

# Watershed Coalition

## News

INFORMATION FOR CENTRAL VALLEY AGRICULTURE

WINTER/SPRING 2008



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## Joining Coalitions Gets Easier

It's now easier for growers not yet in a Central Valley watershed coalition to join their local organization – although it's going to cost more soon. The Regional Water Board approved at its April 24 meeting a change in the Irrigated Lands Regulatory Program (ILRP) that gives its Executive Officer broader discretion in allowing growers to join a watershed coalition formed to be in compliance with the regulation. In the past, potential dischargers who applied after the December 31, 2006 deadline were required to file for an Individual Discharger Conditional Waiver or for Waste Discharge Requirements except under circumstances such as purchasing land or adding irrigation.

While joining may now be easier, a State fee may be charged to new applicants after June 30, 2008. A \$200 fee (or possibly more) will be assessed for each application to pay for Regional Water Board staff time for processing the paperwork. The fee itself and the amount to be charged await approval by the State Water Resources Control Board which may not come until September 2008. If okayed, the fee is expected to

be retroactive to June 30. The two-month delay adopting the fee is intended to encourage out-of-compliance landowners to join coalitions before the fee kicks in.

In most regions of the Central Valley, new applicants can expect to pay back dues charged by individual coalitions. In the East San Joaquin Water Quality Coalition, new members must pay back dues from 2004-2007 if the land was in production and irrigated during the period. Most Sacramento Valley subwatershed groups and the Delta coalition have similar policies.

At the April board meeting where the change in language was proposed, Regional Water Board staff emphasized that the Executive Officer would likely approve the application of any grower who is willing to work with a watershed coalition and comply with ILRP requirements. Recalcitrant dischargers and those not working cooperatively with coalition groups will not be allowed to join and would be regulated under the Individual Discharger Conditional Waiver or receive Waste Discharge Requirements, they said.

## Input Sought on Long Term Irrigated Lands Program

Just as Central Valley agriculture is getting used to the Irrigated Lands Regulatory Program (ILRP), it's time to change it. The current program, labeled "interim" by State regulators, is set to expire in 2011. In its place will be the "Long Term Program" which is currently being drafted by the Regional Water Board with input from stakeholders who submit written comments to the Board or attended three public hearings in April.

While much of the new program could end up looking similar to the existing ILRP, one thing is almost certain: groundwater, in some way, shape or form, will be part of the new ILRP. Groundwater was identified as lacking adequate protections in early versions of an Environmental Impact Report now being written on the program. At a joint meeting of the State and Regional Water Boards in August 2007, members from both Boards directed staff to begin planning how to include groundwater in the long term program.

In briefing documents released before the public hearings, the Regional Water Board outlined what it considers to be key issues for

a long term program. Managed wetlands and greenhouse operations with permeable floors may be removed from the irrigated agriculture category. The board also asked for input on creating a groundwater program and "alternate approaches for achieving program goals" in its existing surface water program. This might include grouping similar agricultural operations under regulatory requirements based on geography, commodity, operation or threat to water quality. Such grouped operations might then get their own waiver or set of waste discharge requirements. Also requested were comments on factors to consider in developing and evaluating program alternatives such as costs/economics. Under consideration is adding dry land farming and non-irrigated pasture to the program, mainly due to its potential impact on storm water runoff.

A draft report on the long term program is expected in Fall 2008. The draft environmental impact report is due Spring 2009 with a final certification by Regional Water Board expected by Summer 2009.

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## Sacramento/Feather Rivers Free of Diazinon – Almost

The Sacramento and Feather Rivers were the first Central Valley Waterways to be assigned a Total Maximum Daily Load (TMDL) for pesticides. Numerous detections of diazinon in both waterways in the 1990s prompted this Clean Water Act designation by the Regional Water Board.

Soon after its formation in 2004, the Sacramento Valley Water Quality Coalition (SVWQC) developed an implementation plan for the TMDL and committed to work with growers in the region to minimize or eliminate the diazinon exceedances. As part of the plan, the SVWQC put in place a water monitoring program to track diazinon levels in the Sacramento and Feather Rivers plus the Colusa Basin Drain, a major tributary to the Sacramento River. The annual monitoring focused on two winter storms in early January and February following the start of orchard dormant sprays, a known source of diazinon runoff.

For the first two winters (2005-06 and 2006-07) none of the samples found diazinon about the established TMDL standard. In winter 2007-08, the first storm samples

again showed no exceedances of diazinon standards. Then in the second storm, two samples from the Colusa Basin Drain showed levels above the standard. None of the other waterways sampled showed exceedances.

Should those samples have been below the water quality standards, the diazinon TMDL may have well have been labeled “mission accomplished.” But because of the exceedances, the SVWQC will now go back to the Regional Water Board with several options to head off future exceedances. The proposed actions include:

- \* Obtain a list of growers who applied diazinon in the Colusa Basin Drain watershed area;
- \* Mail exceedance notices and grower management practice surveys to growers who applied diazinon;
- \* Meet with the growers or hold workshops to review management practices to prevent future diazinon runoff after dormant sprays;
- \* Continue monitoring for diazinon in winter 2008-09 as part of the SVWQC Monitoring and Reporting Program.

## E. coli Study Raises More Questions

Central Valley coalition sampling often finds exceedances of water quality standards for the pathogen indicator, *E. coli*. These repeated findings prompted four water quality coalitions in 2006 to fund a study in hopes of identifying potential causes of the exceedances. Study results subsequently given to the Regional Water Board for review raised questions about the DNA technique used in the analysis and the results, which showed human DNA in often far greater amounts than livestock or poultry.

The study used a cutting edge technique that has the potential to identify source(s) of *E. coli* measured by Coalitions. To better understand the ramifications of the study approach and results, the Regional Water Board, UC Davis scientists and other experts developed a Q&A to assist in planning next steps and future studies.

The *E. coli* tested for by watershed coalitions is a pathogen indicator. The new study evaluated DNA from bacteriodes, which are not the same as *E. coli* but are present in the intestines of animals. Bacteriodes are not typically used as a pathogen indicator but like *E. coli*, they also come from animal intestines.

Multiple sources of bacteriodes DNA were found in the coalition samples, including human, bovine and avian. Measurements gave percentages of the total bacteriodes

DNA in the sample and could represent very small or very large amounts of bacteria. The DNA technique did not determine how much of each source was identified. What the study did show is that at most sites and during the period of the sampling, a greater percentage of human bacteriodes than animal bacteriodes was present.

Bacteriodes are intestinal bacteria that do not like oxygen and survive only days in the environment. It cannot multiply outside of the intestinal tract. Bacteriodes may be a pathogen indicator, but it is not commonly used in environmental monitoring for regulatory programs. The relationship with disease-causing organisms is unknown, and there are no standard EPA methodologies for Bacteriodes DNA analyses.

Bottom line for the coalition studies, according to the Q&A: “...results cannot be used for regulatory purposes at this time, and they cannot be considered to be a definitive answer for the source of *E. coli* exceedances, or for disease-causing organisms. Any relationship between the presence of bacteriodes and *E. coli* and/or disease-causing organisms has not been shown to exist.”

More information on the *E. coli* report and future studies can be found in the draft document “Fact Sheet: Pathogen Source Identification Study, 1 May 2008” posted under “News” at [www.esjcoalition.org](http://www.esjcoalition.org).

## Sacramento River Tributaries Showing Few Problems

With the Sacramento Valley Water Quality Coalition 2007 water and sediment sampling program completed and reported to the Regional Water Board, the results continue to show relatively few problems traceable to irrigated agriculture. The SVWQC, in cooperation with its 10 subwatershed groups, reported that only 10% of samples showed toxicity to *C. dubia* (water flea) in 2007; 5% of water samples were toxic to *selenastrum* (algae) and 3% of sediment samples had toxicity to *hyalella*.

While the results are encouraging, the SVWQC and its subwatersheds continue to pursue solutions to those problems apparently related to pest management in agriculture. The most frequent pesticide exceedance was for chlorpyrifos (Lorsban, Lock-On, Govern), with 5% samples above the state limits. Diazinon and carbofuran were both above limits in 1% of samples. The highest number of exceedances, although not certain to be from agriculture, was for *E. coli*, with 21% of samples showing levels above standards. Cooper was also found to exceed standards in 1% of water samples taken.

## Irrigated Lands Program Gets New Leader

Joe Karkoski has been named program manager for the Irrigated Lands Regulatory Program for the Regional Water Board. Karkoski, who replaces Bill Croyle, formerly led the Regional Water Board TMDL unit where he was involved in developing the diazinon TMDL for the Sacramento River. Karkoski previously worked for US EPA Region 9 on agricultural water issues. He is currently based in Rancho Cordova.

## Spanish Language Farm Worker Safety Booklet

*Protección de su Salud: Protección de Trabajadores Expuestos a Pesticidas* is a Spanish language comic book format novella that provides important health and safety messages to farm workers. The U.S. EPA has approved the novella as appropriate educational material for workers who have received or are receiving the required WPS training. The novella is published by Western Plant Health Association (WPHA) and Coalition for Urban and Rural Environmental Stewardship (CURES) and is being distributed to workers through government, rural health, farmers and farm worker organizations in the West. To order call 916-574-9744 or e-mail Richard Cornett at [richardc@healthyplants.org](mailto:richardc@healthyplants.org). The novella will be mailed free plus shipping charges.



## Eastside SJV Almond, Alfalfa Growers Given Heads Up on Insecticide Drift

Water samples taken in any given month don't typically point to treatments on one or two crops reaching waterways at the same time. But after nine waterways were found to have chlorpyrifos exceedances in July 2007 sampling by the East San Joaquin Water Quality Coalition, the group narrowed the likely causes to two factors: chlorpyrifos (Lorsban, Lock-On, Govern) applications for Navel Orange Worm (NOW) in almonds and for alfalfa weevil in alfalfa.

To prevent a repeat of the 2007 exceedances, the coalition sent a notification in June to its members with almonds and alfalfa in Stanislaus, Merced and Madera counties who farm along the nine waterways with chlorpyrifos exceedances. Included in the mailings was information on management practices to prevent off-site movement of the insecticide.

The coalition stressed in its notice that while there were multiple exceedances, all but one were not far above water quality standards for chlorpyrifos. The just-over-the-standard numbers could indicate that the likely source was spray drift into the waterways. This conclusion came after tracing the highest exceedance last July, more than 100

times higher than the others, to an almond grower who had irrigation drainage into a creek not long after making a chlorpyrifos hull split application. Drift was also believed to a contributor. The grower committed to the coalition to change management practices to prevent a similar occurrence in 2008.

While the exceedances prompted development of management plans for those nine waterways and future scrutiny by regulators, the coalition points out to members that addressing spray drift is a "doable" management practice and could solve the problem. In particular, following the chlorpyrifos label-required buffer between waterways (50 feet for boom sprayers, 75 feet for orchard sprayers) and not spraying when the wind is blowing toward the waterway. Irrigation drainage after an application should be delayed 48 hours or is discouraged altogether unless the water can be held or treated with the enzyme "LandGuard." Growers along the nine waterways were also asked to fill out a "Management Practice" survey to help confirm to the Regional Water Board that actions were being taken to prevent future problems.

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## Westside San Joaquin Prioritizes Waterway Actions

Multiple exceedances of state water standards in the 19 Westside San Joaquin River Watershed Coalition sampling sites have triggered development of "Management Plans" for those waterways. The WSJRWC covers 450,000 acres in the region from Tracy to Mendota, west of the San Joaquin River. Management plans are work plans, written by the Coalition and approved by the Regional Water Board, that describe known and potential sources of a water quality problems and plan ways to begin addressing the problem.

The Westside Coalition's plan, currently being reviewed by the Water Board, identifies Hospital Creek and Ingram Creek as priority watersheds to begin focusing implementation efforts to address the exceedances. The plans outline approaches for pesticides including chlorpyrifos and pyrethroids, the two most common exceedances plus constituents such as copper and other pesticides. Landowners and growers who farm next to or in close proximity to the two creeks are the primary focus of mailings and notices for local workshops on BMPs to solve the water quality problems identified by the coalition sampling.

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## DDT From the Old Days Says DPR

**W**ater sampling of Central Valley waterways sometimes shows pesticides used in recent farm production. But an insecticide applied to crops more than 30 years ago? Apparently that's what the California Department of Pesticide Regulation (DPR) said after reviewing data showing water and stream sediments with the long-banned insecticide DDT and its degradates DDD and DDE. Activists, upon seeing the coalition results with DDT in numerous waterways, questioned whether Central Valley farmers were continuing to use the insecticide.

In a report to the Regional Water Board, DPR cited scientific studies where DDT was found in high concentrations in Central Valley soils, sediment and surface waters since 1985. Their studies confirmed that DDT and its degradates are long lived and residues are probably vestiges of DDT use prior to its

ban in 1972. Coalition sampling sites with relatively high concentrations were on small, agricultural dominated water bodies with the highest concentrations found in West-side tributaries to the San Joaquin River.

DPR's Residue Monitoring Program screens fresh produce for pesticide residues, including DDT and its degradates. Of the more than 58,000 samples analyzed from 1996-2006, 44 showed DDT residues. Residue levels were low and found on crops with edible portions that grow in soil, fruits that rests on soil or vegetative growth habits that readily trap soil particles. These results were not unexpected in crops grown where DDT was applied in the past and where DDT residues still reside in soil, said the report.

The DPR report concluded by stating there is "virtually no evidence to support the notion that illegal use of DDT is widespread in California."

## Enzyme Shows Dormant Season Potential

**O**rchard field trials with LandGuard OP-A found the enzyme based technology shows promise for rapidly degrading diazinon residues in dormant season storm run-off. Previous studies showed the enzyme, when applied to irrigation drain water, was effective in degrading chlorpyrifos (Lorsban) washed from an alfalfa field.

In the latest field trial, LandGuard OP-A was applied to runoff draining from a plum orchard in Sacramento Valley. The study, conducted by CURES, used sprinklers to simulate a major rain event after applying Diazinon AG 500 to the orchard in December 2007. At the lowest enzyme rate, diazinon residues were reduced by up to 99% immediately after dosing and could be further reduced with longer enzyme exposure times.

Past dormant orchard studies by UC Davis showed the enzyme to be effective when applied to the orchard floor after a diazinon treatment. With this method, the enzyme degrades diazinon on the soil surface before rain can wash off the insecticide. These applications require treating all areas of an orchard with enzymes where run-off could reach sensitive aquatic areas.

## Spill Prompts Reminder: Check Plastic Fertilizer Tanks

**A** fertilizer spill that reached the Merced River is prompting a reminder to growers with on farm tanks: check the condition and location of plastic fertilizer tanks.

The spill occurred in April when a delivery truck was off loading liquid fertilizer into a 1000 gallon white plastic tank located near an irrigation canal. The grower noticed a small leak mid way up the tank just as it reached full. Before the tank could be pumped out, the crack burst open, soaking the farmer with fertilizer. Several hundred gallons flowed into a nearby irrigation canal, which eventually drains into the Merced River, before the spill could be blocked.

The plastic tank was reportedly more than five years old. The local fire department and water quality officials, including the California Department of Fish and Game, inspected the area and said the cleanup was thorough and reported fish were not threatened. The incident serves as a reminder to growers to check the condition of all outdoor plastic fertilizer tanks exposed to sunlight. One option is to replace older tanks with newer black plastic tanks made with material resistant to sunlight degradation. Other good practices are locating fertilizer tanks away from unprotected wellheads and building containment or levees between tanks and nearby waterways.

*Watershed Coalition News* asked readers to pose questions to the Water Board on issues pose questions to the Water Board. The question this issue is answered by Joe Karkoski, Program Manager for the Irrigated Lands Regulatory Program, Central Valley Regional Water Quality Control Board.

### **I'm an orchard grower who hasn't joined the water quality coalition in my area. How do I sign up?**

The Regional Water Board changed the requirements for joining a coalition in April 2008. Growers who are currently not a member of a coalition have a limited opportunity to join without being subject to Water Board fees or penalties. At this time, the Regional Water Board and coalitions are approving applications to join if certain conditions are met. It is important to note that membership in a coalition is a privilege that depends on the good faith efforts of growers to protect water quality. By joining the coalition, a landowner or operator is agreeing to implement management practices that minimize or eliminate fertilizer, pesticide and sediment runoff. In addition, you must cooperate with your local watershed coalition and take corrective action should water quality problems be tracked back to your farming operation. Once your application is approved, each coalition in the Central Valley will have slightly different requirements for new members regarding payment of back dues. Contact you local coalition about their specific information (*Editors note: see back page for contact information*). Applications to join a coalition are available to download on the Regional Water Board website ([http://www.waterboards.ca.gov/centralvalley/water\\_issues/irrigated\\_lands/app\\_approval/index.shtml](http://www.waterboards.ca.gov/centralvalley/water_issues/irrigated_lands/app_approval/index.shtml)). There are two forms, labeled ILP-5.0 and ILP-5.1. If none of the conditions on 5.0 apply to your operation, you must also complete form 5.1. The basic information required for a complete application includes crop type, assessor parcel number(s) and county of operation (detailed instructions are included on the forms). Answer all the questions on the forms and mail to our office in Rancho Cordova. If growers with irrigated crop land do not obtain regulatory coverage for their waste discharges under a coalition group or Individual Irrigated Lands Conditional Waiver, they must file a Report of Waste Discharge and filing fee with the Regional Water Board to obtain a grower-specific permit (also referred to as Waste Discharge Requirements).

Send your questions for "Ask the Water Board" to [pklassen@unwiredbb.com](mailto:pklassen@unwiredbb.com).

# Watershed Coalition

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