CENTRAL VALLEY SALINITY COALITION

# New Nitrate Permitting Requirements & Options for the Central Valley Region

12 Dec. 2018

Timothy F. Moore, ***Risk Sciences***

# Central Valley Water Quality Control Plan



"All groundwaters in the Central Valley region are considered suitable, or potentially suitable, at a minimum, for municipal and domestic water supply…"

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STATE OF CALIFORNIA
CENTRAL VALLEY REGION
REGIONAL WATER QUALITY CONTROL BOARD

# Drinking Water Standards



- Nitrate: <10 mg/L (as Nitrogen)
- Salinity: 500-1,000 mg/L (EC=900-1600 $\mu$S/cm)

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# Groundwater Basins & Sub-basins

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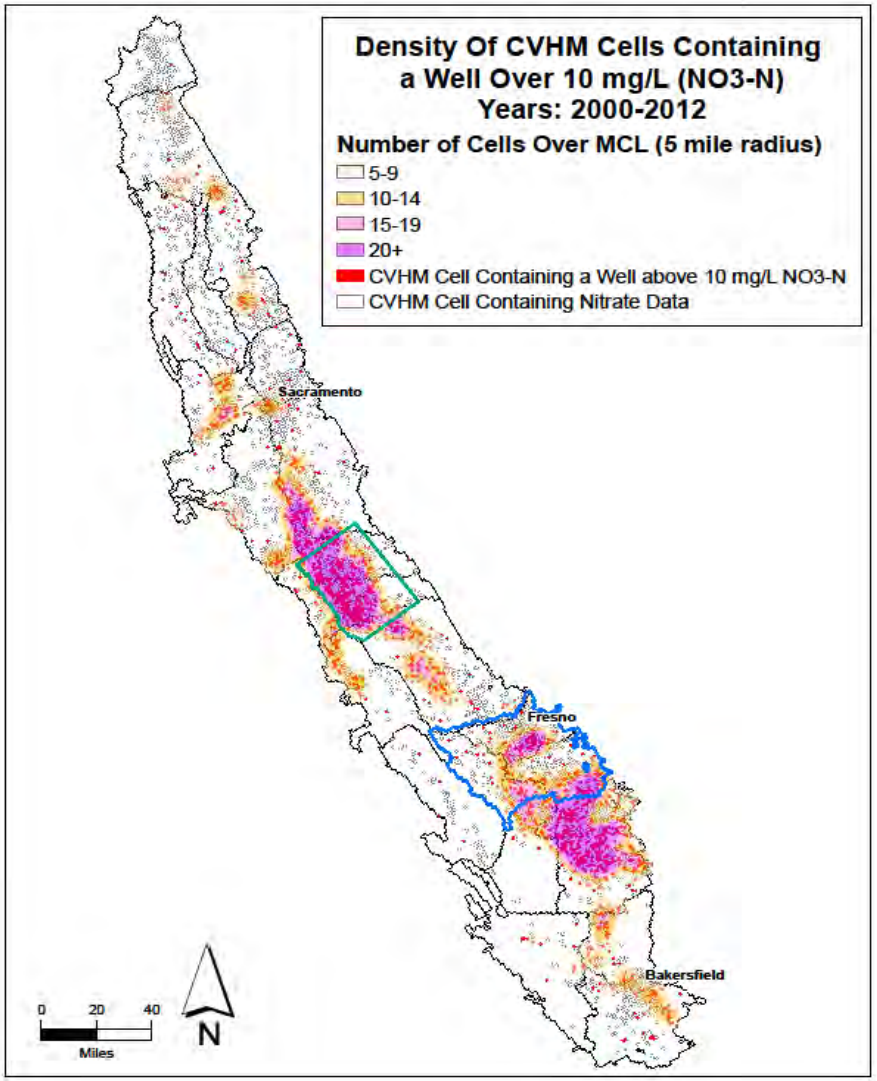
# Nitrate in Central Valley Groundwaters



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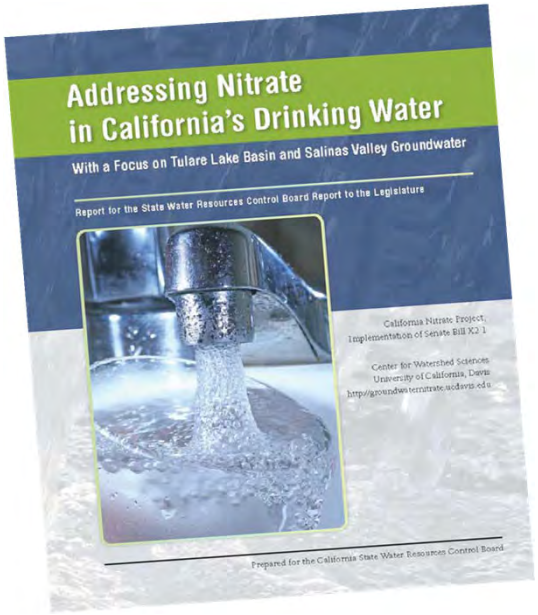
# Increasing Regulatory Concern



- SWRCB Adopts the Recycled Water Policy, 2009
- AB685: Human Right to Water Established (2012)
- Dairy Permit Remanded by Courts (2012)
- SWRCB's Nitrate Report to Legislature (2013)
- SGMA Enacted (2014)
- Division of Drinking Water transferred to SWRCB (2014)
- SWRCB Publishes the Safe Drinking Water Plan (2015)
- Enforcement Order Action in Salinas Basin (2015)
- SWRCB Res. No. 2016-0010 and Reg. Bd. Res. No. 2016-0018
- Enforcement Order Actions in Kaweah, Tule & Kings Basins (2016)
- Regional Board Amends Basin Plan to Enhance Nitrate Control (2018)

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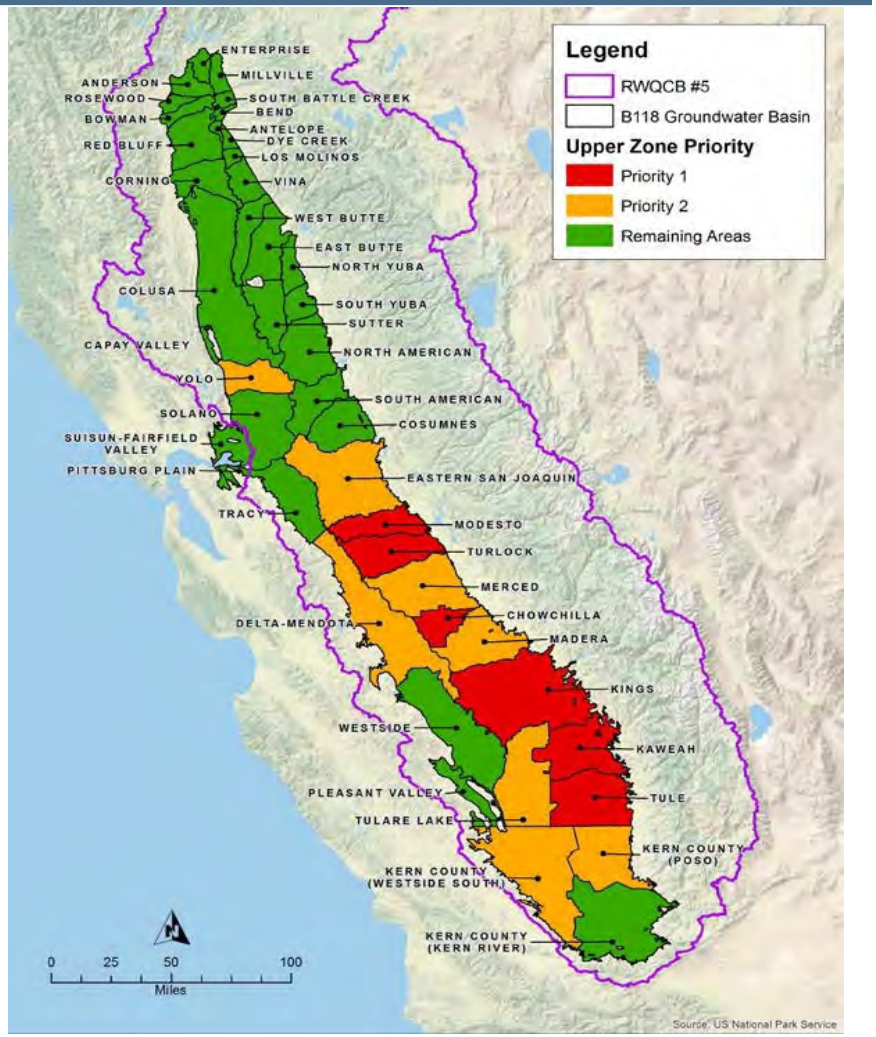
# Priority Groundwater Basins for Nitrate



- Priority 1 Area (Red) – Notice to Comply *within one year of Basin Plan amendments* becoming effective
- Priority 2 Area (Orange) – Notice to Comply *within 2-4 years of Basin Plan amendments* becoming effective
- Non-priority Areas (Green) – Implementation to be phased in at a later date

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# High Priority Groundwater Areas



## Priority 1 Basins

| DWR No. | Name |
|---|---|
| 5-22.11 | Kaweah |
| **5-22.03** | **Turlock** |
| 5-22.05 | Chowchilla |
| 5-22.13 | Tule |
| **5-22.02** | **Modesto** |
| 5-22.08 | Kings |

## Priority 2 Basins

| DWR No. | Name |
|---|---|
| 5-21.67 | Yolo |
| 5-22.04 | Merced |
| 5-22.14 | Kern County (Westside South) |
| 5-22.12 | Tulare Lake |
| 5-22.14 | Kern County (Poso) |
| 5-22.07 | Delta-Mendota |
| 5-22.01 | Eastern San Joaquin |
| 5-22.06 | Madera |

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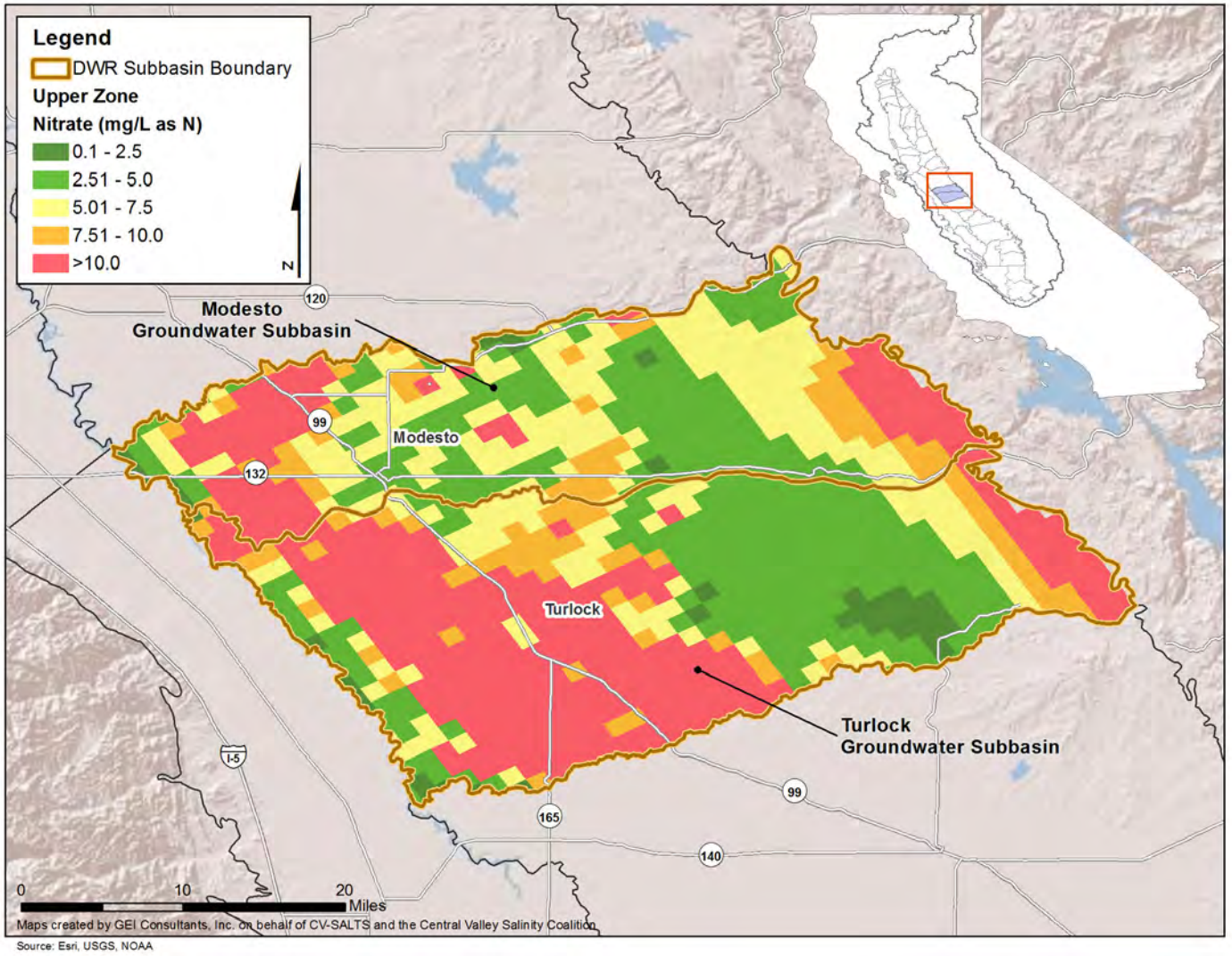
# Modesto & Turlock Groundwater Basins



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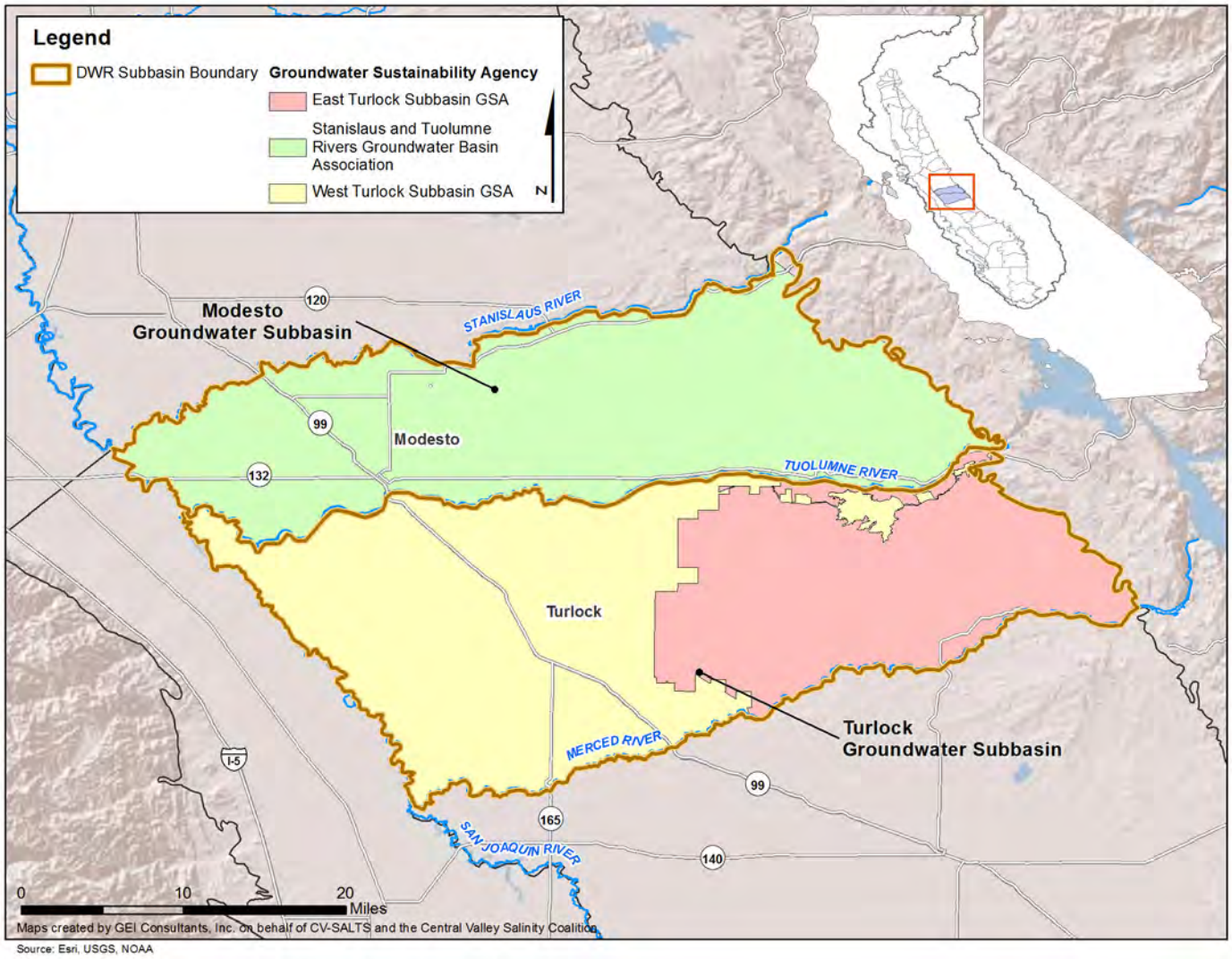
# Modesto & Turlock GSA's



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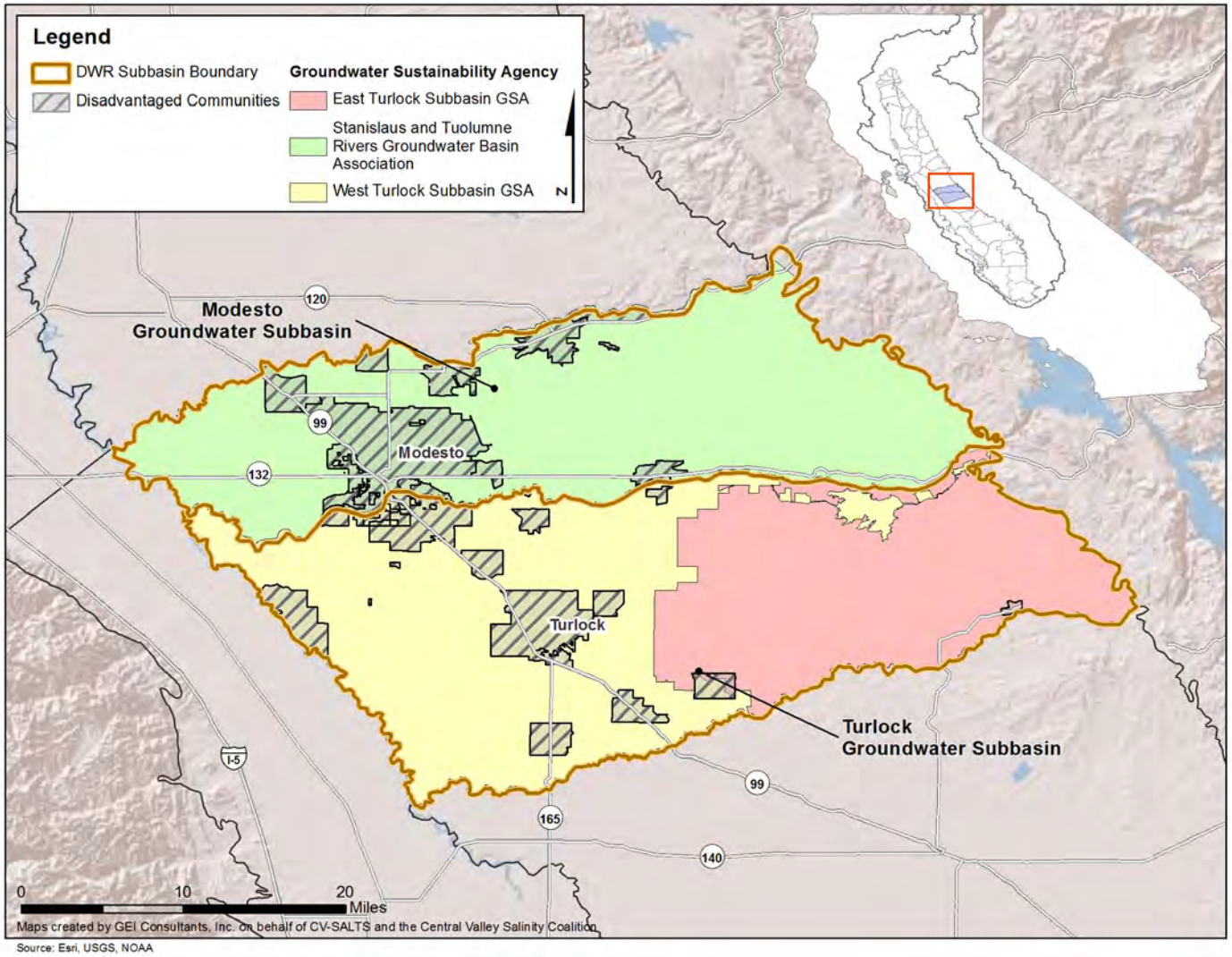
# Economically Disadvantaged Areas



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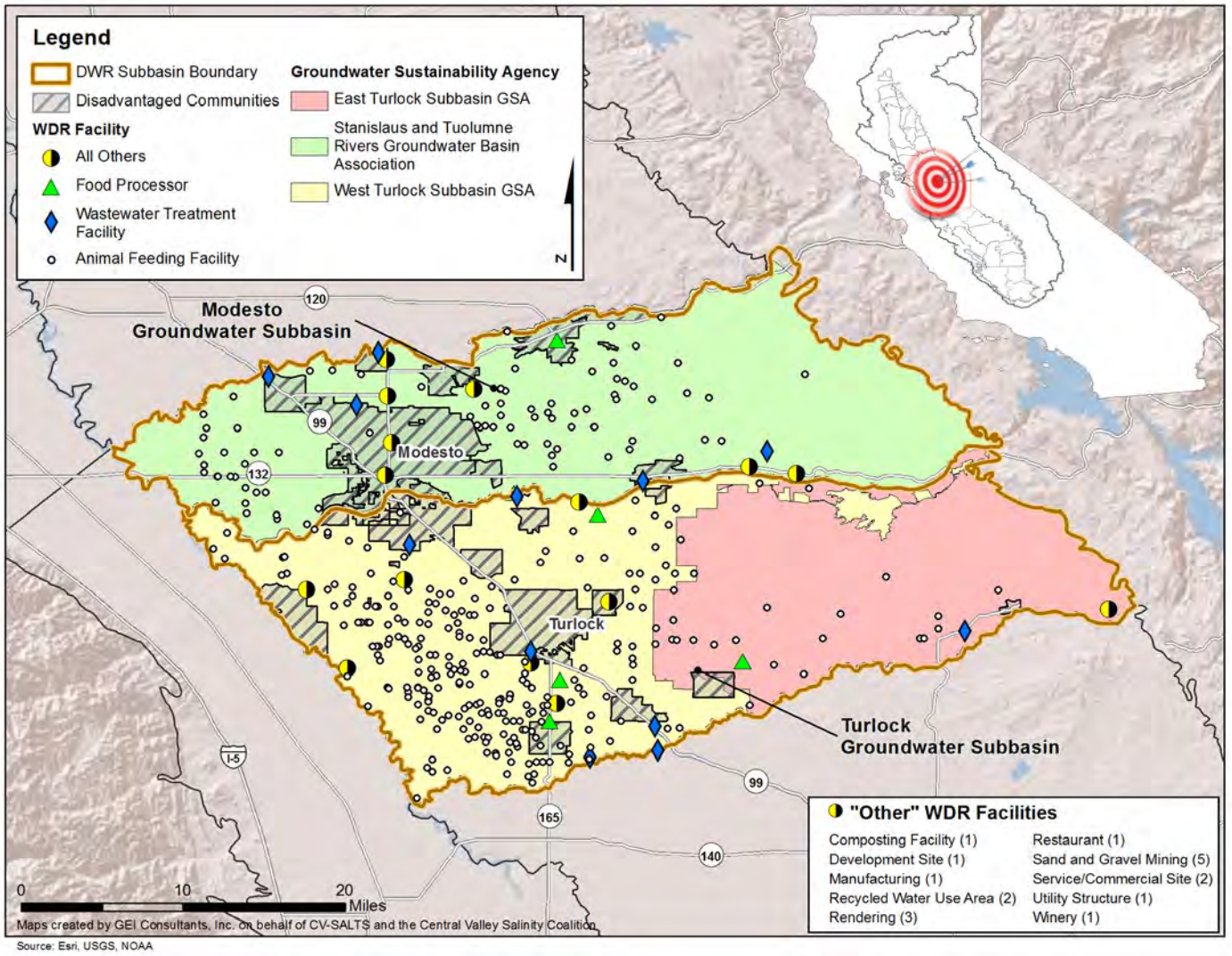
# Regulated Discharges of Nitrate



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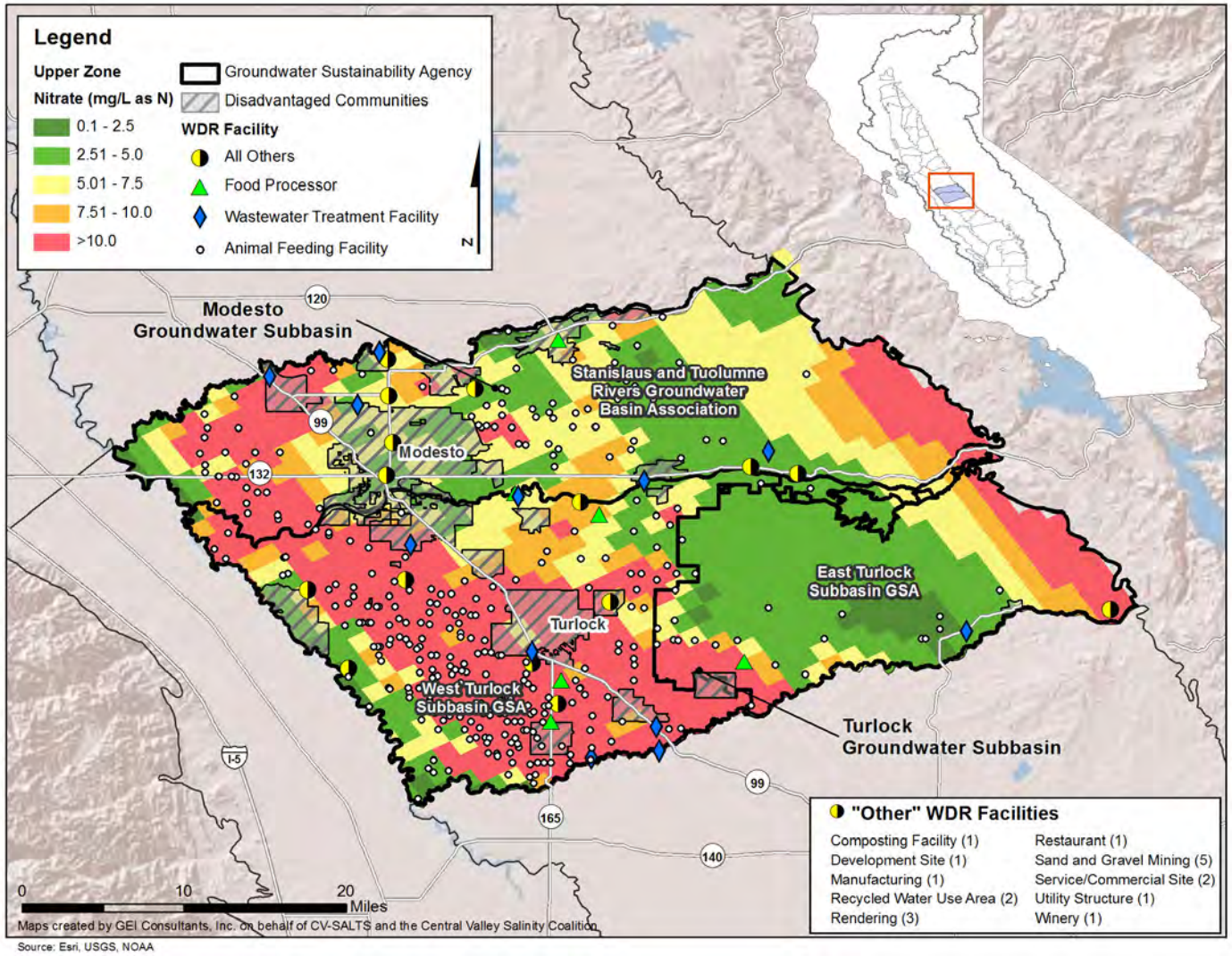
# Putting It All Together



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# Current Permitting Requirements



- "The Water Boards will evaluate all existing Waste Discharge Requirements to determine whether existing regulatory permitting is sufficiently protective of groundwater quality…"

*SWRCB Report to Legislature, 2013*

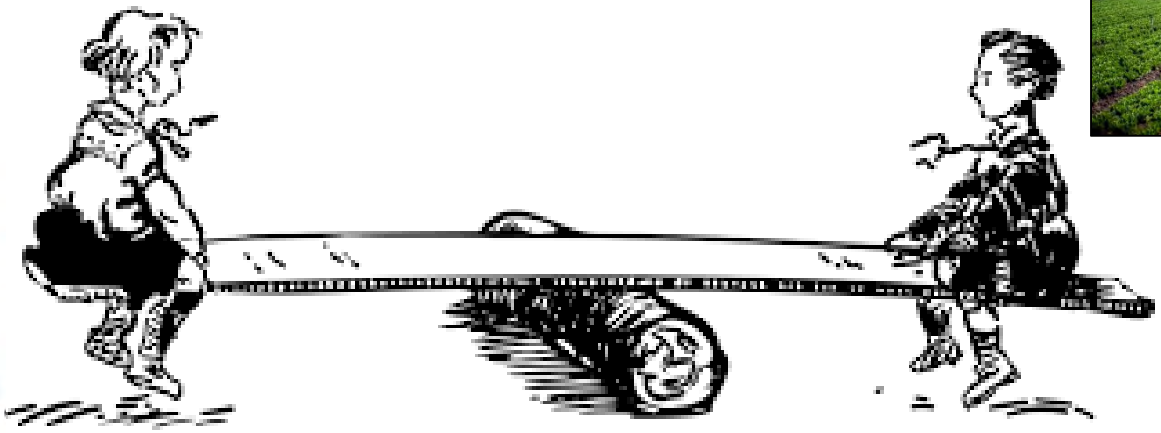
- In areas where groundwater quality is poor and there is no more assimilative capacity available, discharges to the basin must not exceed the applicable water quality standard.

*SWRCB WQO #73-04 and WQO #81-05*

# The Permit Balancing Act



**Assure Safe Drinking Water**



**Preserve Agricultural Economy**

*"We must protect <u>both</u> …*
*… or we get <u>neither</u>"*

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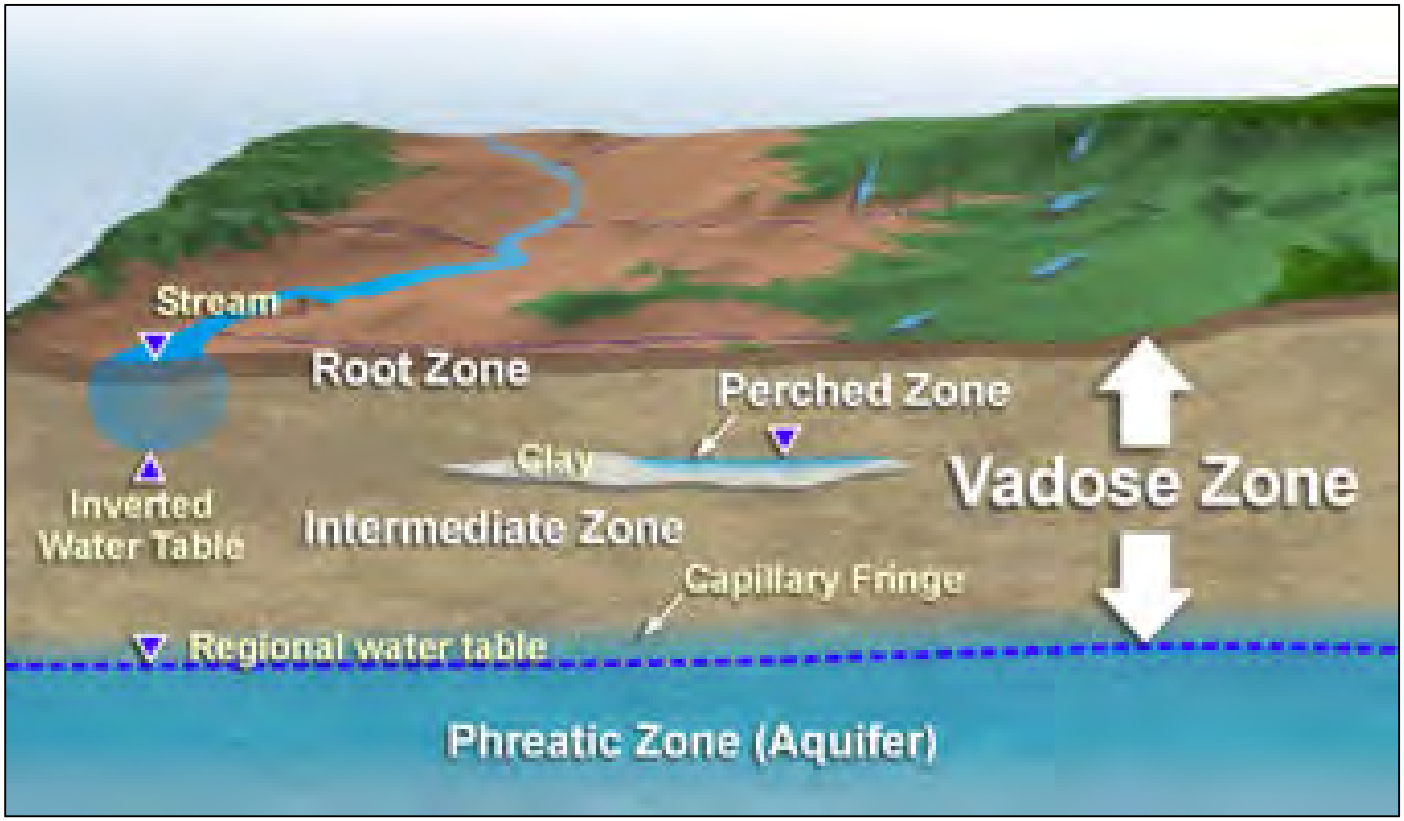
# Traditional Nitrate Permitting Option



- **Nitrate must be < 10 mg/L…**
- **<u>Before</u> reaching the groundwater basin**

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# The New Management Zone Approach



- **Temporary exception from standards**
- **Must assure safe drinking water first**
- **Shared responsibility for implementation**

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# The Big Picture:

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CENTRAL VALLEY
SALINITY
COALITION

TESS DUNHAM
SOMACH SIMMONS & DUNN

December 12 & 13, 2018

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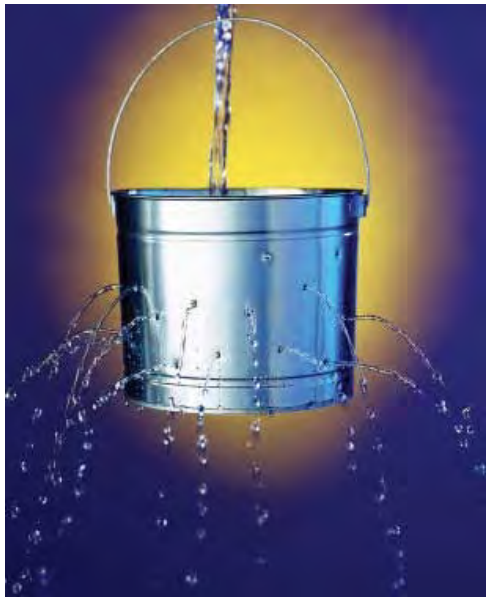
# Management Zones & SGMA

A side by side comparison of priorities, time horizons and implementation.

Dec 12-13 2018

# What goes in versus how much comes out



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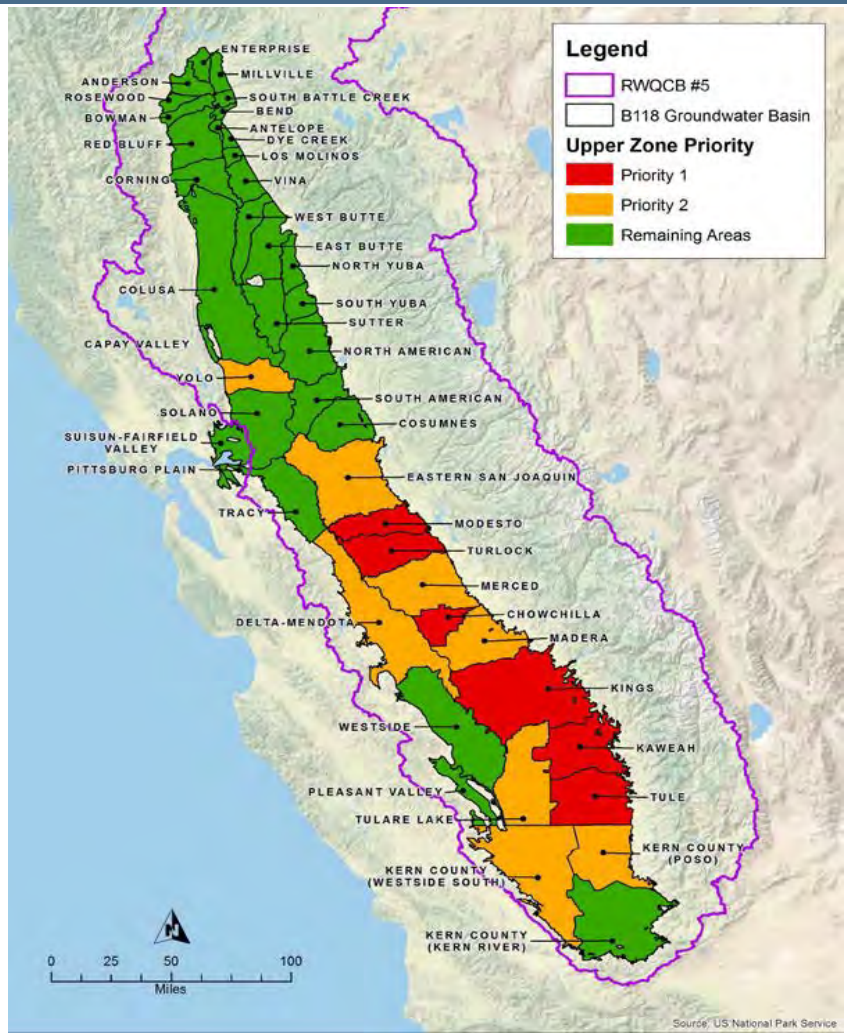
# Nitrate Priority Areas – Focus of Management Zones



- Priority 1 Area (Red) – Notice to Comply *within one year of Basin Plan amendments* becoming effective
- Priority 2 Area (Orange) – Notice to Comply *within 2-4 years of Basin Plan amendments* becoming effective
- Non-priority Areas (Green) – Implementation to be phased in at a later date

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# Priority Groundwater Basins/Subbasins



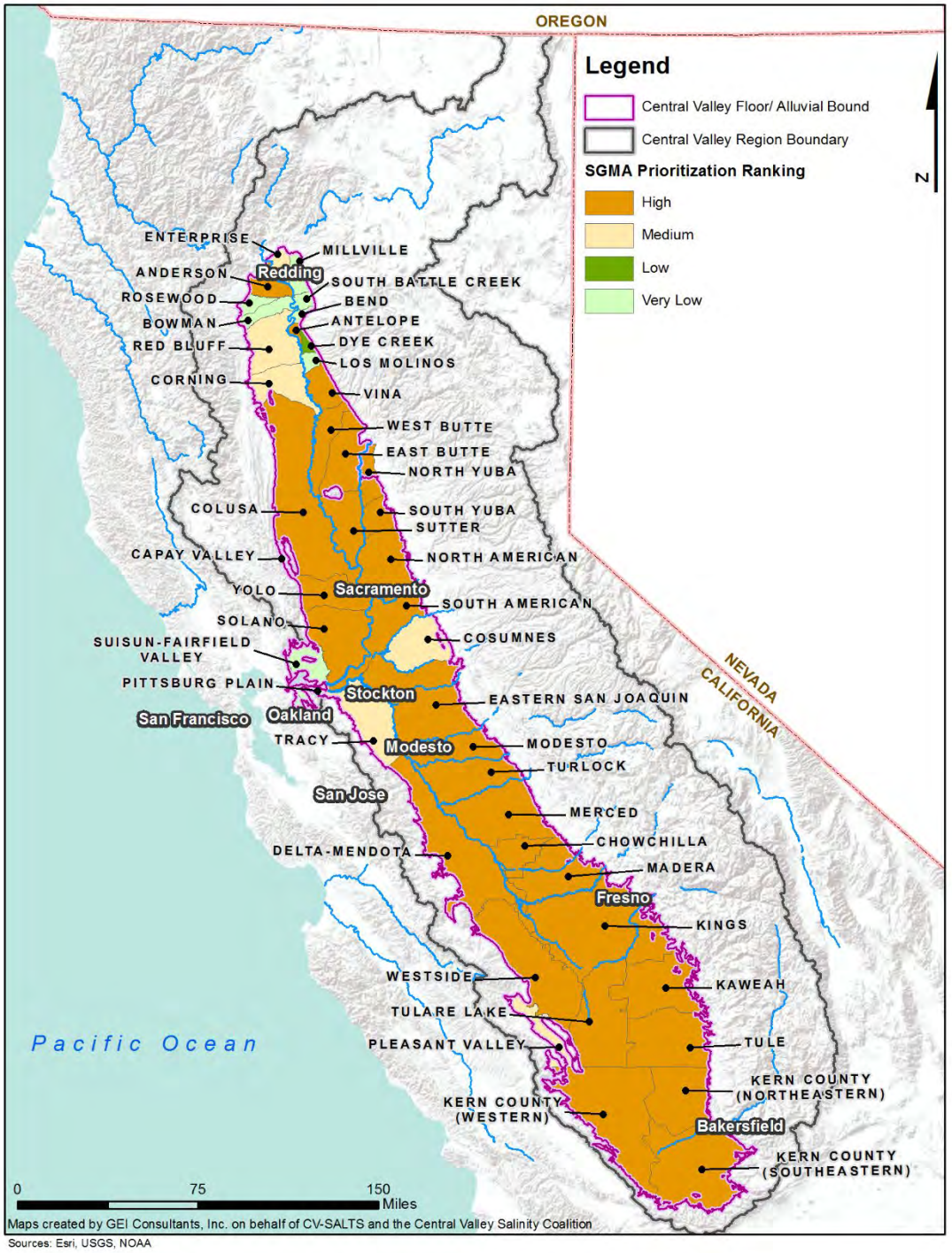
## Priority 1

| No. | Name |
|---|---|
| 5-22.11 | Kaweah |
| 5-22.03 | Turlock |
| 5-22.05 | Chowchilla |
| 5-22.13 | Tule |
| 5-22.02 | Modesto |
| 5-22.08 | Kings |

## Priority 2

| No. | Name |
|---|---|
| 5-21.67 | Yolo |
| 5-22.04 | Merced |
| 5-22.14 | Kern County (Westside South) |
| 5-22.12 | Tulare Lake |
| 5-22.14 | Kern County (Poso) |
| 5-22.07 | Delta-Mendota |
| 5-22.01 | Eastern San Joaquin |
| 5-22.06 | Madera |

# SGMA Priorities

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# DWR's Critically over-drafted basins/subbasins (2016)

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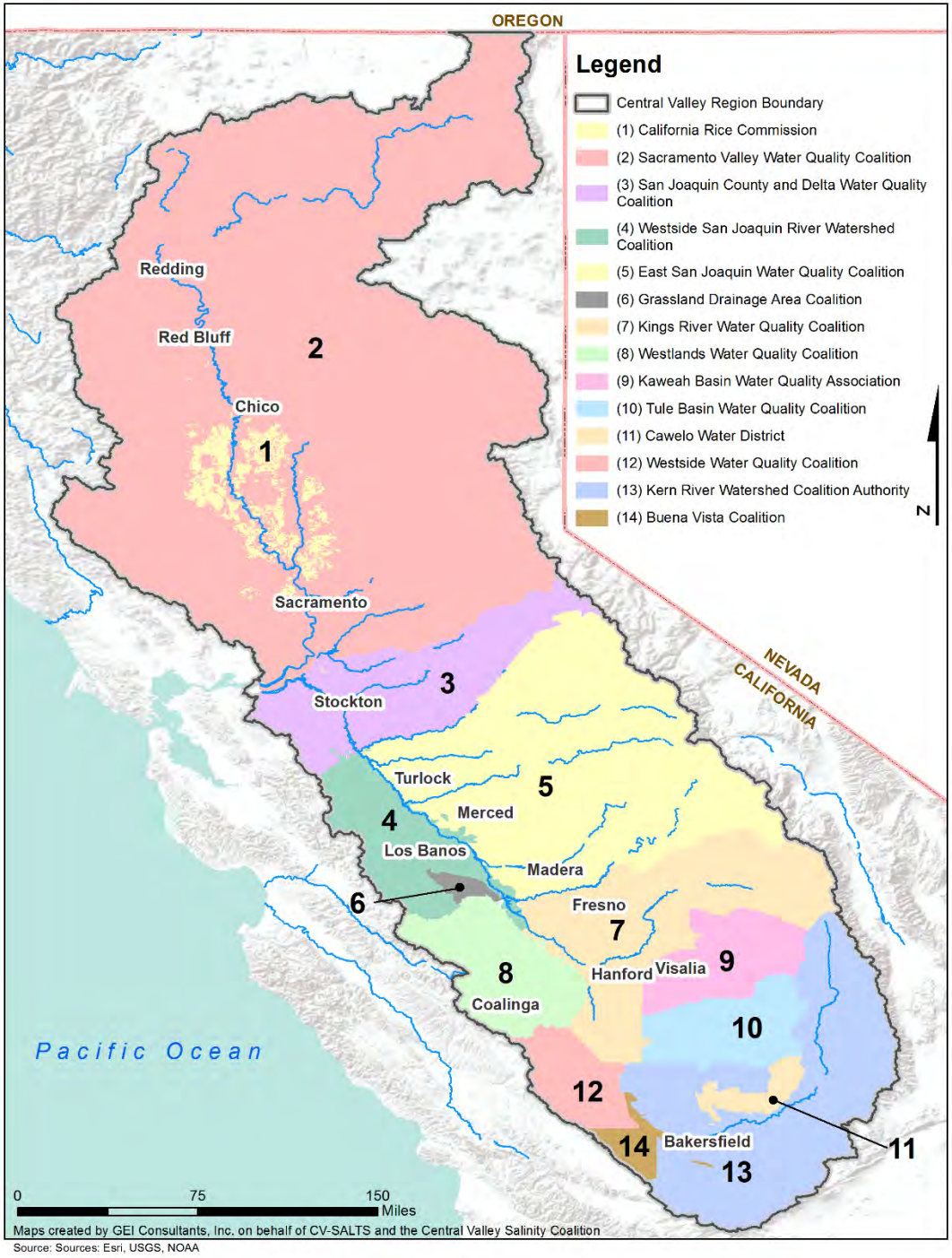
# Central Valley Irrigated Lands Coalition Groups

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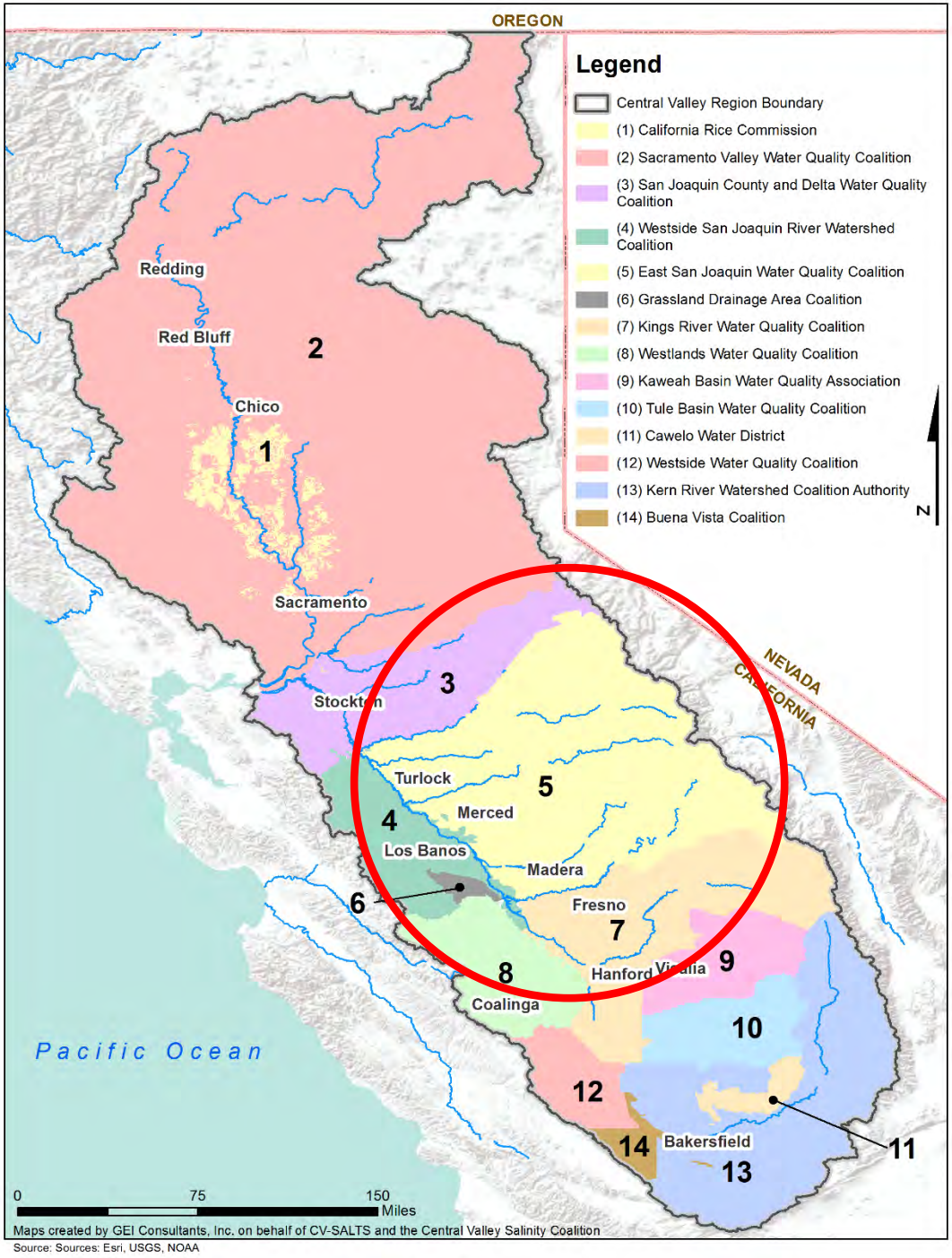
# East San Joaquin Water Quality Coalition Area

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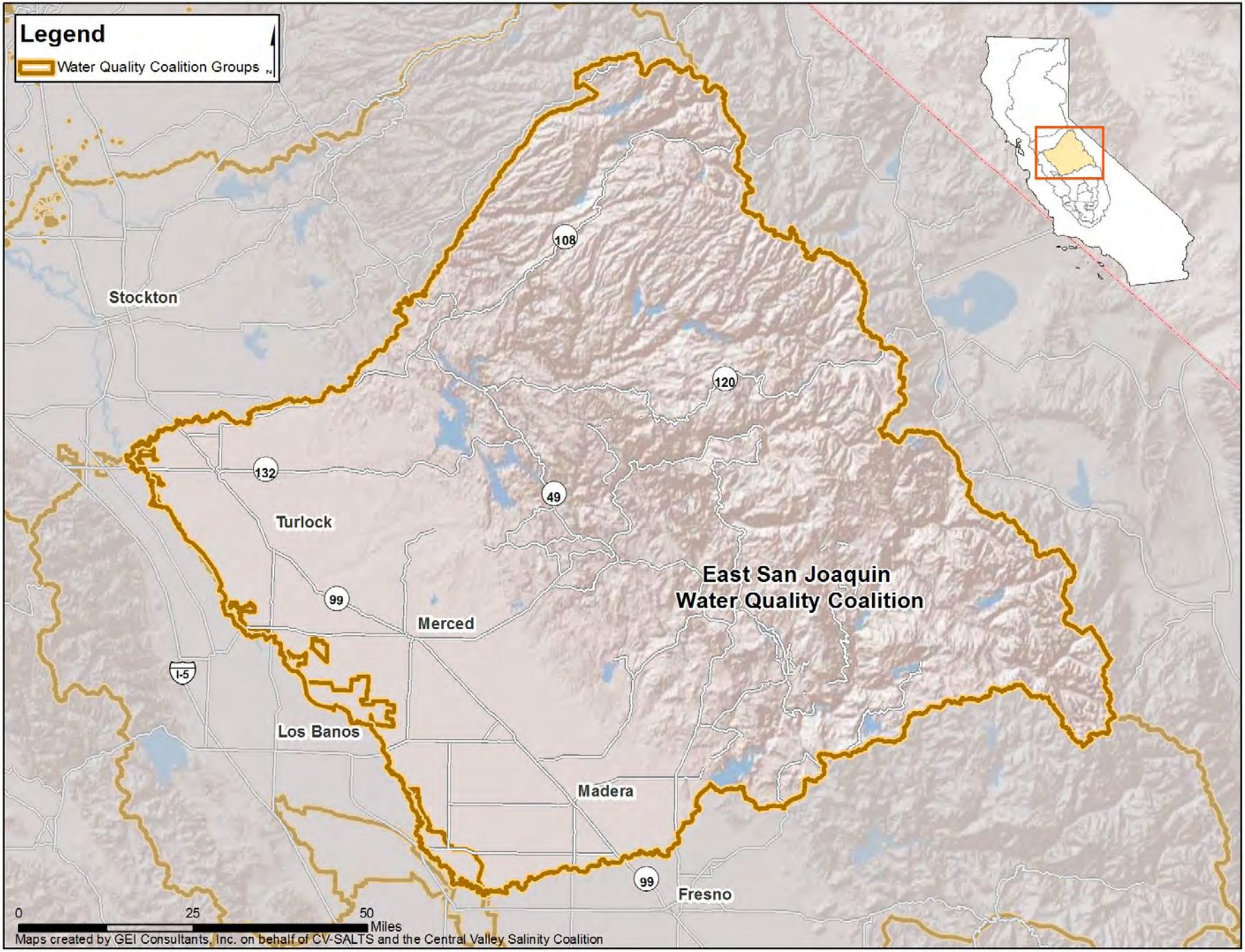
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Water Quality Coalition Groups
Stockton
Turlock
Merced
Los Banos
Madera
Fresno
East San Joaquin
Water Quality Coalition
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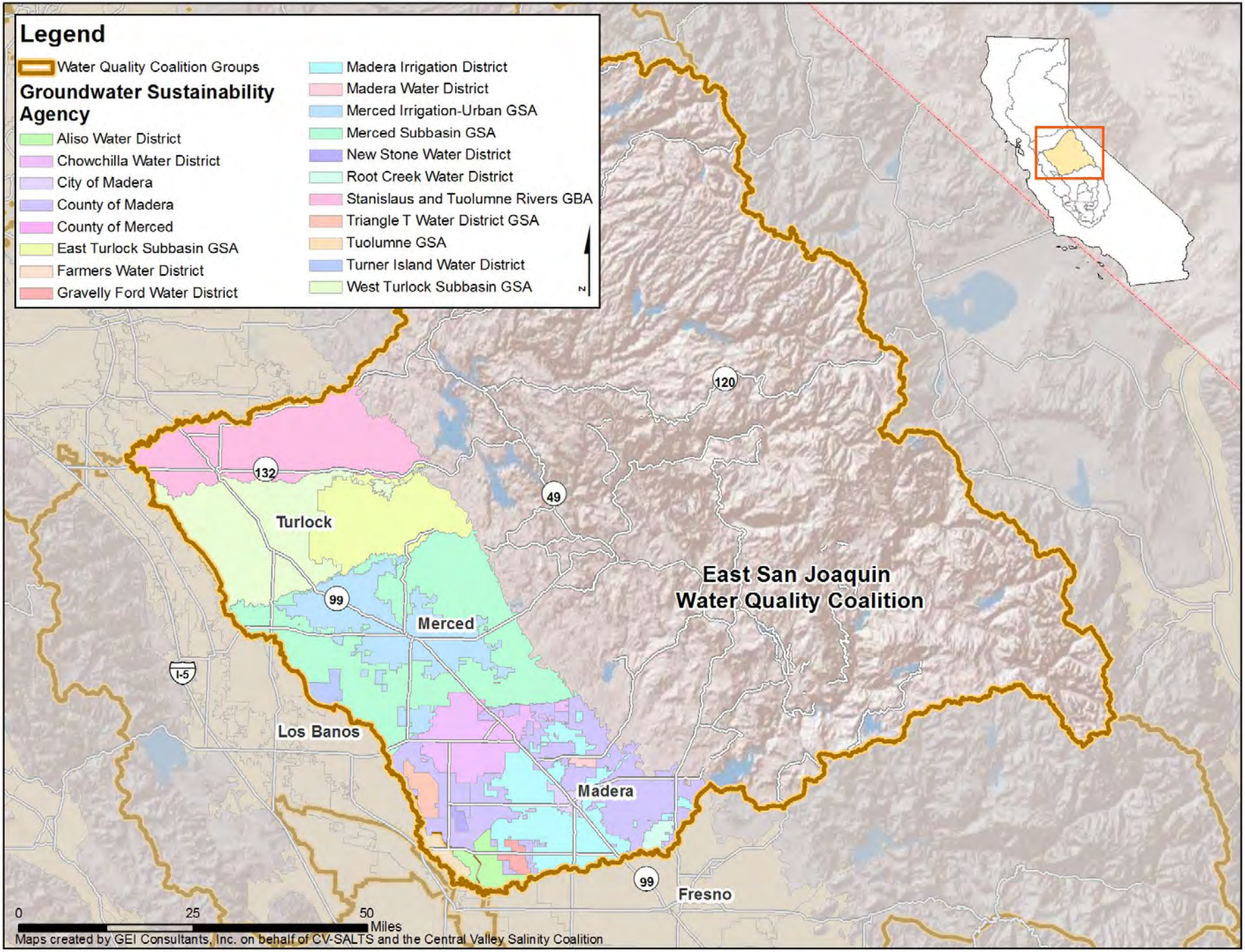
Miles
Maps created by GEI Consultants, Inc. on behalf of CV-SALTS and the Central Valley Salinity Coalition

Source: Esri


Legend
Water Quality Coalition Groups
Groundwater Sustainability Agency
Aliso Water District
Chowchilla Water District
City of Madera
County of Madera
County of Merced
East Turlock Subbasin GSA
Farmers Water District
Gravelly Ford Water District
Madera Irrigation District
Madera Water District
Merced Irrigation-Urban GSA
Merced Subbasin GSA
New Stone Water District
Root Creek Water District
Stanislaus and Tuolumne Rivers GBA
Triangle T Water District GSA
Tuolumne GSA
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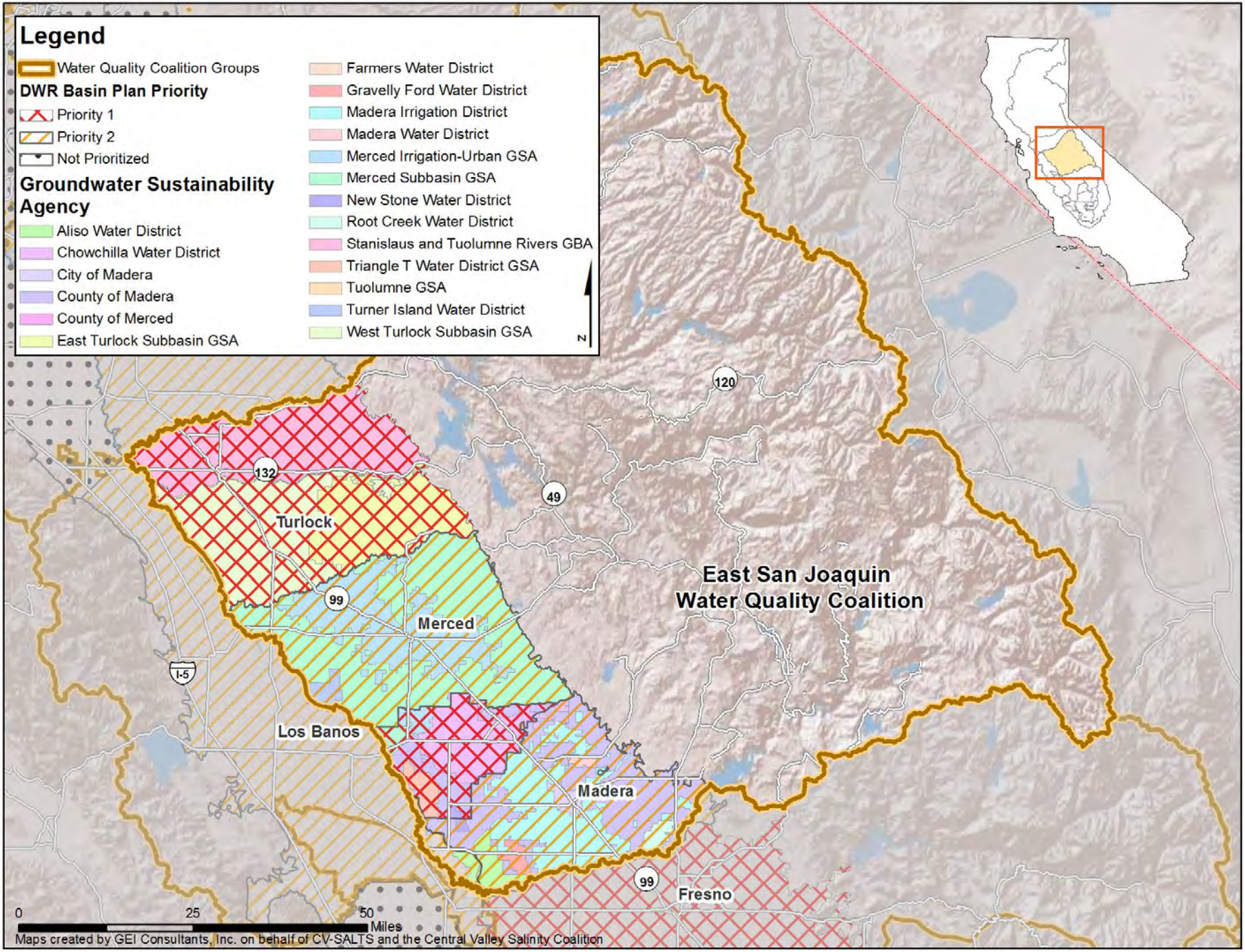
Legend
Water Quality Coalition Groups
DWR Basin Plan Priority
Priority 1
Priority 2
Not Prioritized
Groundwater Sustainability Agency
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City of Madera
County of Madera
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Maps created by GEI Consultants, Inc. on behalf of CV-SALTS and the Central Valley Salinity Coalition
Source: Esri

# What is a Management Zone?



- Regulatory construct in Basin Plans
- Defined area that serves as discrete regulatory compliance unit for nitrates into groundwater
- Discharger cooperative for implementation of management plan for nitrates into groundwater
  - Shorter term – implementation of best practicable treatment or control
  - Longer term – balance and management restoration
- Collective implementation for ensuring nitrate impacted users of groundwater have safe water

# What is a Groundwater Sustainability Agency?



- Statutory construct in California Water Code
  - Sustainable Groundwater Management Act of 2014
- Local management entity with authority to manage and regulate groundwater use in a basin or subbasin
- State intervention where no local agency, or inadequate local plan
- Sustainable groundwater management over 20 years

# Differences in Authorities



## Management Zone

- Regulatory alternative for dischargers that elect this path
- Contractual agreement amongst dischargers
- May be a local agency, but not necessary
- Water Board ensures implementation through waste discharge requirements
- Serves as alternative compliance for complying with nitrate water quality objective

## Groundwater Sustainability Agency

- State law requirement, or be subject to State Water Board
- Adopt rules, regulations & ordinances
- Conduct investigations
- Require well registration, submission of annual statements, etc.
- Regulate extractions
- Impose fees

# Formation of MZ versus GSA



## Management Zone Formation

- Locally Led – Water Board Approved
  - Permitted dischargers to work cooperatively to prepare proposal
  - Identify geographic area
  - Identify other permitted discharges within geographic area
  - Submit Preliminary and Final Proposals to Central Valley Water Board that meets all specified requirements
  - Preliminary and Final Proposals to be posted for at least 30-days for public comment

## GSA Formation

- Locally Led & Approved - Water Board oversight
  - Notice and public hearing in each county overlying the proposed GSA boundary
  - Must consider interests of all beneficial uses and users of groundwater
  - Formation and election
  - County presumed to be GSA in any area of a basin not elected
  - If no GSA, SWRCB oversight triggered

# Timing of Deliverables



## Management Zone

- Preliminary Management Zone Proposal
  - 270 days or 1 year after receiving Notice to Comply (est. mid to late 2020)
- Early Action Plan
  - With Preliminary Management Zone Proposal
- Final Management Zone Proposal
  - 180 days after receiving comments on Preliminary Proposal
- Management Zone Implementation Plan
  - 6 months after Final Proposal is accepted
  - Includes schedule for implementation

## Groundwater Sustainability Agency

- Formation of GSA
  - By June 30, 2017
- Develop Groundwater Sustainability Plan
  - Critically Overdraft Basins by January 31, 2020
  - Other High & Medium Basins by January 31, 2022
- Alternative to Groundwater Sustainability Plan
  - By January 1, 2017
- Achieve Sustainability
  - January 31, 2040/2042

# Content Requirements: Management Zone Implementation Plan & Groundwater Sustainability Plan



## Management Zone Implementation Plan

- Drinking water needs
- Time to achieve balance & restoration
- Community collaboration
- Funding & Cost Share Agreements
- Nitrate management activities
- Water quality characterization
  - Short term (<20 years) & long term (>20 years) projects
  - Milestones
  - Schedule of implementation
- Participant Responsibilities
- Surveillance and Monitoring

## Groundwater Sustainability Plan

- Basin characteristics
- Hydrogeologic conceptual model
- Groundwater conditions
- Water budget
- Identification of management areas (if applicable)
- Sustainability goal (i.e., sustainable yield)
- Identification of undesirable results
- Minimum thresholds
- Measurable Objectives/Milestones
- Monitoring Network
- Projects & Management Actions

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# GSP Water Quality Element



Degraded Water Quality

23 CCR §354.28(c)

- "Minimum threshold for degraded water quality shall be the degradation of water quality, … as determined by the Agency that may lead to undesirable results. … In setting minimum thresholds for degraded water quality, the Agency shall consider local, state, and federal water quality standards applicable to the basin."

# Key Commonalities

Groundwater

Ground zero for
over-draft and nitrates

Similar implementation
actions

Same folks paying for both

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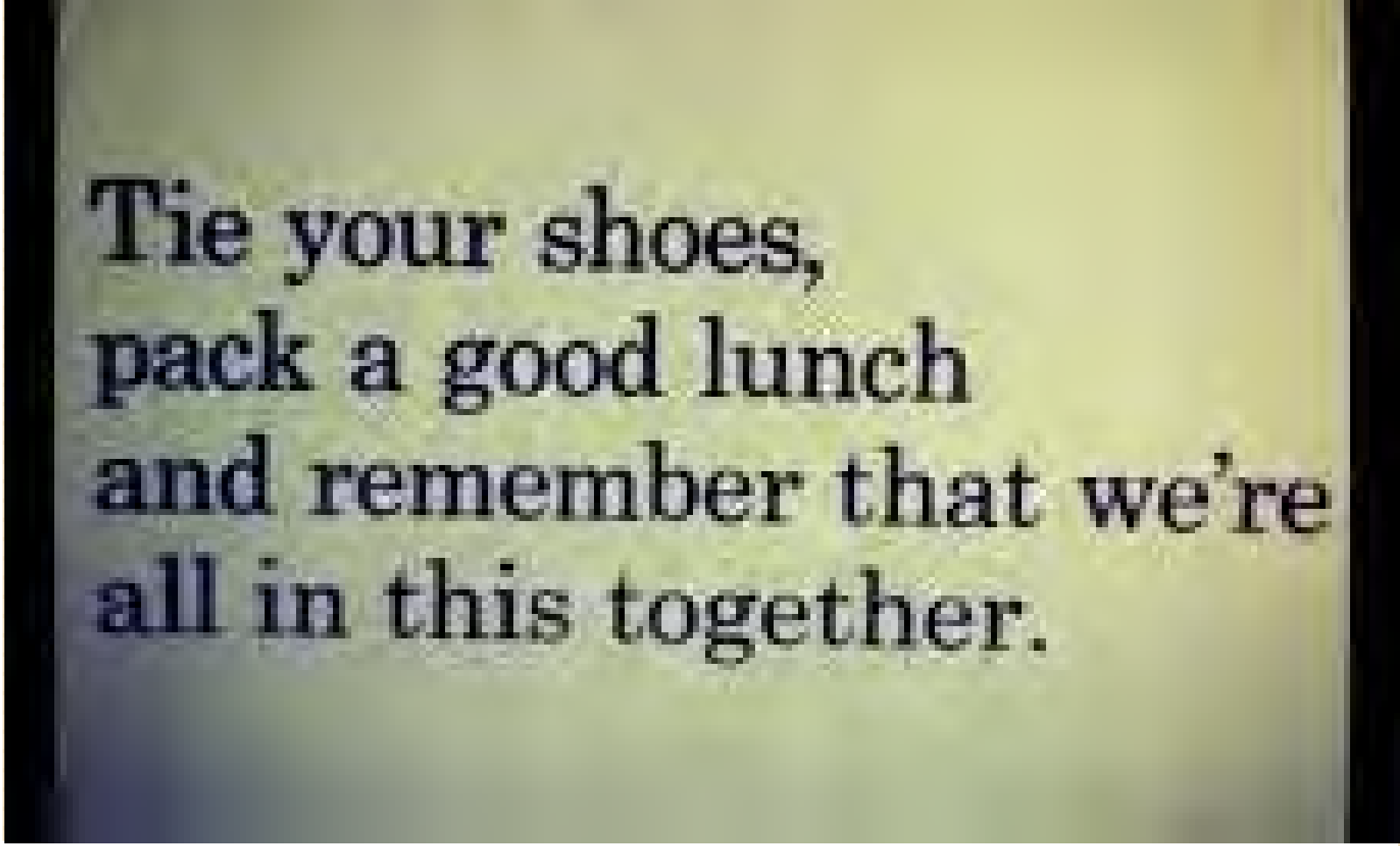


# Advice for the Day