Quarterly Meeting of the SGMA Tribal Advisory Group

Sustainable Groundwater Management Program

California Department of Water Resources

July 26, 2023

Agenda

TIME	ITEM	PRESENTERS
10:00 – 10:15	**Welcome & Introductions** • Introductions and Opening Remarks • Meeting Goals and Desired Outcomes	 **Anecita Agustinez**, DWR Tribal Policy Advisor **Paul Gosselin**, Deputy Director, DWR SGMP
10:15 – 11:00	**SGMP, Water Board (SWRCB), CWC Updates** • SGMP Updates – *see Att.1 for more information and resources* • SWRCB State Intervention: Probationary Hearings Schedule and Tribal Engagement – *see Att.2 for more information and resources* • CA Water Commission Update: Drought Strategies to Protect Communities and Species *See Att. 4 for general SGMP information and resources*	 **Paul Gosselin** **Sarah Sugar**, Senior Environmental Scientist, SWRCB SGMA Program **Laura Jensen,** Assistant Executive Officer, California Water Commission **James Sarmento,** Executive Director, Cultural Resources Division, Shingle Springs Band of Miwok Indians
11:00 – 11:30	**General Tribal Updates and Participation in GSAs and GSP Implementation**	Facilitated by **Anecita Agustinez**
11:30 – 12:00	**Regional Spotlight, Open Discussion** • Tachi Yokut Tribe, Tulare Lake Basin NCRO and SCRO Tribal Liaisons – *see Att.3 for more information and resources*	 **Shana Powers**, Cultural Director, Tachi Yokut Tribe
12:00	**Adjournment**	Facilitated by **Anecita Agustinez**

Welcome & Introductions

- Introductions and Opening Remarks
- Meeting Goals, Commitment, and Desired Outcomes

Facilitated By:
Anecita Agustinez, DWR Tribal Policy Advisor
Paul Gosselin, DWR Deputy Director

SGMP Statewide Updates

See Att. 1 (detailed) and Att. 4 (general) for information and resources

- Be Well Prepared Program
- 'Considerations for Identifying and Addressing Drinking Water Well Impacts' Guidance and Technical Assistance
- SGMA GSP Determinations
- Public Comments on GSPs
- Upcoming Guidance and Other New Resources

Presented By:
Paul Gosselin, DWR Deputy Director

Be Well Prepared

Response to Ongoing Drought Conditions and Dry Wells

Empower Well Owners

Educate

- Well Owners ad Users
- Local Officials
- General Public

Share Resources

- Consistent Messaging
- Counties and Community Organizations
- Groundwater Sustainability Agencies

BE WELL prepared

Be Well Prepared, Cont.

Website: https://water.ca.gov/bewellprepared

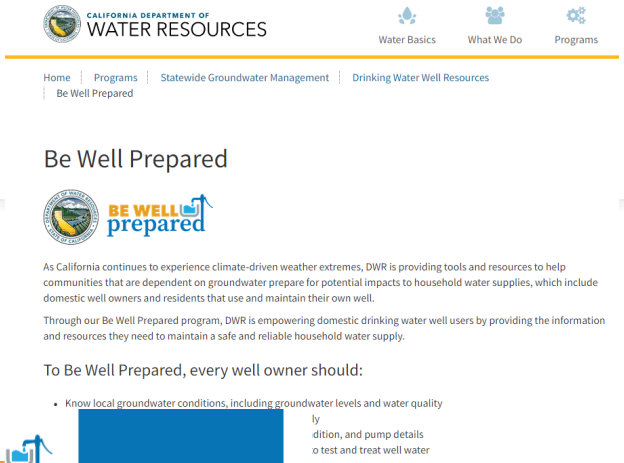
Dry Well Flyer (English, Spanish, Hmong)

Additional Materials to be Developed

- Who to Contact for What
- Well Maintenance
- How to Measure Water Levels at Your Well

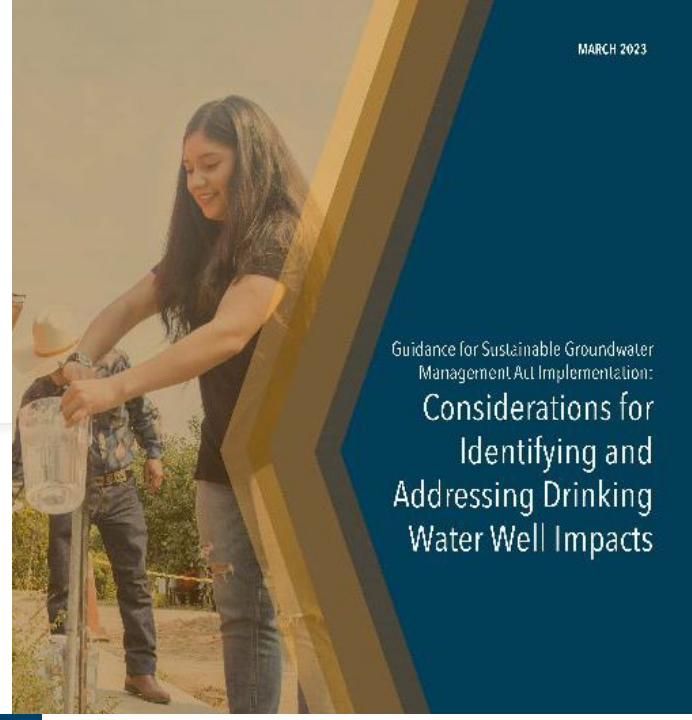
We Encourage Sharing These Resources

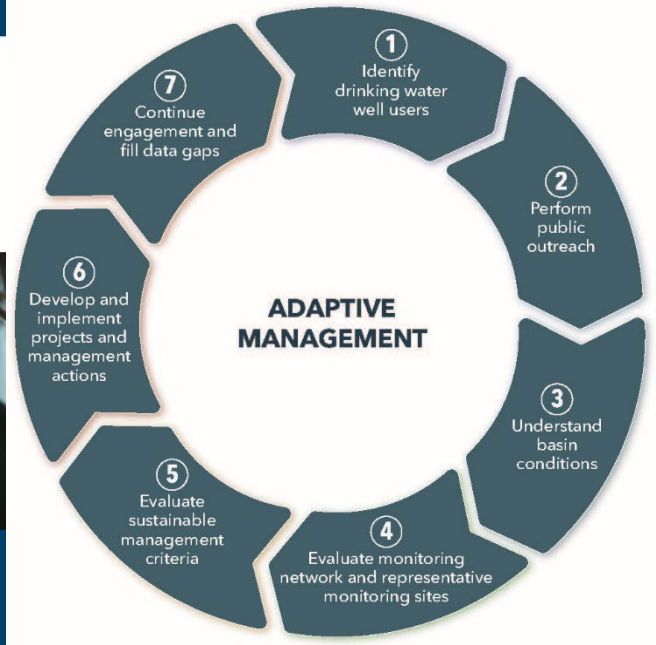
- Social Media
- Email
- Handouts



Drinking Water Well Guidance

- Drinking water users addressed under SGMA and GSP Regulations
- Online Toolkit and Resources to Enhance GSP Implementation and Engage Users
- Opportunities for alignment and coordination with counties implementing Senate Bill 552, Drought Resilience Plans





Online Toolkit: https://water.ca.gov/Programs/Groundwater-Management/Drinking-Water-Well

GSP & Alternative Submittals

- Critically Overdrafted Basin GSPs were initially submitted by January 31, 2020
  - **21 basins/46 GSPs**

- High and Medium Priority GSPs were initially submitted by January 31, 2022
  - **63 basins/65 GSPs**

- **9 Alternative Periodic Evaluations** were submitted by January 1, 2022

- On an ongoing basis, updated plans are submitted to DWR every 5 years for review

Please visit the SGMA Portal to find submitted Plans, Public Comments, and DWR Assessments: https://sgma.water.ca.gov/portal/

30 Basins Approved Plan Determinations

APPROVED BASINS:

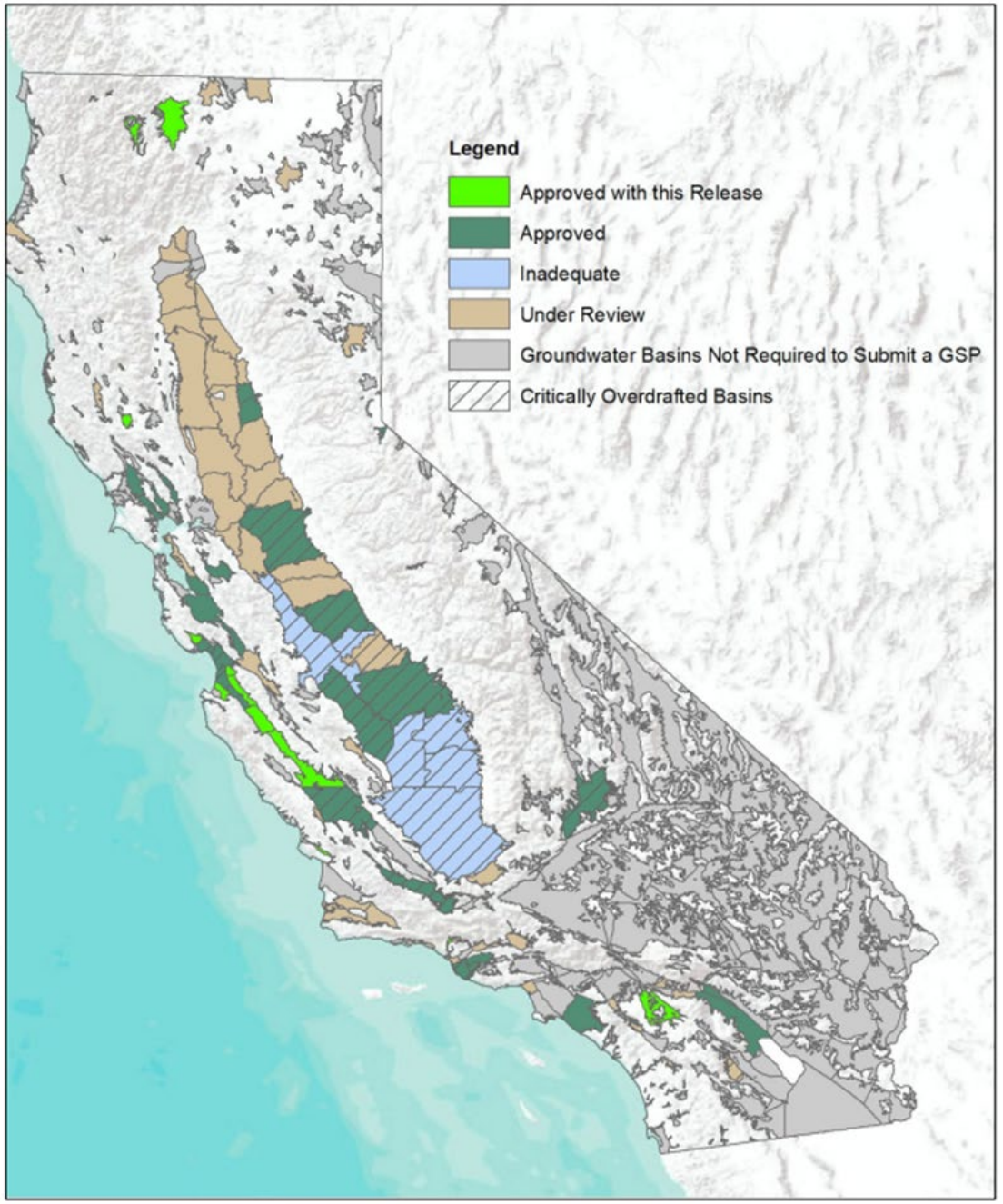
1. Santa Cruz Mid-County Basin
2. 180/400 Foot Aquifer Subbasin
3. North Yuba Subbasin
4. South Yuba Subbasin
5. Oxnard Basin
6. Pleasant Valley Subbasin
7. Las Posas Basin
8. Indian Wells Valley Basin
9. Sonoma Valley Subbasin
10. Petaluma Valley Basin
11. Napa Valley Subbasin
12. Santa Rosa Plains Subbasin
13. Eastern San Joaquin Subbasin
14. Merced Subbasin
15. Paso Robles Subbasin
16. Cuyama Basin
17. Westside Subbasin
18. Kings Subbasin*
19. Shasta Valley Basin
20. Scott River Valley Basin
21. Big Valley Basin
22. East Side Aquifer Subbasin
23. Forebay Aquifer Subbasin
24. Langley Area Subbasin
25. Monterey Subbasin
26. Upper Valley Aquifer Subbasin
27. San Luis Obispo Valley Basin
28. Santa Margarita Basin
29. Upper Ventura River Subbasin
30. San Jacinto Basin

**Multi-Plan Basin*

APPROVED ALTERNATIVES:

9 Basins

1. Niles Cone Subbasin
2. Indio Subbasin
3. Mission Creek Subbasin
4. Pajaro Valley Subbasin
5. Santa Clara Subbasin
6. Llagas Area Subbasin
7. Tahoe South Subbasin
8. Coastal Plain of Orange County Basin
9. Livermore Valley Basin



Note: Map updated with latest April 27, 2023 Approved basins

Non-Approved Plan Determinations

6 Basins

INADEQUATE BASINS *(Proposed Probationary Hearing schedule from the SWRCB)*:

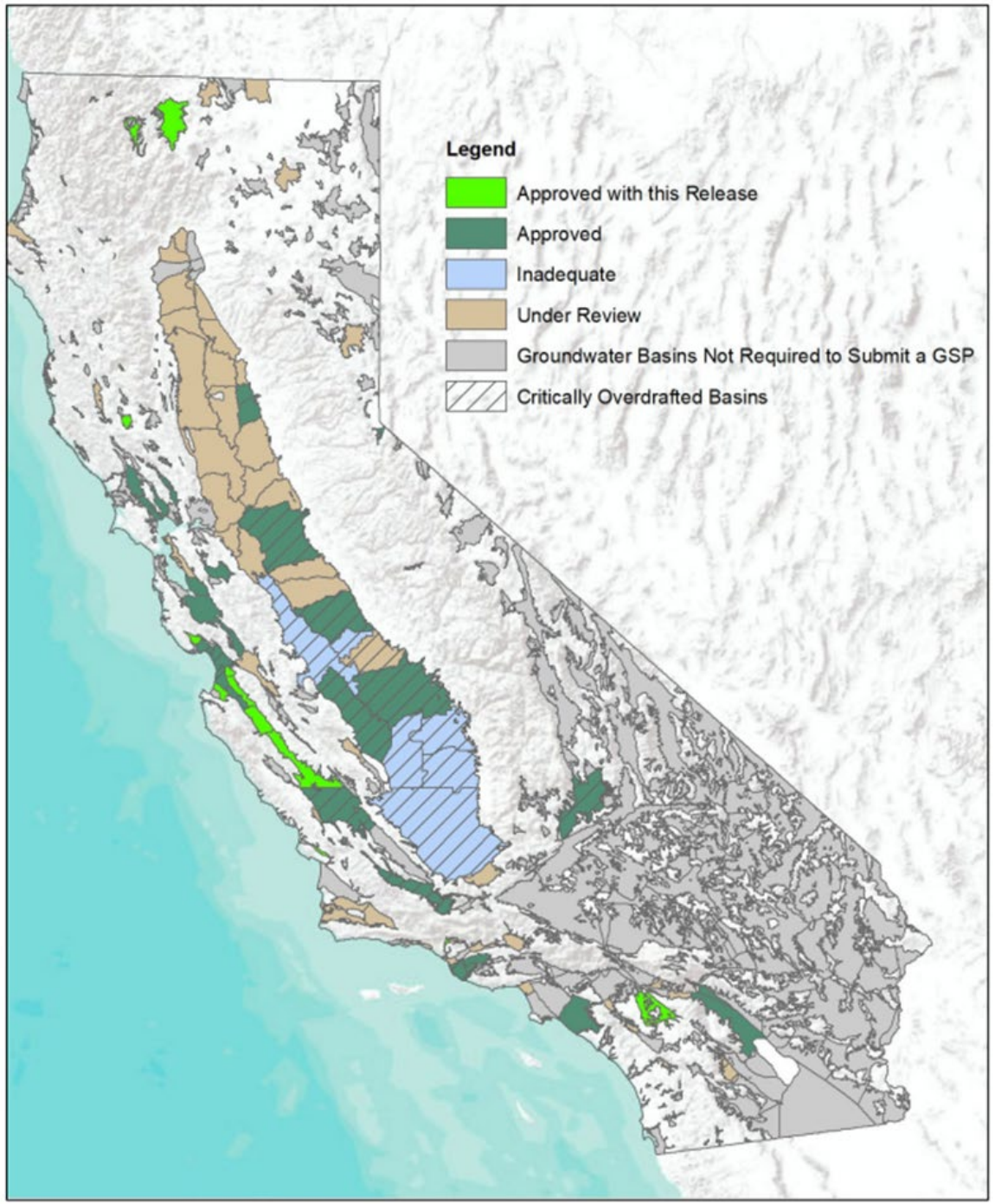
1. Tulare Lake Subbasin (Dec 2023 Hearing)
2. Tule Subbasin* (Jan 2024 Hearing)
3. Kaweah Subbasin* (Mar 2024 Hearing)
4. Kern Subbasin* (Apr 2024 Hearing)
5. Delta Mendota Subbasin* (Sept 2024 Hearing)
6. Chowchilla Subbasin (Oct 2024 Hearing)

1 Basin

INCOMPLETE BASIN *(180 days to address deficiencies)*:

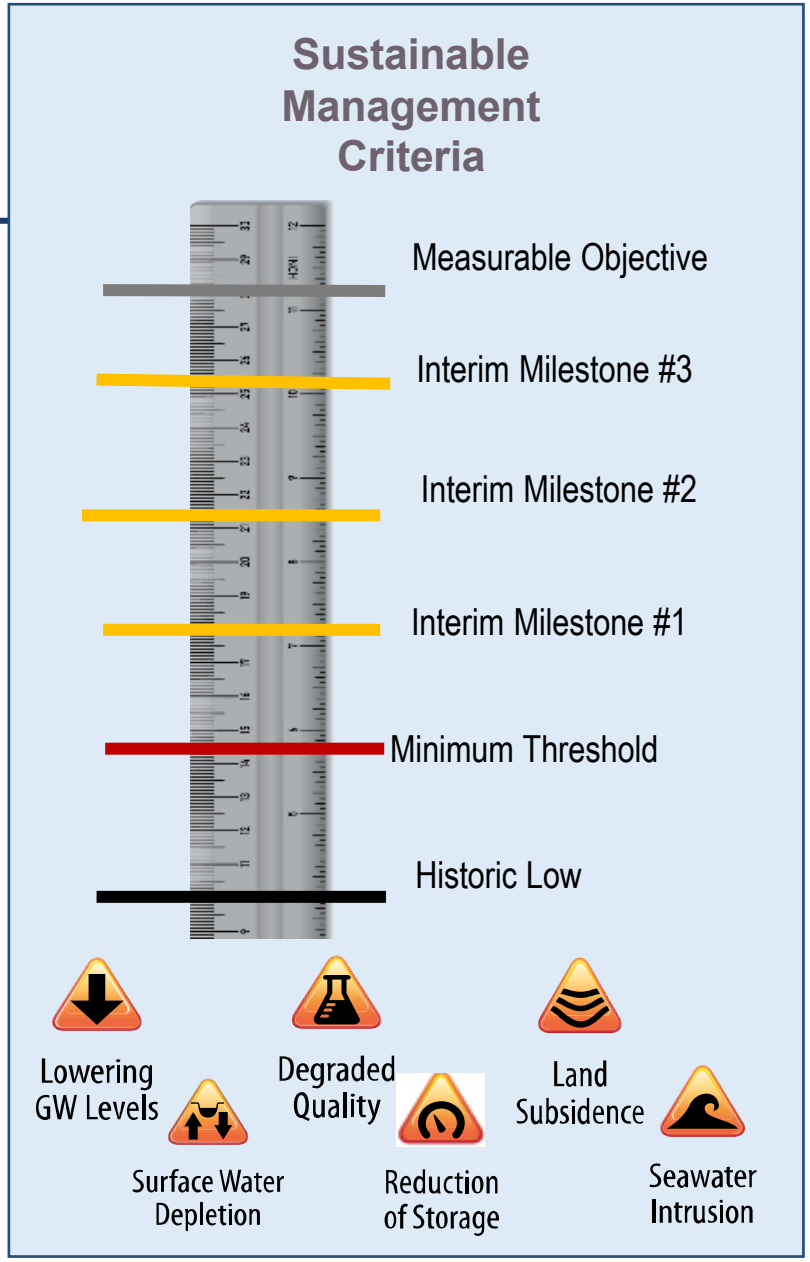
7. Madera Subbasin*

**Multi-Plan Basins*



Determination Themes

- **Sufficient Action to Address the Deficiencies** identified in the Incomplete Determinations
- Analysis and justification of how **Sustainable Management Criteria** were developed
  - **Eliminate groundwater overdraft** within 20 years
  - **Avoid or minimize land subsidence effects** within 20 years
- Consider all **Beneficial Groundwater Users and Uses**, including drinking water users and known critical infrastructure
- For **multi-plan Basins,** coordinate and have **Consistencies in the Data and Methodologies** among plans



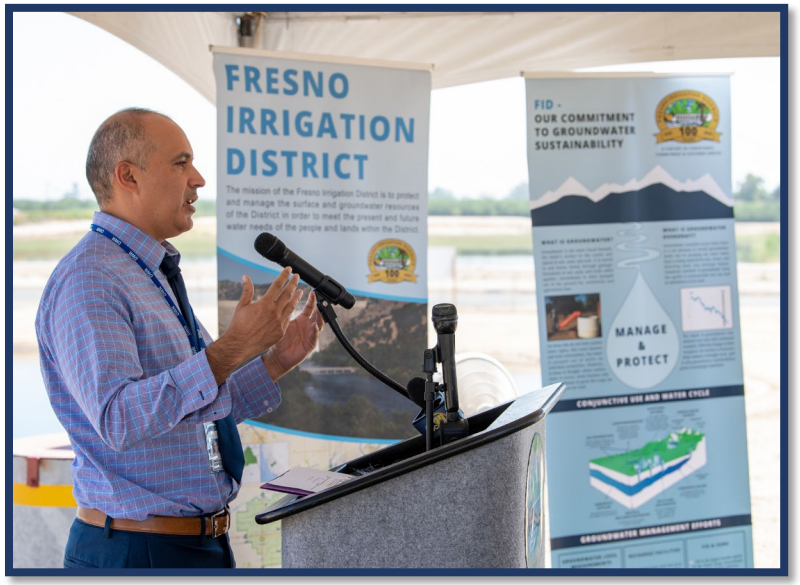
Next Steps:
Continue Plan Implementation

- **Addressing Groundwater Sustainability Plan Deficiencies or Corrective Actions**
  - Prepare for Periodic Evaluation (next plan update)
  - Respond to State Water Board, if under Intervention

- **Filling Data Gaps & Improvements**
  - Continue modeling, monitoring, and water budgets
  - Continue Submitting Annual Reports to DWR (April 1)

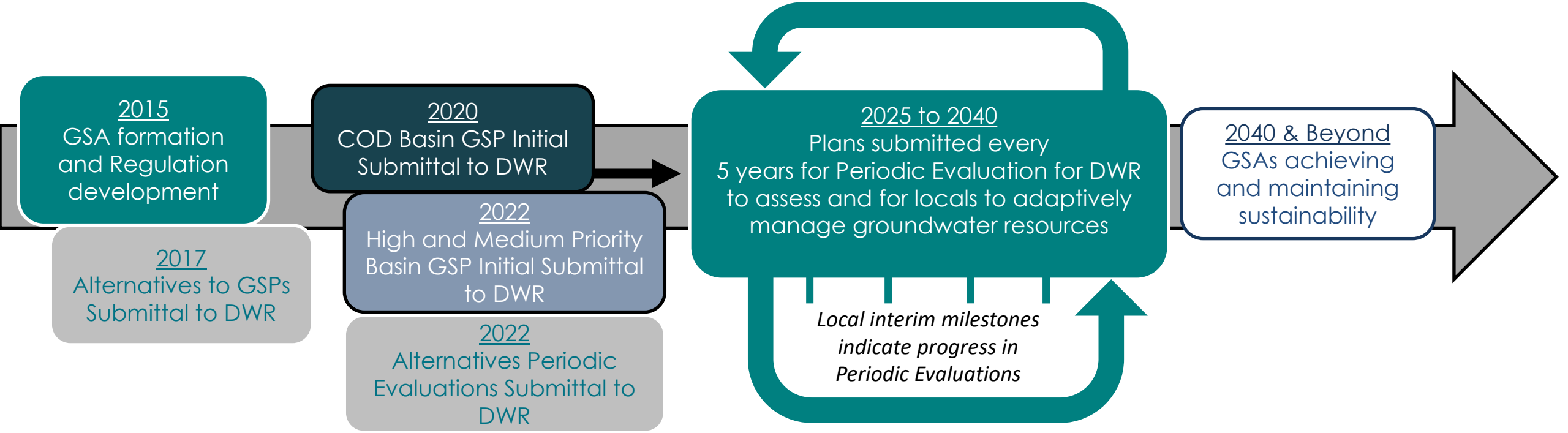
- **Building Local Agency Capacity**
  - Continue implementing grant funding
  - Secure local funding stability & address challenges

- **Advancing Projects and Management Actions**
  - Supply augmentation including groundwater recharge
  - Demand reduction including allocations and groundwater trading



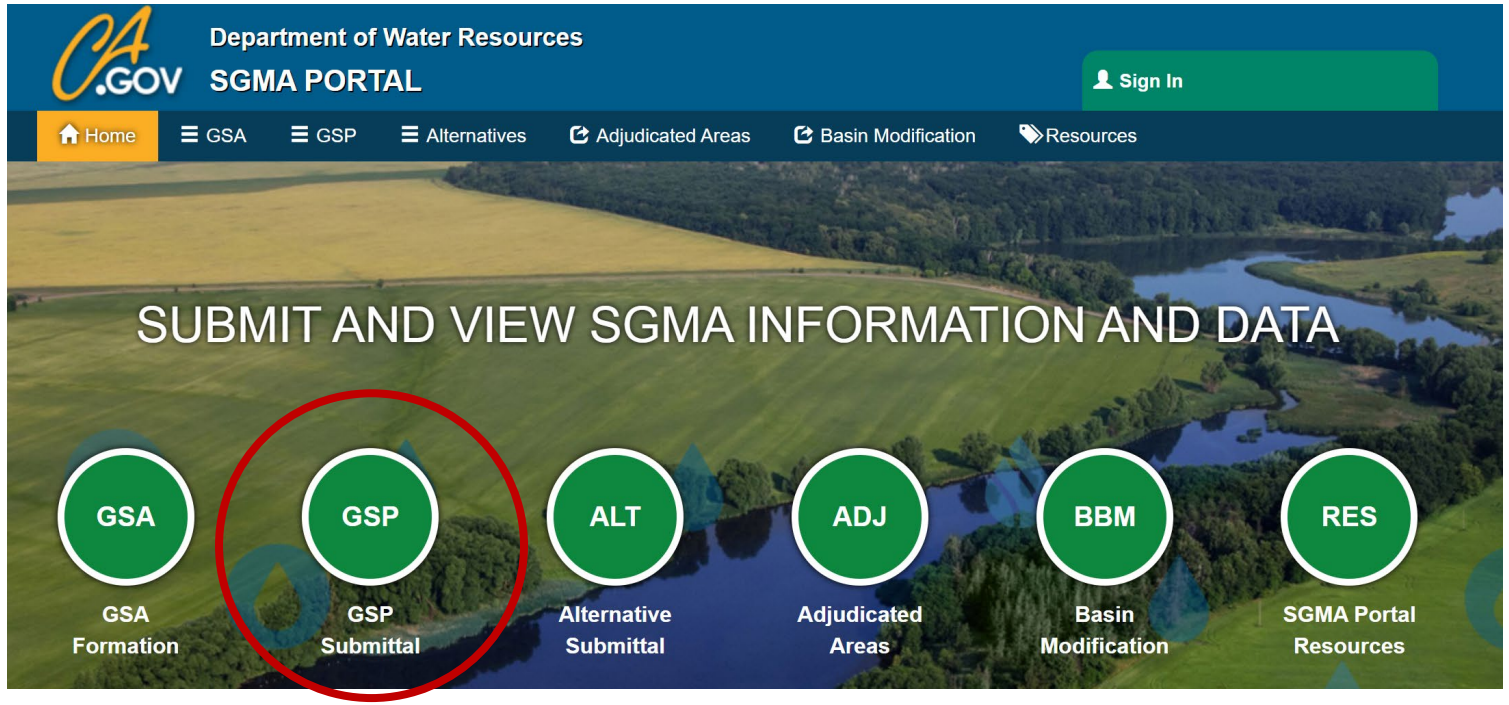
Ribbon cutting ceremony held by the Fresno Irrigation District for the Savory Pond Expansion project funded by DWR in Fresno, California

SGMA Implementation: 20-Year Timeline



How to Provide Public Comments on Plans Submitted to the State

- All Plans and Alternatives are posted to the SGMA Portal, under Submittal tabs
- Public comment can be submitted at any time



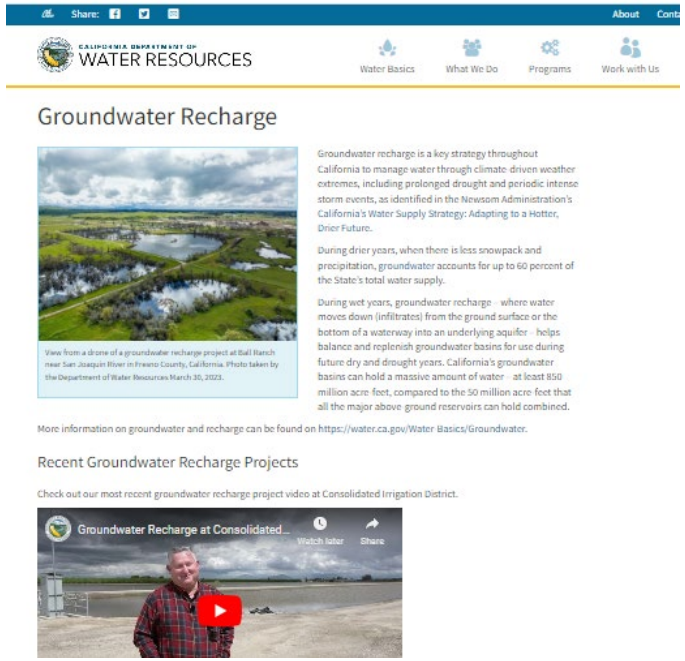
- Select: Public Comments
- Submit questions: GSPSubmittal@water.ca.gov
- Additional information available on the SGMA Portal: https://sgma.water.ca.gov/portal

Upcoming Guidance

- **Periodic Evaluation & Implementation**
  Target: Summer 2023
- **Interconnected Surface Water**
  Target: Starting Summer 2023 to 2024
- **Well Permitting Analysis Report**
  Target: September 2023
- **Annual Report Evaluations**
  Target: Fall 2023
- **Subsidence**
  Target: Spring 2024
- **Land Repurposing Program Coordination**
  - DOC MLRP, DWR Land Flex – Ongoing
- **Small Agricultural SGMA Outreach**
  - $10M in Technical Assistance Funding - Ongoing

Other New Resources

- SGMA Overview Brochure (available in an online version or an 11-inch by 17-inch printable version)
- Groundwater Recharge Website



SWRCB Updates

See Att. 2 for more information and resources

- SWRCB State Intervention: Probationary Hearings Schedule and Tribal Engagement

Presented By: **Sarah Sugar,** Sarah Sugar, Senior Environmental Scientist, SWRCB SGMA Program
With Support From: **Natalie Stork,** Manager, SWRCB SGMA Program
And **Kelsey Thompson-Briggs**, Drought Engagement Coordinator, SWRCB Office of Public Participation

Sustainable Groundwater Management Act

State Water Board Update
SGMA Tribal Advisory Group
Q3 Meeting
July 26, 2023

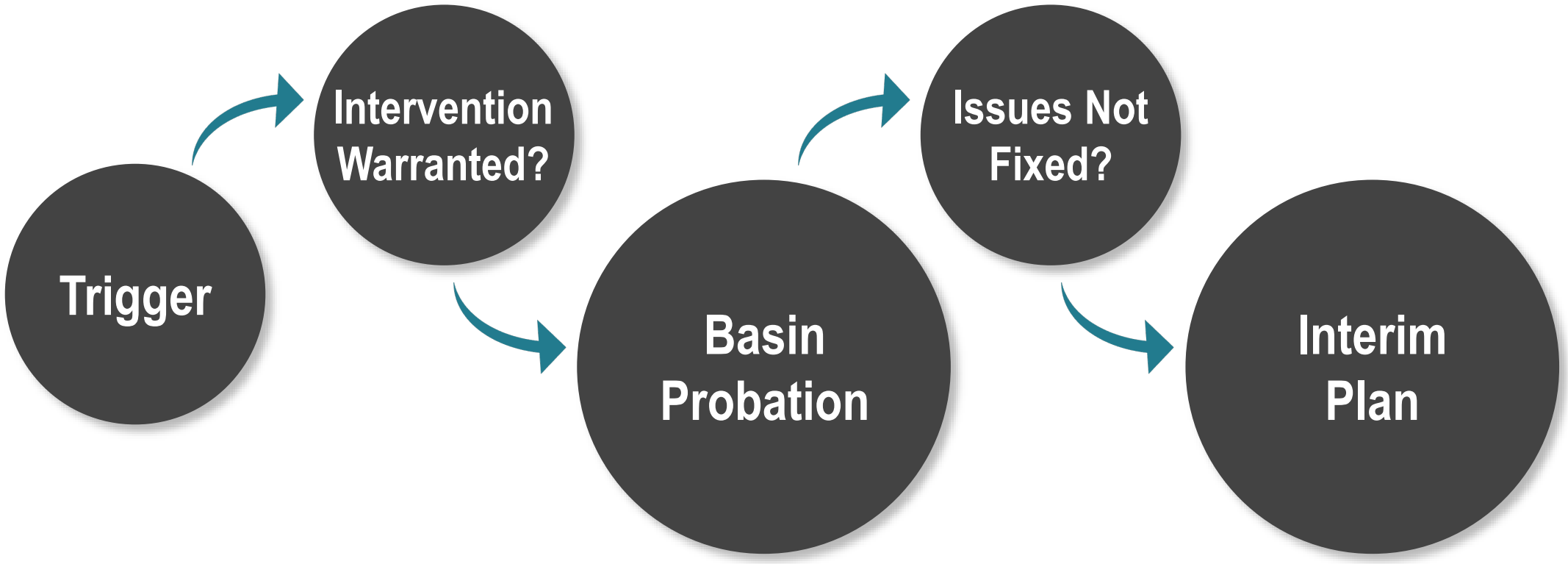
CALIFORNIA
Water Boards

State Water Resources Control Board

TOPICS

1. State Intervention Background
2. Prioritization Considerations
3. Proposed Schedule & Rationale
4. Next Steps for the Board & GSAs

State Intervention



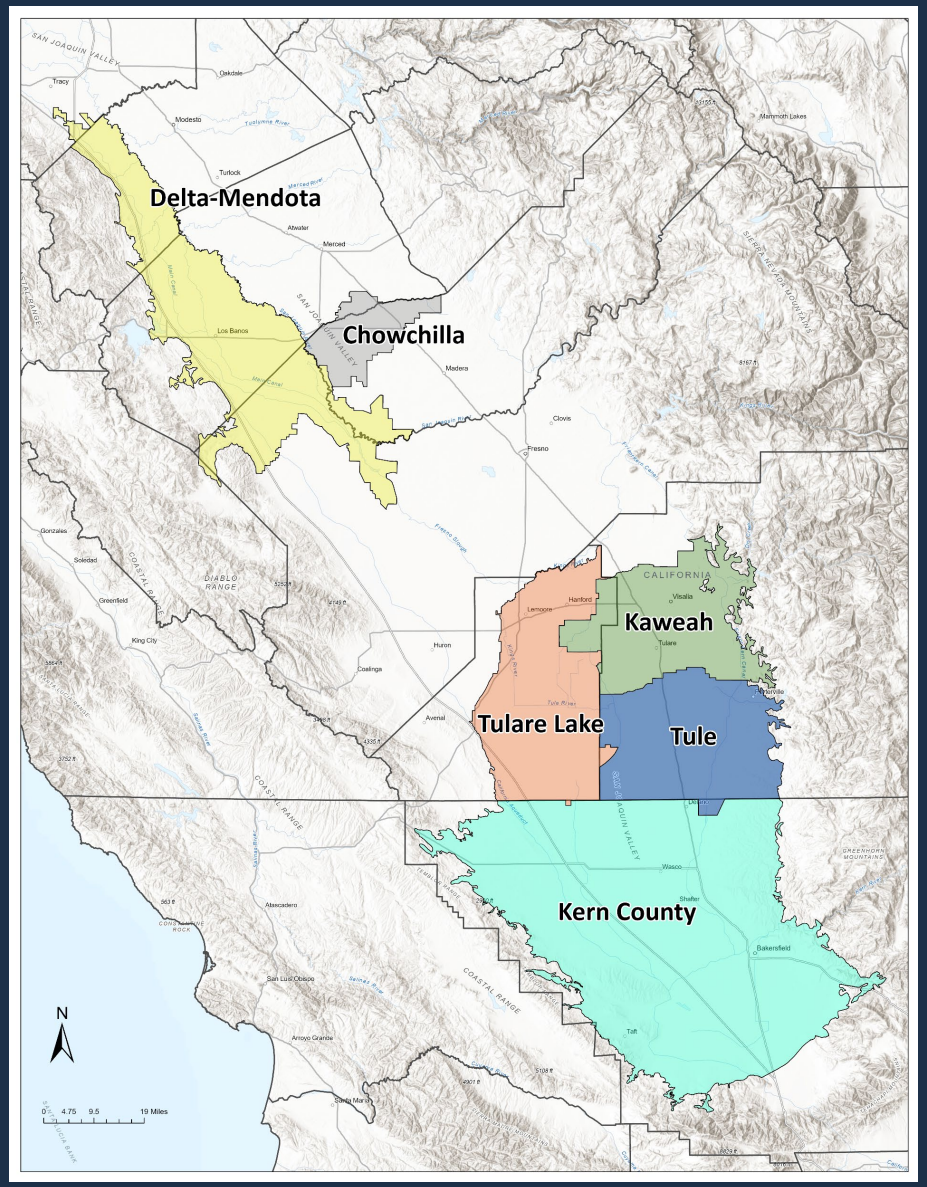
DWR Determinations

Groundwater Sustainability Plans

6 of 20

Basins with Inadequate Plans:

1. Delta-Mendota Subbasin
2. Chowchilla Subbasin
3. Kaweah Subbasin
4. Tulare Lake Subbasin
5. Tule Subbasin
6. Kern County Subbasin



Prioritizing Basins

Issues discussed with the Board on April 4, 2023:

Basin overdraft

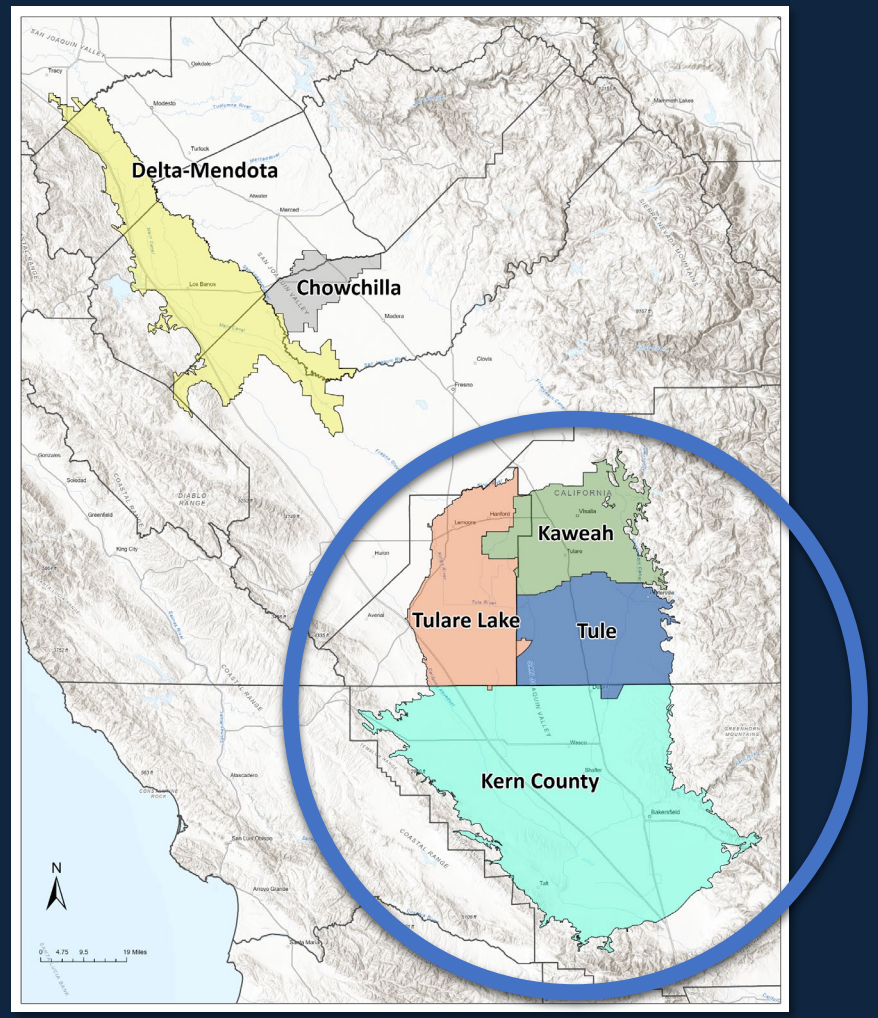
Drinking water impacts

Subsidence impacts

Water quality degradation

Implementation & coordination

Prioritizing Basins



First Priority

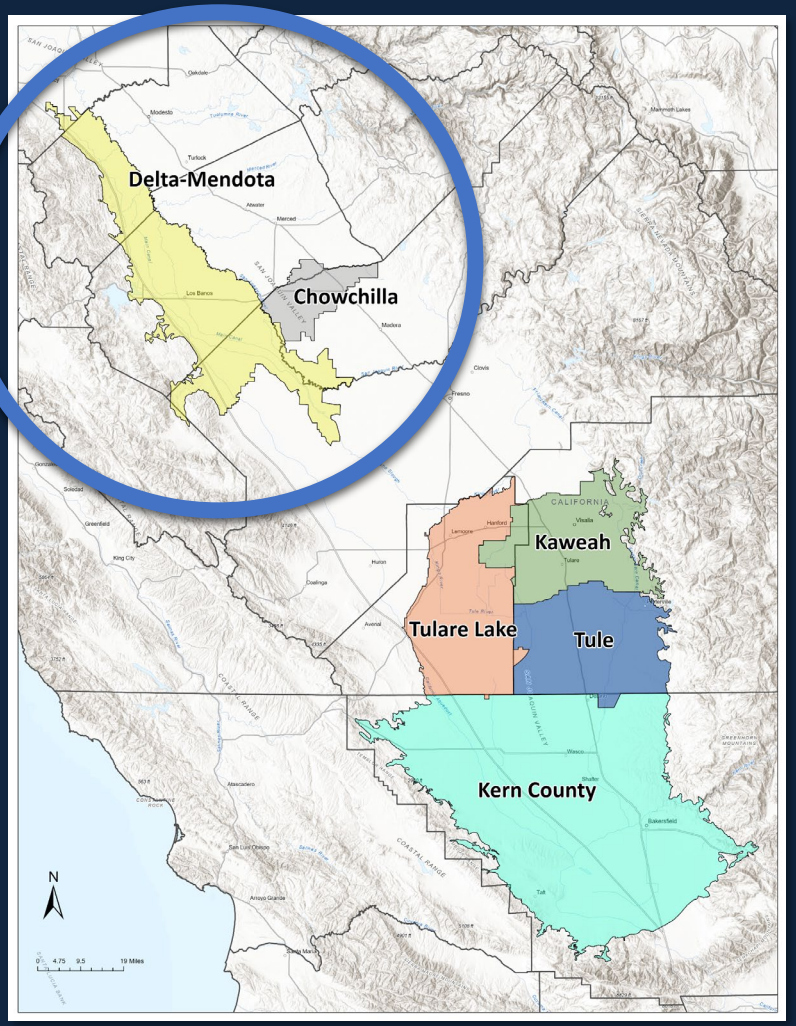
- Imminent impacts to water users & infrastructure

  OR

- Potential for substantial impacts to water users & infrastructure under plan(s)

  & there is no clear timeline or pathway to address issues

Prioritizing Basins



Second Priority

- Impacts to water users and infrastructure less severe
- Deficiencies may be easier to correct

Proposed Schedule For Holding Probationary Hearings

Tulare Lake	Dec 2023
Tule	Jan 2024
Kaweah	Mar 2024
Kern County	Apr 2024
Delta-Mendota	Sep 2024
Chowchilla	Oct 2024

STEPS Towards a Hearing

- Required: Minimum 90-day & 60-day notices
- Draft deficiencies identified (staff report)
- Public comment period
- Outreach and public engagement
- Tribal engagement and consultation
- Staff evaluation of information received
- Finalize deficiencies and issue draft order

Tulare Lake: Potential Schedule

2023

Early Aug ‘23

Release draft deficiencies

Notice to cities and counties

Aug ‘23

Notice to all known pumpers

Late Aug ‘23

Stakeholder meetings

Aug-Oct ‘23

Public comment period

Nov ‘23

Release final deficiencies

Issue draft order

Dec ‘23

Hearing

Potential probationary designation

Tule: Potential Schedule

2023-2024

Sep ‘23

Release draft deficiencies

Notice to cities and counties

Oct ‘23

Notice to all known pumpers

Oct ‘23

Stakeholder meetings

Sep-Nov ‘23

Public comment period

Jan ‘24

Release final deficiencies

Issue draft order

Jan ‘24

Hearing

Potential probationary designation

GSA Considerations

1. Address plan deficiencies
   - Focus on DWR's for now – Board's come later
2. Continue implementing plans
   - Keep projects on track – unless they cause harm
3. Exercise GSA authorities as needed
   - State intervention doesn't change GSA authorities

STEPS to Exit State Intervention

- **GSA(s) revise plan** – Address DWR deficiencies (Board's deficiencies if on probation)
- **Technical meeting(s)** – GSAs explain to Board staff how deficiencies are addressed
- **Board staff review** – Time estimate available once the plan(s) are received
- **Board-DWR coordination**
- **Board decides** – Are deficiencies addressed?

State Water Resources Control Board
SGMA Program

SGMA@waterboards.ca.gov
www.waterboards.ca.gov/sgma

California Water Commission Update

- Drought Strategies to Protect Communities and Species

Presented By:
Laura Jensen, Assistant Executive Officer, California Water Commission
James Sarmento, Executive Director, Cultural Resources Division, Shingle Springs Band of Miwok Indians

Drought Strategies to Protect Communities and Species

California
WATER COMMISSION

Commission's Vision & Mission

To promote smart water policy today for a sustainable California tomorrow.

Using its **public forum**, the Commission **explores water management issues from multiple perspectives** and formulates recommendations to advise Department of Water Resources, and as appropriate, the California Natural Resource Agency, the Governor and Legislature on ways to improve water planning and management in response to California's changing hydrology.

Water Resilience Portfolio
Action 26.3

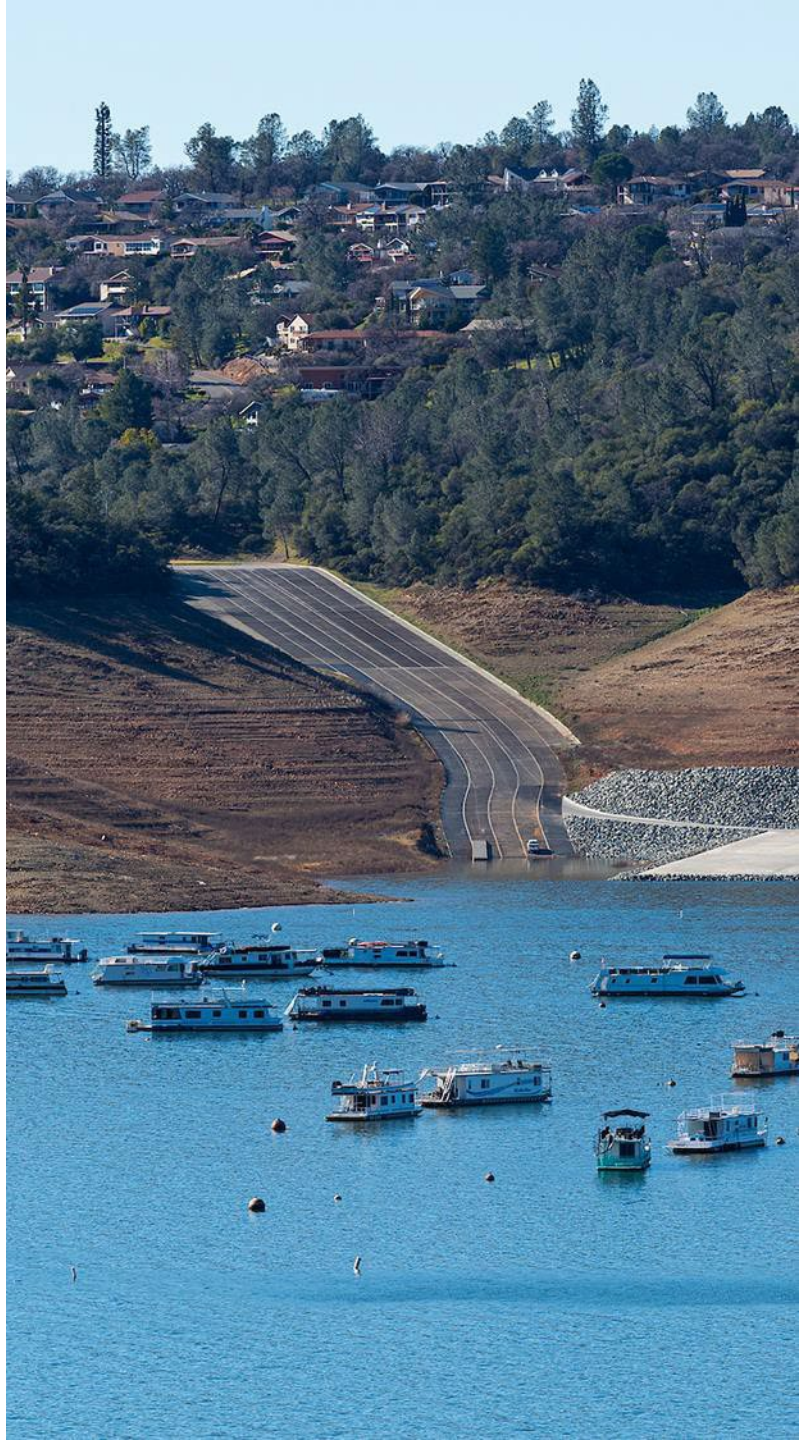
Develop strategies to protect communities and fish and wildlife in the event of drought lasting at least six years

California
WATER COMMISSION

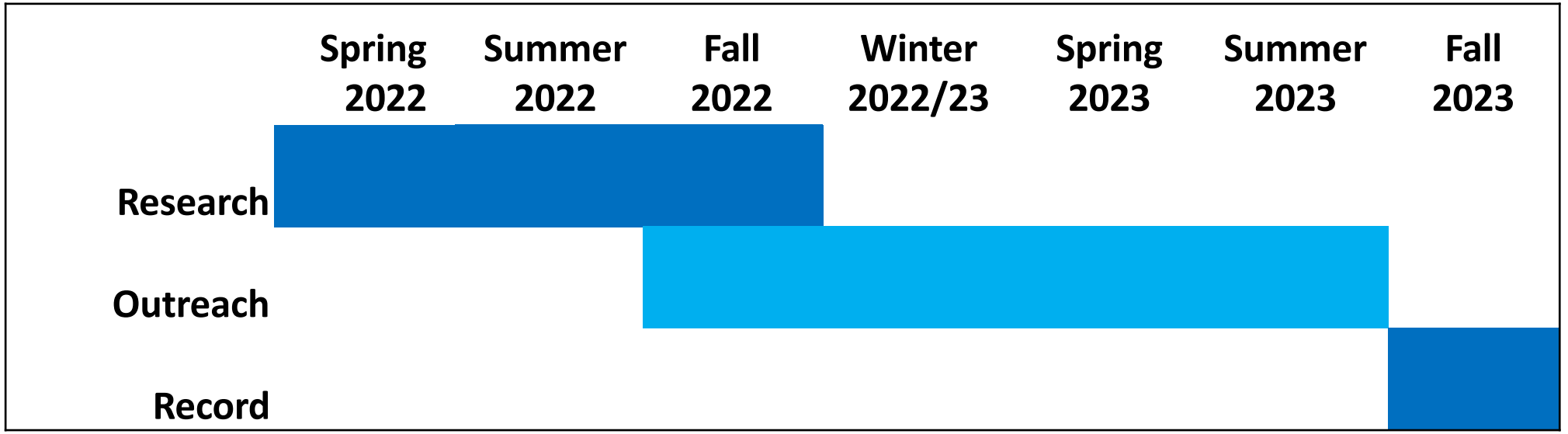
Goal of Commission Process

- Engage experts, interested parties, public
- Develop potential long-term strategies
- Produce guidance document
- **Different than DRIP Collaborative**

	DRIP Collaborative	Commission's Work
Genesis	SB 552	Water Resilience Portfolio
Topic	Pre-drought planning, emergency response, and post-drought management	Impacts of drought on communities & species
Duration	On-going	Two years
Work Product	Annual report to the Governor's Office and agency secretaries	White paper for Secretaries



Timeline of Effort



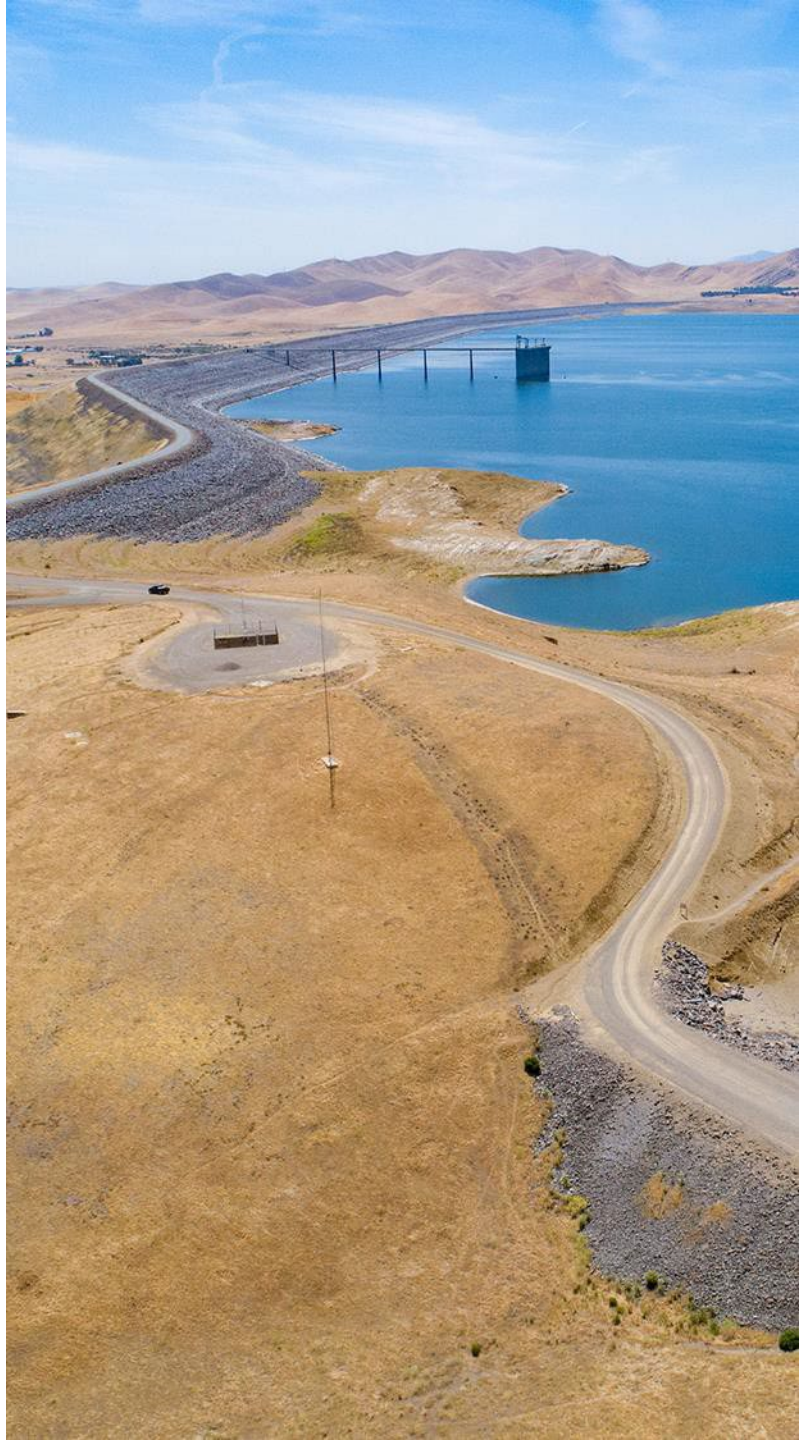
Tribal Small-Group Discussions

- November 2022 – drought impacts on Tribes and how to protect Tribal interests during drought
  - Four meetings
  - 20 Tribes/organizations; 25 attendees
  - Take-homes: need Tribal engagement; Tribes are not homogenous; respect Tribes' place-based knowledge.

- July 2023 – Tribal input on preliminary strategies
  - Three meetings
  - 10 Tribes; 13 attendees

Commission's Commitments to Tribes

- Communication about progress/milestones
- Open door policy for feedback
- Representation on Working Group and expert panels
- Dissemination of Tribal synthesis to Working Group
- Opportunity to provide feedback on strategies developed by Working Group via various mechanisms



Genesis of Preliminary Strategies

- Drought Working Group
- Types of drought strategies:
    1. Surface storage
    2. Groundwater storage
    3. Conveyance, or “the grid”
    4. Demand management (includes water rights)
    5. Environmental and public protections

Preliminary Strategies

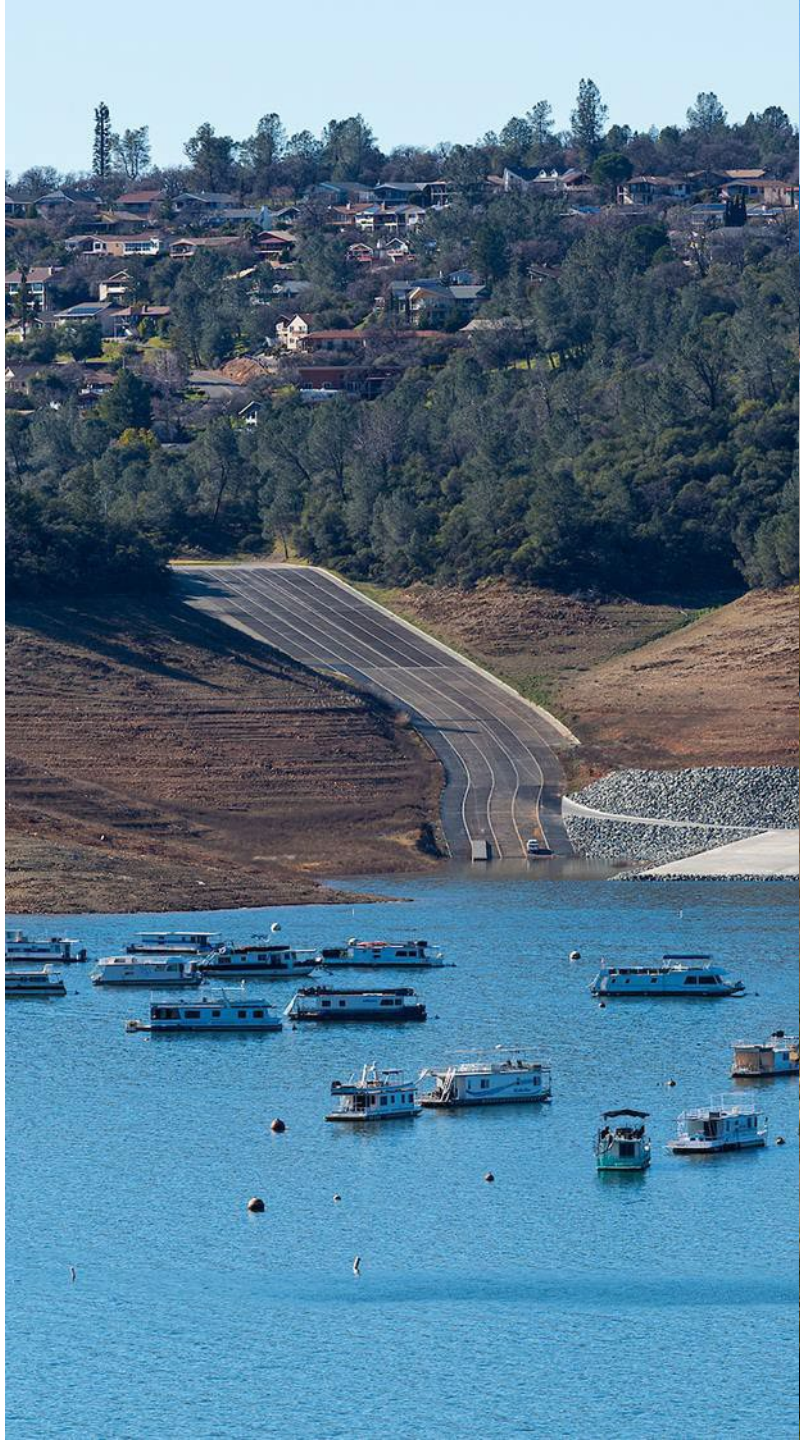
1. Scale Up Groundwater Recharge
2. Conduct Watershed-level Planning to Reduce Ecosystem Impacts of Drought
3. Better Position Communities to Respond to Drought Emergencies
4. Increase Capacity & Information Needed to Manage Drought

1: Scale Up Groundwater Recharge

1. Prepare for recharge by identifying where recharge provides the greatest benefit and where it is possible.
2. Promote recharge efforts through on-going education, outreach, and incentives.
3. Support efficient permitting to maximize groundwater recharge by clarifying flood triggers, considering impacts to drinking water, and completing timely, comprehensive environmental review.
4. Support infrastructure connected to groundwater recharge, including fish screens, conveyance, and surface storage projects that can store water for recharge.
5. Review recent actions to clarify lessons learned and identify on-going improvements and efficiencies.

2: Conduct Watershed-level Planning to Reduce Ecosystem Impacts of Drought

1. Develop environmental watering plans for California by working at the watershed-scale to identify and plan for ecosystem water needs.
2. Conduct watershed-scale habitat planning that inventories, prioritizes, and identifies funding mechanisms for habitat restoration and conservation projects.
3. Integrate fire/forest management into drought planning.



3: Better Position Communities to Respond to Drought Emergencies

1. For small and/or rural, disadvantaged communities, allow delegation of funding management to local assistance providers with expedited State sign-off for pre-approved categories of activities and dollar thresholds to nimbly address system needs.
2. Ramp up efforts to improve water system resiliency and actions to increase supply reliability for communities, and encourage regional approaches to water resource management.
3. Support integrated land and water planning, such as multi-benefit land repurposing.

4: Increase Capacity & Information Needed to Manage Drought

1. Develop dedicated drought capacity at State agencies to coordinate between agencies, across sectors, ID lessons learned and generate plan, collect/share consistent info on communities & species in crisis.
2. Support seasonal forecasting to anticipate drought.
3. Support Tribes, local government, NGOs to increase drought response capacity.
4. Develop consistent public information campaign by building on work already being done, creating indicators to signal drought status, engaging experts to change water behaviors in California.

What do Tribes need to protect communities and species in the event of drought?

Timeline

Public workshop

- **Thursday, July 27 – 9:30 am - 12:30 pm**

White paper

- **Draft/final anticipated this fall**

California WATER COMMISSION

Laura Jensen
laura.jensen@water.ca.gov
916-820-5897

Tribal Statewide Updates

- Updates on Participation in GSAs and GSP Implementation
- Open Discussion

Facilitated By:
Anecita Agustinez, DWR Tribal Policy Advisor

Regional Tribal Spotlight

- Meet Your DWR Region Office Tribal Liaisons
  - DWR Local Assistance - *See Att. 3 for more information and resources*

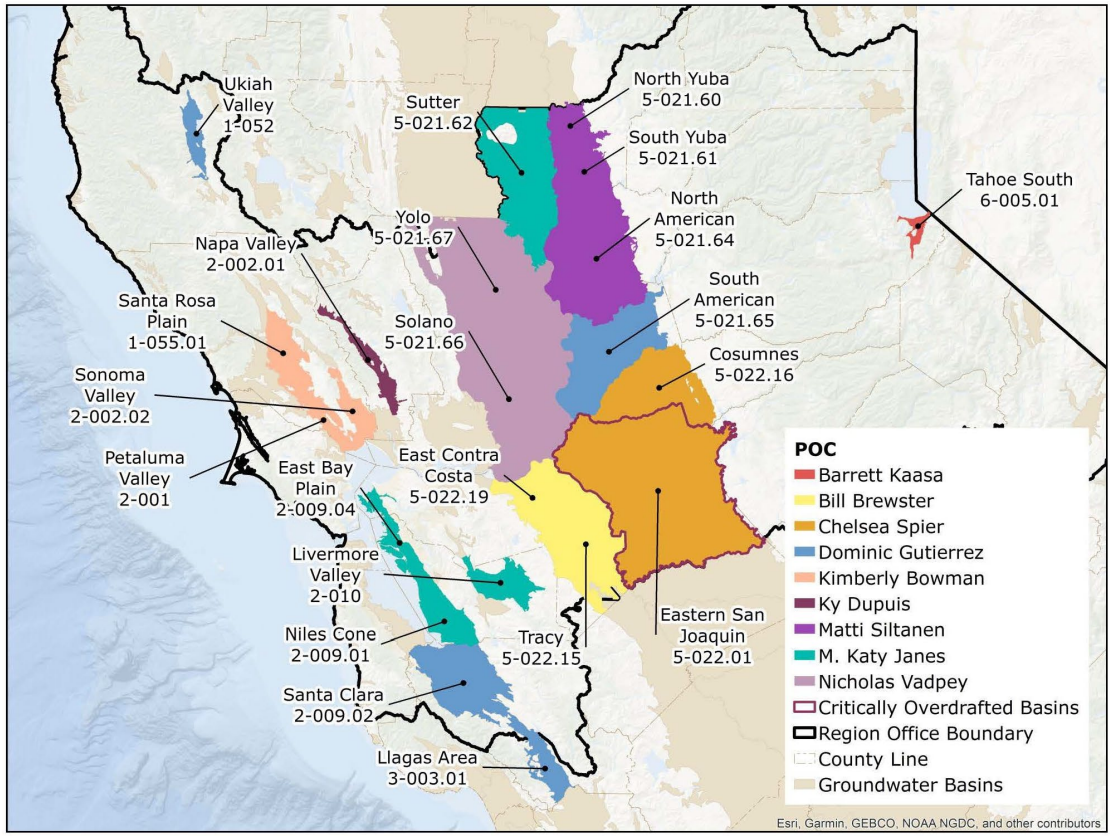
- Tribal Spotlight:
  - Shana Powers, Cultural Director, Tachi Yokut Tribe

Facilitated By:
Anecita Agustinez, DWR Tribal Policy Advisor

Region Spotlights

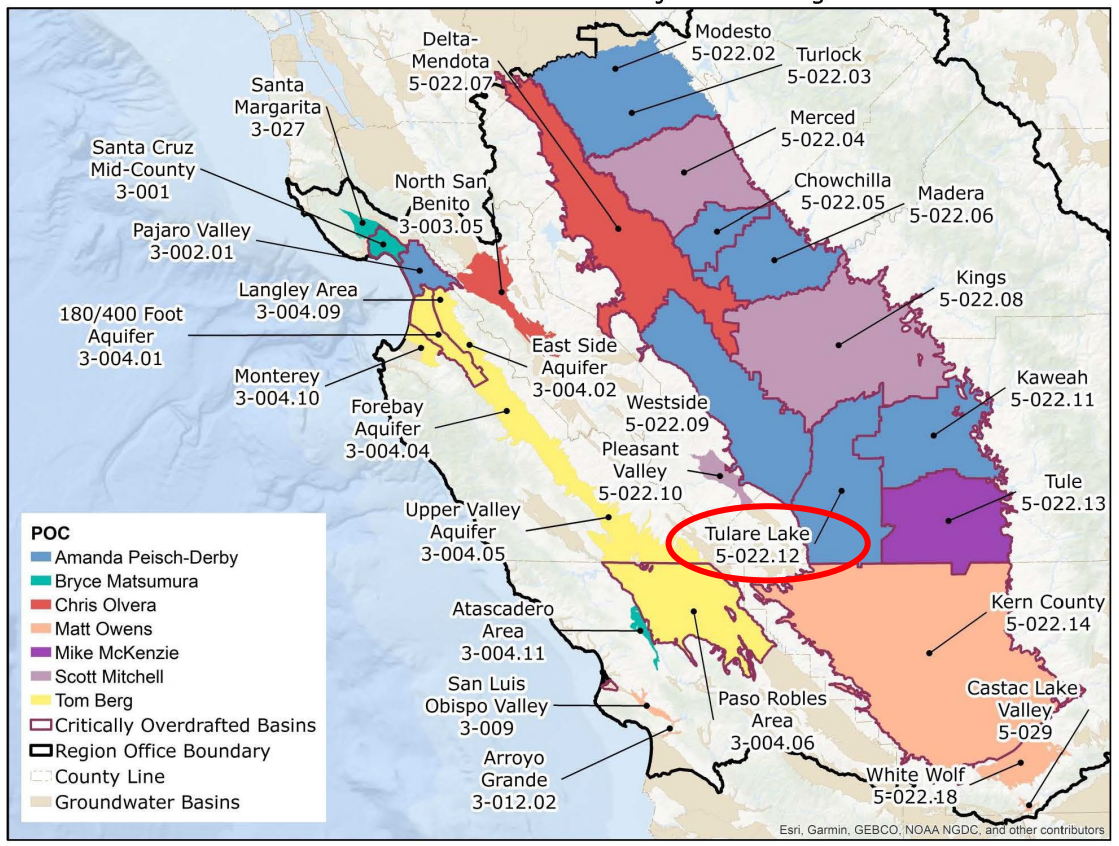
North Central Region Office

SGMA Points of Contact – Subject to Change



South Central Region Office

SGMA Points of Contact – Subject to Change



Regional Tribal Spotlight

Presented by Shana Powers, Cultural Director, Tachi Yokut Tribe

A Holistic Approach to the Tulare Lake Basin SGMA GSP Watershed Management

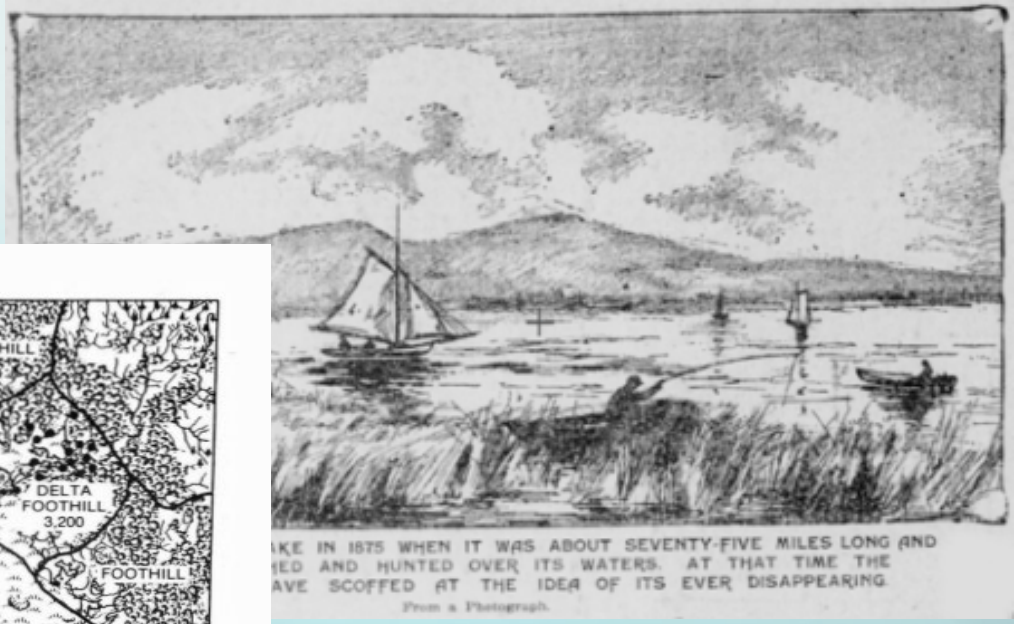
Santa Rosa Rancheria Tachi Yokut Tribe
Shana Powers
Tribal Historic Preservation Officer

Tulare Lake Basin and SGMA

- Surface Water Hydrology and Watershed
- Geographic Challenges
- Geology and Groundwater
- Aquifer Recharge
- SGMA/GSAs/GSP
- Water Accounting
- Sustainable Management Criteria
- Plan Deficiencies

Tachi Perspective

Creation
Combining of the surface waters,
18,000 to 10,000 yrs ago
Flood and Drought



KE IN 1875 WHEN IT WAS ABOUT SEVENTY-FIVE MILES LONG AND
ED AND HUNTED OVER ITS WATERS. AT THAT TIME THE
AVE SCOFFED AT THE IDEA OF ITS EVER DISAPPEARING

From a Photograph

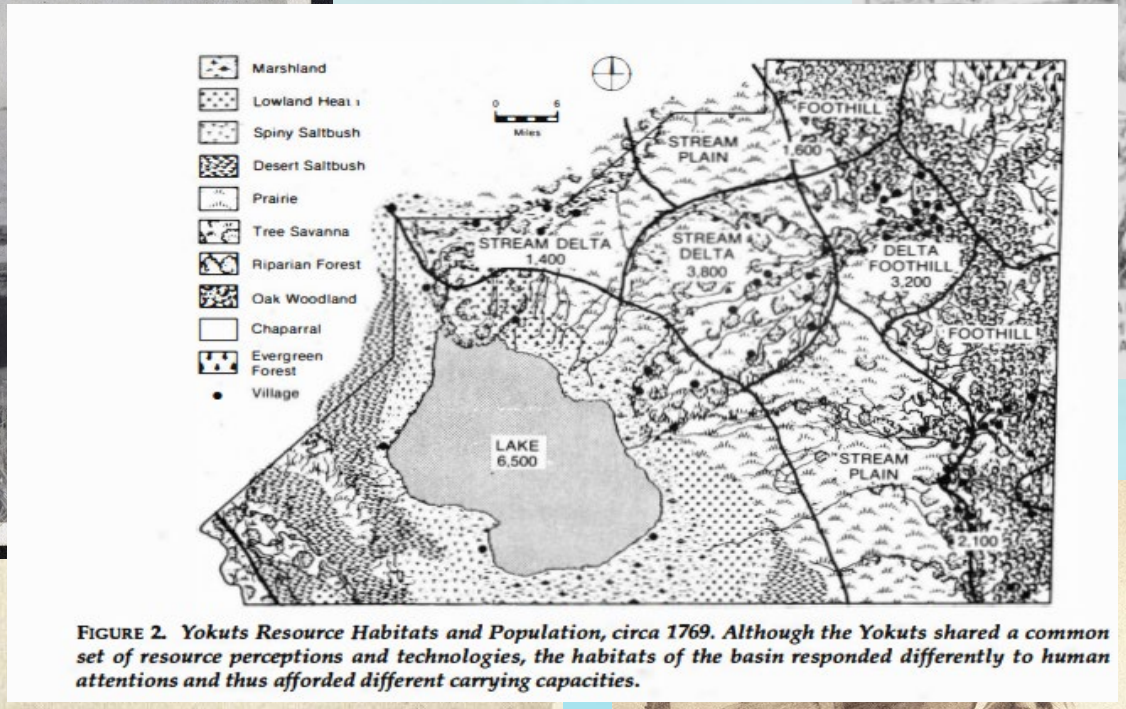
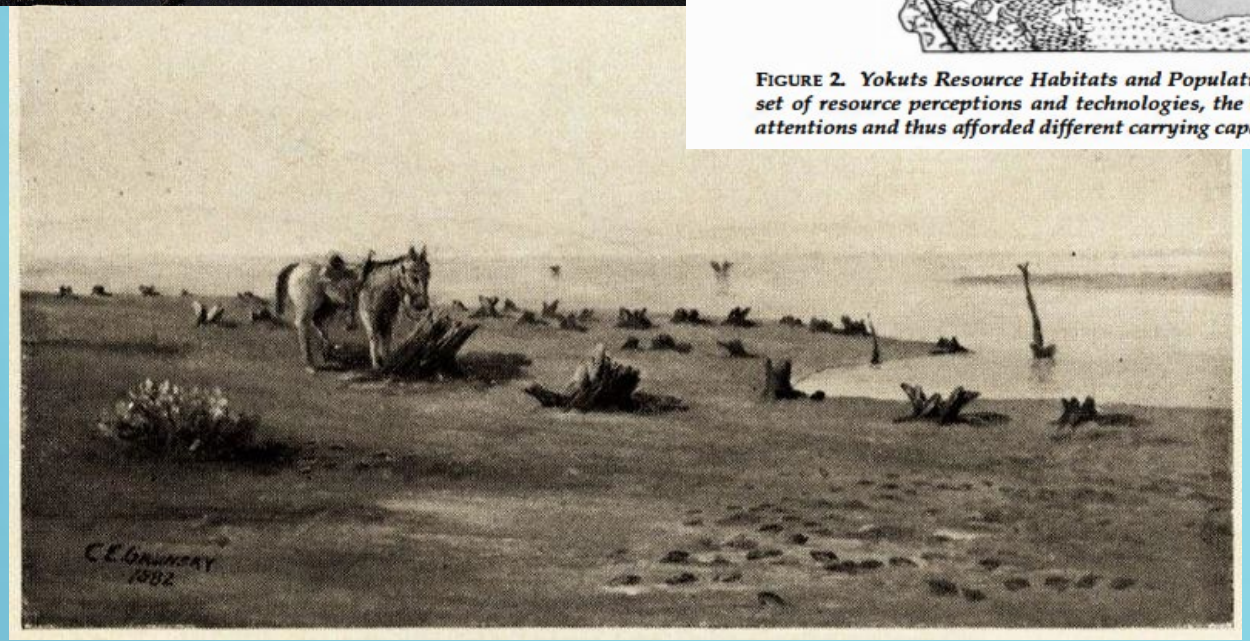
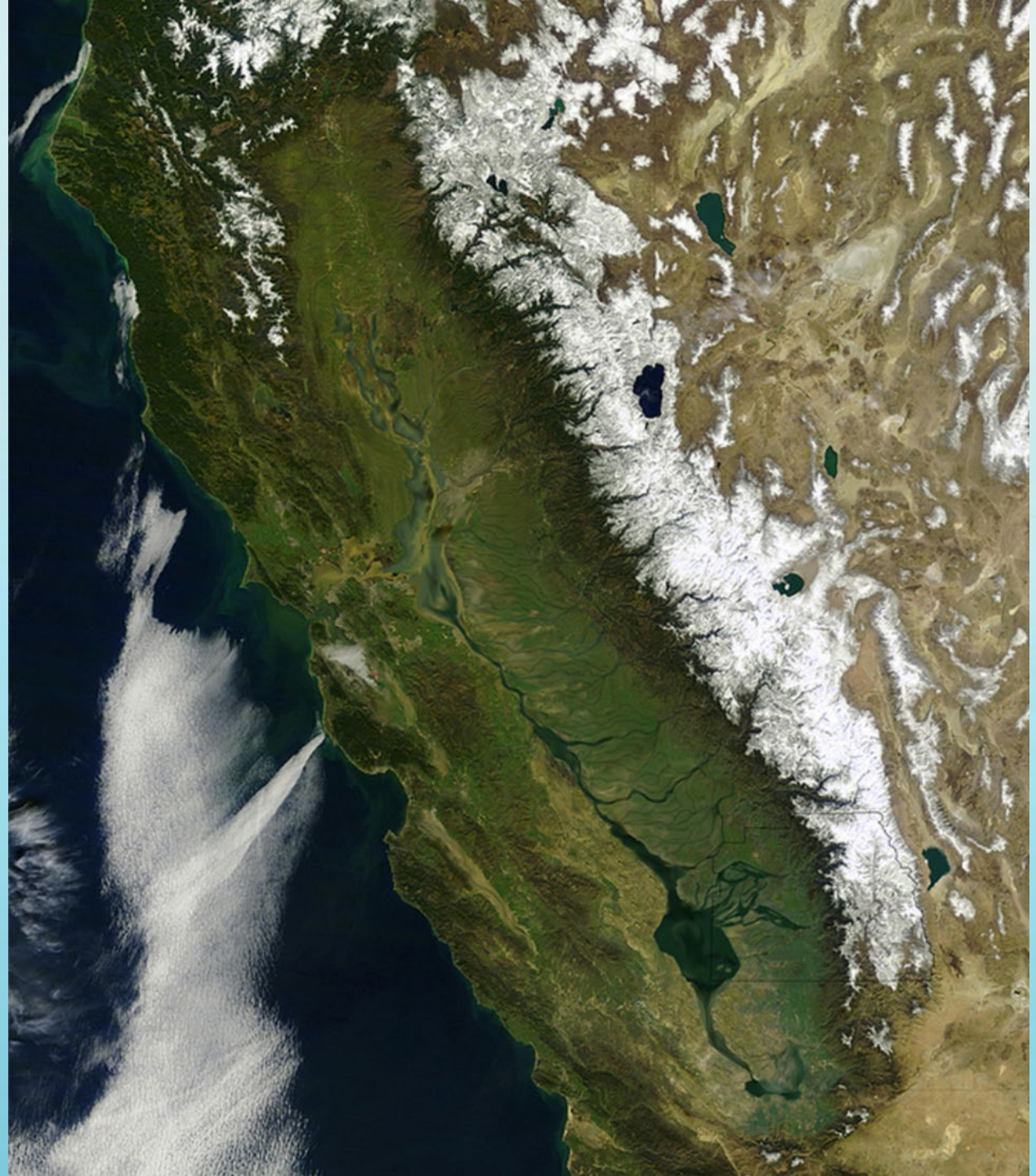


FIGURE 2. *Yokuts Resource Habitats and Population, circa 1769. Although the Yokuts shared a common set of resource perceptions and technologies, the habitats of the basin responded differently to human attentions and thus afforded different carrying capacities.*





Central California Natural Water Flowing System

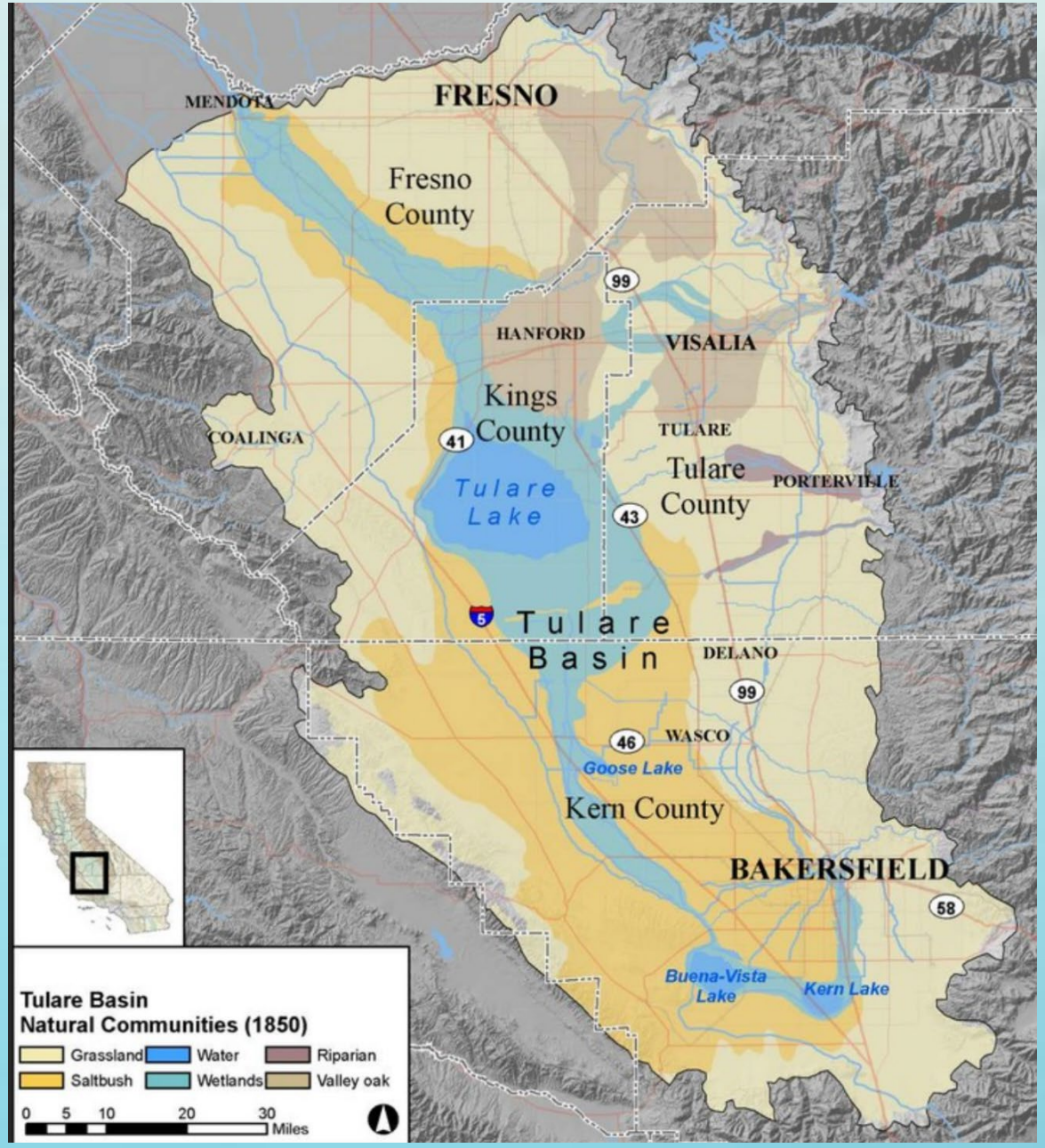
tulare lake basin - Bing images

2023 Tulare Lake and Full Moon

TLB Watershed

Inflow:
Kings River
Kaweah River
Tule River
Deer Creek
White Creek
Poso Creek
Kern River

Outflow:
Fresno Slough
San Joaquin River

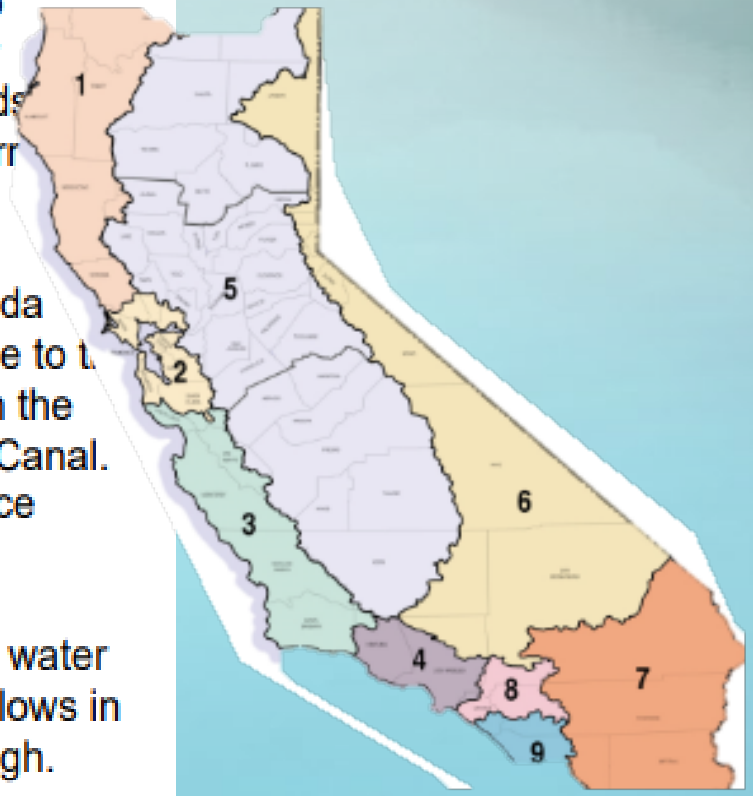


State Water Board Description of the TLB

Surface water supplies tributary to or imported for use within the Basin are inadequate to support the present level of agricultural and other development. Therefore, ground water resources within the valley are being mined to provide additional water to supply demands. Water produced in extraction of crude oil is used extensively to supplement agricultural irr supply in the Kern River sub-basin.

The Kings, Kaweah, Tule, and Kern Rivers, which drain the west face of the Sierra Nevada Mountains, are of excellent quality and provide the bulk of the surface water supply native to t Basin. Imported surface supplies, which are also of good quality, enter the Basin through the San Luis Canal/California Aqueduct System, Friant-Kern Canal, and the Delta-Mendota Canal. Adequate control to protect the quality of these resources is essential, as imported surface water supplies contribute nearly half the increase of salts occurring within the Basin.

Buena Vista Lake and Tulare Lake, natural depressions on the valley floor, receive flood water from the major rivers during times of heavy runoff. During extremely heavy runoff, flood flows in the Kings River reach the San Joaquin River as surface outflow through the Fresno Slough. These flood flows represent the only significant outflows from the Basin.

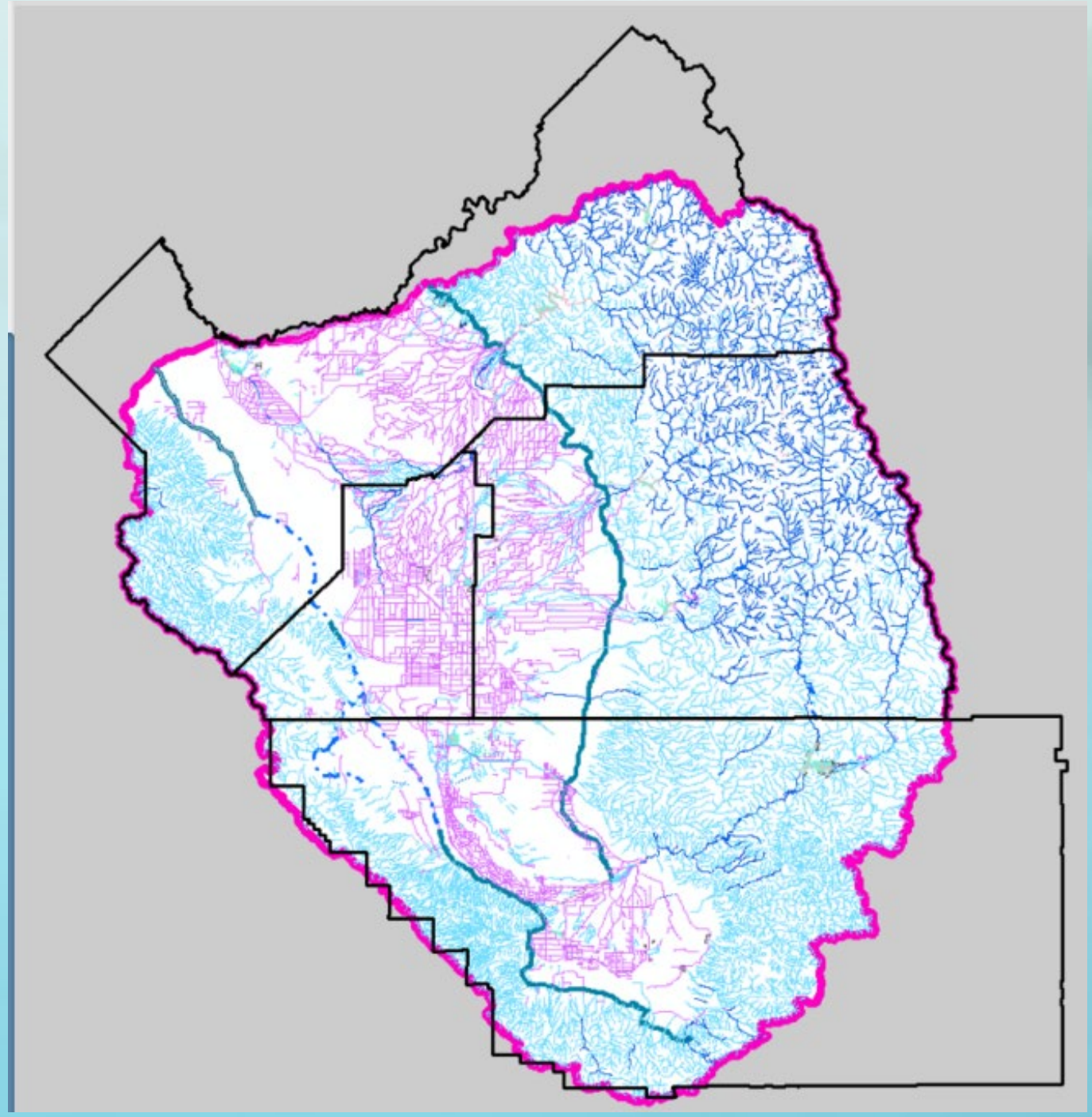


Artificial Hydrology

Tulare Lake Basin water is dammed in artificial lakes in the Sierra Nevada, Lake Isabella, Lake Success, Lake Kaweah, Pine Flat, Wishon, and others.

The Tulare Lake Basin receives State Water through the aqueduct.

Man Made Waterways



Geographic Challenges/ Basin Management Plans

- Aridity/Drought Indicators
- Disadvantaged Communities
- High Ag Dependency on Groundwater
- High Subsidence Levels
- Clay Soils
- High Contaminants
- Anthropogenically Closed Basin/Flood and Flow

Basin Management Plan

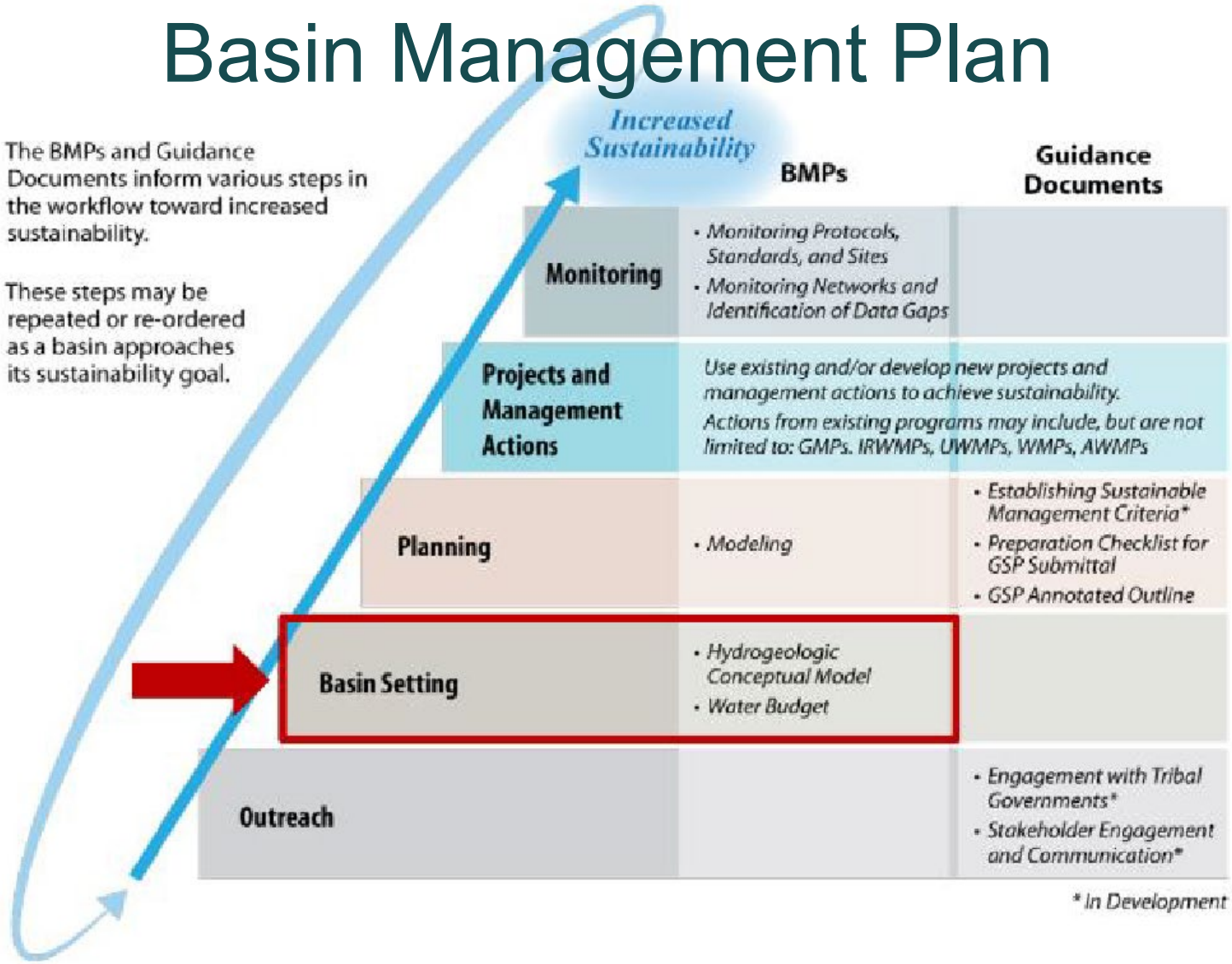
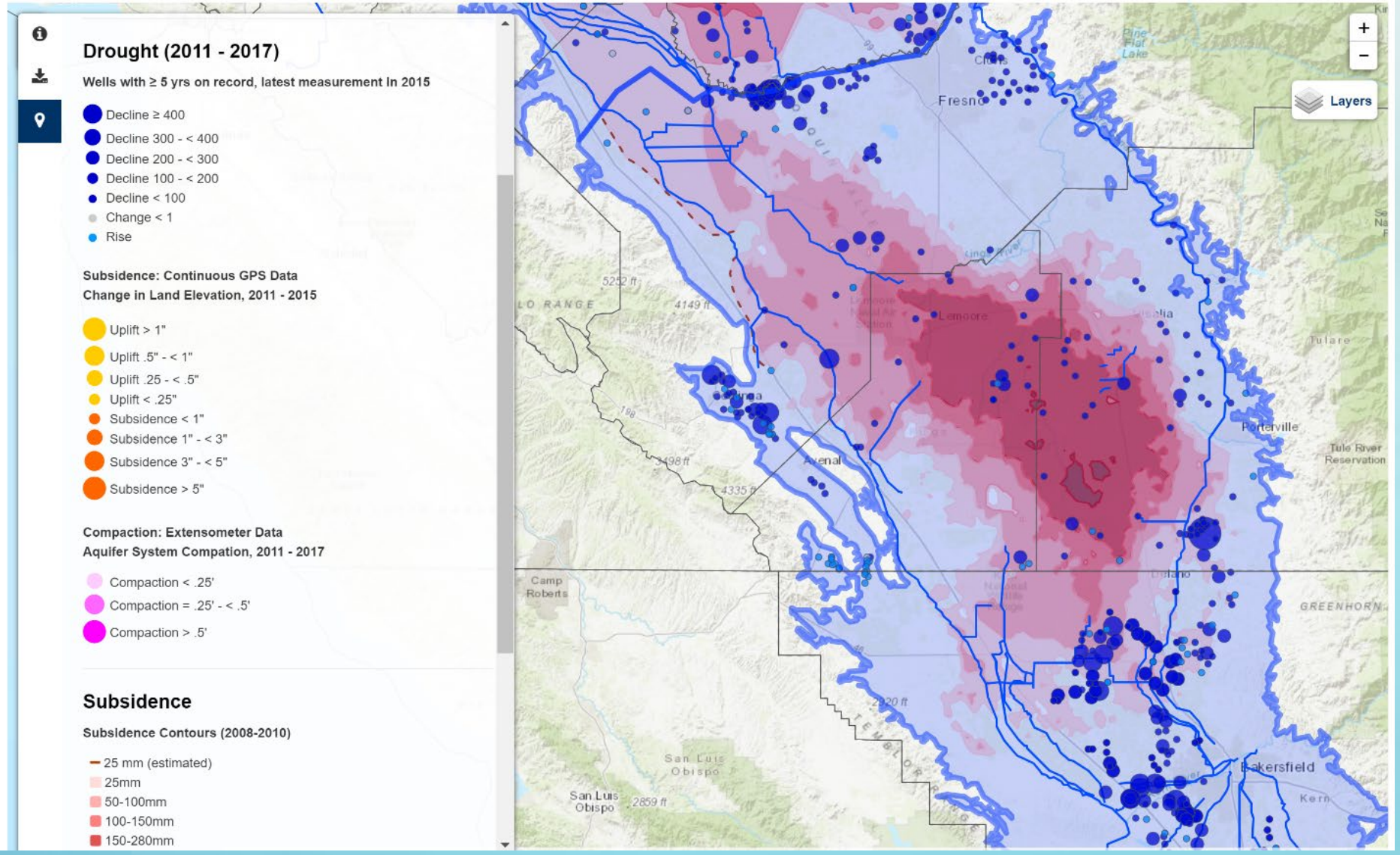


Figure 2 – Logical Progression of Basin Activities Needed to Increase Basin Sustainability

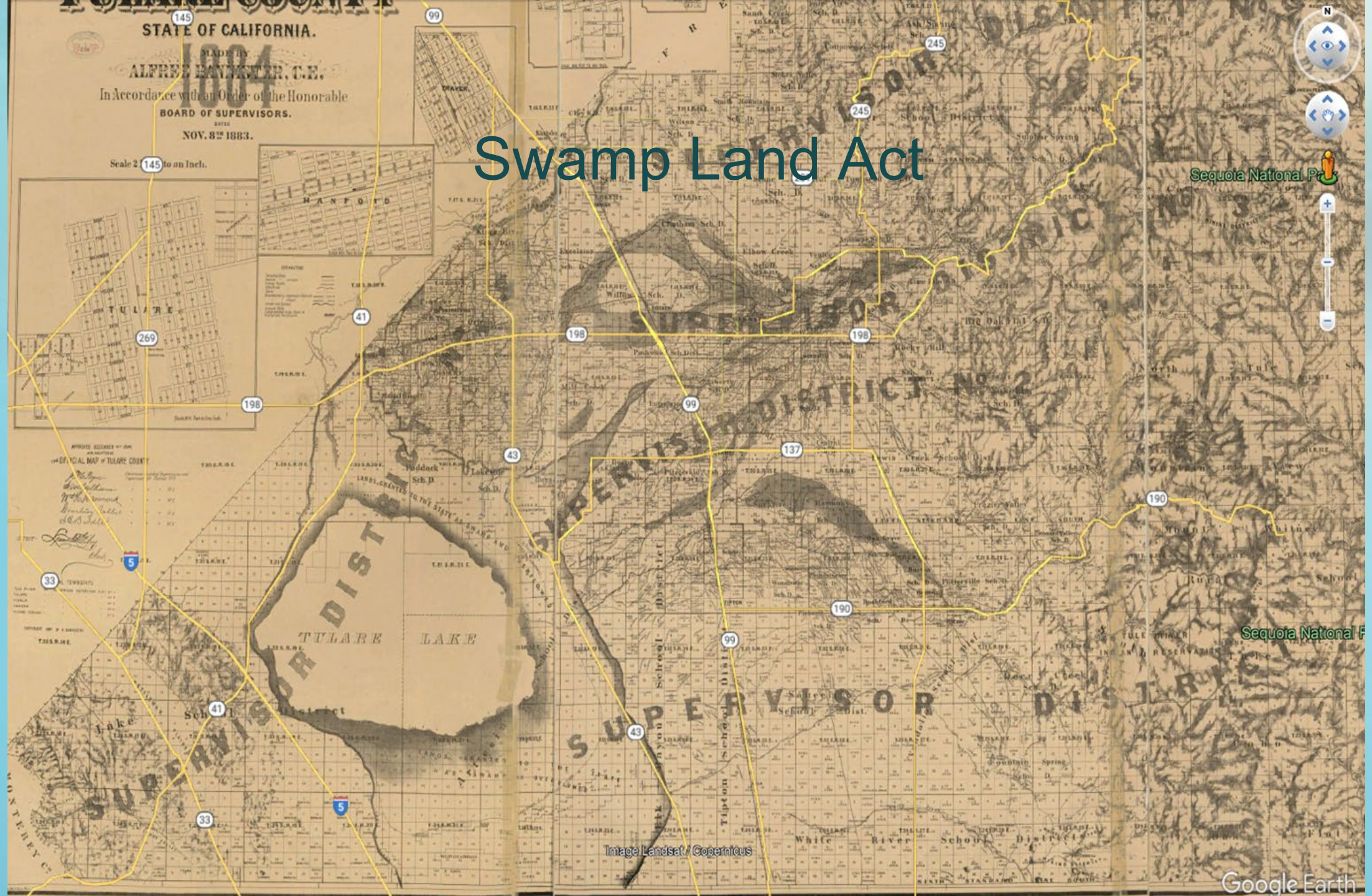
Central Valley: Drought Indicators



Aridity and Drought Indicators

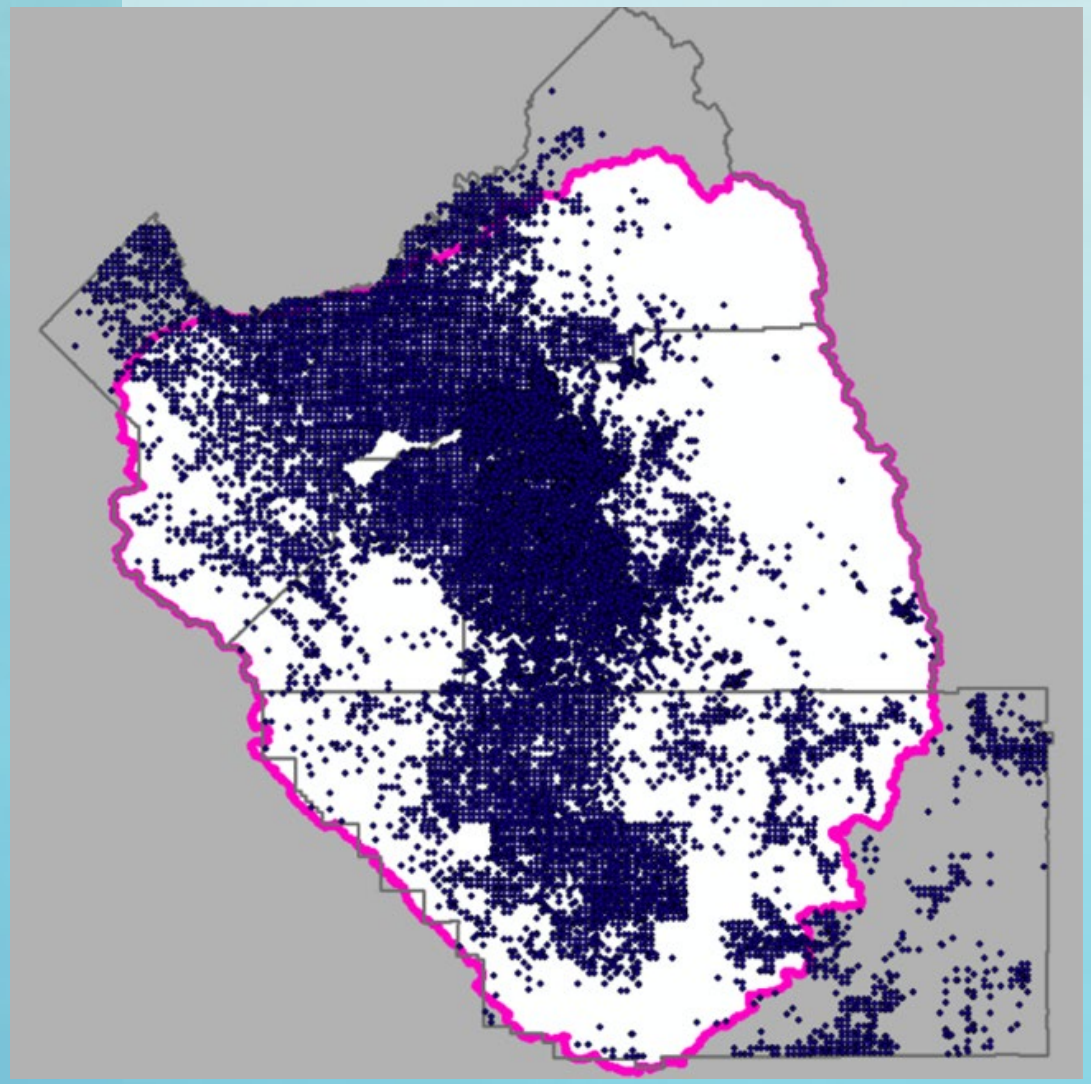
[Central Valley Subsidence Data| USGS California Water Science Center]

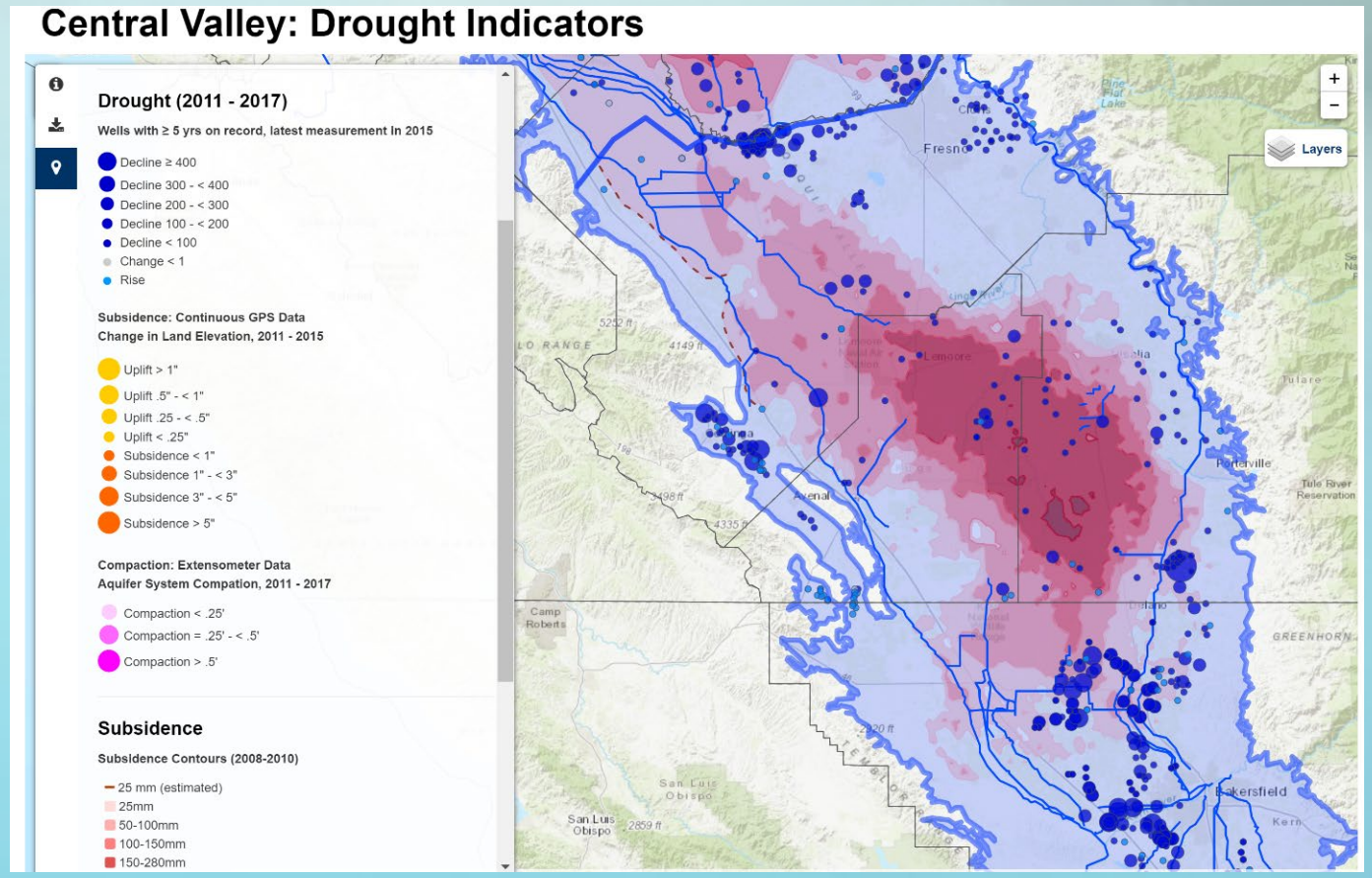
Swamp Land Act




Surf Ranch
Tachi Palace Casino Resort
Kings Ranch Ministries
J. HEINLEN
E. JACOB
T.20 S.R.20 E.
T.20 S.R.21 E.
Paddock
Lakesid
LANDS GRANTED
Sch. D.
Image © 2023 Airbus
Google Earth

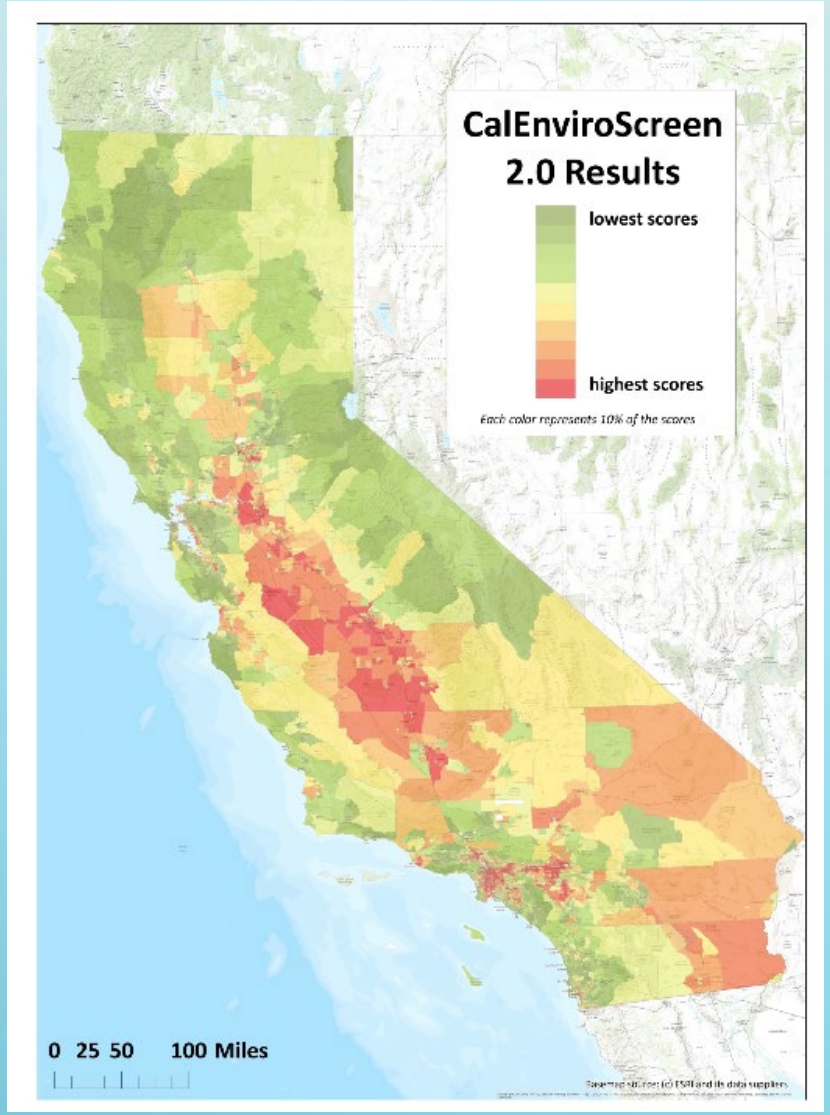
Well Distribution

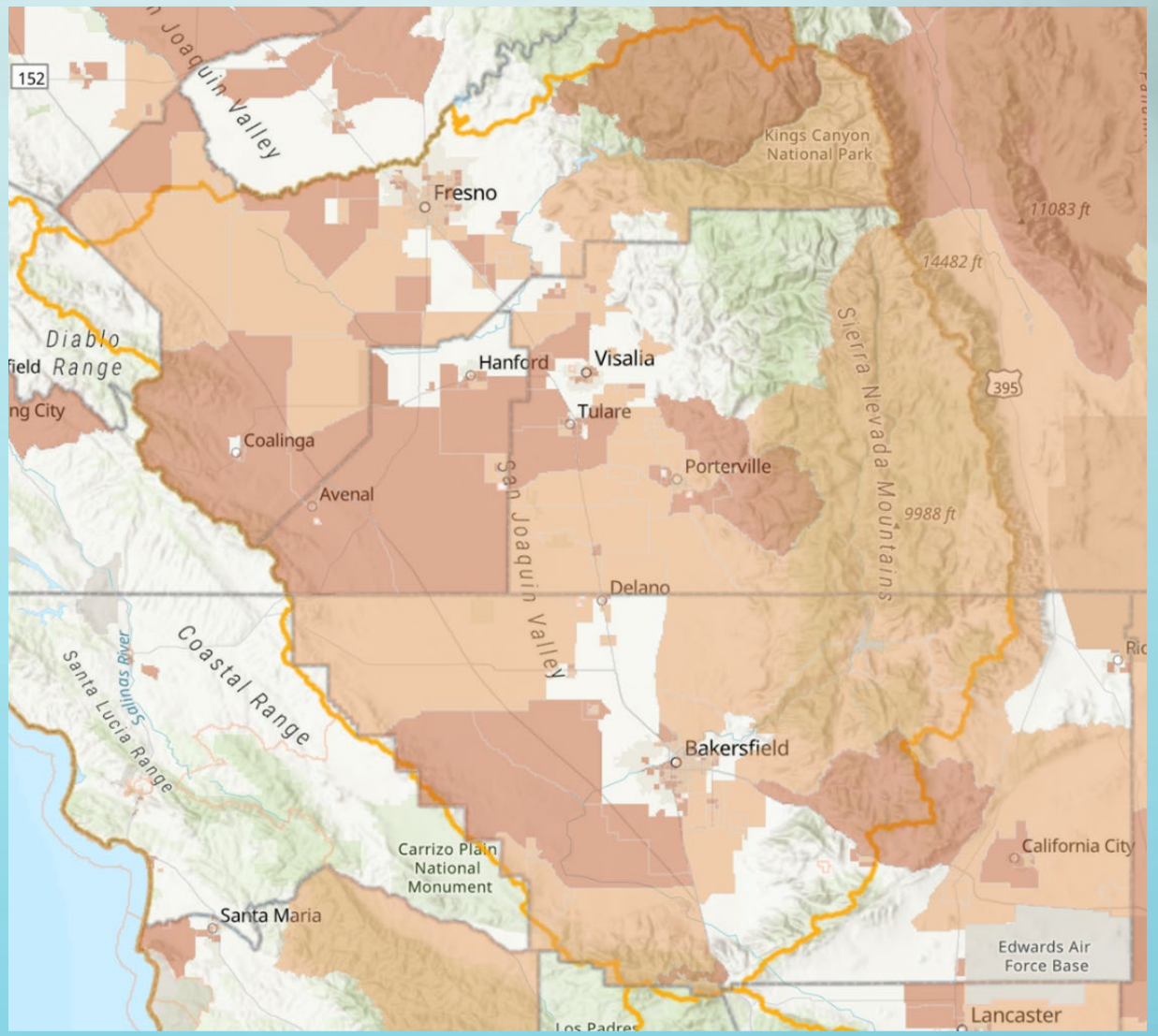




Disadvantaged Communities

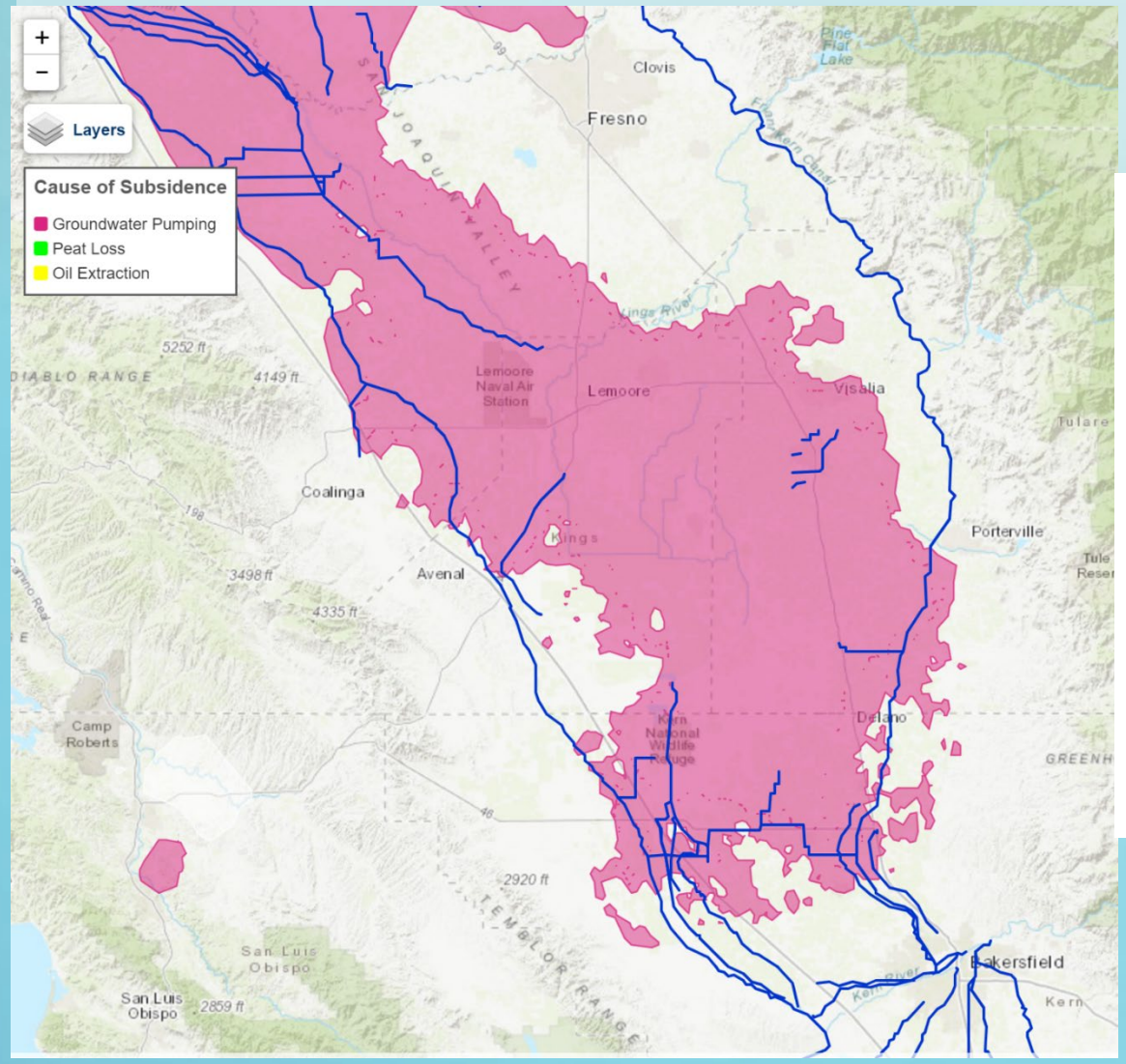
[DAC Mapping Tool (ca.gov)]





Subsidence Levels

Subsiding Areas in California | USGS California Water Science Center

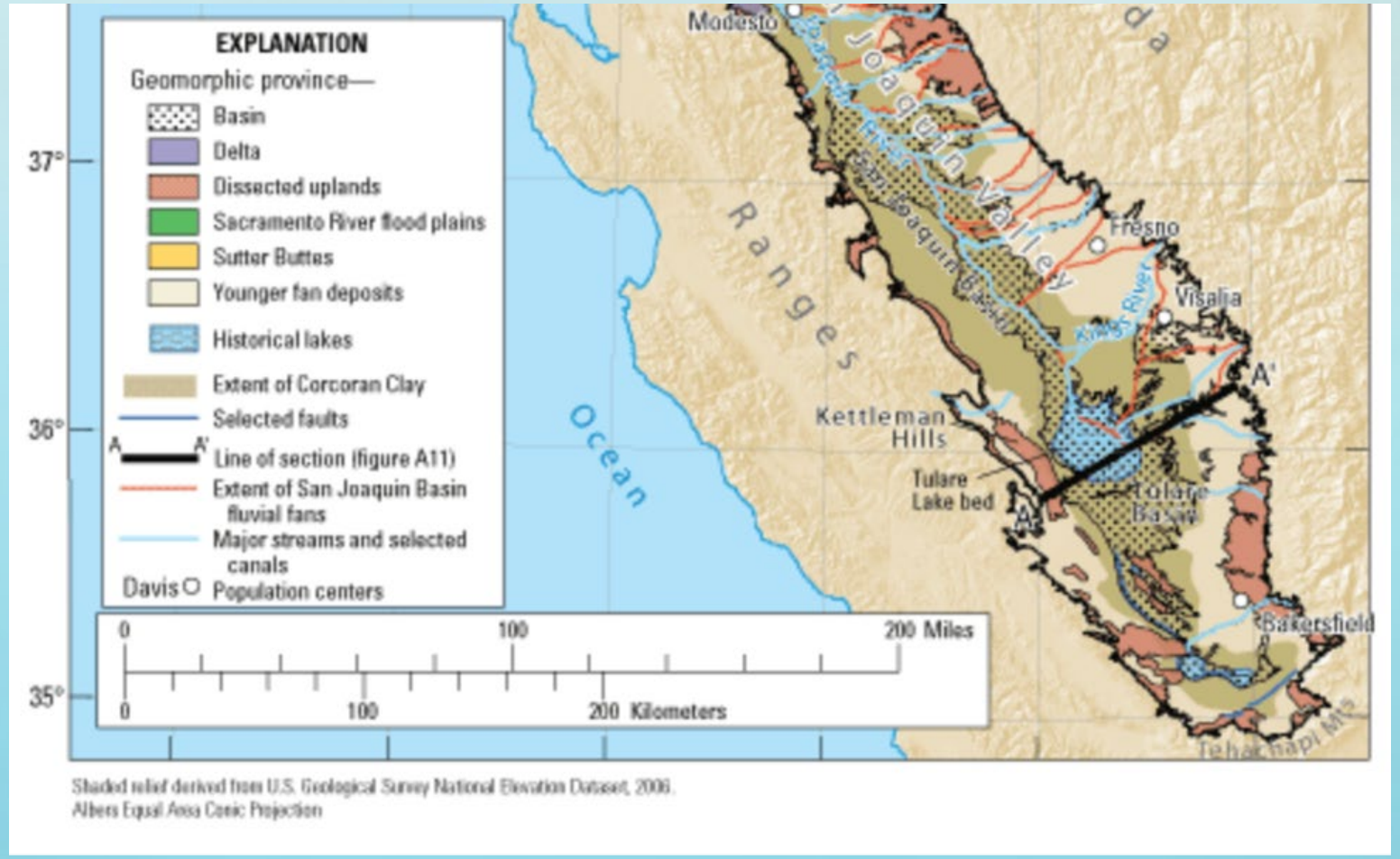


Corrective Action: 1: describe groundwater level conditions that are considered significant and unreasonable and would be considered an undesirable effect, water well problems, subsidence, and deterioration of water quality, and how will these by quantified and measured. (Department of Water Resources, 2023)

Corrective Action 2: The GSP cannot project the continued lowering of groundwater rather than projecting the continued lowering amount of groundwater and they must document the effects on beneficial uses. They must create a management action to address these impacts. (Department of Water Resources, 2023)

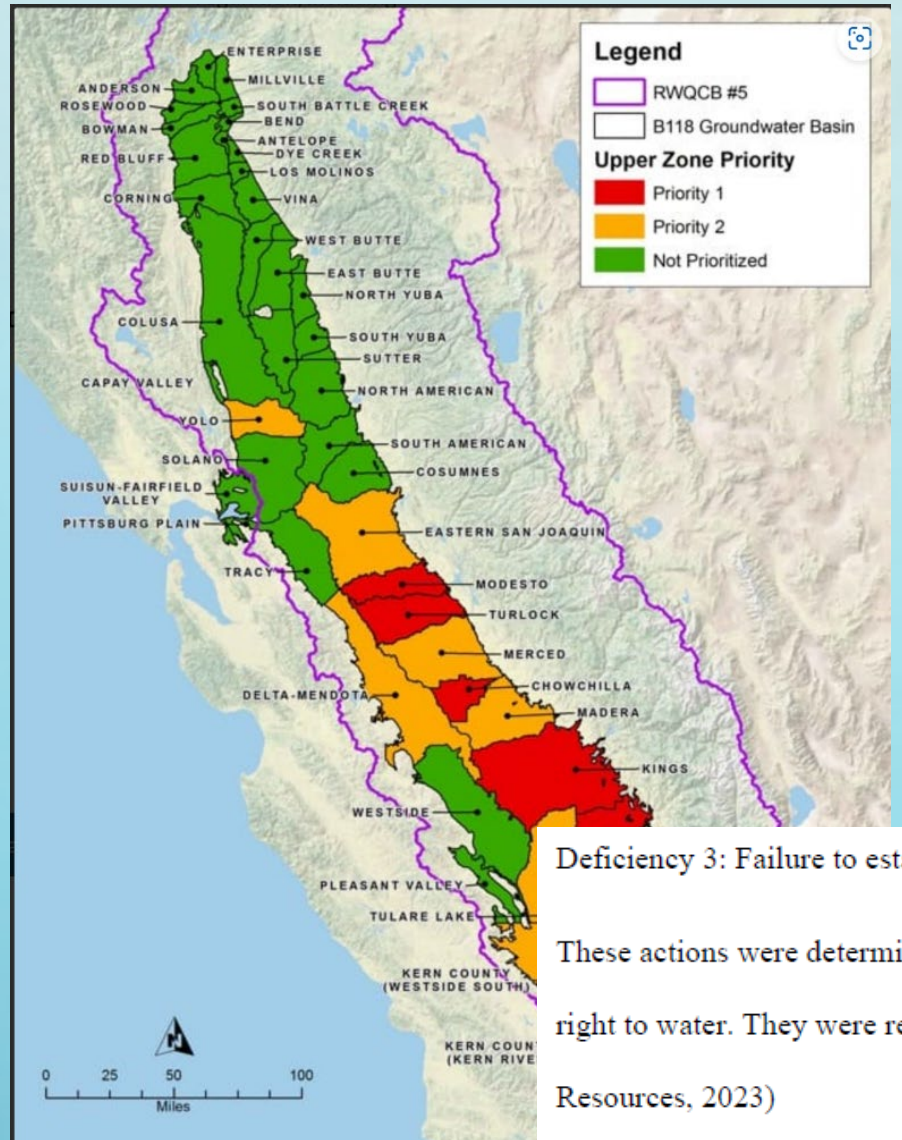
Clay Soils Poor Infiltration

[pp1766_corcoran_clay_extent.png (612×792) (usgs.gov)]

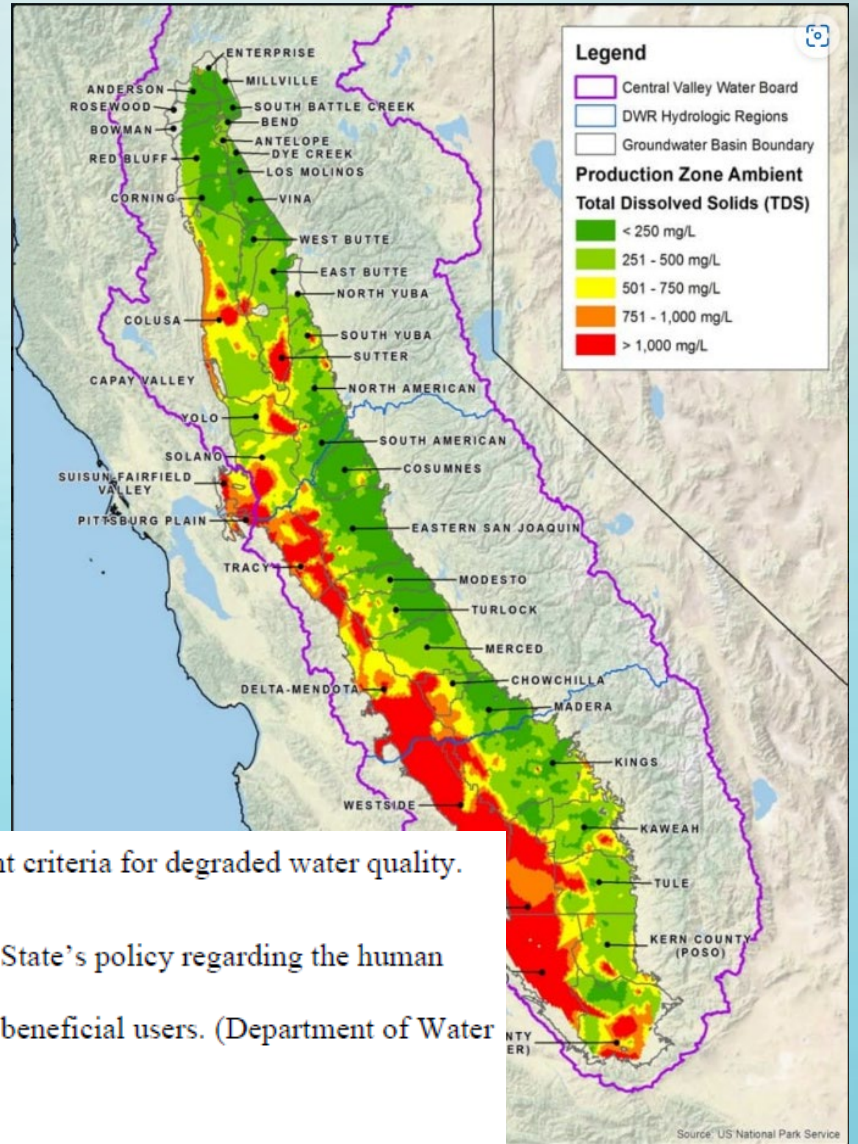


TLB Contaminates

Nitrates



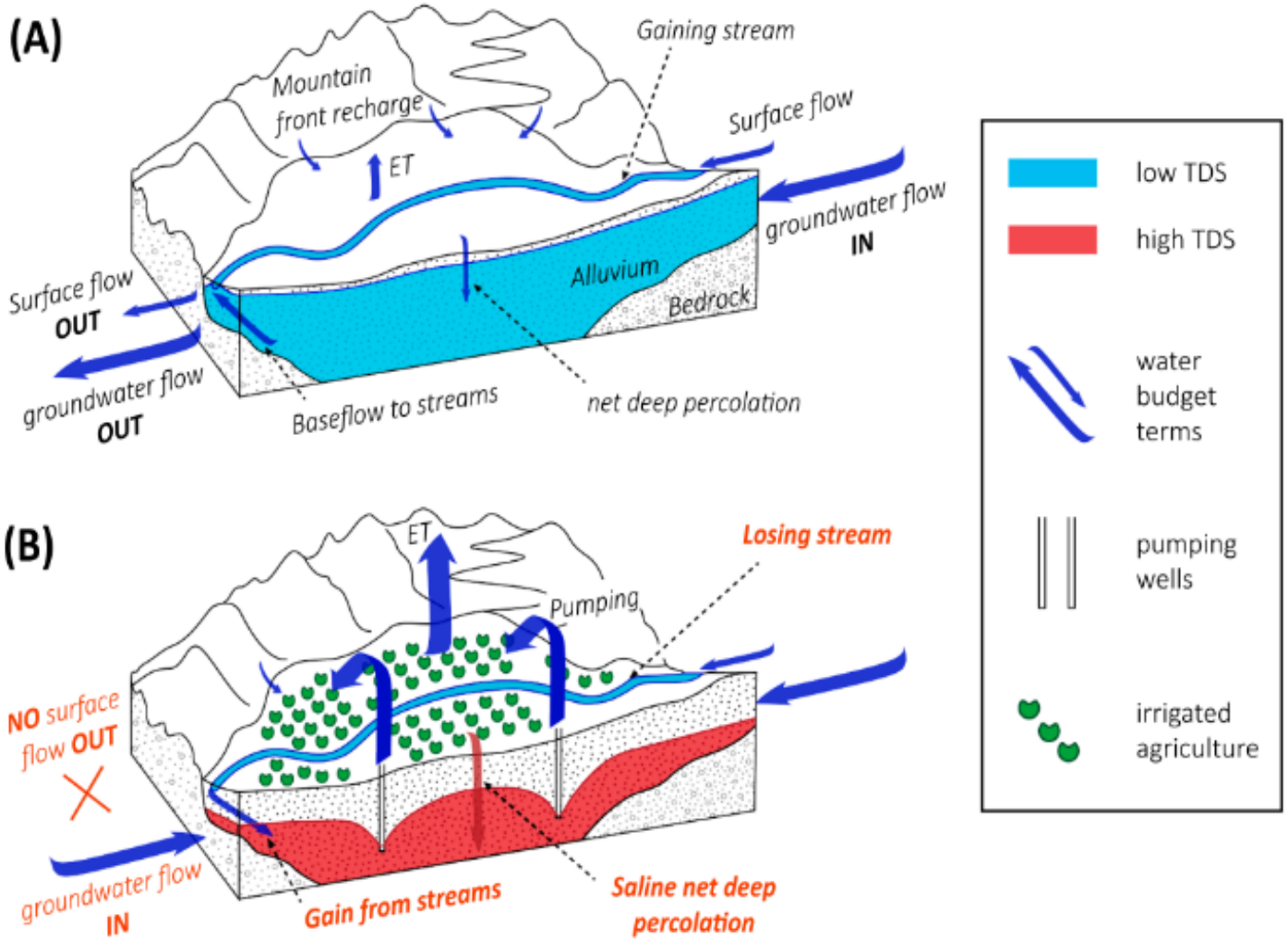
TDS



Deficiency 3: Failure to establish sustainable management criteria for degraded water quality.

These actions were determined to be in opposition to the State's policy regarding the human right to water. They were recommended to involve other beneficial users. (Department of Water Resources, 2023)

Anthropogenic Closure of the Tulare Lake Basin



The crucial problem in the Tulare Lake Basin is the salts brought in with irrigation water and leached out of soils. Evaporation and crop transpiration remove water from soils, which can result in an accumulation of salts in the root zone of the soils at levels that retard or inhibit plant growth. Additional amounts of water often are applied to leach the salts below the root zone. The leached salts eventually enter ground or surface water.

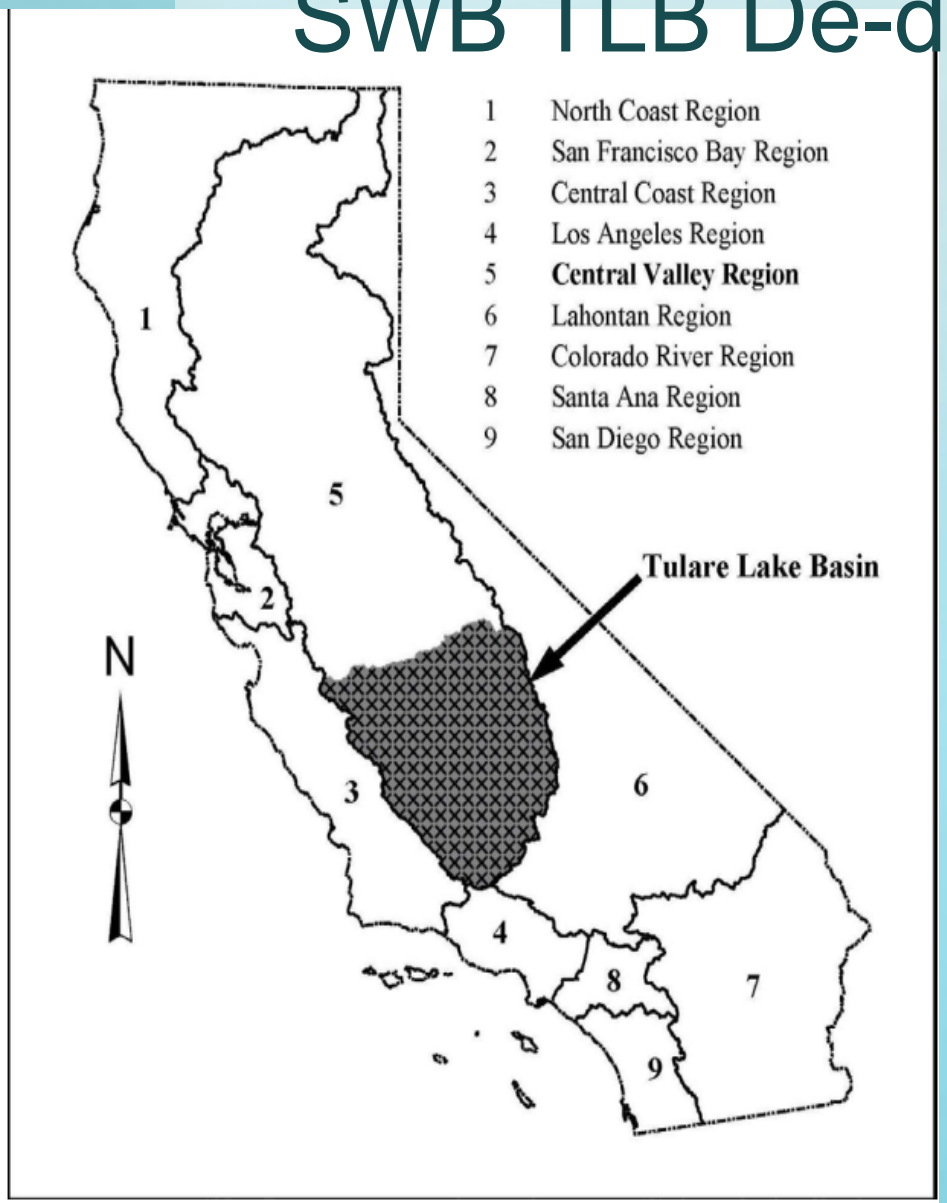
The amount of salts which are leached depends on the amounts in the soil profile and the applied waters. In 1970, the Department of Water Resources estimated that 481 million tons of salt were stored in the top 20 feet of soil (or the root zone) in the San Joaquin Valley {Department of Water Resources, "Land and Water Use Aspects of San Joaquin Valley Drainage Investigations", June 1970}. In 1971, the Department of Water Resources estimated that the four major rivers of the Tulare Lake Basin bring in 145,000 tons of salt per year. Another 63,000 tons are brought in by the Friant-Kern Canal, annually. The Delta-Mendota Canal brings in 336,000 tons per year {Department of Water Resources, "A General Survey of Electrical Conductivity in Ground Water, San Joaquin Valley", March through June 1971}.

The movement of the salts to surface waters can occur as shallow subsurface ground water flows or it can result from the surface water discharge of agricultural subsurface collection systems (or tile drains) which are employed in areas where farm lands have naturally poor drainage. Tile drains consist of pipe systems below the root zone of crops that drain water from soils that would otherwise stay saturated. TDS concentrations in tile drained water is many times greater than in the irrigation water that was applied to the crops. Tile drain water can also contain trace elements and nutrients. Removal and export, through a valleywide drain, of perched waters will offset, in part, the Basin's adverse salt accumulation.

Subsurface drainage will be a constant threat to surface water and usable ground water quality unless the disposal method is adequate. Disposal must be in a manner that isolates the salts in the drainage from the usable ground water body. In some areas of the Basin, evaporation basins are used to concentrate drainage water and contain salts. However, evaporation basins cannot be considered permanent solutions due to wildlife impacts, and the cost of ultimate salt disposal and basin closure. The California Department of Water Resources and other federal, state and local agencies continue to study alternative approaches for reuse and disposal of agricultural drainage waters.

The Central Valley provides critically important wetland habitat for wintering waterfowl of the Pacific Flyway. The Pacific Flyway covers the western portion of the North American Continent. Most Pacific Flyway waterfowl are from the prairies and parklands of western Canada and the river valleys and deltas of Alaska. The Central Valley supports approximately 60% of the Pacific Flyway wintering waterfowl population. Hundreds of thousands of shorebirds and other water or marsh birds annually winter or pass through the Central Valley {San Joaquin Valley Drainage Program, "Fish and Wildlife Resources and Agricultural Drainage in the San Joaquin Valley, California", Volume I, October 1990}.

SWB TLB De-designation for Beneficial Uses



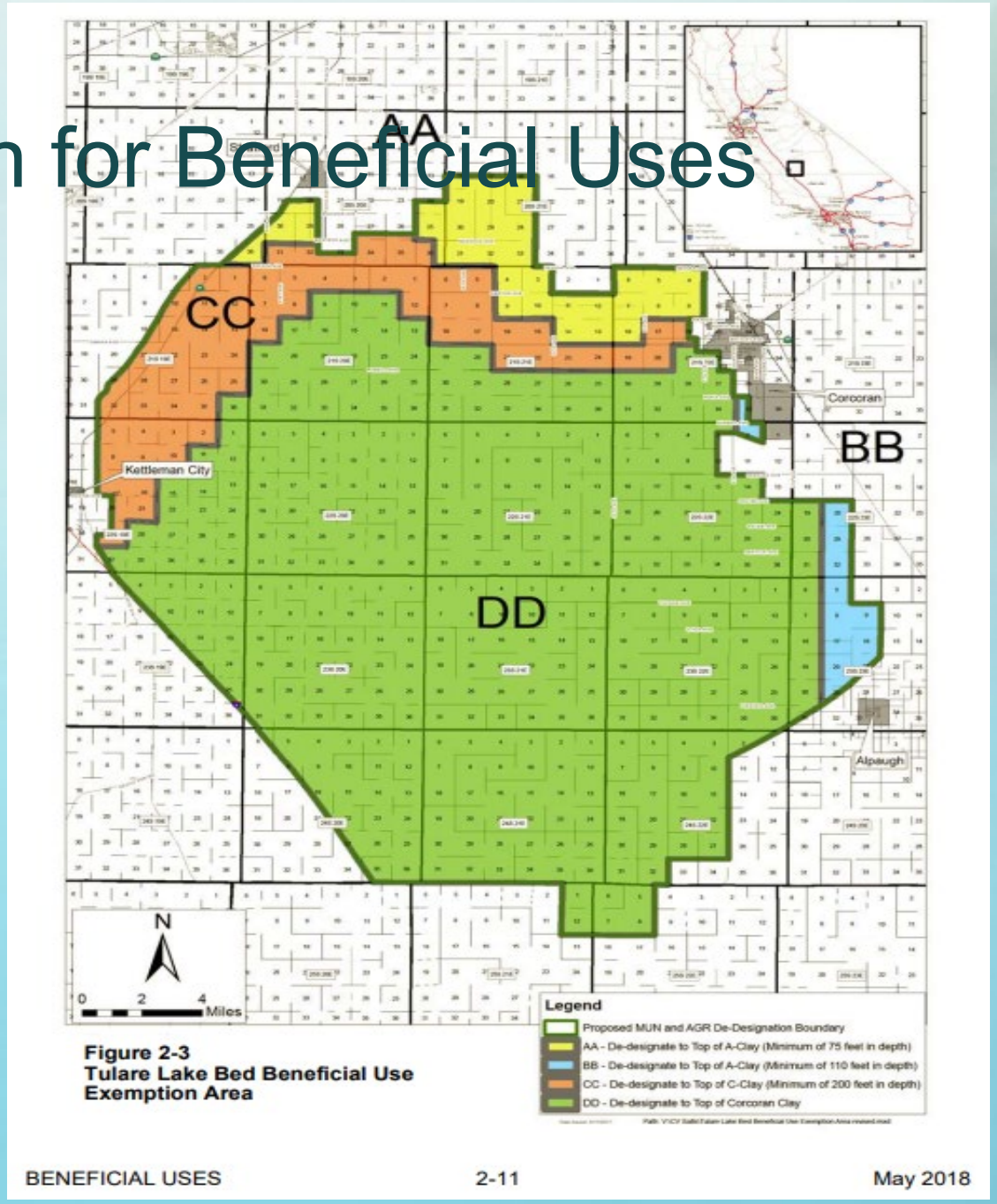
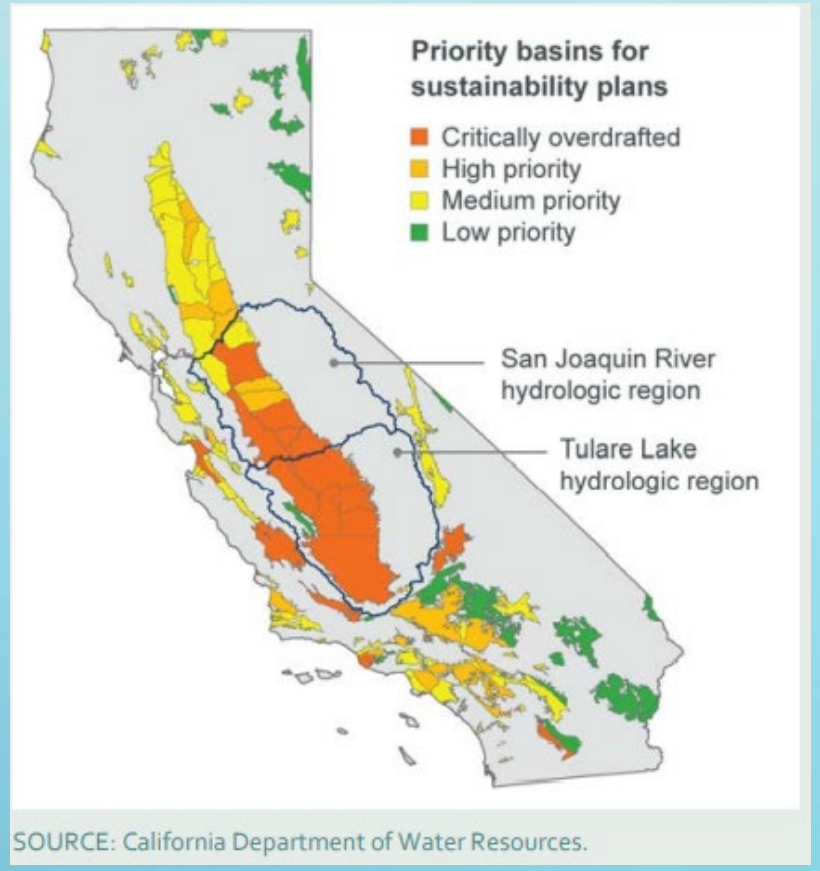


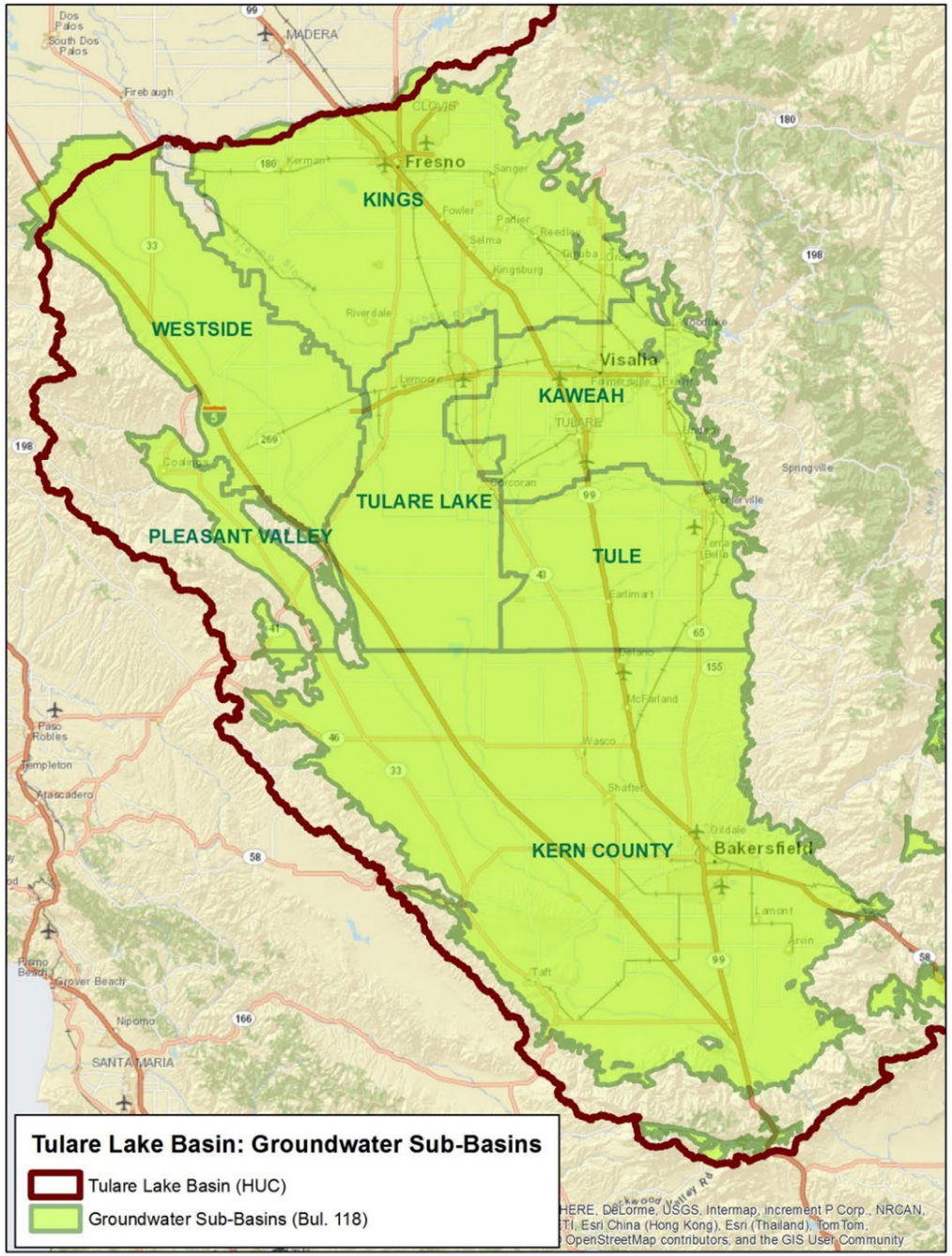
Figure 2-3
Tulare Lake Bed Beneficial Use Exemption Area

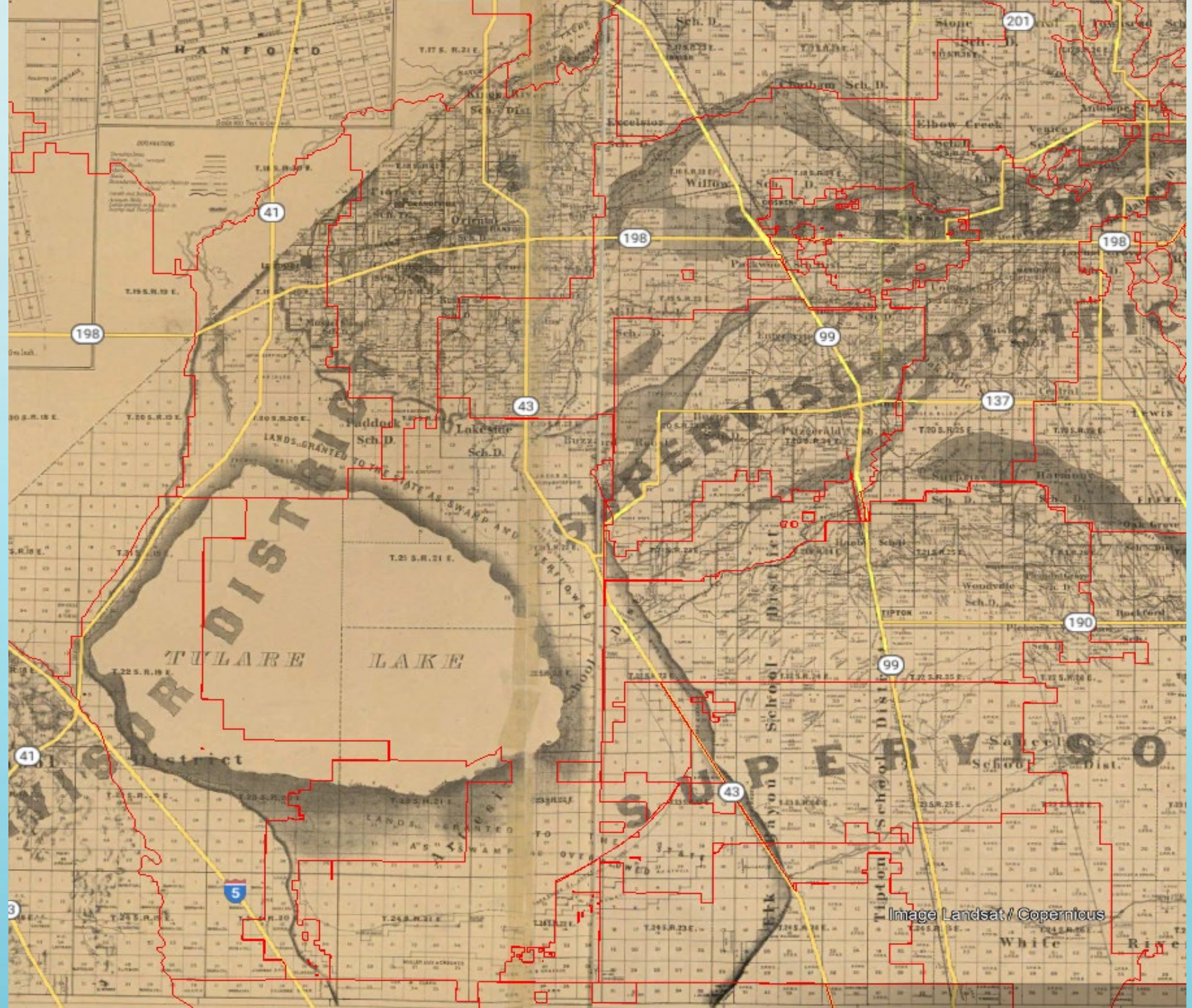
SGMA

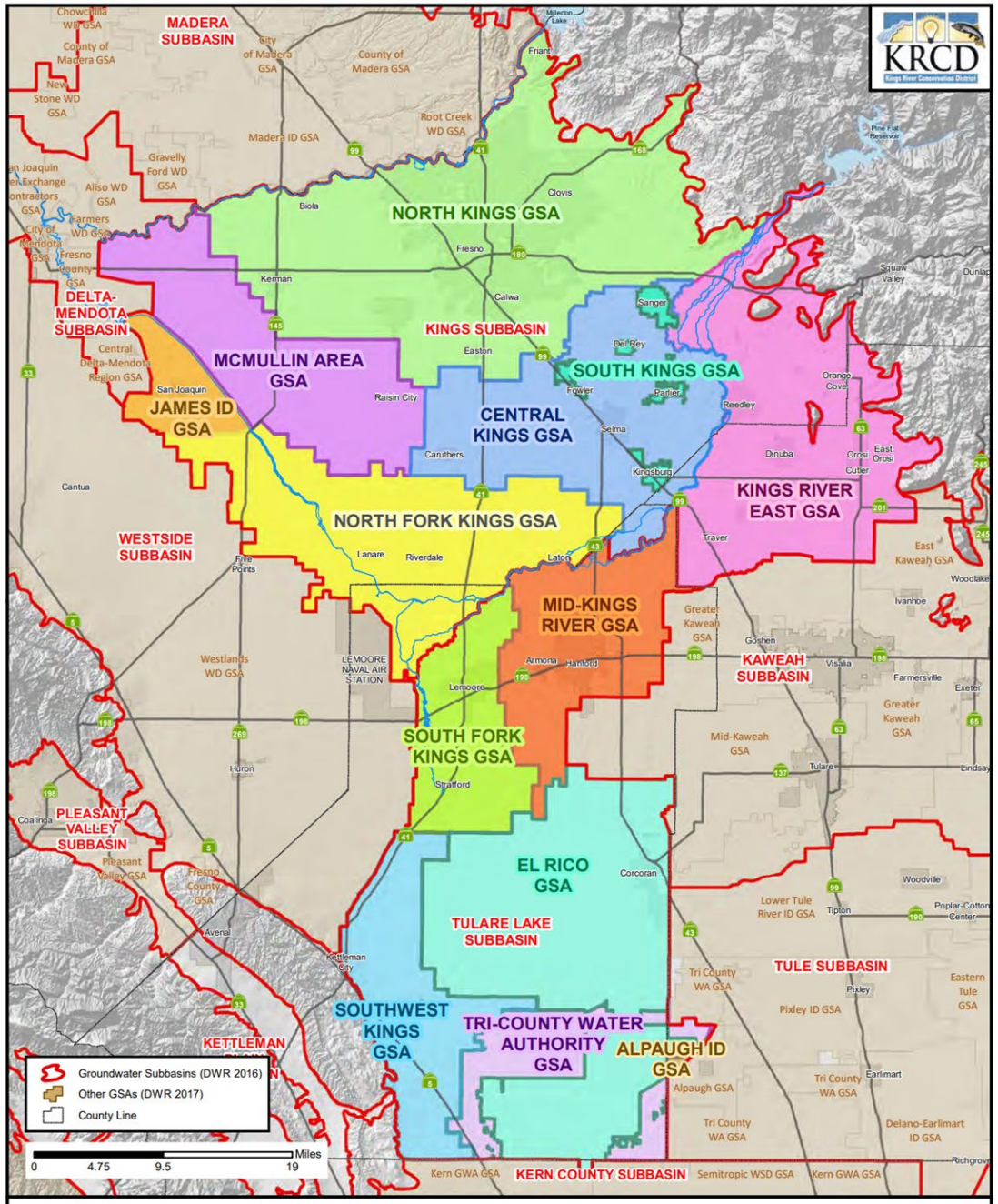
- GSAs:
- Subbasin GSPs



SOURCE: California Department of Water Resources.



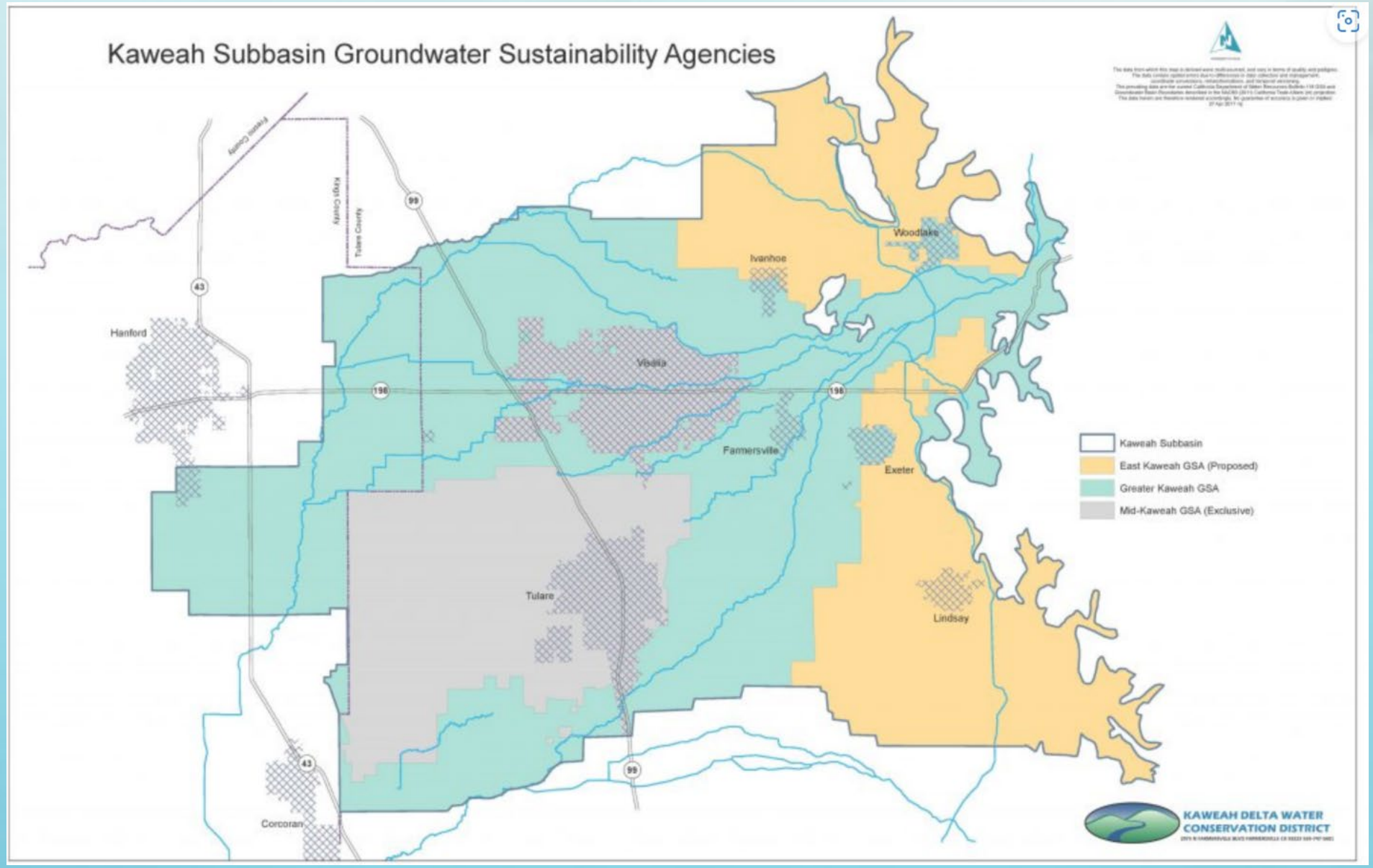

HANFORD
TULARE LAKE
SUPERVISO
Image Landsat / Copernicus



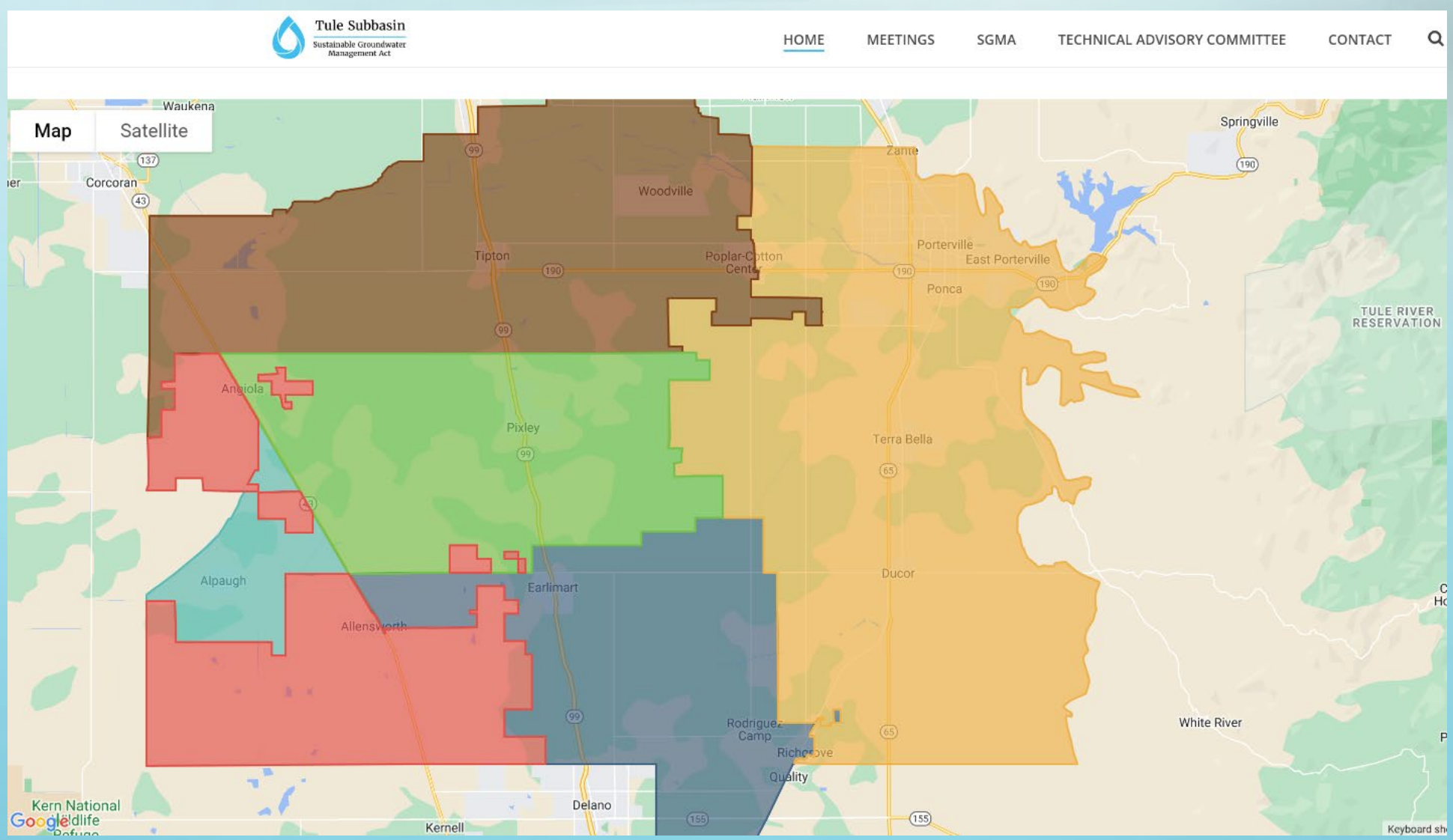
Kings and Tulare Lake Subbasins

1 Basin
7 Subbasins
34 GSAs
22 GSP
7 Different Water Accounting Systems
54 Management Areas, which creates Sustainable Management Criteria for Lowering Groundwater, Reduction in Groundwater Storage, Seawater intrusion, Degraded Water Quality, Land Subsidence, and Depletion of Interconnected Surface Water.
For those six Management Criteria, there are 54 sustainability goals, minimum thresholds, and measurable objectives.

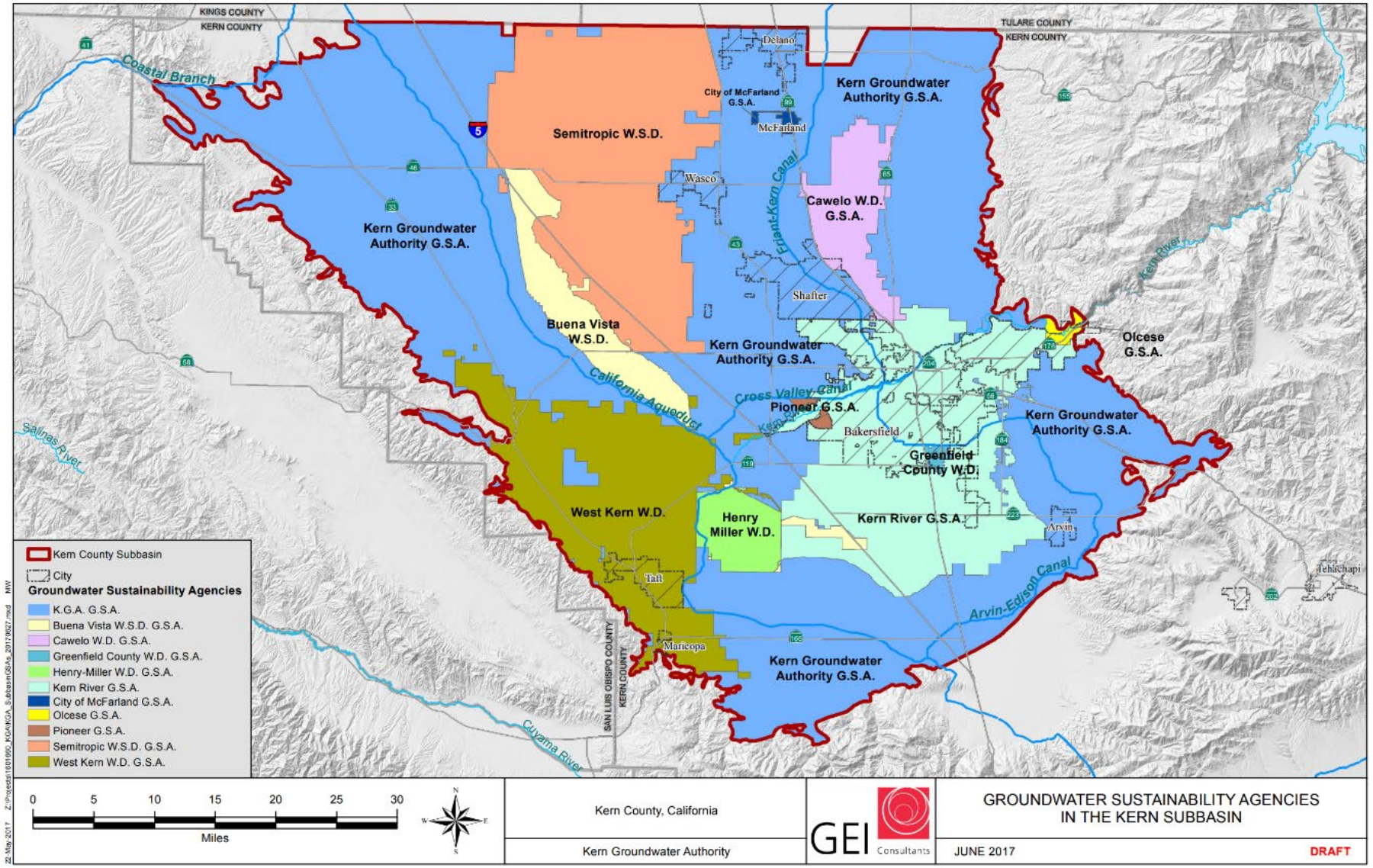
Kaweah Subbasin

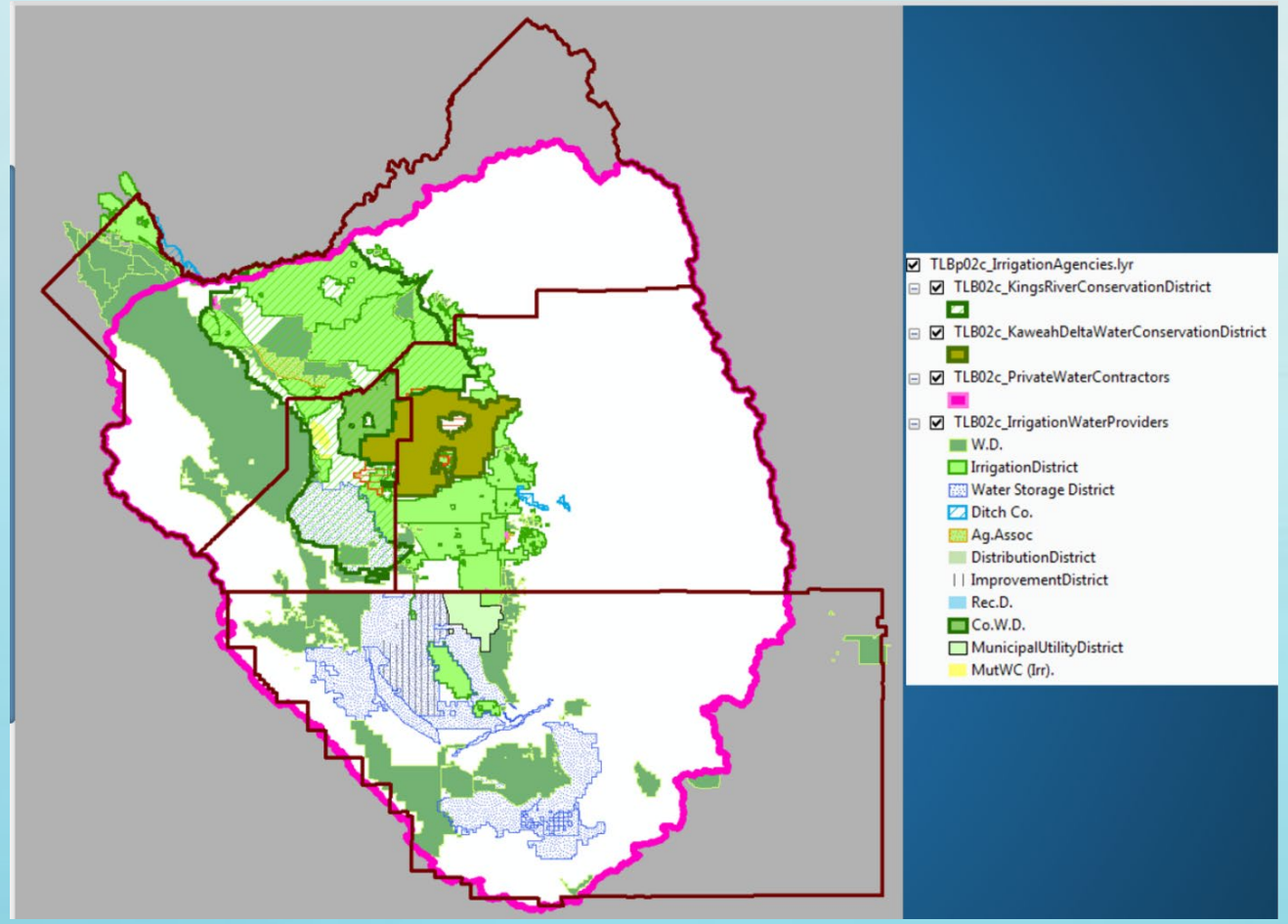


Tule Subbasin



Kern Subbasin

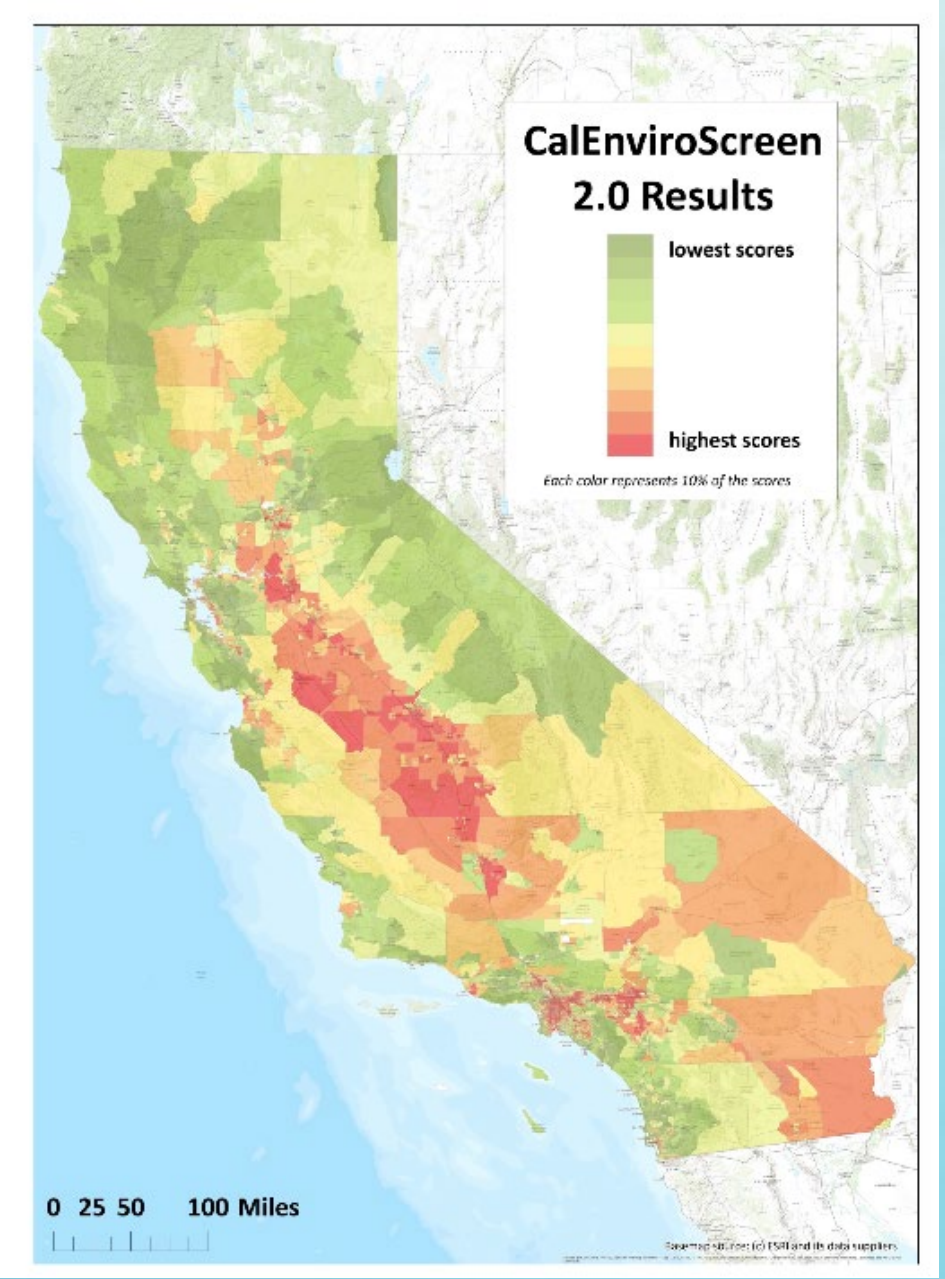




Irrigation Districts

Each GSA has multiple different irrigation or water districts, general plans, and other policies to follow.

Effected Communities



Kings:

- Biola
- Bowles
- Calwa
- Caruthers
- Centerville
- Clovis
- Cutler
- Del Rey
- Delft Colony
- Dinuba
- East Orosi
- Easton
- Friant
- El Provenir / Three rocks
- Fowler
- Fresno
- Kerman
- Kingsburg
- Lanare
- Laton
- London
- Malaga
- Minkler
- Orange Cove
- Orosi
- Parlier
- Pinedale
- Raisin City
- Riverdale
- Reedley
- Sanger
- San Joaquin
- Selma
- Seville
- Sultana
- Sunnyside
- Squaw Valley
- Tarpey Village
- Traver
- Tulare
- West Park
- Yettem

Kaweah:

- Cameron Creek
- El Rancho
- Exeter
- Farmersville
- Goshen
- Ivanhoe
- Lindcove
- Lindsay
- Lemon Cove
- Matheny Tract
- Patterson Tract
- Plainview
- Soults
- Strathmore
- Tooleville
- Tonyville
- Tulare
- Visalia
- W. Goshen
- Woodlake

Tulare Lake:

- Armona
- Corcoran
- Hanford
- Hardwick
- Kettleman City
- Leemore
- Stratford

Pleasant Valley:

- Avenal
- Coalinga

Westside:

- Cantua Creek
- Huron
- Mendota
- Murray

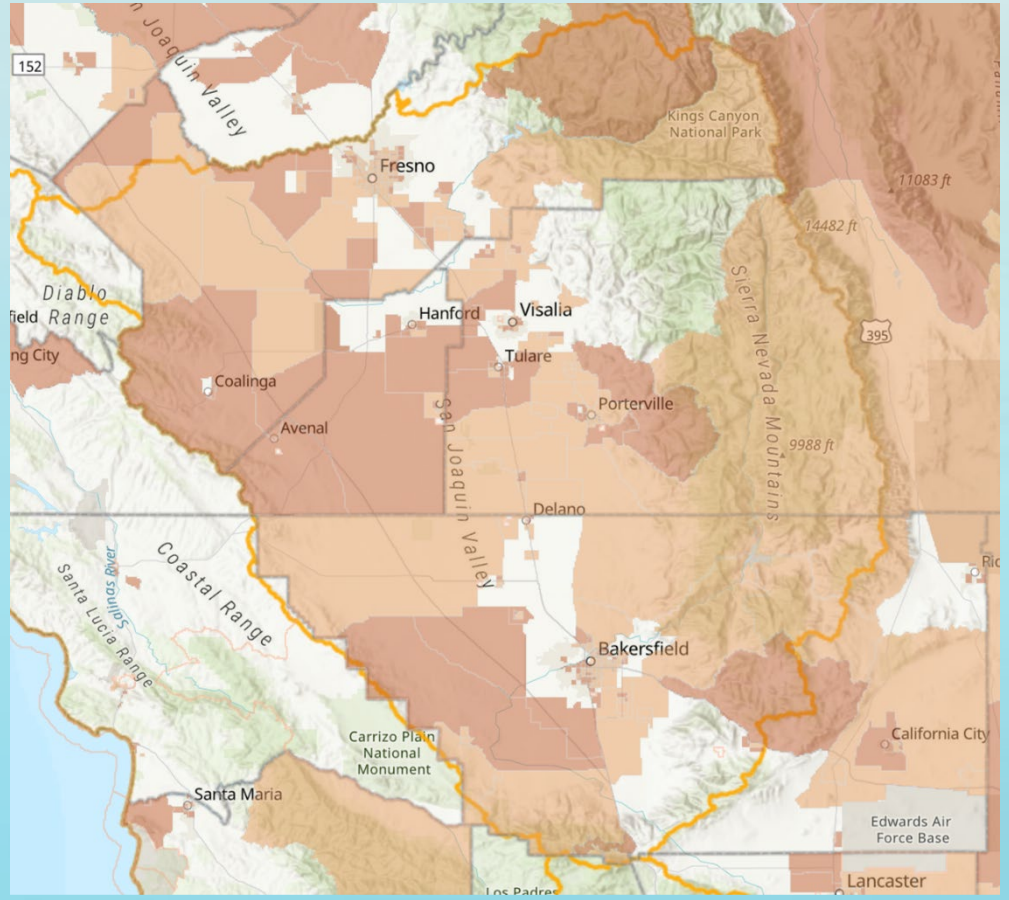
Tule:

- Allensworth
- Alpaugh
- Cotton Center
- Ducor
- Earlimart
- East Portverville
- Pixley
- Poplar
- Porterville
- Richgrove
- Terra Bella
- Teviston
- Tipton
- Woodville

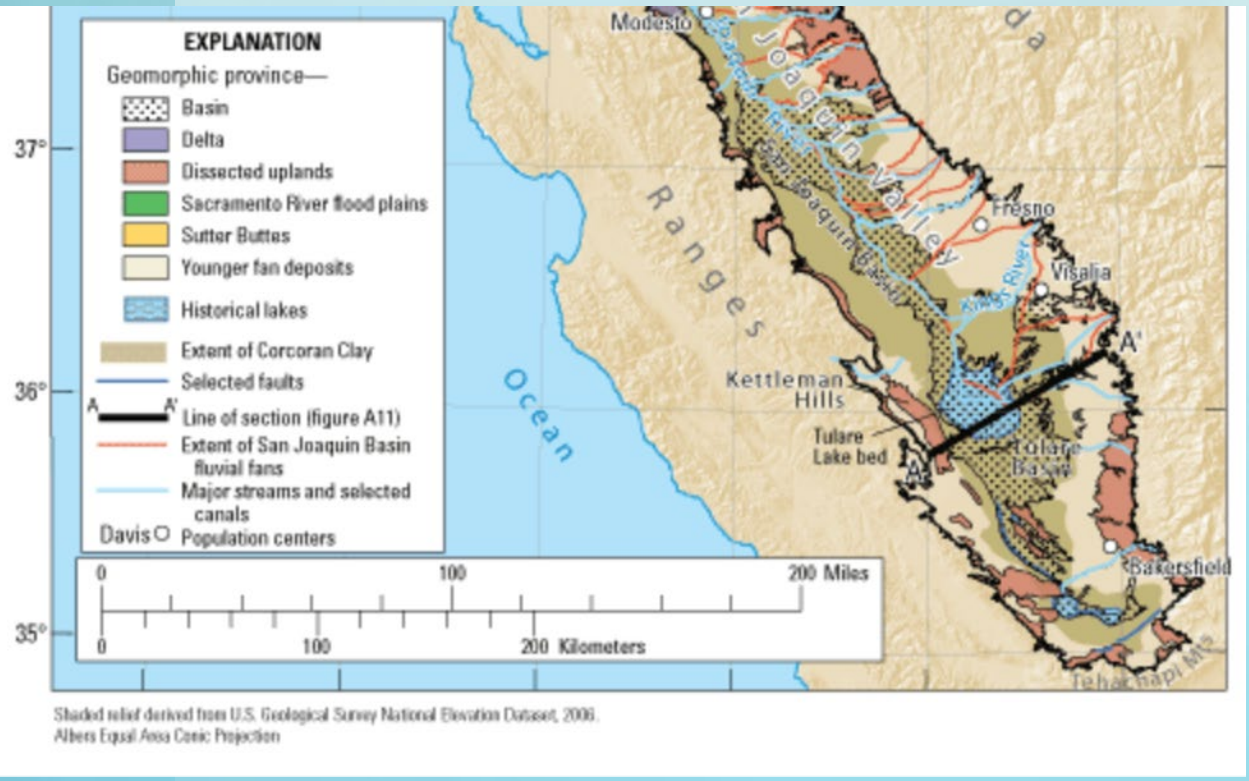
Kern:

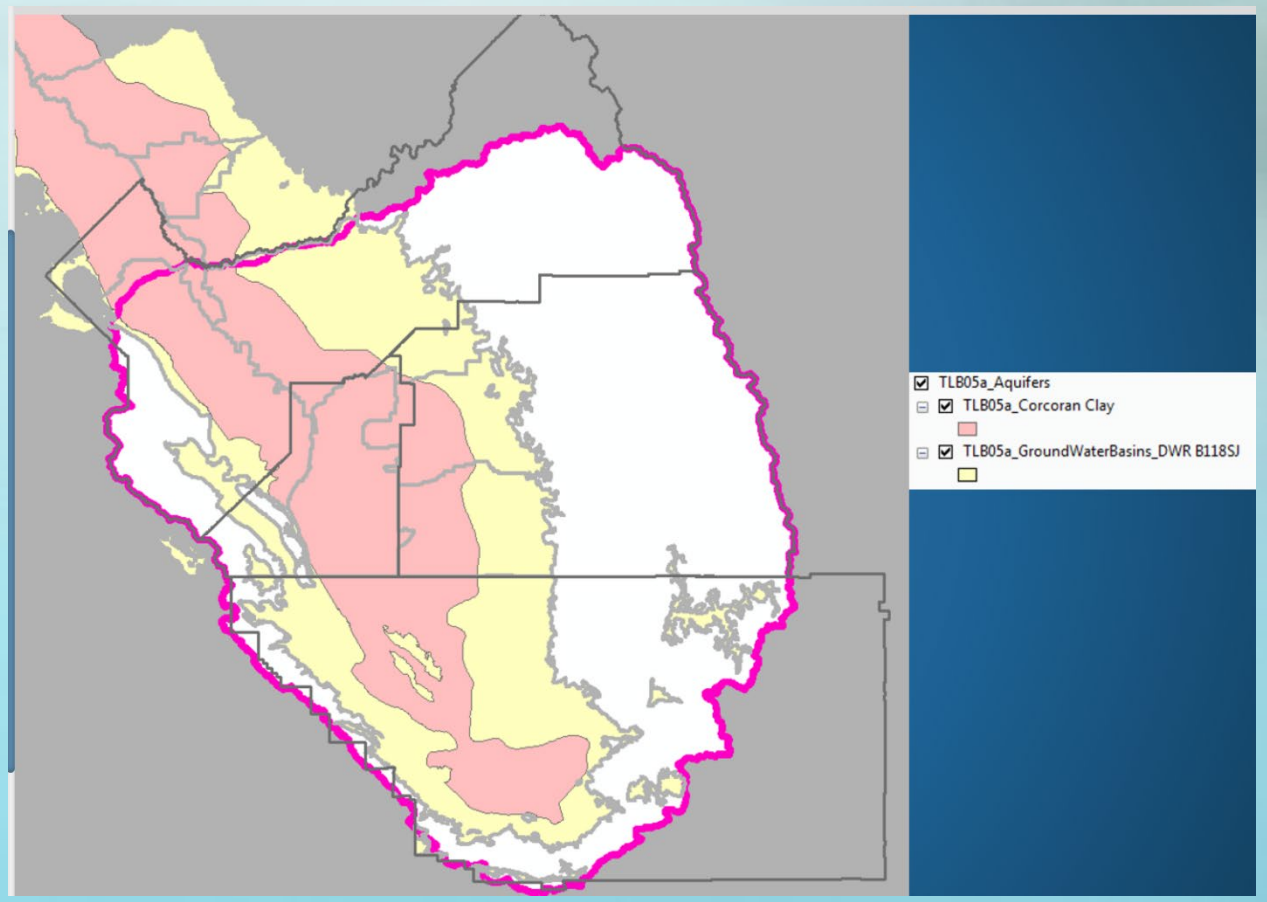
- Arvin
- Bakersfield
- Buttonwillow
- Caliente
- Delano
- Fellows
- Fuller Acres
- Lamont
- Lost Hills
- Maricopa
- McFarland
- McKittrick
- Mettler
- Oildale
- Pumpkin Center
- Rosedale
- Shafter
- Taft
- Tupman
- Weedpatch
- Wasco

Disadvantaged Communities within the TLB



Groundwater





GSP Water Accounting

- Inflow
- Outflow
- Difference
- Groundwater Overdraft
- Groundwater Storage
- Sustainable Yield

GSPs water accounting included multiple different water sources, which are the same.
Every Subbasin states they have groundwater being taken by a different Subbasin, but it can be quantified, because they use different accounting systems. Each Subbasin deducts another subbasins groundwater pumping, but it is not included in the other subbasin's water accounting.
All GSPs included flood water in their inflow, even if it is also counted in another GSPs accounting.
They are all accounting for water they are not entitled to.

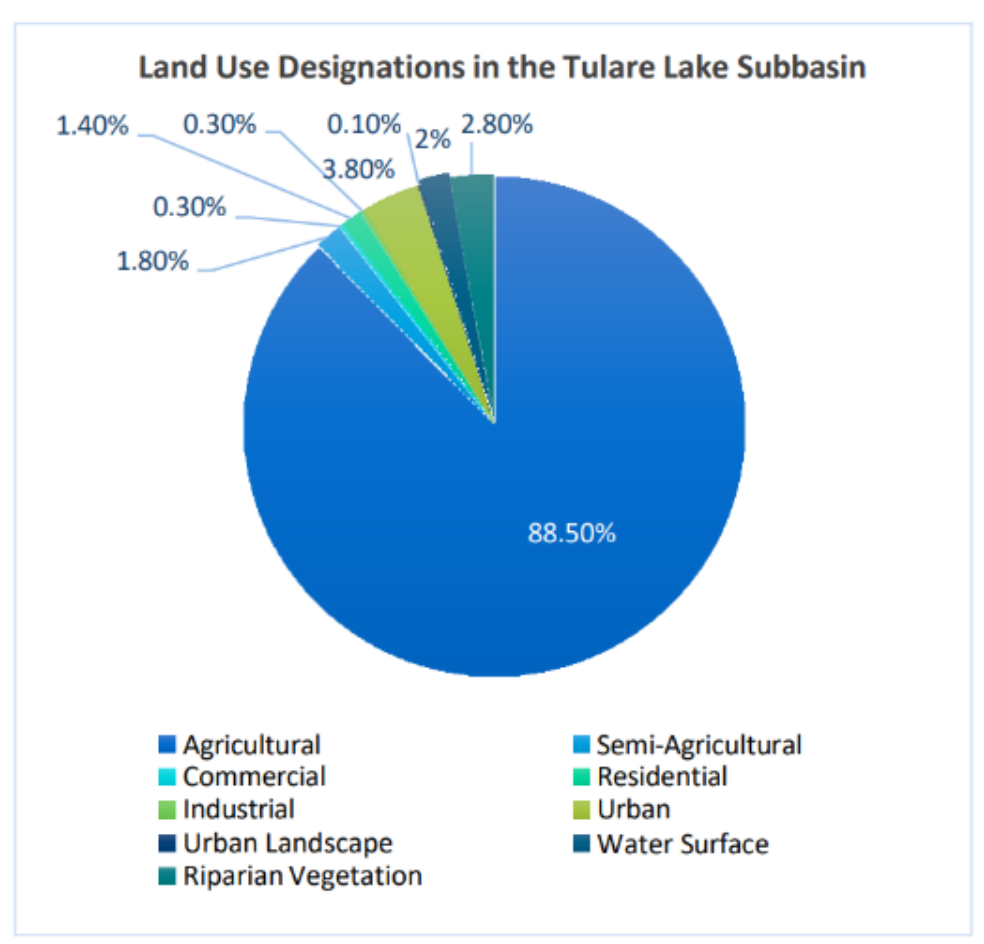
“Normal Hydrology”

- Each subbasin determines their own “normal hydrology” despite all using a study period of 1990-2015.
- They use “normal hydrology” to predict future hydrology. Each gets to make their own assumptions based upon these water years.
- The Tulare Lake Subbasin chose 1998-2010 as normal hydrology years.

Sustainable Management Criteria

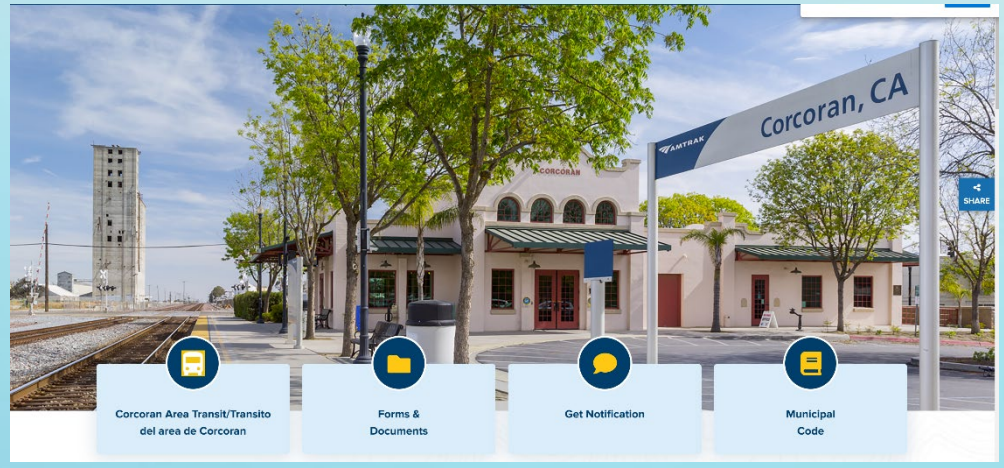
- Chronic Lowering of Groundwater
- Reduction in Groundwater Storage
- Seawater Intrusion
- Degraded Water Quality
- Land Subsidence
- Depletion of Interconnected Basins

Undesirable Results



- all undesirable results can be traced back to events, statewide policy, and natural causes that have occurred outside of the Subbasin or by entities not associated with the GSA such as reductions of surface water allocations by the state and federal government and judicial authorities. These reductions were approximately 2,155,000 AFY, but these were added to the “normal hydrology” for the water balancing accounting All of which has resulted in an increased reliance on groundwater, CVPIA 1992, Biological Opinions 2007, and the San Joaquin River Restoration Program 2010. Additionally, climate change, changing crop patterns, subbasin groundwater outflow, and increased Urbanization 131 people/mile

Corcoran 90% of the TLB Urbanization: Lawsuit



Corcoran is a city in Kings County, California. Corcoran is located 17 miles (27 km) south-southeast of Hanford,[6] at an elevation of 207 ft (63 m).[5] It is part of the Hanford–Corcoran Metropolitan Statistical Area. The population was 24,813 (2010 census), up from 14,458 (2000 census). The California Department of Finance estimated that Corcoran's population was 21,960 in 2019.[7]

Corcoran is most notable as the site of the California State Prison, Corcoran. It was home to notable inmates Rodney Alcala, Charles Manson and Juan Corona. The California Substance Abuse Treatment Facility and State Prison, Corcoran is a separate facility that is also located in the city. As of January 1, 2015, the two prisons held a combined total of 9,592 inmates.[8] Inmates are counted as city residents by both the United States Census and the California Department of Finance. Thus, the incarcerated people in the two prisons comprise just over 43% of the total population of Corcoran.

Undesirable Results Subsidence

Friant-Kern Canal Middle Reach Capacity Correction Project

The Friant-Kern Canal delivers water to more than 1 million acres of highly productive farmland and 250,000 residents in San Joaquin Valley. Subsidence in the area has caused parts of the 152-mile canal to sink. The Middle Reach Capacity Correction Project will restore capacity in a 33-mile stretch of the canal that has been most impacted. The canal capacity in this reach will be restored from the current estimated 1,600 cubic-feet-per-second to the original 4,000 cubic-feet-per-second.

Phase 1 of the multi-phased construction project began in January 2022. The first phase includes constructing 10 miles of new concrete-lined canal to replace one of the worst pinch points of the canal's subsiding middle reach. The project is funded by Reclamation, Friant Water Authority, and DWR. Phase 1 is anticipated to be completed and fully operational by January 2024.

KINGS COUNTY, Calif. (KFSN) -- For weeks now, work on the 14-and-a-half-mile levee protecting Corcoran from flooding has been non-stop.

"Trucks back and forth. A lot of activity. There is so much going on," said Mary Gonzales, a resident.

Gonzales remembers the fear and restless nights when Tulare Lake started filling up but says recently, there has been a lot of peace in the community thanks to the efforts by city and state officials.

"There is real hope. And not 'we hear' that they are coming to help. No, we are feeling real hope, especially with the governor coming to Corcoran," explained Gonzales.

City Manager Greg Gatzka says state funding is on the way for the three-and-a-half-foot rise of the levee.

"There is funding on its way, we heard in the mail, erosion control is in place. We heard the intertie is redetecting the kern water flow away from the lake and Tule River has zero water coming do now. So, we are getting a big boost of relief," said Gatzka.

He says the levee is a little over 75% complete.

Gonzales says although progress can be seen, many residents still have questions.

Human skeletal remains found in a shoe box inside a tool bag near 91/2 Lansing Ave., a rural dirt road outside Corcoran, have been identified as prehistoric or historic Native American remains, according to Chelsey Juarez, an associate professor at Fresno State's Anthropology Department.

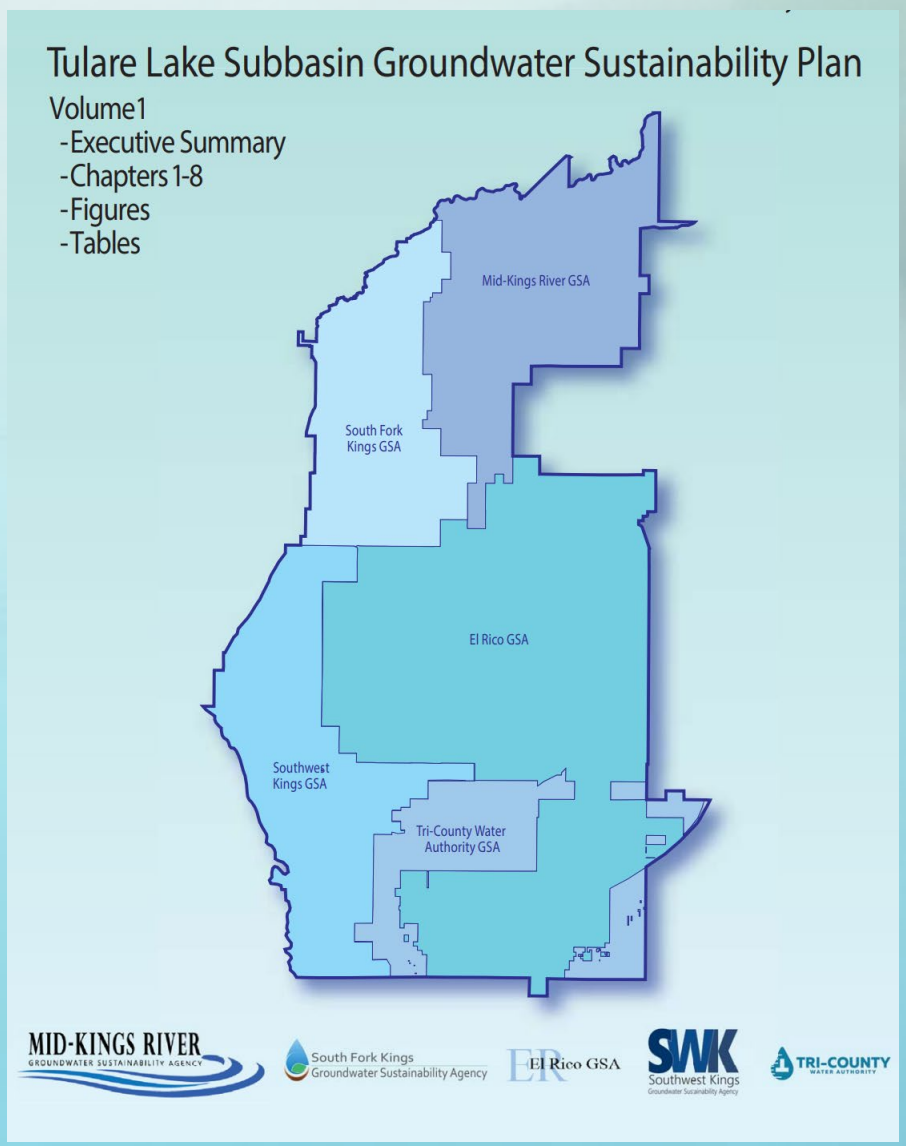
The remains, inside a New Balance shoe box in a red Milwaukee tool bag, were found May 3 by a dairy worker, and the Kings County Sheriff's Office was notified. After inspection by the Kings County chief deputy coroner, they were determined to be skeletonized human remains and turned over to Juarez by the coroner's office for further investigation.

"The Coroner reached out to me, there was a concern over whether or not these remains were of forensic significance, or if it was the situation where we had a prehistoric or historic Native American ancestor, that had been removed from a place and had found its way to the Coroner's office," said Juarez.

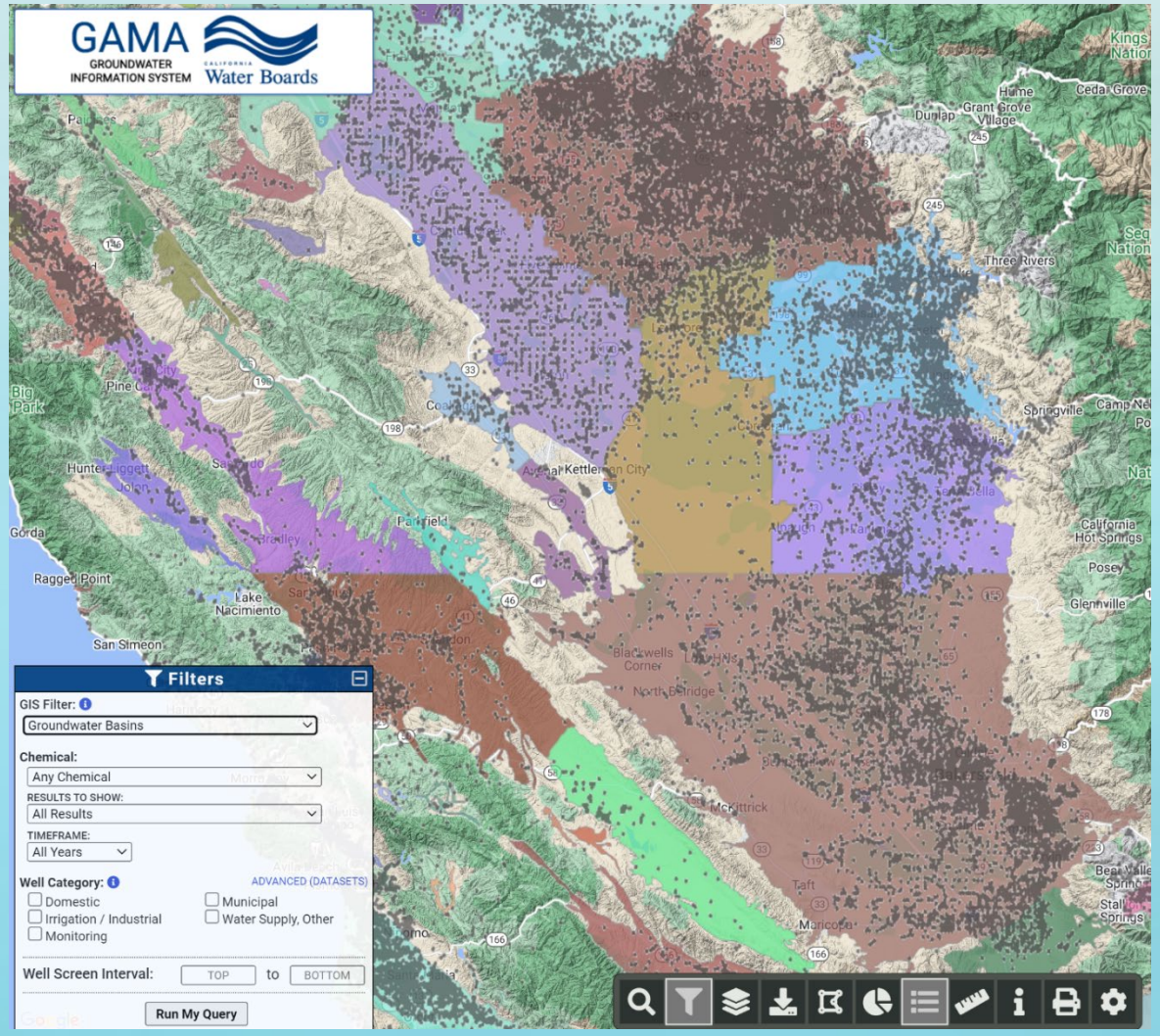
Juarez was able to determine that the remains were absent of any forensic significance, meaning there was no need for a criminal investigation.

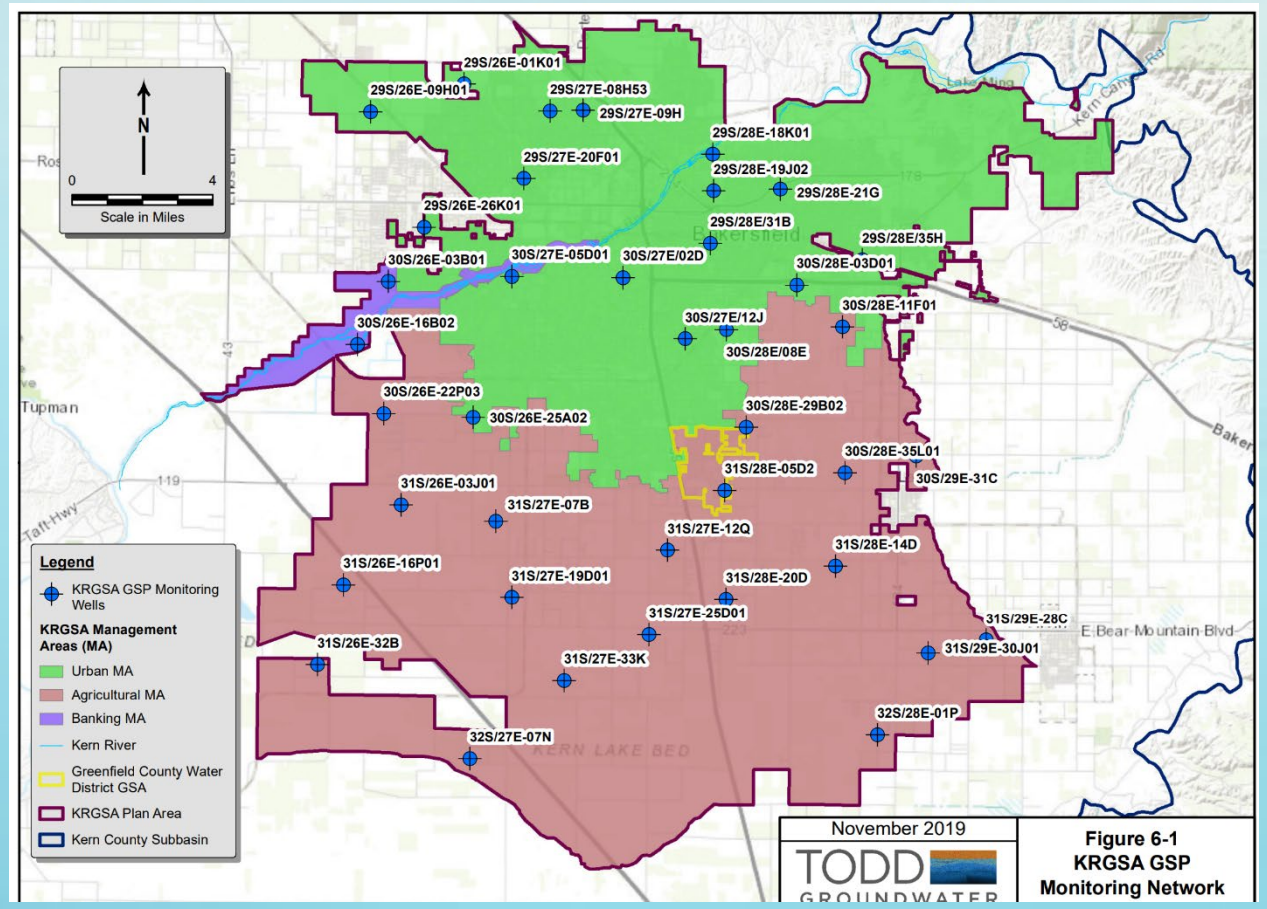
Monitoring Locations

- TLB set up two management locations, Primary Management Area, and a Secondary Management Area. The Secondary Management Area consists of two location, South/Southwestern, which has been de-designated as its groundwater is not fit for human or agricultural use, but this water was still accounted for in the groundwater surplus and is still farmed using groundwater from another location in the Subbasin. They also will not be monitoring the “clay plug”, which is where the Lake was. This Secondary Management Area accounts for 80.3% of the total land mass in the subbasin. For there to be an undesirable result, there has to be a negative impact in 65% of the Subbasin.



Unmonitored Locations in Tulare Lake Subbasin




N
0
4
Scale in Miles
29S/26E-01K01
29S/26E-09H01
29S/27E-08H53
29S/27E-09H
29S/28E-18K01
29S/27E-20F01
29S/28E-19J02
29S/28E-21G
29S/26E-26K01
29S/28E/31B
29S/28E/35H
30S/26E-03B01
30S/27E-05D01
30S/27E/02D
30S/28E-03D01
30S/28E-11F01
30S/27E/12J
30S/26E-16B02
30S/28E/08E
30S/26E-22P03
30S/28E-29B02
30S/26E-25A02
30S/28E-35L01
31S/28E-05D2
30S/29E-31C
31S/26E-03J01
31S/27E-07B
31S/27E-12Q
31S/28E-14D
31S/26E-16P01
31S/27E-19D01
31S/28E-20D
31S/27E-25D01
31S/29E-28C
31S/26E-32B
31S/29E-30J01
31S/27E-33K
32S/28E-01P
32S/27E-07N
KERN LAKE BED
Legend
KRGSA GSP Monitoring Wells
KRGSA Management Areas (MA)
Urban MA
Agricultural MA
Banking MA
Kern River
Greenfield County Water District GSA
KRGSA Plan Area
Kern County Subbasin
Tupman
Taft Hwy
E Bear Mountain Blvd
Lake Ming
Kern Canyon Rd
Baker
November 2019
TODD GROUNDWATER
Figure 6-1
KRGSA GSP
Monitoring Network

Plan Inadequacies

- Groundwater Quality
- Monitoring Locations
- Minimum Threshold
- Measurable Objectives
- Data Gaps

The long-dry Tulare Lake, once the largest lake west of the Mississippi, has returned. But authorities say the water isn't safe for recreation. Photograph: Caroline Brehman/EPA

The storms are gone, but the lake remains. Fish have made their home in the water. Birds can be seen flying all around the lake, or settling in marsh-like areas.

"It was truly a sight to behold," Ferrier said of his tour of the water.

But the destruction of the storms can be seen within the lake, which is considered private property and closed to the public. The water is not safe to swim in or recreate in any capacity, Ferrier added. "It's farmland, underwater. You've got diesel fuel, oil, manure, chemicals used to kill bugs and stuff. You've got a whole lot of things floating around."

Water Quality

assessment will entail. The GSP further states that the trend analysis will not be conducted until six samples have been taken of each constituent of concern at each site. Based upon the testing frequency, this could take 1.5 to 54 years for six samples to be collected. This process does not support SGMA requirements. (Department of Water Resources, 2023)

Impact

Since California has made the Tulare Lake Basin a closed system the basin cannot discharge the salts. This closed system, and the continuation of ground water pumping made this an evaporation dominated system, which will inevitable turn the TLB will turn into a salt flat.

The Basin must be opened back up.

Salt-Crust-Tulare-Lake-Basin.jpg (498×374) (wp.com)

Success Takes a Holistic Approach

Fig. 2. From degradation to restoration. Photo provided by Professorial senior engineer, Quangang Yu. Photography location, Yulin City, Shaan'Xi province of the Loess Plateau.

Conclusion

- Tulare Lake Basin has been the surface water feature that connects the entire Tulare Lake Basin.
- All of the Subbasins are connected. They need to unify their accounting system so meaningful determinations can be made.
- Without a unified water accounting system in California, California will never be able to create a sustainable water system. The GSPs are the time they should be implemented. Without it, Subbasins will continue to find loopholes around fixing the groundwater problems.
- If California does not support fixing the Basin, they are supporting the continued destruction of California Tribes.
- The Tribe will live and die through the health of the TLB.

Open Discussion and Adjournment

- Next Tribal Advisory Group Meeting Regional Focus (Nov 1, 2023)
  - DWR's Southern Region

- For questions, please contact:
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Facilitated By:
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