EKI TECHNICAL PRESENTATION #29

WHITE WOLF GSA BOARD OF DIRECTORS

1 AUGUST 2023

eki environment & water

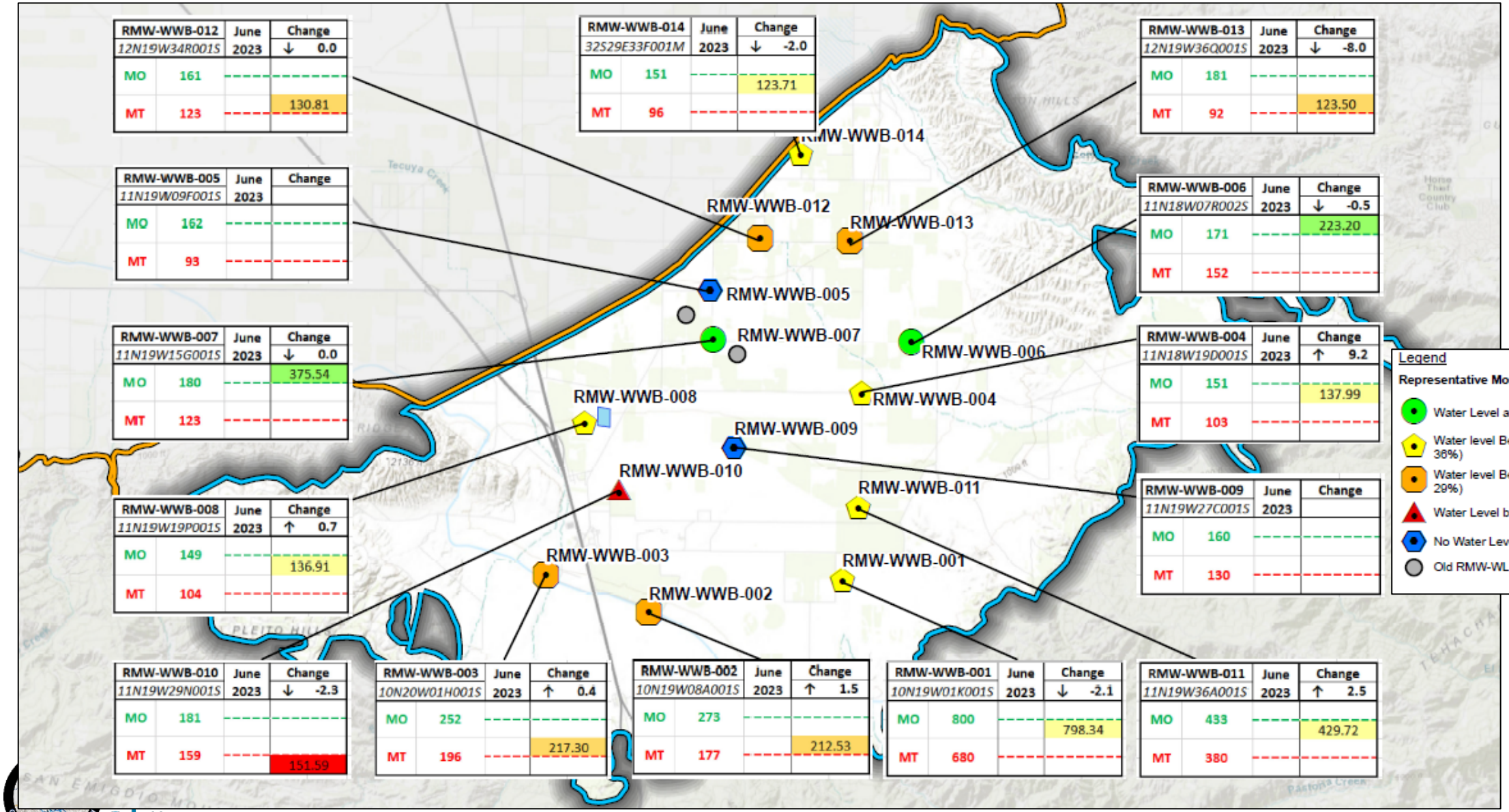
White Wolf Groundwater Sustainability Agency

OUTLINE – AGENDA ITEM #5

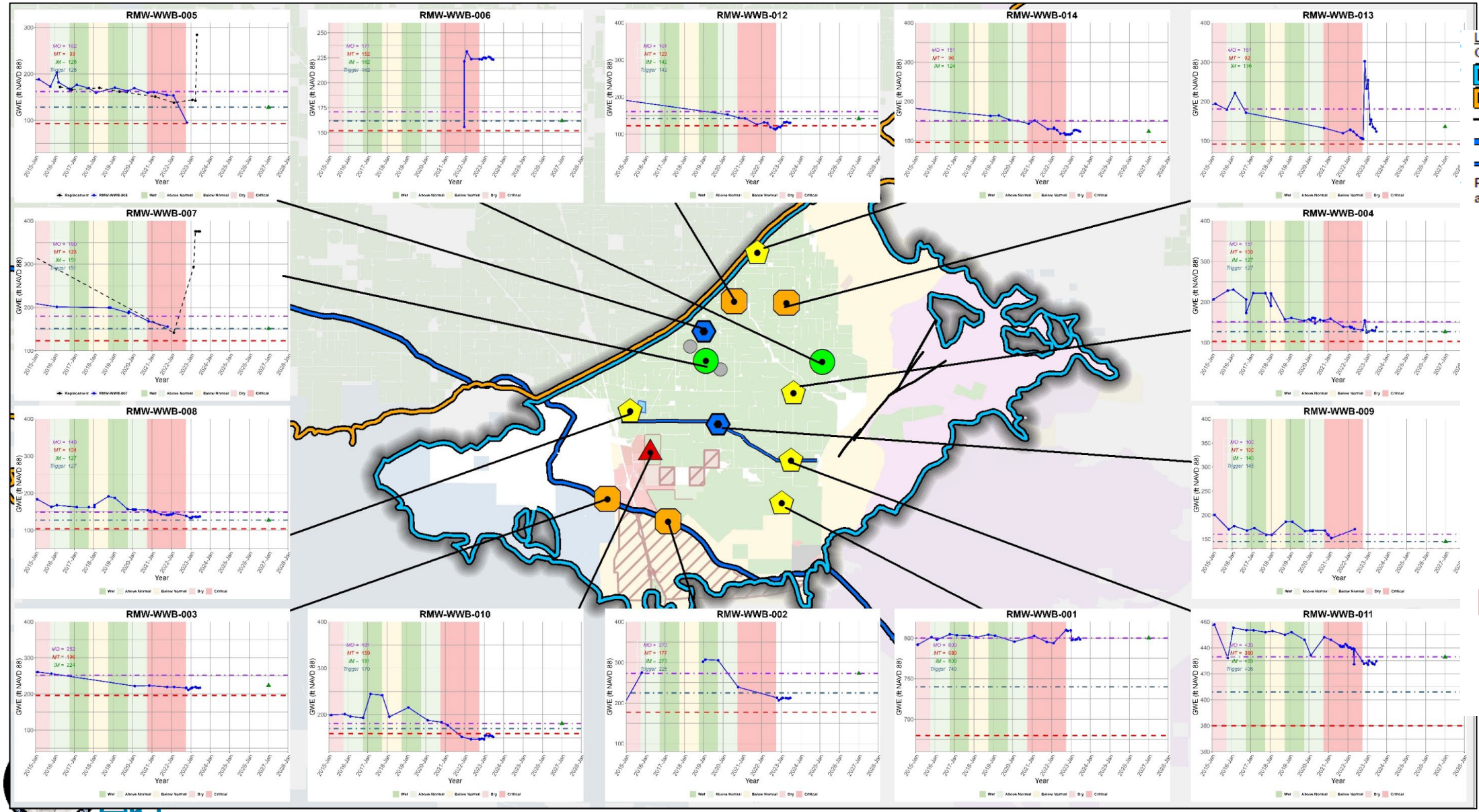
- Update on Groundwater Sustainability Plan (GSP) implementation activities
- Grant Application Updates
- Projects/Management Actions (P/MAs) Update
- Comparison of projected on-farm recharge and demand reduction measures on groundwater levels
- DWR GSP Determinations and SWRCB Update

5a. GSP IMPLEMENTATION UPDATES

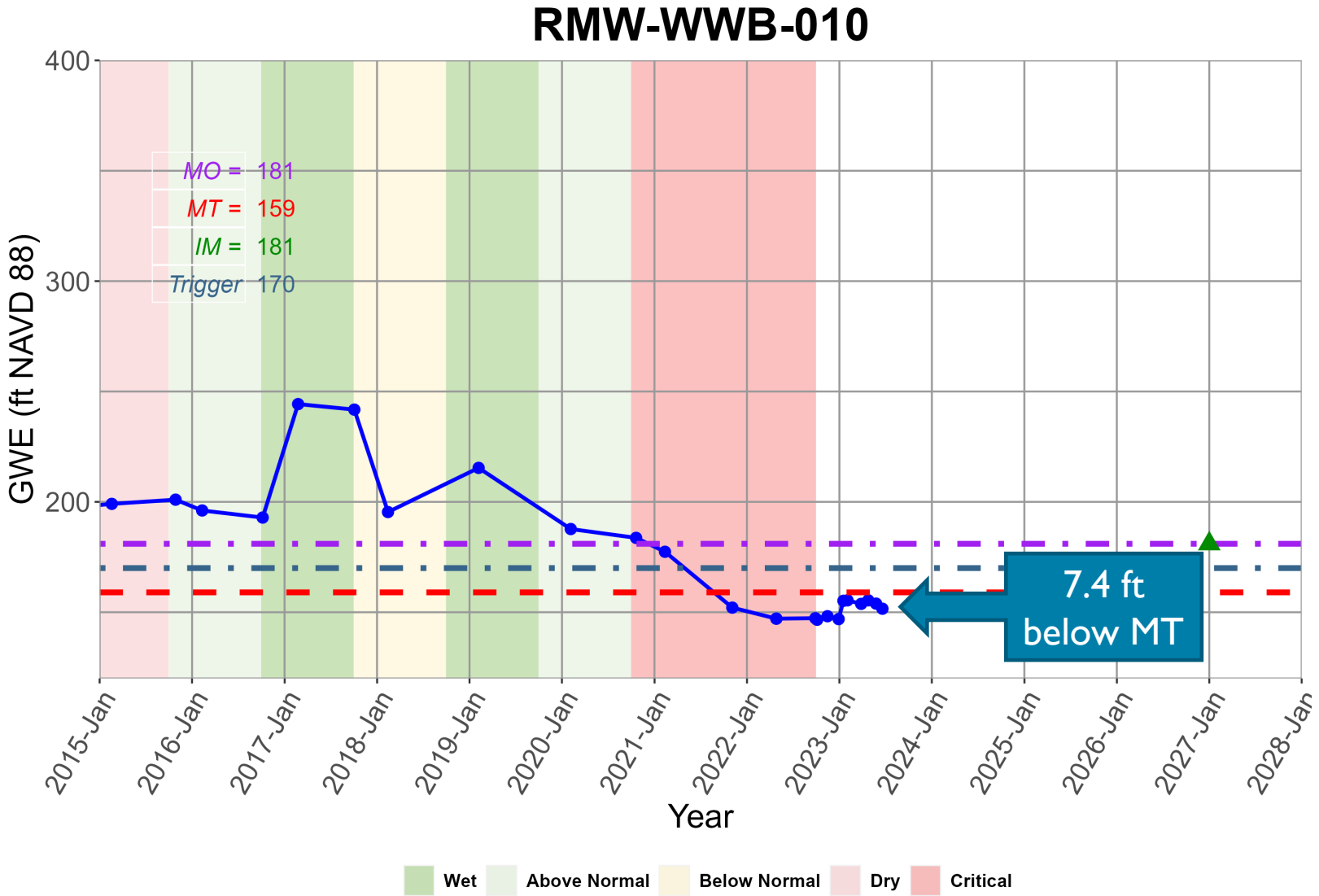
JUNE 2023 MEASUREMENTS COMPARED TO SMCs



RMW-WL HYDROGRAPHS



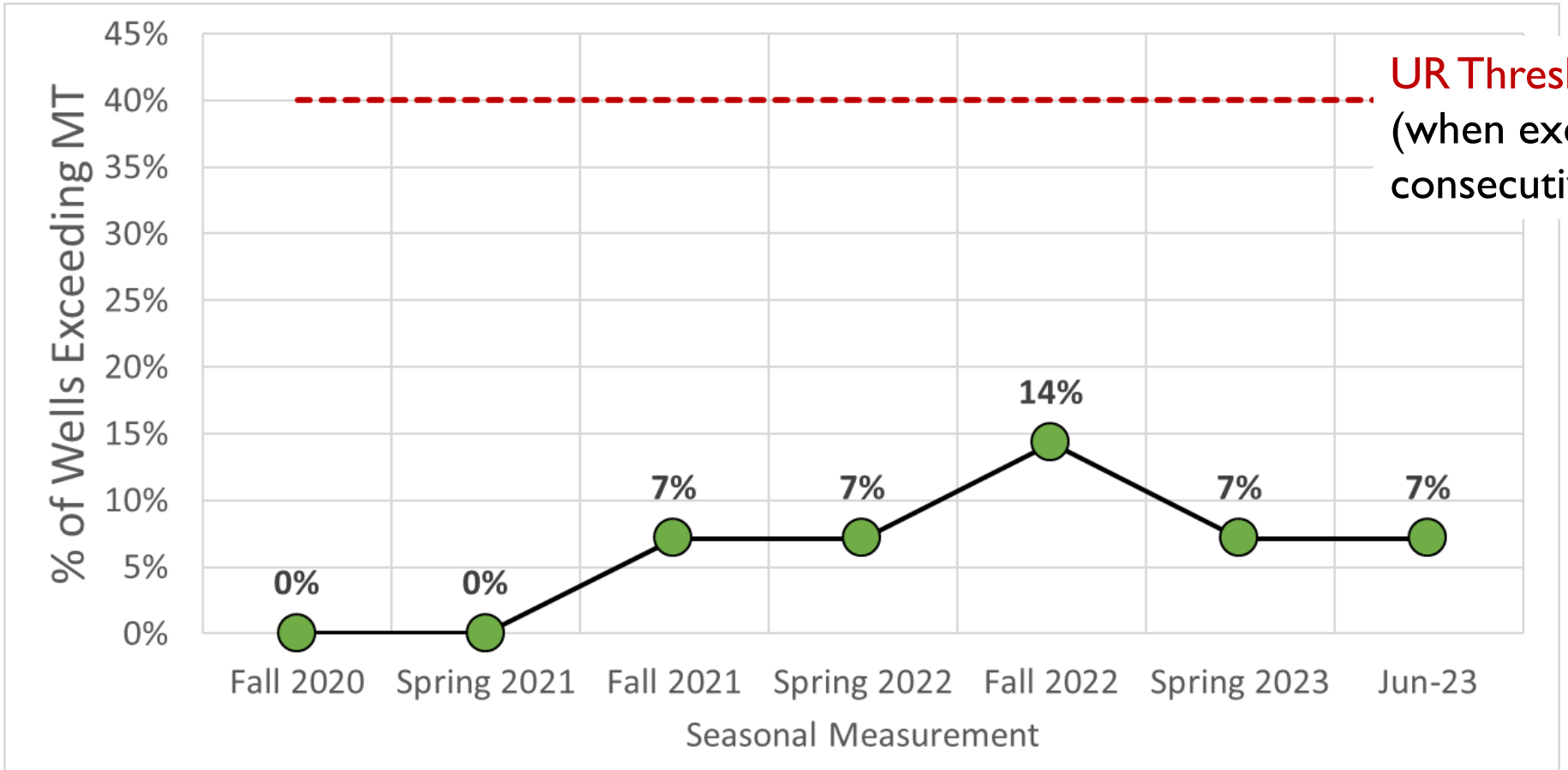
CONTINUED MT EXCEEDANCE IN RMW-WWB-010



- Will continue monthly water level measurements and tracking through the Fall 2023 measurement (Nov 15th) before conducting additional analyses

UNDESIRABLE RESULTS ARE NOT YET OCCURRING

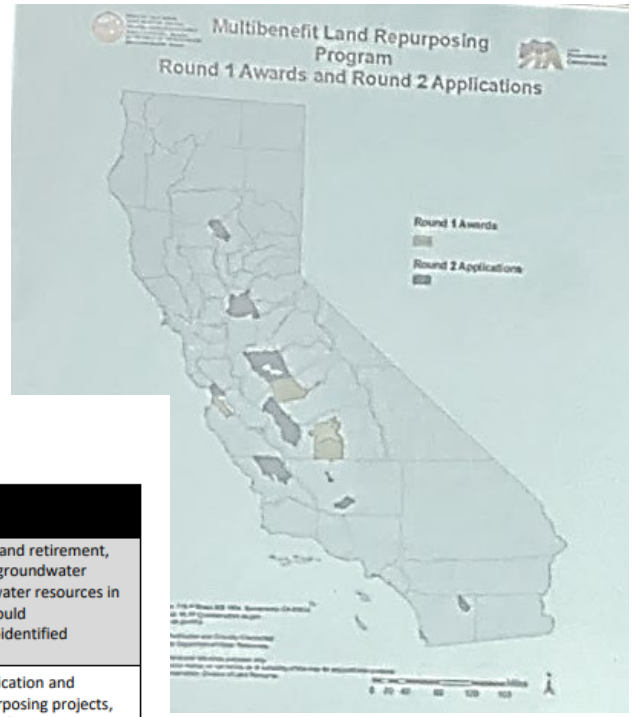
- UR definition: when 40% or more of RMWs exceed MTs over 4 consecutive seasonal measurements



5b. GRANT APPLICATION UPDATES

UPDATE ON MULTIBENEFIT LAND REPURPOSING GRANT

- Very competitive grant – 10 applicants requesting $84.6M of the $35.56M available
- White Wolf GSA was not selected



Multibenefit Land Repurposing Program – June 2023
Regional Block Grant Awards

Applicant Name	Sub-basin(s)	Amount Awarded	Description
Pajaro Valley Water Management Agency	Pajaro Valley (3-002.01)	$8,890,000	This proposal will facilitate strategic land retirement, develop habitat resources, facilitate groundwater recharge, and protect and enhance water resources in the in the Pajaro Valley. The grant would prioritize implementation of five pre-identified projects.
Merced Subbasin Groundwater Sustainability Agency	Merced (5-022.04)	$8,890,000	This proposal will support the identification and development of long-term land repurposing projects, including the establishment of a wildlife habitat corridor between the Sierra Nevada Mountains and the Merced Wildlife refuge.
Westlands Water District Groundwater Sustainability Agency	Westside (5-022.09)	$8,890,000	This proposal will facilitate land repurposing planning and implementation work in Kings and Fresno Counties through an inclusive community engagement process that considers multiple beneficial uses, engages residents and landowners, reduces groundwater use, and supports wildlife habitat.
East Turlock Subbasin Groundwater Sustainability Agency	Turlock (5-022.03)	$8,890,000	This proposal will expand on prior and ongoing work within the Turlock Subbasin to refine land repurposing objectives and will identify and implement opportunities for habitat enhancement, floodplain reconnection, recharge, re-cropping and cover cropping, and solar power projects and agrovoltaics.

USBR WATERSMART: APPLIED SCIENCE GRANTS

- Applications due **October 17, 2023**
- Up to **$400,000**
- Complete projects within 2 years
  - Ideally project would kick-off Fall 2024, although costs can be claimed back to July 2023 with approval of grant manager
- Non-Federal Cost Share: 50%
  - State grant funds (forthcoming $ from DWR) count toward cost share
- WWGSA is an eligible applicant

- Eligible Projects may include but are not limited to:
  - **Enhance modeling capabilities to improve water supply reliability and flexibility**
  - **Improve or adapt forecasting to enhance management of water supplies**
  - Improve access to and use of water resources data to inform management

APPLIED SCIENCE GRANT POTENTIAL APPLICATION

- 2 years of White Wolf Groundwater Flow Model (WWGFM) extensions to support Annual Reporting
- WWGFM recalibration
- WWGFM updated projected scenarios

Applied Science Grants – *Project Eligibility*

Eligible Projects:

- To be eligible, projects must:
  - Be designed *for use* by water managers
  - Based on known and *available (mature) technologies, not* new or novel methods or technologies

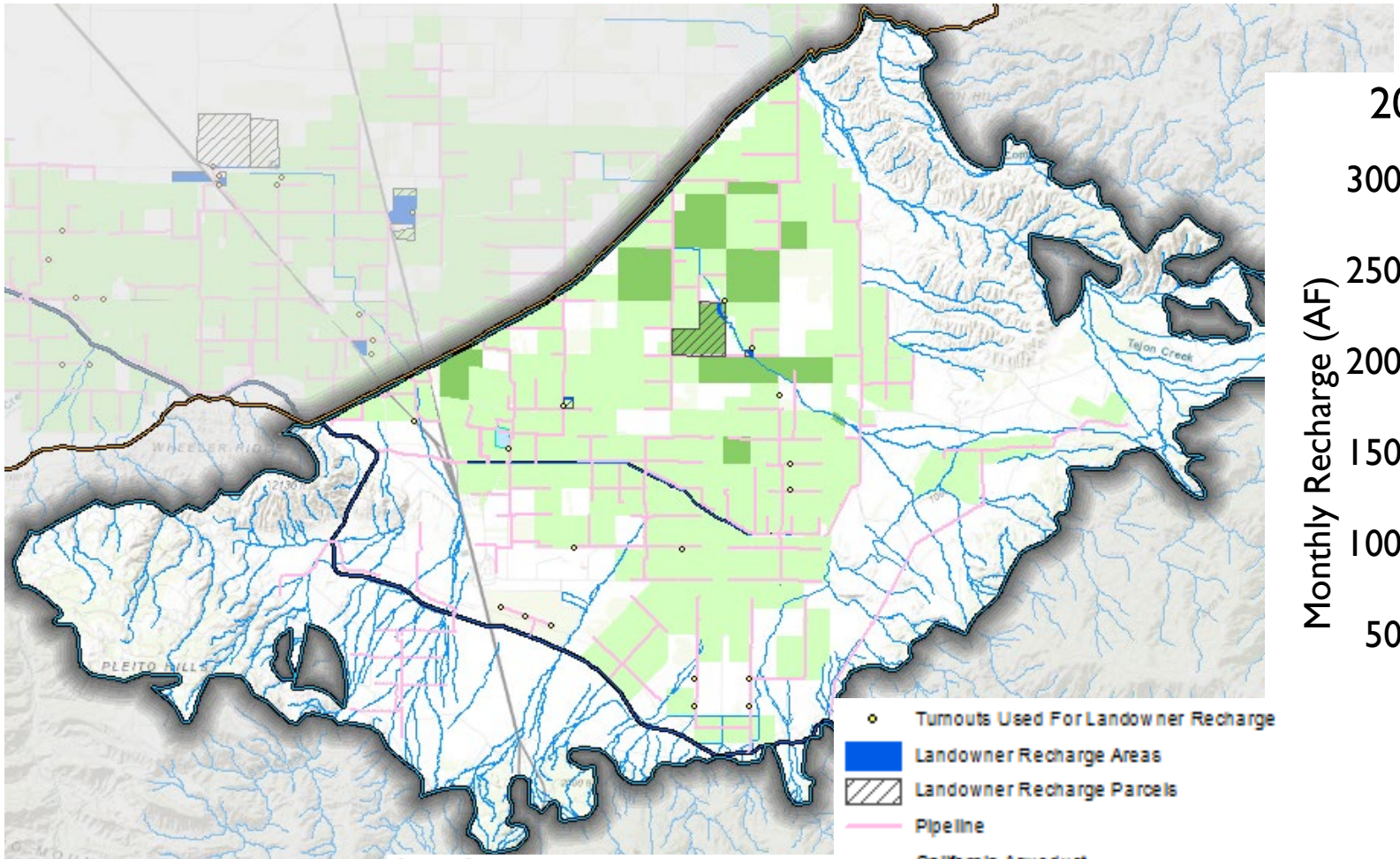
- ***Support one or more water management objective(s):***
  - water supply reliability,
  - improved management of water deliveries,
  - water marketing activities,
  - drought management activities,
  - conjunctive use of ground and surface water,
  - water rights administration,
  - ability to meet endangered species requirements,
  - watershed health,
  - restore a natural features or use a nature-based feature to reduce water supply and demand imbalances or the risk of drought or flood,
  - conservation and efficiency,
  - other improvements to water supply reliability

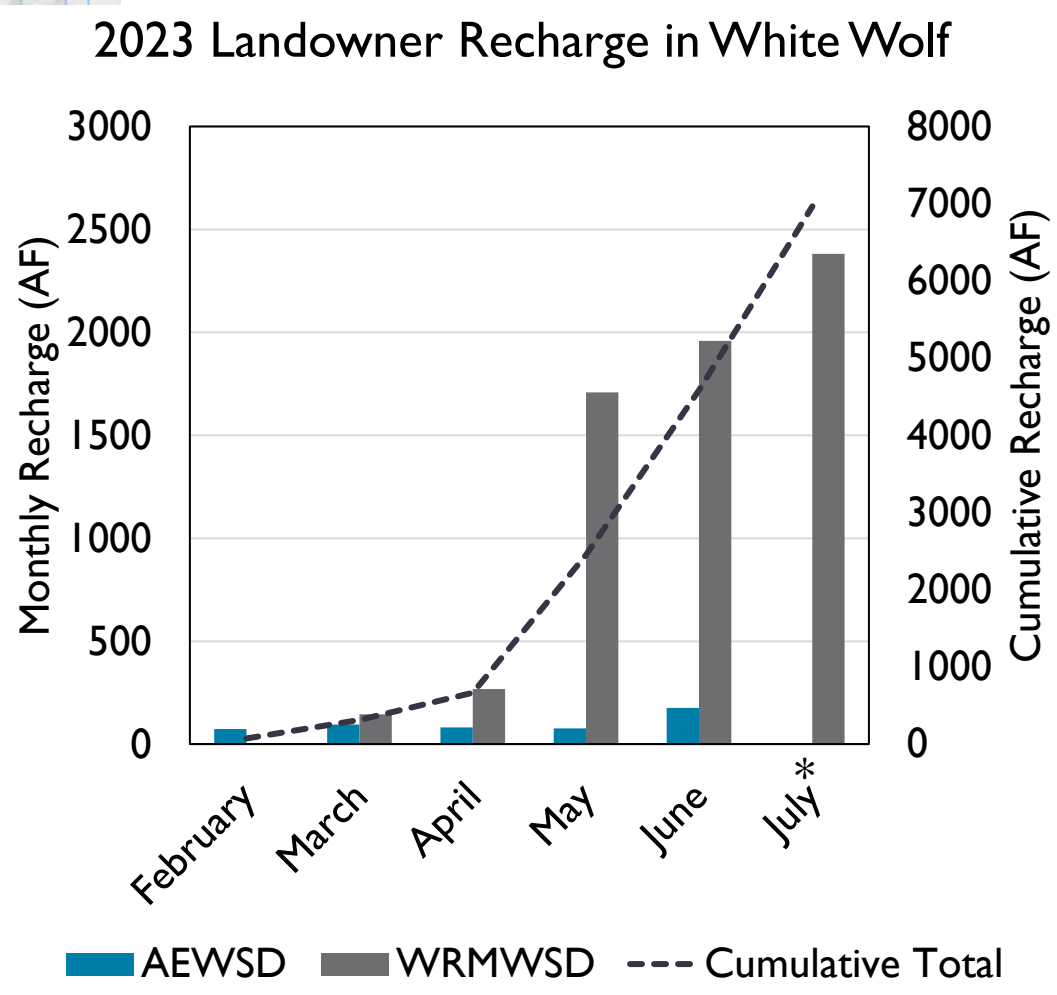
5c. P/MAs UPDATE

P/MA COMMITTEE UPDATE

- No P/MA Committee meetings in June or July
- Next P/MA Committee meeting scheduled August 10th

LANDOWNER RECHARGE PROGRAMS HAVE APPLIED 7,000 AF IN 2023

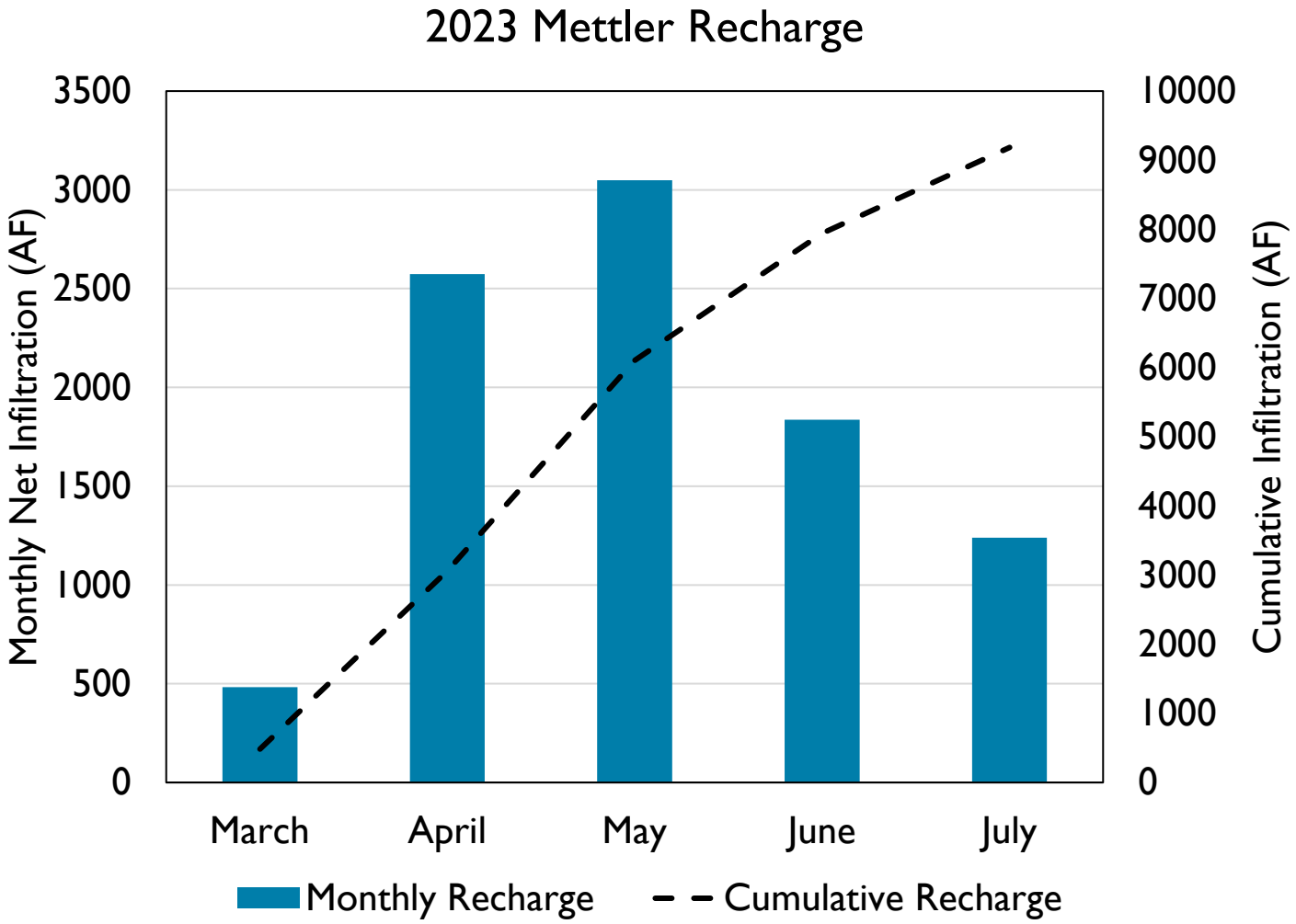




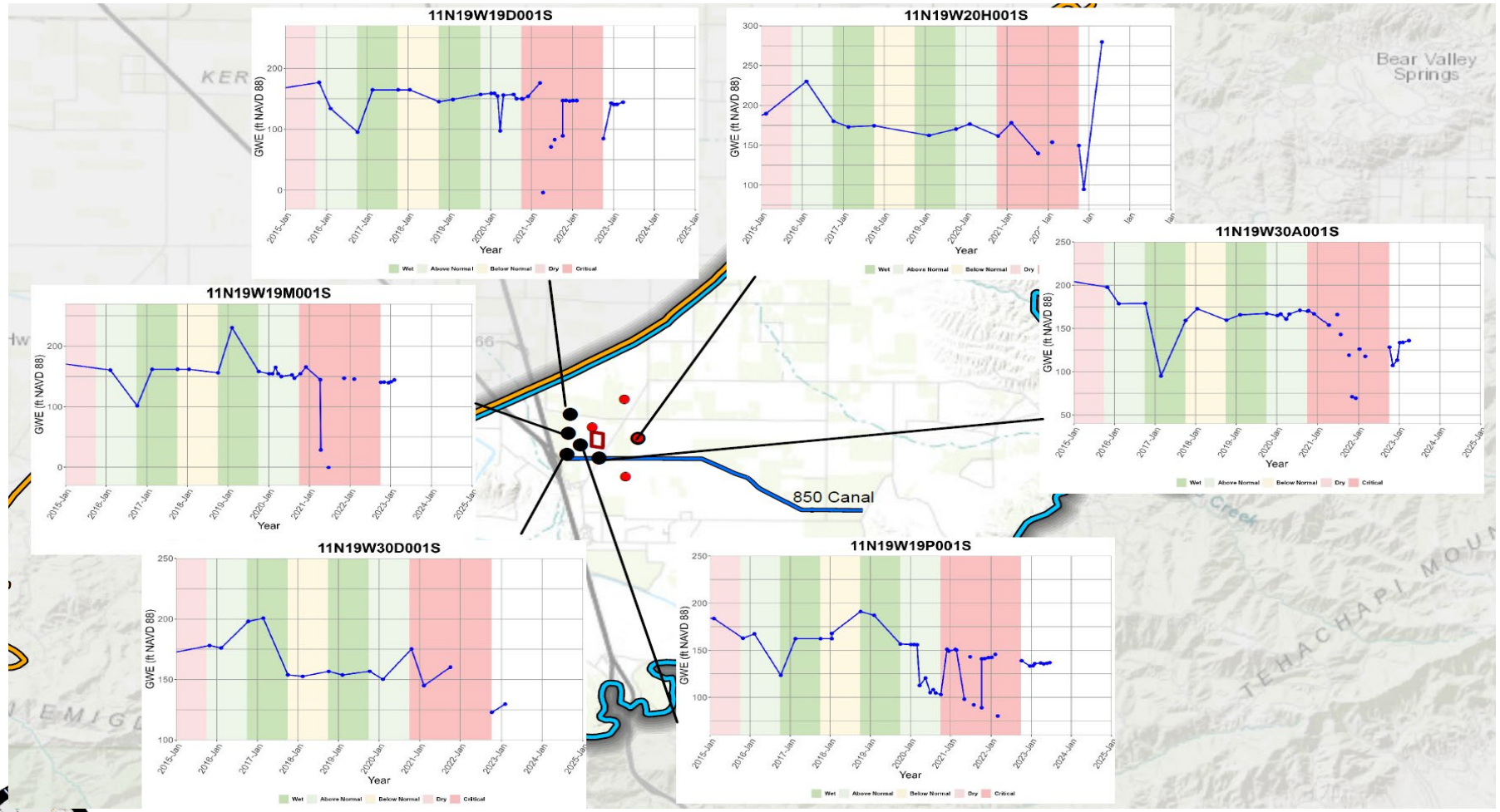
*WRMWSD – amount as of 7/28/2023; AEWSD – not available

9,300 AF INFILTRATED AT METTLER FACILITY SINCE MARCH 2023

- Average infiltration rate of 1.55 ft/day
- Isotope sampling underway



RECENT GROUNDWATER LEVEL TRENDS NEAR METTLER RECHARGE FACILITY

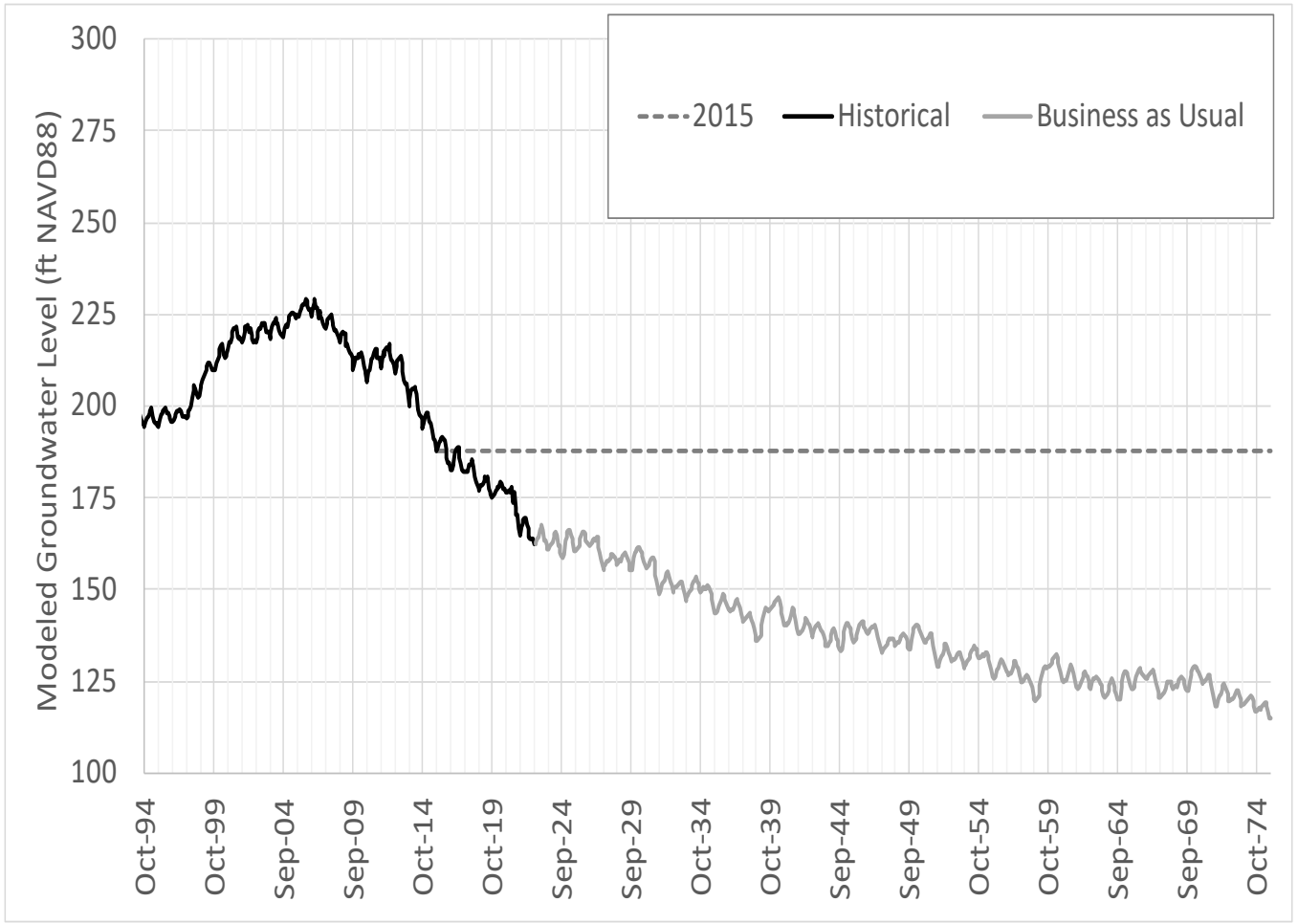


- Stable water level in nearest monitored well (19P001)
- GSA will collect additional monthly data from nearby wells to monitor groundwater response

5d. COMPARISON OF PROJECTED ON-FARM RECHARGE AND DEMAND REDUCTION MEASURES ON GROUNDWATER LEVELS

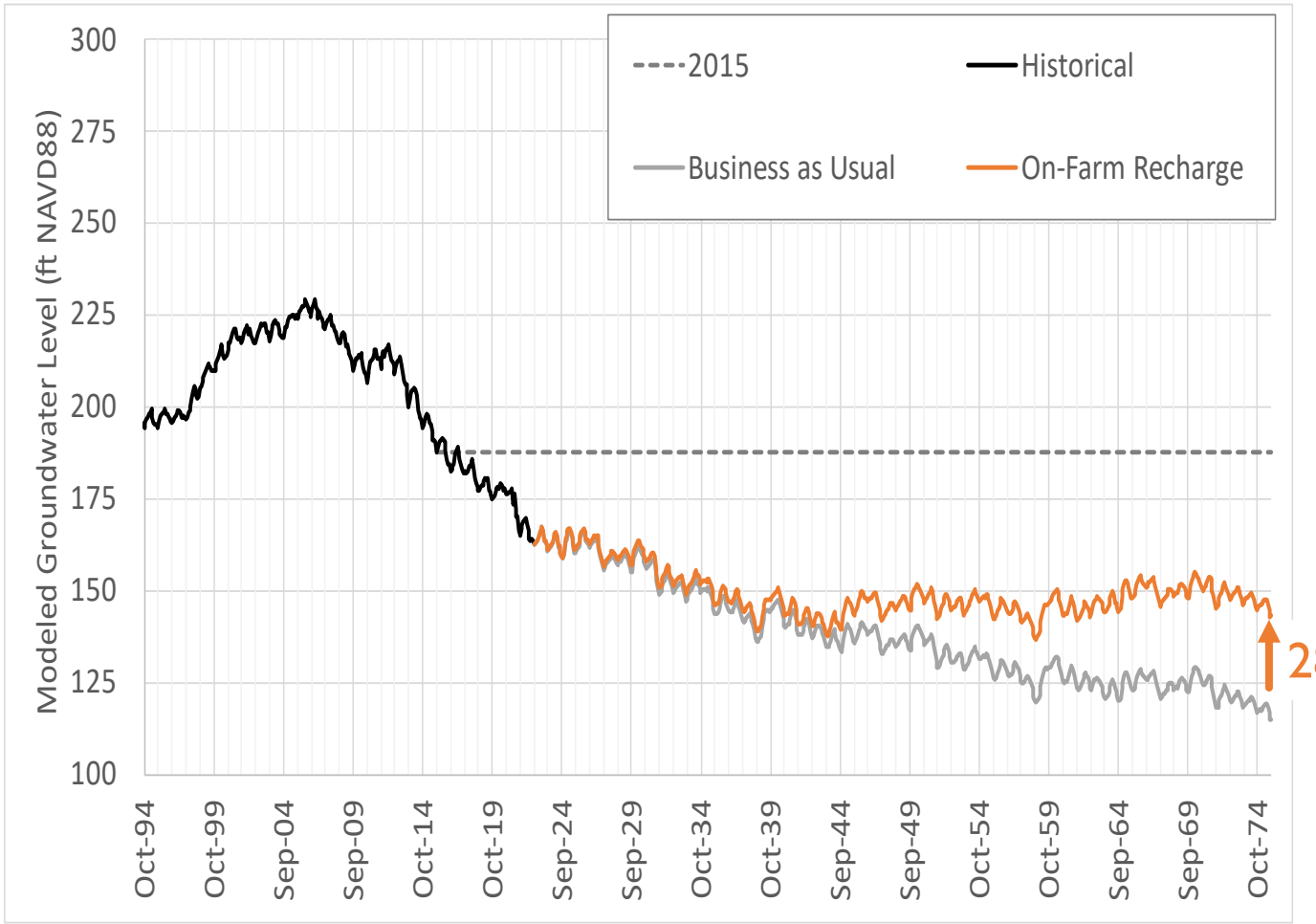
PROJECTED BASIN RESPONSE TO BUSINESS AS USUAL

- Representative hydrograph from the White Wolf Groundwater Flow Model
- 53-year projected scenario "2030 Climate Change"



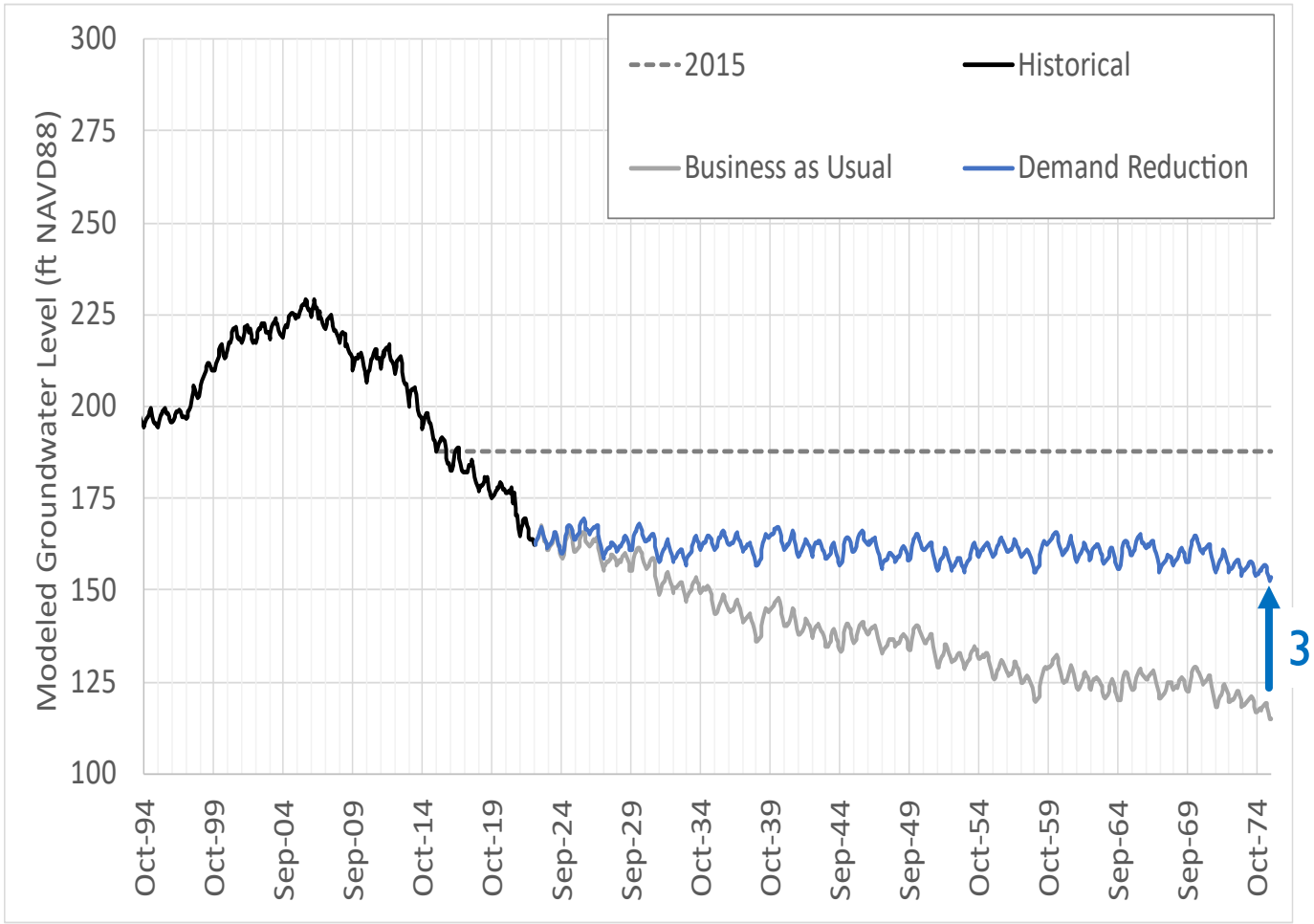
PROJECTED BASIN RESPONSE TO ON-FARM RECHARGE

- 16,300 AF of on-farm recharge during wet years
  - Average 4,200 AFY over 53-year projected period
- Yearly infiltration based on simple unsaturated zone modeling
  - Lag and inefficiencies following first recharge event improve over time
- Applied to the 6,060 fallow/idle acres in Fall 2022 and the 60-acre Mettler recharge basin



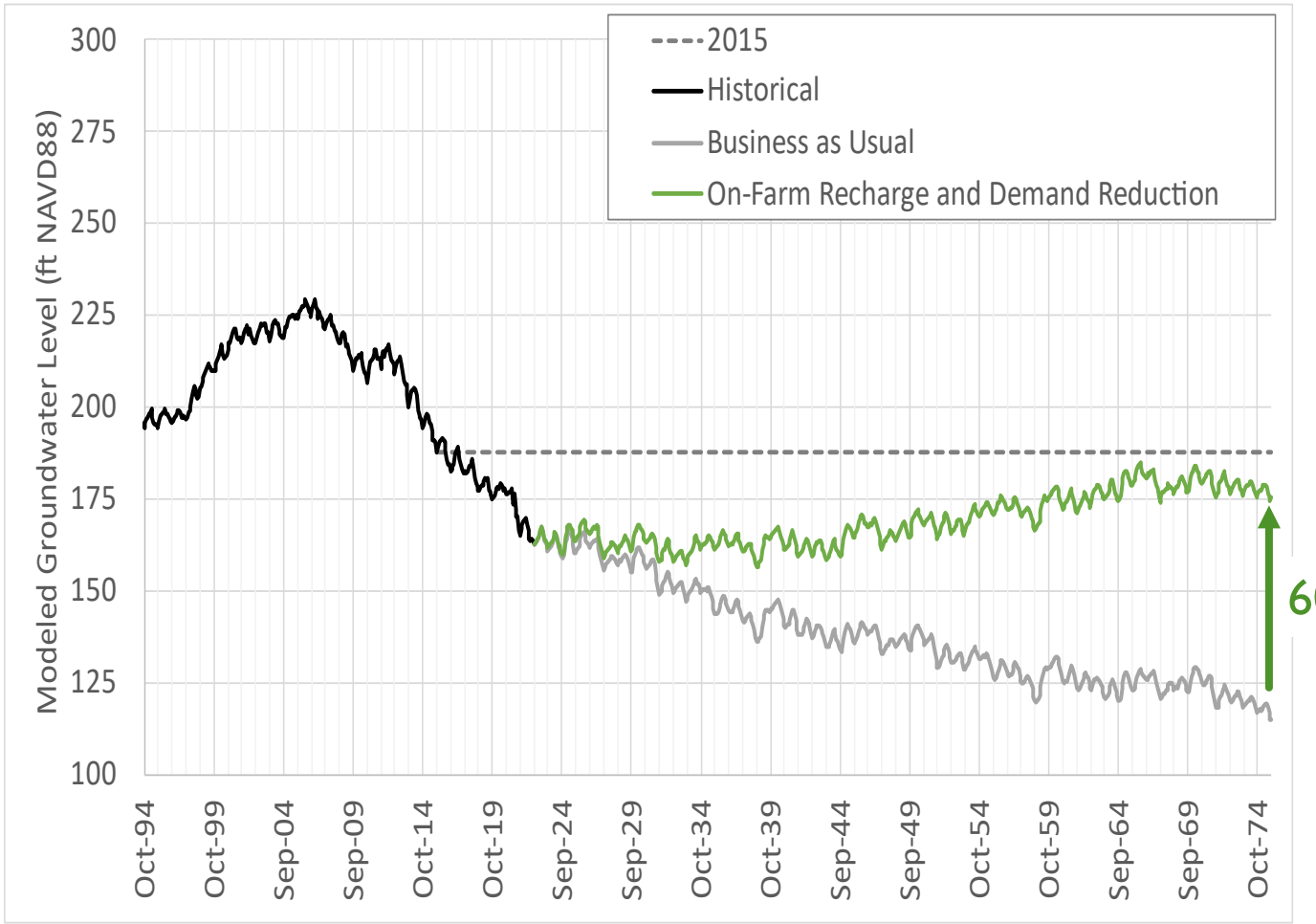
PROJECTED BASIN RESPONSE TO DEMAND REDUCTION

- Yearly pumping capped at 51,400 AFY
  - Average 49,700 AFY over 53-year projected period
  - 5,500 AFY of demand reduction
- Slightly exceeds the GSP's sustainable yield estimate (38,200 AFY to 47,200 AFY)
- More stable water levels



PROJECTED BASIN RESPONSE TO ON-FARM RECHARGE AND DEMAND REDUCTION

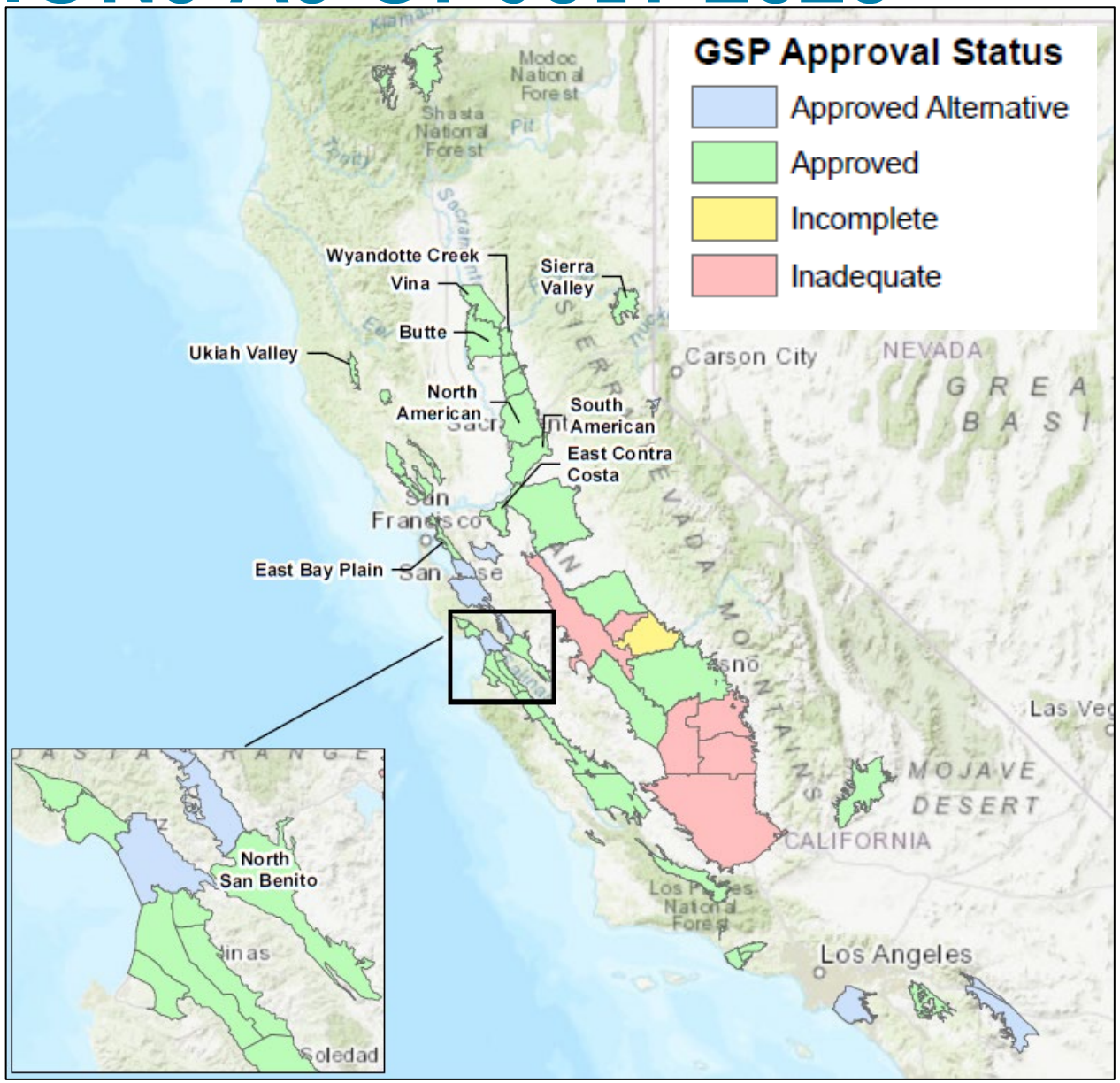
- Combined on-farm recharge and demand reduction scenarios
- Provides the most benefit



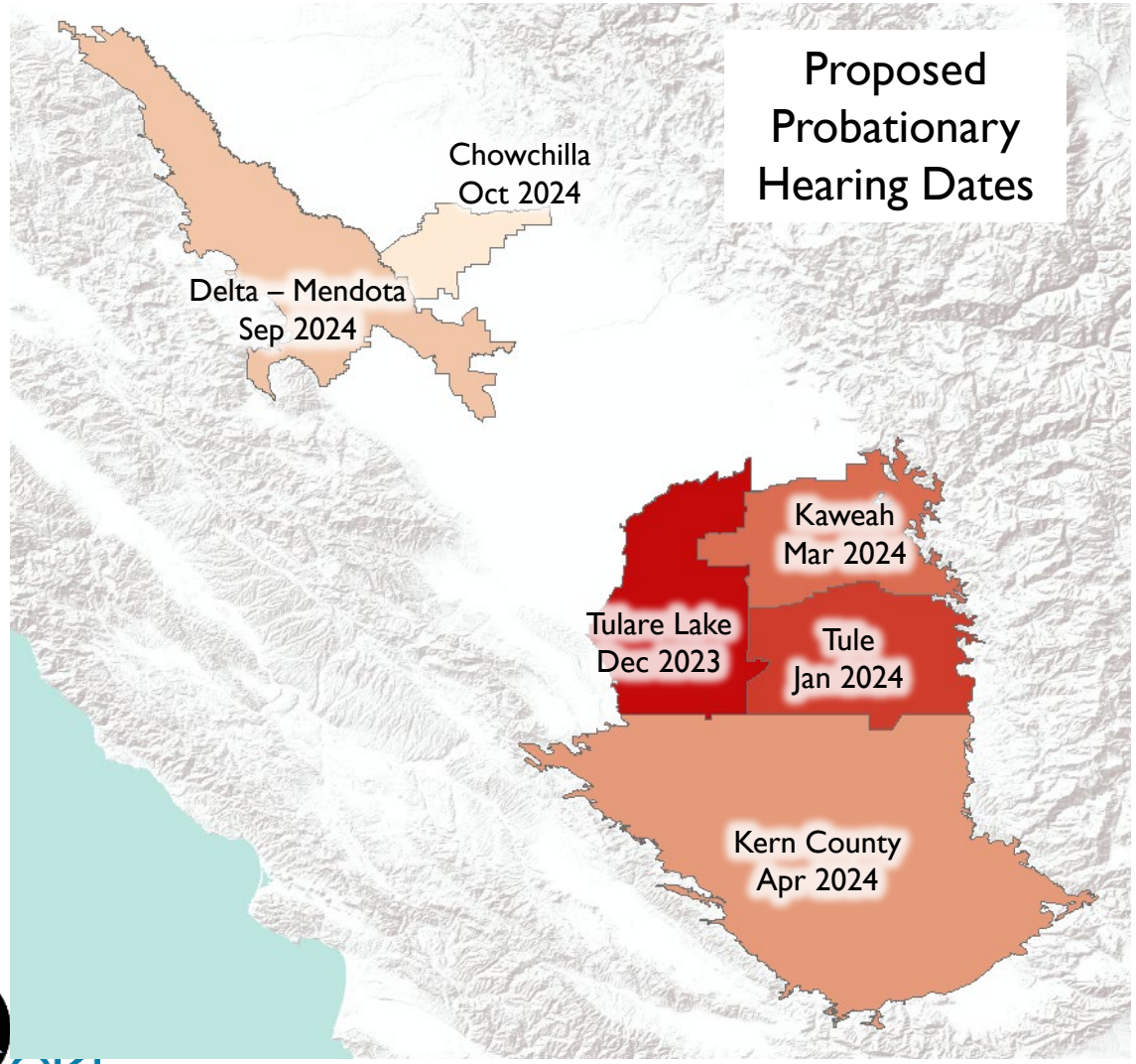
5e. DWR GSP DETERMINATIONS AND SWRCB UPDATE

DWR GSP DETERMINATIONS AS OF JULY 2023

- Official determinations approving Paso Robles and Eastern San Joaquin issued June 20th and July 6th
- 10 GSPs for non-critically overdrafted basins approved July 27th



SWRCB SUBBASIN PRIORITIZATION AND POTENTIAL PROBATIONARY SCHEDULES



Tulare Lake Potential Schedule

CALIFORNIA WATER BOARDS
State Water Resources Control Board

Early Aug '23	Aug '23	Late Aug '23	Aug-Oct '23	Nov '23	Dec '23
Release draft deficiencies Notice to cities and counties	Notice to all known pumpers	Stakeholder meetings	Public comment period	Release final deficiencies Issue draft order	Hearing Potential probationary designation