

Watershed Coalition

News

INFORMATION FOR CENTRAL VALLEY AGRICULTURE

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Deadline Increases Coalition Membership Roles

A rush of coalition sign-ups ahead of the December 31, 2006 deadline boosted membership totals for several Central Valley coalitions. The deadline, set last August by the Central Valley Regional Water Quality Control Board, was intended to convince those who were indecisive to either sign-up or file for individual permits.

Based on preliminary acreage totals, increases in membership across the Central Valley were significant. The following coalitions reported member increases:

- East San Joaquin Water Quality Coalition; approximately 171,000 additional irrigated acres;
- Sacramento Valley Water Quality Coalition; approximately 78,000 additional irrigated acres;
- San Joaquin County and Delta Water Quality Coalition: approximately 20,000 acres
- South San Joaquin Water Quality Coalition:

approximately 401,000 additional irrigated acres. — Westside San Joaquin River Watershed Coalition: approximately 10,000 additional irrigated acres and 7,000 acres of wetlands.

The boost in membership can be credited, at least in part, to the extensive publicity by the coalitions and the Water Board. Additionally, California Department of Food and Agriculture assisted the coalitions by sending letters to thousands of non-members encouraging growers to participate in the program.

Shortly after the deadline, watershed coalitions were required to submit their membership lists to the Water Board. Initially the lists were due to the state in January but because of the flood of applications, that deadline was postponed to early February. Coalitions will subsequently be required to annually submit membership lists to the Water Board. ☞

New Coalition Applications Face Scrutiny

Growers with irrigated cropland who missed joining a Central Valley water quality coalition before the December 31 deadline must first have their application reviewed by the Water Board before they are allowed to join a coalition. The Central Valley Regional Water Quality Control Board set up a process in January where certain criteria must be met before irrigated cropland can be allowed into a coalition. The application forms describe the following criteria as acceptable reasons for joining a coalition:

- Owner/operator or property were not a "discharger" qualifying for coverage under the coalition group conditional waiver prior to December 31;
- The property was transferred to a new owner after December 31;
- An owner/operator or property is transferring from one coalition group to another coalition group;
- Coalition group boundaries changed or a new coalition group formed in an area that was not covered by a coalition group prior to December 31.

If these conditions do not apply, landowners or operators are required to file another form that asks four questions of landowners:

- Have you even been contacted or provided information by a coalition group;
- Have you ever been a member of a coalition group;

- Have you even been contacted or provided information by the Central Valley Water Board;
- Do you participate in any other Central Valley Water Board programs or hold any permits issued by the Central Valley Water Board?

Another section of the form asks the applicant to explain why they did not join a coalition before the deadline.

Presumably, if the answer is "no" to some or all of the above questions, and owner/operator of irrigated cropland would be allowed to join a coalition. However, at press time, Water Board staff was still in the process of reviewing dozens of applications and no firm pattern of approval had been established. Apparently those landowners who had been notified of the regulation in the past and still refused to join may have to file with the Water Board a Report of Waste Discharge. The Water Board has stated that those claiming to not have discharges from their property from irrigation or storm runoff will likely have a visit from staff in the future to verify those claims.

Upon submission and review of application forms, a decision will ultimately be made by the Water Board Executive Officer. Application forms are available from the Water Board website http://www.waterboards.ca.gov/centralvalley/programs/irrigated_lands/index.html, or by calling the Irrigated Lands Program at 916-464-4611. Coalition group representatives can also provide the forms on request. ☞

E. Coli Source May Be Human

High *E. coli* levels in many Central Valley waterways may be coming from human sources, according to preliminary results from a study by U.C. Davis. DNA analysis of bacteria in 27 water samples taken in Stanislaus, Merced and Madera counties showed "DNA from human fecal material was found at every site and DNA from cow and chicken fecal material was found at some sites," said the report authored by Michael Johnson of U.C. Davis. The study, co-authored by Lizabeth Bowen and Melissa Turner, was funded by the East San Joaquin Water Quality Coalition. The researchers compared DNA "markers" for bovine, chicken and human DNA to the DNA isolated in the water samples. "The results were provided as the percentage of DNA from each source, and the largest percentage at each site was from human sources," said Johnson. "The variability of

the results in space and time will require additional research to understand. The final caveat is that these results reflect samples collected at one point in time. These results may not reflect the DNA present in the water bodies at any other time of the year and extending any conclusions across the entire year is tenuous." Johnson said potential human DNA sources include leaky sanitary sewer lines, leaky septic systems, application of biosolids to fields or direct deposition of fecal material in the water from an animal or human.

Preliminary results of the study were submitted to the Water Board in December 2006 with the final report expected in March 2007. The East San Joaquin Coalition plans to repeat the DNA analysis in winter 2007. Three other Central Valley coalitions are awaiting results of similar studies performed in their regions. ☞

Glenn County To Document BMPs

The Glenn County Department of Agriculture [Glenn County] is a signatory to a Memorandum of Understanding (MOU) that created a pilot program to assist the Water Board in implementing the Irrigated Lands Program (ILP). The tasks outlined in the pilot program created by the Regional Board provide for Glenn County (also Butte County Department of Agriculture) to perform a number of activities. These include updating local GIS maps, performing additional pesticide application inspections relevant to water quality issues, assist in the investigation process when exceedances are identified, assess management practices utilized that would protect water quality, assist in the evaluating sample monitoring points, provide updates on pesticide use, coordinate outreach efforts with growers and the sub-watersheds and in general assist the Regional Board by providing information and input that will further the implementation of the ILP.

Glenn County recently assisted the Sacramento Valley Water Quality Coalition in evaluating potential sites for sampling "up-stream" of previous sampling locations for the Walker Creek Watershed. Walker Creek Watershed has approximately 24,000 acres of irrigated cropland and 150 growers. Recognizing that new sampling locations will produce new information, Glenn County staff decided to document Best Management Practices (BMPs) in place on a smaller scale rather than the entire sub-watershed to determine if water quality monitoring and management practices in place would have a positive correlation with observed sampling results.

The Walker Creek Watershed is completely contained within Glenn County making collection and dissemination of data readily accessible and deliverable. This evaluation is being performed with the full cooperation of the local sub-watershed coalition.

Tasks identified to perform the evaluation will include sampling, outreach, survey development, and BMP documentation. Glenn County staff has completed many items to prepare for the watershed evaluation including:

- * Identify the growers located within the watershed;
- * Develop a BMP field survey;
- * Integrate maps to include all relevant information available for the watershed;
- * Collect baseline samples close to the end of Walker Creek;
- * Provide notification to growers located within the watershed informing them of the evaluation and what to expect.

Staff is also providing a farm site self assessment survey developed by CURES to all growers within the watershed as another survey component.

Glenn County staff previously provided the Regional Board staff with a map of the currently available information of natural water bodies and agricultural canal systems. While completing visual surveys, staff is building on the original mapping by adding layers to update the Walker Creek Watershed area to include operators, parcels, cropping, drainages, irrigation type, and other information relevant to the watershed evaluation. Initial results are expected to be available in summer 2007. ☞

Growers Can Expect More BMP Surveys

Central Valley watershed coalitions have begun an effort to gain a better understanding of just how many Best Management Practices (BMPs) are being used by farmers to address water quality problems. The reason for the effort is twofold: activists are accusing the coalitions and growers of not adopting any BMPs in response to water quality problems indicated by recent monitoring results. More importantly, several coalitions have developed Management Plans for pesticide exceedances of water standards under Water Board orders, plans which require use of management practice survey results to gauge level of BMP use upstream of sampling sites. While surveys have never been popular with farmers, an important measure of success for watershed coalitions will be proving to the Water Board that farmers are adjusting practices that could contribute to off site movement of pesticides or other farm inputs. ☞

Water Board to Hear Coalition Monitoring Results at May 3-4 Meeting

A three year review of coalition water monitoring results will be a key presentation at the upcoming May 3-4, 2007 meeting of the Central Valley Regional Water Quality Control Board. Water Board staff has compiled results from each watershed coalition along with data from the Phase I/II contract sampling performed by U.C. Davis for the Water Board. The period analyzed is from July 2003, when the waiver was adopted, through September 2006.

In a presentation by Irrigated Lands Program director Bill Croyle, monitoring results will be reported by "zones" which roughly equate to coalition boundaries in the Central Valley: zone 1- Sacramento Valley; zone 2 - San Joaquin County and Delta; zone 3, east and west side of San Joaquin River; zone 4 - southern San Joaquin Valley (Fresno county south to Tehachapi). Draft reports circulated to Central Valley coalitions in March contain summary charts and narrative sections on pesticides, bacteria (*e coli*), sediment toxicity and toxicity to fathead minnow, water flea and algae. Also covered are metals, salinity, nutrients, pH, and dissolved oxygen. After the Water Board presentation, coalition representations are expected to provide updates on coalition responses to exceedances of water quality standards at coalition sampling sites. ☞

Treatment Shows Insecticide Breakdown In Water

An enzyme-based product from Australia is showing promise for degrading OP pesticides in irrigation drainage water. Two studies in Stanislaus County on a commercial alfalfa field showed complete breakdown of Lorsban (chlorpyrifos) in drain water flowing from a field treated two days earlier with the insecticide. The product, LandGuard OP-A, is the same enzyme used in Australia and Europe to break down chlorpyrifos and diazinon insecticides in sheep dips. Disposal problems for the high concentrate solutions prompted development of the product by Orica Pty, a company specializing in chemicals for municipal drinking water treatment. The company is the larg-

est manufacturer of chlorine in Australia.

In the alfalfa tests performed by the Coalition for Urban Rural Environmental Stewardship, the enzyme was dribbled into drain water flowing from a 75 acre field over three, four hour periods. Samples taken 8 minutes after the application showed no detectable levels of chlorpyrifos, a decrease from 9.8 parts per billion in the water prior to the enzyme application. Toxicity tests performed on water samples taken after the treatment showed no toxicity to water flea or fat head minnow. The company is also sponsoring studies with U.C. Davis researcher Frank Zalom, who is examining the product use in conjunction with diazinon dormant sprays in orchards. ☺

New Methods to Determine Orchard Sprayer Coverage

Is there an easier way than simply watching the spray pattern for determining tree coverage by an orchard sprayer? Ken Giles and Daniel Downey, UC Davis agricultural engineers, set out to look at different ways to answer that question with a State Water Board grant managed by the Coalition for Urban Rural environmental Stewardship (CURES). Two options were identified for field use that can assist growers in evaluating spray applications. Surround WP (Englehard Corp., Iselin, NJ), is a wettable powder that can be applied during spray applications. The material leaves a thin white film on crop surfaces and gives immediate visual indication about sprayer coverage and application techniques. Another device evaluated is a GFP-meter (Optisciences, Hudson, NH). This hand-held optical fluorometer can be used with a variety of dyes (rhodamine and fluorescein) and can be configured for specific dyes (for example BSF). The meter uses a probe to measure concentrations on plants immediately after an application. Both products are commercially available and can provide quick feedback for growers on application coverage, ground deposition and potential drift. ☺

Water Board Continues Enforcement Efforts

From August through October 2006, almost 600 enforcement letters were mailed by the Water Board to landowners in eight Central Valley counties. The letters, called section 13267 Orders, were sent by certified mail to landowners who the Water Board believed were not participating in a watershed coalition. Included with the order was a request for a "Technical Report" which was required to be returned to the Water Board in 30 days. In mid-December, 193 "Notices of Violations" (NOVs) were mailed to those landowners who did not respond to the 13267 letters. Failure to comply with the NOV could result in the Water Board issuing Administrative Civil Liability fines which could be up to \$1000 per day for each day the violation occurs. The Water Board Executive Officer is expected to issue several fines to landowners in the first quarter of 2007. ☺

Tree See Technology in Orchard Sprayers

Just how much less pesticide is deposited on the ground in dormant sprays when Smart Sprayer technology is used for the application? That is a question C.S.U. Chico researcher David Brown set out to answer recently. A mature dried plum orchard in Sutter County with distinct gaps between trees was selected for the study. The results were dramatic: a 39% reduction in applied pesticide with the Smart Sprayer compared to a conventional sprayer. Spray deposit on the orchard floor was reduced by 54%. Concentrations of diazinon in runoff from the treated areas were also reduced by 44%. Brown reported that "the results strongly document the environmental and economic benefits provided by target-sensing spray technology in orchards." ☺

In *Watershed Coalition News*, we ask experts to answer Frequently Asked Questions related to agricultural water quality. This issue features Kelly A. Briggs, Senior Environmental Scientist, Public Outreach and Compliance, Central Valley Regional Water Quality Control Board.

Why was the deadline set to join watershed coalitions?

The Water Board created a deadline to compel growers into compliance, increase accountability in the program and ensure equitable treatment of growers. The program is close to four years old. Consistent with the Water Board progressive enforcement policy, efforts are increasing to ensure compliance with water quality laws.

What happens if a landowner did not join a coalition before the deadline?

Growers that failed to join a coalition by December 31, 2006 will be evaluated on a case-by-case basis to determine if they must be covered by the individual waiver or a permit, or if they may join a coalition. Growers that are not allowed to join a coalition must file a Notice of Intent for individual conditional waiver coverage or a Report of Waste Discharge for an individual permit, and pay applicable fees. Some growers under the individual conditional waiver or a permit may be given approval at a later date to join a coalition. Whether this is granted will depend on a variety of factors, including how well a grower complies with individual conditional waiver or permit requirements. Thousands of growers are participating in coalitions to identify and address water quality problems in their watersheds. However, there are still many growers that are required to participate in a coalition or obtain individual waiver coverage or a permit and have failed to do so.

How will the Water Board know if someone drops out of a coalition next year?

Coalitions are required to submit updated participant lists annually. The Water Board will compare updated lists with previously submitted lists along with data it collects for compliance and enforcement efforts. If a grower drops out of a coalition but is still discharging to surface waters, the grower may be subject to Water Board enforcement which may include monetary penalties for discharging without a permit or conditional waiver coverage. Water Board staff are currently surveying watersheds to identify unauthorized discharges.

Watershed Coalition

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