
Merced Groundwater Sustainability Plan

Public Meeting – August 2, 2018

Image courtesy: Veronica Adrover/UC Merced



Agenda

- Welcome and Introductions
- Sustainable Groundwater Management Act
 - Purpose and Requirements
 - Groundwater Sustainability Plan
 - Timeline
 - Questions & Answers
- Merced Subbasin Groundwater Conditions
- Discussion
 - Groundwater Needs and Sustainability Goals
- Next Steps



Image courtesy: Veronica Adrover/UC Merced

SGMA: Common Language

- SGMA = Sustainable Groundwater Management Act
- GSA = Groundwater Sustainability Agency
- GSP = Groundwater Sustainability Plan (developed and implemented by GSAs)
- Medium Priority, High Priority, and Critically Overdrafted basins

Image courtesy: Veronica Adrover/UC Merced

Guidelines for successful meetings

- Creativity is encouraged.
 - Think outside the box and welcome new ideas.
 - Build on the ideas of others to improve results.
 - Disagreements are problems to be solved rather than battles to be won.
- Efficiency is important.
 - Participate fully, without distractions.
 - Respect time constraints and be succinct.
 - Let one person speak at a time.
- Civility is required.
 - Treat one another with courtesy and respect.
 - Be honest, fair, and as candid as possible.
 - Be respectful of all viewpoints

Image courtesy: Veronica Adrover/UC Merced

Groundwater Sustainability Agencies

- Merced Irrigation-Urban Groundwater Sustainability Agency
 - Hicham ElTal
- Merced Subbasin Groundwater Sustainability Agency
 - Bob Kelley
- Turner Island Water District Groundwater Sustainability Agency
 - Larry Harris
- Woodard and Curran Consultants
 - Alyson Watson

Image courtesy: Veronica Adrover/UC Merced



Sustainable Groundwater Management Act

Image courtesy: Veronica Adrover/UC Merced



SGMA Purpose and Requirements

- A Groundwater Sustainability Plan (GSP) must be prepared and submitted by
 - **January 2020 for critically overdrafted basins,**
 - January 2022 for remaining high and medium priority basins.
- GSPs must include measurable objectives and milestones in increments of five years to **achieve sustainability within 20 years of GSP adoption**
- GSP development must be open and transparent, with stakeholder and public input

Image courtesy: Veronica Adrover/UC Merced

SGMA Purpose and Requirements

- Who is responsible for implementing SGMA?
 - **Groundwater Sustainability Agencies (GSAs)**
 - Develop, submit, and implement GSPs
 - Consider the interests of all beneficial uses and users of groundwater
 - Coordinate with other local and regional agencies and neighboring basins
 - Conduct monitoring and reporting in meeting sustainability objectives for GSP
 - **Department of Water Resources (DWR)**
 - Provides assistance and review plans for completeness and progress toward sustainability
 - **State Water Resources Control Board (SWRCB)**
 - If progress toward sustainability is not occurring, can designate basins as “probationary” and directly manage groundwater extractions

Image courtesy: Veronica Adrover/UC Merced

SGMA Purpose and Requirements

Who is required to have a GSP?

- All High and Medium Priority basins must prepare a Groundwater Sustainability Plan (GSP)

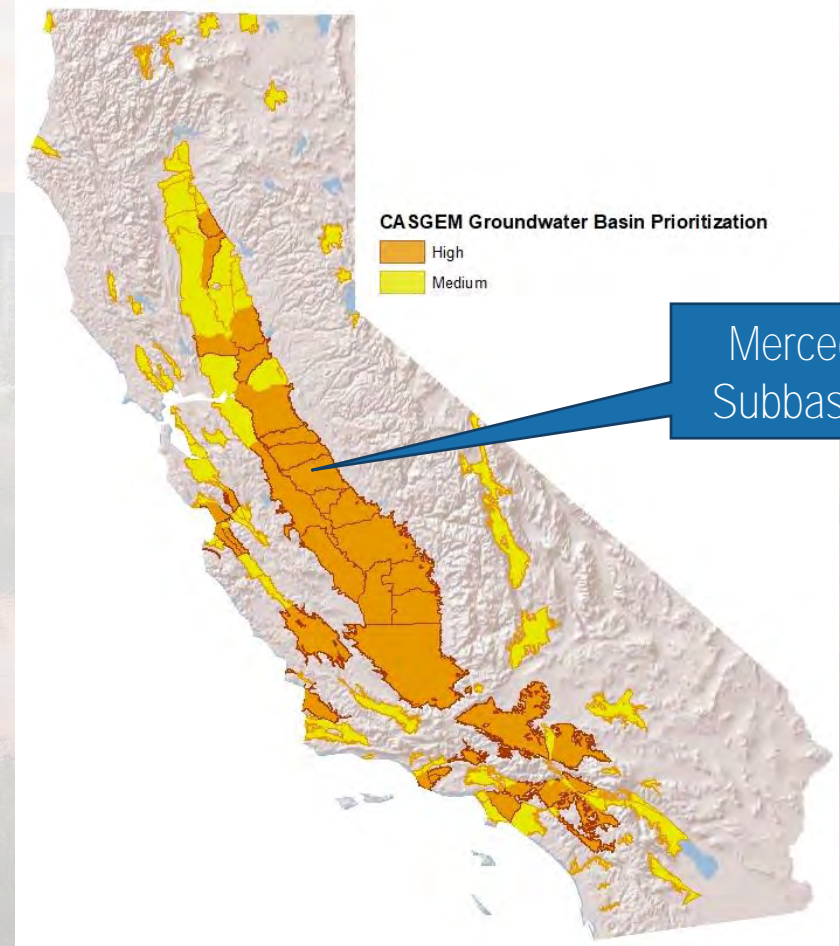


Image courtesy: Veronica Adrover/UC Merced

SGMA Purpose and Requirements

- **Merced is one of the critically overdrafted basins**
- Groundwater Sustainability Plans (GSPs) must be prepared and submitted by
 - **January 2020 for critically overdrafted basins**
 - January 2022 for remaining high and medium priority basins

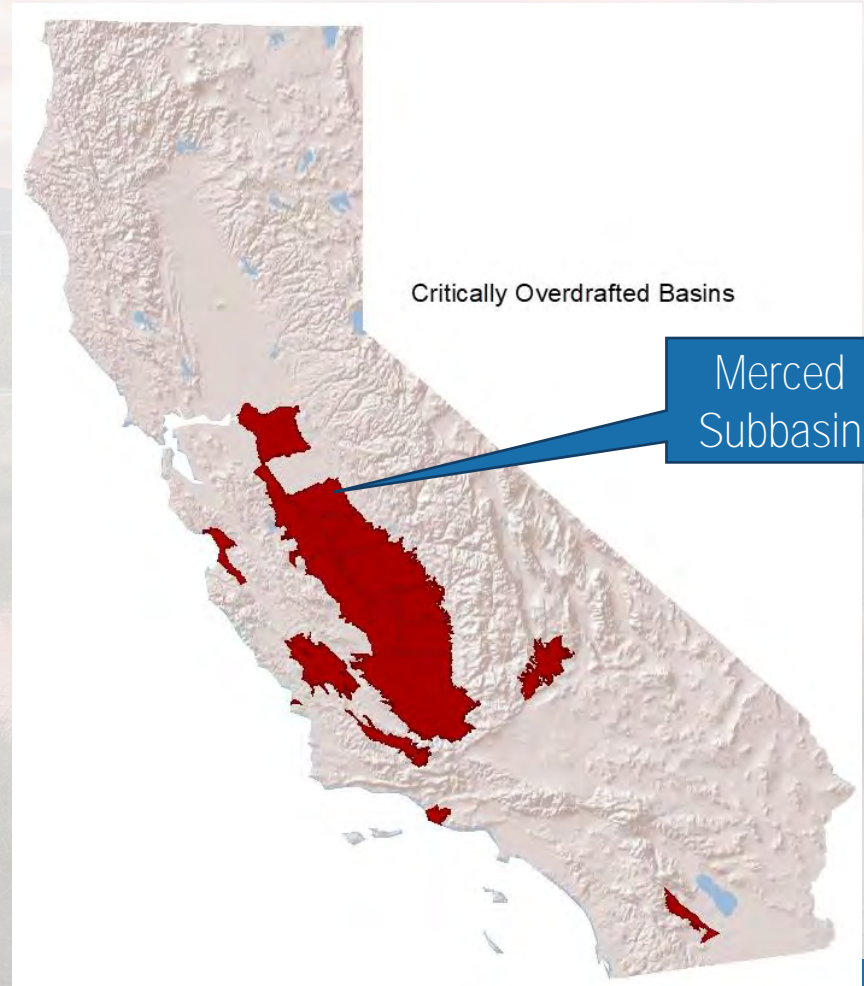


Image courtesy: Veronica Adrover/UC Merced

Merced Subbasin: 3 GSAs, 1 GSP

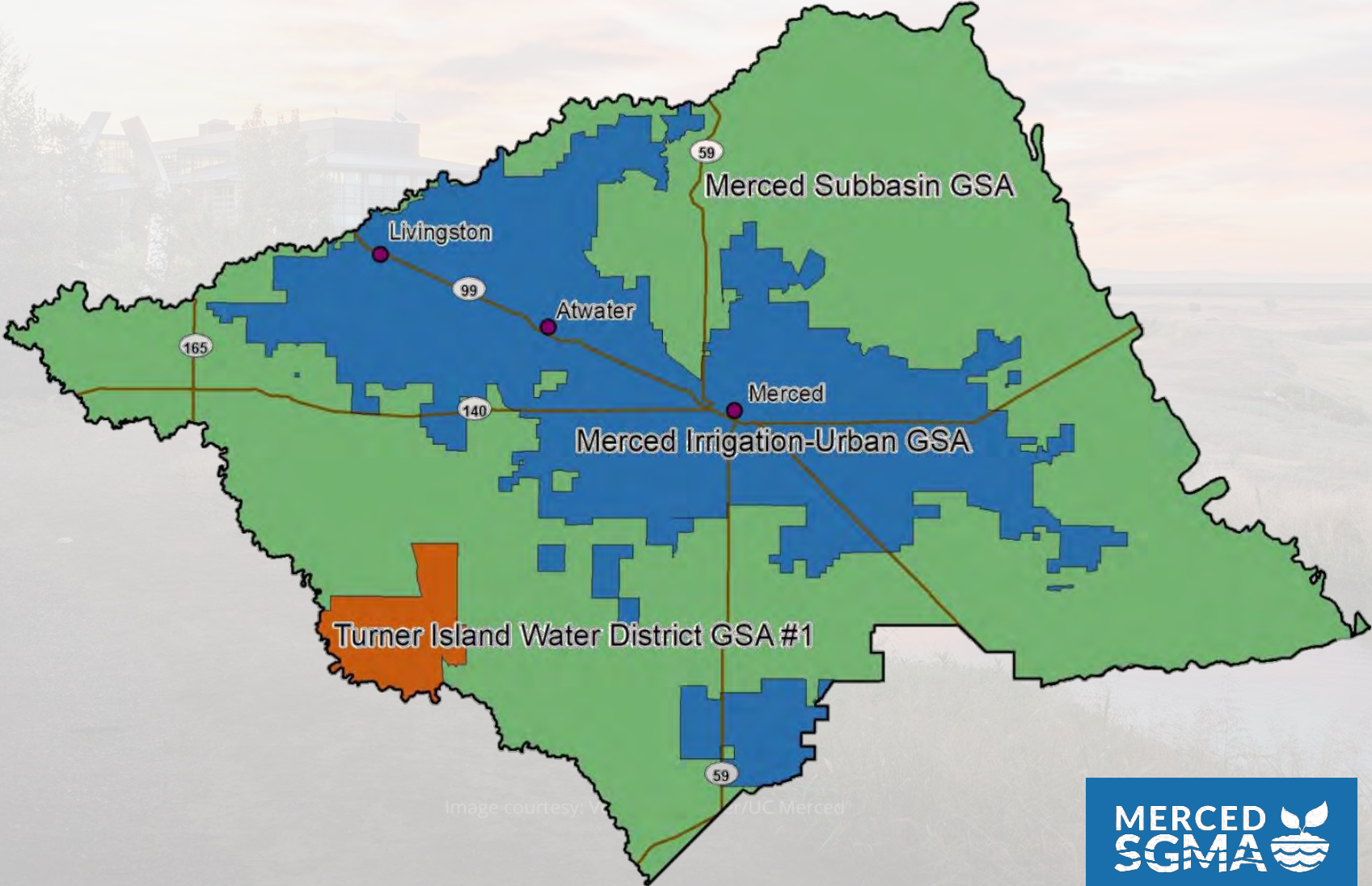


Image courtesy: UC Merced



Groundwater Sustainability Plan

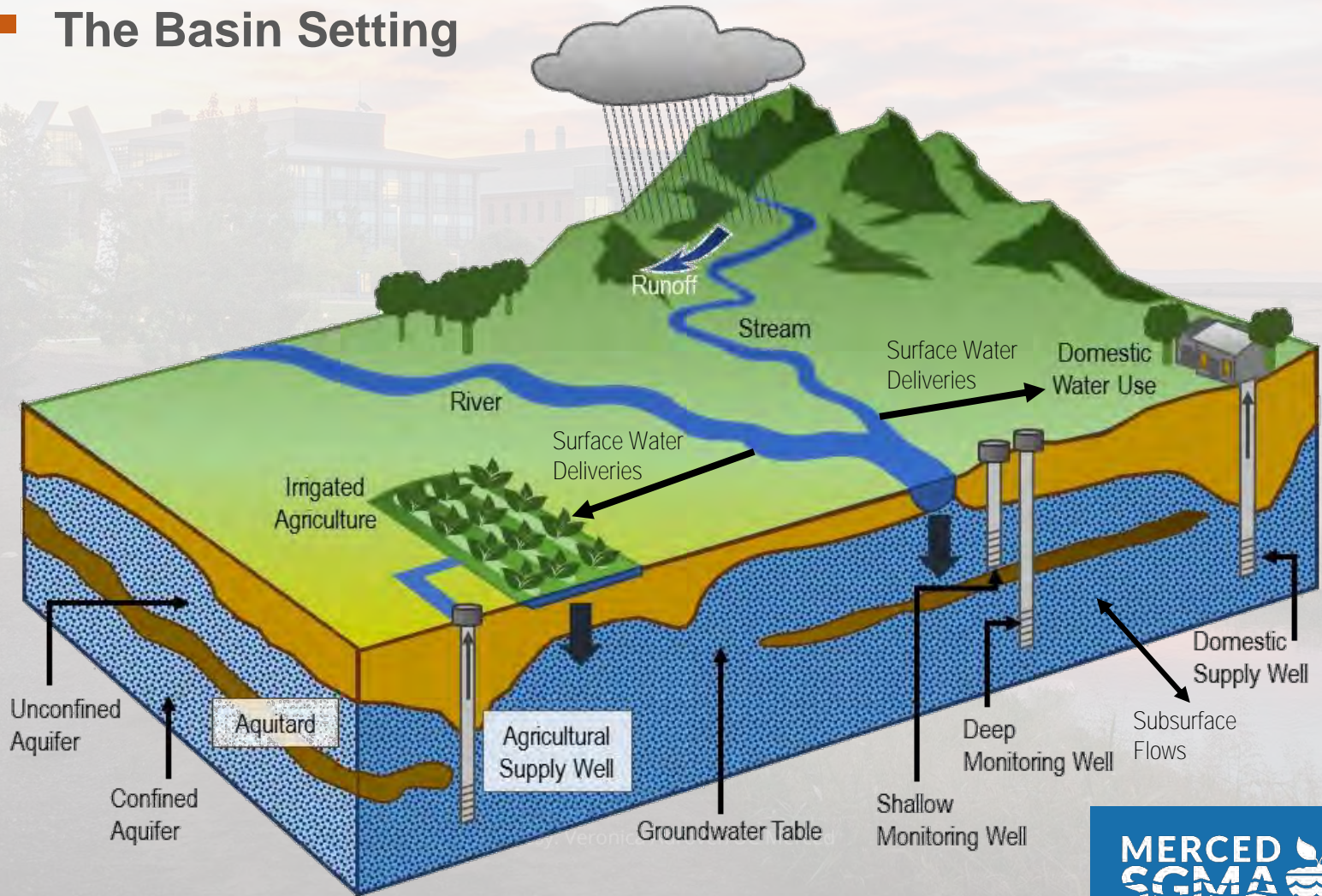
What is included in the Groundwater Sustainability Plan (GSP)?

- GSPs are required to include:
 - Basin Setting
 - Six Undesirable Results & Sustainability Goals
 - Measurable Objectives, Minimum Thresholds, and Interim Milestones
 - Projects and Management Actions
 - Monitoring Network
 - Annual Groundwater Sustainability Plan (GSP) Reporting

Image courtesy: Veronica Adrover/UC Merced

Groundwater Sustainability Plan

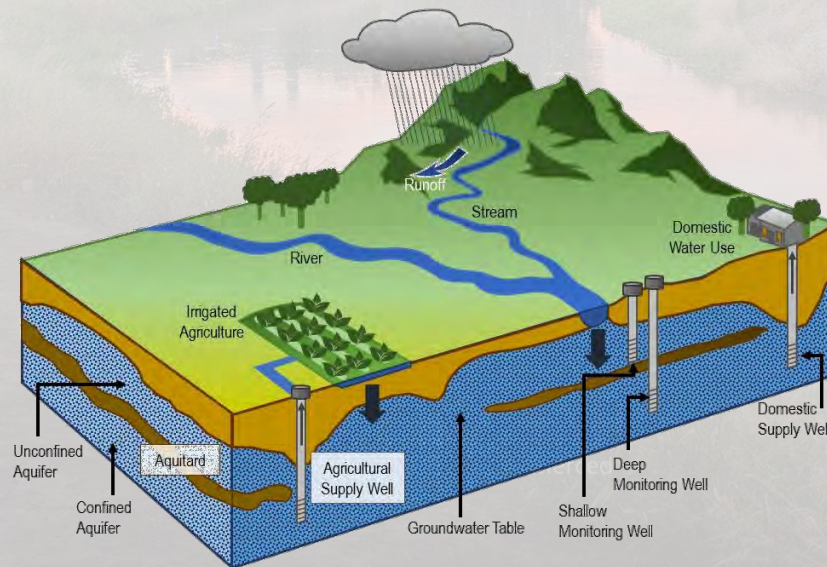
■ The Basin Setting



Groundwater Sustainability Plan

SGMA Requires Accounting of All Water Uses and Sources:

- Modeling Analysis:
 - Publicly available documentation and defensible data
- Water Budget:
 - Accounting of the total groundwater and surface water entering and leaving a basin



Groundwater Sustainability Plan

SGMA sustainability is the management of groundwater to prevent significant and unreasonable undesirable results



Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply



Significant and unreasonable degraded water quality



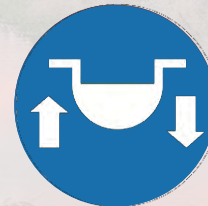
Significant and unreasonable reduction of groundwater storage



Significant and unreasonable land subsidence



Significant and unreasonable seawater intrusion



Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water

Image courtesy: Veronica Adrover/UC Merced

Groundwater Sustainability Plan

- **GSPs must include measurable objectives and milestones** in increments of **every 5 years**
- They **must achieve sustainability within 20 years** of the adoption of the GSP
- GSP development must **be open and transparent**, with stakeholder and public input

Image courtesy: Veronica Adrover/UC Merced

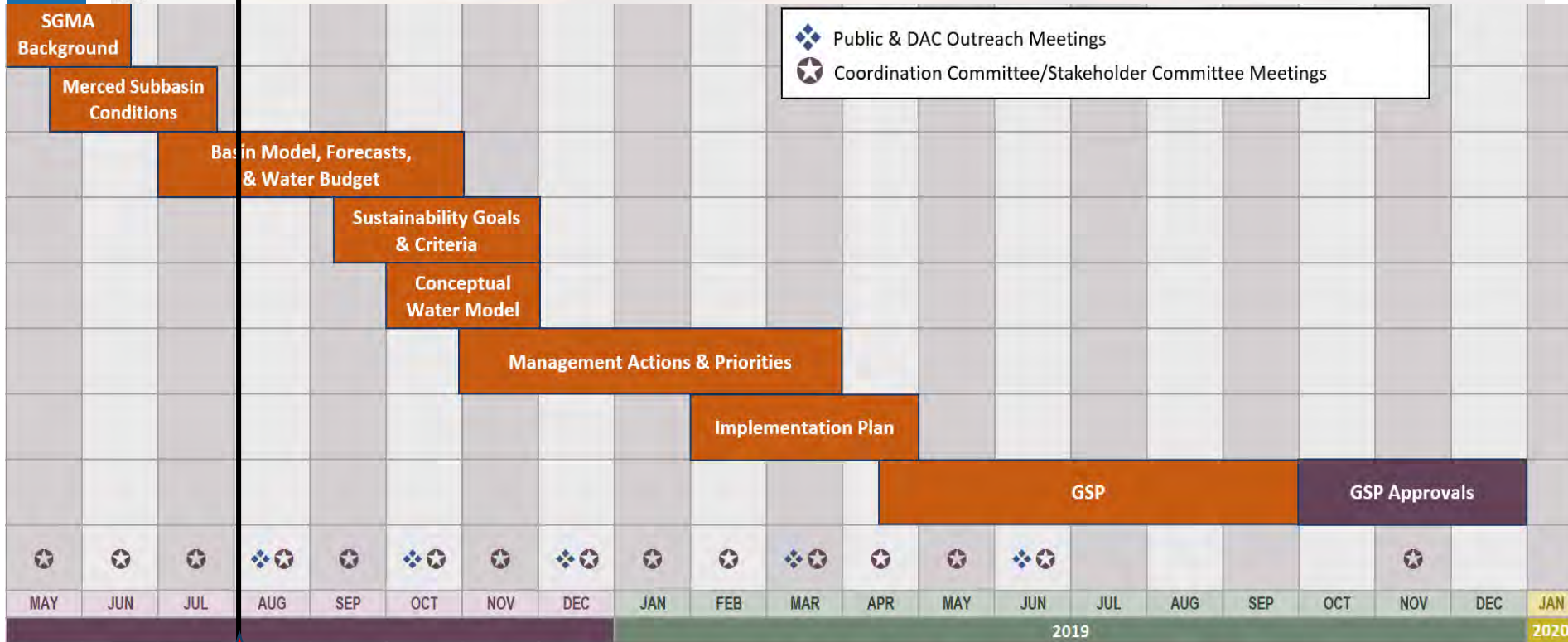
Groundwater Sustainability Plan

Outreach Structure:

- GSA Leadership – overall authority for decision-making, GSP development and implementation
- Coordinating Committee – Advise on plan development and recommendations to decision-makers
- Stakeholder Committee – Represent diverse stakeholders in basin and provide input to inform plan development
- Public workshops – Building awareness and understanding; emphasis on engagement of DACs



Timeline




 *We Are Here*

Image courtesy: Veronica Adrover/UC Merced

Questions & Answers

- Questions about:
 - SGMA and the requirements
 - Roles and responsibilities
 - Planning process and timeline

Image courtesy: Veronica Adrover/UC Merced

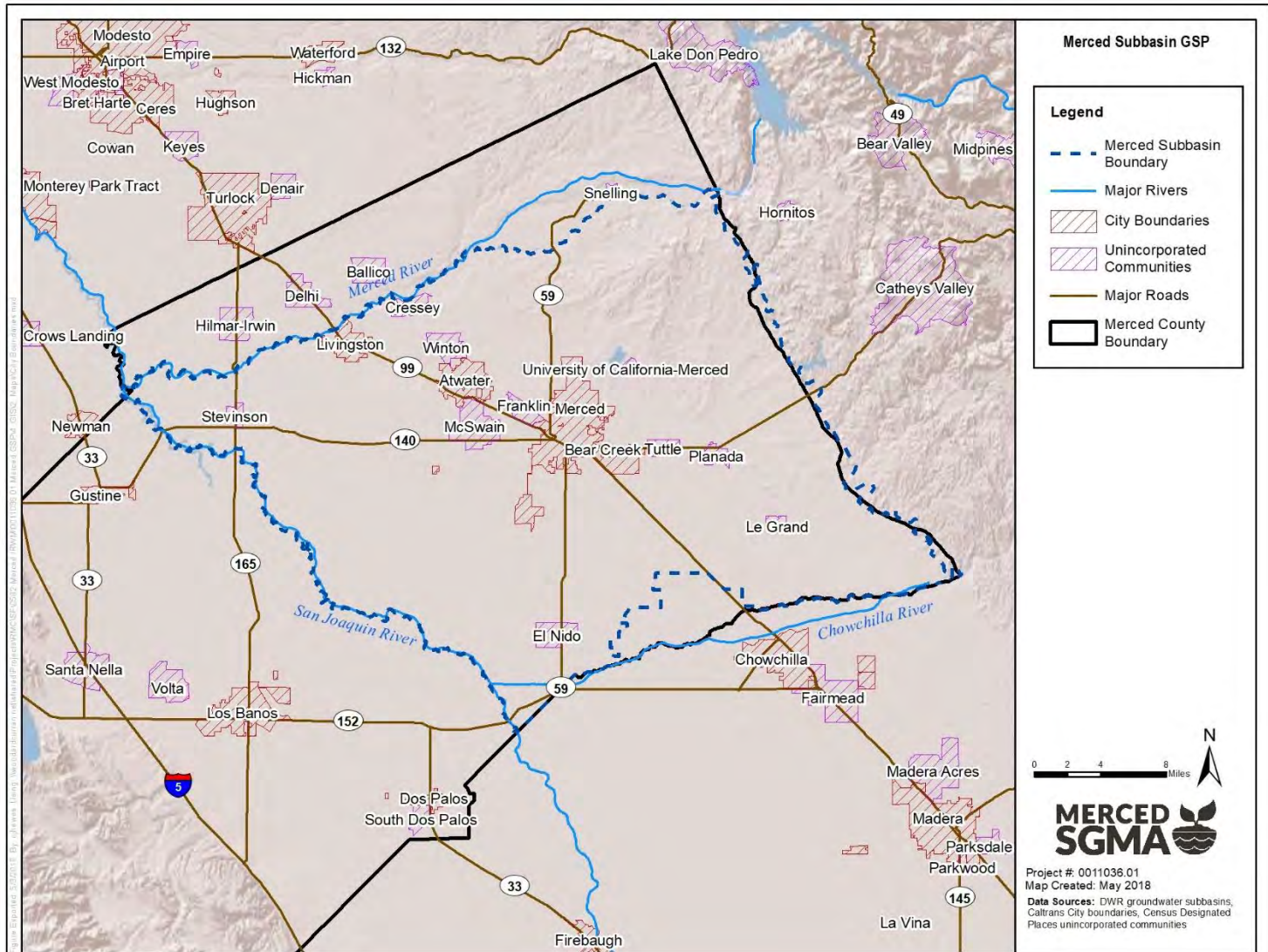


Merced Subbasin Groundwater Conditions

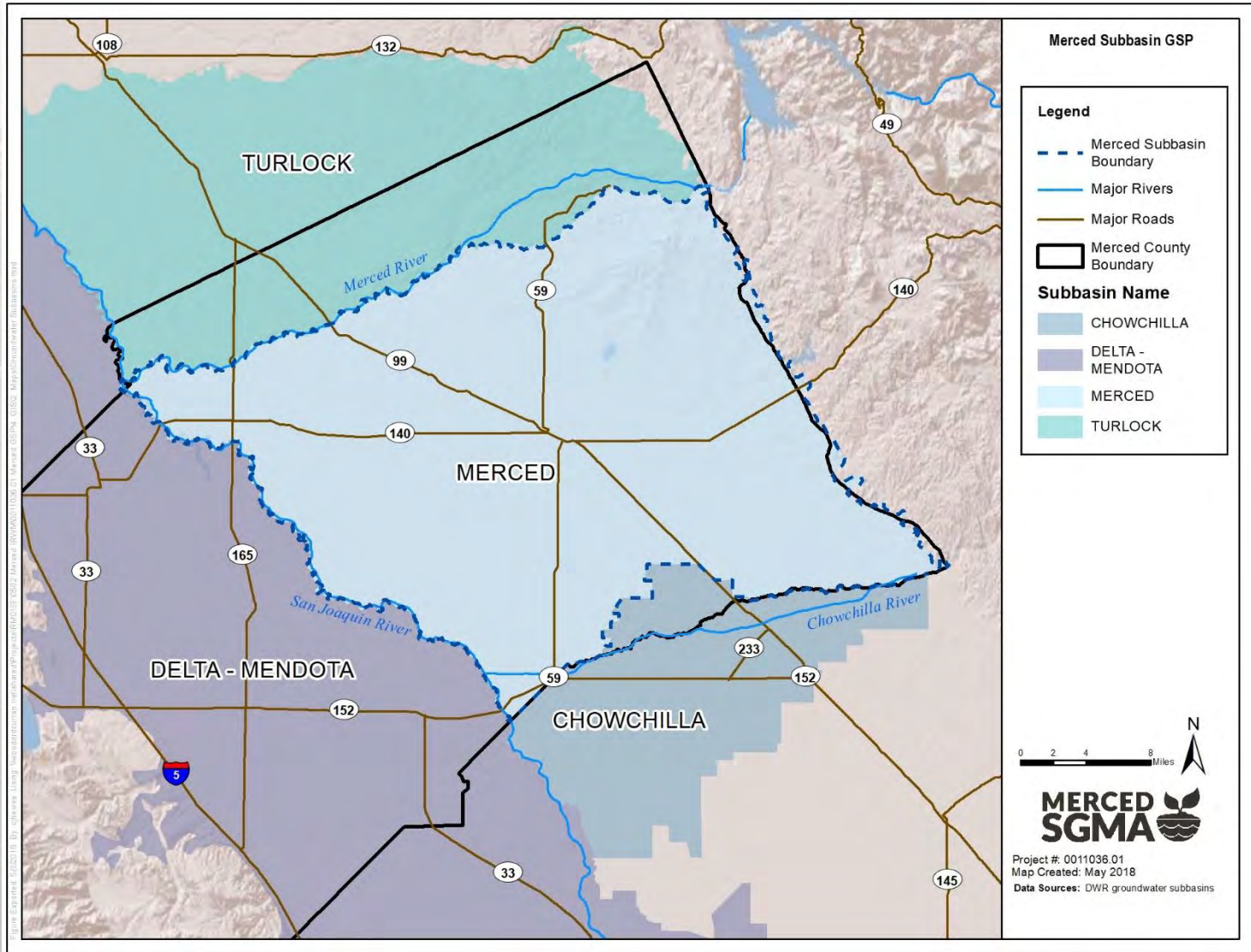
Image courtesy: Veronica Adrover/UC Merced



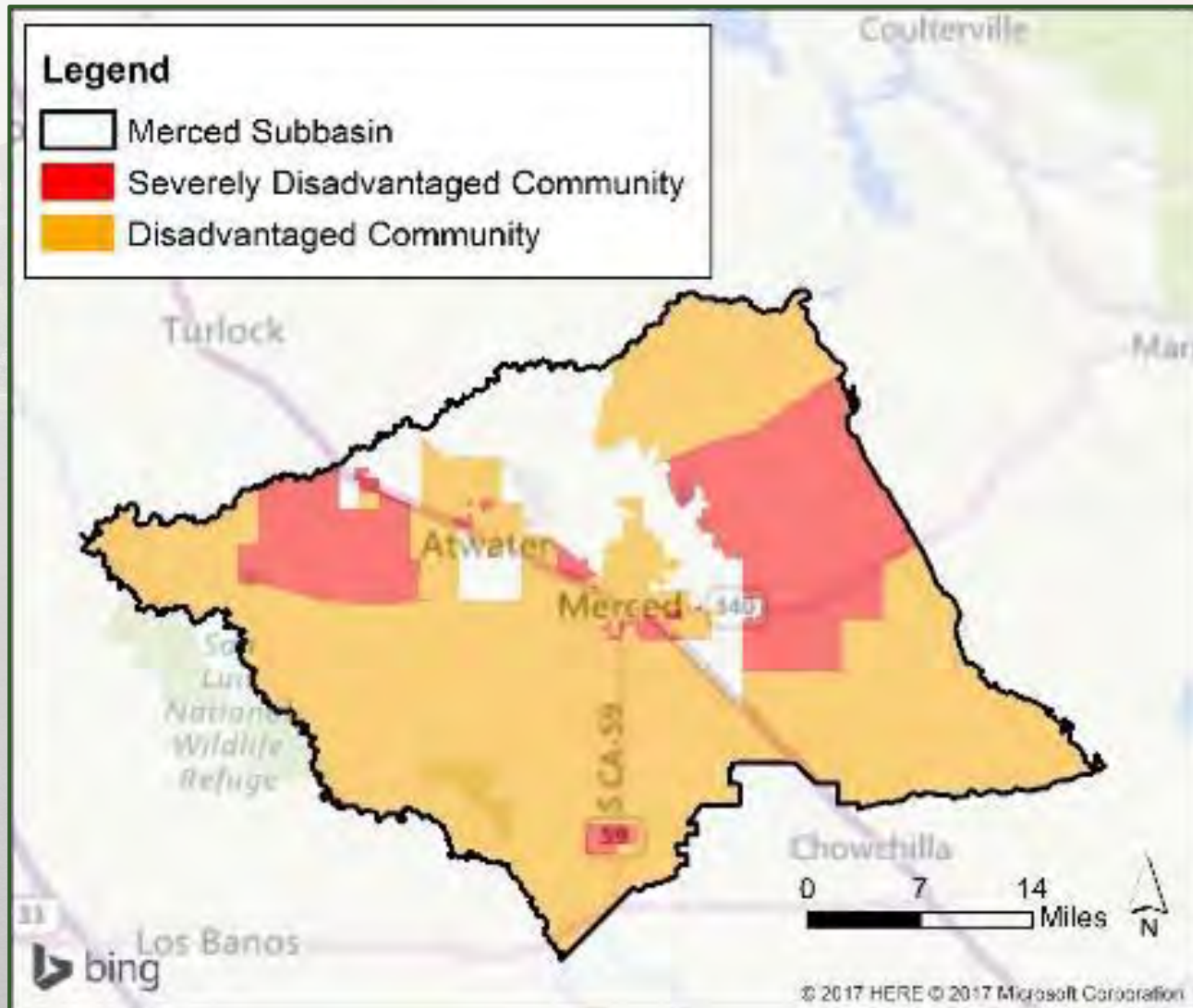
Merced Subbasin: Boundaries



Merced Subbasin: Neighboring Basins



Merced Subbasin: Disadvantaged Communities



Merced Subbasin: Past Work in the Merced Groundwater Basin

Over last 5+ years, work has been completed under **SGMA Readiness and Stressed Basin grants**:

- Compiled existing information and identified data gaps (*where are we missing data?*)
- Developed plan for monitoring networks of existing wells (*how do we monitor existing wells?*)
- Updated and calibrated the groundwater model (*how we improve understanding of our groundwater*)
- Joint effort by Merced Irrigation District, County of Merced, and City of Merced, coordinated with the work of Merced Area Groundwater Pool Interests (MAGPI)
- Received nearly \$500,000 in funding from DWR

Image courtesy: Veronica Adrover/UC Merced

Merced Subbasin: Historical Groundwater Budget

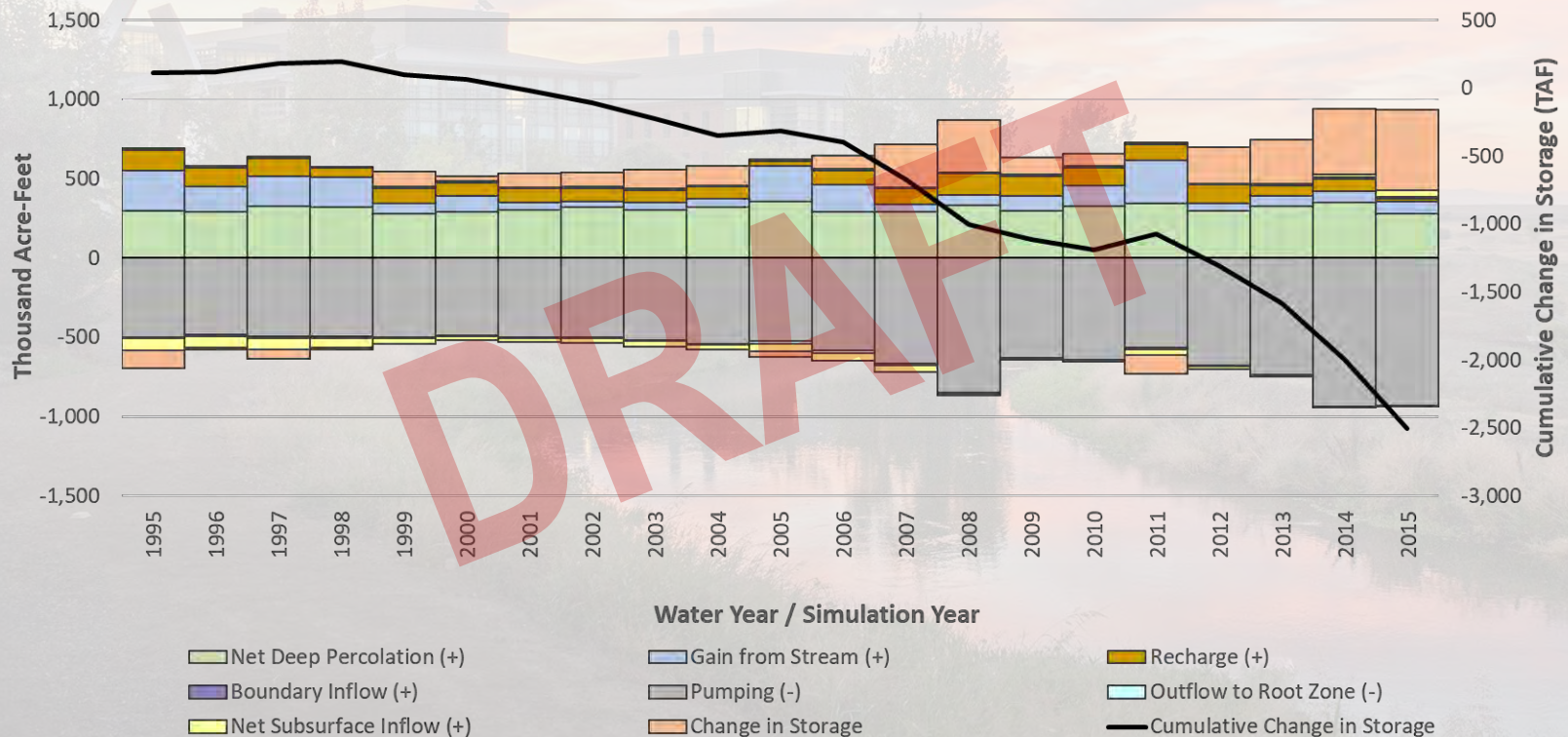
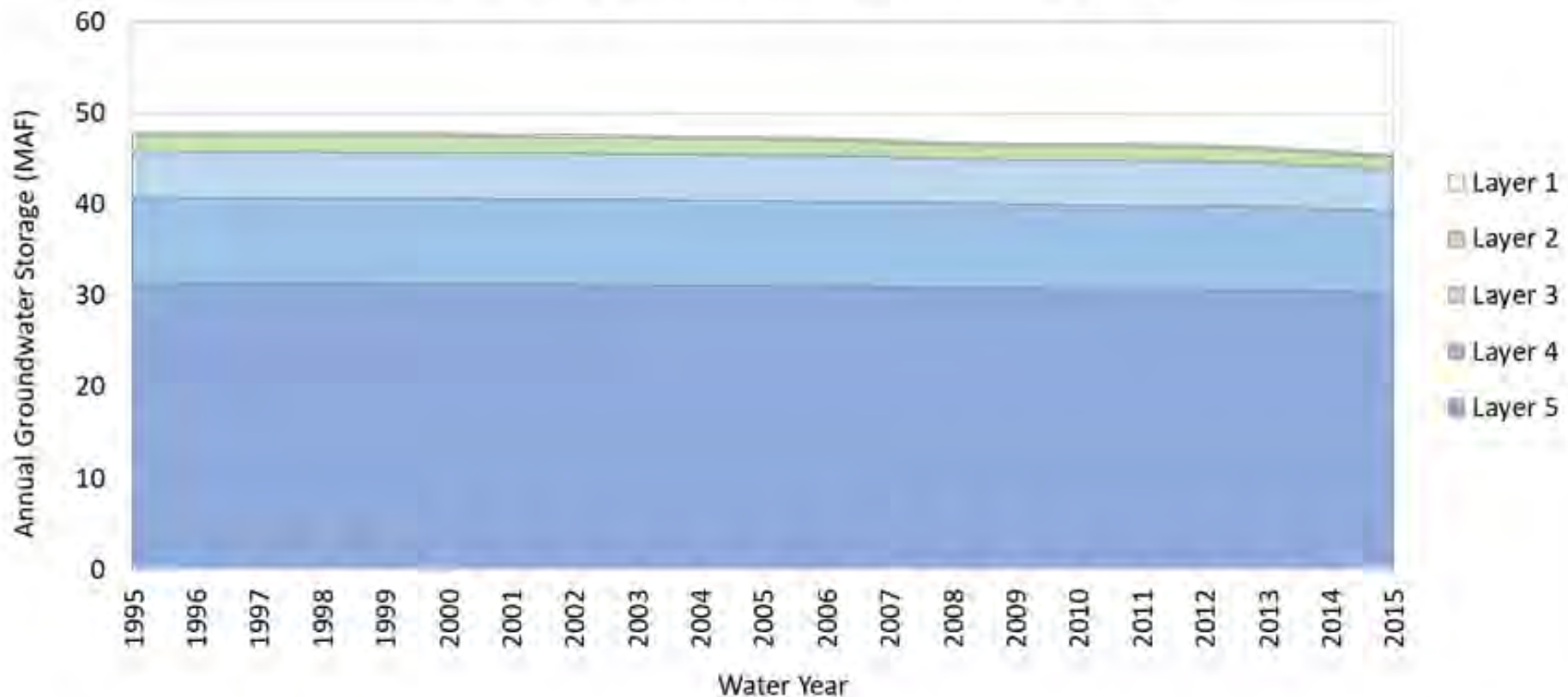


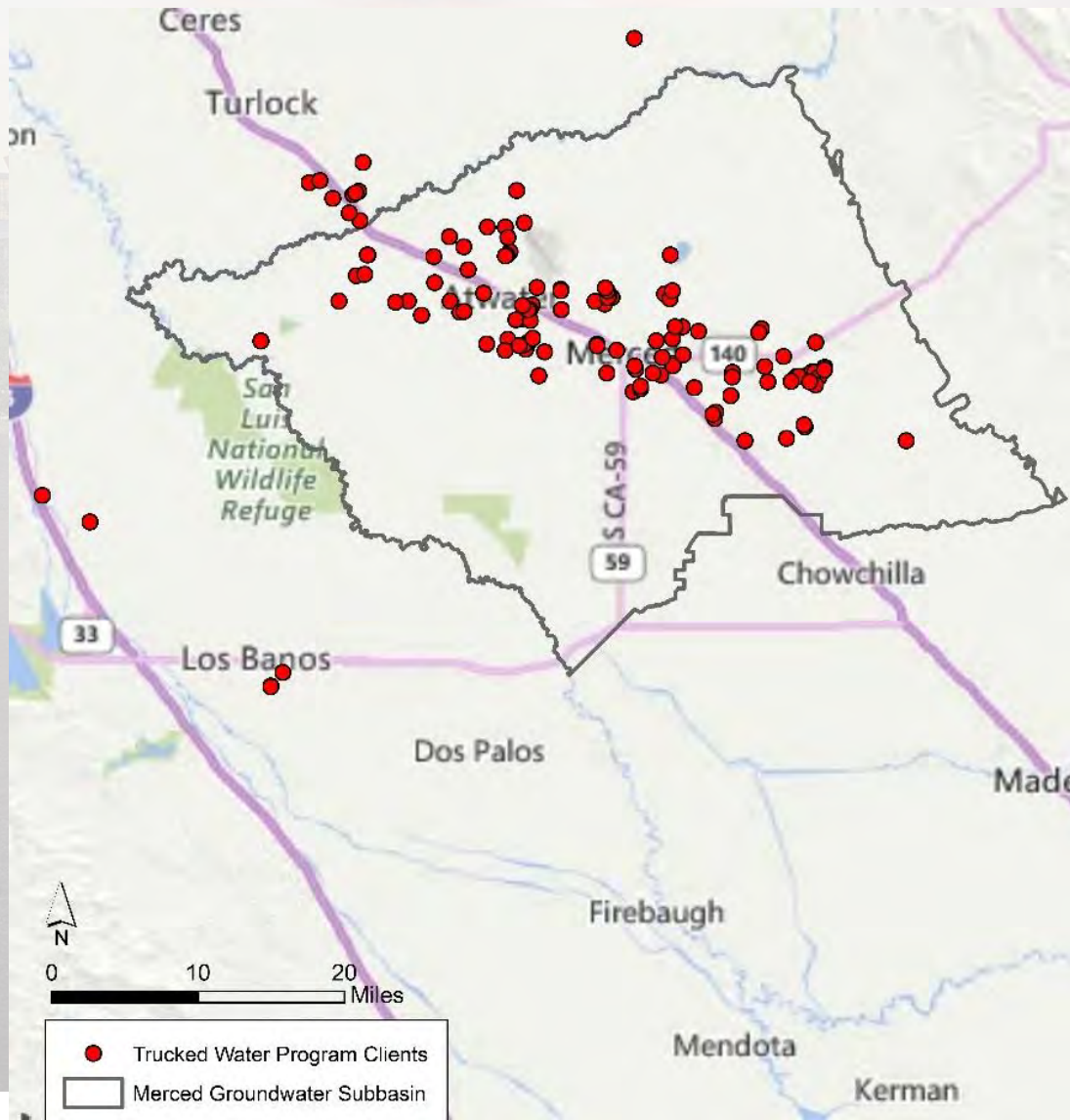
Image courtesy: Veronica Adrover/UC Merced

Total Storage in the Subbasin is Significant...the Challenge is Access

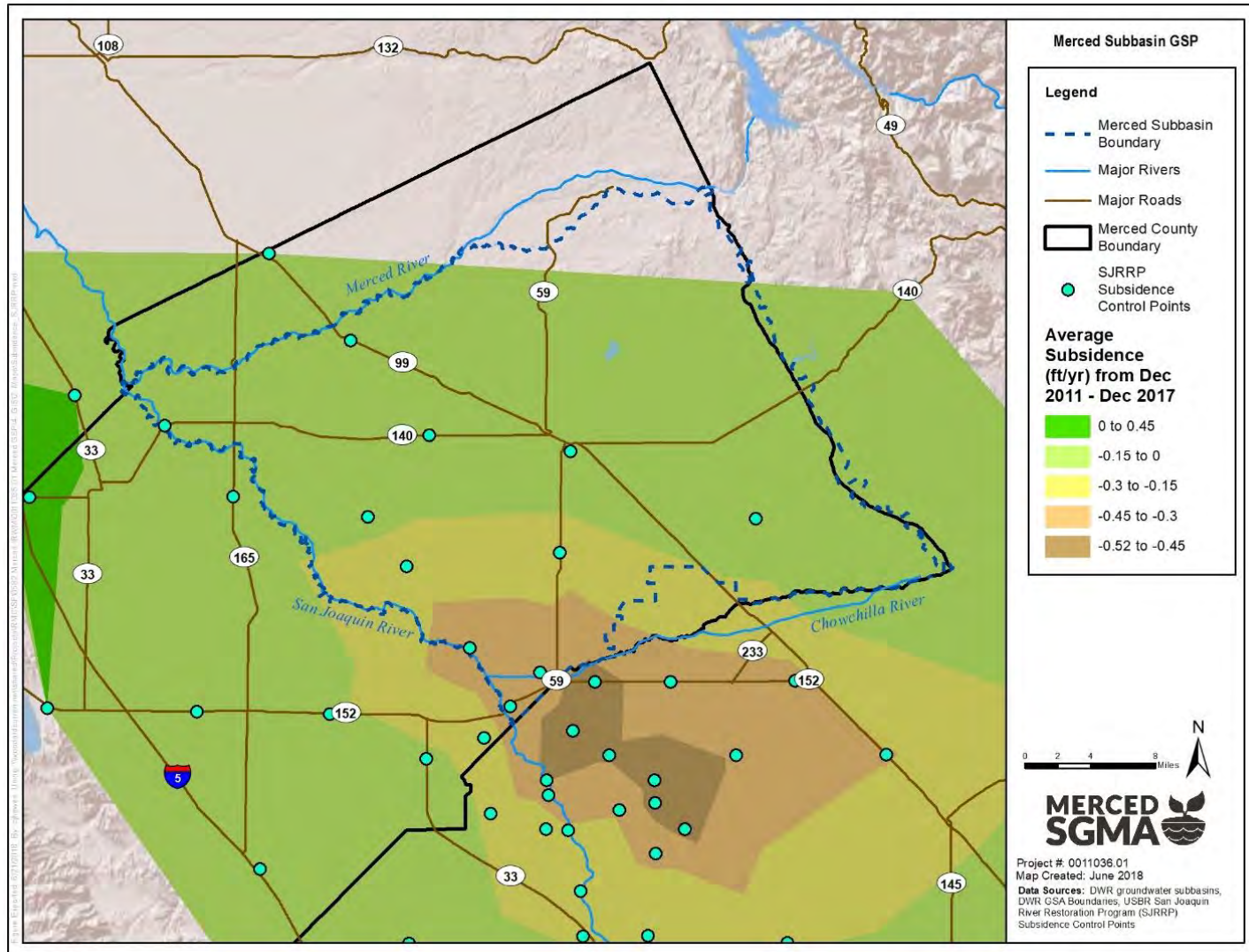
Historical Simulated Fresh Groundwater in Storage



Trucked Water Program Due to Low Groundwater Elevations

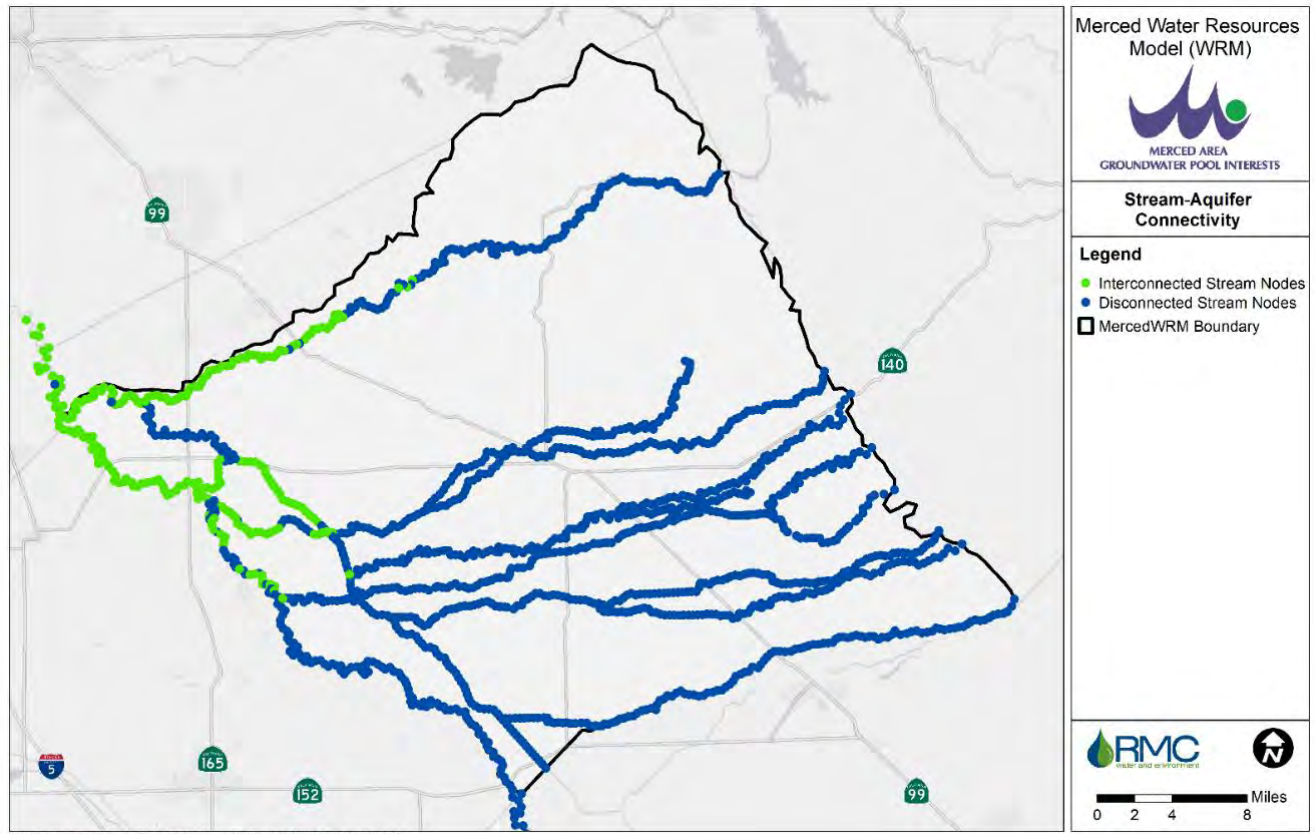


Land Subsidence in the Subbasin from 2011-2017

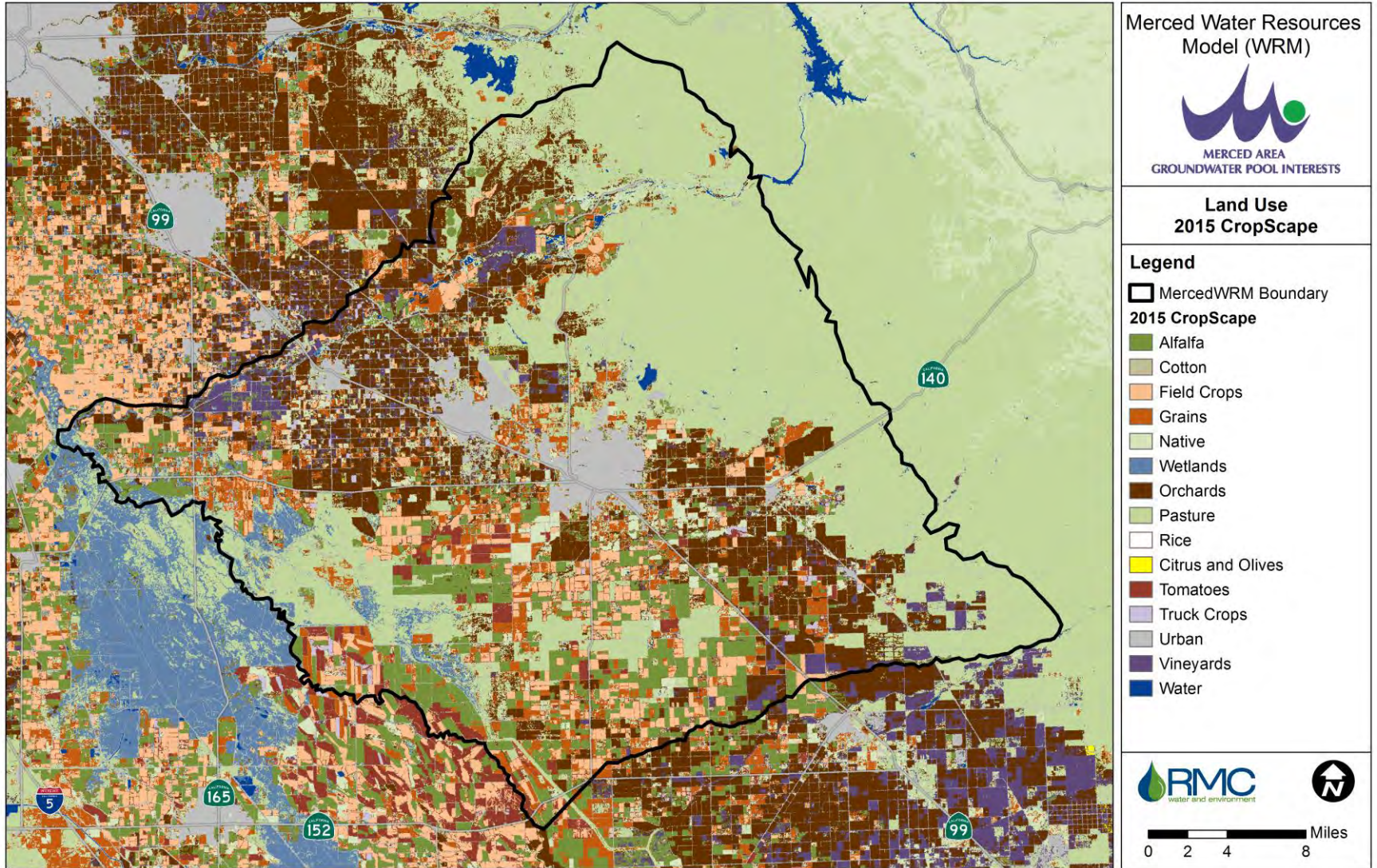


Interconnected Surface Water

- Understanding how groundwater use affects stream waters

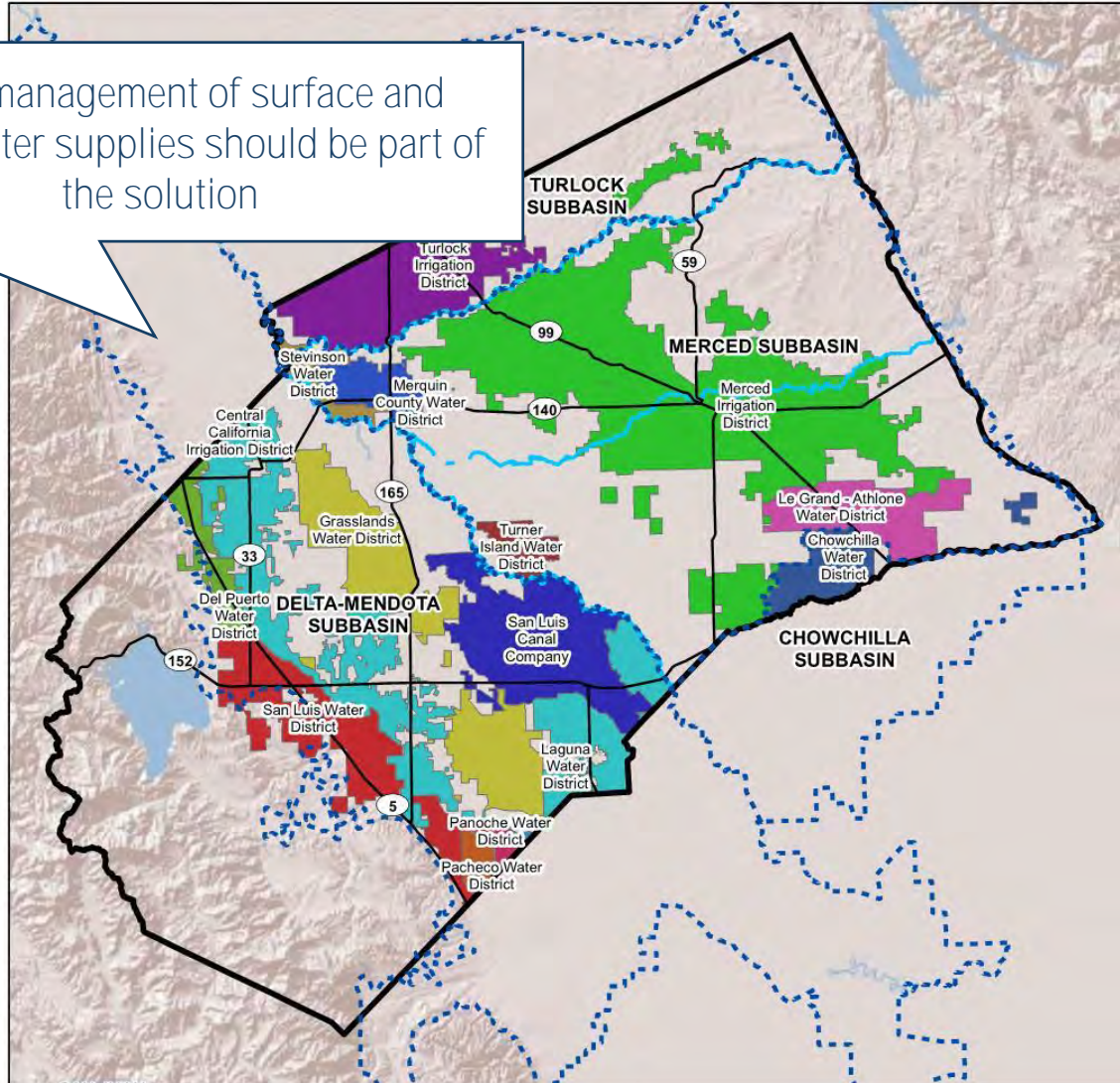


Land Use



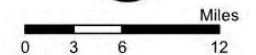
Entities with surface water supplies

Better management of surface and groundwater supplies should be part of the solution



Legend

- Merced County Boundary
- Major Roads
- Major Rivers
- Groundwater Subbasin Extent



Data Sources: DWR Groundwater Subbasins, LAFCo of Merced County

Discussion

- What do you see as important challenges or undesirable effects of groundwater use in the Merced area?
 - How would these affect your household, business, or community?
- What does groundwater sustainability mean for you and the region?
 - What groundwater goals are important?

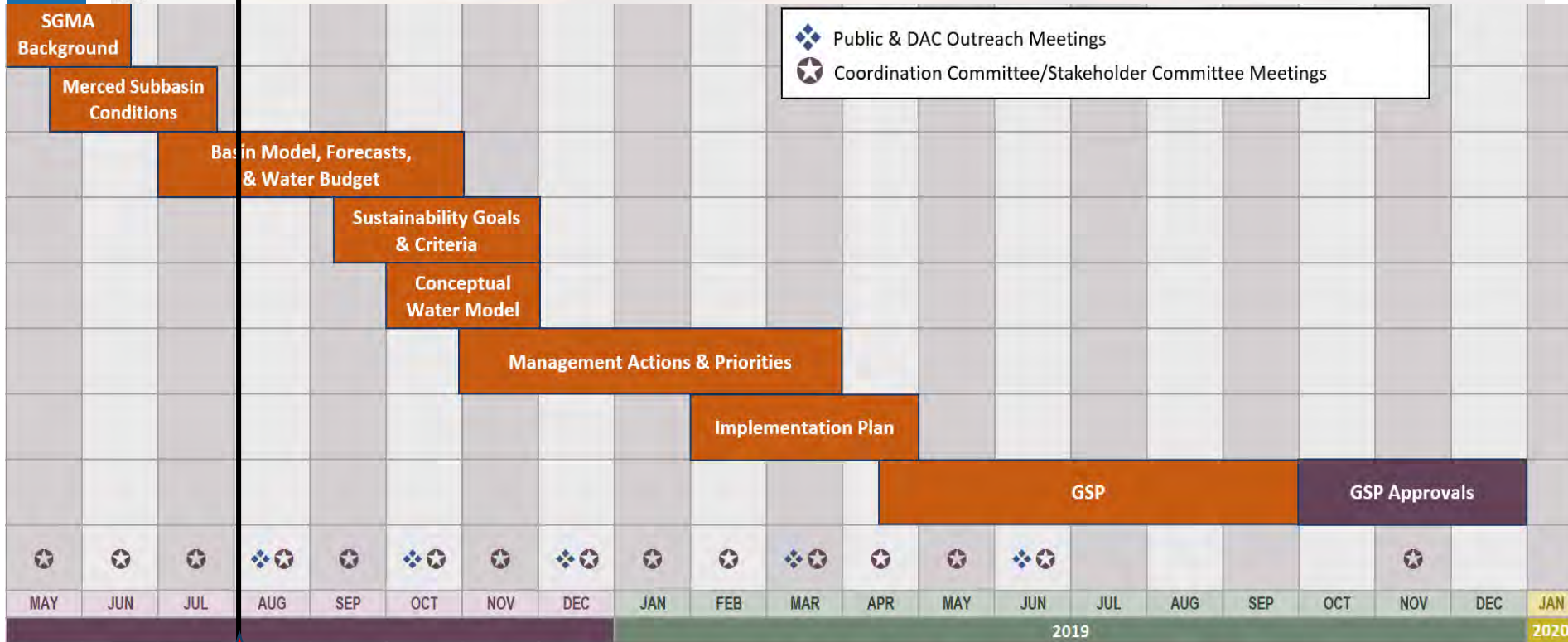
Image courtesy: Veronica Adrover/UC Merced



Next Steps

Image courtesy: Veronica Adrover/UC Merced

Timeline




 *We Are Here*

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Stay Involved

- Stakeholder Committee and Coordinating Committee meetings
 - Fourth Monday of the month
 - Castle Conference Center, 1900 Airdrome Entry, Atwater, CA
- Merced SGMA Website
 - www.mercedsgma.org
- More (general) information resources:
 - CA DWR Groundwater Website: <https://water.ca.gov/Programs/Groundwater-Management>
 - California Water Boards: https://www.waterboards.ca.gov/water_issues/programs/gmp/sgma.html
 - Maven's Notebook: <https://mavensnotebook.com/groundwater/>

Image courtesy: Veronica Adrover/UC Merced



Thank You

Image courtesy: Veronica Adrover/UC Merced

