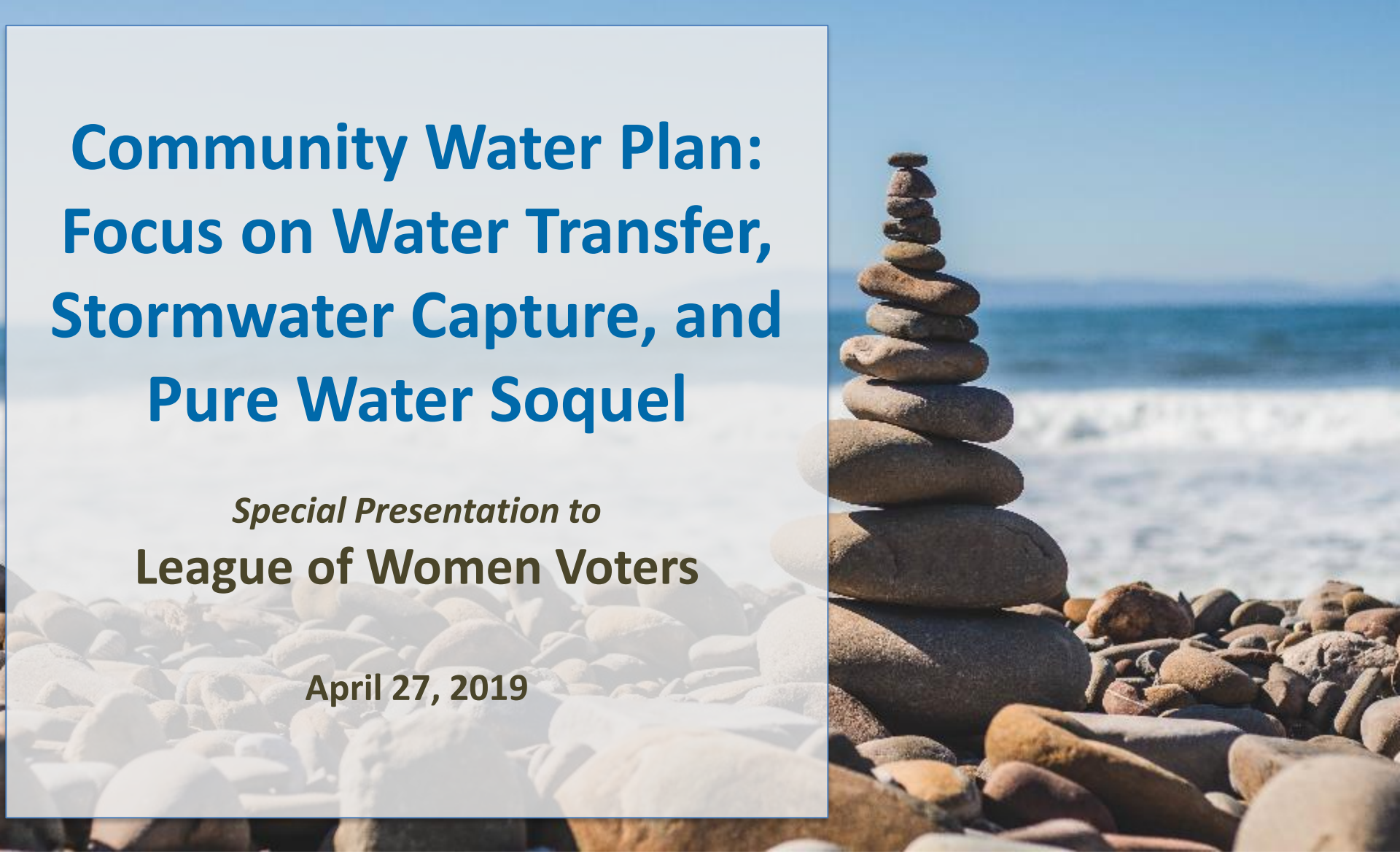
Community Water Plan: Focus on Water Transfer, Stormwater Capture, and Pure Water Soquel

Special Presentation to

League of Women Voters

April 27, 2019

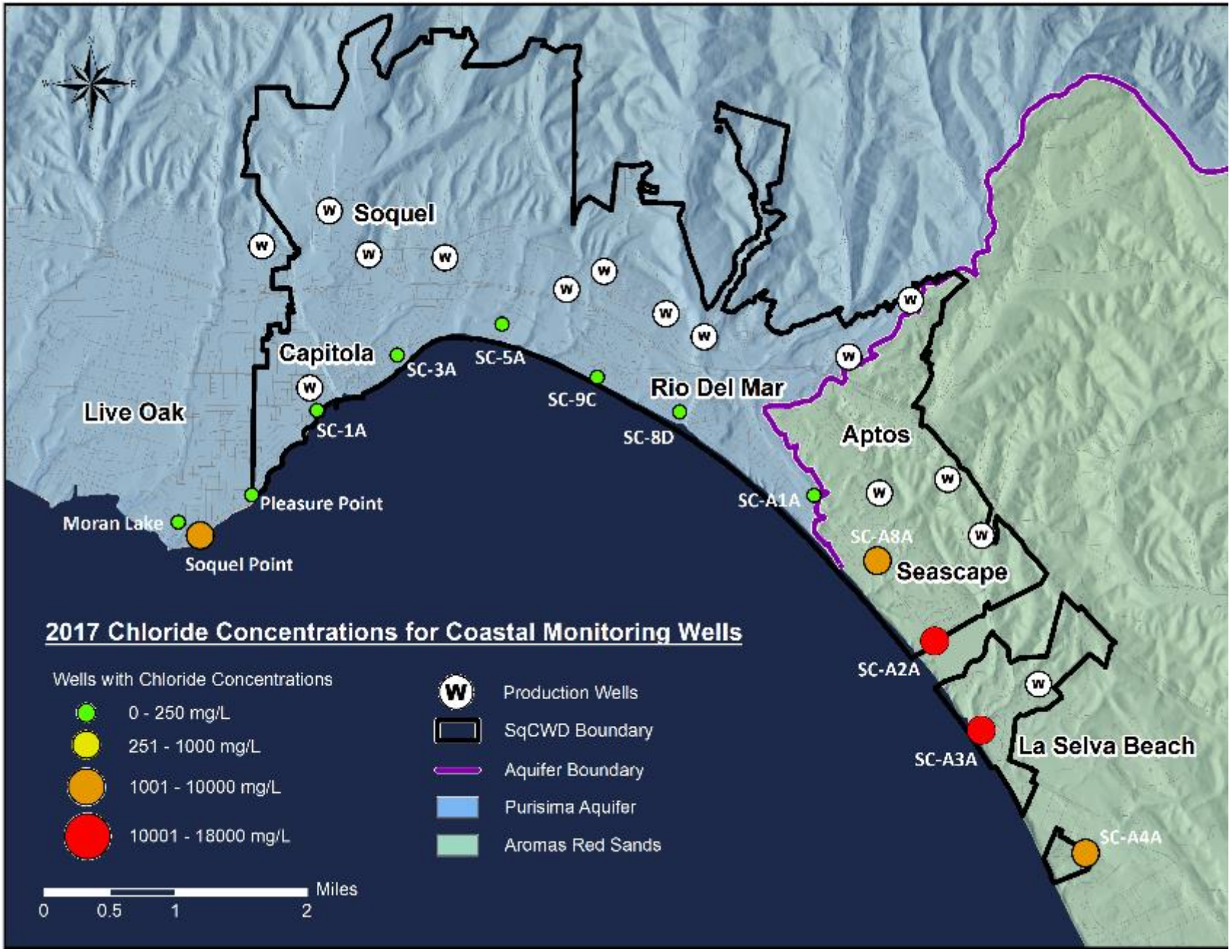


SOQUEL CREEK WATER DISTRICT

Who We Are

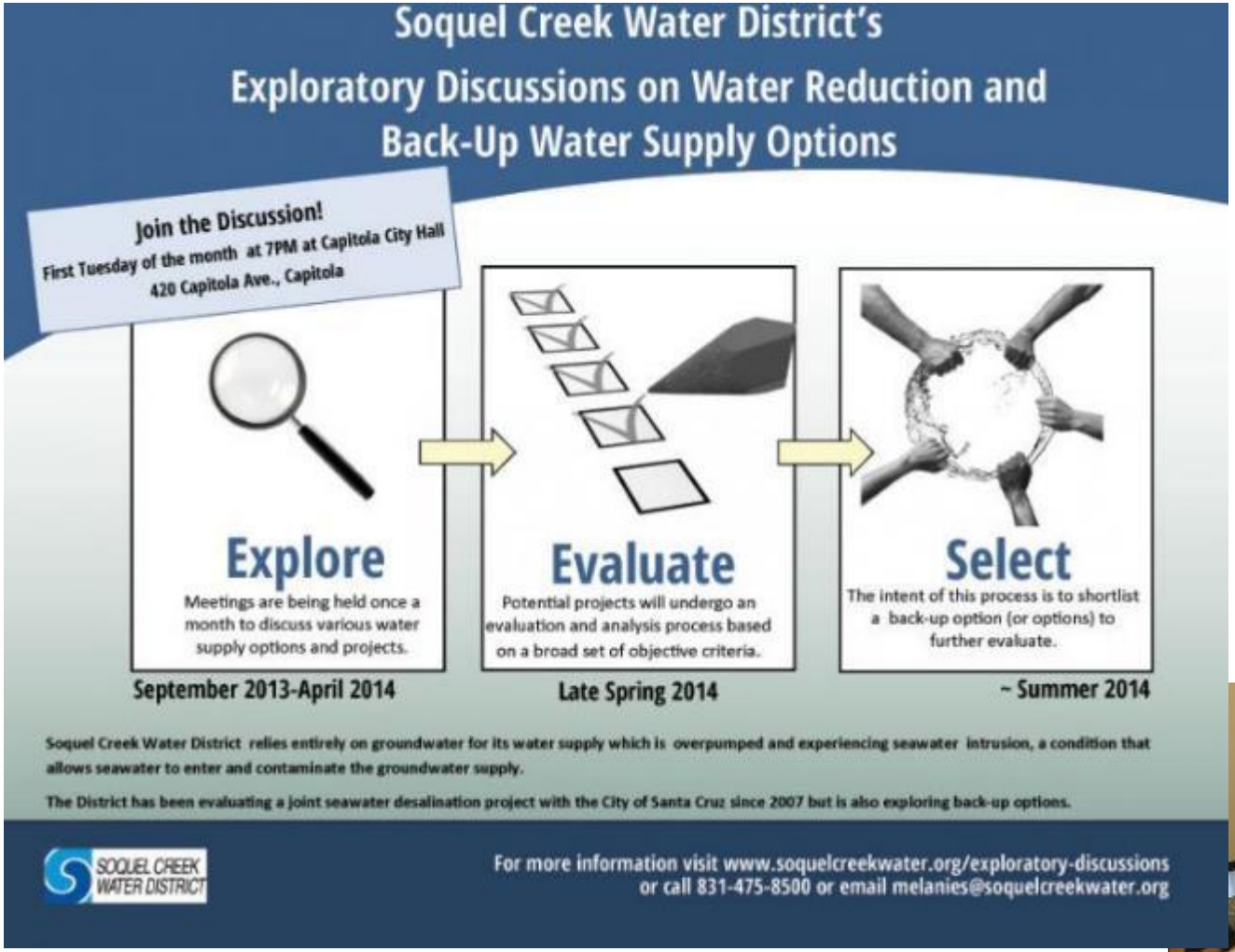

Soquel
Soquel Dr.
Highway 1
Santa Cruz
Aptos
Capitola
Capitola Rd.
Live Oak
Portola Dr.
41st Ave
Highway 1
Rio Del Mar
Monterey Bay
La Selva
Beach
Watsonville
0 0.5 1 2 Miles

The Problem is Real and Measurable:



Our Multi-Faceted Solution

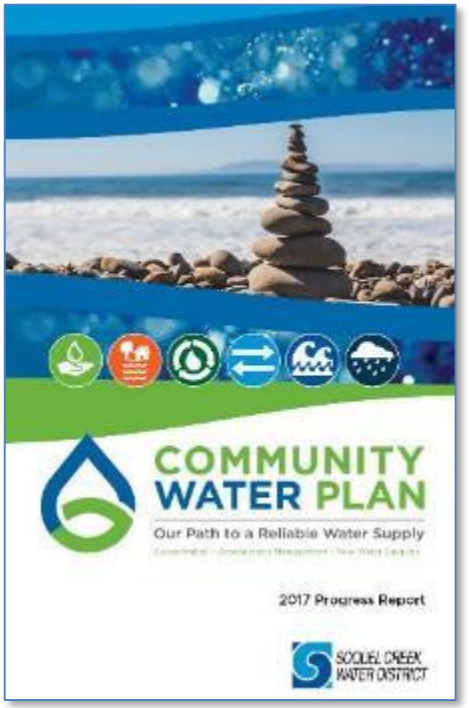
Process and Community Input



Community Water Plan

Created With Our Community,
For Our Community

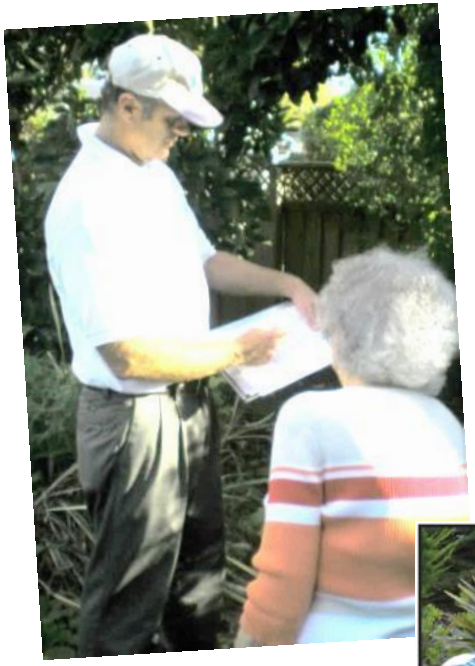
Conservation + **GW Mgmt.** + **New Supplies**

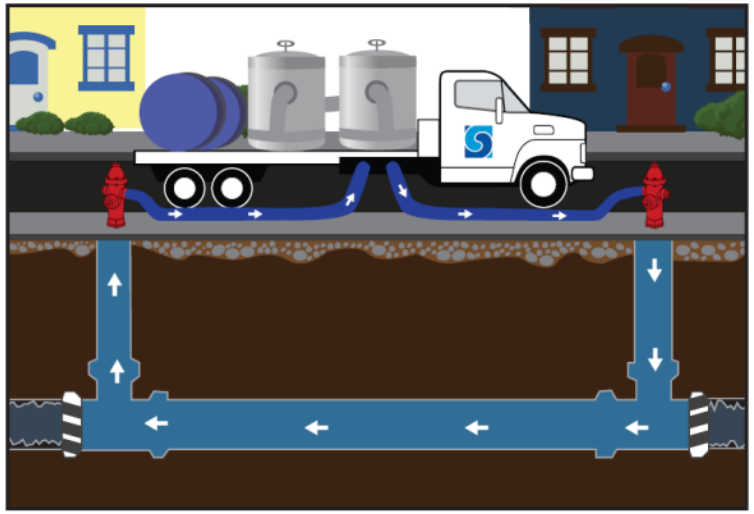


Our Goals:

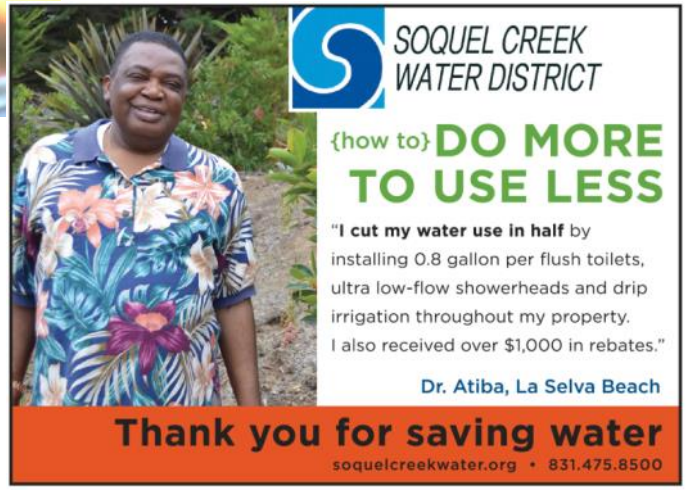
- Protect Against Further Seawater Intrusion
- Water for the Future
- Environmental Protection

Robust Conservation is essential





Customers currently using approximately 50-60 gallons per person per day



Our Community Water Plan Supply Options:

Water Purification
Pure Water Soquel

~1,200 to 1,500 acre feet per year

River Water Transfers

~300 acre feet per year

Storm Water Capture

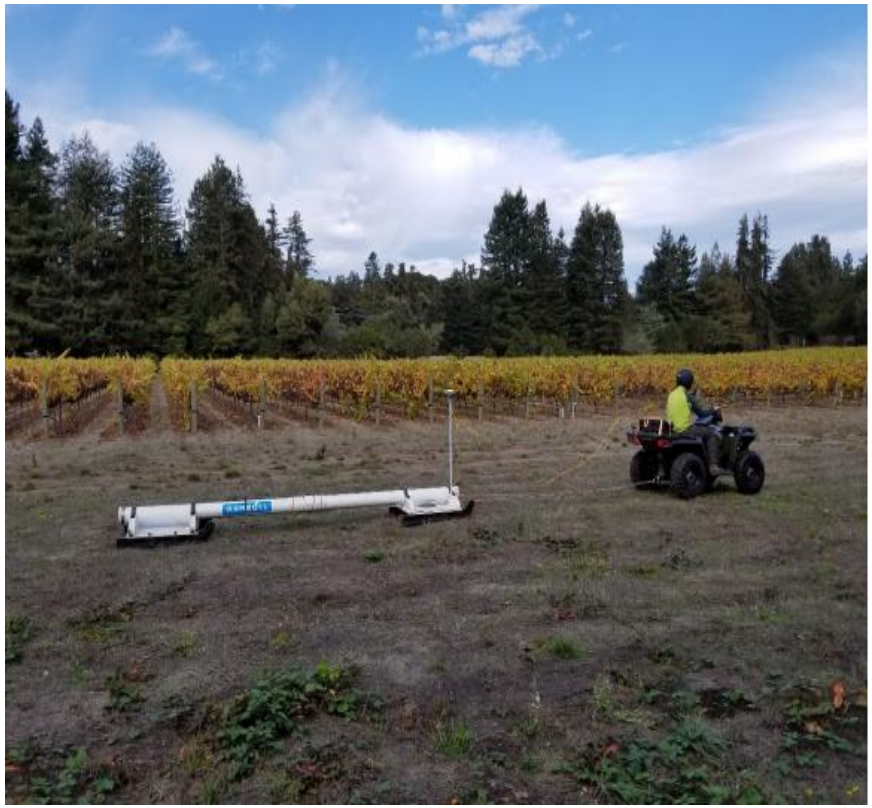
~10-100 acre feet per year

Desalination

Up to 1,500 acre feet per year

The solution may involve a combination of
Regional supplemental water supply options
In collaboration and partnerships with others

Stormwater Capture Evaluation



The DualEM method uses a electromagnetic sensor mounted on a sled which maps the near surface geology, which is towed by an all terrain vehicle.

Working with:

SOQUEL CREEK WATER DISTRICT

River Water Transfers

- **Short Term Pilot Purchase Project (2015-2020)**
  - **Evaluating water quality and operational considerations**

- **Long Term Water Purchase or Transfer Project**
  - **Findings from City Water Commission Meeting on April 1**

Working with:

CITY OF SANTA CRUZ

City's Recent Analysis: "Not Enough Water"

April 1, 2019- Joint Meeting: City of Santa Cruz and Former Water Supply Advisory Committee Meeting

River Water Transfer? – Not enough

FLOWS	DEMAND	FRACTIONS OF WATER YRS ACHIEVING VOLUME TARGETS					
		Current GHWTP			Improved GHWTP		
		Annual 1500 AF	Off-Pk 500 AF	Off-Pk 300 AF	Annual 1500 AF	Off-Pk 500 AF	Off-Pk 300 AF
Historical	3.2 bg	0%	15%	60%	15%	70%	90%
	2016-18	30%	95%	98%	45%	96%	99%
GFDL CC	3.2 bg	0%	2%	3%	15%	85%	100%
	2016-18	10%	98%	100%	55%	100%	100%
CMIP5 CC	3.2 bg	15%	45%	55%	40%	55%	80%
	2016-18	45%	95%	100%	55%	99%	100%
Catalog C[illegible]	3.2 bg[4]	N/A	N/A	N/A	N/A	N/A	N/A
	2016-18	0%	5%	20%	20%	80%	85%

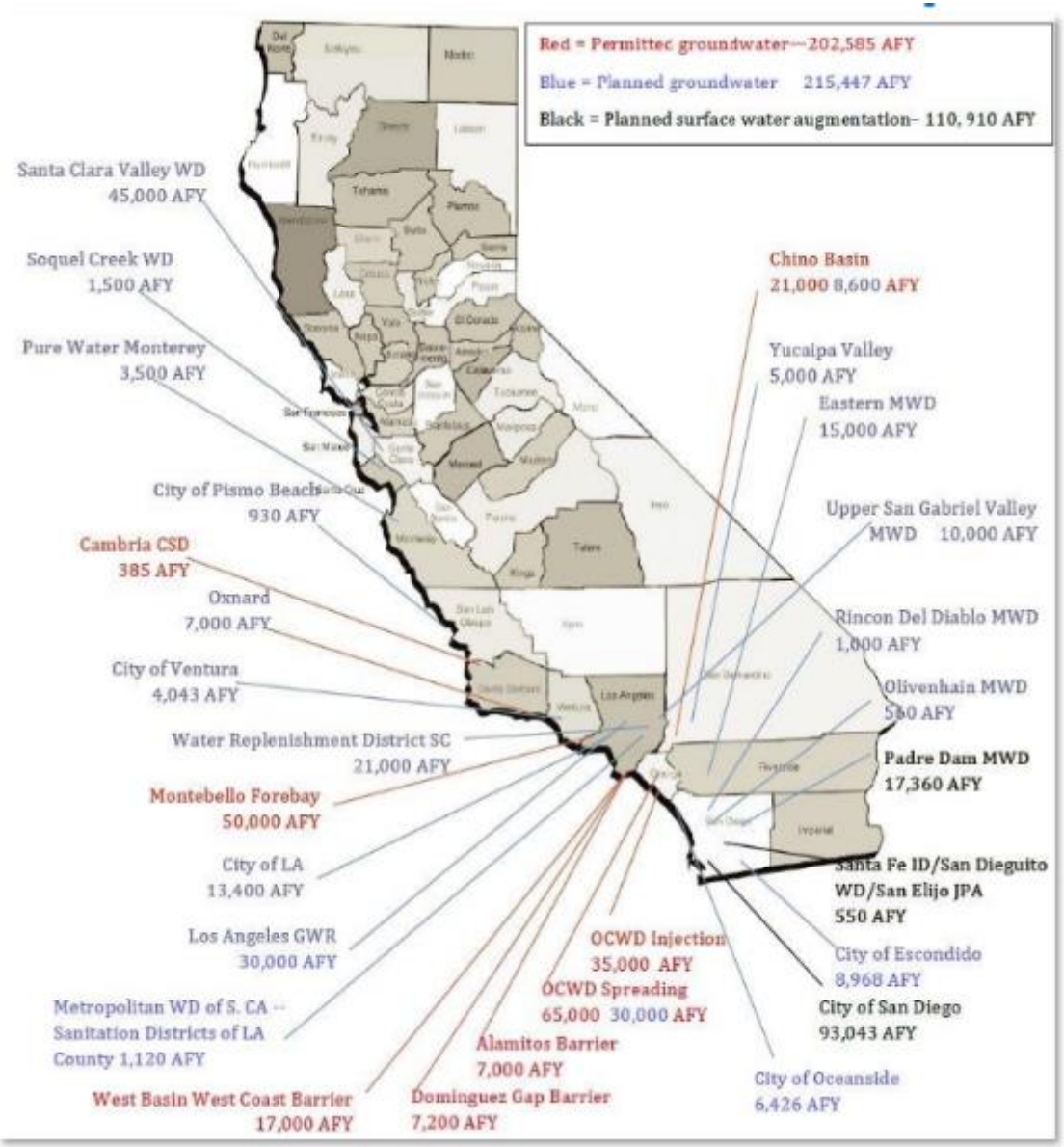
The table indicates that in none of the options considered can the City reliably provide the full amount of what Soquel Creek has identified as what is needed to meet its goal of protecting the aquifer from the threat of seawater intrusion. The analysis does show that lower volumes of

Past, Present, & Future Water Recycling

1975

Recycling and purifying wastewater became a reality in Orange County.

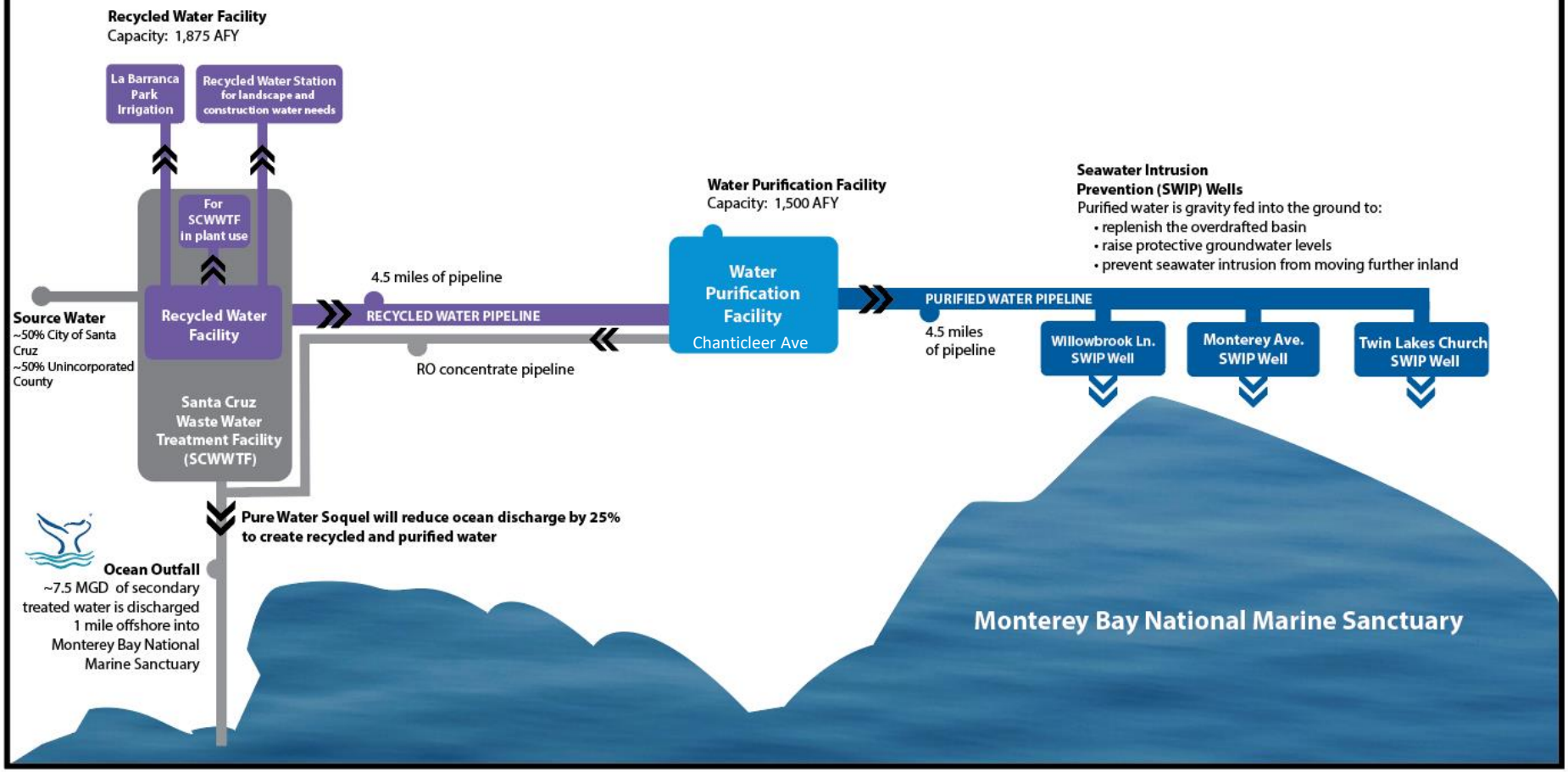
As imported water supplies became less available, another source of water was needed to fight seawater intrusion. In April 1975, OCWD unveiled Water Factory 21 (WF 21). This facility took treated wastewater from the Orange County Sanitation District (OCSD), blended it with deep well water and injected it into the basin at the Talbert Seawater Barrier. In 1977, WF 21 was the first in the world to use reverse osmosis to purify wastewater to drinking water standards. WF 21 received the first permit ever issued for direct injection of unblended purified wastewater into a seawater intrusion barrier in 1991.



SOQUEL CREEK WATER DISTRICT
5180 Soquel Dr., Soquel, CA 95073
soquelcreekwater.org
831-475-8500

PUREWater Soquel

Replenishing Mid-County Groundwater &
Preventing Further Seawater Intrusion



Working with:

CITY OF CAPITOLA INCORPORATED 1949

THE COUNTY OF SANTA CRUZ 1850

CITY OF SANTA CRUZ

PUREWater Soquel

Replenishing Mid-County Groundwater &
Preventing Further Seawater Intrusion

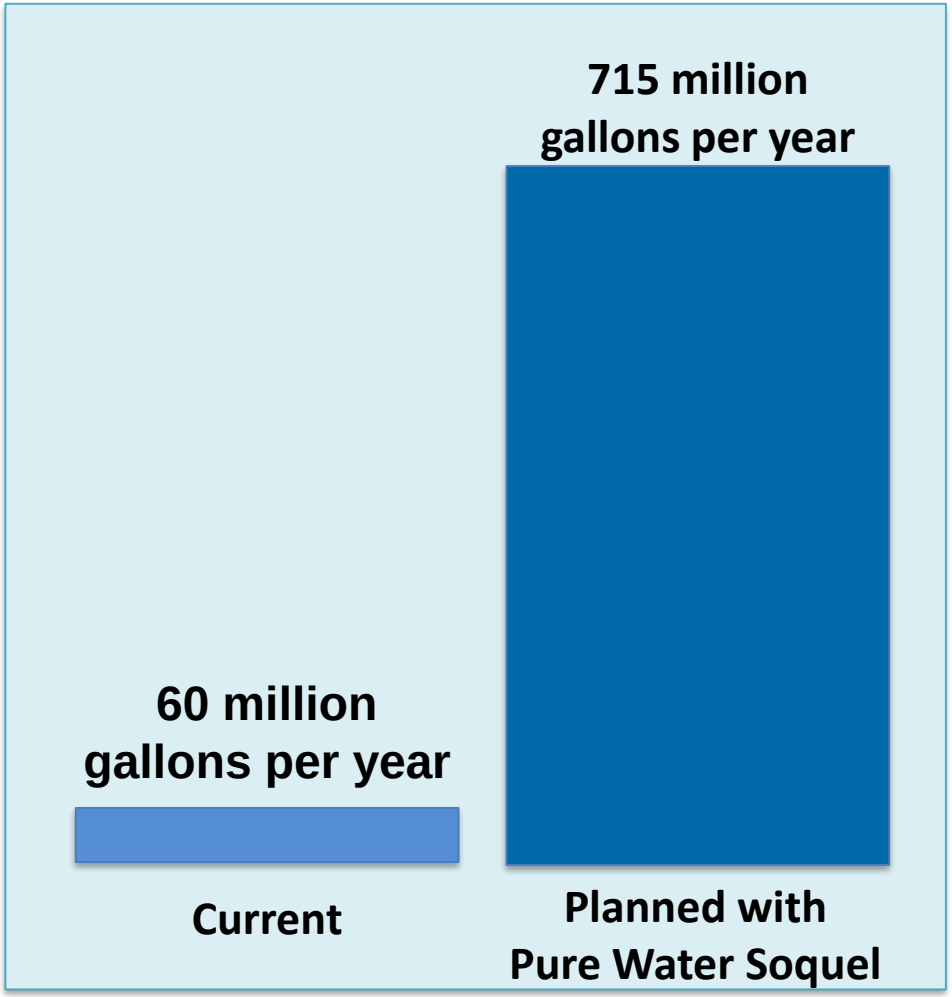
GREEN ENERGY IS CLEAN ENERGY.

PUREWater Soquel

Replenishing Mid-County Groundwater &
Preventing Further Seawater Intrusion

The Project will recycle
25% of the
~8 million gallons per day of
treated wastewater that
currently goes out into the
Monterey Bay National
Marine Sanctuary

Expanding Recycled Water Use in Mid-County



What could a purification facility look like?

Examples of the typical sized water purification facility being considered

Independent Panel Providing Oversight

"The Panel concludes that the Project is plausible, feasible, and …can produce water that meets all drinking water requirements and is protective of public health and the environment."

– National Water Research Institute (NWRI) Report, 2017

Santa Cruz Sentinel

WATER UTILITIES

News ▾ Sports ▾ The Cannifornian Entertainment ▾ Lifestyle ▾ Opinion ▾ Obituaries ▾

Home › News › Business › Water utilities

National expert panel gives Soquel Creek recycled water plan thumbs up

By **Jessica A. York**, *Santa Cruz Sentinel*

POSTED: 12/18/17, 7:50 PM PST | UPDATED: ON 12/18/2017 1 COMMENT

SOQUEL >> Soquel Creek Water District's proposal to purify wastewater and inject it underground to replenish overtaxed aquifers is "plausible, feasible and protective of public health," according to a third-party review.

The comment was included in a detailed report issued by an independent advisory panel

If you go

What: Soquel Creek Water District board meeting.

When: 6 p.m., Tuesday.

Where: Capitola City Council Chambers, 420

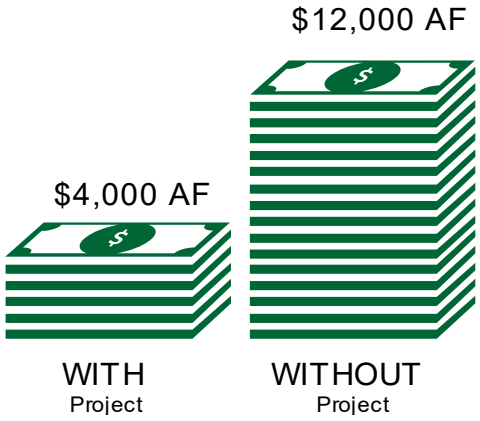
Economic Impacts Analysis

$903M

Total Economic Benefit

RESIDENTIAL BUSINESS ENVIRONMENTAL

HIGHER COST OF WATER TO CUSTOMERS*



Key Milestones

- ✓ Over $2M in grants from State Water Resources Control Board and the US Bureau of Reclamation
- ✓ Submitted Prop 1 Groundwater Grant Application to prevent further seawater intrusion for $50M
- ✓ Environmental Impact Report Certified and Project Approved
- ✓ Initiated Design and permitting with the State

Pure Water Soquel Costs

- Capital Cost: ~$90 million (2022 dollars)

- With Potential Grants and Low Interest Loans, project costs could decrease by 50%

Pure Water Soquel Proposed Timeline

Evaluate: 2015-2018	CEQA EIR approved December 2018	Permit, Design, & Construct: 2019-2022	Goal to Replenish the Basin: 2040


www.SoquelCreekWater.org


What is PURE Water Supply?


the ocean is ALIVE
the ocean is ALIVE

SOQUEL CREEK WATER DISTRICT

www.soquelcreekwater.org

THANK YOU!

Melanie Mow Schumacher
Project Projects/Comm.
melanies@soquelcreekwater.org
831-475-8501x153