

Watershed Coalition

News

INFORMATION FOR CENTRAL VALLEY AGRICULTURE

WINTER 2006



IN THIS ISSUE

- Regional News
- In the News
- Coalition Contacts

Waiver Extended Six Months

The Irrigated Lands Program (ILP) was extended for another 6 months based on a vote on November 28, 2005 by the Central Valley Regional Water Quality Control Board. The vote came despite strong recommendations by Water Board staff to make significant changes in the current conditional waiver that was set to expire on December 31, 2005. After the vote, Board members made it clear to agricultural groups that they want to see progress made over the next six months on several key issues.

Those issues include clarifying how the definition of "discharger" applies to agricultural and wetlands operations and identification of landowners not participating in coalition groups. Numerous meetings are expected over the next six months between Water Board staff, watershed coalitions and other groups impacted by the regulations.

A chief concern of watershed coalitions at the hearing was the numerous changes proposed by Water Board staff to the existing waiver. These changes included a new requirement that coalitions submit membership lists once a year to the Water Board. The existing waiver provides authority to request the membership lists if water quality problems are identified or if other

significant problems warrant such a request (see article below).

A point of agreement between agriculture and the Water Board staff is a 5-year term for the new waiver with a proposed expiration date of December 31, 2010.

One issue removed from inclusion in the proposed waiver was changes to the Monitoring and Reporting Program Program (MRP). Because the MRP contains myriad of complex requirements that shape each coalition's monitoring activities, the Water Board staff agreed to work with the Technical Issues Committee (TIC) to develop appropriate language for the MRP. The TIC is made up of Water Board staff and scientists representing watershed coalitions and other interests.

Attending the November 28 meeting was four newly appointed Board members. The new members include Kate Hart, Granite Bay; Linda Adams, Sacramento; Dan Odenweller, Stockton; Paul Betancourt, Kerman; and Sopac Mulholland, Porterville. Both Betancourt and Mulholland, who are farmers, sat in the audience and abstained from the waiver extension vote because of conflicts of interest. Board co-chairman Karl Longely was also re-appointed by the governor.

Water Board Requests Member Lists

Maintaining the confidentiality of watershed coalition membership lists has been a contentious issue even before the Irrigated Lands Program was passed in 2003. This fact was again obvious after the Central Valley watershed coalitions received letters on August 26 from the Water Board Executive Officer requesting those membership lists.

The reason stated in the letter: "...the level of grower participation in the Program does not meet the Water Board's expectations after two years that the Program has been in effect." The deadline for submitting the lists: September 26.

Even Water Board Chairman Bob Schneider expressed surprise at the tone and timing of the letter. After Schneider and Board member Al Brizard met with the Executive Officer, another letter was sent to the coalitions extending the deadline to November 1. This set off a series of meetings between Water Board staff and coalition managers which ultimately led to each watershed coalition proposing its own approach for fulfilling the membership list request. A sampling of those approaches:

Sacramento Valley Water Quality Coalition. Ten subwatershed groups make up the SVWQC and responses ranged from submitting subgroup membership lists to providing only lists of non-responders (to coalition solicitations) to the Water Board.

East San Joaquin Water Quality Coalition. The Water Board is sending its data base of farm landowners (derived from county pesticide permits and tax assessor roles) to the coalition's data base firm. Member names will be removed from the list, leaving only non-responders, and the list returned to the Water Board.

Westside San Joaquin River Watershed Coalition. This coalition sent the Water Board its GIS maps indicating all irrigated parcels in the coalition. The WSJRWC has over 90% enrollment in its region.

San Joaquin County and Delta Water Quality Coalition. This coalition sent its member list and maps showing irrigated parcels belonging to the coalition.



PUBLISHED BY

Coalition for Urban/Rural Environmental Stewardship
www.curesworks.org

WITH SUPPORT FROM

Almond Board of California
www.almondboard.com



EDITOR:

Parry Klassen parryk@comcast.net

2005 Sacramento Valley Monitoring Encouraging

The results are in for the Sacramento River Basin and like 2004, few water quality problems were identified. In its semi-annual report to the Water Board, the Sacramento Valley Water Quality Coalition reported that less than 3% of the tests performed in 2005 found toxicity to test organisms. Those results came from 241 water column toxicity tests performed on 81 samples taken from March through October 2005.

According to the coalition report, the results suggest that there are no major water quality problems with agricultural and managed wetland discharges into the Sacramento River Basin.

Sampling showed six statistically significant water column toxicity exceedances. The two most extreme cases were associated with dichlorvos, a breakdown product for an insecticide used in mosquito control. The other exceedances were for algae toxicity and were not explained by any detected pesticides or other chemicals. Aside from toxicity apparently caused by dichlorvos, no pesticides detected during the monitoring period were associated with any significant toxicity.

Overall, no pesticides were detected in 91% of samples analyzed for pesticides. Of the pesticides detected, chlorpyrifos was the most common and exceeded the recommended California Department of Fish and Game recommended criterion of 0.014 ug/L in five samples. However, none of these samples exhibited toxicity to any of the three test species. Diazinon was detected in three samples and exceeded the Basin Plan objective in one sample collected from North Canyon Creek. The site-specific Basin Plan objective does not apply specifically to North Canyon Creek and no toxicity to any of the three test species was observed in this sample.

The coalition also reported 13 statistically significant sediment toxicity exceedances out of 22 tests performed. In total, 18% of sediment samples exhibited a statistically significant reduction in survival of greater than 20% compared to the control. Evaluations of pesticide use in the affected drainages has to date identified no specific causes of the sediment toxicity.

E. coli bacteria were monitored in 122 samples from 26 sites. Coliform bacteria numbers exceeded the single sample maximum objectives for E. coli in 36 samples from 22 different coalition locations. The majority of these exceedances and the highest concentrations of bacteria were observed in May and June. The avian and wildlife supported by most agricultural lands are believed to be the primary sources of E. coli and other bacteria in agricultural runoff and irrigation return flows.

In 2006, the coalition plans to contact landowners and growers regarding water quality problems identified in their drainages and to announce meeting locations to discuss potential Best Management Practices (BMPs) to mitigate the problems. Throughout 2005, most subwatershed groups in the Sacramento Valley held landowner outreach meetings, informing growers and landowners about water quality monitoring results and BMP options to protect surface waters from potential impacts of storm runoff and irrigation return flows from irrigated lands. The coalition has completed a Management Practice Action Plan designed to communicate information and monitoring results within the Coalition, to track implementation of management practices in the watershed, and to evaluate effectiveness of management practices.

Diazinon TMDL Management Plan In Place

The Sacramento Valley Water Quality Coalition announced it is taking the lead in developing and implementing a management plan for the Sacramento and Feather Rivers Total Maximum Daily Load (TMDL) for diazinon. *Diazinon Runoff Management Plan for Orchard Growers in the Sacramento Valley* was submitted to the Water Board on behalf of diazinon users in the Sacramento Valley and is a key document describing the steps that will be taken to address the diazinon TMDL.

The main components of the plan include monitoring the Sacramento and Feather Rivers to gauge compliance with diazinon water quality objectives and surveying orchard growers who have used diazinon in the last four years. The initial grower survey was performed in summer 2005 and showed high awareness of the diazinon runoff problems during dormant orchard spray season. The survey also showed that a majority of respondents are using best management practices required by the California Department of Pesticide Regulation's supplemental label requirements to control diazinon runoff from orchards. A follow up survey will be performed in 2008, the deadline for compliance with the diazinon TMDL.

If monitoring shows exceedances of the water quality targets for diazinon, outreach efforts to orchard growers will be focused in upstream drainage areas prior to the subsequent dormant spray season. In winter 2005 and in the future, a grower education program including educational presentations and orchard BMP publications is being coordinated between the coalition and CURES, the Coalition for Urban Rural Environmental Stewardship.

The Diazinon Task Force, led by Makhteshim Agan North America, funded the development and production of a booklet illustrating the supplemental label changes for diazinon use in orchard dormant spraying (available from County Agricultural Commissioners).

Pilot Program In Glenn, Butte Counties

Growers in Glenn and Butte Counties will be the first to experience a new pilot program developed in conjunction with their county agricultural commissions and the Water Board. Details of that program were outlined to growers at a December 7 meeting in Glenn, sponsored by the Glenn County Department of Agriculture and the Glenn County Surface Water Stewardship Program.

An important goal of the program is providing the Water Board with a local perspective on water quality and pesticide use from the agricultural commissioner's office through a liaison to the Water Board.

A series of activities will be performed by the agricultural commissioner's staff including:

- 1) Inspect, assess and document management practices used in agricultural operations to protect water quality;
- 2) Provide information/maps; inspect and investigate sites for the Irrigated Lands program (ILP) as authorized by the Regional Board;
- 3) Assist the regional Board in evaluating sample monitoring sites within Glenn County;
- 4) Coordinate and conduct grower outreach on management practices that protect water quality;
- 5) Assist the Regional Board staff by providing information and input that will further the implementation of the ILP.

The program agreement clearly states that any enforcement activities would be handled directly through the Water Board. Other agencies involved in the pilot program are the State Water Resources Control Board and the Department of Pesticide Regulation.

Southern Coalition Considering Alternative Approaches

In the Southern San Joaquin Valley where water is scarce and irrigation or storm water runoff even scarcer, early discussions have begun on developing different approaches to complying with the Irrigated Lands Waiver program. While the group representing landowners in the program, the Southern San Joaquin Water Quality Coalition, has a water monitoring program in place as required by the waiver, water experts in the region point to the dryer conditions of the South Valley as reason for investigating different approaches to address water quality.

Make that dry conditions and an apparent lack of water quality problems, say coalition managers. For example, in water sampling of the Kings River during the 2005 irrigation season, the only problem detected was algae toxicity several times over the irrigation season. Algae is one of three test organisms (also water flea and fat head minnow) used by the coalitions to indicate potential water quality problems. Although reduction of algae growth can indicate herbicides in water, the Kings River consulting firm believes the growth reduction may be caused by lack of nutrients in the Kings River, which is fed by snow melt from the Sierra Nevada.

Several unique approaches to complying with the waiver are being pursued by the coalition including narrowing the scope of

“dischargers” to those irrigated lands with the potential for discharge into waterways. Rather than assuming that all three million acres of irrigated land in the south San Joaquin Valley is discharging into waters of the state, the coalition used new mapping technologies to identify fields adjacent or with close proximity to the rivers, creeks and agricultural drains flowing through the Valley. This effort reduced the total to 800,000 acres which coalition managers point out is still likely much higher than the actual acreage that discharges into waterways.

Another approach in the early stages of discussion is developing a General Permit for the irrigated farmland in the coalition region. A General Permit is used by irrigation districts throughout California to comply with monitoring and reporting requirements for aquatic herbicides. Such an approach could be based on cropping type or individual subwatersheds in the region, creating programs custom designed for those attributes.

In the meantime, the coalition continues operating under the existing monitoring and reporting requirements, soliciting participation of landowners and holding outreach meetings to explain waiver requirements and potential Best Management Practices for protecting surface water.

East San Joaquin Finds High E Coli

Activists have often pointed to pesticides as being a major source of contamination in San Joaquin Valley waterways. But sampling results from the 2005 irrigation season reported by the East San Joaquin Water Quality Coalition (ESJWQC) indicate naturally occurring constituents may be far more common in regional waterways.

The ESJWQC monitored 13 sites during the 2005 irrigation season (March through October). Twelve of those sites had one or more exceedance of e coli, a measurement of bacteria levels in the water. E coli bacteria originates from numerous sources including birds, squirrels and other wild animals. Other possible sources are leaky sewer lines or septic systems, dairies, irrigated pasture, dogs, cats and animal manure applied to residential yards or farmland. Since the current test cannot identify those individual sources, the coalition plans to perform an advanced test in summer 2006 that should

tell if a single or multiple sources are causing the high levels of bacteria.

Several sampling sites on the western edge of the coalition near the San Joaquin River showed persistent exceedances of electrical conductivity (EC) and total dissolved solids (TDS). TDS is a measurement of all solids (usually mineral salts) dissolved in water. The more salts dissolved in water, the higher the EC. In general, there are two major sources of salts from irrigated lands: natural occurring salts in the soil and fertilizers applied to crop land. In summer 2006, the coalition will perform studies to determine the exact source of salts in the waterways.

The coalition also reported a few exceedances of dissolved oxygen and pH water quality objectives, but many of these problems can result from natural processes in the streams and the Coalition does not consider these to be significant.

While e coli and salt exceedances were

BMP Study Examines Costs, Benefits

A new study examining the cost of several Best Management Practices (BMPs) confirms what many growers have known for years: installing and maintaining certain BMPs for irrigated crops can be costly. The study, performed by Dennis Wichelns, an agricultural economist with the California Water Institute (CWI) at California State University, Fresno, noted that increased costs can be offset by BMP benefits including saving high value water and avoiding the cost of compliance with environmental regulations.

The study was part of a grant managed by the Coalition for Urban Rural Environmental Stewardship (CURES) and funded by the State Water Resources Control Board and the California Bay-Delta Authority (CALFED). *Orestimba Creek Watershed Agricultural Water Quality Pilot Program* includes three economic studies of BMPs by Wichelns plus installation cost and maintenance compilations for irrigation recirculation systems, sediment ponds, vegetated ditches, use of PAM in irrigation water and low pressure irrigation systems. Researchers from CWI interviewed growers in western Stanislaus County and examined relevant research from other regions of California to come up with the cost information.

A final product of the project will be a publication entitled *Grower Handbook: Management Practices for Protecting Water Quality* which will be distributed to landowners in the study area. It will also be available in April at www.curesworks.org.

the most common, pesticides were found in a limited number of sites. Out of nearly 100 samples taken last summer, six samples had chlorpyrifos at levels exceeding the water quality standards (7%) and one sample showed diazinon exceeding the water quality standard (1%). There were no detections of pyrethroid insecticides. Chlorpyrifos (Lorsban) and diazinon are included in the coalition sampling program because of 303d impairment listing for several waterways in the coalition region. A Total Maximum Daily Load (TMDL) is also in development for the San Joaquin River.

The coalition has organized six subwatershed grower outreach meetings during March and April to relay sampling results and describe potential Best Management Practices (BMPs) to address the water quality exceedances.

Low Risk Waiver Still Alive

Efforts to establish a low-risk or “De Minimus Conditional Waiver” will continue in 2006. Water Board staff announced in January its intent to continue developing a waiver for landowners who believe their discharge from irrigated land poses no or insignificant effects on water quality. According to a Water Board staff report, such a waiver would be an option for “dischargers who implement management practices for erosion control, nutrient management, irrigation management and pesticide management to specifically protect surface water.” Proposed criteria for dischargers to qualify: do not discharge to surface water during the irrigation season; show documented evidence of implementing approved water quality management practices; and do not apply specific pesticides including organophosphates, organochlorines, carbamates or pyrethroids. Water Board staff said stakeholder meetings will be scheduled in Spring 2006 where tentative documents will be circulated.

Water Board Releases Sampling Results for '04-'05

Sampling of Central Valley waterways through a Water Board-funded program showed overall good results with some isolated problems identified. Out of 262 samples collected in the 2004 irrigation season and 2004-05 storm season by the U.C. Davis John Muir Institute, four samples were marginally toxic to fathead minnow while 10% (26 samples) were toxic to the indicator specie water flea. However, 30% of the samples showed toxicity to algae, an indicator species for herbicides, metals and other stressors. Further analysis of the water flea toxicity indicated that the cause in 25 of 26 samples were organophosphate and carbamate insecticides alone or in combination. The pesticides identified were chlorpyrifos, diazinon, dimethoate, disulfoton, malathion, dichlorvos, methyl parathion, azinphosmethyl, methomyl and carbaryl.

Sediment was analyzed at 94 sites with toxicity observed in 20% of those samples. The Water Board reported that information developed thus far implicates the pyrethroids esfenvalerate, bifenthrin, lambda-cyhalothrin and cypermethrin as well as the organophosphate chlorpyrifos.

Root Creek Dissolves Watershed Coalition

The Root Creek Watershed Coalition informed its grower members in December that it was discontinuing its representation of landowners as part of the Irrigated Lands Program. Citing the high cost of operating a coalition and the subsequent high per acre charges needed to sustain water sampling and reporting, the coalition’s board of directors voted to suspend its operations. Growers in the watershed, located east of Madera, can join the East San Joaquin Water Quality Coalition to obtain conditional waiver coverage.

EPA Releases Watershed Protection Handbook

The Federal EPA is getting into the watershed management business. The EPA’s Office of Water has published *Handbook for Developing Watershed Plans to Restore and Protect Our Waters*, a “draft” guide to watershed management as a tool in developing and implementing watershed plans. The 414-page handbook is designed to take the user through each step of the watershed planning process: watershed monitoring and assessment; community outreach; selection and application of available models; best management practices; effectiveness data bases; implementation; feedback and plan adjustment. The handbook has specifics on quantifying existing pollutant loads, developing estimates of the load reductions required to meet water-quality standards, developing effective management measures and tracking progress once the plan is implemented. See the draft handbook at http://www.epa.gov/owow/nps/watershed_handbook or order free copies from the National Service Center for Environmental Publications (800-490-9198) or E-mail ncepimal@one.net. When ordering, cite EPA document number EPA 841-B-05-005.

Map of Central Valley Monitoring Sites

Order a wall poster map of the Central Valley showing color GIS mapping of crops and water monitoring sites funded by the Central Valley Coalitions and the Regional Water Board.

The 25” x 45” map is available for \$30 at www.curesworks.org or by mailing a check or money order to CURES Maps, 1629 Pollasky Ave, #111, Clovis, CA 93612-2654.

In *Watershed Coalition News*, we ask experts to answer Frequently Asked Questions related to agricultural water quality. This issue features Bill Croyle, Manager, Irrigated Lands Conditional Waiver Program, Central Valley Regional Water Quality Control Board.

What is the best definition of “discharge” from irrigated land?

The term “Discharge” originates from the California Water Code (Porter-Cologne Water Quality Control Act). While the term is not specifically defined, it is broadly defined in court cases, Attorney General opinions, State Water Resources Control Board orders, and longstanding administrative interpretations. Based on the Water Code/ Water Board’s use of “discharge,” if irrigation water runs off a field and reaches surface water (and it contains waste that can impact water quality) that runoff is subject to regulation. This also includes storm runoff from any size storm. Additionally, “discharger” includes growers, managed wetlands operations and water districts which release or allow water containing waste to run off their lands or facilities to surface water.

So “waste” is key to the definition?

Yes. Anyone who discharges waste that may affect the quality of waters of the State is subject to regulation. Waters of the State includes all surface and ground waters. However the Irrigated Lands Program only covers surface water runoff.

Once a “discharger” signs up for a coalition, is there more that needs to be done to remain in compliance?

The conditional waiver and coalitions are an efficient and effective way for farmers to assess, improve and protect water quality and comply with the Water Code without having to obtain an individual permit. However, the waiver is not an exemption from regulations. Without the waiver (or a permit) a farmer does not have authorization to discharge or release waste. To be covered, a farmer must sign up for and comply with the conditions of the waiver, either individually or through a coalition. Your local coalition can explain your responsibilities once water quality problems are identified. Fulfilling these “conditions” is key to continuing coverage for the coalitions and its members.

Contact Mr. Croyle at irrlands@waterboards.ca.gov or call 916-464-3291. The program’s website is http://www.waterboards.ca.gov/centralvalley/programs/irrigated_lands.

Watershed Coalition

Central Valley Watershed Coalitions Contact Information

Sacramento Valley

Sacramento Valley Water Quality Coalition
(also Sacramento Valley subwatershed contacts)

David Guy
Tina Lunt
tlunt@norcalwater.org

Northern California Water Association
916- 442-8333
www.norcalwater.org

California Rice Commission

Tim Johnson
916-442-8333
www.calrice.org

San Joaquin Valley & Delta

*San Joaquin County &
Delta Water Quality Coalition*

John B. Meek
209-472-7127, ext. 125
jmeek@jmeek.com

Westside San Joaquin River Watershed Coalition

Joseph C. McGahan
559-582-9237
jmcgahan@summerseng.com

East San Joaquin Water Quality Coalition

Parry Klassen
Coalition for Urban/Rural
Environmental Stewardship
559-288-8125
parryk@comcast.net

Wayne Zipser
Stanislaus County Farm Bureau
209-522-7278
WayneZ@stanfarmbureau.org
www.esjcoalition.org

Southern San Joaquin Valley Water Quality Coalition

David Cone
Kings River Conservation District
559-237-5567
dccone@krcd.org
www.krcd.org

Westlands Water District

Thaddeus Bettner
559-241-6215
tbettner@westlandswater.org
www.westlandswater.org

Coalition for Urban/Rural Environmental Stewardship
1629 Pollasky Avenue, # 1111
Clovis, CA 93612