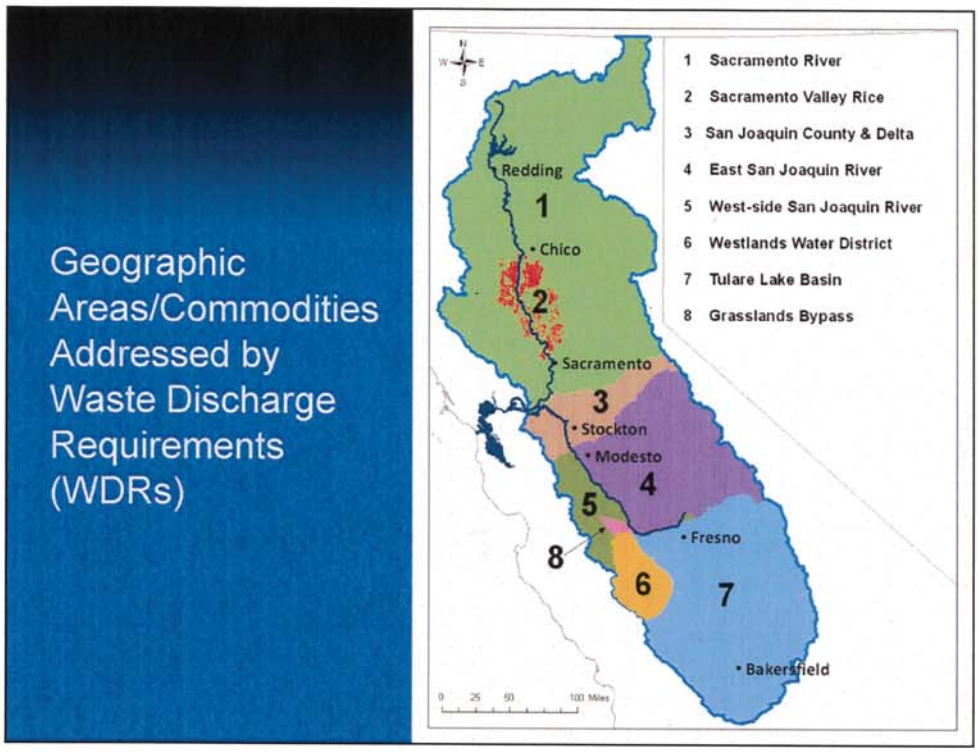
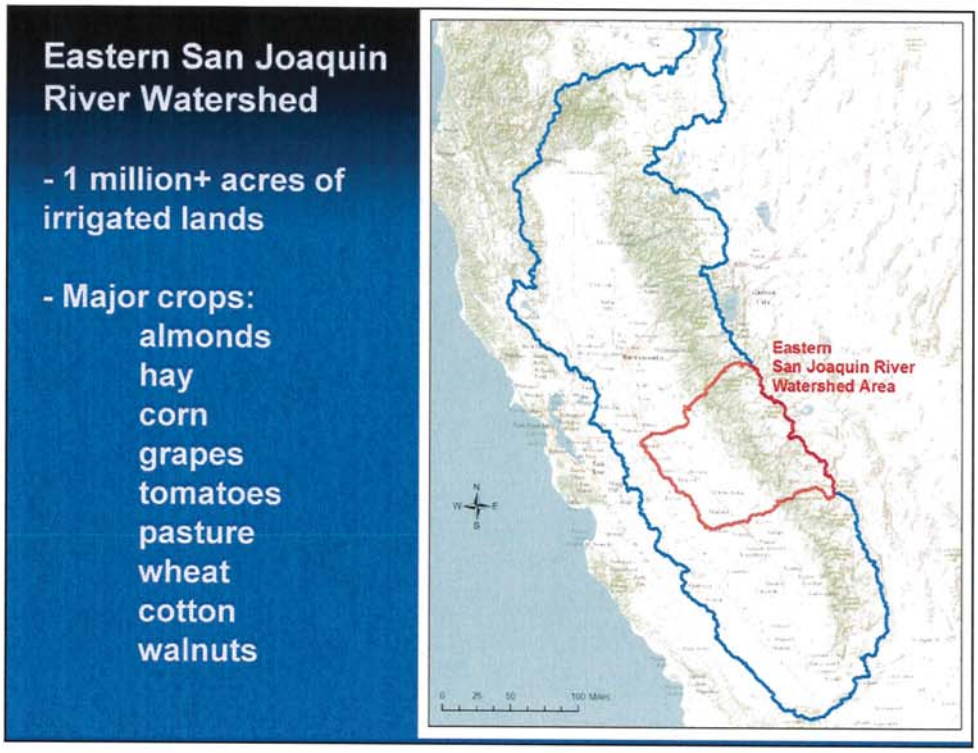
In June 2011, the Central Valley Water Board certified an Environmental Impact Report for the ILRP. In doing so the board directed staff to tailor the coalition approach to specific geographic areas or commodities; and to include requirements to protect surface water and groundwater quality.



This figure shows the seven geographic areas to have distinct Waste Discharge Requirements (WDR) for irrigated lands. The one area designated for commodity-based WDR is Sacramento Valley rice fields, which are clustered around the '2' in the figure above.



This figure shows the Eastern San Joaquin River Watershed boundary. The area includes the cities of Modesto, Merced and Madera.

General Order for Eastern San Joaquin River Watershed

- General Order approved in Dec 2012
- Authorized groundwater protection program
- Scope of coverage:
  - All commercial irrigated agricultural operations within the Eastern San Joaquin River Watershed – including managed wetlands and nurseries

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A general order (a.k.a., Waste Discharge Requirements) for the East San Joaquin River Watershed was approved by the board in December 2012. In addition to continuing the coalition approach and surface water protection program, the new general order authorized a groundwater protection program.

A more detailed discussion of new grower requirements will be presented a little later.

Why the New Requirements?

- East San Joaquin watershed has a lot of cropland: about one million acres
- The watershed has substantial surface water resources: about 3,000 linear miles of surface water courses
- Substantial groundwater resources: portions of seven basins
- 359,000 acres in Dept. of Pesticide Regulation Groundwater Protection Areas

The mix of large-scale agriculture and a lot of surface water and groundwater resources creates the potential for agriculture-related pollution.

303(d)-Listed Water Bodies

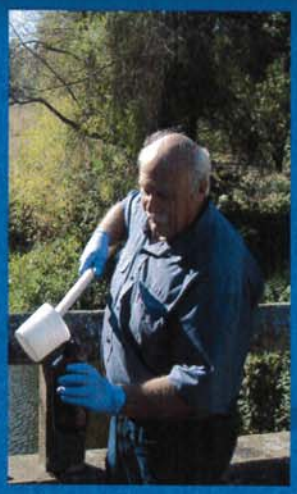
- Federal Clean Water Act requires states to submit list of impaired water bodies
- Stretches of the following listed for pesticides or sometimes unknown toxicity: San Joaquin River, Tuolumne River, Stanislaus River, Lower Merced River, and Orestimba Creek
- 303(d) list identifies agriculture as the potential source of impairment

The U.S. Environmental Protection Agency requires the State of California to produce a list of water bodies with known pollution impairment. This '303(d)' list shows agriculture-related pollution impairment for the cited water bodies.

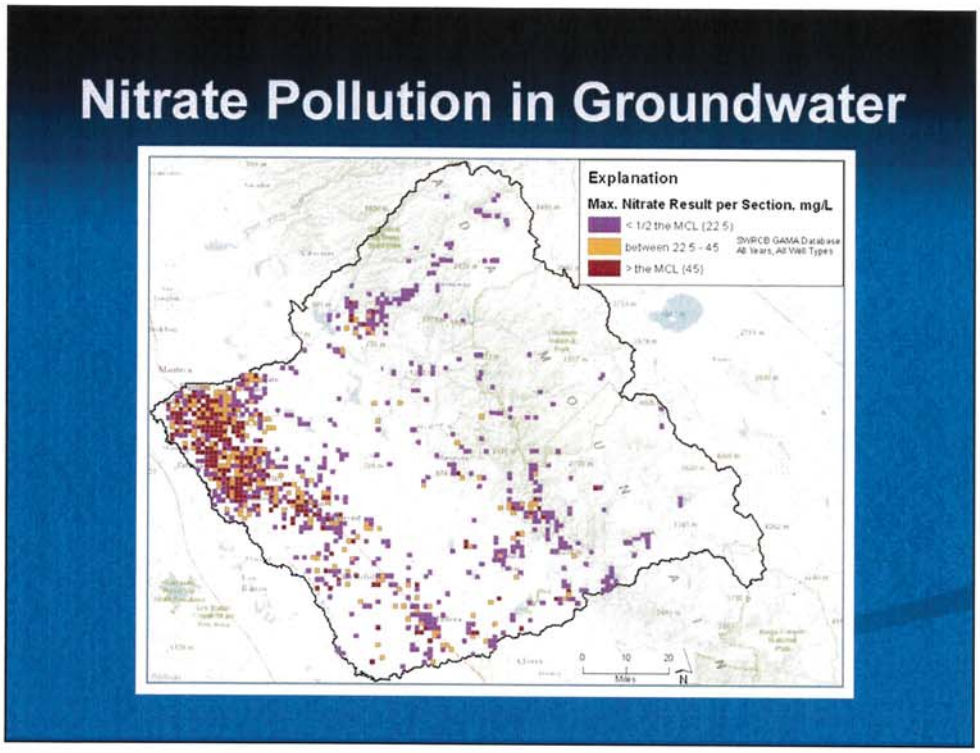
The new requirements are intended to reduce or eliminate these ag-related pollution discharges.

Management Plan Summary

- Management plans triggered by pollution detections in surface waters
- Since 2008, over 160 management plans for various water bodies and pollutants
- Common pollutants/conditions: low dissolved oxygen, copper, chlorpyrifos, legacy pesticides, and toxicity
- Management plans indicate substantial, ongoing pollution related to agriculture



The Conditional Waiver and new Waste Discharge Requirements require the coalitions to implement management plans when agriculture-related pollutants are found in surface waters. The numbers provided above are for the Eastern San Joaquin River Watershed area.



This figure shows nitrate detections in groundwater in the Eastern San Joaquin River Watershed. The significant nitrate detections in groundwater indicate a need for improved nutrient management practices for agriculture.

Impacts of High Nitrates in Drinking Water

- Nitrate maximum contaminant level (MCL)
  - 10 mg/L NO_3-N (nitrate-nitrogen)
- Can impact infants and pregnant women
  - Methemoglobinemia / pregnancy complications*

* US Public Health Service; Agency for Toxic Substances and Disease Registry: http://www.atsdr.cdc.gov/toxfaqs/tfacts204.pdf

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The U.S. Environmental Protection Agency and the State of California have established a drinking water standard of 10 milligrams per liter for nitrate (as nitrogen). This is intended to protect infants and pregnant women from potentially serious health effects caused by drinking water with high nitrate concentrations.

Known Nitrate Sources (Regional)

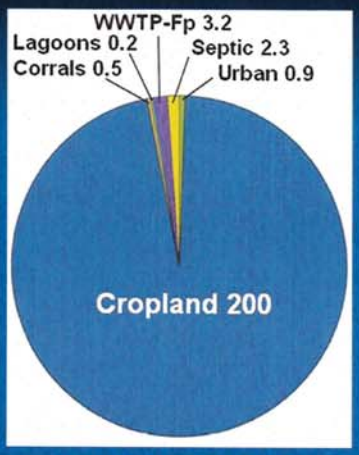
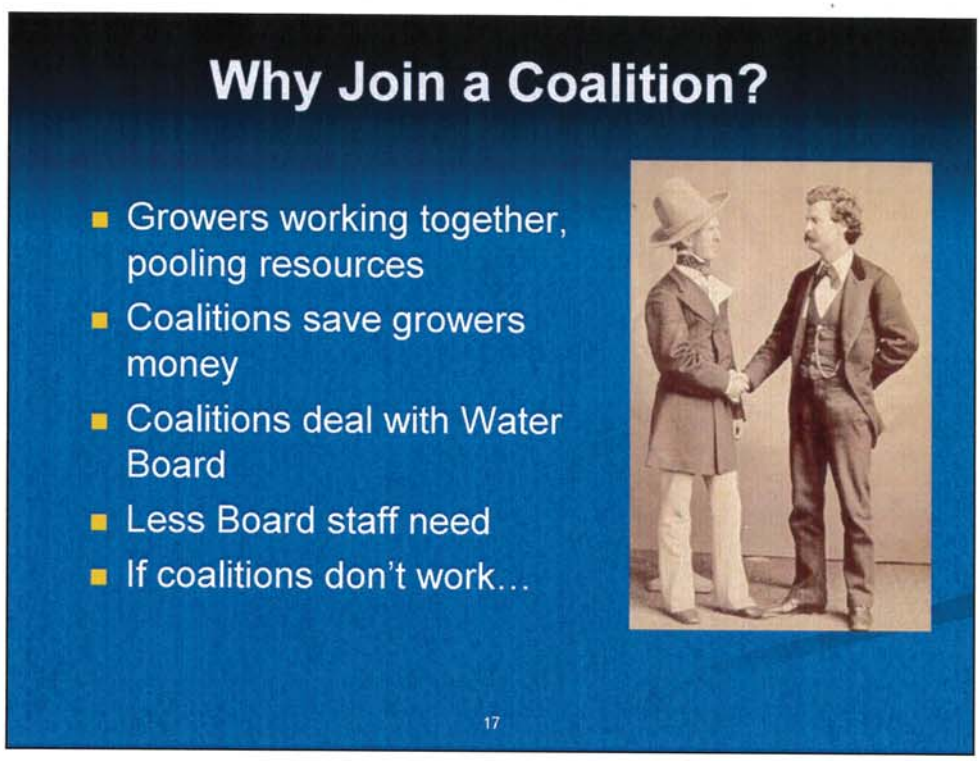


Figure 1. Estimated groundwater nitrate loading from major sources within the Tulare Lake Basin and Salinas Valley, in Gg nitrogen per year (1 Gg = 1,100 t).
http://groundwaternitrate.ucdavis.edu/files/139110.pdf ; Viers, J.H., et al (2012). Nitrogen Sources and Loading to Groundwater

The most definitive study on nitrate sources indicates that agriculture is the largest source of nitrates in groundwater.

The grower enrollment from 2003 to 2012 is for irrigated lands with the potential to discharge waste (tail water or storm water) to surface waters. After 2012 the Irrigated Lands Program was expanded to include waste discharges to land/groundwater, which created a large enrollment wave of about 25 percent total acreage.

Board staff is currently inspecting the remaining parcels that may need regulatory coverage and outreaching to the landowners as needed.



For growers who have not yet joined the coalition, doing so is in your interest. The Coalition allows growers to pool resources and share the cost of regional water quality monitoring and management practice implementation.

The coalition option allows the water board to administer the Irrigated Lands Regulatory Program with fewer staff. The state's ILRP-related fees are lower because there are fewer staff as well.

The coalitions need a critical mass of grower members to function and meet their permit obligations. If the coalitions disband owing to a lack of grower support or inability to meet water quality goals, the water board would be compelled to require individual Waste Discharge Requirements for all growers, which would undoubtedly significantly increase grower costs.

For the general order approved by the Central Valley Water Board in December 2012, the board and the coalition will work together to develop high and low vulnerability areas with regard to nutrients, sediments and other pollutants in groundwater and surface water. Management practice implementation and reporting will be focused on the high vulnerability areas.

The new general order requires regional, representative monitoring programs for groundwater and surface water. Coalition members are not required to monitor waste discharge directly from their property (where applicable), whereas many board programs do have this requirement.

The board and Coalition will work together to identify high and low vulnerability areas for nutrient management and sediment and erosion control. Growers in low vulnerability areas will have reduced reporting requirements.

Coalition members will typically provide reports to the coalition and not to the board. The coalition, in turn, will compile the grower reporting information and submit reports to the board on members' behalf. However, if the board conducts an inspection on a grower's property, the grower will have to produce any required plans.

Member requirements include membership confirmation for existing members (this has already occurred) and staying engaged with the coalition by attending at least one coalition outreach event per year.

Growers must also implement management practices to minimize or eliminate waste discharges (for example, nutrients, pesticides and sediments). These management practices will be described in reports to be prepared per the new general order: the farm evaluation, nutrient management plan, and sediment and erosion control plan.

The minimum requirements for the farm evaluation are described above. The goal of the evaluation is to gather information on general site conditions and member management practices. Without this information, the board would rely solely on water quality information for compliance with WQOs.

Your coalition will provide a template for use in preparing the farm evaluation and provide assistance as needed.

The new general order requires coalition members to prepare a nitrogen management plan (NMP) and annual nitrogen summary report for high vulnerability areas. The NMP is intended to estimate nitrogen usage and show how the member manages nitrogen to optimize applications.

NMP certification by a qualified person is required for operations in high vulnerability areas. Certification can be done in several ways:

- Self certify –through recommendations by NRCS or by attending an board-approved training program.
- Certified by a NMP specialist. (Prof. Soil Scientist, Prof. Agronomist, Crop Advisors).
- Certification not required in Low Vulnerability areas.

The nitrogen summary report is intended to record how much nitrogen was used in previous crop year. This report is submitted to the Coalition once per year for operations in a high vulnerability area. The Coalition will summarize the nitrogen application data and provide it to the board.

The growers' confidential information like well locations will be kept with the Coalition and will not be submitted to the board.

The Sediment and Erosion Control Plan (SECP) must be prepared, updated annually and kept on farm. This plan is intended to identify farm areas that could discharge sediment to surface waters, and ensure that management practices are implemented to prevent sediment discharges.

The board and the Coalition are working together to prepare an SECP template. Check with your Coalition regarding template availability.

The SECP requires certification by a qualified professional, or self-certified by the grower if approved by the Executive officer. The qualified professional requirements are explained in the SECP template.

ILRP Compliance Activities

Recent enforcement actions:

- Furrow irrigation of row crops
- Orchard site prep/planting during wet season
- Sediment releases include waste nutrients & pesticides
- Fines have ranged from $10K to $300K
- Use E&S control practices; minimize runoff

Sediment discharges from irrigated lands, either from storm water runoff or tail water runoff, have been a frequent source of board enforcement. Fines have been substantial – in the $10,000 to $300,000 range.

Growers are advised to develop a SECP and implement effective management practices to control erosion and prevent sediment discharges.

Report Submittal Deadlines

Farm Evaluation

- For all farms in high vulnerability areas, due 1 March 2014
- For large farms (60 acres or more) in low vulnerability areas, due 1 March 2015
- For small farms (<60 acres) in low vulnerability areas, 1 March 2017

Due dates for the farm evaluations are described above. The board is considering extending the due date for farms in high vulnerability areas by two months.

Farm evaluations must be updated and submitted to the Coalition annually. Check with your Coalition to learn whether your operation is in a high or low vulnerability area.

Report Submittal Deadlines

Nitrogen Management Plan

- For large farms in high vulnerability areas, due 1 March 2015
- For all other farms, due 1 March 2015
- Nitrogen summary reports due each subsequent March 1st for both cases above

Due dates for the nitrogen management plans and nitrogen summary reports are described above. Check with your Coalition to learn whether your operation is in a high or low vulnerability area.

Report Submittal Deadlines

Sediment and Erosion Control Plan

- For large farms, within 180 days of Assessment Report approval
- For small farms, within one year of Assessment Report approval
- Plans must be updated within a year of the dates established above

The board and the Coalition are currently preparing a Sediment Discharge and Erosion Assessment Report. The due dates for the SECP's are dependent on when this Assessment Report is approved by the board's Executive Officer (EO).

SECP's for large farm operations (60 acres or greater) are due within 180 days of EO approval of the Assessment Report. For small farms (less than 60 acres), the SECP's are due within one year of EO approval. SECP's must be updated each year thereafter and kept on farm.

What Does Everyone Want?

Clean Water!

Agricultural coalition approach can help meet that goal – Growers have been and MUST be actively engaged!

Water Board recognizes critical importance of agriculture in the Central Valley

Working together the progress made in surface water will occur in groundwater

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The new general order requirements are intended to improved water quality through grower implementation of more effective management practices.

The board has an ILRP goal of supporting sustainable agriculture in the Central Valley, and we recognize agriculture's critical importance.

Questions?

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tbechtel@waterboards.ca.gov

Brett Stevens – Senior Scientist
bstevens@waterboards.ca.gov

ILRP information: 916-464-4611

For instructions on joining the East San Joaquin Water Quality Coalition, follow this link online:
http://www.waterboards.ca.gov/centralvalley/water_issues/irrigated_lands/app_approval/index.shtml

See above for board staff contact info and directions for joining the Coalition.