

# San Joaquin County & Delta Water Quality Coalition

## Watershed News

Volume I, Issue I

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### *Water Quality Management Objectives*

- Identify sources of constituents at monitoring sites
- Inform landowners of results of monitoring
- Gather information on management practices
- Provide landowners with additional management practices to improve water quality
- Evaluate Management Practices
- Provide information on water quality issues & solutions for improving water quality

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## Fees and Costs of the Coalition

Yes, here we go again, increasing the Coalition fees. But it was not done without much consternation, debate, angst and cause. The Resource Conservation District's Board looked long and hard at the budget, income and increasing expenses of operating the Coalition and decided a fee increase was warranted.

Several factors led to the increase in expenses for the coalition. One, which is at this time uncertain, is the expected increase from the California State Water Board. Rumors and speculation have it that the State Board will raise the fees by 30 cent per acre for the 2008-2009 year. With the current state budget crisis, it is very likely some in-

crease will occur, but we will not know until July.

Representatives of the Coalition continue to talk with state lawmakers urging them to continue to use general fund monies to fund the Irrigated Lands Regulatory Program. These general fund monies help keep the fees lower than if the program was totally fee based like some of the other water quality programs.

The increase to \$2.25 per acre will also help offset some of the increase in operational expenses. Our costs of monitoring have risen in the past year. We are working hard to keep the costs of monitoring down, but there are minimum requirements required by the Regional Water Quality Control

Board we must meet. The writing and implementing of management plans for all of the 15 watersheds has also increased our costs due to increased monitoring and reports to the Regional Board.

The one thing that will **decrease** our costs that everyone can help contribute to: No more exceedances of water quality standards. If we can prevent water quality exceedances, we can reduce our testing, and the need for writing and implementing management plans. So as growers, we must ask ourselves do we want to keep paying rising Coalition fees, or maybe use that money to improve our own operations as well as improving water quality.

## Agricultural Runoff Contains Pesticide Residue

By Terry Prichard  
UC Water Management Specialist

All who farm agricultural lands have been under a requirement not to pollute surface waters since state (1969) and federal (1972) laws were passed. Over the last few years, the state and regional

water quality control boards have been charged with enforcing these non-point pollution laws.

Complying with these laws requires that growers not only comply with the label requirements but to ensure residues do not leave the field and be

discharged to a surface water body. How does one determine if runoff contains residues at levels that exceed the established water quality standards? Measurement of residue concentrations is expensive and therefore

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# Ag Runoff- What we are finding

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not something which is commonly performed by an individual grower. The typical way growers find that water quality standards were exceeded is when the coalition's monitoring sites on waterways in the coalition area were exceeded. Growers who farm in the sub-watershed in which the exceedance occurred are notified as to date and the chemical residue found. Pesticide Use Reports in the drainage area are reviewed for applications during the time preceding the exceedance. The growers who have made applications are contacted to review application and discharge practices to determine the cause and potential management prac-

tices to prevent any new exceedances.

If I apply a pesticide at a label rate and wait for any irrigation time restriction, are there any chances of residues discharged in my runoff waters? Let's look at two recent examples of application and runoff measurement.

Measurements of runoff water from alfalfa were made in the 2007 irrigation season 24-hours after a 1 pint per acre chlorpyrifos (Lorsban or Lock-on) application. The alfalfa re-growth was about 12 inches tall. The border-check irrigation system runoff produced a relatively constant level of 9 parts per billion for then entire runoff period. The water quality standard for chlorpyrifos

is 0.015 parts per billion. The runoff concentration far exceeded the standard.

Measurements of runoff water from an orchard dormant spray application of 3 pints per acre were made in December of 2007, 2 days after application. An average of 5 ppb diazinon residues were found in the 3 hours of runoff. The water quality standard for Diazinon is 0.1 ppb. The runoff concentration far exceeded the standard.

From these two examples, one can see that additional management practices are necessary to prevent exceedances in the water quality standards.

## Management Practices Can Reduce Water Quality Exceedances

By Terry Prichard  
UC Water Management Specialist

A successful management practice must be cost effective, implementable, and lastly, be effective in reducing residues in runoff waters. The implementation of a specific management practice is not universally applicable to reducing residues discharged. This is because of the variables involved with a specific crop, field condition (soil slope and irrigation system—to name a few) and level of management. Growers need a palate of possible practices

which can be selected and implemented singly or in combination to reduce the risk of residue runoff. Few practices are capable of reducing residues to water standard levels all of the time. Some can be 40-60 % successful; when combining practices together, near complete control can be possible.

The San Joaquin County and Delta Water Quality Coalition has obtained a grant from the Regional Water Quality Control Board to identify, implement, and evaluate management practices to reduce

residues contained in runoff waters. The emphasis will be on practices to control residues of chemical applications which have had multiple or continuing exceedances at the coalitions water sampling locations. A few of the projects that have been completed or will be conducted this spring include:

### **Simazine and Diuron Applications for Dormant Weed Control**

The presence of a planted cover crop, light disking after harvest and no action was compared as to the

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## Dairies, Do you need to Belong to the Coalition?

This is a questions we are continually asked by dairyman. Here is our assessment of the two programs (the Irrigated Lands Regulatory Program and the Existing Milk Cow Dairy Order) and how they interact.

The Dairy program was mainly es-

tablished to enforce standards for the release of waste water containing manure, and manage those wastes associated with the confined animal operation. It concentrates on manure and nitrates from the manure and the proper handling and application of the manure.

Currently, our understanding of the program is that any acreage owned and/or operated by the dairyman that receives liquid manure or liquid dairy waste as well as dry waste must be under the dairy program.

The Irrigated Lands Regulatory

# The POD, Pelagic Organism Decline

What is POD and how does it effect you? Well, the POD is an acronym for Pelagic Organism Decline in the delta. What is a Pelagic Organism and which one is everyone concerned about? The main organisms of concern are the delta smelt, striped bass, longfin smelt, and threadfin shad. These species declined sharply in 2000 and have been at record low numbers from 2002 through 2006.

Several studies have been and are being conducted to determine the cause of the decline. Yet, as of now, not one cause can be related back to the decline. Several theories have stated that export pumping, invasive species and pesticides have led to the decline, but none have been scientifically proven.

You may be wondering how does this effect you and the Irrigated Lands Regulatory Program (ILRP). Well, due to the fact the ILRP is responsible for monitoring pesticide run off, the Regional Board is taking a hard look at those things from agriculture that might be contributing to the POD. The main focus over the past several months has been on pyrethroids.

Pyrethroids are considered to be highly toxic to pelagic organisms. The Regional Board has initiated several studies on pyrethroids to determine if the constituent is contributing to the decline.

The Coalition has stated its con-

cerns about the studies and the limitations of the studies. Our major concern is that incomplete and manufactured evidence may prematurely point to agriculture and the use of crop protection tools as the cause for the decline. We want accurate and fully peer reviewed science before jumping to conclusions. Studies that base themselves on a predetermined outcome are not useful and do not prove anything.

Peer reviewed science is the key to any policy decisions to be made by the Regional Board. The coalition will continue to follow this issue and represent its members at the meetings and discussions with the Regional Board.

## 2007 Monitoring efforts, Constituents Found

Below is a list of watersheds and those pesticides that were found in the waterways **above allowable levels in 2007**. These samples taken by your Coalition helps us determine areas that agriculture needs to improve by preventing pesticide runoff into the waterways. Please see if you are within the watershed area, and take note of any management practices that you

could implement to prevent these water quality issues. **It is important that agriculture and the Coalition shows improvement in water quality to prevent further regulations and enforcement actions by the Regional Water Quality Control Board.**

*East of Highway 99*  
**Duck Creek**

Chlorpyrifos (Lorsban), Diazinon  
**French Camp Slough**  
Chlorpyrifos (Lorsban), Diazinon, Copper, Dieldrin, Methidathion (Supercide), Thiobencarb (Bolero)  
**Mormon Slough**  
Chlorpyrifos (Lorsban)  
**Littlejohns Creek**  
Chlorpyrifos (Lorsban), Diazinon, Copper

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## Dairies in the ILP (continued from page 2)

Program (ILRP) tests for pesticides, metals and other constituents. The goal of the program is to improve water quality by managing the farming inputs correctly.

So do dairies have to belong to both programs? The answer is yes and no. Of course all Dairies must participate in the Dairy Program and any lands they have that receive dairy waste must be under their dairy permit. However, if there are

irrigated lands that do not receive waste AND are not under the dairy permit, they would be required to be in the ILRP.

Some dairies belong to both programs. Why? Because they get coverage for their dairy waste under the dairy program, and their farming operations are covered by the coalitions testing and monitoring. The testing the Coalition does covers farming inputs which the dairy

program does not cover. Some operators think sooner or later the Regional Board may expand the tests the dairies are required to do to include farming inputs. These tests can be very expensive on an individual basis. However, if the land is covered under the ILRP program, then the dairy would not have to expand the testing regiment to the farming input constituents. Please contact us if you have any question or concerns.

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***Who Manages the Coalition?***

The San Joaquin County Resource Conservation District meets monthly to oversee the operations of the Coalition. John Brodie, Jr. is Financial Officer of the Coalition and carries out the operational directions from the SJCRCD. Dr. Michael Johnson is the Program Manager who coordinates the collection and testing of water samples, reports test results to the Regional Board, conducts area mapping, develops management plans & data collection, and submits annual reports to the Regional Board. Mike Wackman serves as our public policy advocate, director of communications and Regional Board liaison. Ruth Mulrooney is in charge of the membership, accounting and is our office administrator.

**Management Practices (Continued from page 2)**

volume of runoff due to rain and the concentration of applied chemicals in the runoff. The purpose was to determine the extent of the problem and possible management practices, costs and effectiveness.

**Drift of Organic Phosphate Insecticides into Controlled Surface Water Drainage Ditches**

OP residues in controlled ditches will be treated with a degradation enzyme (Landguard OP-A) which has been shown to quickly degrade the residue into non-toxic compounds before releasing the drainage waters.

**Discharge of Alfalfa Runoff Containing Organic Phosphate Residues into Surface Waters**

Evaluate the use of Landguard OP-A (described above) treating the runoff before discharge. Also, evaluate the size required, effectiveness and costs of installing and operating a tail-water recirculation pond.

**Discharge of Runoff in Tomatoes Which May Contain Copper Bactericide Residues**

Compare efficacy of broadcast vs. banding of copper products in control of bacterial speck. Efficacy of materials not containing copper will also be evaluated.

**Movement of chlorpyrifos in runoff waters in furrow irrigated corn**

A bed application would be evaluated as to the risk of residue in runoff waters in the first two crop irrigations. Alternatives to OP insecticides will be also be evaluated.

**2007 Monitoring and Need for Management Practices (continued from page 3)**

**Lone Tree Creek near Jack Tone Road**

Chlorpyrifos (Lorsban), Diazinon, Copper, Simazine, Thiobencarb (Bolero)

**Drain to Lone Tree Creek (area between Lone Tree Creek and Littlejohns creek on the east side of Jack Tone Road)**

Chlorpyrifos (Lorsban), Diuron, Methidathion (Supercide), Simazine

**Mokelumne River**

Copper

***West of Highway 99***

**Grant Line Canal @ Clifton Court Road**

Chlorpyrifos (Lorsban), Carbofuron (Furadan), Copper

**Grant Line Canal Near Calpack Road**

Disulfoton (Disyton)

**Roberts Island Drain along House Road**

Cypermethrin (Ammo, Cynoff, Demon, Cymbush)

**Terminous Tract Drain**

Malathion

***Common Sense Management Practices to prevent pesticides from entering into the waterways:***

- Do not spray over waterways, open drains or irrigation ditches
- Make sure all workers are trained in proper use of the equipment, i.e. turning off the spray rig when making turns at the end of the field
- Prevent drift, do not spray in windy conditions.
- Do not irrigate immediately after applications.
- Prevent sediment from running into water ways by holding the water on your farm or by using return systems or cover and buffer vegetation.

***Specific Management practices for specific materials:***

**Chlorpyrifos (Lorsban)**- This material is very soluble in water therefore moves readily off the field. Field test has detected this product in run off from a field for up to 30 day later.

- After applying, wait at least a week before irrigating or longer if possible.
- Use a return system to prevent water from leaving your property.
- Do not drain runoff irrigation water directly into waterways.
- Plant cover crops to hold sediment and water on the field during storm events

**Diazinon** – The use of cover crops and vegetative buffers has proven to reduce the run off of dominant sprayed Diazinon.

More information go to:  
[www.sjdeltawatershed.org](http://www.sjdeltawatershed.org),  
[www.cures.org](http://www.cures.org),  
[www.imp.ucdavis.edu](http://www.imp.ucdavis.edu).