

South Fork Kings GSA Sustainable Management Criteria

SFKGSA Workshop
Lemoore, CA
June 20, 2019

Geosyntec 
consultants



- Update on the Access Agreements for the Monitoring Network
- Proposed ASR Pilot Test
- Data Management System – SFK
- Tulare Lake Subbasin Annual Report
- Summary of GSP Chapter 4 - Sustainable Management Criteria

- Identified APNs and are working to identify landowners
- Some cases need separate agreements with landowner and well owner
- Utilize Board & TAG members to reach out to landowners
- Bring each agreement to Board for approval

- Identified a potential test well
 - B-zone well
 - Nearby surface water
 - Filter system
- Meeting with Regulatory agencies (RWQCB, DDW, USEPA)
- Prepare Workplan and obtain approvals/permits



- **On-going discussions**
 - Where is data stored
 - What data will be stored
 - Coordinate between SFK and Tulare Lake Subbasin

- **Tulare Lake Subbasin Annual Report**
 - Due April 1, 2020
 - Sent requirements in 6/5 email
 - GW elevation contour maps
 - Hydrographs of GW elevations back to 2015
 - GW extraction for preceding water year
 - Surface water supply
 - Total water use using best available measurement methods
 - Change in GW storage
 - Progress on Plan implementation

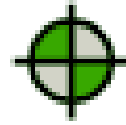
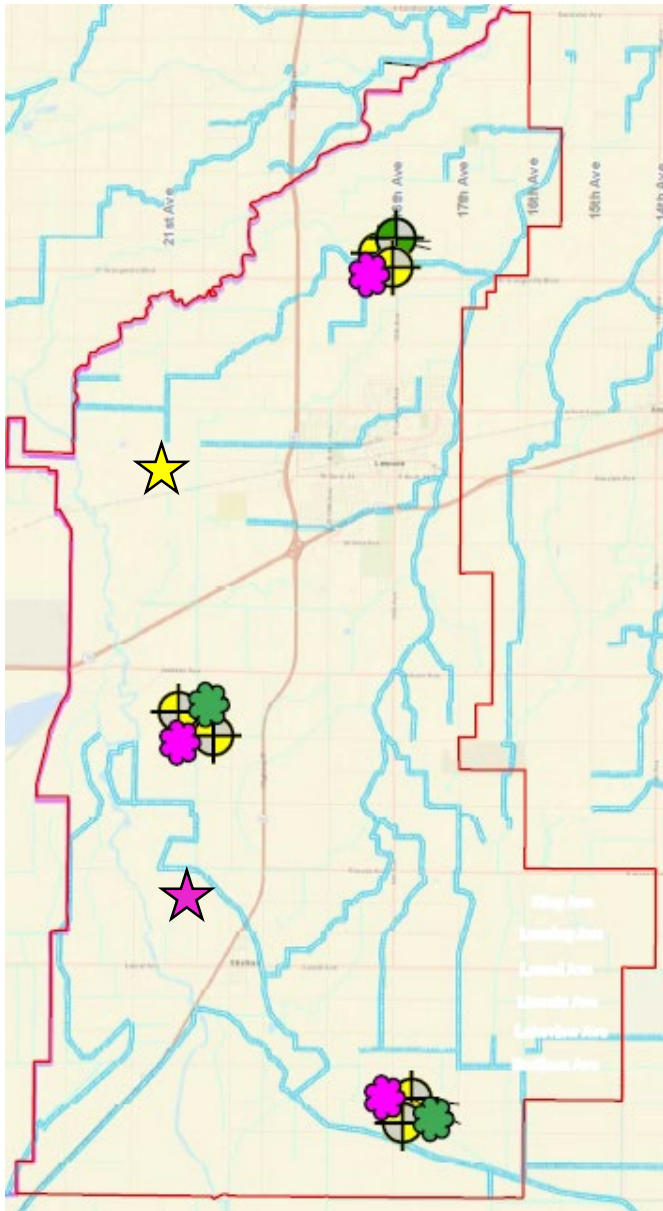


- **Sustainable Management Criteria**
 - Sustainability Goal
 - Water elevation to prevent undesirable results

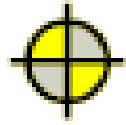
- “Measurable Objective” – sustainability goal
- “Minimum Threshold” – level below which unacceptable undesirable results are likely
- “Representative monitoring site (RMS) Well” – representative location where sustainable management criteria are established and evaluated
- “Interim RMS Well” – location in TLSB used to define sustainability goals for other similar locations while new wells are installed and additional data is collected

- Each RMS well will have unique measurable objective and minimum threshold
 - Linear trend (model data adjusted to current water level)
 - Minimum threshold = 2x standard deviation of 1998-2010 water level data
- Can adjust for management actions or projects
 - Ex. may want to use more B-zone water, reduce C-zone use
 - Management goals consider water levels above clays
- Sustainable groundwater management assumed after 2035 (no decline in water level trend)

Representative Monitoring Well Network



A-zone RMS Well



B-zone RMS Well



Proposed A-zone RMS Well



Proposed C-zone RMS Well

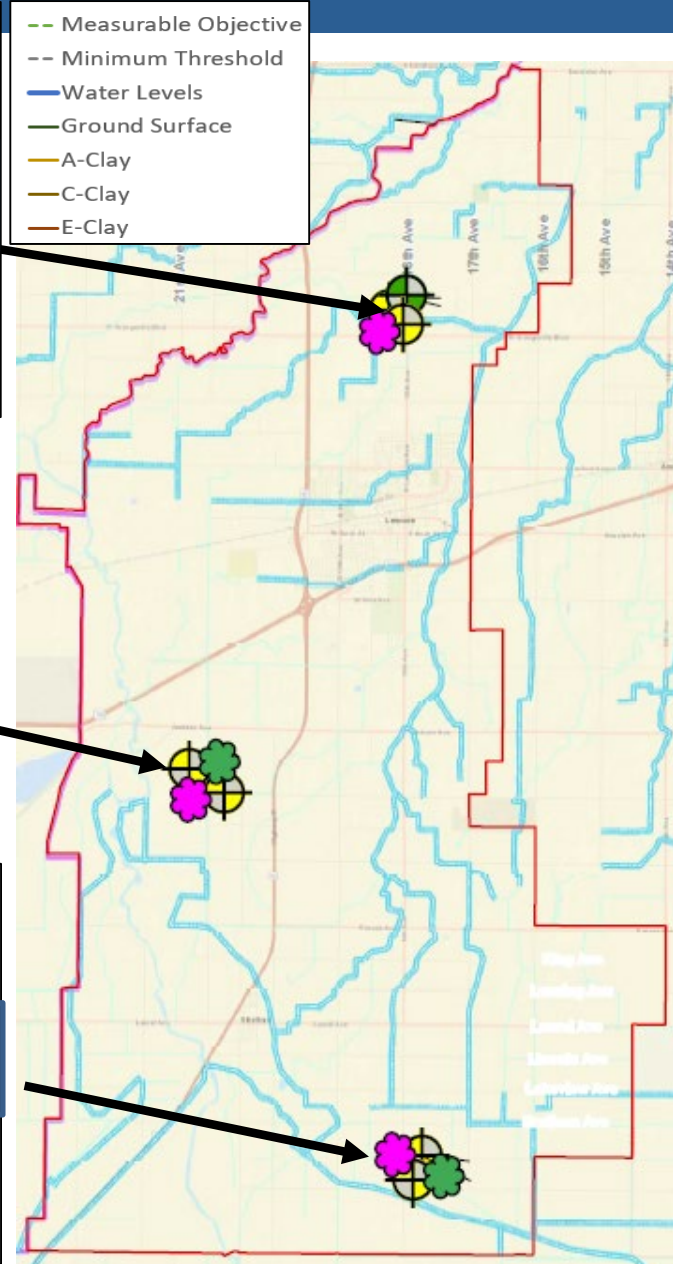
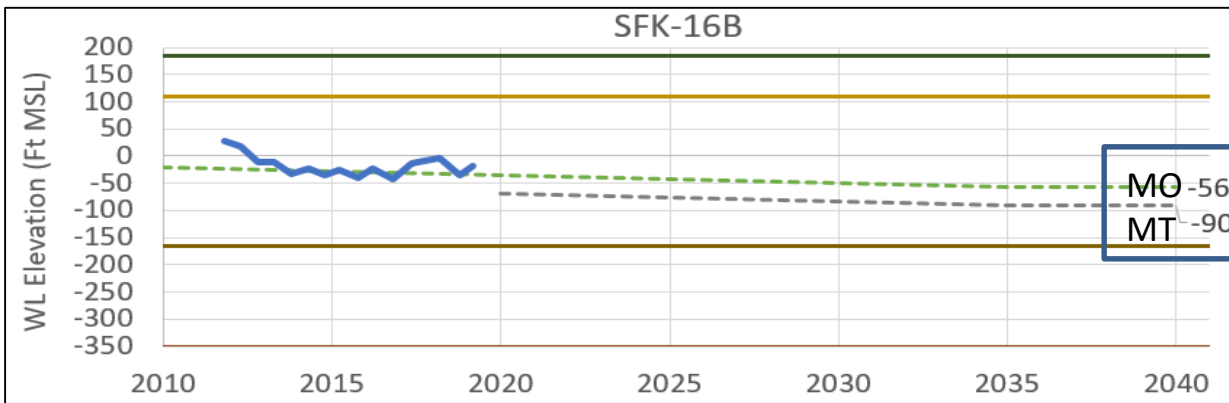
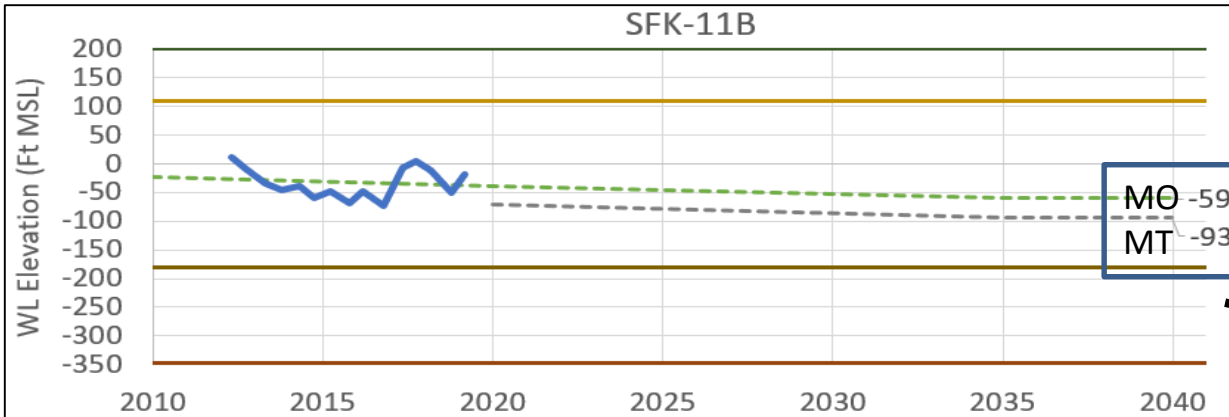
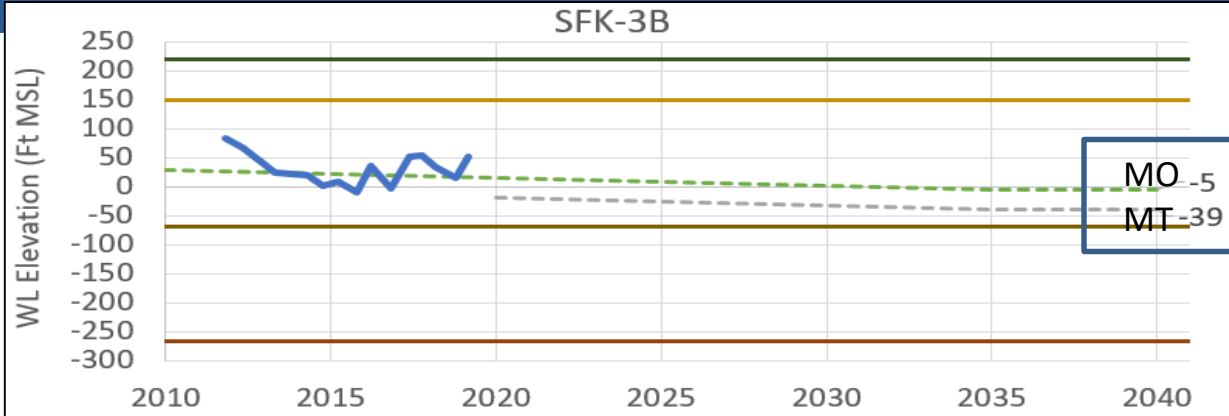


B-zone Interim RMS Well
(used to calculate minimum
threshold)



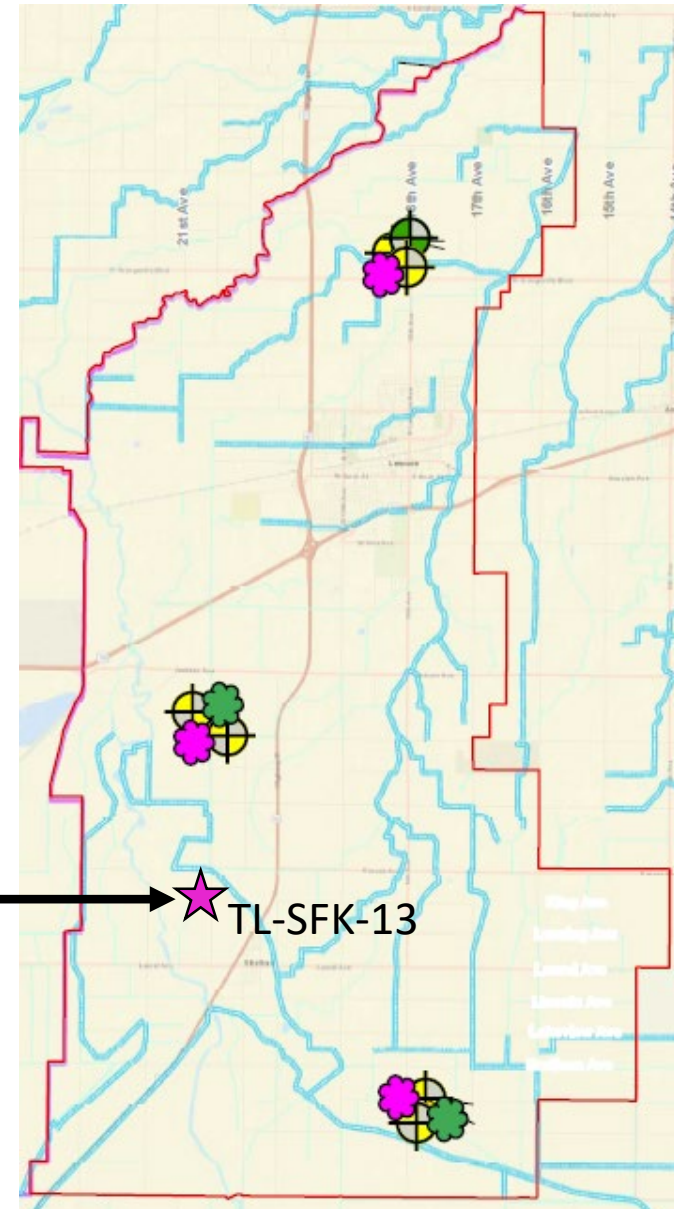
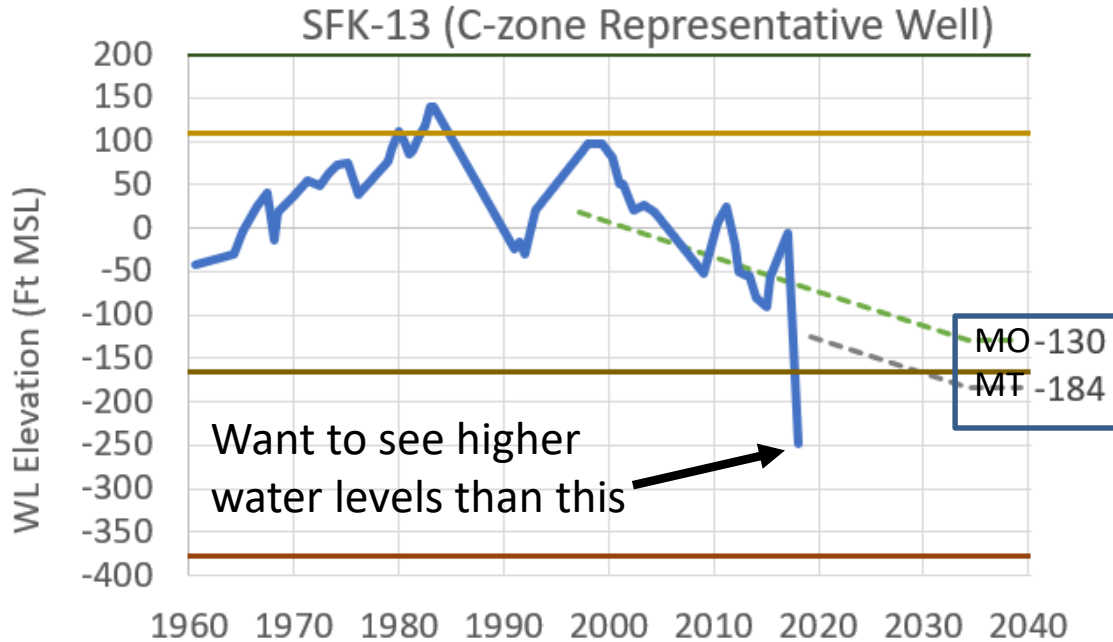
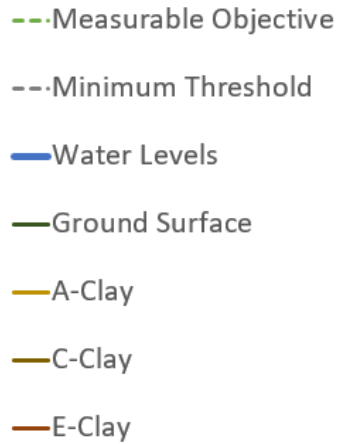
C-zone Interim RMS Well

B-zone Sustainable Management Criteria



C-zone Sustainable Management Criteria

- C-zone RMS wells not installed yet
- Interim RMS selected for establishing goals



Maintain water levels at these levels or higher by 2040

Aquifer	Measurable Objective (ft MSL)	Minimum Threshold (ft MSL)
A-zone	190	180
B-zone	-5 to -60	-40 to -95
C-zone	-130	-185

Aquifer	Measurable Objective (ft bgs)	Minimum Threshold (ft bgs)
A-zone	30	20
B-zone	225 to 260	260 to 295
C-zone	330	385

- **GW Storage**
 - Maintain volume to provide GW for 5yr drought
- **Subsidence**
 - Highest forecasted total subsidence with projects is 4 ft
 - Subsidence also occurring outside of Subbasin
- **Groundwater Quality**
 - No impact to crop yield or beneficial uses
- **Interconnected Surface Water**
 - None