

East San Joaquin
WATER QUALITY COALITION

East San Joaquin Water Quality Coalition

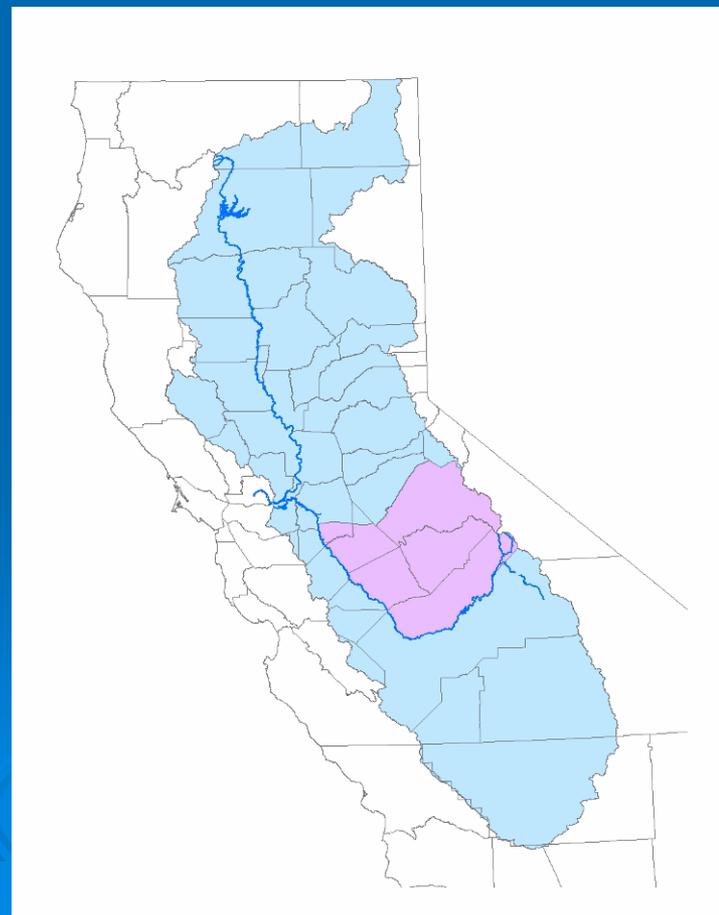
**Parry Klassen
Executive Director**

Merced River



Coalition Overview

- In operation since 2003
- **2,297 Landowner / operators**
- **540,782 irrigated acres**
 - Madera, Merced, Stanislaus, Tuolumne, Mariposa counties
- *We manage group permit for our members*





Board of Directors

Board Officers

- Parry Klassen, Board Chairman
Executive Director
Coalition for Urban Rural Environmental Stewardship; fruit grower
- Wayne Zipser, Vice-Chairman
Stanislaus Co. Farm Bureau
- Bill McKinney, Treasurer
almond grower

Board Members

- Amanda Carvajal
Merced Co. Farm Bureau
- John Eisenhut
Hilltop Ranch, almond grower
- Brian Franzia
West Coast Vineyards
- Richard Gemperle
Gemperle Enterprises, almond grower
- Anja K. Raudabaugh
Madera Co. Farm Bureau
- Alan Reynolds
Gallo Vineyards, Inc.
- Albert Rossini
Rossini Ag, grape grower
- Jim Wagner
Wilbur Ellis Co.
- Mike Neimi
Turlock Irrigation District

Non-voting

- Gary Caseri
Stanislaus County Agricultural Commissioner
- David Robinson
Merced County Agricultural Commissioner
- Bob Rolan
Madera County Agricultural Commissioner
- Dianna Waller
Natural Resources Conservation Service
- Dennis Wescot
San Joaquin River Group Authority

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

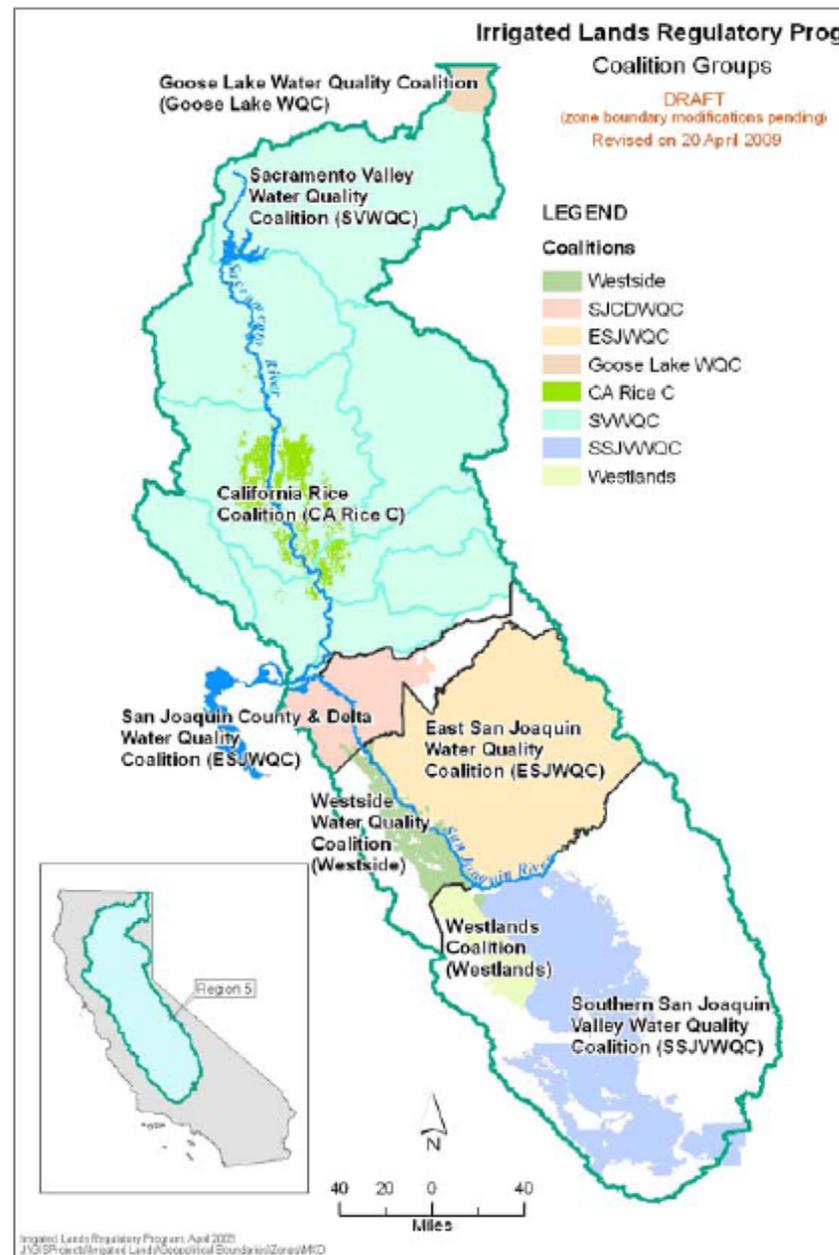
- Parry Klassen
- Wayne Zipser

Southern San Joaquin Valley Water Quality Coalition

- David Orth

Westlands Coalition

- Sue Ramos

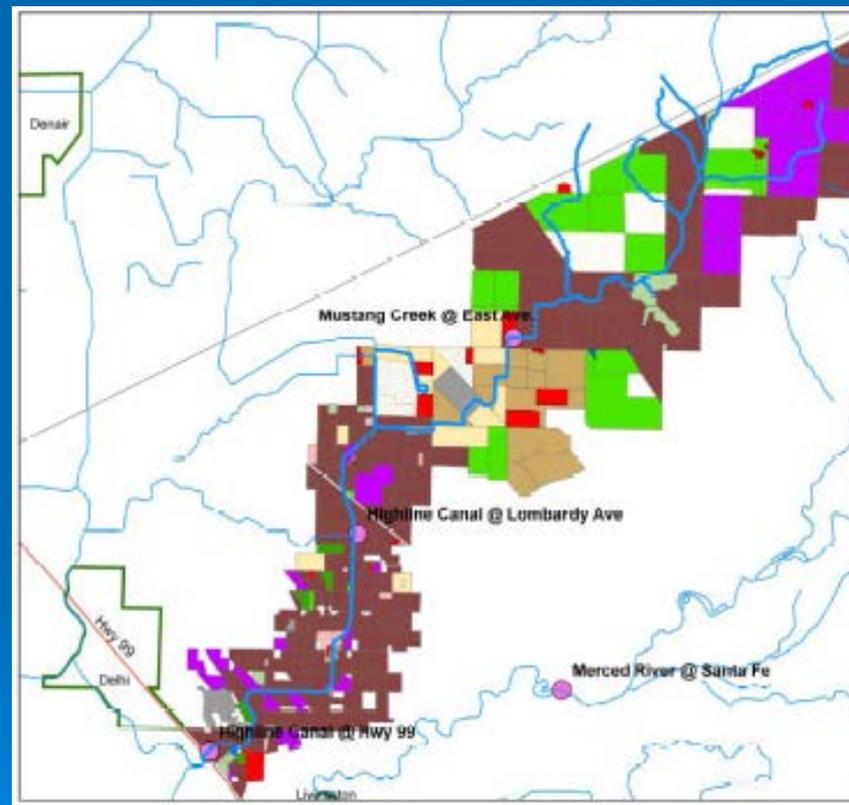


ESJWQC Management Plan Process

- Started surface water monitoring 2004
- Over 25 waterways with Management Plans in the ESJ region (2+ exceedances)
- “Prioritized” Subwatersheds
 - 2 year focused approach
 - Outreach and monitoring
- 200 grower visits by ESJWQC staff

Focused Outreach Approach

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



Exceedances in 1st, 2nd and 3rd Priority Subwatersheds



New Program Requirements

Coalition Responsibilities

- Conduct monitoring and submit reports
 - Continue current surface water monitoring
 - Trend Monitoring Program (use existing wells)
 - Management Practices Evaluations
 - Provide summary reports on nitrogen use efficiency and management practices implemented
 - Annual Reports to Water Board

New Program Requirements

Grower Responsibilities

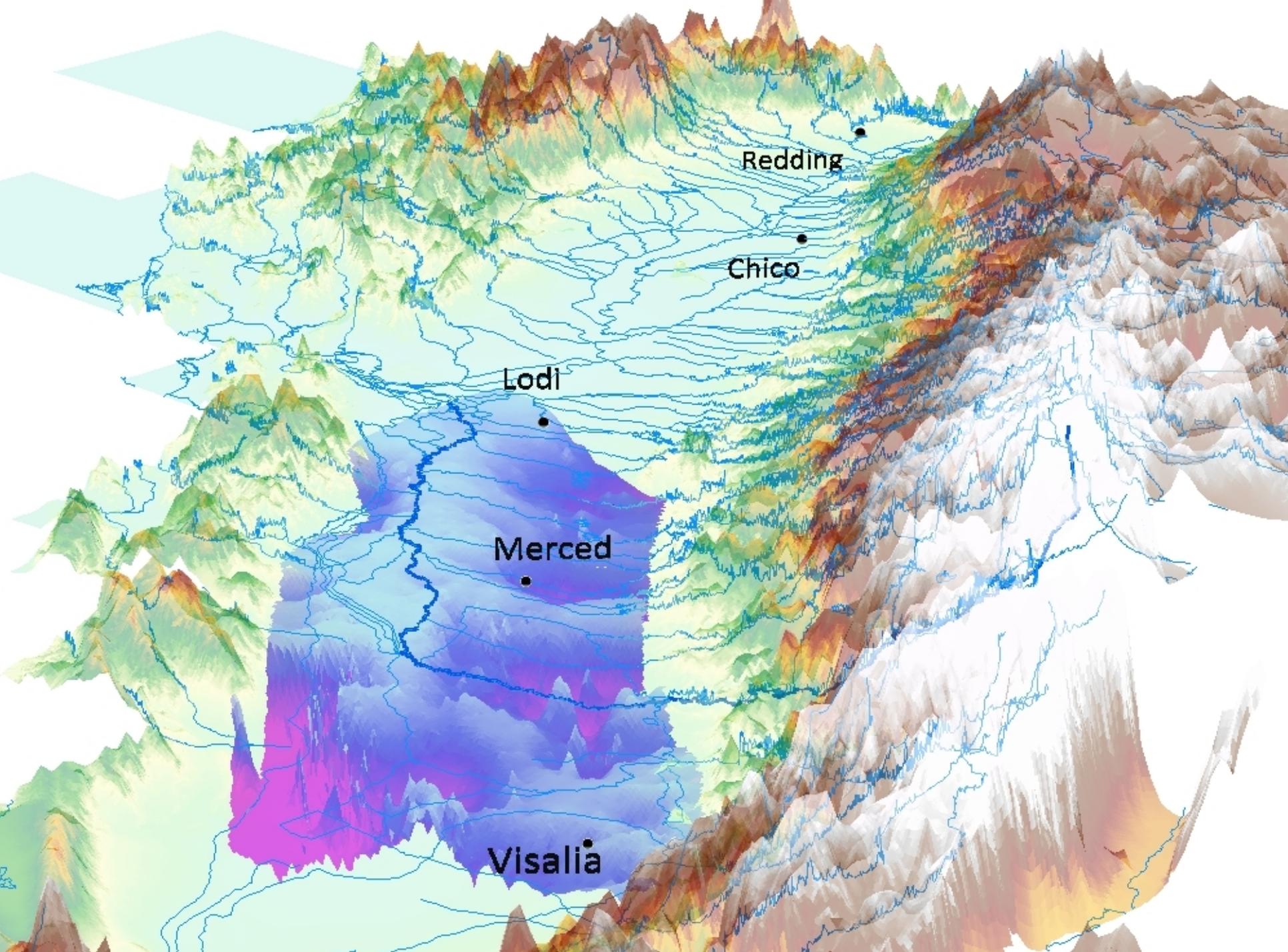
- Farm Management Practices performance standards (*everyone*)
 - *Minimize waste discharge offsite in surface water,*
 - *Minimize percolation of waste to groundwater,*
 - *Minimize excess nutrient application relative to crop need,*
 - *Implement effective sediment discharge and erosion prevention practices to minimize or eliminate the discharge of sediment above natural background levels*
 - *Prevent pollution and nuisance,*
 - *Achieve and maintain water quality objectives and beneficial uses*
 - *Protect wellheads from surface water intrusion.*

Waste Discharge Requirements

Irrigated Lands Regulatory Program

Groundwater Assessment Report

- Rank land vulnerability based on Assessment Report
 - **High Vulnerability**
 - Areas ID'd using DPR pesticide groundwater protection areas, State Water Board vulnerable areas*
 - **Low Vulnerability**
 - Keep farm assessment / nitrogen budgets on farm



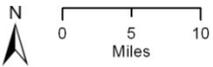
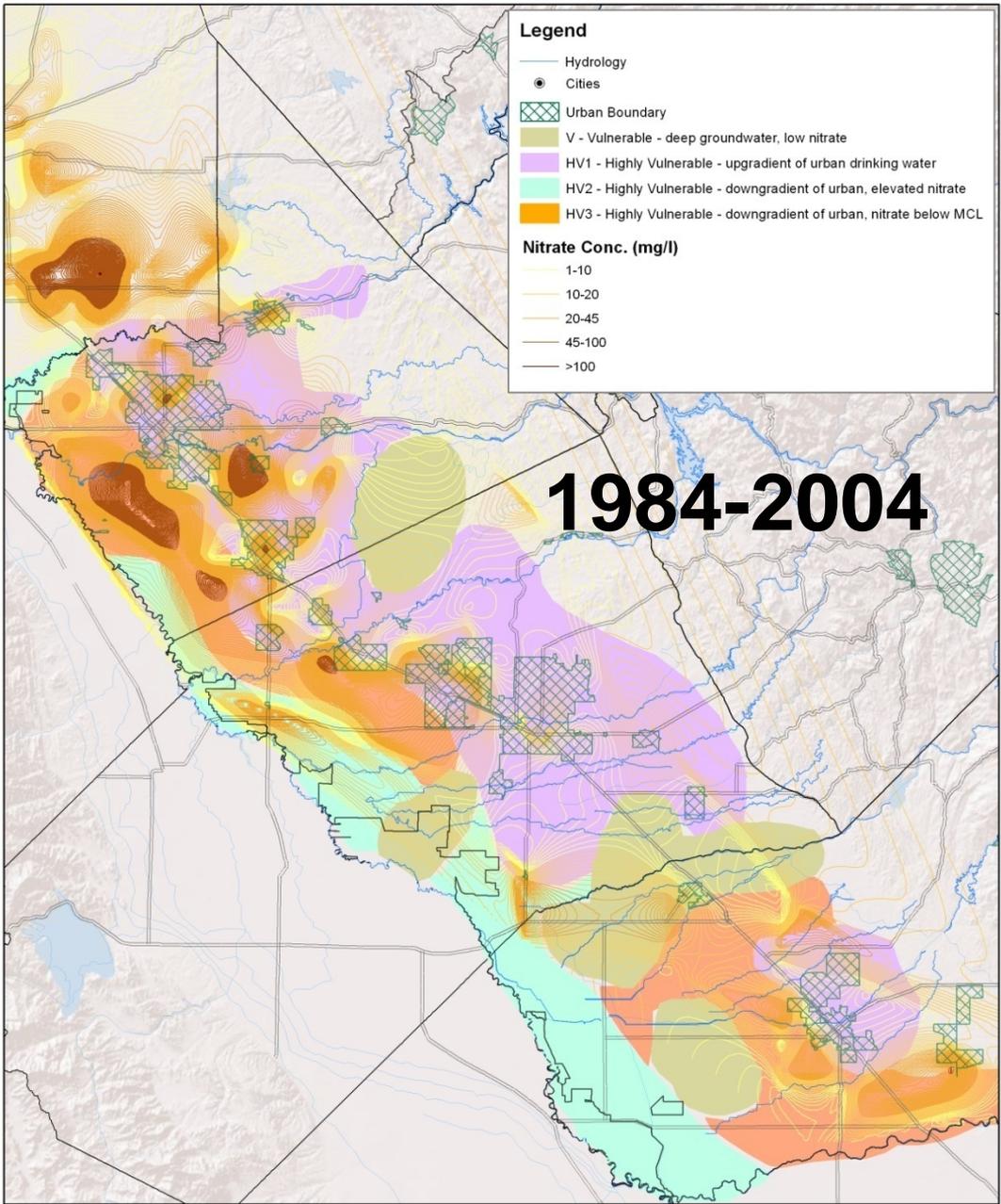
Redding

Chico

Lodi

Merced

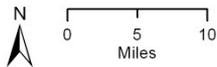
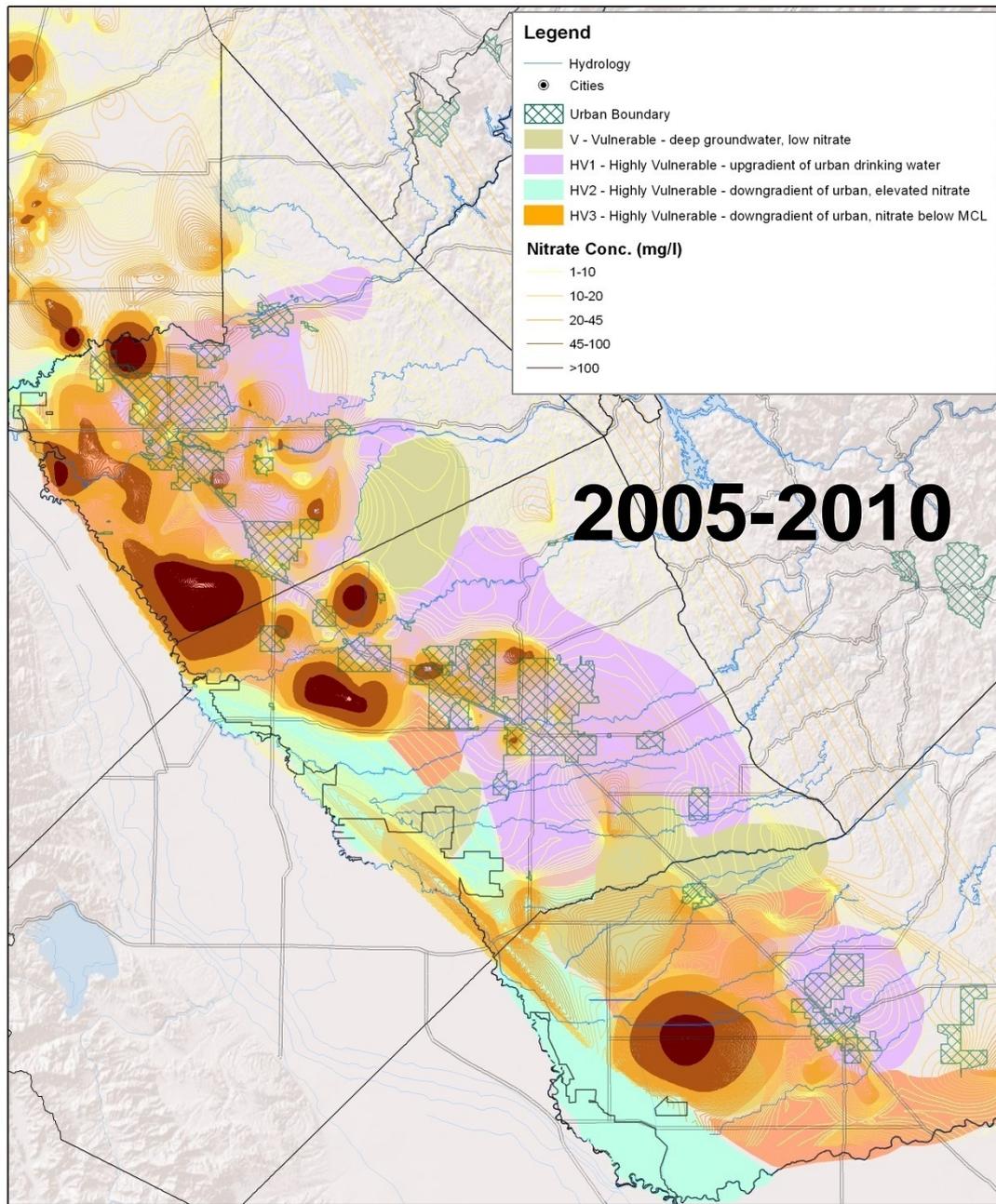
Visalia



ESJWQC Vulnerable Regions & Well NO3 Conc. 1984-2004

Date Prepared: 01/21/12
ESJWQC

ESIWQC_GW_well_map 2012



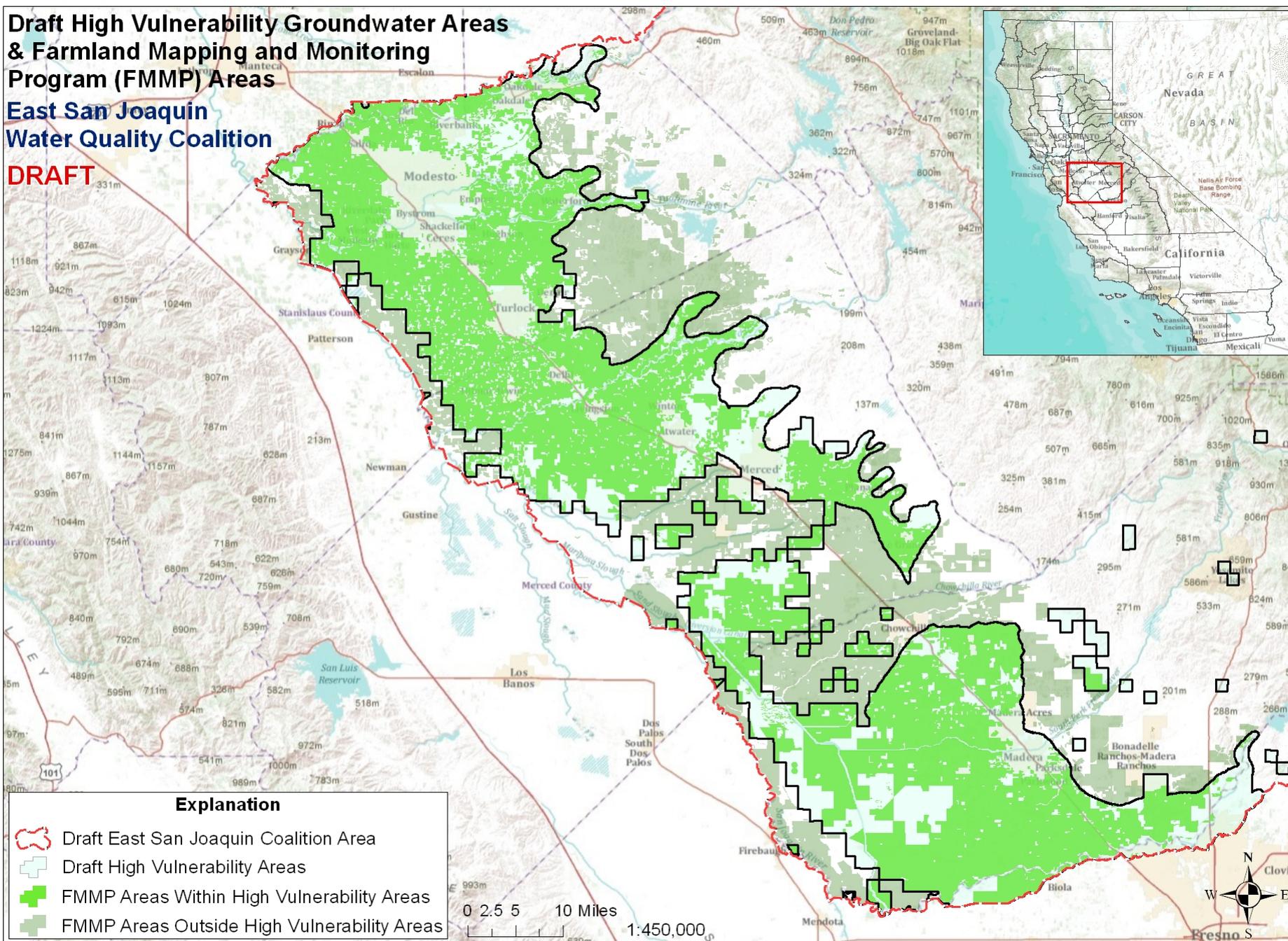
ESJWQC Vulnerable Regions & Well NO3 Conc. 2005-2010

Date Prepared: 01/21/12
ESJWQC

Draft High Vulnerability Groundwater Areas & Farmland Mapping and Monitoring Program (FMMP) Areas

East San Joaquin
Water Quality Coalition

DRAFT



What Will Be Required

Grower Responsibilities

- Complete Farm Evaluation (*everyone*)

- Complete Nitrogen Management Plan
(In high vulnerability groundwater area)
 - Certified by 3rd party or grower trained
 - Low vulnerability keep on site; no certification required

- Sediment and Erosion Control Plan
(In areas identified as high vulnerability for erosion and sediment discharge)

- More time provided for farming operations < 60 acres total

Farm Management Plans

- Template to be developed by coalitions, reviewed by Water Board
- Report practices “protective of surface and groundwater quality”
- Periodic Updates
 - More frequently in high vulnerability areas
- Deadline for reports
 - High vulnerability: 2014
 - Low Vulnerability: 2017 (keep on farm)

What Will Be Required

Grower Responsibilities

- Implement Wellhead Protection
- Install Backflow Prevention
- Proper destruction of abandoned wells

- Participate in Coalition Outreach Meetings
- Allow property access to Regional Board at reasonable hours – For Compliance Inspection Purposes Only!

Nitrogen Management Plans

Key mechanism to minimize nitrogen discharge to surface and groundwater

➤ High Vulnerability Areas

- CCA certifies nitrogen budgets for members
 - CDFA certification program in development
- Member self-certification with training
- Plans kept on site, summary info reported to Coalition

➤ Low Vulnerability Areas

- Required but keep on farm

Nitrogen Management Plan Worksheet

Crop Year 2012

Member ID# 1234

APN: 111-00-222

Owner/mgr Joe Almond

Field # A, B, C

CROP NITROGEN DEMAND Crop Nitrogen Needs / Uptake	NITROGEN APPLICATIONS AND CREDITS		
		Recommended N	Actual N
Crop	Total N applied to field (lbs/ac)		
Almonds			
Expected yield (Lbs of production/ acre)	<i>Nitrogen fertilizers</i> (conventional and organic)		
3000 lbs / ac	Dry & Liquid Fertilizers	100	105
Nitrogen Crop Needs to meet expected yield (lbs of Nitrogen per acre)	Foliar N fertilizers	100	90
250	Other N fertilizers	0	0
Total Acres	Organic Material N (manure, compost, etc.)	10	0
178	Other N containing materials	5	5
	TOTAL N APPLIED (per acre)	215	200
	<i>Soil Nitrogen Credits</i>	Soil N ppm ³	
	Nitrogen from previous legume crop	Lbs N/acre	Lbs N/acre
	N residual from manure applications	0	0
	Soil organic matter mineralization	5	5
	Nitrates in irrigation water (annualized)	5	5
	TOTAL N CREDITS (per acre)	50	50
		60	60
	Total N Credits and Applications:	275	260
	Crop N needs:	250	250
	Balance	25	10
	Ratio	1.100	1.040

Nitrogen Management Plan Components

- Apply N at crop removal rates
 - Dairies regulated to 140% of crop use (N applications)
- Test well water for nitrogen levels (then adjust N applications accordingly)
- Leaf / tissue testing
- Soil testing

- Deadline for reports
 - High vulnerability: 2015 for crop year 2014
 - Low Vulnerability: 2017 (keep on farm)

Nitrogen Management Plans & Summaries

- Goal is working toward improvements in Nitrogen management (when/if needed)
 - Focuses on crop needs – not total applied
 - Helps growers understand their use in context with like crops
 - Helps to identifies “outliers”
 - Will evolve into better management of nitrogen as information is developed

Reporting of nitrogen management plan information:

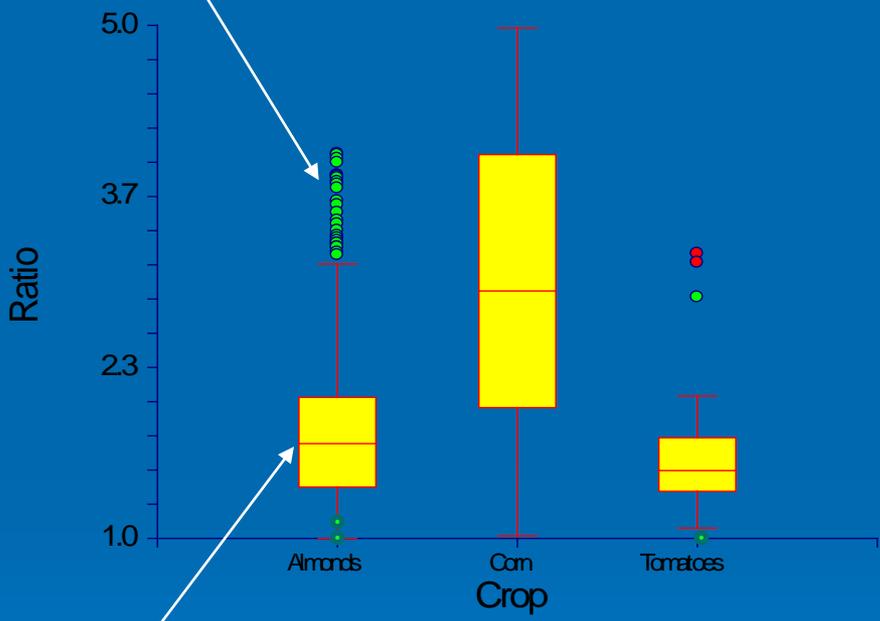
- Member submits summary form to Coalition
- Coalition compiles ratios
- Separates ratios into “Township,” crops

What township-size report should show:

- Where most growers are with nitrogen ratios
- The “Outliers:” those who apply too much
- Outliers focus of outreach with commodity specific information/references

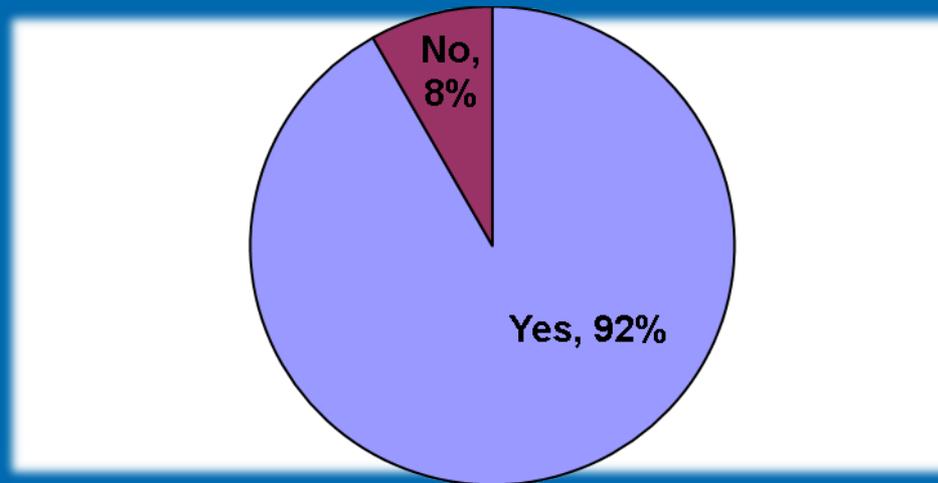
Potentially applying too much N (outliers)

Reported Nitrogen Ratios



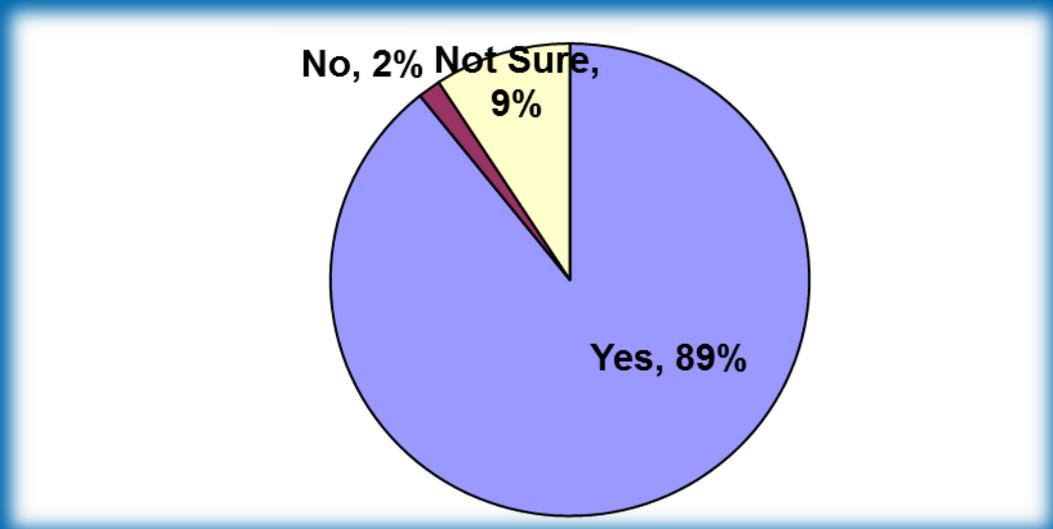
Most growers (UC recommended rates)

Would you be willing to work with a CCA to complete a nitrogen management plan?



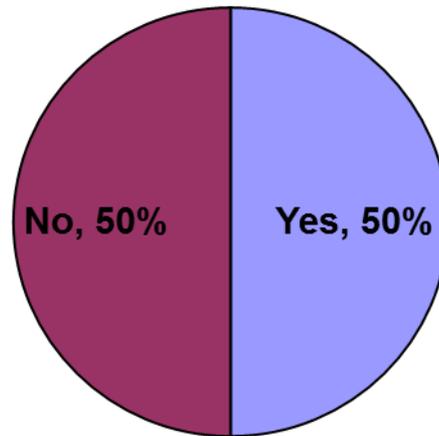
(73 Responses)

Identify company(s) to perform well water testing for N levels? (Deliver own sample)



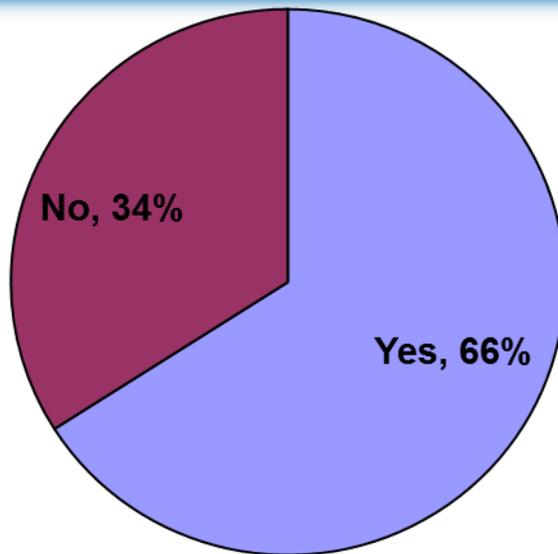
(65 Responses)

Do you sample your supply for nitrate levels?



(66 Responses)

Do you adjust your fertilizer applications based on the nitrate levels?



(47 Responses)

Waste Discharge Requirements

Irrigated Lands Regulatory Program

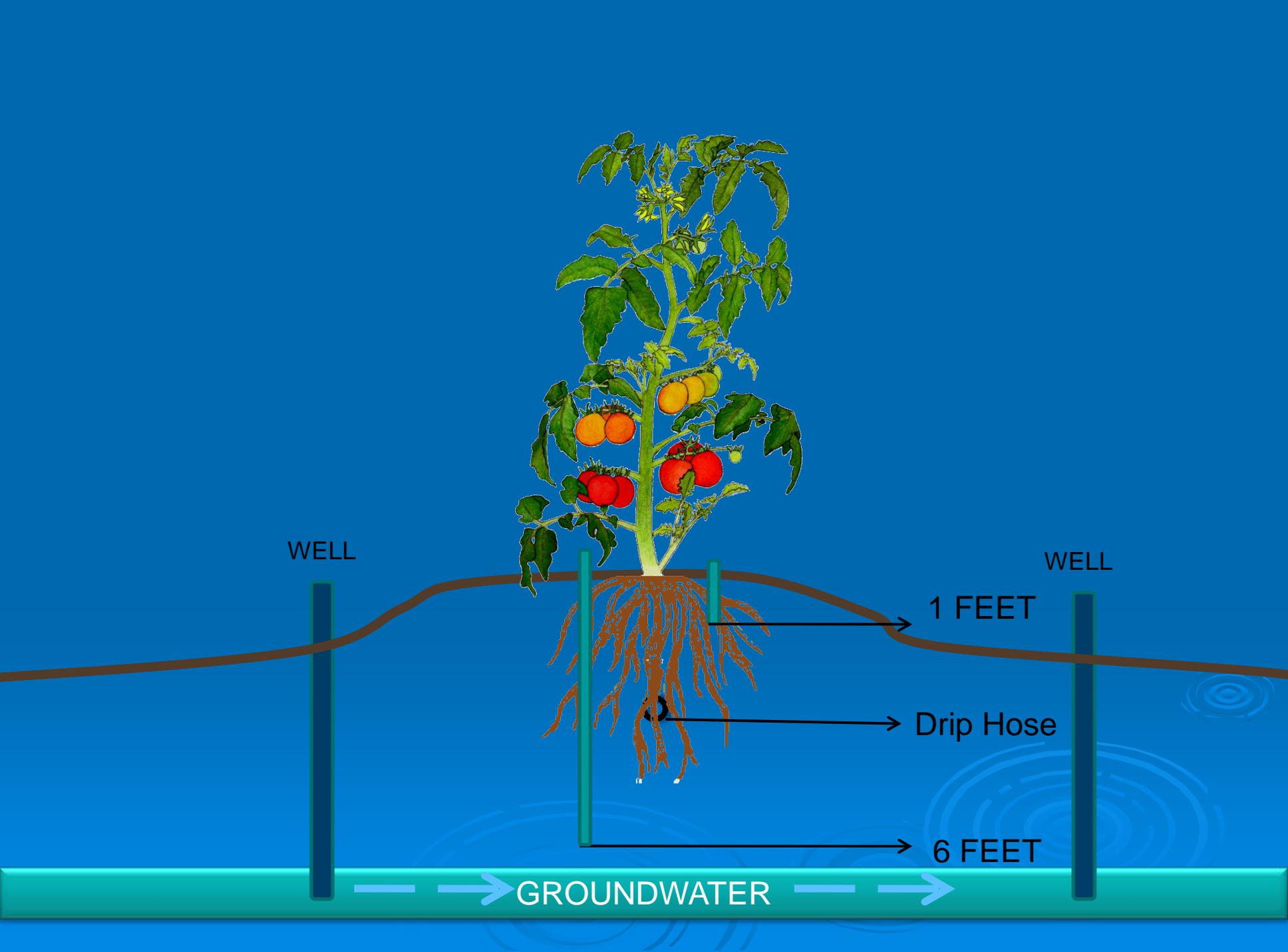
Management Practice Effectiveness Studies

Confirm that management practices implemented to improve groundwater quality are working

- Are agricultural management practices protective of groundwater?
- Modify practices if needed

Coordinated effort by coalitions/commodity groups to complete

- Share expense across Central Valley
- Coalition to present Water Board with phased approach
- CURES USDA project to be starting point for approach
 - Literature search
 - Interview experts in field



WELL

WELL

1 FEET

Drip Hose

6 FEET

GROUNDWATER

How do we best determine volume of nitrogen moving past the root zone?

Direct measurement under each field

- Enormous data collection
- Impractical

Mass loading estimates based on field trials

- Must be representative sites in trials
- May need new science to ID approaches

Fate and transport

- New science needed



ESJWQC / Third Party Approach

What we are not ...

- *Commodity group / farm organization*
- *Lobbying organization*

What we are ...

- *We hold a “group permit” for our members to the Water Board*
- *Operate efficiently as possible*
- *Provide info to make tough farm management decisions*

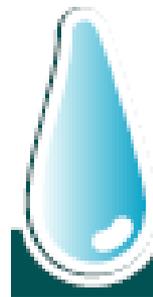
Third Party Approach

Notwithstanding legislative action in 2013...

- *Coalitions (third party) are best suited to receive and compile nitrogen fertilizer use information*
 - *Info will be combined with farm evaluation information*
 - *Both are needed for effective improvements in nitrogen use*
 - *This is not Pesticide Use Reporting (PUR)*

Third Party Approach

- *Coalitions have greater flexibility to adapt as knowledge / information is gained*
 - *Can be adjusted to fit regional/local needs*
 - *Water Board gets information it needs for its own decisions*
- *Funding comes from the members, not the legislature*
 - *It's cost effective approach for both growers and government*



East San Joaquin WATER QUALITY COALITION



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