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Do San Joaquin Valley's Groundwater Sustainability Plans Accommodate for RHNA Growth?

San Joaquin Valley REAP Webinar

January 23, 2024

San Joaquin Valley Regional Early Action Planning (REAP) Program

is a state funded grant program to help regions with planning activities to meet sixth cycle regional housing needs assessment (RHNA) and to spur affordable housing

Technical Assistance – Water Supply Study


San Joaquin Valley Guide
to Recent California Housing Laws
San Joaquin Valley
REAP
Taking Stock:
A Comprehensive Housing Report for
the San Joaquin Valley in 2022
Final | March 2022
San Joaquin Valley
Market Feasibility
Development Feasibility
Inclusionary
Policy
Evaluation
CITY of CLOVIS
COTTAGE HOME
PROGRAM

Study Purpose

Improve linkage between land use planning and water management in San Joaquin Valley

Evaluate adequacy of water supply identified in water management plans to accommodate projected RHNA growth

Drivers – Residential Growth in California

RHNA – Regional Housing Needs Assessment

- Local municipalities are required to plan and zone for adequate housing to accommodate anticipated population growth
- With HCD oversight, local Council of Governments develops RHNA plan
- Focus: fair and affordable housing for very low, low, and moderate income households

Drivers – Water Management in California

SGMA – Sustainable Groundwater Management Act, 2014

- Local agencies are required to proactively manage groundwater supplies, quality, and ecosystems or relinquish control of pumping to State

GSA – Groundwater Sustainability Agency

- Water agencies and/or counties must file as GSAs to voluntarily manage groundwater within their service area

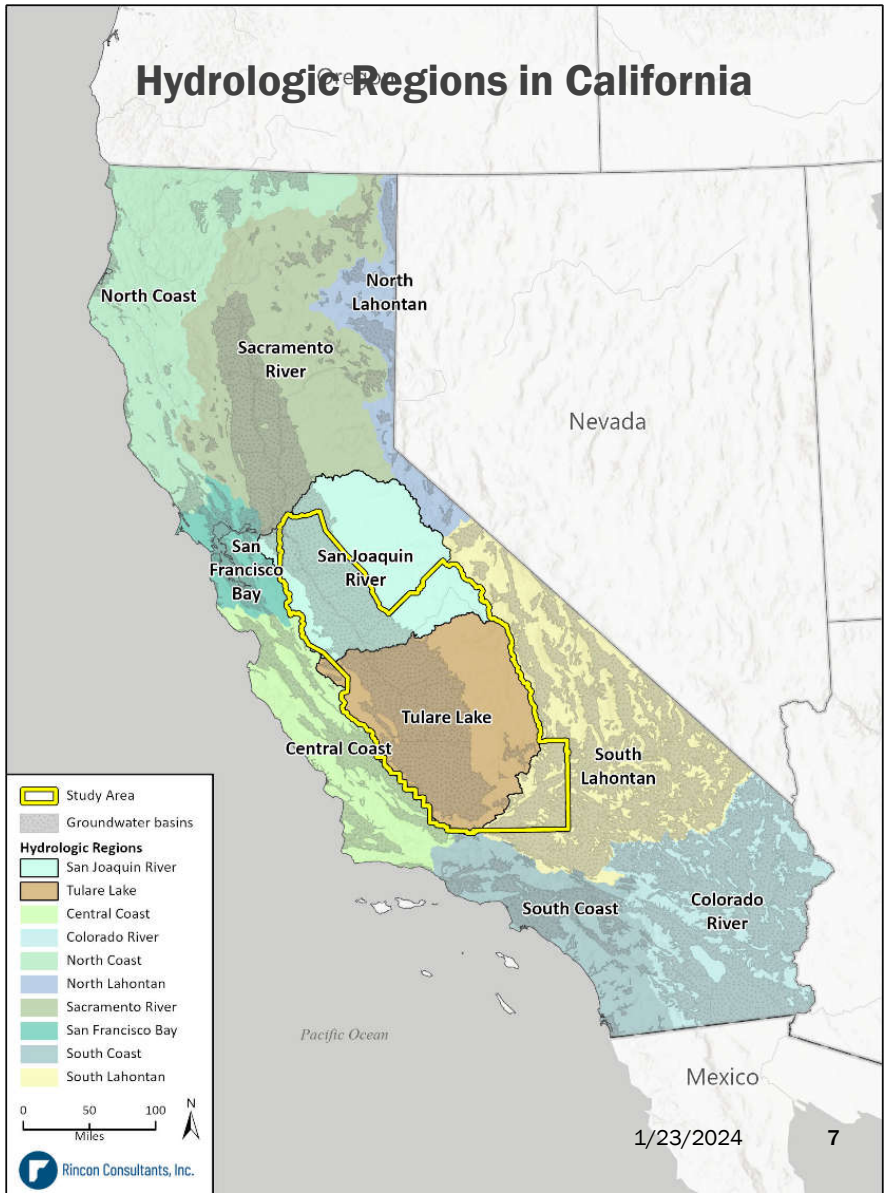
GSP – Groundwater Sustainability Plan

- GSAs are required to develop a roadmap for how basins will achieve sustainability within a 20-year period

Study Area

San Joaquin Valley

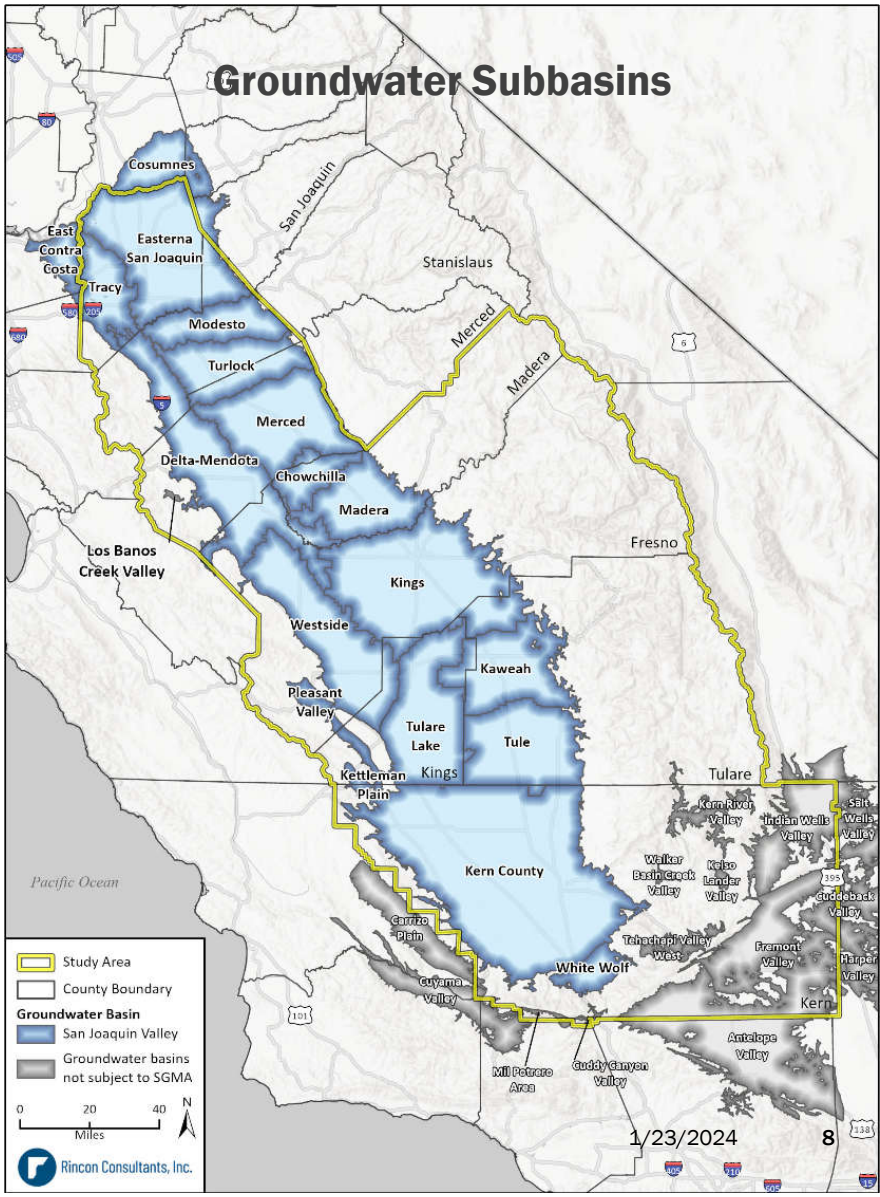
- Covers 8 counties across the San Joaquin Valley – Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare
- Addresses 3 hydrologic regions defined by the state – San Joaquin River, Tulare Lake, and small portion of South Lahontan



Water Supply

Groundwater

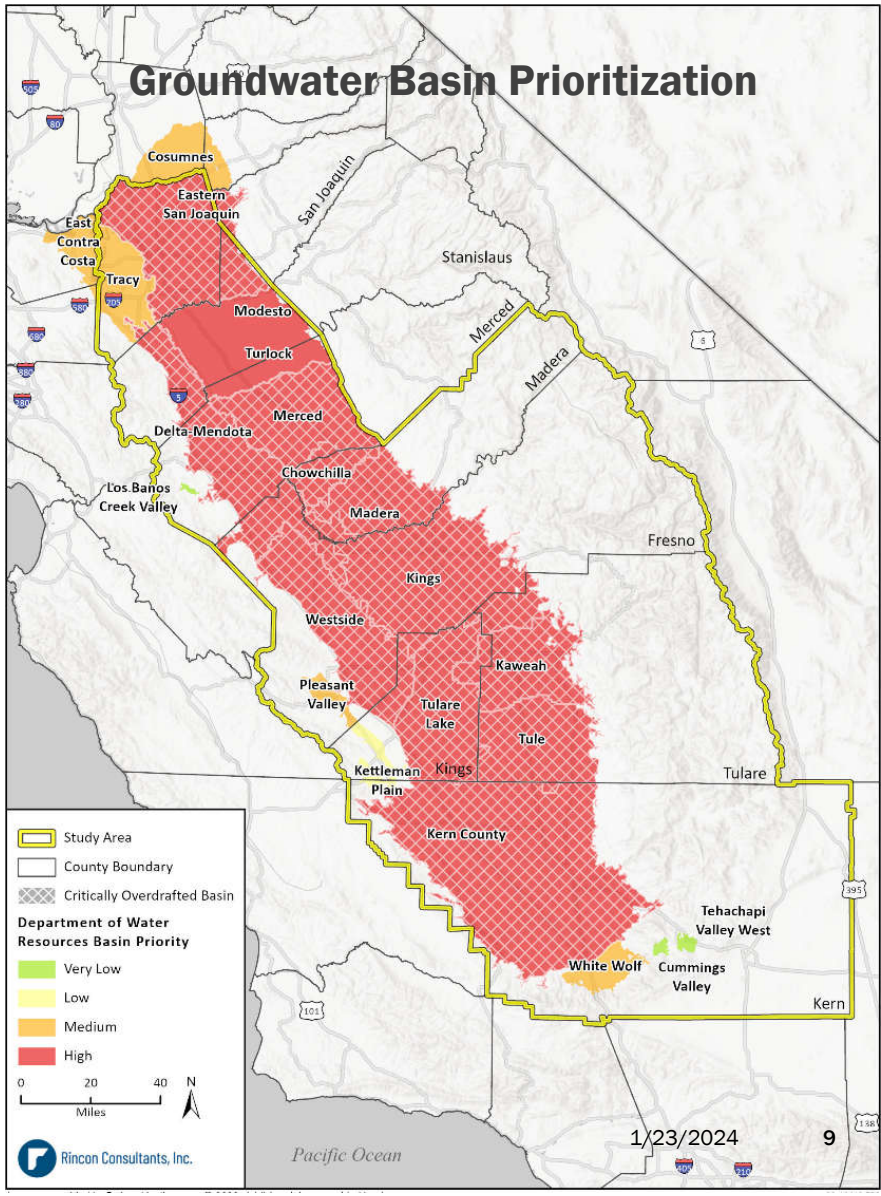
- Comprises 40% of California's water supply portfolio
- 17 subbasins in San Joaquin Valley are subject to SGMA
- 4 basins in study area are adjudicated and, therefore, not subject to SGMA
- 5 basins are not prioritized by State and, therefore, do not have to comply



Water Supply (cont'd)

Groundwater (cont'd)

- Comprises 40% of California's water supply portfolio
- 17 subbasins in San Joaquin Valley are subject to SGMA
  - Of those, 13 subbasins are high priority
  - And 11 subbasins are in critical overdraft



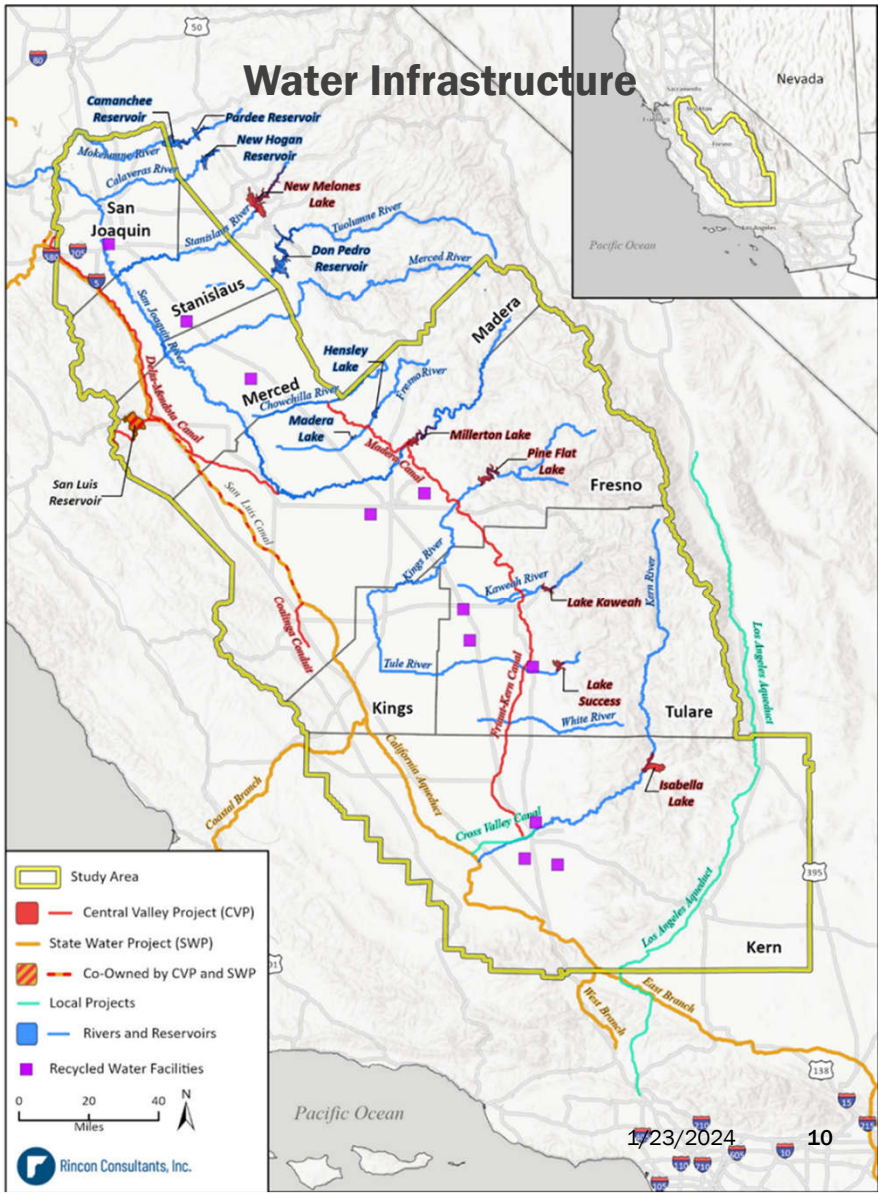
Water Supply (cont'd)

Surface Water

- Central Valley Project (CVP) serves 12 subbasins
- State Water Project (SWP) serves 5 subbasins
- 12 rivers and associated reservoirs
- Multiple conveyance canals

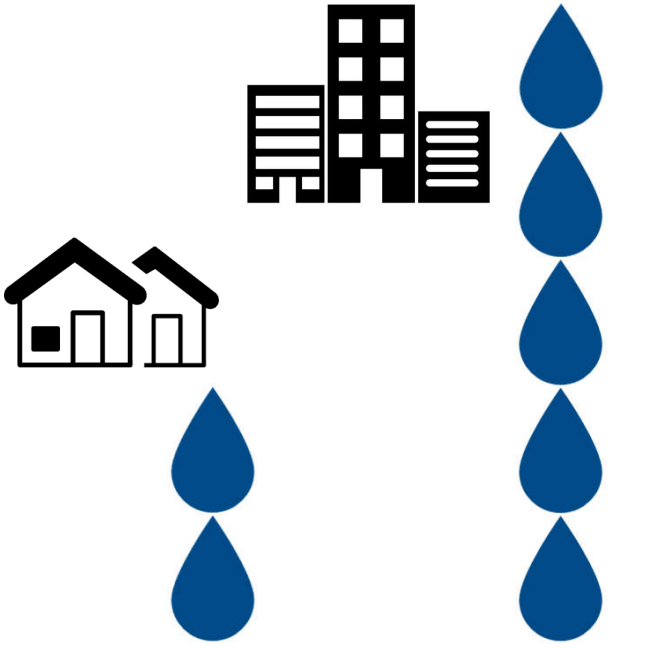
Recycled Water

- Can be delivered for irrigation
- Water from infiltration ponds returns to groundwater



New Housing Induces Demand

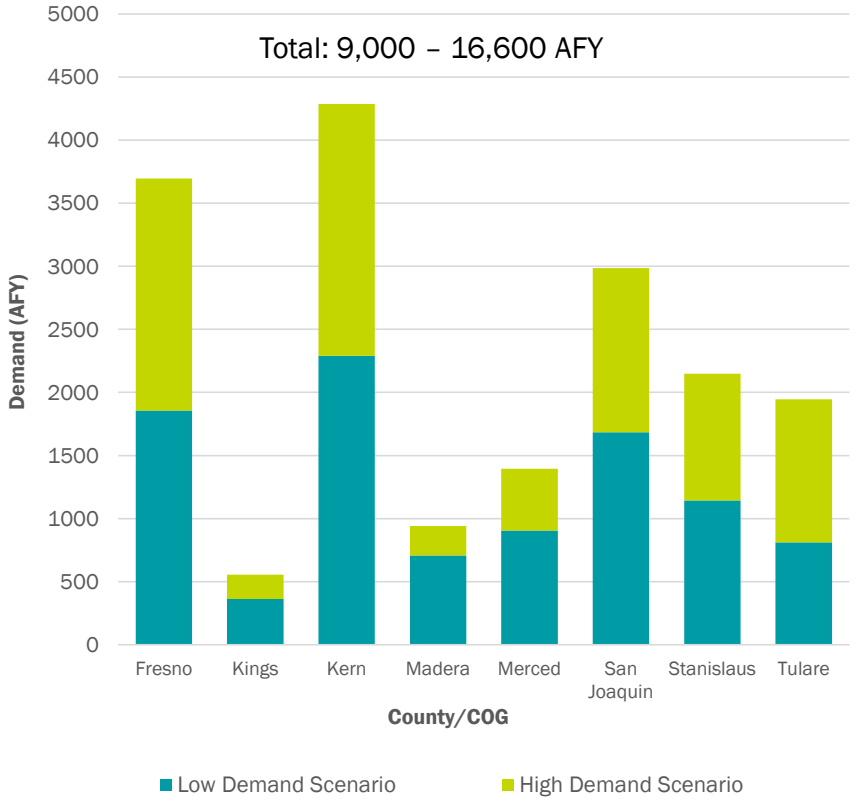
- Used RHNA allocations and Census data to estimate population increase across each basin
- Used Water Demand Per Capita from local Urban Water Management Plans (UWMPs) to estimate associated water demand from RHNA housing



RHNA Demand Gap

- Calculated RHNA-induced population growth and associated demand
- Evaluated GSPs for urban/municipal water demands

RHNA Estimate – GSP Estimate = Water Demand Gap



RHNA Demand Gap (cont'd)

- In San Joaquin Valley, 11 subbasins are not adequately planning for RHNA water demands
- Projected urban/municipal demand is small in comparison to agricultural demand in San Joaquin Valley
  - >7.6 MAFY in pumping Valleywide

Subbasin	Demand Gap (AFY)	
	Low Demand Scenario	High Demand Scenario
Chowchilla	0	0
Delta-Mendota	335	509
Eastern San Joaquin	614	1,062
Kaweah	107	217
Kern County	1,038	1,417
Kings	81	121
Madera	499	450
Merced	705	991
Modesto	438	569
Pleasant Valley	0	0
Tracy	90	159
Tulare Lake	371	566
Tule	0	0
Turlock	0	0
Westside	15	23
White Wolf	0	0
Total	**4,293**	**6,082**

GSPs – Projected Water Supply Projects

- Conveyance & Distribution
- Direct Recharge
- Conservation & Efficiency
- Surface Water Treatment
- Recycled & Reclaimed Water
- Surface Water Trading
- Surface Storage
- Pumping Reduction
- Other

Southeast Water Treatment Facility, Fresno

GSPs – Projected Water Supply Projects

Summary of Water Budget Findings, Estimated Benefits, and Costs

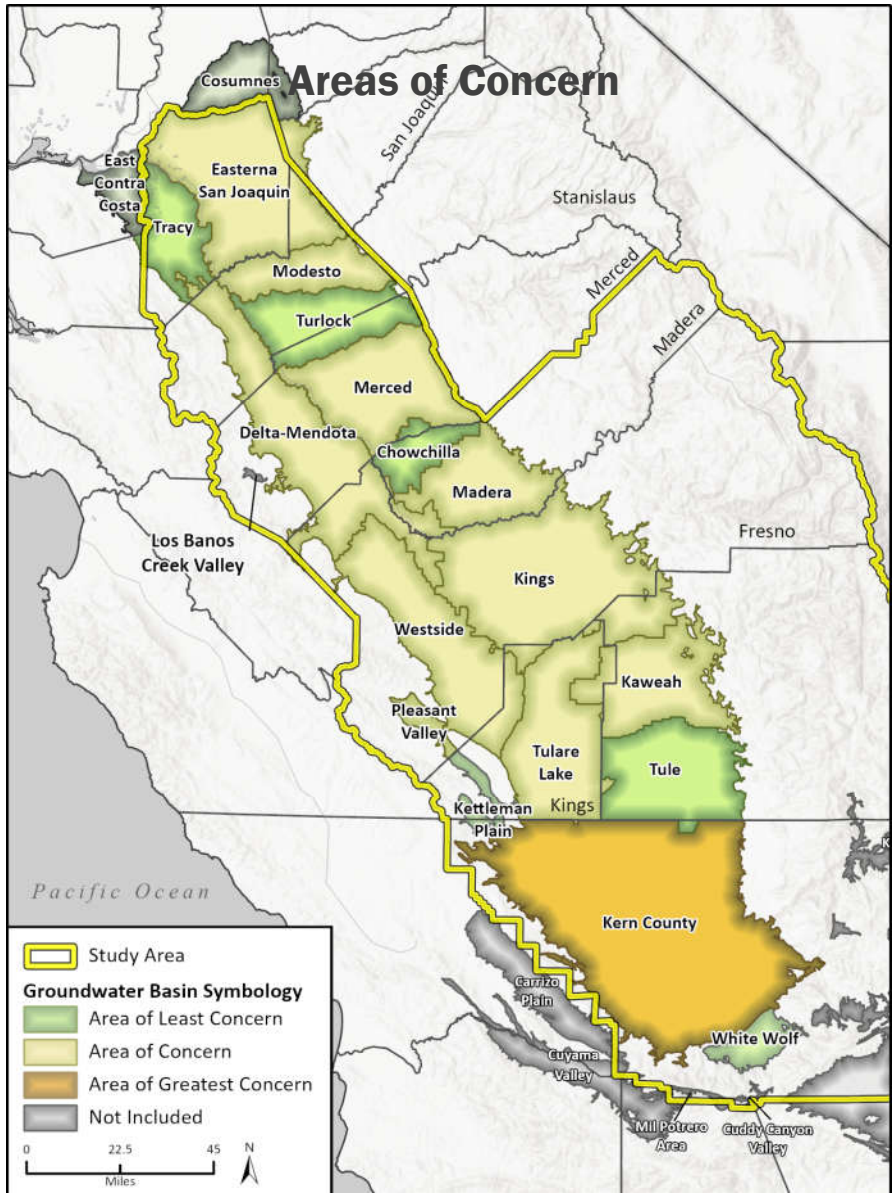
Subbasin	Water Budgets Determination	Estimated Annual Benefit at Full Implementation (AFY)	Estimated Project Costs ($Millions)
Chowchilla	In balance with projects	134,414	$434
Delta-Mendota	In balance with projects	112,045	$782
Eastern San Joaquin	In balance with projects	88,637	$23
Kaweah	In balance with projects	77,375	$85
Kern	Not in balance	673,609	$619
Kings	In balance with projects	577,698	$1,302
Madera	In balance with projects	204,501	$285
Merced	In balance with projects	NA	$16
Modesto	In balance with projects	81,748	$253
Pleasant Valley	In balance with projects	39295	$28
Tracy	In balance	13,500	$6
Tulare Lake	In balance with projects	181,344	$407
Tule	In balance with projects	324,839	$118
Turlock	In balance with projects	20,756	NA
Westside	In balance with projects	77,300	$2
White Wolf	In balance with projects	196,105	$33
Total		**2,803,166**	**$4,390**

Infrastructure – Opportunities and Constraints

- Urban demand is firm and requires more specific infrastructure compared to agricultural water deliveries
- Treatment of wastewater and delivery of recycled water is a potential new supply to meet water demands
  - Impacts on groundwater budgets need to be considered
- Leverage statewide efforts to build wet-weather flow capture and recharge facilities
- State and Federal investments are needed to support capital project implementation (>$4.3 Billion)

Areas of Concern

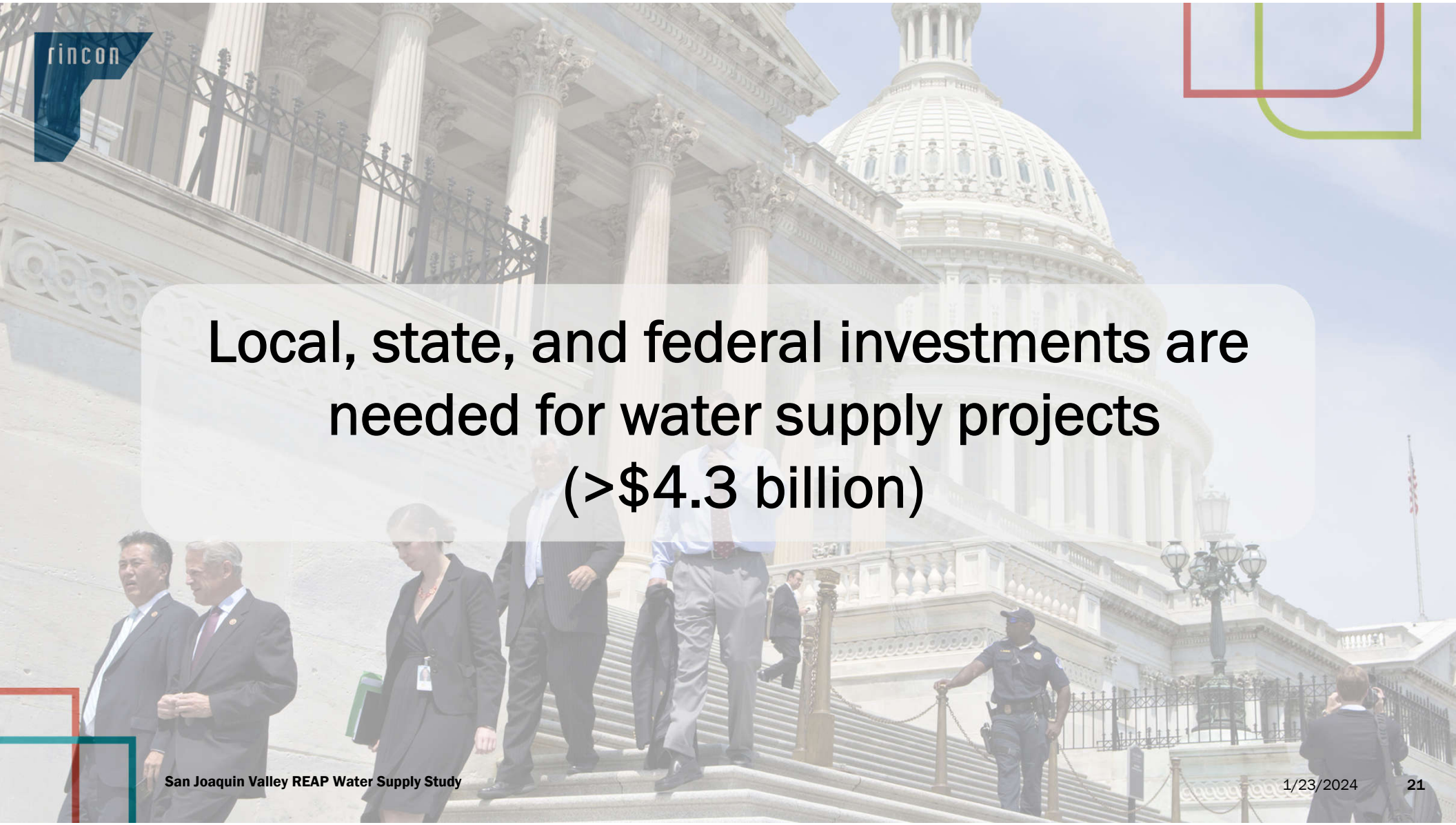
- Kern County Subbasin is of greatest concern, given the following:
  - basin is in critical overdraft,
  - GSPs have a RHNA demand gap, and
  - GSPs cannot achieve sustainability
- 10 additional basins have RHNA demand gap, which should be accounted for in 5-yr GSP updates



GSPs are underestimating projected urban demand associated with RHNA housing

GSPs generally claim groundwater basin balance and ability to be sustainable through project implementation

Significant water supply acquisition and storage are needed to achieve basin sustainability



Local, state, and federal investments are needed for water supply projects (>$4.3 billion)

Thank you!