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Background

- In early GSP planning, growers identified numerous recharge possibilities
- A survey identified approximately 40,000 acres of willing growers with acres available
- Grants were applied for beginning with “low hanging fruit”
 - Previous planning work done
 - Access to water
- Keys for recharge include:
 - Need for “New water”
 - Legal ability to take water
 - Suitable soil and crops (for flood-mar or ag-mar)
 - Capitalize on existing infrastructure



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2023 Draft Temporary Emergency Policy

- 2023 Temporary Emergency Recharge Policy
 - Proactive
 - 75% credit for water applied with credit to be used within year
 - Water application must be lawful
 - Retroactive to January 1, 2023
 - Landowner responsible for conveyance, permit compliance, easement acquisition, etc.
 - Discussions occurred prior to Governor's Executive Orders
- Feedback received
 - Recognition of expediency by County staff
 - Give higher percent credit
 - Desire to use the credit beyond 2023
 - Frustration with lack of access to water



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Policy Development in 2023 – Stakeholder Outreach

- To develop a policy, there were a number of meetings:
 - Individual meetings during office hours
 - MAWA
 - Farm Bureau
 - Red Top Landowners Groups
 - Resource Fair
- Feedback included
 - Importance of having a policy in place
 - Need to roll credits over from year to year
 - Percent credit varies by water type
 - Metering
 - No limits on where water is applied



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Policy Development in 2023 – Reviews of Scientific Studies

Zhou et al (2023)

- “Agricultural managed aquifer recharge (Ag-MAR) is a promising approach to replenish groundwater resources using flood water and cropland as spreading grounds. However, site selection, particularly the layering of sediment deposits in the subsurface, can greatly influence Ag-MAR efficacy....”



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Policy Development in 2023 – Reviews of Scientific Studies

Dahlke et al (2018)

- Silty Clay Loam and Gravelly Sandy Loam for alfalfa in Davis and Scott Valley
- Winter and Spring
- Demonstrated that SAGBI may be a reliable predictor of suitability for recharge
- Over 90% of applied water went to recharge

Levintal et al (2022)

- Sandy Loam Soils for grapevines near Fresno
- Winter
- 83% of applied water went to recharge

Zhou et al (2023)

- Sandy soil with fallowed almonds near Modesto
- Spring
- 88-90% of applied water went to recharge



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Policy Development in 2023 – Review of Other Policies in the Valley

- County GSA is the only GSA to propose a recharge credit policy within Madera County
- Most counties, irrigation and water districts do not have recharge credit policies yet to use as reference
- Tulare Irrigation District has a mechanism for crediting depending on both time of year and facility (basin or on-farm recharge)
 - October 1 – March 31 – higher percent credit – 90-100% credit
 - **April 1 – September 30, with ag-mar, 75% credit**
- Westlands Water District has a number of recharge programs
 - 75/25 policy that pays growers to take water for recharge in exchange for a credit of 25%
 - **An average of approximately 75% of the water applied recharged in 2023 according to Westlands in an individual investigation of each recharge project.**



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Policy Development in 2023 – Takeaways

1. Lots of grower outreach
2. In new territory, County out front
3. Recharge can be up to 90% in ideal situations (soils and time of year)
4. Need to leave opportunity for refinement based on scientific advancements



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Statewide Actions in 2023

- County staff educated state officials in the need to take flood flows when available resulting in:
 - Executive Orders – N-4-23 and N-7-23
 - Tributaries to the San Joaquin River
 - Allowed for recharge from waterways from March – August if lands were at risk of inundation
 - Growers must file an initial report within 14 days of initial diversion and final report by mid-September
 - Groundbreaking and enormously helpful to aquifer
- SB 122
 - Allows for diversions if system is going to exceed capacity
 - Will sunset in 2029



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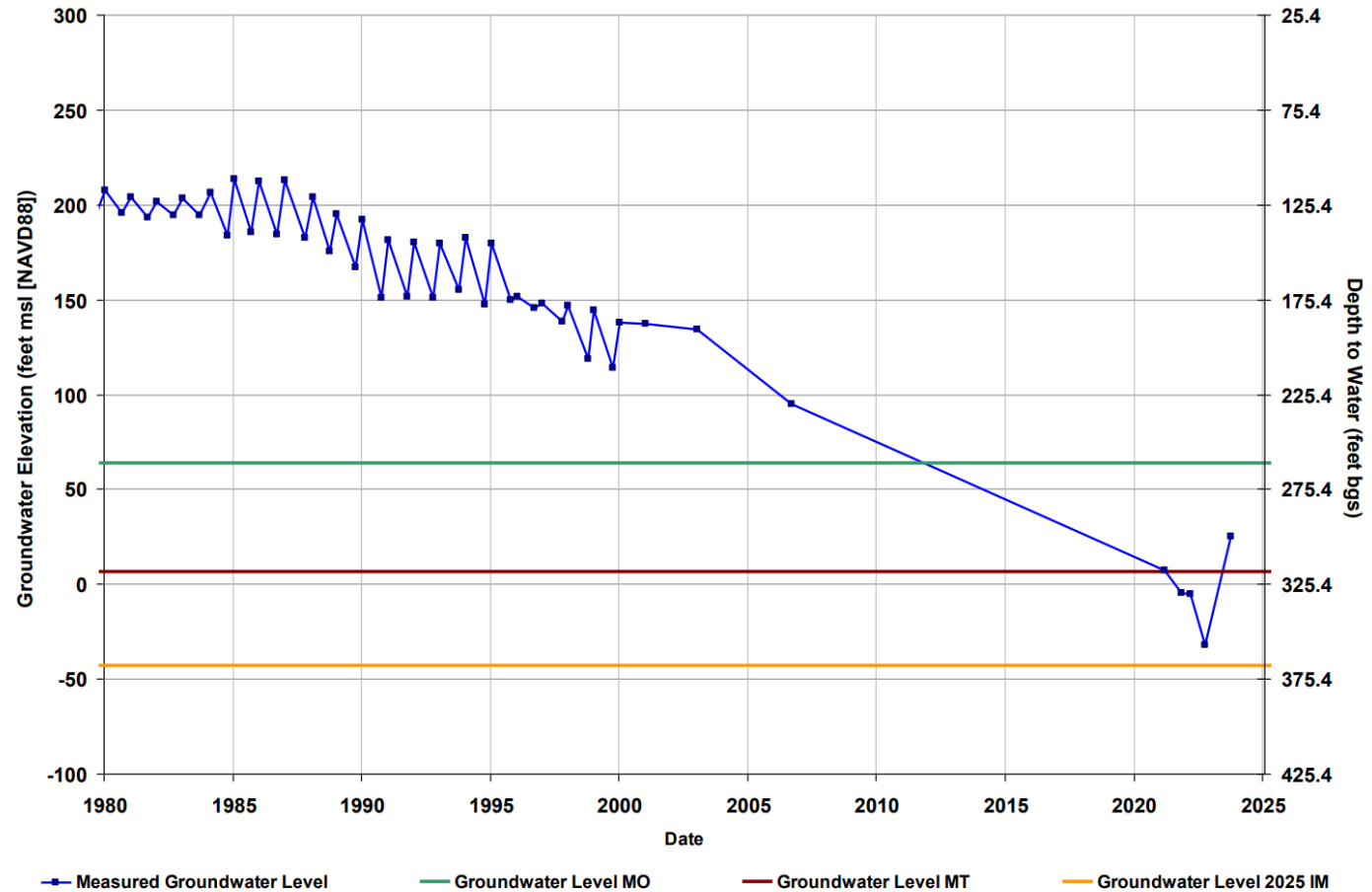




Active Recharge in Madera

Well Name: MCE RMS-3
 Depth Zone: Composite
 Subbasin: Madera
 GSA: County of Madera

Total Depth (ft bgs):
 Perf. Top (ft bgs):
 Perf. Bottom (ft bgs):
 GSE (ft, msl): 325.4



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Proposed Recharge Policies

- Two policies (one for purchased water derived from a water right or contract, one for floodflows of water)
- Retroactive to January 1, 2023
- For County GSA Farm Units (ag water users with allocations)
- Uncapped credits
- Able to roll over water from year to year w/o decay
- Floor of 75% credit and ceiling of 90% credit
 - Modified SABGI can give additional percent credit
 - Soil boring and/or perc test can give additional percent credit
 - Groundwater recharge credit study/seepage study can give additional percent credit
- Water must be extracted from aquifer into which it was deposited
- Must be metered into the recharge facility/field



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Outreach to Growers about Policy

- Posting of the policy for comment on maderacountywater.com on 12/22/2023 for a five-week comment period;
 - Emails to individual growers seeking feedback;
 - An eblast to the County GSA Interested Party list;
 - A grower newsletter mid-January including the recharge policy; and
 - An eblast by both the Regional Water Management Group and the Madera Ag Water Association regarding the draft policies.
- A Resource Fair on 3/6/2024 to help with answer individual questions about the draft policies.



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Summary of Actions in 2023

- Many individual meetings with growers regarding recharge
- Reviewed “literature” (e.g., scientific studies)
- Spoke to experts working with recharge studies
- Few agencies have policies active, but spoke with them
- Draft policies published on 12/22/2023 for comments thru 1/31/2024
- Interested Party and Grower Lists notified of policy
- Comments received and carefully considered
- Resource Fair held for further conversations



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Proposed Recharge Policies

- Retroactive to January 1, 2023
- Two policies (one for purchased water, one for EO water)
- For County GSA Farm Units
- Uncapped credits
- Able to roll over water from year to year w/o decay
- Floor of 75% credit and ceiling of 90% credit
- Water application must be lawful
- Water must be extracted from aquifer into which it was deposited
- Must be metered moving forward in 2024
- Without meters in 2023, a 50% credit is available to those without meter data if board waives 2024 requirements



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Staff Recommendation

- Recognize time is of the essence
 - Need to give credits for 2023 to send 2023 final reports
- Adopt recharge policies
 - Adhere with policy for credit in 2024
 - For 2023, with meters, adhere to policy
 - For 2023, without meters, make a 50% credit available to those unmetered who reported to SWRCB with a requirement that all credit must be used by December 2026
- Partner with Chowchilla Nitrate Management Zone and Sustainable Conversation to produce a pilot water quality monitoring project
- Continue to monitor water levels and water quality
- Revisit recharge policy as needed in future



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Prop 68 – Round 1

- Chowchilla Subbasin:
 - \$4.2 million dollars for Flood-MAR projects from Eastside Bypass
 - Design includes permanent points-of-diversion from Bypass and conveyance infrastructure to appropriate landowners
 - About 2,900 acres of Flood-MAR, about 64 acre in basins
- Madera Subbasin:
 - \$4.2 million dollars for Flood-MAR projects and a dedicated recharge basin from MID laterals
 - Design includes three new turnouts and one rehabilitated turnout
 - About 2,500 acres of existing agricultural land



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Prop 68 – Round 2

- Chowchilla Subbasin
 - \$3.2 million for Flood-MAR projects from the Eastside Bypass
 - Design includes two points-of-diversion from the Eastside Bypass to appropriate landowners for Flood-MAR
 - About 700 acres of existing agricultural land
- Madera Subbasin – Bypass Floodwater Recharge
 - \$542,300 for future Flood-MAR project
 - Planning, design, permitting, public outreach for one turnout and conveyance to appropriate landowners
 - About 2,600 acres of existing agricultural land



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Comments

Comment	Response
For parcels split by GSA lines, add language to policy that accommodates management of the farm as a whole	Work towards MOU with other GSAs
Give credit for stormwater capture	Stormwater capture is already accounted for in GSA water budget (as SY)
Allow recharge on never irrigated lands or lands without farm units	EO does not allow this.
Allow older facilities to be used.	Language modified to allow this.
Use one policy	Two policies allows for multiple situations and for the flood water portion to be changed more easily as situations arise
Don't use SAGBI	SAGBI is the only free resource for this.
Use 85/15	As a fixed percent, scientific evidence doesn't support this.



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Comments

Comment	Response
Use 90% credit for purchased water; 85% credit for water under EO	No scientific basis for treating water types differently
Use 100% credit for surface water used in lieu	This is not a policy for in lieu water use for irrigation
Recharge policy should not give credits	Credits encourage recharge
Hold in person meetings	See list of outreach
Follow existing laws; create a water quality monitoring system	Will work with Sus Con and Nitrate Management for water quality monitoring over and above GSP requirements
Methodology?	See scientific studies on range of recharge and site suitability
Allow for carryover of credits	The policies do this already.
Grandfather in composite wells	Hydrologist does not support this.



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