



East San Joaquin Water Quality Coalition

Parry Klassen
Executive Director

Merced River

Irrigated Lands Regulatory Program passed July 2003

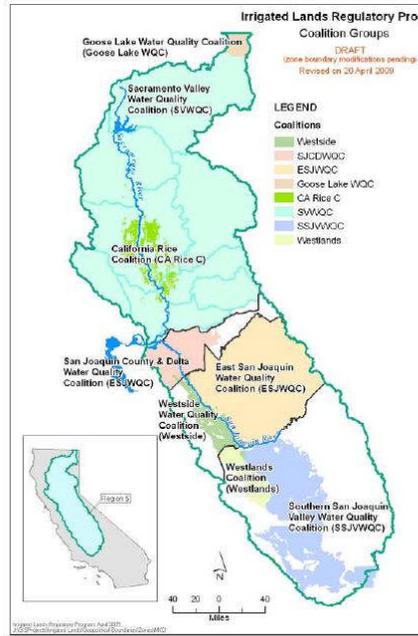
Program Objectives

- Characterize discharge from irrigated agriculture in the Central Valley
- Identify potential source(s) of the exceedances
- Promote to landowners the implementation of management practices to eliminate water quality problems.



Central Valley Coalitions

- **Sacramento Valley Water Quality Coalition**
 - Bruce Houdesheldt
- **California Rice Commission**
 - Tim Johnson
- **Goose Lake Water Quality Coalition**
- **San Joaquin County & Delta Water Quality Coalition**
 - Michael Wackman
- **Westside San Joaquin River Watershed Coalition**
 - Joseph C. McGahan
 - David Cory
- **East San Joaquin Water Quality Coalition**
 - Parry Klassen
 - Wayne Zipser
- **Southern San Joaquin Valley Water Quality Coalition**
 - David Orth
- **Westlands Coalition**
 - Sue Ramos



Coalition Participation and Spending

- 7 million irrigated acres in Central Valley
- 4.8 million acres enrolled in current program
- Coalition spending 2004 – 2010:
 - \$31.8 million**
 - Water/Sediment monitoring
 - Reports to Regional Water Board
 - Member outreach and education
 - Includes 12 cents per acre per year paid to State Water Board

Monitoring/Reporting on par with any State or Federal Program Requirements

- 212 waterways monitored in Central Valley
- More than 244,000 water and sediment analysis performed 2004-2009
- Contract labs must be EPA certified and follow strict QA/QC protocol
 - We want top quality data
- Adjusted/modified monitoring programs based on coordination through a Technical Issues Committee (TIC)
- Coalitions retain nationally recognized scientific expert to advise us
 - Recently performed trend analysis to measure our performance in improving water quality



Coalition Overview

- In operation since 2003
- **2,297 Landowner / operators**
- **540,782 irrigated acres**
 - Madera, Merced, Stanislaus, Tuolumne, Mariposa counties





Board of Directors

Board Officers

- Parry Klassen, Board Chairman
- Wayne Zipser, Vice-Chairman
- Bill McKinney, Treasurer

Coalition for Urban Rural
Environmental Stewardship; fruit grower
Stanislaus Co. Farm Bureau; almond grower
almond grower

Board Members

- Amanda Carvajal
- John Eisenhut
- Brian Franzia
- Richard Gemperle
- Anja K. Raudabaugh
- Alan Reynolds
- Albert Rossini
- Jim Wagner
- Mike Neimi

Merced Co. Farm Bureau
Hilltop Ranch, almond grower
West Coast Vineyards
Gemperle Enterprises, almond grower
Madera Co. Farm Bureau
Gallo Vineyards, Inc.
Rossini Ag, grape grower
Wilbur Ellis Co.
Turlock Irrigation District

Non-voting

- Gary Caseri
- David Robinson
- Bob Rolan
- Dianna Waller
- Dennis Wescot

Stanislaus County Agricultural Commissioner
Merced County Agricultural Commissioner
Madera County Agricultural Commissioner
Natural Resources Conservation Service
San Joaquin River Group Authority

Monitoring Program Requirements (Requires approved QAPP)

Water Column Toxicity

Water flea (*c. dubia*)
BG Algae
Fathead minnow

Sediment Toxicity

Hyallolella azteca
***Sediment chemistry**

➤ Pesticides

- Organochlorines, carbamates, organophosphates, pyrethroids, herbicides

➤ Nutrients

- Organic nitrogen, phosphate, potassium

Metals

- Cadmium, copper, lead, nickel, zinc, selenium, arsenic, boron

Pathogens, Ambients

- *E. Coli*, Flow, Temperature, pH, EC, Turbidity, Dissolved Oxygen, Total Organic Carbon



Types of Monitoring in 2011

- Full monitoring – all constituents at every site
 - Pesticides, metals, nutrients, physical, toxicity, field
 - 6 Core Monitoring Sites
 - 6 Assessment Monitoring Sites
- Management Plan Monitoring (MP)
 - Only sites w/ approved MPs
- TMDL Monitoring



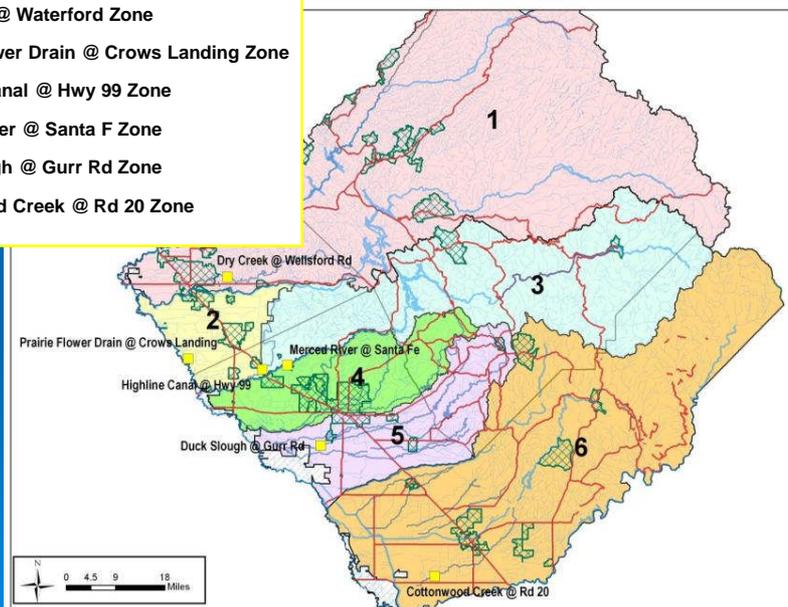
Monitoring Plan

- Coalition divided into 6 zones
 - Water drainage and flow
 - Microclimate
 - Land use
- Each zone contains
 - 1 Core Monitoring location
 - Reduced monitoring
 - Trend analysis
 - 1 Assessment Monitoring location
 - Full assessment
 - Rotated every 2 years



➤ Coalition Zones 1-6

- 1: Dry Creek @ Waterford Zone
- 2: Prairie Flower Drain @ Crows Landing Zone
- 3: Highline Canal @ Hwy 99 Zone
- 4: Merced River @ Santa F Zone
- 5: Duck Slough @ Gurr Rd Zone
- 6: Cottonwood Creek @ Rd 20 Zone



ESJ Management Plan Process

- Triggered by 2 or more exceedances
 - TMDL trigger is 1 exceedance
- Over 25 waterways with MPs in the ESJ region
- “Priority” Subwatersheds
 - 3 year focused approach
 - Outreach and monitoring

Irrigated Lands Regulatory Program

2 or more exceedances = Management Plan (MP)

With Management Plans, Watershed Coalition must...

- Identify Sources (uses/crops)
- Determine farming practices through field BMP surveys
- Encourage growers to implement BMPs
 - Outreach: Meetings
 - Landowner mailings
 - Personal visits

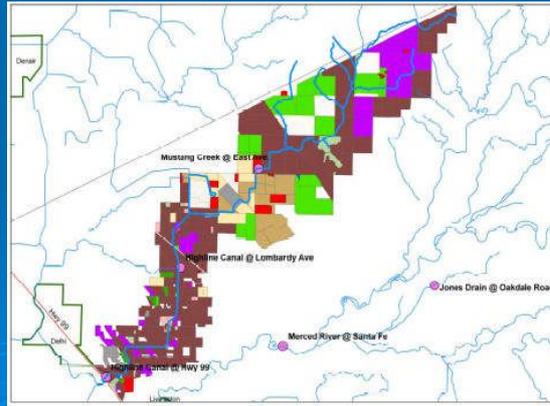
Priority Subwatershed Steps

- Identify members with parcels adjacent to waterways
- ESJ – member meetings
 - Management practices survey
- Monitoring
- Follow up
 - Document changes in management practices
- Evaluate progress

Identifying Members with parcels adjacent to waterways

➤ Identify High Risk Fields Through GIS mapping

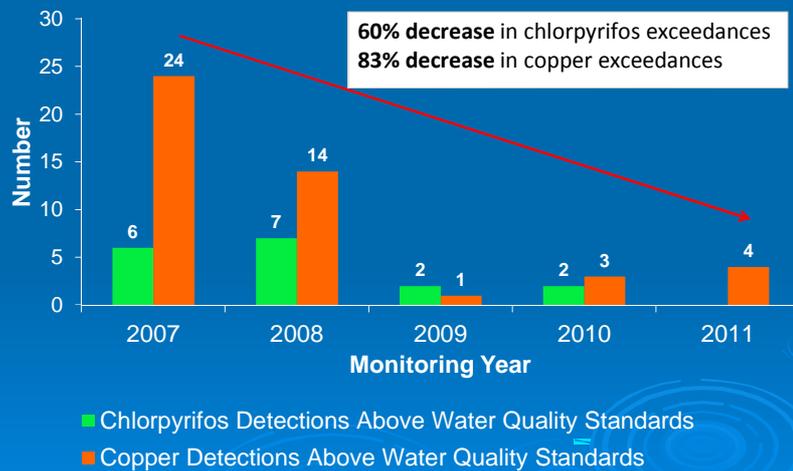
- Mapping performed upstream of each monitoring site
 - Fields bordering waterways
 - Fields that drain into waterways



Current Priority Subwatersheds

Priority	County	Subwatershed
1st Priority (2008-2010)	Stanislaus	Dry Creek @ Wellsford Rd (E of Modesto)
	Merced	Duck Slough @ Hwy 99 (SE of Merced)
	Stanislaus	Prairie Flower Drain @ Crows Landing Rd (W of Turlock)
2nd Priority (2010-2012)	Madera	Cottonwood Creek @ Rd 20 (SW of Madera)
	Merced	Duck Slough @ Gurr Rd (SW of Merced)
	Merced	Highline Canal @ Hwy 99 (SE of Turlock)
	Merced	Bear Creek @ Kibby Rd (E of Merced)
3rd Priority (2011-2013)	Madera	Berenda Slough along Ave 18 ½
	Madera	Dry Creek @ Rd 18
	Stanislaus	Lateral 2 ½ near Keyes Rd
	Merced	Livingston Drain @ Robin Ave

Exceedances In 1st and 2nd Priority Subwatersheds



Measures of Success

- Documentation of current management practices
- Implementation of new management practices
- Decrease in exceedances

Current Management Practices

Surveys indicate growers use BMPs

Large number manage discharges appropriately

How Do Pesticides Get Into the Water?

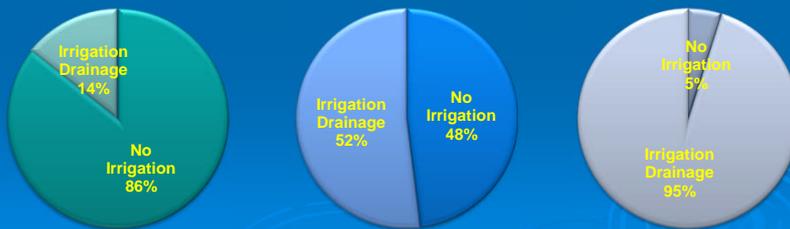
- Irrigation drainage
- Storm drainage
- Spray Drift
 - *Ground*
 - *Aircraft*
 - When treating crops near water



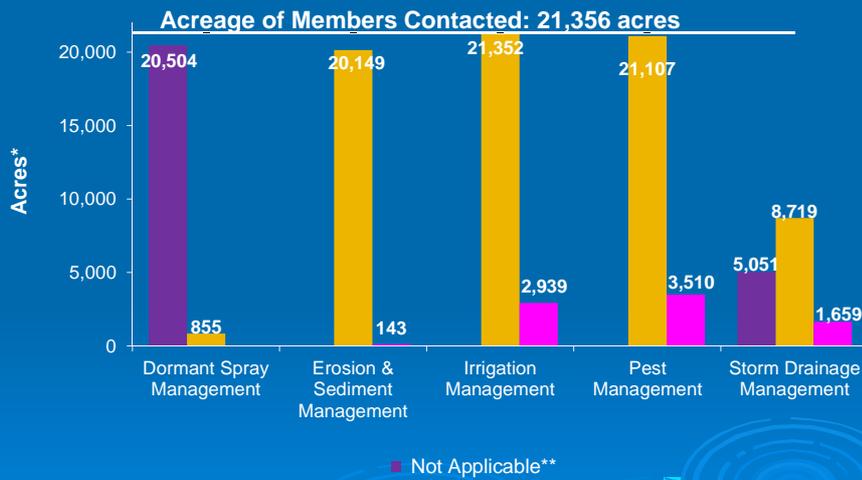
Grower Survey Results

- Each subwatershed is unique
 - water management
 - crop-specific practices

Dry Creek @ Wellsford Duck Slough @ Hwy 99 Prairie Flower Drain



Increase Implemented Management Practices in 1st and 2nd Priority



*Acreage has at least 1 implemented MP w/in category

**Acreage of member parcels where the specific category of management practices is not applicable

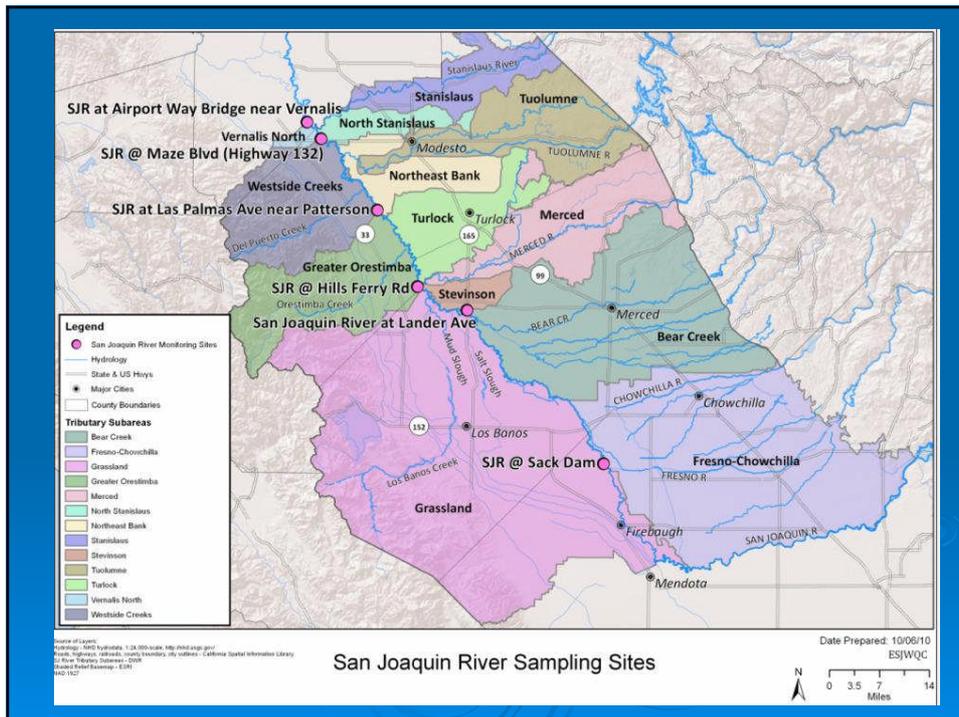
TMDLs in ESJWQC Region

- San Joaquin River
- Current TMDLs affecting agricultural discharge
 - *Chlorpyrifos and diazinon*
 - Dissolved oxygen
- Planned TMDLs
 - Salt and nitrate
 - Mercury
 - Pesticides (pyrethroids, herbicides)
 - Organochlorine pesticides

San Joaquin River chlorpyrifos and diazinon TMDL monitoring

- 6 compliance points
 - Monitor 4 times per year
 - During periods of peak use
- 3 compliance points monitored by Westside Coalition; 3 by ESJWQC





Monitoring Results

- 1 non-compliant load in 2010
 - SJR @ Las Palmas Ave (Patterson) on July 22, 2010
 - Due to chlorpyrifos 0.041 $\mu\text{g/L}$
- No detections of diazinon in River in 2010 and 2011
- No detections of chlorpyrifos in River in 2011

Possible Changes in Compliance Requirements

- Increased monitoring
 - Monthly monitoring
- Increased outreach and grower participation
 - More visits and surveys
- Restrictions on product use
- Prohibition of discharge

The Coalition Approach Is Working!

- *Growers have been receptive to the approach*
- *Labor intensive / expensive effort but bears fruit*



Coalition Contacts

- **Parry Klassen** **559-288-8125**
- **www.esjcoalition.org**

Go to www.esjcoalition.org – “Members Only” to read/download Management Plan

- Password: ESJwater