

SVBGSA Seawater Intrusion Working Group

# SGMA Demand Management Approaches

October 26, 2020

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# 1. WestWater Overview

# Our Firm



**Water Resources  
Economics, Transaction,  
and Policy Advising**



**National Reach and  
Regional Expertise**



**Bringing Financial  
Perspective**



**Navigating SMGA  
Implementation**

## WestWater Offices & Selected Project Locations





Main Office	West Coast	Pacific Northwest	Southwest	Intermountain
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# Our Work in the Salinas Valley

**Salinas Valley Groundwater Basin  
180/400-Foot Aquifer Subbasin  
Groundwater Sustainability Plan**



 **Salinas Valley Basin**  
Groundwater Sustainability Agency

(Approved by Salinas Valley Basin Groundwater Sustainability Agency Board of Directors on January 9, 2020)



- **Performed economic feasibility analyses on new supply acquisitions and other projects**
- **Designed a water charges & allocations framework**
- **Developed and recommended a multi-tier fee structure for future project funding**

## 9.2 Water Charges Framework

The proposed water charges framework is the fundamental structure for managing groundwater pumping and funding projects. This framework is designed to achieve two important outcomes:

1. Promote voluntary pumping reductions; and
2. Fund new water supply projects by charging fees for various levels of pumping.

## 2. Demand Management

Demand Management

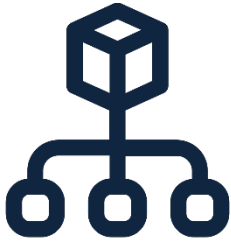
# Goals and Objectives

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- 1. Define Demand Management**
- 2. Describe General Examples and Specific SVBGSA Alternatives**
- 3. Identify Reasons for Implementation**
- 4. Discuss Key Considerations**
- 5. Receive Input on Next Steps**

# What is Demand Management?

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Programs



Policies



Projects

... that aim to reduce the extraction of groundwater supplies to support and enhance the achievement of groundwater sustainability.

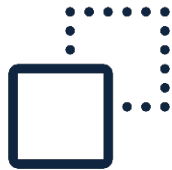


# Demand Management Examples

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**Municipal  
Conservation**



**Water Offset  
Programs**



**Invasive Species  
Removal**



**Urban  
Retrofitting**



**Irrigation  
Improvements**



**Pumping  
Fees**



**Rotational  
Fallowing**



**Land  
Repurposing**



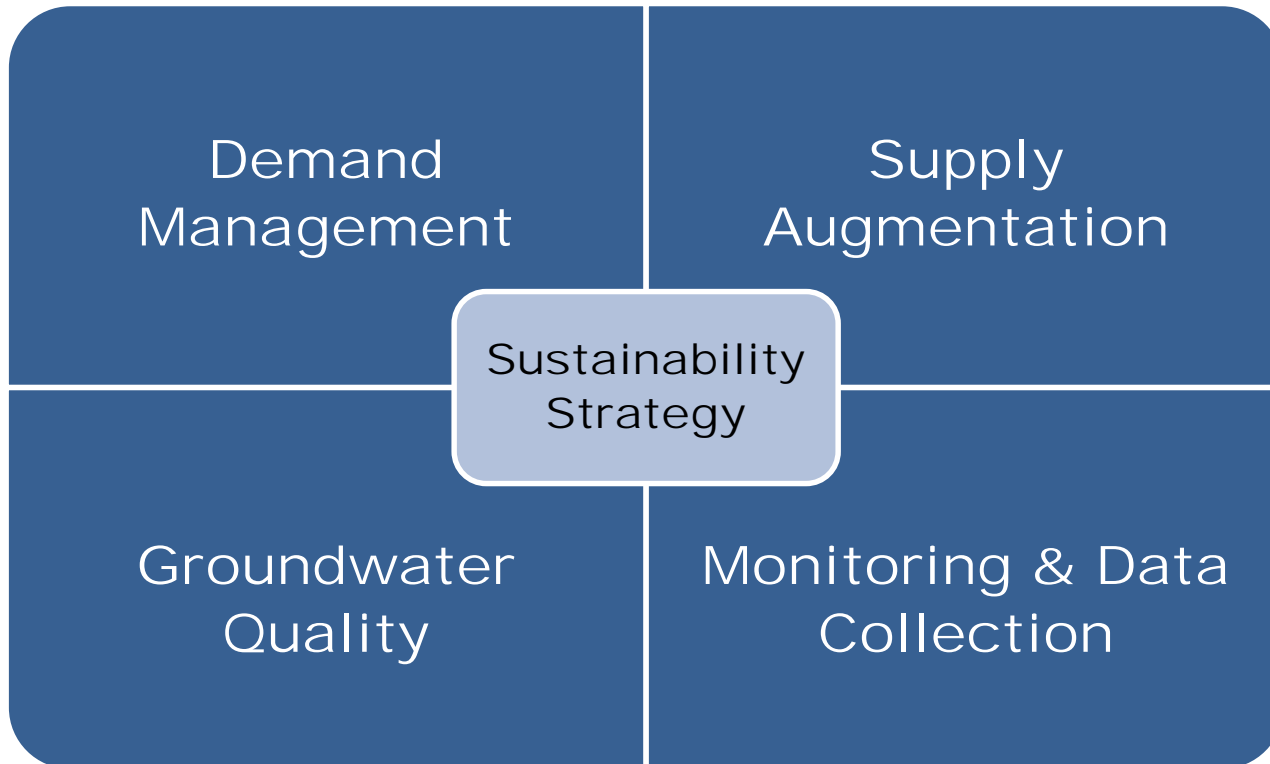
**Extraction  
Allowance**

Demand Management

# Achieving Sustainability

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Demand Management is NOT implemented in a vacuum.



# Why Consider Demand Management?

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- Stabilize and/or recover local water tables
- Reduce aquifer compaction and associated land subsidence
- Mitigate the migration of dangerous toxic plumes
- Maintain historical surface water and groundwater interconnection
- Ensure long-term adequacy of supplies for beneficial uses and users
- Combat seawater intrusion

... in other words, to avoid the six (6) significant and unreasonable undesirable results!

# Designing Demand Management

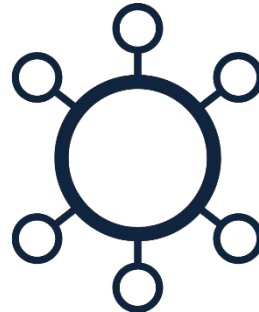
Individual Demand Management projects and management actions can be:



## Focused

Intended to address a specific problem in a specific area through a specific action.

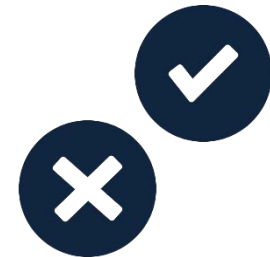
or



## Fundamental

A system or program in which all stakeholders are required to participate.

or



## Optional

Available to users as an incentivized option, but not an obligation.

*Well-designed Demand Management activities are structured to provide certainty, generate opportunity, and (most importantly) contribute to sustainability!*

# SGMA & Demand Management

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- SGMA describes the powers and authorities GSAs may use to achieve local groundwater sustainability.
- GSAs can:
  - Adopted rules, regulations, ordinances, and resolutions (WAT § 10725.2)
  - Require the registration of wells (WAT § 10725.6)
  - Require monitoring of groundwater extractions through meters or other methods (WAT § 10725.8)
  - Acquire property, easements, and water rights (WAT § 10726.2(a) and (b))
  - Provide for voluntary fallowing or validate existing programs (WAT § 10726.2(c))
  - Control groundwater extractions through well spacing requirements, establishment of allocations, regulation of existing and new wells (WAT § 10726.4)
  - Impose permit and extraction fees (WAT § 10730)
  - Impose financial penalties for overuse (WAT § 10732)
  - And much else...



# Demand Management in the 180/400-Foot

## Historical / Preexisting

- Monterrey County GMP
- UWMPs
- CSIP Water Deliveries
- Groundwater Export Prohibition (MCWRA § 52.21)
- AOI New Well Moratorium (Ordinance No. 5302), *expired*
- 180-Foot Aquifer Extraction and New Well Prohibitions (Ordinance No. 3709)

## GSP

- Water Charges Framework
- Agricultural Land & Pumping Allowance Retirement (MA 1)
- Outreach/Education - Ag BMPs (MA 2)
- CSIP Pumping Restrictions (MA 4)
- Deep Aquifer Well Restrictions (MA 5)
- Invasive Species Eradication (PP 1)
- Expand CSIP Service Area (PP 4)
- Urban & Rural Residential Conservation

# Implementing Demand Management

Issue Identification

What is the Problem we are trying to solve?

Stakeholder Representation

Who is being impacted by the Problem? Who will be impacted by its Solution(s)? How will they be represented?

Options Assessment

What Options do we have to address the Problem?

Iterative Development

What should our Solution(s) look like?

Acceptance & Outreach

Are Stakeholders aware of and do they support the chosen Solution(s)?

Implementation

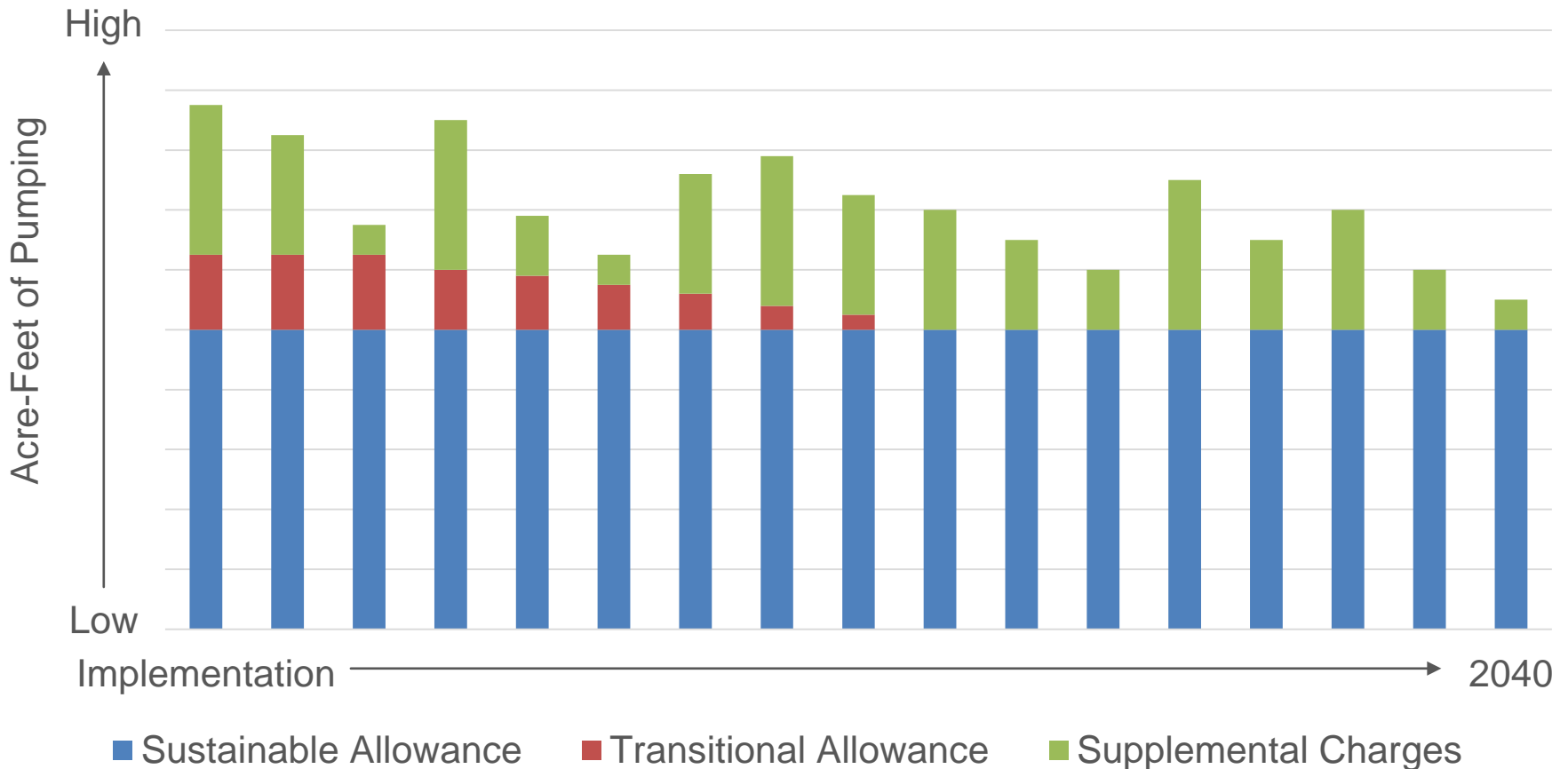
Go!

# Water Charges Framework

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- **What it is:** A tiered system of groundwater pumping allowances with associated fees used to fund local projects and management actions
- **What it's not:** A enforced limitation of pumping
- **What it does:**
  - Allows groundwater users to make individual financial decisions
  - Incentivizes water management innovation
  - Identifies a glide path toward sustainable pumping
  - Provides a source of funding for other SGMA activities (incl. supply acquisition)
  - Encourages groundwater pumping reductions
- **What has to be figured out:**
  - Individual Allocations
  - Tiered Fees
  - Trading
  - Carry Over
  - Banking
  - Monitoring
  - Adjustment Process
  - And much more!

# Demand Management Example Approach



# Why Allocations & Trading?

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**Provide Certainty**



**Compensate Mutually & Beneficially**



**Enable Optionality**



**Incentivize Innovation**



**Recognize Scarcity**



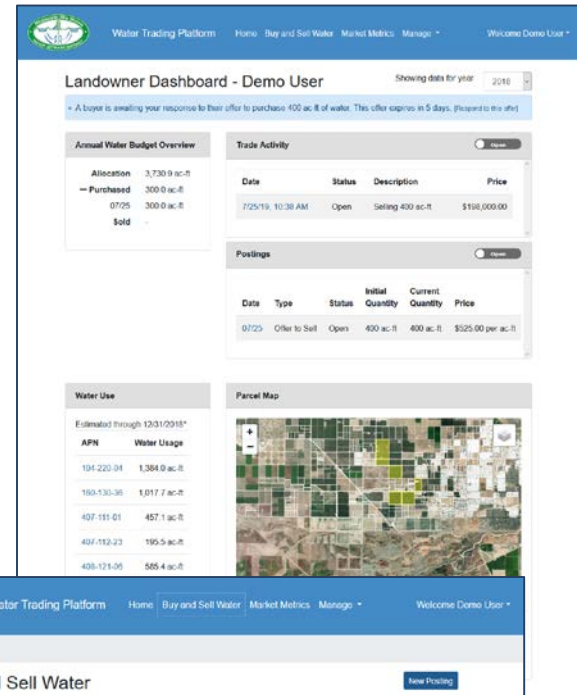
**Create Value**



## Demand Management

# A Case Study: Rosedale-Rio Bravo WSD

- **Who:** Rosedale-Rio Bravo Water Storage District (in collaboration with EDF, WestWater, and others)
- **What:** A water accounting and trading platform
  - Provides growers with a tool for tracking water use
  - Utilizes remote ET sensing as monitoring method
  - Enables transfers, and associated groundwater model can evaluate impacts
  - Fees are assessed to fund sustainability
- **Why:**
  - Fund the least-cost methods of achieving sustainability
  - Water is an asset if it can be managed (and can be a liability if stranded)
  - Lack of transfers exacerbates SGMA's economic impacts



Water Trading Platform | Home | Buy and Sell Water | Market Metrics | Manage | Welcome Demo User

Showing data for year: 2018

A buyer is awaiting your response to their offer to purchase 400 ac-ft of water. This offer expires in 5 days. (Respond to this offer)

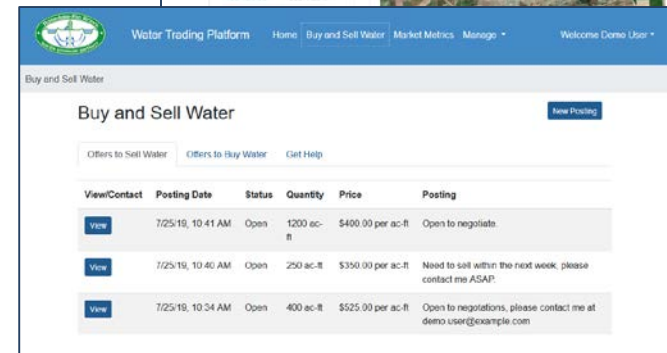
Annual Water Budget Overview	
Allocation	3,730.0 ac-ft
→ Purchased	300.0 ac-ft
07/25	300.0 ac-ft
Sold	-

Trade Activity			
Date	Status	Description	Price
7/25/19, 10:38 AM	Open	Selling 400 ac-ft	\$198,000.00

Postings					
Date	Type	Status	Initial Quantity	Current Quantity	Price
07/25	Offer to Sell	Open	400 ac-ft	400 ac-ft	\$525.00 per ac-ft

Water Use	
Estimated through 12/31/2018*	
APN	Water Usage
104-220-04	1,384.0 ac-ft
160-130-36	1,017.7 ac-ft
407-151-01	457.1 ac-ft
407-152-23	195.5 ac-ft
408-121-05	585.4 ac-ft

Parcel Map



Water Trading Platform | Home | Buy and Sell Water | Market Metrics | Manage | Welcome Demo User

Buy and Sell Water

Offers to Sell Water | Offers to Buy Water | Get Help

View/Contact	Posting Date	Status	Quantity	Price	Posting
<a href="#">View</a>	7/25/19, 10:41 AM	Open	1200 ac-ft	\$400.00 per ac-ft	Open to negotiate
<a href="#">View</a>	7/25/19, 10:40 AM	Open	250 ac-ft	\$350.00 per ac-ft	Need to sell within the next week, please contact me ASAP.
<a href="#">View</a>	7/25/19, 10:34 AM	Open	400 ac-ft	\$525.00 per ac-ft	Open to negotiations, please contact me at demo.user@example.com

# How does it all work together?

## Funding Source

## Activity

Prop 26 Fee

- General Administration
- Outreach & Education

Water Charges  
Framework

- Invasive Species Eradication
- CSIP Projects
- CSIP Service Area Expansion
- Seawater Extraction Barrier
- Ag Land Retirement
- M1W
- Other Projects & Management Actions

Grants, Loans, &  
Partner Funding

Demand Management

# Where do we go from here?

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**Reminder – Demand Management is one component of SVBGSA's comprehensive and coordinated sustainability strategy.**

## **Potential Next Steps**

1. Prioritize Demand Management alternative(s) for implementation
2. Select stakeholder group to assist in designing immediate alternative(s)
3. Research, study, analyze and recommend on approach
4. Integrate into overarching sustainability strategy
5. Implement

# 3. Discussion