

VIX. A.



MEMORANDUM

TO: SLDMWA Board of Directors, Alternates

FROM: John Brodie, Water Resource Programs Manager
Joe McGahan, Regional Drainage/Westside Watershed Coalition Coordinator

DATE: April 8, 2021

RE: Activity Agreements – Staff Report for March 2021

This memorandum serves as the Staff Report for March 2021 regarding specified¹ Water Authority activities not separately addressed on the Board meeting agenda.

1. Integrated Regional Water Management (IRWM) Activity Summary

San Joaquin River Funding Area (SJRSA)

Work continues to implement the SJRSA Disadvantaged Community Involvement Program (DACIP). SLDMWA staff, in consultation with the IRWM Technical Advisory Committee, advanced the City of Newman Newman Environmental Wetland System (NEWS) project to be the recipient of the Proposition 1 Phase 2 DACIP grant recipient for the SJRSA. The project continues to move forward and staff is coordinating between the City of Newman and Contra Costa Water District, who acts as the grant administrator for the DACIP grant. Current work is focused on securing environmental documents and permits; and the project’s design, construction and landscape plans are all in progress.

Tulare-Kern Funding Area (TKFA)

SLDMWA completed a grant agreement with DWR for Proposition 1 Round 1 funding for the Westside San Joaquin Region. It includes funding for four projects within the SJRSA and one project within the TKFA. A kick-off meeting with the project proponents is scheduled later this month.

General Westside-San Joaquin Integrated Regional Water Management Plan (IRWMP)

SLDMWA staff is finalizing an informational sheet which will be used to highlight the accomplishments of the Westside-San Joaquin IRWM Region, which includes bringing more than \$31.4 million in state funding to the region for projects and leveraging nearly \$110.1 million in local capital. These advocacy pages will be used to increase public awareness of the benefits of

¹ For the sake of completeness, this includes those Activity Agreements that have been approved by the Board of Directors, but not yet signed by all interested members and/or participants (i.e., the Los Vaqueros Expansion Project Activity Agreement, the Exchange Contractors 2019-2023 Transfer Program Activity Agreement, and the Westside-San Joaquin Integrated Regional Water Management Activity Agreement).

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the IRWM program to the region and to promote continued funding of the IRWM program to policymakers.

SLDMWA staff participated in the IRWM Roundtable of Regions regular and DACI working group meetings, where topics included a presentation on the Water Resilience Portfolio by the California Natural Resources Agency and an update on the timeline for Proposition 1 Round 2 grant funding. DWR anticipates releasing a final proposal solicitation package (PSP) for this funding in late 2021, with award announcements anticipated in 2022. SLDMWA staff will issue a "Call for Projects" to update the Opti database with current projects and update project ranking criteria in advance of the grant submittal deadline.

2. Sustainable Groundwater Management Activity (SGMA) Activity Summary

Northern and Central Delta-Mendota Regions

County representatives in the Northern and Central Regions continue to discuss a process for having GSAs provide input on well permit applications within the GSA boundaries. GSA representatives in Stanislaus County are waiting to do a preliminary trial of their review process once a new well application is received by the County. A similar meeting for Merced County was held in early February. Merced County officials intend to hold meetings with individual GSAs as they look to possibly rewrite the county's well ordinance. The ordinance rewrite could occur as soon as the middle of the year. Fresno County officials are reviewing a legal decision before deciding how to proceed on this topic.

The Northern and Central Management Committees held their regular monthly meeting at the end of March. During this meeting, the Committees reviewed and provided approval for the Subbasin's Consolidated Water Year 2020 (WY2020) Annual Report. A summary of Subbasin conditions indicate that during WY2020, the Subbasin experienced a slight reduction in groundwater storage. Groundwater quality monitoring throughout the Subbasin showed sustainable conditions at most sites. However, several groundwater quality sites could not be sampled due to access issues, lack of pumps, or miscommunication. Several GSP groups have adjusted their groundwater quality networks to account for sites that could not be accessed or sampled this past year. Additionally, the Northern and Central Regions continue to collect and share data for the Regions' well census and inventory project, which aims to locate and identify wells that may support ongoing monitoring efforts.

Staff and consultants are scheduling meetings with Northern and Central GSA representatives to go over the agencies' first quarter 2021 Tracking Tool for GSP implementation. The tools help GSAs and member agencies stay on track with monitoring, SGMA compliance and GSP implementation tasks.

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General SGMA Activities

The Delta-Mendota Subbasin's Consolidated Water Year 2020 (Oct. 1, 2019 - Sep. 30, 2020) Annual Report was submitted to the Department of Water Resources on April 1, 2021, meeting the state's submission deadline. The Coordination Committee held a special meeting in late March for final review and approval of the Annual Report. The various Groundwater Sustainability Agencies (GSAs) are in the monitoring window for the Seasonal High Groundwater levels, which closes at the end of April.

A kickoff meeting will be scheduled this month with GSI Environmental Inc. to begin a subsidence characterization and project feasibility study for the Subbasin. The consulting team will meet with the Subbasin Technical Working Group to discuss data needs and possible data sources. The study will be supported by funds from the Subbasin's Proposition 68 Sustainable Groundwater Management (SGM) grant.

The second of three planned inter-basin coordination meetings is scheduled later this month. The Subbasin's Facilitation Support Services (FSS) program provides support for inter-basin coordination efforts through a program with DWR and facilitators from Stantec. Representatives from the Delta-Mendota Subbasin are meeting with counterparts from the Chowchilla, Madera, and Merced Subbasins. The first meeting focused on defining SGMA terminology of regional importance; and identifying discussion topics for future meetings. Each Subbasin is expected to make a short (15-minute) presentation to include information on subsidence rates and impacts, key areas that must be addressed, and how subsidence is reflected in the Subbasin's GSP.

Staff participated in informational workshops and webinars including the Flood Managed Aquifer Recharge (FloodMAR) Network, and on the California Groundwater Update (Bulletin 118) 2020 Update.

3. Drainage Activity Summary

Grassland Basin Drainage Management Steering Committee Activity Summary

- Drainage Management Plan Revision – The Grassland Basin Drainers (GBD) were required to submit a Drainage Management Plan to the Regional Board on December 6, 2021. This was an update to the 2003 Westside Regional Drainage Plan. The Regional Board sent the Plan out for public comment, hosted a public meeting and subsequently requested a revision to the Plan by May 31, 2021, addressing control and treatment, operation and maintenance procedures, critical milestones, compliance with boron and molybdenum objectives and the long-term approach.
- Wetland Mitigation Fund – the GBD have been working with the local wetland managers and Reclamation to develop projects to fund wetland area improvements using funds accumulated during the 2009 Use Agreement. The funds amounts to \$435,245. Currently, the process is waiting for Reclamation to receive approval from the Oversight Committee. A Memorandum of Understanding will need to be developed and approved by the Authority at a subsequent meeting.

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- Threat to Fish Report – The GBD are required to submit a report on July 31, 2021 under Section 13267 of the California Water Code that would include all data available on fish tissue sampling since the beginning of the Grassland Bypass Project since 1996. The request focuses on selenium and was in part triggered by deformed split tail found at the federal pumps in 2011. Consultants have been retained and some sampling is to occur this spring to augment this report.
 - Mud Slough Mitigation Project – the project to restore Mud Slough (north) flows to the Newman Lake north of Highway 140 is ongoing. A CEQA Initial Study is being developed for the project and will be circulated for public comment in late April/ early May. Once the public comments are reviewed and addressed, it is anticipated that the Authority will be asked to approve the project in June 2021. After CEQA approval permits will be submitted to the State Water Resources Control Board, the Corps of Engineers and the California Department of Fish and Wildlife.
 - Other ongoing activities – continue to review GBD invoices, manage storm flow activities, prepare annual monitoring reports, and data management and management of the Third Party Group for the Grassland Drainage Area Coalition to implement the Irrigated Lands Regulatory Program.

San Joaquin Valley Drainage Authority Activity Summary

- Continue management of the Westside San Joaquin River Watershed Coalition to comply with the Irrigated Lands Regulatory Program. Follow up calls and emails were answered to assist farmers in completing their paperwork requirements. Manage field monitoring program and provide update of the management plan to the Regional Board. Review invoices from consultants and prepare letters to administrative staff. Continue to update membership database. Prepare video for annual outreach and management plan compliance.
- Assist grower members in completing the required reporting forms.
- Participate in group conference calls regarding surface and groundwater management plans, groundwater protection formulas and the CV Salts prioritization and optimization studies. Prepare outreach plan. Meet with Regional Board and consultants on status of compliance issues including monitoring and management plans.
- Prepare mailing to farmer members regarding the Irrigation and Nitrogen Management Plan and nitrogen application reporting. Manage consultants revision of the web portal so farmers could report on line.
- Prepare annual San Joaquin River chlorpyrifos and diazinon report. Manage ongoing monitoring.
- Management continued for the Prop 84 Real Time Management Program Grant for compliance with the San Joaquin River Salt and Boron TMDL. Follow up and direct field work in northerly stations.

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VIX. A.

INTEGRATED REGIONAL WATER MANAGEMENT Westside-San Joaquin IRWM Region



Region At-A-Glance

Region Description

The Westside-San Joaquin IRWM (WSJ IRWM) Region is nearly 2,000 square miles of land between the San Joaquin River on the east and Coastal Mountain range to the west, stretching from the City of Tracy south to Kettleman City. The Region spans two funding areas: San Joaquin River Funding Area (SRJFA) and Tulare-Kern Funding Area (TKFA).

Counties Within the Region

The Region includes parts of San Joaquin, Stanislaus, Merced, Madera, Fresno, and Kings counties. This includes approximately 1.2 million acres of the state's most productive agricultural land and 200,000 acres of managed wetlands of importance to the Pacific Flyway.

Governance Description

The San Luis & Delta-Mendota Water Authority (SLDMWA) serves as the Regional Water Management Group (RWMG) for the WSJ IRWM Region, and is governed by its 19-member Board of Directors. Board members are selected from the 27 member agencies that created SLDMWA as a Joint Powers Authority in 1992.

Population Served

2,000,000

IRWM Funding Brought to the Region

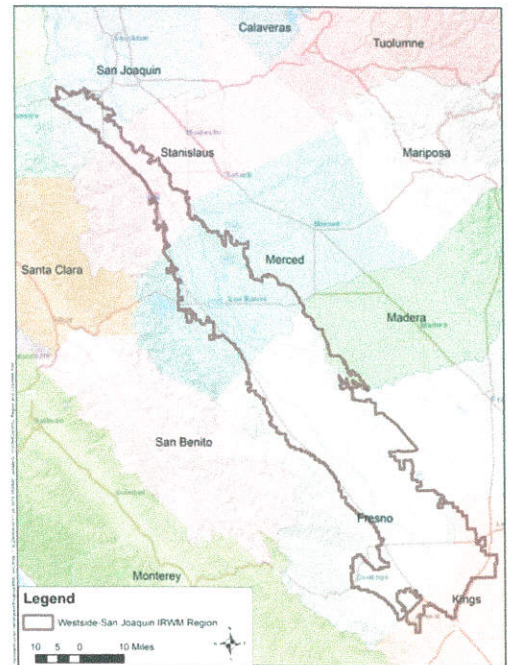
\$31,421,415

Amount of Funding Leveraged by Locals

\$109,095,088

California Senate and Assembly Districts

SD5, SD7, SD12, SD16
AD11, AD12, AD13, AD14,
AD16, AD21, AD31, AD32



Top Region Priorities

- Increase the reliability of surface water supplies and achieve groundwater balance, while reducing dependence on the Sacramento-San Joaquin Delta.
- Advance collaborative solutions to water management challenges that promote socioeconomic diversity while maintaining existing industries and ecosystems.
- Improve regional self-reliance for water via investments that include: water use efficiency, water recycling, advanced water technologies, and coordination of local and regional efforts.



Region Successes and Highlights

1. Completion of disadvantaged community (DAC) Needs Assessments within both funding areas, including development of a web-based community water needs assessment tool for the TKFA. The DAC Needs Assessments helped identify projects for funding for the City of Huron (TKFA) and City of Newman (SJRFA).
2. IRWM funding has supported the North Valley Regional Recycled Water Program (NVRWP), a project that utilizes unclaimed recycled water with the purpose of increasing water availability for agricultural and refuge uses. The NVRWP created a partnership with municipalities, agricultural, and environmental users to utilize an untapped water source to improve regional water reliability.
3. The WSJ IRWM Region has supported increased stakeholder engagement through the development of the 2018 IRWM Plan and 2020 Stormwater Resource Plan (SWRP). Public meetings and outreach were primary components of each process to solicit project information and detail from community members.

Region Contact

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SUMMERS ENGINEERING

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MEMORANDUM

TO: Joe McGahan
FROM: Orvil Mckinnis
DATE: March 30, 2021
SUBJECT: WSJRWC Work Task Progress

Here is my current Task List:

- Finishing the video to be used to meet the Annual Grower Meeting requirement. It is contemplated that the video will be posted for grower viewing around 4/5/2021. A postcard sized notice will be sent to growers with the login and viewer verification information. Growers will have until 6/30/2021 to view the video and provide back the verification card.
- Working with CURES to re-contact the Crop-year 2019 Focused Outreach growers who have not returned the questionnaire. Deficient growers will be reported to the Regional Board through the Annual report on 6/30/2021. I expect the Regional Board to take some kind of action against the deficient growers.
- Creating surface water Focused Outreach presentation for Crop-year 2020 for the Blewitt Drain and Mud Slough sub-watersheds. Coordinating with CURES and MLJ to provide them an updated contact list to minimize packets being returned as undeliverable. Working through the details with MLJ and CURES of several small group meetings using the current COVID-19 policies and guidelines.
- Continuing work on groundwater Focused Outreach presentation and finalizing the details for an in-person (5 individuals) meeting using current COVID-19 policies and guidelines.
- Continuing to receive and process FE and INMPSR forms from growers. The INMPSR is due 4/15/2021 and the FE was due 3/1/2021.
- Assisting growers with the on-line portal to meet their 3 CEUs requirement to maintain their INMP self-certification qualification by the 6/15/2021 deadline.
- Coordinating with various MLJ staff to provide them with Coalition data and documents for the preparation of the Annual Monitoring Report that is due 6/30/2021.

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Westside San Joaquin River Watershed Coalition

Water Quality Value Exceedances for the period of 2/1/2021 to 2/28/2021

Salt Slough at Lander Ave

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Boron	173	2/9/2021	900	ug/L		800	
EC	173	2/9/2021	1761	µmhos/cm		900	
Flow	173	2/9/2021	245	cfs		0	

Salt Slough at Sand Dam

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
EC	173	2/9/2021	922	µmhos/cm		900	
Flow	173	2/9/2021	11.8	cfs		0	

San Joaquin River at Lander Ave

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Flow	173	2/9/2021	78	cfs		0	

San Joaquin River at PID Pumps

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Boron	173	2/9/2021	1500	ug/L		800	
EC	173	2/9/2021	1015	µmhos/cm		900	
Flow	173	2/9/2021	945	cfs		0	

San Joaquin River at Sack Dam

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Flow	173	2/9/2021	103	cfs		0	

WQV = Water Quality Value as established by the Central Valley Regional Water Quality Control Board

DNQ = Detected, Not Quantifiable

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Westside San Joaquin River Watershed Coalition

Water Quality Value Exceedances for the period of 2/1/2021 to 2/28/2021

Delta Mendota Canal at DPWD

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Flow	173	2/9/2021	900	cfs		0	

Los Banos Creek at China Camp Road

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Boron	173	2/9/2021	2000	ug/L		800	
DO	173	2/9/2021	1.8	mg/l			5
EC	173	2/9/2021	2193	µmhos/cm		900	
Flow	173	2/9/2021	5.4	cfs		0	
Molybdenum	173	2/9/2021	14	ug/L		10	

Los Banos Creek at Hwy 140

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Boron	173	2/9/2021	1500	ug/L		800	
E. Coli	173	2/9/2021	686.7	MPN/100 mL		235	
EC	173	2/9/2021	1854	µmhos/cm		900	
Flow	173	2/9/2021	129.6	cfs		0	

Mud Slough Upstream of San Luis Drain

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Boron	173	2/9/2021	1700	ug/L		800	
EC	173	2/9/2021	2157	µmhos/cm		900	
Flow	173	2/9/2021	176	cfs		0	
Molybdenum	173	2/9/2021	16	ug/L		10	

Newman Wasteway near Hills Ferry Road

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Boron	173	2/9/2021	1300	ug/L		800	
DO	173	2/9/2021	3.2	mg/l			5
E. Coli	173	2/9/2021	547.5	MPN/100 mL		235	
EC	173	2/9/2021	2388	µmhos/cm		900	
Flow	173	2/9/2021	0	cfs		0	

Poso Slough at Indiana Ave

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
EC	173	2/9/2021	949	µmhos/cm		900	
Flow	173	2/9/2021	3.2	cfs		0	

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Westside San Joaquin River Watershed Coalition

Water Quality Value Exceedances for the period of 1/29/2021 to 1/31/2021

Salt Slough at Sand Dam

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Flow	R29	1/29/2021	52.8	cfs		0	

San Joaquin River at Lander Ave

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Flow	R29	1/29/2021	422	cfs		0	

San Joaquin River at PID Pumps

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
E. Coli	R29	1/29/2021	1553.1	MPN/100 mL		235	
Flow	R29	1/29/2021	1080	cfs		0	
pH	R29	1/29/2021	8.6			8.5	6.5

San Joaquin River at Sack Dam

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Flow	R29	1/29/2021	128	cfs		0	

WQV = Water Quality Value as established by the Central Valley Regional Water Quality Control Board

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Westside San Joaquin River Watershed Coalition

Water Quality Value Exceedances for the period of 1/29/2021 to 1/31/2021

Marshall Road Drain near River Road

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Arsenic	R29	1/29/2021	12	ug/L		10	
DO	R29	1/29/2021	4.99	mg/l			5
E. Coli	R29	1/29/2021	2419.6	MPN/100 mL		235	
Flow	R29	1/29/2021	10.8	cfs		0	

Mud Slough Upstream of San Luis Drain

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Boron	R29	1/29/2021	1400	ug/L		800	
E. Coli	R29	1/29/2021	613.1	MPN/100 mL		235	
EC	R29	1/29/2021	1951	µmhos/cm		900	
Flow	R29	1/29/2021	688	cfs		0	
Molybdenum	R29	1/29/2021	18	ug/L		10	

Newman Wasteway near Hills Ferry Road

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
E. Coli	R29	1/29/2021	648.8	MPN/100 mL		235	
Flow	R29	1/29/2021	237.6	cfs		0	

Orestimba Creek at Farm Bridge

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
E. Coli	R29	1/29/2021	2419.6	MPN/100 mL		235	
Flow	R29	1/29/2021	8.1	cfs		0	

Poso Slough at Indiana Ave

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
E. Coli	R29	1/29/2021	579.4	MPN/100 mL		235	
Esfenvalerate/Fenvalerate	R29	1/29/2021	0.009	ug/L		0.00001	
Flow	R29	1/29/2021	5	cfs		0	

Ramona Lake near Fig Avenue

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
DO	R29	1/29/2021	4.08	mg/l			5
Flow	R29	1/29/2021	2.2	cfs		0	
pH	R29	1/29/2021	8.54			8.5	6.5

Salt Slough at Lander Ave

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Boron	R29	1/29/2021	1100	ug/L		800	
EC	R29	1/29/2021	1495	µmhos/cm		900	
Flow	R29	1/29/2021	493	cfs		0	

WQV = Water Quality Value as established by the Central Valley Regional Water Quality Control Board

DNQ = Detected, Not Quantifiable

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Westside San Joaquin River Watershed Coalition

Water Quality Value Exceedances for the period of 1/29/2021 to 1/31/2021

Blewett Drain at Highway 132

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
E. Coli	R29	1/29/2021	829.7	MPN/100 mL		235	
Flow	R29	1/29/2021	1.4	cfs		0	

Del Puerto Creek near Cox Road

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
E. Coli	R29	1/29/2021	920.8	MPN/100 mL		235	
Flow	R29	1/29/2021	60.8	cfs		0	
Hyaella azteca	R29	1/29/2021	53.33	%	yes		
pH	R29	1/29/2021	8.54			8.5	6.5

Delta Mendota Canal at DPWD

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Flow	R29	1/29/2021	360	cfs		0	

Hospital Creek at River Road

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
E. Coli	R29	1/29/2021	517.2	MPN/100 mL		235	
Flow	R29	1/29/2021	10.8	cfs		0	
Hyaella azteca	R29	1/29/2021	0	%	yes		

Ingram Creek at River Road

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Boron	R29	1/29/2021	1400	ug/L		800	
E. Coli	R29	1/29/2021	2419.6 >	MPN/100 mL		235	
Flow	R29	1/29/2021	16.2	cfs		0	
Hyaella azteca	R29	1/29/2021	0	%	yes		

Los Banos Creek at China Camp Road

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Boron	R29	1/29/2021	1400	ug/L		800	
E. Coli	R29	1/29/2021	2419.6 >	MPN/100 mL		235	
EC	R29	1/29/2021	1738	µmhos/cm		900	
Flow	R29	1/29/2021	1.5	cfs		0	
Molybdenum	R29	1/29/2021	14	ug/L		10	

Los Banos Creek at Hwy 140

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
E. Coli	R29	1/29/2021	410.6	MPN/100 mL		235	
EC	R29	1/29/2021	1187	µmhos/cm		900	

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Westside San Joaquin River Watershed Coalition

Water Quality Value Exceedances for the period of 1/1/2021 to 1/28/2021

Newman Wasteway near Hills Ferry Road

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Boron	172	1/12/2021	1100	ug/L		800	
EC	172	1/12/2021	2067	µmhos/cm		900	
Flow	172	1/12/2021	4	cfs		0	

Poso Slough at Indiana Ave

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
EC	172	1/12/2021	1429	µmhos/cm		900	
Flow	172	1/12/2021	9	cfs		0	

Salt Slough at Lander Ave

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Boron	172	1/12/2021	810	ug/L		800	
EC	172	1/12/2021	1701	µmhos/cm		900	
Flow	172	1/12/2021	178	cfs		0	

Salt Slough at Sand Dam

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Flow	172	1/12/2021	3.4	cfs		0	

San Joaquin River at Lander Ave

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Flow	172	1/12/2021	156	cfs		0	

San Joaquin River at PID Pumps

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Flow	172	1/12/2021	3600	cfs		0	

San Joaquin River at Sack Dam

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Flow	172	1/12/2021	152	cfs		0	

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Westside San Joaquin River Watershed Coalition

Water Quality Value Exceedances for the period of 1/1/2021 to 1/28/2021

Del Puerto Creek near Cox Road

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Flow	172	1/12/2021	13.5	cfs		0	

Delta Mendota Canal at DPWD

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
EC	172	1/12/2021	962.2	µmhos/cm		900	
Flow	172	1/12/2021	900	cfs		0	
pH	172	1/12/2021	8.52			8.5	6.5

Hospital Creek at River Road

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Flow	172	1/12/2021	0	cfs		0	

Ingram Creek at River Road

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
E. Coli	172	1/12/2021	980.4	MPN/100 mL		235	
Flow	172	1/12/2021	9	cfs		0	

Los Banos Creek at China Camp Road

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
EC	172	1/12/2021	1145	µmhos/cm		900	

Los Banos Creek at Hwy 140

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Boron	172	1/12/2021	1300	ug/L		800	
EC	172	1/12/2021	2035	µmhos/cm		900	
Flow	172	1/12/2021	21.6	cfs		0	

Marshall Road Drain near River Road

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Flow	172	1/12/2021	9	cfs		0	
pH	172	1/12/2021	8.57			8.5	6.5

Mud Slough Upstream of San Luis Drain

Analyte/Species	Event	Sample Date	Result	Units	Significant Toxicity	WQV Max	WQV Min
Boron	172	1/12/2021	1700	ug/L		800	
EC	172	1/12/2021	2495	µmhos/cm		900	
Flow	172	1/12/2021	162	cfs		0	

WQV = Water Quality Value as established by the Central Valley Regional Water Quality Control Board

DNQ = Detected, Not Quantifiable

Friday, March 5, 2021

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VIX. B.

**Westside San Joaquin River Watershed Coalition
Paperwork Status Update for Del Puerto WD & Oak Flat WD as of 3/31/2021**

<u>Survey Type</u>	<u>recvd</u>	<u>total</u>	<u>pct recvd</u>
Farm Evaluation	75	133	56%
INMPSR	59	133	44%
Overall compliance	55	133	41%

IDNo	Member Name	SurveyType	2020 FE/MWE	2020 INMPSR	paperwork req. met
25001A	R & R Farms	Farm Evaluation	not recvd	not recvd	both forms missing
25004A	Williams Tr./Klein Family LTD Ptp,TIC	Farm Evaluation	not recvd	not recvd	both forms missing
25006A	R.C. Capital Investments, LLC	Farm Evaluation	not recvd	not recvd	both forms missing
25007A	Soares Dairy Farms, Inc.	Farm Evaluation	not recvd	not recvd	both forms missing
25012A	Shea Farms	Farm Evaluation	not recvd	not recvd	both forms missing
25015A	Shiraz Ranch LLC	Farm Evaluation	not recvd	not recvd	both forms missing
25016A	Hamlow Farms	Farm Evaluation	not recvd	not recvd	both forms missing
25017A	Oliveira, Sadie 2006 Revocable Trust	Farm Evaluation	not recvd	not recvd	both forms missing
25019A	Salazar Ranches	Farm Evaluation	not recvd	not recvd	both forms missing
25028A	Ed Thoming & Sons, Inc.	Farm Evaluation	not recvd	not recvd	both forms missing
25032B	Vernalis Partners, LTD	Farm Evaluation	not recvd	not recvd	both forms missing
25035A	Jag Farm Management, Inc.	Farm Evaluation	not recvd	not recvd	both forms missing
25037A	Sandhu Bros. Farm	Farm Evaluation	not recvd	not recvd	both forms missing
25037B	Sandhu Bros. Orchard	Farm Evaluation	not recvd	not recvd	both forms missing
25037C	Sandhu, Maninder	Farm Evaluation	not recvd	not recvd	both forms missing
25038A	Rubino, JP LLC.	Farm Evaluation	not recvd	not recvd	both forms missing
25040A	Gonzalez Farms	Farm Evaluation	not recvd	not recvd	both forms missing
25041A	Arambel, Jeff	Farm Evaluation	not recvd	not recvd	both forms missing
25043A	Navarra, C & A Ranch, Inc.	Farm Evaluation	not recvd	not recvd	both forms missing
25046A	Miller, Craig	Farm Evaluation	not recvd	not recvd	both forms missing
25053B	Tatla & Singh	Farm Evaluation	not recvd	not recvd	both forms missing
25053C	Tatla, Jasbir	Farm Evaluation	not recvd	not recvd	both forms missing
25055A	Singh, Rajinder et ux.	Farm Evaluation	not recvd	not recvd	both forms missing
25056A	Sardar Farms	Farm Evaluation	not recvd	recvd	FE Missing
25058A	Apna Farms	Farm Evaluation	not recvd	not recvd	both forms missing
25069A	Balam Farms	Farm Evaluation	not recvd	not recvd	both forms missing
25069B	Iyer Farms	Farm Evaluation	not recvd	not recvd	both forms missing
25069C	Meena Farms PTP	Farm Evaluation	not recvd	not recvd	both forms missing
25069D	SATYAM Farms	Farm Evaluation	not recvd	not recvd	both forms missing
25069E	Lax Iyer Farms	Farm Evaluation	not recvd	not recvd	both forms missing
25073A	JKB Development, Inc.	Farm Evaluation	not recvd	not recvd	both forms missing
25081B	5G AG Management Inc.	Farm Evaluation	not recvd	not recvd	both forms missing
25090A	California Transplants	Farm Evaluation	not recvd	not recvd	both forms missing
25094A	Perez Farms	Farm Evaluation	not recvd	not recvd	both forms missing
25105A	E & C Farms, LLC c/o Justin Reeves	Farm Evaluation	not recvd	not recvd	both forms missing
25113A	Rodriguez, Raul	Farm Evaluation	not recvd	not recvd	both forms missing
25114A	SB Ranches, Inc.	Farm Evaluation	not recvd	not recvd	both forms missing
25115A	Royal Crown Nut Co., Inc.	Farm Evaluation	not recvd	not recvd	both forms missing
25117A	JT Farms #2	Farm Evaluation	not recvd	not recvd	both forms missing
25118A	Gallo, Robert J. et al	Farm Evaluation	not recvd	not recvd	both forms missing
25119A	Amaravati Farms, LLC	Farm Evaluation	not recvd	recvd	FE Missing

IDNo	Member Name	SurveyType	2020 FE/MWE	2020 INMPSR	paperwork req. met
25120A	Baba Atwal Farms Inc.	Farm Evaluation	not recvd	recvd	FE Missing
25121A	CSC Westley, LLC / 5 Star Vineyard, LLC TIC	Farm Evaluation	not recvd	not recvd	both forms missing
25122A	L & L Investments, LLC	Farm Evaluation	not recvd	not recvd	both forms missing
25129B	Ashley Lane, L.P.	Farm Evaluation	not recvd	recvd	FE Missing
25129C	Howard Ranch - Westley, L.P.	Farm Evaluation	not recvd	recvd	FE Missing
25133A	American Farmers, LLC	Farm Evaluation	not recvd	not recvd	both forms missing
25138A	Traina Foods, Inc.	Farm Evaluation	not recvd	not recvd	both forms missing
25141A	Mission NSS II, LLC	Farm Evaluation	not recvd	not recvd	both forms missing
25143A	Stanislaus County - General Services Agency	Farm Evaluation	not recvd	not recvd	both forms missing
25144A	Sandhu, Sukhraj et al	Farm Evaluation	not recvd	not recvd	both forms missing
25145A	NISRA Farms, LLC	Farm Evaluation	not recvd	not recvd	both forms missing
25147A	A & T Ranches	Farm Evaluation	not recvd	not recvd	both forms missing
25151A	Isquierdo, Julian	Farm Evaluation	not recvd	not recvd	both forms missing
25154A	L2 Farms, LLC	Farm Evaluation	not recvd	not recvd	both forms missing
25156A	La Fortaleza LLC	Farm Evaluation	not recvd	not recvd	both forms missing
25162A	Miri Piri, Inc.	Farm Evaluation	not recvd	not recvd	both forms missing
25163A	Sun Valley Orchards, LLC	Farm Evaluation	not recvd	not recvd	both forms missing
25064A	Recology Blossom Valley Organics - North	Farm Evaluation	not req	not req	no paperwork required
25003A	Backhill Farms L.P.	Farm Evaluation	recvd	recvd	all req paperwork recvd
25003B	Dutch Nuts, Inc.	Farm Evaluation	recvd	recvd	all req paperwork recvd
25003C	Van Elderen Bros.	Farm Evaluation	recvd	recvd	all req paperwork recvd
25008A	Borges & Machado	Farm Evaluation	recvd	recvd	all req paperwork recvd
25008C	Borges, Frank J.	Farm Evaluation	recvd	recvd	all req paperwork recvd
25010A	McWilliams, Les	Farm Evaluation	recvd	recvd	all req paperwork recvd
25011A	Fantozzi, Paul	Farm Evaluation	recvd	not recvd	INMPSR Missing
25018A	Cerutti Bros., Inc.	Farm Evaluation	recvd	recvd	all req paperwork recvd
25026A	Ledesma, Javier et ux.	Farm Evaluation	recvd	not recvd	INMPSR Missing
25027A	Singh, Baljinder & Ritu	Farm Evaluation	recvd	recvd	all req paperwork recvd
25028B	Thoming Farms, LLC	Farm Evaluation	recvd	not recvd	INMPSR Missing
25031A	Brown, Jeff	Farm Evaluation	recvd	recvd	all req paperwork recvd
25031B	Brown Family Rev Trust	Farm Evaluation	recvd	recvd	all req paperwork recvd
25033A	Henriques, Ray	Farm Evaluation	recvd	recvd	all req paperwork recvd
25033B	Stewart & Jasper Farming Co.	Farm Evaluation	recvd	recvd	all req paperwork recvd
25034A	Koster, A & B Farming, LP	Farm Evaluation	recvd	recvd	all req paperwork recvd
25036A	Rock' N Almonds	Farm Evaluation	recvd	not recvd	INMPSR Missing
25042A	KDR Farms	Farm Evaluation	recvd	recvd	all req paperwork recvd
25048A	Rose Ranch, Inc.	Farm Evaluation	recvd	recvd	all req paperwork recvd
25049A	TriNut Farm Management, Inc.	Farm Evaluation	recvd	recvd	all req paperwork recvd
25050A	Gemperle Orchards	Farm Evaluation	recvd	recvd	all req paperwork recvd
25052A	Beltran Farms, Inc.	Farm Evaluation	recvd	recvd	all req paperwork recvd
25060B	T & M Farms	Farm Evaluation	recvd	recvd	all req paperwork recvd
25061B	Augie's Trucking Service, Inc.	Farm Evaluation	recvd	recvd	all req paperwork recvd
25065A	Adobe Orchards, Inc.	Farm Evaluation	recvd	not recvd	INMPSR Missing
25067A	LAT Farming Trust	Farm Evaluation	recvd	recvd	all req paperwork recvd
25068B	WMD Farming	Farm Evaluation	recvd	recvd	all req paperwork recvd
25068C	RDC Farms Gp	Farm Evaluation	recvd	recvd	all req paperwork recvd
25070A	DePauw Farms	Farm Evaluation	recvd	recvd	all req paperwork recvd
25076A	California Soils, Inc.	Farm Evaluation	recvd	recvd	all req paperwork recvd
25078A	Ingram Creek Ranch	Farm Evaluation	recvd	recvd	all req paperwork recvd
25079A	Longhorn Enterprises	Farm Evaluation	recvd	recvd	all req paperwork recvd
25080A	Lara, Michael	Farm Evaluation	recvd	recvd	all req paperwork recvd
25083A	LSAO Partnership	Farm Evaluation	recvd	recvd	all req paperwork recvd

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IDNo	Member Name	SurveyType	2020 FE/MWE	2020 INMPSR	paperwork req. met
25083B	LSH Partnership	Farm Evaluation	recvd	recvd	all req paperwork recvd
25083C	Lucich & Santos Farms	Farm Evaluation	recvd	recvd	all req paperwork recvd
25085A	Brooks, Mark	Farm Evaluation	recvd	recvd	all req paperwork recvd
25087A	Cox, William Stewart 2016	Farm Evaluation	recvd	recvd	all req paperwork recvd
25088A	J & J California Farms	Farm Evaluation	recvd	recvd	all req paperwork recvd
25089A	Bays Ranch, Inc.	Farm Evaluation	recvd	not recvd	INMPSR Missing
25089B	Schuler & Bays JV	Farm Evaluation	recvd	not recvd	INMPSR Missing
25089C	Bays, Daniel & Rebecca	Farm Evaluation	recvd	not recvd	INMPSR Missing
25089D	Bays, Ken & Michelle	Farm Evaluation	recvd	not recvd	INMPSR Missing
25089E	Bays Farming	Farm Evaluation	recvd	not recvd	INMPSR Missing
25091A	Lonetree Creek Vineyards, LLC	Farm Evaluation	recvd	recvd	all req paperwork recvd
25092A	Sabatino, Murphy Jr.	Farm Evaluation	recvd	not recvd	INMPSR Missing
25095A	Del Don, Lee et al	Farm Evaluation	recvd	not recvd	INMPSR Missing
25095B	Del Don, Leroy III	Farm Evaluation	recvd	not recvd	INMPSR Missing
25095C	Del Mar Farms	Farm Evaluation	recvd	not recvd	INMPSR Missing
25095D	Maring, J&T 1997 Trust	Farm Evaluation	recvd	not recvd	INMPSR Missing
25095E	Maring, J&T Family Ptp, L.P.	Farm Evaluation	recvd	not recvd	INMPSR Missing
25095F	Maring, Jon E.	Farm Evaluation	recvd	not recvd	INMPSR Missing
25095G	Maring, Zachary	Farm Evaluation	recvd	recvd	all req paperwork recvd
25095H	Maring, Zachary et al	Farm Evaluation	recvd	recvd	all req paperwork recvd
25102A	Beltran Farms, Inc.	Farm Evaluation	recvd	recvd	all req paperwork recvd
25104A	Sunflower Ranch Co.	Farm Evaluation	recvd	recvd	all req paperwork recvd
25108B	Gomes, John	Farm Evaluation	recvd	recvd	all req paperwork recvd
25110A	Singh Farm Inc.	Farm Evaluation	recvd	recvd	all req paperwork recvd
25125A	Craven Farming Company	Farm Evaluation	recvd	recvd	all req paperwork recvd
25126A	Ventura Farms, Inc.	Farm Evaluation	recvd	recvd	all req paperwork recvd
25127A	WTS McCabe, LLC	Farm Evaluation	recvd	recvd	all req paperwork recvd
25134A	JEM-G2, L.P.	Farm Evaluation	recvd	recvd	all req paperwork recvd
25135A	Lara Brothers Farms, GP	Farm Evaluation	recvd	recvd	all req paperwork recvd
25136A	Naimi's Ranch, Inc.	Farm Evaluation	recvd	recvd	all req paperwork recvd
25140A	Pimentel Farms	Farm Evaluation	recvd	recvd	all req paperwork recvd
25142A	Calvin Inc.	Farm Evaluation	recvd	recvd	all req paperwork recvd
25149A	Ratto, Ron	Farm Evaluation	recvd	recvd	all req paperwork recvd
25152A	Sandhu, Gurmail	Farm Evaluation	recvd	recvd	all req paperwork recvd
25153A	Bobby Yamamoto Farms, Inc.	Farm Evaluation	recvd	not recvd	INMPSR Missing
25155A	John W. Hansen Farms	Farm Evaluation	recvd	not recvd	INMPSR Missing
25157A	IDC Farms, Inc.	Farm Evaluation	recvd	recvd	all req paperwork recvd
25158A	Ace Orchards, LLC	Farm Evaluation	recvd	recvd	all req paperwork recvd
25159A	Escobar Properties LLC et al	Farm Evaluation	recvd	not recvd	INMPSR Missing
25160A	Garlic City Properties, LLC	Farm Evaluation	recvd	recvd	all req paperwork recvd
25161A	Hooper Ranch Property, LLC	Farm Evaluation	recvd	not recvd	INMPSR Missing

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VIX.C.

Apr 12 2021
12:55P

NOTICE

CITY OF PATTERSON 2020 URBAN WATER MANAGEMENT PLAN UPDATE

DATE: April 7, 2021
TO: All Interested Parties
FROM: Maria Encinas, Water Resources Manager
SUBJECT: 2020 Urban Water Management Plan Update



This letter is being provided to you as a follow up to the letter sent to you on February 9, 2021 informing you of the City of Patterson's (City) preparation of a 2020 Urban Water Management Plan (UWMP). Notice is hereby given the City will conduct a public hearing on June 1, 2021 to review and adopt the 2020 UWMP. The meeting will be held at 7:00 p.m. in the Patterson City Council Chambers, 1 Plaza, Patterson, California 95363 or as directed by the City Clerk due to the COVID-19-related Executive Order N-29-20.

All interested parties are invited to attend the public meeting and present their views. If you are unable to attend the public hearing, you may also submit to the City, by the time the proceedings begin, written comments regarding the subject of the meeting. These comments will be brought to the attention of the City Council and will become part of the official public record. Written comments can also be sent to City Council, Attn: 2020 UWMP, PO Box 667, Patterson, California 95363.

A public draft of the 2020 UWMP will be available on April 8, 2021 and can be viewed or printed from the City's website at www.ci.patterson.ca.us (enter "UWMP" in the site Search field located in the upper right-hand corner of the homepage). A hard copy of the document is also available for review (by appointment) at City Hall, (1 Plaza, Patterson, CA 95363). If you have any questions or comments, please call (209) 895-8061 or email mencinas@ci.patterson.ca.us.

An informational meeting on this topic will be held on April 20, 2021 at 7:00 p.m. This meeting will be held in accordance with Executive Order N-29-20, issued by California Governor Gavin Newsom on March 17, 2020, the Ralph M. Brown Act (California Government Code Section 54950, et seq.) and the Federal Americans with Disabilities Act. Please see the April 20, 2021 City Council agenda for virtual meeting information and/or links.

Sincerely,

A handwritten signature in blue ink, appearing to read 'mencinas'.

Maria Encinas
City of Patterson

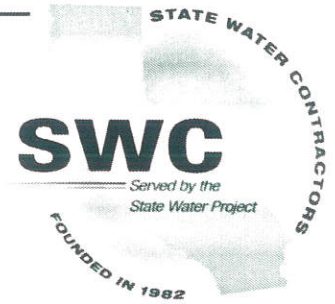
152

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Vix.C.

April 9, 2021

Submitted via email: dvang@wwd.ca.gov



Mr. David Vang
 Westlands Water District
 3130 North Fresno Street
 Fresno, California 93703-6056

Subject: Notice of Preparation of an Environmental Impact Report (EIR) for the Westlands Water District Groundwater Pumping and Conveyance Project

Dear Mr. Vang:

The State Water Contractors ("SWC") reviewed the Notice of Preparation for the WWD Groundwater Pumping and Conveyance Project ("Project") EIR and submit this comment letter. The EIR will be prepared pursuant to the California Environmental Quality Act ("CEQA") by the Westlands Water District ("WWD") as the Lead Agency.

The Project proposes to allow the WWD to introduce up to 30,000 acre-feet per year (AFY) of groundwater from wells within the WWD over the next 5 years into the San Luis Canal/California Aqueduct ("SLC/CA") when the WWD's Central Valley Project ("CVP") allocation is 20% or less. The SLC/CA is a joint use facility that also conveys SWP water. WWD would be required to execute annual Warren Act contracts with USBR to implement the Project when excess capacity is available in the SLC/CA. The proposed Project would involve four main components: groundwater pumping, water conveyance, ground subsidence monitoring, and water quality monitoring.

The SWC is an organization representing 27¹ of the 29 Public Water Agencies ("PWAs") that hold contracts with the California Department of Water Resources ("DWR") for participation in the State Water Project ("SWP"). Collectively, the members of the SWC provide part of the water supply delivered to approximately 27 million Californians, roughly two-thirds of the State's population, and to over 750,000 acres of irrigated agriculture. The members of the SWC provide this water to retailers, who, in turn, serve it to consumers throughout the San Francisco Bay Area, the San Joaquin Valley, the Central Coast, and Southern California. The SWP water supply delivered through the Delta constitutes a significant portion of the water supplies available to SWC members, and most of the members rely on water conveyed through the SLC/CA.

DIRECTORS

Valerie Pryor
President

Alameda County Flood Control and Water Conservation District, Zone 7

Ray Stokes
Vice President

Central Coast Water Authority

Craig Wallace
Secretary-Treasurer

Kern County Water Agency

Stephen Arakawa

Metropolitan Water District of Southern California

Robert Cheng

Coachella Valley Water District

Kathy Cortner

Mojave Water Agency

Thomas Pate

Solano County Water Agency

Matthew Stone

Santa Clarita Valley Water Agency

Jacob Westra

Tulare Lake Basin Water Storage District

General Manager

Jennifer Pierre

¹ The SWC members are: Alameda County Flood Control & Water Conservation District, Zone 7; Alameda County Water District; Antelope Valley East Kern Water Agency; Central Coast Water Authority; City of Yuba City; Coachella Valley Water District; County of Kings; Crestline-Lake Arrowhead Water Agency; Desert Water Agency; Dudley Ridge Water District; Empire-West Side Irrigation District; Kern County Water Agency; Littlerock Creek Irrigation District; Metropolitan Water District of Southern California; Mojave Water Agency; Napa County Flood Control & Water Conservation District; Oak Flat Water District; Palmdale Water District; San Bernardino Valley Municipal Water District; San Gabriel Valley Municipal Water District; San Geronio Pass Water Agency; San Luis Obispo County Flood Control & Water Conservation District; Santa Clara Valley Water District; Santa Clarita Valley Water Agency; Solano County Water Agency; and Tulare Lake Basin Water Storage District.

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The SWC submitted a comment letter to WWD on October 1, 2020 in response to WWD's Initial Study and Negative Declaration for the same Project defined in the current Notice of Preparation ("NOP"). The comments provided in that letter are still applicable and further addressed in here.

Alternatives to the Proposed Project should be included in the EIR.

WWD should include alternatives to the proposed Project in the EIR that would minimize impacts to the SWP. Currently, the proposed Project would convey the groundwater generated from the wells within WWD to users in other parts of WWD through the SLC/CA and it would require both pumping groundwater into the SLC/CA as well as diverting water out of the SLC/CA for delivery. Since these two proposed components will occur simultaneously within common SLC/CA pools, a reasonable project alternative would be to consider methods where groundwater is used first to satisfy all local demand for water supply before taking water deliveries from the SLC/CA. This could be achieved through exchange agreements between WWD members. The main advantage of this project alternative is that less groundwater would be pumped into the aqueduct and this alternative would reduce the operations and water quality impacts of the current WWD proposed Project, and potentially minimizes losses for the WWD parties involved in the exchanges.

Impacts to SWP water quality should be fully disclosed, analyzed, minimized and mitigated.

Surface water quality changes resulting from this Project are a major concern. The pump-in activities would occur when allocations to WWD from the CVP are below 20%, when less surface water is available to dilute any water quality concerns with the groundwater that is pumped-in. Introducing water with a lower quality alters the overall water quality in the SLC/CA and may adversely impact the quality of the deliveries SWP PWAs downstream of the pump-ins. The potential to introduce water with significant TDS and arsenic can be particularly burdensome on our municipal water suppliers. In addition, the recent heightened concerns on Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonic acid (PFOS) adds new constituents of concern for municipal water supplies throughout the State. In addition, due to the close proximity and downstream position of a SWC member agency, the time available to quickly react to degrading water quality is minimal, which presents a real risk of delivering water exceeding State drinking water standards to individual homes. We note that conventional surface water treatment plants have no capacity to remove mineral constituents typically found in groundwater. Therefore, if unacceptable water quality is discovered at the water treatment plant, the plant would need to shut down and remain shut down while the considerable volume of impacted water within the California Aqueduct is purged resulting in a potentially significant water supply impact to the SWC PWAs. Potential increases in chloride concentrations in the SLC/CA because of pump-ins is another major concern for several SWP PWAs since the water utilities in their service areas have regulatory requirements to minimize chloride in their discharges and increases in source water chloride concentration could result in significant increase in compliance costs.

One-time screening of wells, at the beginning of the program, is not sufficient. Rather, a routine testing and evaluation of the water quality needs to occur throughout this Project. The Project should commit to comply with the DWR Facilitation Group protocols and the DWR Water Quality Policy and Implementation Process for Acceptance of Non-Project Water into the SWP. It is important to have frequent and regular water quality monitoring at individual wells and not just at the Laterals or integration facilities. Currently, it is unclear whether the water quality data from each individual well that will be used in the pump-in program will be monitored. A detailed final Water Quality Monitoring Plan should be included in the proposed Project to demonstrate how these water quality impacts will be detected and mitigated. The monitoring plan should include a proposed sampling and analysis plan

for emerging constituents of concerns (e.g., PFAS) and should be finalized and integrated into the project approvals, including potential mitigation. In addition to meeting DWR's pump in policy requirements, the wells that participate in the proposed Project must meet the drinking water standards for other regulated contaminants and be monitored for other emerging contaminants, such as Per- and Polyfluoroalkyl Substances (PFAS). Assurances are needed that the policies as set forth in San Luis Canal Non-Project Pump-in Program and the proposed monitoring plan should be fully adhered to unlike the past instances where this was not the case².

The SWC PWAs are concerned about the quality and consistency of the water being discharged into the SLC/CA and requests that the EIR provides a list of the existing groundwater wells that would be part of the Project, their water quality data, and describes how new wells could qualify to be included in the Project. The proposed Project should include a commitment that all wells proposed to participate in the program should obtain DWR's approval in addition to the proposed USBR's approval. The EIR should also address sampling and analysis plan for the wells, including how the daily models of flow and water quality impacts will be shared with the Facilitation Group when the WWD is pumping into the SLC. The proposed Project should include a commitment to provide water quality data promptly to DWR for well screening and a commitment to provide an immediate notification whenever a constituent of concern exceeds acceptable limits. The EIR should also specify actions WWD will take in the event they exceed the water quality limits. Additionally, the pump-ins from WWD into the SLC/CA should not be allowed when Dos Amigos Pumping Plant is turned off as this may significantly impact the downstream water quality for SWP PWAs.

The cumulative impacts of the Project combined with the baseline water quality and other pump-in projects should be evaluated and appropriate mitigation should be included in the Water Quality Monitoring Plan.

Structural and Operational Impacts to the SWP

The Project's conveyance portion is the SLC/CA, where groundwater pumping-induced subsidence is a major concern and is not limited to the two areas identified on Figure 3 of the NOP. Since the last proposed WWD pump-in proposal, there has been a quantitative study on the location, extent, and causes of the San Luis Canal/California Aqueduct subsidence (Reference DWR's 2017 California Aqueduct Study and 2019 Supplemental Report). From these recent studies, it is clear that subsidence problems are most acute in sections of the SLC/CA in the direct vicinity of this Project. The Project, including groundwater pumping, is proposed for years when the CVP allocation is less than 20%, which is typical in drier years making subsidence a greater concern with this Project. The latest DWR report on subsidence stated that during dry to critical years, the subsidence rate was on average 1.2 inches per year, 10 times the residual rate, due to the increased groundwater withdrawals to replace imported surface water (Section 5.4 Table 5-2 and Section 6.3, 2019 DWR Report). During the extreme drought of 2014-2017, some areas experienced a rate of 7.2 inches per year, and in certain areas, over 2 feet of subsidence occurred, which is non-recoverable (Section 5.4 Table 5-2 and Section 6.3 2019 DWR Report).

² Wells that exceeded the short list of constituents of concern continued to operate in the program:

- 2016: arsenic concentrations exceeded 10µg/L. Well 14 (State Well ID 171503D01) had an arsenic concentration of 11µg/L on 3/24/2016; Well 31 (State Well ID 201806Q02) arsenic concentrations increased to 12 to 13 µg/L in the months of May, June and July; Well 57 (State Well ID 211833N02) arsenic concentration increased to 11 µg/L in the months of April, May, June and July; Well 3 (State Well ID 151419F01) measured 1,300 mg/L for TDS on 3/28/2016.
- In 2014 and 2015, salinity in the SLC at Check 21 exceeded 700 uS/cm for approximately four months, from August to end of November 2014. (See DWR 2014 annual turn-in report, page 34 of pdf) and for approximately three months, from August to end of October 2015. (See DWR 2015 annual turn-in report, page 39 of pdf)

Mr. David Vang
April 9, 2021
Page 4

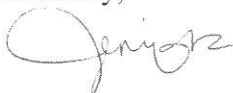
To date, subsidence has reduced the SLC/CA carrying capacity by up to 20%. Continued and/or increased groundwater pumping in the vicinity of the SLC/CA as part of this pump-in program has the potential to exacerbate the subsidence issue. DWR has proposed several rehabilitation projects for the SLC to be completed in the next few years which will cost approximately \$450 million. The timeframe for these rehabilitation projects overlaps with the duration of the proposed Project. In addition to costly repairs to damaged infrastructure, the subsidence in the SLC/CA also impedes normal water delivery operations and downstream water agencies incur an additional \$25 million annually in operation, maintenance, and power costs (Section 7.2.1 and 7.2.2 2017 DWR Report). DWR has also estimated that remediation of the subsidence issue (extensive construction) will cost hundreds of million in the near-term and potentially up to \$2B in the long-term. Faced with such a detrimental infrastructure and operational liability/impact, it is imperative that this Project does not cause additional subsidence damage to CVP/SWP facilities. Therefore, the Project should not include groundwater extraction from wells capable of influencing subsidence around or under the SLC/CA. The EIR should include detailed modeling analysis of the subsidence impacts in the vicinity of the SLC/CA due to the groundwater extraction from all of the participating wells.

The NOP indicates that limits on groundwater extraction to prevent subsidence along the SLC/CA would be conducted as part of the GSP implementation. However, the GSP does not contain sufficient information to be the sole basis for an adequate subsidence limits and the Project is proposed for immediate implementation (2021-2026) while the GSP won't be fully implemented for 20 years. Also, the GSP modeling needs to be calibrated further to reflect the most recent state of subsidence and to monitor the subsidence effects due to the proposed Project. The EIR should also describe in detail the subsidence monitoring network, including data capture frequency, data disclosure and the process in which the data collected will be used to avoid subsidence impacts near the SLC/CA. The benchmark used to evaluate what is an "acceptable" level is critical as is the time period of the monitoring since subsidence effects from this Project may not occur until many years after this Project's conclusion (and termination of monitoring) and it would be too late to reduce/stop the progression. However, for the record, we currently cannot foresee an "acceptable" amount of additional subsidence caused by this Project.

Similar to water quality impacts, the EIR should evaluate and mitigate the cumulative effects of subsidence caused by existing conditions, the proposed Project and other activities that may also contribute to subsidence over the same period of time and in the same areas as the proposed Project.

As the lead agency for the proposed Project, and as the facilitator of this Project on behalf of those it provides water to, WWD is responsible for the water supply, water quality and subsidence impacts associated with this Project, irrespective of ownership of the wells participating in this Project. We request that WWD address our comments to avoid impacts to the SWP water supply, water quality and facilities due to this Project. We appreciate the opportunity to provide input to your agency's planning process and we look forward to receiving future documentation and plans for this project.

Sincerely,



Jennifer Pierre
General Manager

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NORTHERN &
CENTRAL
DELTA-
MENDOTA

Water Year 2020 Annual Report

For the Northern and Central Delta-Mendota GSP Region

March 2021



Change in Groundwater Storage

Refer to Consolidated Annual Report for a description of change in storage at the subbasin-level.

For WY2020, the Upper Aquifer change in storage value was derived using a combination of two methods. First, the difference in groundwater elevation contours during seasonal high conditions between WY2019 and WY2020 was used where contour coverage was available to estimate the change in storage. Where contour coverage was not available, representative hydrographs were selected and the difference between WY2019 and WY2020 seasonal high conditions used to estimate change in storage in those locations.

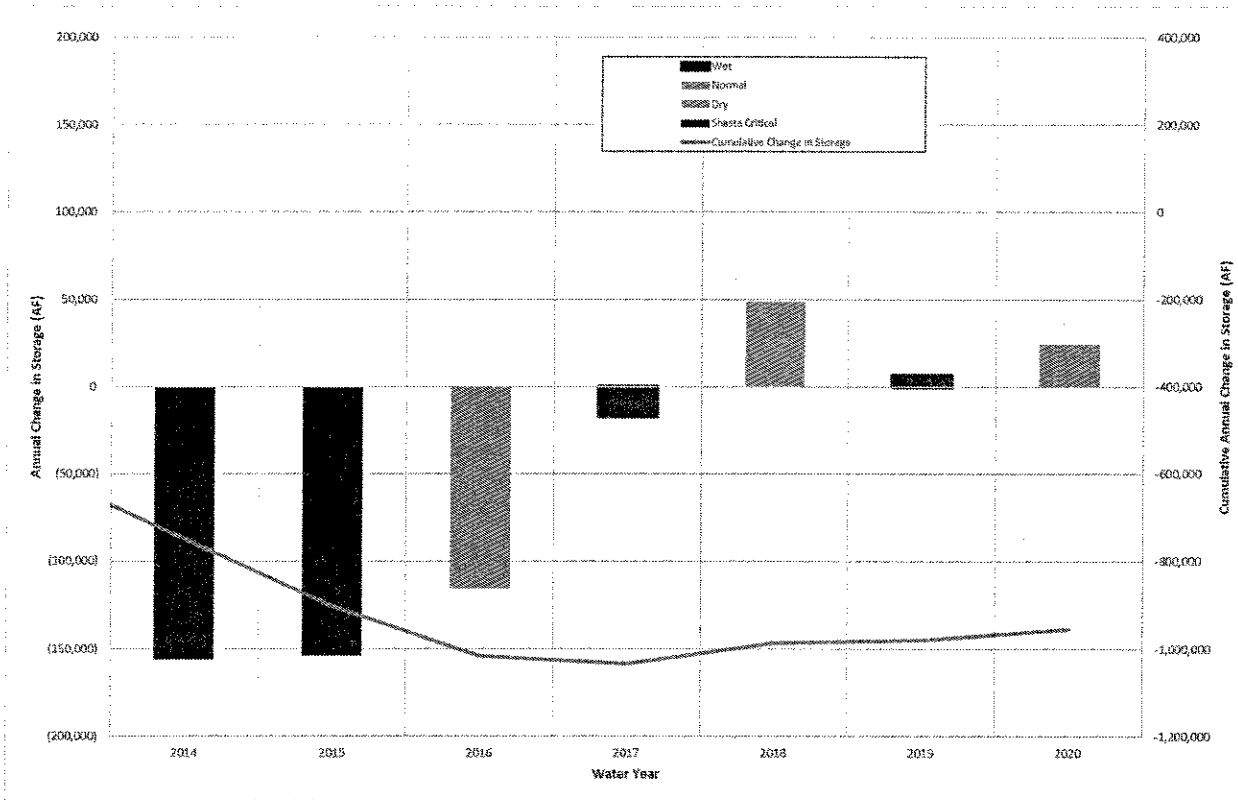
The WY2020 Lower Aquifer change in storage value was derived using data from the following sources between December 2018 and December 2019:

- San Joaquin River Restoration Program (Available at <https://www.restoresjr.net/science/subsidence-monitoring/>)
- Nevada Geodetic Laboratory (Available at <http://geodesy.unr.edu/>)
- Tranquillity area
 - Local data

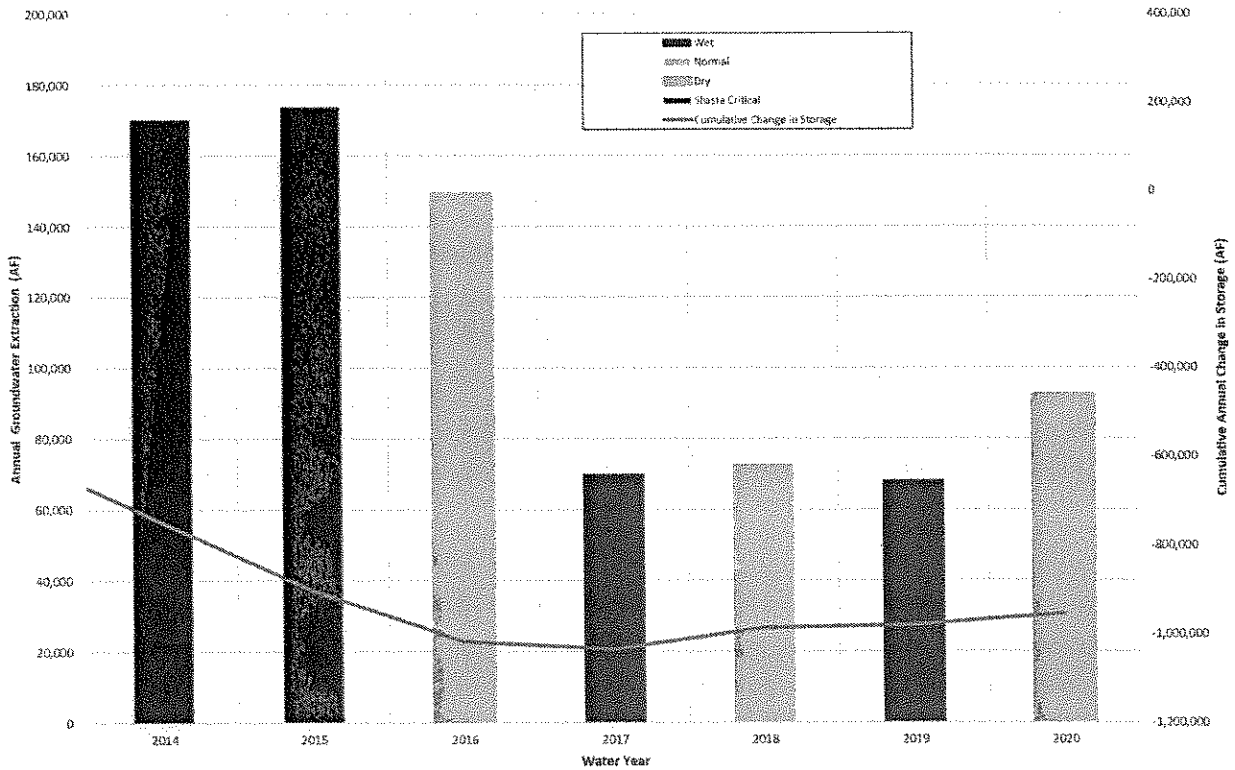
Change in Storage (Acre-feet)	
Principal Aquifer	WY2020 Change in Storage (AF)
Upper Aquifer	28,105
Lower Aquifer	-3,952
Total	24,153

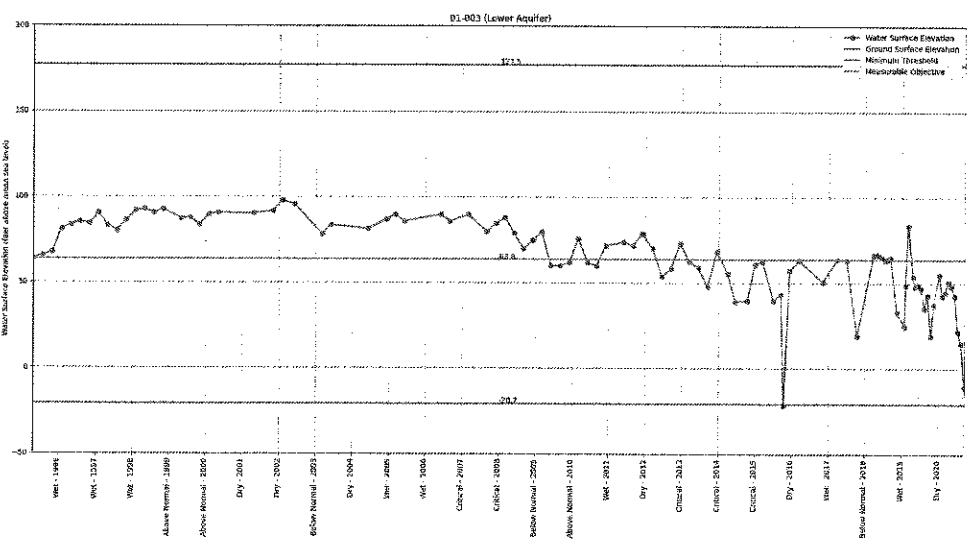
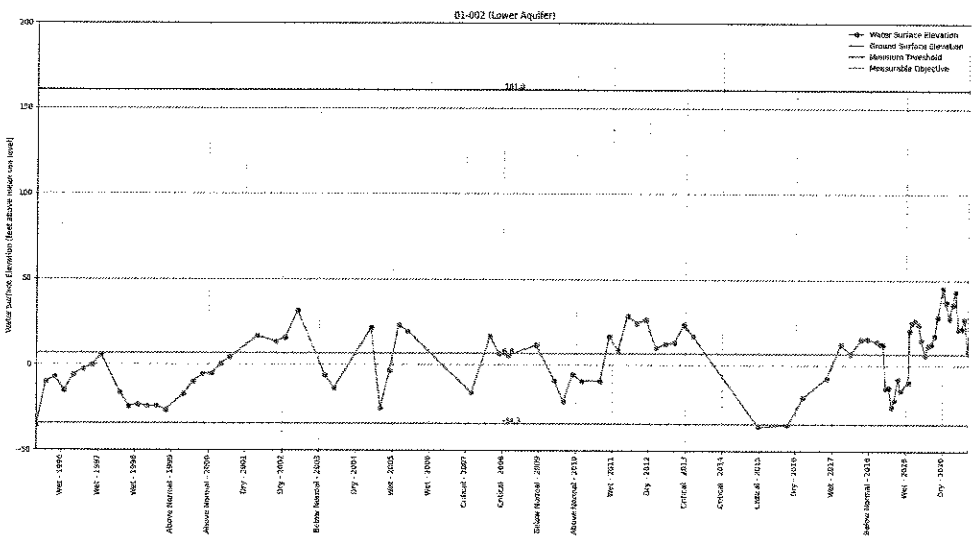
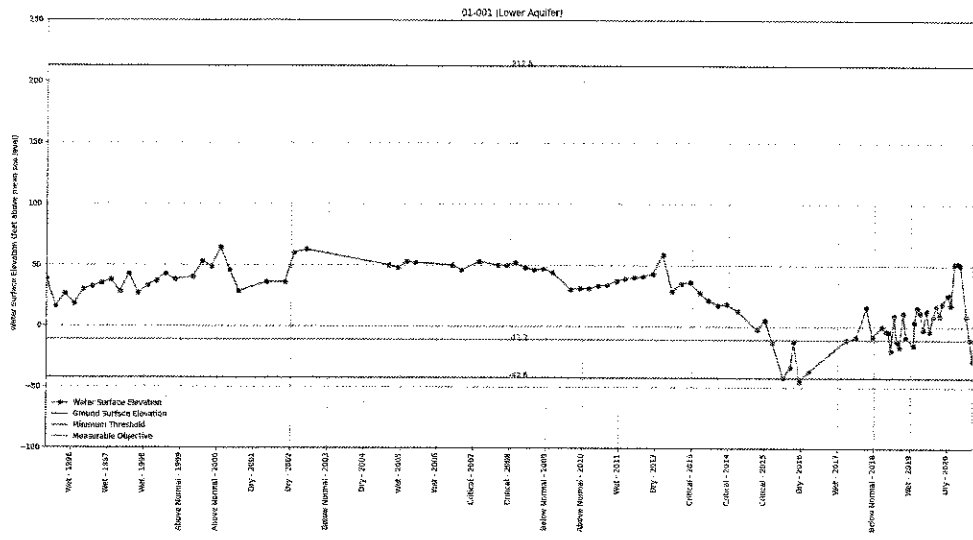
The following figures show annual change in storage and annual groundwater extractions along with cumulative change in storage, respectively, from WY2014 to WY2020. These figures were created using annual change in storage values as presented in the GSP Projected Water Budget from WY2014 from WY2019 and as indicated above for WY2020. Groundwater extraction data for WY2020 are the same data presented in the table under the **Groundwater Extraction Data** section, which was provided through data requests to all Northern & Central Delta-Mendota Region GSA member agencies between November 2020 and January 2021.

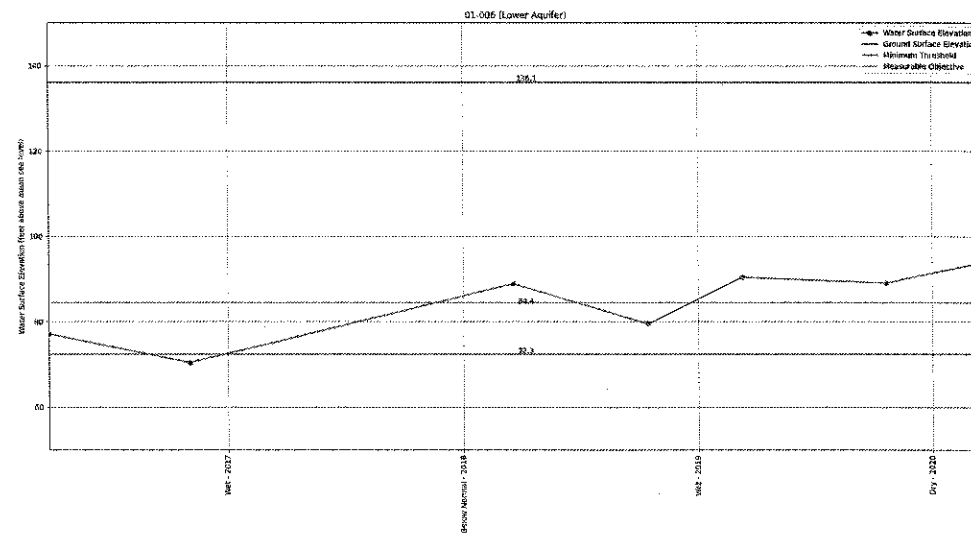
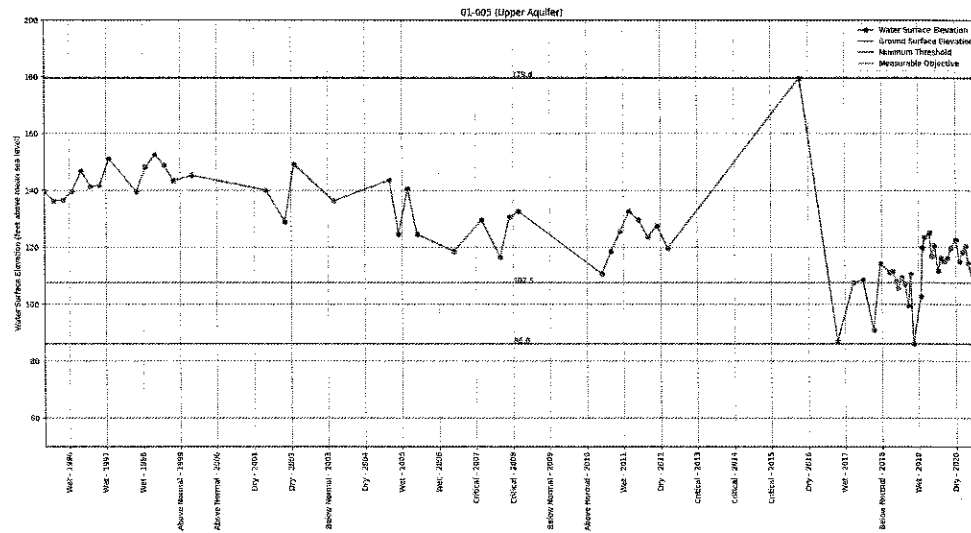
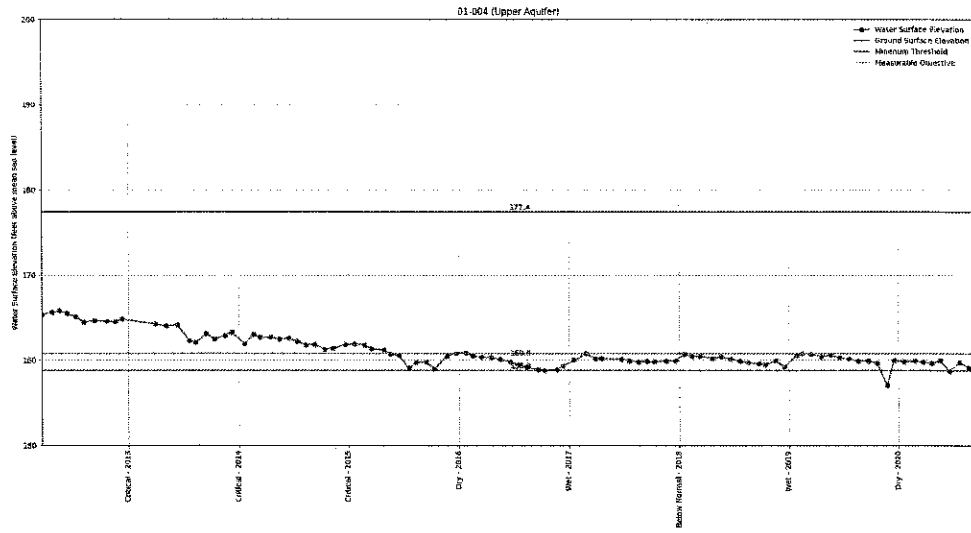
Annual Change in Storage with Cumulative Change in Storage in the Northern & Central Delta-Mendota GSP Region

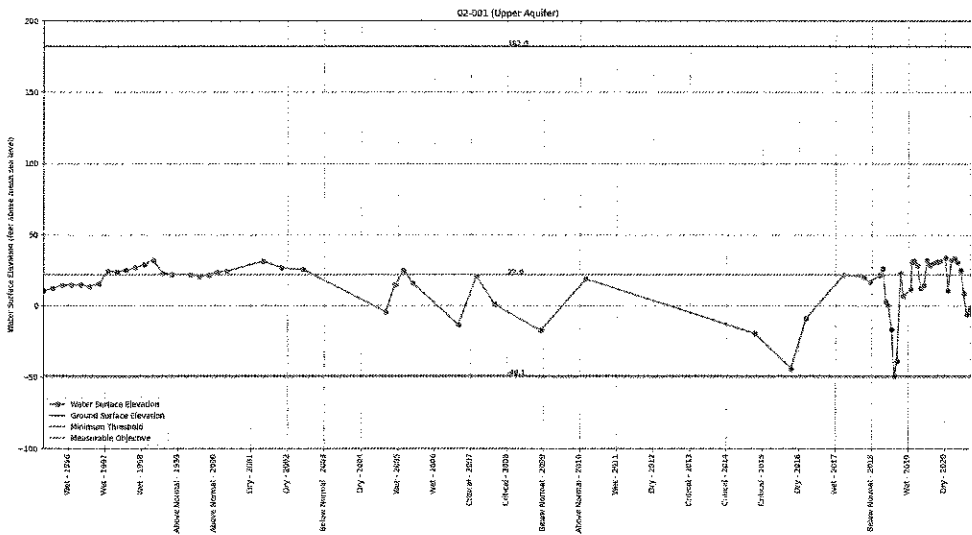
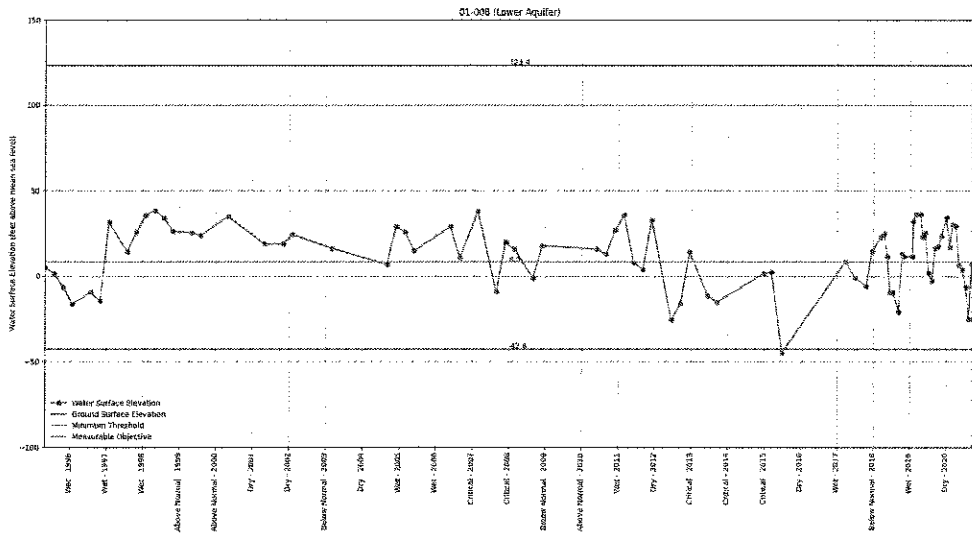
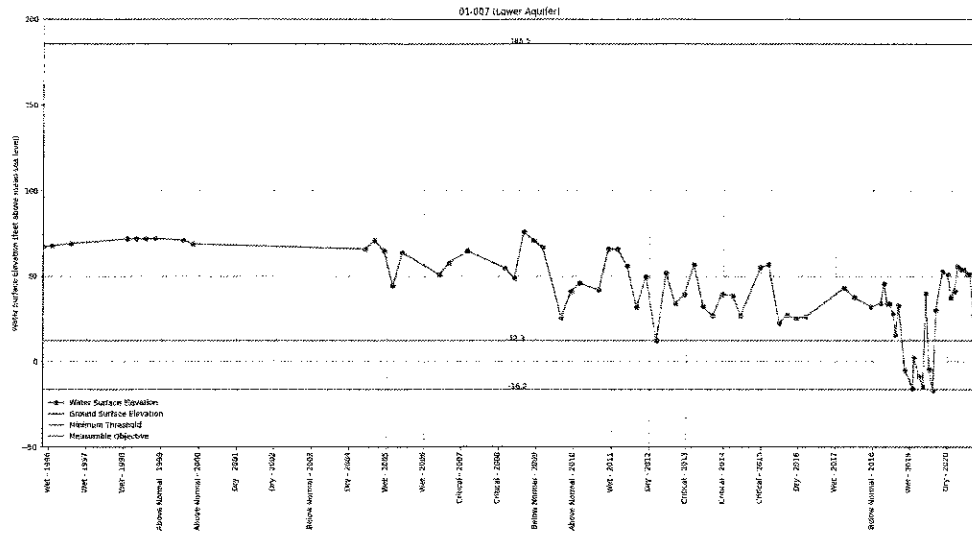


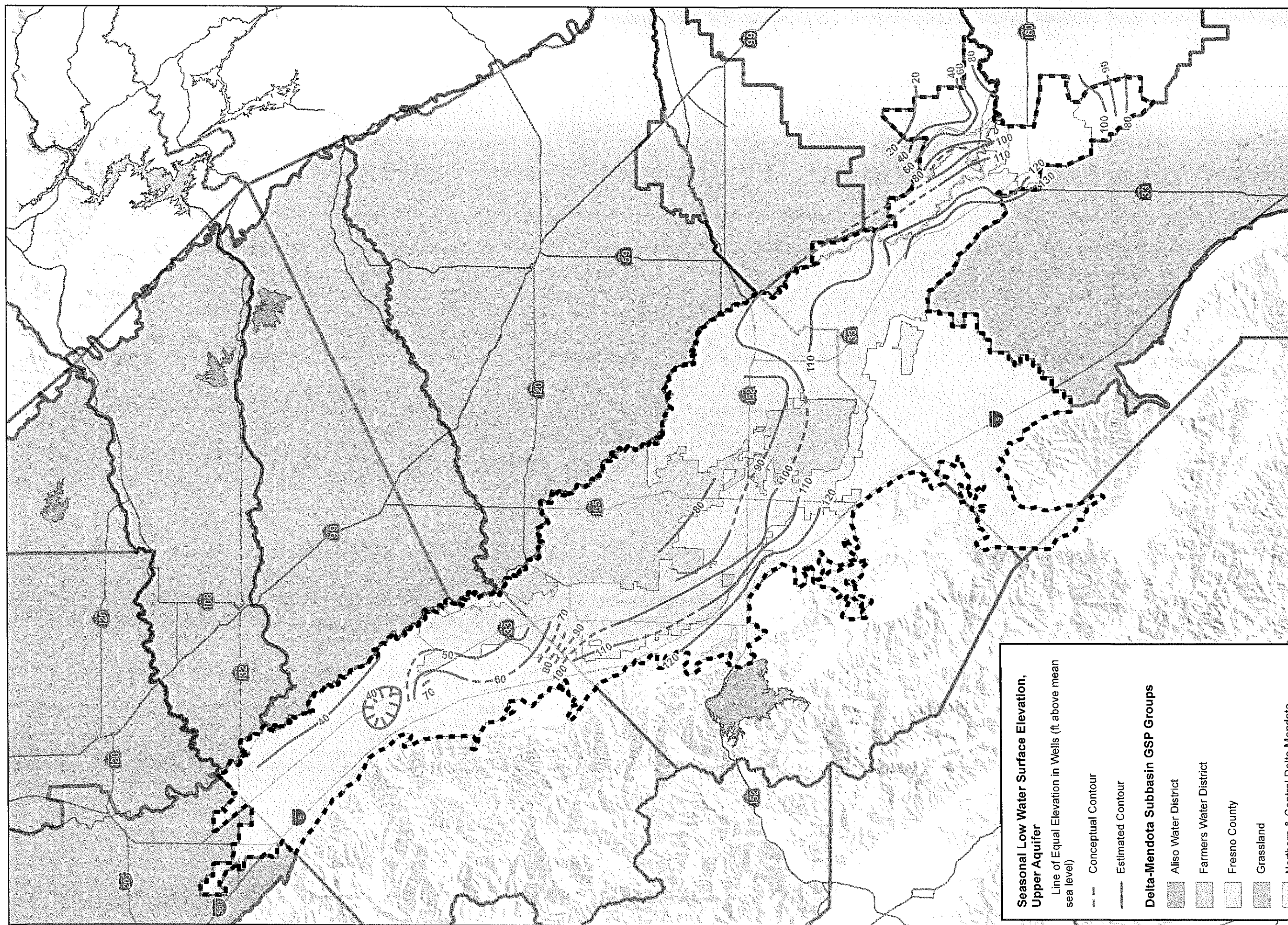
Annual Groundwater Extraction with Cumulative Change in Storage in the Northern & Central Delta-Mendota GSP Region











Disclaimer: This map reflects the current understanding of data and well construction information as of 3/20/2021. Data used in the preparation of this map was based on information provided by others. Therefore, the quality of the data introduces a level of uncertainty in the interpretation of the data. Future interpretations may be different, as the Groundwater Sustainability Plans' data collection protocols are implemented. Care should be taken when making policy decisions solely on the basis of these data. Data Sources: DWR, USGS, Irrigation and water districts.

Seasonal Low Water Surface Elevation, Upper Aquifer
 Line of Equal Elevation in Wells (ft above mean sea level)
 --- Conceptual Contour
 --- Estimated Contour

Delta-Mendota Subbasin GSP Groups

- Aliso Water District
- Farmers Water District
- Fresno County
- Grassland
- Northern & Central Delta-Mendota
- San Joaquin River Exchange Contractors

Delta-Mendota Subbasin
 Seasonal Low Upper Aquifer Water Surface Elevation Fall 2019
 Water Year 2020 Annual Report

DELTA-MENDOTA SGMA
 Project #: 0011607.00
 Map Created: March 2021

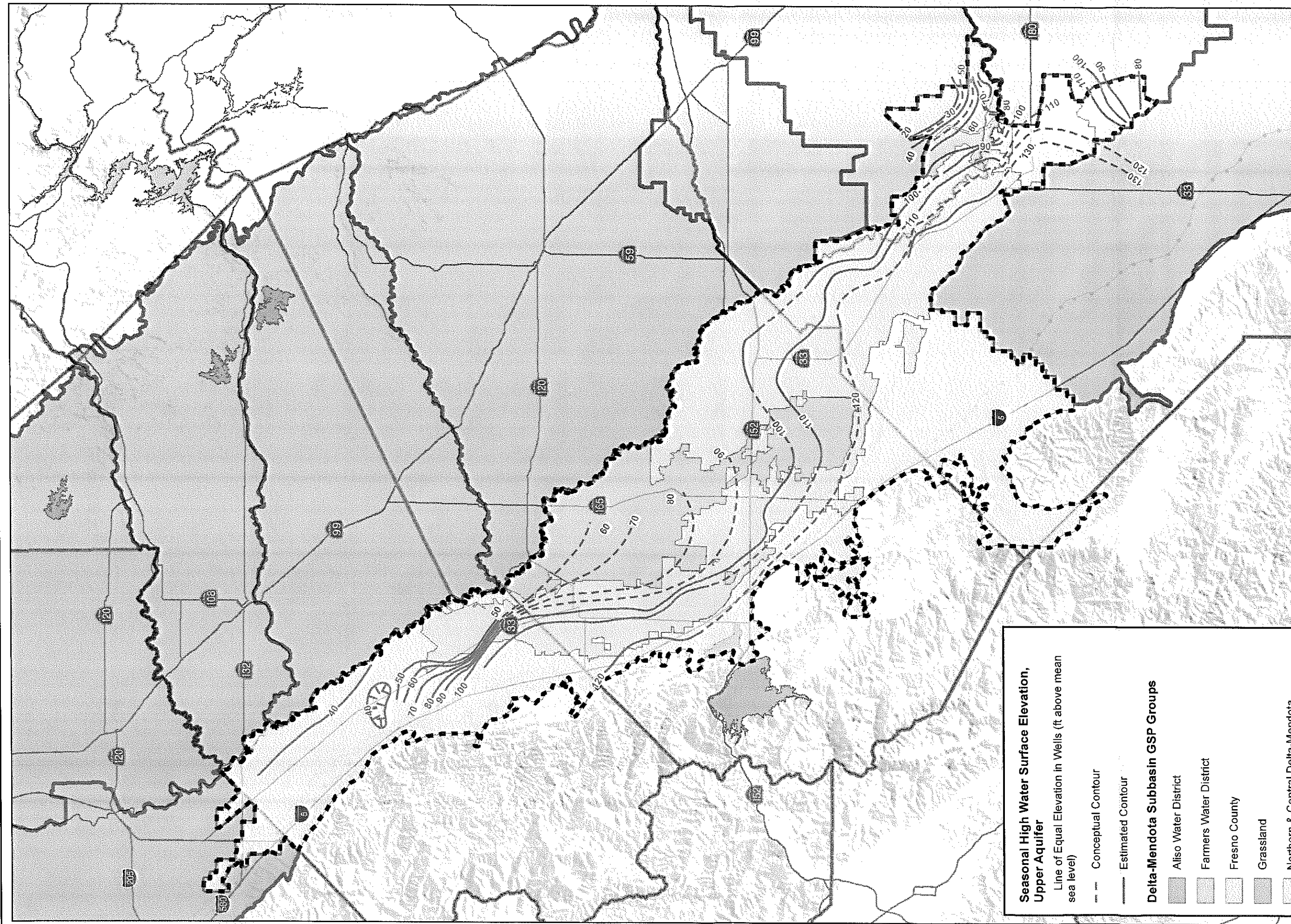
Delta-Mendota Subbasin Boundary
 Neighboring Subbasin
 County Boundary

Major Lake or Reservoir
 Highway
 California Aqueduct

Delta-Mendota Canal
 Major River

0 2.5 5 10 Miles

Service Layer Credits: Sources: Esri, USGS, NOAA



Disclaimer: This map reflects the current understanding of data and well construction information as of 3/20/2021. Data used in the preparation of this map was based on information provided by others. Therefore, the quality of the data introduces a level of uncertainty in the interpretation of the data. Future interpretations may be different, as the Groundwater Sustainability Plans' data collection protocols are implemented. Care should be taken when making policy decisions solely on the basis of these data. Data Sources: DWR, USGS, Irrigation and water districts.

Seasonal High Water Surface Elevation, Upper Aquifer
 Line of Equal Elevation in Wells (ft above mean sea level)

- - - Conceptual Contour
- Estimated Contour

Delta-Mendota Subbasin GSP Groups

- Aliso Water District
- Farmers Water District
- Fresno County
- Grassland
- Northern & Central Delta-Mendota
- San Joaquin River Exchange Contractors

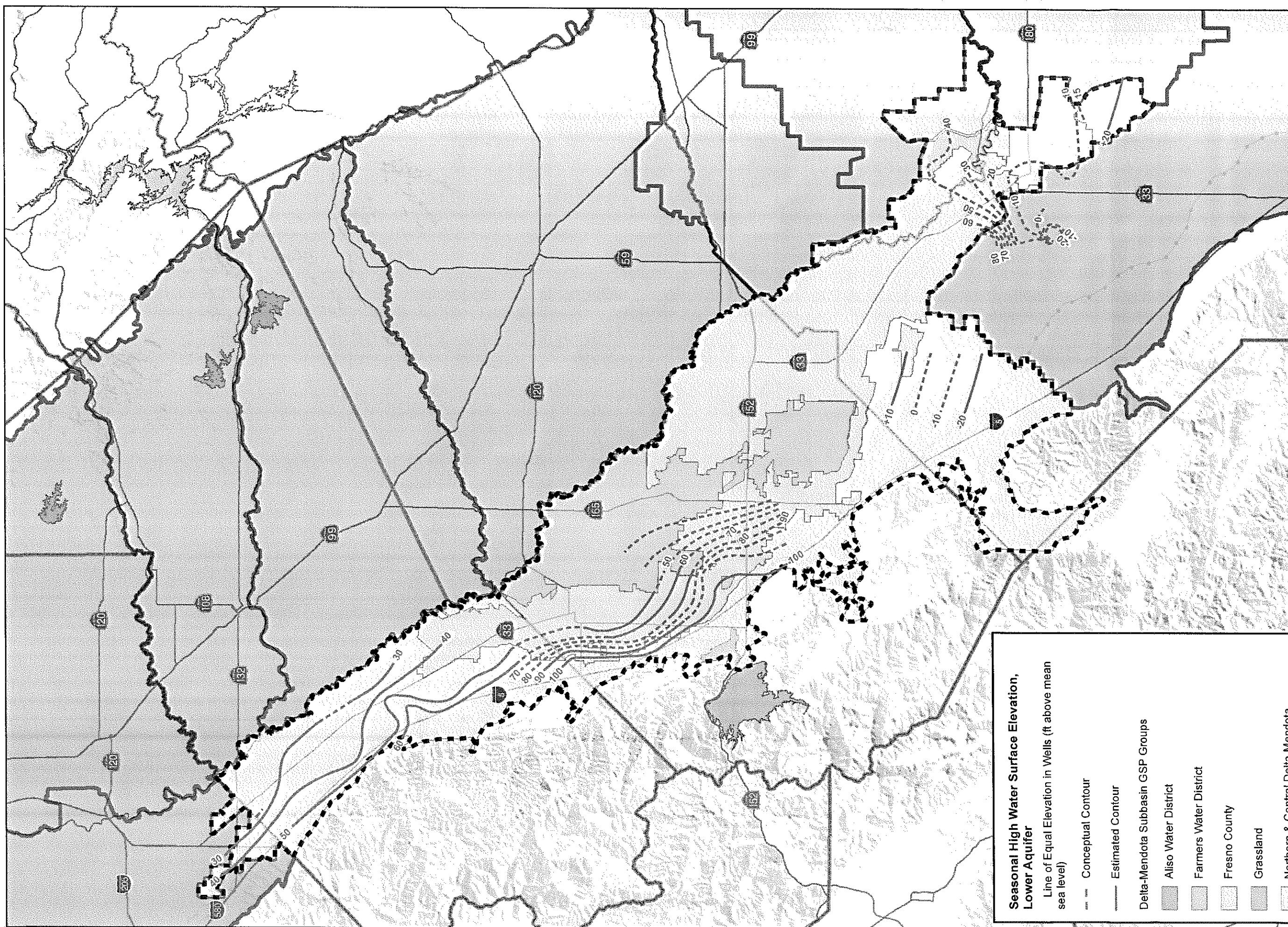
Delta-Mendota Subbasin
 Seasonal High Upper Aquifer Water Surface Elevation Spring 2020
 Water Year 2020 Annual Report

DELTA-MENDOTA SGMA
 Project #: 0011607.00
 Map Created: March 2021

Service Layer Credits: Sources: Esri, USGS, NOAA

- Delta-Mendota Subbasin Boundary
- Neighboring Subbasin
- County Boundary
- Major Lake or Reservoir
- Highway
- California Aqueduct
- Major River

0 2.5 5 10 Miles



Disclaimer: This map reflects the current understanding of data and well construction information as of 3/20/2021. Data used in the preparation of this map was based on information provided by others. Therefore, the quality of the data introduces a level of uncertainty in the interpretation of the data. Future interpretations may be different, as the Groundwater Sustainability Plans' data collection protocols are implemented. Care should be taken when making policy decisions solely on the basis of these data. Data Sources: DWR, USGS, Irrigation and water districts.

Seasonal High Water Surface Elevation, Lower Aquifer
 Line of Equal Elevation in Wells (ft above mean sea level)

- Conceptual Contour
- Estimated Contour

Delta-Mendota Subbasin GSP Groups

- Aliso Water District
- Farmers Water District
- Fresno County
- Grassland
- Northern & Central Delta-Mendota
- San Joaquin River Exchange Contractors

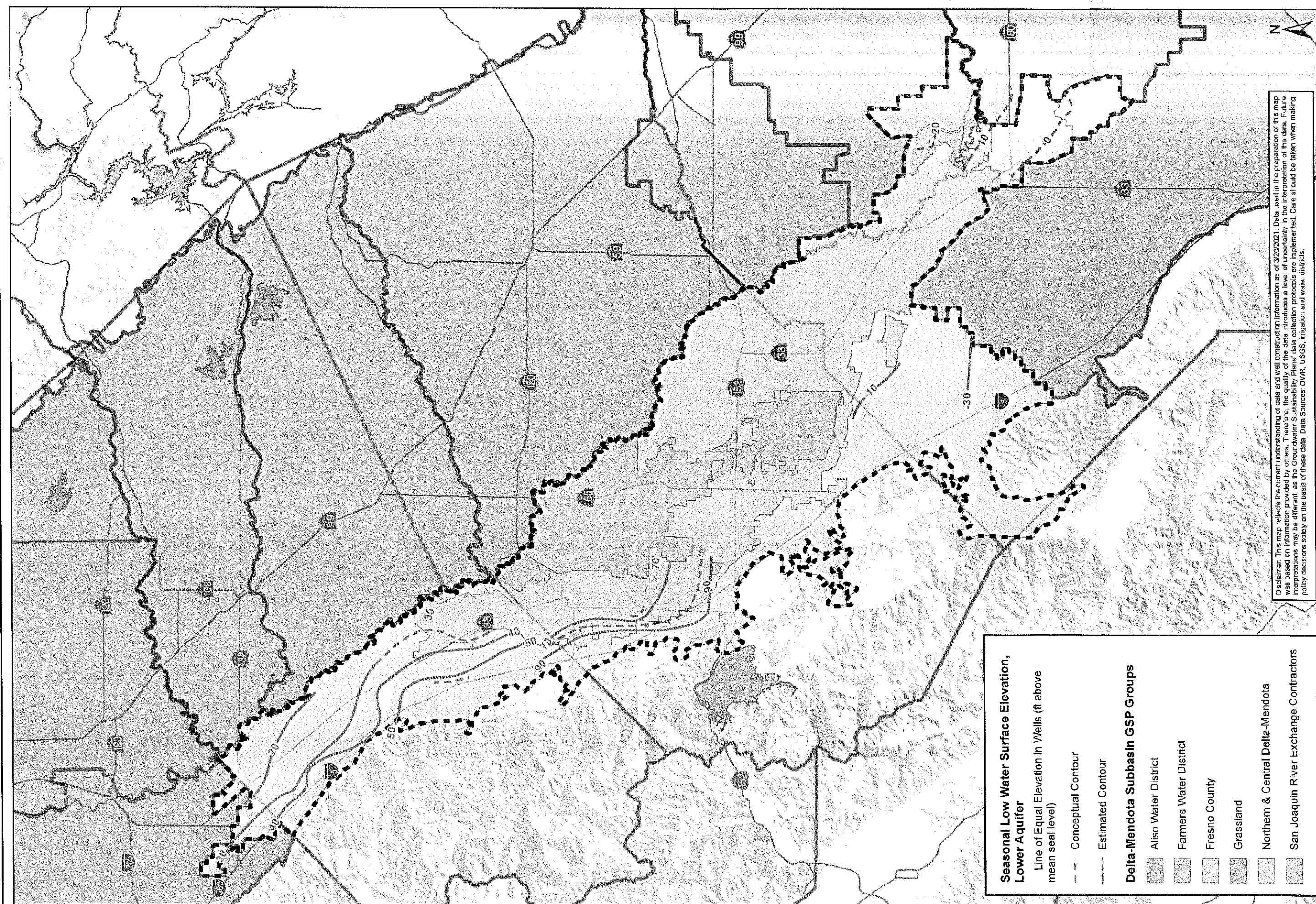
Delta-Mendota Subbasin
 Seasonal High Lower Aquifer Water Surface Elevation Spring 2020
 Water Year 2020 Annual Report

- Delta-Mendota Subbasin Boundary
- Neighboring Subbasin
- County Boundary
- Major Lake or Reservoir
- Highway
- California Aqueduct
- Delta-Mendota Canal
- Major River

DELTA-MENDOTA SGMA
 Project #: 0011607.00
 Map Created: March 2021

Service Layer Credits: Sources: Esri, USGS, NOAA





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Seasonal Low Water Surface Elevation, Lower Aquifer
 Line of Equal Elevation in Wells (ft above mean seal level)

- Conceptual Contour
- Estimated Contour

Delta-Mendota Subbasin GSP Groups

- Aliso Water District
- Farmers Water District
- Fresno County
- Grassland
- Northern & Central Delta-Mendota
- San Joaquin River Exchange Contractors

Delta-Mendota Subbasin
 Seasonal Low Lower Aquifer Water Surface Elevation
 Fall 2019
 Water Year 2020 Annual Report

- Delta-Mendota Subbasin Boundary
- Neighboring Subbasin
- County Boundary
- Major Lake or Reservoir
- California Aqueduct
- Delta-Mendota Canal
- Highway

0 2.5 5 10 Miles

DELTA-MENDOTA SGMA
 Project #: 0011607.00
 Map Created: March 2021

**DELTA -
MENDOTA
SGMA**

**DRAFT Consolidated
WY2020 Annual Report**

For the Delta-Mendota Subbasin

Prepared by:



March 2021

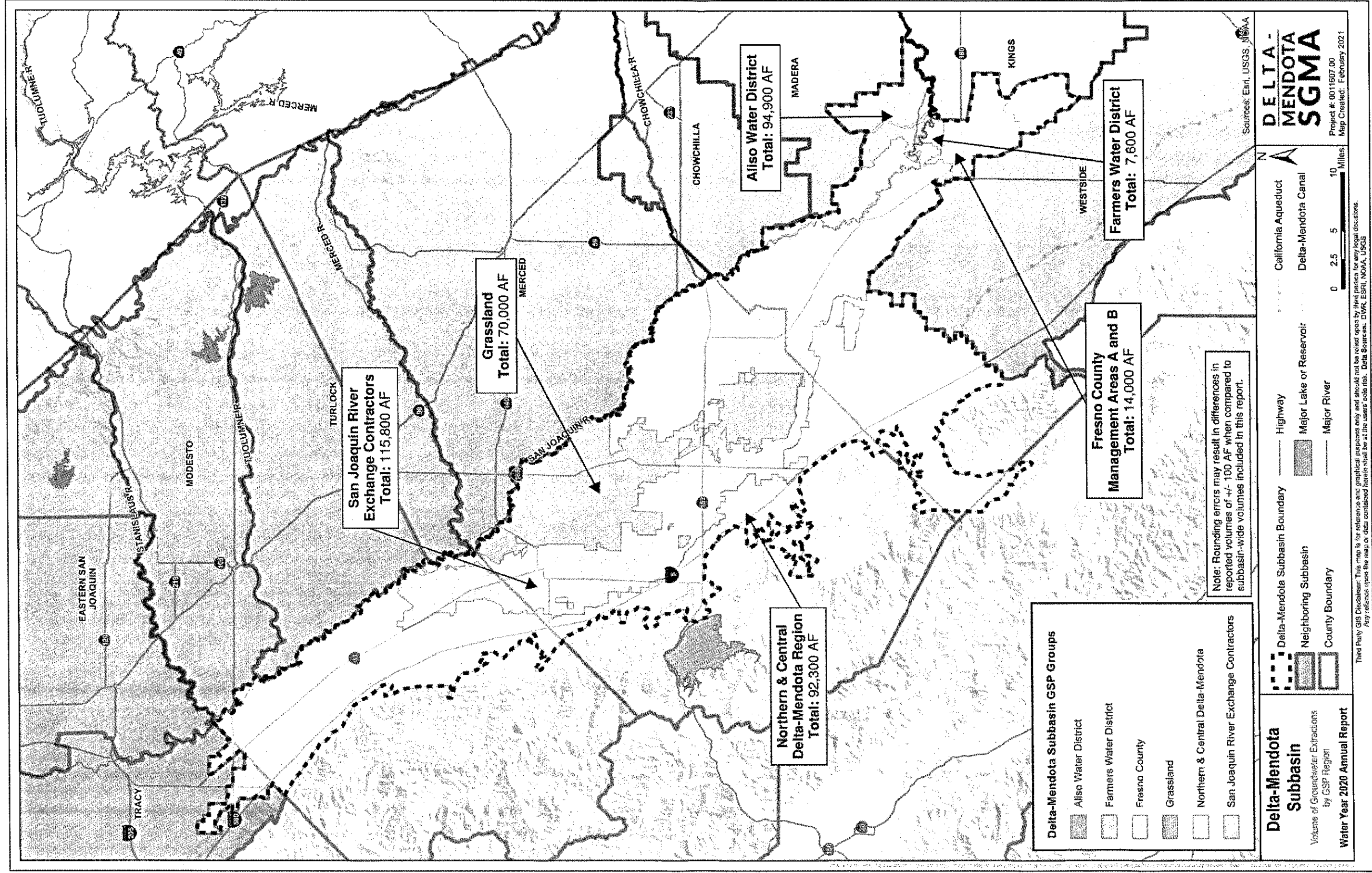


Figure 6. WY2020 General Location and Volume of Groundwater Extractions

3. Surface Water Supply for Recharge

The following surface water supply data are a combination of direct measurements and estimates from each of the six GSP regions in the Delta-Mendota Subbasin. It should be noted that data presented in **Table 2** for the first four months of WY2020 (October 2019 through January 2020) were collected prior to GSP adoption and submittal and prior to the development of standard data collection protocols as set forth by the Subbasin GSAs and DWR as part of GSP implementation.

CVP water accounts for the largest surface water source by volume at an estimated 1,148,600 AF during WY2020, representing approximately 71% of total surface water used within the Delta-Mendota Subbasin (**Table 2**). Water supplies from the Kings and San Joaquin Rivers (Other) account for 171,900 AF (11% of total) of surface water used during WY2020, with an additional 231,500 AF (or 14% of total) sourced from Local Supplies, which include any naturally-occurring creeks or other surface water source other than the Kings or San Joaquin Rivers (**Table 2**). The remaining 4% of surface water supplies during WY2020 consist of State Water Project (SWP) water (2,100 AF), where Oak Flat Water District is the only SWP contractor in the Delta-Mendota Subbasin; Recycled Water (14,100 AF), which is sourced from the North Valley Regional Recycled Water Project; and Local Imported Supplies (47,800 AF) (**Table 2**). Agriculture is the predominant surface water use sector within the Delta-Mendota Subbasin, with a lesser volume of CVP water delivered to Urban/Domestic/Municipal users and wildlife refuges.

Table 2. WY2020 Surface Water Supply, Delta-Mendota Subbasin

Surface Water Supply (Acre-Feet)	
Surface Water Source	WY2020 Total
Central Valley Project (CVP)	1,148,600
State Water Project (SWP)	2,100
Colorado River Project	--
Local Supplies ¹	231,500
Local Imported Supplies	47,800
Recycled Water	14,100
Desalination	--
Other ²	171,900
Total	1,616,000

¹ Surface water supplies sourced from local creeks, which include any naturally-occurring surface water course other than the Kings or San Joaquin Rivers.

² Surface water supplies sourced from the Kings and/or San Joaquin Rivers.

4. Total Water Use

Total water use by water use sector and supply is shown in **Table 3**. The measurement method varies across the six Subbasin GSP regions and largely consists of self-reported volumes from each GSA. The data presented in **Table 3** is a summation of data from the six GSP regions and presents a variety of methods for data calculation and estimation. It should be noted that data presented in **Table 3** for the first four months of WY2020 (October 2019 through January 2020) were collected prior to GSP adoption and submittal and prior to the development of standard data collection protocols as set forth by the Subbasin GSAs and DWR as part of GSP implementation. Additionally, these data are a combination of direct measurements and estimates from each of the six GSP regions in the Delta-Mendota Subbasin. The difference between these values and the sum of the various supplies available to the Subbasin (groundwater, surface water, and recycled/reuse water) reflects water lost through canal leakage, pipe leakage, and other percolating waters.

Agricultural water use comprises approximately 78% of the total water use in the Delta-Mendota Subbasin during WY2020 and is estimated to be 1,232,700 AF (**Table 3**). Managed Wetlands water use comprises approximately 20% of the total water use in the Subbasin during WY2020 at an estimated volume of 322,600 AF (**Table 3**). Collectively, Urban/Domestic/Municipal (18,500 AF), Industrial (6,701 AF), and Managed Recharge (2,300 AF) comprise the remaining 2% of total water use in the Subbasin during WY2020 (**Table 3**).

Table 3. WY2020 Total Water Use, Delta-Mendota Subbasin

Summary of Total Water Use (Acre-Feet)			
Total Water Use	WY2020 Total	Measurement Method (Direct or Estimate)	Measurement Accuracy (%)
Urban/Domestic/Municipal			
Groundwater	15,700	Estimate	N/A
Surface Water	2,800	Estimate	N/A
Recycled Water	0	Estimate	N/A
Reused Water	0	Estimate	N/A
Other	0	Estimate	N/A
<i>Total</i>	<i>18,500</i>	<i>Estimate</i>	<i>N/A</i>
Industrial			
Groundwater	6,700	Estimate	N/A
Surface Water	1	Direct	0-5%
Recycled Water	0	Estimate	N/A
Reused Water	0	Estimate	N/A
Other	0	Estimate	N/A
<i>Total</i>	<i>6,701</i>	<i>Estimate</i>	<i>N/A</i>

Summary of Total Water Use (Acre-Feet)			
Total Water Use	WY2020 Total	Measurement Method (Direct or Estimate)	Measurement Accuracy (%)
Agricultural			
Groundwater	269,200	Estimate	N/A
Surface Water	936,900	Estimate	N/A
Recycled Water	14,100	Estimate	N/A
Reused Water ¹	12,500	Estimate	N/A
Other	0	Estimate	N/A
<i>Total</i>	<i>1,232,700</i>	<i>Estimate</i>	<i>N/A</i>
Managed Wetlands			
Groundwater	0	Estimate	N/A
Surface Water	322,600	Estimate	N/A
Recycled Water	0	Estimate	N/A
Reused Water	0	Estimate	N/A
Other	0	Estimate	N/A
<i>Total</i>	<i>322,600</i>	<i>Estimate</i>	<i>N/A</i>
Managed Recharge			
Groundwater	0	Estimate	N/A
Surface Water	2,300	Estimate	N/A
Recycled Water	0	Estimate	N/A
Reused Water	0	Estimate	N/A
Other	0	Estimate	N/A
<i>Total</i>	<i>2,300</i>	<i>Estimate</i>	<i>N/A</i>
Native Vegetation			
Groundwater	0	Estimate	N/A
Surface Water	0	Estimate	N/A
Recycled Water	0	Estimate	N/A
Reused Water	0	Estimate	N/A
Other	0	Estimate	N/A
<i>Total</i>	<i>0</i>	<i>Estimate</i>	<i>N/A</i>
Other: Outside Subbasin			
Groundwater	0	Estimate	N/A
Surface Water	0	Estimate	N/A
Recycled Water	0	Estimate	N/A
Reused Water	0	Estimate	N/A
Other	0	Estimate	N/A
<i>Total</i>	<i>0</i>	<i>Estimate</i>	<i>N/A</i>
Total	1,582,801	Estimate	N/A

¹ Includes drain water delivered to the San Joaquin River Improvement Project and recirculated water utilized within the Patterson Irrigation District and Twin Oaks Irrigation District service areas.

Table 4. Annual and Cumulative Change in Storage by Principal Aquifer from Seasonal High 2013 to Seasonal High 2020, Delta-Mendota Subbasin

Change in Storage (Acre-Feet)		
Principal Aquifer	Annual Change in Storage, Seasonal High 2019 to Seasonal High 2020	Cumulative Change in Storage, Seasonal High 2013 to Seasonal High 2020
Upper Aquifer	16,100	-133,600
Lower Aquifer	-29,800	-386,700
Total	-13,700	-530,400

Figure 7 shows annual change in groundwater stored by water year type with cumulative change in groundwater storage at the Subbasin level as calculated using the methods previously described. In general, groundwater stored largely decreases during Dry and Shasta Critical years and increases during Wet and Normal years. Following the end of the most recent drought (starting in WY2017), groundwater stored has increased due to increased precipitation and availability of imported surface water supplies. As a result, the negative trend in cumulative change in storage turned into a positive trend through WY2018 and has since plateaued through WY2020.

Figure 8 shows annual groundwater extraction estimates with cumulative change in groundwater storage at the Subbasin level. Groundwater extractions are largely greater in volume during Dry and Shasta Critical years as compared to Normal and Wet years, where increased precipitation and availability of imported water supplies result in a reduced reliance on groundwater during Normal and Wet years. **Figure 8** demonstrates an inverse relationship between change in storage and groundwater extraction, where cumulative change in storage becomes more negative as groundwater extraction increases and becomes more positive as groundwater extraction decreases. Cumulative change in storage long-term trends are heavily impacted by consecutive Dry and Shasta Critical years, with limited surface water availability and increased groundwater use, creating a compounding depletion of groundwater storage.

Figure 9 and **Figure 10** present change in groundwater storage by principal aquifer (Upper Aquifer and Lower Aquifer) by GSP region cumulatively for the period from spring 2013 to spring 2020 (periods of high groundwater elevations) and annually between spring 2019 and spring 2020, respectively. Cumulative change in storage depicted in **Figure 9** captures the height of the most recent drought (occurring during WY2014 through WY2016) as well as wetter conditions that occurred during WY2017 through WY2019 and the return of dry conditions in WY2020. Groundwater was a critically important water supply source during the most recent drought with decreased precipitation, higher temperatures, and little to no available imported surface water supplies. **Figure 9** demonstrates the impact the most recent

drought had on the Delta-Mendota Subbasin and differences in water sources available within each of the GSP groups. Wet conditions during WY2019 resulted in increased recharge in the Upper Aquifer due to increased precipitation and imported surface water deliveries as well as reduced reliance on Lower Aquifer pumping due to availability of surface water supplies. During WY2020, the impacts of wet conditions during WY2019 and sizable late spring precipitation are evident as change in storage is similar to WY2016 conditions (Figure 10).

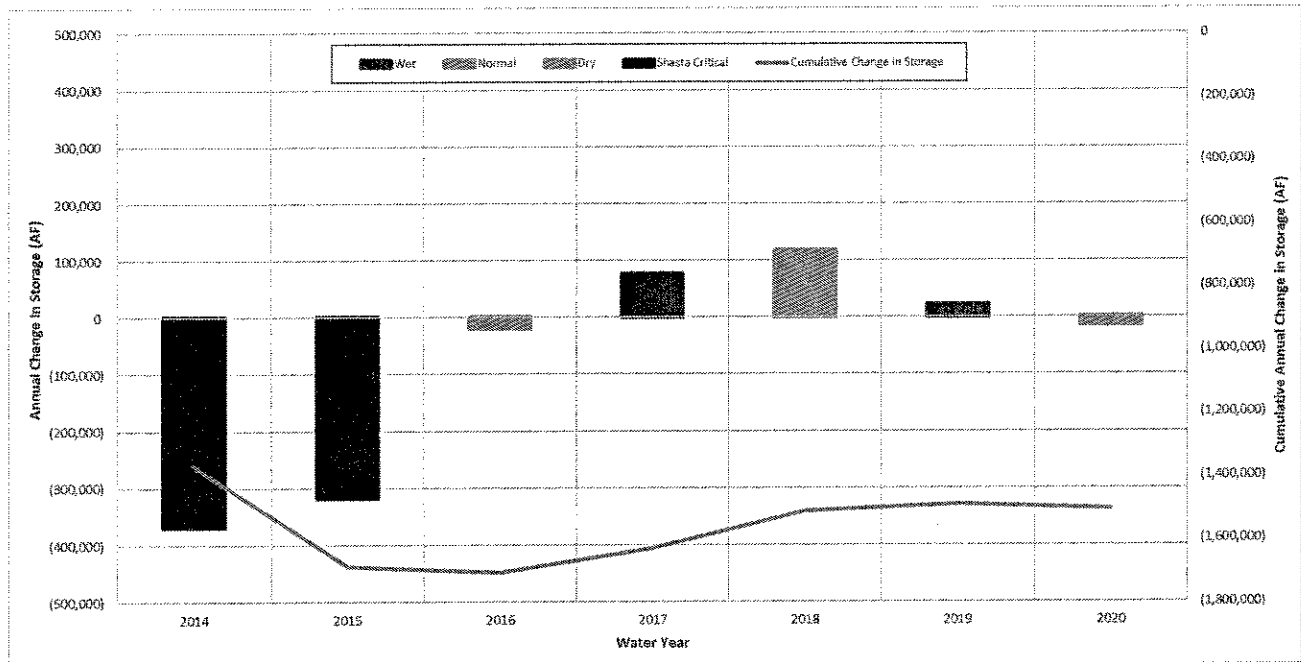


Figure 7. Annual Change in Storage and Cumulative Change in Storage, Seasonal High 2013 to Seasonal High 2020⁹

⁹ Water year types are mapped in the following manner according to the San Joaquin River Water Year Index water year types: Wet = Wet; Normal = Below Normal and Above Normal; Dry = Dry and Critical. Shasta Critical years are designated upon the request of the San Joaquin River Exchange Contractors and Grassland GSP regions as this designation impacts surface water deliveries to exchange contracts and managed wetlands through the CVP. Shasta Critical designations are dependent on inflow to Shasta Reservoir and U.S. Bureau of Reclamation’s operating rules for CVP deliveries.

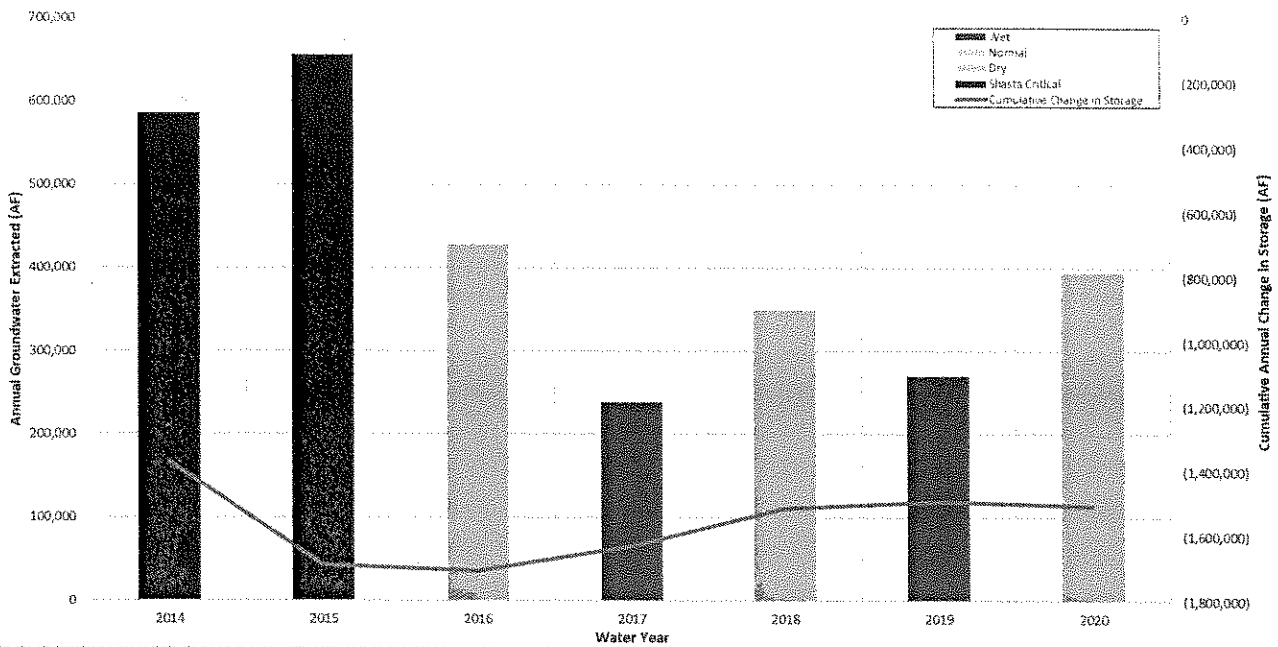


Figure 8. Groundwater Extraction and Cumulative Change in Storage, WY2014 to WY2020 ¹⁰

¹⁰ Water year types are mapped in the following manner according to the San Joaquin River Water Year Index water year types: Wet = Wet; Normal = Below Normal and Above Normal; Dry = Dry and Critical. Shasta Critical years are designated upon the request of the San Joaquin River Exchange Contractors and Grassland GSP regions as this designation impacts surface water deliveries to exchange contracts and managed wetlands through the CVP. Shasta Critical designations are dependent on inflow to Shasta Reservoir and U.S. Bureau of Reclamation’s operating rules for CVP deliveries.

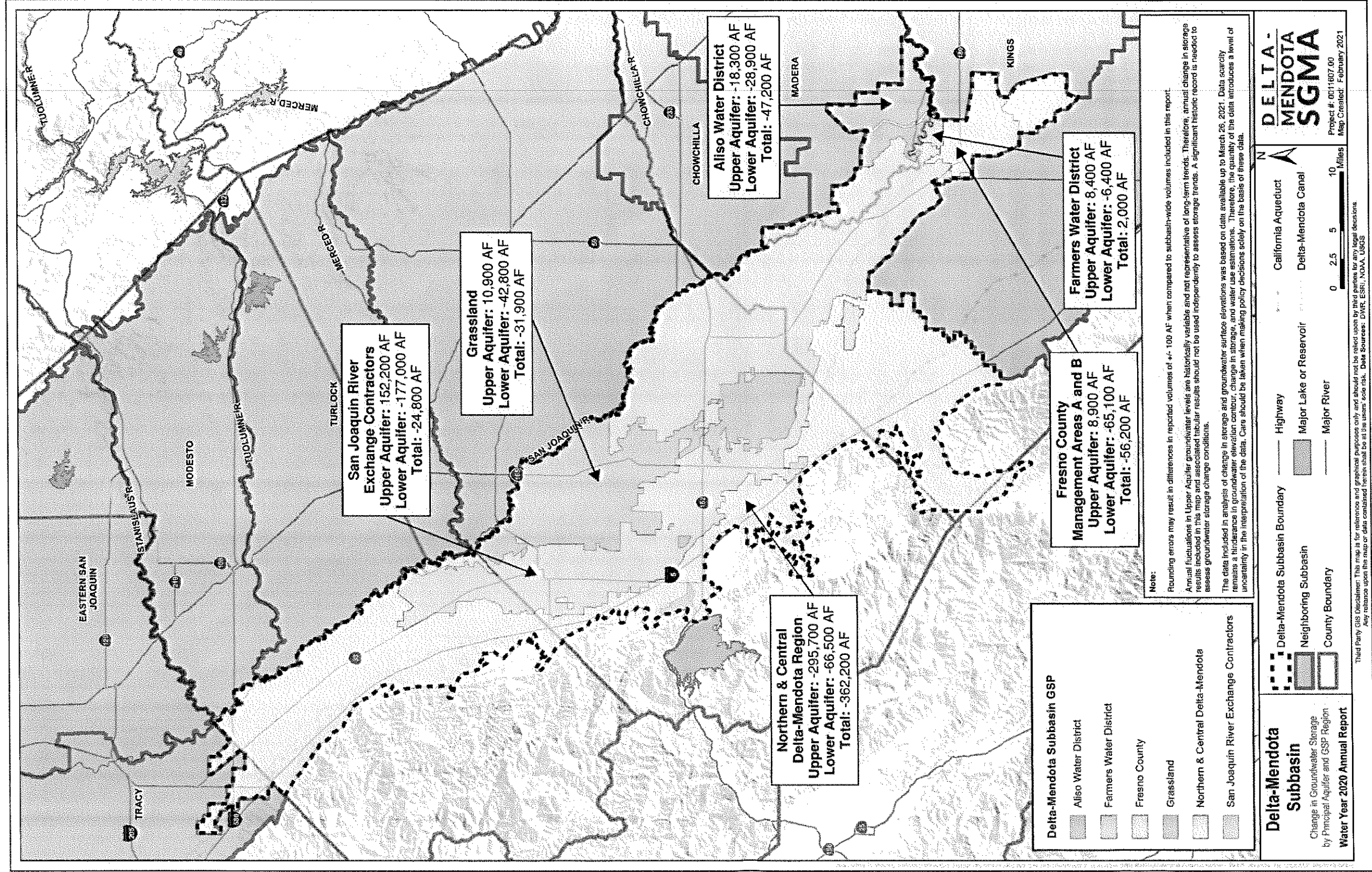


Figure 9. Seasonal High 2013 to Seasonal High 2020 Cumulative Change in Groundwater Storage by Principal Aquifer

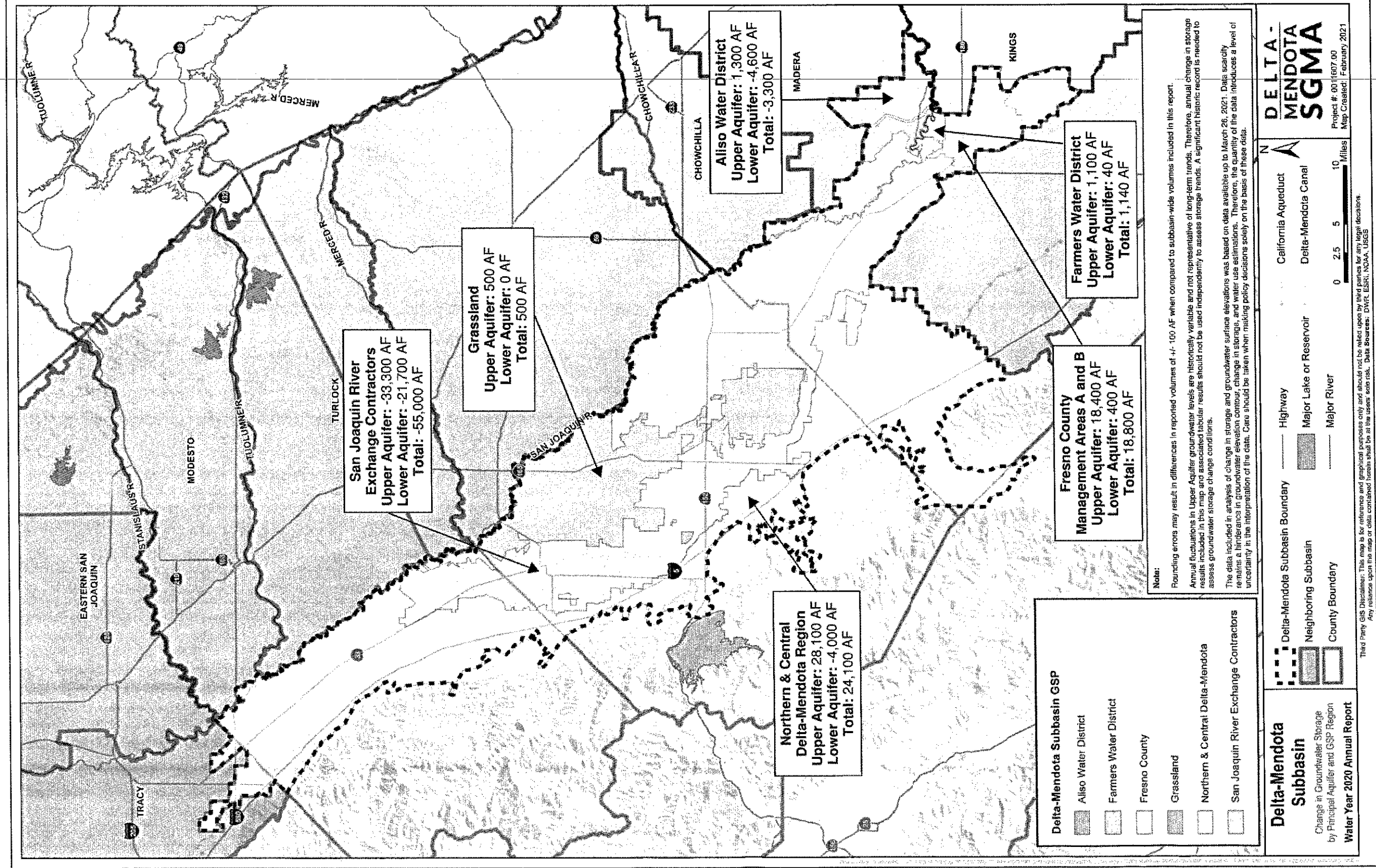


Figure 10. Seasonal High 2019 to Seasonal High 2020 Change in Groundwater Storage by Principal Aquifer

DPWD Remote Flow Monitoring Program, Phase 1



Remote Flow Monitoring

- Objective:
 - Provide District Staff and water users the ability to track and monitor flows throughout the District in real-time.
 - Collect and store data in the most cost effective manner for both the 1st phase of the project and potential expansion.
 - Display the data so that it is easily accessible.

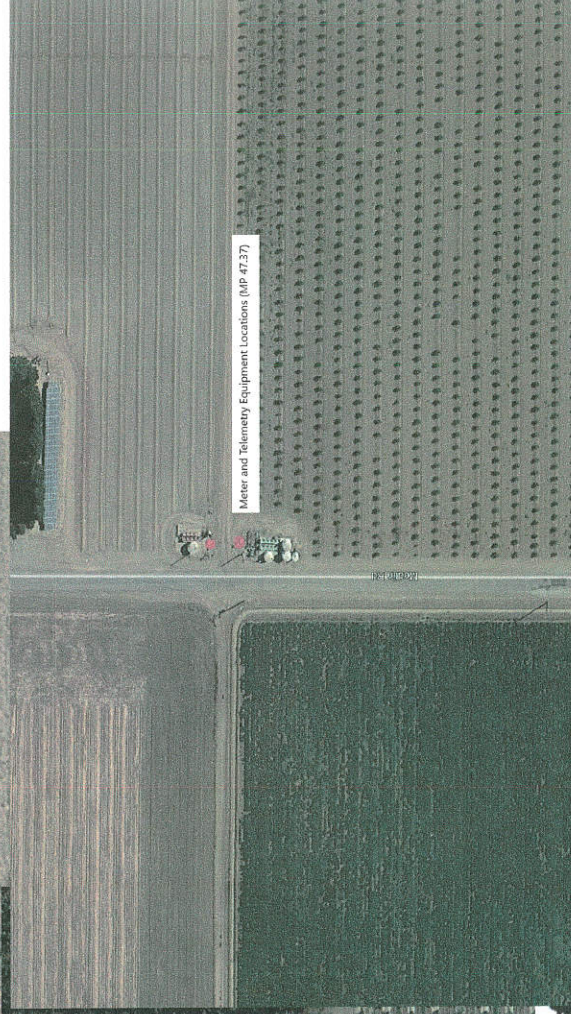
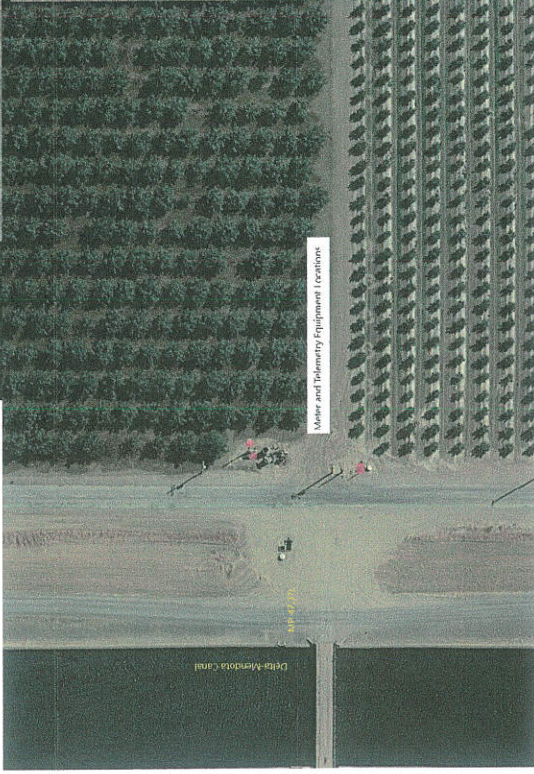


Remote Flow Monitoring

- Initially the plan was for a series of radio towers that would receive the data and transmit it back to the District.
- The topography of the District made that infeasible, the program was converted to a cellular based network.
- Delays in receiving environmental approval pushed the project completion date back to late 2020, early 2021.
- The project has functioning remote flow monitoring at two major turnouts in the District: 46.83L and 47.37L.



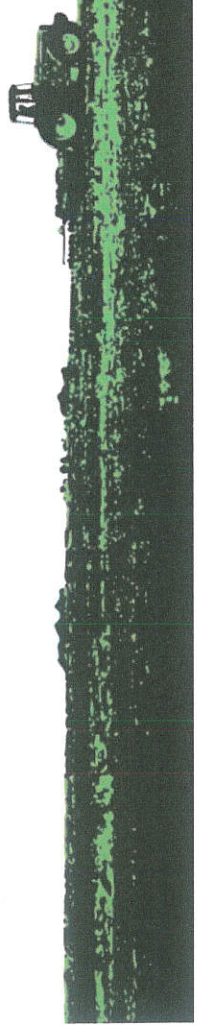
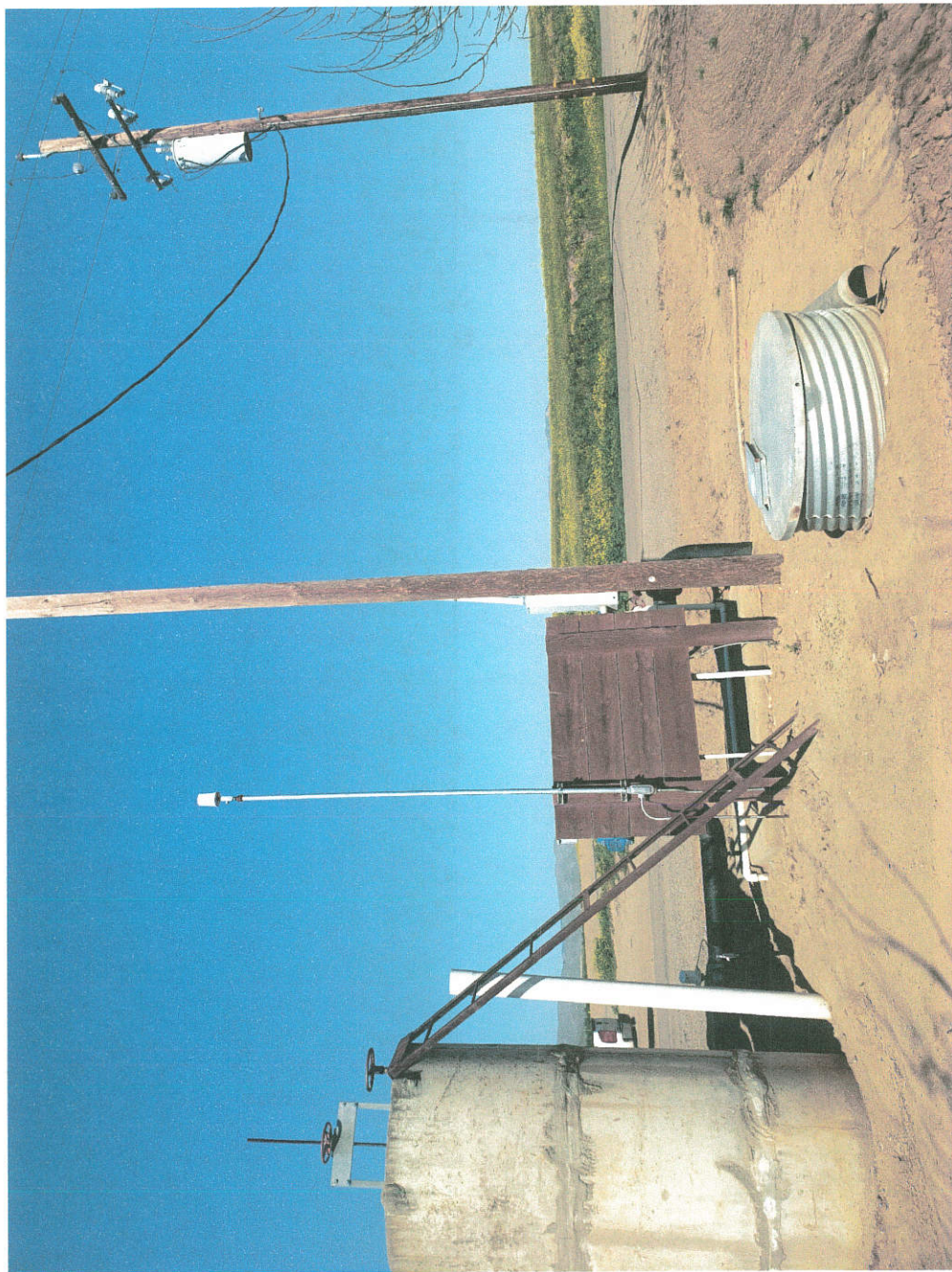
Equipment Installation



Equipment Installation



Equipment Installation



Equipment Installation



Equipment Installation



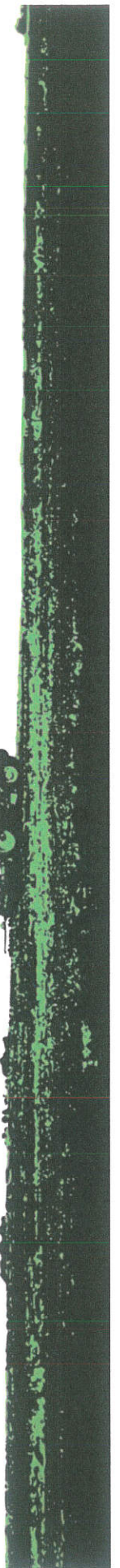
Equipment Installation



SCADA District Interface

Details	Online	Meter Name	Current Flow Rate	Flow Total	Assigned	Field Name	Battery	Signal Strength
Details	<input checked="" type="checkbox"/>	46.83L A	0.0 CFS	562.4 AF		46.83L A	3.52	
Details	<input checked="" type="checkbox"/>	46.83L AA	2.2 CFS	209.8 AF	markic	South Field	3.33	
Details	<input checked="" type="checkbox"/>	46.83L C	0.0 CFS	29.3 AF		46.83L C	3.55	
Details	<input checked="" type="checkbox"/>	47.37L A	0.0 CFS	111.7 AF		47.37L A	3.56	
Details	<input checked="" type="checkbox"/>	47.37L A1	0.0 CFS	0.1 AF		47.37L A1	3.58	
Details	<input checked="" type="checkbox"/>	47.37L B	0.0 CFS	153.9 AF		47.37L B	3.63	
Details	<input checked="" type="checkbox"/>	47.37L C	0.0 CFS	1.9 AF		47.37L C	3.58	
Details	<input checked="" type="checkbox"/>	47.37L D	0.0 CFS	0.0 AF		47.37L D	3.62	
Details	<input checked="" type="checkbox"/>	test2	CFS	AF	farmer1	Test Field2	3.53	

25 rows



SCADA District Interface

METER INFO

Assigned	farmer1
Zone	Zone 1
Field Name	South Field

Leaflet | Map data © OpenStreetMap contributors, CC-BY-SA

46.831 AA

Flow Rate 2.2 CFS

Flow Total 209.81 AF

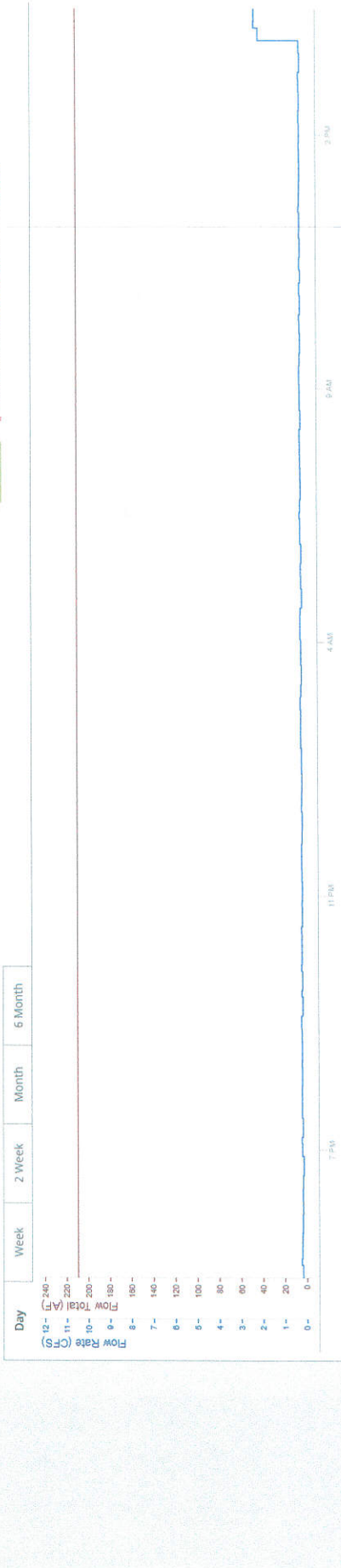
-73 dBm

3.63

575

Reports every 900 seconds

86



Maintenance Log

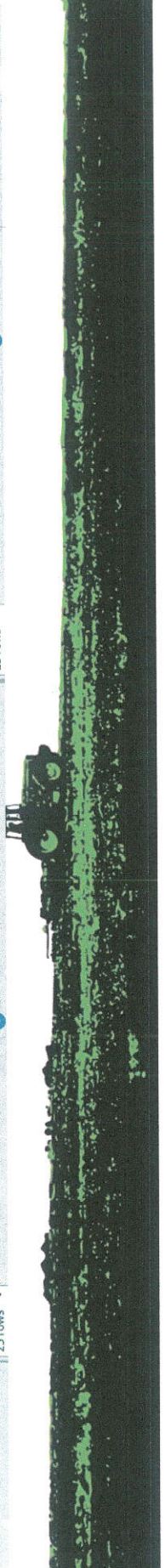
milsh	Battery Replacement
Jan 2, 2021	Battery Replacement
milsh	New Log2
Feb 2, 2021	New Log2

Alarm Log

0 alarm events
Last 14 days

Event Time | Event State | Display Path

No results found



821

SCADA Water User Interface



HOME



TRENDS



REPORTS



adams



Home

46.89L A
46.83L A

Flow Rate	0.0 CFS
Flow Total	562.38 AF

South Field
46.83L AA

Flow Rate	2.2 CFS
Flow Total	209.81 AF

46.89L C
46.83L C

Flow Rate	0.0 CFS
Flow Total	29.32 AF

47.37L A
47.37L A

Flow Rate	0.0 CFS
Flow Total	111.66 AF

47.37L A1
47.37L A1

Flow Rate	0.0 CFS
Flow Total	0.10 AF

47.37L B
47.37L B

Flow Rate	0.0 CFS
Flow Total	153.88 AF

47.37L C
47.37L C

Flow Rate	0.0 CFS
Flow Total	1.88 AF

47.37L D
47.37L D

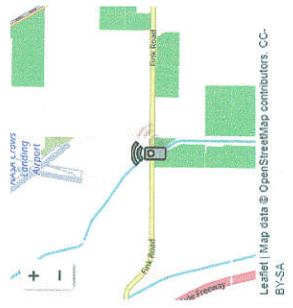
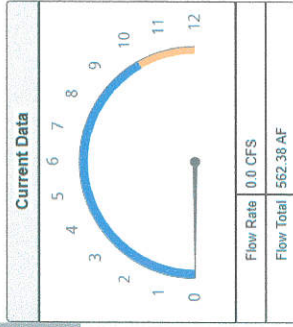
Flow Rate	0.0 CFS
Flow Total	0.00 AF

Test Field2
test2

Flow Rate	-4.0 CFS
Flow Total	AF

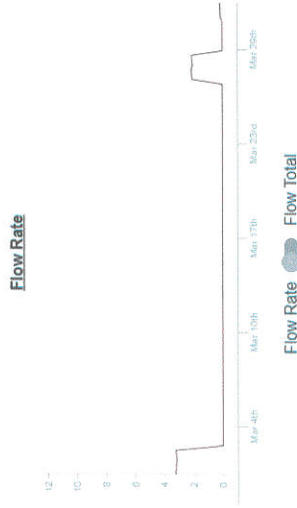


SCADA District Interface



Running Totals

1 Day	0.00 AF
7 Day	0.00 AF
14 Day	0.00 AF
30 Day	0.00 AF



Questions?

