

# San Pasqual Valley Groundwater Basin Sustainable Groundwater Management Act Advisory Committee Meeting

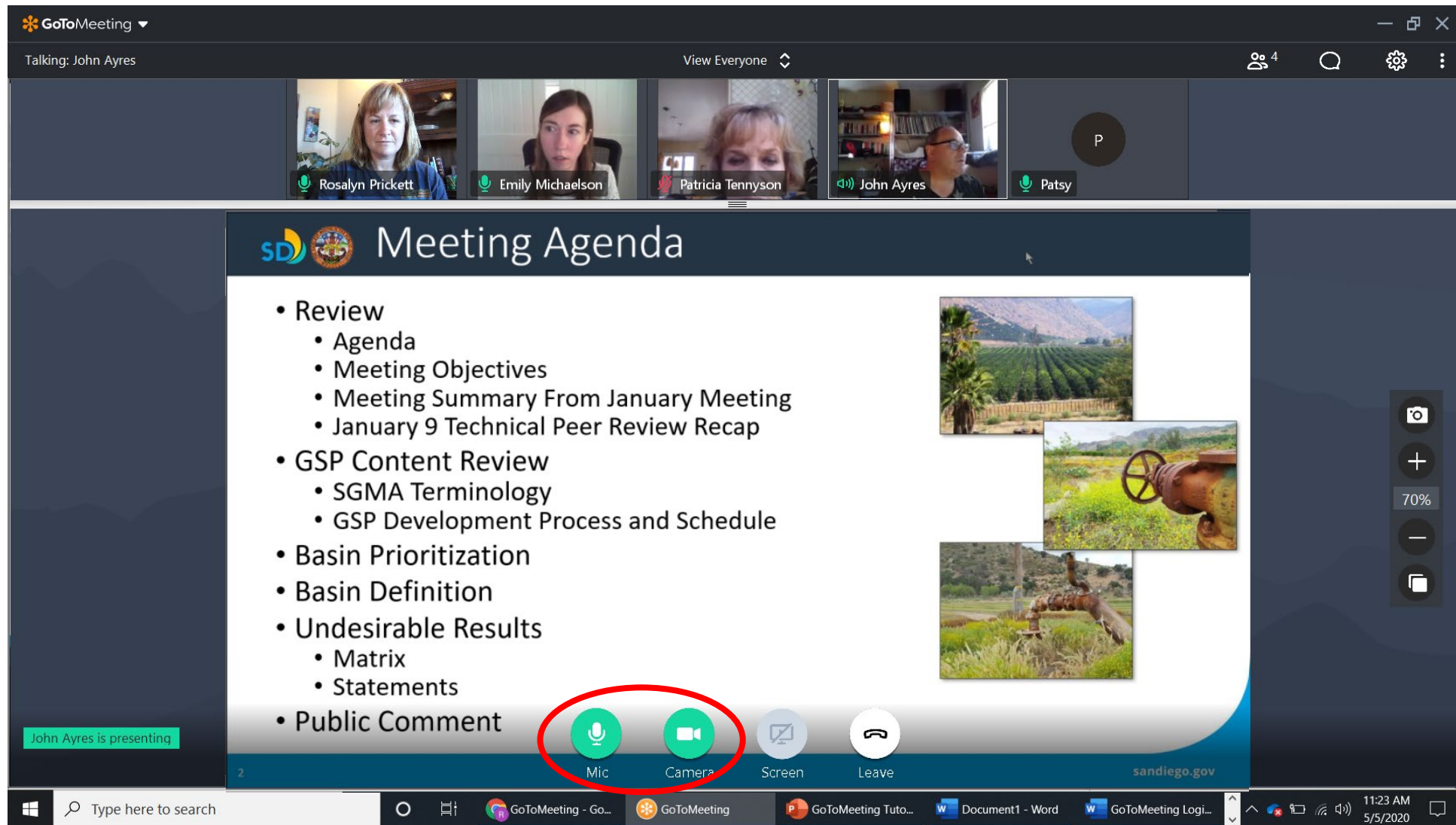
Groundwater Sustainability Plan (GSP)  
Content Review



July 8, 2021

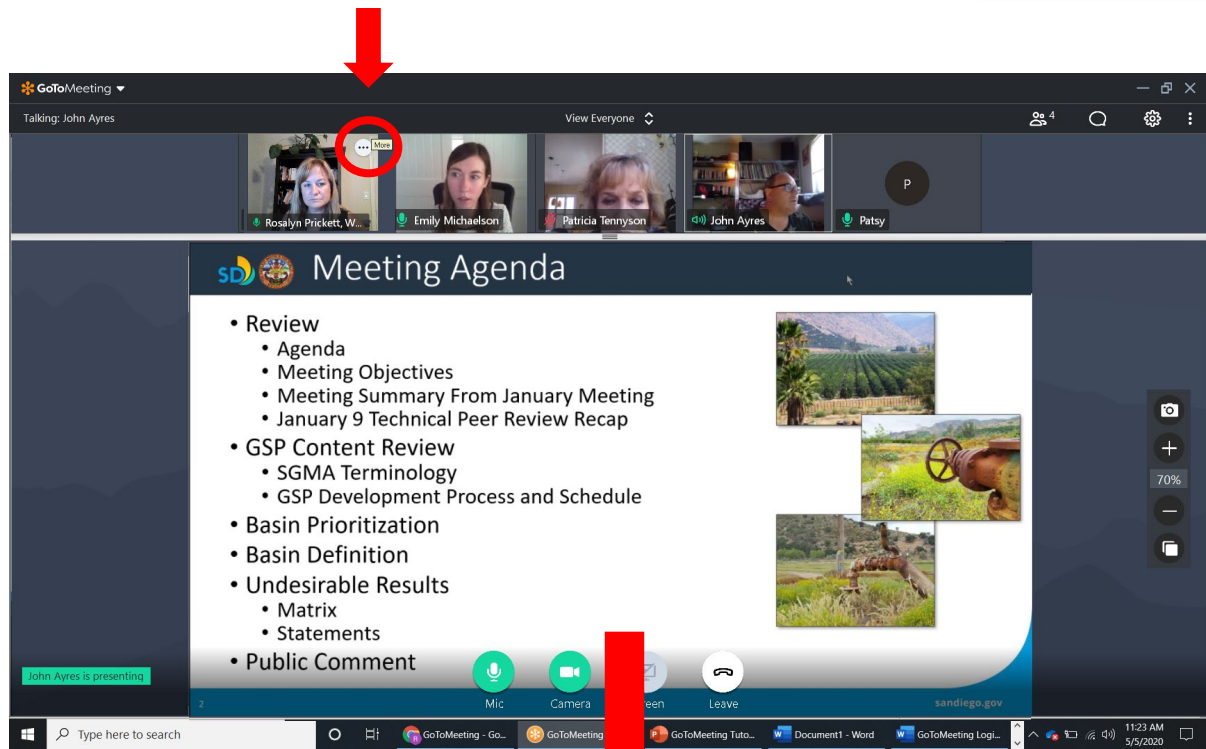


- Your screen should look like this:

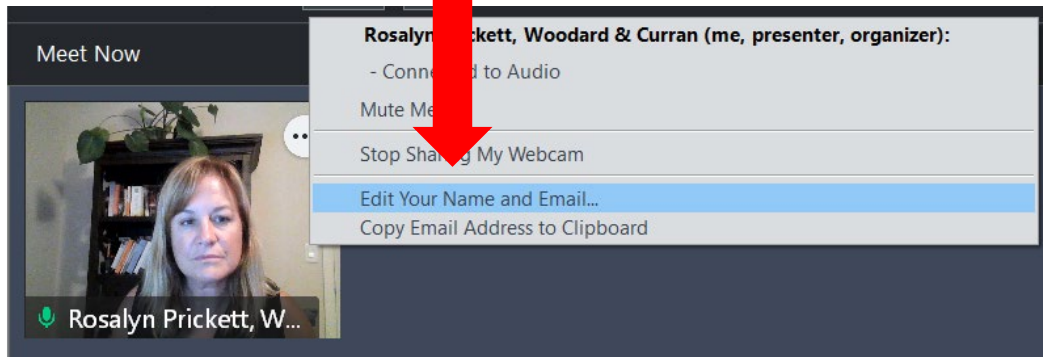


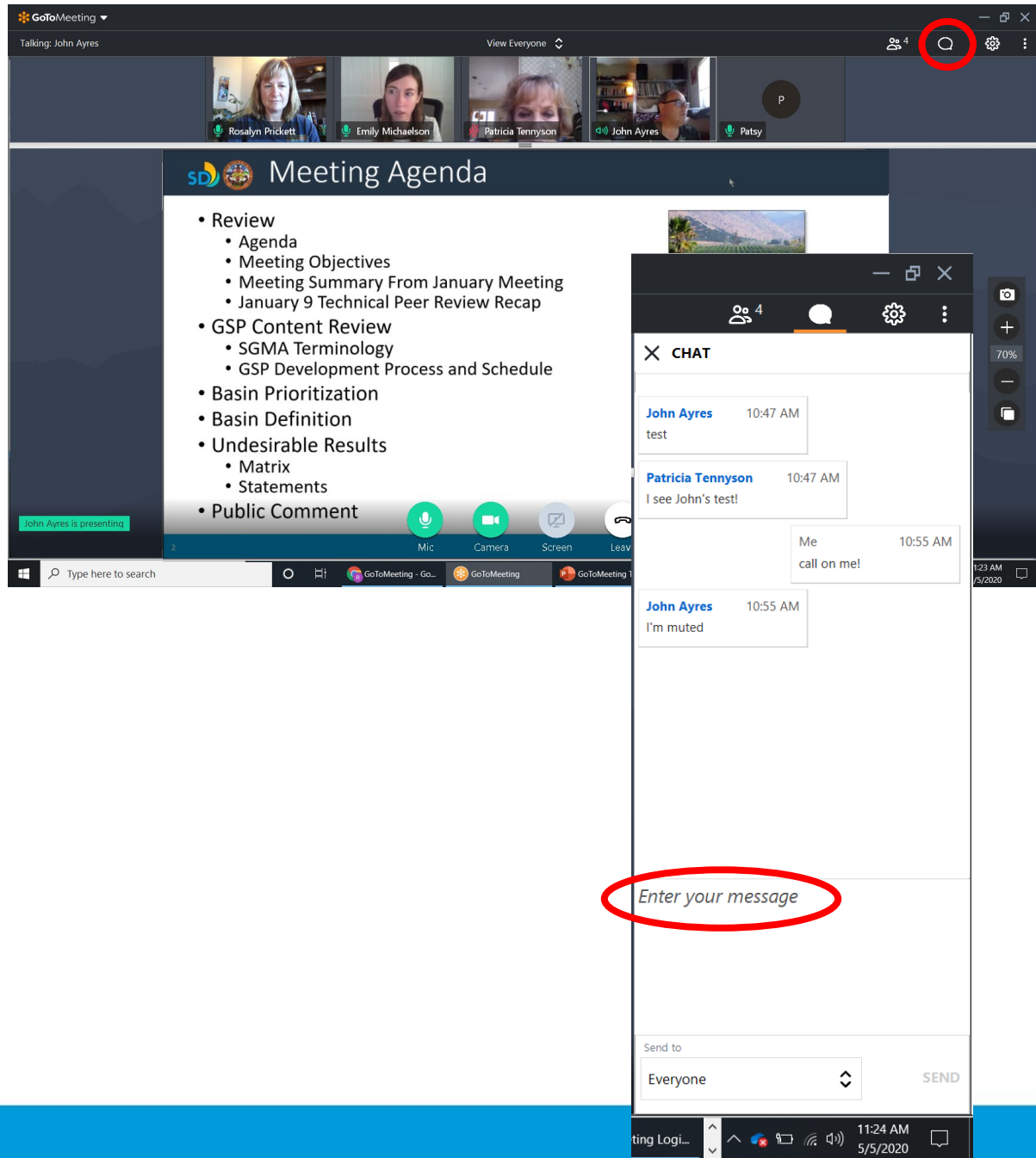
- Turn on/off your Mic (mute) and Camera (video) using the controls along the bottom
- During the meeting, you may need to wiggle your mouse to make the controls appear

# GoToMeeting – Please Enter Your Name



- Please identify yourself with your full name and organization
- Hover over your photo and click on the 3 dots, then *Edit Your Name and Email*
  - AC members – please include “AC – Name, Entity”
  - All other participants – please include “Name, Entity”





- Our facilitator will mute everyone at the beginning of the meeting
- Let us know you have a comment or question by clicking the **Chat** icon in the top right
  - Click on *Enter your message*, type your name and organization and hit SEND
- Wait until our facilitator calls on you:
  - Our facilitator will unmute you to relay your question or comment
  - Please also check your phone/computer to make sure you're not muted there too

# San Pasqual Valley GSP Advisory Committee Meeting

## REVIEW



1. Roll Call & Introductions
  - Consultant Project Manager
2. Review
  - Meeting Agenda
  - Meeting Objectives, Summary, and Comments Received
3. GSP Content Review
  - GSP Development Process
  - Introduction and Public Engagement
  - Physical Conditions
  - Water Budgets and Groundwater Flow Model
  - Monitoring Program and Data Management System
  - Sustainable Management Criteria
  - Projects and Management Actions and Plan Implementation
4. Summary of AC Input on GSP
5. Public Comments
6. Next Steps & Closing Remarks





- Meeting Objectives
  - Review the overall format and content of the Draft GSP
  - Receive any preliminary feedback and comments on the Draft GSP
- Previous Meeting Summary
  - See Handout 1
- Summary of Comments Received
  - Concerns about pumping reductions during drought and potential for enhanced recharge from upstream watershed



# Updated Public Comment Format

- Those wishing to comment should place their name and organization in the **Chat**; participants will be called on in the order received
- Public comment will take place at the conclusion of all AC discussion; members of the Core Team and the AC will not engage in dialogue with those making public comment
- If AC members have responses to public comment, they should be e-mailed to **Karina Danek (kdanek@sandiego.gov)**



# San Pasqual Valley GSP Advisory Committee Meeting

## Advisory Committee Comments



San Pasqual Valley GSP  
Advisory Committee Meeting  
GSP CONTENT REVIEW



Introduction and Public Engagement

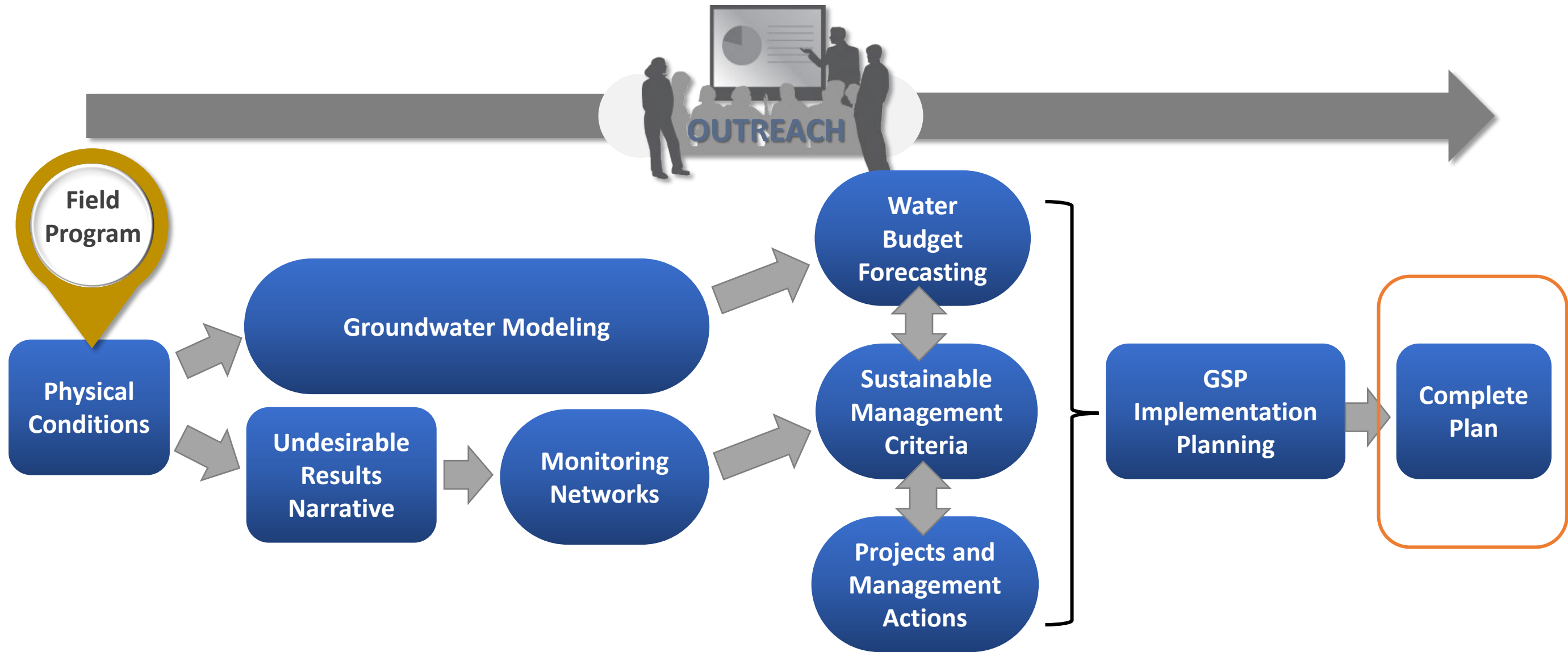
Physical Conditions (Plan Area, HCM, Groundwater Conditions)

Water Budgets and Groundwater Flow Model

Monitoring Networks and Data Management System

Sustainable Management Criteria

Projects and Management Actions and Plan Implementation



# San Pasqual Valley GSP Advisory Committee Meeting

## INTRODUCTION AND PUBLIC ENGAGEMENT



- The purpose of the GSP is to understand and describe the conditions needed to sustainably manage the Basin to comply with SGMA.



Chronic lowering of groundwater levels



Reduction of groundwater storage



Land subsidence



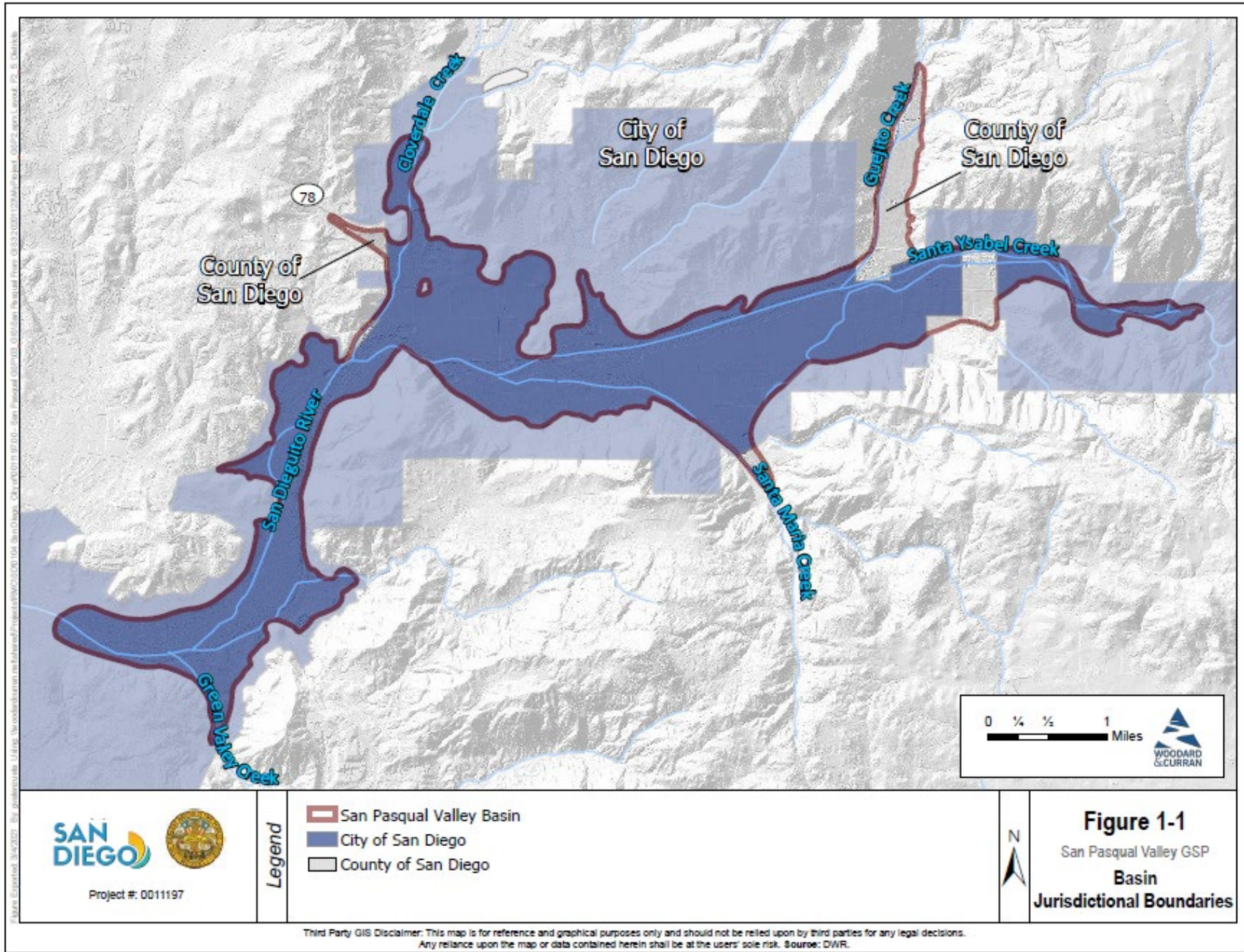
Degraded water quality



Seawater intrusion



Depletions of interconnected surface water with impacts on beneficial uses including GDEs



- Public Engagement
  - San Pasqual Valley GSA
    - County of San Diego
    - City of San Diego
- Advisory Committee
- Technical Peer Review
- Stakeholder List
- Website



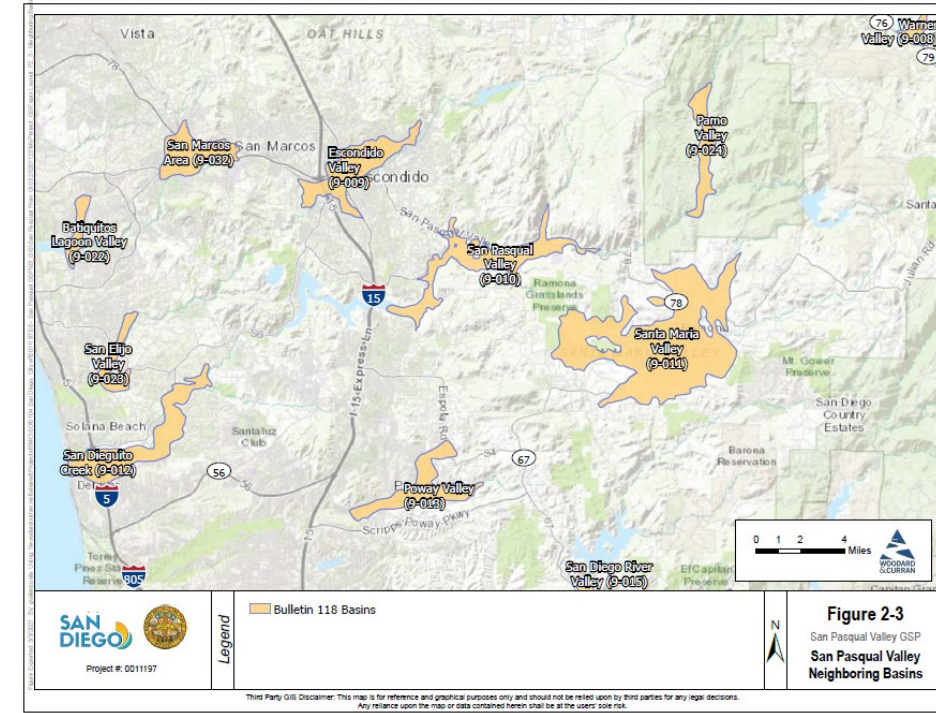
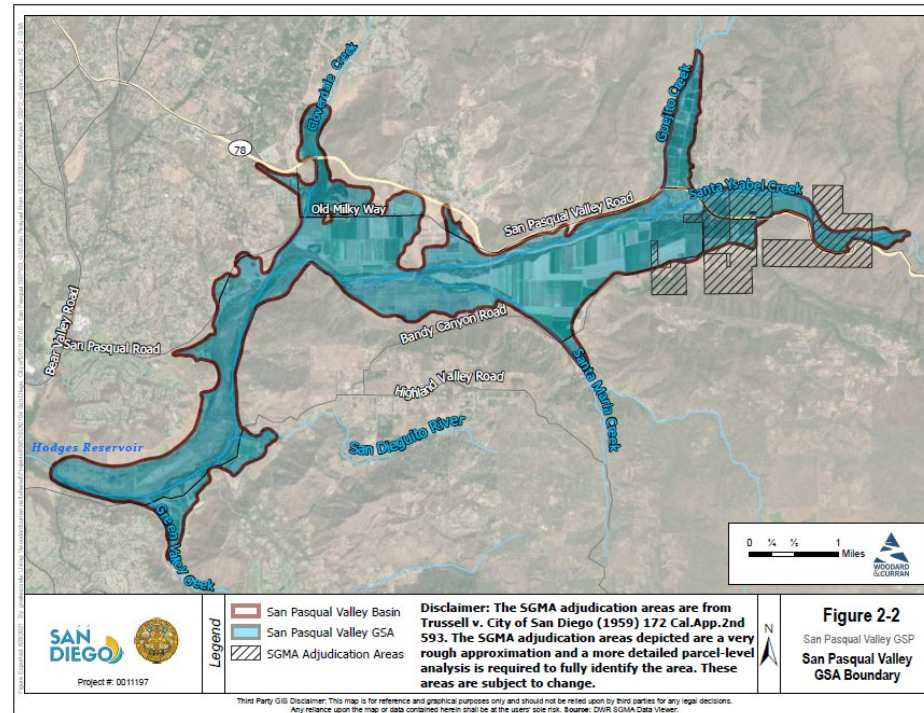
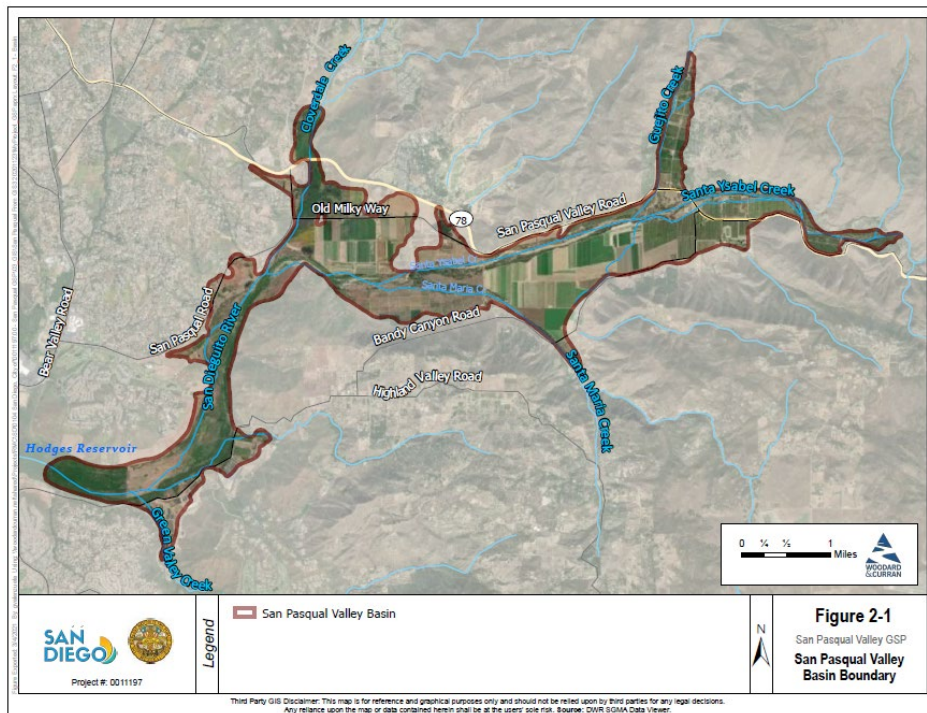


# San Pasqual Valley GSP Advisory Committee Meeting

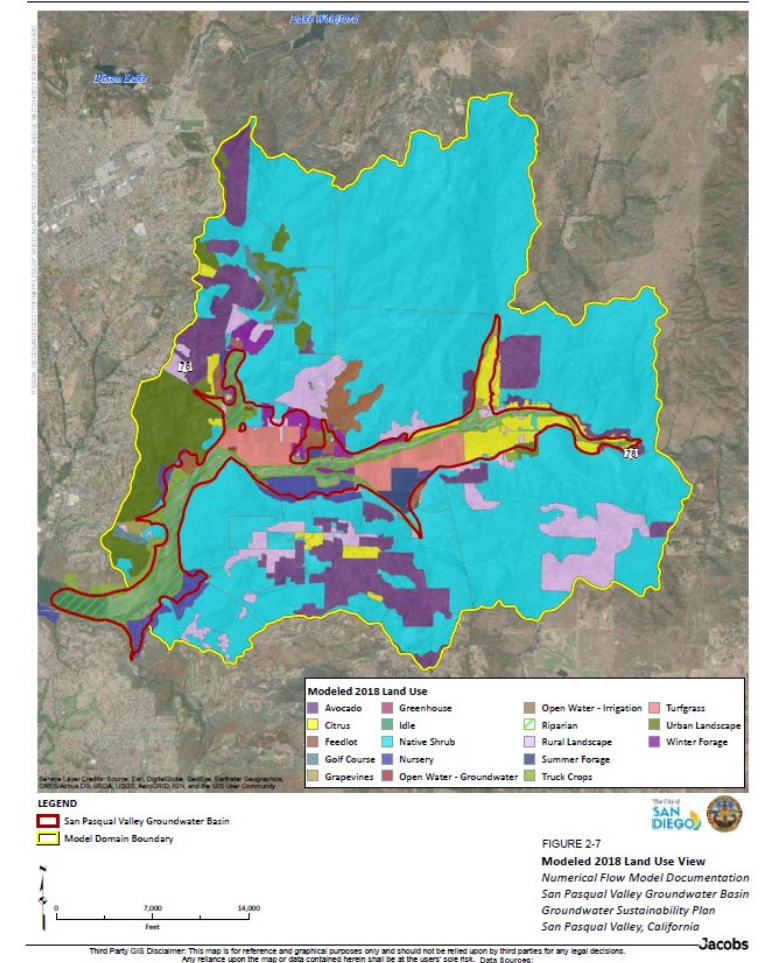
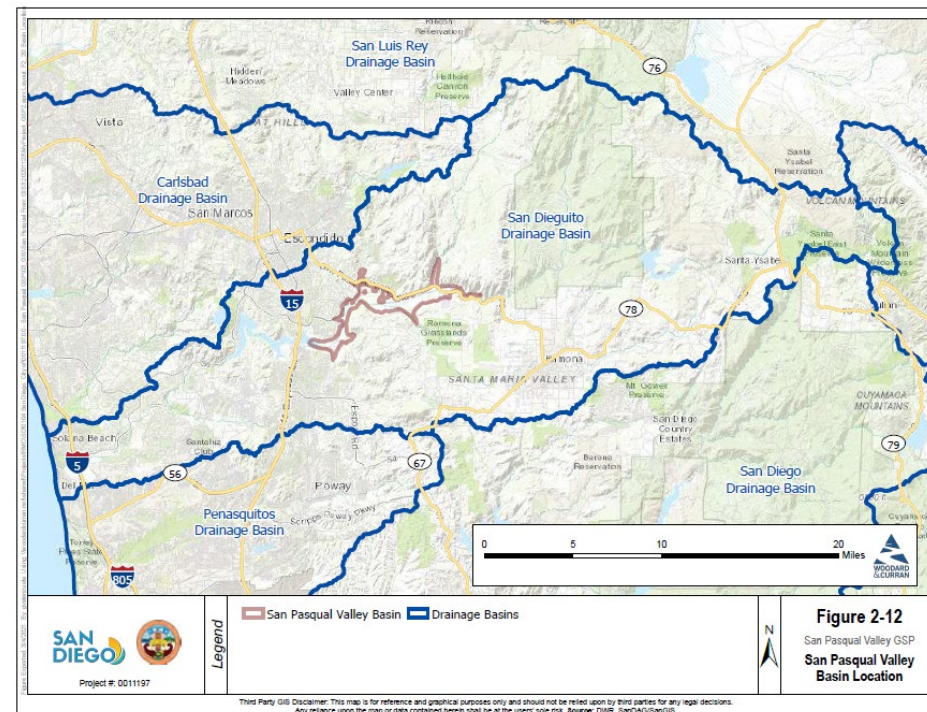
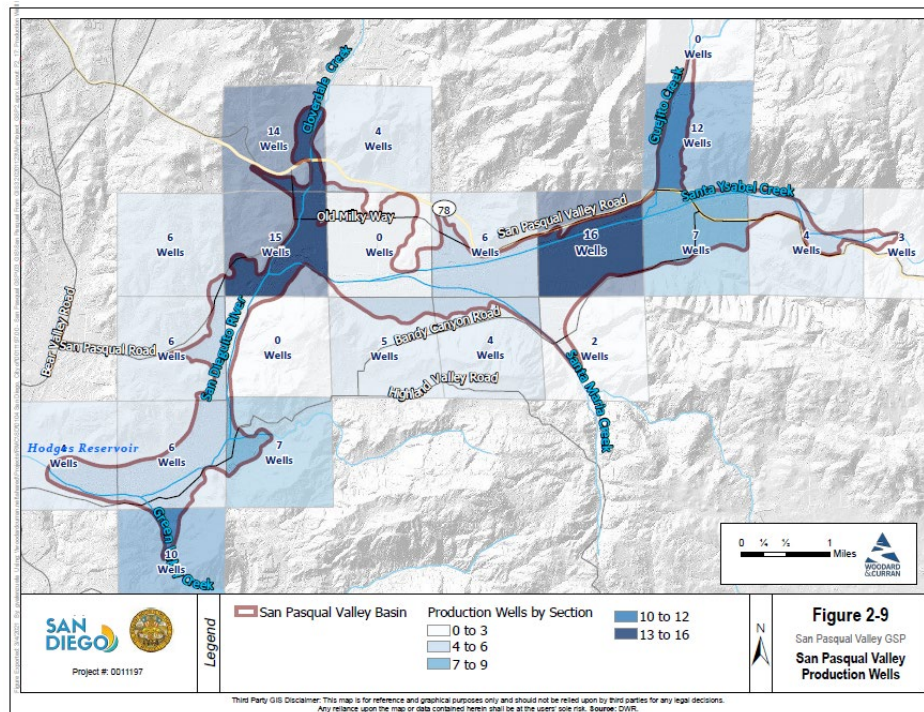
## PHYSICAL CONDITIONS (PLAN AREA, HCM, GROUNDWATER CONDITIONS)



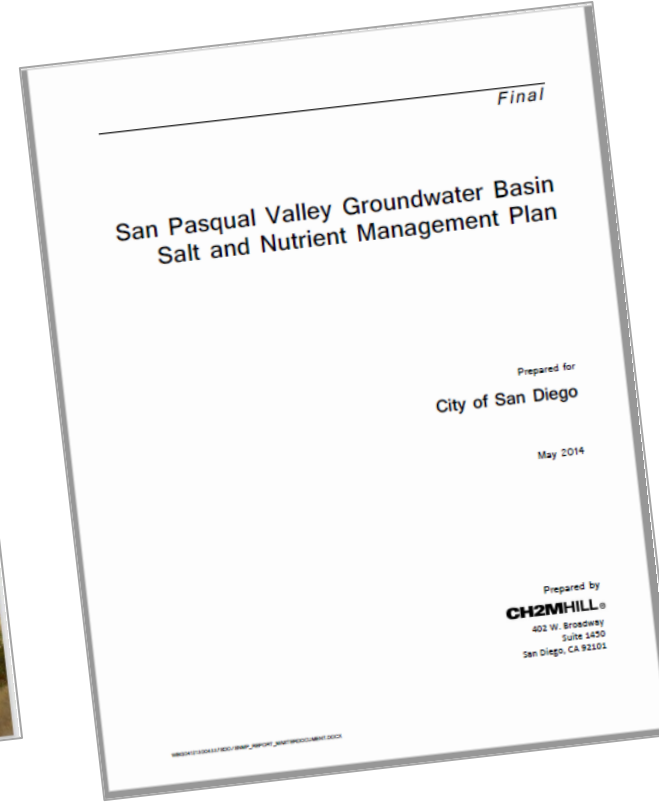
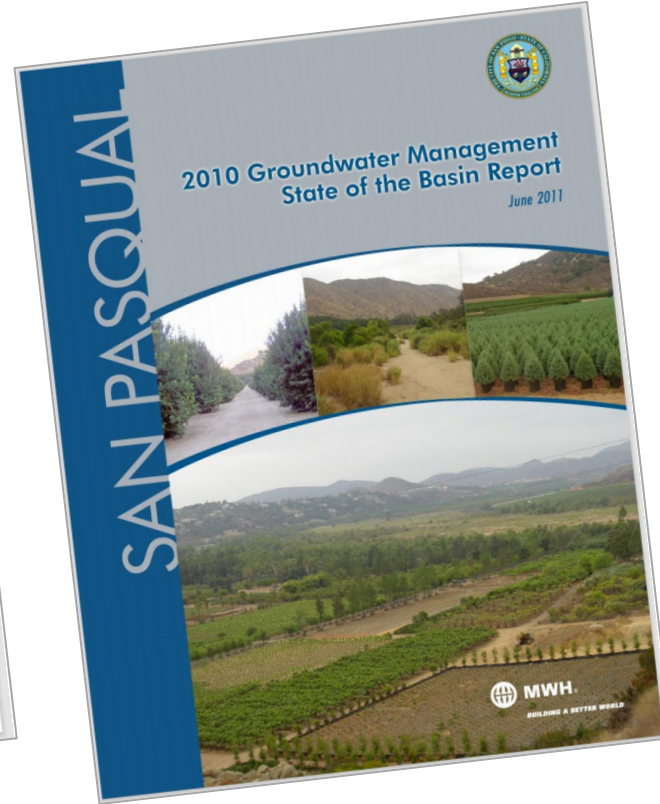
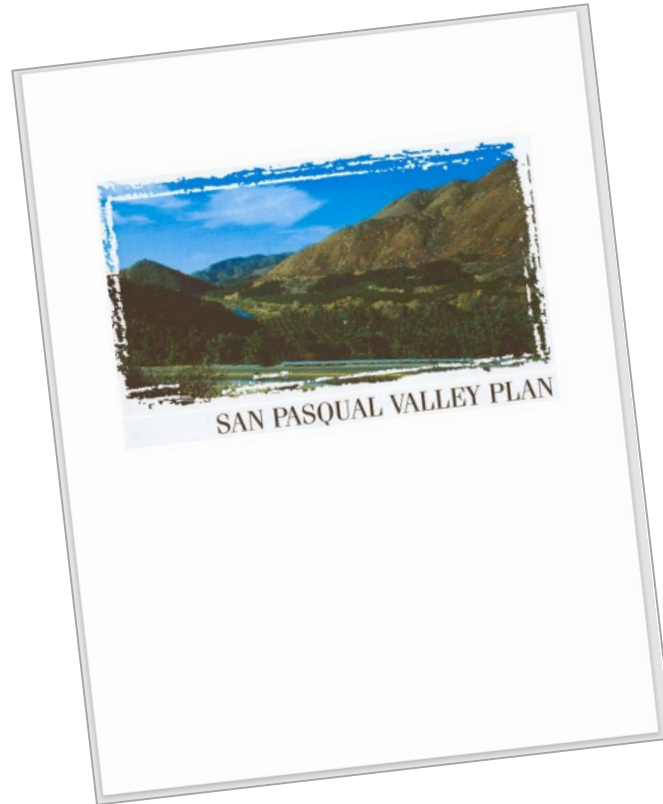
- Describes conditions on the ground surface
  - Basin boundary
  - GSA boundary
  - Neighboring basins



- Describes conditions on the ground surface
  - Well infrastructure
  - Watersheds
  - Land uses



- Summarizes existing surface and groundwater monitoring programs
- Describes existing water management plans and programs



- Describes geology and aquifer characteristics and describes materials that groundwater moves through
  - Topography
  - Surface water bodies
  - Soils

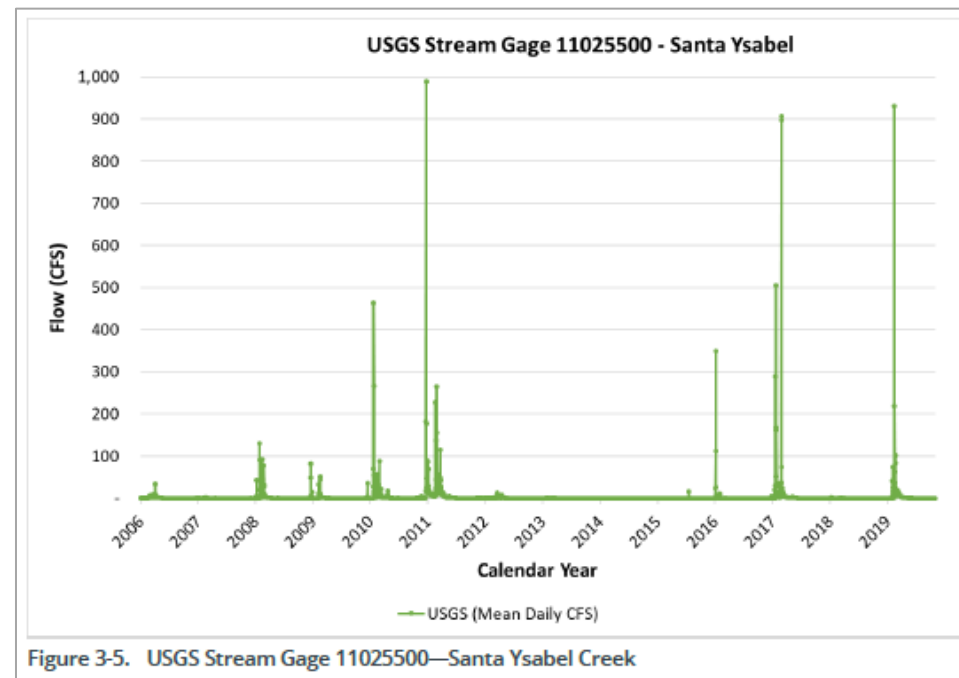
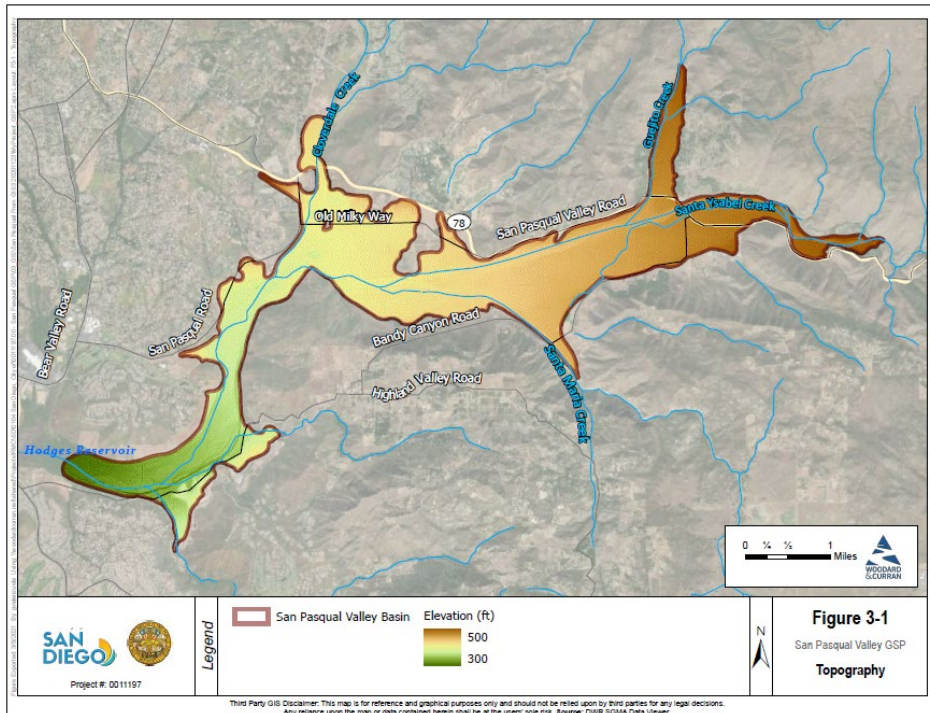
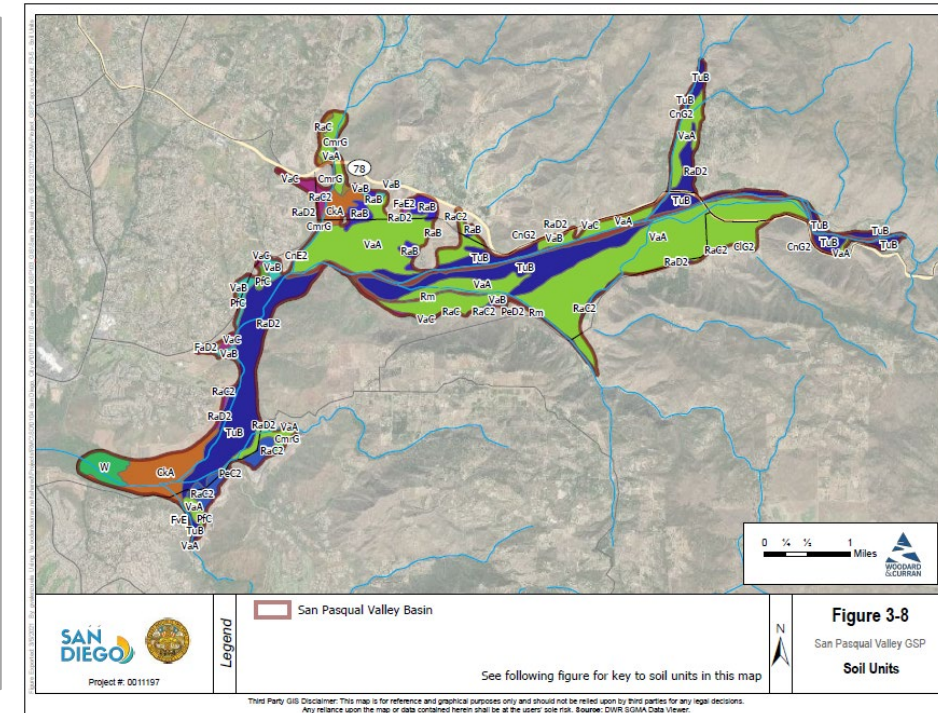
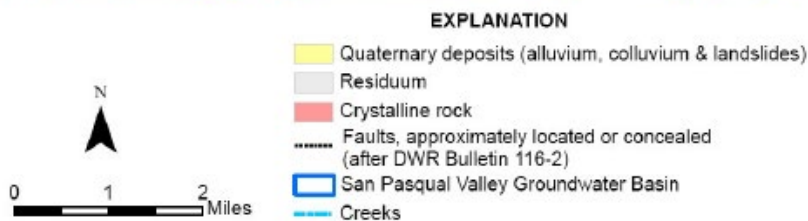
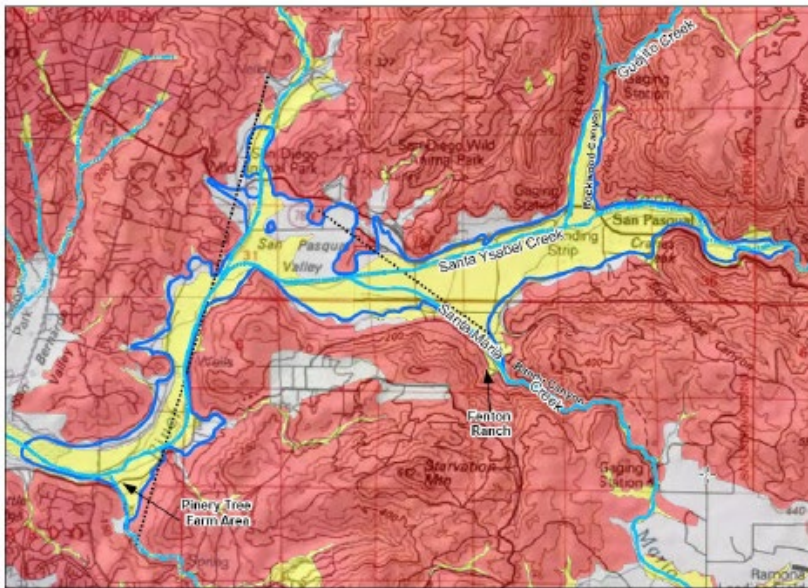


Figure 3-5. USGS Stream Gage 11025500—Santa Ysabel Creek

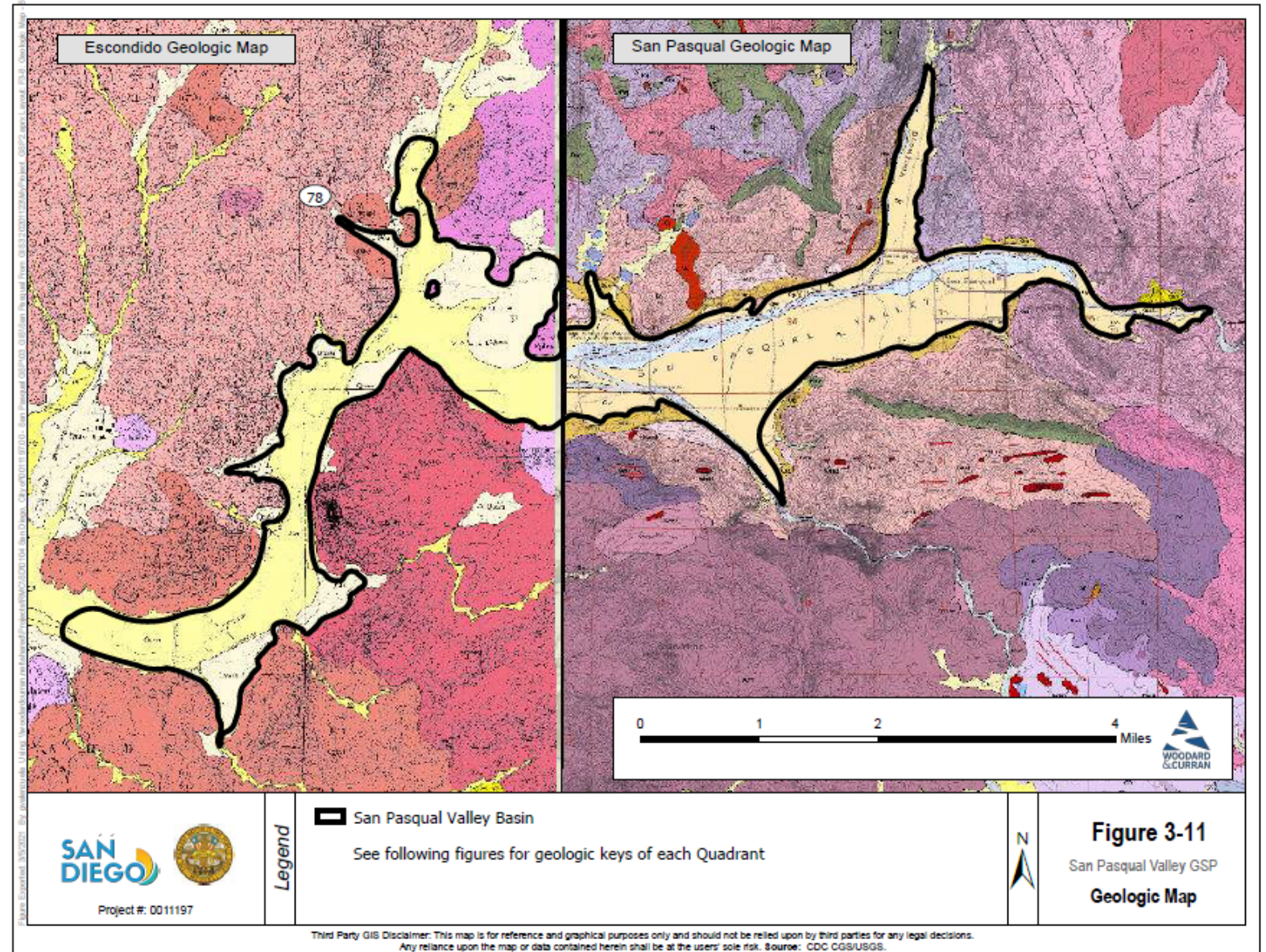


- Geologic Maps

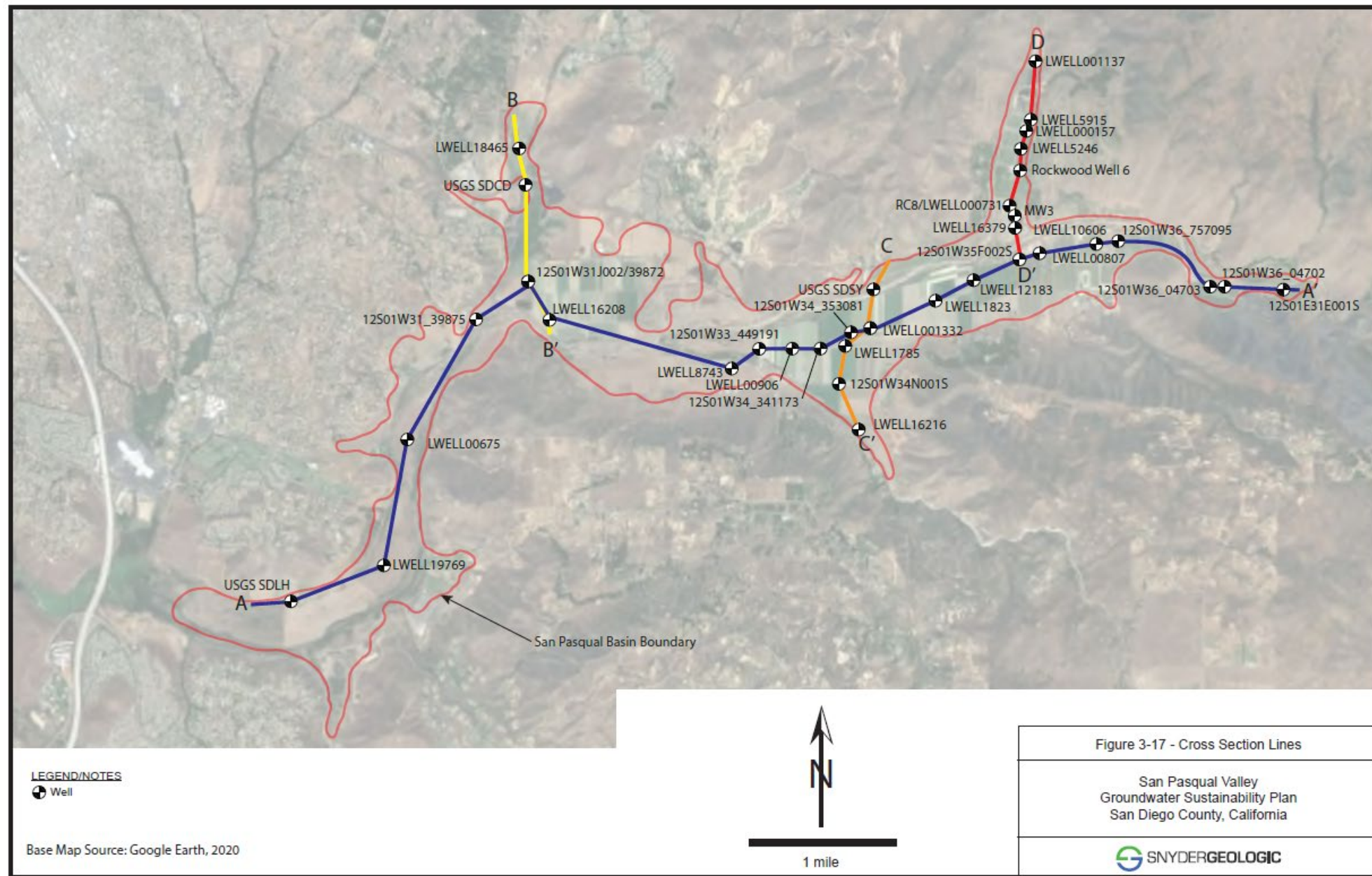
- Faults – San Pasqual Narrows and Bandy Canyon
- Geology – Split in half; two different authors



Source: DWR, 2015  
Figure 3-10. Simplified Geologic Map and Faults



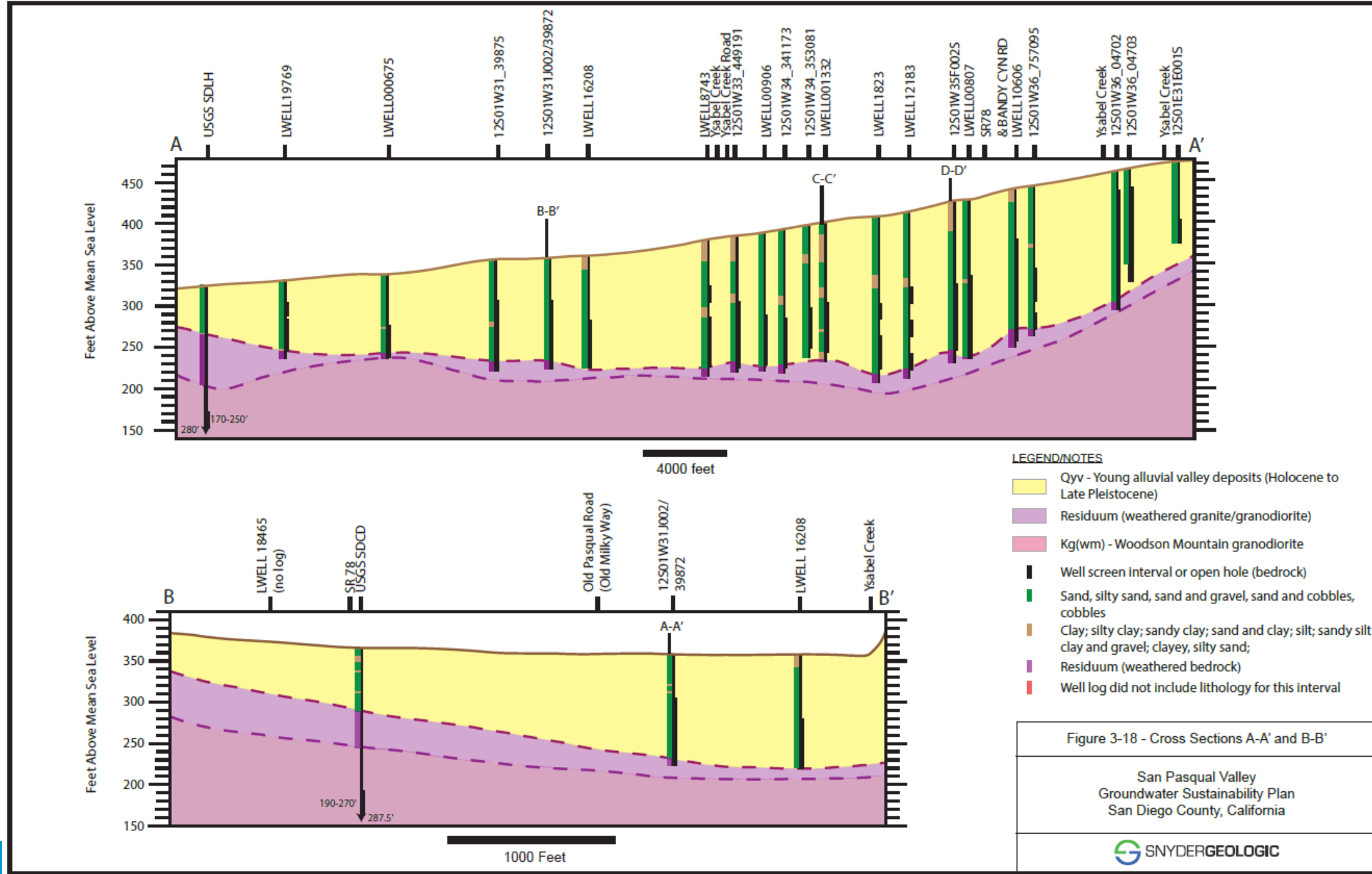
- Cross Sections
  - Illustrates geology
  - Developed with Well Completion Reports



- Cross Sections

- A-A'
- B-B'

- Quaternary Deposits (Alluvium)
- Residuum
- Bedrock

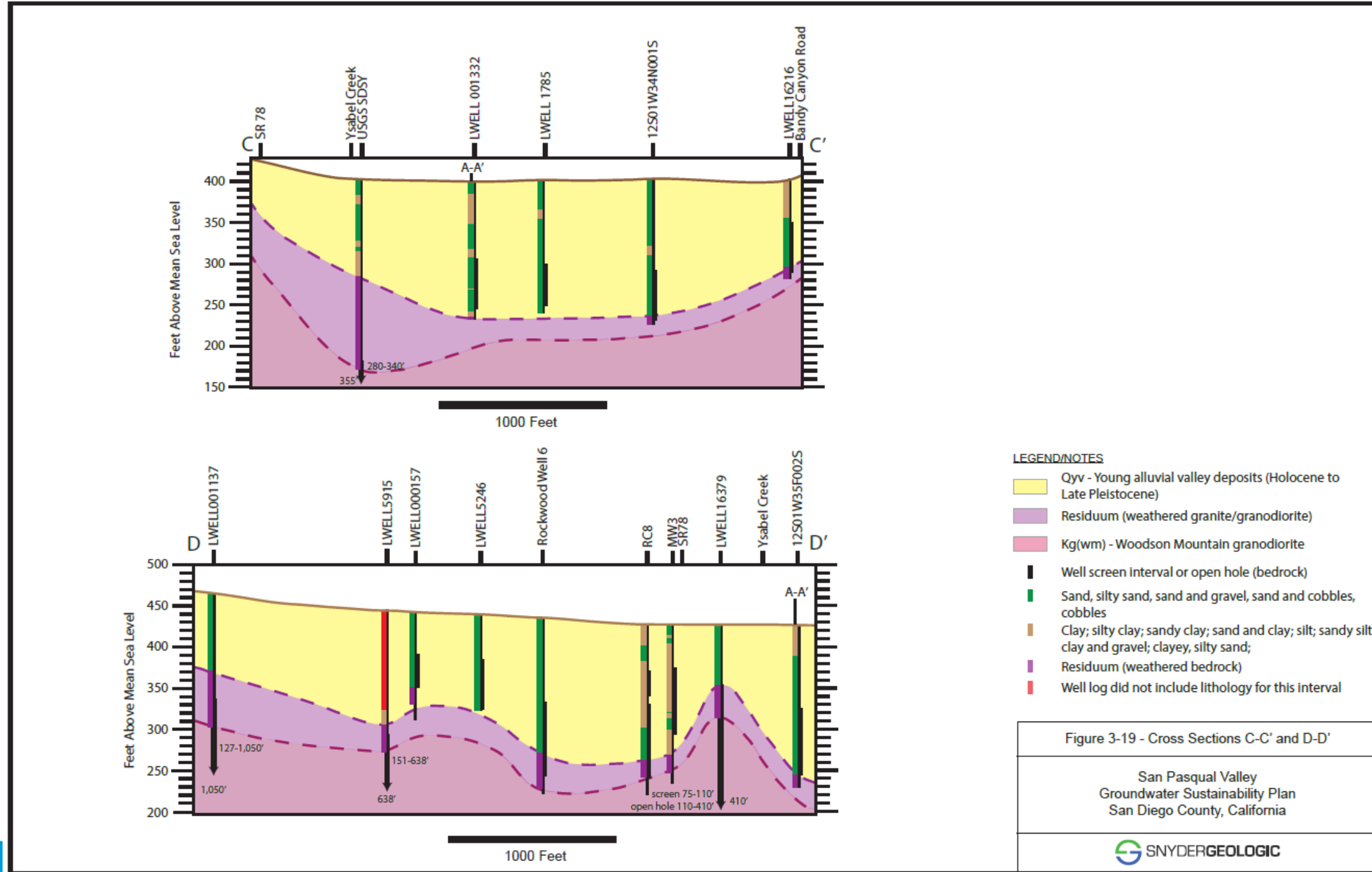




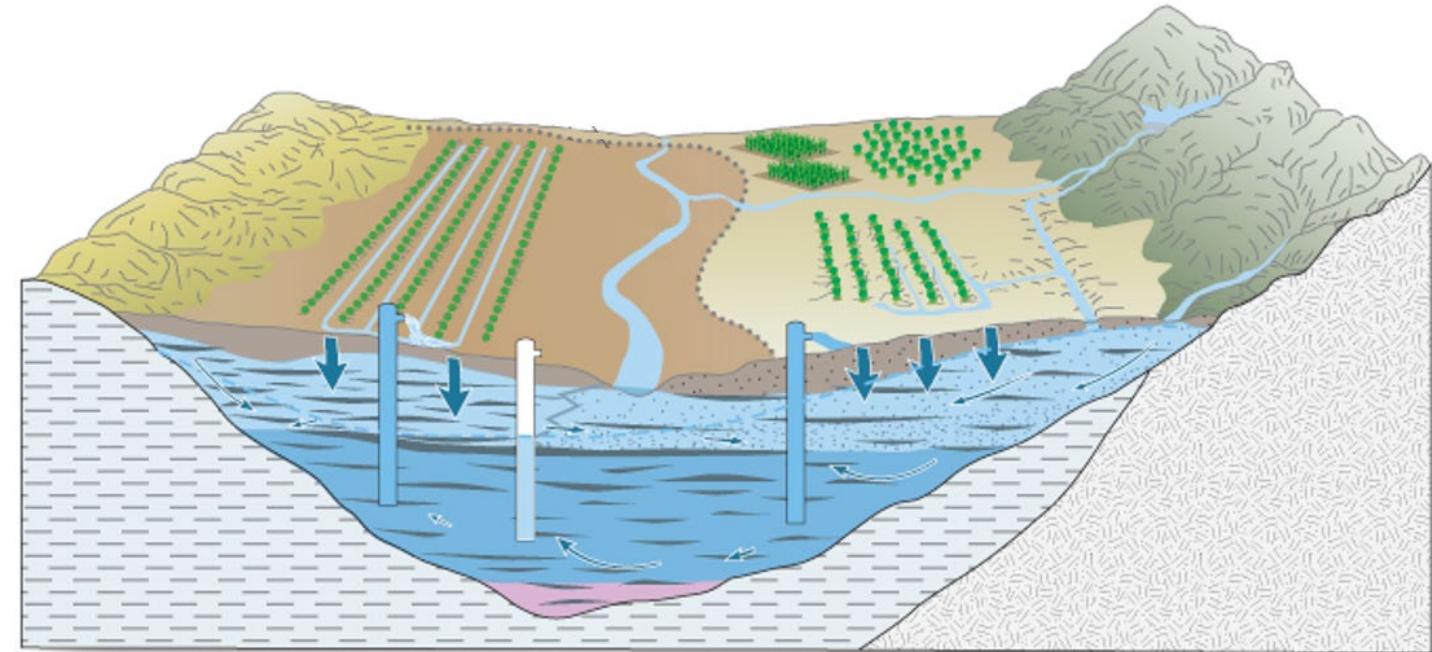
- Cross Sections

- C-C'
- D-D'

- Quaternary Deposits (Alluvium)
- Residuum
- Bedrock



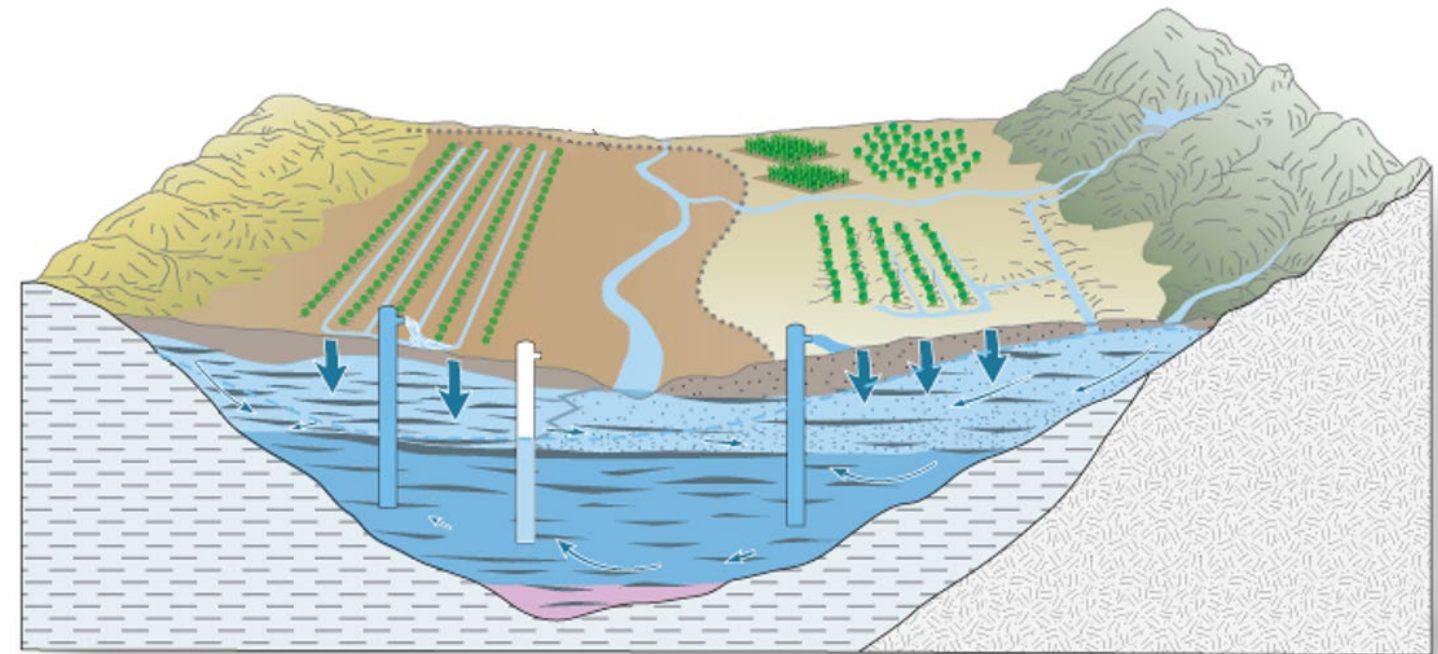
- Lateral boundaries:
  - **Impermeable Bedrock**—  
Impermeable bedrock with lower water yielding capacity
    - Applies to majority of the Basin where Quaternary Deposits meet Crystalline Bedrock
  - **Constrictions in Permeable Materials**—Lower-permeability material, even with openings that are filled with more permeable stream channel materials
    - Applies at the inlet of Santa Ysabel Creek and near Hodges Reservoir



Example from USGS of the San Joaquin Basin

## Definition of Basin Statement:

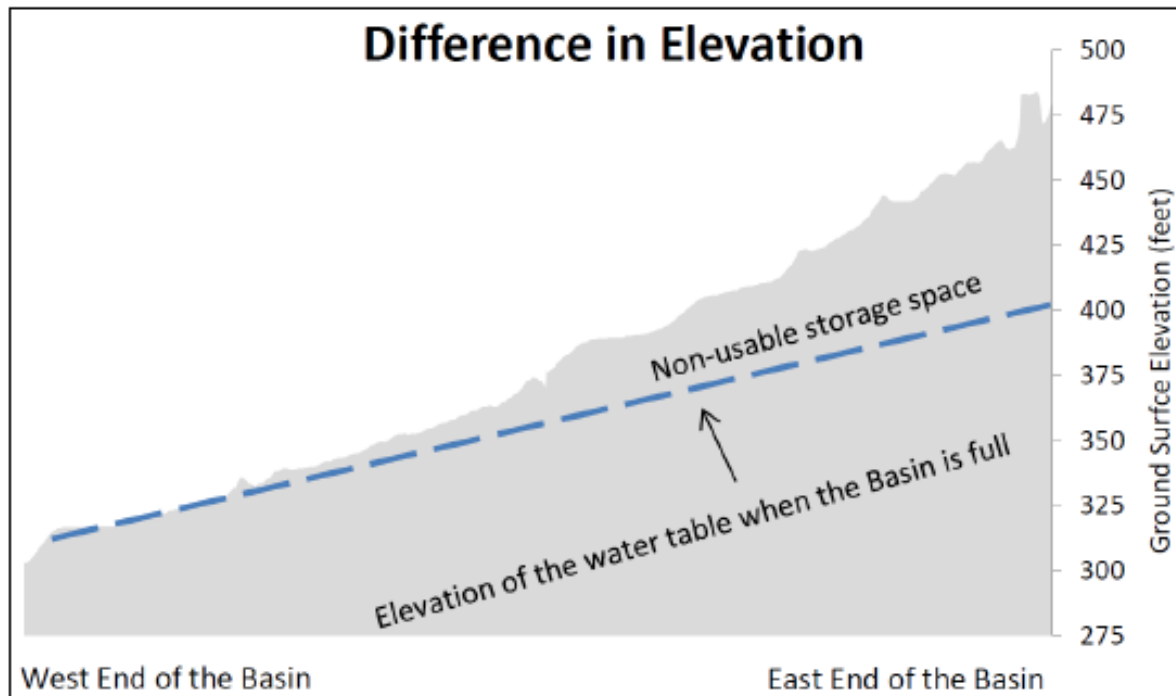
- The SPV Basin is defined by Bulletin 118 and includes the Quaternary Deposits and Residuum. The interaction of groundwater between fractured bedrock beneath the Quaternary Deposits and the Residuum is not well understood and represents an area of potential improvements that may be investigated by the GSA to further the understanding of the Basin.



- Historically, the Basin shows the following characteristics:
  - Groundwater levels are consistently high (shallow) in the western portion of the Basin
  - Groundwater levels fluctuate in the eastern portion of the Basin in response to drought periods, and can recover to pre-drought levels quickly
  - TDS concentrations in the Basin have generally increased from 1950 to 2000, but have stopped increasing in most areas and have fluctuated after 2000
  - Nitrate concentrations in the Basin have generally increased from 1960 to 2000, and have generally declined or stabilized in most wells since 2000

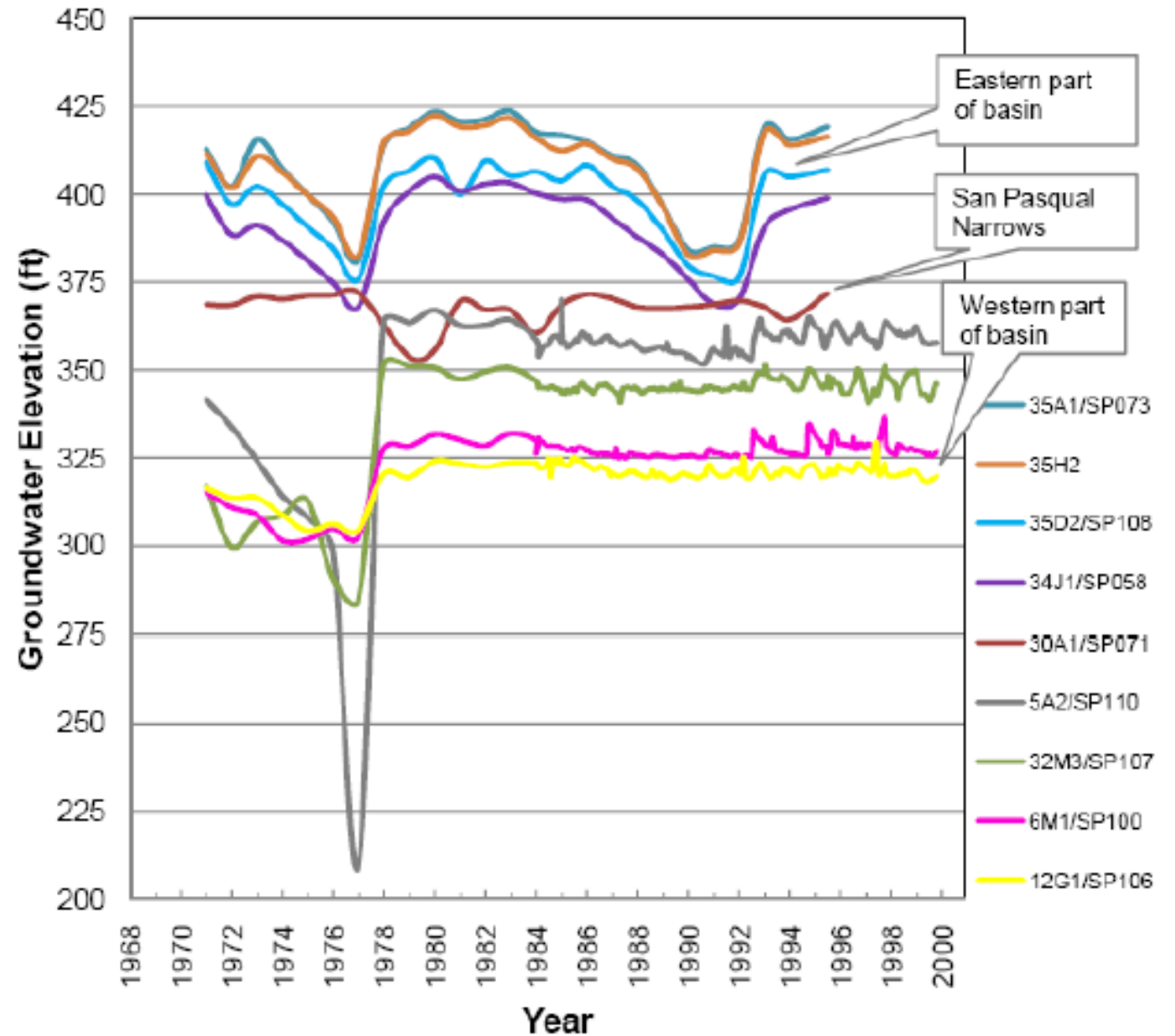


- Reviews historical groundwater level and quality data from DWR and USGS



Source: DWR, 2015

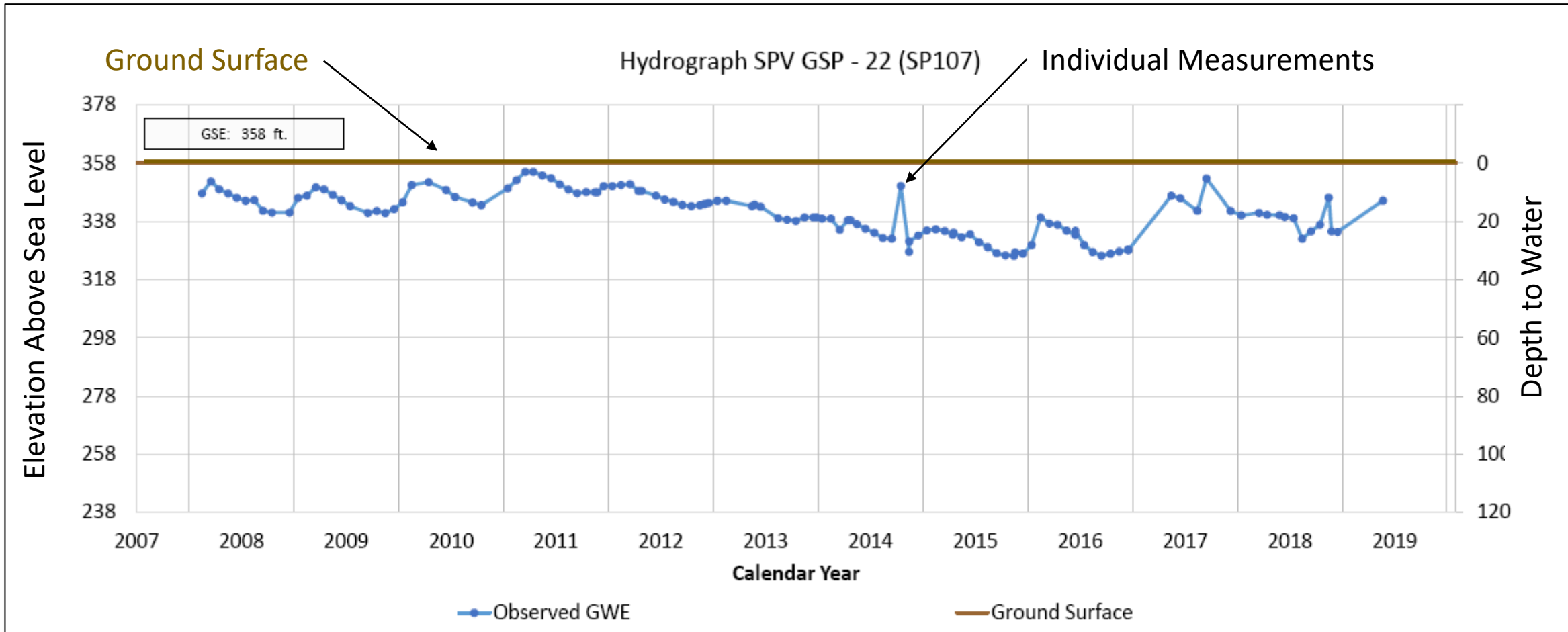
Figure 4-10. DWR 2015—Relationship Between Ground Surface Elevation and Storage



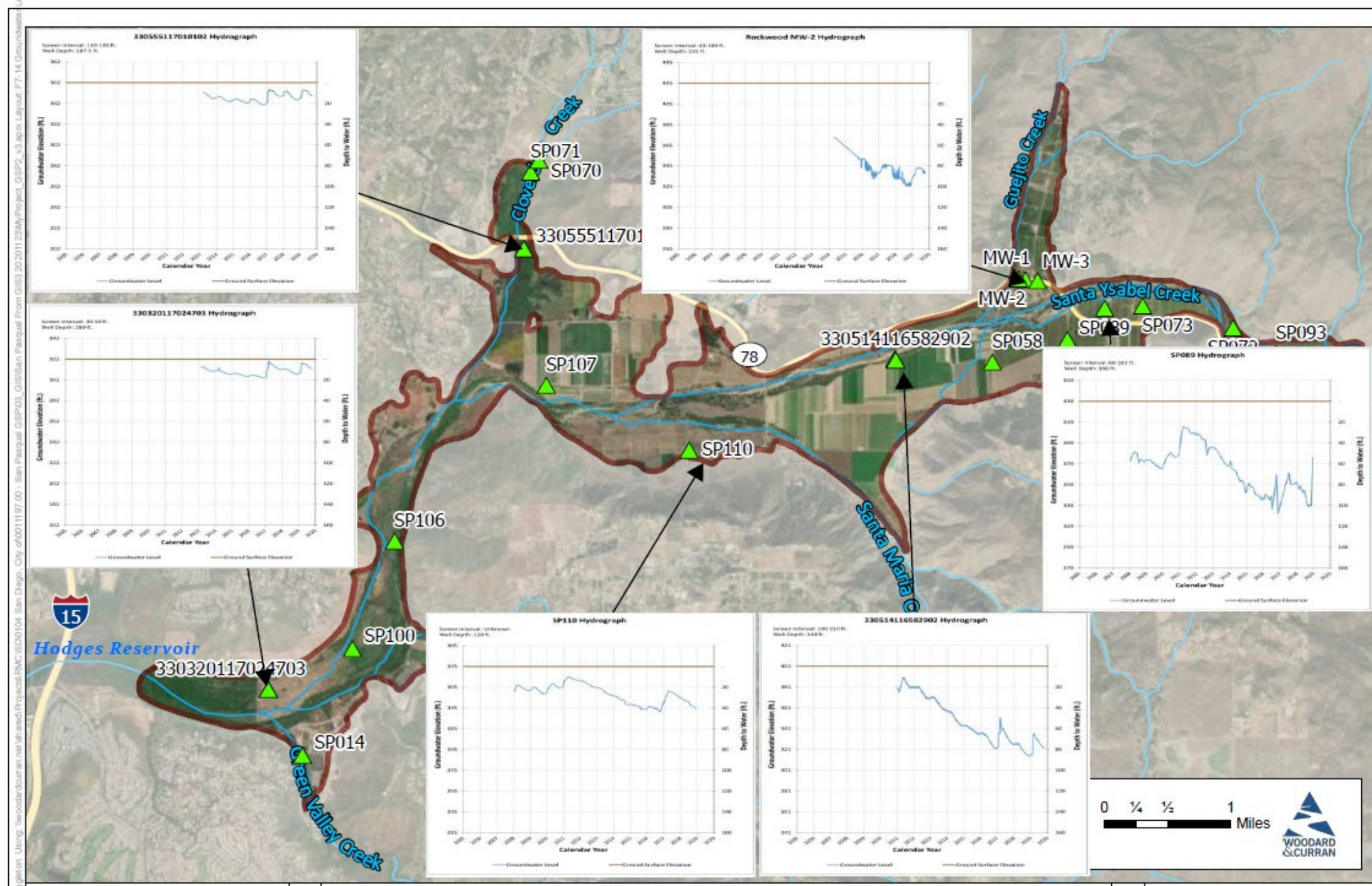
Source: DWR, 2011

Figure 4-8. DWR 2011—Hydrograph Showing Long-Term Groundwater Level Trends

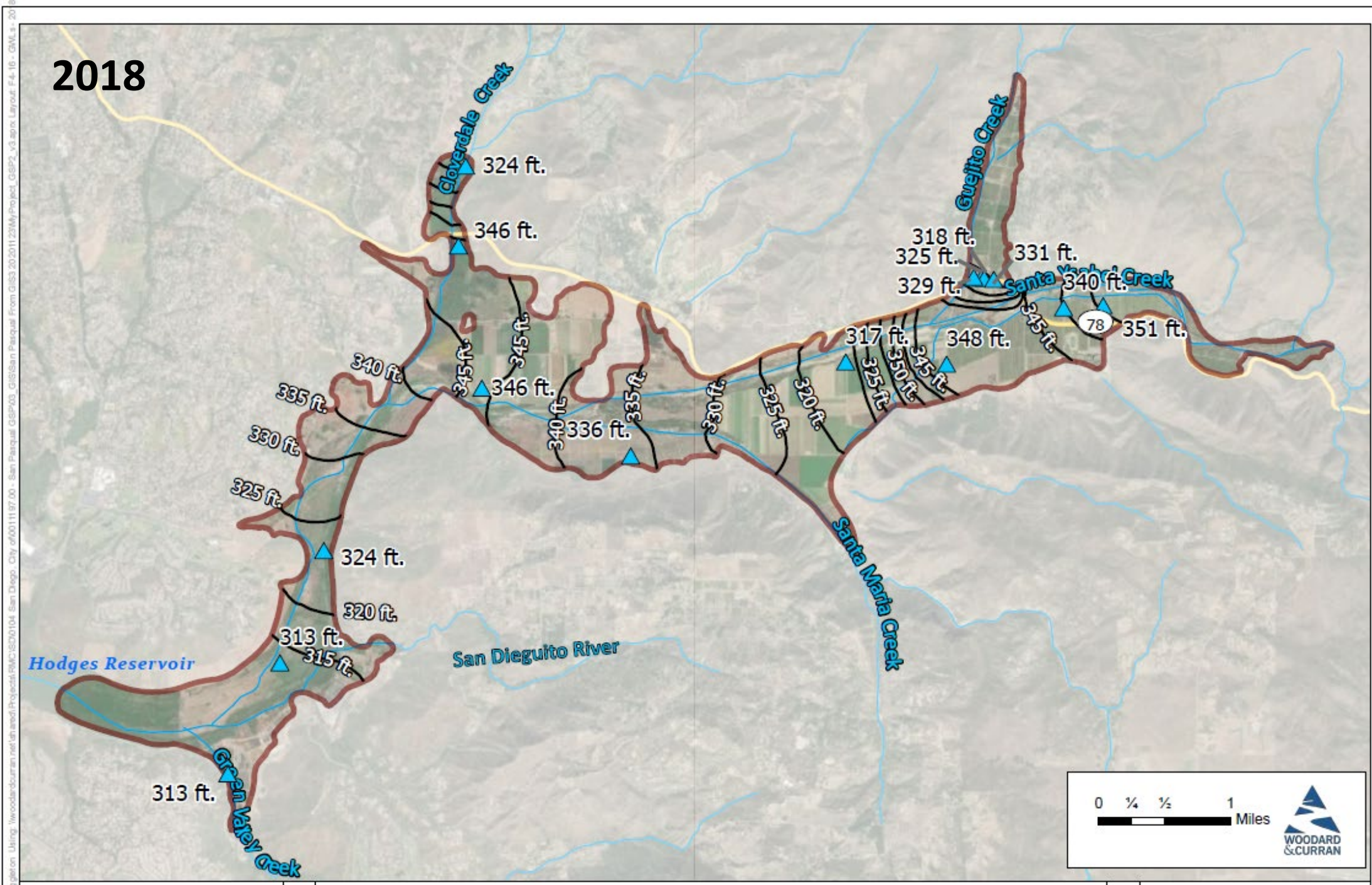
- Provides hydrographs for monitored wells throughout Basin



- Groundwater level hydrographs
- Groundwater level monitoring network



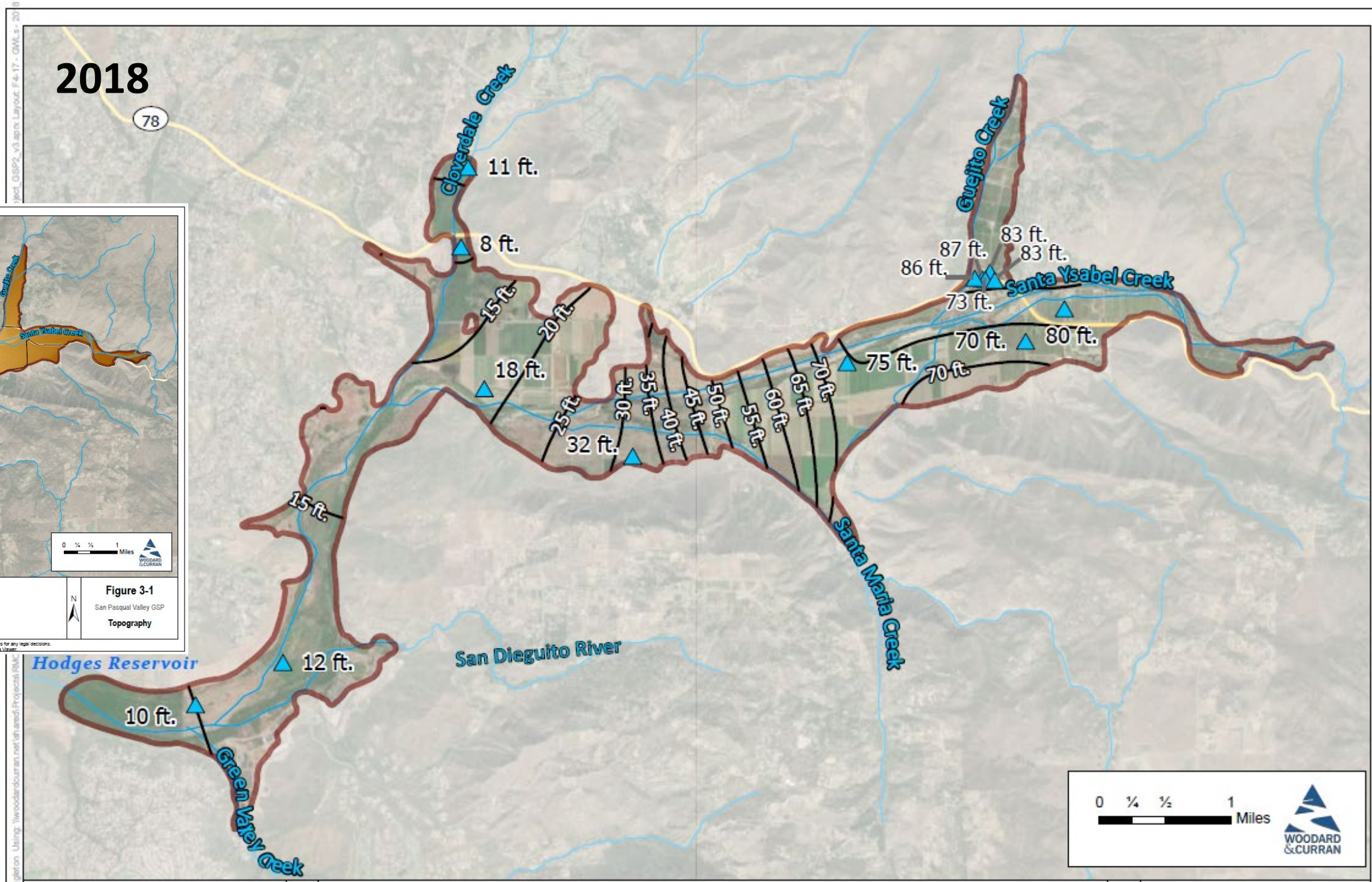
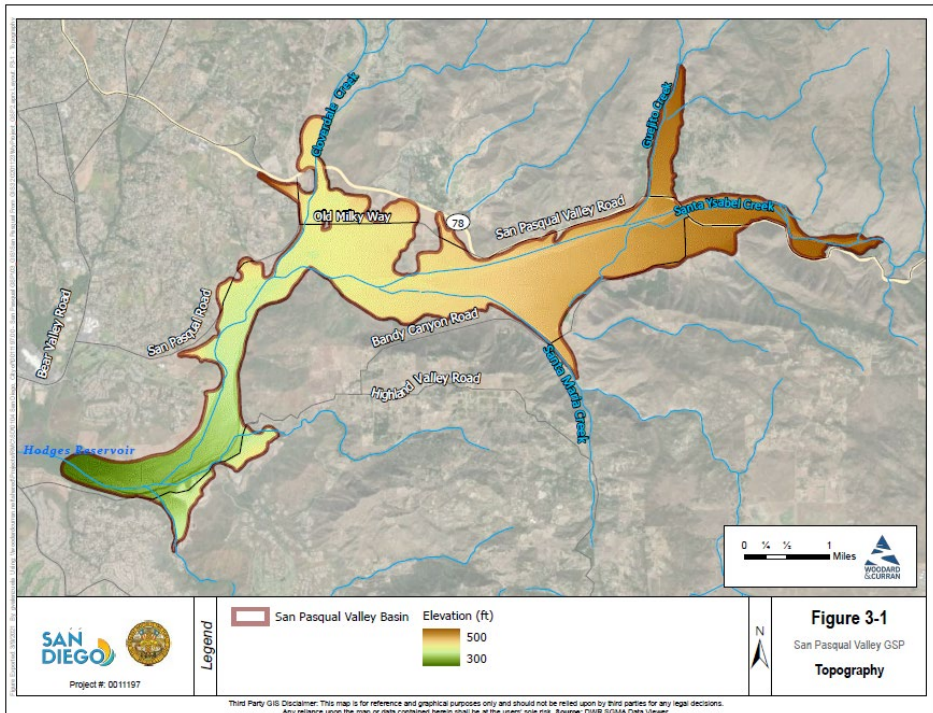
- Groundwater elevation contours



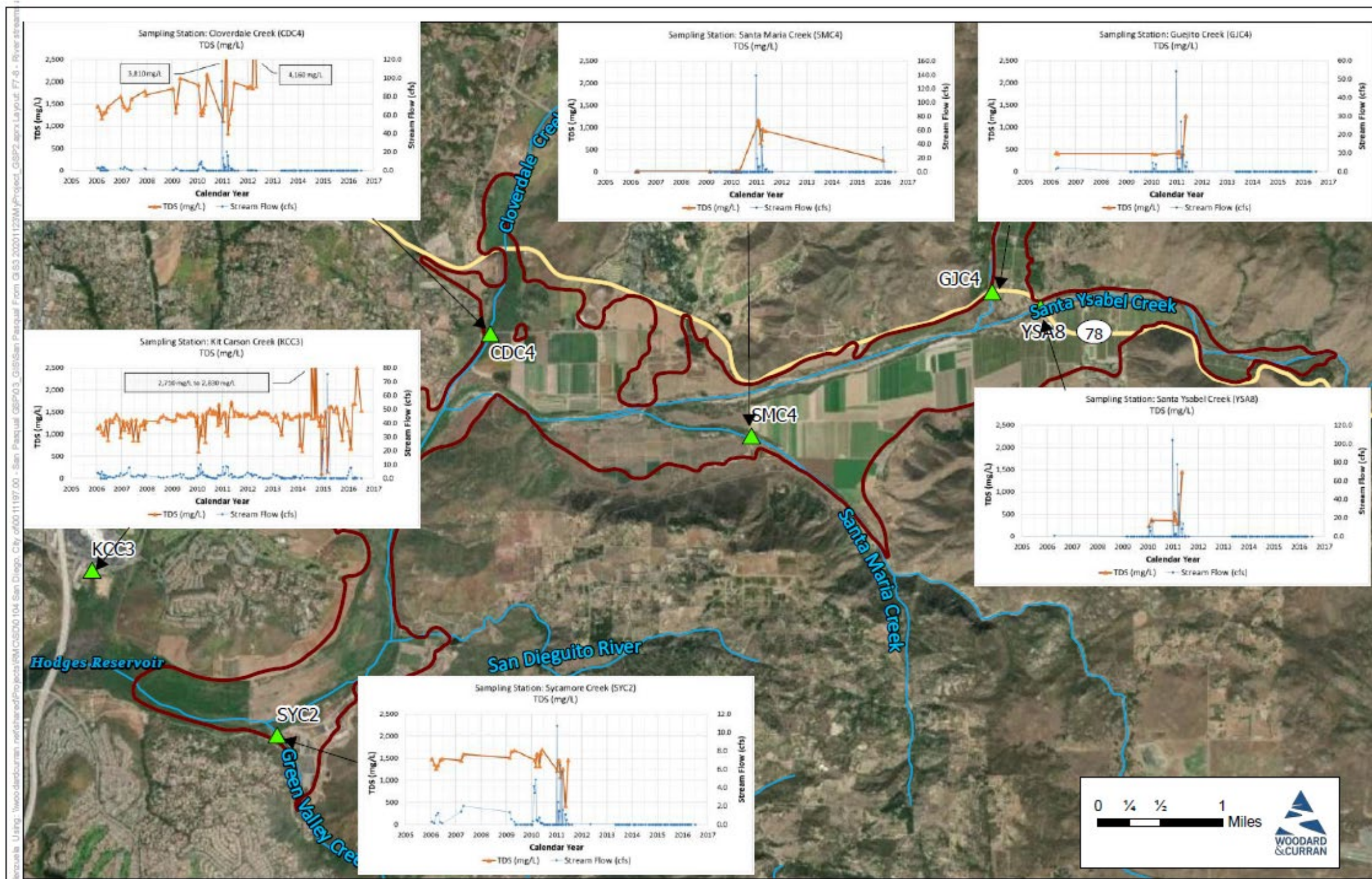
caption: Using: \woodard\curran\red\dr\wood\Project\BMC\SD0104\_San Diego\_City\_of\0011197.00\_San Pasqual\_GSP\03\_GIS\San Pasqual\_From GIS\20201123\Map\Project\_GSP2\_v3.aprx Layout: F4-16-GWA.a-2018



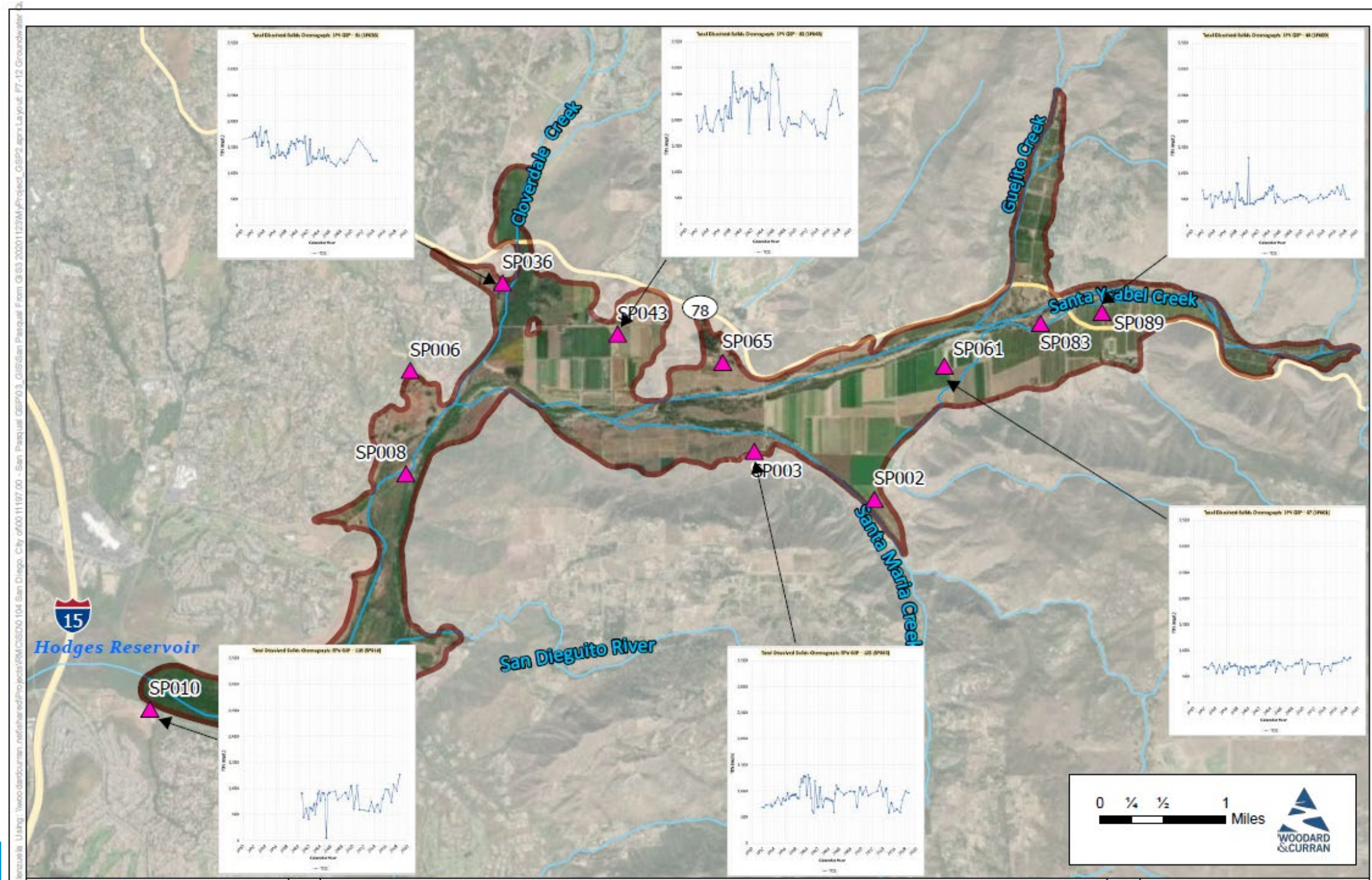
- Depth to water contours



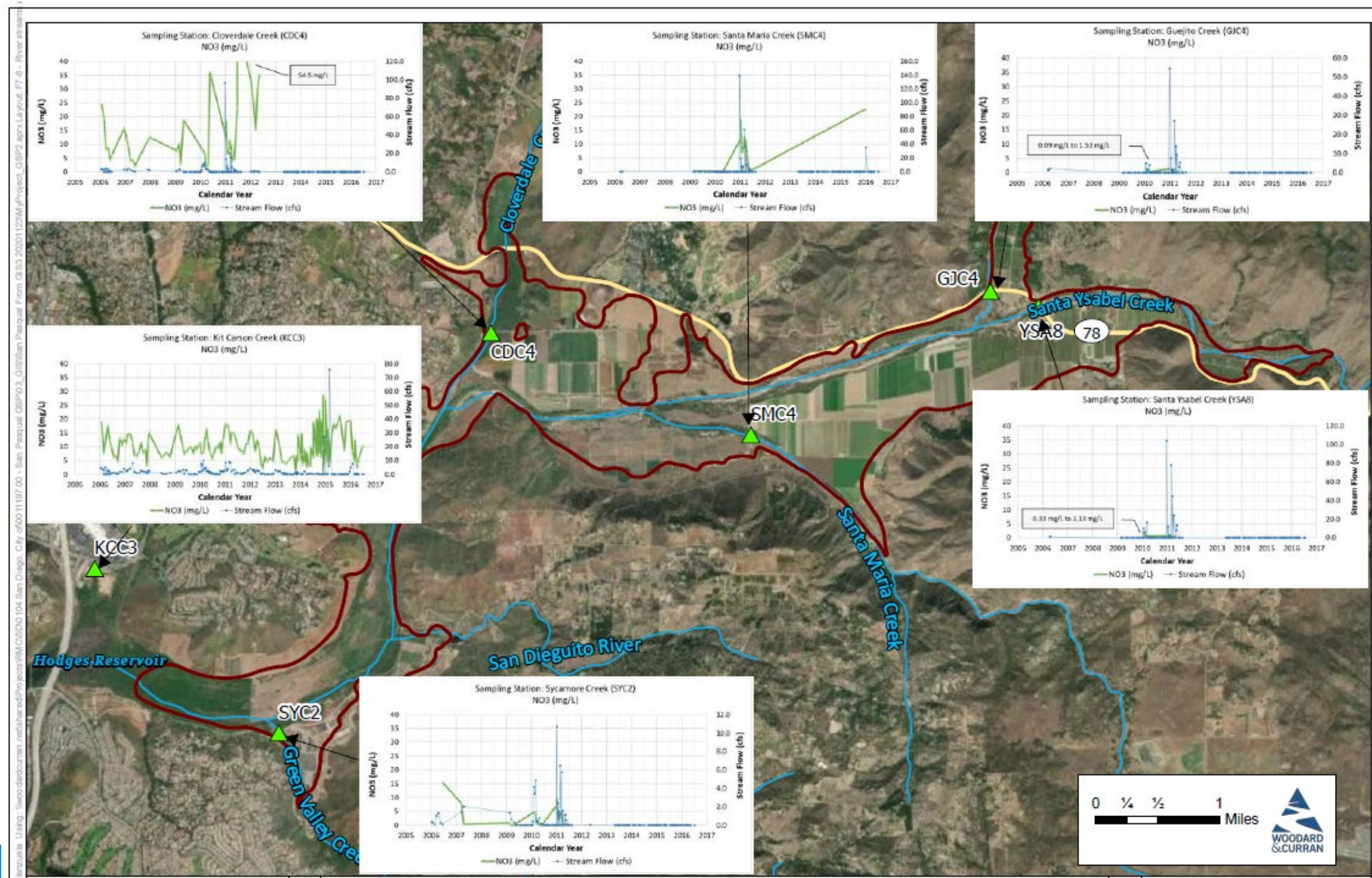
- Surface water TDS chemographs
- Surface water monitoring locations



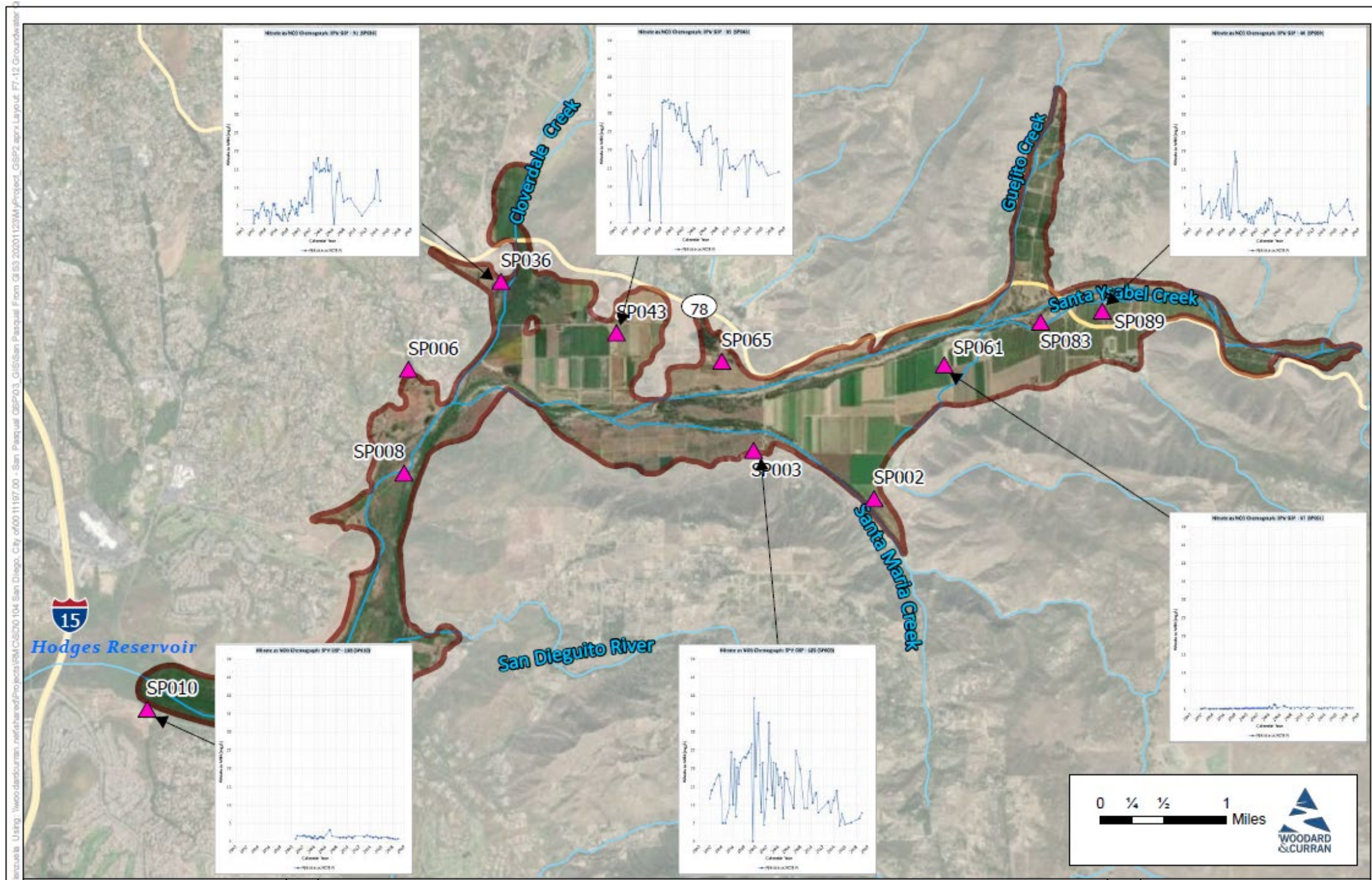
- Groundwater TDS chemographs
- Groundwater quality monitoring network

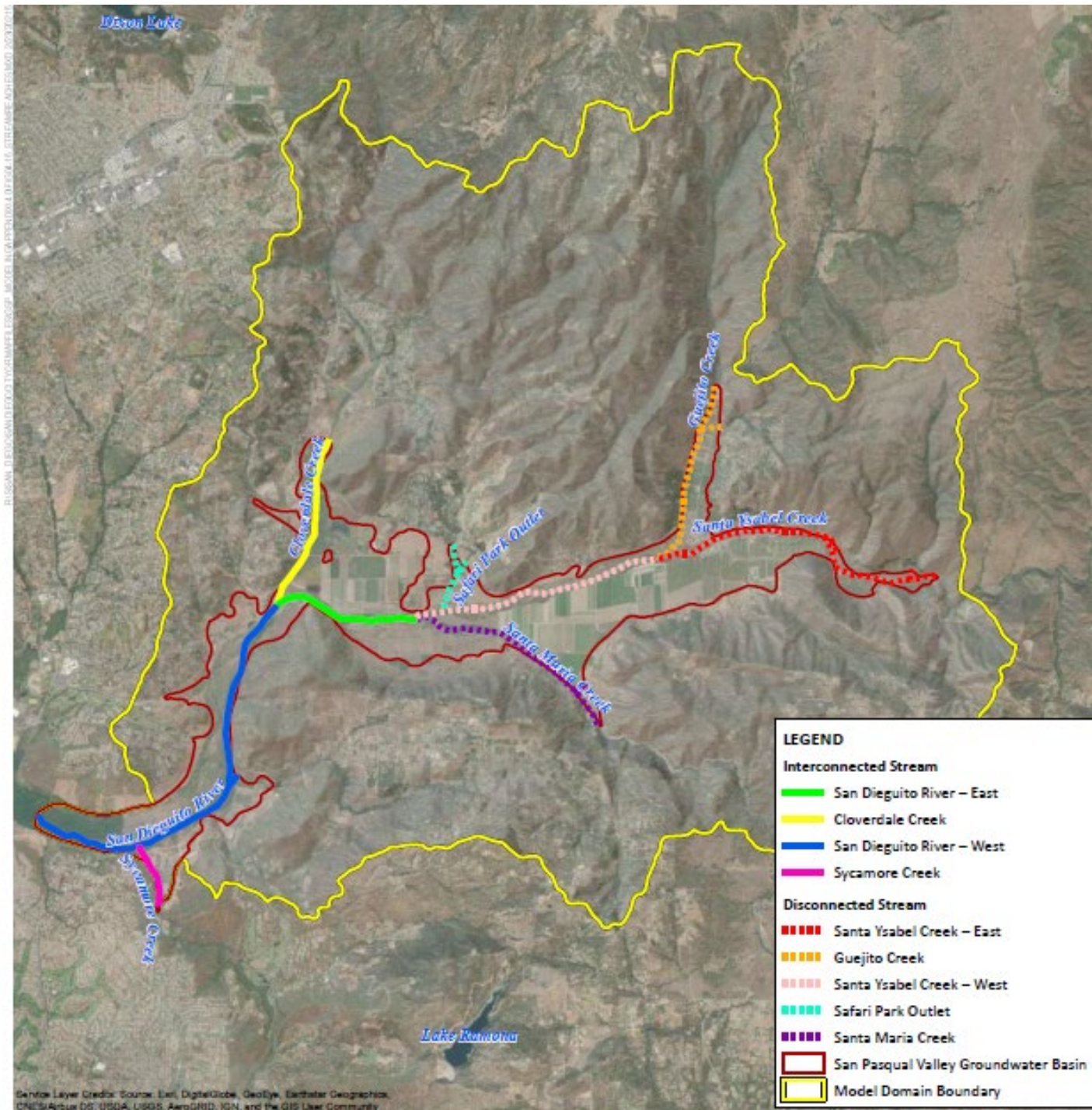


- Surface water Nitrate chemographs
- Surface water monitoring locations



- Groundwater Nitrate chemographs
- Groundwater quality monitoring network

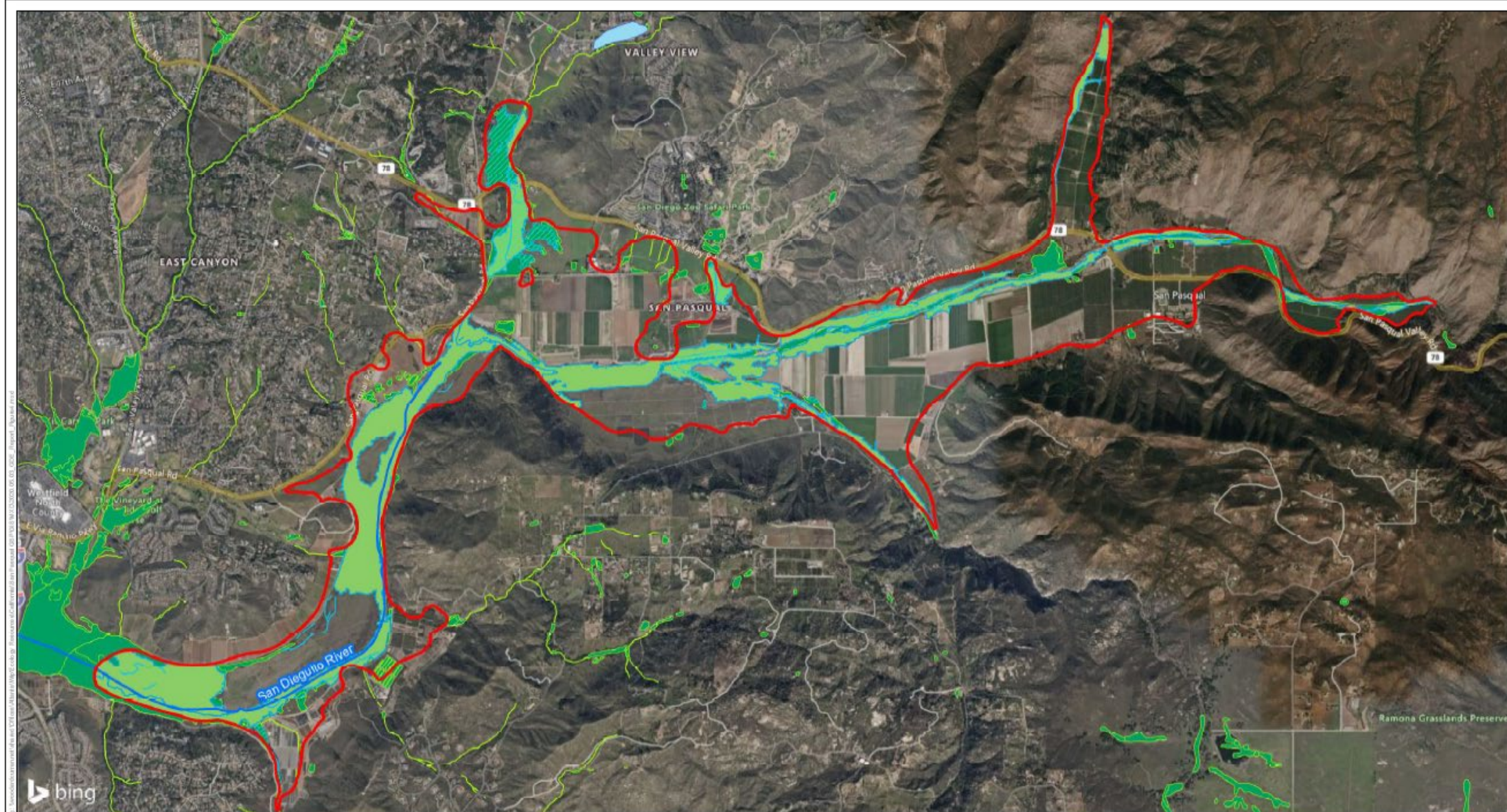




- Interconnected surface waters
  - Analyzed through SPV GSP Model
  - Disconnected = Depth to water has been greater than 30 feet since 2015
  - Interconnected = Depth to water in regional aquifer is less than 30 feet

- Groundwater Dependent Ecosystems (GDEs)
  - Defined as “ecological communities or species that depend on groundwater emerging from aquifers or on groundwater occurring near the ground surface.”
  - Wetland biologist reviewed the Natural Communities Commonly Associated with Groundwater (NCCAG) dataset compared to other datasets, aerial imagery, and USGS mapping
  - Wetland biologist visited SPV Basin to perform site visits to verify remote sensing analysis

- Natural Communities Commonly Associated with Groundwater (NCCAG) dataset



**Figure 4-34**  
**Natural Communities Commonly Associated with Groundwater Dataset**  
 San Pasqual Valley Groundwater Basin  
 San Diego Public Utilities  
 San Diego County, CA

Legend	
San Pasqual Valley Groundwater Basin	NCCAG Wetlands (San Pasqual Valley)
USGS National Hydrography Data	NCCAG Vegetation (San Pasqual Valley)
CA DWR Lakes Data	USFWS National Wetlands Inventory

**Public Utilities**  
 1 inch = 3,500 feet  
 0 1,750 3,500 7,000 Feet

Project #: 0011197.00  
 Map Created: May 2020

Third Party GIS Disclaimer: This map is for reference and graphical purposes only and should not be relied upon by third parties for any legal decisions. Any reliance upon the map or data contained herein shall be at the users' sole risk. Data Sources: Bing Maps Hybrid; USGS NHD; CA DWR Lakes; CA DWR Natural Communities Commonly Associated with Groundwater; USFWS NWI.



- Results showed Potential GDEs along interconnected surface waters

- Potential GDEs
- Potential Non-GDEs
- Wetland & Riparian Vegetation



**Figure 4-35**  
**Probable and Non-Probable GDEs**  
**Based on Analysis**  
 San Pasqual Valley Groundwater Basin  
 San Diego Public Utilities  
 San Diego County, CA

<b>Legend</b>	San Pasqual Valley Groundwater Basin	Groundwater Contours	<b>Public Utilities</b>	1 inch = 3,500 feet 0 1,750 3,500 7,000 Feet		 Project #: 0011197.00 Map Created: August 2020
	NCCAG Wetlands (San Pasqual Valley)	Potential GDE				
	NCCAG Vegetation (San Pasqual Valley)	Potential Non-GDE				
		Wetland & Riparian Vegetation				

Third Party GIS Disclaimer: This map is for reference and graphical purposes only and should not be relied upon by third parties for any legal decisions. Any reliance upon the map or data contained herein shall be at the users' sole risk. Data Sources: Bing Maps Hybrid; CA DWR Natural Communities Commonly Associated with Groundwater.

- Photos of potential GDEs from site visits

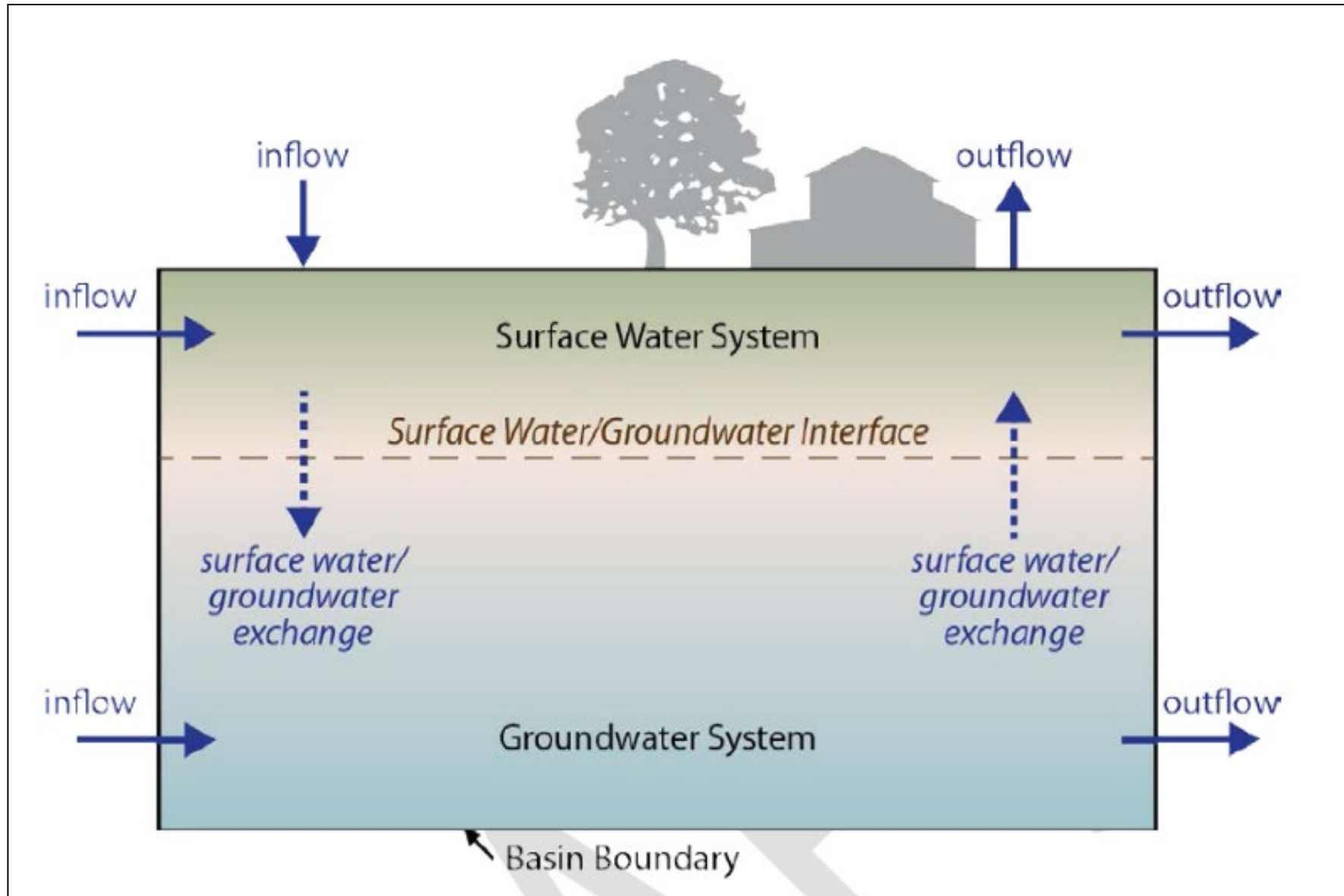


# San Pasqual Valley GSP Advisory Committee Meeting

## WATER BUDGETS AND GROUNDWATER FLOW MODEL



- Water Budget: an accounting of the total groundwater and surface water entering and leaving a groundwater basin



## USGS One-Water Hydrologic Flow Model

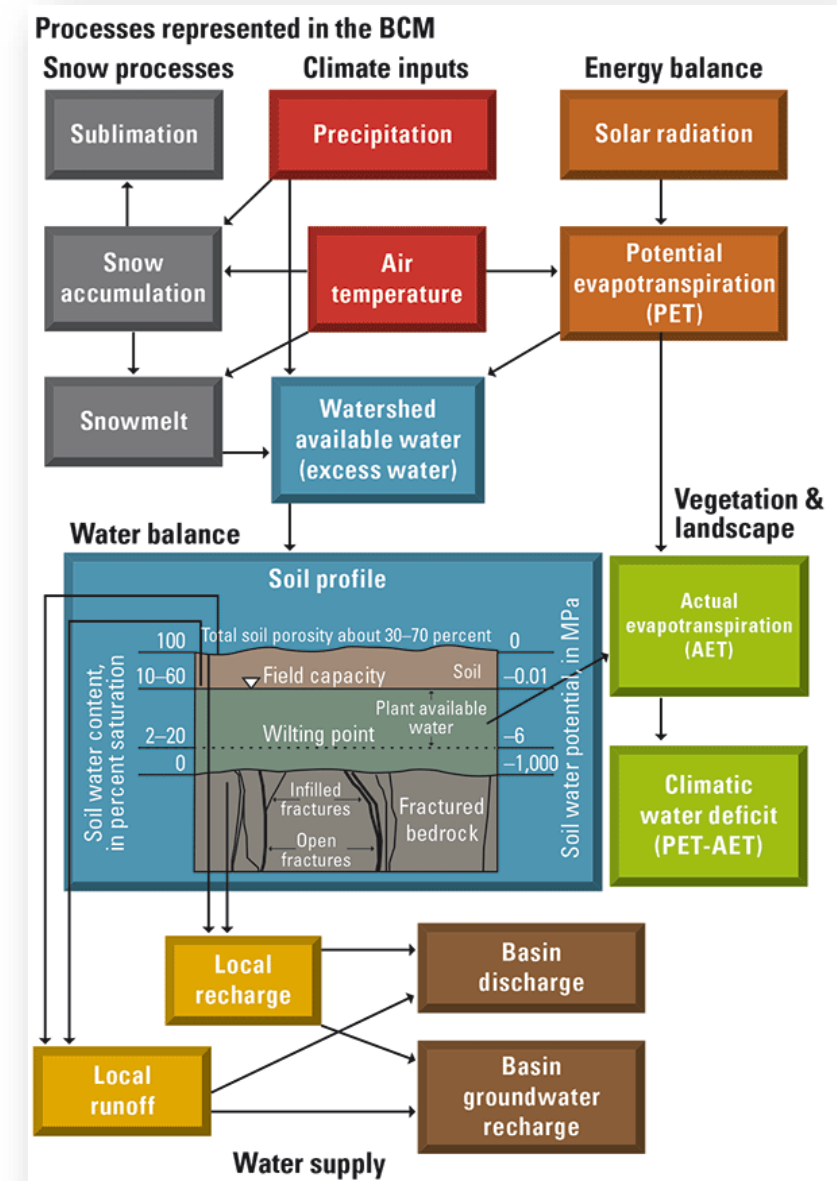
Prepared in cooperation with the Bureau of Reclamation

### One-Water Hydrologic Flow Model: A MODFLOW Based Conjunctive-Use Simulation Software

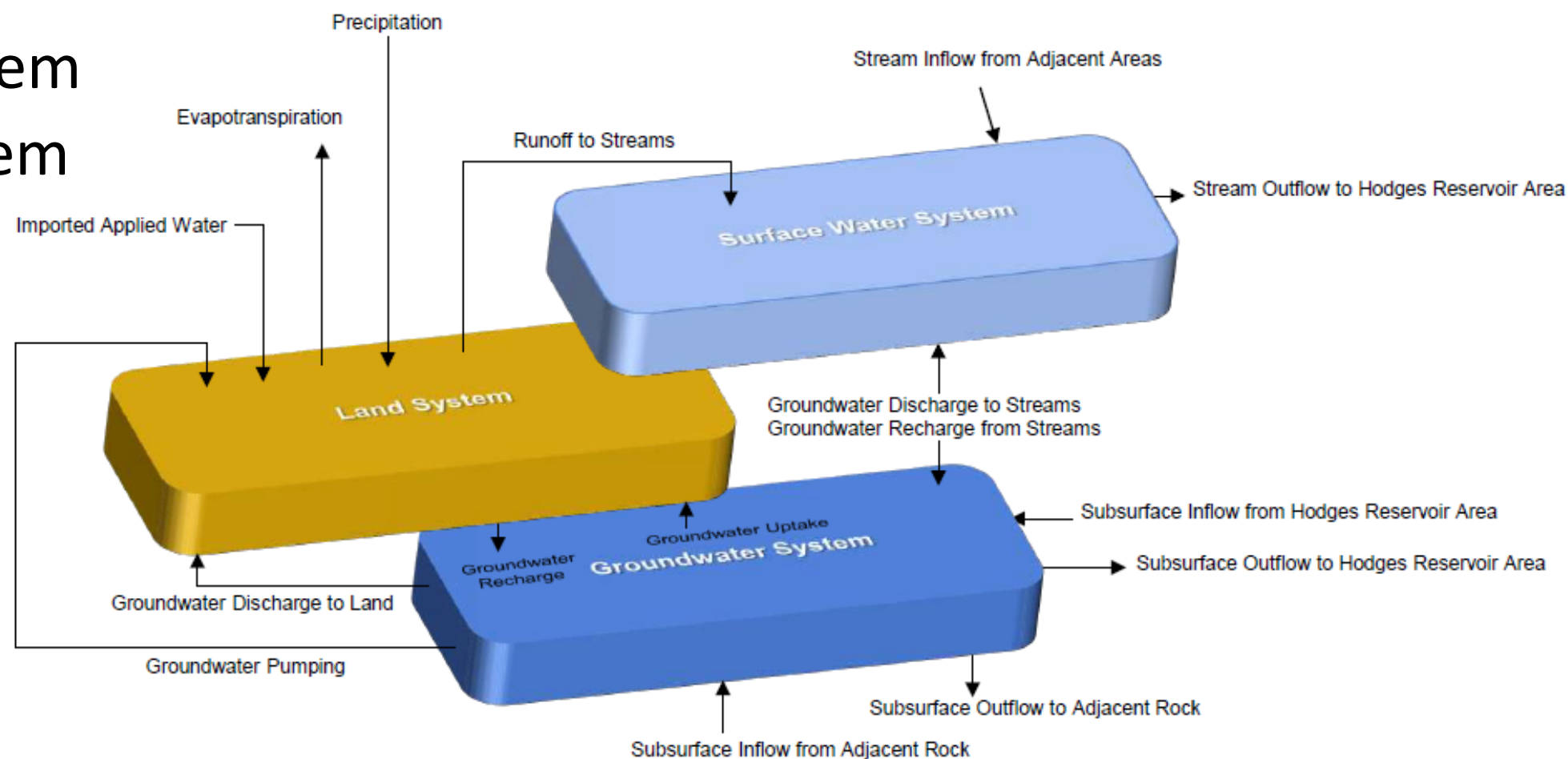
Techniques and Methods 6-A60

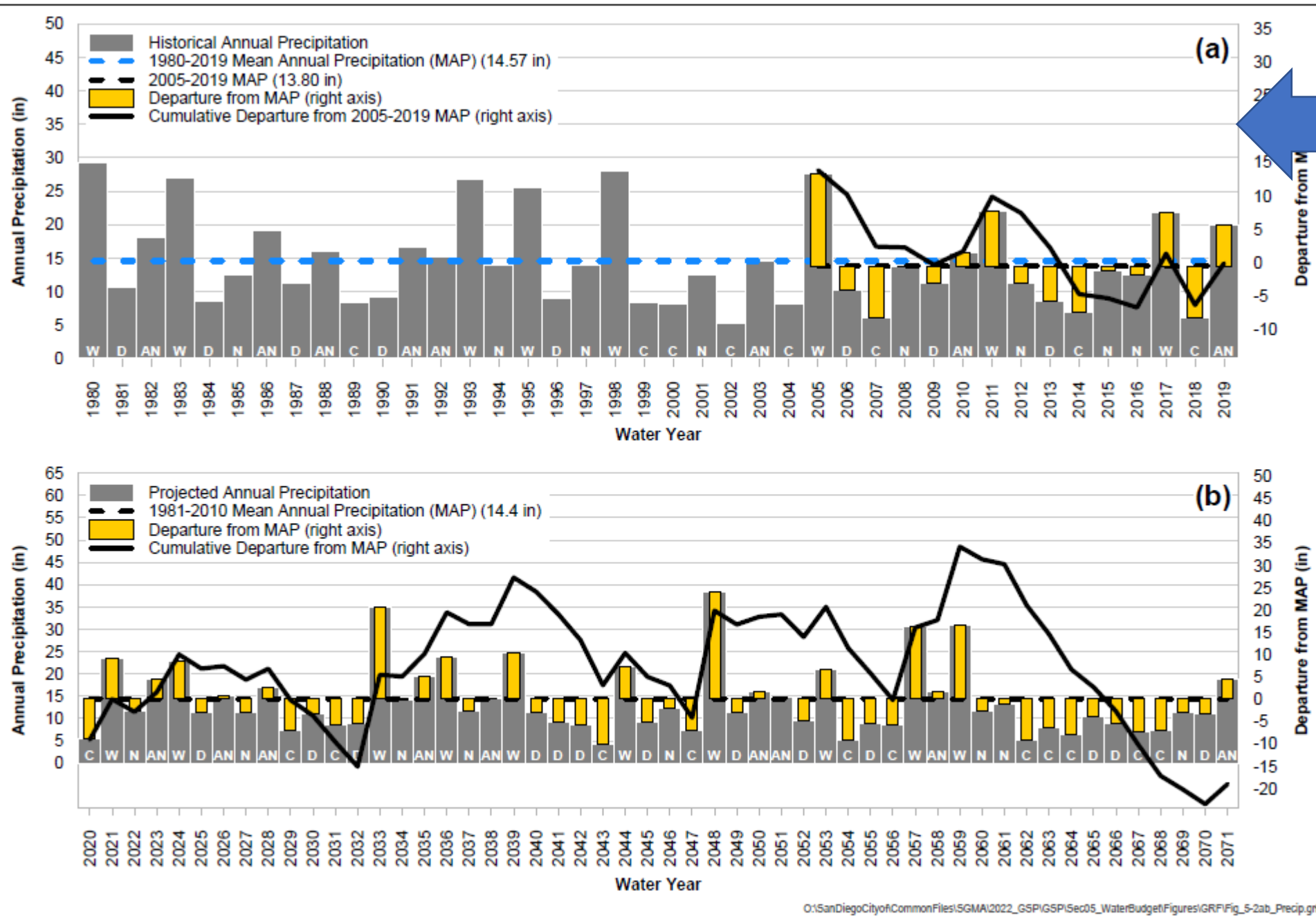
U.S. Department of the Interior  
U.S. Geological Survey

## USGS Basin Characterization Model (BCM)



- Describes historical, current and projected water budgets for the Basin using the SPV GSP Model
  - Land system
  - Surface water system
  - Groundwater system





- Annual precipitation totals for the Basin for a 40-year period (WYs 1980 – 2019)
  - Spatial averages of PRISM precipitation grid values in the SPV GSP Model domain
- A 15-year period (WYs 2005 – 2019) was selected for historical model calibration and for the water budget period

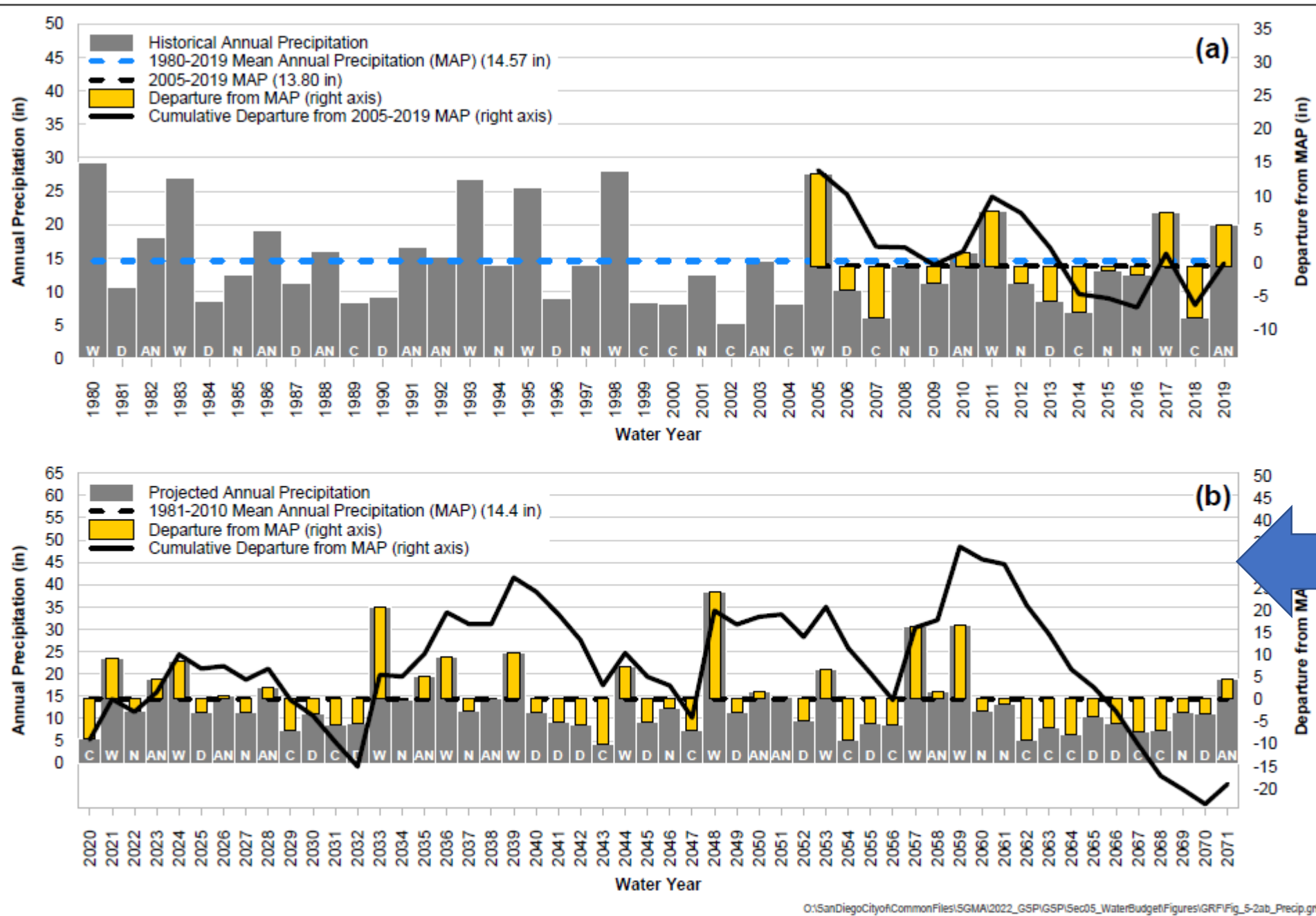


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Figure 5-2. (a) Historical Annual Precipitation and (b) Projected Annual Precipitation



# Water Budgets



- Projection period based on *California Fourth Climate Assessment* RCP 8.5 Scenario
  - Closely tracks historical total cumulative carbon dioxide emissions and is the best match for mid-century projections of greenhouse-gas emissions



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Figure 5-2. (a) Historical Annual Precipitation and (b) Projected Annual Precipitation

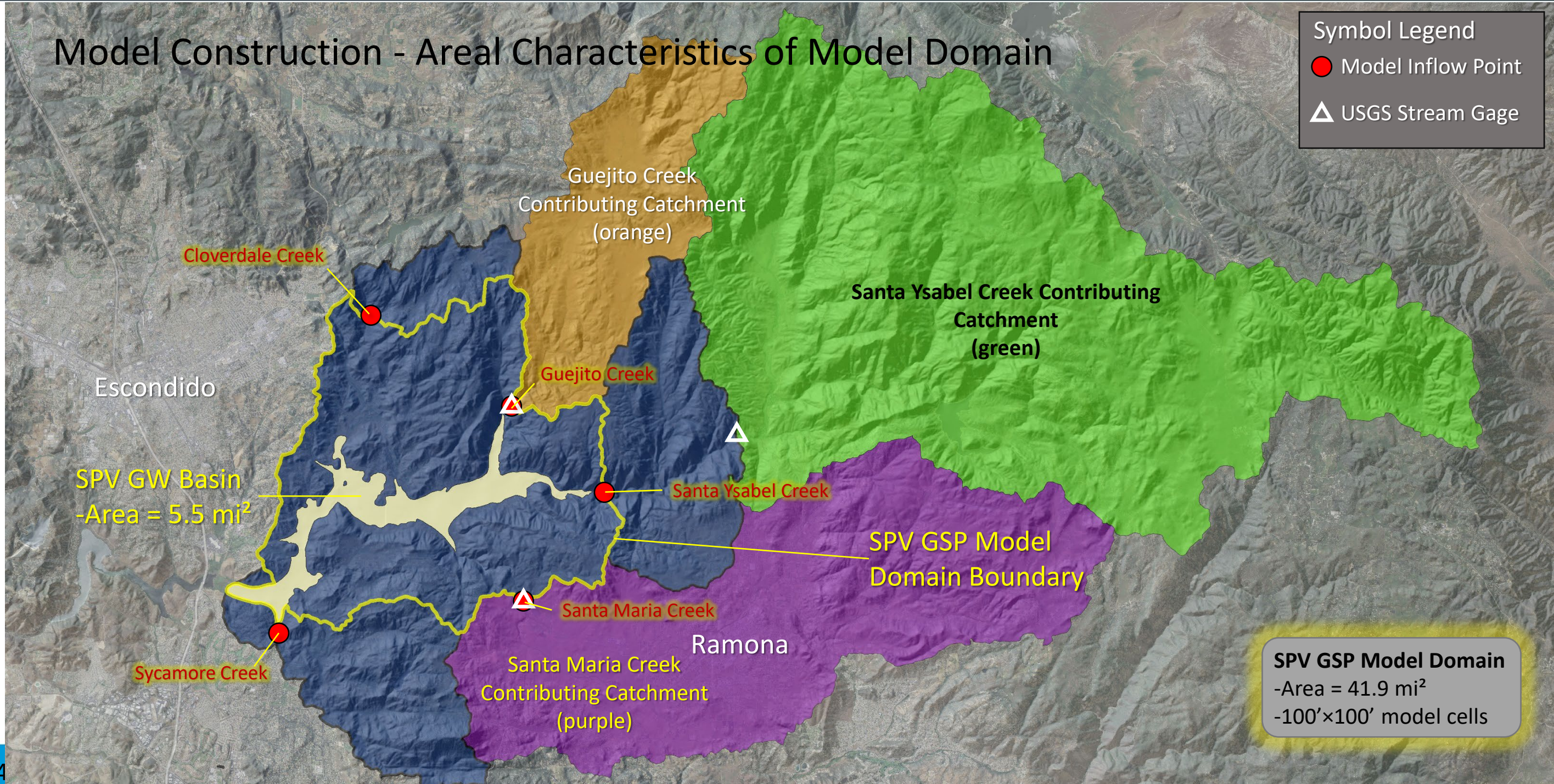




## Model Construction - Areal Characteristics of Model Domain

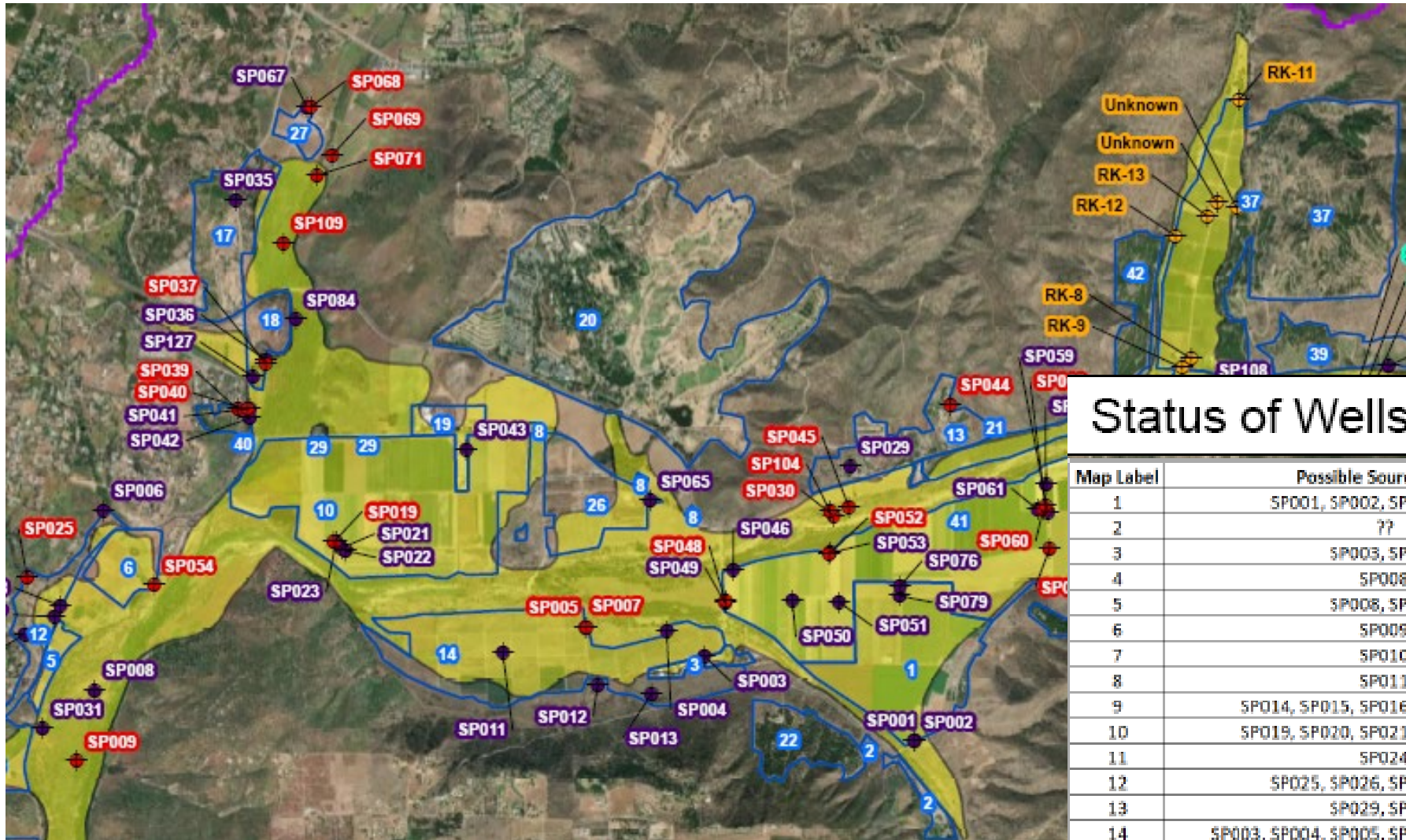
**Symbol Legend**

- Model Inflow Point
- △ USGS Stream Gage



**SPV GSP Model Domain**  
-Area = 41.9 mi<sup>2</sup>  
-100'×100' model cells

## Model Construction – Assignment of Wells to Parcels



- Legend**
- Pumping Wells**
- ◆ City of San Diego - Inactive
  - ◆ City of San Diego - Active
  - ◆ Rancho Guejito
  - ◆ San Pasqual Academy
  - Parcel with Well Designation
  - SPV Groundwater Subbasin

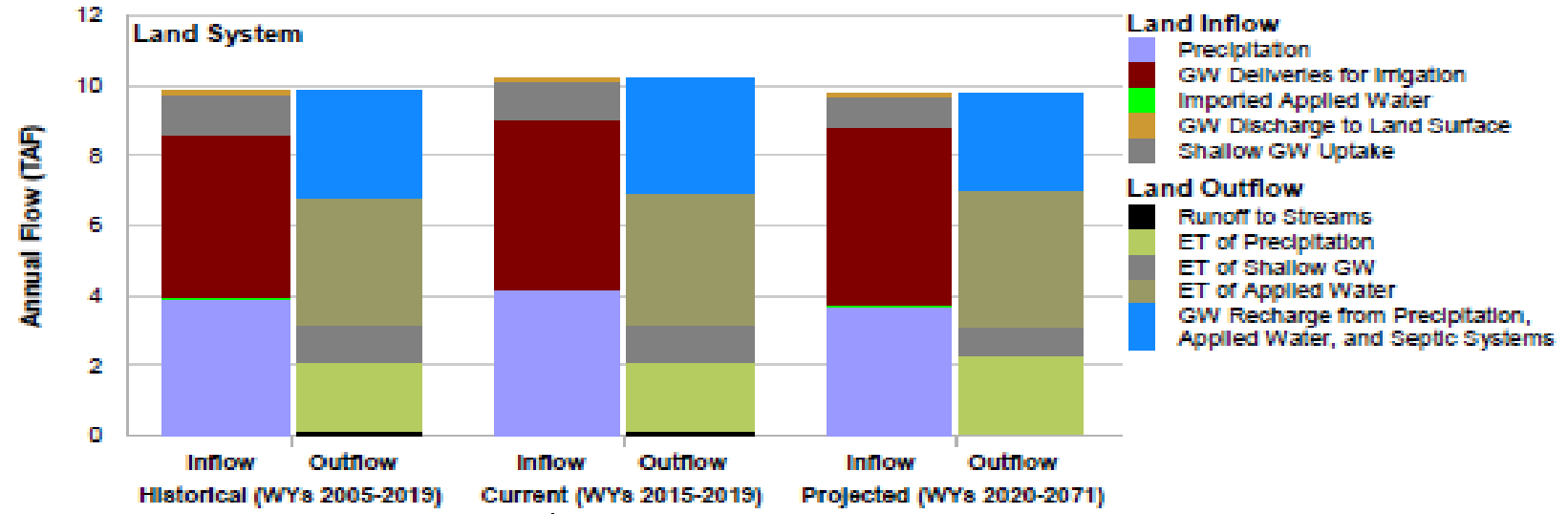
Blue highlighted numbers represent the 'Map Label' presented in the table at the bottom right.

### Status of Wells Represents Current Conditions (2020)

Map Label	Possible Source Wells	Map Label	Possible Source Wells
1	SP001, SP002, SP076, SP079	22	SP053
2	??	23	SP055, SP056, SP066, SP089, SP090
3	SP003, SP004	24	SP055, SP057, SP074, SP075, SP083, SP085, SP088
4	SP008	25	SP059, SP061, SP063
5	SP008, SP031	26	SP065
6	SP009	27	SP067
7	SP010	28	SP072
8	SP011	29	SP084
9	SP014, SP015, SP016, SP017, SP018	30	SP087
10	SP019, SP020, SP021, SP022, SP023	31	SP089, SP090
11	SP024	32	SP092
12	SP025, SP026, SP027, SP028	33	SP093, SP094, SP095, SP096, SP126
13	SP029, SP044	34	SP098
14	SP003, SP004, SP005, SP007, SP012, SP013	35	SP101
15	SP032	36	SP108
16	SP032, SP033, SP034	37	??
17	SP035	38	SP119
18	SP036, SP037	39	SP121
19	SP043	40	SP039, SP040, SP041, SP042
20	SP046 & Escondido Recycled Water	41	SP048, SP049, SP050, SP051, SP053, SP059, SP061, SP062, SP063
21	SP048, SP049, SP050, SP051, SP053	42	??

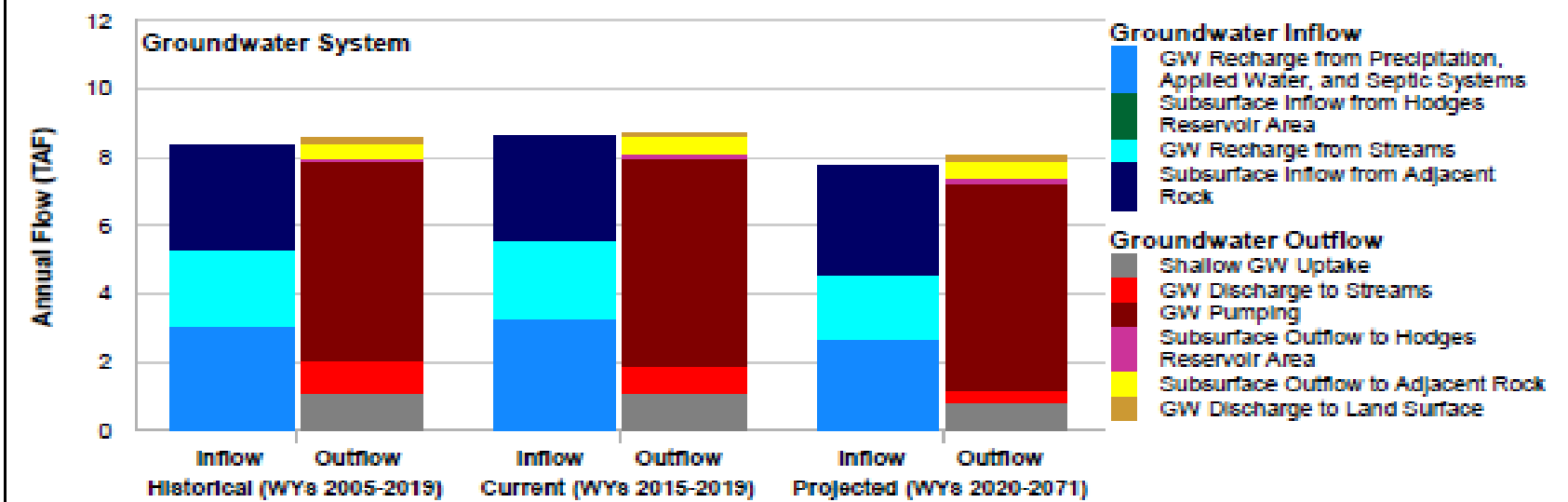
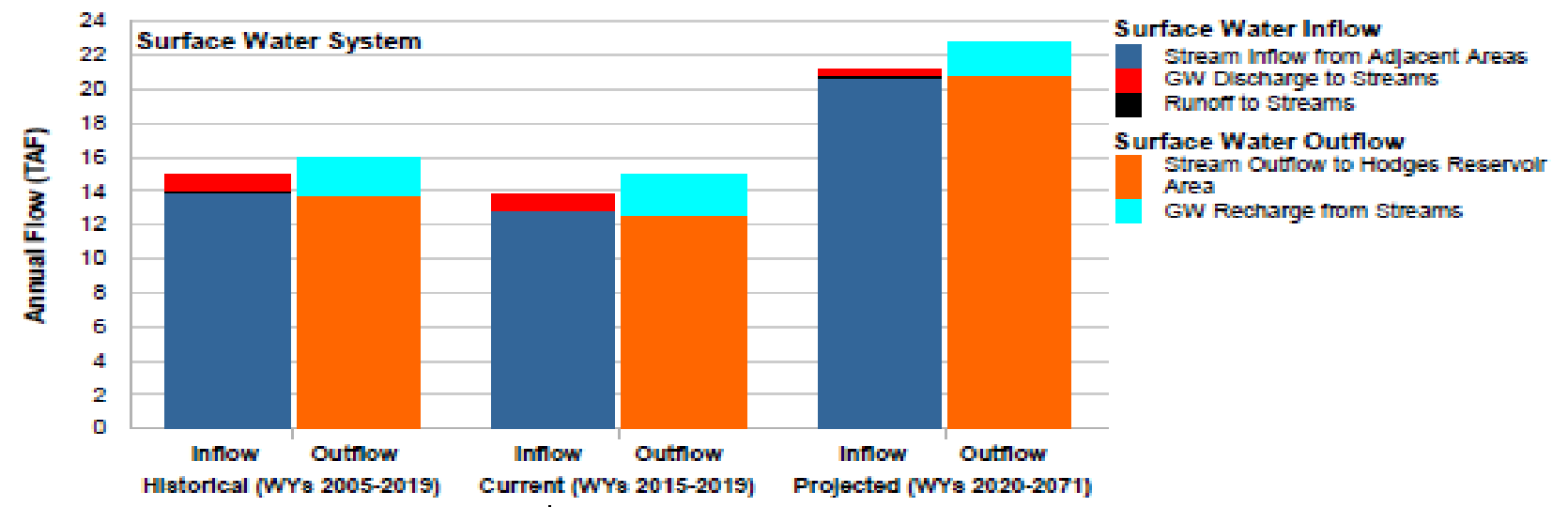
The SPV GSP Model is only one line of analysis being used to help the GSA develop its GSP. This model will not ultimately “decide” whether the Basin is being managed sustainably. Collection, reporting, and analysis of field data during GSP implementation will be used in conjunction with SMCs to demonstrate to DWR whether the Basin is being managed sustainably.

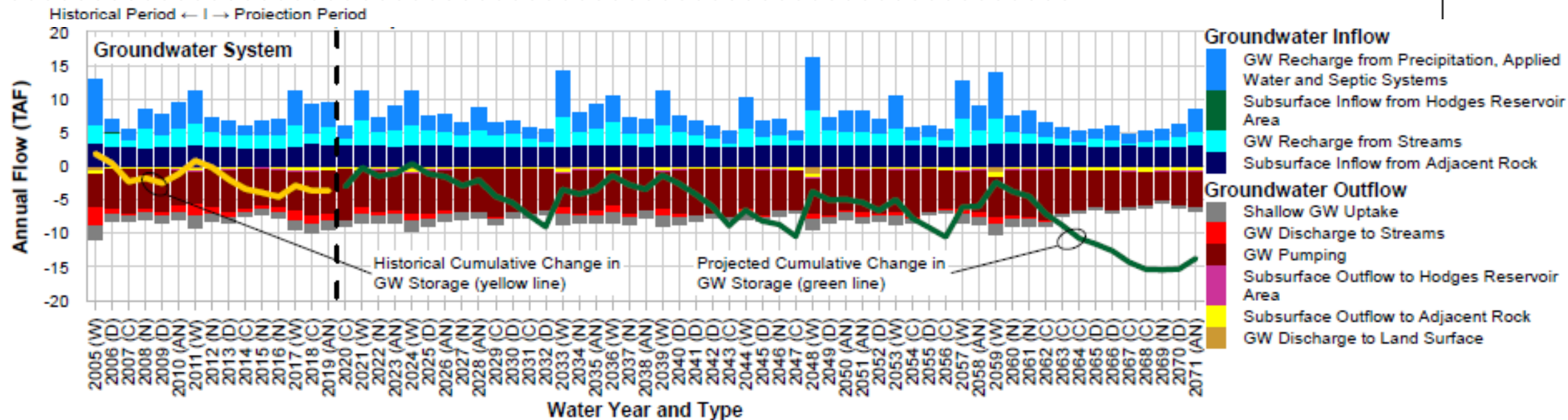
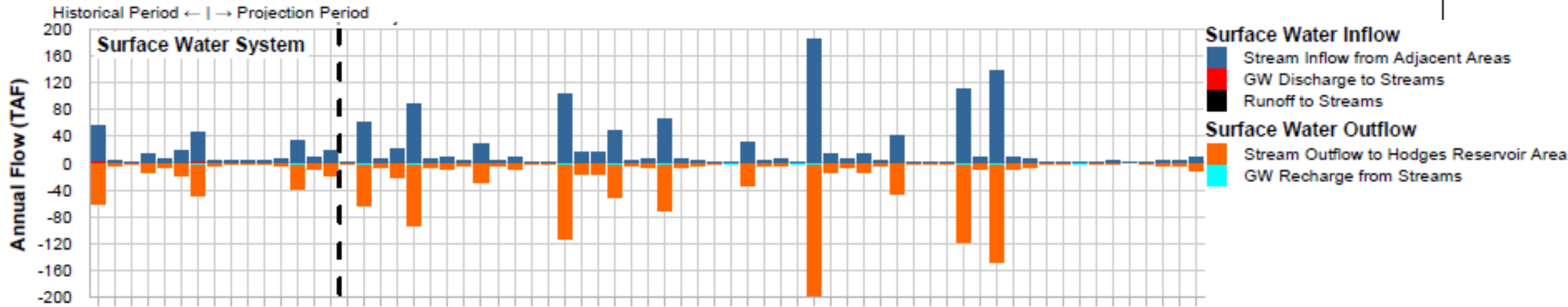
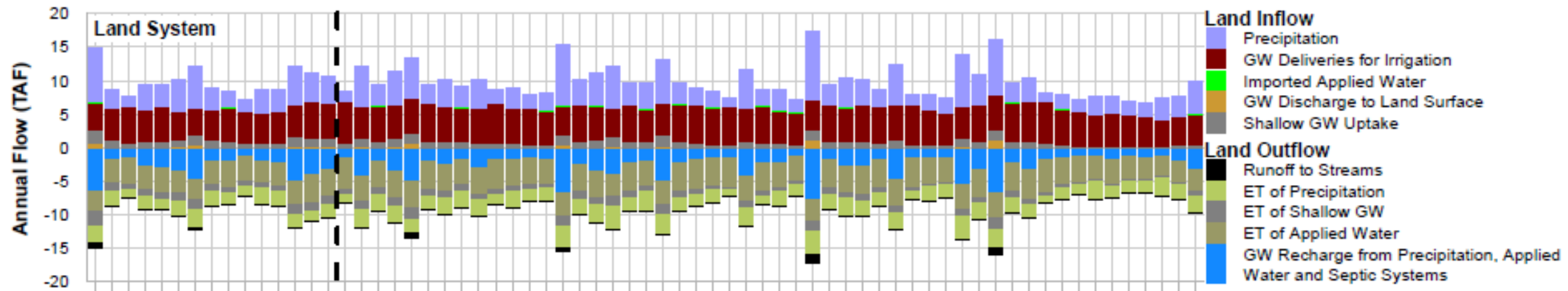
The main purpose of the model is to provide plausible water budgets to alert the GSA to potential future conditions, so it can develop a plan to responsibly manage the SPV GW Basin.

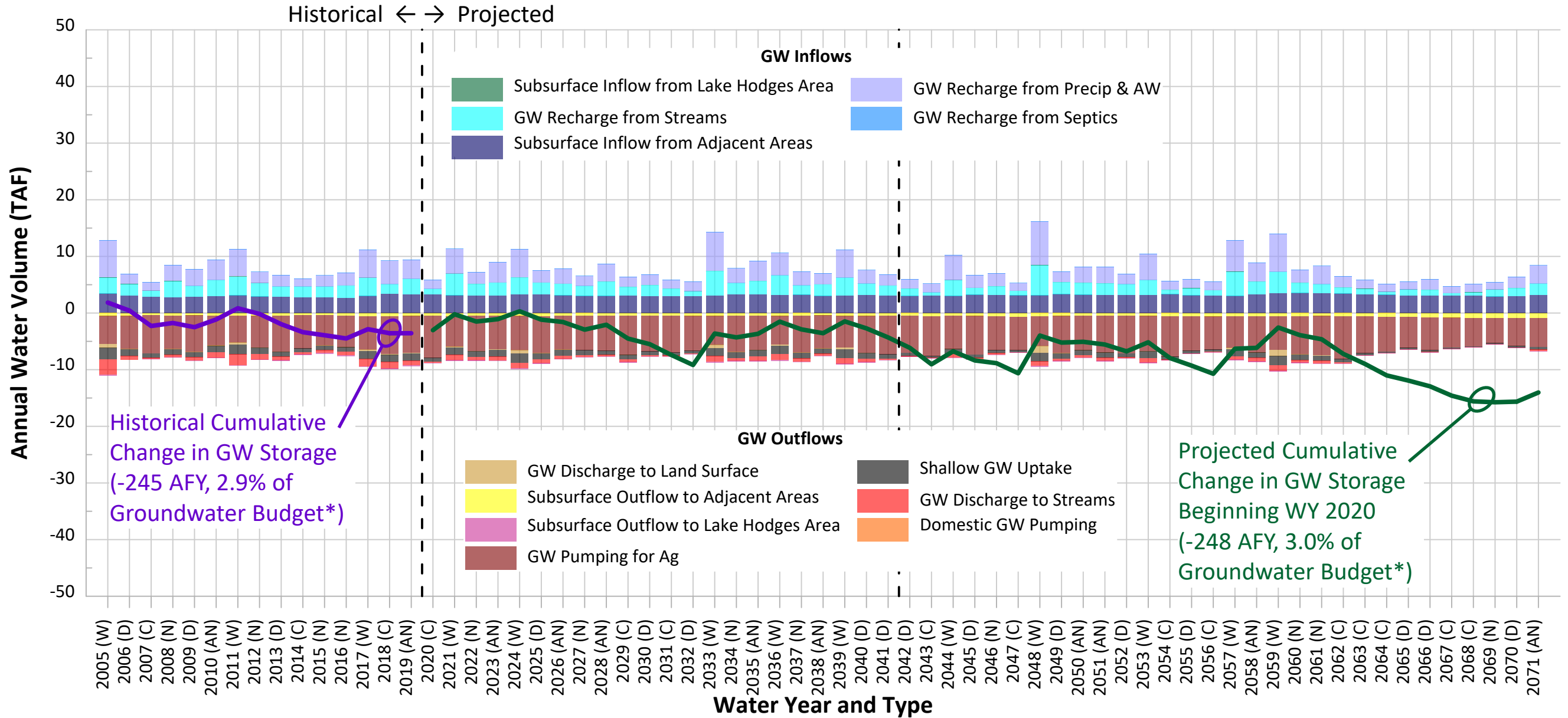


# Water Budgets

- Average annual
- Time-series (next slide)







\*Historical Avg GW Budget = 8,472 AFY

- Sustainable Yield
  - Defined as “...the maximum quantity of water calculated over a base period representative of long-term conditions in a basin, including any temporary surplus that can be withdrawn annually from a groundwater supply without causing an undesirable result.”
  - The SPV Basin’s sustainable yield is at least higher than historical agricultural pumping (i.e., above the average of the modeled historical pumping rate in the Basin)

San Pasqual Valley GSP  
Advisory Committee Meeting

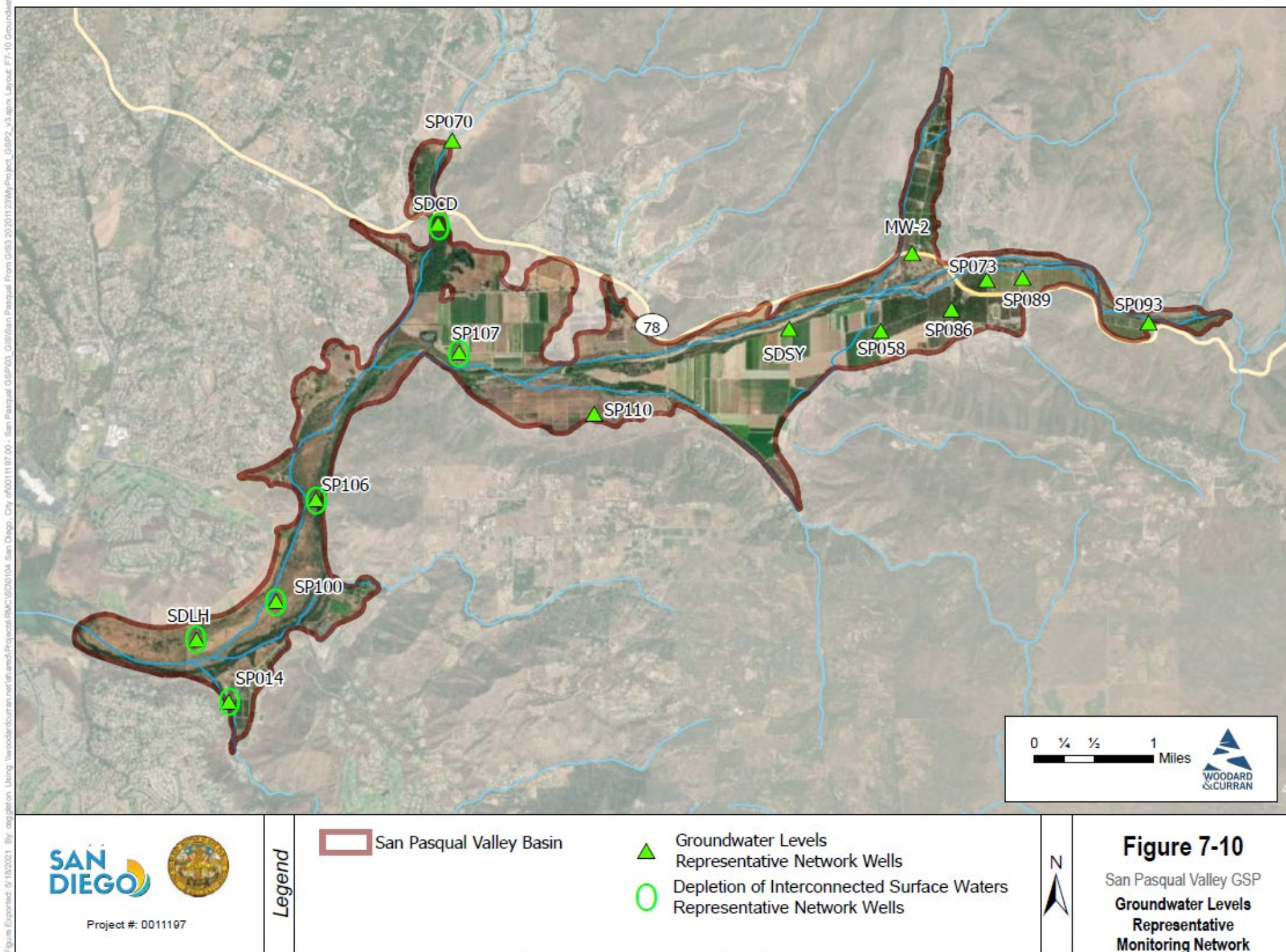
MONITORING NETWORKS AND DATA  
MANAGEMENT SYSTEM





# Representative Monitoring Networks

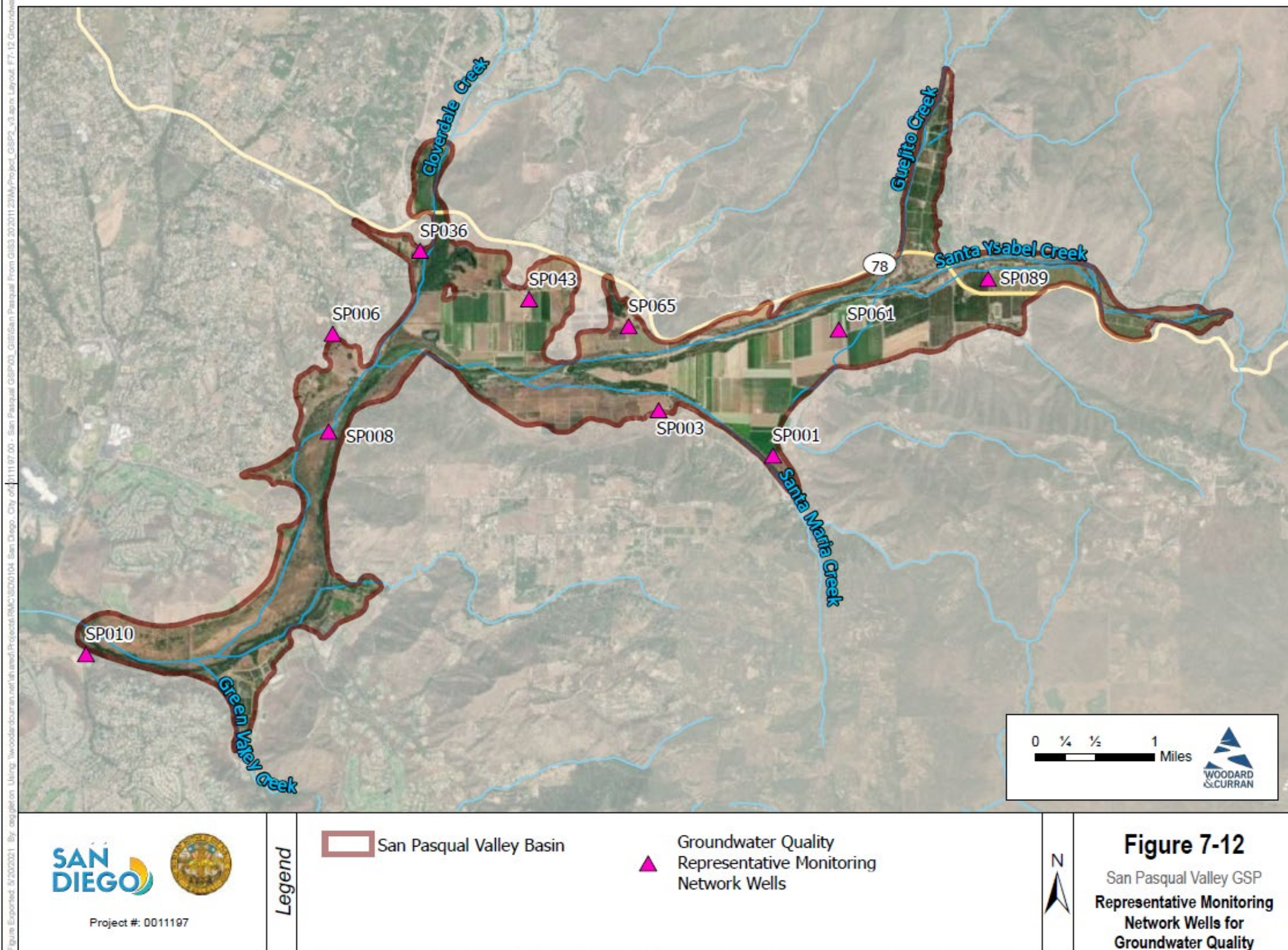
- Groundwater levels (15)
- Depletion of interconnected surface waters (6)



Third Party GIS Disclaimer: This map is for reference and graphical purposes only and should not be relied upon by third parties for any legal decisions. Any reliance upon the map or data contained herein shall be at the users' sole risk. Source: SanDAG/SanGIS.

# Representative Monitoring Networks

- Groundwater quality (10)



**Figure 7-12**  
San Pasqual Valley GSP  
Representative Monitoring  
Network Wells for  
Groundwater Quality

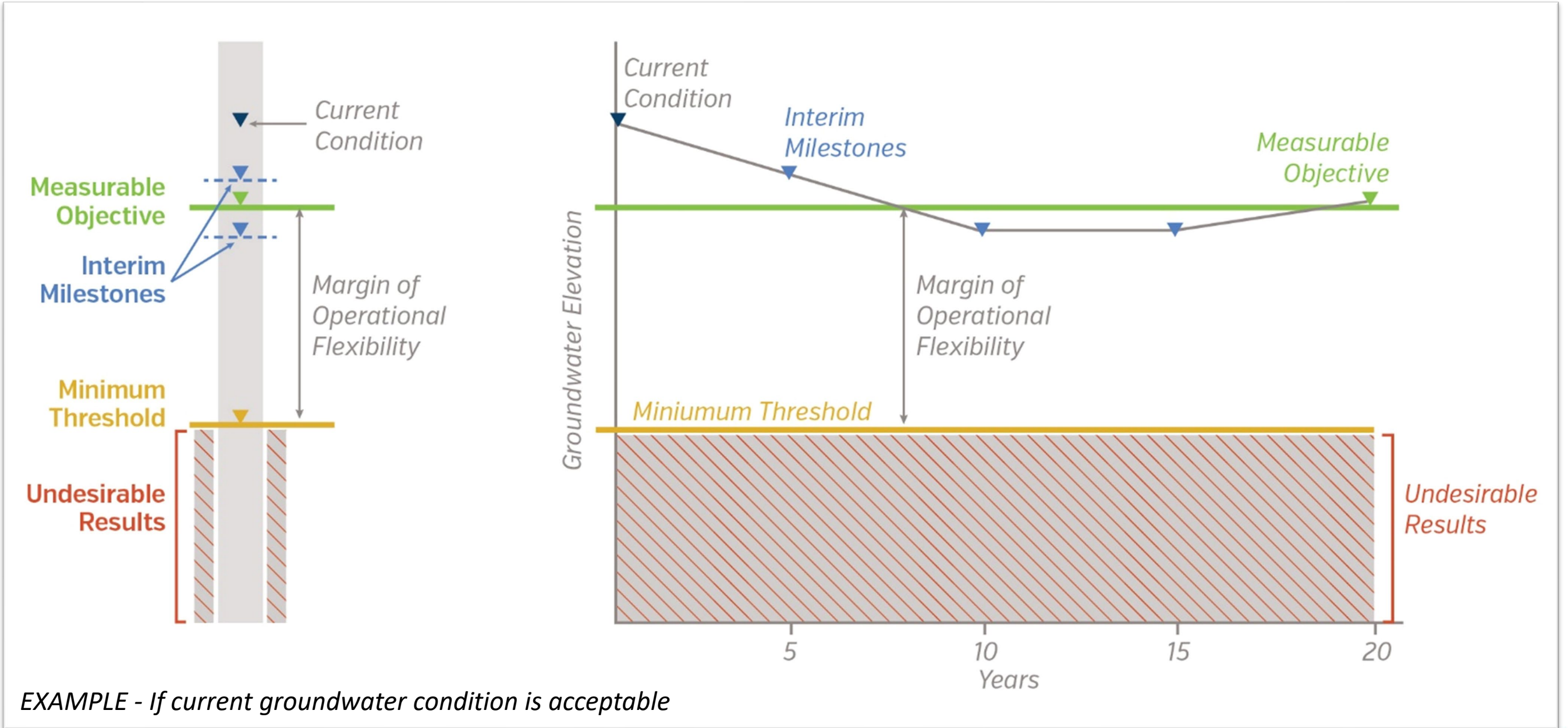
Third Party GIS Disclaimer: This map is for reference and graphical purposes only and should not be relied upon by third parties for any legal decisions. Any reliance upon the map or data contained herein shall be at the users' sole risk. Source: SanDAG/SanGIS.

# San Pasqual Valley GSP Advisory Committee Meeting

## SUSTAINABLE MANAGEMENT CRITERIA



- *Sustainability Goal* – Statement that provides overarching goal of GSP
- *Undesirable Results* – Helps us understand what conditions to avoid
- *Monitoring Networks* – How we will monitor things to see if they are becoming or are undesirable
- *Minimum Threshold* – Point or limit that indicates the basin may be experiencing an undesirable result
- *Measurable Objective* – This is where the basin sets its goals to be
- *Margin of Operational Flexibility* – This is the amount of storage the Basin would like to have above the minimum threshold for use during droughts



- The Basin's sustainability goal is as follows:
  - *To maintain a locally managed, economically viable, sustainable groundwater resource for existing and future beneficial use in the San Pasqual Valley Groundwater Basin by managing groundwater to avoid the occurrence of undesirable results.*
- As the historical, current, projected, and projected with climate change model results indicate, the Basin has been operating sustainably and is likely to continue to be sustainable over this GSP's implementation period

- Undesirable results and sustainable management criteria are set for the following sustainability indicators



Chronic lowering of groundwater levels



Reduction of groundwater storage



~~Land subsidence~~



Degraded water quality



~~Seawater intrusion~~



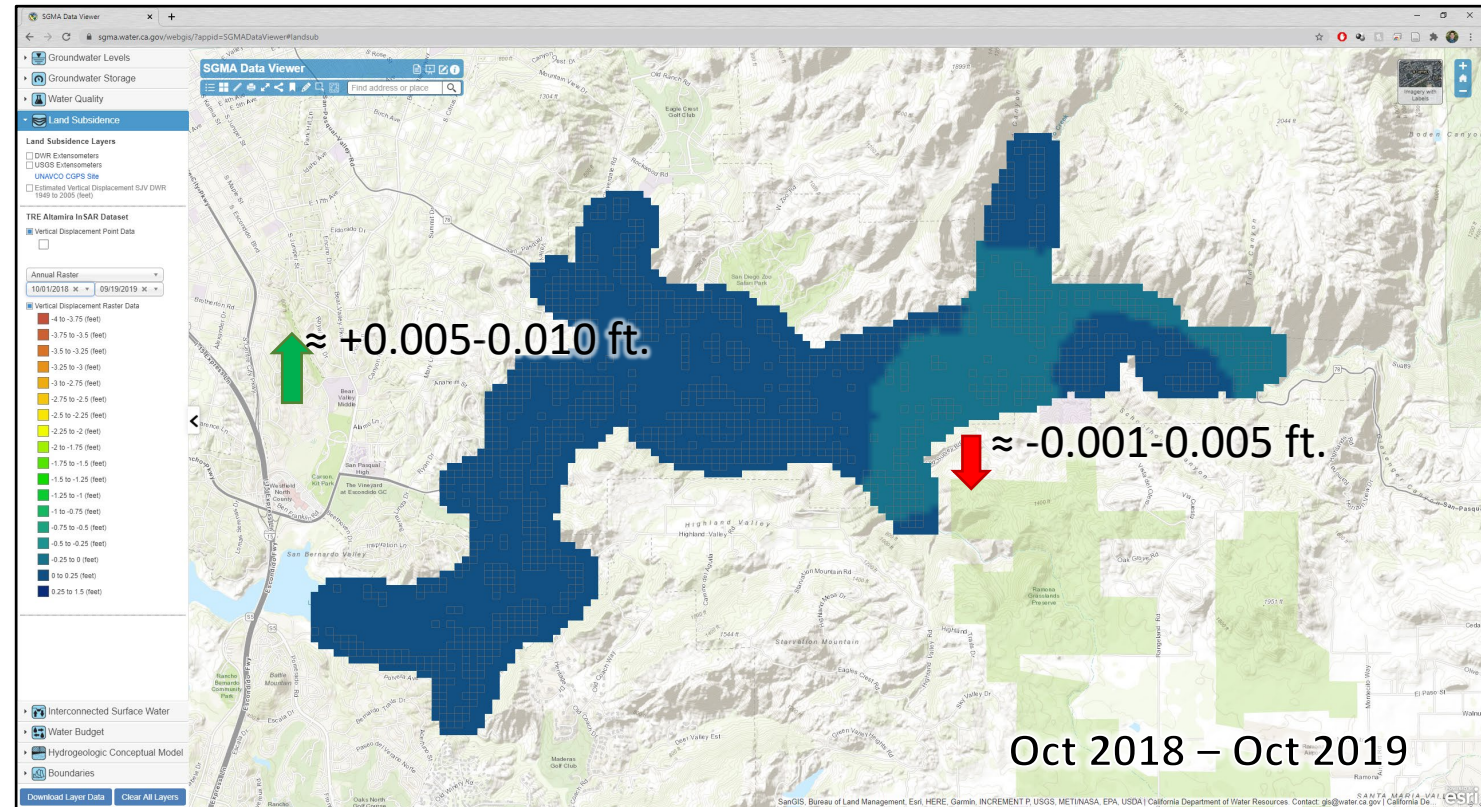
Depletions of interconnected surface water with impacts on beneficial uses including GDEs

## Land Subsidence

- Subsidence is not a sustainability indicator that is likely to cause an undesirable result in the SPV Basin and will not be monitored
  - No historical inelastic subsidence
  - No major infrastructure
  - Few clays present in alluvium – limits possibility of future subsidence

## Seawater Intrusion

- Due to the geographic location of the Basin, approximately 19 miles inland from the Pacific Ocean, seawater intrusion does not apply as a sustainability indicator





## Undesirable Results

- Significant and unreasonable reduction in the long-term viability of domestic, agricultural, municipal, or environmental uses over the planning and implementation horizon of this GSP
  - ***Groundwater levels:***
    - Dewatering of a subset of the existing groundwater infrastructure
    - Increased costs to pump groundwater
    - Adverse effects on GDEs to the extent connected with the production aquifer
    - Changes in irrigation practices and crops grown due to decreased water availability
    - Adverse effects to property values and the regional economy
  - ***Groundwater storage:***
    - Dewatering of existing groundwater infrastructure
    - Adverse effects to GDEs and property values
    - Adverse effects to domestic and irrigation uses and users, which rely on groundwater in the Basin

## Undesirable Results

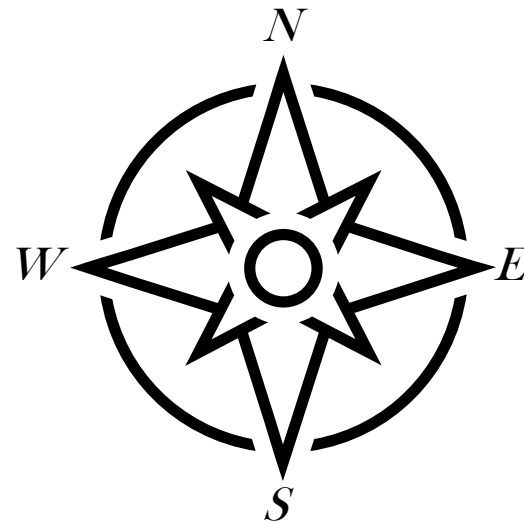
- Significant and unreasonable reduction in the long-term viability of domestic, agricultural, municipal, or environmental uses over the planning and implementation horizon of this GSP
  - ***Groundwater quality:***
    - A shortage in potable supply to groundwater users due to increased treatment costs or more limited access to alternate supplies for small end users
    - High salinity impacting drinking water needs
    - Crop health and yield for agriculture
    - Impacts to GDEs, and surface water quality
    - Adverse effects to property values
  - ***Interconnected surface waters:***
    - Reduction in the number of days per year a stream flows in the Basin
    - Lower stream flows and increased temperatures could potentially impact GDEs and riparian habitat

## Groundwater Levels

- Minimum Threshold (MT) is intentionally designed to be:
  - Deeper than historical low, above bedrock, and above 20<sup>th</sup> percentile of nearby wells
  - Responsive to local monitoring well conditions
  - Below this threshold would be considered significant and unreasonable

### Western Wells

100% of historical range  
below historical low



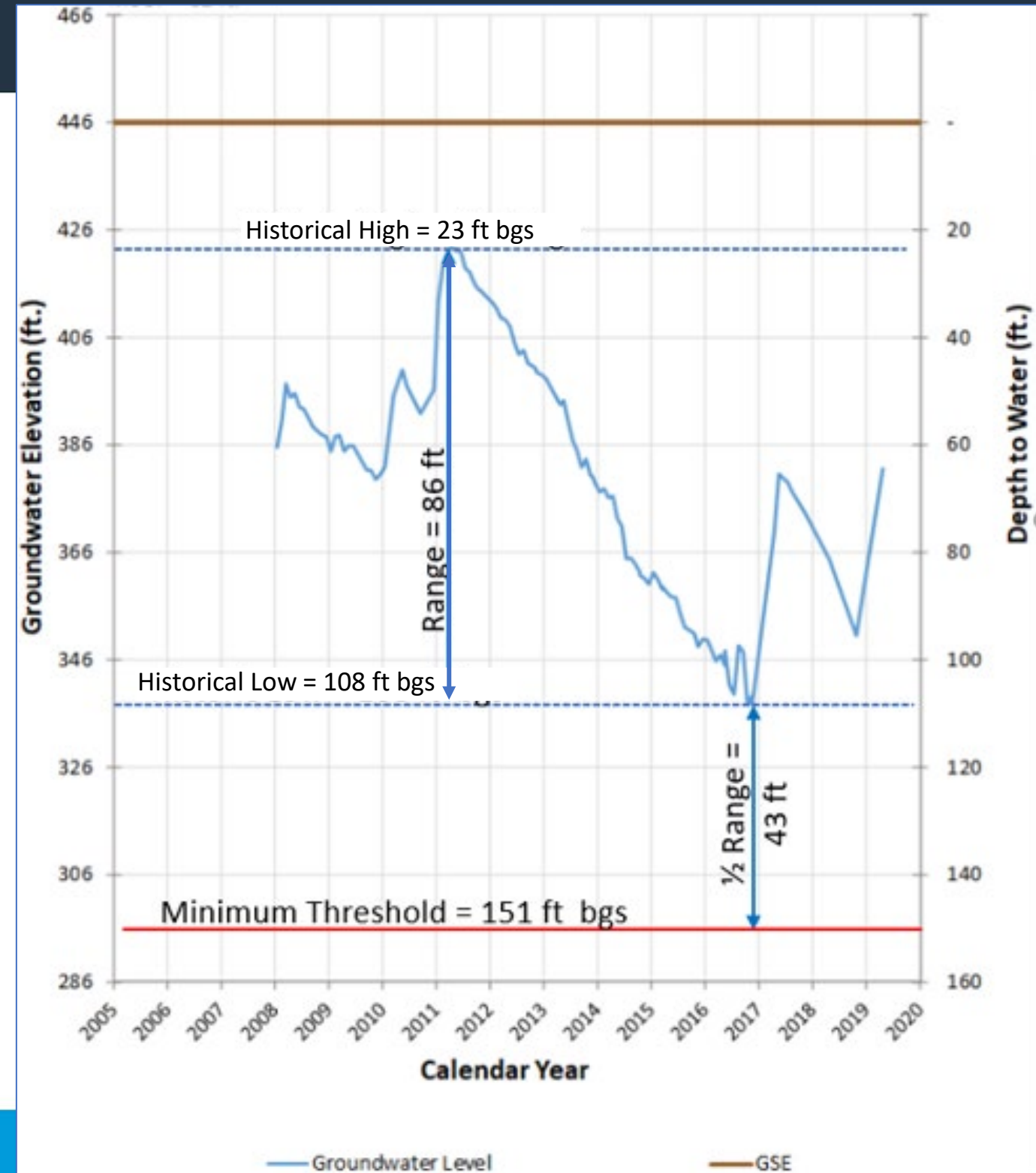
### Eastern Wells

50% of historical range  
below historical low

Note: historical range refers to the historical fluctuation of water levels within a given well

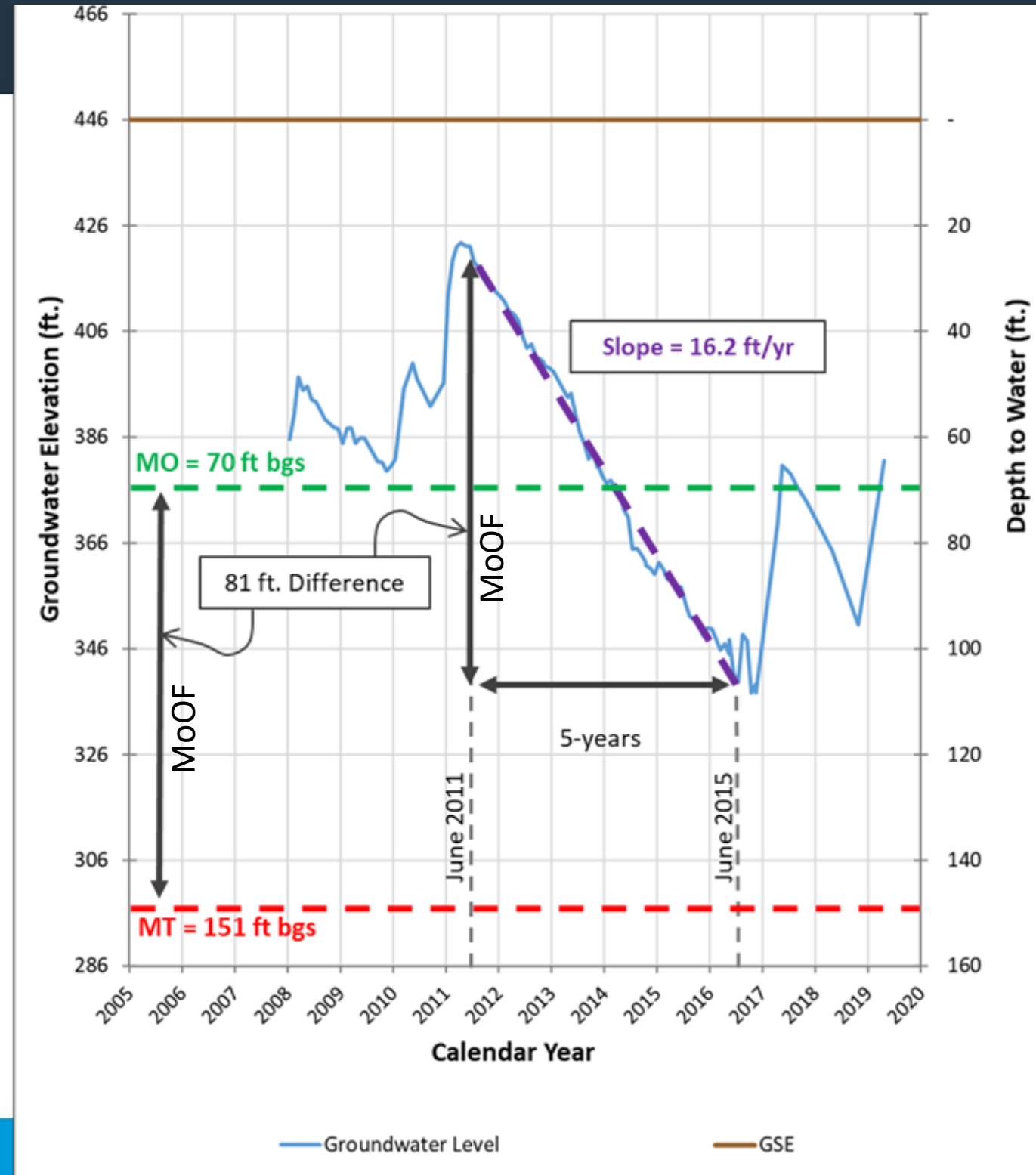
## Groundwater Levels

- Minimum Threshold (**MT**) =
  - **Wells w/in 2,000 ft of potential GDEs** – 100% of historical range below historical low
  - **Wells further than 2,000 ft from potential GDEs** – 50% of historical range below historical low
- Sets MT at levels that are below historical low, yet above nearby well infrastructure and the bottom of the alluvium or residuum



## Groundwater Levels

- Measurable Objective (MO) =
  - Wells w/in 2,000 ft of potential GDEs – 10 ft. below GSE
  - Wells further than 2,000 ft from potential GDEs – 5-years of drought buffer (100% of MoOF) above the MT
- Sets MO using the estimated MoOF at levels that provide an estimated 5 years of storage during drought conditions

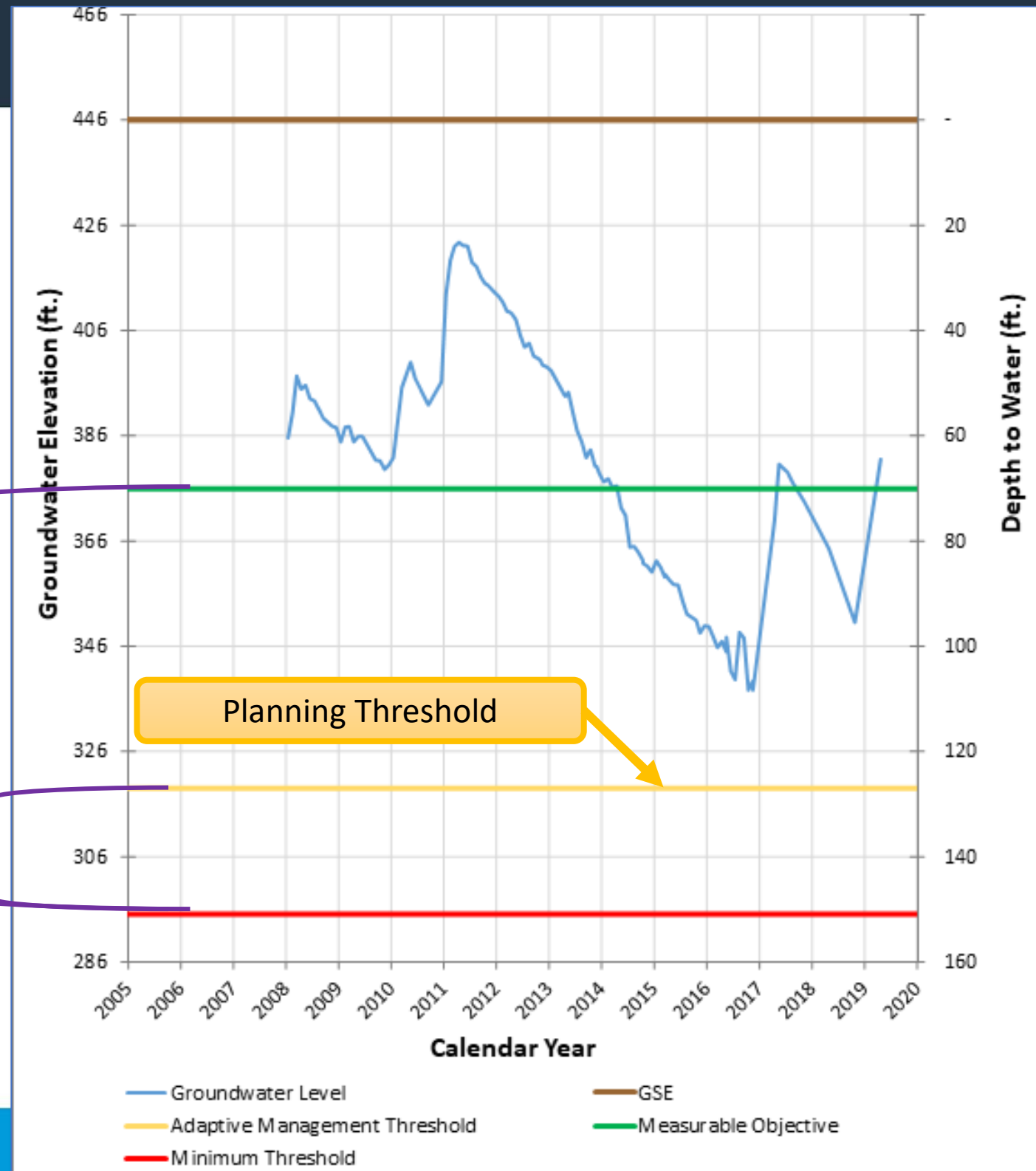


## Groundwater Levels

- Planning Threshold (PT):
  - 30% of the MoOF above the MT
- Provides approximately 18 months of drought buffer (30% of MoOF) before the MT is reached

100% MoOF

30% MoOF



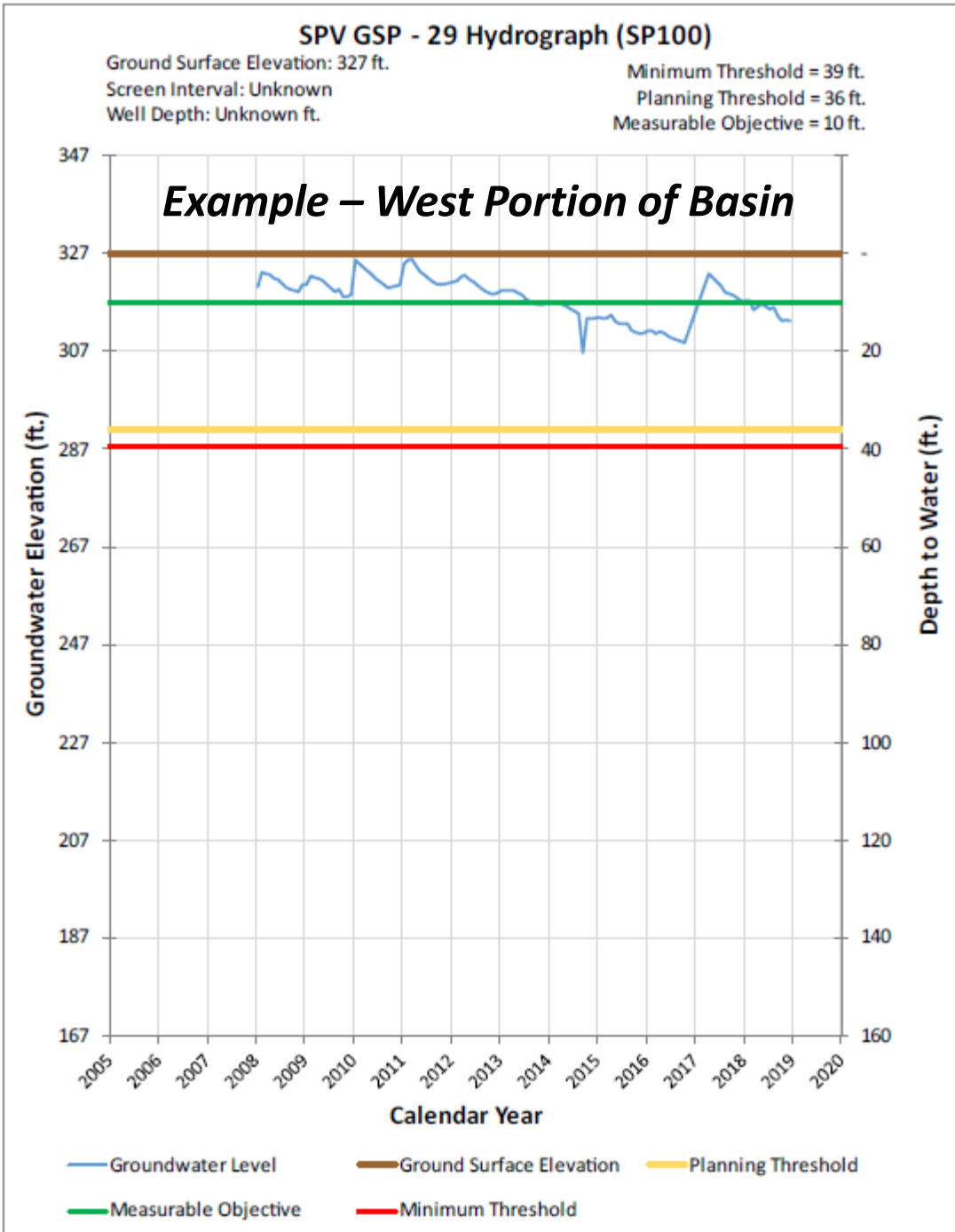


Figure 8-4. Example Hydrograph from the Western Portion of the Basin

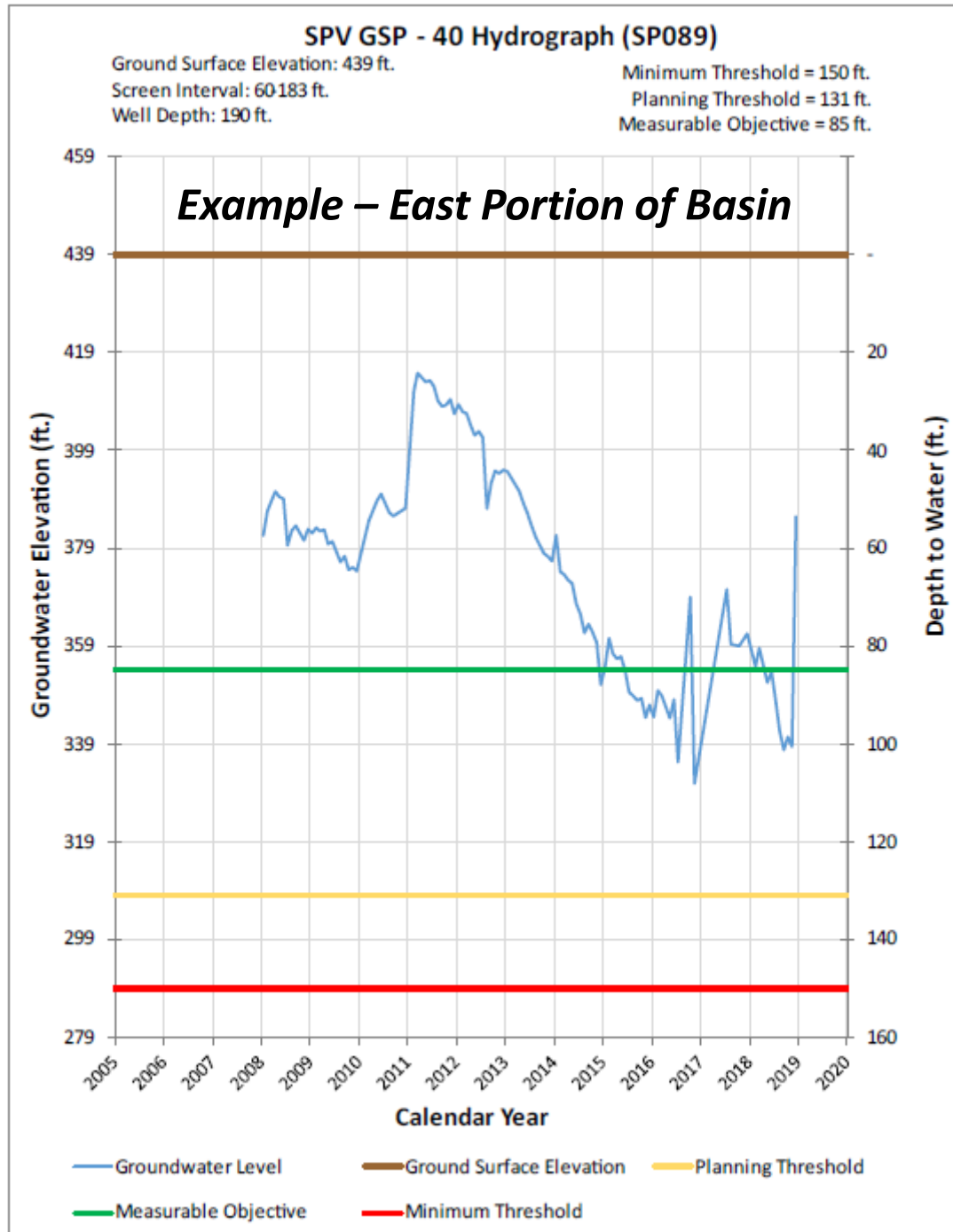


Figure 8-5. Example Hydrograph from Eastern Portion of the Basin

## Groundwater Levels

- Minimum Threshold (**MT**):
  - If within 2,000 ft of GDE, set at 100% of historical range below the historical low
  - If farther than 2,000 ft from GDE, set at 50% of historical range below the historical low
- Margin of Operational Flexibility (MoOF):
  - Estimated to provide an estimated 5 years of storage during drought periods
- Measurable Objective (**MO**):
  - Set to provide an estimated 5 years of storage during drought periods above MT
- Planning Threshold (**PT**):
  - Set at 30% of the MoOF above the MT, to implement Tier 1 management actions
- Tier 1 Level (uses Planning Threshold):
  - Set to provide an estimated 18 months of time for planning prior to reaching the MT
- Tier 2 Level (uses Minimum Threshold):
  - Set to initiate management actions to avoid an undesirable result



## Groundwater Storage

- Uses groundwater levels as a proxy
  - Permitted by SGMA
  - San Pasqual Valley does not have a regional confined aquifer
  - Simple and straight forward (no additional calculations, no annual modeling work)
  - Groundwater level sustainability criteria are protective of groundwater storage

## Groundwater Quality

- *Salt & Nutrient Management Plan (SNMP)* indicates largest sources of loading are fertilizer use, surface water inflows, and evapoconcentration
- Set thresholds on constituents that are reflective of the tools the GSA has that may affect groundwater quality, which means:
  1. Constituent can be affected by water volume management
  2. Thresholds should be set within a range that the GSA can perform cost-appropriate management
  3. Rely on monitoring directly for reporting at each well site

## Groundwater Quality

- Minimum Threshold (**MT**):

**Nitrate (as N)**

10 mg/L which is maximum containment level (MCL)



**TDS**

Historical high + 10%... or 1,000 mg/L which is upper secondary MCL

- Measurable Objective (**MO**):

- Nitrate (as N) – Set to 5 mg/L, which is half the MCL
- TDS – Set to 500 mg/L for most wells, which is lower secondary MCL; Set to 1,000 mg/L for wells with historical concentrations above 1,000 mg/L, which is SNMP target

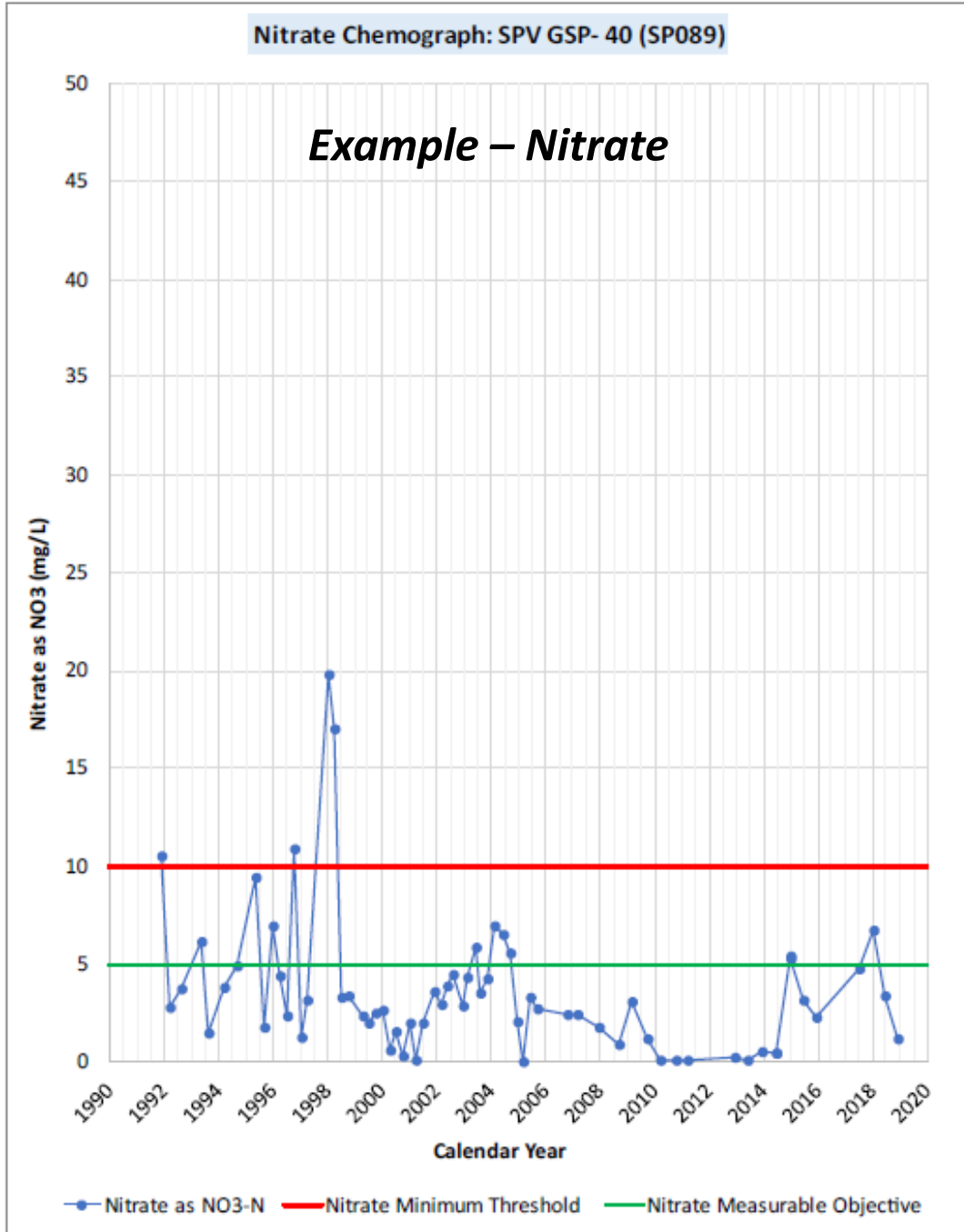


Figure 8-7. Example Nitrate Chemograph—SP089

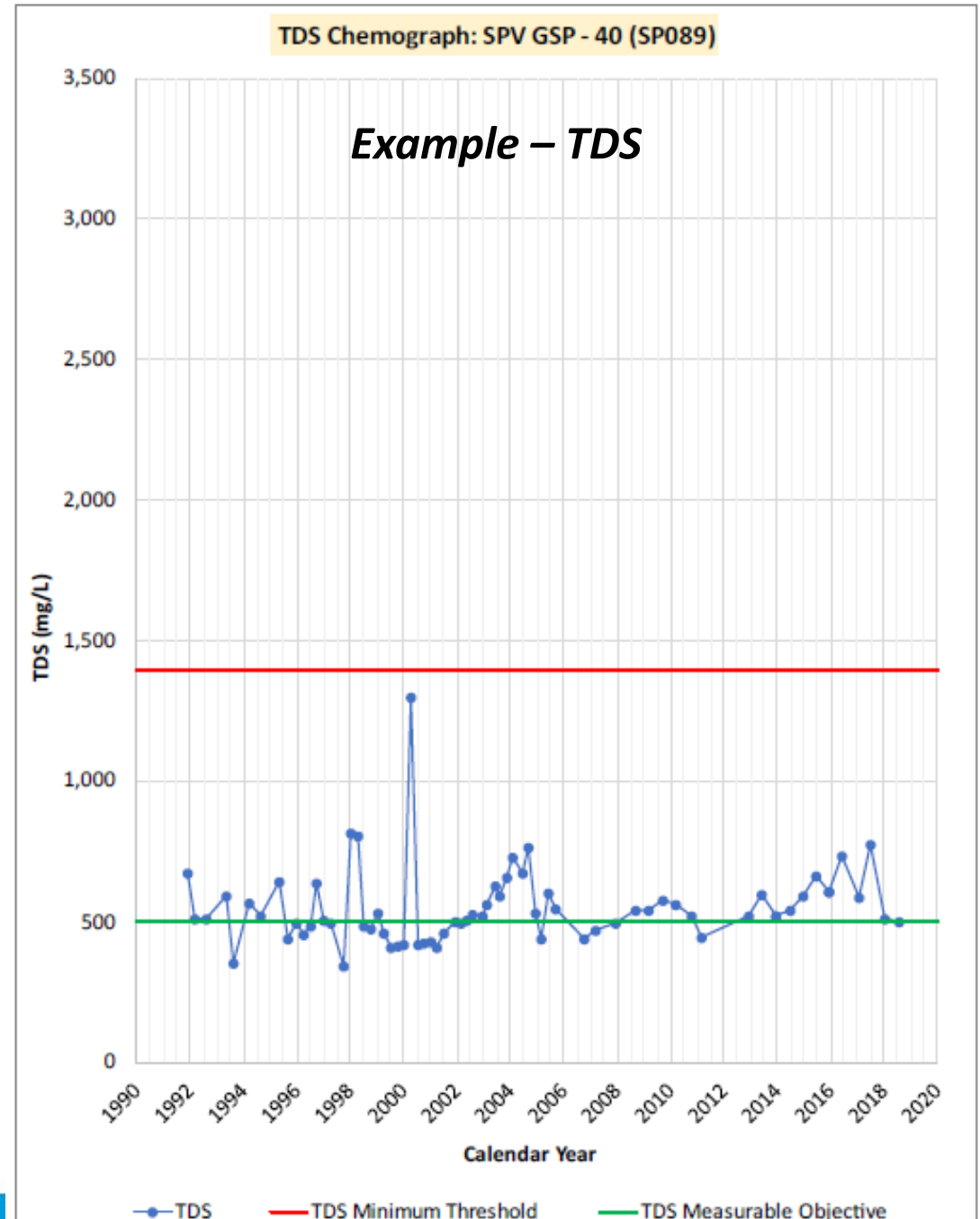


Figure 8-8. Example TDS Chemograph—SP098

## Interconnected Surface Waters

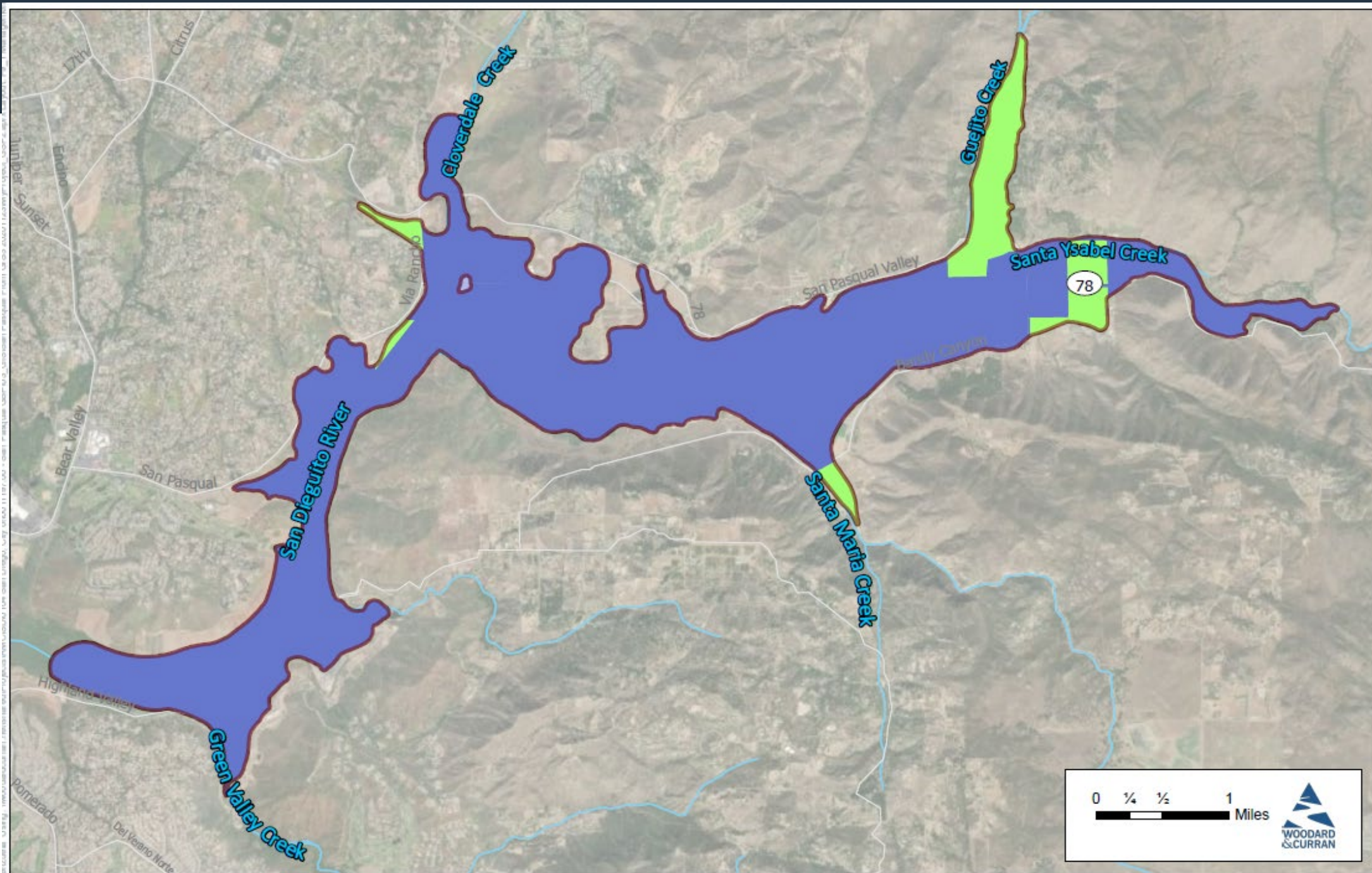
- Uses groundwater levels as a proxy
  - Permitted by SGMA
  - Uses the six wells in the western portion of the Basin that are within 2,000 feet of a potential GDE
  - Groundwater level sustainability criteria are protective of interconnected surface waters

# San Pasqual Valley GSP Advisory Committee Meeting

## PROJECTS AND MANAGEMENT ACTIONS AND PLAN IMPLEMENTATION



- Management Areas



Project #: 0011197

Legend

- San Pasqual Valley Basin
- City Management Area
- County Management Area



**Figure 9-1**

San Pasqual Valley GSP

**Management Areas**



# Projects & Management Actions

## Tier 0

May be implemented after GSP adoption

### GSP Implementation

- GSP Program Management
- Pursue Funding Opportunities
- Public Outreach and Meetings
- Monitoring (Groundwater Levels and Quality)
- Reporting (Annual Report and Five-Year Update)
- Numerical Model Updates, as Needed

### Projects & Management Actions

- 1.Coordinate on the Construction of Infiltration Basins at San Pasqual Union Elementary
- 2.Coordinate on the Implementation of Invasive Species Removal
- 3.Farming Best Practices
- 4.Education and Outreach to Encourage Demand Softening
- 5.Support Water Quality Improvements Plan Actions
- 6.Coordinate and Collaborate with Other Entities and Agencies to Implement Regional Projects
- 7.Education and Outreach for TDS and Nitrate
- 8.Initial Surface Water Recharge Evaluation

## Tier 1

Implemented if Tier 1 Exceeded

### Projects & Management Actions

- 7.Study GDEs
- 8.Well Inventory
- 9.Basin-wide Metering Program
- 10.Pumping Reduction Plan

## Tier 2

Implemented if Tier 2 Exceeded

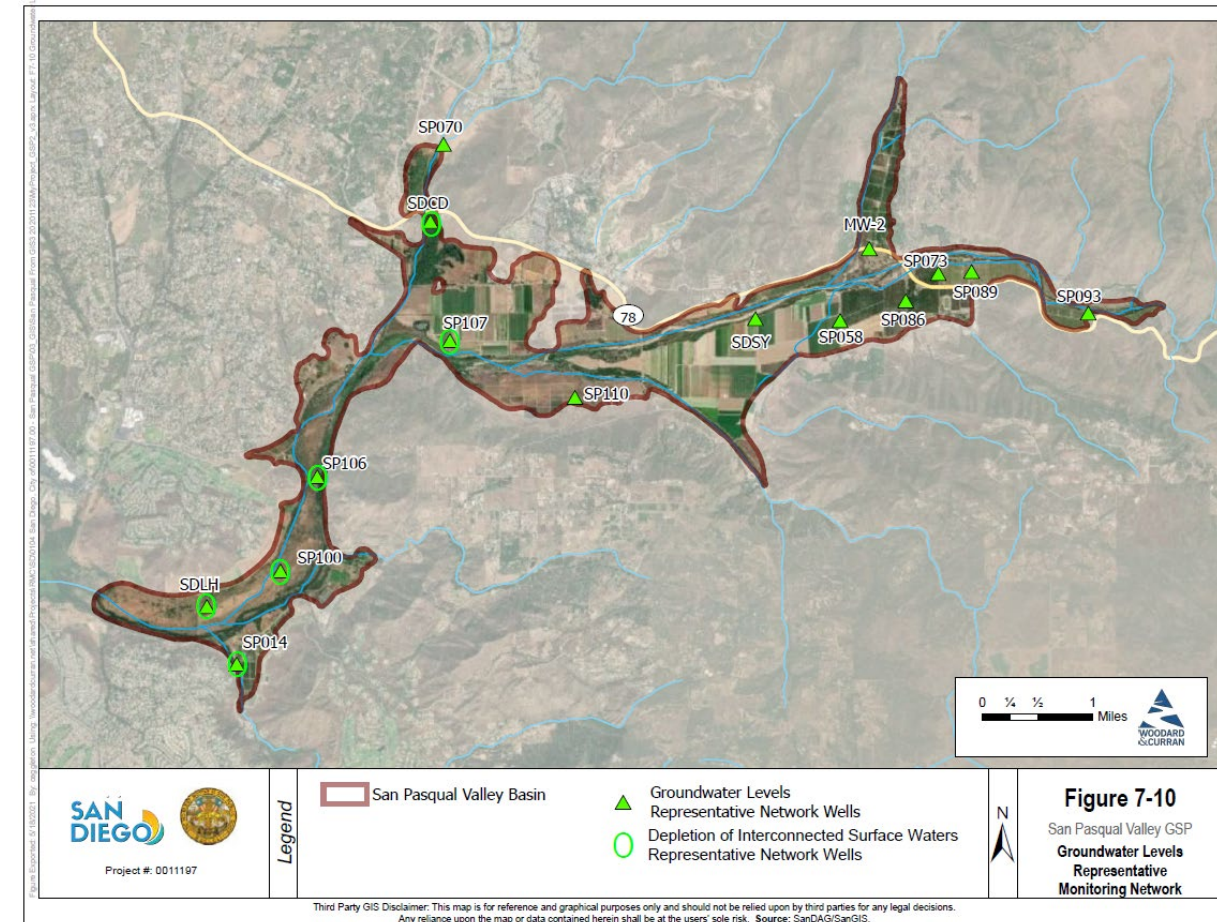
### Projects & Management Actions

- 11.Pumping Restrictions and Enforcement



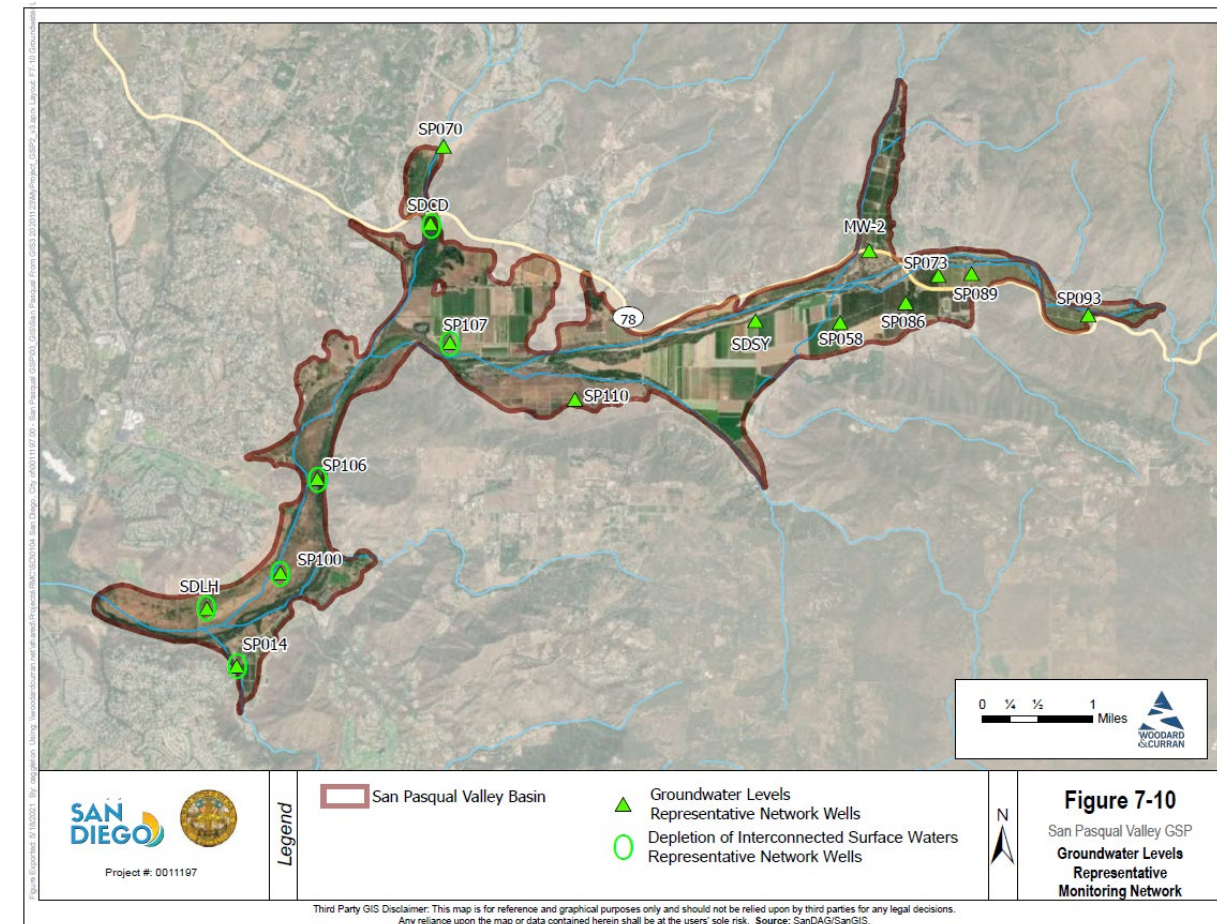
## Tiers for PMA Implementation

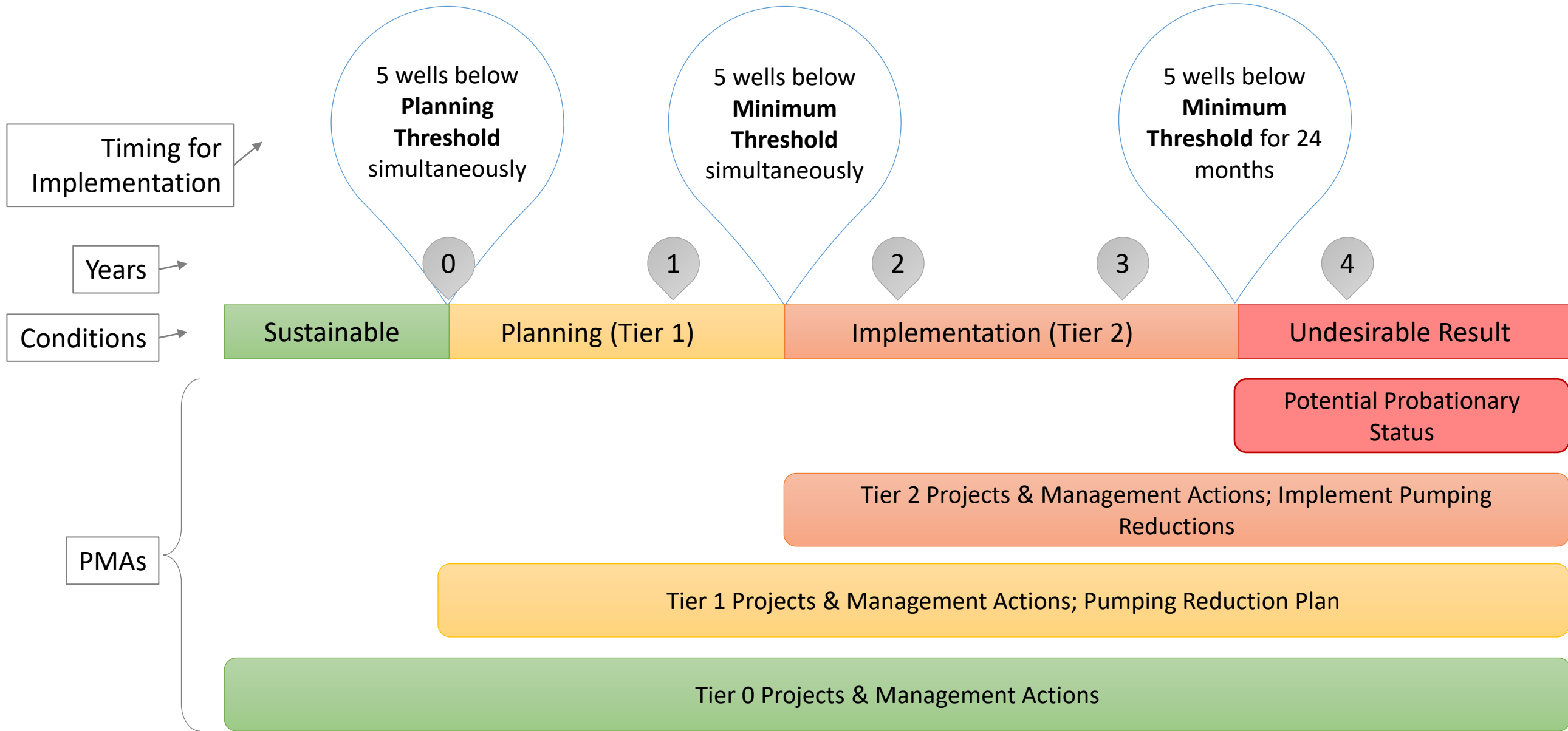
- Tier 0—These PMAs may be implemented by the GSA *at any time* after GSP adoption
- Tier 1—These PMAs may be implemented when *planning thresholds* are exceeded
  - **Interconnected Surface Waters:** GDEs Study may be initiated when 30% of representative monitoring wells in the western portion of the Basin (i.e., two of the six wells) within 2,000 feet of a potential GDE exceed the planning threshold
  - **Groundwater Levels:** Tier 1 actions may be initiated when 30% of the representative monitoring wells in the Basin (i.e., five of 15 wells) exceed the planning threshold



## Tiers for PMA Implementation

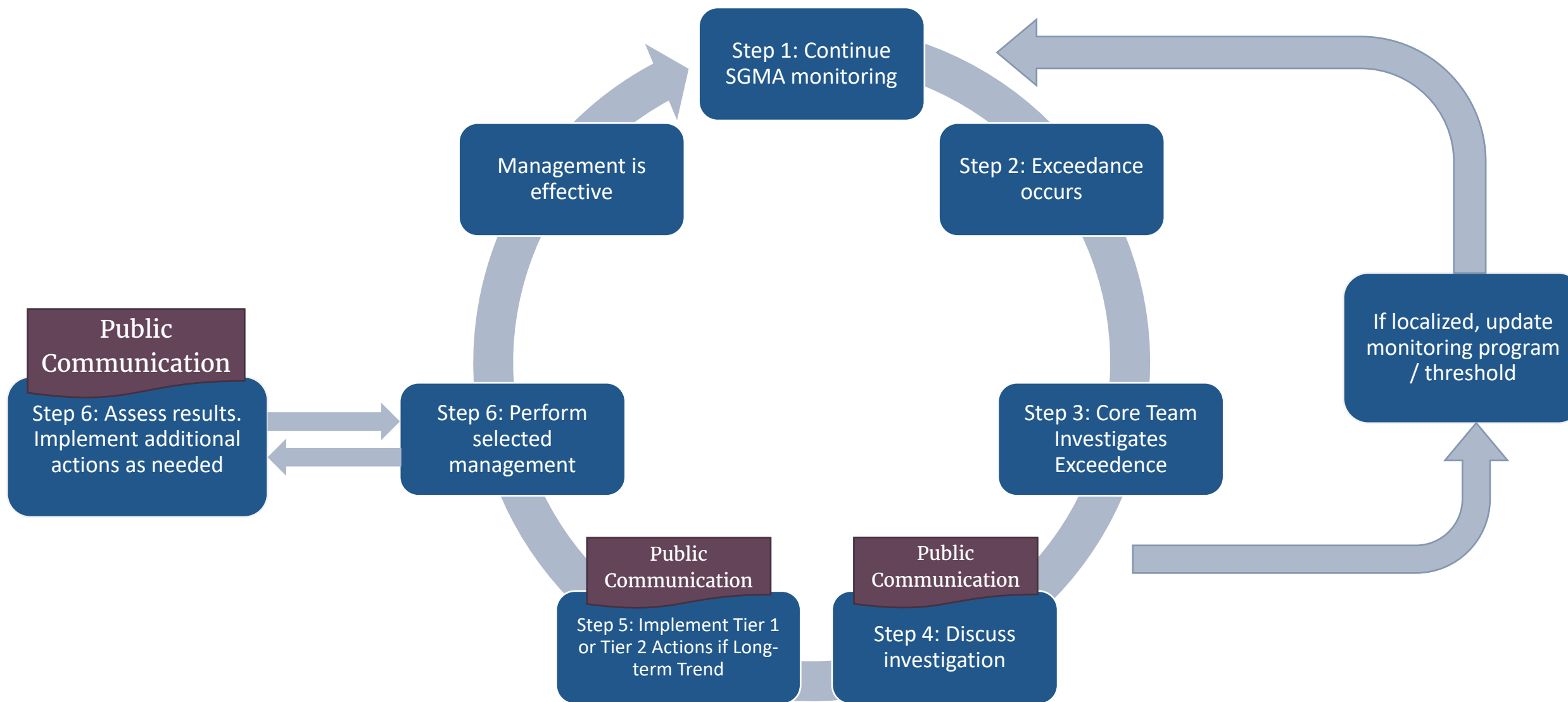
- Tier 2—These PMAs may be implemented when *minimum thresholds* for groundwater levels are exceeded
  - **Groundwater Levels:** Tier 2 actions may be initiated when 30% of the representative monitoring wells in the Basin (i.e., five of 15 wells) exceed their minimum threshold





Note: Timeline conservatively assumes a sustained drought in which no actions have occurred to curtail pumping.

## Implementation Process for Tier 1 and Tier 2 Management Actions



- Estimates costs for GSP implementation:
  - GSP Program Management
  - Pursue Funding Opportunities
  - Public Outreach and Meetings
  - Monitoring Programs
  - Annual Reports
  - Five-Year Evaluation Reports
  - Numerical Mode Updates, as needed
  - Projects & Management Actions (Tiers 0, 1, and 2)

# San Pasqual Valley GSP Advisory Committee Meeting

## Advisory Committee Comments



# San Pasqual Valley GSP Advisory Committee Meeting Summary of AC Input



Thank you to our Advisory  
Committee members for your time  
and commitment to the SPV GSP!





- Ways that AC member input has influenced and molded the GSP:
  - Increased Hydrologic Knowledge of the Basin – Stakeholders provided well information, production data, water level data, and water quality data
  - Defined undesirable results conditions for the Basin (January 2020)
  - Helped GSA inventory all the wells and parcel land uses used in the hydrologic modeling (July 2020)
  - Planning Threshold was changed to provide more time for planning/design of Tier 1 management actions (Jan 2021)
  - Initiation of PMAs at planning and minimum thresholds was changed to occur when wells exceed threshold simultaneously (Jan 2021)



# AC Member Input Was Incorporated

- PMAs that were incorporated into the GSP per AC member input:
  - GDEs will be addressed through a Groundwater Dependent Ecosystem Study if groundwater levels drop below planning thresholds
  - Coordinate on Implementation of Invasive Species Removal
  - Ensure integration with other regional programs such as the San Dieguito River WQIP, including supporting WQIP actions to update agricultural leases to include nutrient control measures and stormwater BMPs
  - Initial Surface Water Recharge evaluation of Sutherland Reservoir as a potential source of recharge to the Basin

- Continue public engagement during Plan implementation
  - Maintain SPV GSP website for Basin reports
    - Online: <https://www.sandiegocounty.gov/content/sdc/pds/SGMA/san-pasqual-valley.html>
  - Maintain stakeholder email list for announcements
  - Host public workshops to present Annual Reports or to report changing Basin conditions
  - Maintain online Data Management System with monitoring data

# San Pasqual Valley GSP Advisory Committee Meeting

## PUBLIC COMMENT



# San Pasqual Valley GSP Advisory Committee Meeting

## NEXT STEPS & CLOSING REMARKS



- Public Draft of SPV GSP
  - Online: <https://www.sandiegocounty.gov/content/sdc/pds/SGMA/san-pasqual-valley.html>
- Comments accepted **June 14 – August 13, 2021:**
  - **Karina Danek** at [kdanek@san Diego.gov](mailto:kdanek@san Diego.gov)
- Adoption by GSA (County and City) to follow in October/November
- Submittal of Final GSP to DWR in December