Borrego Valley Groundwater Basin
Borrego Springs Subbasin

Groundwater Sustainability Plan

Advisory Committee Meeting
November 29, 2018
GSP Organization

The Groundwater Sustainability Plan is organized as follows:

- **ES** Executive Summary
- **01** Chapter 1 Introduction to GSP
- **02** Chapter 2 Plan Area and Basin Setting
- **03** Chapter 3 Sustainable Management Criteria
- **04** Chapter 4 Projects and Management Actions
- **05** Chapter 5 Plan Implementation
CHAPTER 4 PROJECTS AND MANAGEMENT ACTIONS

SGMA REQUIREMENTS

- Description of Projects and Management Actions (PMAs) to achieve the sustainability goal(s) for the Subbasin including PMAs to respond to changing conditions in the Subbasin
- Measurable objective that is expected to benefit from the PMAs
- Implementation of PMAs
- Notice and actions to be taken
Quantification of demand reduction for mitigation of overdraft
Permitting and regulatory process
Time-table for initiation and completion
Benefits expected to be realized
How PMAs will be accomplished
Legal authority
Cost
Long-term sustainability
CHAPTER 4 PROJECTS AND MANAGEMENT ACTIONS

Projects and Management Actions to Achieve Sustainability Goal:

List of PMAs:

- Project and Management Action #1 – Water Trading Program
- Project and Management Action #2 – Water Conservation
- Project and Management Action #3 – Pumping Reduction Program
- Project and Management Action #4 – Voluntary Fallowing of Agricultural Land
- Project and Management Action #5 – Water Quality Optimization
- Project and Management Action #6 – Intra-Subbasin Water Transfers
Projects and Management Actions to Achieve Sustainability Goal:

List of PMAs:

- **Project and Management Action #1 – Water Trading Program**
  - The Program will enable permanent transfer and potentially long-term or short-term lease of Baseline Pumping Allocations
  - The Program would replace the existing Water Credits Program.
  - The Program is intended to allow groundwater users to:
    - Purchase needed groundwater resources to maintain economic activities in the Subbasin
    - Encourage and incentivize water conservation
    - Facilitate adjustment of pumping allocations as water demands and basin conditions fluctuate during the 20-year GSP implementation period.
Projects and Management Actions to Achieve Sustainability Goal:

List of PMAs:

- **Project and Management Action #2 – Water Conservation**

  The GSP Water Conservation Program would consist of separate components for the three primary sectors: agricultural, municipal, and recreation.

  **Programs for each sector would follow a similar approach consisting of:**
  
  - Reviewing historical programs and projects
  - Identifying areas and methods for greatest potential water savings
  - Outreach and coordination with potential participants
  - Developing project cost estimates
  - Competitively evaluating project alternatives implementing projects
  - Acquiring follow-up metrics
CHAPTER 4 PROJECTS AND MANAGEMENT ACTIONS

Projects and Management Actions to Achieve Sustainability Goal:

List of PMAs:

- **Project and Management Action #3 – Pumping Reduction Program**

  Goal is to reduce Subbasin pumping to the estimated sustainable yield.

  It is anticipated that the Pumping Reduction Program will consist of the following general components:

  1. Subbasin sustainable yield
  2. Baseline pumping allocations for each non de-minimis pumper (> 2 acre-feet/year)
  3. Develop pumping allocation reductions over the implementation period.
List of PMAs:

- **Project and Management Action #4 – Voluntary Fallowing of Agricultural Land**

  The voluntary Fallowing Program will develop the method to convert existing irrigated agriculture to low water use open space, public land, or other development.

Factors that will be considered for the fallowing program include:

- Current agriculture land and water use
- Intended land and water use after fallowing
- Potential environmental impacts associated with fallowing
Projects and Management Actions to Achieve Sustainability Goal:

List of PMAs:

- **Project and Management Action #5 – Water Quality Optimization**

  Both direct treatment and indirect options have been considered to optimize groundwater quality and its use.

**Direct Treatment**

**Indirect Treatment**

- Blending
- New Well and Pipeline
- Reallocation of Pumping from Existing Wells
Projects and Management Actions to Achieve Sustainability Goal:

List of PMAs:

- **Project and Management Action #6 – Intra-Subbasin Water Transfers**

  The purpose of Intra-Subbasin Transfer Program is to mitigate existing and future reductions in groundwater storage and groundwater quality impairment by establishing conveyance of water from higher to lower production alternative areas in the Subbasin.
## Description of Measurable Objective Expected to Benefit from PMAs:

<table>
<thead>
<tr>
<th>PMAs</th>
<th>Benefits</th>
<th>Measurable Objective</th>
<th>Interim Milestones</th>
<th>Exceedance of Minimum Thresholds</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1 Water Trading Program</td>
<td>Reallocation of available water supplies</td>
<td></td>
<td>Limited</td>
<td>Limited</td>
</tr>
<tr>
<td>#2 Water Conservation</td>
<td>Reduction of water use</td>
<td></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>#3 Pumping Reduction Program</td>
<td>Reduction of water use</td>
<td></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>#4 Voluntary Fallowing of Agricultural Land</td>
<td>Reduction of water use</td>
<td></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>#5 Water Quality Optimization</td>
<td>Maintain/improve water quality for beneficial use</td>
<td></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>#6 Intra-Subbasin Transfers</td>
<td>Water quality/level and storage benefits</td>
<td></td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
# Description of the Circumstances Under Which PMAs Shall be Implemented:

<table>
<thead>
<tr>
<th>PMAs</th>
<th>Circumstances Under which PMAs are Implemented</th>
<th>Criteria that Trigger Implementation</th>
<th>Criteria that Trigger Termination</th>
<th>Process by which GSA determined that conditions requiring the implementation of particular PMAs have occurred</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1 Water Trading Program</td>
<td>Upon adoption of GSP, Water Trading Policy, and CEQA review</td>
<td>• Available Pumping Allocation&lt;br&gt;• Metering of Extraction&lt;br&gt;• Water Trading Policy</td>
<td>To be implemented throughout the planning period and beyond</td>
<td>Quantification of estimated magnitude of overdraft. Development of sustainability goal(s), measurable objectives, interim milestones, and minimum thresholds</td>
</tr>
<tr>
<td>#2 Water Conservation</td>
<td>Ongoing and based on future study and funding availability</td>
<td>• Projects ongoing in the Subbasin&lt;br&gt;• Existing critically overdraft conditions&lt;br&gt;• Future State regulations</td>
<td>Upon implementing all effective and economic measures and achieving sustainability goal(s)</td>
<td>Quantification of estimated magnitude of overdraft. Development of sustainability goal(s), measurable objectives, interim milestones, and minimum thresholds</td>
</tr>
<tr>
<td>#3 Pumping Reduction Program</td>
<td>Upon adoption of GSP and CEQA review</td>
<td>• Existing critically overdraft conditions&lt;br&gt;• Quantification of magnitude of overdraft&lt;br&gt;• Metering of Extraction</td>
<td>To be implemented throughout the planning period</td>
<td>Quantification of estimated magnitude of overdraft. Development of sustainability goal(s), measurable objectives, interim milestones, and minimum thresholds</td>
</tr>
<tr>
<td>#4 Voluntary Fallowing of Agriculture</td>
<td>Upon adoption of GSP, Fallowing Standards, and CEQA review</td>
<td>• Existing critically overdraft conditions&lt;br&gt;• Quantification of magnitude of overdraft</td>
<td>Upon achieving sustainability goal(s)</td>
<td>Quantification of estimated magnitude of overdraft. Development of sustainability goal(s), measurable objectives, interim milestones, and minimum thresholds</td>
</tr>
<tr>
<td>#5 Water Quality Optimization</td>
<td>Ongoing and based on future study and funding availability</td>
<td>• Existing critically overdraft conditions</td>
<td>To be implemented throughout the planning period</td>
<td>Ongoing evaluation of monitoring network and available water quality data</td>
</tr>
<tr>
<td>#6 Intra-Subbasin Water Transfers</td>
<td>Requires additional study and identification of funding</td>
<td>• Existing critically overdraft conditions</td>
<td>To be implemented throughout the planning period</td>
<td>Ongoing evaluation of monitoring network and available water data</td>
</tr>
</tbody>
</table>
CHAPTER 4 PROJECTS AND MANAGEMENT ACTIONS

Communication/Notice of Proposed or Ongoing PMAs

Processes by which the Agency shall provide notice to the public and other agencies that the implementation of Projects and Management Actions is being considered or has been implemented, including description of actions to be taken:

Processes:
- Advisory Committee and GSP Development Process/ Adoption of GSP
- CEQA Process/ Finding of less than significant impact
Quantification of Demand Reduction for Mitigation of Overdraft

If overdraft conditions are identified through the analysis required by Section 354.18 [Water Budget], the Plan shall describe projects or management actions, including a quantification of demand reduction or other methods, for the mitigation of overdraft.

Three (3) primary means of reducing water demand:

- PMA #2 – Water Conservation
- PMA #3 – Pumping Reduction Program (includes Baseline Pumping Allocation)
- PMA #4 – Voluntary Fallowing of Agricultural Land

Current estimate based on available data is that a demand reduction of 74% is required over the implementation period.
### Summary of Permitting and Regulatory Process Required

<table>
<thead>
<tr>
<th>PMAs</th>
<th>Permitting Process</th>
<th>Regulatory Process</th>
<th>Regulation/ Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1 Water Trading Program</td>
<td>Updates to Existing Policy and County Groundwater Ordinance. Water Trading Policy.</td>
<td>Adoption of GSP, Baseline Pumping Allocation, and Water Trading Policy. Court Validation of GSP, Stipulated Judgement or other legal agreement of water rights in the Subbasin</td>
<td>Water Code, § 109(a) Water Code, § 475 Water Code, § 10726.4(a)(3) Water Code, § 10726.2(c)</td>
</tr>
<tr>
<td>#2 Water Conservation</td>
<td>Typically exempt from CEQA but requires evaluation of any CEQA review requirements (i.e. specific projects may require CEQA review)</td>
<td>California Constitution article X, section 2 and California Water Code section 100 Water Code, §§ 375–378; 1009 Water Code, § 10726.8(a) Water Code, § 10609.40</td>
<td></td>
</tr>
<tr>
<td>#3 Pumping Reduction Program</td>
<td>Evaluation of any CEQA review requirements</td>
<td>GSP Adoption and implementing regulation such as through Ordinance</td>
<td>Water Code, § 10726.4(a) Water Code, § 10726.5 Water Code, §§ 10725(a), 10726.8(a) Water Code, § 10720.5(a)</td>
</tr>
<tr>
<td>#4 Voluntary Fallowing of Agriculture</td>
<td>CEQA review</td>
<td>Voluntary Fallowing</td>
<td>Water Code, § 10726.2(c).</td>
</tr>
<tr>
<td>#5 Water Quality Optimization</td>
<td>Evaluation of any CEQA review requirements</td>
<td>Project-specific</td>
<td>Project-specific</td>
</tr>
<tr>
<td>#6 Intra-Subbasin Water Transfers</td>
<td>Evaluation of any CEQA review requirements</td>
<td>GSP Adoption</td>
<td>Water Code, § 10726.2(e).</td>
</tr>
</tbody>
</table>
CHAPTER 4 PROJECTS AND MANAGEMENT ACTIONS

Time-Table of Proposed PMAs and Accrual of Expected Benefits

- PMA #1 – Water Trading Program
- PMA #2 – Water Conservation
- PMA #3 – Pumping Reduction Program
- PMA #4 – Voluntary Fallowing of Agricultural Land
- PMA #5 – Water Quality Optimization
- PMA #6 – Intra-Subbasin Water Transfer

GSP Preparation
- January 2020: GSP submitted to DWR
- 2025: Interim Milestones and 5-Year Review
- 2030: Interim Milestones and 5-Year Review
- 2035: Interim Milestones and 5-Year Review
- 2040: Achieve Sustainability within 20 years of Plan Implementation

CEQA

GSP Implementation

= Achieved Goal
○ = Implementation
CHAPTER 4 PROJECTS AND MANAGEMENT ACTIONS

How PMAs will be Accomplished

PMA #1 – Water Trading Program:
Water Trading Policy; GSA-regulated register system

PMA #2 – Water Conservation:
Development of sector-specific water conservation plans with GSA assistance for implementation

PMA #3 – Pumping Reduction Program:
Baseline pumping allocation with annual pumping allowance including ramp down enforced by GSA

PMA #4 – Voluntary Fallowing of Agricultural Land:
Development of responsible falling plan enforced by GSA

PMA #5 – Water Quality Optimization:
Adaptive management of water demand by review of available data to target mitigation

PMA #6 – Intra-Subbasin Water Transfers:
Physical movement of extracted groundwater based on available data
CHAPTER 4 PROJECTS AND MANAGEMENT ACTIONS

Legal Authority by GSA for each PMA

PMA #1 – Water Trading Program:
Water code § 109(a), § 475, § 10726.4(a)(3), § 10726.2(c)

PMA #2 – Water Conservation:
California Constitution article X, section 2, Water code § 100, § 10727.4(h), §§ 375-378; 1009, § 10726.8(a), § 10609.40, Executive Order B-37-16

PMA #3 – Pumping Reduction Program:
Water code § 10726.4(a), § 10726.5, §§ 10725(a), 10726.8(a), § 10720.5(a)

PMA #4 – Voluntary Fallowing of Agricultural Land:
Water code § 10726.2(c)

PMA #5 – Water Quality Optimization:
Water code §... Project-specific

PMA #6 – Intra-Subbasin Water Transfers:
Water code § 10726.2(e)
Long Term Sustainability for Proposed PMAs

Description of the management of groundwater extractions and recharge to ensure that chronic lowering of groundwater levels or depletion of supply during periods of drought is offset by increases in groundwater levels or storage during other periods:

- Data-driven measurable objectives integrate operational flexibility
- Measurable objectives based upon data-driven estimates of Subbasin sustainable yield and water balance, including consideration of historical and modelled future climate scenarios
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QUESTIONS?

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Proposed Projects and Management Actions

Project Relationship to Sustainability Criteria
Metrics for evaluation of effectiveness
Economic Factors and Funding Sources
Elements of Uncertainty