

Pesticides and Surface Water



Parry Klassen

Executive Director



Coalition for Urban/Rural Environmental Stewardship
www.curesworks.org

- Founded 1997
- Non-profit organization:
agricultural, urban
projects
- Promote stewardship,
Best Management
Practices (BMPs)
- www.curesworks.org

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California

FARMER

Apple moth foray spreading see Page 13 | Tejon helps save state condor see Page 24 | Group aims to kill co-ops see Page 28

Water watch

By LEN RICHARDSON

If you have irrigated cropland, chances are you have heard about CURES — the Coalition for Urban and Rural Environmental Stewardship. And you may have heard about the water coalitions formed by CURES so growers can be

Key Points:

- CURES partners to solve water and environmental problems.
- Coalitions formed to comply with Irrigated Lands Program.
- Member acreage jumped to meet board deadline.

Staff

Parry Klassen, *Executive Director*

Jim Markle, *Projects Manager*

Parttime

Tamara Taliaferro, *Projects Coordinator*

Susan Stewart, *Project Specialist*

Rick Sandberg, *Project Technician*

Robert McMurry, *Technician*



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What Does CURES Do?

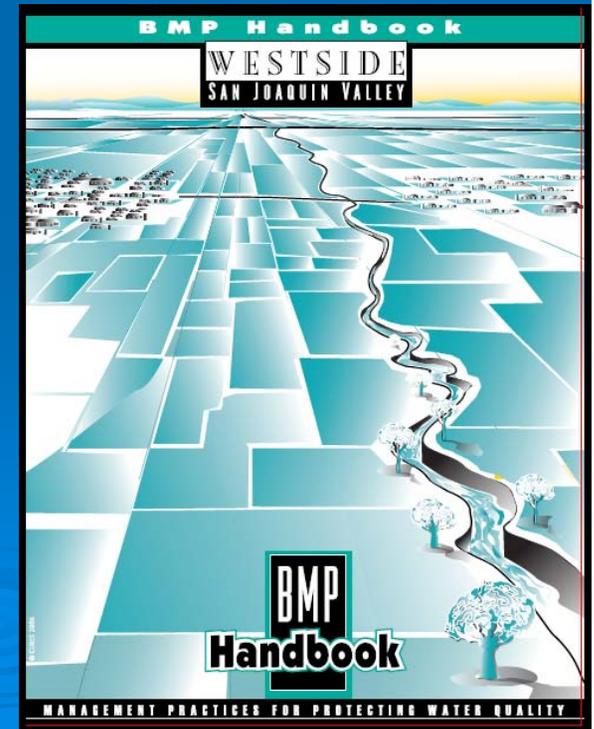
Funding by industry, State Water Board

BMP Technical Brochures

- BMP Handbook
- Watershed Coalition News
- Respiratory Protection Program

Efficiency Studies on Best Management Practices (BMPs)

- Field size sediment ponds
- Constructed wetlands
- Vegetated ditches
- Polyacrylamide (PAM)
- Enzyme Treatments
- Orchard sprayer calibrations



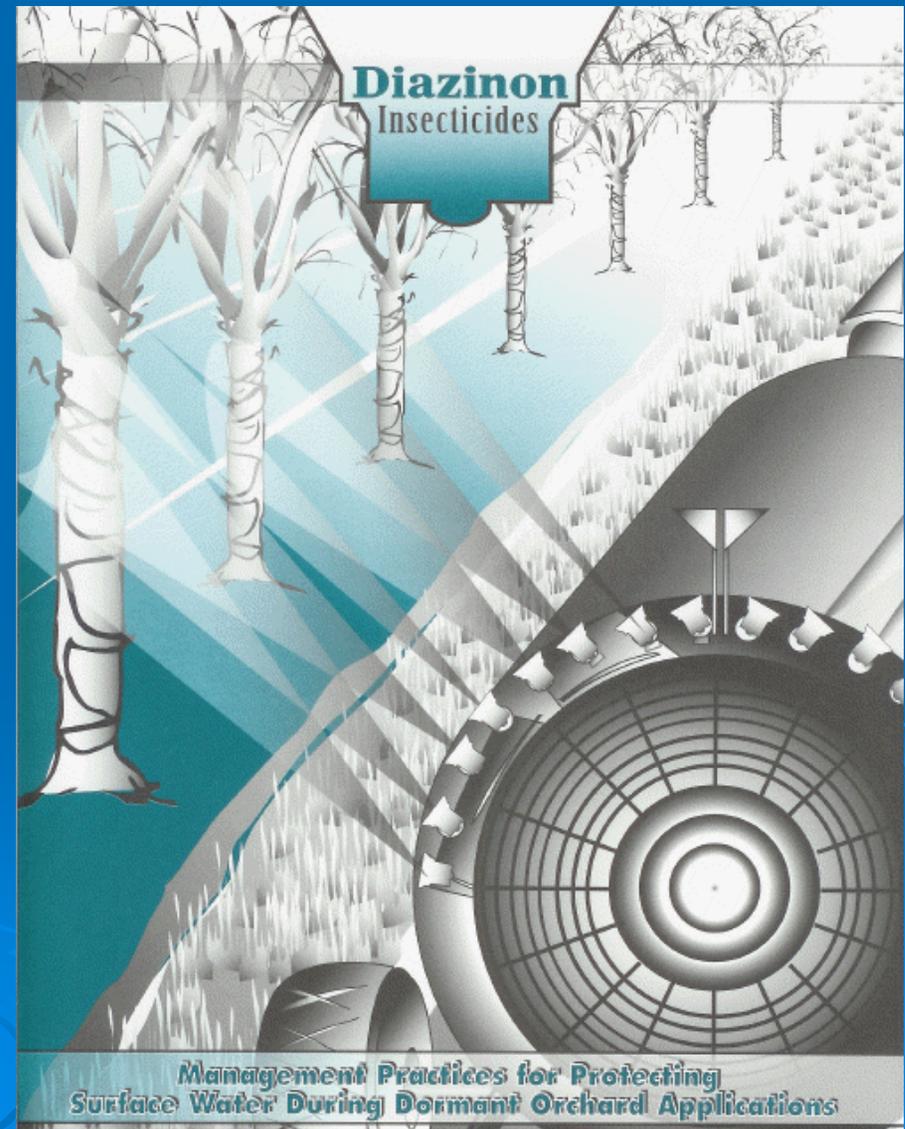
BMP Approach to Stewardship

Beneficial Management Practices

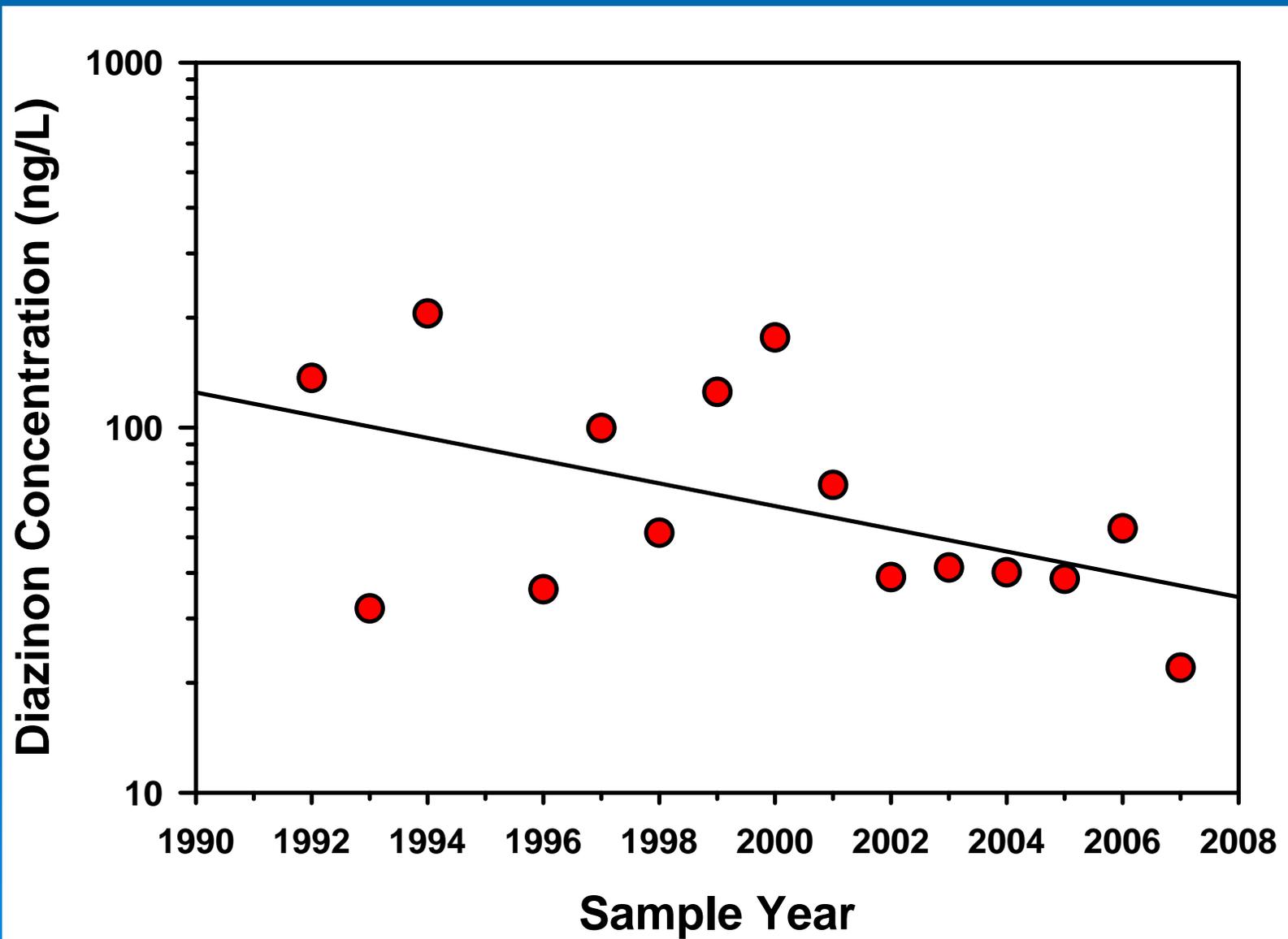
- BMPs can minimize risks to the environment
- Registrants generate extensive product data
 - To support safe and effective use when label directions are followed
- Agriculture has broader “menu” of BMPs
- Urban user BMP information is evolving; not necessarily on labels

Sacramento & Feather River Diazinon TMDL: dormant orchards

- 2002 - Collaborated with Sacramento Valley Water Quality Coalition/registrant
- Registrant developed BMP practices; publication for orchard growers
- Extensive outreach to user community
- CA-DPR adopted “Dormant Spray Regulations” based on label changes
- Last three years met TMDL standard except for one storm exceedance tied to tomatoes



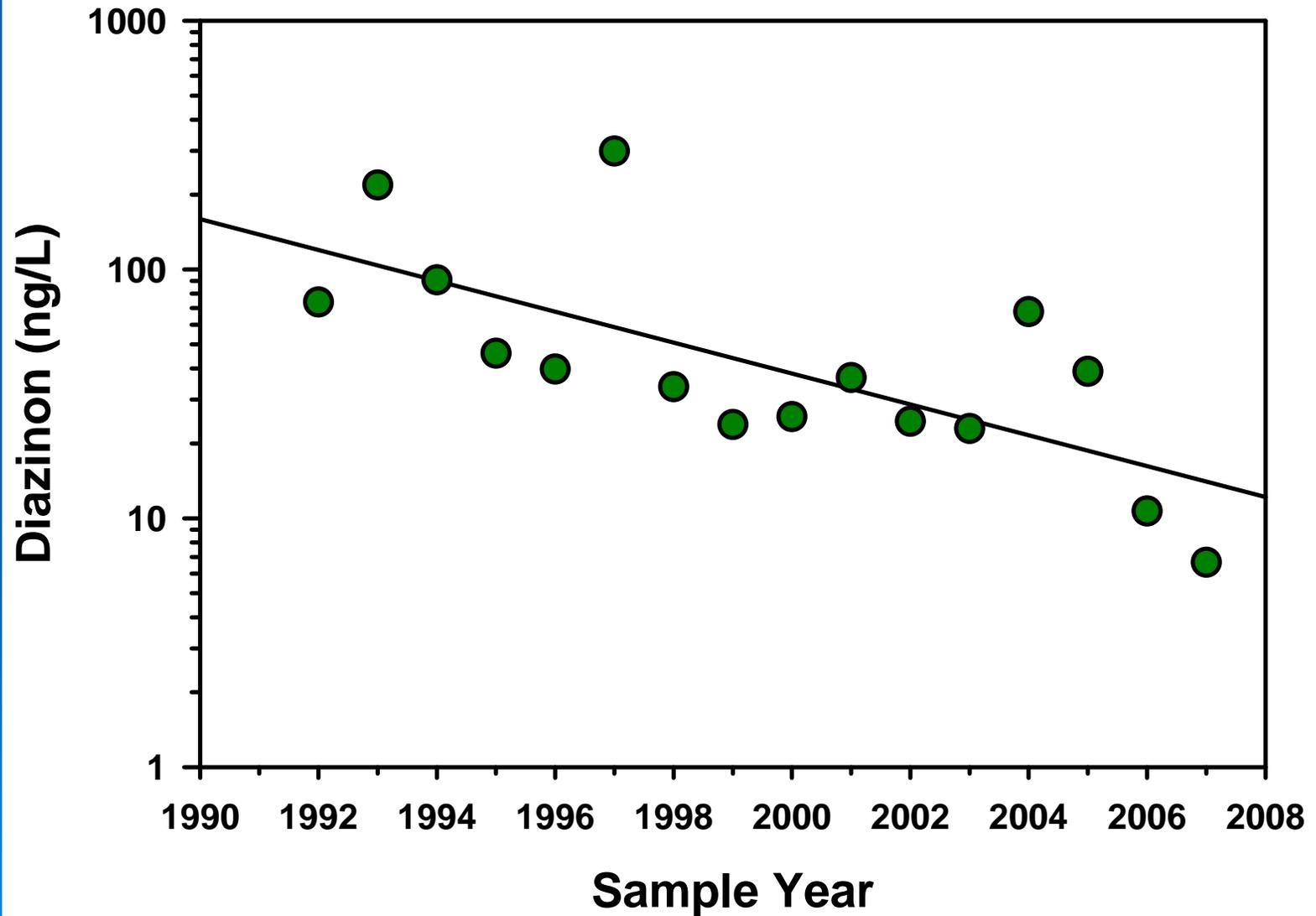
Annual Mean Diazinon Concentrations for All Sacramento River Sites ($r^2=0.250$; $P=0.058$)



DIAZINON USE SACRAMENTO RIVER WATERSHED 2004 - 2006

Year	2004	2005	2006
	Lbs ai	Lbs ai	Lbs ai
<p><u>County:</u> Sutter, Butte, Colusa, Glenn, Sacramento, Shasta, Tehama, Yolo, Yuba</p> <p><u>Crops:</u> Almond Apple Cherry Peach/Nect. Prune/Plum Tomato Walnut</p>			
Total Diazinon	54,561	40,658	44,276

**Annual Mean Diazinon Concentrations for
All San Joaquin River Sites ($r^2=0.487$; $P=0.003$)**



Central Valley Water Quality Coalitions *2003-ongoing*

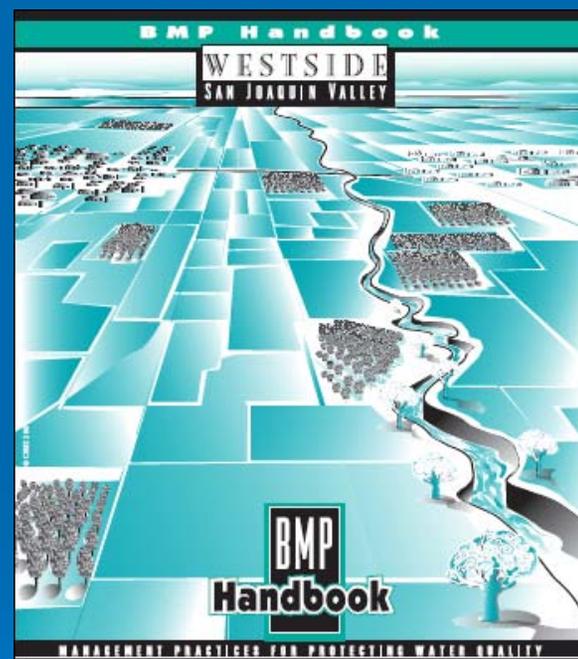
- Farmer/irrigation district coalitions formed in response to Irrigation Lands Regulatory Program
 - Central Valley Regional water Quality Control Board
- CURES supports BMP outreach efforts in regions with documented water quality issues
 - Northern San Joaquin Valley
 - Delta

BMP Technical Bulletins

BMP Handbook

- Information on farming practices such as:

- Sediment basins
- PAM
- Enzyme treatments
- Tailwater return systems
- Vegetative ditches
- Irrigation scheduling



- Summaries of technical reports developed by the California Water Institute, Ducks Unlimited, California Department of Pesticide Regulation and others

Orchard Sprayer Calibration Instrument

(Bought with Water Board grant)

Nozzle Test Stand Vertical Test Stand

Upright panel is vertical test stand that simulates a tree profile. Sprayer is run at operating speed and nozzle discharge is collected by the panel for approx 5 seconds.

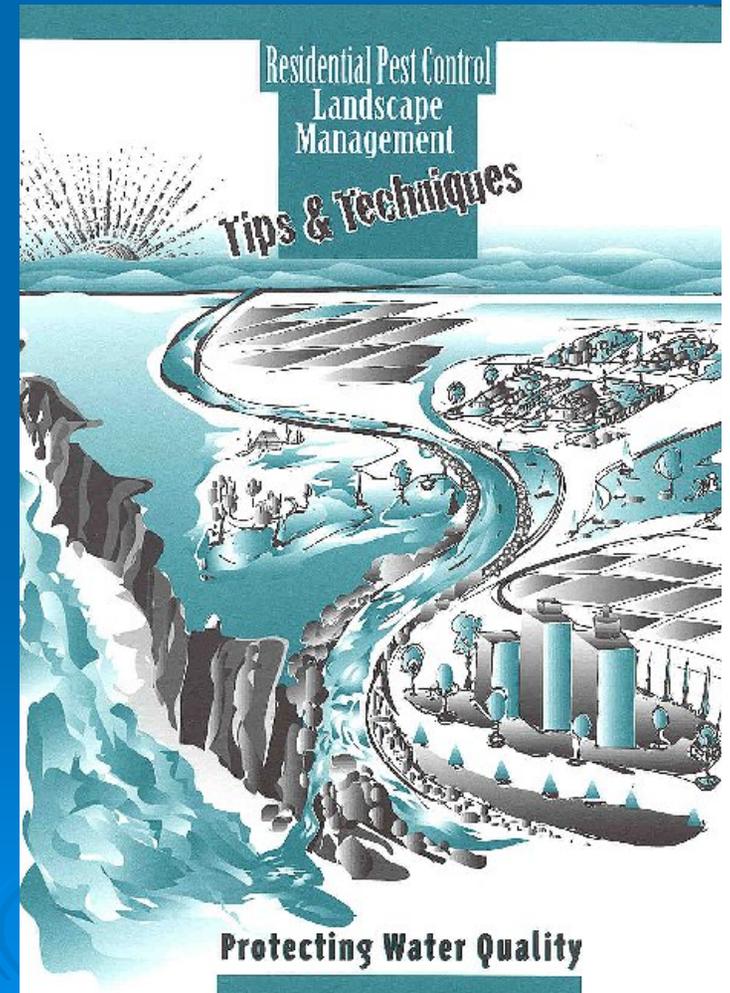
Electronic sensors measure volume collected in each groove which capture spray and funnel into individual beakers. Data is sent to a laptop.



Urban Professional Applicators

Outlines BMPs for urban professional

- *Scout site to ID storm drains, wetlands, streams, and other sensitive areas*
- *Product selection*
 - *ID pests*
 - *ID pest source/location*
 - *Use IPM*
 - *As needed, use pest specific product at source*



CURES Approach

- **Build coalitions to resolve pesticide issues**
 - Bring together best minds, broader interests
 - Too expensive to go it alone

 - **Research coordination for better information development and dissemination**
 - Need to understand a products physical/chemical properties and environmental fate to develop BMPs

 - **Advance stewardship practices**
 - Common sense + science based

 - **Collaborate with key influencers in project development/distribute end product**
 - County Agricultural Commissioners
 - Farm Bureaus
 - Crop protection industry
 - Watershed coalitions
- 

Irrigated Lands Regulatory Program

Program Objectives

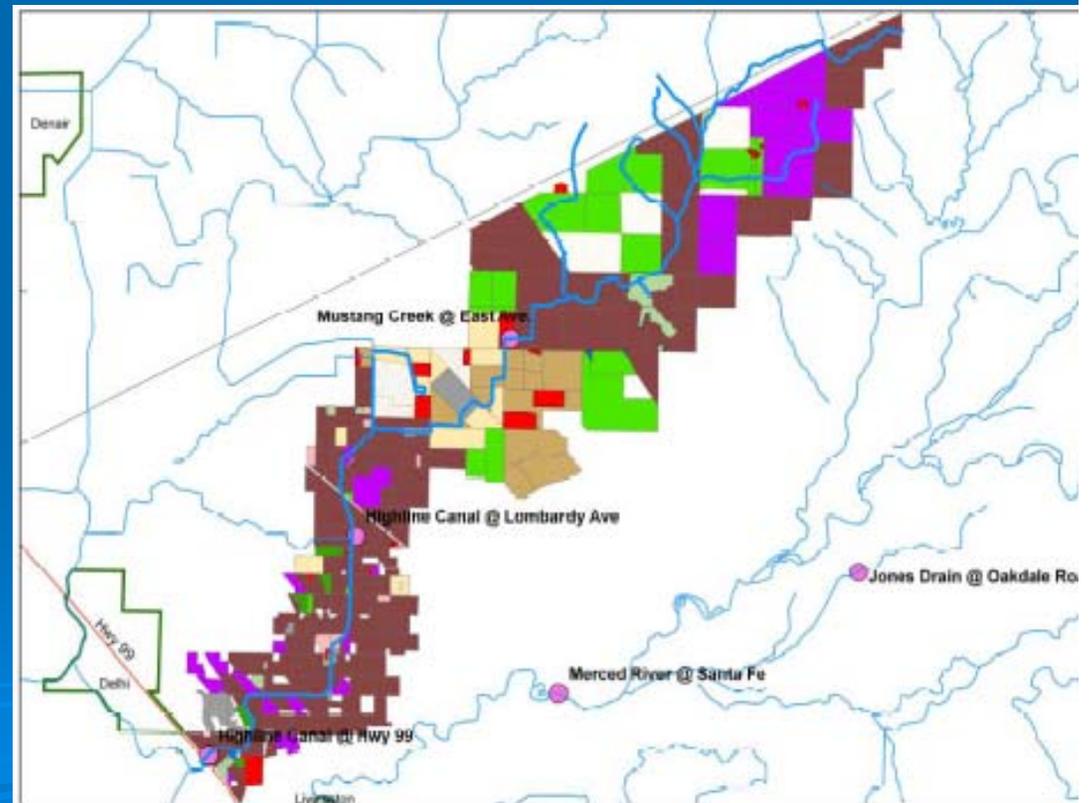
Form Watershed Coalitions to...

- Characterize discharges from irrigated agriculture in the Central Valley
- Identify potential source(s) of water quality exceedances
- Encourage farmers to implement management practices to address water quality problems



Tactical Approach to Solve Problems

- Identify High Risk Fields Through GIS mapping
 - Mapping being performed upstream of each monitoring site
 - Fields bordering waterways
 - Fields that drain into waterways



California Department of Pesticide Regulations
Irrigation Drainage Regulation

CA-DPR draft regulations

- Patterned after “2006 Dormant Spray Regulations”
- Likely include products found in coalition surface water monitoring
 - Insecticides
 - Herbicides
- *Waiting for public draft to be released for comment by industry, other interests*
- *Needs vetting among agriculture, pesticide industry*



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Parry Klassen

Executive Director

559-288-8125

pklassen@unwiredbb.com

"Education For Environmental Responsibility"