SANTA CRUZ MID-COUNTY GROUNDWATER AGENCY

Saturday, April 27, 2019, 10:00 a.m.

League of Women Voters - Capitola City Council Chambers

Presentation Objectives

- Increase Groundwater Understanding
  - What is the Sustainable Groundwater Management Act (SGMA)?
  - Who is the MGA?
  - What challenges lie ahead?
    - What is groundwater sustainability?
    - How do we become sustainable?
  - How can you make a difference?

What is SGMA?

- Sustainable Groundwater Management Act of 2014
  - First comprehensive groundwater management legislation in California
- Requires:
  - Regional Groundwater Sustainability Agency
  - Groundwater Sustainability Plan (GSP)
  - Groundwater management to achieve sustainability by 2040 in our basin

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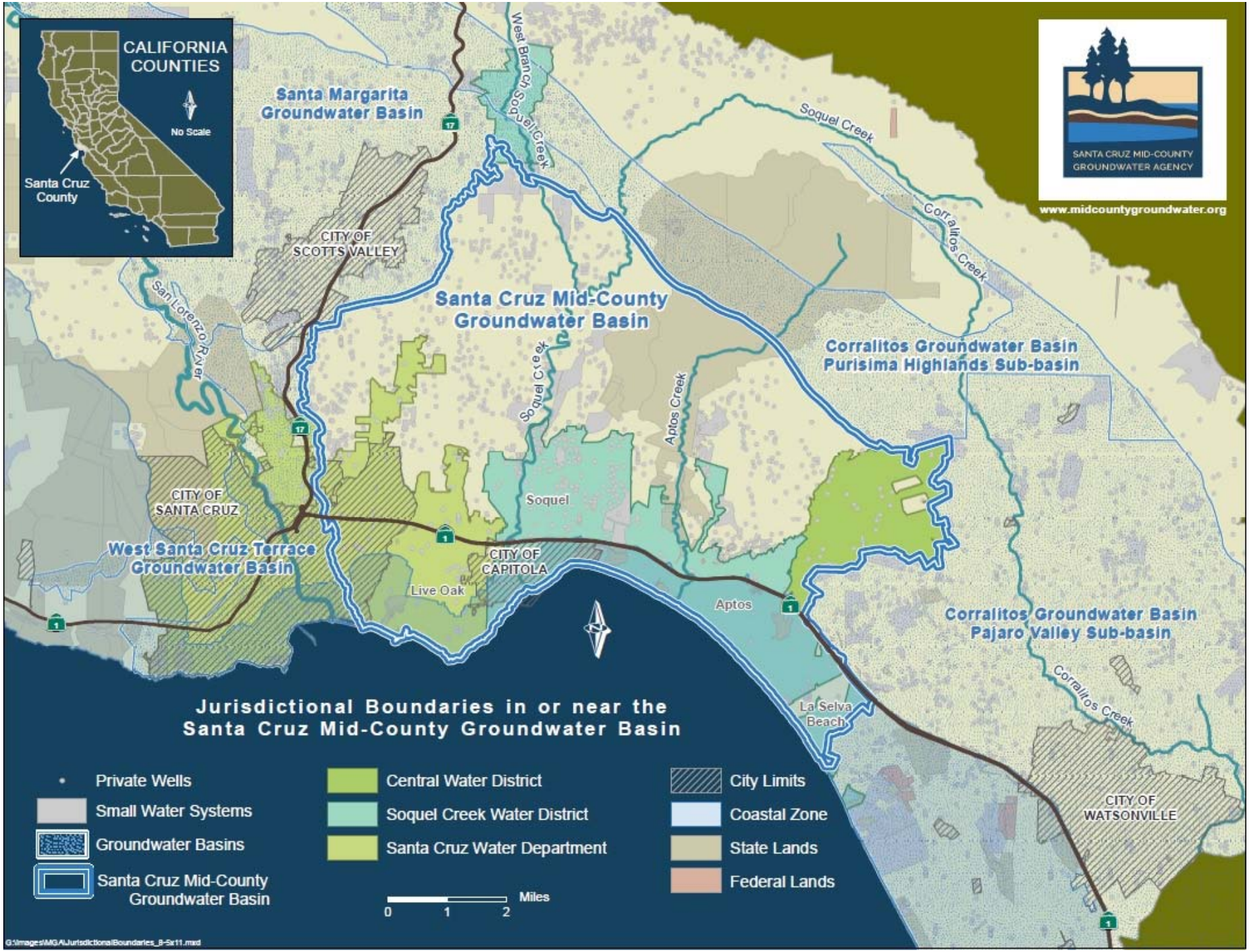
WHO IS THE MGA?

Who Represents My Interests?

Who is the MGA?

- MGA Members
  - Water Agencies
    - County of Santa Cruz (well permit/small water system regulatory agency, land use)
    - City of Santa Cruz (water supplier/permits/land use)
    - Central Water District (water supplier)
    - Soquel Creek Water District (water supplier)
  - Private Well Owners
    - Three Board members represent private wells
  - Executive Team/Staff


CALIFORNIA COUNTIES
No Scale
Santa Cruz County
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www.midcountygroundwater.org
Santa Margarita Groundwater Basin
West Branch Soquel Creek
Soquel Creek
Corralitos Creek
CITY OF SCOTTS VALLEY
San Lorenzo River
Santa Cruz Mid-County Groundwater Basin
Corralitos Groundwater Basin Purisima Highlands Sub-basin
Soquel Creek
Aptos Creek
CITY OF SANTA CRUZ
Soquel
West Santa Cruz Terrace Groundwater Basin
CITY OF CAPITOLA
Live Oak
Aptos
Corralitos Groundwater Basin Pajaro Valley Sub-basin
Corralitos Creek
La Selva Beach
CITY OF WATSONVILLE
Jurisdictional Boundaries in or near the Santa Cruz Mid-County Groundwater Basin
Private Wells
Small Water Systems
Groundwater Basins
Santa Cruz Mid-County Groundwater Basin
Central Water District
Soquel Creek Water District
Santa Cruz Water Department
City Limits
Coastal Zone
State Lands
Federal Lands
Miles
0 1 2
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WHAT ARE OUR GROUNDWATER SUSTAINABILITY CHALLENGES?

Why Should I Care?

Why Care About Groundwater?

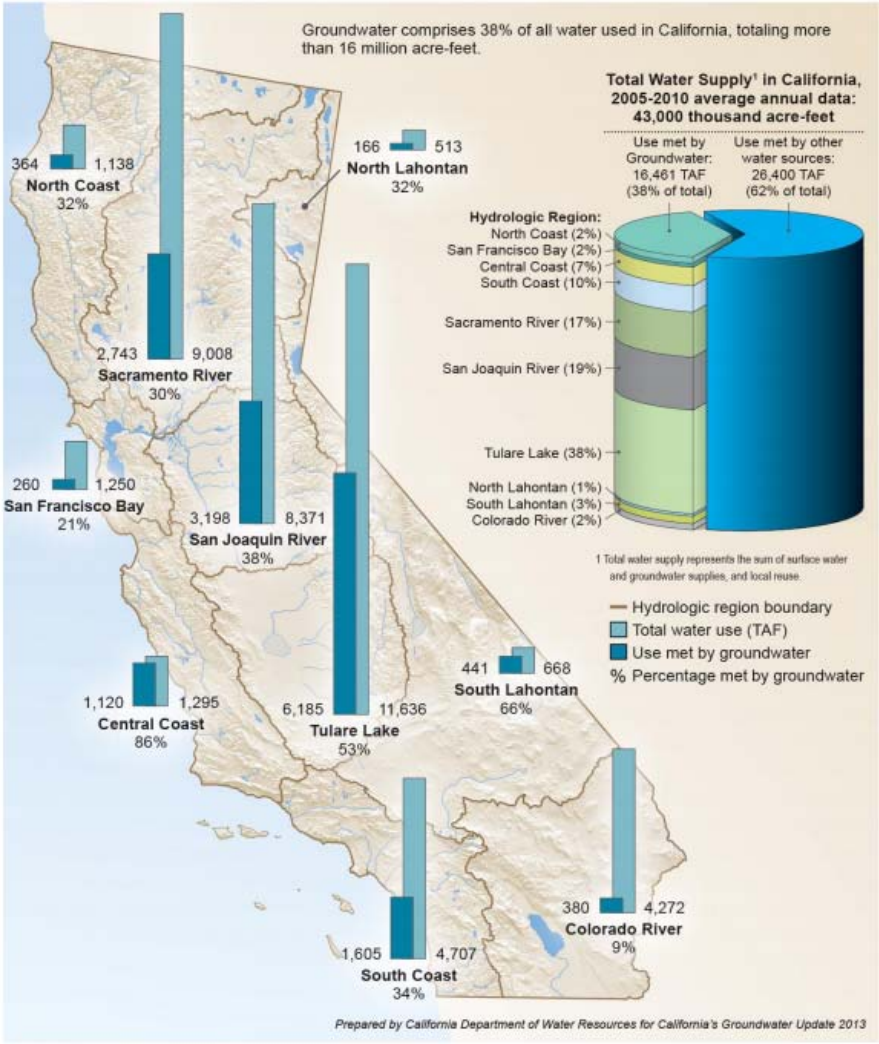
State Mandate

Central Coast is Groundwater Dependent

Region – ~85% Groundwater Supply*

Santa Cruz County – ~80% Groundwater Supply

*2005-2010 pre-drought water demand published April 2015 by DWR



Groundwater Challenges (statewide)

Sustainability Indicators

SGMA requires GSAs to develop and implement Groundwater Sustainability Plans (GSPs) for managing and using groundwater. Each GSP must consider the following sustainability indicators:

Groundwater-Level Declines

Long-term declines in groundwater levels occur when groundwater withdrawals exceed recharge of the aquifer system. Such declines are indicative of unsustainable groundwater use, and are the primary cause of the other sustainability indicators, described below.

Land Subsidence

Extensive groundwater withdrawals from aquifer systems have caused land subsidence in many California basins. Land subsidence can damage structures such as wells, buildings, and highways. They also can create problems in the design and operation of facilities for drainage, flood protection, and water conveyance. Groundwater-level and land-subsidence monitoring provide the information needed to guide mitigation efforts and management of future effects.

Seawater Intrusion

Seawater intrusion associated with lowering of groundwater levels is an important issue in many of California's coastal groundwater basins. Quantifying the rate and extent of seawater intrusion involves understanding the aquifer–ocean interconnection and distinguishing among multiple sources of saline water.

Groundwater-Storage Reductions

Long-term declines in groundwater levels, if predominant within a basin and not offset by rising groundwater levels, cause long-term reductions in groundwater storage. Changes in groundwater storage can be estimated by using direct measurements, such as measuring groundwater levels, and indirect measurements, such as remote sensing, coupled with modeling tools.

Interconnected Surface-Water Depletions

Groundwater and surface water are interconnected resources. Much of the flow in streams, and the water in lakes and wetlands, is sustained by the discharge of groundwater, particularly during dry periods. Coordinated measurement and modeling of surface and groundwater conditions generally are needed to estimate surface-water changes that result from groundwater development.

Water-Quality Degradation

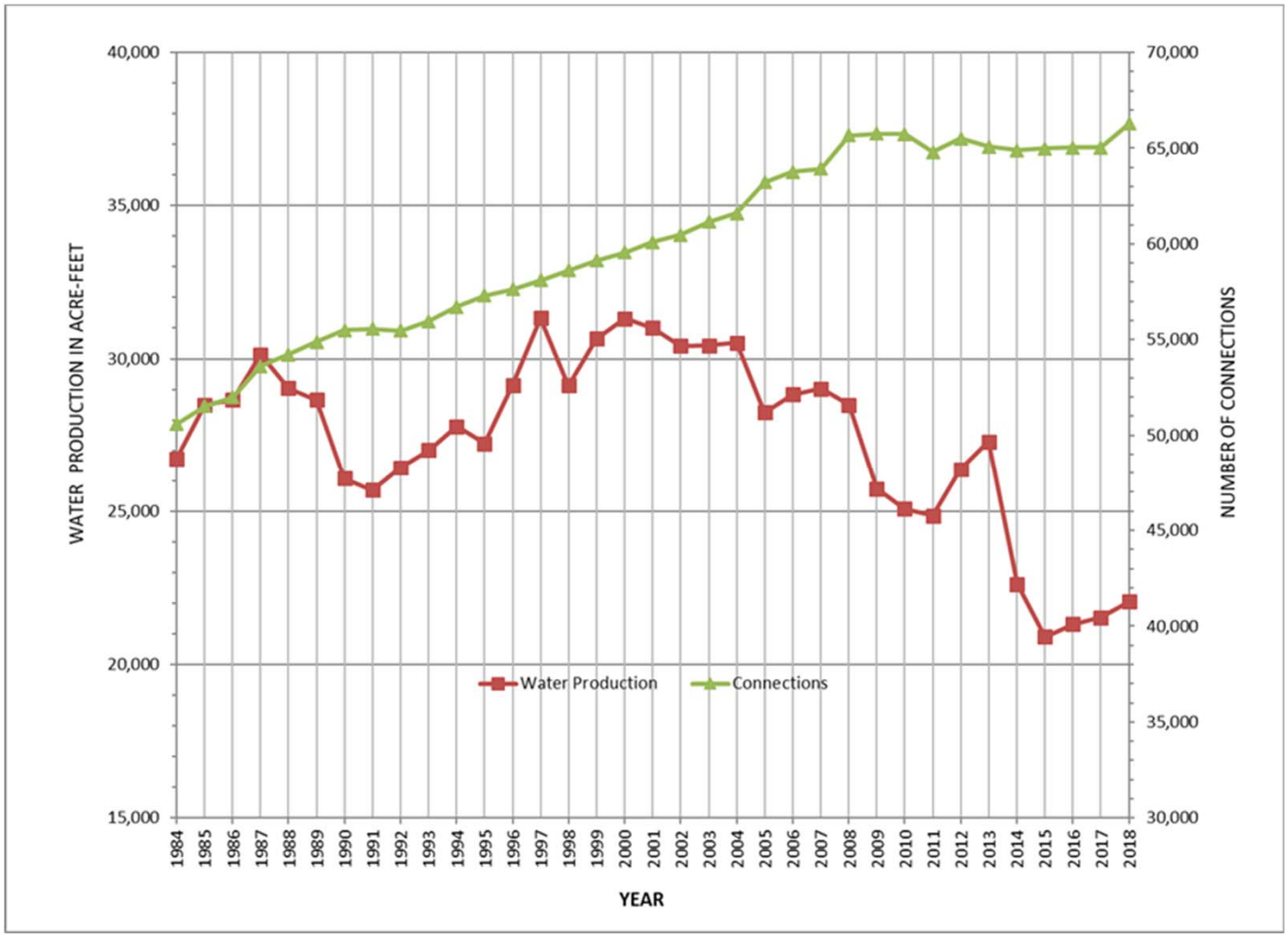
Determining changes in groundwater quality over time, often associated with changing groundwater levels, involves systematic monitoring of constituents of concern, coupled with understanding of the dynamics of the groundwater-flow system.

Groundwater Challenges (local)

- Our Water is Groundwater
  - Local Challenges Include:
    - Seawater Intrusion
    - Surface Water Depletions
    - Successful Water Conservation
- Groundwater is our Future
    - Climate Change Impacts
    - Water Supply Reliability

Population is not the Problem

County of Santa Cruz



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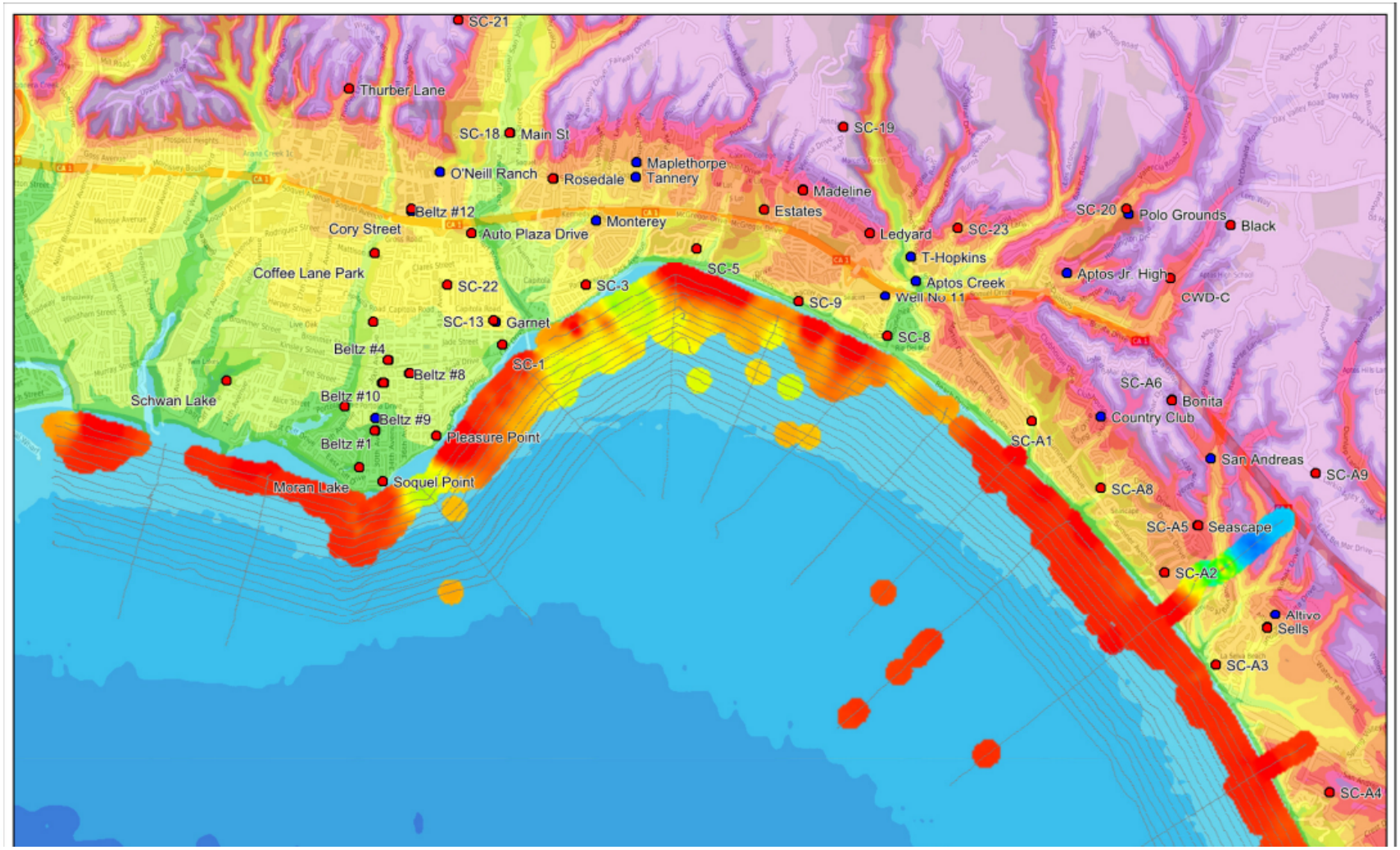
WHAT IS THE MGA DOING TO ADDRESS THESE CHALLENGES?

How Can I Help?

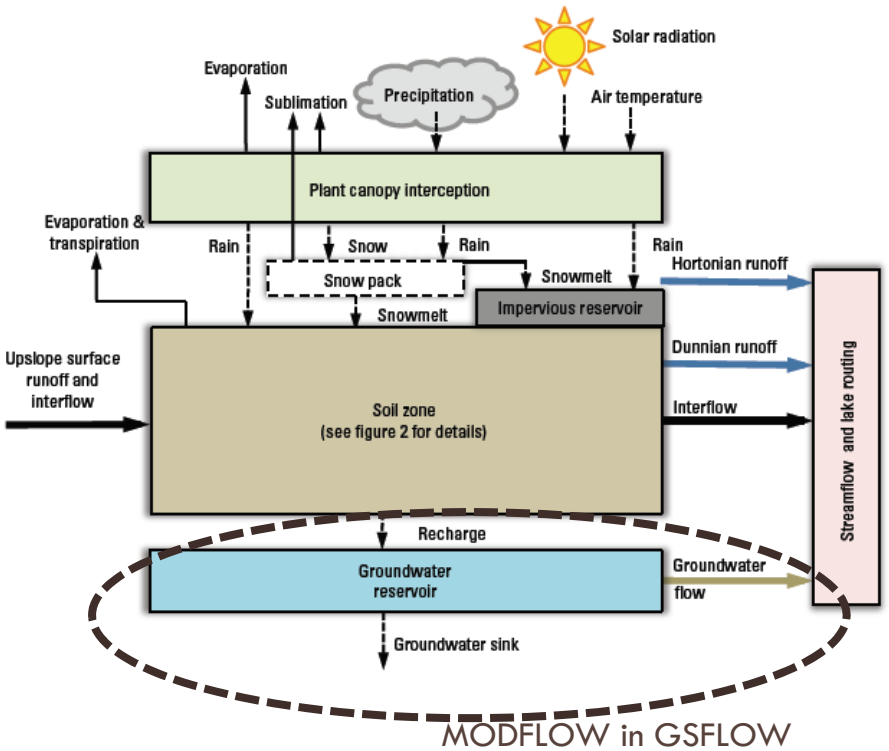
Seawater Intrusion - SkyTEM Survey

- MGA Sponsored Aerial Survey
  - Identify Freshwater/ Seawater Interface
  - Provides Baseline Information
    - Starting point
  - Assess Progress Toward Sustainability
    - Improvement over time

Seawater Intrusion – SkyTEM Survey



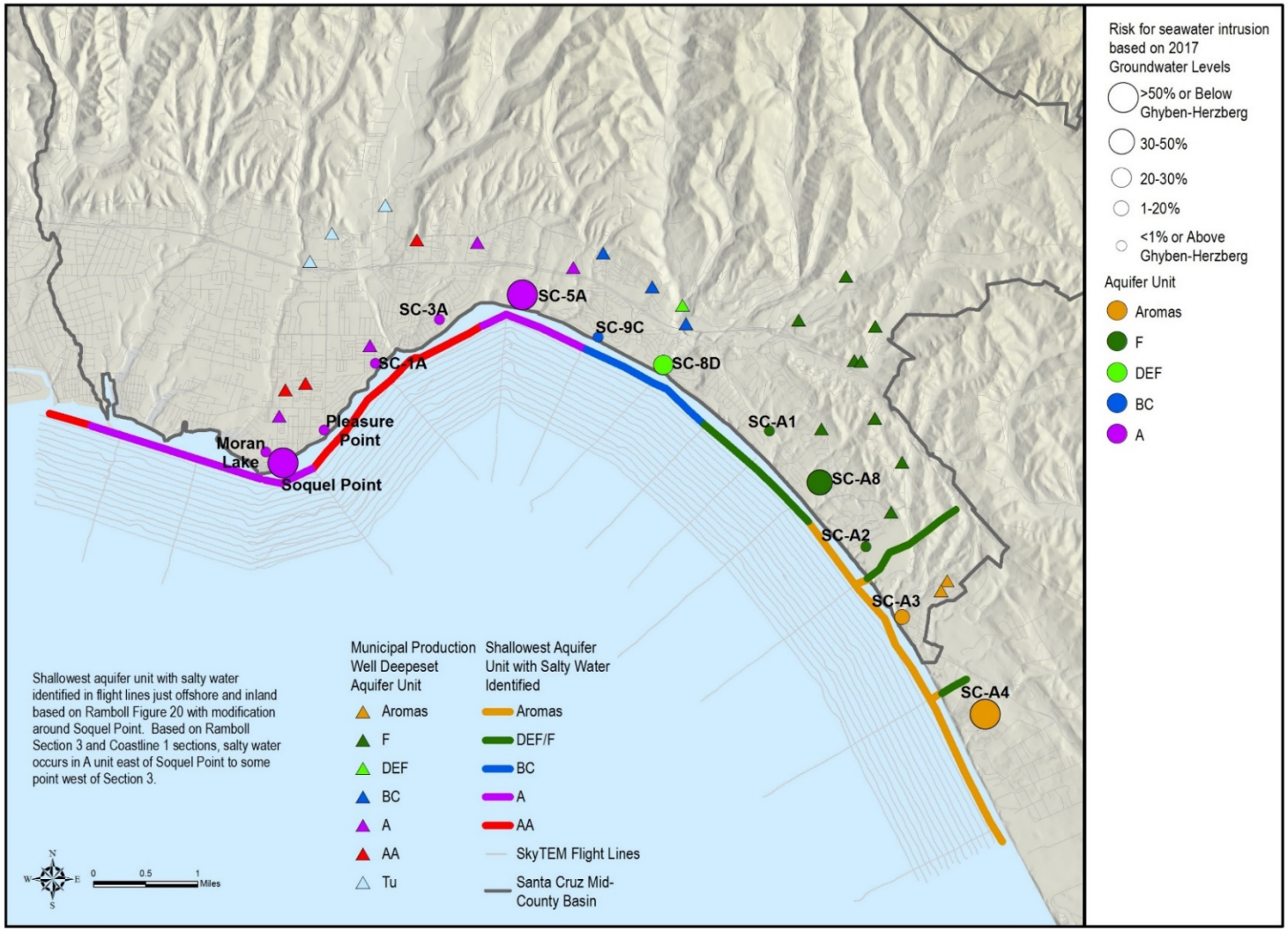
MGA Watershed Model (simplified)



Markstrom et al, 2015

- Physical process model
- Distributed parameters
- Simulates watershed response from climate effects
- Select PRMS modules for distributing climate data
- Daily time steps

Model Forecast - Seawater Intrusion Risk



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GROUNDWATER AGENCY

GROUNDWATER SUSTAINABILITY PLAN

Planning and Community Outreach

Groundwater Sustainability Plan

- Introduction
- Plan Area and Basin Setting
- Sustainable Management Criteria
- **Projects and Management Actions to Achieve Sustainability**
- Plan Implementation
  - Estimate of Implementation Costs
  - Schedule for Implementation
- References and Technical Studies

How Can You Make a Difference?

- Water is Precious
  - Conservation is the new normal
- Be Open to Change
  - Participate in the planning process
  - Support a variety of water projects and management action
  - Talk with your friends about their support
- If it sounds too good to be true…
  - Water supply reliability and climate change are connected and complicated problems
  - We can't afford to get it wrong

THANK YOU

FOR ANY QUESTIONS, PLEASE CONTACT:
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www.midcountygroundwater.org

GSP Rollout: Key Dates

- ***May and June***: Website Updates, Postcard, Survey
- ***June 19th***: GSP Advisory Committee – Vote on recommendations to MGA Board
- ***July 12th***: Draft GSP in Board Packet
- ***July 18th***: Draft GSP Presented to the Board (Board meeting)
- ***July 19th-26th***: Two Open Houses
- ***July 19th – September 19th***: Comment Period Open
- ***September 19th***: Public Hearing, Comment Period Closes
- ***November 21st***: Final GSP presented to Board
- ***Late November***: Submittal to DWR, New 60-Day Comment Period