

A black and white photograph of a long, straight path in an almond orchard, lined with mature trees on both sides, receding into the distance. The path is covered in shadows from the trees.

# Madera County GSAs - Update on Fees Studies

**Public Workshop**

November 30, 2021





# Agenda

- 1. Welcome and Introductions**
- 2. Review of Agenda**
- 3. What's Happening to Water in California?**
- 4. Overview of 218 Requirements and Process**
- 5. Cost Analysis: Big Picture**
- 6. Cost Analysis by Project**
  - Recharge
  - Sites Reservoir
  - Domestic Wells
  - Land Repurposing
- 7. Preliminary Fees and Projections**
- 8. Summary of Key Points**
- 9. Q&A**

# What's Happening With Groundwater in California?



# Sustainable Groundwater Management

- The Sustainable Groundwater Management Act (SGMA) made critically overdrafted subbasins develop plans by January 2020 to become sustainable over a 20-year period
- Any fees levied need to go through a Proposition 218 process in order to fund projects
- Current Prop 26 exempt fee can pay for administration of GSP and planning, but not for projects
- Current water allocation is based on successful implementation of projects

# 2021 Workshops/Webinars

## Groundwater Recharge Facilities Meetings

- Workshop – February 4, 2021
- Workshop – May 3, 2021
- Madera County GSAs Hybrid Workshop – June 16, 2021

## Sites Reservoir

- Presentation at GSA Update at Board of Supervisors – November 2, 2021

## Domestic Well Mitigation

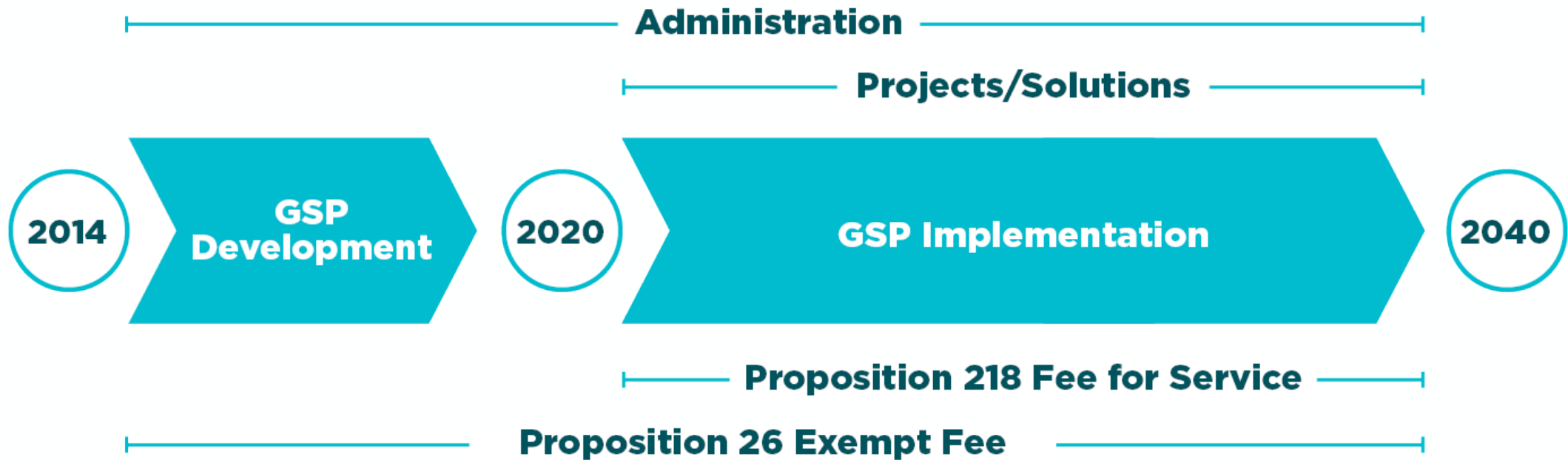
- Madera County GSAs Workshop – June 16, 2021
- Regional Water Management Group – June 28 and September 27, 2021

## Sustainable Agriculture Land Conservation

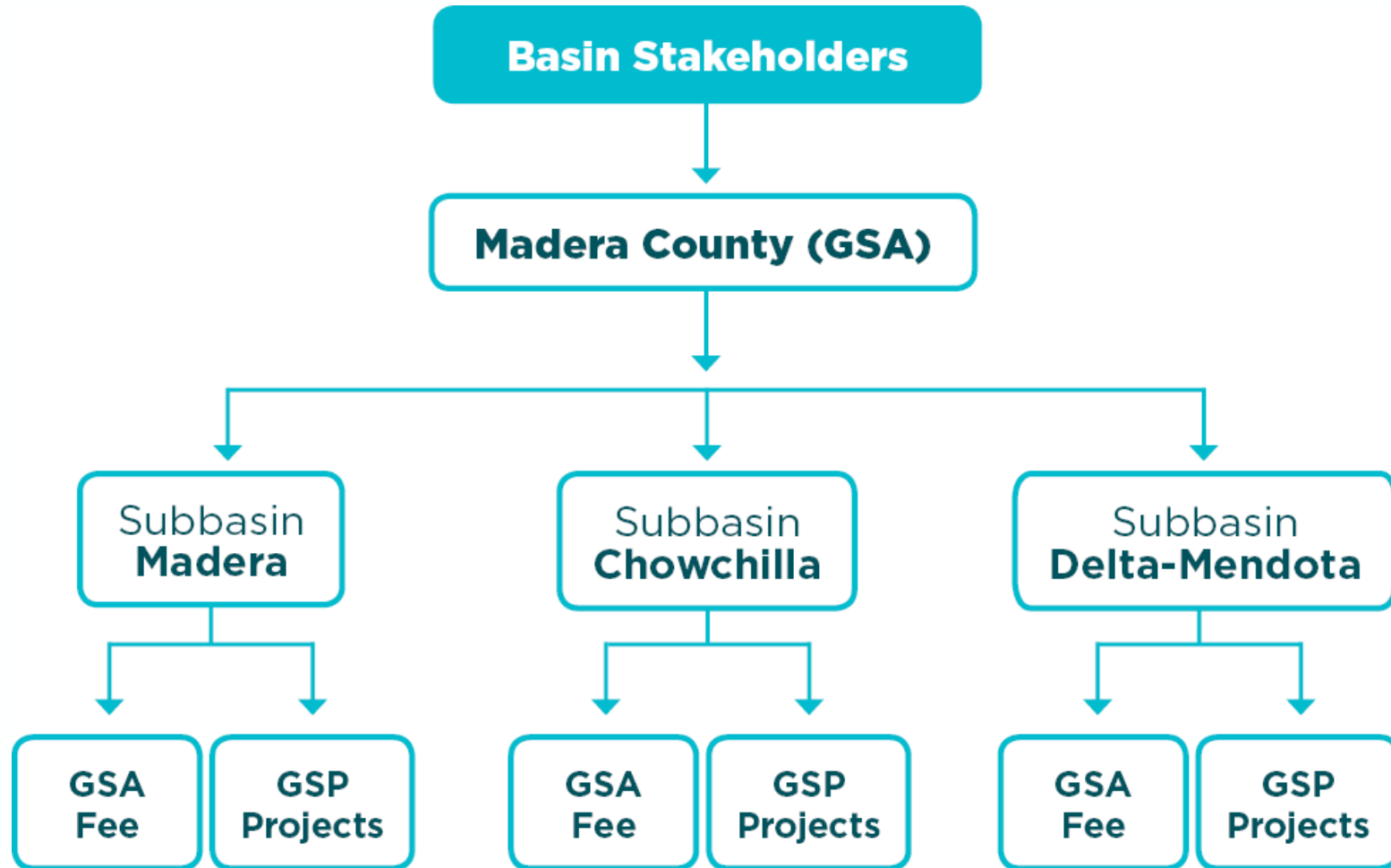
- Public Workshop – January 14, 2021
- Public Workshop – March 23, 2021
- Public Workshop – June 16, 2021



# SGMA Timeline



# GSA's Organizational Structure



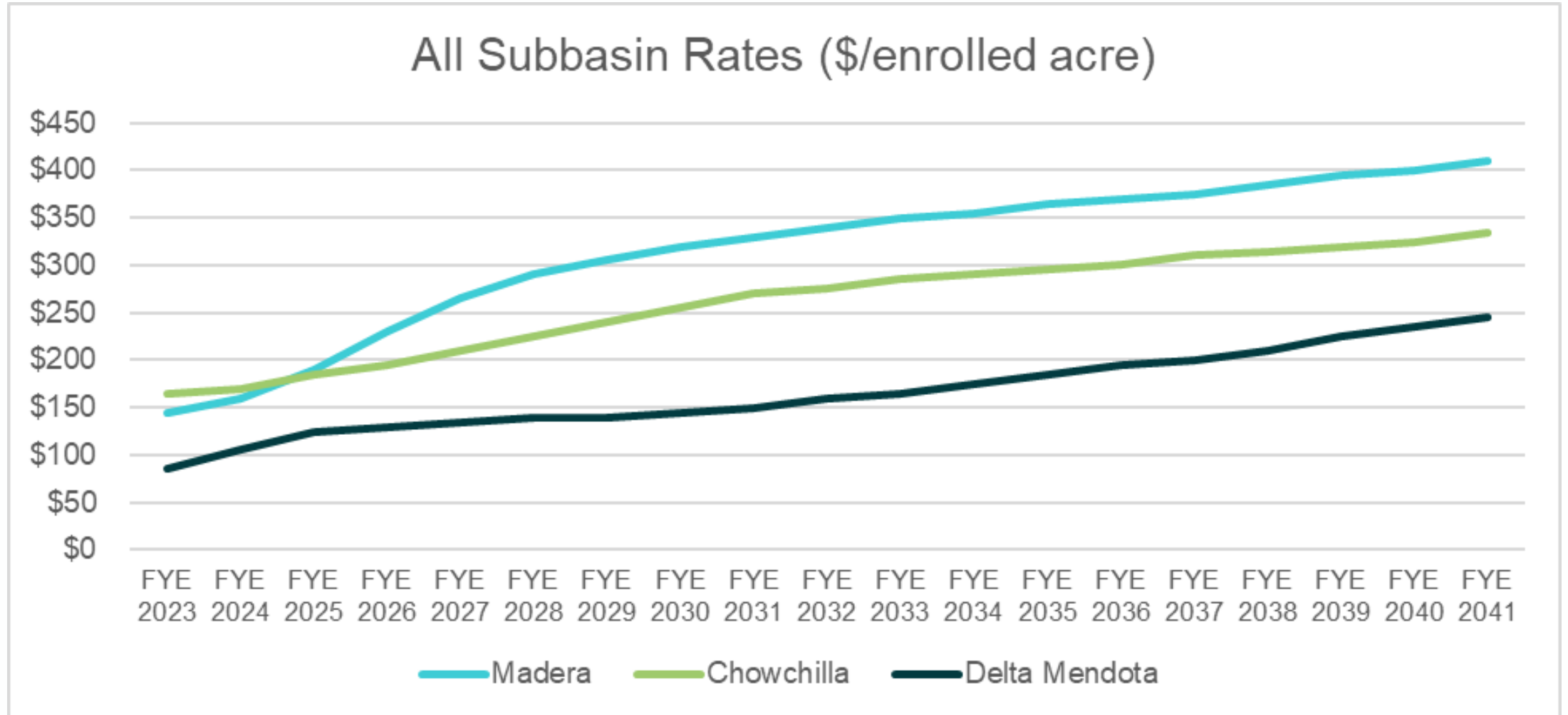
# Overarching Challenges and Assumptions





# Fee Projections to 2040

(\$/enrolled acre)



# Tentative Rate Study Schedule

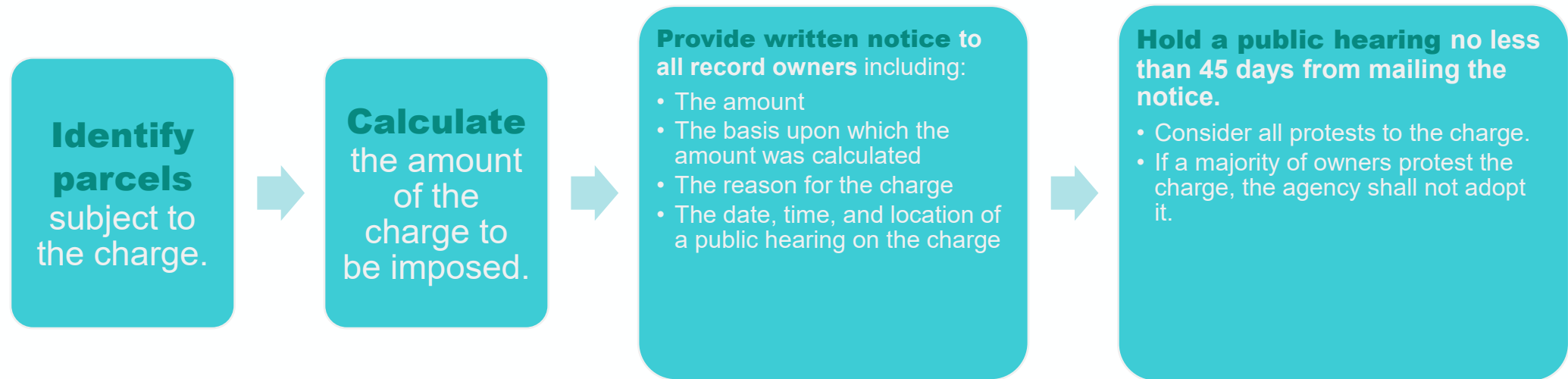
Fee Implementation Process	Timeframe
Board of Supervisors Presentation – Preliminary Rates	December 7, 2021
Water Allocations in Effect	January 1, 2022
Board of Supervisors Presentation – Revised Rates	January 2022
Board of Directors Presentation – Final Rate Authorization	February 2022
Public Notice to Affected Parcels	February 2022
Protest Period	45 days from public noticing
Public Hearing for Rate Adoption	April 2022
Fees Implemented for Fiscal Year 2022-2023	July 1, 2022
Year 2 Fees Implemented (assuming multi-year adoption)	July 1, 2023

# Overview of 218 Requirements and Process



# Proposition 218

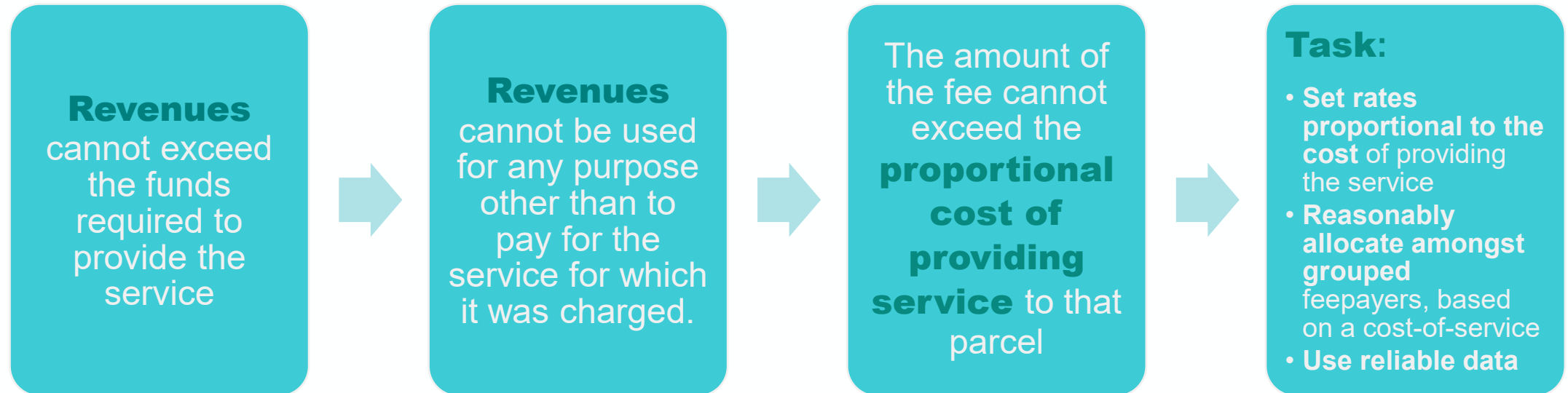
## Procedural Requirements





# Proposition 218

## Substantive Requirements



# Rate Study Process





# Multi-Year Rates

- Proposal will be for adoption for five years, the maximum allowed by Proposition 218
  - › Provides certainty to fee payers for planning
  - › Provides greater certainty to bond holders for borrowing
  - › Allows County GSAs to accomplish projects on schedule
- GSAs will need to update the Study to increase rates beyond five years
  - › If there's no updated cost of service study the year five rates would remain in effect
    - This would require the GSAs to forego certain activities to avoid costs and would deviate from the GSPs

# Cost Analysis: Big Picture





# Rate Study Cost Components

## RATE STUDY



Groundwater Recharge  
Facilities

Capital Project Costs

O&M Costs

Management



Water Supplies  
(Sites Reservoir)

Water Purchase Costs  
(Project Debt Service + O&M)

Management



Domestic Well Mitigation

Capital Project Costs

Management



Land Repurposing  
(SALC)

Program Costs

Management

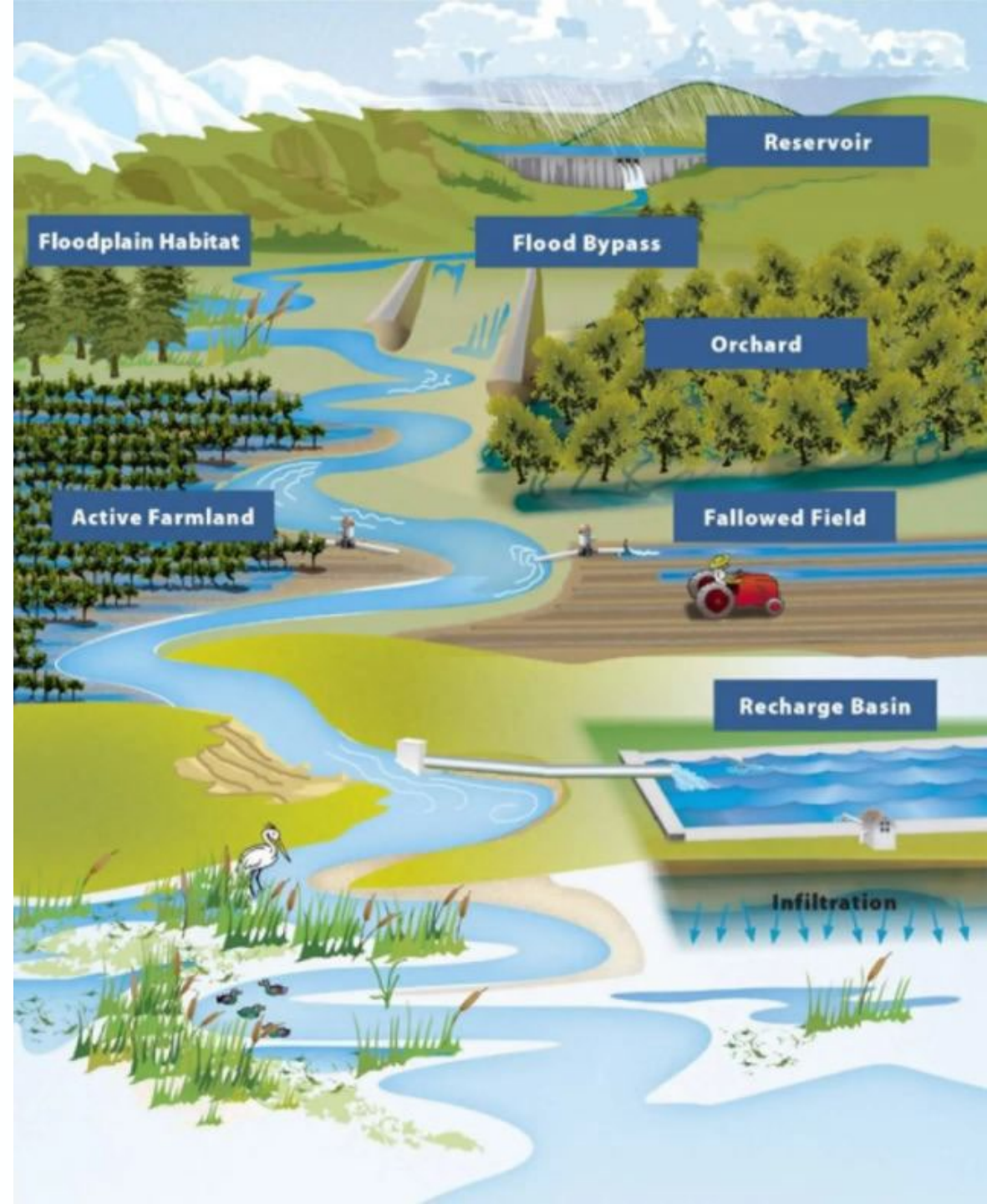


# Groundwater Recharge Facilities



# Recharge Facilities

- Recharge could be conducted on-farm or in dedicated basins
- Recharge would harness flood flows
- Initial funding through Prop 68 for projects in the Madera and Chowchilla subbasins
- Recharge participation forms were released last year with over 40,000 acres indicating willingness



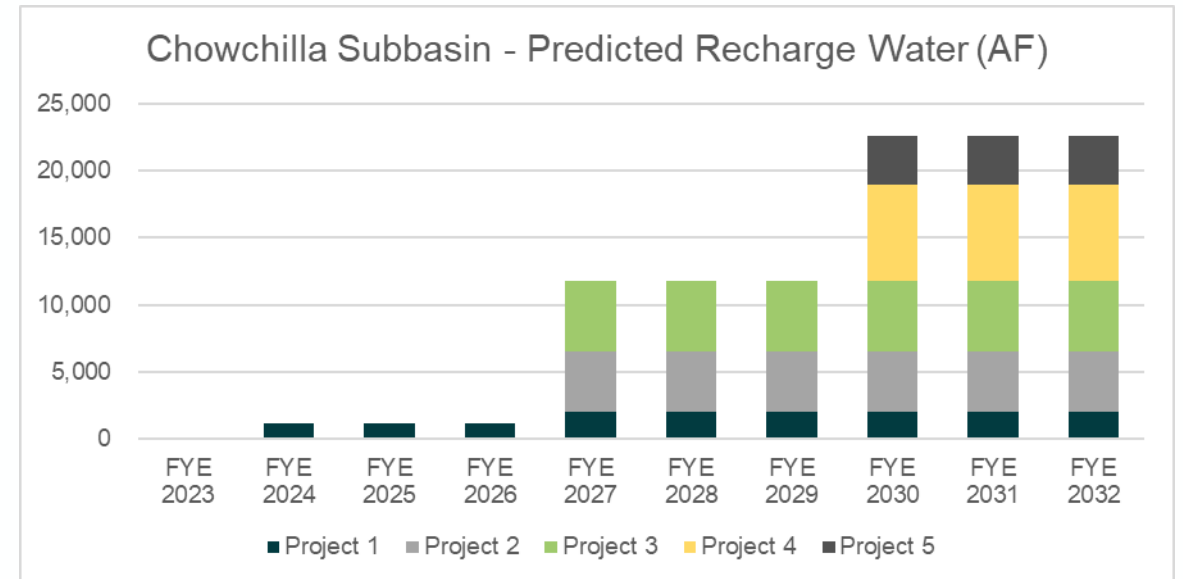
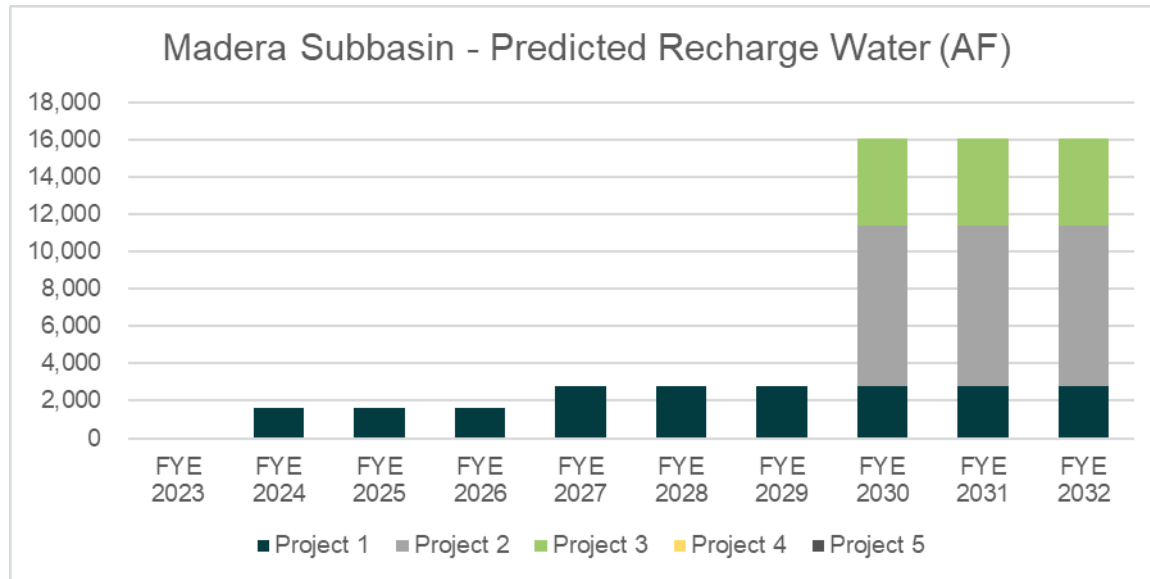
# Recharge Facilities Assumptions

- Project schedule largely dependent on
  - › Water rights acquisition
  - › Design timeline
- Flood flows / water available for recharge estimated at approximately every three years on average (35% chance of flood flows in each year)
- Water yields are project specific





# Recharge Facilities Predicted Yields





# Recharge Facilities Financing Assumptions

- Consulting teams recommend debt financing Recharge facilities
  - › Significant short term capital costs for long-term benefits
  - › Reduces very large up-front payments to lower annual cash needs and in turn, fees
- Financing assumptions:
  - › 5% interest rate, 30-year term, level payments, minimum coverage required

# Recharge Facilities

## Cost Assumptions

- County GSAs capital costs account for expected landowner contribution and grants to determine the net costs required to be financed
- Design costs are assumed to be cash fronted and then reimbursed with debt proceeds at the start of construction
- Total costs also include future O&M, water costs, and personnel costs
  - › O&M and water costs are specific to each project
  - › Personnel costs allocated proportionately based on annual O&M per subbasin





# Recharge Facilities

## Design, Permitting, Capital Costs

Recharge Project Costs	Design and Construction	Grants	Landowner Contribution	Net Cost
<b>Madera Subbasin</b>				
Project 1	\$6,570,000	(\$4,197,600)	(\$1,665,600)	<b>\$706,800</b>
Project 2	\$26,550,000	(\$4,000,000)	(\$2,139,789)	<b>\$20,410,211</b>
Project 3	\$26,580,000	(\$4,000,000)	(\$2,139,789)	<b>\$20,440,211</b>
Project 4	\$25,620,000	(\$4,000,000)	(\$2,139,789)	<b>\$19,480,211</b>
Project 5	\$24,910,000	(\$4,000,000)	(\$2,057,490)	<b>\$18,852,510</b>
<b>Total</b>	<b>\$110,230,000</b>	<b>(\$20,197,600)</b>	<b>(\$10,142,457)</b>	<b>\$79,889,943</b>
<b>Chowchilla Subbasin</b>				
Project 1	\$6,900,000	(\$4,197,600)	(\$1,912,581)	<b>\$789,819</b>
Project 2	\$17,300,000	(\$4,000,000)	(\$720,000)	<b>\$12,580,000</b>
Project 3	\$14,090,000	(\$4,000,000)	(\$360,000)	<b>\$9,730,000</b>
Project 4	\$22,930,000	(\$4,000,000)	(\$360,000)	<b>\$18,570,000</b>
Project 5	\$14,260,000	(\$4,000,000)	(\$600,000)	<b>\$9,660,000</b>
<b>Total</b>	<b>\$75,480,000</b>	<b>(\$20,197,600)</b>	<b>(\$3,952,581)</b>	<b>\$51,329,819</b>

# Recharge Facilities

## Total Cash Needs

Recharge Costs	FYE 2023	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031	FYE 2032
Madera Subbasin	\$607,128	\$1,259,203	\$1,022,527	\$958,114	\$988,415	\$3,365,443	\$3,647,743	\$7,148,715	\$7,576,039	\$7,640,274
Chowchilla Subbasin	\$742,684	\$555,038	\$1,866,741	\$2,165,959	\$2,189,668	\$3,923,963	\$4,034,450	\$5,027,951	\$5,030,483	\$5,078,960
Delta Mendota Subbasin	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$1,349,812</b>	<b>\$1,814,241</b>	<b>\$2,889,269</b>	<b>\$3,124,074</b>	<b>\$3,178,083</b>	<b>\$7,289,407</b>	<b>\$7,682,193</b>	<b>\$12,176,666</b>	<b>\$12,606,522</b>	<b>\$12,719,233</b>



# Sites Reservoir



# Water Supplies

## Sites Reservoir

- Originally proposed in the 1980s
- Reservoir in the Sacramento Valley that captures and stores flows of the Sacramento River
- Off stream storage
- Provides dry year supply
- Water could be conveyed or exchanged
- Madera Subbasin Joint GSP and Chowchilla GSP show participation in Sites for 10,000 AF
- <https://sitesproject.org>

# Water Supplies (Sites Reservoir) Assumptions

- Participation and Annual Water Yield
  - › 10,000-acre feet per year (AFY)
- Design and Construction Assumptions (approximates)
  - › Construction to begin fiscal year end (FYE) 2025 and complete FYE 2030
  - › Reservoir begins filling FYE 2031
  - › First water deliveries estimated in FYE 2033
- Cash needs include buy-in to participation, annual future debt service, and annual future operations costs





# Water Supplies (Sites Reservoir) Cost Assumptions

- Total financed capital cost of \$3.3 billion
  - › 35 to 40-year capital repayment horizon
  - › Repayment begins during construction
- Cost allocation based on annual average yield participation
  - › Translates into approximately 6% for Madera County GSAs
- Costs allocated between Madera and Chowchilla subbasins





# Sites Reservoir

## Debt Scenarios

- Sites Reservoir has modeled five financial scenarios for funding design and construction from best case to worst case
  - › Raftelis' cash flow models the second most conservative scenario
- Estimated annual cash requirement when operations begin: \$9.6M

Sites Costs	FYE 2023	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031	FYE 2032
Madera Subbasin	\$2,131,911	\$967,480	\$1,105,691	\$112,654	\$1,480,654	\$3,499,787	\$5,321,762	\$5,502,993	\$6,150,591	\$6,649,374
Chowchilla Subbasin	\$953,089	\$432,520	\$494,309	\$50,363	\$661,940	\$1,564,611	\$2,379,141	\$2,460,161	\$2,749,676	\$2,972,661
Delta Mendota Subbasin	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$3,085,000</b>	<b>\$1,400,000</b>	<b>\$1,600,000</b>	<b>\$163,017</b>	<b>\$2,142,594</b>	<b>\$5,064,398</b>	<b>\$7,700,902</b>	<b>\$7,963,154</b>	<b>\$8,900,267</b>	<b>\$9,622,035</b>



# Domestic Well Mitigation



# Domestic Well Mitigation

- Joint GSP in Madera Subbasin and GSP in Chowchilla Subbasins described domestic well mitigation in Appendix
- Funding would pay for deeper replacement wells for homeowners
- Subbasins have met to discuss implementation
- Funding for these programs is based on contribution to historical, present and future overdraft (i.e., County GSA is not paying for the entire program)
- While funding could be partially secured with Prop 218 passage, program details would need to be worked out
- Regional Water Management Group has provided input multiple times to domestic well inventories

# Domestic Well Mitigation Cost Assumptions

- Costs based on local estimates of replacement (re-drilling) costs
- Cost share to the County GSAs based on percent share of overdraft in each subbasin (with other GSAs responsible for the remainder)
  - › In Madera Subbasin: 73%
  - › In Chowchilla Subbasin: 53%
- Estimated dry wells based on hydrologic modeling and grouped into five-year periods from 2020 through 2040
- Capital costs assumes equal replacement effort (number of wells) each year in each five-year horizon
- Assumes Domestic Well Mitigation programs are rate funded, not debt financed

# Domestic Well Mitigation Scenarios

- Three Scenarios
  - › Scenario 1: Average Hydrology Start – consistent with GSP
  - › **Scenario 2: Dry Hydrology Start – more consistent with early years (2019-2021) of implementation period**
  - › Scenario 3: Average of Scenario 1 and 2
- Dry Start results used for modeling costs



# Domestic Well Mitigation

## Dry Well Estimates

- “Catch up” in early years
- Madera County GSA portion based on % of overdraft from each subbasin
- \$30,000 per well in 2021 dollars

Dry Year Wells	FYE 2023	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031	FYE 2032
<b>Dry Wells (All)</b>										
Madera Subbasin	142	142	142	203	203	203	203	203	27	27
Chowchilla Subbasin	33	33	33	14	14	14	14	14	0	0
Delta Mendota Subbasin	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>175</b>	<b>175</b>	<b>175</b>	<b>217</b>	<b>217</b>	<b>217</b>	<b>217</b>	<b>217</b>	<b>27</b>	<b>27</b>
<b>Dry Wells (MC GSA)</b>										
Madera Subbasin	104	104	104	149	149	149	149	149	20	20
Chowchilla Subbasin	17	17	17	7	7	7	7	7	0	0
Delta Mendota Subbasin	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>121</b>	<b>121</b>	<b>121</b>	<b>156</b>	<b>156</b>	<b>156</b>	<b>156</b>	<b>156</b>	<b>20</b>	<b>20</b>



# Domestic Well Mitigation

## Total Cash Needs

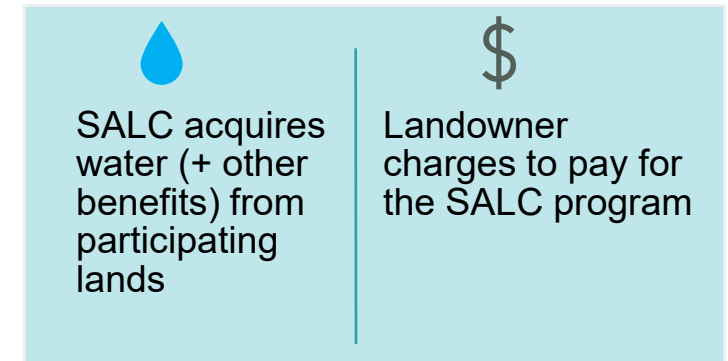
Domestic Wells Costs	FYE 2023	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031	FYE 2032
<b>Dry Wells (MC GSA)</b>										
Madera Subbasin	104	104	104	149	149	149	149	149	20	20
Chowchilla Subbasin	17	17	17	7	7	7	7	7	0	0
Delta Mendota Subbasin	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>121</b>	<b>121</b>	<b>121</b>	<b>156</b>	<b>156</b>	<b>156</b>	<b>156</b>	<b>156</b>	<b>20</b>	<b>20</b>
<b>Cost to Replace a Well</b>	<b>\$30,960</b>	<b>\$31,951</b>	<b>\$32,973</b>	<b>\$34,028</b>	<b>\$35,117</b>	<b>\$36,241</b>	<b>\$37,401</b>	<b>\$38,597</b>	<b>\$39,833</b>	<b>\$41,107</b>
<b>Replacement Costs</b>										
Madera Subbasin	\$3,229,074	\$3,332,405	\$3,439,042	\$5,071,792	\$5,234,089	\$5,401,580	\$5,574,431	\$5,752,813	\$782,247	\$807,279
Chowchilla Subbasin	\$532,507	\$549,547	\$567,132	\$250,834	\$258,861	\$267,145	\$275,693	\$284,516	\$4,195	\$4,329
Delta Mendota Subbasin	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$3,761,581</b>	<b>\$3,881,951</b>	<b>\$4,006,174</b>	<b>\$5,322,627</b>	<b>\$5,492,951</b>	<b>\$5,668,725</b>	<b>\$5,850,124</b>	<b>\$6,037,328</b>	<b>\$786,441</b>	<b>\$811,607</b>
<b>Program Management Costs</b>										
Madera Subbasin	\$322,907	\$333,240	\$343,904	\$507,179	\$523,409	\$540,158	\$557,443	\$575,281	\$78,225	\$80,728
Chowchilla Subbasin	\$53,251	\$54,955	\$56,713	\$25,083	\$25,886	\$26,714	\$27,569	\$28,452	\$419	\$433
Delta Mendota Subbasin	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$376,158</b>	<b>\$388,195</b>	<b>\$400,617</b>	<b>\$532,263</b>	<b>\$549,295</b>	<b>\$566,873</b>	<b>\$585,012</b>	<b>\$603,733</b>	<b>\$78,644</b>	<b>\$81,161</b>

# Sustainable Agricultural Land Conservation (SALC)



# Land Repurposing (SALC) Overview

- GSPs include demand management targets
  - › SALC would achieve approximately 50% of the total demand management target, phased-in over time
    - Presented at public workshops in 2020 and 2021
- Voluntary program
  - › Reduces demand from participating irrigated lands
    - Initial incentive payment of \$380 - \$450/ac
  - › Incentivize Never-irrigated lands to stay non-irrigated
    - Initial incentive payment of \$35 - \$50/ac
- Land repurposing for compliance with SGMA
  - › Major strategy in Critically Overdrafted subbasins
  - › Idling, dry land farming, and/or multi-benefit projects
  - › \$50 million State funding (subject to limitations)



# Land Repurposing (SALC) Program Assumptions

- Participation ramps up over time to achieve 50% of GSP-planned demand management
- Incentive payment amount (\$/acre) is specific to each subbasin based on unique subbasin characteristics
  - › Irrigated and Never-Irrigated are different payments per acre
- Voluntary enrollment on an annual basis (one year term)
- Program is rate funded, not debt financed
- Staff costs split between % share of enrolled acreage within each subbasin

# Land Repurposing (SALC)

## Total Cost Detail (Program continues to at least 2040)

SALC Costs	FYE 2023	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031	FYE 2032
<b>Operating Costs</b>										
Madera Subbasin	\$211,550	\$220,574	\$230,157	\$240,269	\$251,429	\$262,635	\$274,601	\$287,194	\$300,502	\$314,515
Chowchilla Subbasin	\$34,013	\$37,235	\$40,491	\$43,849	\$47,324	\$51,103	\$54,756	\$58,560	\$62,484	\$66,581
Delta Mendota Subbasin	\$6,037	\$6,371	\$6,741	\$7,140	\$7,068	\$7,374	\$7,811	\$8,273	\$8,742	\$9,218
<b>Total</b>	<b>\$251,600</b>	<b>\$264,180</b>	<b>\$277,389</b>	<b>\$291,258</b>	<b>\$305,821</b>	<b>\$321,112</b>	<b>\$337,168</b>	<b>\$354,026</b>	<b>\$371,728</b>	<b>\$390,314</b>
<b>Irrigated Lands Costs</b>										
Madera Subbasin	\$2,109,903	\$2,491,437	\$2,975,831	\$3,476,380	\$4,015,760	\$4,585,437	\$5,182,035	\$5,792,224	\$6,436,825	\$7,110,281
Chowchilla Subbasin	\$536,711	\$647,388	\$776,336	\$911,246	\$1,053,535	\$1,213,144	\$1,371,852	\$1,536,026	\$1,708,098	\$1,888,642
Delta Mendota Subbasin	\$59,110	\$72,120	\$88,804	\$106,518	\$110,230	\$125,972	\$145,951	\$166,730	\$188,166	\$210,097
<b>Total</b>	<b>\$2,705,723</b>	<b>\$3,210,945</b>	<b>\$3,840,971</b>	<b>\$4,494,144</b>	<b>\$5,179,525</b>	<b>\$5,924,553</b>	<b>\$6,699,839</b>	<b>\$7,494,980</b>	<b>\$8,333,090</b>	<b>\$9,209,019</b>
<b>Never-Irrigated Lands Costs</b>										
Madera Subbasin	\$3,651,942	\$3,651,942	\$3,651,942	\$3,651,942	\$3,651,942	\$3,651,942	\$3,651,942	\$3,651,942	\$3,651,942	\$3,651,942
Chowchilla Subbasin	\$389,674	\$389,674	\$389,674	\$389,674	\$389,674	\$389,674	\$389,674	\$389,674	\$389,674	\$389,674
Delta Mendota Subbasin	\$105,324	\$105,324	\$105,324	\$105,324	\$105,324	\$105,324	\$105,324	\$105,324	\$105,324	\$105,324
<b>Total</b>	<b>\$4,146,941</b>	<b>\$4,146,941</b>	<b>\$4,146,941</b>	<b>\$4,146,941</b>	<b>\$4,146,941</b>	<b>\$4,146,941</b>	<b>\$4,146,941</b>	<b>\$4,146,941</b>	<b>\$4,146,941</b>	<b>\$4,146,941</b>
<b>Estimated Participating Acreage</b>										
Madera Subbasin	4,711	5,588	6,486	7,383	8,527	9,758	11,086	12,498	14,059	15,760
Chowchilla Subbasin	1,367	1,666	1,975	2,293	2,709	3,195	3,708	4,282	4,927	5,660
Delta Mendota Subbasin	154	186	220	255	264	309	357	410	467	529
<b>Total</b>	<b>6,232</b>	<b>7,441</b>	<b>8,680</b>	<b>9,930</b>	<b>11,500</b>	<b>13,262</b>	<b>15,152</b>	<b>17,190</b>	<b>19,453</b>	<b>21,948</b>



# Land Repurposing (SALC) Total Cash Needs

SALC Costs	FYE 2023	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031	FYE 2032
Madera Subbasin	\$5,973,395	\$6,363,953	\$6,857,930	\$7,368,591	\$7,919,132	\$8,500,014	\$9,108,579	\$9,731,360	\$10,389,270	\$11,076,738
Chowchilla Subbasin	\$960,398	\$1,074,297	\$1,206,501	\$1,344,769	\$1,490,533	\$1,653,921	\$1,816,283	\$1,984,260	\$2,160,256	\$2,344,897
Delta Mendota Subbasin	\$170,471	\$183,815	\$200,869	\$218,983	\$222,623	\$238,671	\$259,086	\$280,327	\$302,232	\$324,639
<b>Total</b>	<b>\$7,104,264</b>	<b>\$7,622,066</b>	<b>\$8,265,300</b>	<b>\$8,932,343</b>	<b>\$9,632,287</b>	<b>\$10,392,606</b>	<b>\$11,183,947</b>	<b>\$11,995,948</b>	<b>\$12,851,758</b>	<b>\$13,746,274</b>

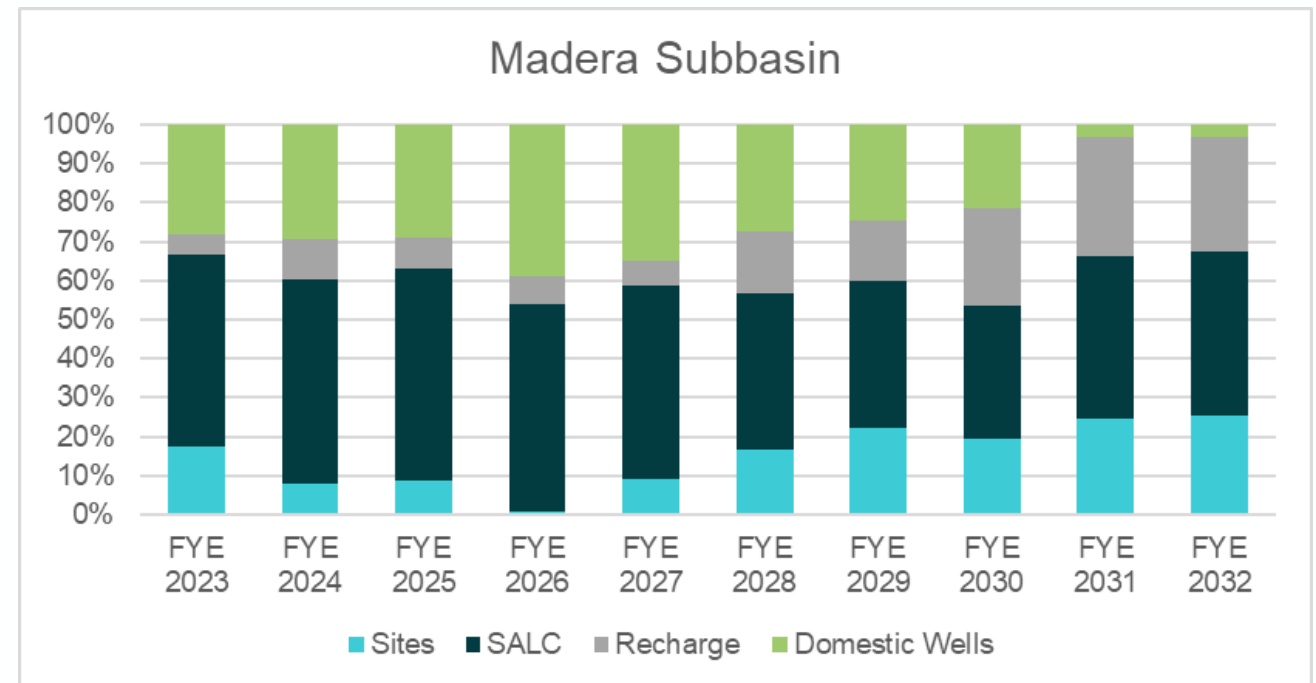
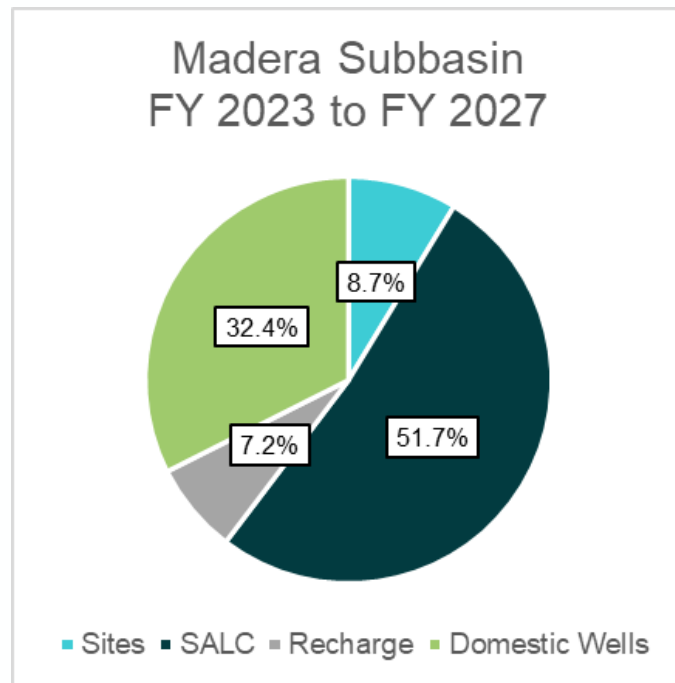
# Preliminary Fees and Projections



# Preliminary Fees (approx. and rounded to nearest \$5)

## Madera Subbasin

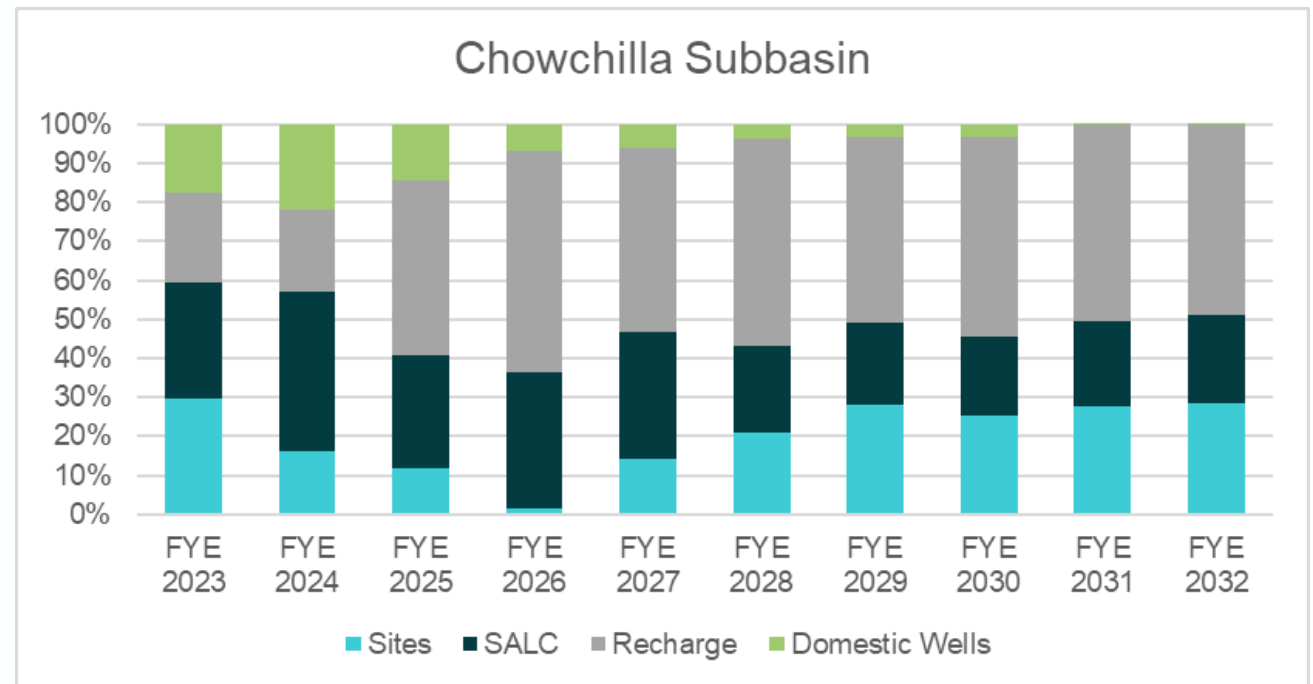
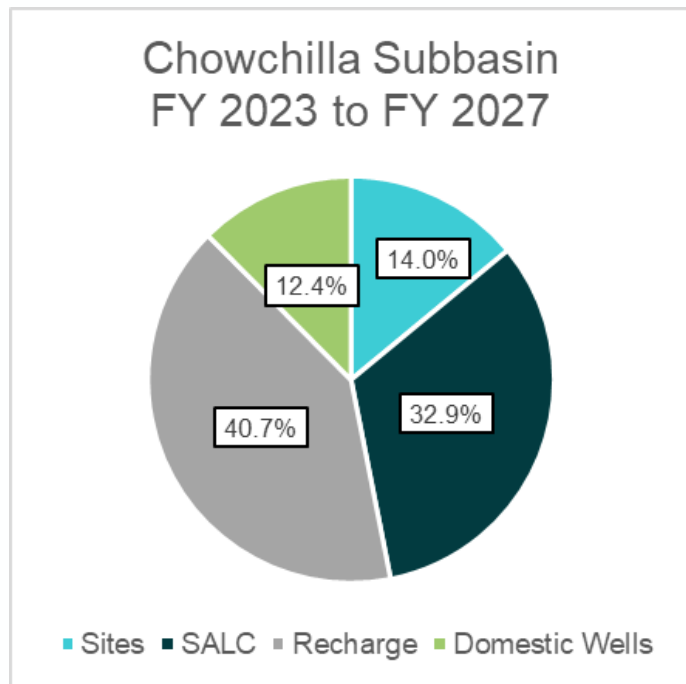
Madera	FY 2022-23 (2022 Allocation)	FY 2023-24 (2023 Allocation)	FY 2024-25 (2024 Allocation)	FY 2025-26 (2025 Allocation)	FY 2026-27 (2026 Allocation)
\$/Enrolled Acre	\$145	\$160	\$190	\$230	\$265



# Preliminary Fees (approx. and rounded to nearest \$5)

## Chowchilla Subbasin

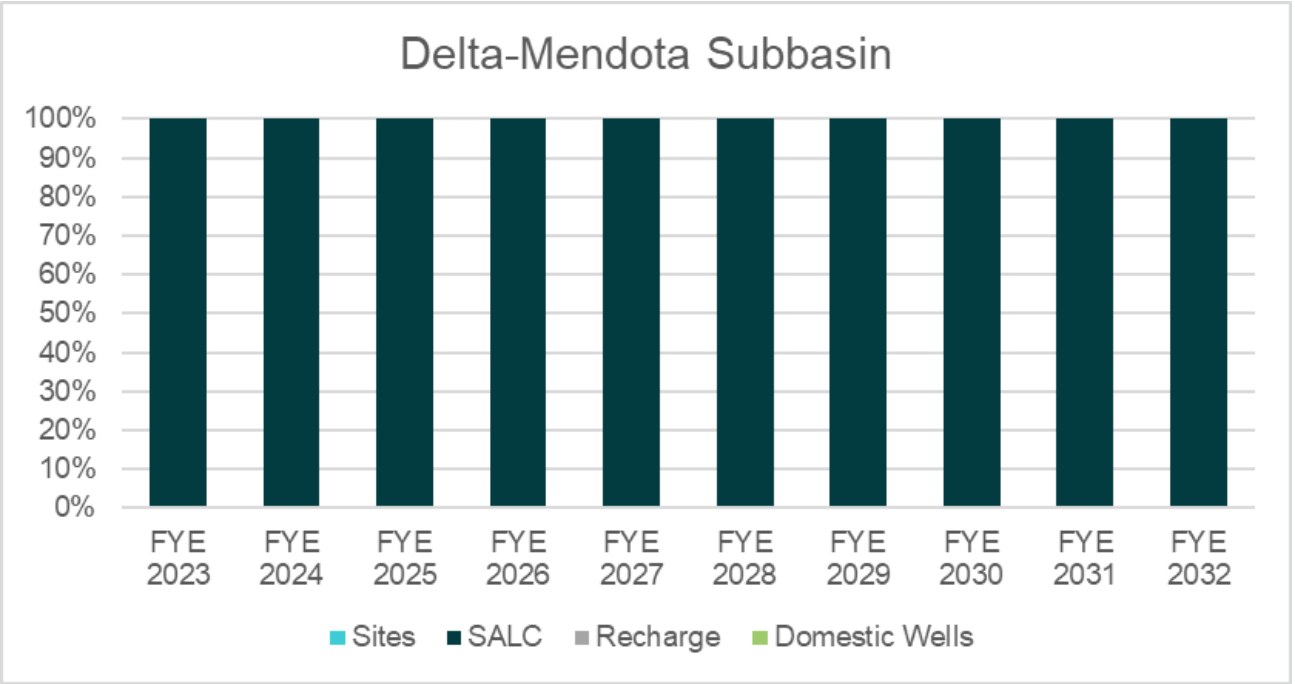
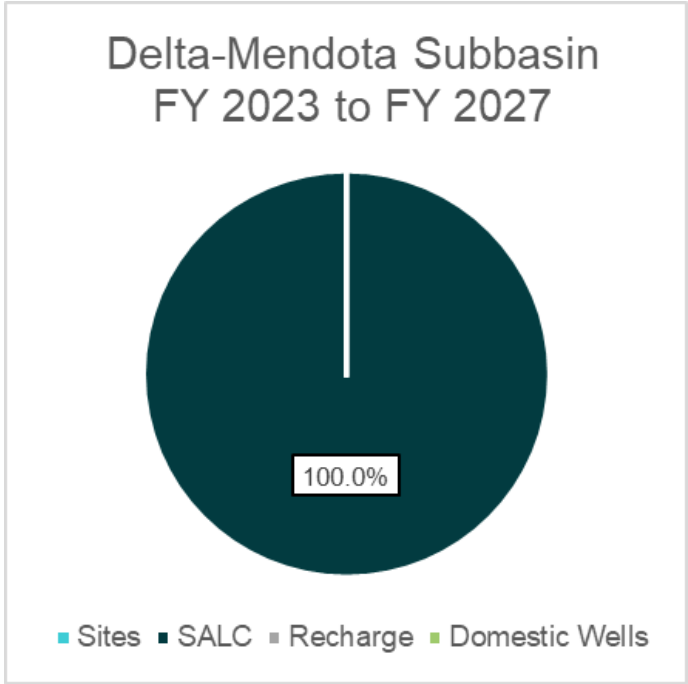
Chowchilla	FY 2022-23 (2022 Allocation)	FY 2023-24 (2023 Allocation)	FY 2024-25 (2024 Allocation)	FY 2025-26 (2025 Allocation)	FY 2026-27 (2026 Allocation)
\$/Enrolled Acre	\$165	\$170	\$185	\$195	\$210



# Preliminary Fees (approx. and rounded to nearest \$5)

## Delta-Mendota Subbasin

Delta-Mendota	FY 2022-23 (2022 Allocation)	FY 2023-24 (2023 Allocation)	FY 2024-25 (2024 Allocation)	FY 2025-26 (2025 Allocation)	FY 2026-27 (2026 Allocation)
\$/Enrolled Acre	\$85	\$105	\$125	\$130	\$135



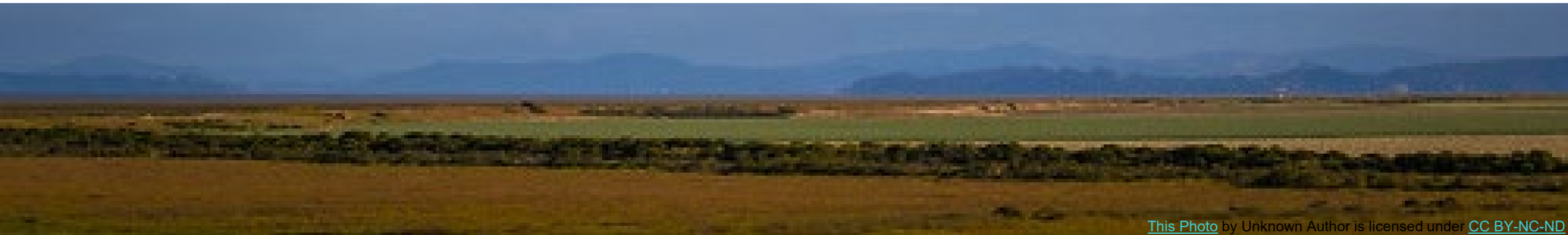


# Key Points



# Key Points

- Programs and projects were adopted within the GSP
- The Rate Study quantifies and allocates those costs
- Only includes costs reasonably allocated to the individual GSAs subbasin parcels
  - › Considers multiple subbasin cost shares, other GSAs cost shares, as well as private contributions and public grant estimates
- Preliminary proposed fees include all project costs included in the GSP and attributable to the respective subbasin
  - › Madera and Chowchilla: Domestic well mitigation, Land Repurposing, Recharge, and Sites
  - › Delta-Mendota: Land Repurposing only



# Questions?

