

San Benito County Water District
Groundwater Sustainability Agency

Technical Advisory Committee

February 24, 2021 2:00-4:00
Join Zoom Meeting

Zoom Meeting: <https://zoom.us/j/99377846124?pwd=NGFpOG8xejVYcEkvYU8vQ0k4Vmt4dz09>

Meeting ID: 993 7784 6124

Passcode: 808083

Or dial by your location: +1 669 900 9128

Agenda

1. Roll call
2. Update on Round 3 Monitoring and Managed Aquifer Recharge
3. Projects and Management Actions
4. Discussion
5. Next steps and upcoming meetings

Update on Round 3 Monitoring and Managed Aquifer Recharge



GSP Overview

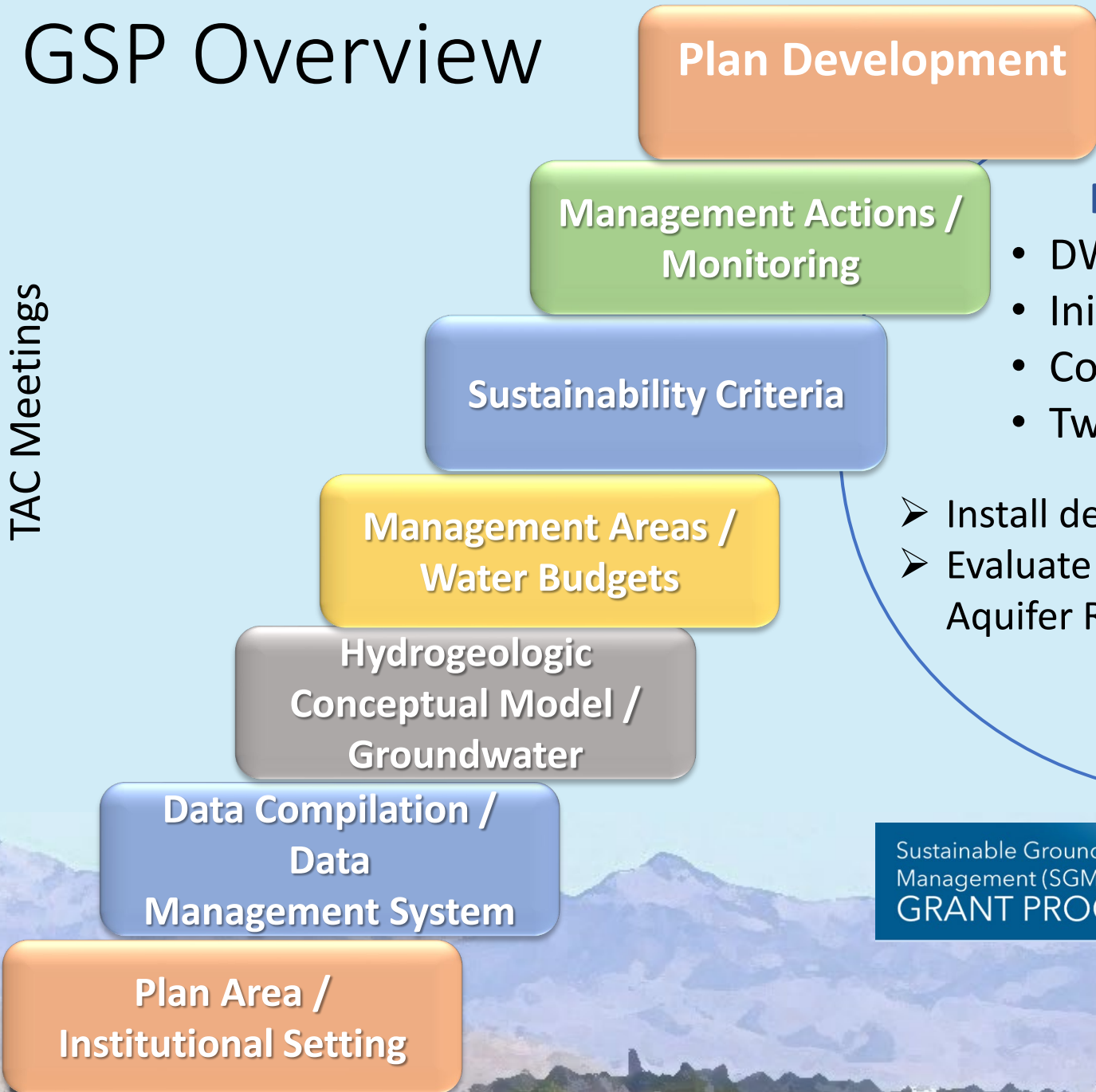
2021

2020

2019

2018

TAC Meetings

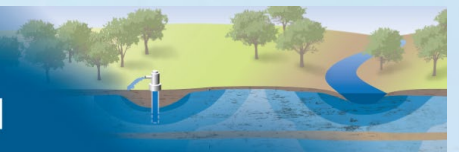


Round 3 Effort

- DWR SGM funding
- Initiated in June 2020
- Concurrent with GSP
- Two main tasks

- Install dedicated Monitoring Wells
- Evaluate feasibility of Managed Aquifer Recharge (MAR)

Sustainable Groundwater Management (SGM)
GRANT PROGRAM



Update on Round 3 Monitoring and Managed Aquifer Recharge

Dedicated Monitoring Wells

- Identified data gaps for shallow and deep monitoring wells
- District working with property owners for well installation

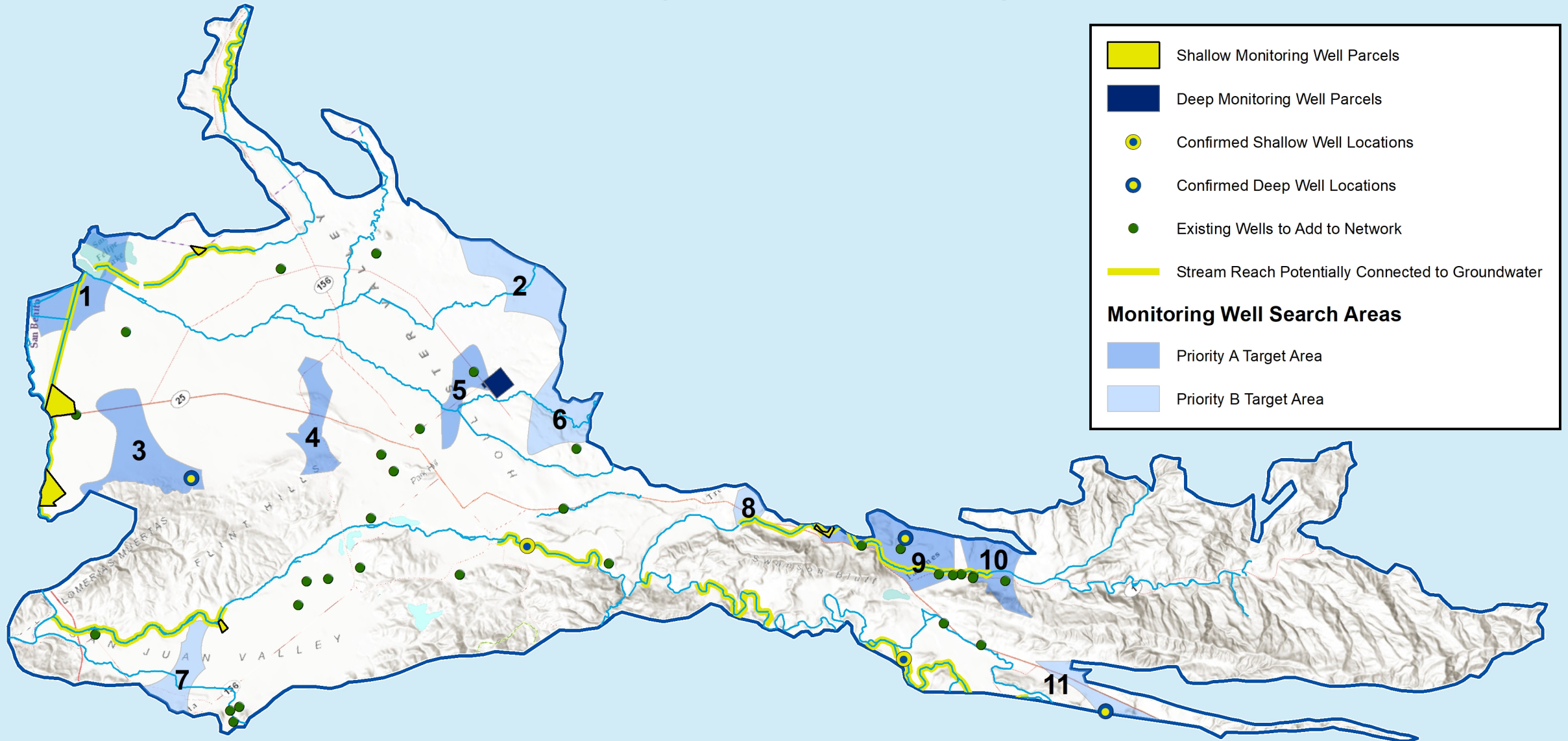
Managed Aquifer Recharge

- Evaluated Basin-wide recharge feasibility
- Modeled screening scenarios

Round 3 Monitoring Well Siting

- Data gaps identified and prioritized:
 - Areas without historical monitoring
 - Shallow well locations for interconnected surface water
- District staff contacted property owners in gap areas
- Identified owners willing to allow access to:
 - Existing deep wells
 - Parcels for shallow and deep well drilling

Round 3 Monitoring Well Siting



Managed Aquifer Recharge (MAR)

- Evaluated Basin-wide recharge feasibility
 - Capacity objective = 5,000 acre feet in a year
 - Source = CVP
- Separate feasibility assessment for:
 - Infiltration pond MAR
 - Injection well MAR
 - Agricultural MAR (AgMAR)
- Feasibility assessment applied geographic index-overlay methods
- Modeled screening scenarios

MAR Feasibility Index-Overlay

Infiltration Pond MAR

- Proximity to CVP
- Soil hydrologic properties
- Groundwater model hydraulic properties
- Minimum depth to water
- Gravel pit areas

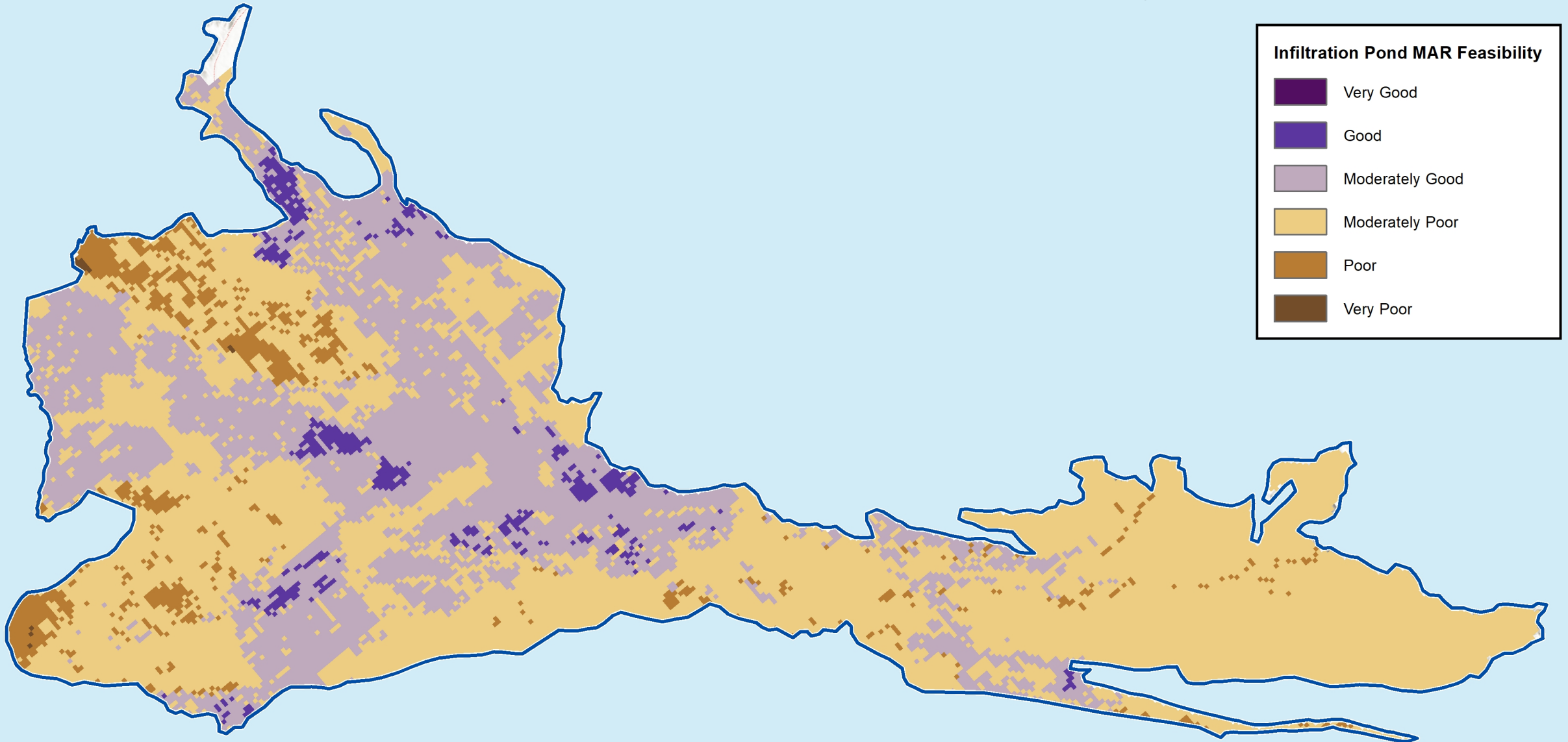
Injection Well MAR

- Proximity to CVP
- Groundwater model hydraulic properties
- Minimum depth to water

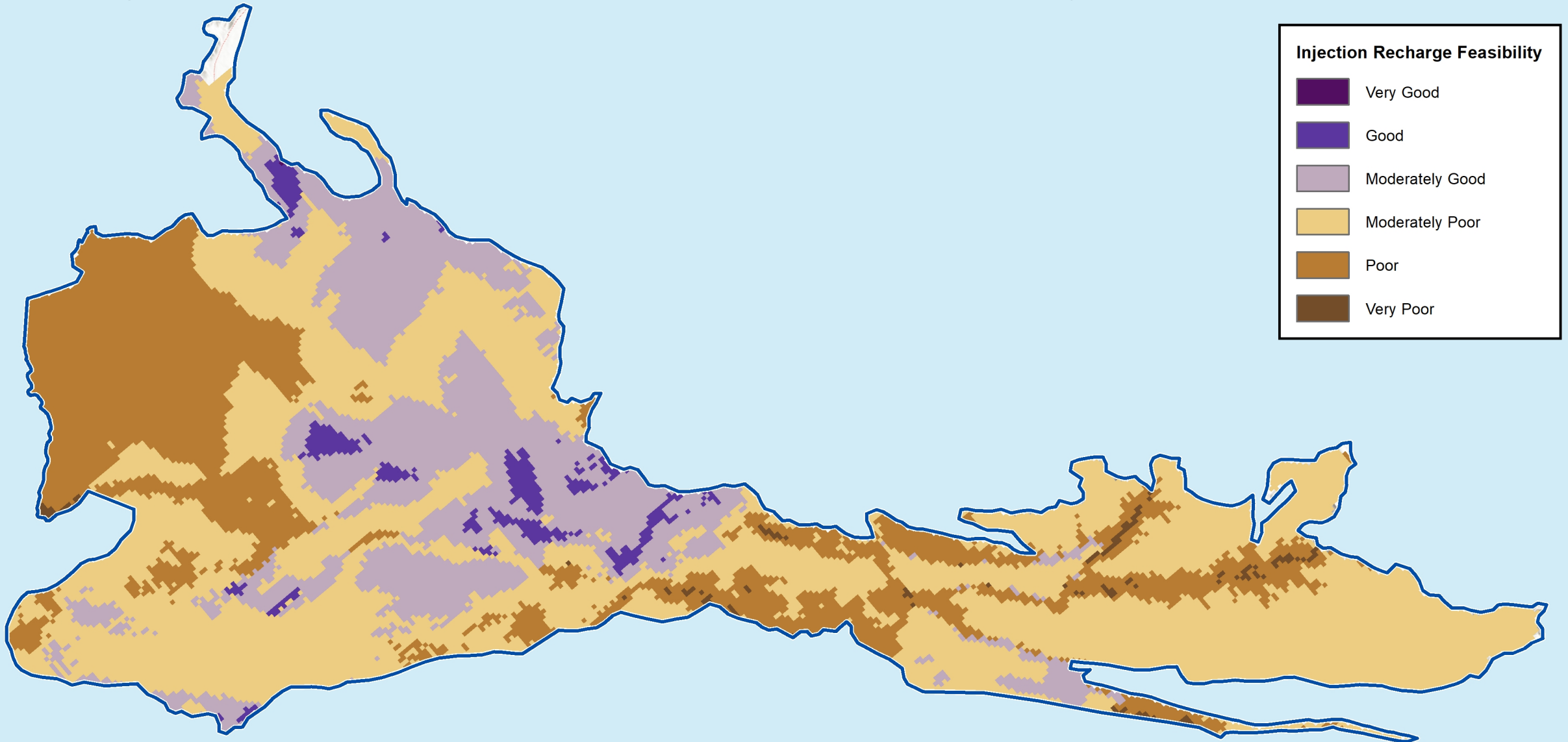
AgMAR

- Proximity to CVP
- Soil Agricultural Groundwater Banking Index (SAGBI)
- Land use / crop type
- Groundwater model hydraulic properties
- Minimum depth to water

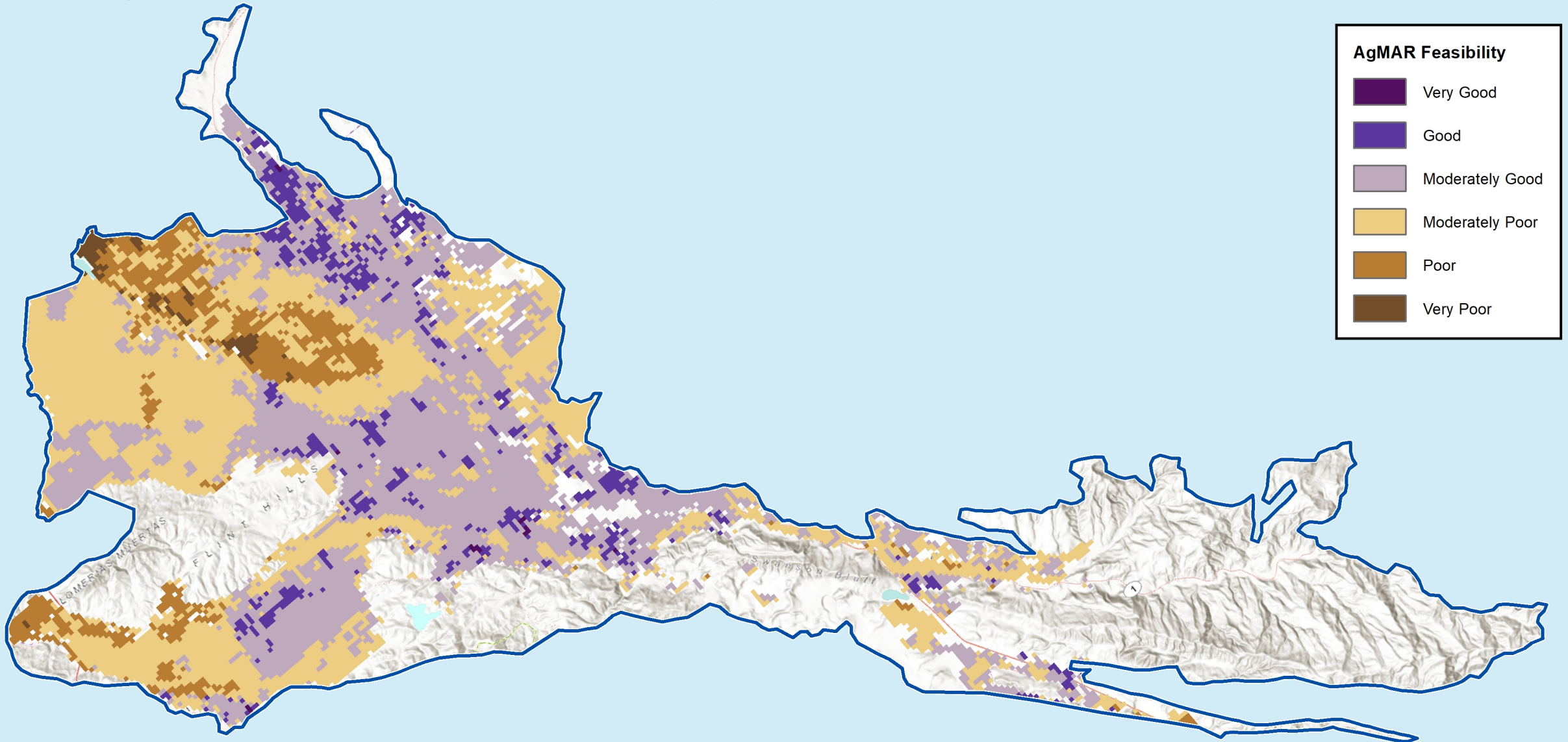
Infiltration Pond MAR Index-Overlay



Injection Well MAR Index-Overlay



AgMAR Index-Overlay



Modeling Scenarios

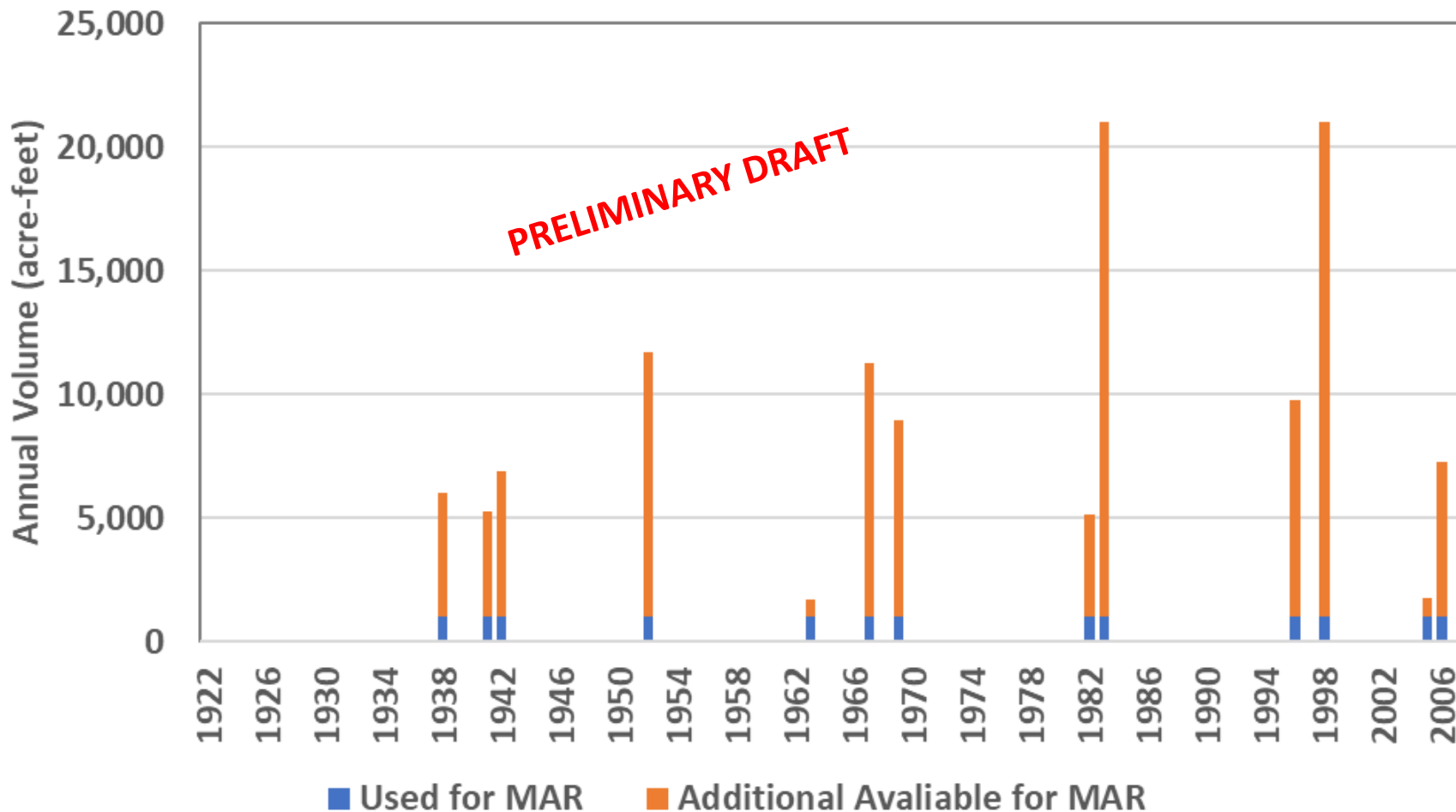
- Future baseline (described in Section 5 Water Budget)
- 2070 climate change plus growth
- 2070 climate change plus growth plus MAR
 - Scenario 1: Percolation basins only
 - Scenario 2: Injection wells only
 - Scenarios 3-5: combinations of basins, wells and AgMAR



CVP Water Available for Managed Aquifer Recharge

Rule of thumb: water available when agricultural allocation >50%

CVP Water for Managed Aquifer Recharge, 2070 Climate



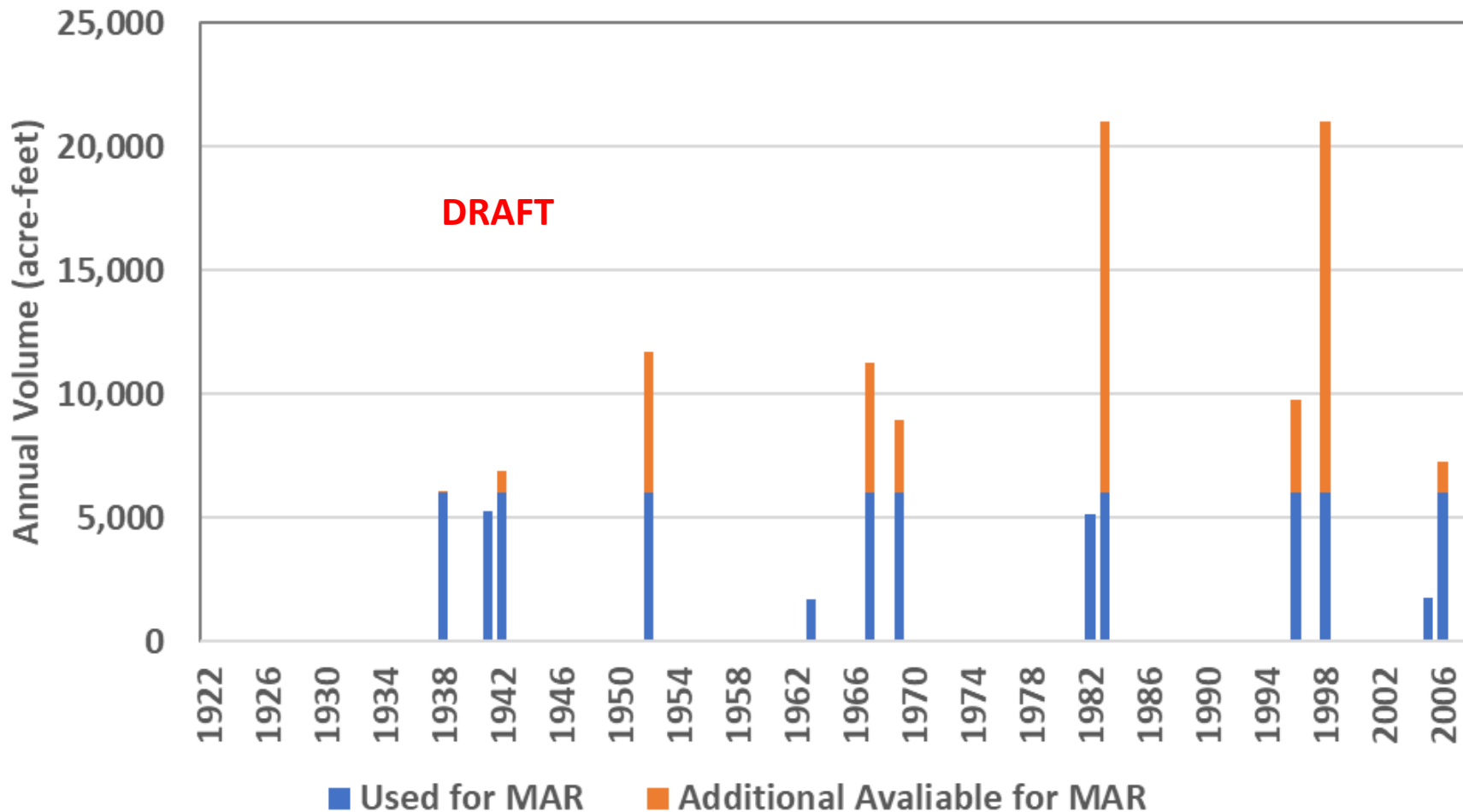
Water available infrequently but in large volumes

Current MAR capacity = 1,000 AFY

CVP Water Available for Managed Aquifer Recharge

Rule of thumb: water available when agricultural allocation >50%

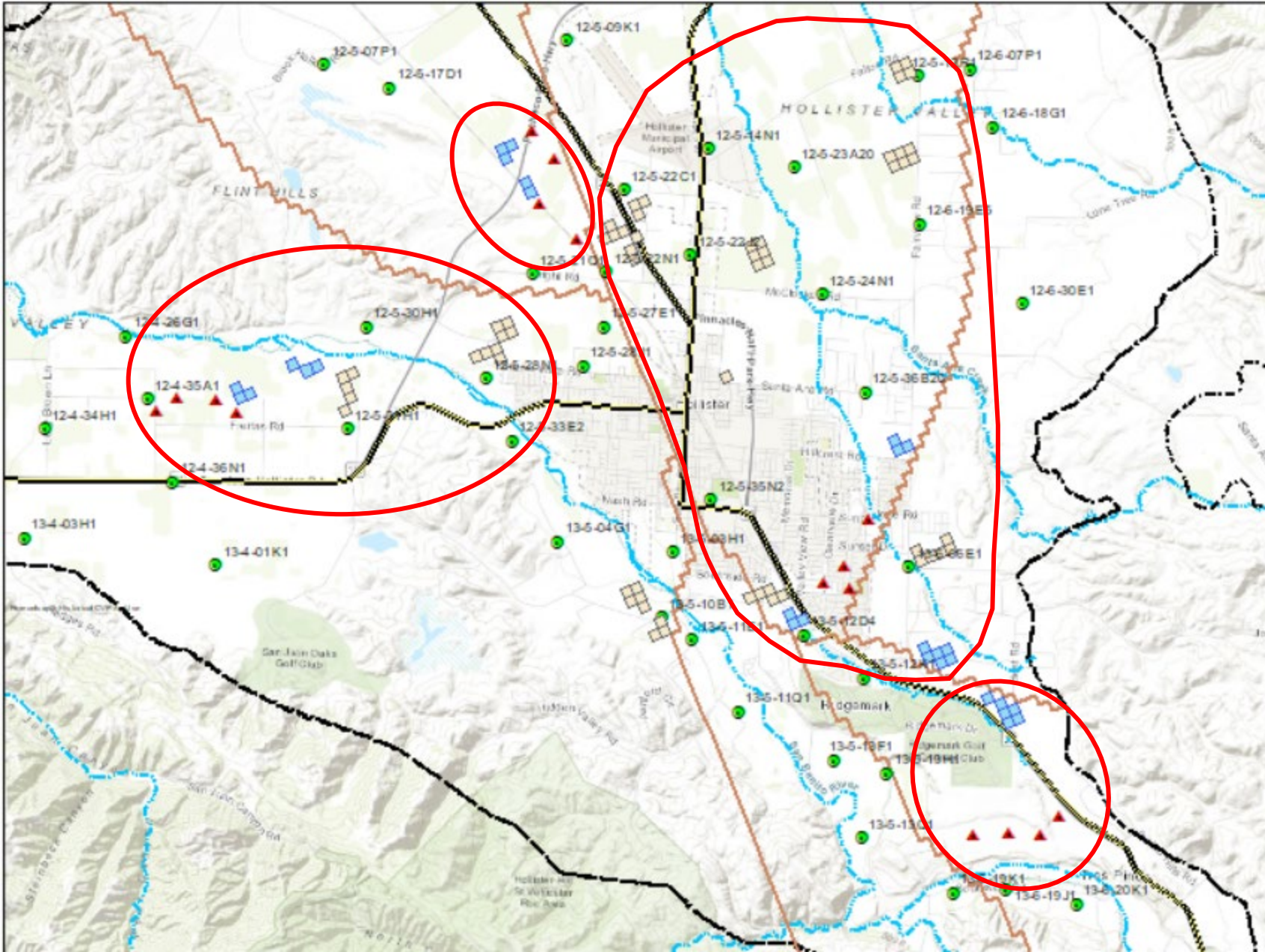
CVP Water for Managed Aquifer Recharge, 2070 Climate



Water available infrequently but in large volumes

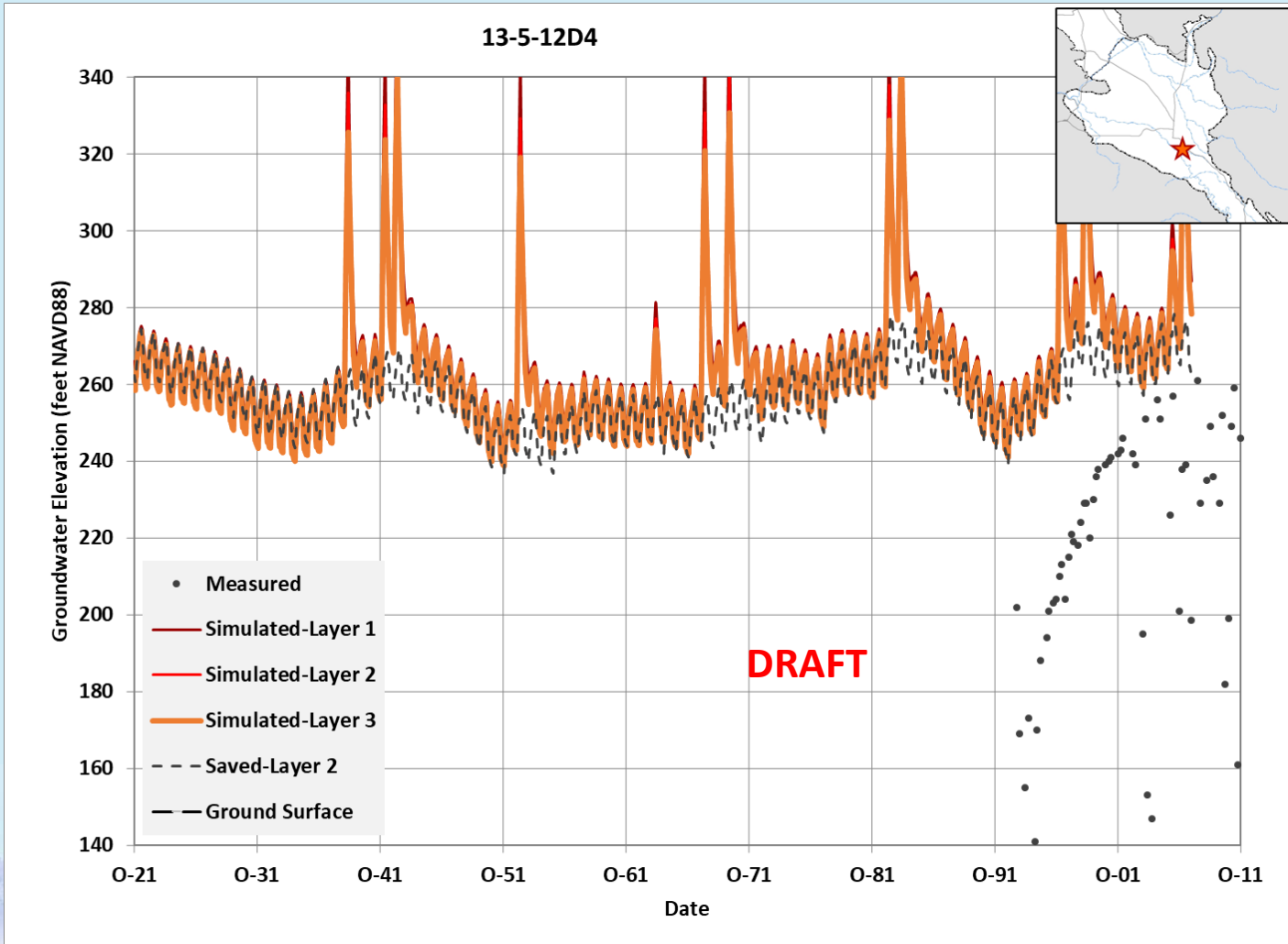
Simulated MAR capacity = 6,000 AFY

Hypothetical MAR Facilities for Modeling



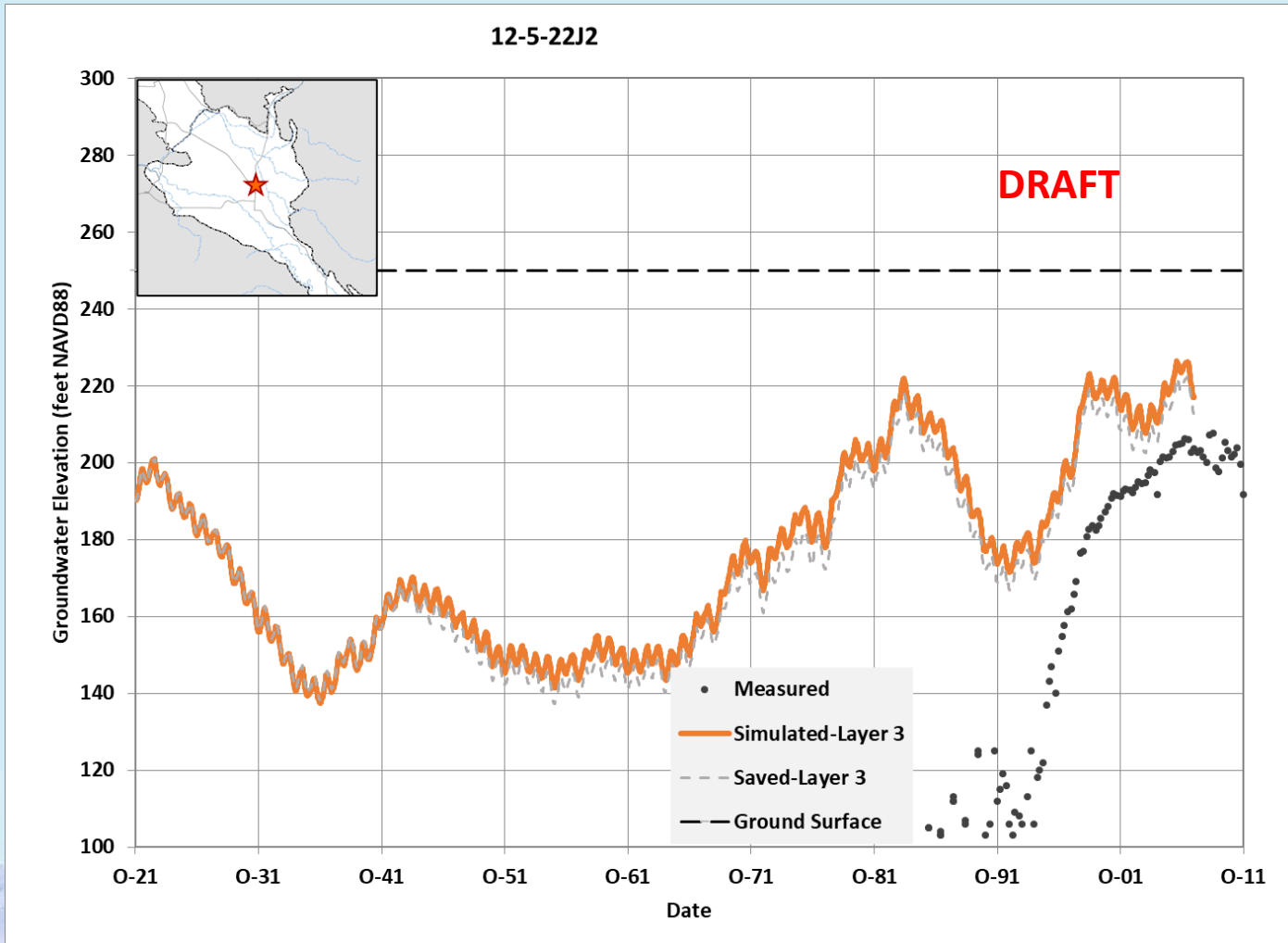
- Percolation basin
- ▲ Injection well
- Agricultural field
- Regions simulated concurrently

MAR Simulated Water Levels



Near recharge facilities, water levels increase substantially for 1-2 years following recharge.

MAR Simulated Water Levels



Farther away, water-level rises are more moderate and sustained.

MAR Preliminary Conclusions

- The basin absorbs and retains MAR water in most of the tested locations.
- From modeling standpoint, basins, wells and fields have comparable effectiveness.
- Choosing among MAR methods: key issue may be capital cost for a rarely-used facility.



Projects and Management Actions



Projects and Management Actions

Projects are substantial efforts that involve an increase in water supply or a reduction in demand

Actions provide a framework for groundwater management

- establishing policies
- filling data gaps with scientific studies or improved monitoring
- providing for funding

Including: ongoing projects/actions, projects in planning stages, and actions identified during GSP preparation



Description of Projects/Actions

- Description
- Expected Benefits
- Water Source and Reliability
- Project Feasibility
- Implementation Plan
- Status and Timeline
- Legal Authority
- Permitting and Regulatory Requirements
- Estimated Cost and Financing
- Public and Agency Notification

Potential Projects by Category

Develop Surface Water Storage

- Pacheco Reservoir Expansion Project

Expand Managed Aquifer Recharge

- “Round 3” recharge planning
- Stormwater recharge programs

Enhance Conjunctive Use

- North County Project
- San Benito River recharge optimization
- Zone 6 management of GW/CVP
- Hollister Urban Area Water / WW Plan

Enhance Conservation

- Urban
- Agricultural (including remote sensing)

Management Actions by Category

Develop Funding

- Land-based
- Extraction based

Provide Annual Monitoring and Reporting

- Levels
- Storage (model update)
- Extraction
- Imported water
- Percolation
- Hydrologic condition
- Check subsidence data
- Water quality
- Update management

Improve Monitoring Program and DMS

- Measure extraction
- Refine well network
- Document well locations and construction
- Well ID program
- Improve water quality monitoring program
- Investigate current salt and nutrient loading rates
- Enhance surface water gaging

(Cont.)

Management Actions by Category (Cont.)

Develop Response Plans

- Early warning for declining groundwater levels
- Response programs for water quality problems

Water Quality Improvement

- Update SNMP
- Analyze basin outflows for salt management
- Work with Ag Extension for reduced nitrate and salt loading
- Work with local agencies on regulating water softeners and OWTS
- Enhance outreach to stakeholders

Reduce Potential Impacts to GDEs

- Steelhead passage study
- Identify and implement actions for steelhead
- Action plan for extreme drought effects on riparian habitats

Discussion



Next Steps

Topics for Next TAC meeting

Round 3 update

Admin draft sections:

projects and management actions

implementation plan

Stay tuned

SBCWD Board of Director's Meeting	February 24, 2021 5:00pm
Public Workshop No. 3 : Management Actions	March 10, 2021
Next TAC Meeting:	TBA April 2021

