Northern Delta-Mendota GSA Group
Pumping Reduction Plan

Stanislaus County Well Metering Monitoring and Reporting Program Guidelines

September 25, 2024

Presented By: Christy McKinnon, Water Resources Manager
Groundwater Resources Division
Stanislaus County Department of Environmental Resources

GSP Corrective Actions

- A single GSP was developed to improve coordination, eliminate management areas, and identify how the GSP will achieve a common sustainability goal throughout the Subbasin with Management Actions (Pumping Reduction Plan) as the primary tool to achieve subbasin sustainability goals as projects are implemented and executed.
- This includes establishing triggers, timelines, and committing to taking predetermined actions required to ensure that declining trends in groundwater levels are stopped and reversed before reaching the projected minimum threshold levels.
- EKI Table 1 Proposal approved (without optional Task 1) by the Northern GSA Group to Developed a Pumping Reduction Plan (PRP) framework to be implemented by 2025 across the Subbasin. Additional Table 2 modeling and analytical tasks will be needed for implementation by January 2025.

SIX-PART PUMPING REDUCTION PLAN FRAMEWORK

1) **Monitoring and Data Collection Policy**
   - Quarterly groundwater level measurements (monthly in hotspot areas identified by GWL-MT avoidance policy) and annual water quality sampling (semi-annual in hotspot areas identified by WQ-MT exceedance policy)
   - Meter GW production, or estimate with an equivalently effective method
   - Replace composite or active production RMWs with dedicated monitoring wells
2) **Overdraft Mitigation Policy**
   - GSAs will collectively reduce total pumping by at least 42,000 AFY
   - Incremental reduction in overdraft from 20% by 2026 to 100% by 2030
   - May include pumping reduction achieved under Subsidence mitigation policy
3) **GWL-MT Avoidance Policy**
   - Define RMW-specific groundwater level triggers and zone of influence
   - Develop RMW-specific pumping reduction plan
4) **WQ-MT Exceedance Policy**
   - Define RMW-specific groundwater level triggers
   - Investigate cause of exceedance → Pumping/GWL decline or other management actions
   - Develop and implement mitigation plan
5) **Subsidence Mitigation Policy**
   - Set trigger as 3-year moving average rate of subsidence that exceeds 0.2 ft/year
   - Lower aquifer pumping will be limited to 0.25 AF/acre within the zone of influence (0.5 mile of critical infrastructure)
6) **Groundwater Allocation Backstop**
   - Consistent with process outlined in the MOA, if GSA(s) have GWL MT exceedances for two consecutive years and/or fail to achieve their minimum pumping reduction required under the overdraft mitigation policy, GSA(s) will be required to implement a groundwater allocation program

eki

Source: EKI Environment and Water, 2/22/2024 Stanislaus County Delta-Mendota Subbasin Landowner Event.

Source: EKI Environment and Water, 8/7/2024 Northern Delta-Mendota Region Management Committee Meeting

GSP Section 16.1.1.1

- Assess RMN density and adjust if required
- Conduct quarterly GWL measurements and semiannual WQ sampling
- Adopt a policy for mandatory metering and groundwater pumping measurement and reporting
- Adopt a policy for the development and maintenance of a GSA well registry
- Ensure all RMWs' well construction information
- Replace composite RMW-WLs and any active production RMW-WLs with inaccurate measurements
- **Draft must be provided to EKI by <u>end of August</u> for incorporation into the PRP / presentation to the CC on September 9th**

eki

Source: EKI Environment and Water, 8/7/2024 Northern Delta-Mendota Region Management Committee Meeting

- Reduce collective "Current" (2019-2023) LA pumping by 9,000 AFY by 2030 without impacting the Cities.

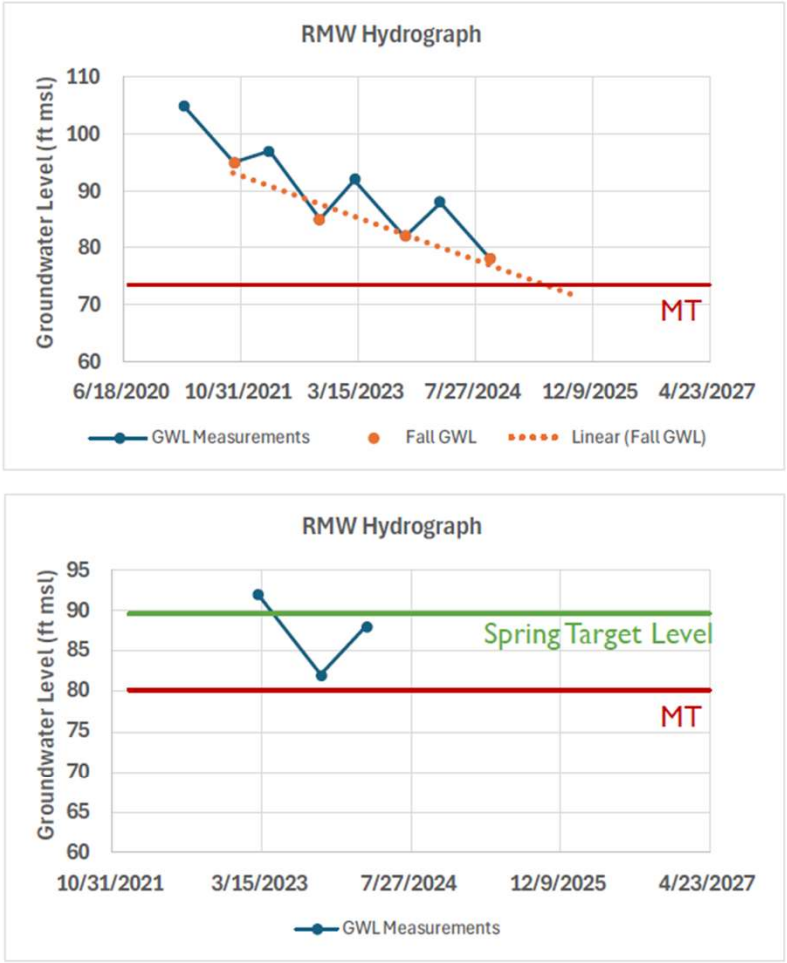
NDM GSA Group	Current LA Pumping (AFY)*	2030 LA Pumping Target (AFY)	Pumping Reduction Target (AFY)
City of Patterson GSA	3,086	3,086	0
DM-II GSA	36,898	31,104	5,794
NW-DM GSA	6,495	5,475	1,020
Patterson ID/ Twin Oaks GSA	2,801	2,361	440
WSID GSA	11,271	9,501	1,770
TOTAL	**60,551**	**51,528**	**9,023**

eki

*Based on the Model. The 2020-2023 Annual Reports showed NDM pumping to be 49,034 AFY.

Source: EKI Environment and Water, 8/7/2024 Northern Delta-Mendota Region Management Committee Meeting

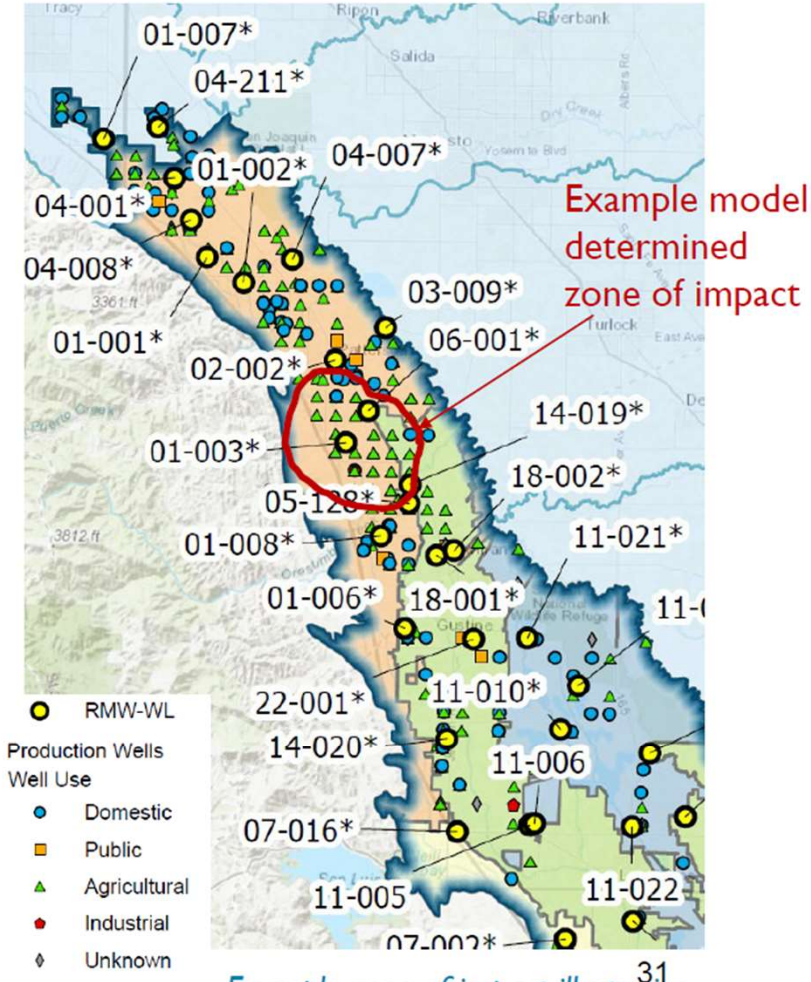
- As described in Section 16.1.1.3 of Single GSP, exceedance of GWL MT or projected exceedance of GWL MT in a year following a four-year declining trend in Fall GWLs.
- Linear trend will be calculated based on the previous four Fall GWLs and extended for a year to assess the likelihood of MT exceedance.
- If insufficient data to calculate trend:
  - Compare the spring/winter level (February measurement) of the current year with established Spring target levels at each RMW.
  - Spring Target Level= MT + Average Seasonal Variation
  - If insufficient data to calculate average seasonal variation, the February level of last year will be substituted as the target level to be maintained.



Example cutback entry trigger illustration based on data availability

Source: EKI Environment and Water, 8/7/2024 Northern Delta-Mendota Region Management Committee Meeting

- Zones of Impact around a hotspot RMW will be established based on Model results and validated through analytical calculations.
- Zones of Impact may cross GSA boundaries and will be defined using a threshold based on the minimum sensitivity of GWL change at the target RMW to GW pumping within the zone.
- These zones will be generated for each RMW along with rates of expected GWL change caused by a unit volume of pumping reduction (sensitivities).



Example zone of impact illustration

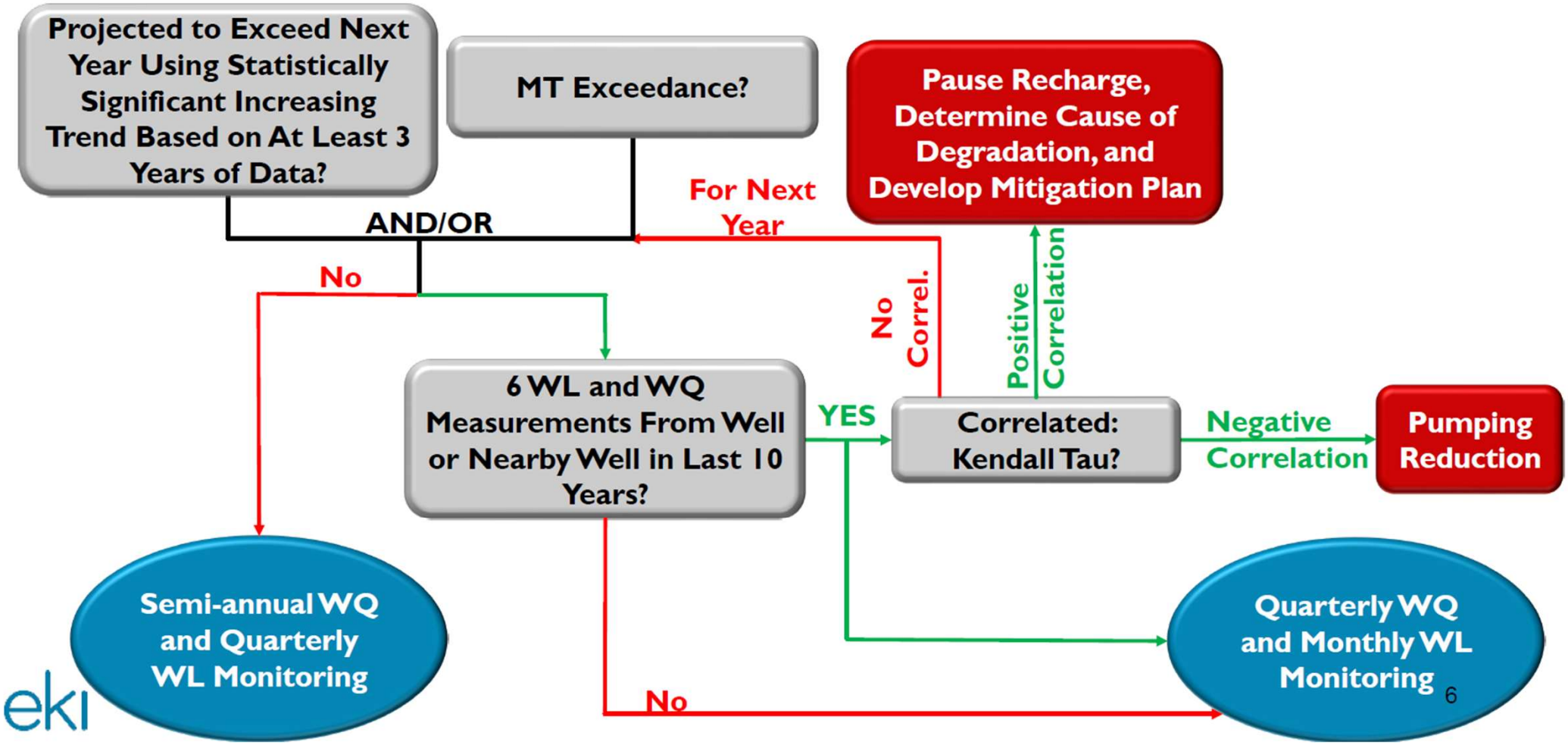
Source: EKI Environment and Water, 8/7/2024 Northern Delta-Mendota Region Management Committee Meeting

- Curtailments will be established based on target GWL recovery and current February GWLs.
- Zones of Impact and their respective sensitivities will be used to achieve the cumulative GWL recovery at the RMW, assuming superposition.
- This will lead to allocation/pumping reduction for each Zone of Impact.

eki

Source: EKI Environment and Water, 8/27/2024 Northern Delta-Mendota Region Management Committee Meeting

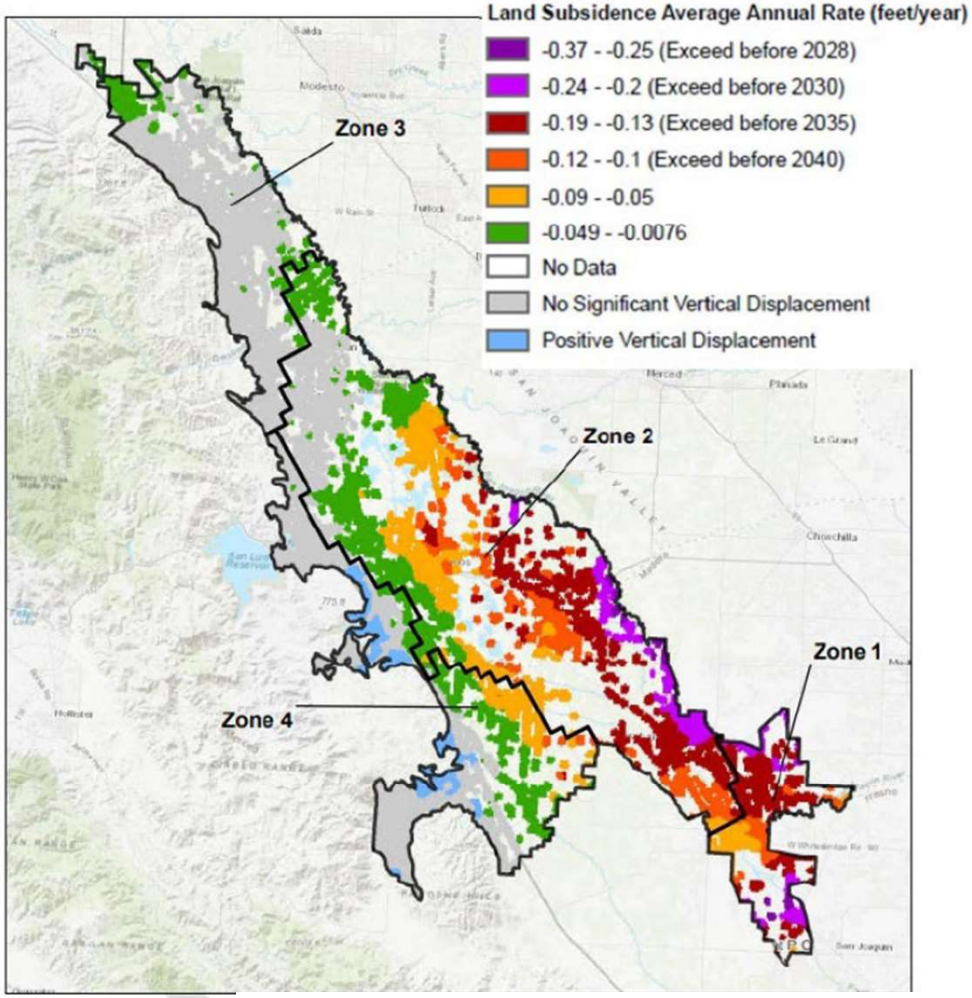
PUMPING REDUCTION FOR WQ EXCEEDANCE



CUTBACK ENTRY TRIGGER

Triggers set in Section 16.1.1.5 of Single GSP:

- Critical Infrastructure
  - 3-year average rate > 0.2 ft/year within 0.5 miles of critical infrastructure
- Hotspot
  - 5-year trend indicates > 2 ft by 2040 (MT) or > 0.5 ft by 2030 (IM)

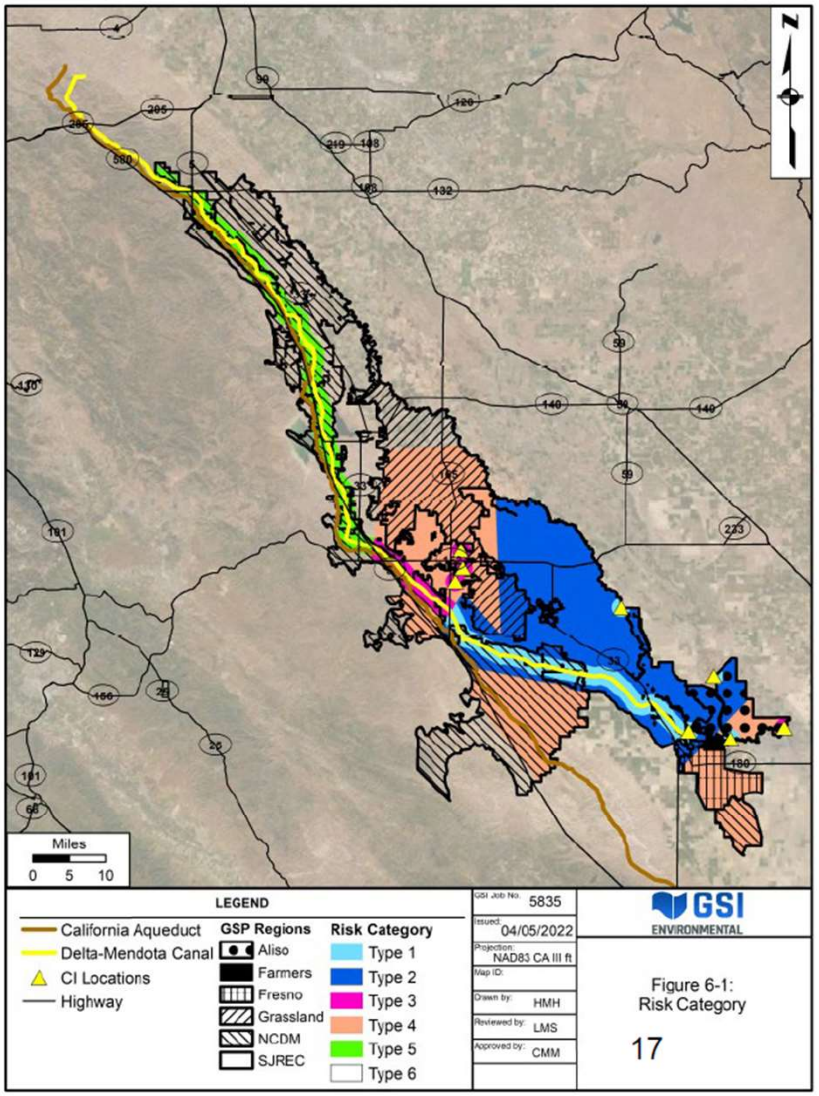


Source: EKI Environment and Water, 8/7/2024 Northern Delta-Mendota Region Management Committee Meeting

Source: EKI Environment and Water, 8/7/2024 Northern Delta-Mendota Region Management Committee Meeting

ESTABLISH CURTAILMENTS

- NDM only includes zones 5 and 6 of the GSI masterplan.
- Critical Infrastructure
  - Start pumping reduction at 0.35 AFY/acre (Approximate SY for LA) within the Zone
  - Decrease pumping allocation based on rolling annual average rates.
  - Relieve pumping reduction only annually based on rates calculated over the same period as the trigger.
  - No new Lower Aquifer Wells within the zone until exit trigger is met.
- Hotspot Mitigation
  - Start pumping reduction at 0.35 AFY/acre within the Zone
  - Reduce or relieve based on annual rates
- Composite wells will be considered Lower Aquifer wells unless detailed data is provided on the well that facilitates dividing their pumping between the aquifers



Stanislaus County Well Metering Monitoring and Reporting Program Guidelines

- Meets requirements in Section 16.111 of the GSP created in and opted out of optional Task 1 of the Consultant PRP proposal.
- Groundwater Ordinance Section 9.37.065

"allows for the adoption of new regulations to establish the frequency and timing of required periodic reports of groundwater information. These reports must be reasonably necessary to monitor the existing condition of groundwater resources within the County, to determine trends, or to develop effective sustainable groundwater management plans and policies. The new regulations shall specify the required information to be monitored, including water level and pumping data, or other data necessary for any other method to determine groundwater production."

Application

- Required in all “white areas,” unincorporated areas if mandated by an adopted GSP.
- Required for all non-deminimus wells constructed after November 25, 2014.
- Required for all existing wells constructed **before November 25, 2014,** if they extract 10 AFY or more.
- Consideration for small pumpers (extract less than 40 AFY)
    - may use ET data as an alternative for metering
    - must participate in other well registration, monitoring and reporting requirements.
    - must also include surface water delivery reports

Implementation

- Well registration form and fee due to DER before January 1, 2026.
- Well completion report or equivalent required to verify pumping aquifer due with registration.
- New form required at change of ownership, well operational status or change in off-site use.
- Well Metering Requirements
    - Approved type based on acceptable industry standards certified upon installation and within the past 5 years
    - accurate to within 2%,
    - installation, maintenance and contractor/qualified professional documentation provided to DER.

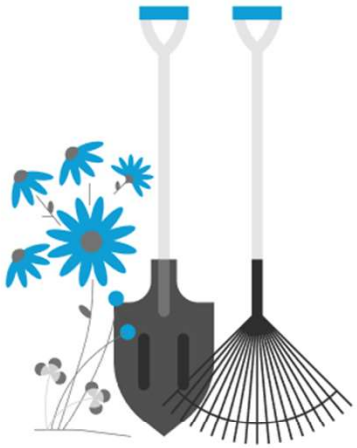
Implementation

- Reporting Requirements
  - By January 1, 2026, and each November 1 thereafter
  - Reports of monthly groundwater extraction for the previous water year
  - Include photo of meter reading for the final annual reading
  - More frequent reporting if necessary to manage “triggers” and “hot spots”
- Inspections
  - DER staff to inspect as necessary to determine compliance with the Guidelines, the Pumping Reduction Plan and the GSP.

Non-Compliance and Enforcement

- Allocation Backstop required pursuant to the GSP and the PRP
- State intervention and loss of local control
- County Legal Action
    - SCOC 9.37.070
    - SCOC 1.36.010
    - SCOC Chapter 2.92
- Landowner, well operator, and public water agency cooperation is essential for achieving our sustainability goals

Tools to build a sustainable future for now *and for our next generations*



- Conservation
- Water Use Efficiency
- Direct and In-Lieu Recharge
- Projects
- Management Actions
- Partnerships
- Resources

SGM TECHNICAL ASSISTANCE PROGRAM FOR TRIBES, UNDERREPRESENTED COMMUNITIES, AND SMALL FARMERS

www.water.ca.gov/urctaprogram

URCTA PROGRAM

Underrepresented Communities, California Tribes, and Small Farmers
Groundwater Technical Assistance (URCTA) Program

American Farmland Trust
SAVING THE LAND THAT SUSTAINS US

Central Valley Farmers: Are you interested in soil health, water management, and land use practices that can help your farm be successful? A new collaborative program can help!

The American Farmland Trust (AFT) is supporting an opportunity for farmers to get financial and technical assistance for on-farm practices that can help with water resilience, soil health, and more.

This work is a partnership between organizations across the Central Valley: 4 Resource Conservation Districts (RCDs), including East Stanislaus RCD, East Merced RCD, Madera-Chowchilla RCD, Sierra RCD, as well as, AFT and USDA-Natural Resource Conservation Service (NRCS) offices in the San Joaquin Valley. The aim of this collaboration is to assist local farmers with land and water conservation, specifically for farmers in Tulare, Fresno, Madera, Merced, and Stanislaus counties. The program provides financial support to farmers who need assistance in 13 practices listed below. These practices are recognized by USDA-NRCS and the application process goes through a similar process like the Environmental Quality Incentives Program (EQIP) application.

Ready to apply? Visit farmland.org/rcpp/

Questions?