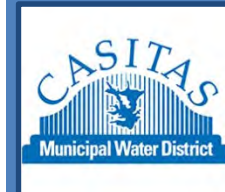


**UPPER VENTURA RIVER  
GROUNDWATER AGENCY  
GROUNDWATER SUSTAINABILITY  
PLAN  
WORKSHOP NO. 1**

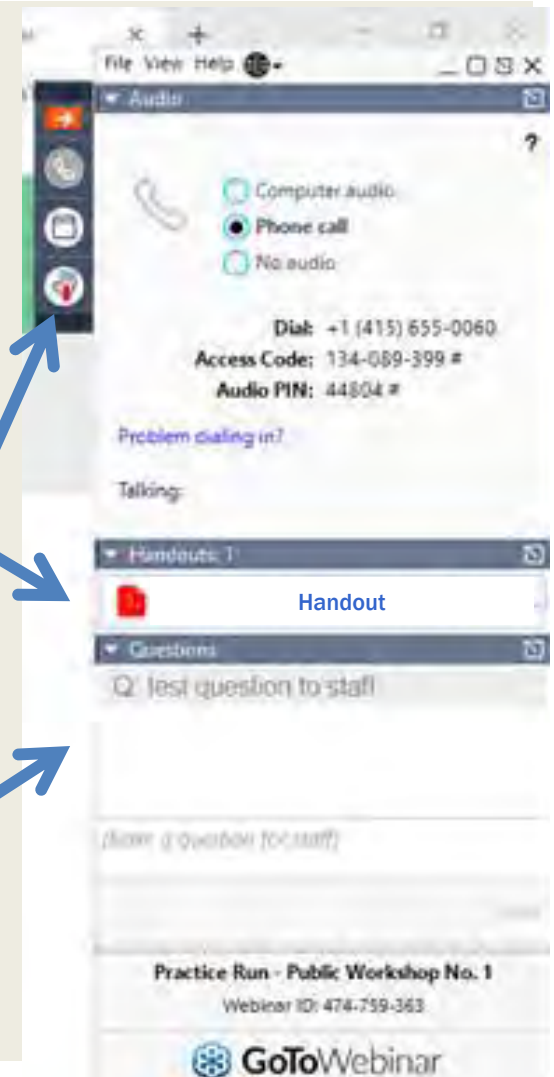


**JULY 20, 2020  
4PM**



# WEBINAR FEATURES

- Webinar is being recorded and will be posted to [uvrgroundwater.org](http://uvrgroundwater.org)
- Presentation can be downloaded using “handouts” option
- Attendees are muted
- Questions and Comments
  - Use “Raise Hand” to ask question verbally
  - Use “Questions” feature to type a question/comment

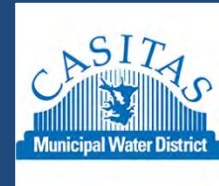


# WORKSHOP AGENDA

No.	TIME	TOPIC
1	4:00 – 4:05 pm	Meeting Call to Order, Roll Call, and Public Comments
2	4:05 – 4:10 pm	<ul style="list-style-type: none"><li>• Welcome</li><li>• Overview of Webinar Features</li><li>• Agenda Review</li></ul>
3	4:10 – 4:15 pm	Get to Know the Audience (Attendee Polls Nos. 1 - 3)
4	4:15 – 4:35 pm	Introduction to SGMA & GSPs <ul style="list-style-type: none"><li>• Presentation</li><li>• Q &amp; A</li></ul>
5	4:35 – 4:55 pm	Brief Overview of Basin Setting <ul style="list-style-type: none"><li>• Presentation</li><li>• Q &amp; A</li></ul>
6	4:55 – 5:15 pm	UVRGAs Approach to GSP Development <ul style="list-style-type: none"><li>• Presentation</li><li>• Q &amp; A</li><li>• Attendee Poll No. 4</li></ul>
7	5:15 – 5:35 pm	<ul style="list-style-type: none"><li>• Stakeholder Questions and Feedback</li><li>• Attendee Poll Nos. 5 and 6</li></ul>
8	5:35 – 5:45 pm	UVRGA Director Comments
9	5:45 – 5:55 pm	Wrap-up

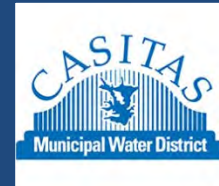


# ATTENDEE POLL NOS. 1 - 3





# INTRODUCTION TO SGMA & GSPS



# WHAT IS SGMA?

- Sustainable Groundwater Management Act
  - Three bill package signed into CA law in late 2014
  - Provides a statewide framework for long-term sustainable groundwater management in CA
  - Requires basins subject to the act to be managed sustainably 20 years after adopting a Groundwater Sustainability Plan (GSP) by a local Groundwater Sustainability Agency (GSA)

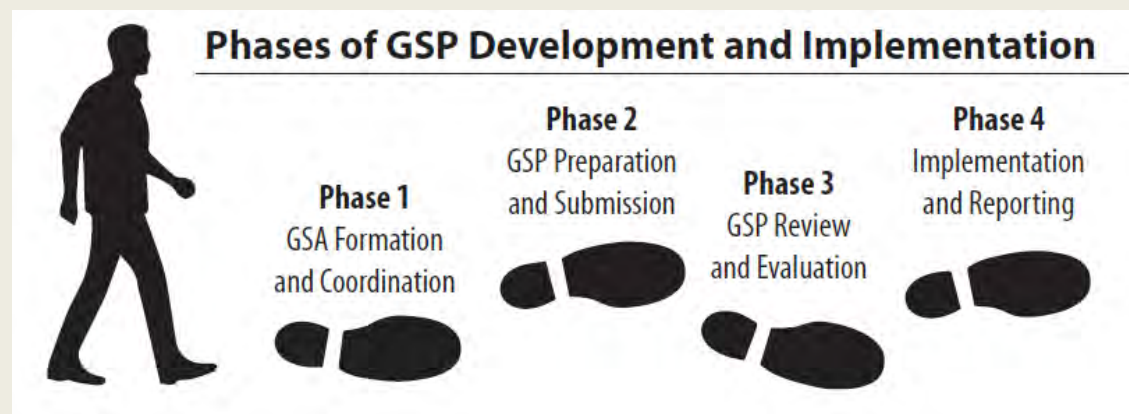
# SGMA LEGISLATIVE INTENT

- Avoid undesirable results
- Provide local authority to manage groundwater
- Extensive stakeholder outreach and engagement
- Establish minimum standards
- Assert State authority when necessary
- SGMA does not determine or alter water rights



# WHAT DOES SGMA REQUIRE?

1. Form a Groundwater Sustainability Agency (GSA)
2. Adopt a Groundwater Sustainability Plan (GSP)
  - Due January 31, 2022
3. Achieve Sustainable Groundwater Management
  - 20 years following GSP adoption



# UPPER VENTURA RIVER GROUNDWATER AGENCY

## UVRGA Board of Directors

Diana Engle, Chair  
Meiners Oaks Water District  
dengle@uvrgroundwater.org

Bruce Kuebler, Vice Chair  
Ventura River Water District  
BKuebler@uvrgroundwater.org

Emily Ayala  
Agricultural Stakeholder  
eayala@uvrgroundwater.org

Larry Rose  
Environmental Stakeholder  
LarryRose@roadrunner.com

Susan Rungren  
Ventura Water  
srungren@cityofventura.ca.gov

Angelo Spandrio, Secretary  
Casitas Municipal Water District  
aspandrio@casitaswater.org

Glenn Shephard  
Ventura County  
Glenn.Shephard@ventura.org

UVRGA was formed in March  
2017 under a Joint Powers  
Authority agreement between:



# GSA AUTHORITIES

- Conduct studies
- Register and monitor wells
- Require reports of groundwater extraction
- Regulate groundwater extractions
- Assess fees
- Implement capital projects
- Some requirements do not apply to small groundwater users
- GSA DOES NOT determine water rights



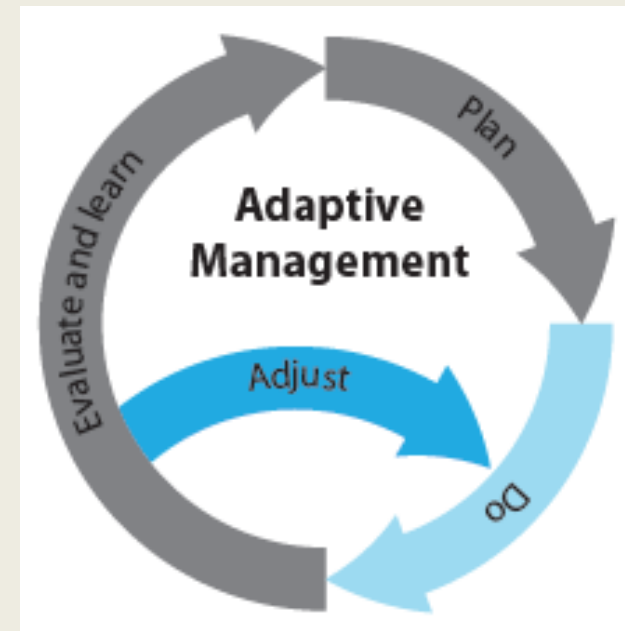
# GSA RESPONSIBILITIES

- Develop, adopt, and implement a GSP to achieve sustainable GW management
- Annual reporting to DWR
- Review and update GSP
- Stakeholder outreach and engagement

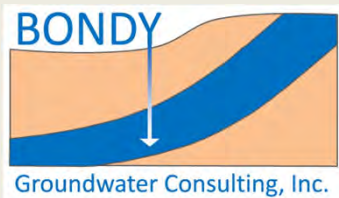


# WHAT IS A GSP?

The GSP is a flexible road map for how a groundwater basin will achieve long term sustainability by avoiding undesirable results through data-driven adaptive management



# GROUNDWATER SUSTAINABILITY PLAN DEVELOPMENT TEAM



**Bryan Bondy, PG, CHG**  
**UVRGA Executive Director & GSP Manager**  
**GSP Contributor**



**Abhishek Singh, PhD, PE & staff**  
**Quantitative Analysis / Modeling**  
**GSP Contributor & Document Lead**



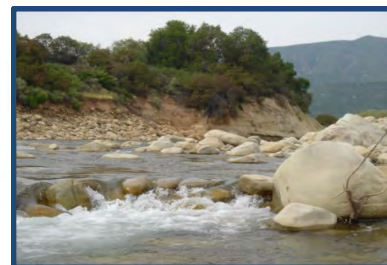
**Jordan Kear, PG, CHG & Tim Becker, PG**  
**Monitoring Programs**  
**GSP Contributor**

# WHAT MUST A GSP INCLUDE?

## ■ GSP Contents

- Administrative Information
- Basin Setting
- Sustainable Management Criteria
- Monitoring Networks
- Projects and Management Actions
- Implementation

### Upper Ventura River Groundwater Sustainability Plan



 Upper Ventura River  
**GROUNDWATER AGENCY**  
SUSTAINABLE MANAGEMENT



**\*\*\*UVRGA GSP Template Available On UVRGA Website\*\*\***

# ADMINISTRATIVE INFORMATION

- Agency Information
- Description of Plan Area
- Notice and Communication

**STAKEHOLDER ENGAGEMENT PLAN  
UPPER VENTURA RIVER GROUNDWATER BASIN  
(4-003.01) VENTURA COUNTY, CALIFORNIA**

**SUSTAINABLE GROUNDWATER MANAGEMENT ACT  
(SGMA) PROGRAM**

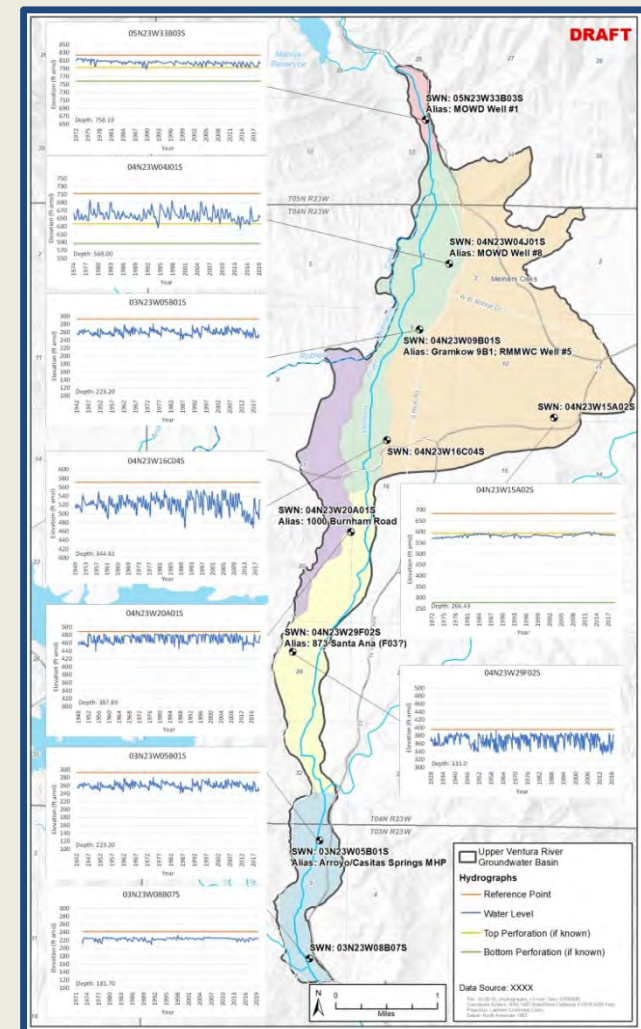
**PREPARED AND ADOPTED BY THE UPPER VENTURA  
RIVER GROUNDWATER AGENCY, MAY 10, 2018**

**November 14, 2019**



# BASIN SETTING

- Hydrogeologic Conceptual Model
- Groundwater Conditions
- Water Budget
- Management Areas



# SUSTAINABLE MANAGEMENT CRITERIA

- Sustainability Goal
- Sustainability Indicators



- Undesirable Results
  - Significant and unreasonable effect related to any of the six sustainability indicators
- Minimum Thresholds
  - Quantitative metrics indicating undesirable results exist
- Measureable Objectives
  - Quantitative metrics that reflect basin desired conditions

# SUSTAINABLE MANAGEMENT CRITERIA

The overarching goal of SGMA is to avoid undesirable results

- Groundwater Levels
- Groundwater Storage
- Seawater Intrusion
- Water Quality
- Land Subsidence
- Interconnected Surface Water

Sustainability  
Indicator

IM #1

IM #2

IM #3

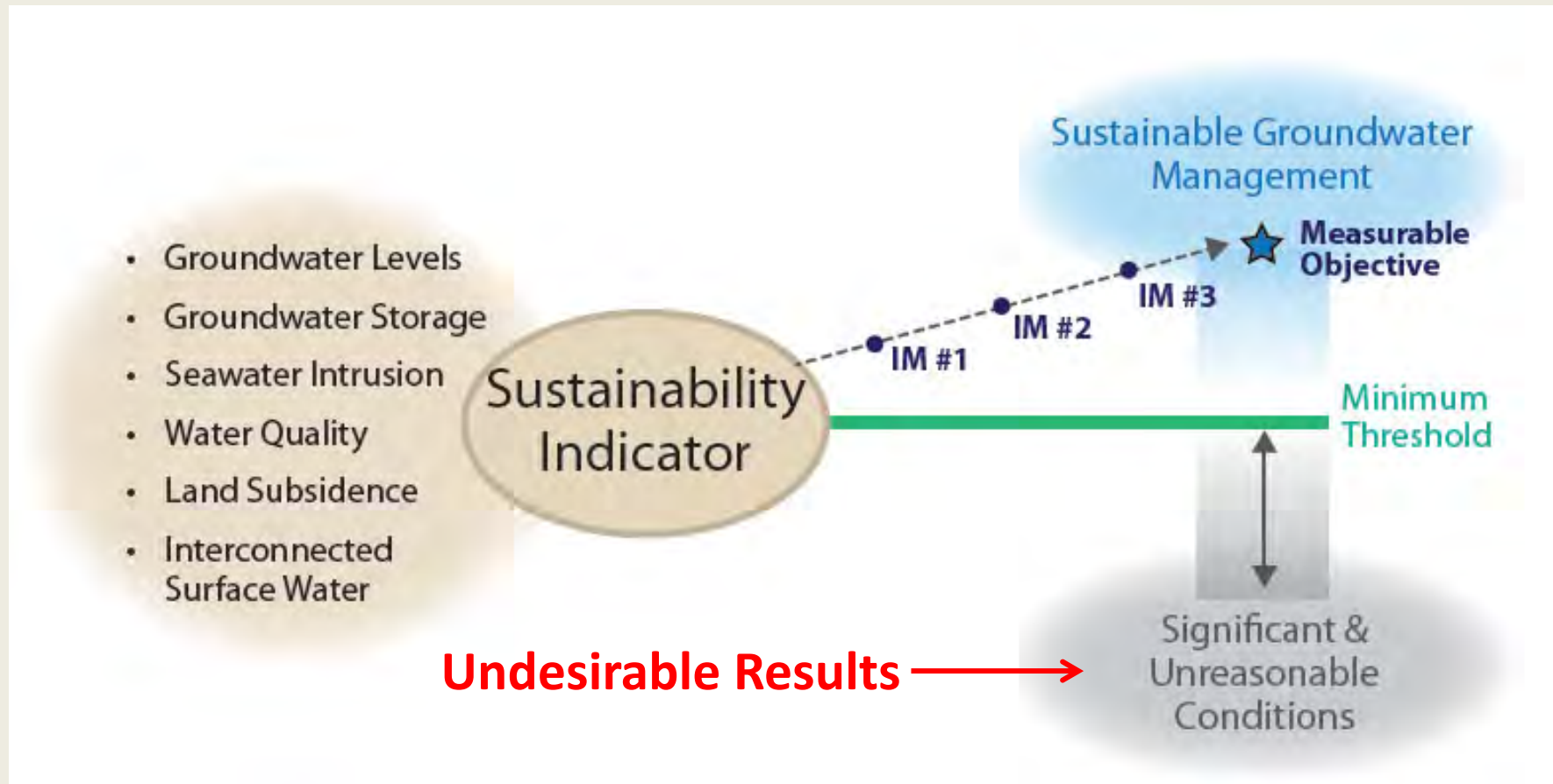
Sustainable Groundwater  
Management

Measurable  
Objective

Minimum  
Threshold

**Undesirable Results** →

Significant &  
Unreasonable  
Conditions



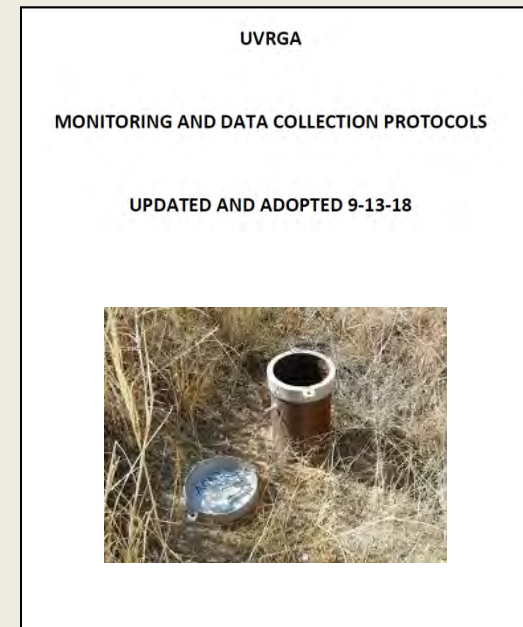
# DEFINING UNDESIRABLE RESULTS IS A CRITICAL STEP IN GSP DEVELOPMENT



- Not all poor conditions are necessarily unreasonable
- Locally determined by GSA in consultation with stakeholders and public input
- Stakeholder input is key to determining undesirable results that reflect local values

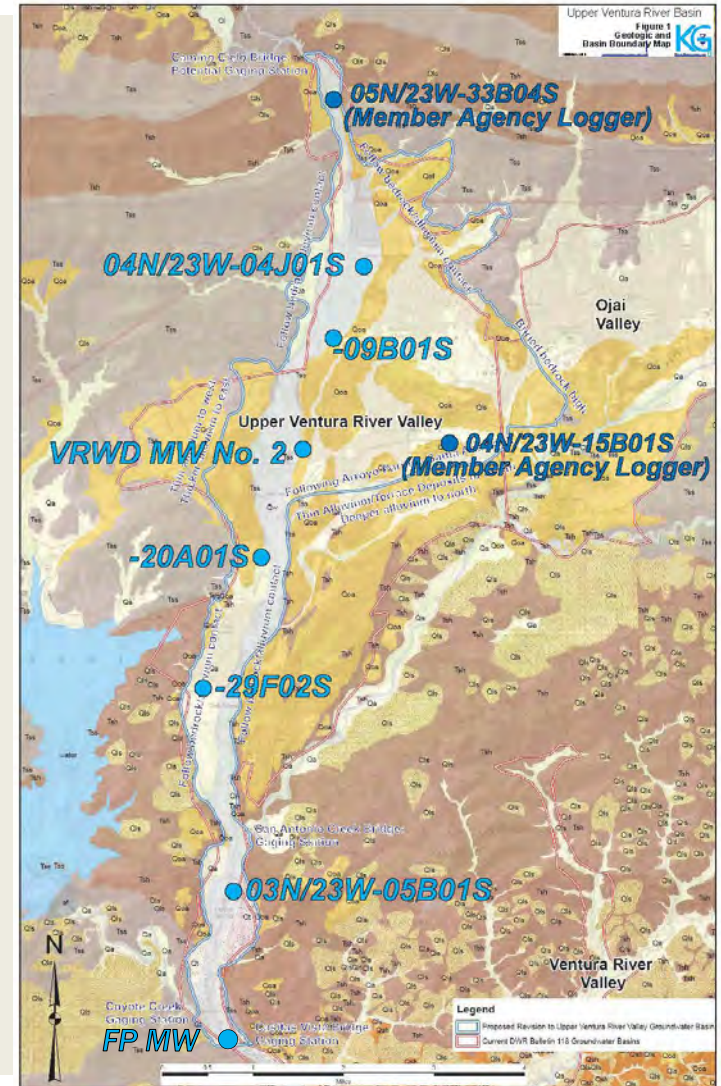
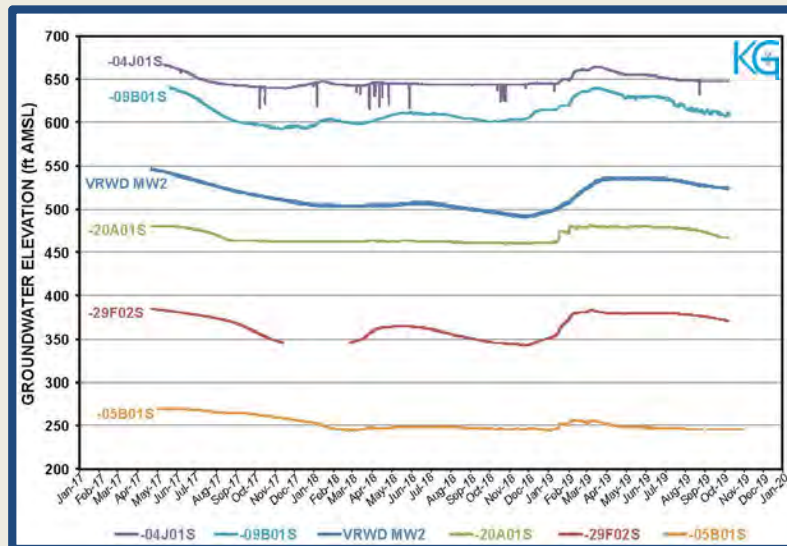
# MONITORING NETWORKS

- SGMA requires a monitoring network to measure progress toward achieving sustainable groundwater management
- UVRGA has made significant investments in monitoring ahead of the GSP:
  - Groundwater Levels
  - Surface water flow
  - Groundwater Surface Water Interaction



# GROUNDWATER LEVEL MONITORING

- Nine Locations
- Continuous monitoring
  - 3-minute intervals
- Annual monitoring reports:
  - <https://uvrgroundwater.org/library/>



# SURFACE WATER FLOW MONITORING

## ■ Three sites

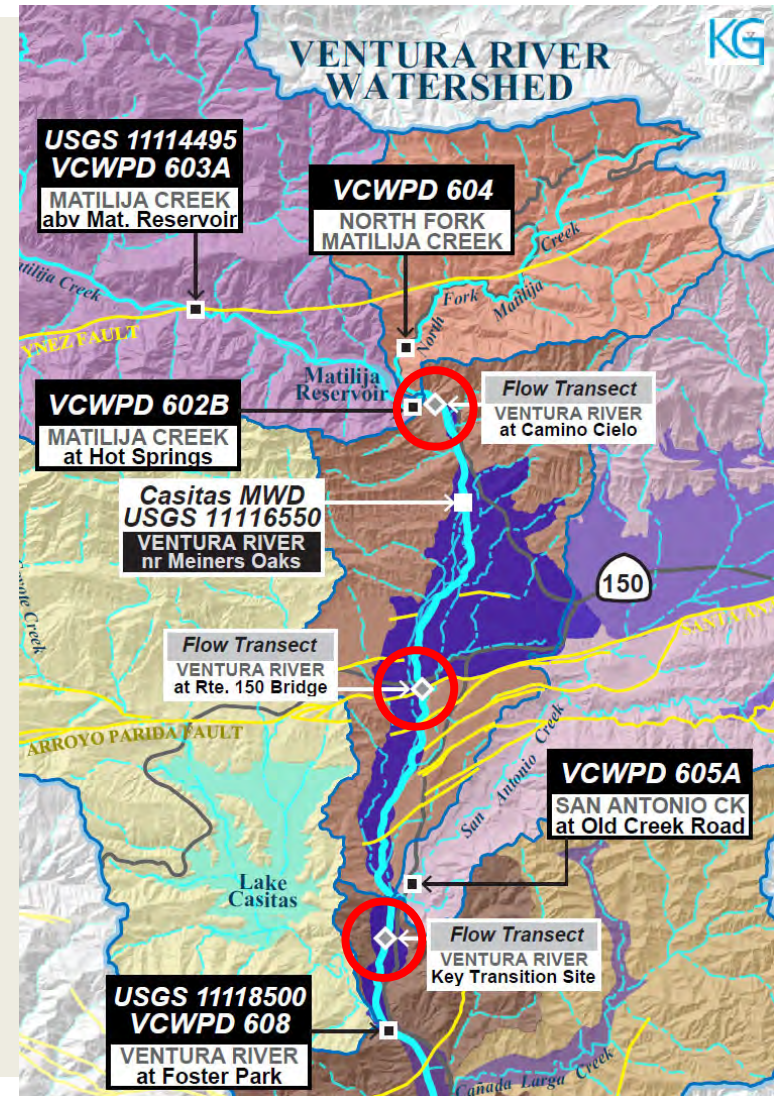
- Monthly downstream of San Antonio Creek confluence
- Periodic Sites:
  - Camino Cielo Crossing
  - HWY 150

## ■ UVRGA is pursuing continuous gauges:

- Camino Cielo Crossing
- Near HWY 150

## ■ Annual monitoring reports:

- <https://uvrgroundwater.org/library/>

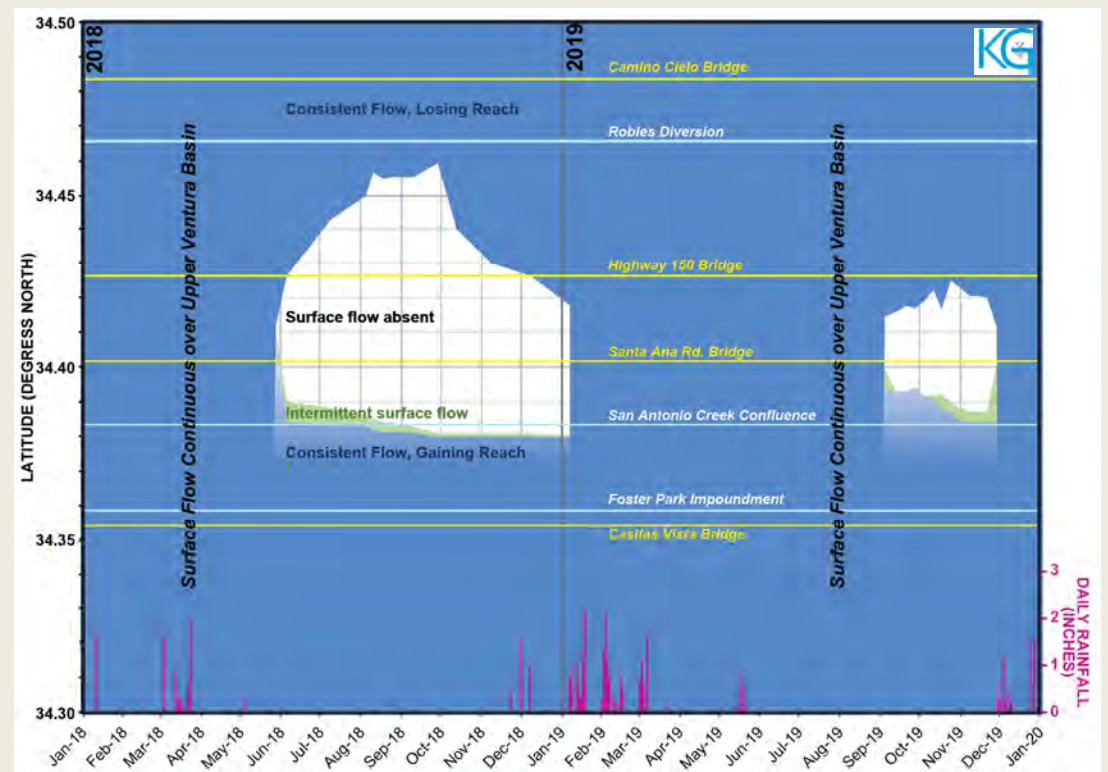


# GROUNDWATER – SURFACE WATER INTERACTION MONITORING

- Weekly visual surveys of northern limit of continuous flow in Ventura River southern live reach

- Annual monitoring reports:

- <https://uvrgroundwater.org/library/>



# PROJECTS AND MANAGEMENT ACTIONS

- Projects and/or management actions will be identified to achieve sustainable management
- Due to Instream Flow Requirement timing and uncertainty associated with the watershed-wide adjudication, P&MA section may be limited to concepts for further consideration prior to the first 5-year GSP update



# GSP IMPLEMENTATION

- Sustainable management must be achieved within 20 years of GSP adoption
- The GSP will include and implementation plan to address data gaps and further develop projects and management actions



# KEY SGMA CONCEPTS

- Overarching goal is to avoid undesirable results
- Undesirable results and actions to prevent them are defined at the local level and requires balancing stakeholder priorities
- SGMA requires data-driven management:
  - GSP must be developed with best available science
  - Data gaps that affect sustainability goal must be filled
  - Sustainability demonstrated with monitoring data
- SGMA requires adaptive management
  - GSP will be a starting point for a 20 yr. journey to sustainability
  - GSP reevaluation and updates (req. min. every 5-yrs)

# SGMA & GSP OVERVIEW QUESTIONS



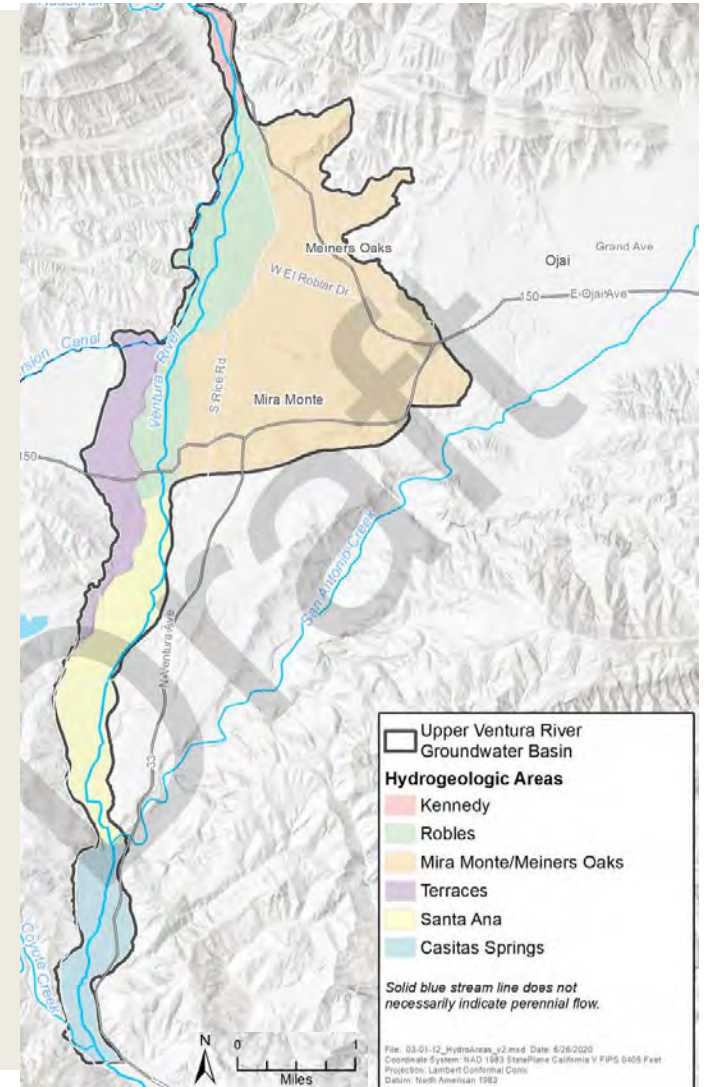


# BASIN SETTING OVERVIEW



# BASIN SETTING CONTENTS

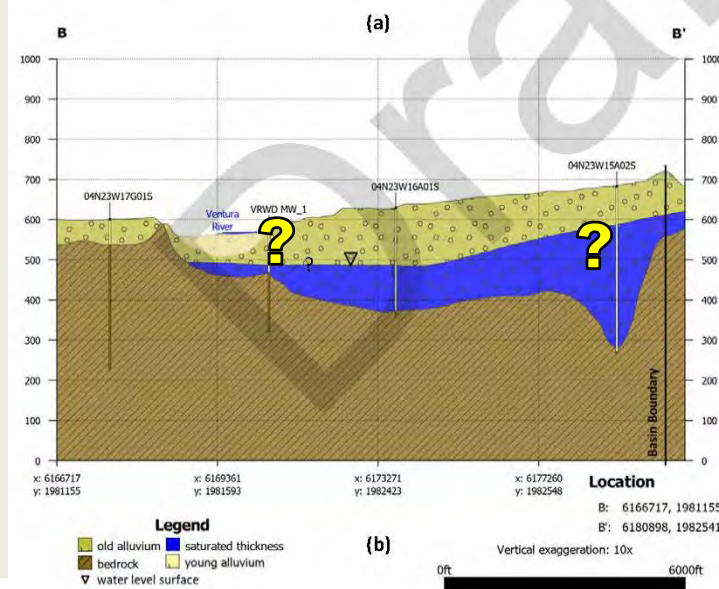
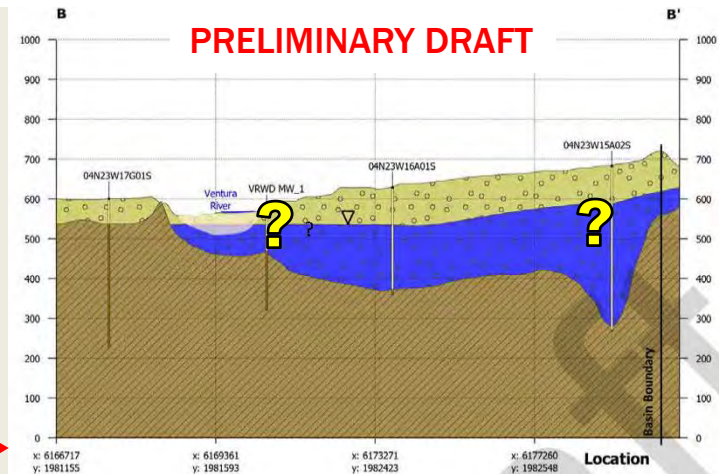
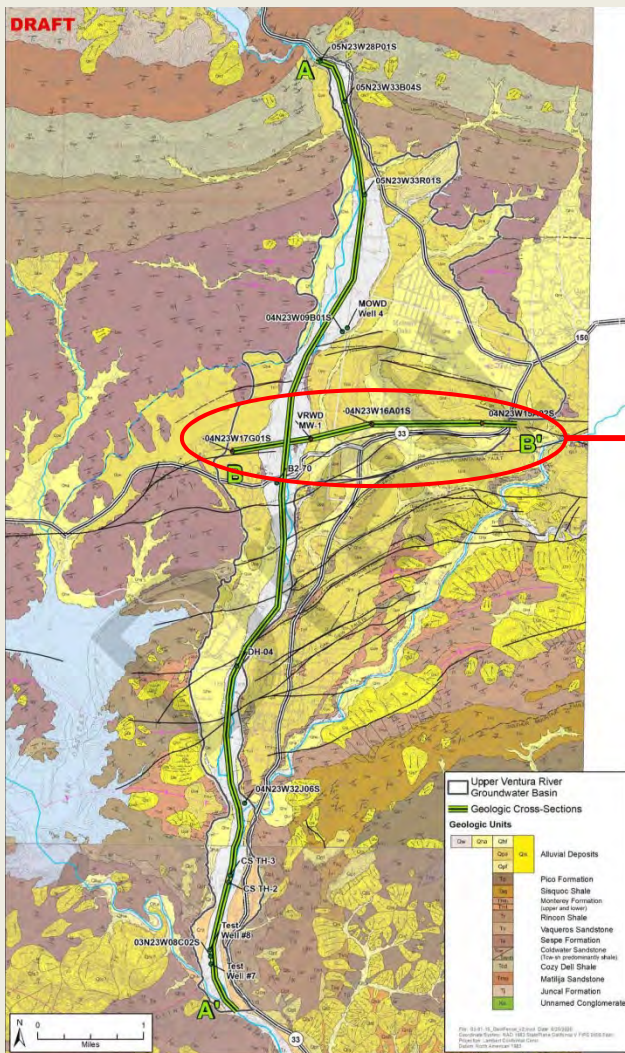
- Hydrogeologic Conceptual Model ✓
- Groundwater Conditions
  - Groundwater Levels ✓
  - Groundwater Storage Change (*pending model*)
  - Groundwater Quality ✓
  - Interconnected Surface Water ✓
  - Groundwater Dependent Ecosystems
- Water Budget
  - Historical, current, and future (*pending model*)
- Management Areas (TBD)



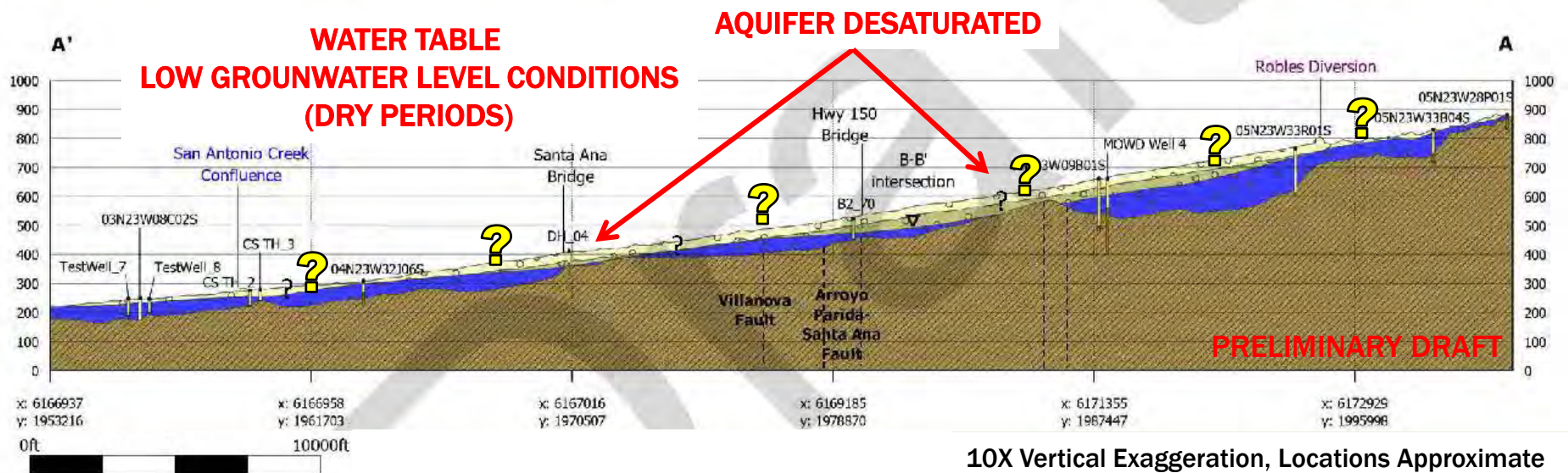
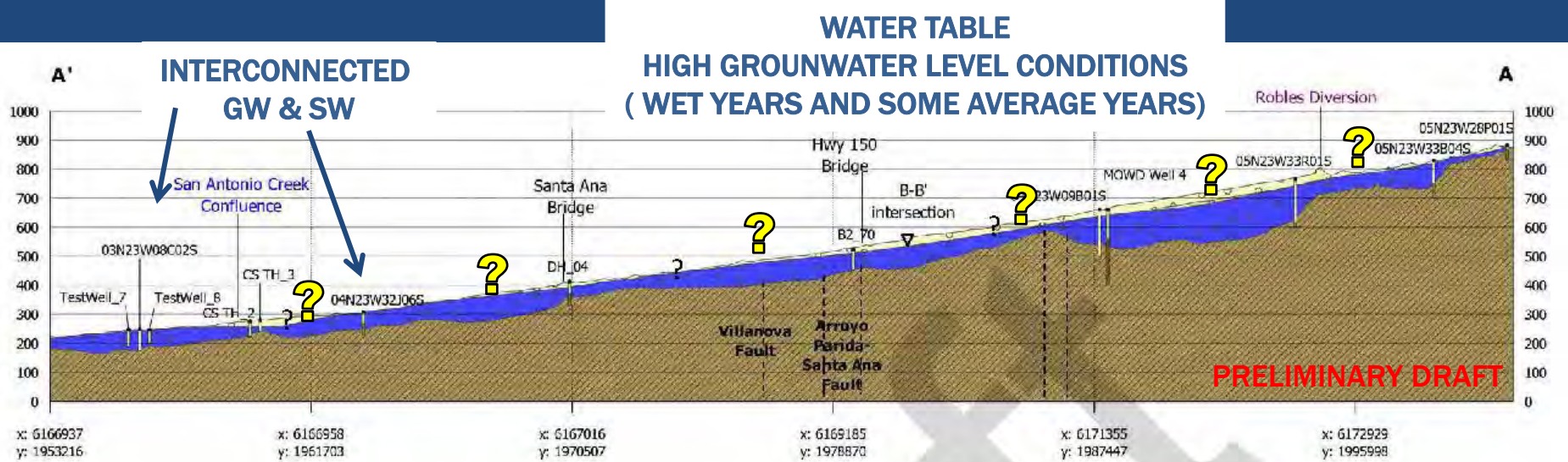
# HYDROGEOLOGIC CONCEPTUAL MODEL

- Describes basin's physical characteristics
  - Geologic Setting ✓
  - Aquifer characteristics ✓
    - Geometry (lateral and vertical extents) ✓
    - Hydraulic Properties ✓
  - Hydrology ✓
- Provides conceptual understanding of groundwater behavior and cause and effect relationships and foundation for developing sustainable management criteria

# WEST TO EAST CROSS SECTION



# CROSS SECTION ALONG VENTURA RIVER



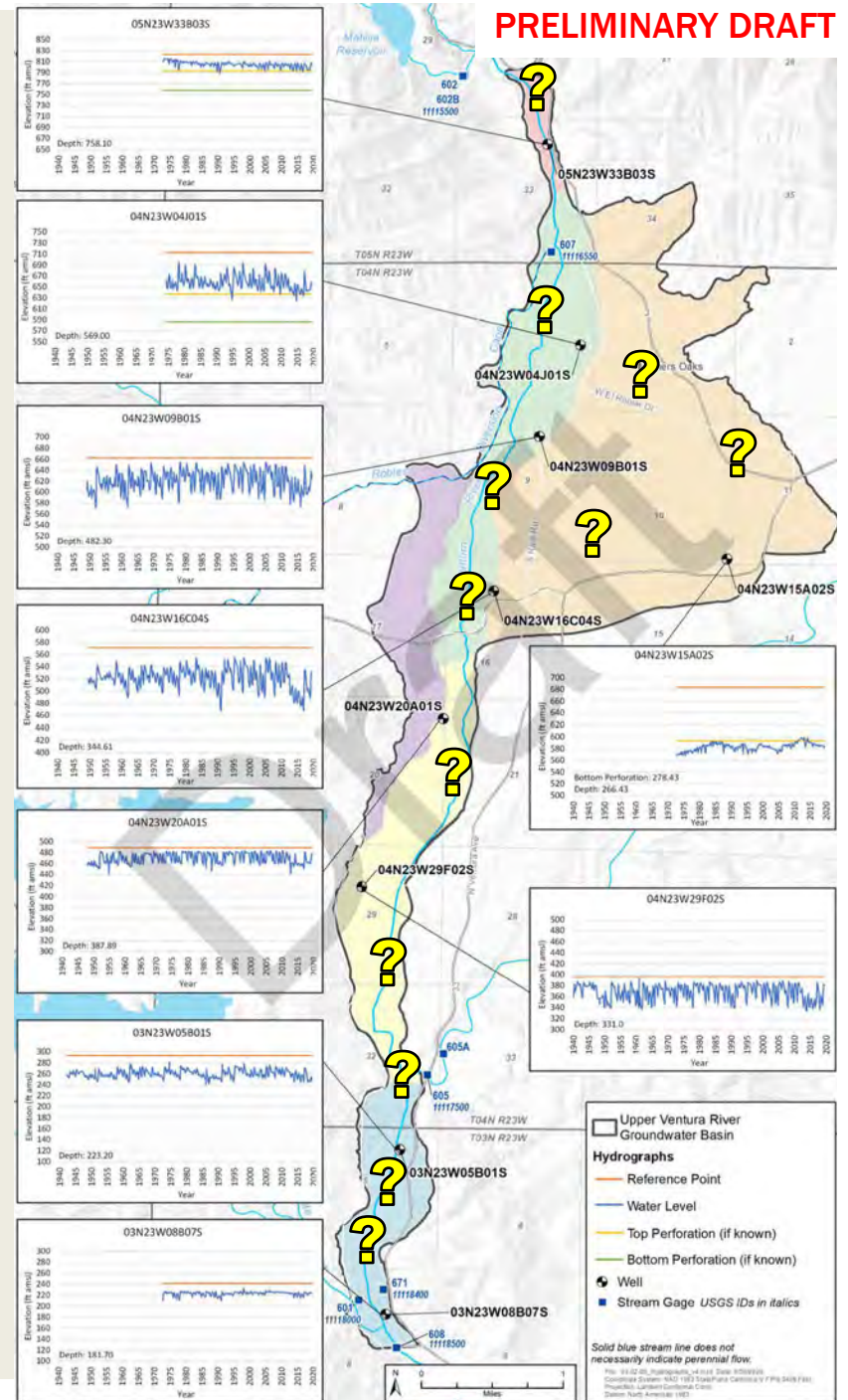
10X Vertical Exaggeration, Locations Approximate

# 3-D MODEL OF BASIN GEOMETRY



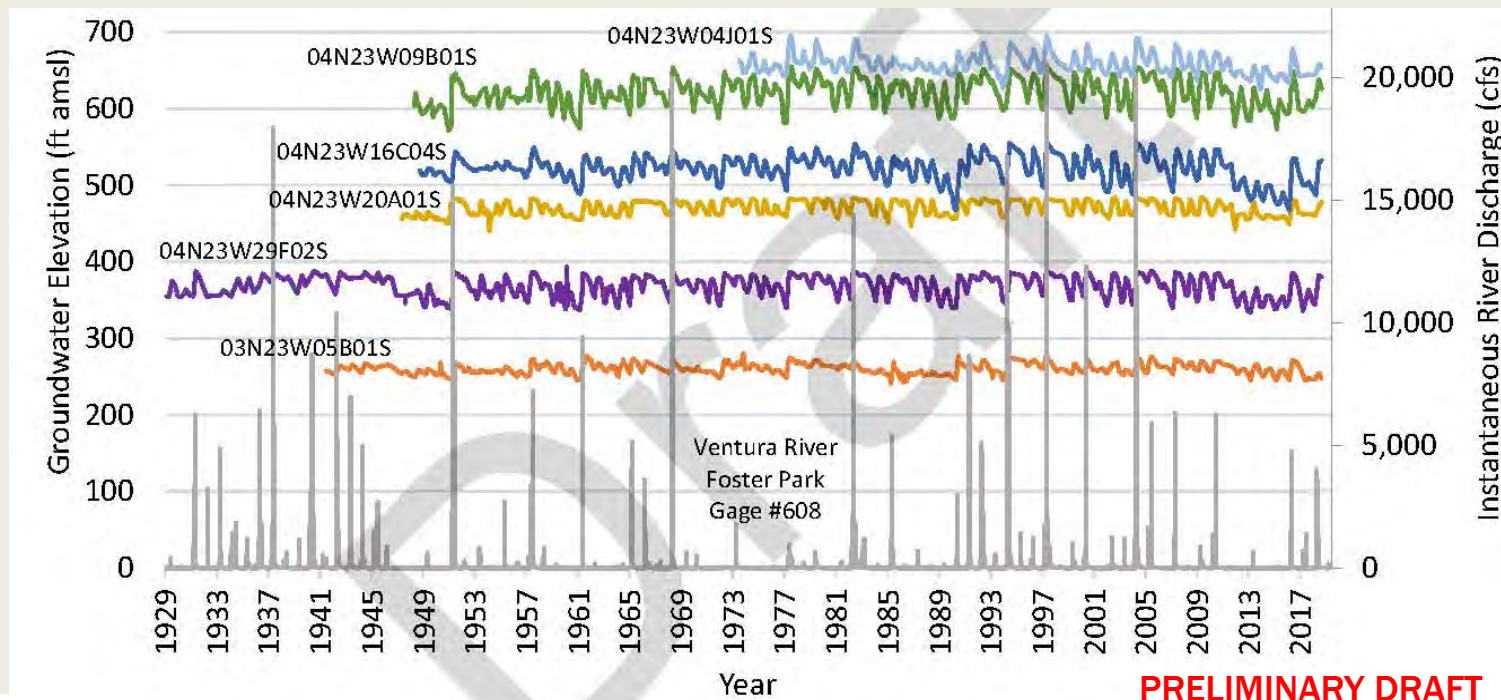
# GROUNDWATER LEVEL DATA

- Most existing monitoring locations are not near the Ventura River
- Monitoring wells needed all along river corridor to assess GW-SW connectivity
- Additional locations may be warranted to understand groundwater flow in eastern area and its connectivity with Ventura River



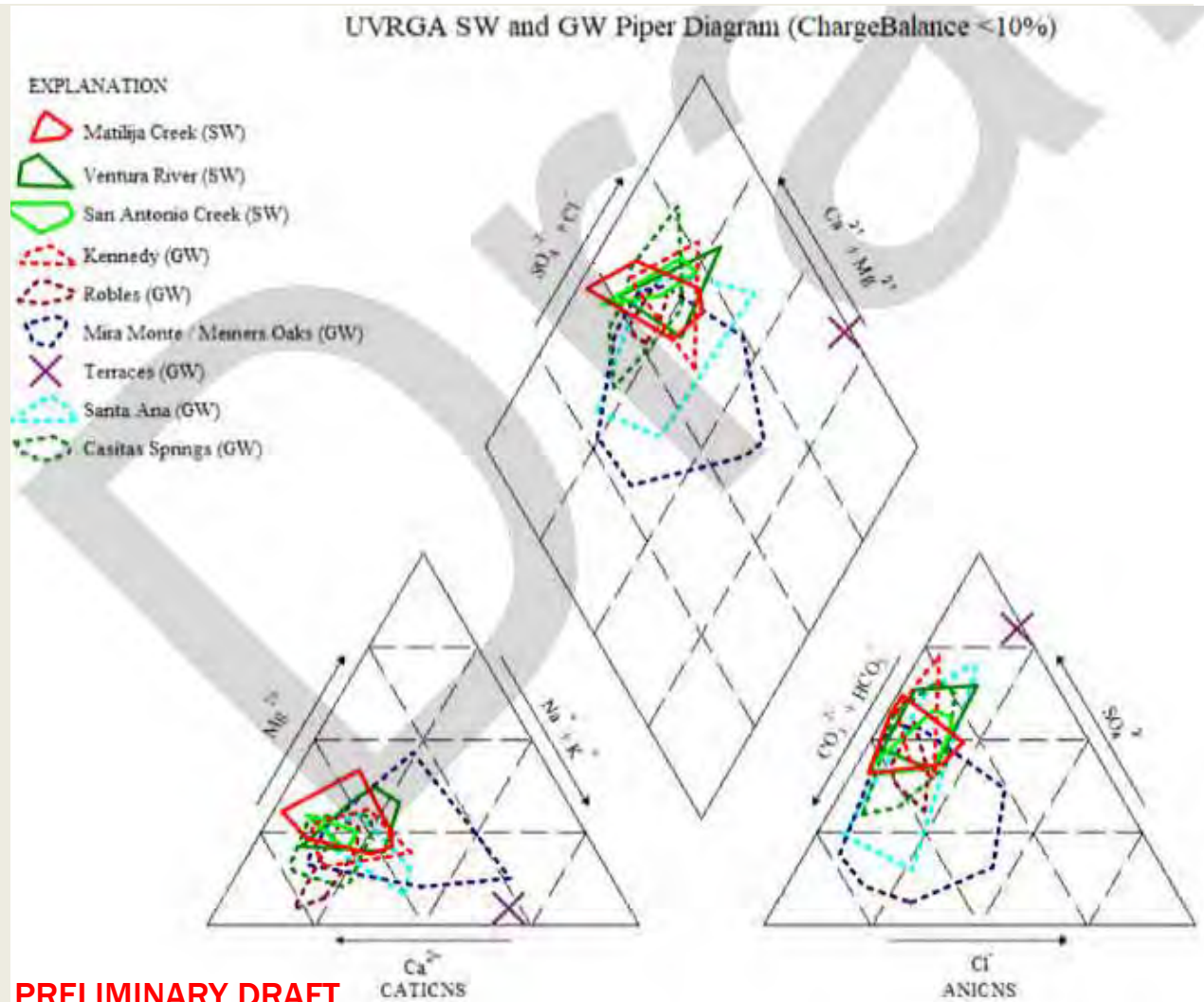
# GROUNDWATER LEVEL TRENDS

- Basin fills and drains in sync with precipitation patterns
- No overdraft ✓
- GSP will focus on preventing undesirable results, which can occur predominantly during dry periods ⚠



# GROUNDWATER GENERAL CHEMISTRY

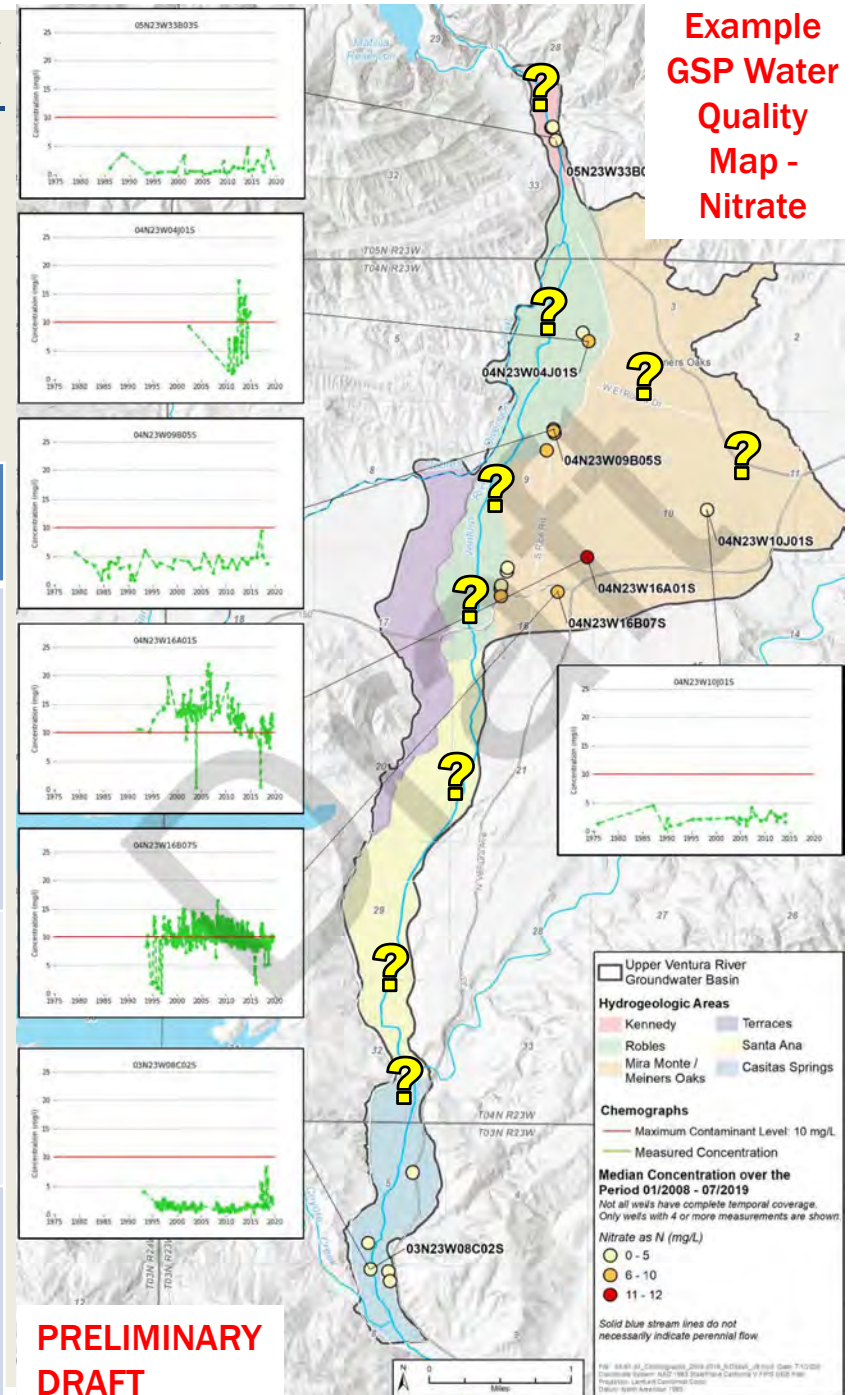
- GW along Ventura River is chemically similar to surface water
- GW in east of VR is chemically different and suggests a less direct connection with Ventura River



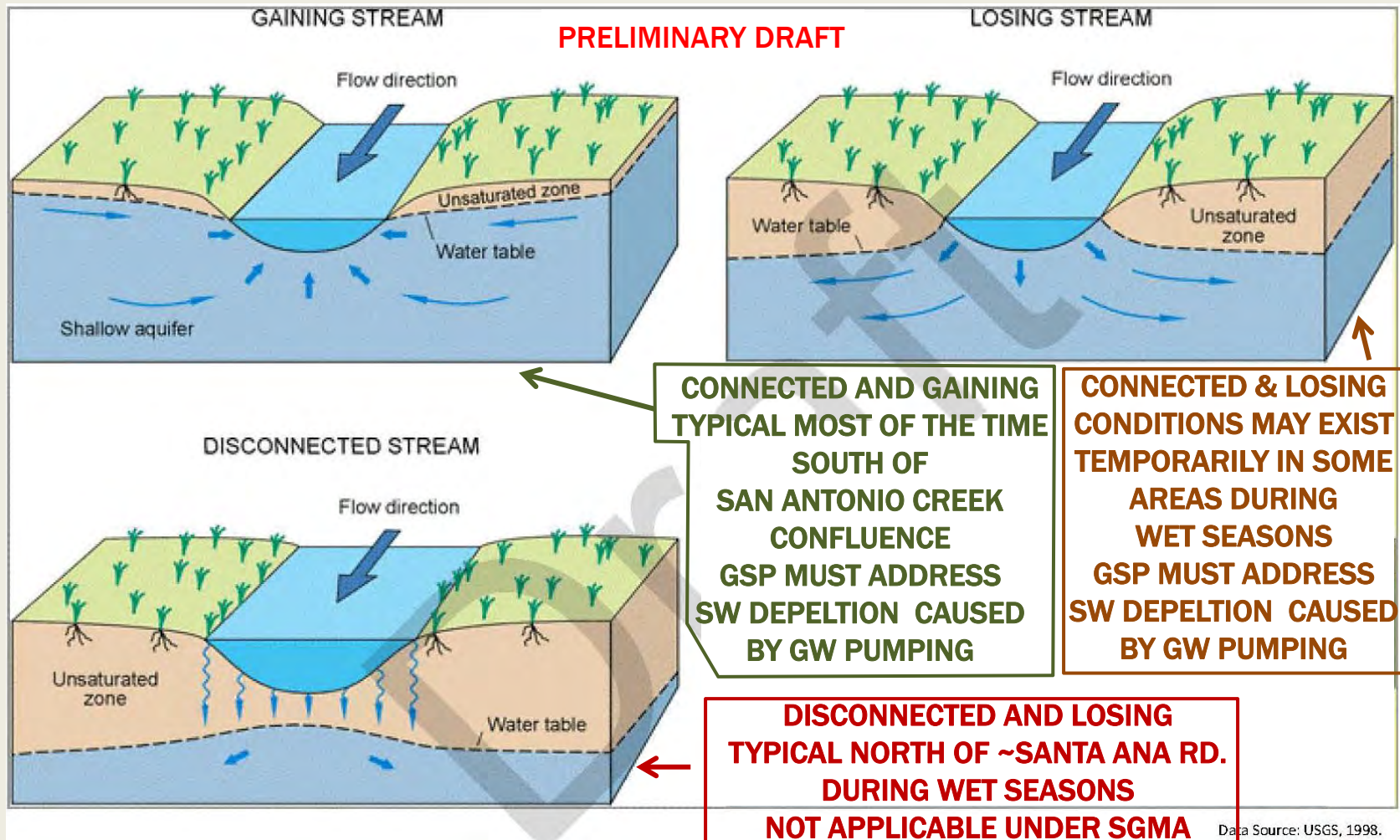
# GROUNDWATER QUALITY

- No contamination plumes ✓
- Comparison with RWQCB Water Quality Objectives

Constituent	WQO (mg/l)	Status
Nitrate-N	10	<ul style="list-style-type: none"> <li>• Mostly below objective</li> <li>• Highest in east of VR ⚠</li> <li>• Low concentrations below the objective may be a concern where surface water is interconnected ⚠</li> </ul>
TDS	800	<ul style="list-style-type: none"> <li>• Generally below objectives</li> <li>• Some exceptions, which may reflect wells partially drilled into bedrock ?</li> </ul>
Sulfate	300	
Chloride	100	
Boron	0.5	<ul style="list-style-type: none"> <li>• Wells in north regularly exceed the WQO</li> <li>• Boron source is natural, from Matilija Creek drainage</li> </ul>



# CHARACTERIZING GROUNDWATER SURFACE WATER INTERACTION



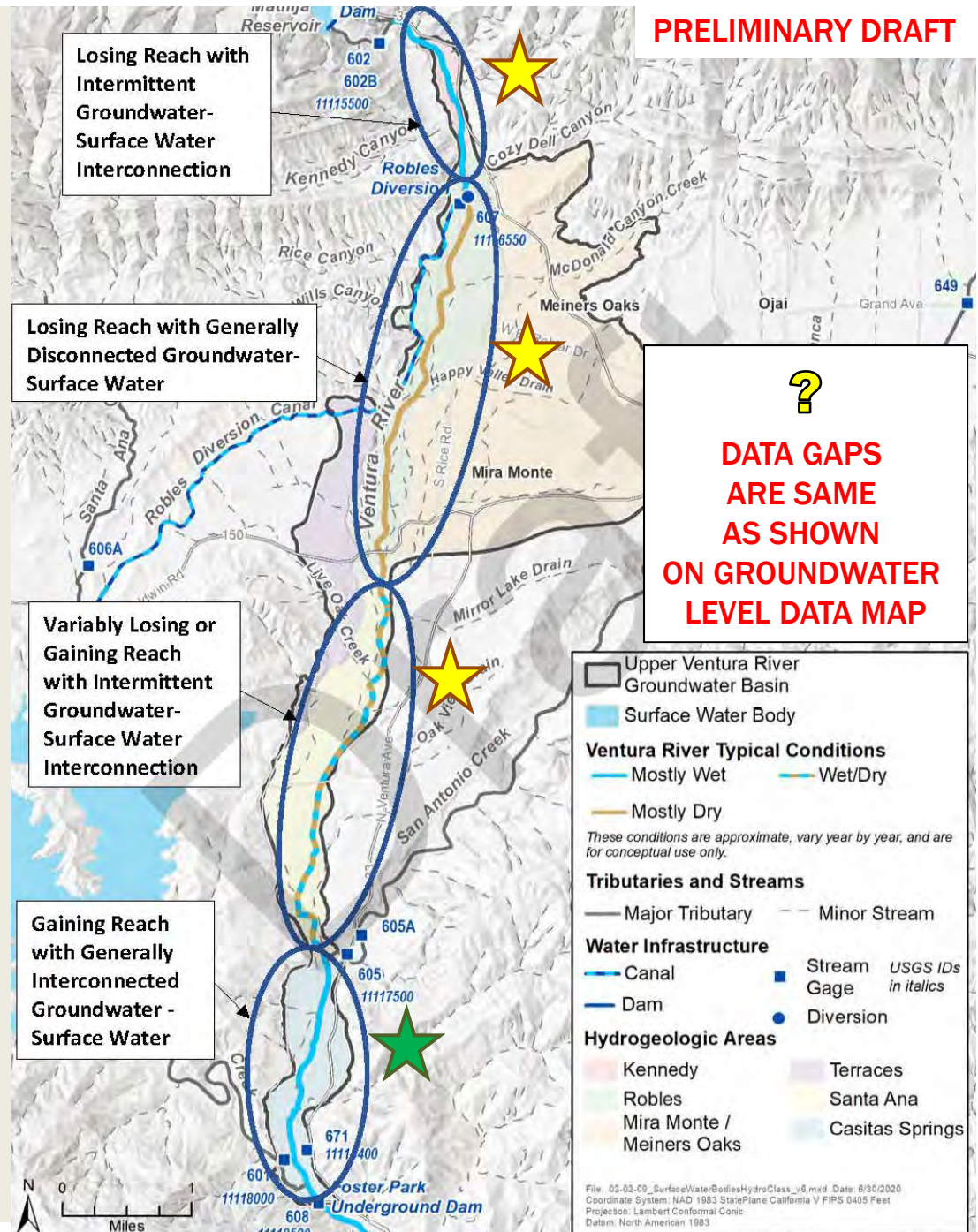
Data Source: USGS, 1998.

# INTERCONNECTED SURFACE WATER

- 4 areas along Ventura River with different types of GW-SW interaction

★ Consistently interconnected - SGMA most clearly applicable

★ Interconnection is transient and spatially variable - SGMA applicability is less clear

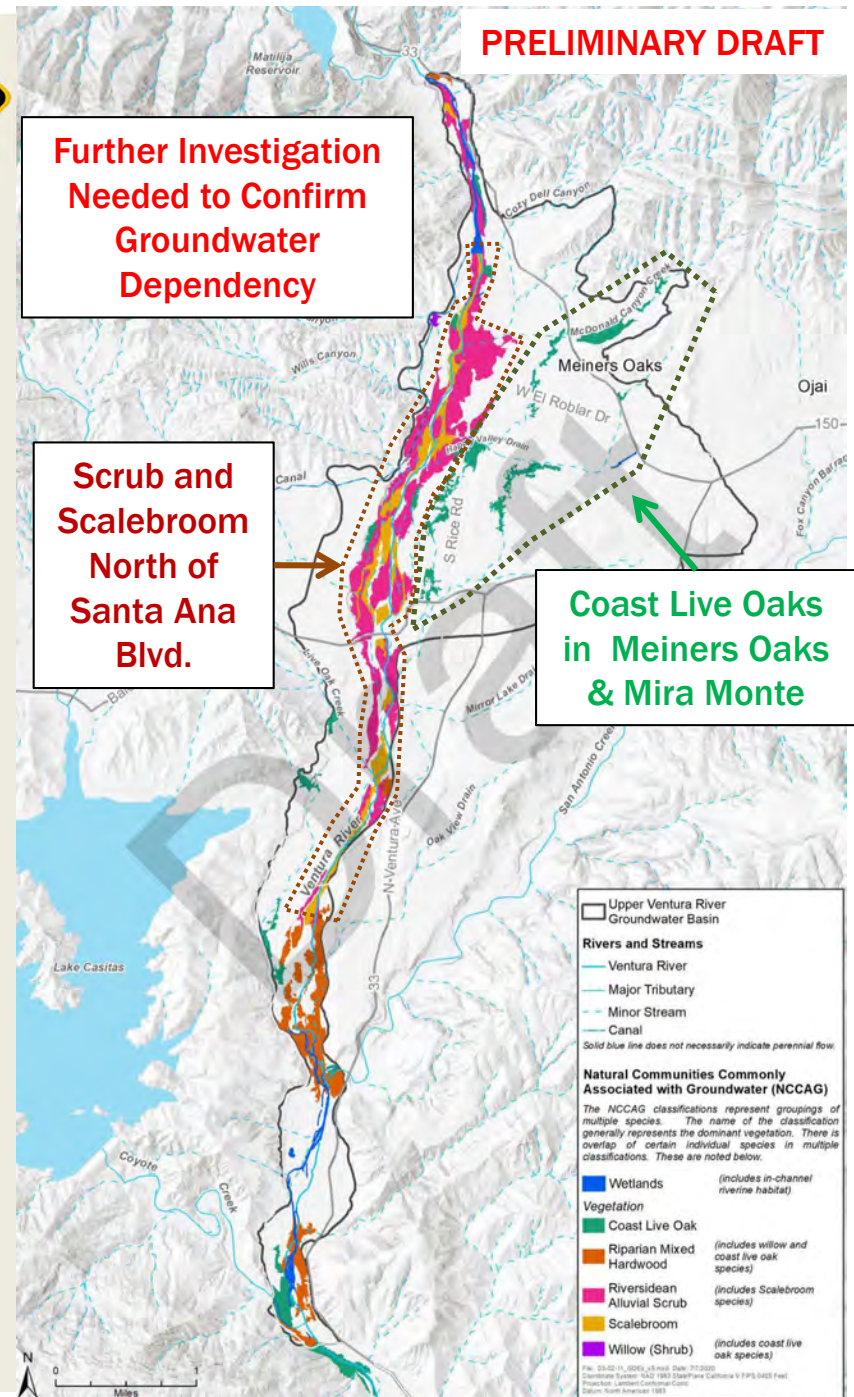




# POTENTIAL GROUNDWATER DEPENDENT ECOSYSTEMS (GDES)



- GDEs must be identified and considered in GSP
- Generally following TNC guidance to screen potential GDEs shown in NCCAG datasets based on:
  - Rooting depth ?
  - Groundwater depth ?
- UVRGA may contract with biologist to assist with characterizing GDEs

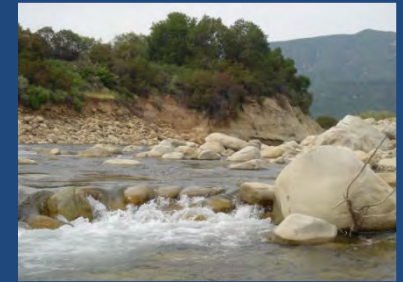


# BASIN SETTING OVERVIEW QUESTIONS





# GSP DEVELOPMENT APPROACH

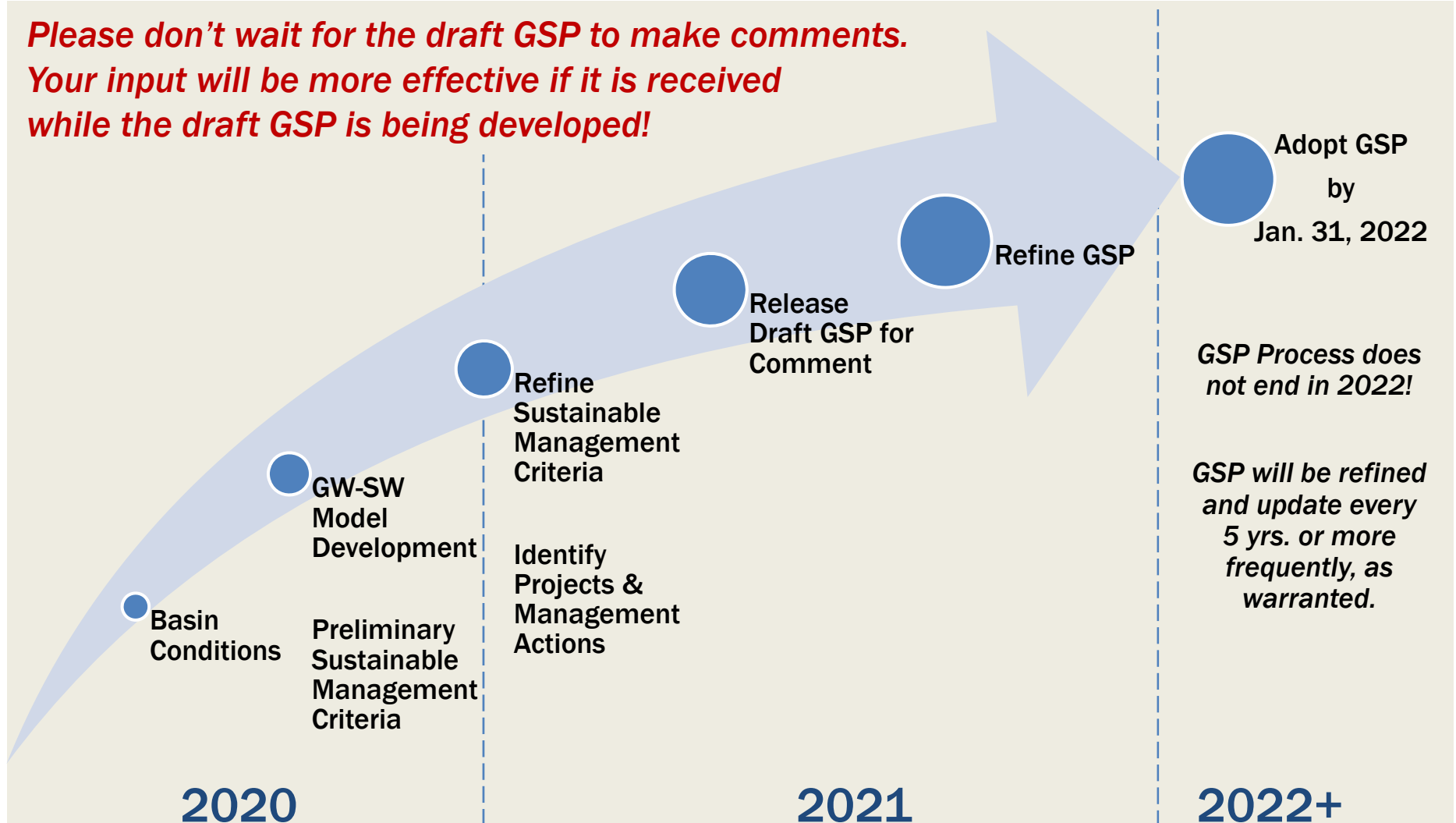


# GSP FUNDING

- Approximately 50% of the GSP development is funded by a Proposition 1 Grant
- Balance is funded by groundwater extraction fees:
  - ~9% by private well owners
  - ~91% by public agencies
    - City of Ventura: ~55%
    - Ventura River Water District: ~20%
    - Meiners Oaks Water District: ~12%
    - Casitas Municipal Water District: ~4%
- *UVRGA will pursue grants for GSP implementation*

# UVRGA GSP DEVELOPMENT APPROACH

*Please don't wait for the draft GSP to make comments.  
Your input will be more effective if it is received  
while the draft GSP is being developed!*

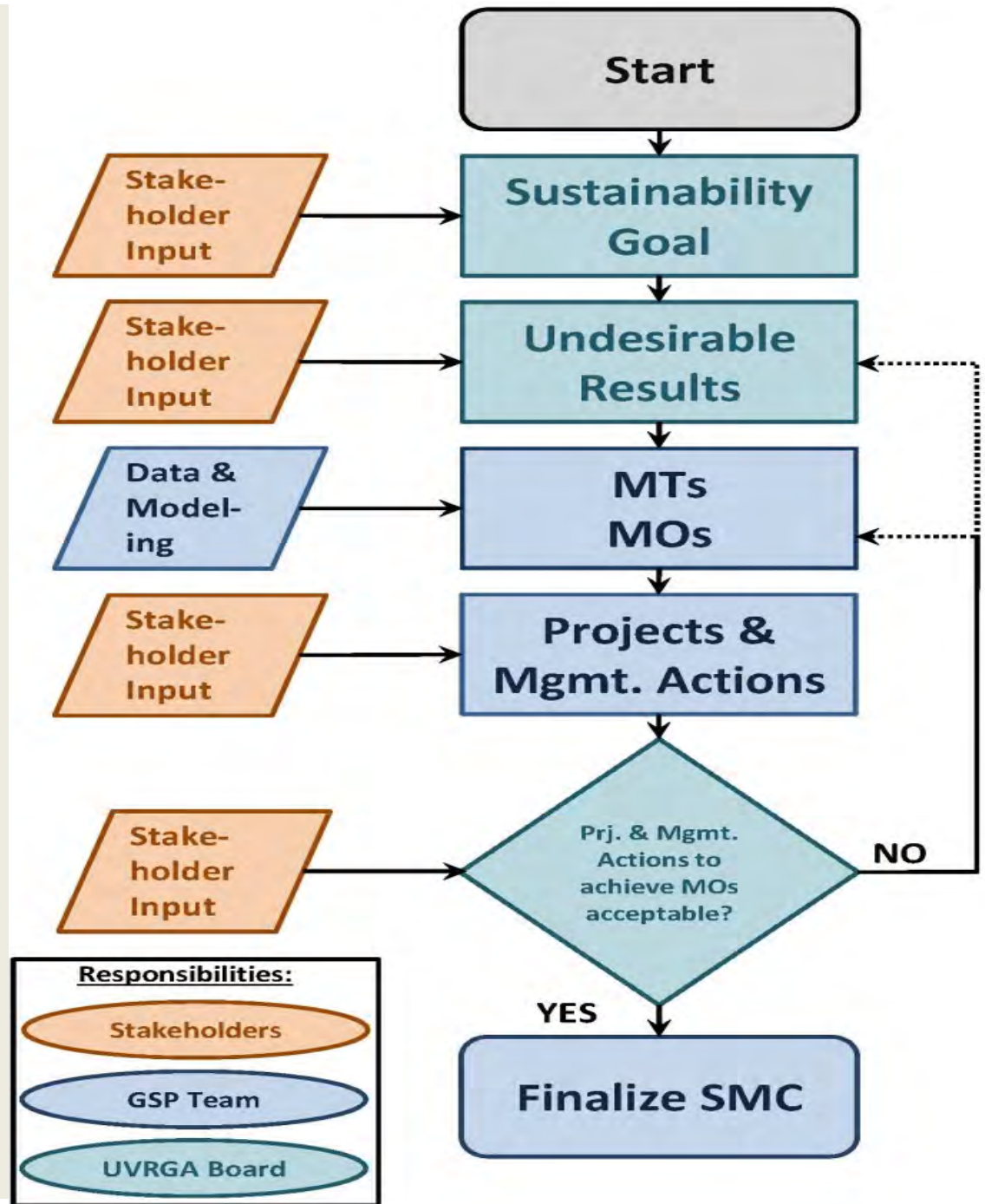


# GROUNDWATER-SURFACE WATER MODEL DEVELOPMENT

- Model is a mathematical tool used to estimate future groundwater and surface water conditions
  - Compare estimated future conditions relative to proposed SMC and projects / management actions
    - Are proposed SMC achievable?
    - Basin response to proposed projects / management actions
  - Estimate future water budgets for GSP
- Model calibrated to historically measured conditions
- Model will be finer-scale than SWRCB model because SGMA requires more detailed analysis than SWRCB Streamflow Enhancement Program

# SUSTAINABLE MANAGEMENT CRITERIA DEVELOPMENT PROCESS

*SMC will be the  
central focus of the GSP*



# SUSTAINABILITY GOAL

- High-level policy framework to guide development of Sustainable Management Criteria & Plan Actions
- Draft released June 23
- Available On UVRGA Website
- Board to consider adoption on August 13
- Your input on the goal is valued!

## Draft Sustainability Goal June 23, 2020

*The goal of this GSP is to sustainably manage the groundwater resources of the Upper Ventura River Basin for the benefit of current and anticipated future beneficial users of groundwater, including the environment, and the welfare of the general public who rely directly or indirectly on groundwater. Sustainable groundwater management will ensure the long-term reliability of the Upper Ventura River Basin groundwater resources by avoiding SGMA undesirable results no later than 20 years from Plan adoption through implementation of a data-driven and performance-based adaptive management framework. It is the express goal of this GSP to develop sustainable management criteria and plan implementation measures to avoid undesirable results for the applicable SGMA sustainability indicators by:*

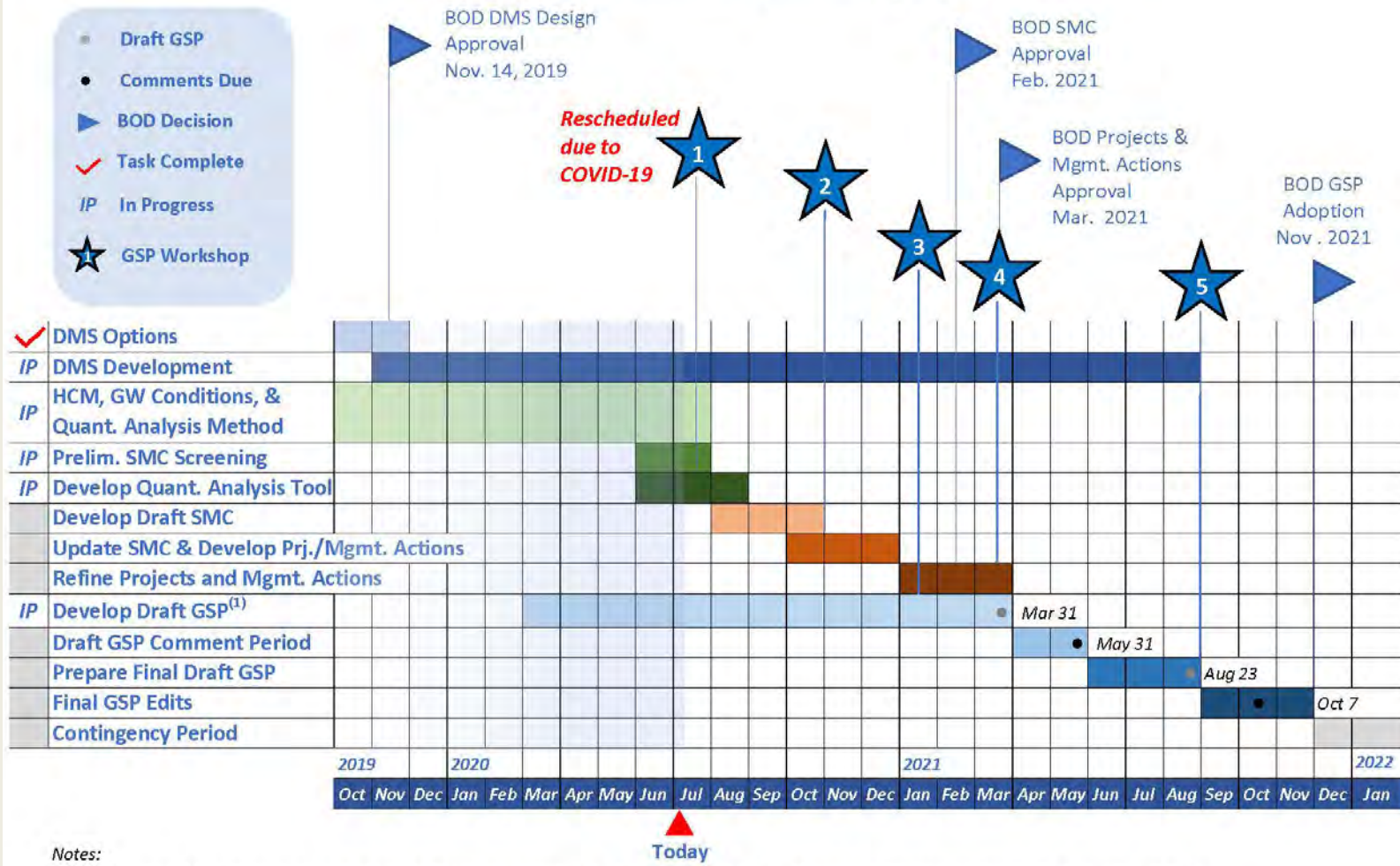
1. *Using best available science and information, including consideration of uncertainty in the basin setting and groundwater conditions and future opportunities to address data gaps;*
2. *Conducting active and meaningful stakeholder engagement;*
3. *Developing a pragmatic and financially realistic approach to sustainable groundwater management that seeks the triple bottom line of vibrant and well-functioning ecological, social, and economic systems by:*
  - a. *Considering the economic, social, and environmental impacts and benefits associated with the all current and anticipated future beneficial users of groundwater;*
  - b. *Considering water supply reliability for agriculture, domestic, and municipal users;*
  - c. *Considering the availability of alternative water sources for domestic groundwater beneficial users;*
  - d. *Considering potential impacts to groundwater dependent ecosystems, including California steelhead, and, where possible, opportunities to enhance those ecosystems;*
  - e. *Considering State, federal, or local standards relevant to applicable sustainability indicators;*
  - f. *Considering the feasibility of projects and management actions necessary to achieve proposed measureable objectives; and*
  - g. *Considering the economic impact of projects and management actions necessary to achieve proposed measureable objectives on all beneficial users, with special consideration of disadvantaged communities and agricultural enterprises lacking alternative land use options.*
  - h. *Coordinating planning and implementation actions with local and State agencies, non-governmental organizations, and, as necessary, the California Judicial Branch.*

# NEXT STEPS FOR GSP DEVELOPMENT

- Basin Setting: Draft HCM and GW Conditions available for review now
- Model Development and Sustainability Criteria: June 2020 through early 2021
- Projects & Management Actions and Water Budgets: Early 2021
- Draft GSP: Spring/Summer 2021
- GSP Adoption: Late 2021 (no later than Jan 31, 2022)

# GSP DEVELOPMENT SCHEDULE WILL BE UPDATED ON UVRGA WEBSITE

## Upper Ventura River Groundwater Agency GSP Development Schedule Updated July 10, 2020



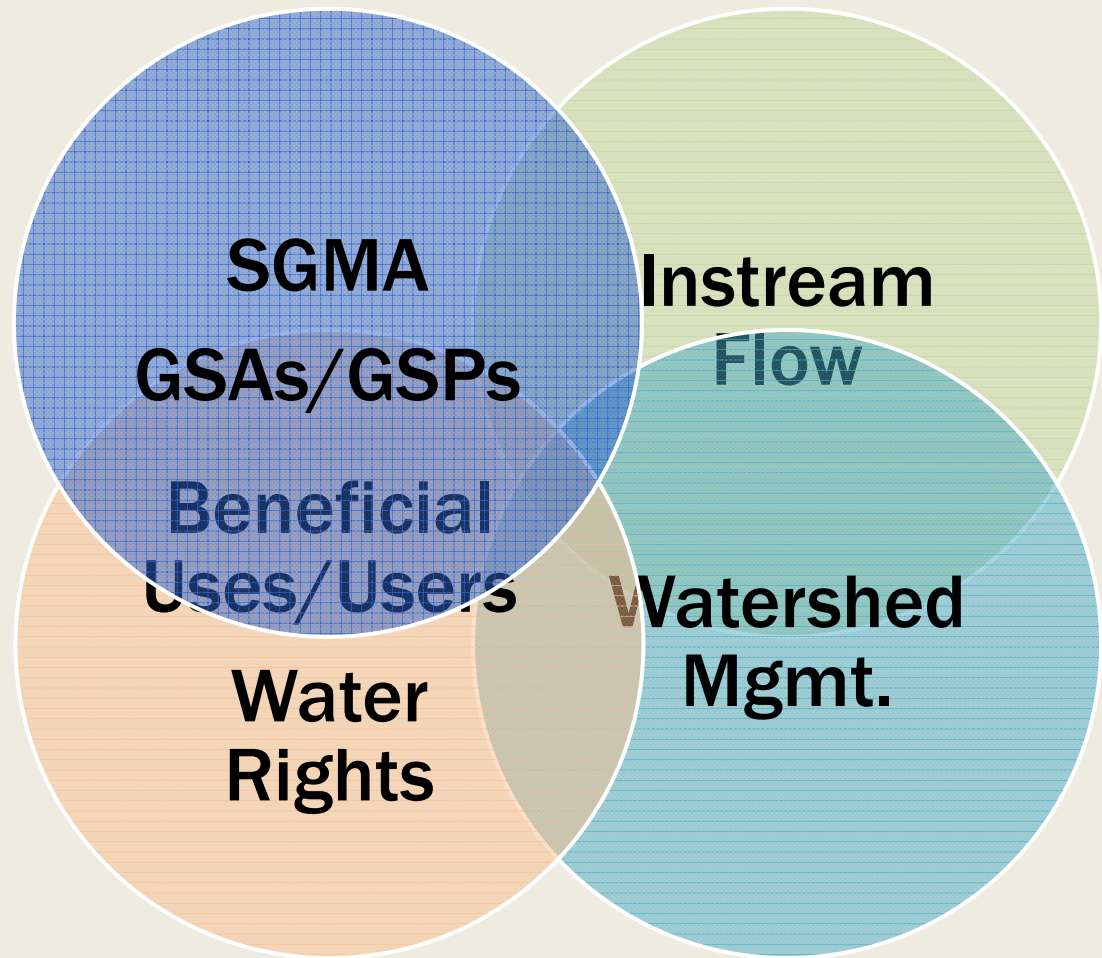
**Notes:**

(1) GSP topics not listed above generally consist of background or supporting information and will be prepared concurrently with the above-listed tasks.  
 BOD = Board of Directors; DMS = Data Management System; HCM = Hydrogeologic Conceptual Model; GSA = Groundwater Sustainability Agency;  
 GSP = Groundwater Sustainability Plan; GW = Groundwater

# HOW DOES UVRGA FIT INTO THE BIGGER PICTURE FOR THE VENTURA RIVER WATERSHED?

## ■ GSAs will have a key role in:

- Ensuring sustainable GW supply for beneficial users
- Achieving Ventura River Instream Flow during dry conditions
- Achieving certain Ventura River Watershed Management Plan Objectives



# PLEASE GET INVOLVED!!!

- Track status at: <https://uvrgroundwater.org/>
- Join the UVRGA Interested Parties List:  
<https://uvrgroundwater.org/join-interested-parties-list/>
- Email inquiries to: [sward@uvrgroundwater.org](mailto:sward@uvrgroundwater.org)

# GSP DEVELOPMENT APPROACH QUESTIONS



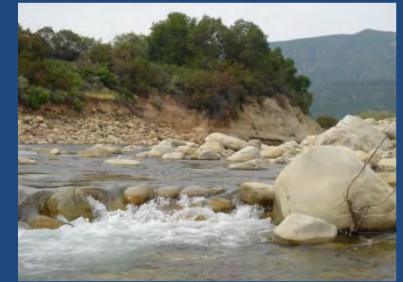


# ATTENDEE POLL NO. 4



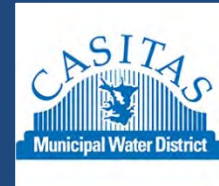


# STAKEHOLDER Q&A & FEEDBACK



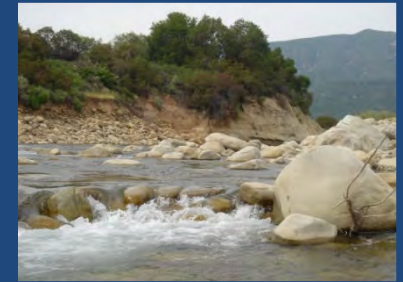


# ATTENDEE POLL NOS. 5 & 6





# UVRGA DIRECTOR COMMENTS





**WRAP UP  
THANK YOU FOR  
PARTICIPATING!**

