

# Emerging Regulations – Irrigated Lands Regulatory Program

## Central Valley Water Board

Joe Karkoski  
Program Manager

Western Plant Health Association Regulatory Conference  
July 16, 2013



# Presentation Overview

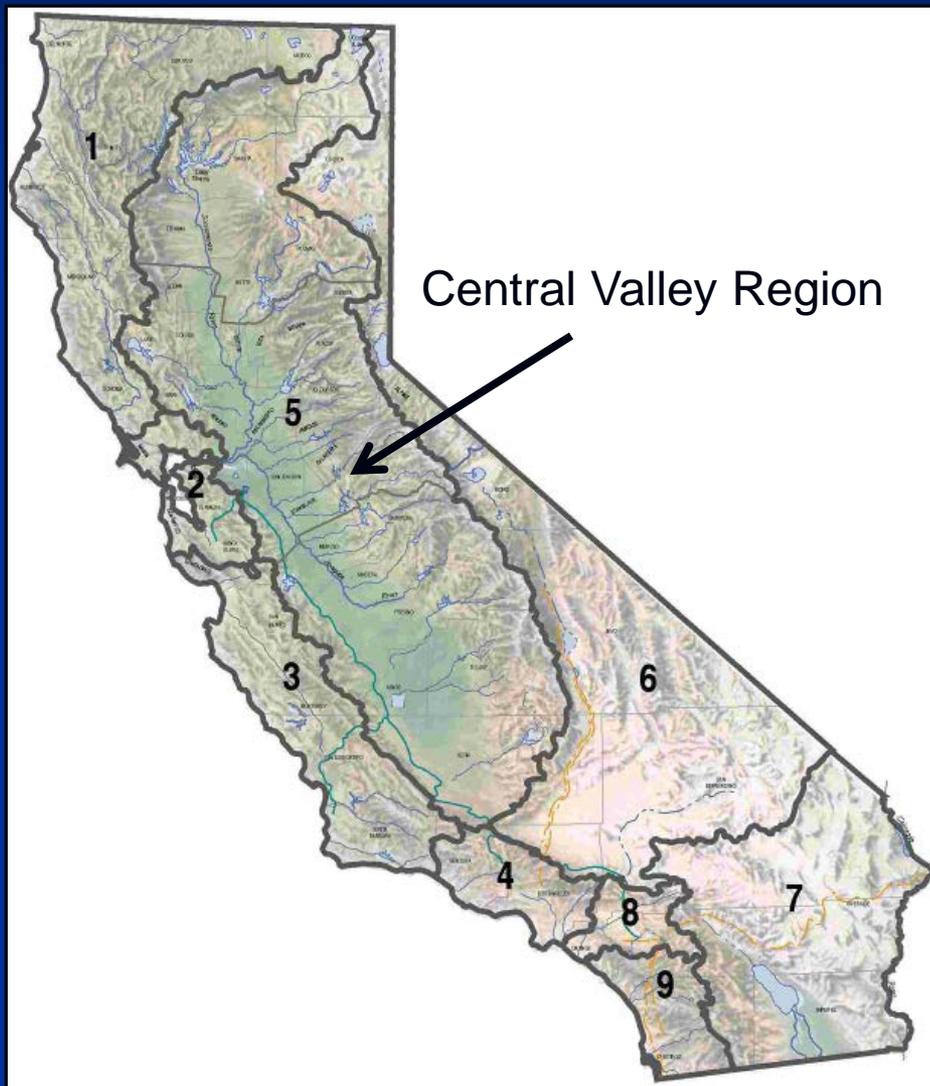
- Background
- Overall Direction
- General Requirements
- Next Steps

# What Are WE Trying to Accomplish?

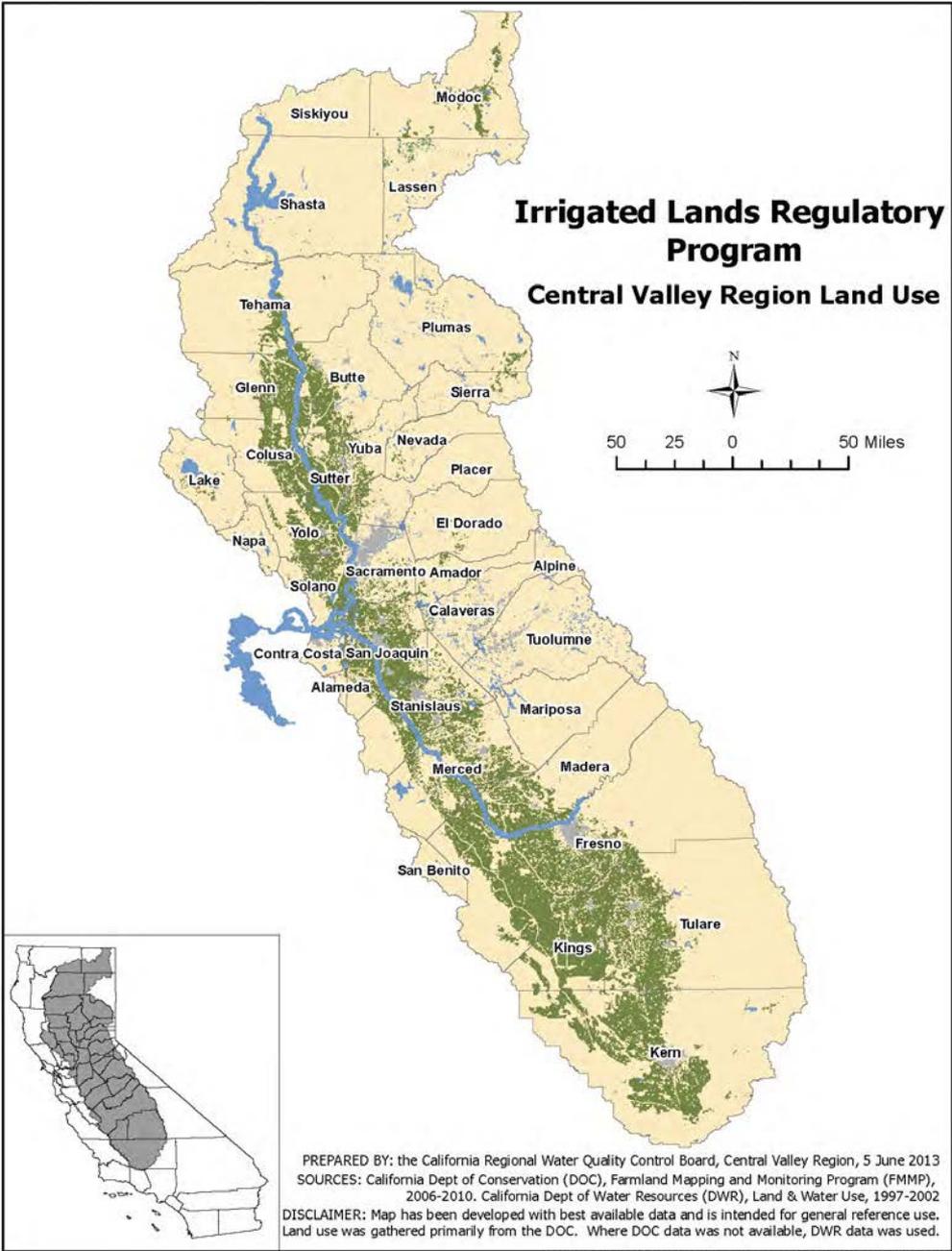
WE = Water Board, Agriculture, Stakeholders

- Protect water quality for current and future generations
- Ensure any new requirements are consistent with sustaining agriculture in the Central Valley
- Learn and adapt as we move forward

# Nine Regional Water Boards



- Implement State and federal water quality laws based on region specific conditions
- Regulate discharges of waste



# Porter-Cologne Water Quality Control Act (*The California Water Quality Law*)

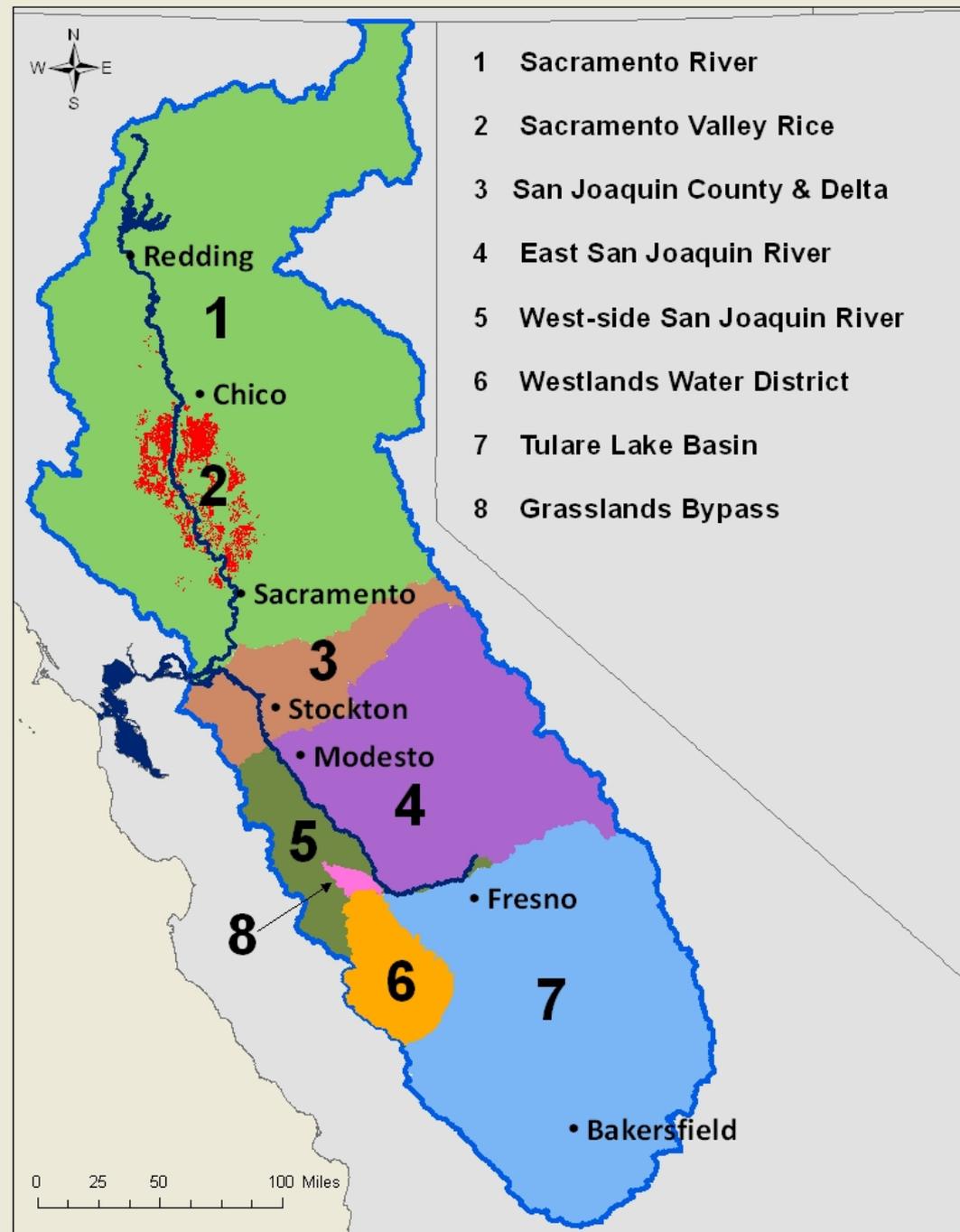
## Applies to:

- “Waters of the state” – any surface water or groundwater
- Discharges of waste to waters of the state

## Irrigated Lands Regulatory Program (ILRP)

- Includes commercial operations, managed wetlands, nurseries, and greenhouses
- Surface water discharges
  - surface return flows, storm runoff, tile drainage
- Groundwater discharges
  - Fertilizer/pesticides moving down soil profile, well head, or backflow

# Geographic Areas/Commodities Addressed by WDRs



# Nitrates and Groundwater

- Pollution pathways for nitrates and pesticides are similar
- Nitrates/water soluble pesticides leach through soil to groundwater
- Pathway for nitrates/pesticides
  - Surface runoff
  - Unprotected / improperly sealed wells
  - Over application of nitrogen fertilizer
  - Other conduits to groundwater (e.g., backflow)

# Known Nitrate Sources (Regional)

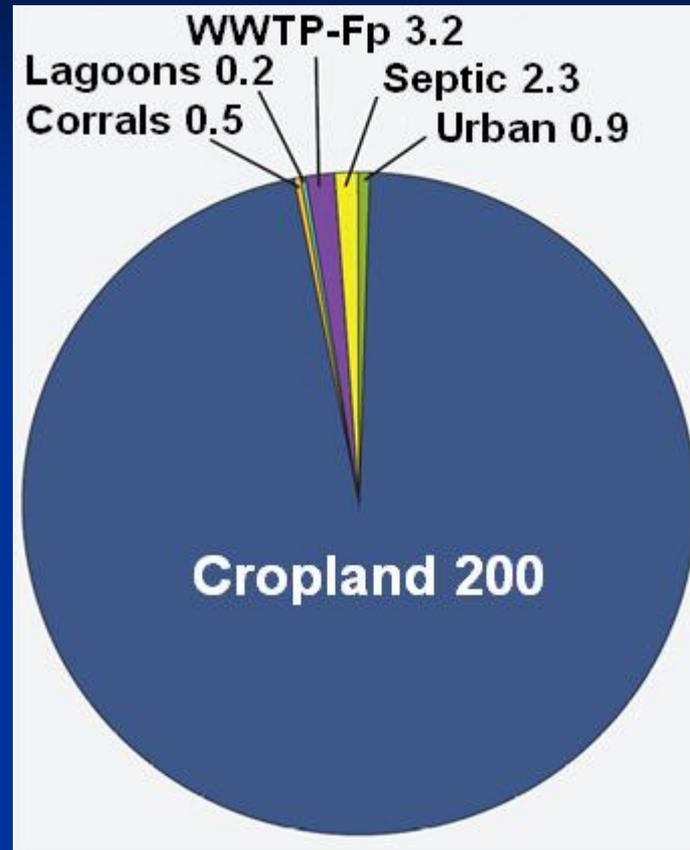


Figure 1. Estimated groundwater nitrate loading from major sources within the Tulare Lake Basin and Salinas Valley, in Gg nitrogen per year (1 Gg = 1,100 t).

<http://groundwaternitrate.ucdavis.edu/files/139110.pdf> ; Viers, J.H., et al (2012). Nitrogen Sources and Loading to Groundwater

# Approach for new ILRP

- Identify high/low vulnerability areas
- Focus requirements and plans on High Vulnerability areas
- High Vulnerability areas will be identified by the third-party

*Focus on management practice implementation and reporting*

*Limited monitoring (compared to other programs)*

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

East San Joaquin  
Water Quality Coalition

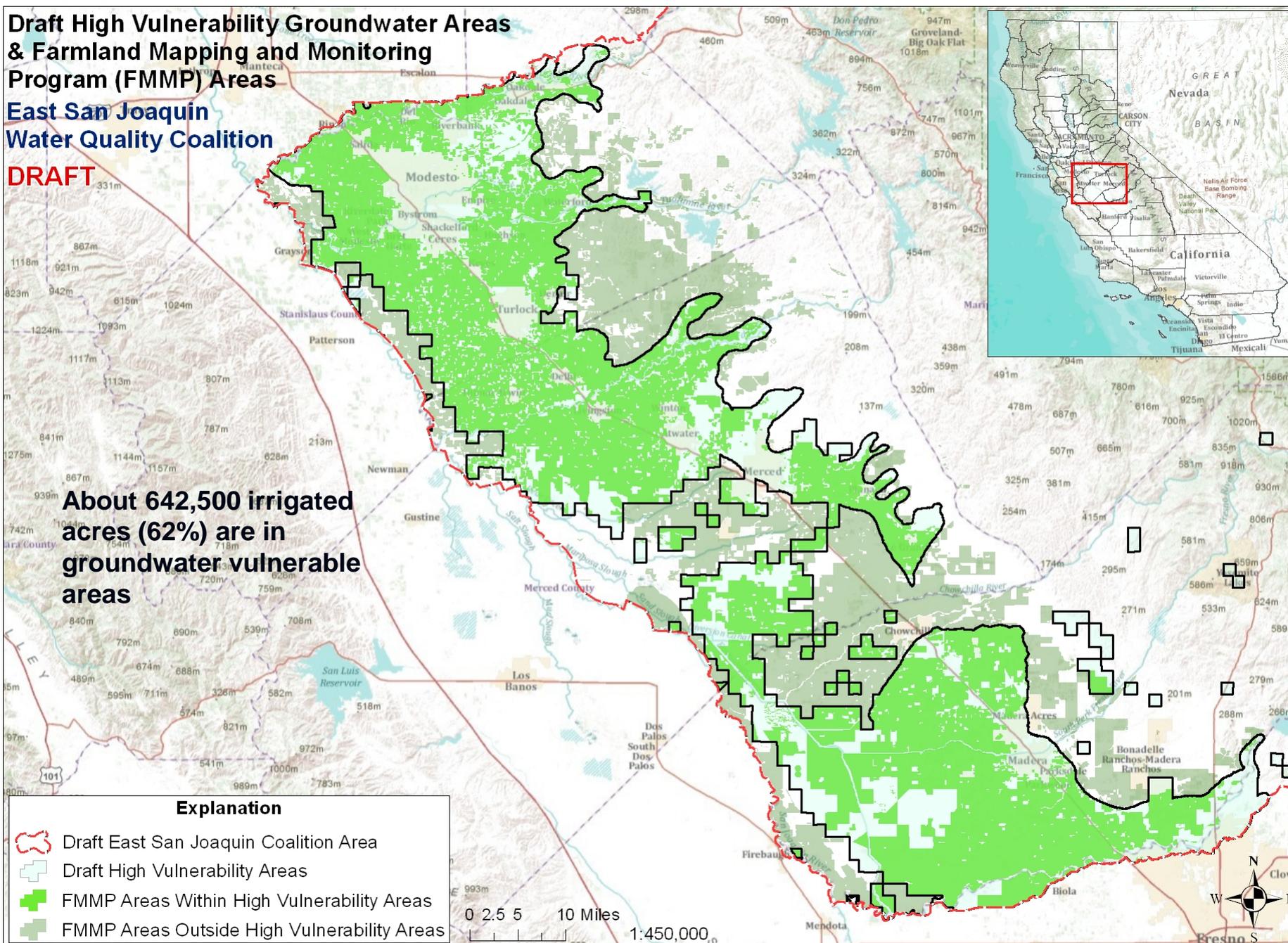
**DRAFT**

**About 642,500 irrigated acres (62%) are in groundwater vulnerable areas**

## Explanation

-  Draft East San Joaquin Coalition Area
-  Draft High Vulnerability Areas
-  FMMP Areas Within High Vulnerability Areas
-  FMMP Areas Outside High Vulnerability Areas

0 2.5 5 10 Miles  
1:450,000



# Relationship of Information Collected to Evaluating Compliance

Are implemented practices protecting water quality?

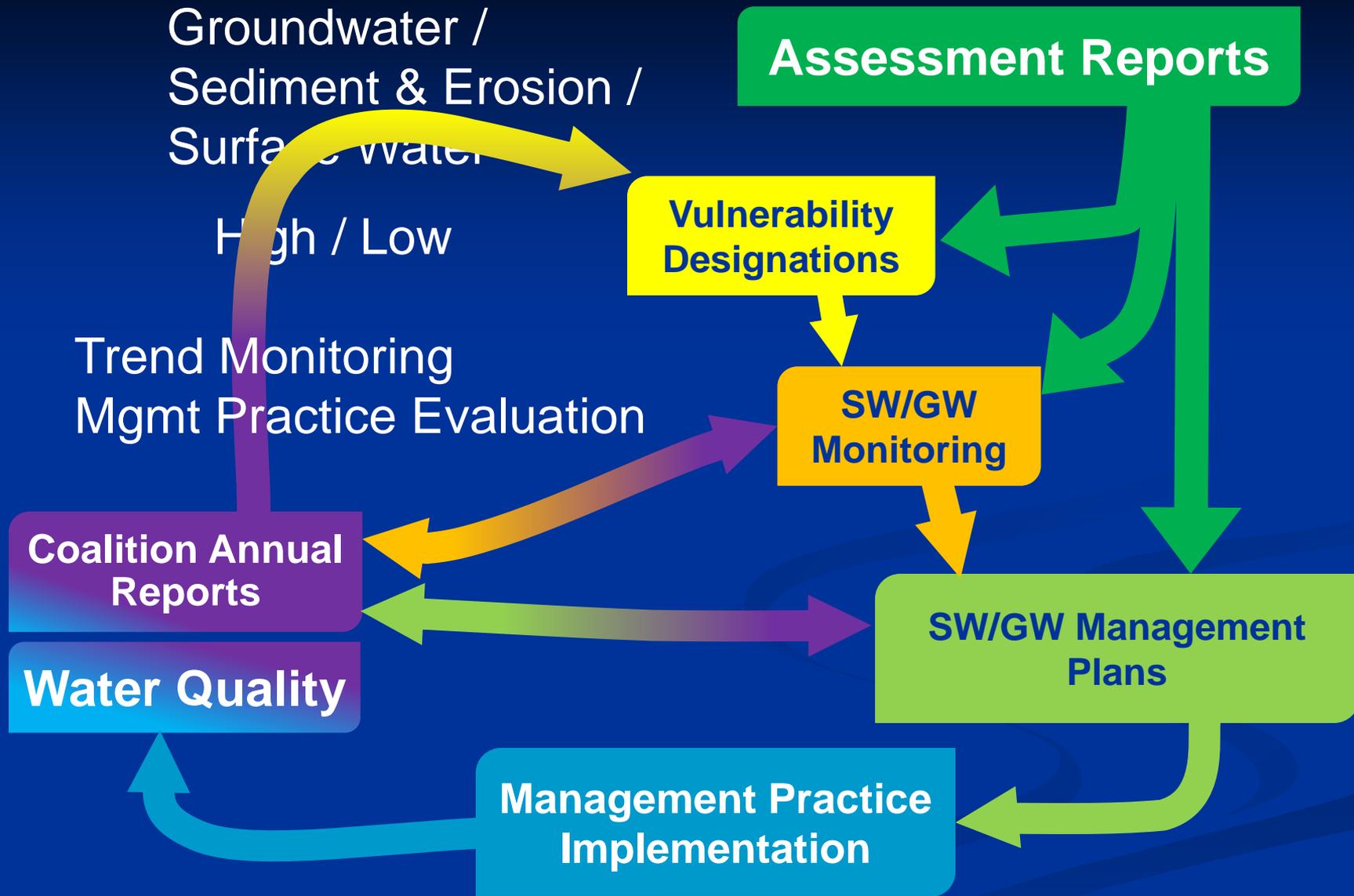
Water quality and practice information is needed to answer that question.

Order is structured to focus on vulnerable areas; facilitate information collection; provides feedback.

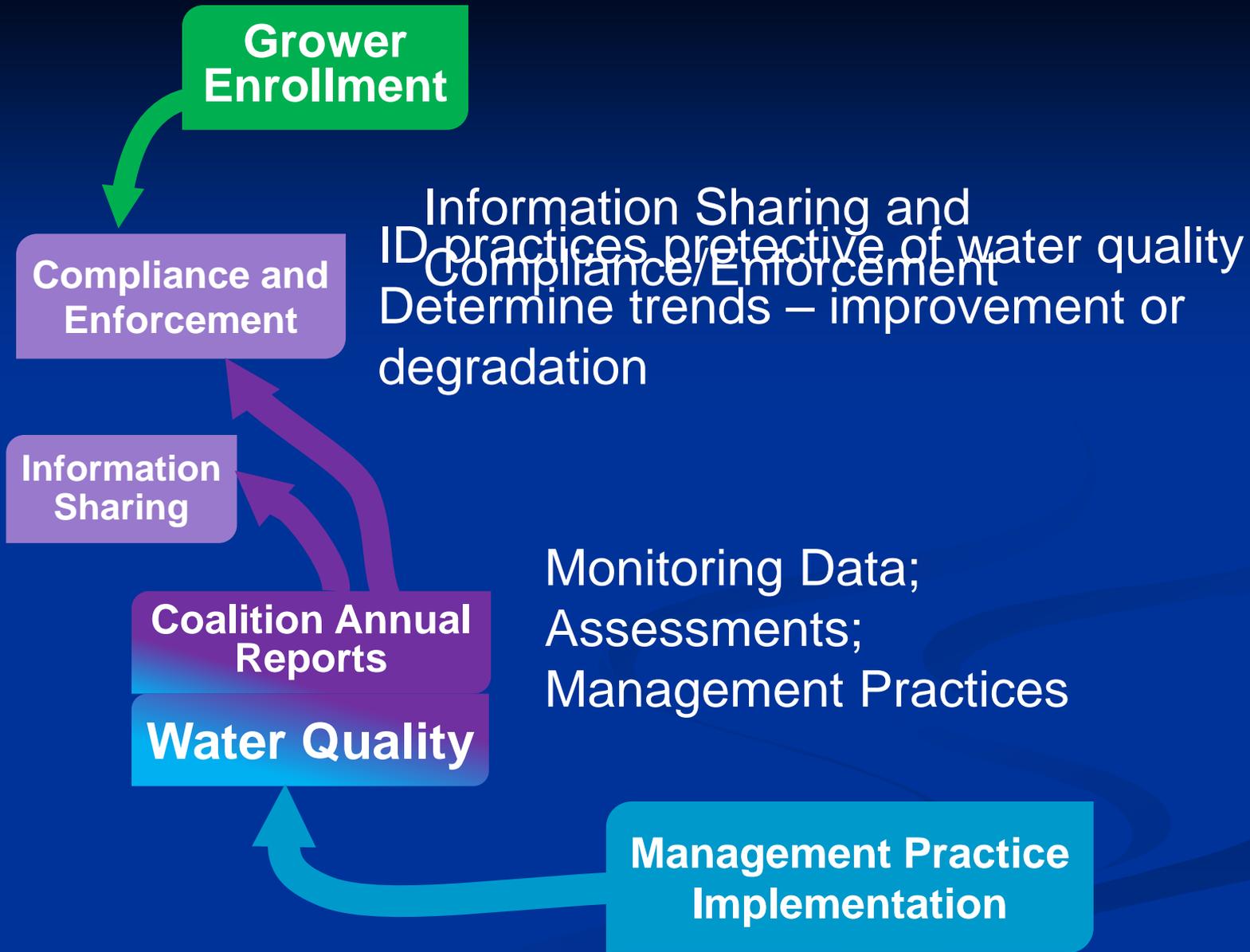
**Water Quality**

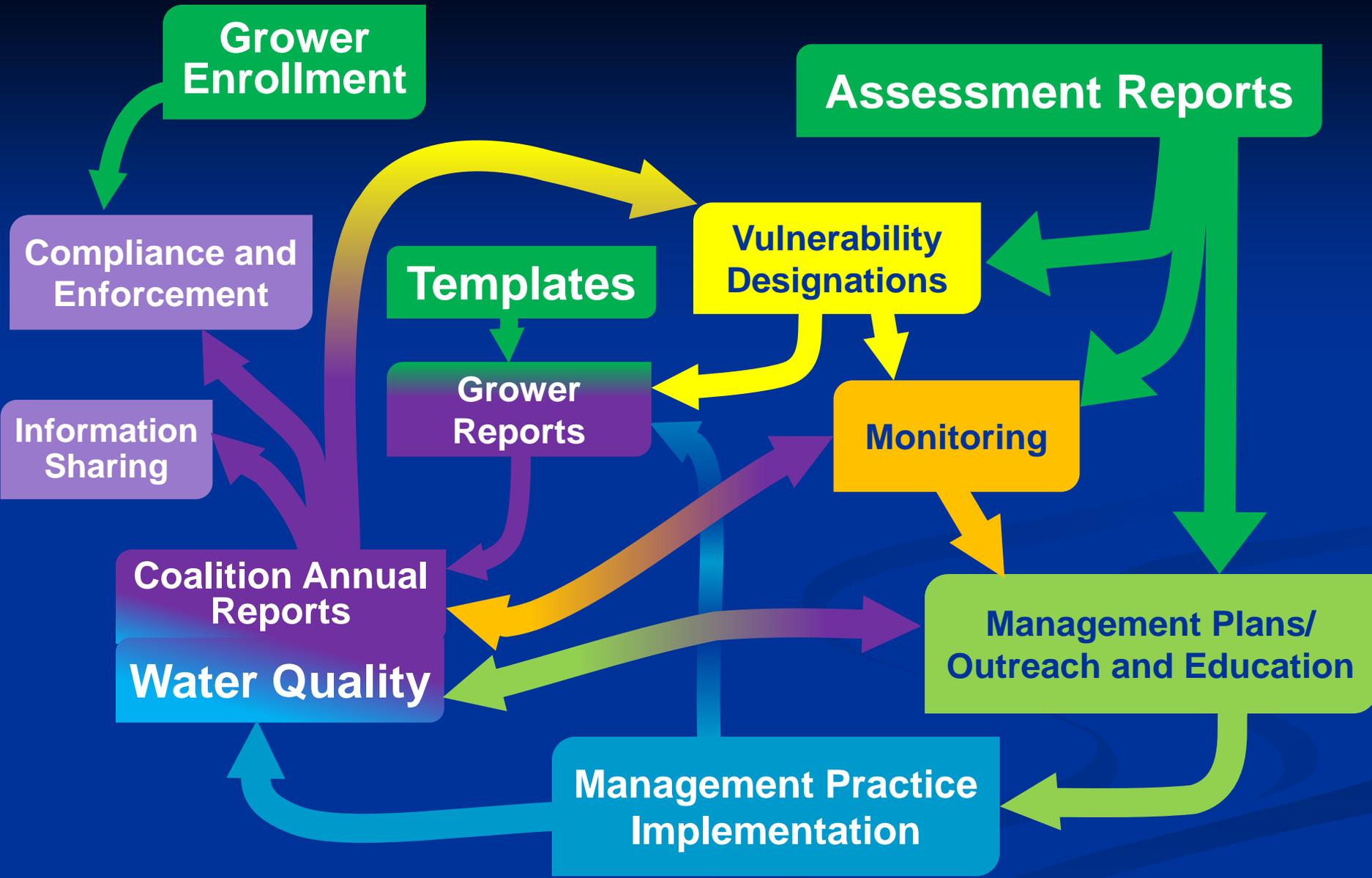
**Management Practice  
Implementation**











# Nitrogen Management Plans

Key mechanism to minimize nitrogen discharge to surface and groundwater

- High Vulnerability Areas
  - CCA certifies nitrogen plans for members
    - CDFA certification program in development
  - Member self-certification with training
  - Nitrogen Management Plan Summary Reports sent to Third-party
- Low Vulnerability Areas – Plan must be prepared
- Third-party/Ag will develop templates

# Nitrogen Management Plans

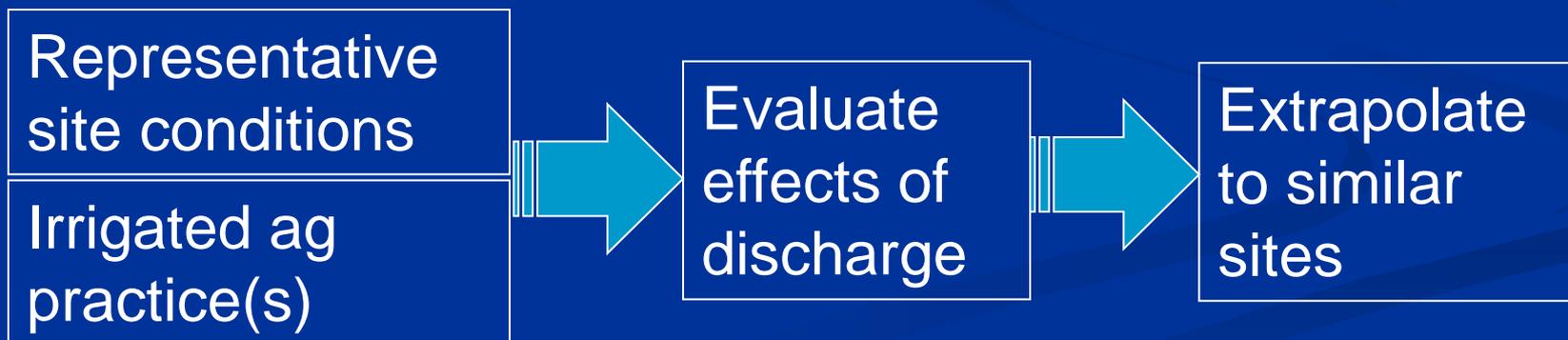
Potential Components of Plan (from draft template prepared by Coalition)

- Crop Nitrogen Demand
  - Crop type; expected yield; nitrogen crop needs to meet yield
- Nitrogen Supply
  - Total N applied – spring, summer, fall, foliar, manure, compost, other
  - Soil N Credits – from previous legume crop; residual from manure; organic matter mineralization; soil test; amount in irrigation
- N Ratio – Total N Available/Crop Need

# Management Practices Evaluation Program

*Evaluate whether specific practices are protective of groundwater quality under various site conditions (third-party requirement)*

- Required in high vulnerability areas
- Encourages coordinated approach w/all coalitions, commodity groups, others



# What Will the Management Practices Evaluation Program Tell Us?

- For example....
  - Flood irrigation of Almonds on sandy soil
    - protective of groundwater, if nitrogen ratio  $< 1.X$
  - Micro irrigation of Almonds on sandy soil
    - protective of groundwater, if nitrogen ration  $< 1.Y$
- Will want to evaluate yield/quality

# What's Next?

*General Waste Discharge Requirements are being prepared for other Geographic Areas & Rice*

*Ensuring growers without regulatory coverage, get the required coverage*

*Working with Ag to make sure templates are usable and provide useful information*

# What Does Everyone Want?

## *Clean Water!*

Agricultural coalition approach can help meet that goal – Growers have been and **MUST** be actively engaged!

Water Board recognizes critical importance of agriculture in the Central Valley

Working together the progress made in surface water will occur in groundwater

# Questions?

*Joe Karkoski*

[jkarkoski@waterboards.ca.gov](mailto:jkarkoski@waterboards.ca.gov)

*ILRP information: 916-464-4611*