

SGMA Overview and GSP Summary

Agenda Item 3

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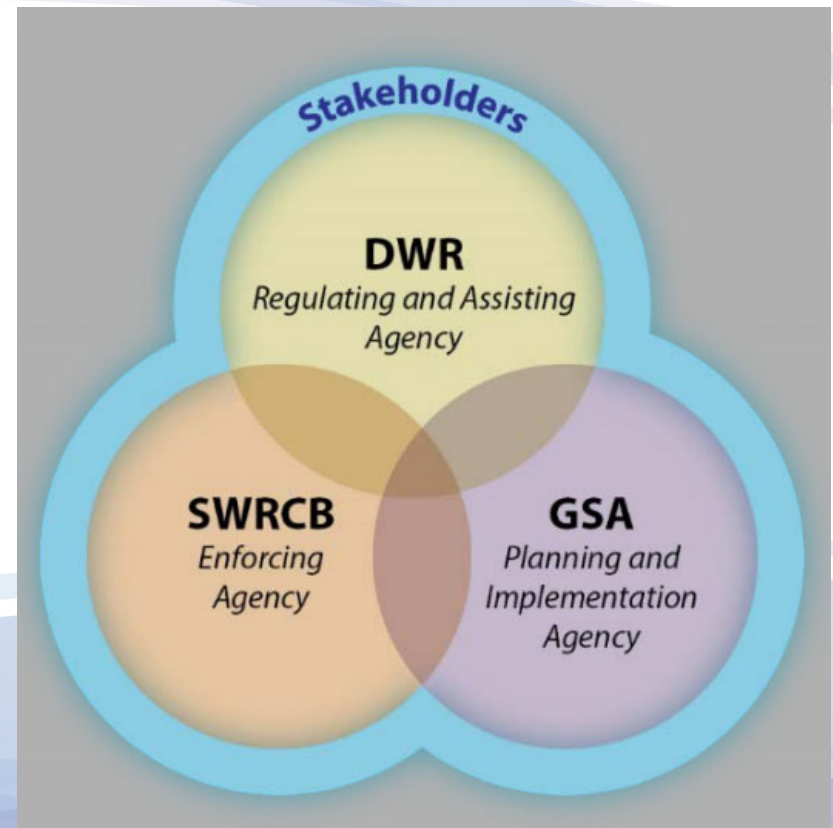
SGMA Overview

- Package of 3 Bills: AB 1739, SB 1168, SB 1319
- Passed in 2014
- SGMA does the following:
 - Defines “sustainable groundwater management” as the management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results
 - Requires GSPs for medium and high priority unadjudicated basins
 - Empowers local agencies to manage basins sustainably
 - Provides for a limited state role
- Key Principle: Groundwater should be managed at the local and/or regional level

SGMA Overview

- Roles/Responsibilities

- Local Agencies:
 - Establish GSA
 - Implement Sustainability Plans
 - Meet SGMA deadlines
- DWR
 - Designate Basins
 - Develop Guidance Documents
 - Provide Technical/Planning Assistance
 - Evaluation of GSPs
- SWRCB
 - State Intervention if deadlines not met
 - Designate “probationary status” if deficiencies not addressed

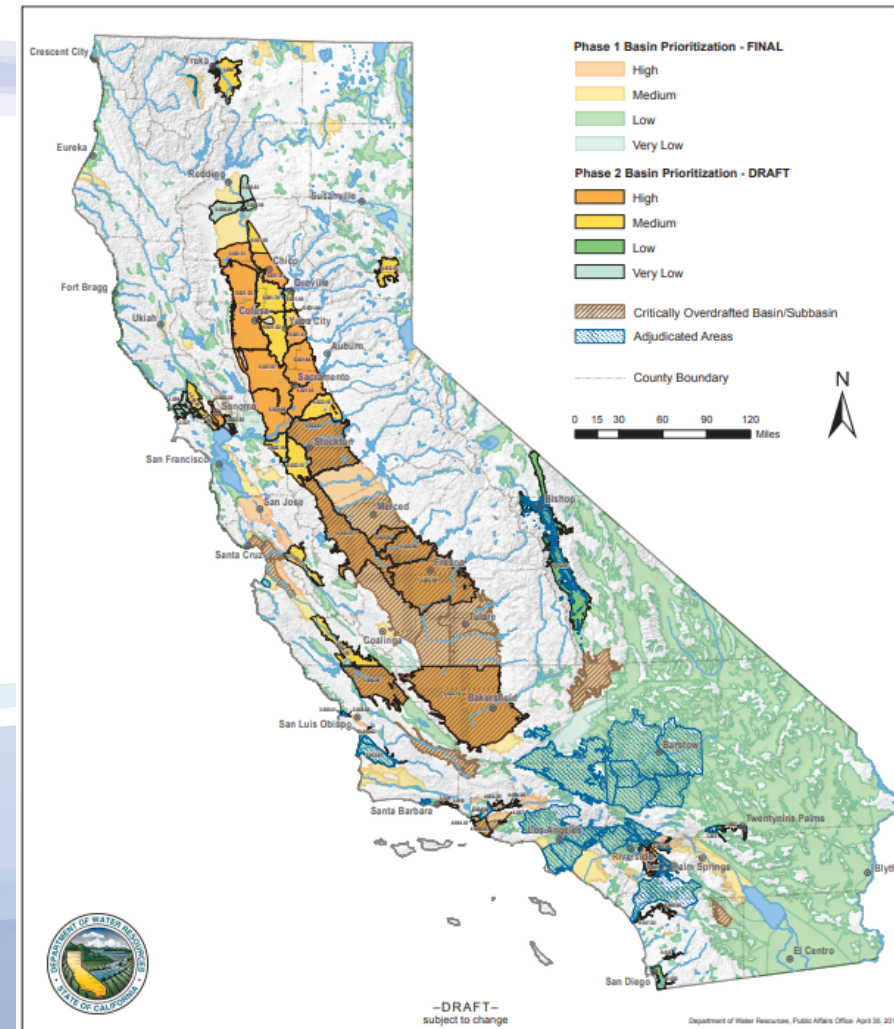


http://www.water.ca.gov/groundwater/sgm/pdfs/GSP%20Workshop%20Clovis%2009202017_webposting.pdf

SGMA Overview

- IWVGB Classification
 - CASGEM 2014 Classification: Medium Priority
 - CASGEM 2019 Classification: High Priority
 - Critically Overdrafted
- SGMA GSP required by January 31, 2020

Statewide Map of SGMA 2019 Basin Prioritization Results

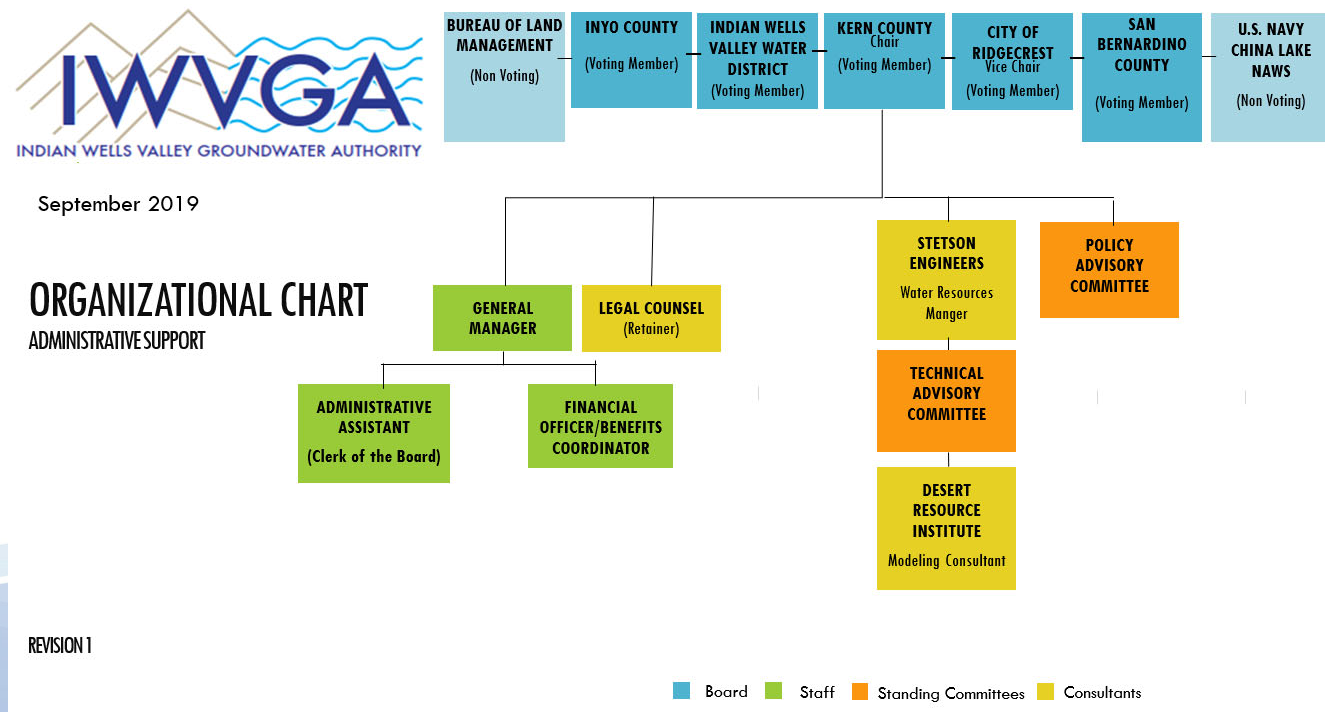


<https://water.ca.gov/Programs/Groundwater-Management/Basin-Prioritization>

STETSON
ENGINEERS, INC.

SGMA Overview

- Indian Wells Valley Groundwater Authority
 - Designated as the Groundwater Sustainability Agency responsible for developing and implementing the GSP



SGMA Overview

- IWVGA Special Counsel
 - Retained to perform legal services related to water law, water rights, and groundwater adjudication
 - Scope of Work
 - Participation in planning for and negotiating water rights, production allocations, and cost allocations related to SGMA and the GSP implementation
 - Participation in potential litigation related to GSP adoption/implementation
- SGMA CWC 10720.5 (b): Nothing “determines or alters surface water rights or groundwater rights under common law or any provision of law that determines or grants surface water rights.”
- SGMA CWC 10726.8 (b): Nothing “shall be construed as authorizing a local agency to make a binding determination of the water rights of any person or entity...”

Anticipated GSP Adoption Schedule

- **Nov 4th: TAC/PAC review of draft GSP**
 - **Comments due by Nov 15th**
- Nov 18th through Dec 2nd: Stetson incorporation of TAC/PAC comments and preparation of Public Review draft GSP
- Dec 2nd: Public review period begins
 - Additional opportunity for the TAC/PAC to review/comment
 - Public workshop to be scheduled during this review period
 - Request comments back by January 6th for review and consideration prior to Public Hearing
- Jan 16th: IWVGA Public Hearing/ Board to Consider Adoption
- Jan 24th: Submission of Final GSP to DWR

GSP Summary: Section 1 Introduction

- Purpose of the Groundwater Sustainability Plan
- Sustainability Goal
- Agency Information
 - Organization and Management Structure of the IWVGA
 - Legal Authority
 - Policy Advisory Committee (PAC)
 - Technical Advisory Committee (TAC)
 - Interested Agencies and Roles
 - Estimated Implementation and Costs
- Notice and Communication
 - Public Outreach
- GSP Organization
 - Checklist for GSP Submittal

GSP Summary: Section 2 Plan Area

- General description/jurisdictions
- Local Water Agencies
- Regional Water Management Agencies
- Land Use Elements
- Existing Monitoring Programs
- Existing Management Programs
- Data Management System

GSP Summary: Section 3 Basin Setting

- Hydrogeologic Conceptual Model
 - Geology/Hydrogeology
 - Soils
 - Hydrology
 - Water Budgets (historical and current)
 - Overdraft Conditions/Sustainable Yield (7,650 AFY currently)
- Current Conditions for Sustainability Indicators
 - Reduction of Groundwater in Storage
 - Chronic Lowering of Groundwater Levels
 - Seawater Intrusion
 - Groundwater Quality (TDS and Arsenic)
 - Land Subsidence
 - Interconnected Surface Water Systems
 - Groundwater Dependent Ecosystems (not an indicator)

GSP Summary: Section 3 Basin Setting

- Numerical Groundwater Model
 - Development
 - Flow Model Review/Recalibration
 - Transport Model
 - Baseline Conditions (no action)
 - Scenario 6.2 (with proposed projects/management actions implemented)
 - Climate Change
- Review of Existing Monitoring Network
- Data Gap Evaluation

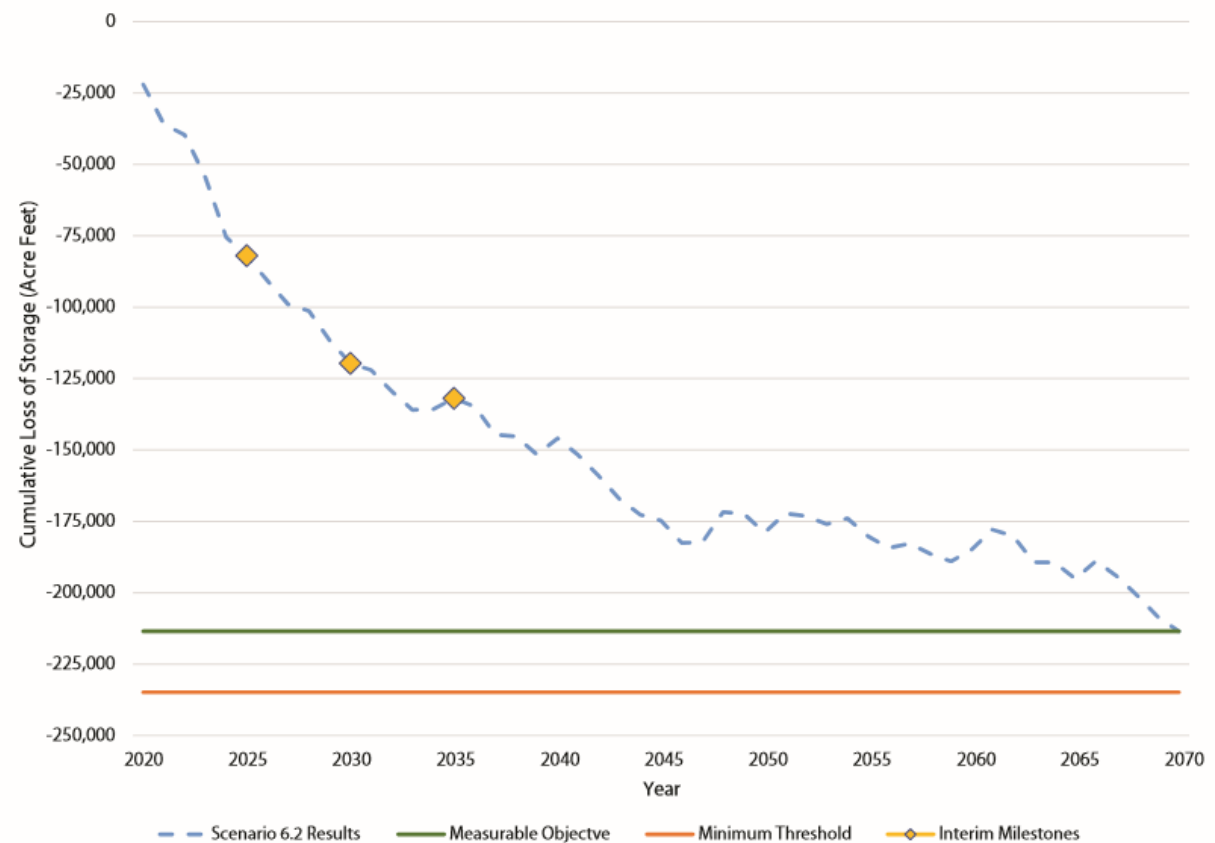
GSP Summary: Section 4 Sustainable Management Criteria

- Sustainability Goal

- The sustainability goal is to preserve the IWVGB groundwater resource as a sustainable water supply. To the greatest extent possible, the goal is to preserve the character of the community, preserve the quality of life of IWV residents, and sustain the mission at NAWS China Lake.
- The Sustainability Goal is accomplished by:
 - Operating the IWVGB groundwater resource within the sustainable yield
 - Implementing projects and management actions to reduce IWVGB groundwater demands, increasing reuse of current supplies, obtaining supplemental water supplies, and mitigating undesirable results.
 - Monitoring the IWVGB actively and thoroughly and adaptively managing the projects and management actions to ensure the plan is effective and undesirable results are avoided.

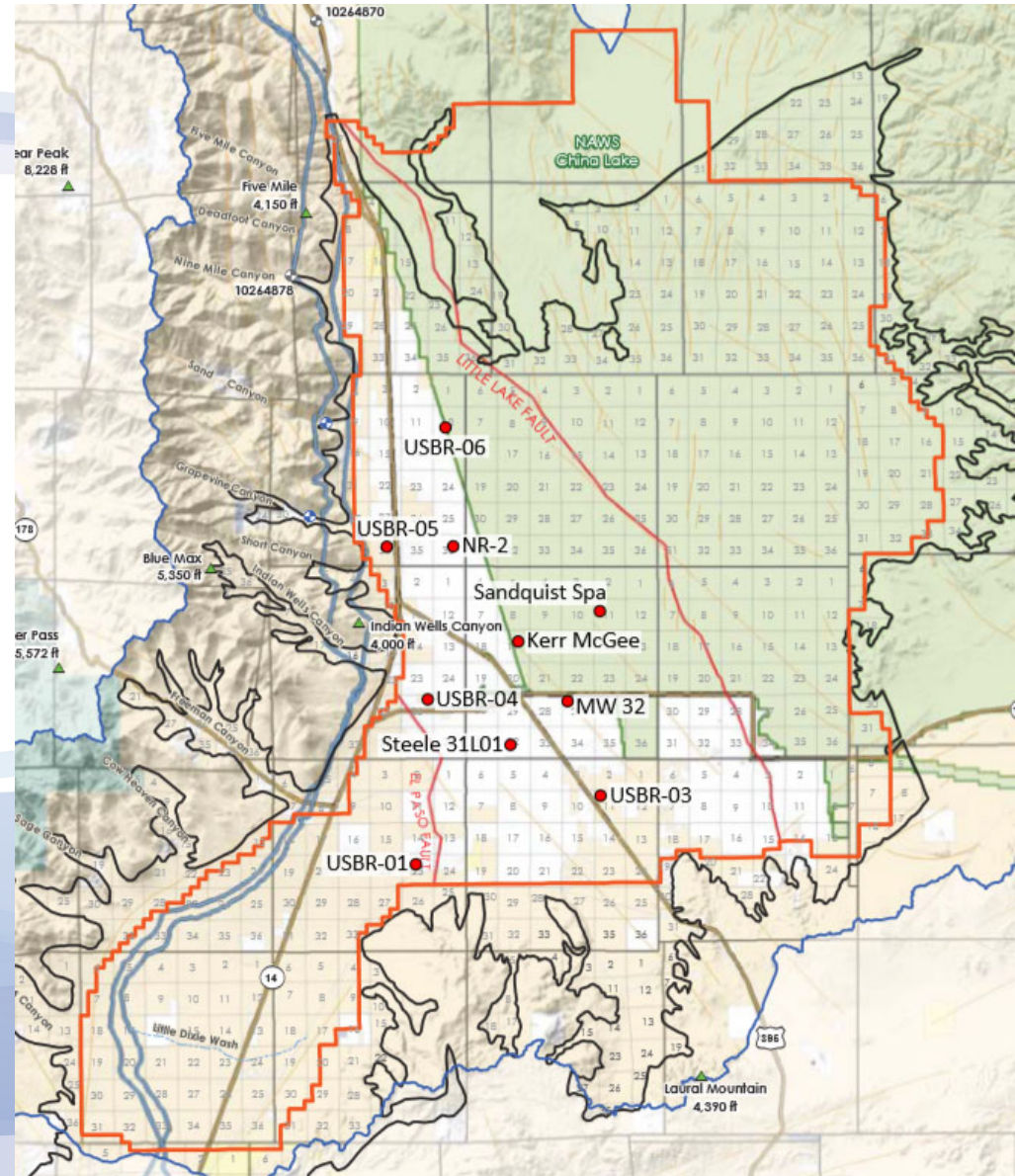
GSP Summary: Section 4 Sustainable Management Criteria

- Reduction of Storage
 - Thiessen Polygon Method will be used to determine change of storage annually
 - Sustainable Management Criteria established using Scenario 6.2 results



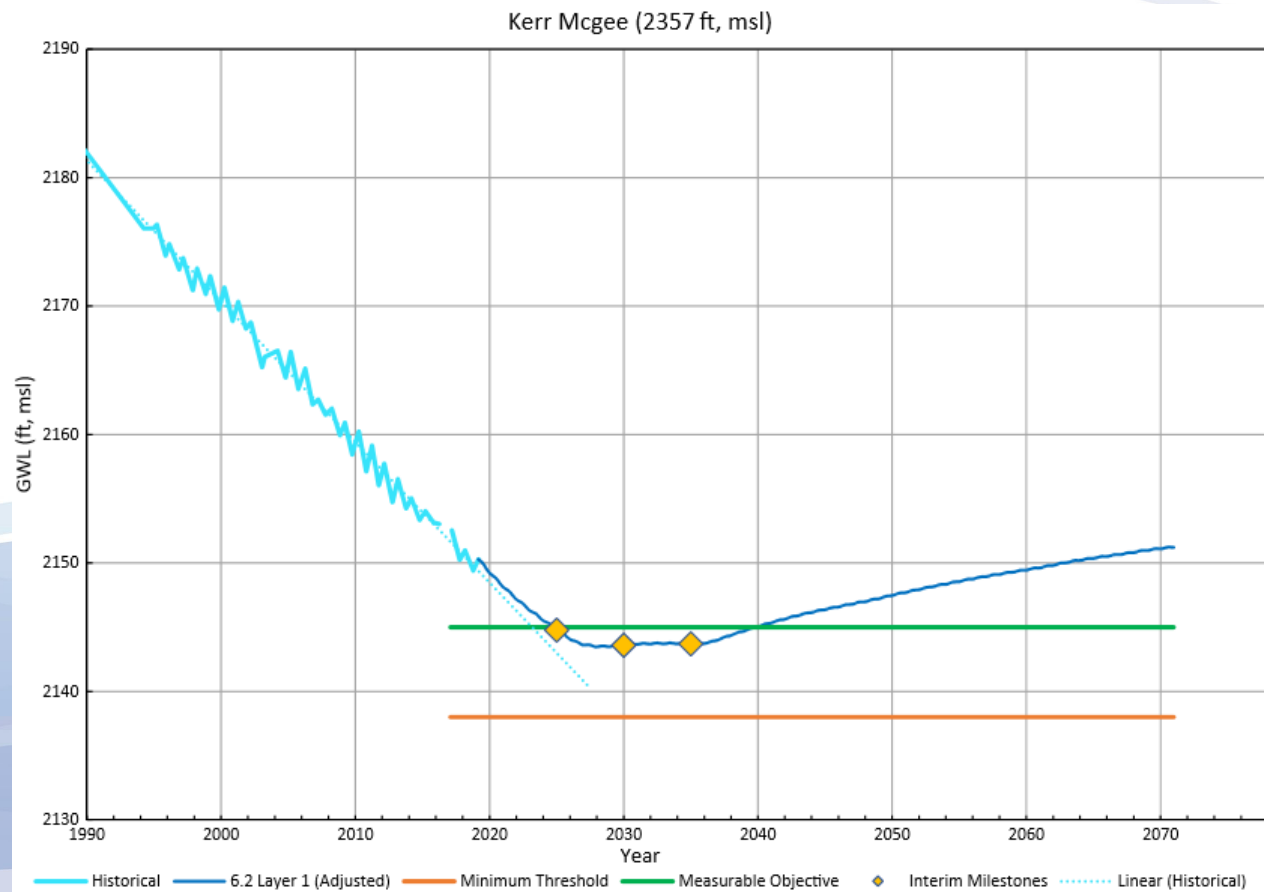
GSP Summary: Section 4 Sustainable Management Criteria

- Chronic Lowering of Groundwater Levels
 - 10 wells selected as representative monitoring well sites
 - Sustainable Management Criteria established using Historical Data and Scenario 6.2 results



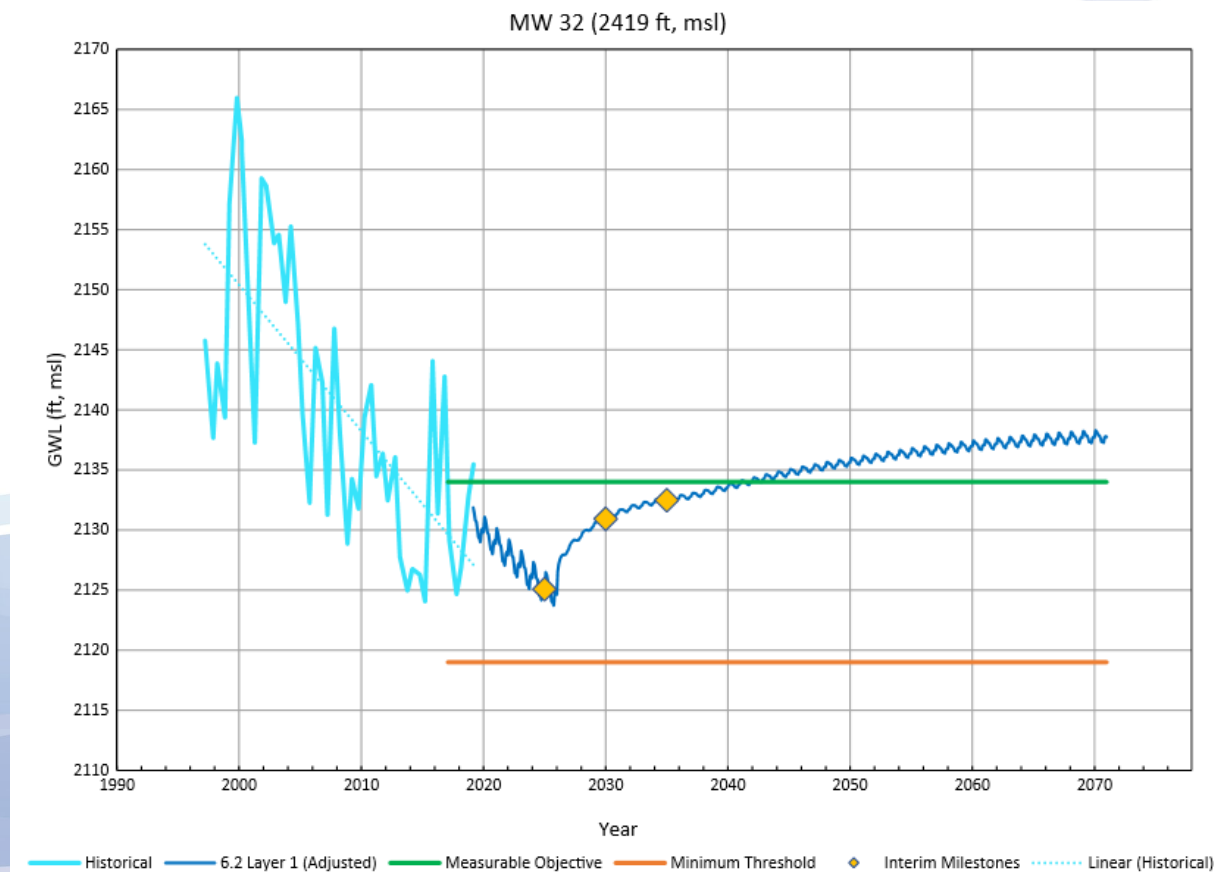
GSP Summary: Section 4 Sustainable Management Criteria

- Chronic Lowering of Groundwater Levels (example)



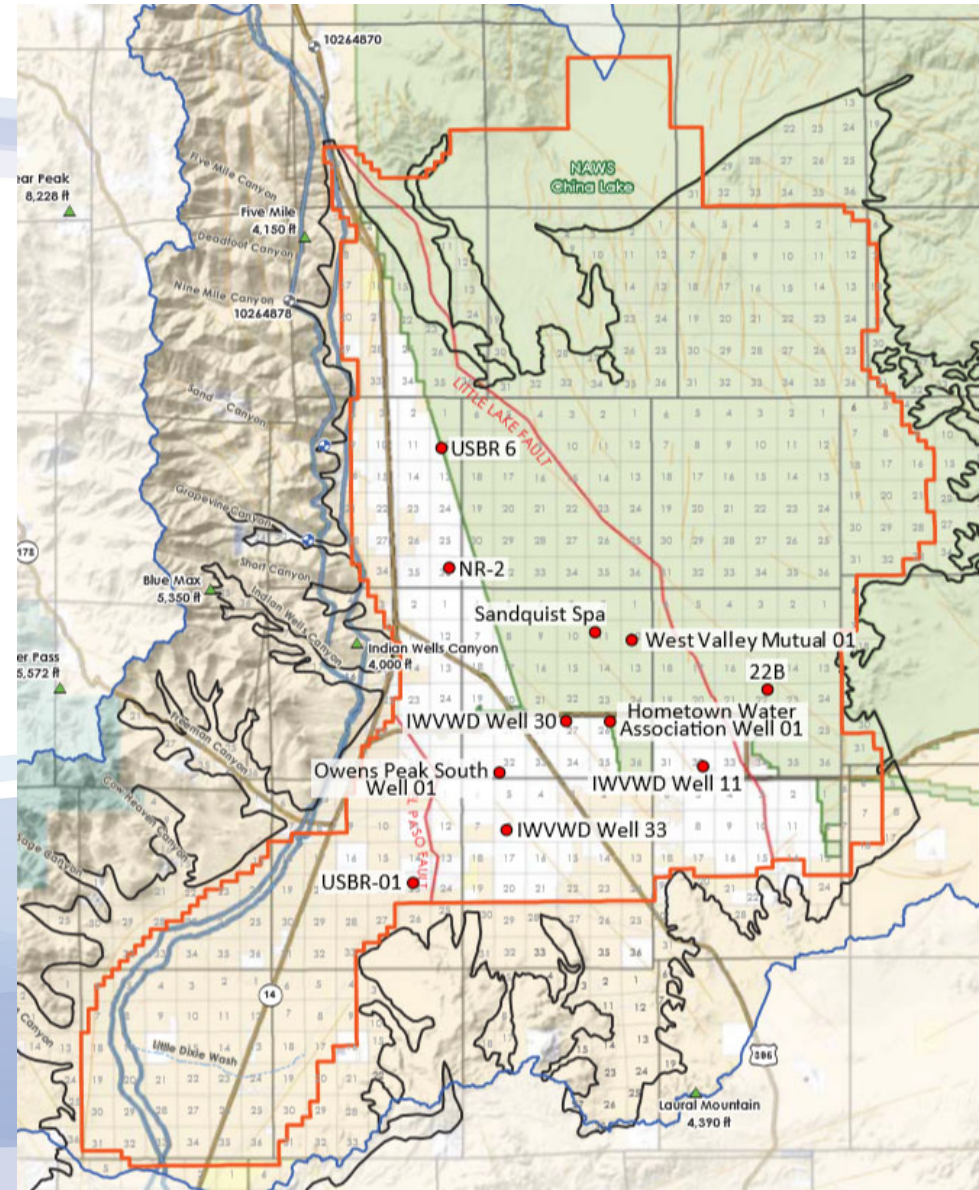
GSP Summary: Section 4 Sustainable Management Criteria

- Chronic Lowering of Groundwater Levels (example)



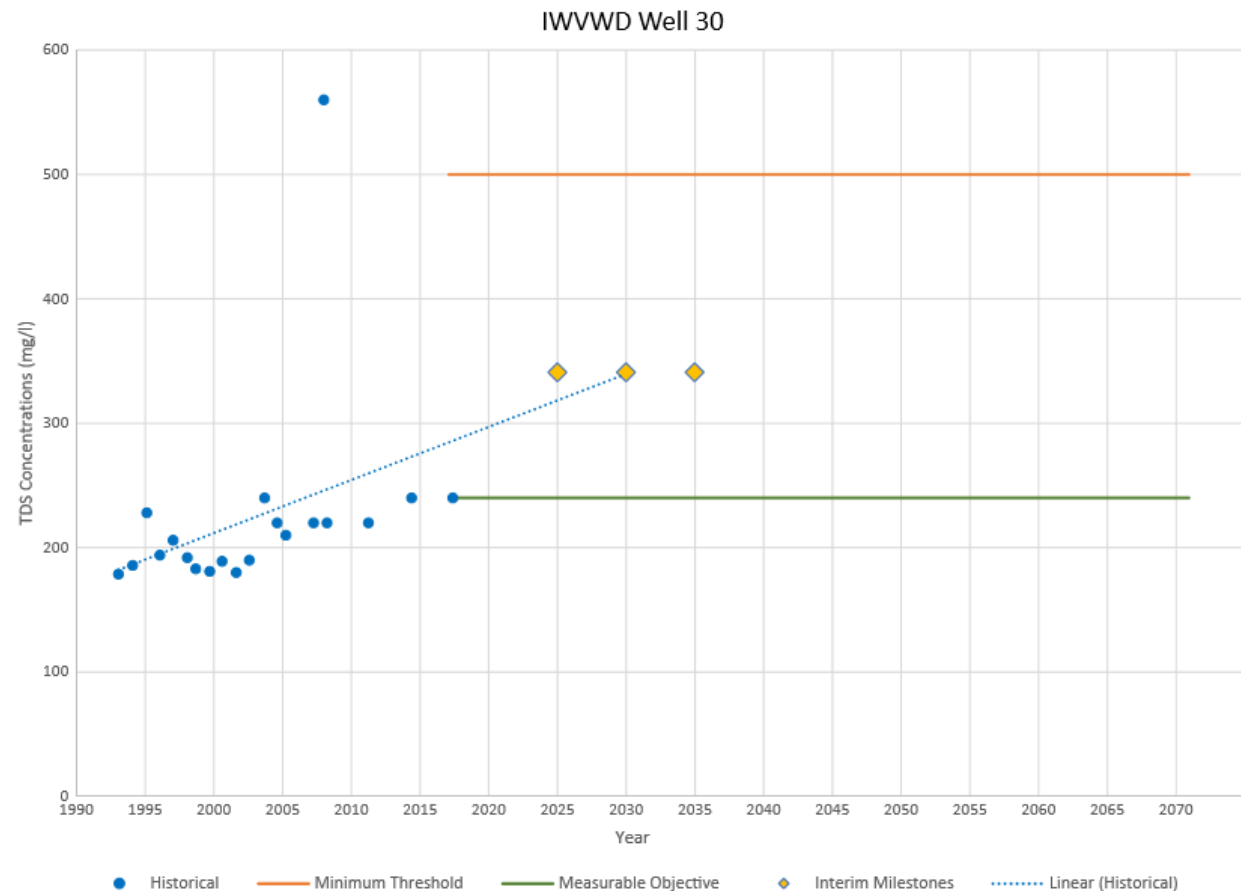
GSP Summary: Section 4 Sustainable Management Criteria

- Degraded Water Quality
 - 11 wells selected as representative monitoring well sites
 - Sustainable Management Criteria established at 6 representative wells
 - Sustainable Management Criteria established using Historical Data



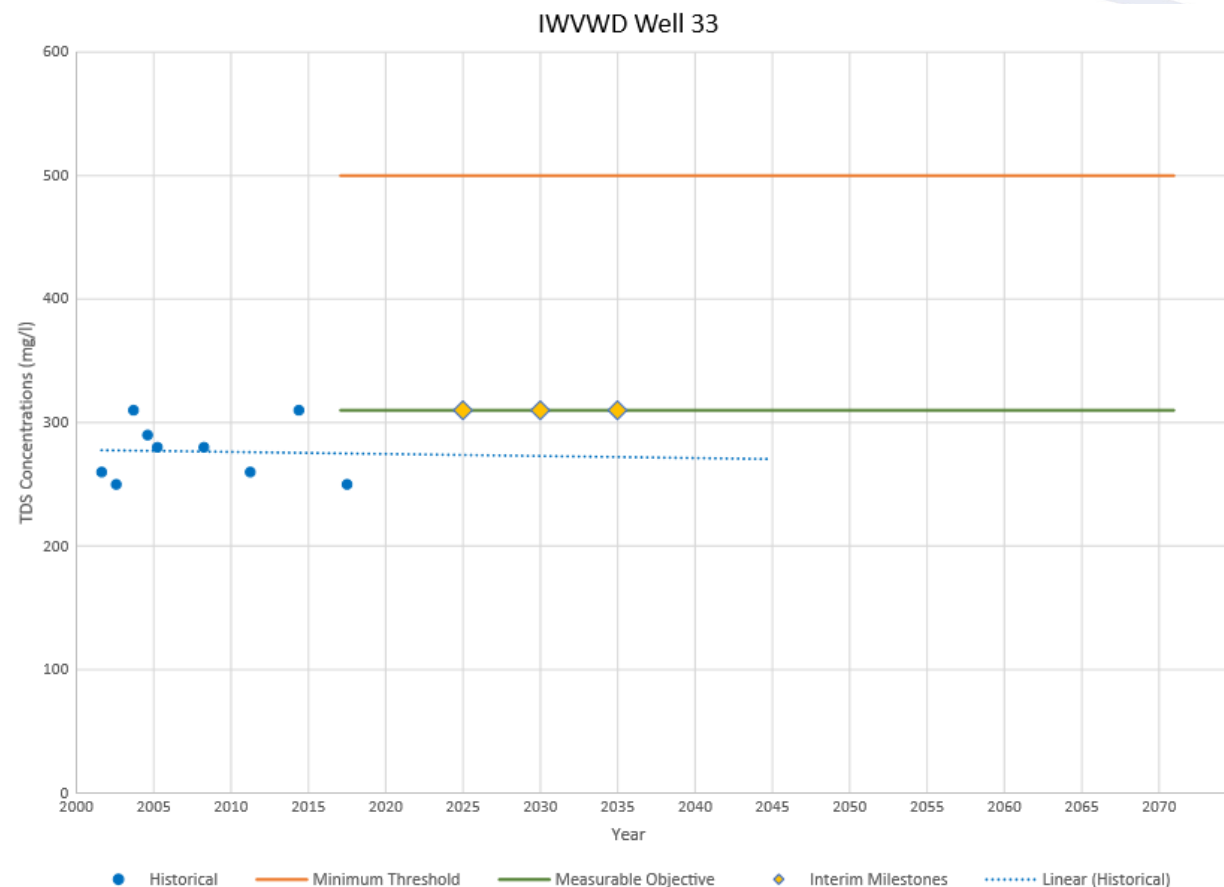
GSP Summary: Section 4 Sustainable Management Criteria

- Degraded Water Quality (example)



GSP Summary: Section 4 Sustainable Management Criteria

- Degraded Water Quality (example)



GSP Summary: Section 4 Sustainable Management Criteria

- Land Subsidence
 - Sustainable Management Criteria established at the SNORT alignment using historical data

Sustainable Management Criteria	Value at SNORT Alignment (inches/year)
Minimum Threshold	0.09
2025 Interim Milestone	0.04
2030 Interim Milestone	0.04
2035 Interim Milestone	0.04
Measurable Objective	0.04

GSP Summary: Section 4 Sustainable Management Criteria

- Interconnected Surface Water
 - There are no significant interconnected surface water systems in the IWV
 - GDEs on near/at the China Lake Playa are vulnerable and susceptible to impacts related to the chronic lowering of groundwater levels
 - Sustainable Management Criteria not established for Interconnected Surface Water due to limited data on the relationship of interconnected surface water (springs) to GDEs

GSP Summary: Section 5 Projects and Management Actions

- Management Action #1: Annual Pumping Allocation Plan, Transient Pool and Fallowing Program
 - Annual Pumping Allocation
 - Used for the purpose of assigning pumping fees
 - All groundwater pumpers continue to possess the right to produce groundwater provided they pay the Augmentation Fee
 - The Annual Pumping Allocation program will assign each qualified groundwater pumper an Annual Pumping Allocation of the safe yield, if any, after consideration of:
 - Federal Reserve Water Rights (FRWR) of NAWS China Lake;
 - California water rights;
 - Beneficial use priorities under California Law;
 - Historical groundwater production; and,
 - Municipal requirements for health and safety.

GSP Summary: Section 5 Projects and Management Actions

- Management Action #1: Annual Pumping Allocation Plan, Transient Pool and Fallowing Program
 - Transient Pool
 - All groundwater pumpers who were producing groundwater during the Base Period (2010 to 2014) and who are not given an Annual Pumping Allocation will be eligible
 - Consists of limited non-transferable one-time allocations of water to be used prior to 2040
 - Created to facilitate coordinated production reductions and to allow groundwater users to plan and coordinate their individual groundwater pumping termination

GSP Summary: Section 5 Projects and Management Actions

- Management Action #1: Annual Pumping Allocation Plan, Transient Pool and Fallowing Program
 - Fallowing Program
 - Voluntary program available to those assigned a Transient Pool Allocation
 - Groundwater pumper may elect to sell their Transient Pool Allocation back to the IWVGA in exchange for a price equal to the fair market value of the overlying lands associated with their shares of the Transient Pool

GSP Summary: Section 5 Projects and Management Actions

- Project #1: Develop Imported Water Supply
 - Option 1: Direct Use Project with AVEK
 - Purchase of State Water Project Table A Entitlement or potentially a combination of other short and long-term water supplies in coordination with KCWA.
 - Purchased water supply will be wheeled through existing AVEK facilities and an extension of a pipeline from California City to the IWV.
 - Treated water would be used directly to meet water demands that exceed the long-term natural recharge to the IWVGB.

GSP Summary: Section 5 Projects and Management Actions

- Project #1: Develop Imported Water Supply
 - Option 2: Groundwater Recharge Project with LADWP
 - Purchase of SWP Table A Entitlement or potentially a combination of other short and long-term water supplies in coordination with KCWA.
 - Purchased water supply will be delivered to MWD and subsequently provided to LADWP for use in LADWP's service area.
 - In exchange, LADWP would provide Owens Valley water from the LA Aqueduct to the IWVGB for use in a groundwater recharge project in new spreading grounds near the Inyokern Airport to replace any groundwater pumping that exceeds the long-term natural recharge to the IWVGB.

GSP Summary: Section 5 Projects and Management Actions

- Project #2: Optimize Use of Recycled Water
 - Ridgecrest is currently planning to upgrade, expand, and potentially relocate the existing City WWTF (independent of the IWVGA)
 - Coordination with Ridgecrest to optimize recycled water use
 - Recycled Water Subproject 1 – Landscape Irrigation in the City and the China Lake NAWs
 - Recycled Water Subproject 1a – Landscape Irrigation at Cerro Coso Community College
 - Recycled Water Subproject 2 - Groundwater Recharge
 - Requires additional treatment

GSP Summary: Section 5 Projects and Management Actions

- Project #3: Basin-wide Conservation Efforts
 - Water Conservation Pilot Project (to be possible expanded to other parts of the IWV)
 - SDAC Rebate Program
 - SDAC Water Audit, Leak Detection, and Repair Program
 - Historical and current conservation measures will be used as a guide to establish new voluntary and/or mandatory conservation measures on a basin-wide level.
 - Coordination with Searles Valley Minerals to investigate the potential for industrial conservation and determine if recycled water and/or brackish water could be used in their mineral recovery process

GSP Summary: Section 5 Projects and Management Actions

- Project #4: Shallow Well Mitigation Program
 - Shallow Well Mitigation Plan
 - Address the approximately 872 shallow wells in the IWWGB that are vulnerable due to lowering of groundwater levels and degraded water quality
 - Develop criteria to characterize the level of impacts
 - Develop well evaluation process
 - Shallow wells impacted after February 1, 2020 are eligible for mitigation, pending the evaluation of the impacts.

GSP Summary: Section 5 Projects and Management Actions

- Project #5: Dust Control Mitigation Program
 - Implementation of Management Action #1 will result in a potential increase in windblown dust and sand, due to the climate of the IWV
 - Dust Control Mitigation Plan
 - Investigate best management practices
 - Identify location and magnitude of the potential need for dust control
 - Critical areas will be identified and prioritized for mitigation

GSP Summary: Section 5 Projects and Management Actions

- Project #6: Pumping Optimization Project
 - Relocation of some of the Water District and/or Searles groundwater pumping to the northwest portion of the basin
 - Includes the construction of two new wells in the northwest portion of the basin along Brown Road and approximately nine miles of pipeline to connect the wells to the Water District's water system.

GSP Summary: Section 5 Projects and Management Actions

- Additional Projects
 - Brackish Water Groundwater Project
 - Direct Potable Reuse of Recycled Water

GSP Summary: Section 6 Implementation

- Anticipated year when Projects/Management Actions will be implemented:

Project/Management Action	Implementation Year
Annual Pumping Allocation Plan, Transient Pool and Fallowing Program	2020
Develop Imported Water Supply	2035
Optimize Use of Recycled Water	2025
Basin-wide Conservation Efforts	2020
Shallow Well Mitigation Program	2021
Dust Control Mitigation Program	2021
Pumping Optimization Project	2025

GSP Summary: Section 6 Implementation

- Potential Funding Sources:
 - Federal Sources
 - Water Infrastructure Financing and Integration Act (WIFIA)
 - Reclamation Integration Financing and Integration Act (RIFIA)
 - Bureau of Reclamation – WaterSMART Program
 - Department of Defense – Defense Communities Infrastructure Program
 - Department of Defense – Readiness and Environmental Protection Integration Act (REPI)
 - Water Resources Development Act (WRDA)
 - U.S. Department of Agriculture
 - Community Facilities program
 - Regional Conservation Program
 - State Sources
 - State Water Resources Control Board Loans and Grants
 - Clean Water State Revolving Fund (CWSRF)
 - Drinking Water State Revolving Fund (DWSRF)
 - Small Community Grant Fund
 - Groundwater Grant Fund (Chapter 10, Prop 1)
 - Parks and Water Bond (Chapter 11, Prop 68)
 - Legislative Appropriations

GSP Summary: Section 6 Implementation

Task	Development/ Capital Costs	Annual Costs
Administration	xx	xx
Annual Pumping Allocation Plan, Transient Pool and Fallowing Program	\$9,200,000	\$40,000
Develop Imported Water Supply		
Option 1	\$226,365,000	\$8,140,000
Option 2	\$103,436,000	\$4,440,000
Optimize Use of Recycled Water	2025	
Option 1:	\$42,757,200	\$395,500
Option 1a:	10,183,200	\$129,300
Option 2:	\$22,798,000	\$480,300
Basin-wide Conservation Efforts		\$20,000
Shallow Well Mitigation Program	\$1,720,000	\$20,000
Dust Control Mitigation Program	\$19,000,000	\$20,000
Pumping Optimization Project	\$23,000,000	
GSP Monitoring/Data Gap Analyses		\$60,000
Annual GSP Reporting		\$30,000
GSP 5-Year Updates	\$360,000	
Data Management System		\$20,000