



Irrigated Lands Waiver

Yolo County Farm Bureau Education Corporation

Subwatershed Program

info@yolofarmbureau.org

530.662.6316 office

www.yolofarmbureau.org

530.662.8611 fax

Volume 2, Issue 4

Growers Assessed Monetary Penalties - Enforcement Stepped Up in Central Valley Water Board's Irrigated Lands Regulatory Program

Contact: Kenneth D. Landau, Assistant Executive Officer

The Central Valley Regional Water Quality Control Board (Regional Water Board) has increased its efforts to enforce its Irrigated Lands Regulatory Program (ILRP), which regulates approximately 5 million acres of commercial irrigated agriculture from the Oregon border to portions of Los Angeles County.

"We're pleased with the positive results of added enforcement in our Irrigated Lands Regulatory Program," said Kenneth D. Landau, Assistant Executive Officer of the Regional Water Board. "We have a lot of acres to cover and extra attention to this program has resulted in compliance with the law, helping to protect the state's waterways."

The ILRP regulates irrigation and stormwater flowing from irrigated agricultural lands into surface waters such as drainage ditches, streams and rivers. The streams are monitored, pollutants identified, and corrective action plans developed and implemented. Follow up monitoring determines the effectiveness of the corrective actions.

In September 2007 the Regional Water Board issued five first-of-their-kind Administrative Civil Liability (ACL) complaints to landowners in Colusa, Glenn, Sutter and Merced counties with penalties of \$3,000. The ACLs were issued to growers failing to submit required information on agricultural operations on their properties.

More than 1,400 enforcement orders have been issued to non-participating landowners with operations likely to have runoff requiring coverage under the Irrigated Lands Conditional Waiver (Waiver) or a permit. The enforcement orders require information with which the Regional Water Board can determine whether the farmer has violated the California

Water Code by not obtaining coverage under the Waiver or an individual permit. Individuals failing to submit the single-page report required by the orders were sent Notices of Violation (NOV). Individuals that fail to respond to NOVs are issued ACL complaints.

In addition to evaluating program participation, the Water Board is evaluating the compliance of growers that are covered by the Waiver. Forty-eight management plans are being developed by agricultural coalition groups to address documented water quality problems in the Central Valley. The Waiver requires these plans when water quality standards are exceeded. They include more intensive water quality monitoring and growers are required to implement management practices to address the water quality problems they may contribute to in their watersheds. Those that fail to will be subject to enforcement by the Water Board.

"We anticipate that more Water Board orders and ACL complaints will be issued in 2008, and more management plans will also be developed and implemented," said Landau. "Our mission is to commit our resources to improving water quality in the most effective manner possible."

As part of its plan to increase enforcement, the Water Board will increase its field presence and enforcement against unauthorized discharges that impact water quality in the Central Valley. Enforcement efforts across the program will be increased in the coming year to ensure that commercial irrigated agricultural operations do what is needed to protect water quality.

Management Plans

Will you be affected by Management Plan requirements? The simple answer, most likely.

Under the Irrigated Lands Regulatory Program's Monitoring and Reporting Program (MRP), Management Plans are required when more than one exceedance of the same constituent has occurred at a given site within a period of three years. However, the Regional Water Quality Control Board's (Regional Water Board) Executive Officer can require a written Management Plan for even a single exceedance of any constituent at any time. Management Plans may also be required when monitoring results from any other Regional Water Board program indicates exceedances.

Management Plans must begin with the identification of any general land-use type, such as agriculture, urban, forestry or other use that may be a probable source of the pollutant. If agriculture can be a source, in whole or in part, then further development of the Management Plan is required.

The Sacramento Valley Water Quality Coalition is working on a Management Plan to address:

- Pesticides: registered and legacy organochlorine
- Toxicity: water and sediment
- Field Parameters: pH, dissolved oxygen
- Pathogen Indicators: E. coli
- Salinity: conductivity and total dissolved solids

Constituents will be prioritized based on their potential to impact agriculture, the environment and human health.

The Coalition's Management Plan approach will include the following elements, consistent with guidance proposed in the Monitoring and Reporting Program Plan approved by the Regional Water Board on January 25, 2008:

- Strategy for identification of potential sources of the observed exceedances
- Process to identify potential additional Management Practices to be implemented to address the exceedances (such steps may involve conducting management practices workshops and/or developing a management practices worksheet questionnaire to determine the management practices being used in the identified areas)
- Management Practices implementation schedule
- Management Plan completion criteria and performance goals
- Monitoring strategy and schedule
- Identification of the participants that will implement the Management Plan
- Schedule and process for reporting the results of Management Plan actions to Water Board staff

What can you do to help the Coalition solve water quality problems?

If you are a member of the Sacramento Valley Water Quality Coalition through one of its ten subwatersheds, attend your local subwatershed group meetings, fill out and return surveys upon request, follow labels, do not spray pesticides near waterways including ditches and canals, and store manure away from waterways.

Regional Board Approves New Guidelines

So What Does This Mean For You?

On January 25, the Central Valley Regional Water Quality Control Board (Regional Water Board) approved the Monitoring and Reporting Program (MRP) guidelines for Coalitions to follow when complying with the Irrigated Lands Regulatory Program (ILRP). Regional Board staff, Coalition groups, laboratories, consultants and several universities worked for over two years to develop scientifically sound guidelines for the Coalitions to follow. The new guidelines allow Coalitions to develop monitoring strategies to better suit each area and move away from a one size fits all monitoring program. The new MRP guidelines will not be implemented by the Coalition until the 2008-2009 storm season.

Top 5 Changes You Care About The Most & Why:

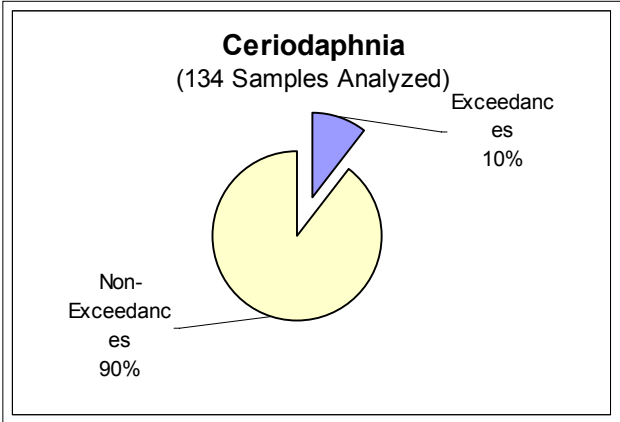
	NEW MRP	OLD MRP	WHY?
1	<p>Program flexibility.</p> <p>Coalitions have the <u>opportunity</u> to provide technical and scientific justification for deviations from the monitoring approach outlined in the MRP.</p> <p>These changes could include site-specific changes to required frequency of monitoring and the constituents monitored.</p>	<p>Little to no ability to vary the monitoring program.</p>	<p>Need for valuable data (quality not quantity). Coalitions will be able to spend more money on solving problems rather than spending money on testing for constituents that they know are not problems.</p>
2	<p>One Annual Report and three quarterly data submittals.</p>	<p>Two Semi-Annual Reports.</p>	<p>More cost effective. Ensure Regional Board can respond in a timelier manner.</p>
3	<p>Only Exceedance Reports, follow-up will be described in the Annual Report.</p>	<p>Both Exceedance Reports and follow-up Communication Reports.</p>	<p>Cost effective and avoids redundancy.</p>
4	<p>Framework of alternating Assessment Monitoring¹ and Core Monitoring² with reduced parameters, and exceedances addressed primarily through the Management Plan process.</p>	<p>Poorly designed phased approach to Assessment Monitoring with no clear objectives or criteria for completion.</p>	<p>More clearly structured and potentially more cost effective. Also, see number 1 above.</p>
5	<p>Two options for Surface Water Ambient Monitoring Program (SWAMP) data reporting.</p>	<p>Not required and data reporting formats were not specified.</p>	<p>Increased reliability of the ILRP data managed and used by the Regional Water Board. Increased data management and reporting cost and requirements for the Coalition.</p>

¹ Assessment Monitoring (Year 1) involves monthly sampling for 12 consecutive months and involves a broad suite of constituents of concern intended to assess water quality conditions. Assessment Monitoring will be reinitiated at Year 4 unless scientifically or technically supportable alternatives are approved by the Regional Water Board.

² Core Monitoring (Years 2 and 3) includes monthly sampling for 24 consecutive months and involves a reduced suite of indicator measurements based on findings from the Assessment Monitoring. Other constituents may be added. The purpose of Core Monitoring is to evaluate trends; changes in water quality over time.

2007

TOXICITY



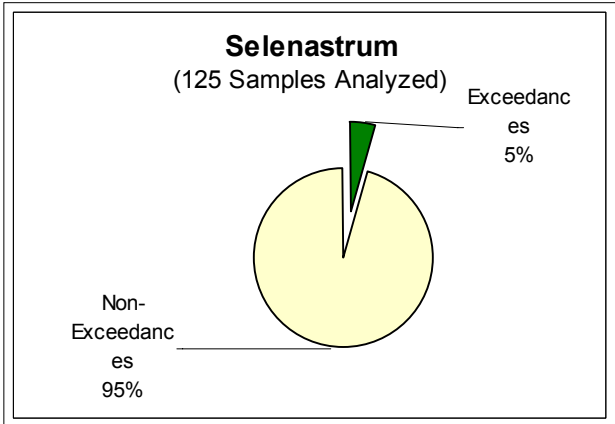
Ceriodaphnia (water flea): Although many potential sources, common causes of toxicity to water fleas are insecticides.

The Coalition is required to monitor for 34 insecticides, although more are captured in the lab scans. Some of the insecticides are legacy pesticides (products have been banned) such as DDT, DDE, DDD, Dieldrin and Endrin.

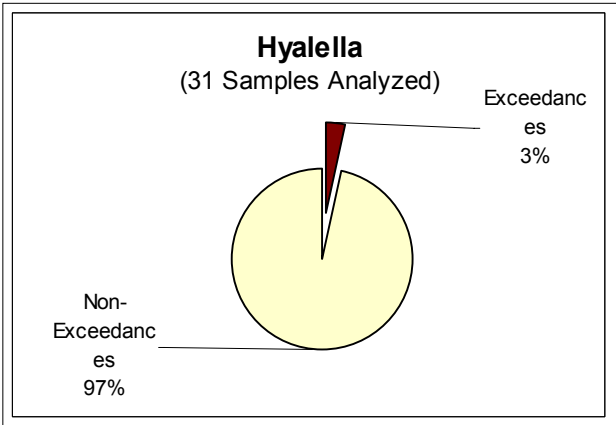
Selenastrum (green algae): Although many potential sources, common causes of toxicity to green algae included high levels of herbicides or copper.

The Coalition monitored for 10 herbicides in 2007: *atrazine, cyanazine, diuron, glyphosate, linuron, molinate, paraquat, simazine, thiobencarb.*

There was only one copper exceedance in 2007 and it was not associated with any Selenastrum toxicity.



Hyalella (sediment toxicity): The most common cause of sediment toxicity is pyrethroid insecticides. These insecticides have the characteristic of attaching to soil particles, which are transported from a treated field by irrigation drainage or storm runoff into a local waterway. Runoff from urban or industrial areas where pyrethroids are applied could also be a source.

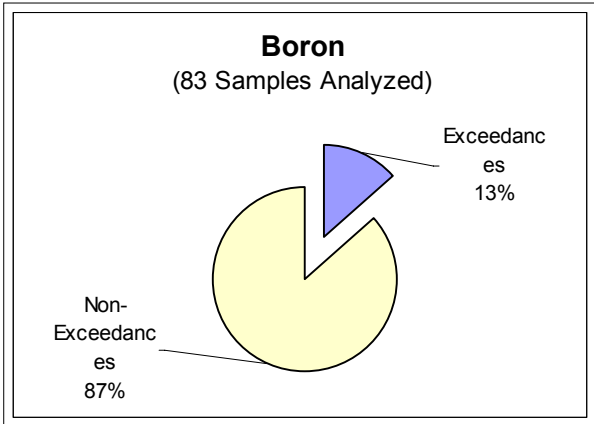


Tools available to assist you: Should you use pyrethroid products, it is important to follow the practices outlined for irrigation drainage or storm runoff. You can also find information on best management practices (BMP) for irrigated crops at www.svwqc.org or www.curesworks.org.



2007

METALS

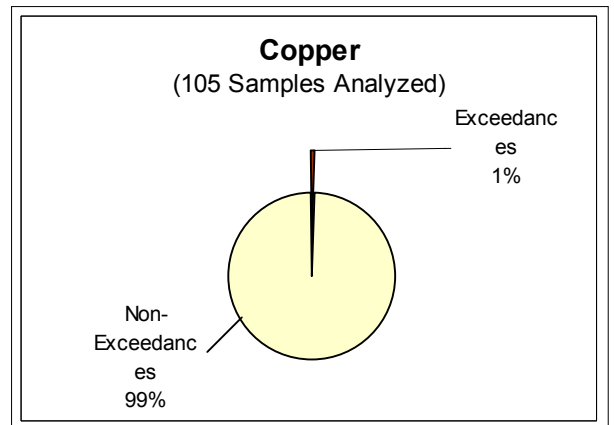


Boron is an essential plant nutrient, although too much boron may also be toxic to plants. Surface water rarely contains enough boron to be toxic, but well water or springs occasionally contain toxic amounts, especially near geothermal areas and earthquake faults. Boron toxicity can affect nearly all crops but, like salinity, there is a wide range of tolerance among crops.

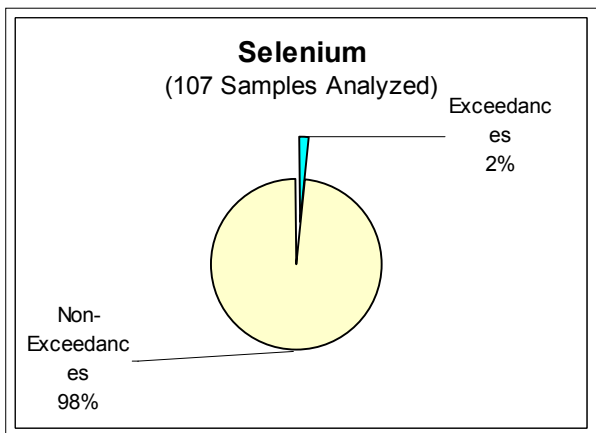
The Coalition has only seen exceedances of boron in Solano and Yolo Counties.

Copper, at elevated levels, is toxic in aquatic species. Acute toxic effects may include mortality of organisms; chronic toxicity can result in reductions in survival, reproduction, and growth.

Some examples of how copper may be released into the environment are through copper mining activities, agricultural activities (e.g., through its use as a mildewicide, fungicide, and/or algaecide), and manufacturing activities (e.g., manufacturing of leather and leather products, fabricated metal products, electrical equipment, and automobile brake pads). Copper may also enter the environment through natural processes, such as volcanic eruptions, windblown dusts, decaying vegetation, and forest fires. Additionally, copper is found in most municipal effluents due to the corrosion of copper plumbing.



The Coalition only observed one copper exceedance in 2007; the sample was taken from Coon Creek in Placer County.



Selenium is a naturally occurring element that is nutritionally essential, but when concentrations are excessive it can be toxic to aquatic life. It is also toxic to cormorants and other birds that consume aquatic organisms containing excessive levels of selenium.

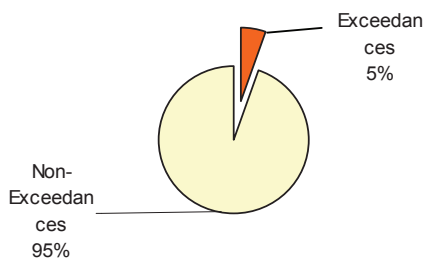
Being a natural element, selenium can be found throughout the environment. Toxic levels of selenium in water bodies have mostly been related to irrigation of western soils that are naturally high in selenium, petroleum refinery effluents, and runoff or discharges from certain mining activities.

The Coalition has only observed two selenium exceedances in 2007, both in Shag Slough in Solano/Yolo Counties.

2007

PESTICIDES

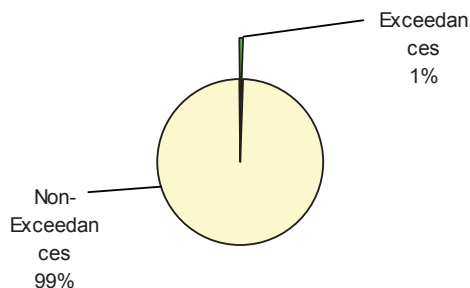
Chlorpyrifos
(133 Samples Analyzed)



Chlorpyrifos (Lorsban, Lock-On, Governor) is an insecticide used in alfalfa, walnuts, almonds and other crops. The product is very soluble in water and can be transported from a treated field in either irrigation water or storm water runoff or by spray drift from an application near water.

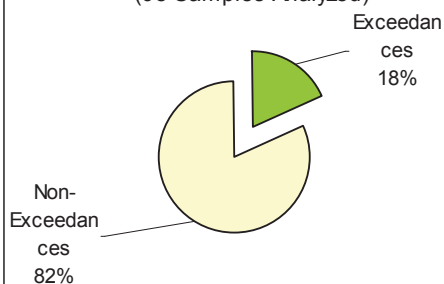
Diazinon is the common name of an organophosphorus pesticide used to control pest insects in soil, on ornamental plants, and on fruit and vegetable field crops. Diazinon insecticides have been the standard practice for years to protect orchards from numerous overwintering pests. However, periods of heavy winter rainfall soon after dormant spray applications can potentially transport diazinon off-site to nearby streams and rivers, posing a risk to aquatic organisms.

Diazinon
(133 Samples Analyzed)



Tools available to assist you: In an effort to protect aquatic species and mitigate off-site movement, diazinon registrants have developed a series of management practices for use during dormant spray applications. You can find information on Diazinon best management practices (BMPs) at <http://www.curesworks.org/publications/diazinon.asp>. The practices outlined in this publication are intended for use in counties and portions of counties located in the Sacramento and San Joaquin valleys below 1,000 feet elevation.

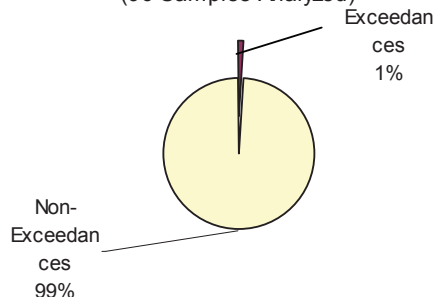
DD's
(98 Samples Analyzed)



DDT was a commonly used pesticide, until banned in 1972. Although it is no longer used or produced in the United States, we continue to find DDT and its break-down products DDE and DDD in our environment. DDT can take more than 50 years to break down.

Sources may include atmospheric deposition, soil and sediment runoff and improper use and disposal. Because DDT is still found in some waterways throughout the country, fish consumption advisories are still in effect in several areas.

Carbofuran
(96 Samples Analyzed)



What can do to help? Reduce the amount of sediment movement that moves off your land and into waterways.

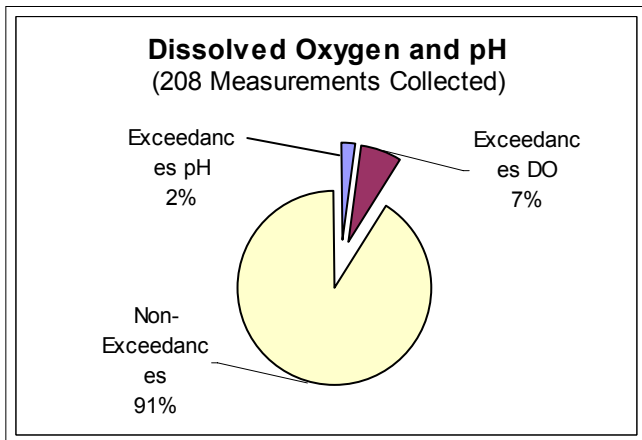
Carbofuran is one of the most toxic carbamate pesticides. It is marketed under the trade names Furadan, Niagara, Brifur, Crisfuran, Chinufur, Yaltox, Pillarfuran, Kenofuran and Curaterr. This broad spectrum insecticide is sprayed directly onto soil and plants just after emergence to control beetles, nematodes and rootworm. The greatest use of carbofuran is on alfalfa and rice. It is also used on turf. Carbofuran enters surface water as a result of runoff from treated fields and enters ground water by leaching of treated crops.

2007

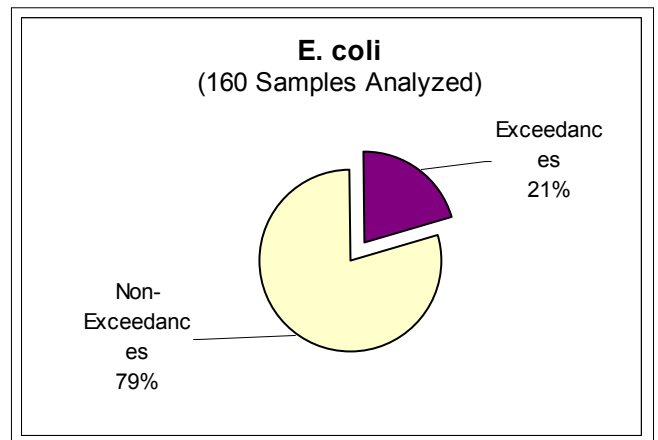
FIELD PARAMETERS AND E. COLI

Causes for the exceedances of State standards for *E. coli*, dissolved oxygen (DO) and pH can be hard to determine. The Sacramento Valley Water Quality Coalition (Coalition) recently completed a source identification study of *E. coli* that left more questions than answers. *E. coli* can originate from numerous sources (manure in runoff water, wildlife, leaking septic systems and other sources). High or low pH or DO levels could have natural causes or be influenced by irrigated agriculture drainage as could high levels of conductivity (EC) and total dissolved solids (TDS). The Coalition will be performing more studies before recommending management practices to address these exceedances.

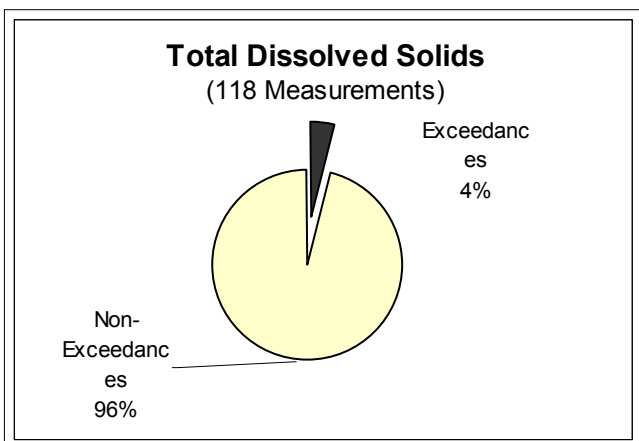
What can you do? The Coalition is currently working with the Central Valley Regional Water Quality Control Board to develop a study that will answer some of the *E. coli* question. Meanwhile, the Coalition encourages anyone applying or storing animal manure to follow best management practices (BMP). BMP information can be found at both <http://www.curesworks.org> and <http://www.svwqc.org>.



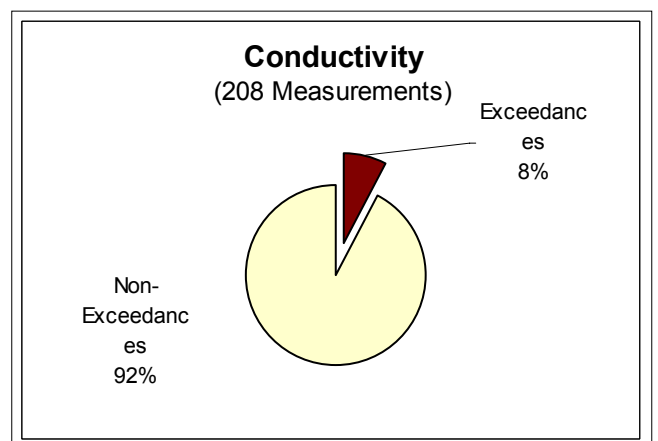
DO is the amount of oxygen available in the water for aquatic life. **pH** is a measure of the acidity or alkalinity. Optimal pH for fish survival is 6.5-8.5.



E. coli is a pathogen indicator and has many sources, as mentioned above.



Elevated **TDS** can result in water having a bitter or salty taste, corroded fixtures and reduced efficiency of water filters. TDS in drinking-water can originate from natural sources, sewage, chemicals used in the water treatment process, stormwater and agricultural runoff, and point/non-



EC estimates the amount of total dissolved salts, or the total amount of dissolved ions in the water. High levels have many sources including natural, waste water from treatment plants, septic, and urban and agricultural runoff.

Subwatershed Program

69 W Kentucky Avenue
P O Box 1556
Woodland CA 95776

NONPROFIT
ORGANIZATION
U.S. POSTAGE
PAID
PERMIT NO. 2
Woodland, CA

Office 530.662.6316
Fax 530.662.8611
Email: denise@yolofarmbureau.org
www.ycfbec.org

Pyrethroid Study Information Below Provided By Regional Water Quality Control Board

“Monitoring conducted by the Interagency Ecological Program has shown declines in the abundance of four pelagic fish species in the upper San Francisco Estuary. Abundance indices for 2002-2004 demonstrate record lows for delta smelt and young-of-year striped bass and near record lows for longfin smelt and threadfin shad. This phenomenon has been dubbed the Delta pelagic organism decline or POD. There are three main hypotheses for the POD: toxics (including pesticides), exotic species and water management operations. Trends in toxics or contaminant loads and their ecosystem level effects are not well understood.

The Central Valley Regional Water Quality Control Board (Central Valley Water Board) requires compliance monitoring and assessment under various programs. In addition, other entities conduct monitoring for a variety of other purposes. As a result, a substantial amount of toxicity testing and chemical contaminant monitoring data from the Delta and major Central Valley rivers has been collected over the last several years. In 2008, these data will be compiled, summarized and analyzed to determine the degree to which toxics could be contributing to the decline of some Delta species. The analysis also will identify data gaps that will need to be filled to better characterize contaminant effects in the Delta.

One gap already identified is the lack of water quality data on drainage discharged by reclamation districts from Delta islands into Delta waterways. The US Geological Survey estimated total discharges from approximately 680,000 acres of Delta islands at 430,000 acre-feet in 1995. This represents a large uncharacterized input to the Delta that has potential to impact water quality and hydrology. The drainage discharged from Delta islands consists of precipitation, levee seepage, irrigation runoff and drainage, and surface water withdrawals for other uses. Although the Water Board’s Irrigated Lands Regulatory Program (ILRP) requires monitoring for agricultural-related drainage on the various islands, it does not require monitoring of all the drainage discharged from islands to Delta waterways.

As part of investigations of stressors contributing to the POD, in winter 2008 the Central Valley Water Board will initiate a monitoring study to characterize potential sources of pyrethroid pesticides to Delta waterways. This project is a screening level assessment funded by the Surface Water Ambient Monitoring Program (SWAMP) and focused on pyrethroid pesticides in source water to the Delta such as effluents from urban stormwater, municipal treatment plants, and agriculture. For our study to be complete we need to be able to characterize pyrethroid pesticide discharges from Delta islands.”