CMA

Santa Ynez River Valley Groundwater Basin
Central Management Area
Groundwater Sustainability Agency

May 2020 Status Update

STETSON ENGINEERS INC.

DUDEK

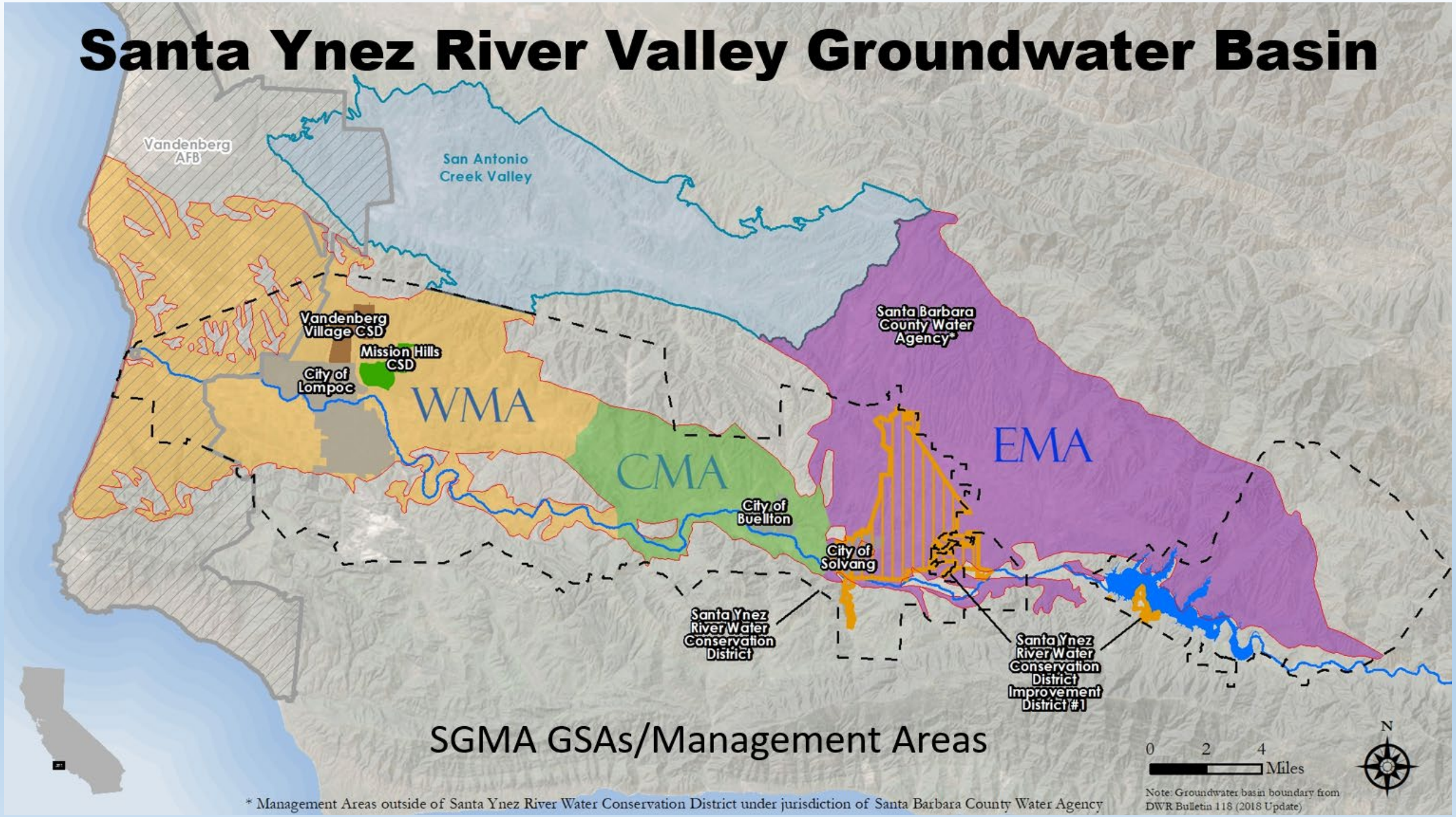
Geosyntec consultants

engineers | scientists | innovators

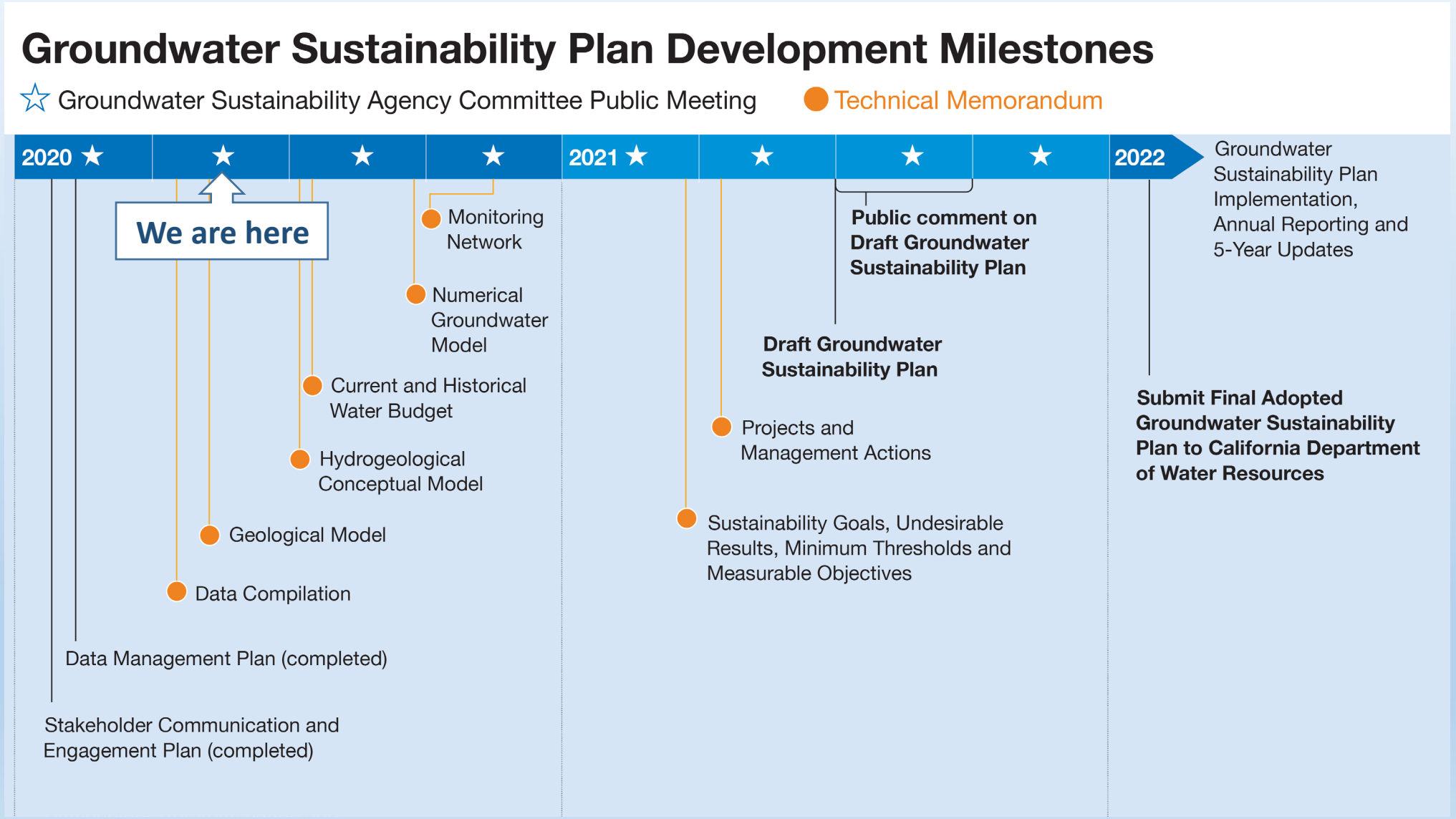
Agenda

1. SGMA & GSA Overview
2. Timeline & Milestones
3. Community Outreach
4. CMA Water
5. Technical Memorandums
6. Field Work
7. SkyTEM
8. Questions

Santa Ynez River Valley Groundwater Basin



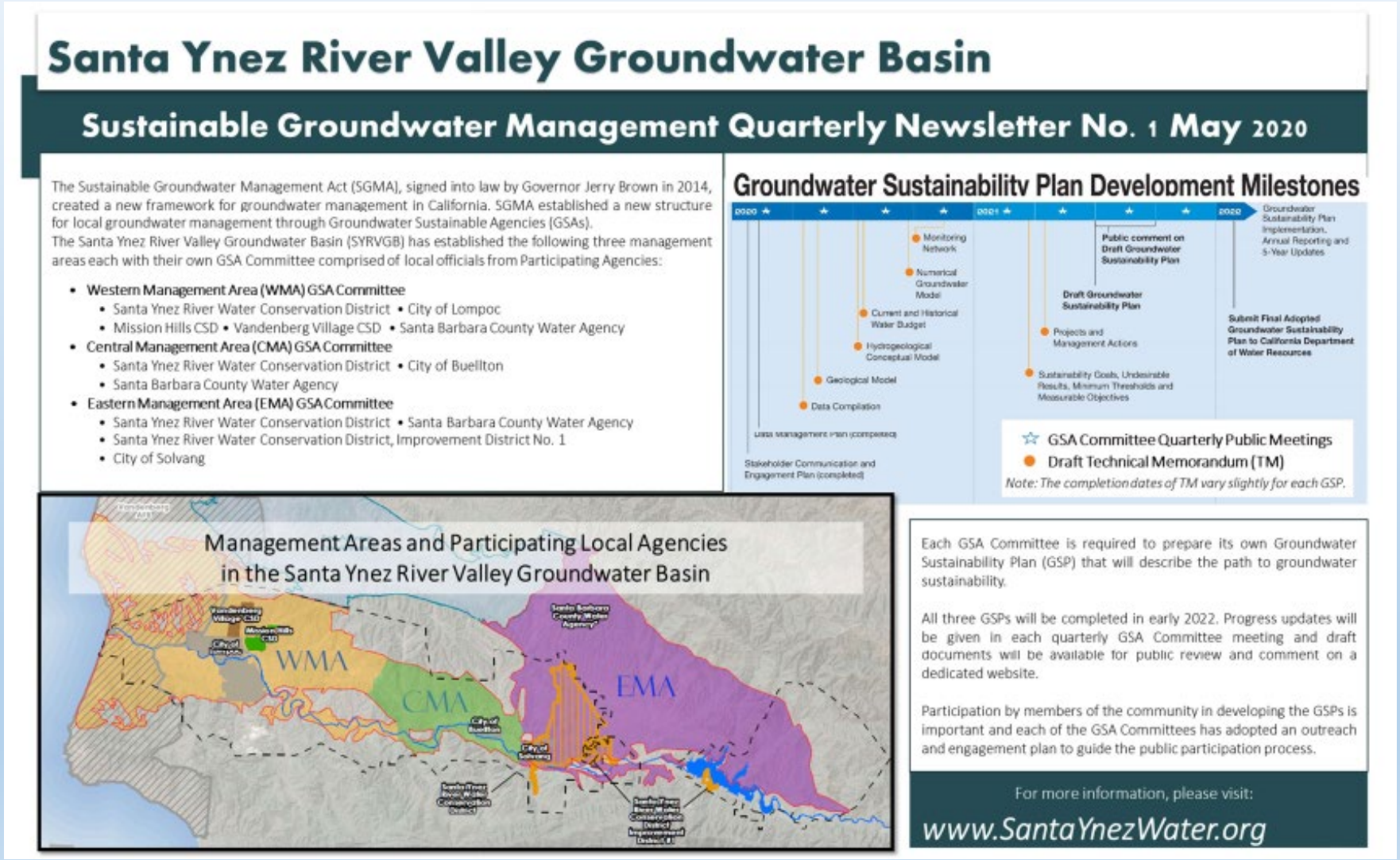
Timeline


Groundwater Sustainability Plan Development Milestones
Groundwater Sustainability Agency Committee Public Meeting
Technical Memorandum
2020
2021
2022
We are here
Monitoring Network
Numerical Groundwater Model
Current and Historical Water Budget
Hydrogeological Conceptual Model
Geological Model
Data Compilation
Data Management Plan (completed)
Stakeholder Communication and Engagement Plan (completed)
Public comment on Draft Groundwater Sustainability Plan
Draft Groundwater Sustainability Plan
Projects and Management Actions
Sustainability Goals, Undesirable Results, Minimum Thresholds and Measurable Objectives
Groundwater Sustainability Plan Implementation, Annual Reporting and 5-Year Updates
Submit Final Adopted Groundwater Sustainability Plan to California Department of Water Resources

Community Outreach

- 1st Quarterly Newsletter developed
- Distribute with water bills (paper and/or email)
- Digital Outreach

Buellton - City TV



Santa Ynez River Valley Groundwater Basin

Sustainable Groundwater Management Quarterly Newsletter No. 1 May 2020

The Sustainable Groundwater Management Act (SGMA), signed into law by Governor Jerry Brown in 2014, created a new framework for groundwater management in California. SGMA established a new structure for local groundwater management through Groundwater Sustainable Agencies (GSAs).
The Santa Ynez River Valley Groundwater Basin (SYRVGB) has established the following three management areas each with their own GSA Committee comprised of local officials from Participating Agencies:

- Western Management Area (WMA) GSA Committee
  - Santa Ynez River Water Conservation District • City of Lompoc
  - Mission Hills CSD • Vandenberg Village CSD • Santa Barbara County Water Agency
- Central Management Area (CMA) GSA Committee
  - Santa Ynez River Water Conservation District • City of Buellton
  - Santa Barbara County Water Agency
- Eastern Management Area (EMA) GSA Committee
  - Santa Ynez River Water Conservation District • Santa Barbara County Water Agency
  - Santa Ynez River Water Conservation District, Improvement District No. 1
  - City of Solvang

Groundwater Sustainability Plan Development Milestones

2020 2021 2020

- Data Compilation
- Geological Model
- Hydrogeological Conceptual Model
- Current and Historical Water Budget
- Numerical Groundwater Model
- Monitoring Network
- Stakeholder Communication and Engagement Plan (completed)
- Sustainability Goals, Undesirable Results, Minimum Thresholds and Measurable Objectives
- Projects and Management Actions
- Draft Groundwater Sustainability Plan
- Public comment on Draft Groundwater Sustainability Plan
- Submit Final Adopted Groundwater Sustainability Plan to California Department of Water Resources
- Groundwater Sustainability Plan Implementation, Annual Reporting and 5-Year Updates

☆ GSA Committee Quarterly Public Meetings
● Draft Technical Memorandum (TM)
Note: The completion dates of TM vary slightly for each GSP.

Management Areas and Participating Local Agencies in the Santa Ynez River Valley Groundwater Basin

WMA
CMA
EMA

Each GSA Committee is required to prepare its own Groundwater Sustainability Plan (GSP) that will describe the path to groundwater sustainability.

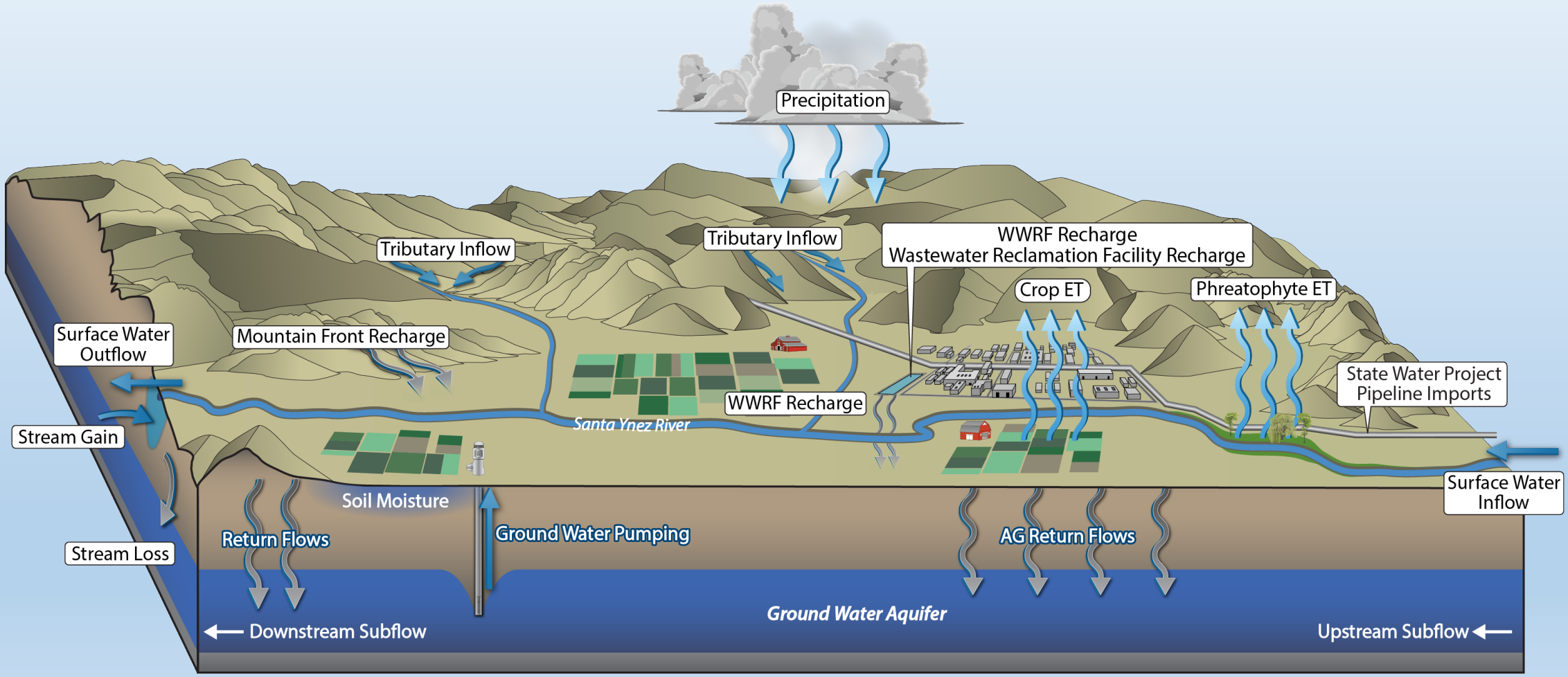
All three GSPs will be completed in early 2022. Progress updates will be given in each quarterly GSA Committee meeting and draft documents will be available for public review and comment on a dedicated website.

Participation by members of the community in developing the GSPs is important and each of the GSA Committees has adopted an outreach and engagement plan to guide the public participation process.

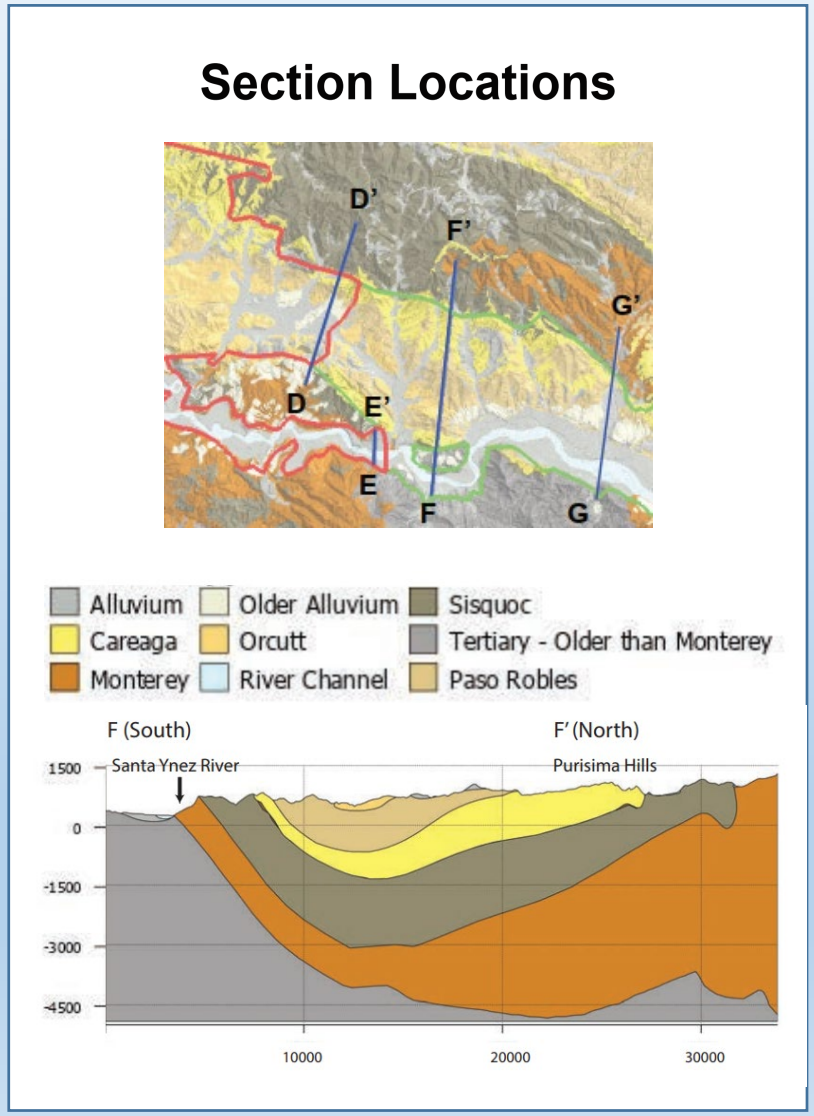
For more information, please visit:
www.SantaYnezWater.org

CMA Water

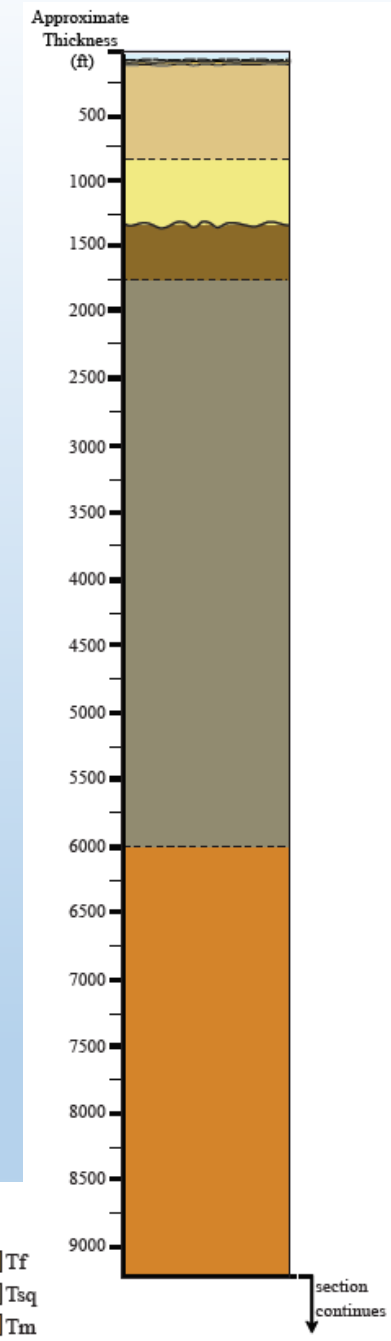
CENTRAL MANAGEMENT AREA OF THE SANTA YNEZ RIVER VALLEY GROUNDWATER BASIN

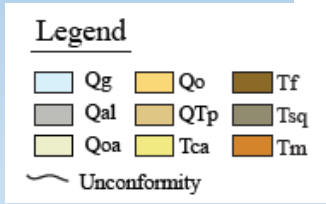


Geologic Model Technical Memorandum



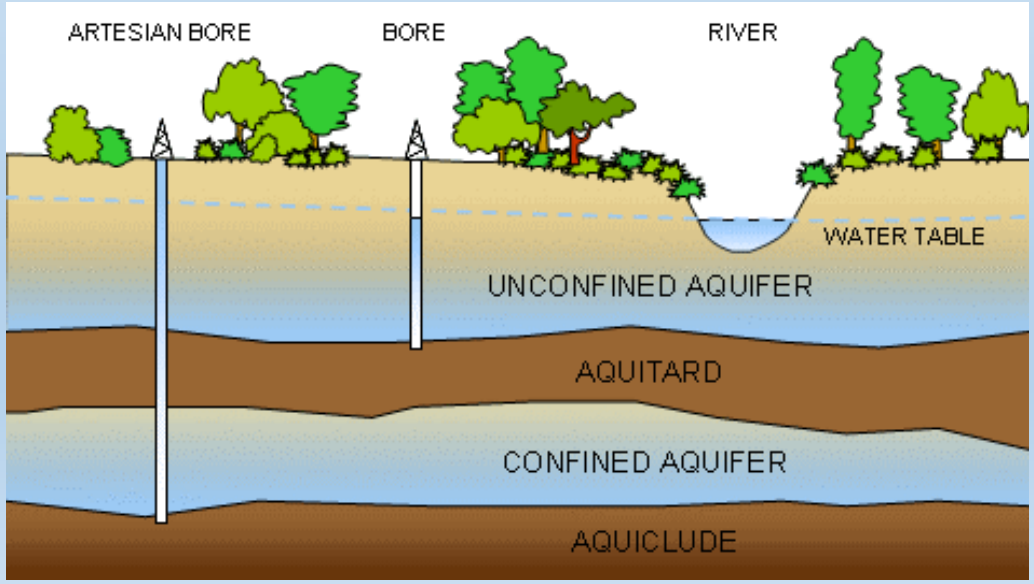
- DRAFT Tech Memo in review by Staff
- Describes the software, data sources and assumptions used to build the model
- Outlines data gaps identified by the model (lack of data in one area)
- SkyTEM data may be used later to refine the model

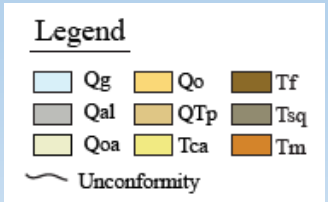


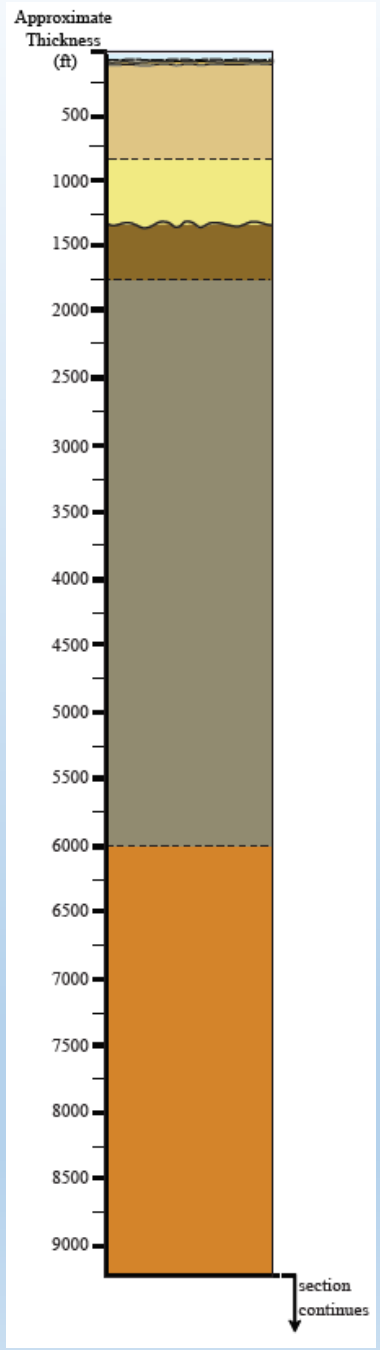


Geologic Model Technical Memorandum

- Why model the basin Geology?
- Geologic units inform where groundwater is present.
- Each geologic unit has specific properties that affect how groundwater moves through the basin.
- Understanding where groundwater is present and how it flows through the basin informs groundwater management.



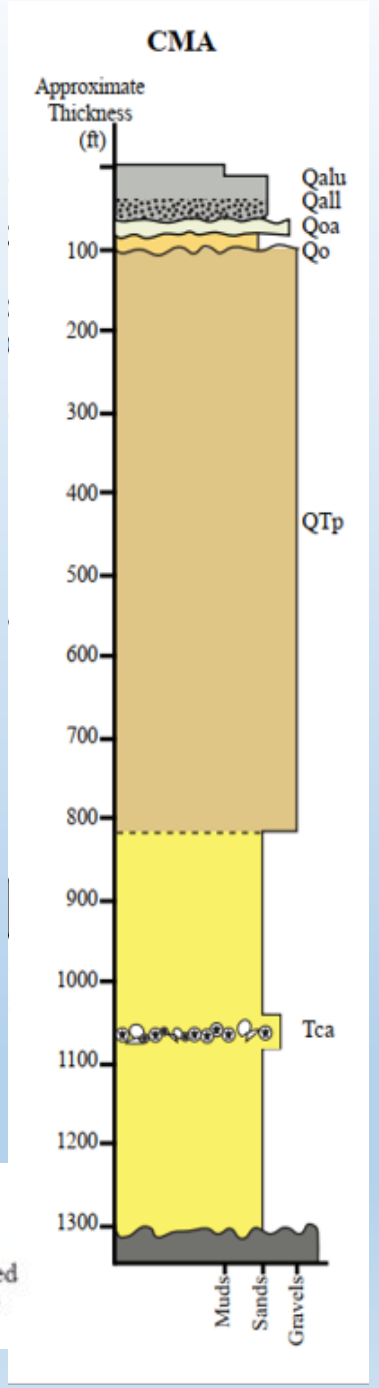




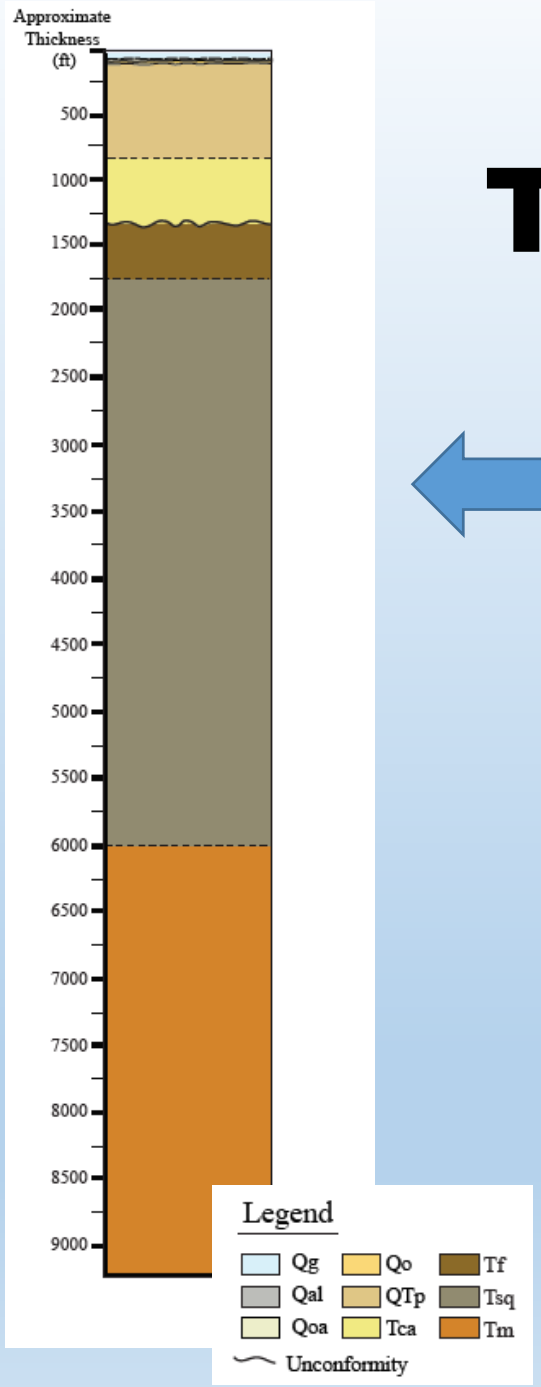
Geologic Model Technical Memorandum

Geologic units can be categorized into two broad categories:

1. Consolidated Rock
   - Underlies the groundwater basin and outcrops in surrounding hills.
   - Includes the Monterey, Foxen, and Sisquoc Formations.
   - SGMA terminology: consolidated rock forms the “definable bottom of the basin” and “lateral basin boundaries.”
2. Unconsolidated Deposits
   - Geologic formations that contain and convey water within the basin.
   - Santa Ynez River Floodplain Alluvium – Upper Aquifer (River gravels and Younger alluvium)
   - Upland Deposits Formations – Lower Aquifer (Terrace Deposits/Older Alluvium, Orcutt, Paso Robles, Careaga Sand)



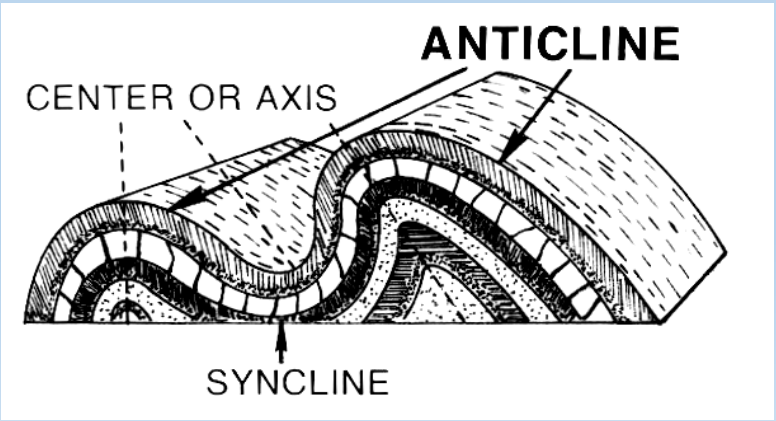
Geologic Model Technical Memorandum



- Modeling the geologic units (stratigraphy) as shown in this figure, helps us better understand and interpret geologic structures within the basin.

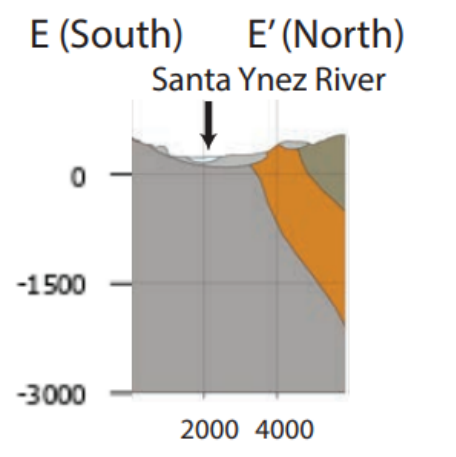
- Geologic structures in the basin include folds, faults, mountains and other features.

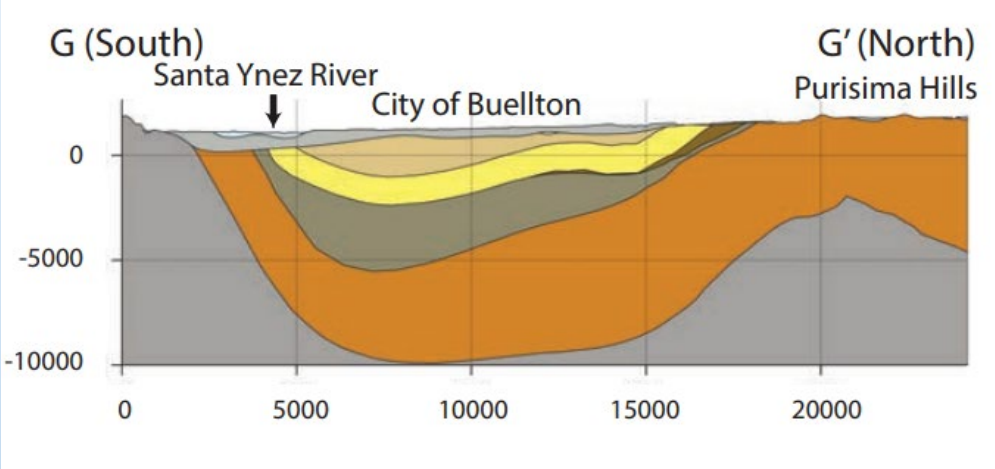
- Anticline and syncline folds

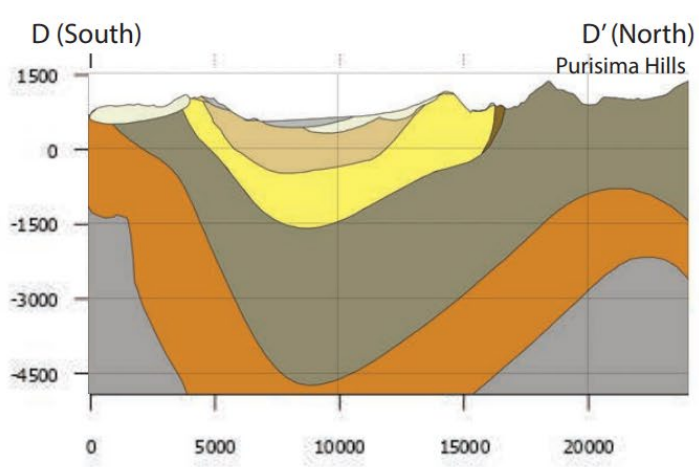


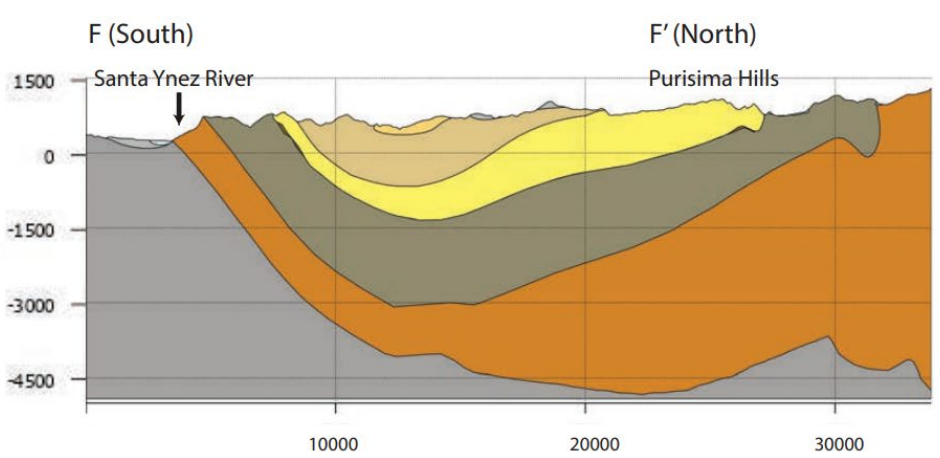
Fold Figure By Pearson Scott Foresman - Archives of Pearson Scott Foresman, donated to the Wikimedia Foundation, Public Domain, https://commons.wikimedia.org/w/index.php?curid=2572045

Geologic Model Technical Memorandum

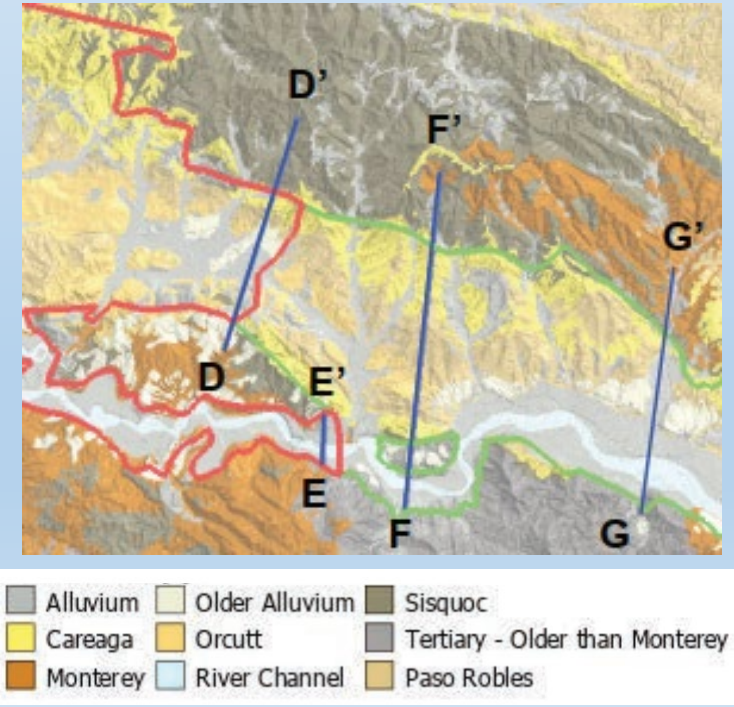




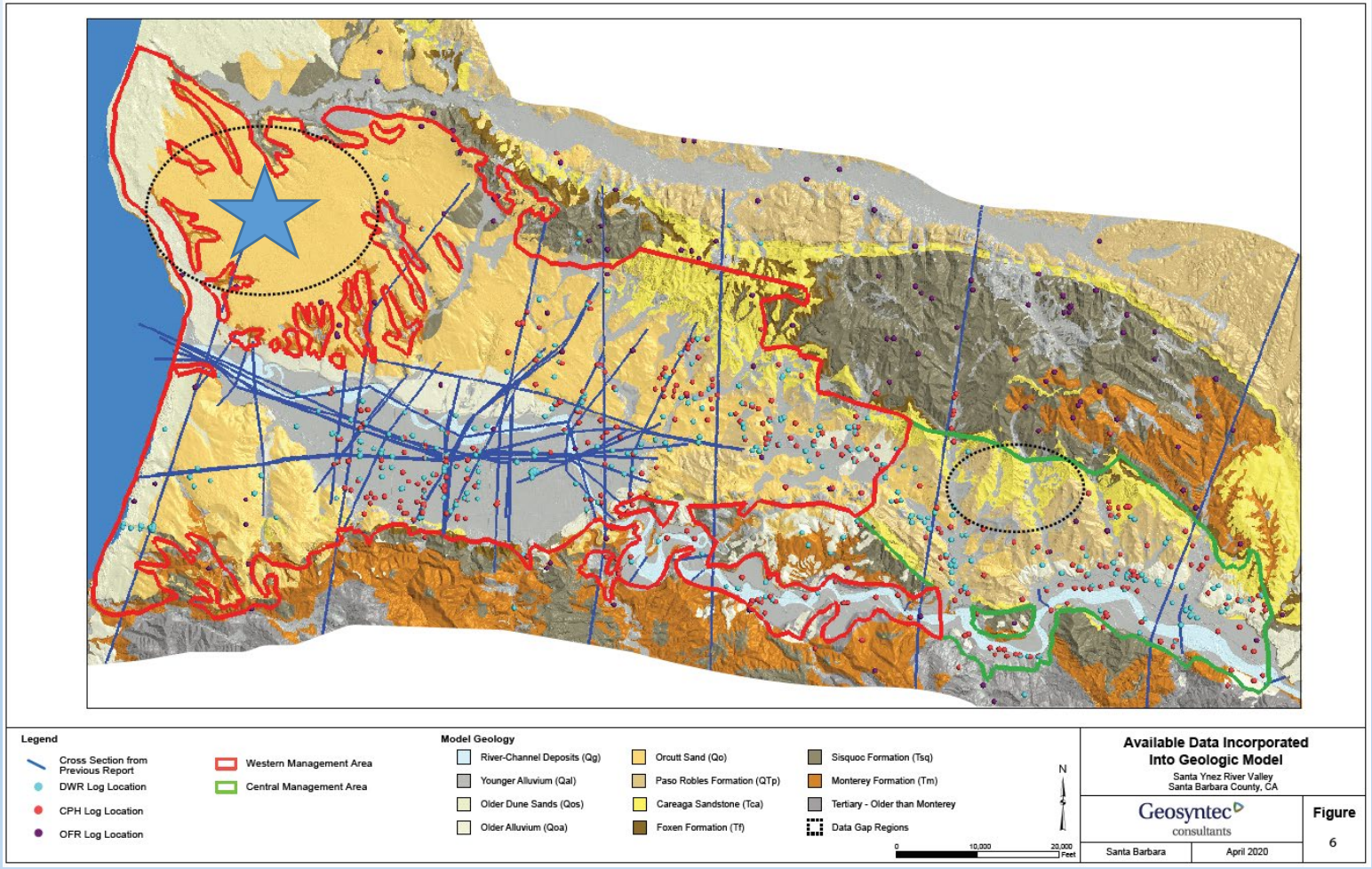




- Cross-section views of the CMA geologic model
- View of subsurface folds in the CMA



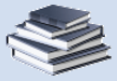
Geologic Model Technical Memorandum



- Aerial (overhead) view of the geologic model and incorporated data.
- Well boring information from publicly available resources.
- Cross-sections from previously published reports.

Data Management System Technical Memorandum

- DRAFT Tech Memo in review by Staff.
- Describes the volume of data uploaded into the DMS (data index).
- Complement to the Data Management Plan.

	Type	Data Uploaded
	Pumping Data	Buellton (2007-17), Lompoc (2003-13), Vandenberg Village Community Services District (2005-19), Public Water System Statistics Surveys (2006-18) Santa Ynez River Water Conservation District (2011 - 18)
	Water Level Measurements	United States Geological Survey/County of Santa Barbara (1940-2019), United States Bureau of Reclamation (1972-2019), Buellton (2003-2017), Lompoc (1964-2013), Vandenberg Village Community Services District (2005-19)
	Water Quality	California State Waterboard GeoTracker GAMA
	Map Layers	Committee Agency Extents, General Reference: Digital Elevation Model/Topography, parcels, roads, watersheds, PLSS, etc. Linked Layers: Air Imagery/Geologic Maps
	Reports / Publications	187 Total, Examples: Santa Ynez River Water Conservation District Annual Reports, United States Geological Survey (USGS) Reports, California Department of Water Resources (DWR) Reports, Plans – Ex: Urban Water Management Plan/ Integrated Regional Water Management/ General Plans

Field Work

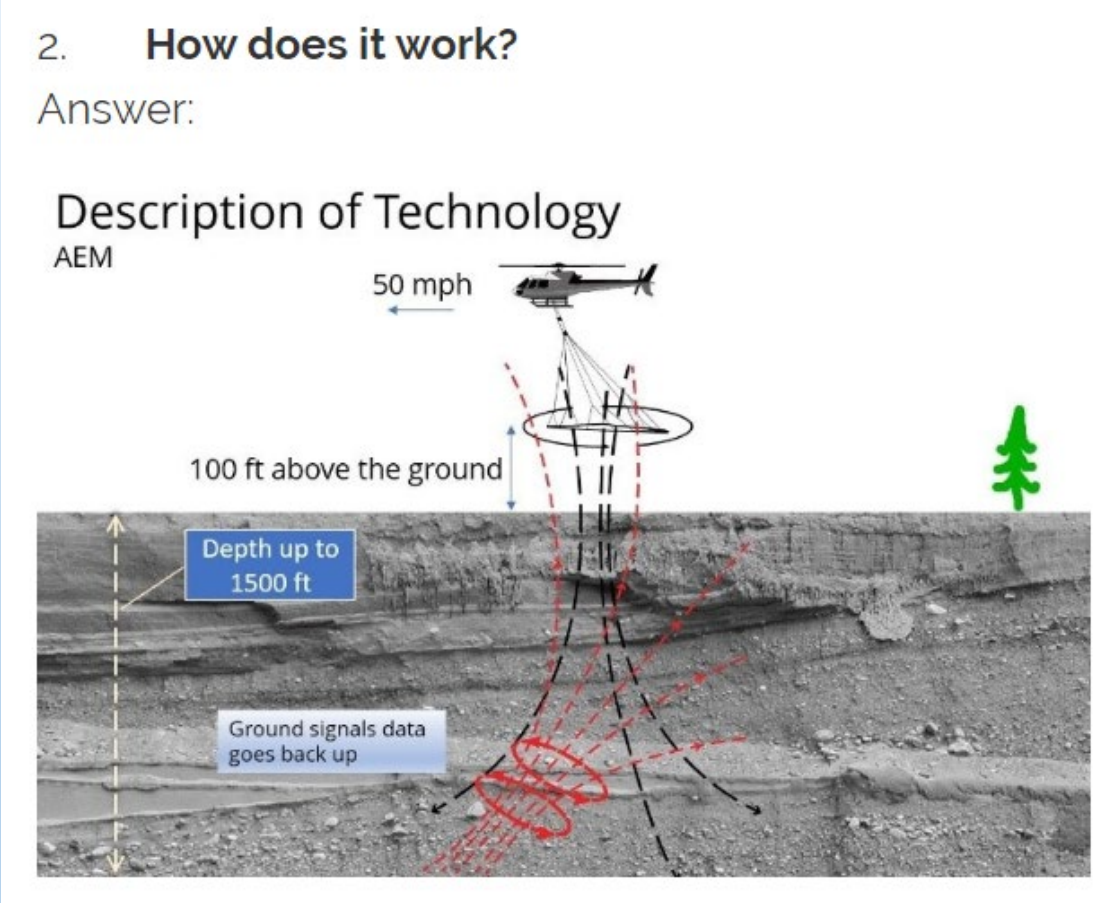
Survey and field-verification of various items:

- Ground surface elevation
- Groundwater well locations
- Groundwater elevation measuring points

SkyTEM

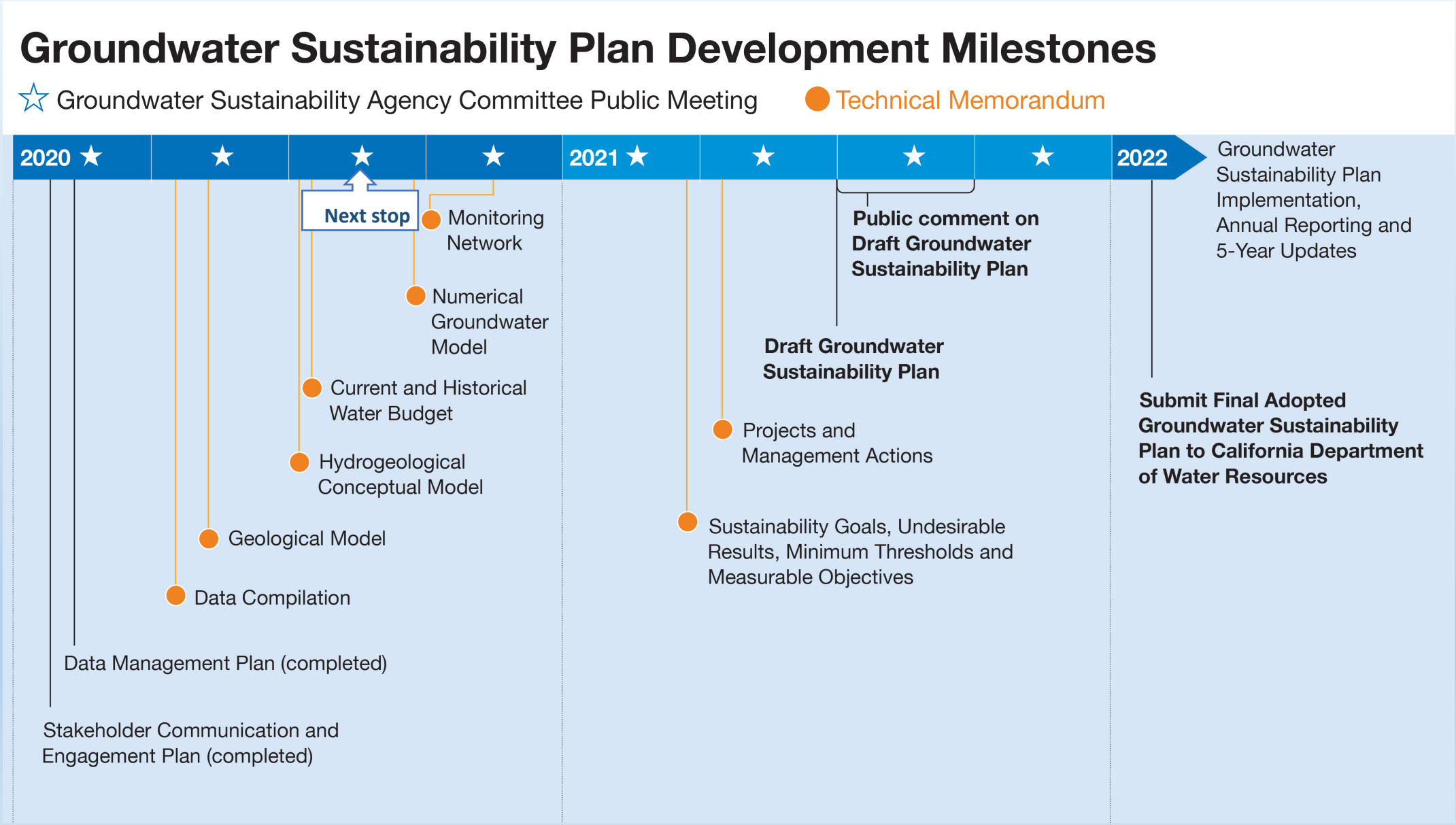
- Grant from DWR for SkyTEM work
- Groundwater mapping through Aerial Electromagnetic Method (AEM)
- Well data will be used to verify the data collected and map the layers within the Basin

SkyTEM



- Instruments are attached to a low flying helicopter flying at ~100 feet above the ground surface, towing a large hoop that will transmit a weak electromagnetic field.
- The electromagnetic field interacts with the ground, and the ground response is measured using a set of receiver coils attached to the hoop.
- Additional SkyTEM info available on the website: https://www.santaynezwater.org/aem-survey-ema

The Way Ahead



Questions?

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