

Watershed Coalition

News

INFORMATION FOR CENTRAL VALLEY AGRICULTURE

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Water Board Given Coalition Monitoring Results

A three year review of coalition water monitoring results was presented at the August 2 meeting of the Central Valley Regional Water Quality Control Board in Rancho Cordova. Water Board staff compiled water and sediment monitoring results from the seven watershed coalitions plus data from the Phase I/II contract sampling carried out by U.C. Davis. The results cover from May 2004, shortly after the Irrigated Lands Program was adopted, through October 2006.

Monitoring results are reported by "zones" that closely parallel Central Valley coalition boundaries: zone 1 - Sacramento Valley and the Rice Commission program; zone 2 - San Joaquin County and Delta; zone 3 - east and west side of San Joaquin River (Stanislaus, Merced, Madera counties); zone 4 - southern San Joaquin Valley (Fresno County to Kern County).

In the report, Water Board staff provided overviews of the data and described numerous data gaps. These "general observations" include:

- Toxicity to water flea (*ceriodaphnia dubia*) was "exhibited in a sufficient number of samples to warrant further review in all zones. Toxicity to water flea is associated with insecticides..."
- Sediment toxicity was found in all zones and the report cited U.C. studies that "strongly suggest sediment toxicity was caused by pyrethroid (insecticides)."

- Predominant pesticides detected throughout the Central Valley were chlorpyrifos, diazinon, simazine, diuron and DDT/breakdown products. The report noted that not all detections were exceedances of water quality standards.
- Presence of pathogen indicators such as fecal coliform and *E. coli* are "ubiquitous in water samples collected throughout the Central Valley" and are frequently above U.S. EPA standards.

The monitoring programs left data gaps that Water Board staff described as the "type of data that would be necessary to answer questions about water quality in Central Valley Agriculture." Key points include:

- The first 2-3 years of monitoring were meant to provide baseline data for further decision making. Subsequent monitoring needs to provide details on management practice implementation and indicate improvements in water quality.
- The current monitoring schedule followed by coalitions does not include periods when drainage can occur such as application of water pre plant, post harvest and for frost protection.

The full zone reports are available at http://www.waterboards.ca.gov/centralvalley/programs/irrigated_lands/index.html under "Monitoring Results." ☺

Lawsuit Filed Against Water Board on Irrigated Lands Program

Another lawsuit has been filed against the Central Valley Regional Water Quality Control Board and its Irrigated Lands Program (ILP). The suit by California Sportfishing Protection Alliance (CSPA) and Baykeeper claims that the Water Board has not complied with California Water Code or the California Environmental Quality Act (CEQA) in adopting the program. Filed in June, the action follows the State Water Board's denial two years ago of a similar petition by the same activist groups to end the ILP.

The activists claim that allowing the program to continue "contributes to damage to threatened and endangered fish in the Sacramento/San Joaquin River Delta."

Press accounts quoted Bill Jennings of CSPA as saying the lawsuit "addresses the largest source of unregulated pollution into Central Valley waterways that is contributing to the die-off of the smelt." In their petition, CSPA and Baykeeper criticize the Central Valley watershed coalitions, saying they "act as a shield that prevents the

Regional Board from knowing who is discharging what pollutants at what concentrations or whether measures to reduce or eliminate pollution are in place. Because the Regional Board does not know what measures or best management practices, if any, will be applied by agricultural operations pursuant to the Waiver conditions, the Waiver does not assure that agricultural pollution discharges will be restricted to levels protective of water quality."

In late July, Central Valley watershed coalitions and farm groups were considering intervention in the litigation to defend and support the Irrigated Lands Program. According to Jakki McDonald of Somach Simmons and Dunn, an attorney involved with the potential intervention, "Some of the coalitions want to have a voice in this lawsuit to ensure that the program and Central Valley irrigators' substantial water quality efforts are appropriately defended." A court date has not been set and oral arguments aren't likely until 2008, following filing of the Water Board's administrative record and briefing in the case. ☺

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Water Board Reports on San Joaquin Valley Monitoring Data

Results from three years of water and sediment sampling in northern San Joaquin Valley show that runoff of farm inputs is contributing to numerous episodes of toxicity to test organisms or exceedances of State standards. However, for one test species, the fat head minnow, toxicity was a rarity. According to results, compiled by the Central Valley Regional Water Quality Control Board (CVRWQCB), only 2.3% of 588 tests performed with fathead minnow were toxic. Tests on algae, an indicator species for herbicides, were toxic in 8.5% of 529 tests. Tests on water flea were toxic in 10% of 597 tests. Sediment toxicity had the highest occurrence with 36% out of 62 tests showing toxicity.

The results are part of a report prepared by the CVRWQCB that describes monitoring within Zone 3, including waterways monitored for the East San Joaquin Water Quality Coalition (ESJWQC), Westside San Joaquin River Watershed Coalition (WSJRWC), San Luis Water District Watershed Coalition and U.C. Davis under contract with the Water Board.

Chlorpyrifos (Lorsban) was the most frequently detected insecticide with 19% of 592 samples showing the insecticide above state standards. Another insecticide detected frequently, but with no State standard, was dimethoate, found in 19% of 489 samples. Numerous herbicides were detected in sampling results including atrazine, cyanazine, simazine, diuron, pendamethalin and trifluralin. Simazine exceeded State drinking water standards in two tests.

Levels of *E. coli* exceeded U.S. EPA standards for recreation in

53% of 633 samples taken. A study commissioned by the East and Westside Coalitions in 2006 is seeking to determine sources of the *E. coli*. Preliminary results found human DNA to be the most common source with cow and chicken DNA in only a limited number of samples.

The most common metals found above freshwater aquatic life standards in 182 samples were arsenic (3), boron (6), cadmium (9), copper (48), nickel (4), selenium (4) and zinc (1). Boron, copper and zinc are the only metals used for crop production in zone 3. The coalitions and the Water Board are expected to perform evaluations of background levels of metals (that are naturally occurring or are byproducts of historical mining activities) in individual waterways to find if potential contributions of metals used in agriculture are causing further degradation of water quality.

Both the ESJWQC and WSJRWC are in various stages of preparing management plans for waterways where two or more exceedances of state standards or toxicity to test organisms were found. The WSJRWC is preparing a single management plan that encompasses all its 19 sampled waterways while the ESJWQC has prepared individual plans for 17 of its 22 waterways where two or more exceedances were found.

The report on zone 3 that includes a complete review of monitoring data is available online at http://www.waterboards.ca.gov/centralvalley/programs/irrigated_lands/index.html under "Monitoring Results." 

East San Joaquin Starts Management Plan Actions

Staff and scientists with the East San Joaquin Water Quality Coalition continue to negotiate with the Central Valley Regional Water Quality Control Board on details in the 17 management plans submitted to the agency since November 2006. The management plans cover waterways where water or sediment sampling has found two or more toxicity events or exceedances of State water quality standards. Possible sources of water quality impairments and actions planned to address the problems are described in these plans. Several actions, including increased frequency of water sampling during specific pesticide use periods, have been put into place for the 2007 irrigation sampling season.

The increased sampling frequency in Stanislaus and Merced counties targets chlorpyrifos (Lorsban) insecticide, which is generally applied to crops in spring and mid summer months. Sampling results from the 2007 winter season and early irrigation season monitoring (to May) showed only one exceedance of the chlorpyrifos standard, (detected at 0.017 µg/l; just above the standard of 0.015 µg/l). Water flea toxicity was found at two sites during winter sampling.

Other pesticide exceedances in winter 2006-07 included simazine and diuron herbicides. DDT and DDE, a breakdown product of DDT, were also detected at very

low levels. Simazine is a pre-emergent herbicide used in orchards, vineyards, for roadside weed control and other weed management applications. Diuron is applied to alfalfa, walnuts, and railroad rights of way. ESJWQC has contacted the herbicide manufacturers and will, in coming months, send to growers the stewardship information they develop. Information on chlorpyrifos management practices for row crops will be distributed to growers of those crops upstream of the site where the insecticide was found. The DDT found in water samples likely originates from suspended silt particles washed from fields sprayed with DDT more than 30 years ago. DDT is very persistent in soils and preventing movement of silt to waterways is believed to have the best potential for mitigating DDT detections in water.

Exceedances of standards for *E. coli* bacteria occurred in 11 coalition sites in winter 2006-07 and early irrigation season 2007. *E. coli* can originate from multiple sources: manure runoff from pasture or irrigated crop land, wildlife, leaking septic systems and other sources. The ESJWQC supported a U.C. Davis study that performed DNA mapping of *E. coli* taken from several sites in the coalition region. The final report showed that while some cow and chicken DNA were present, the most common source in many

waterways was of human origin. Despite the results, the ESJWQC encourages growers who apply or store animal manure to follow management practices to minimize movement of manure into waterways.

Farmers operating in the 17 watersheds under management plans were the target of mailings sent out by the coalition in April and May. The letters, sent to farmers with property in close proximity to the impacted waterway, described the toxicity or exceedances and potential causes. Coalition members were asked to fill out a survey of management practices. More than 1000 surveys were returned and are being analyzed.

A second round of letters is scheduled for mailing in August to farmers in watersheds where exceedances or toxicity were found in the 2006-07 winter and early 2007 irrigation season sampling. Letters will be sent to landowners in the management plan areas as well as the watersheds upstream of five new sites where exceedances or toxicity occurred. In the advisory notice mailings, growers are strongly encouraged to adopt management practices to prevent movement of farm inputs into waterways. 



Growers Told of Water Quality Exceedances

Letters are in the mail to hundreds of Sacramento Valley landowners who farm irrigated crops in seven watersheds where water quality exceedances were found in sampling performed in 2006. Notifying growers about exceedances of State water quality standards is one of numerous requirements of watershed coalitions under the Irrigated Lands Program (ILP). In 2006, Sacramento Valley Water Quality Coalition (SVWQC) collected 156 samples from 31 waterways. Fourteen sediment samples were also collected in September.

In addition to describing the types of exceedances, the Advisory Notice mailings, which are done in collaboration between the SVWQC and its 10 subwatershed groups, also include information on management practices with potential to address the exceedances.

While several farm inputs were identified as potential causes, many exceedances do not have readily identifiable sources linking them to farmers and crop production. Those parameters include pH and dissolved oxygen, both of which can be outside of normal ranges because of naturally occurring conditions in the waterways or changes in stream flow and temperature. Coalition efforts to identify sources are underway.

More certain but not completely verified are causes of sediment toxicity found in three subwatersheds. In studies throughout the Central Valley, University of California scientists have linked sediment toxicity to pyrethroid insecticides. Pyrethroids have the characteristic of binding to soil particles washed from a treated field by irrigation drainage or storm water and accumulating in stream sediments. Applications in urban areas can also reach waterways and contribute to toxicity. Coalition testing determines only if sediment is toxic but cannot identify specific causes of toxicity. Despite the uncertainty, the coalition has decided to be proactive in addressing sediment toxicity by distributing management practice information for pyrethroid insecticides. The practices focus on preventing sediment from moving off site and minimizing spray drift to waterways.

Exceedances of State standards for *E. coli* bacteria occurred in three coalition sites

in 2006. *E. coli* can originate from multiple sources: manure runoff from pasture or irrigated crop land, wildlife, leaking septic systems and other sources. The SVWQC supported a U.C. Davis study that performed DNA mapping of *E. coli* taken from several sites in the Sacramento Valley region. Preliminary results showed that while some cow and chicken DNA were present, the highest source in many waterways was of human origin. Until further information is developed, the SVWQC encourages growers who apply or store animal manure to follow management practices to minimize movement of manure into waterways.

The only pesticide exceedances were for simazine herbicide and chlorpyrifos (Lorsban) and diazinon insecticides. DDT and DDE, a breakdown product of DDT, were also detected at very low levels. Simazine is a pre emergent herbicide used in orchards, vineyards, for roadside weed control and other weed management applications. SVWQC has contacted the herbicide manufacturer and will in coming months send to growers the stewardship information they develop. As with other pesticides detected in waterways, any management practice that minimizes water and sediment runoff after an application has proven to be the most effective approach for minimizing herbicide and insecticide impacts. Information on chlorpyrifos management practices for row crops was distributed to growers upstream of the site where the insecticide was found. The DDT found in water samples likely originates from suspended silt particles washed from fields sprayed with DDT more than 30 years ago. DDT is very persistent in soils and preventing movement of silt to waterways is believed to have the best potential for mitigating DDT detections in water.

In the advisory notice mailings, growers are strongly encouraged to adopt management practices to prevent movement of farm inputs into waterways. A second exceedance can cause the waterway to be placed under a "Management Plan," which carries increased scrutiny of farming practices upstream of the sampling site and can lead to stricter enforcement measures by the Water Board. ☞

Water Board Reports on Sacramento Valley Monitoring Data

Water monitoring results from three years of sampling in Sacramento Valley show that the majority of tests are not showing toxicity or exceedance of State standards. Only 1.7% of 501 tests performed on fathead minnow were toxic. Tests on water flea were toxic in 6.1% of 495 tests. Sediment toxicity had the highest occurrence with 18.5% out of 95 tests showing toxicity.

The results are part of a report prepared by the Central Valley Regional Water Board that describes monitoring by the Sacramento Valley Water Quality Coalition (SVWQC), Rice Commission and U.C. Davis under contract with the Water Board.

Chlorpyrifos (Lorsban) and diazinon accounted for most of the exceedances of pesticide standards, with 20% of 407 sampling events showing these two insecticides above State standards. Levels of *E. coli* exceeded U.S. EPA standards for recreation in 28% of 262 samples taken. A study commissioned by SVWQC is seeking to determine sources of the *E. coli*, with preliminary results showing human DNA the most common source.

Attention continues to focus on high boron levels in Yolo County where a "Management Plan" is being implemented for that constituent by the SVWQC. The report points out that background levels of boron need to be evaluated to determine if agricultural practices are contributing to continued exceedances in regional waterways such as Cache Creek. Potential sources of boron from agriculture include boron micronutrient applications and runoff of well water containing naturally high levels of boron. The report on zone 1 that includes monitoring data from SVWQC, Rice Commission, and U.C. Davis is available on line at http://www.waterboards.ca.gov/centralvalley/programs/irrigated_lands/index.html under "Monitoring Results." ☞

Broddrick Takes Helm at NCWA

Ryan Broddrick has been named executive director of Northern California Water Association, replacing David Guy who recently resigned and moved to Yosemite Associates of El Portal. Broddrick comes to NCWA from California Department of Fish and Game where he had been director of the state agency since 2004. Broddrick is expected to play a key role in the Sacramento Valley Water Quality Coalition. ☞



Coalition Acreage Totals Reported to Water Board

Just over 5 million acres of irrigated crop land is now enrolled in the Irrigated Lands Programs, according to a recent report by the Central Valley Regional Water Quality Control Board. The total represents an increase of 34% or 1.2 million acres since September 2006. Much of the enrollment increase is being attributed to the December 31, 2006 deadline imposed by the Water Board. Each coalition registered an acreage increase ranging from 116% for the South San Joaquin Valley Water Quality Coalition to 6% increase in the Westside San Joaquin

River Watershed Coalition. One coalition representing the San Luis Water District has discontinued its activities and merged with the Westside SJR Watershed Coalition. Further changes are expected in those totals as the State Water Resources Control Board, which oversees the fee assessments charged to the coalitions for its members, clarifies what defines an "acre." Some coalitions require farmers to report only the irrigated acres while others report total acres corresponding to county records such as agricultural parcel numbers or APNs. ☞

Fines Set to Go Out

A potential \$1000 per day fine may be levied against hundreds of growers who have failed to respond to requests for information from the Water Board. The fines, called Administrative Civil Liabilities, are being considered by the Water Board executive officer against landowners who did not respond to "13267 Orders" and a subsequent "Notice of Violation" sent to growers who did not respond to the 13267 order. ☞

Landowners Applying To Join Coalitions

Eighteen landowners were recently given the go ahead to join a coalition, the first to do so since the December 31, 2006 deadline to sign up for one of the groups. As of late July, 130 applications had been submitted from throughout the Central Valley with only those 18 approved to join. Eleven have been turned down. The Water Board executive officer Pamela Creedon makes the final decision after staff reviews the conditions claimed in the application and supporting documentation. Landowners or operators who are turned down are required to file a Notice of Intent for coverage under the Conditional Waiver for individuals or a Report of Waste Discharge to obtain a grower-specific permit (Waste Discharge Requirements). Fees must also be paid to the state based on the potential threat to water quality posed by the individual farming operation. ☞

Existing Coalition Members Can Add Acreage

Landowners and operators who were members of a watershed coalition prior to December 31, 2006 are being allowed to add acreage to their existing membership in 2007. New language adopted into the Irrigated Lands Program in 2006 requires that growers who didn't join before the December 31, 2006 deadline had to submit an application to the Water Board and receive clearance before joining a coalition. Those rules were clarified recently to state that an existing coalition member could add new parcels without going through the Water Board application process. ☞

Membership Lists Going To Water Board

For the second time in 2007, coalitions are being required to submit their membership lists to the Water Board. The first submission was in February, shortly after the deadline for joining a coalition passed. The submission due on July 31 will be the deadline used in subsequent years to track program participation. In addition to using the lists to check for compliance throughout the Central Valley, the State Water Board uses the acreage totals as part of its calculation for assessing fees to support the Irrigated Lands Program. In 2006, the State assessed 12 cents per acre for landowners in a coalition, if the coalition paid the fee, and 20 cents an acre plus \$100 per landowner if paid by the landowner who is a member. All of the coalitions to date have paid the fee for members using funds from membership dues. ☞

Watershed Coalition News asked readers to pose questions to the Water Board on issues of interest. The question below is answered by Kelly A. Briggs, Senior Environmental Scientist, Public Outreach and Compliance, Central Valley Regional Water Quality Control Board.

My farm is lower than surrounding parcels so water from my orchard cannot flow onto neighboring land and I'm at least two miles from the nearest stream. Why do I need to be part of this program?

Each owner and operator of irrigated lands needs to assess whether their operations cause or have the potential to cause discharge of waste(s) that can impact the quality of the waters of the state. If the answer is yes, the California Water Code (Water Code) requires some form of regulatory coverage be obtained. Joining a Coalition Group is one option. The other two options are obtaining coverage under the Irrigated Lands Conditional Waiver for individuals or obtaining Waste Discharge Requirements (a permit). If an operation does not discharge waste to waters of the state, no regulatory coverage is needed.

The program is currently focused on surface water. However, waters of the state include groundwater. Agricultural waste discharges to groundwater are being evaluated in an Environmental Impact Report being prepared as part of developing a longer-term program. Given the scope of the existing waivers, this means that at the present time, if an operator does not discharge waste to surface water but does discharge waste to groundwater, the only option is to obtain Waste Discharge Requirements to comply with the Water Code.

The Water Code authorizes the Water Boards to issue administrative civil liabilities for unauthorized discharges of waste (i.e., wastes being discharged without permit or waiver coverage, and waste discharges that do not comply with permit or waiver requirements). So owners and operators need to carefully assess if their operations do, or could, discharge waste to waters of the state and ensure they are complying with applicable laws and requirements.

For information on requirements and considerations in assessing whether operations or activities cause or have the potential to cause waste discharges, go to: http://www.waterboards.ca.gov/centralvalley/programs/irrigated_lands/irr-lands-disch-fact-sheet.pdf

For more information on the Irrigated Lands Program and frequently asked questions, go to: http://www.waterboards.ca.gov/centralvalley/programs/irrigated_lands/irrigated_lands_faq.html

Send your questions for "Ask the Waterboard" to pklassen@unwiredbb.com.

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