FILLMORE AND PIRU BASINS
PUBLIC REVIEW DRAFT GSP

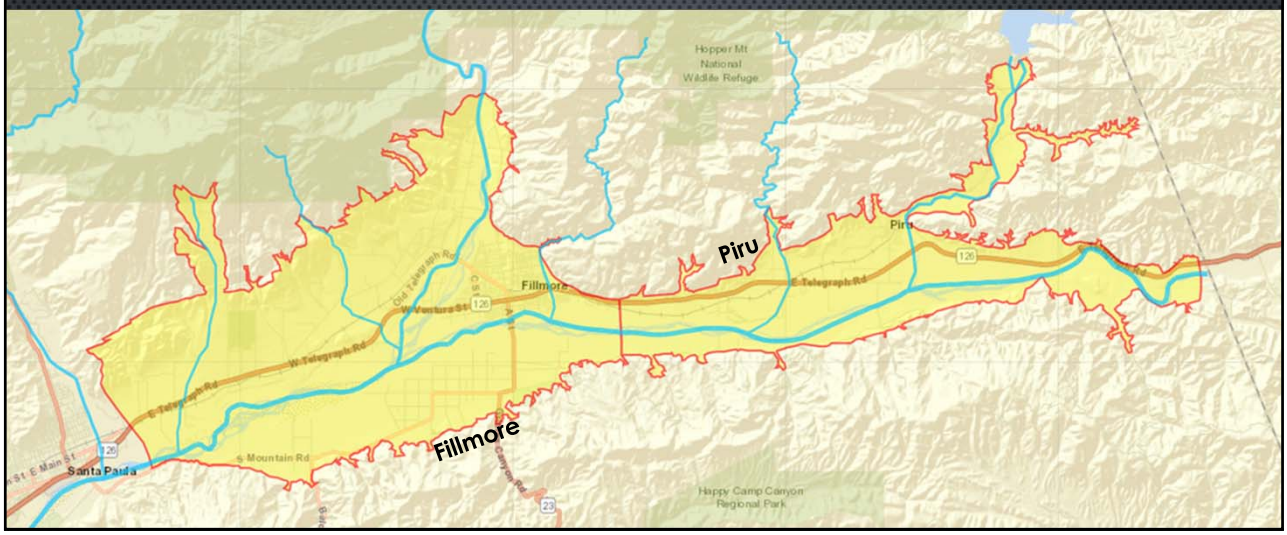
STAKEHOLDER WORKSHOP - 17 SEPT 2021

Fillmore and Piru Basins
Groundwater Sustainability Agency

SGMA / GSP OVERVIEW - WHY ARE WE DOING THESE PLANS?

- SGMA became effective January 2015
- Groundwater basins assigned a **HIGH** or **MEDIUM** priority ranking have until January 2022 to file a Groundwater Sustainability Plan (GSP)
- Fillmore and Piru basins assigned a **HIGH** priority ranking based primarily on their reliance on groundwater
- If local GW management does not occur, State of CA can take over management of the basin

BASIN BOUNDARIES

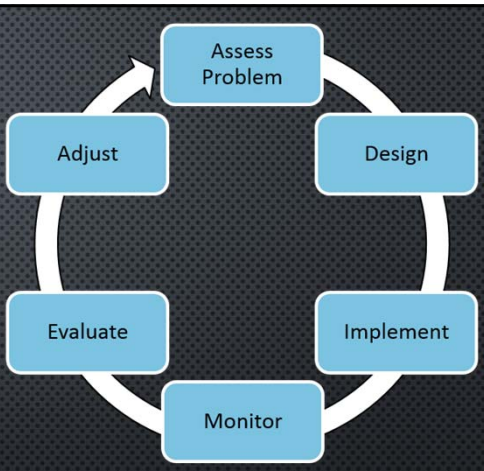


SUSTAINABILITY GOAL

- **MISSION STATEMENT:** THE FILLMORE AND PIRU BASINS GROUNDWATER SUSTAINABILITY AGENCY SAFEGUARDS THE SUSTAINABILITY OF THE FILLMORE AND PIRU BASINS THROUGH *LOCALLY TAILORED MANAGEMENT OF GROUNDWATER RESOURCES TO PROTECT AND SUSTAIN THE ENVIRONMENT, LOCAL RESIDENTS AND COMMUNITIES, AGRICULTURE, AND THE ECONOMY*.

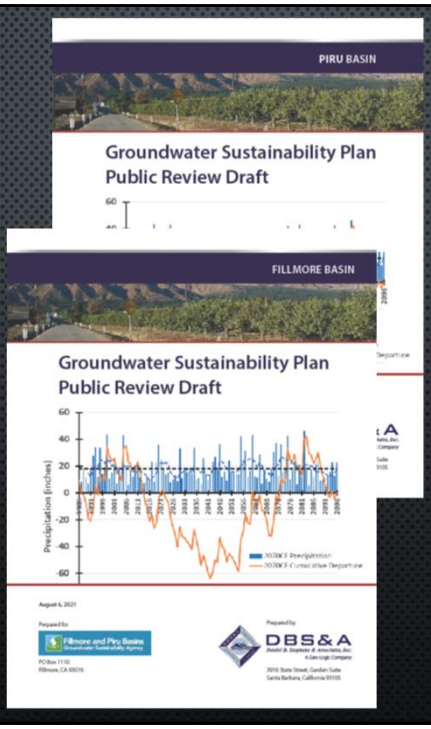
BASIC GUIDELINES

- **ADAPTIVE MANAGEMENT** - GSPS UPDATED EVERY 5 YRS WITH ANNUAL STATUS REPORTS
- DOES **NOT** IMPACT WATER RIGHTS
- NOT REQ'D TO CORRECT PAST IMPACTS (UNLESS THEY CREATE UNSUSTAINABLE CONDITIONS)
- JAN 1, 2015 CAN BE USED AS BASELINE
- GW CONDITIONS SHOULD NOT GET WORSE THAN JAN 1, 2015
- **NOT REQ'D TO RESTORE OR ENHANCE TO ACHIEVE PAST GROUNDWATER CONDITIONS**



GSP ORGANIZATION

- **SEPARATE GSP** FOR EACH OF FILLMORE AND PIRU BASINS
- **TECHNICAL APPENDICES** COMMON TO BOTH BASINS (2 VOLUMES)
- EACH GSP ~250 PAGES
- TECHNICAL APPENDICES ~2,100 PAGES
- TECHNICAL APPENDICES CONTAIN DETAILS

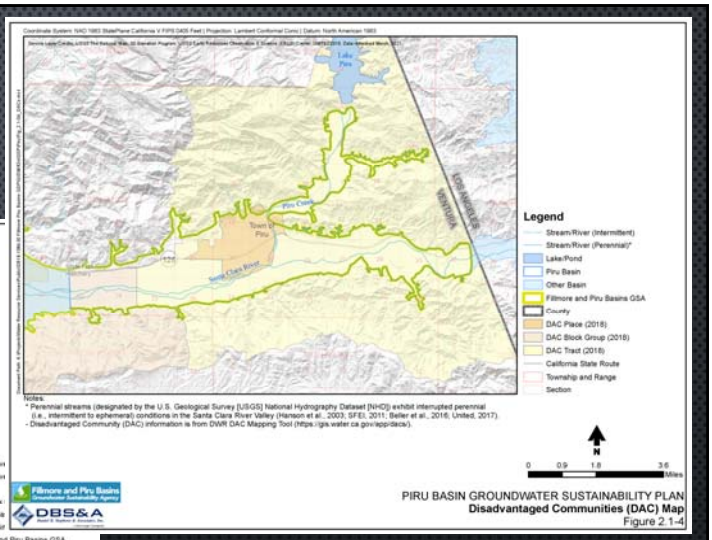


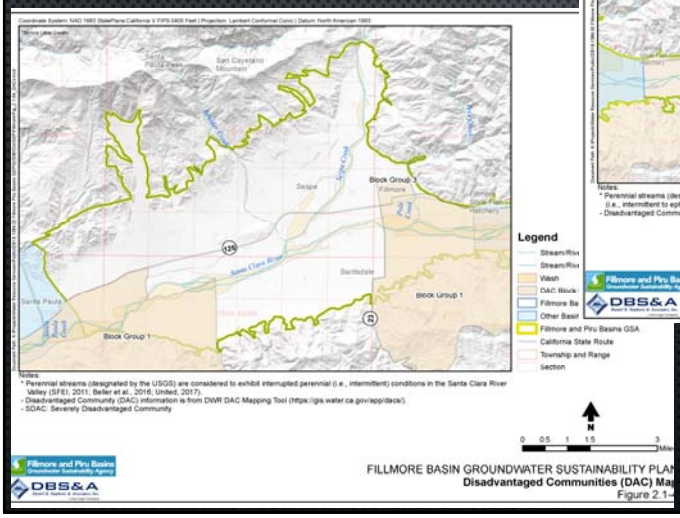
GSP FINDINGS AT A GLANCE

https://fillmore-piru.gladata.com/

- BOTH BASINS SUSTAINABLE
  - ✓ NO SEA WATER INTRUSION
  - ✓ NO CHRONIC WL DECLINE
  - ✓ NO CHRONIC DECLINE IN GW STORAGE
  - ✓ NO SUBSIDENCE
  - ✓ GROUNDWATER QUALITY DEGRADATION NOT IDENTIFIED
  - ✓ DROUGHT-INDUCED SW DEPLETION IMPACTS GREATER THAN OR EQUAL TO GW EXTRACTION IMPACTS IN AREAS OF RISING GW
- NO PUMPING REDUCTIONS NEEDED TO ACHIEVE SUSTAINABILITY
- NO WATER SUPPLY WELLS ANTICIPATED TO GO DRY EVEN WITH FUTURE CLIMATE CHANGE
- IMPACTS TO GDES AT FILLMORE-PIRU BASIN BOUNDARY TO BE MITIGATED
- GSA TO CONSIDER OPTIONAL PROJECTS TO FURTHER ENHANCE THE BASINS
- SHALLOW WATER LEVEL DATA GAPS ADDRESSED BY EXISTING DWR GRANT (NEW MONITORING WELLS)

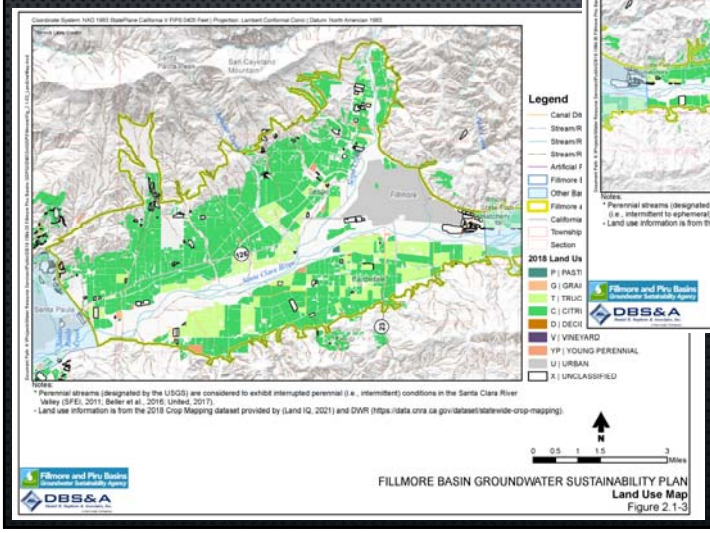
BASIN SETTING - DACs

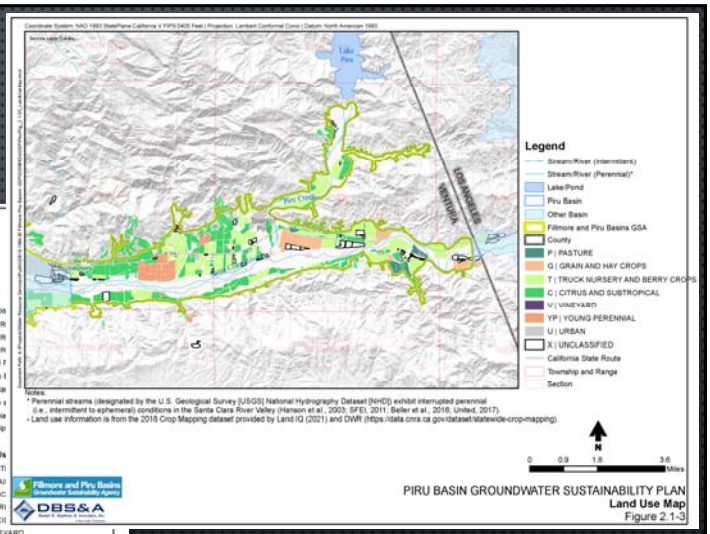




GSP SECTION 2.1.1

BASIN SETTING - LAND USE





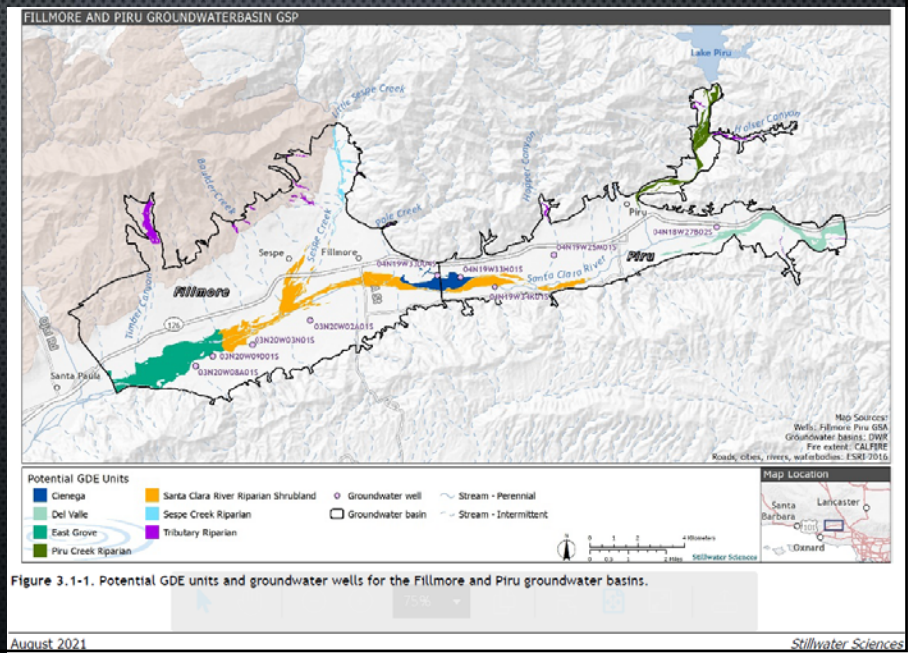
GSP SECTION 2.1.1

GROUNDWATER DEPENDENT ECOSYSTEMS

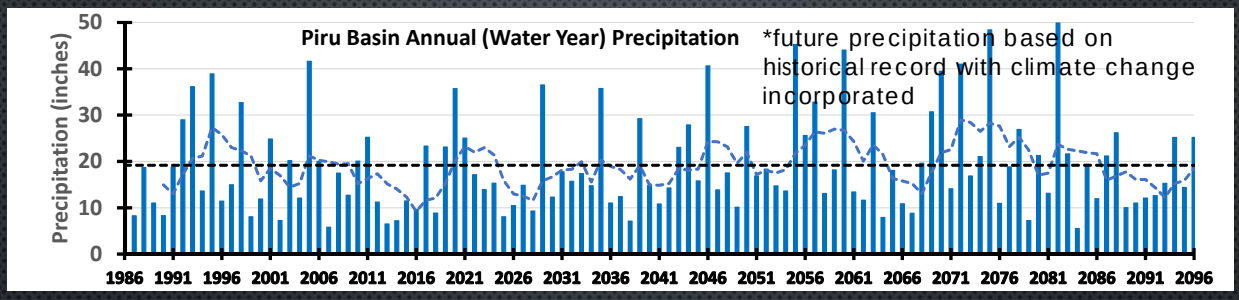
MOST IMPORTANT AREAS OF GDES

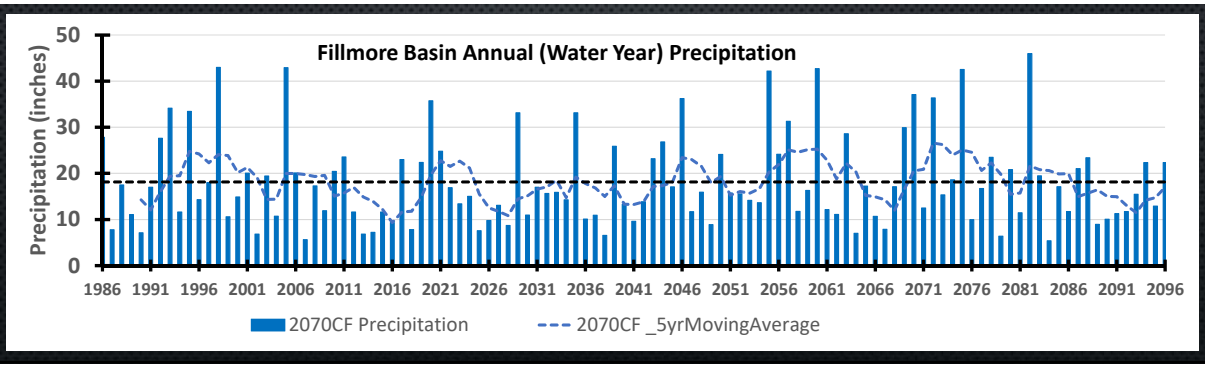
- DELL VALLE
- CIENEGA
- EAST GROVE

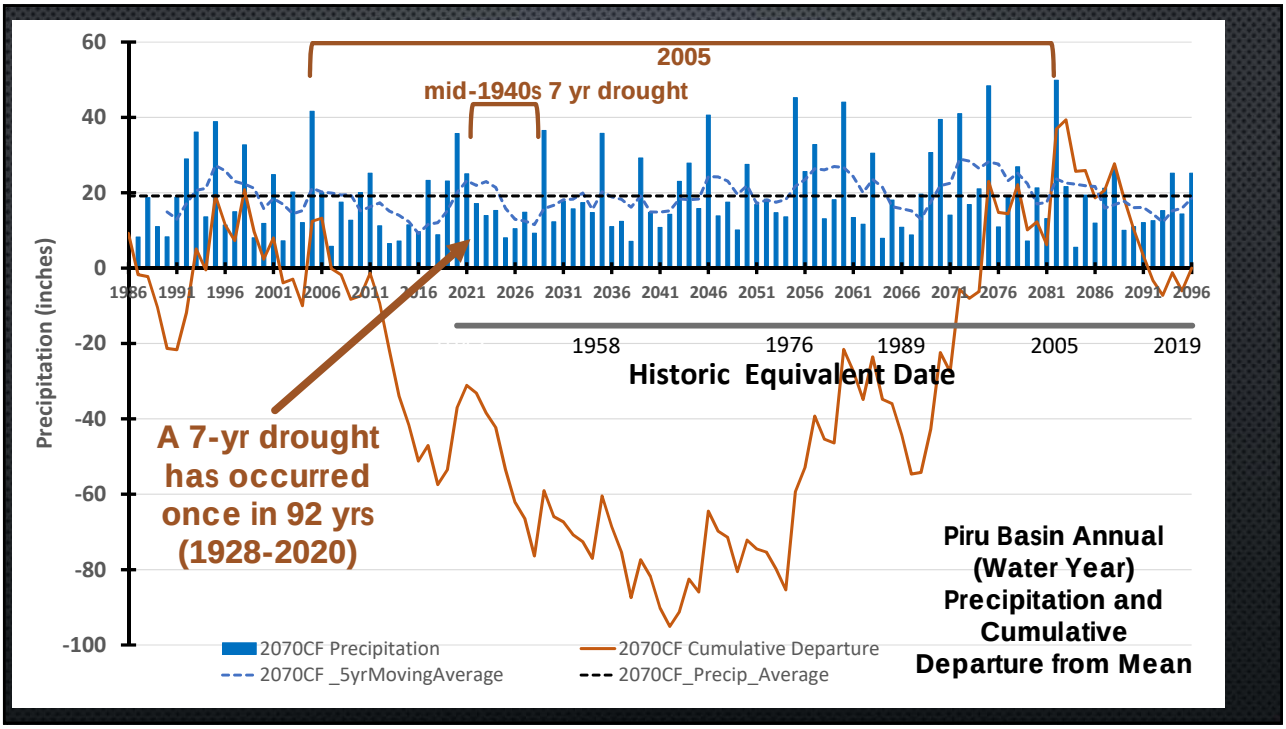
GSP SECTION 2.2.2.8
APPENDIX D

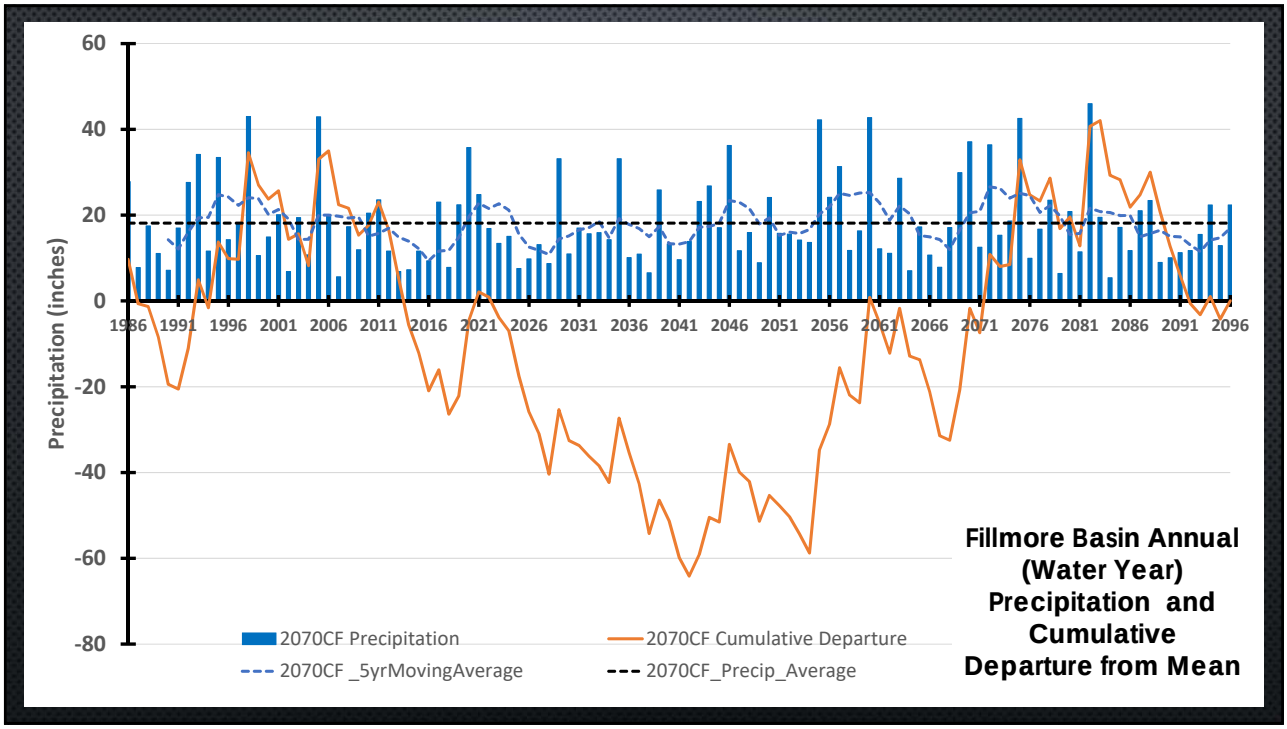


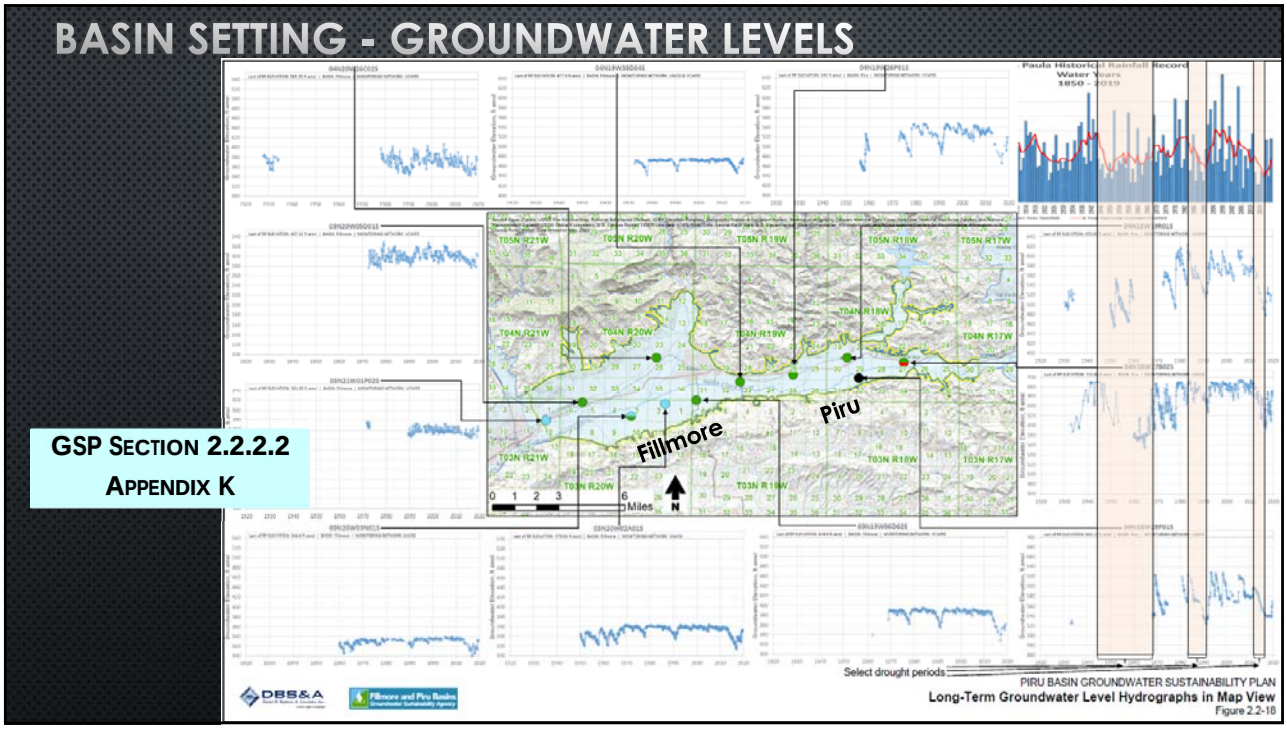
BASIN SETTING - PRECIPITATION





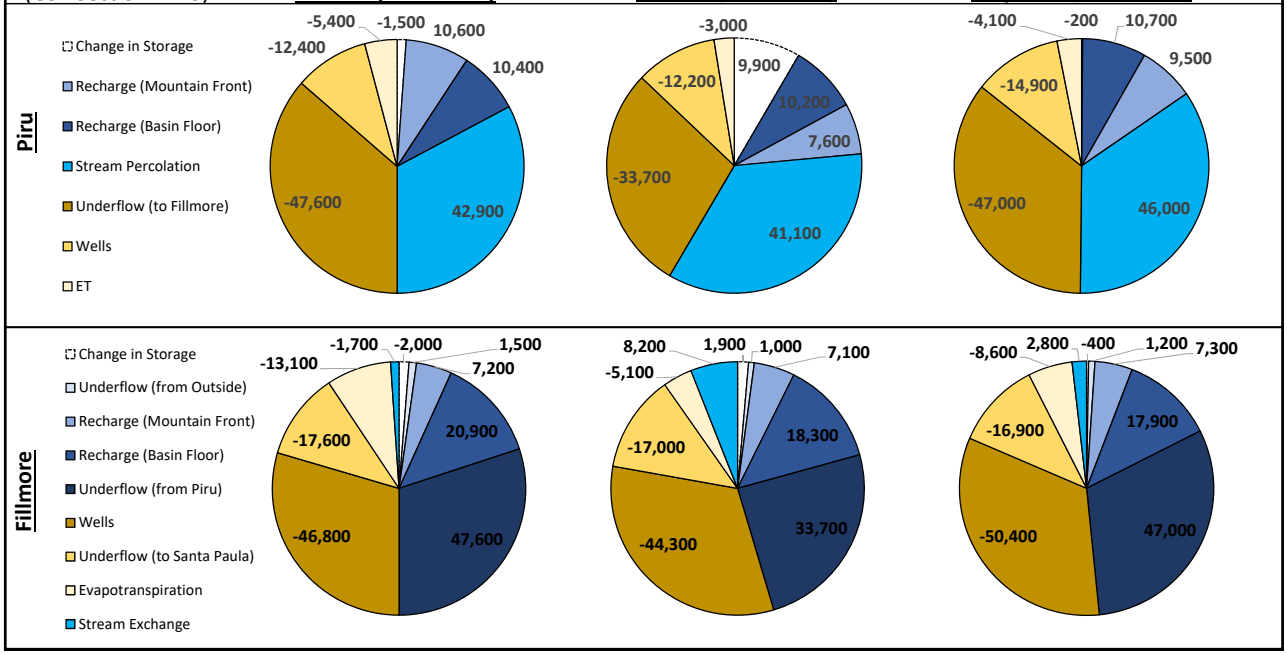



Precipitation (inches)
60
40
20
0
-20
-40
-60
-80
1986 1991 1996 2001 2006 2011 2016 2021 2026 2031 2036 2041 2046 2051 2056 2061 2066 2071 2076 2081 2086 2091 2096
2070CF Precipitation
2070CF Cumulative Departure
2070CF _5yrMovingAverage
2070CF_Precip_Average
Fillmore Basin Annual (Water Year) Precipitation and Cumulative Departure from Mean


BASIN SETTING - GROUNDWATER LEVELS
GSP SECTION 2.2.2.2
APPENDIX K
Fillmore
Piru
Select drought periods
PIRU BASIN GROUNDWATER SUSTAINABILITY PLAN
Long-Term Groundwater Level Hydrographs in Map View
Figure 2.2-18

Average Annual Groundwater Budgets (in acre-feet per year [AFY])

(GSP Section 2.2.3)



SUSTAINABLE MANAGEMENT CRITERIA (SMC)

GSP SECTION 3
APPENDIX J

- Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply if continued over the planning and implementation horizon. Overdraft during a period of drought is not sufficient to establish a chronic lowering of groundwater levels if extractions and groundwater recharge are managed as necessary to ensure that reductions in groundwater levels or storage during a period of drought are offset by increases in groundwater levels or storage during other periods
- Significant and unreasonable reduction of groundwater storage
- Significant and unreasonable seawater intrusion
- Significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water supplies
- Significant and unreasonable land subsidence that substantially interferes with surface land uses
- Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water

SOURCE: DWR (2017) DRAFT SUSTAINABLE MANAGEMENT CRITERIA BEST MANAGEMENT PRACTICES

SMC	Undesirable Results	Metric	MT	MO	Comments
GW Elevation	Loss of ability to pump GW	GW elevation	WL declines below the base of well screens in more than 25% of representative wells	GW levels at 2011 high WL	maximizes range between MT and MO
	Significant and unreasonable GDE vegetation die-off due to GSP implementation	Depth to GW at the Fillmore - Piru basin boundary	WL declines below the Critical Water Level defined as 10 ft lower than 2011 low WL*	GW levels at 2011 high WL	*when the CWL is exceeded, mitigation water (e.g., pumped GW) will be provided to CDFW for use at the Cienega Springs restoration project site, if the WL has not recovered to CWL by the subsequent May 1st
GW Storage Reduction	inadequate GW storage to last through multi-year drought without GW extraction limitations	GW elevation	WL declines below the base of well screens in more than 25% of representative wells	GW levels at 2011 high WL	maximizes range between MT and MO
SW Depletion	Surface water flow declines due to GW extractions that interfere with the beneficial use and users	Rising GW rates at the Fillmore-Piru basin boundary (Fish Hatchery area)	A MT is not applicable for this sustainability indicator.	GW levels at 2011 high WL	**Future rising GW conditions are not expected to be materially different from historical conditions.** The GSP does not propose projects or management actions that would change the operational regime of the basins. Therefore, implementation of the GSP does not cause significant and unreasonable effects.
Land Subsidence	Land subsidence amounts that interfere with infrastructure operations	Subsidence rates	Total inelastic subsidence of 1ft/yr or 1ft over 5 yrs	Inelastic subsidence rates within +/- 0.1 ft/yr as determined by InSAR	Monitor subsidence amount - InSAR data from DWR; study to identify susceptible infrastructure (e.g., long-span bridges, gravity sewage systems) for 5 yr GSP update
Degraded WQ	Water quality degradation that impairs the beneficial use of the resource	WQ values	Water quality parameters established in existing or future regulations	FPBGSA is not a water purveyor and lacks regulatory authority for WQ compliance, but will cooperate with appropriately empowered entities	GSP SECTION 3 APPENDIX J
Seawater Intrusion	NA	NA	NA	NA	

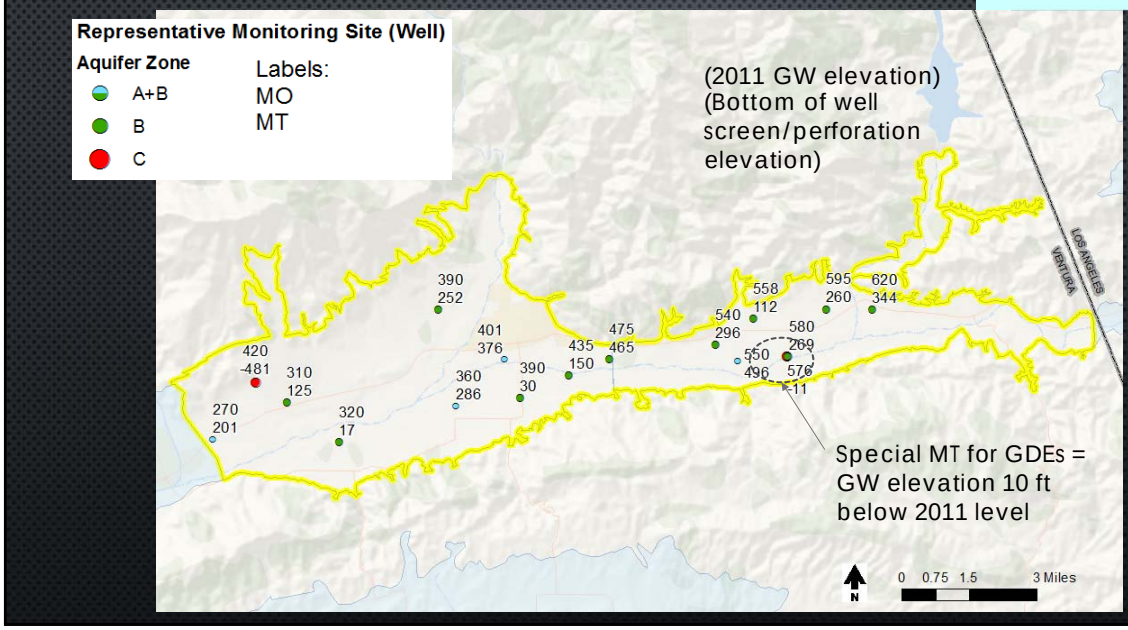
SEA WATER INTRUSION

GSP SECTIONS 2.2.2.4 & 3
APPENDIX J

- NOT APPLICABLE - TOO FAR FROM COAST

GROUNDWATER LEVELS

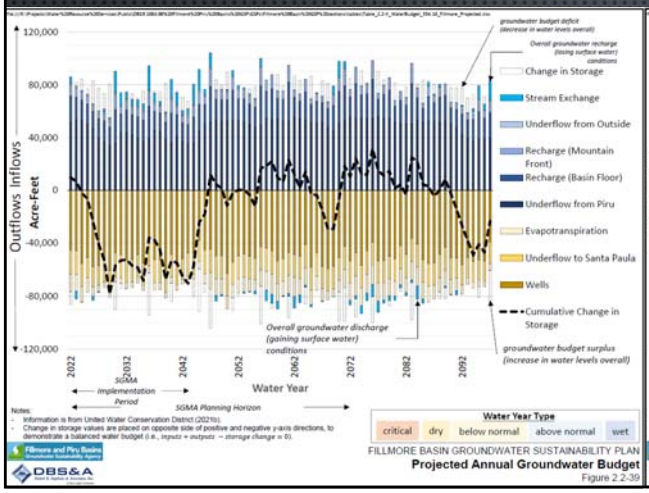
GSP SECTION 3
APPENDIX J



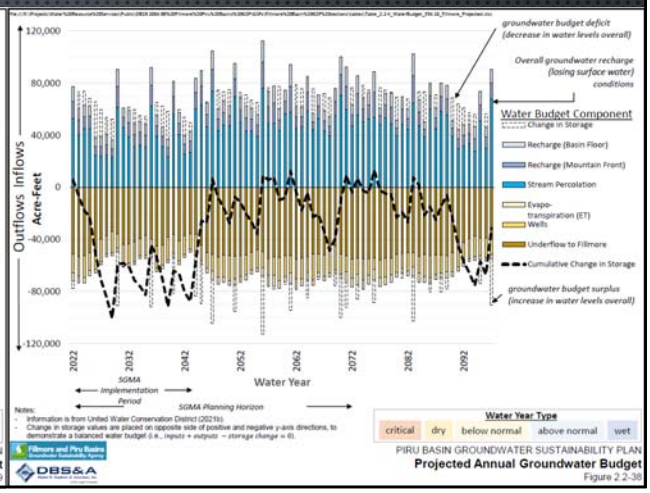
GROUNDWATER STORAGE

GSP SECTION 3
APPENDIX J

FILLMORE



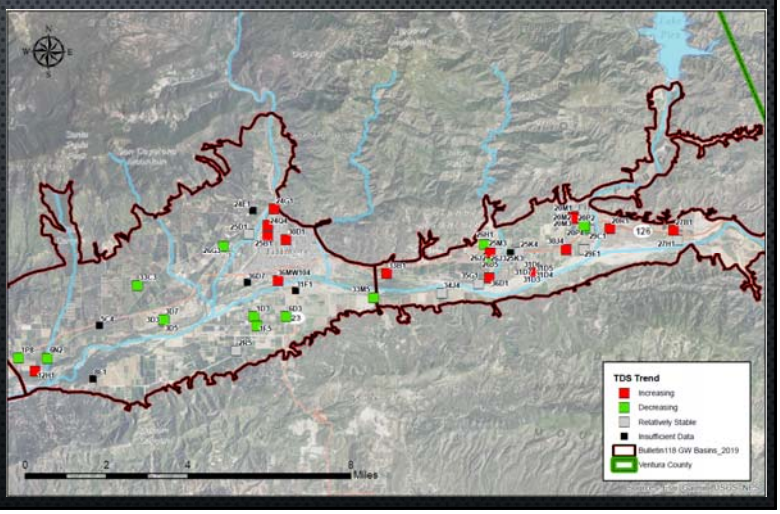
PIRU



WATER QUALITY DEGRADATION

GSP SECTION 3
APPENDIX J

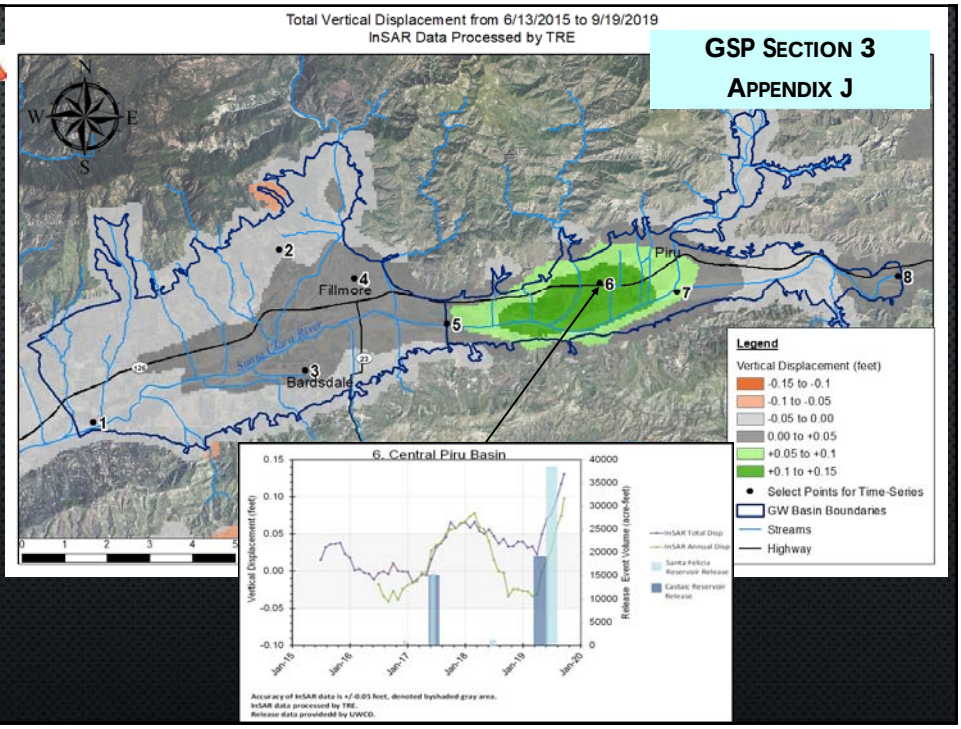
- GSA DOES NOT HAVE AUTHORITY OVER WQ - LARWQCB BASIN PLAN
- NO MAJOR MAN-MADE CONTAMINATION SITES
- CHLORIDES FROM SCV WW EFFLUENT
- NATURALLY OCCURRING CONSTITUENTS (SULFATE, BORON, TDS...) WITH GOALS IN BASIN PLAN
- **GSP DOES NOT PROPOSE ANY ACTIONS THAT WOULD BE EXPECTED TO DEGRADE WQ**



SUBSIDENCE

GSP SECTION 3
APPENDIX J

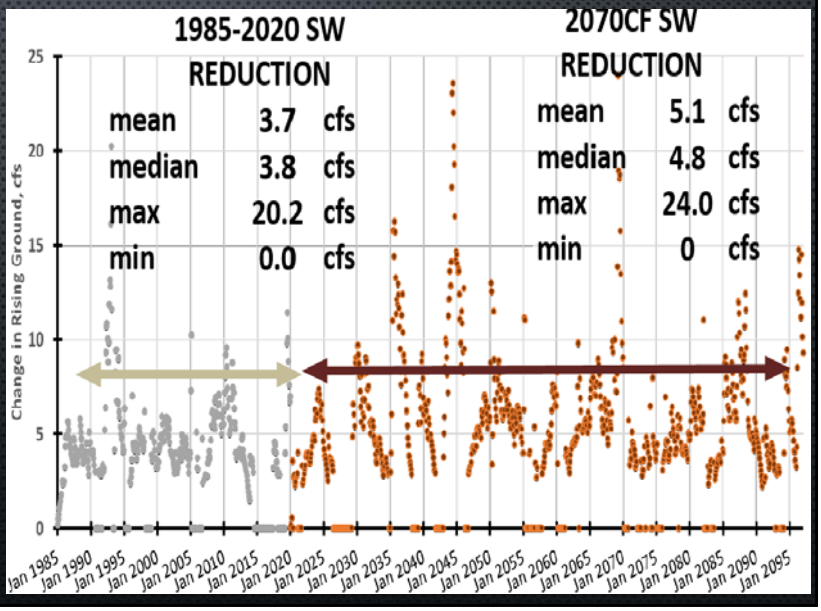
- NO HISTORICAL RECORD OF SUBSIDENCE
- GROUNDWATER LEVELS NOT EXPECTED TO DECLINE TO LEVELS TO PROMOTE SUBSIDENCE IN FUTURE



SURFACW WATER DEPLETIONS

GSP Section 3
Appendix J

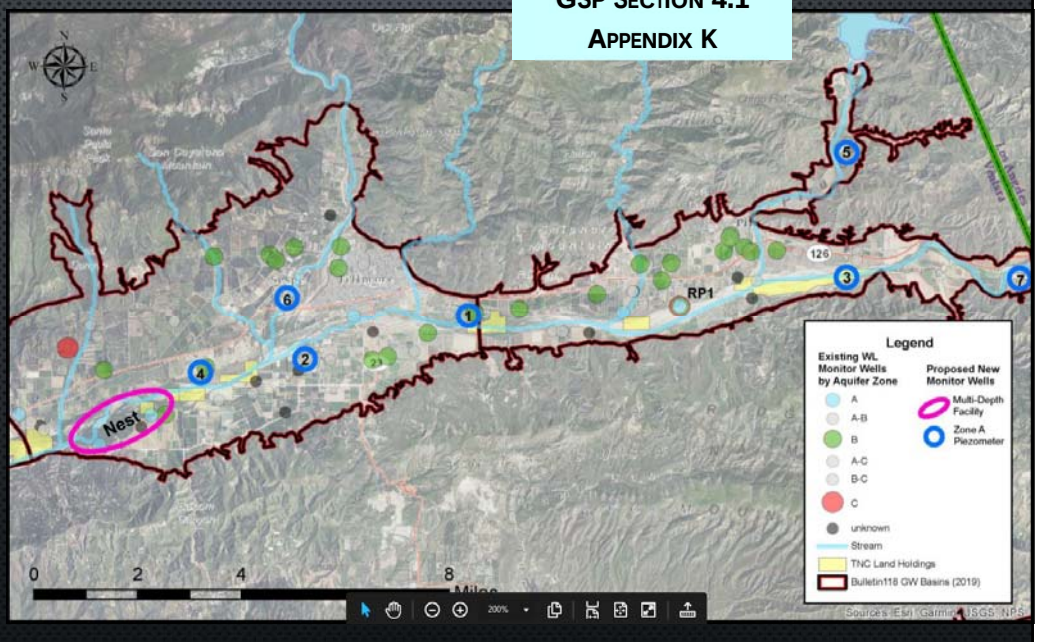
- SW depletions are not expected to be materially different in the future near Cienega (Fillmore/Piru basin boundary)



DATA GAPS

GSP Section 4.1
Appendix K

- Lack of shallow GW monitoring wells
- Nested well to monitor vertical gradients



PROJECTS / MANAGEMENT ACTIONS

GSP SECTION 4

1. DEVELOP MITIGATION PLAN FOR GDE VEGETATION
   - GSA PROVIDES SUPPLEMENTAL GROUNDWATER TO CIENEGA SPRINGS RESTORATION SITE
2. CONSTRUCT SHALLOW MONITORING WELLS AT CIENEGA SPRINGS RESTORATION SITE
   - GSA TO CONSTRUCT SHALLOW MWS TO ASSIST WITH RESTORATION PROGRAM USING EXISTING GRANT FUNDS
3. CONSTRUCT SHALLOW MONITORING WELLS TO FILL DATA GAPS ELSEWHERE
   - GSA TO CONSTRUCT SHALLOW MWS TO USING EXISTING GRANT FUNDS
4. CONSIDER CREATING A DISCRETIONARY FUND TO PURCHASE SUPPLEMENTAL WATERS
   - SUPPLEMENTAL WATERS ONLY AVAILABLE SPORADICALLY
5. CONSIDER AUGMENTING WATER QUALITY MONITORING NETWORK
   - TO FILL DATA GAPS
6. CONSIDER CREATING NON-NATIVE VEGETATION REMOVAL PROGRAM
7. CONSIDER PERFORMING SUBSIDENCE INFRASTRUCTURE VULNERABILITY EVALUATION

NEXT STEPS

- UPDATE GSPS BASED ON STAKEHOLDER REVIEW COMMENTS
- ISSUE DRAFT FINAL GSPS FOR GSA BOARD OF DIRECTORS TO CONSIDER FOR ADOPTION (DEC 2021)
- **FILE WITH DWR BY END OF JAN 2022**

Task Name	Duration	Start	Finish
GSP Implementation Schedule2	**695 days**	**Sun 8/1/21**	**Mon 4/1/24**
GSP submitted to DWR	0 days	Mon 1/31/22	Mon 1/31/22
Annual Reports	**564 days**	**Tue 2/1/22**	**Mon 4/1/24**
Prepare 2021 Anual Report	43 days	Tue 2/1/22	Thu 3/31/22
Submit 2021 Annual Report to DWR	0 days	Fri 4/1/22	Fri 4/1/22
Prepare 2022 Anual Report	66 days	Sun 1/1/23	Fri 3/31/23
Submit 2022 Annual Report to DWR	0 days	Mon 4/3/23	Mon 4/3/23
Prepare 2023 Anual Report	65 days	Mon 1/1/24	Fri 3/29/24
Submit 2023 Annual Report to DWR	0 days	Mon 4/1/24	Mon 4/1/24
Project and Management Actions	**630 days**	**Sun 8/1/21**	**Sun 12/31/23**
1- Develop Mitigation Plan for vegetative GDEs - Supplemental groundwaer to Cienga Springs restoration program	133 days	Tue 2/1/22	Thu 8/4/22
2 - Construct Shallow Monitoring Wells at Cienega Springs restoration project site	109 days	Wed 9/1/21	Mon 1/31/22
3 - Construction of Shallow Montioring Wells	109 days	Wed 9/1/21	Mon 1/31/22
4 - Consider creating discretionary fund to Purchase Supplemental Waters	89 days	Tue 3/1/22	Fri 7/1/22
5 - Consider augmenting Water Quality Monitoring Network	110 days	Tue 3/1/22	Mon 8/1/22
6 - Consider creating Non-Native Vegetation Removal Program	132 days	Mon 5/2/22	Tue 11/1/22
7 - Consider performing Subsidence Infrastructure Vulnerability Evaluation	154 days	Fri 7/1/22	Wed 2/1/23
FPBGSA Administration	632 days	Sun 8/1/21	Sun 12/31/23
Groundwater Monitoring - WLs & WQ	632 days	Sun 8/1/21	Sun 12/31/23
Surface Water Monitoring - Flow & WQ	632 days	Sun 8/1/21	Sun 12/31/23
Data Management & Online DMS Updates	632 days	Sun 8/1/21	Sun 12/31/23