Agenda

Regular Meeting
of the Board of Directors of
Yuima Municipal Water District

Monday, March 28, 2022 2:00 P.M.
34928 Valley Center Road, Pauma Valley, California

Roland Simpson, President — Steve Wehr, Vice President
Don Broomell, Secretary / Treasurer — Laney Villalobos, Director
Bruce Knox, Director

AGENDA TOPICS

1. **Roll Call** - Determination of Quorum — Broomell

2. **Pledge of Allegiance**

3. **Approval of Agenda –** At its option, the Board may approve the agenda, delete an item, reorder items and add an item to the agenda per the provisions of Government Code §54954.2. — Simpson

4. **Public Comment** – This is an opportunity for members of the public to address the Board on matters of interest within the Board's jurisdiction that are not listed on the agenda. The Brown Act does not allow any discussion by the Board or staff on matters raised during public comment except; 1) to briefly respond to statements made or questions posed; 2) ask questions for clarification; 3) receive and file the matter; 4) if it is within staff's authority, refer it to them for a reply; or 5) direct that it be placed on a future board agenda for a report or action. Inquiries pertaining to an item on the agenda will be received during deliberation on that agenda item. No action can be taken unless specifically listed on the agenda (Government Code §54954.3) — Simpson

I. CONSENT CALENDAR

Consent Calendar items will be voted on together by a single motion unless separate action is requested by a Board Member, staff or audience member.

1. Approve minutes of the Regular Meeting of February 28, 2022.

2. Approve of Accounts Paid and Payables for & Reporting under Government Code §53065.5 for February 2022.

3. Accept of Monthly Financial Reports - February 2022, Treasurer's Report and Cash Statements.

II. ACTION DISCUSSION

1. Consider Extending the Audit Contract with the Current Auditors, Teaman Ramirez & Smith, CPA's for an additional Three Years. — Reeh

Background: The Board approved audit services with Teaman Ramirez & Smith for the fiscal years 2019 through 2022. A reasonable proposal for a three (3) year extension of the contract has been presented for the Board consideration.

Recommendation : That, the Board direct staff as to its desire to extend the contract for an additional three years, 2023, 2024 and 2025.

2. Proposed Resolution Setting Forth a Schedule of Water Availability Charges Proposed to be Established for the District (2022/2023) and Fixing the Time and Place of Hearing and Giving Notice of Hearing. — Simpson

Background: The levy of Water Availability Charge collects a $10/acre within the District's boundaries or, approximately $94,483. These funds are allocated in the capital budget each year. This is not a new or increased charge and is not subject to the provision of Proposition 218.

Recommendation: That, should they agree the Board adopt the Proposed Resolution which sets the hearing before the Board at 2:10 p.m. on the 25th day of April, 2022 and direct staff to publish the notice as required.

3. Discussion: Budget Development Process — Reeh

4. Discussion Director Per Diem. — Simpson

Background: The Director compensation per Board Meeting is $100 and $50 per Special Committee Meeting. The last change to the per diem was done in 2017. Recently a survey of per diem rates was completed and is attached for your review.

Recommendation: Direct staff as to whether the Board desires to change the per diem at the April Board meeting.

5. Acceptance of the Groundwater Sustainability Plan Annual Report and Direct Staff to submit the report to the Department of Water Resources by — Reeh

Background: In accordance with California Water Code Section 10728, On April 1st following the adoption of a Groundwater Sustainability Plan(GSP), Groundwater Sustainability Agencies must submit and annual report to DWR with an update to information contained in the GSP. The GSP consultant has completed the annual report for the Board/s review and acceptance for submission to DWR by April 1, 2022.

Recommendation: That, should they agree the Board accept the GSP Annual Report and direct staff to submit the report to DWR.

6. **PUBLIC HEARING** — Reeh

Public Hearing to take public comments on proposed redrawing of District Division Boundaries after 2020 census.

Background : Government Code 22000 requires that Special District's evaluate the population changes within their divisional boundaries and determine if a change needs to be made to to those boundaries. Head counts in divisons may not differ more than 10% when determine balanced populations within divisions. In addition to population considerations, Districts may also consider topography, geography, cohesiveness, contiguity, integrity and compactness of territory and community of interests of the division when determining the necesssity , if any, to redistrict the the divisonal boundaries.

Recommendation: That the Board direct staff to conduct a second public hearing before April 17th and adopt any necessary changes in the the Divisonal boundaries of the District.

III. CLOSED SESSION

1. PUBLIC EMPLOYEE PERFORMANCE EVALUATION: Pursuant to Government Code 54957 – Title: General Manager — Simpson

2 CONFERENCE WITH LEGAL COUNSEL - Pending Litigation - 2 Cases. Pursuant to Government Code Section 54956.9 — Jungreis

IV. INFORMATION / REPORTS

1. Board Reports / Meetings

JPIA	Villalobos
San Diego County Water Authority/MWD	Reeh
Other Meetings (SGMA/GSA)	Simpson

2. Administrative — Reeh
General Information

3. Capital Improvements — Reeh

4. Operations — Simon
General Information
Rainfall
Production / Consumption Report
Well Levels
District Water Purchased

5. Counsel — Jungreis

6. Finance & Administrative Services — Brewer
General Information
Delinquent Accounts

V. OTHER BUSINESS

VI. ADJOURNMENT

NOTE: In compliance with the Americans with Disabilities Act, if special assistance is needed to participate in the Board meeting, please contact the General Manager at (760) 742-3704 at least 48 hours before the meeting to enable the District to make reasonable accommodations. The meeting begins at 2:00 p.m. The time listed for individual agenda items is an estimate only. Any writings or documents provided to a majority of the members of the Yuima Municipal Water District Board of Directors regarding any item on this agenda will be made available for public inspection during normal business hours in the office of the General Manager located at 34928 Valley Center Road, Pauma Valley.

I.
CONSENT CALENDAR

MINUTES OF THE REGULAR MEETING
OF THE BOARD OF DIRECTORS OF
YUIMA MUNICIPAL WATER DISTRICT
February 28, 2022

Regular Meeting 02/28/2022

The Regular Meeting of the Board of Directors of the Yuima Municipal Water District was held at the office of the district, 34928 Valley Center Road, Pauma Valley, California on Monday, the 28th day of February 2022.

1. ROLL CALL – DETERMINATION OF QUORUM

Call to Order 2:02 p.m.

President Simpson called the meeting to order at 2:02 p.m.

Present: 5

Directors Present:

Roland Simpson, President
Steve Wehr, Vice-President
Don Broomell, Secretary/Treasurer
Laney Villalobos, Director
Bruce Knox, Director

Quorum Present

President Simpson declared that a quorum of the Board was present.

Absent: 0

Directors Absent:

Others Present

Others Present:

Amy Reeh, General Manager, YMWD
Carmen Rodriguez, Administrative Assistant, YMWD
Mark Quinn, Operations Manager, YMWD
Jeremy Jungreis, Counsel, Rutan & Tucker, LLP (via videoconference)

2. PLEDGE OF ALLEGIANCE

General Manager Reeh led those present in the Pledge of Allegiance.

3. APPROVAL OF AGENDA

Director Villalobos requested that items number 4 and 5 be removed from the Consent Calendar and to be voted as action discussion items. The agenda was approved with the revised changes requested by Director Villalobos.

4. PUBLIC COMMENT

No speaker requests were received and no other indication to speak was offered by members of the public present.

I. CONSENT CALENDAR

Upon motion being offered by Director Wehr, seconded by Director Simpson the Minutes of the Regular Meeting of January 24, 2022, Accounts Paid and Payables for January 2022, and Monthly Financial Reports for January 2022, were approved by the following roll-call vote, to wit:

AYES:	Wehr, Villalobos, Knox, Broomell, Simpson
NOES:	None
ABSTAIN:	None
ABSENT:	None

II. ACTION/DISCUSSION

1. Consider and Accept Staff Report on Yuima's Identity Theft Prevention Program and the District's Fraud Policy.

Following discussion and upon motion being offered by Director Knox seconded by Director Wehr, *Yuima's Identity Theft Prevention Program and the District's Fraud Policy Staff Reports were received and accepted* unanimously by the following roll-call vote, to wit:

AYES: Wehr, Villalobos, Knox, Broomell, Simpson
NOES: None
ABSTAIN: None
ABSENT: None

2. Authorize President to Execute Final Joint Powers Authority Agreement Subject to Recommended Revisions Made by the General Counsel After Consultation with President.

Following discussion and upon motion being offered by Director Knox seconded by Director Wehr, *the Board Authorized the President to Sign the Joint Powers Authority Agreement Subject to Recommend Revisions Made by the General Counsel After Consultation with President* was approved; carried unanimously by the following roll-call vote, to wit:

AYES: Wehr, Villalobos, Knox, Broomell, Simpson
NOES: None
ABSTAIN: None
ABSENT: None

3. Approve Purchase Order to Geoscience Support Services for Completion of 2022 GSP Annual Report in the amount of $45,458.

Following discussion and upon motion being offered by Director Knox seconded by Director Simpson, *Purchase Order to Geoscience Support Services for Completion of 2022 GSP Annual Report in the amount of $45,458 was* approved by the following roll-call vote, to wit:

AYES: Wehr, Villalobos, Knox, Broomell, Simpson
NOES: None
ABSTAIN: None
ABSENT: None

4. Approve Revisions to the District's COVID-19 Prevention Plan.

Following Discussion and upon motion being offered by Director Knox seconded by Director Wehr, *Revisions to the District's COVID-19 Prevention Plan following recommendations by CA/OSHA with no supplemental pay leave to be offered* were approved and carried by the following roll-call vote, to wit:

AYES:	Wehr, Villalobos, Knox, Simpson
NOES:	None
ABSTAIN:	Broomell
ABSENT:	None

III. CLOSED SESSION

The Board entered into closed session at 2:39 p.m. and returned at 2:58 p.m. Pending Litigation one (1) case Pursuant to Government Code Section 54956.9. The Board provided direction to Counsel regarding the defense in the litigation.

IV. INFORMATION/REPORTS

These reports have been made available in the Board packet, however, in an effort to adhere to Health Agency directive and limit time spent in the presence of others these reports will not be verbally reviewed. Specific questions will be addressed if necessary.

1. Board Reports/Meeting

No Reports were Available.

2. Administrative

General Manager Reeh gave a brief update on the Forebay Pump Station. As previously reported to the Board, all pumps at the station have an issue with leaking oil. There is currently 1 pump being used and a second one as a backup pump. The General Manager advised that she will be setting up a meeting with both manufacturers to get this issue resolved before having to get the General Counsel involved.

3. Capital Improvement Program

The Capital Improvement Report was available in the Board packet.

4. Operations

Operations Manager Mark Quinn gave a brief report on the District's Well Levels as well as the water quality issue on Well #20.

5. Counsel

Counsel had nothing new to report.

6. Finance & Administrative Services

Reports were available in the Board packet.

V. OTHER BUSINESS

No other business was presented.

VI. ADJOURNMENT

There being no further business to come before the Board the meeting was adjourned at 3:32 p.m.

_____
Don Broomell, Secretary/Treasurer

_____
Roland Simpson, President

Bank Transaction Report

Yuima Municipal Water District

Transaction Detail

Issued Date Range: 02/01/2022 - 02/28/2022

Issued Date	Number	Description	Type	Amount
02/02/2022	70861	EDCO Waste and Recycling Services, Inc.	Check	-192.34
02/02/2022	70862	Eurofins Eaton Analytical, LLC	Check	-150.00
02/02/2022	70863	GRATZL HEAVY EQUIPMENT RENTAL	Check	-270.00
02/02/2022	70864	LYNETTE BREWER	Check	-35.84
02/02/2022	70865	OFFICE DEPOT	Check	-65.83
02/02/2022	70866	PETTY CASH ACCT/CA.BANK &TRUST	Check	-213.89
02/02/2022	70867	PRUDENTIAL OVERALL SUPPLY	Check	-175.36
02/02/2022	70868	SUSAN M. MEYER	Check	-1506.00
02/02/2022	70869	TEMECULA VALLEY PIPE	Check	-12688.04
02/02/2022	70870	TRAVIS W. PARKER	Check	-300.00
02/02/2022	70871	UNDERGROUND SERV. ALERT	Check	-11.65
02/02/2022	70872	VALLEY CENTER WIRELESS	Check	-129.90
02/02/2022	70873	WATERLINE TECHNOLOGIES	Check	-468.00
02/08/2022	70875	VALIC GA#24515	Check	-300.00
02/08/2022	DFT0001190	CALPERS -FISCAL SERVICES DIV.	Bank Draft	-501.73
02/08/2022	DFT0001191	CALPERS -FISCAL SERVICES DIV.	Bank Draft	-564.16
02/08/2022	DFT0001192	CALPERS -FISCAL SERVICES DIV.	Bank Draft	-1624.29
02/08/2022	DFT0001193	CALPERS -FISCAL SERVICES DIV.	Bank Draft	-3096.33
02/08/2022	DFT0001194	CALPERS 457 PLAN	Bank Draft	-52.50
02/08/2022	DFT0001195	CALPERS -FISCAL SERVICES DIV.	Bank Draft	-8.37
02/08/2022	DFT0001196	Employment Development Department	Bank Draft	-1292.12
02/08/2022	DFT0001197	EFTPS - Federal Payroll Tax	Bank Draft	-44.64
02/08/2022	DFT0001198	Employment Development Department	Bank Draft	-333.10
02/08/2022	DFT0001199	EFTPS - Federal Payroll Tax	Bank Draft	-4393.02
02/08/2022	EFT0000027	Payroll EFT	EFT	-22672.63
02/09/2022	70824	WATERLINE TECHNOLOGIES Reversal	Check Reversal	199.00
02/10/2022	70876	ACWA JPIA	Check	-16720.83
02/10/2022	70877	AL STEINBAUM'S JANITORIAL	Check	-210.00
02/10/2022	70878	BARTEL & ASSOCIATES LLC	Check	-2640.00
02/10/2022	70879	Breona Easley	Check	-37.91
02/10/2022	70880	CIMA FIRE PROTECTION, INC.	Check	-35.00
02/10/2022	70881	CONTROLLED ENVIRONMENTS LLC	Check	-663.00
02/10/2022	70882	COUNTY OF SAN DIEGO - DEH	Check	-1030.00
02/10/2022	70883	DENISE M. LANDSTEDT	Check	-2416.00
02/10/2022	70884	Eurofins Eaton Analytical, LLC	Check	-15.00
02/10/2022	70885	FALLBROOK OIL COMPANY	Check	-2305.58
02/10/2022	70886	Hydrocurrent Well Services	Check	-13569.74
02/10/2022	70887	MCMASTER-CARR SUPPLY CO	Check	-553.66
02/10/2022	70888	OFFICE DEPOT	Check	-34.78
02/10/2022	70889	Pauma Band Of Mission Indians	Check	-796.92
02/10/2022	70890	SAN DIEGO COUNTY WATER AUTHORITY	Check	-197338.05
02/10/2022	70891	SDG&E	Check	-94590.28
02/10/2022	70892	VERIZON WIRELESS	Check	-93.12
02/10/2022	70893	WATERLINE TECHNOLOGIES	Check	-199.00
02/16/2022	70894	AFLAC	Check	-128.76
02/16/2022	70895	EnviroMatrix Analytical, Inc.	Check	-290.00
02/16/2022	70896	Hydrocurrent Well Services	Check	-6588.77
02/16/2022	70897	IMAGE SOURCE, INC.	Check	-452.16

02/16/2022	70898	Lori Johnson	Check	-2494.80
02/16/2022	70899	Pitney Bowes Reserve Acct- ACCT#41097148	Check	-500.00
02/16/2022	70900	RUTAN & TUCKER, LLP	Check	-10478.83
02/16/2022	70901	USA BLUE BOOK	Check	-1924.94
02/16/2022	70902	VALLEY CENTER WIRELESS	Check	-129.90
02/16/2022	70903	Verizon Connect	Check	-52.00
02/16/2022	70904	WATERLINE TECHNOLOGIES	Check	-621.26
02/16/2022	DFT0001200	CALIF BANK & TRUST VISA	Bank Draft	-3002.78
02/22/2022	70905	VALIC GA#24515	Check	-300.00
02/22/2022	70906	Geoscience Support Services	Check	-137832.79
02/22/2022	70906	Geoscience Support Services Reversal	Check Reversal	137832.79
02/22/2022	70906	Geoscience Support Services	Bank Draft	-137832.79
02/22/2022	DFT0001201	CALPERS -FISCAL SERVICES DIV.	Bank Draft	-496.67
02/22/2022	DFT0001202	CALPERS -FISCAL SERVICES DIV.	Bank Draft	-558.47
02/22/2022	DFT0001203	CALPERS -FISCAL SERVICES DIV.	Bank Draft	-1610.49
02/22/2022	DFT0001204	CALPERS -FISCAL SERVICES DIV.	Bank Draft	-3070.02
02/22/2022	DFT0001205	CALPERS -FISCAL SERVICES DIV.	Bank Draft	-8.37
02/22/2022	DFT0001206	Employment Development Department	Bank Draft	-1192.85
02/22/2022	DFT0001207	EFTPS - Federal Payroll Tax	Bank Draft	-73.48
02/22/2022	DFT0001208	Employment Development Department	Bank Draft	-319.97
02/22/2022	DFT0001209	EFTPS - Federal Payroll Tax	Bank Draft	-4123.68
02/22/2022	EFT0000028	Payroll EFT	EFT	-21266.93
			Report Total	**-581657.53**

Government Code 53065.5 Reporting
FY 2020/21

#		July	August	September	October	November	December	January	February	March	April	May	June	2021/22
1040	Allen													$ -
900	Mark													$ -
1349	Matt						101.36	90.00						$ 191.36
1772	Amy						122.08							$ 122.08
1827	Noel			244.52										$ 244.52
1858	Lynette		131.41						35.84					$ 167.25
1854	Carmen	26.35	53.76	427.77	95.76		64.96							$ 668.60
1946	Breona	17.70		35.40	36.29				37.91					$ 127.30
1997	Rosbelth			172.38										$ 172.38
	TOTAL	$ 44.05	$ 185.17	$ 880.07	$ 132.05	$ -	$ 288.40	$ 90.00	$ 73.75	$ -	$ -	$ -	$ -	$ 1,693.49

California Government Code Section 53065.5

Each special district, as defined by subdivision (a) of Section 53036, shall, at least annually, disclose any reimbursement paid by the district within the immediately preceding fiscal year of at least one hundred ($100) for each individual charge for services or products received. "Individual charge" includes, but is not limited to, one meal, lodging for one day, transportation, or a registration fee paid to any employee or member of the governing body of the district. The disclosure requirement shall be fulfilled by including the reimbursement information in a document published or printed at least annually by a date determined by that district and shall be made available for public inspection.

Government Code 53065.5 reporting

Breakdown available in the Finance Department

file-L-02-46.6

Pooled Cash Report

Yuima Municipal Water District

For the Period Ending 2/28/2022

ACCOUNT #	ACCOUNT NAME	BEGINNING BALANCE	CURRENT ACTIVITY	CURRENT BALANCE
CLAIM ON CASH				
01-1001-000	Claim on Cash - General Fund	2,870,143.55	87,820.81	2,957,964.36
02-1001-000	Claim on Cash - IDA	1,484,461.10	(237,734.68)	1,246,726.42
10-1001-000	Claim on Cash - Yuima General Dist	1,049,299.52	21,281.81	1,070,581.33
20-1001-000	Claim on Cash - Improvement District Capital	311,694.91	(22,643.22)	289,051.69
TOTAL CLAIM ON CASH		5,715,599.08	(151,275.28)	5,564,323.80
CASH IN BANK				
Cash in Bank				
99-1000-000	Petty Cash	500.00	0.00	500.00
99-1000-011	General Checking - NEW	104,598.72	9,893.64	114,492.36
99-1100-015	General Savings	10,053.95	0.08	10,054.03
99-1100-017	Official Pay Account	57,349.32	4,598.75	61,948.07
99-1200-020	LAIF State Treasury	3,713,225.25	(150,000.00)	3,563,225.25
99-1300-030	UBS Money Market - Clearing	1,832.28	456.48	2,288.76
99-1300-035	Higgins Capital Mgmnt - Clearing	0.06	3,528.77	3,528.83
99-1400-040	Texas Capital Bank-CUSIP 88224PLY3	99,787.00	(306.00)	99,481.00
99-1400-046	BMO Harris BK - 05600XCG3	96,878.00	(1,390.00)	95,488.00
99-1400-051	BMW Bank - 05580AH64	198,604.00	(2,964.00)	195,640.00
99-1400-053	Sallie Mae CUSIP 795451AN3	244,137.50	(3,625.00)	240,512.50
99-1400-054	State Bank of India - 856285VD0	242,635.00	(3,480.00)	239,155.00
99-1400-058	Morgan Stanley Bank-61690UUH1	253,755.00	(2,765.00)	250,990.00
99-1400-062	Flagstar Bank CUSIP 33847E4D6	97,911.00	(1,301.00)	96,610.00
99-1400-068	American Express Natl Bank-02589AB50	252,517.50	(1,247.50)	251,270.00
99-1450-061	FHLB Bond CUSIP 3130AJZ36	96,622.00	(797.00)	95,825.00
99-1450-068	FHLB Step-Up CUSIP 3130AMAW2	245,192.50	(1,877.50)	243,315.00
TOTAL: Cash in Bank		5,715,599.08	(151,275.28)	5,564,323.80
TOTAL CASH IN BANK		5,715,599.08	(151,275.28)	5,564,323.80
DUE TO OTHER FUNDS				
99-2601-000	Due to Other Funds	5,715,599.08	(151,275.28)	5,564,323.80
TOTAL DUE TO OTHER FUNDS		5,715,599.08	(151,275.28)	5,564,323.80

Claim on Cash	5,564,323.80	**Claim on Cash**	5,564,323.80	**Cash in Bank**	5,564,323.80
Cash in Bank	5,564,323.80	**Due To Other Funds**	5,564,323.80	**Due To Other Funds**	5,564,323.80
Difference	0.00	**Difference**	0.00	**Difference**	0.00

ACCOUNT #	ACCOUNT NAME	BEGINNING BALANCE	CURRENT ACTIVITY	CURRENT BALANCE
ACCOUNTS PAYABLE PENDING				
01-2555-000	AP Pending - General District	511,583.02	239,463.09	751,046.11
02-2555-000	AP Pending - IDA	77,047.39	41,631.34	118,678.73
TOTAL ACCOUNTS PAYABLE PENDING		601,318.45	268,406.39	869,724.84
DUE FROM OTHER FUNDS				
99-1501-000	Due From General District	(511,583.02)	(239,463.09)	(751,046.11)
99-1502-000	Due From IDA	(77,047.39)	(41,631.34)	(118,678.73)
TOTAL DUE FROM OTHER FUNDS		(601,318.45)	(268,406.39)	(869,724.84)
ACCOUNTS PAYABLE				
99-2555-000	Accounts Payable	601,318.45	268,406.39	869,724.84
TOTAL ACCOUNTS PAYABLE		601,318.45	268,406.39	869,724.84

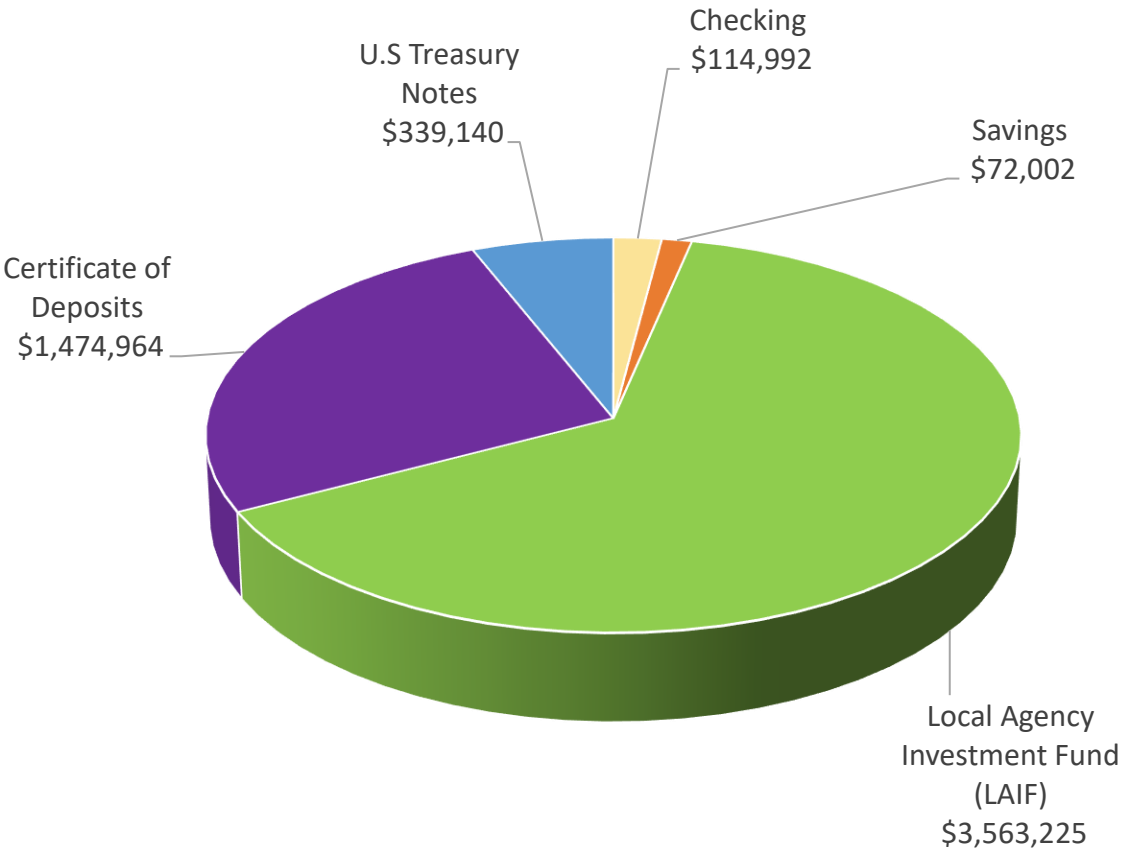
AP Pending	869,724.84	**AP Pending**	869,724.84	**Due From Other Funds**	869,724.84
Due From Other Funds	869,724.84	**Accounts Payable**	869,724.84	**Accounts Payable**	869,724.84
Difference	0.00	**Difference**	0.00	**Difference**	0.00

Yuima Municipal Water District

Cash & Investments Data

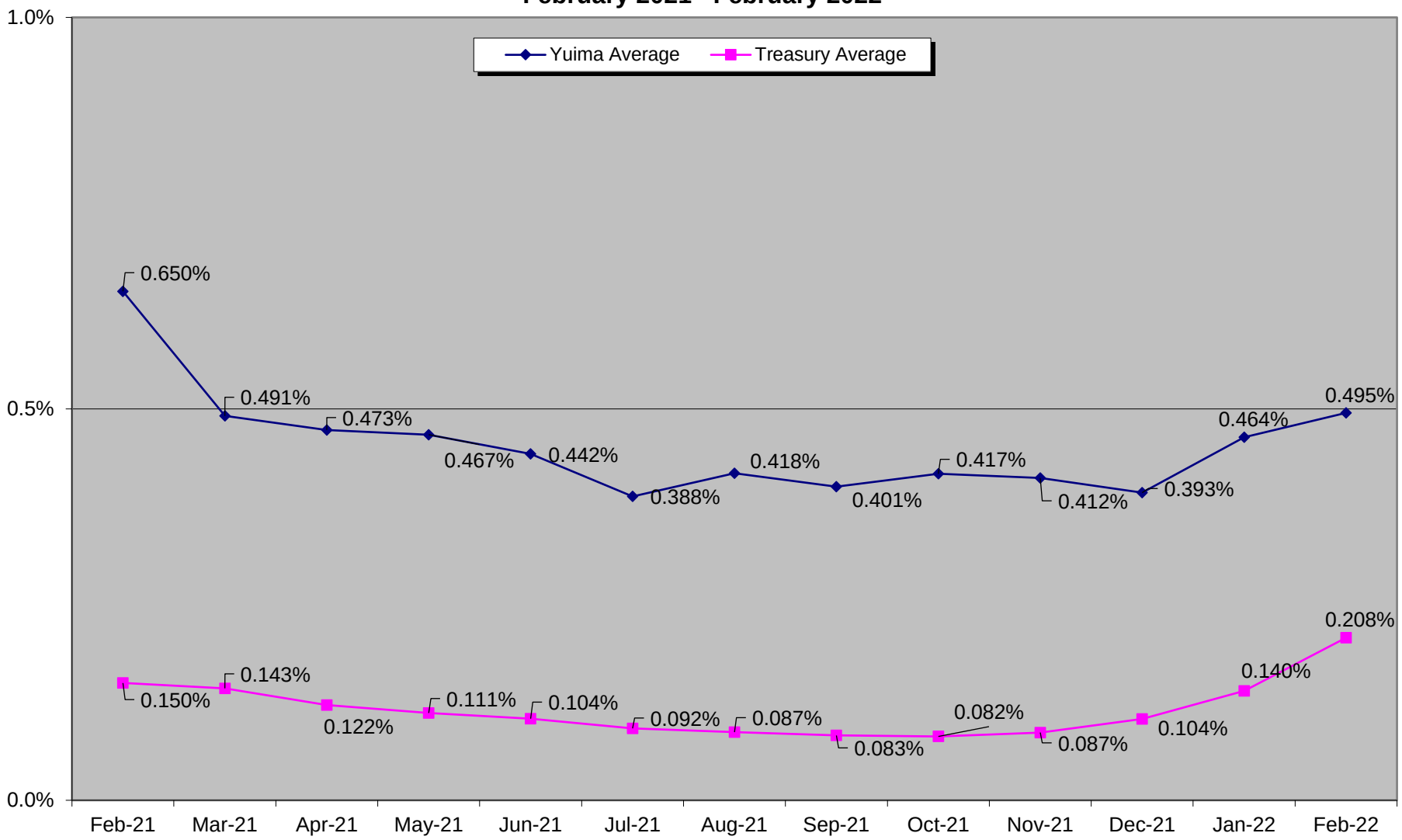
February 2022

$5,564,323.80



Aggregate Yuima Portfolio Yield

February 2021 - February 2022



PMIA/LAIF Performance Report as of 03/08/22

PMIA Average Monthly Effective Yields[1]

Feb	**0.278**
Jan	0.234
Dec	0.212

Quarterly Performance Quarter Ended 12/31/21

LAIF Apportionment Rate[2]:	0.23
LAIF Earnings Ratio[2]:	0.00000625812849570
LAIF Fair Value Factor[1]:	0.997439120
PMIA Daily[1]:	0.22%
PMIA Quarter to Date[1]:	0.21%
PMIA Average Life[1]:	340

Pooled Money Investment Account Monthly Portfolio Composition [1] 02/28/22 $199.1 billion

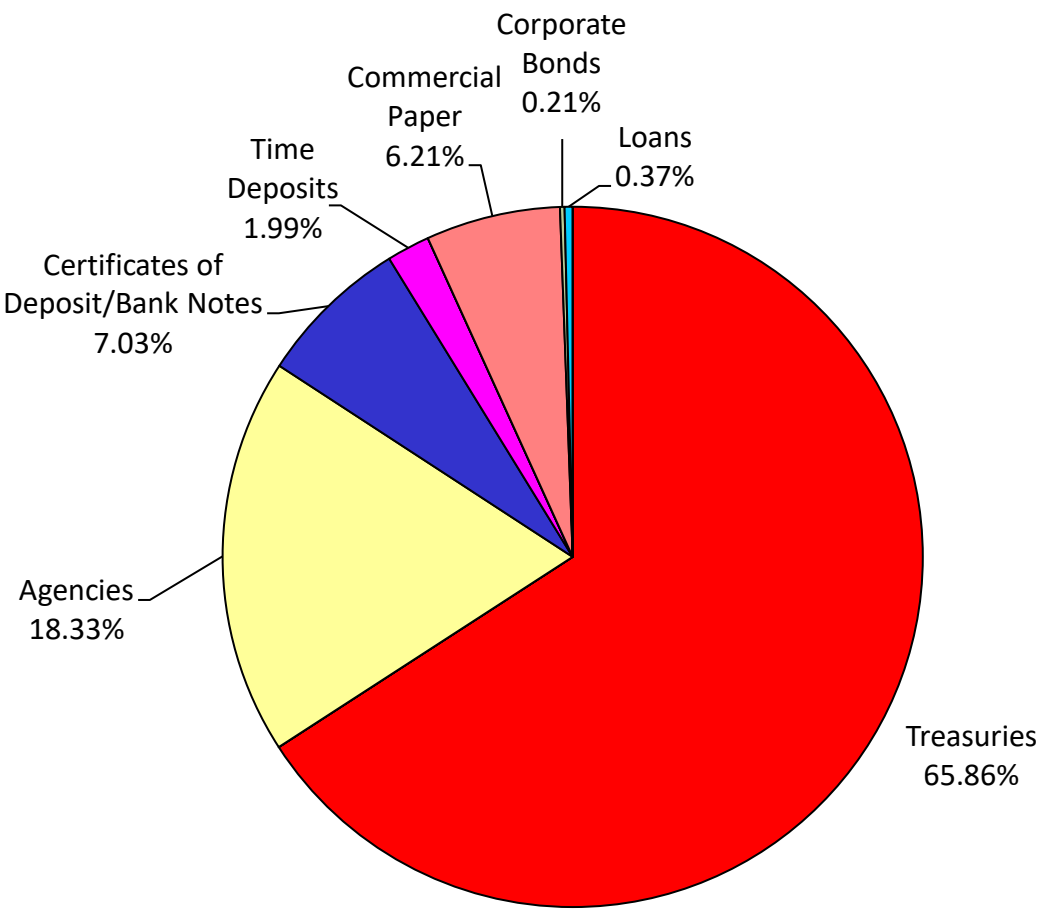


Chart does not include $5,920,000.00 in mortgages, which equates to 0.003%. Percentages may not total 100% due to rounding.

Daily rates are now available here. **View PMIA Daily Rates**

Notes: The apportionment rate includes interest earned on the CalPERS Supplemental Pension Payment pursuant to Government Code 20825 (c)(1) and interest earned on the Wildfire Fund loan pursuant to Public Utility Code 3288 (a).

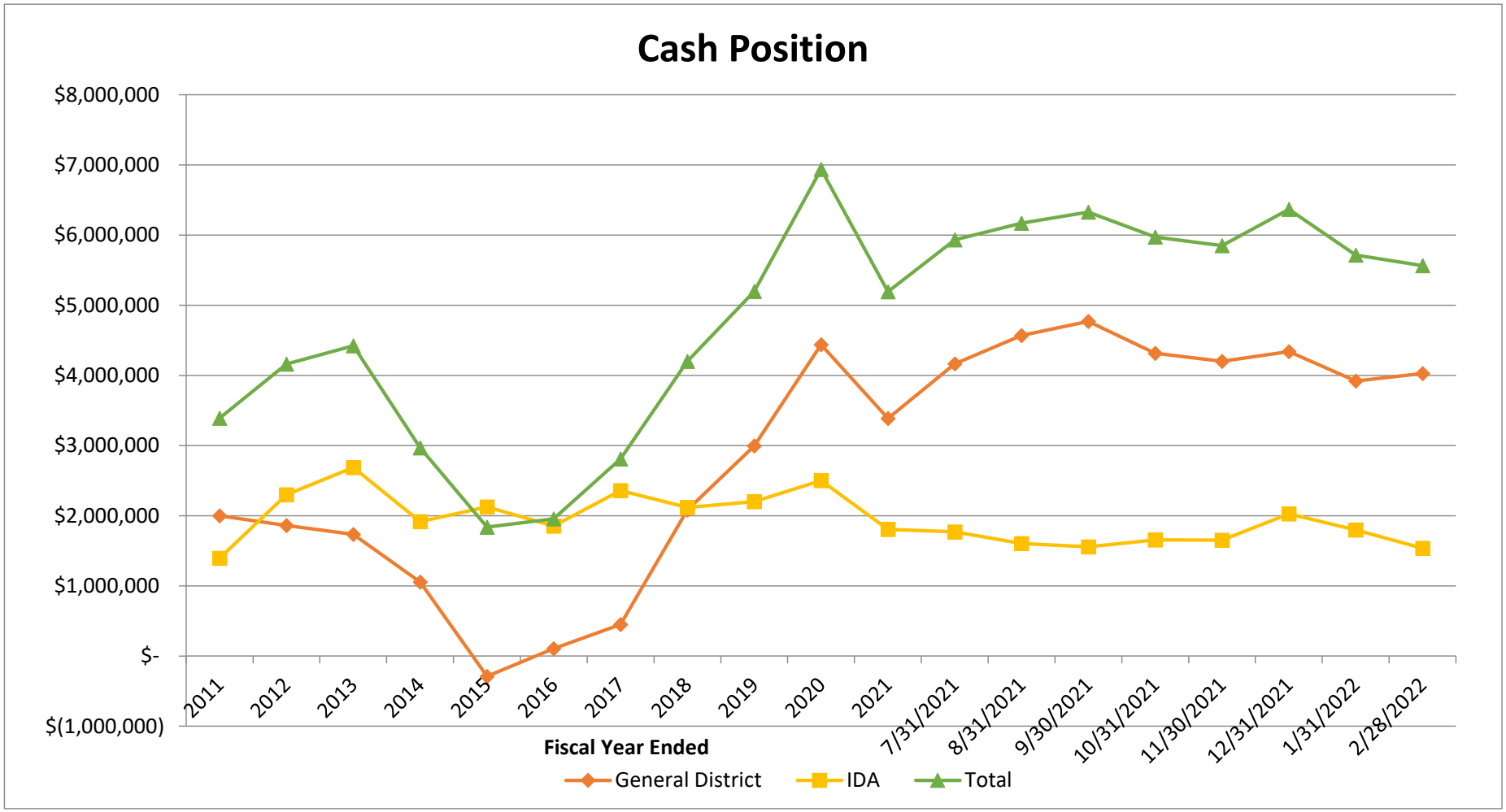
Source:
[1] State of California, Office of the Treasurer
[2] State of Calfiornia, Office of the Controller

State of California
Pooled Money Investment Account
Market Valuation
2/28/2022

Description	Carrying Cost Plus Accrued Interest Purch.	Fair Value	Accrued Interest
United States Treasury:			
Bills	$ 46,472,272,106.97	$ 46,429,166,500.00	NA
Notes	$ 84,628,471,463.24	$ 83,478,898,500.00	$ 104,971,057.50
Federal Agency:			
SBA	$ 340,292,826.93	$ 340,771,620.75	$ 143,809.26
MBS-REMICs	$ 5,920,047.32	$ 6,126,573.69	$ 26,972.04
Debentures	$ 9,304,930,731.93	$ 9,234,710,500.00	$ 8,465,057.10
Debentures FR	$ -	$ -	$ -
Debentures CL	$ 800,000,000.00	$ 782,249,000.00	$ 800,862.00
Discount Notes	$ 23,921,165,555.40	$ 23,894,611,500.00	NA
Supranational Debentures	$ 2,069,131,963.01	$ 2,029,098,000.00	$ 6,080,057.50
Supranational Debentures FR	$ 50,000,000.00	$ 50,002,000.00	$ 24,568.06
CDs and YCDs FR	$ -	$ -	$ -
Bank Notes	$ -	$ -	$ -
CDs and YCDs	$ 13,985,000,000.00	$ 13,977,462,334.62	$ 8,006,081.95
Commercial Paper	$ 12,359,935,277.68	$ 12,359,096,486.15	NA
Corporate:			
Bonds FR	$ -	$ -	$ -
Bonds	$ 425,881,030.93	$ 416,133,480.00	$ 2,466,855.73
Repurchase Agreements	$ -	$ -	$ -
Reverse Repurchase	$ -	$ -	$ -
Time Deposits	$ 3,960,500,000.00	$ 3,960,500,000.00	NA
PMIA & GF Loans	$ 743,769,000.00	$ 743,769,000.00	NA
TOTAL	$ 199,067,270,003.41	$ 197,702,595,495.21	$ 130,985,321.14

Fair Value Including Accrued Interest $ 197,833,580,816.35

Repurchase Agreements, Time Deposits, PMIA & General Fund loans, and
Reverse Repurchase agreements are carried at portfolio book value (carrying cost).


Cash Position
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$5,000,000
$4,000,000
$3,000,000
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2019
2020
2021
7/31/2021
8/31/2021
9/30/2021
10/31/2021
11/30/2021
12/31/2021
1/31/2022
2/28/2022
Fiscal Year Ended
General District
IDA
Total

II.
ACTION & DISCUSSION

March 28, 2022

TO: **Honorable President and Board of Directors**

FROM: **Amy Reeh, General Manager**

SUBJECT: **Auditor Contract Extension**

PURPOSE: To request an extension of the current auditor contract for an additional three (3) years.

SUMMARY: Teaman, Ramirez & Smith have a history of providing the District with excellent audit services at a rate much less than all other submitting firms. The District would like to extend the current audit contract through Fiscal year 2025. The costs to provide these continued services is included.

RECOMMENDATION: To approve extending the audit services contract with Teaman, Ramirez & Smith through FY 2025.

SUBMITTED BY:

_____

Amy Reeh
General Manager

TRS TEAMAN, RAMIREZ & SMITH, INC.
CERTIFIED PUBLIC ACCOUNTANTS

March 22, 2022

Amy Reeh, General Manager
Yuima Municipal Water District
Post Office Box 177
Pauma Valley, California 92061-0177

We are pleased to present this audit cost proposal. We have provided you with a significant amount of information about our firm, our service approach to auditing and the individuals who will serve you. We are committed to provide the highest level of service to the Yuima Municipal Water District at a reasonable cost. However, costs should not be overemphasized in selecting a firm of independent public accountants with which you plan to establish a continuing relationship. We urge you to select the firm you believe is most qualified to provide you with all the services you require – now and in the future – in a dedicated and responsive manner.

The following all-inclusive maximum fees include the audit of the District's financial statements, preparation of the District's State Controller's Report, GASB 68 worksheet and assistance and assistance with preparation of the District's ACFR.

Service	2022/23	2023/24	2024/25
Audit of District's financial statements			
State Controller's Report preparation			
Appropriations Limit AUP			
GASB 68 Worksheet & Assistance			
Assistance with the ACFR preparation			
Total all-inclusive maximum price	**$ 21,500**	**$ 22,500**	**$ 23,500**

The total all-inclusive maximum price above does not include a Single Audit as it may not be necessary each year. If a single audit is necessary, the fee for the Single Audit will be $5,000. This fee is proposed under the assumption that the Single Audit will include no more than one major program. This Single Audit fee will be increased by $1,500 for each additional major federal program (above the one) required to be audited in accordance with OMB Uniform Guidance.

This proposal is made with the assumption that the District's books and records will be in a reasonably balanced condition and reconciled at the start of the audit and that the representations made to us during this proposal process will remain effective throughout our engagement. The balance of this audit cost proposal details the breakdown of the annual maximum price.

Richard A. Teaman, CPA • David M. Ramirez, CPA • Javier H. Carrillo, CPA • Bryan P. Daugherty, CPA • Joshua J. Calhoun, CPA
4201 Brockton Avenue Suite 100 Riverside CA 92501 951.274.9500 TEL 951.274.7828 FAX www.trscpas.com

Thank you for providing us the opportunity to present our proposal for audit services as we would like very much to become the District's auditors. We certify that Richard A. Teaman is entitled to represent the firm, empowered to submit this bid and authorized to sign a contract with the Yuima Municipal Water District. Should you have any questions regarding our proposal or desire additional information, please call, Richard Teaman, Partner, at (951) 274-9500.

Respectfully Presented,

TEAMAN, RAMIREZ & SMITH, INC.

Richard A. Teaman
Certified Public Accountant

March 28, 2022

TO: **Honorable President and Board of Directors**

FROM: **Amy Reeh, General Manager**

SUBJECT: **Setting a Public Hearing for Water Availability Charge for the 2021/22 Fiscal Year.**

BACKGROUND

The District collects a Water Availability fee through a Fixed Charge Special Assessment. This fee is based on a $10 per acre fee that is collected through each parcel property tax. The estimated revenue for the 2022/23 Water Availability fee is $94,472. Although this is an annual fee the District must hold a public hearing each year and notify the public. This resolution is to set the time and place of the public hearing.

RECOMMENDATION

That should the Board agree, they approve the Resolution as presented and cause a Notice of Public Hearing to be placed in the local paper.

SUBMITTED BY:

_____

Amy Reeh
General Manager

RESOLUTION NO. _____

RESOLUTION OF THE BOARD OF DIRECTORS OF YUIMA MUNICIPAL WATER DISTRICT SETTING FORTH A SCHEDULE OF WATER AVAILABILITY CHARGES PROPOSED TO BE ESTABLISHED FOR THE DISTRICT (2022-2023) AND FIXING TIME AND PLACE OF HEARING AND GIVING NOTICE OF HEARING

WHEREAS, the Yuima Municipal Water District has heretofore been duly and regularly formed; and

WHEREAS, water is available to lands within the District through water systems which benefit all lands lying within District; and

WHEREAS, Section 71630 et seq. of the California Water Code authorizes the Board of Directors of a municipal water district to establish water availability charges whether the water is actually used or not; and

WHEREAS, matters relative to the financial requirements of said water systems have been presented to and considered by the Board of Directors; and

WHEREAS, matters have been presented to and considered by the Board of Directors relating to land use, water use and water availability within the District; and

WHEREAS, it is determined to be in the best interests of the inhabitants, landowners, water consumers and taxpayers of the District that a water availability charge be fixed for land lying within the District; and

WHEREAS, the area upon which the standby assessment or availability charge shall be levied shall be determined on the basis of the number of acres assessed to

each owner of land within the District, excluding only publicly owned and dedicated rights-of-way.

NOW, THEREFORE, IT IS HEREBY FOUND, DETERMINED, DECLARED AND RESOLVED AS FOLLOWS:

1. The recitals set forth hereinabove are true.

2. The proposed water availability charge for Fiscal Year 2022-2023 is ten dollars ($10.00) per acre but not less than ten dollars ($10.00) per parcel for all land within the District.

3. The water availability charge shall be fixed in the amounts hereinafter set forth for parcels of land as shown upon the Assessment Roll of the County Assessor of San Diego County and payable by the property owner thereof. The schedule of water availability charges proposed to be established are as set forth on the “Yuima Municipal Water District Schedule of Water Availability Charges” which is on file with the Secretary of the Yuima Municipal Water District. Said schedule sets forth name of the owner, address, assessor's parcel number, and proposed availability charge for each parcel of real property located within the District. Said schedule, (which is incorporated herein by reference), may be examined at any time during office hours at the Office of the District, Telephone No. (760) 742-3704.

4. Said charges shall be collected in the same form and manner as County Taxes are collected and shall be paid to the District, unless deferred in accordance with Res. No. 742-99.

5. That a hearing before the Board of Directors of Yuima Municipal Water District shall be held at 2:10 p.m. on April 25, 2022 at the office of the District 34928 Valley Center Road, Pauma Valley, California, for the purpose of considering the adoption of an ordinance which will fix and establish said water availability charge.

6. That the Secretary cause notice of the time and place of said hearing to be published in a newspaper of general circulation, published and circulated within said District, once a week for two successive weeks prior to said hearing.

7. The Secretary shall, in accordance with Section 71638.3 of the California Water Code, cause written notice of said hearing to be mailed, prior to said hearing, to the owner of any affected property which has changed ownership since the last availability charge was fixed. The notices provided by this paragraph shall be mailed to said persons at the addresses listed and shown by the last available assessment roll of the County Assessor of San Diego County.

8. That any owner of property within the District may appear and present objections or protests at said hearing or may file with the Secretary of the District, at any time prior to the hour set for said hearing, a written objection or protest to the proposed water availability charge.

PASSED AND ADOPTED at a Regular Adjourned Meeting of the Board of Directors of Yuima Municipal Water District held on the 28th day of March 2022 by the following roll-call vote:

AYES:
NOES:

ABSTAIN:
ABSENT:

_____
Roland Simpson, President

ATTEST:

_____
Don Broomell, Secretary/Treasurer

NOTICE TO ALL PROPERTY OWNERS WITHIN
YUIMA MUNICIPAL WATER DISTRICT

You are hereby notified that the Board of Directors of Yuima Municipal Water District proposes to levy a water availability charge for the fiscal year 2022-23 on all parcels of land within the District to which water is made available by the District. The proposed charge is $10.00 per acre but not less than $10.00 per parcel and will be used for capital improvement only to improve water resources and delivery capability. The charge shall be collected in the same manner (via your county tax bill) as County Taxes are collected, unless deferred in accordance with Resolution No. 742-99. This is the same charge established last year and the basis for the charge has not changed.

The proposed ordinance and schedule of charges may be examined at any time during office hours at the office of the District, 34928 Valley Center Road, Pauma Valley, California – Telephone No. (760) 742-3704.

A public hearing on the proposed ordinance and schedule of charge will be held on Monday, April 25, 2022 beginning at 2:10 p.m. at the office of the District, 34928 Valley Center Road, Pauma Valley, California. Any owner of property within the District may appear and present objections or protests or may file with the Secretary of the District, at any time prior to the hour set for the hearing, written protests or objections to the proposed water availability charge.

Board of Directors
Yuima Municipal Water District

Budget Development Process

2022 March

Develop Assumptions

Personnel Needs

Fixed Costs

Revenue Requirement Drivers

2022 April

Present Assumptions

Estimated Demands

CWA Hi / Low Forecasts

Schedule Public Hearing

2022 May

Present Budget/Rates

1st Presentation of Budget & Rate Scenarios

2022 June

Finalize Budget/Rates

Make adjustments to budget based on final CWA Rates & Charges

2022 June

Adopted Budget/Rates

Public Hearing & Budget / Rate Adoption

CWA Budget Development Process

- Jan – Mar: Development of Key Inputs
- April: Present High / Low Forecast
- May: Presentation of Proposed Rates & Charges
- June: Public Hearing, Adoption of CY 2023 Rates & Charges

BUDGET PROCESS

1. Discussion, assessment and determination of district needs for staffing, operations, capital projects, and other operating / administrative recommendations. — March / April

2. Calculate current year projections — April

    - Project water consumption and purchases for remainder of current fiscal year.
    - Project Revenue and Expenses for remainder of current fiscal year
    - Strategic Planning with Board to review Fiscal Year goals
        - April 26, 2021, 1:00 p.m.
    - Review additional assumptions necessary for rough draft Budget.
        - At this point in time CWA water and fixed charge rates are estimates and not adopted rates.
    - Enter information into Rate Model and determine rate information needed for Prop 218 notice.
        - This year's Prop 218 notice must be mailed by May 8, 2021

3. Continue to develop budget, incorporation of Strategic planning and and goals and prepare presentation for first review of Budget — May

    - Finalize rate estimates and issue Prop 218 Notice
    - Adjust for any changes in CWA rate estimates if they are available
    - First review of Budget – May 24, 2021 Special Board Meeting 12:00 p.m.

4. Make any necessary changes to budget that arise from first review of draft budget. — June
    - Second Review of Budget – June 28, 2021 Special Meeting 12:00 p.m.
    - Rate Hearing and Approval of Budget – June 28, 2021 Regular Meeting 2:00 p.m.

March 28, 2022

TO: **Honorable President and Board of Directors**

FROM: **Amy Reeh, General Manager**

SUBJECT: **Director Compensation**

PURPOSE:

In 2017 the Board of Directors set the Director compensation at $100 per Board Meeting and $50 per committee meeting. The Board has an opportunity each year To discuss and adjust the per diem if necessary.

I have attached a list of the current per diem amounts from other member agencies for Your information. Yuima's per diem is about Fifty dollars ($50) below the average Throughout the county. Increasing the per diem $50 per board meeting would increase The Director expense $2200 annually.

RECOMMENDATION: Direct staff as to whether or not the Board wishes to increase the Director per diem and bring an ordinance before the Board in April to do so.

SUBMITTED BY:

_____

Amy Reeh
General Manager

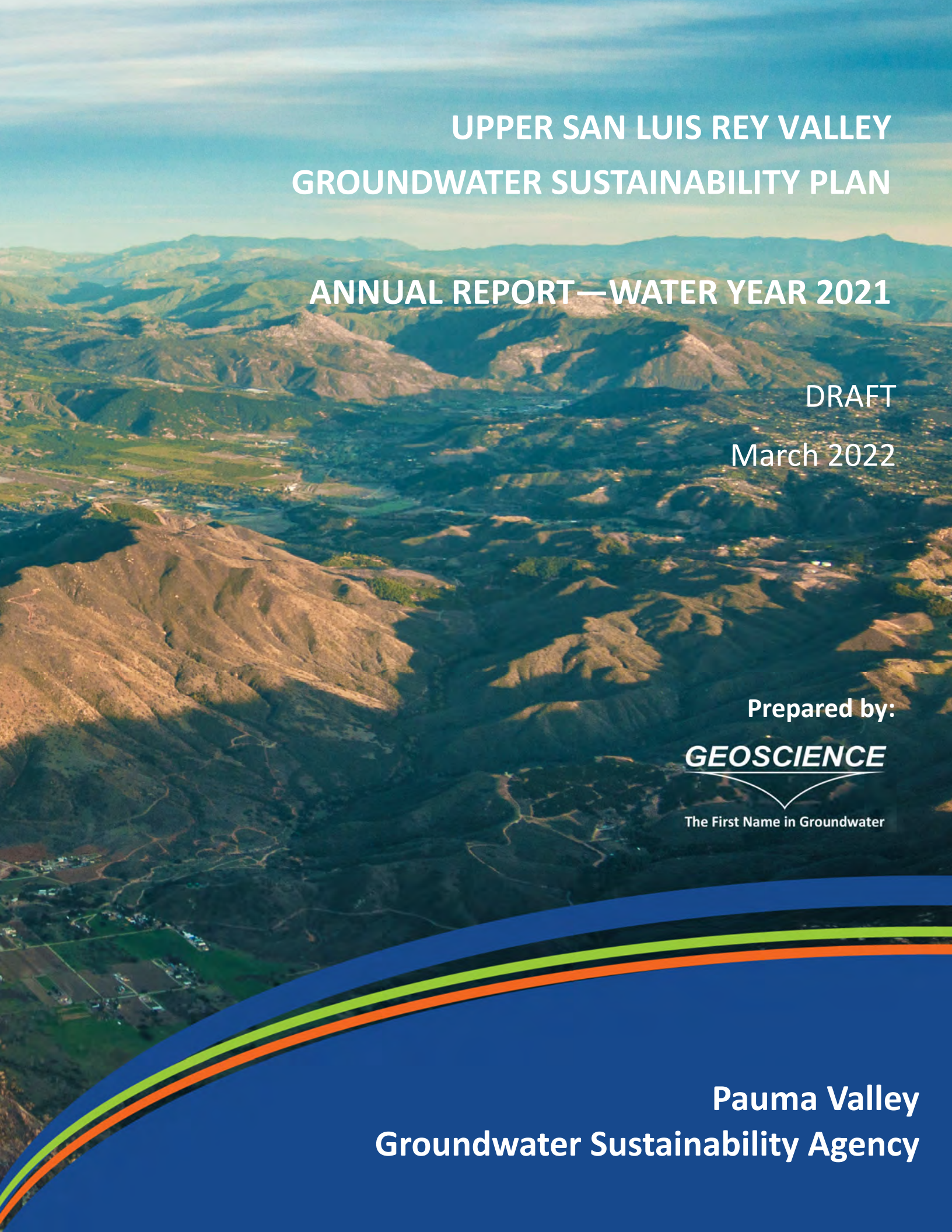
BOARD OF DIRECTORS
PER DIEM COMPENSATION COMPARISON
MARCH 2022

	DISTRICT	2020	2022
1	Carlsbad MWD	$100.00	$100.00
2	Eastern MWD	$223.00	$223.00
3	Elsinore Valley MWD	$221.43	$232.50
4	Encina Wastewater Authority	$200.00	$221.41
5	Fallbrook PUD	$105.00	$115.76 *
6	Helix Water District	$225.00	$225.00
7	Lakeside Water District	$125.00	$125.00
8	Leucadia Wastewater	$200.00	$200.00
9	Olivenhain MWD	$150.00	$150.00
10	Otay Water District	$152.00	$152.00
11	Padre Dam MWD	$145.00	$147.00
12	Rainbow MWD	$150.00	$150.00
13	Ramona MWD	$100.00	$100.00
14	Rancho California Water District	$200.00	$200.00
15	Rincon Del Diablo MWD	$160.00	$160.00
16	SDCWA Directors/Officers	$150/$180	$150/$180
17	San Dieguito Water District	$100.00	$100.00
18	Santa Fe Irrigation District	$150.00	$150
19	South Bay Irrigation District	$100.00	$100.00
20	Sweetwater Authority	$150.00	$150.00
21	Vallecitos Water District	$200.00	$200.00
22	Valley Center MWD	$100.00	$100.00
23	Vista Irrigation District	$200.00	$200.00
24	Yuima MWD	$100.00	$100.00

Average Per Diem $157.27

**** Did not respond to survey request used previous survey amount***

**** Fallbrook PUD increases to $121.55 effective April 29, 2022***



UPPER SAN LUIS REY VALLEY GROUNDWATER SUSTAINABILITY PLAN

ANNUAL REPORT—WATER YEAR 2021

DRAFT

March 2022

Prepared by:

GEOSCIENCE

The First Name in Groundwater

Pauma Valley Groundwater Sustainability Agency

THIS REPORT IS RENDERED TO PAUMA VALLEY GROUNDWATER SUSTAINABILITY AGENCY AS OF THE DATE HEREOF, SOLELY FOR THEIR BENEFIT IN CONNECTION WITH ITS STATED PURPOSE AND MAY NOT BE RELIED ON BY ANY OTHER PERSON OR ENTITY OR BY THEM IN ANY OTHER CONTEXT. ALL CALCULATIONS WERE PERFORMED USING ACCEPTED PROFESSIONAL STANDARDS.

AS DATA IS UPDATED FROM TIME TO TIME, ANY RELIANCE ON THIS REPORT AT A FUTURE DATE SHOULD TAKE INTO ACCOUNT UPDATED DATA.

_____
Brian Villalobos, PG, CHG, CEG
Principal Geohydrologist

_____
Lauren Wicks, PG
Project Geohydrologist

UPPER SAN LUIS REY VALLEY GROUNDWATER SUSTAINABILITY PLAN ANNUAL REPORT – WATER YEAR 2021

(October 2020 through September 2021)

Table of Contents

Figures

Tables

Acronyms, Abbreviations, and Initialisms

Abbrev.	Description
acre-ft/yr	acre-feet per year
amsl	above mean sea level
Basin Plan	Water Quality Control Plan for the San Diego Basin
bgs	below ground surface
CASGEM	California Statewide Groundwater Elevation Monitoring
CCR	California Code of Regulations
CIMIS	California Irrigation Management Information System
County	County of San Diego
CSD	Community Services District
DTW	depth to water
DWR	California Department of Water Resources
ET	evapotranspiration
ft	foot, or feet
GDE	groundwater dependent ecosystem
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
InSAR	Interferometric Synthetic Aperture Radar
MCL	maximum contaminant level
Metropolitan	Metropolitan Water District of Southern California
mg/L	milligrams per liter
MNM	Monitoring Network Module
MO	Measurable Objective
MT	Minimum Threshold
MWD	Municipal Water District
NOAA	National Oceanic and Atmospheric Administration
NRCS	National Resources Conservation District
NWCC	National Water and Climate Center
PRISM	Parameter-elevation Regression on Independent Slopes Model
PVGSA	Pauma Valley Groundwater Sustainability Agency
RMS	Representative Monitoring Site
SGMA	Sustainable Groundwater Management Act
SLRMWD	San Luis Rey Municipal Water District
SMC	sustainable management criteria
SWP	State Water Project

TDS	total dissolved solids
USLR	Upper San Luis Rey
USLRGM	Upper San Luis Rey Groundwater Model
USLRRCD	Upper San Luis Rey Resource Conservation District
Water Authority	San Diego County Water Authority
WY	Water Year
YMWD	Yuima Municipal Water District

UPPER SAN LUIS REY VALLEY GROUNDWATER SUSTAINABILITY PLAN

ANNUAL REPORT – WATER YEAR 2021
(October 2020 through September 2021)

1.0 Executive Summary

In accordance with the Sustainable Groundwater Management Act (SGMA), the Pauma Valley Groundwater Sustainability Agency (PVGSA) prepared and submitted a Groundwater Sustainability Plan (GSP) for the Upper San Luis Rey (USLR) Valley Groundwater Subbasin in January 2022. The goal of the GSP is to ensure that groundwater continues to be available to everyone who uses it far into the future. The Plan describes basin conditions, including the geology of the basin and groundwater levels within it, establishes sustainability goals for the basin, and outlines steps and potential management actions to ensure sustainability.

Article 7 of the Emergency Groundwater Sustainability Plan Regulations (23 CCR §356.2) establishes the requirements for Groundwater Sustainability Agencies (GSAs) to submit annual reports to DWR by April 1 of each year following adoption of a GSP. To this end, the PVGSA has prepared this first annual report for the USLR GSP, which covers the period for Water Year (WY) 2021 (i.e., October 2020 through September 2021).

1.1 Plan Area

The San Luis Rey Valley Groundwater Basin, located in San Diego County, extends from the confluence of the San Luis Rey River and Paradise Creek, continuing downstream through four valleys (Pauma, Pala, Bonsall, and Mission) and ending at the Pacific Ocean in the City of Oceanside. The USLR Valley Groundwater Subbasin (DWR subbasin 9-007.01) includes the Pauma and Pala Subbasins and encompasses approximately 19,200 acres. Valley areas are separated by narrow, steep-walled canyons and underlain by unconsolidated alluvial fill that serve as storage for groundwater.

Most precipitation falls between the months of November and April with infrequent rain the rest of the year (particularly in summer months). Cyclic hydrologic patterns are common, including wet periods of above-average rainfall and dry periods (drought) with below-average rainfall. Therefore, year-to-year rainfall – as well as groundwater recharge – can be highly variable.

Land use within Pauma subbasin is predominantly irrigated agriculture. Likewise, the majority of water use within the subbasin is for agricultural purposes, consisting primarily of citrus, avocados, and sub-tropical fruits (within the YMWD service area, approximately 91% of the water goes to agricultural use). Sources of water within the USLR Subbasin include groundwater, surface water, and imported water.

1.2 Hydrologic Conditions

WY 2021 is classified as dry based on recorded precipitation of 15.8 inches at the Henshaw Dam weather station. While this station is located at higher elevation and experiences greater amounts of precipitation than valley areas, the Henshaw gage has the most complete and extensive precipitation record of nearby gages and precipitation trends are indicative of precipitation and recharge experienced in the USLR Groundwater Subbasin.

Static groundwater levels and water quality from wells in the GSP monitoring network are measured twice per year: once in the spring and once in the fall, to represent seasonal high and seasonal low, respectively. Groundwater elevation data were used to produce equipotential contour maps and hydrographs for this annual report. The PVGSA plans to refine the monitoring network in the future to incorporate wells in data gap areas, if available, including shallow and/or domestic wells. Additional RMSs may also be needed to monitor sustainability management criteria for groundwater dependent ecosystems (GDEs) and interconnected surface water if additional data collection and analyses indicate these are present in the subbasin.

1.2.1 Groundwater Elevations

Contours of groundwater elevation were developed based on observed water level data for fall 2020 and fall 2021, which show the seasonal low in groundwater elevations. Very few water level measurements were available for fall 2020. Contours from fall 2021, which are based on more observed data points, indicate that there are localized pumping depressions along the San Luis Rey River in Pauma Subbasin, where higher rates of pumping occur. In general, water elevations were higher in fall 2021 than fall 2020. The greatest amount of change is seen in Pauma Subbasin.

1.2.2 Change in Groundwater Storage

Change in groundwater storage was estimated for WY 2021 using the water level contours developed from fall 2020 and fall2021 water level measurements and aquifer parameters values from the calibrated groundwater flow model. Groundwater storage was estimated to increase by approximately 5,400 acre-ft during WY 2021 (see Table 1-1 below). Increases in groundwater storage in the last few years is consistent with observed water level trends at many of the RMSs showing a recent increase in water levels.

Table 1-1. Annual Change in Groundwater Storage (WY 2015 – 2021)

Water Year	Water Year Type	Change in Groundwater Storage* [acre-ft]
2015	Dry	-5,594
2016	Below Normal	-25
2017	Wet	18,694
2018	Critical	-9,505
2019	Wet	20,413
2020	Wet	11,041
2021	Dry	5.382
Average (2015-2021)	-	5,772

* Change in groundwater storage from WY 2015 through 2020 calculated from calibrated groundwater model. WY 2021 change in groundwater storage calculated from the difference in groundwater elevation contours

1.2.3 Water Quality

The water quality contaminants of most concern in the USLR Groundwater Subbasin are total dissolved nitrates (TDS) and nitrate (NO_3). The most common sources of these constituents include gradual accumulation through natural processes (which are especially pronounced in the absence of very wet precipitation years), agricultural applications, irrigation and septic return flows, recycled water use or spreading, use of imported water, and evapotranspiration.

Historical water quality data in the USLR Valley Groundwater Subbasin is generally very limited. Water quality samples were taken at select wells in the basin during development of the GSP. All of these wells are located in Pauma Subbasin based on access to wells. Current TDS samples indicate concentrations ranging from 130 mg/L to 1,400 mg/L while nitrate (NO_3) concentrations range from non-detect (<0.9 mg/L) to 137 mg/L. Higher concentrations of TDS tend to be located near the San Luis Rey River in the main part of Pauma Subbasin. Increased levels of nitrate are also found in this area as well as in the Rincon area.

1.2.4 Interconnected Surface Water

Given the depth to groundwater in much of the basin, percolation from streamflow is thought to be largely in free fall conditions; that is, the streams are not in direct hydraulic connection with the underlying water table and aquifer system so that surface recharge must percolate through the unsaturated zone before becoming accessible to groundwater pumping. However, not enough stream flow or groundwater level information near stream channels is available to definitively delineate where streams are interconnected or disconnected from underlying groundwater. This has been identified as a data gap area and additional data collection will help to develop a better understanding of interconnected surface waters in the basin.

1.2.5 Land Subsidence

Land subsidence is not considered a concern for the USLR Groundwater Subbasin. Updated Interferometric Synthetic Aperture Radar (InSAR) data gathered from January 1, 2015, through October 1, 2020, show a change in ground surface vertical displacement of less than 0.05 feet (DWR, 2022). This is within the range of uncertainty of the InSAR data (Towill, 2021) and is therefore not considered to be significant.

1.2.6 Seawater Intrusion

Given the distance of the downgradient boundary from the ocean, seawater intrusion is also not of concern for the USLR Groundwater Subbasin. No recent data indicate the presence of seawater intrusion.

1.3 Water Use and Supply

Water use in the Pauma and Pala Subbasins is used primarily in agricultural applications, but also includes domestic, commercial, and municipal.

Groundwater pumping during WY 2021 was estimated using available reported pumping volumes from water agencies and agricultural pumpers in the groundwater subbasin. Unreported pumping for WY 2021 was estimated based on an analysis of the relationship between previous model pumping estimates and precipitation. Due to limited time availability for data collection, some updated pumping from entities that reported during GSP development period was not received in time for the 2021 annual report. In this case, pumping for those entities was assumed to be the same as WY 2020 pumping. Groundwater extraction volumes will be updated in subsequent annual reports as additional data become available. For WY 2021, groundwater pumping in the subbasin was estimated to be approximately 11,900 acre-ft. This includes approximately 10,300 acre-ft of water for agricultural applications and 1,600 acre-ft for residential and commercial use.

Surface water supply in the USLR Valley Groundwater Subbasin includes imported water and local surface water diversion. Within the subbasin, YMWD receives imported water through Metropolitan Water District of Southern California (Metropolitan) and the San Diego County Water Authority (Water Authority). The increased use of imported water in the subbasin has allowed for a reduction in groundwater pumping, assisting with the increase in groundwater levels within the last five to ten years. Reported surface water diversions include diversions by Improvement District “A” to catchment basins and other diversions by surface water diversion permit holders. For this 2021 annual report, an estimate of surface water use was made based on previously compiled diversion records and the relationship between these diversions and precipitation at Henshaw Dam. Surface water diversion volumes will continue to be updated in subsequent annual reports as additional data become available. Total surface water use in the USLR Valley Groundwater Subbasin for WY 2021 is estimated to be approximately 6,000 acre-ft. This includes 5,600 acre-ft of imported water and 400 acre-ft of local surface water.

Total water use in the subbasin is summarized in Table 1-2 below. As shown, water use in the subbasin in WY 2021 was estimated to be approximately 18,000 acre-ft/yr.

Table 1-2. Total Water Use in Upper San Luis Rey Valley Groundwater Subbasin

Water Year	Groundwater	Imported Water[1]	Surface Water Diversions	Total
	[acre-ft]			
2015	12,019	4,468	455	**16,942**
2016	12,681	3,621	467	**16,769**
2017	12,218	4,494	742	**17,454**
2018	12,614	6,088	368	**19,070**
2019	11,999	4,756	678	**17,433**
2020	12,248	4,685	466	**17,399**
2021	11,876	5,611	406	**17,893**

[1] Values reported by Fiscal Year (July 1 through June 30)

1.4 Progress Towards GSP Implementation and Sustainability

Historically, groundwater elevations in the USLR Valley Groundwater Subbasin – particularly in Pauma Subbasin – showed declines from the 1990s through the early 2000s. Over the last ten years or so, water levels have stabilized and have started to show recovery. This seems to be due in large part to the use of imported water to augment groundwater supplies, allowing for a reduction in groundwater pumping. The sustainability goal for the USLR Subbasin is to manage and preserve its groundwater resource as a sustainable water supply. To the greatest extent possible, the goal is to preserve historic operations of beneficial use in the basin as well as allow for future planned uses as conceived by the GSA and basin stakeholders. One of the main ways to accomplish this goal is to operate the subbasin within the sustainable yield[1]. Preliminary estimates of the sustainable yield of the subbasin range from approximately 12,700 acre-ft/yr under historical conditions (1991 through 2020) to 20,300 acre-ft/yr under current (2016 through 2020) conditions. Projections of future water budgets assuming similar land use, groundwater pumping, and imported water use indicate a sustainable yield of approximately 13,600 acre-ft/yr. As indicated in Section 1.3, groundwater pumping during WY 2021 was estimated to be 11,900 acre-ft.

1.4.1 Projects and Management Actions

Since completing the USLR GSP in January of 2022, the PVGSA's attention in terms of projects and management actions has been primarily focused on data collection efforts and beginning to address significant data gaps that exist in the subbasin. The PVGSA was able to obtain/extend grant funding to cover additional studies and the installation of monitoring sites. These studies and management actions,

[1] Sustainable yield is defined by SGMA (Water Code, section 10721(w)) as the maximum quantity of water, calculated over a base period representative of long-term conditions in the basin and including any temporary surplus, that can be withdrawn annually from a groundwater supply without causing an undesirable result.

which are anticipated to be completed by June 2023, include and aquifer pumping test, installation of surface flow gage(s) in the subbasin, a feasibility study for the installation of a local California Irrigation Management Information System (CIMIS) station, and installation of a new, dedicated monitoring well in the subbasin. The PVGSA also sent out a data request letter to basin stakeholders requesting additional information on existing wells in the subbasin, water level measurements, and pumping records, among other items. This information will facilitate understanding of hydrologic conditions and water use in the subbasin and be used in future annual reports and model updates to refine groundwater pumping estimates, generate groundwater elevation contours, and calculate change in groundwater storage.

In addition to progressing with data collection management actions and projects, existing conservation programs and agricultural irrigation best management practices continue to be enacted within the USLR Subbasin. The PVGSA also plans to begin developing Interactive Tribal and Drought Resilience Work Groups within the next year and pursue a scientific basin modification for the refinement of the USLR Groundwater Subbasin boundaries when the next modification period begins.

1.4.2 Sustainable Management Criteria (SMC)

The USLR GSP developed quantitative sustainable management criteria (SMCs) for each applicable sustainability indicator that allow the GSA to define, measure, and track sustainable management. These include minimum thresholds (MTs) to define undesirable results for each sustainability indicator and measurable objectives (MOs) to track the performance of sustainable management. Progress towards implementing sustainable management regarding the six sustainability indicators is summarized below.

Chronic Lowering of Groundwater Levels

SMCs for groundwater levels in the USLR Groundwater Subbasin were developed based on input from local pumpers participating in the GSP process and monitoring network. Groundwater levels falling below these elevations (defined as the MT for each well) represent an undesirable result at the specific well location. Undesirable results for the subbasin are indicated when two consecutive exceedances occur in each of two consecutive years, in 25 percent or more of the Key Wells. The MO for the USLR Subbasin is set at a groundwater elevation that coincides with three years of operational storage for the basin, where a minimum of 18,000 acre-ft/year is required to meet the water demands of the basin. Three years of groundwater storage is therefore equivalent to 54,000 acre-ft. This value is conservative because it allows three years of groundwater reserves to meet water demand, even though much of that demand is currently satisfied through imported water.

Currently (WY 2021), groundwater levels at the RMSs indicate:

- 7 of the representative wells (50%) are above measurable objectives under both spring and fall groundwater conditions.
- 7 of the representative wells (50%) are within the operating range between measurable objective and minimum threshold under both spring and fall groundwater conditions.
- 0 of the representative wells (0%) are below the minimum threshold under both spring and fall groundwater conditions.

One of the ongoing management actions is to continue to evaluate current RMSs, improve coverage of RMSs to include sites in data gap areas (particularly Pala Subbasin) and incorporate information from

private and/or shallow groundwater wells, and revise SMCs as needed to protect beneficial use in the subbasin.

Reduction of Groundwater Storage

Groundwater elevation is used as a proxy for groundwater storage and SMCs for the reduction of groundwater storage are the same as those presented for groundwater levels above.

Degraded Water Quality

Undesirable results for water quality in the USLR Subbasin are defined as the degradation of groundwater from current ambient conditions. Ambient TDS and nitrate groundwater quality in the basin was evaluated by taking median concentration of average water quality in wells with at least three water quality readings from 2016 through 2021. Due to limited data availability, ambient concentrations in the Pala Subbasin were not able to be determined. The Pauma Subbasin current ambient values are approximately 635 mg/L and 27.0 mg/L for TDS and nitrate as NO_3, respectively, which are below subbasin objectives (see table below).

Table 1-3. Ambient Water Quality (2016 through 2021)

Hydrologic Subarea	2016-2021 Ambient Groundwater Quality[1]		Minimum Threshold	
	TDS [mg/L]	Nitrate (NO_3) [mg/L]	TDS [mg/L]	Nitrate (NO_3) [mg/L]
Pauma Subbasin	635 (+28)	27.0 (+1.2)	800	45
Pala Subbasin	NA[2]	NA[2]	900	45

[1] Change in ambient quality from that presented in the USLR GSP (calculated from 2015 through 2020) shown in parentheses
[2] Insufficient data to characterize ambient groundwater quality in Pala Subbasin

Depletion of Interconnected Surface Water

Very few measurements of surface flow are available in Pauma and Pala Valleys. Undesirable effects from depletions in interconnected surface water primarily relate to potentially groundwater dependent ecosystems (GDEs). Areas of potentially dependent vegetation were identified in the USLR GSP, but these areas need to be verified through field investigation and additional data collection. RMSs and SMCs will then be refined as necessary to avoid significant and unreasonable effects to GDEs.

Land Subsidence

Land subsidence as a sustainability indicator is not considered applicable to the USLR Groundwater Subbasin and no sustainability management criteria were developed. Evidence of or potential for land subsidence will be reevaluated in the five-year report.

Seawater Intrusion

Seawater intrusion as a sustainability indicator is not applicable to the USLR Groundwater Subbasin and no sustainability management criteria were developed. The absence of seawater intrusion will be verified in the five-year report.

1.5 Conclusions

Information provided in this first annual report of the USLR Groundwater Subbasin, which covers the period for WY 2021 (i.e., October 2020 through September 2021), indicate the following conditions:

- WY 2021 is classified as dry based on recorded precipitation of 15.8 inches at Henshaw Dam.
- Though few data points were available for fall 2020, water elevations were generally higher in fall 2021. Contours from fall 2021 indicate that there are localized pumping depressions along the San Luis Rey River in Pauma Subbasin, where greater rates of pumping occur.
- Groundwater storage was estimated to increase by approximately 5,400 acre-ft during WY 2021.
- Groundwater levels and groundwater in storage for WY 2021 in all RMSs are above MTs. Water levels in 50% of the RMSs are also above MOs.
- Current TDS concentrations in water quality monitoring wells range from 130 mg/L to 1,400 mg/L while nitrate (NO_3) concentrations range from non-detect (<0.9 mg/L) to 137 mg/L. Higher concentrations of TDS tend to be located near the San Luis Rey River in the main part of Pauma Subbasin. Increased levels of nitrate are also found in this area (vicinity of MW-21 and MW-22) as well as in the Rincon area.
- Current ambient water quality in Pauma Subbasin (2016-2021) is approximately 635 mg/L and 27.0 mg/L for TDS and nitrate as NO_3, respectively. These values do not violate MTs for water quality.
- Total water use in the subbasin in WY 2021 was estimated to be approximately 18,000 acre-ft/yr. This includes 11,900 acre-ft of groundwater pumping, 5,600 acre-ft of imported water, and 400 acre-ft of local surface water.
- WY 2021 groundwater pumping is within the estimated safe yield for the USLR Groundwater Subbasin of between 12,700 acre-ft/yr (calculated for long-term historical conditions from 1991 through 2020) to 20,300 acre-ft/yr (calculated for current conditions from 2016 through 2020).

Progress towards GSP implementation and sustainability will continue. Results of basin monitoring efforts and investigations performed this coming water year will be presented in the next annual report (WY 2022), to be submitted to DWR by April 1, 2023.

2.0 Introduction and General Information

2.1 Background

On September 16, 2014, Governor Jerry Brown signed into law a three-bill legislative package, composed of AB 1739, SB 1168, and SB 1319, collectively known as the Sustainable Groundwater Management Act (SGMA), providing California with a framework for sustainable groundwater management. In accordance with SGMA, the Pauma Valley Groundwater Sustainability Agency (PVGSA[2]) was formed to prepare a Groundwater Sustainability Plan (GSP) for the Upper San Luis Rey (USLR) Valley Groundwater Subbasin, which was submitted to the Department of Water Resources (DWR) in January 2022[3]. The goal of the GSP is to ensure that groundwater continues to be available to everyone who uses it far into the future. The Plan describes basin conditions, including the geology of the basin and groundwater levels within it, establishes sustainability goals for the basin, and outlines steps and potential management actions to ensure sustainability.

Article 7 of the Emergency Groundwater Sustainability Plan Regulations (23 CCR §356.2) establishes the requirements for Groundwater Sustainability Agencies (GSAs) to submit annual reports to DWR by April 1 each year following adoption of a GSP. This report represents the first annual report of the USLR Groundwater Subbasin and covers the period for Water Year (WY) 2021 (i.e., October 2020 through September 2021).

2.2 Plan Area

The San Luis Rey Valley Groundwater Basin, located in San Diego County, extends from the confluence of the San Luis Rey River and Paradise Creek, continuing downstream through four valleys (Pauma, Pala, Bonsall, and Mission) and ending at the Pacific Ocean in the City of Oceanside (Figure 1). Assembly Bill No. 1944, Chapter 255 (AB 1944, 2018), an act to amend Section 10721 of and to add Section 10722.5 to the Water Code, defines the boundary that divides the Upper and Lower San Luis Rey Valley Groundwater Subbasins. The USLR Valley Groundwater Subbasin (DWR subbasin 9-007.01) includes the Pauma and Pala Subbasins and encompasses approximately 19,200 acres. The valley areas are separated by narrow, steep-walled canyons and underlain by unconsolidated alluvial fill that serve as storage for groundwater. Elevation ranges from approximately 250 ft above mean sea level (amsl) in valley areas to over 5,700 ft amsl in the surrounding watershed area.

The USLR Valley Groundwater Subbasin can be further subdivided into two subbasins: the Pauma Subbasin and the Pala Subbasin (Figure 1). The Pauma Subbasin extends from the confluence of the San Luis Rey River and Paradise Creek to the Agua Tibia Narrows near the confluence of the San Luis Rey River and Frey Creek. The Pala Subbasin extends from the Agua Tibia Narrows to Monserate Narrows. Based on prior decisions by the State of California, groundwater in Pala Subbasin, located downstream of Frey

[2] The PVGSA consists of Yuima Municipal Water District (YMWD), Pauma Municipal Water District (Pauma MWD), Pauma Valley Community Services District (CSD), San Luis Rey Municipal Water District (SLRMWD), and the Upper San Luis Rey Resource Conservation District (USLRRCD).

[3] The USLR Valley GSP is currently available for review through the DWR SGMA Portal website at: https://sgma.water.ca.gov/portal/gsp/preview/76

Creek, has been determined to be a subterranean stream flowing through known and definite channels (SWRCB, 2002). While subterranean streams are generally excluded from SGMA, Assembly Bill 1944 was put forth to include the area of the subbasin downstream from Frey Creek (i.e., Pala Subbasin) as part of SGMA for the purposes of groundwater sustainability. AB 1944 does not alter any existing water right. Therefore, the GSP components addressed both the Pauma and Pala Subbasins.

The general climate of the area is Mediterranean, with warm, dry summers and mild winters, although temperatures do occasionally fall below freezing. Most precipitation falls between the months of November and April with infrequent rain the rest of the year (particularly in summer months). Precipitation is also two to three times greater in the surrounding hills and mountain areas than in the valley areas (Ellis and Lee, 1919). Cyclic hydrologic patterns are common, including wet periods of above-average rainfall and dry periods (drought) with below-average rainfall. Therefore, year-to-year rainfall – as well as groundwater recharge – can be highly variable.

Land use within Pauma subbasin is predominantly irrigated agriculture/parks/golf (52%), followed by 27% open space/ water, 17% residential, and 4% commercial/ industrial/ public facilities. In Pala Subbasin, land use is approximately 42% open space/ water, 38% irrigated agriculture/ parks, 12% residential, and 8% commercial/ industrial/ public facilities. Likewise, the majority of water use within the subbasin is for agricultural purposes, consisting primarily of citrus, avocados, and sub-tropical fruits (within the YMWD service area, approximately 91% of the water goes to agricultural use). Sources of water within the USLR Subbasin include groundwater, surface water, and imported water.

The majority of groundwater in the USLR Valley Groundwater Subbasin is produced from the porous flood plain and alluvial material representing valley fill. Productivity generally decreases with decreasing thickness of unconsolidated material. Alluvial sediments in valleys are generally thickest under the San Luis Rey River. In Pauma Valley, sediments may be up to 600 ft thick in localized areas of the northeast portion of the subbasin (Layne, 2010). However, these locations with greater sediment depth typically coincide with alluvial fan deposits, which tend to be less productive. The Pauma and Pala Subbasins are hydraulically connected, with groundwater from the upgradient Pauma Subbasin flowing into Pala Subbasin.

3.0 Hydrologic Conditions

The younger alluvium in the subbasin represents particularly productive aquifer units while the alluvial fans tend to be less productive due to their poorly sorted nature and the presence of significant amounts of fine-grained material. The alluvial aquifer system in the groundwater subbasin is largely unconfined in nature, though localized semi-confined and confined conditions may exist where substantial lacustrine deposits are present (i.e., areas underlying fine-grained lakebed deposits from paleo Lake Pauma) (Howes, 1955; Moreland, 1974). Available water level information has not indicated the presence of separate, distinct aquifer systems. Therefore, the discussion of hydrologic conditions in the subbasin consider one aquifer body.

3.1 Water Year Type

Historical annual rainfall is available at the National Oceanic and Atmospheric Administration (NOAA) precipitation station at Henshaw Dam (shown on Figure 1). Annual water year precipitation here averages 24.2 inches per year from 1943 through 2021 (Figure 2). This gage is located at higher elevation so precipitation in the USLR Valley Groundwater Subbasin is lower than the amounts shown on Figure 2. However, the Henshaw gage has the most complete and extensive precipitation record of nearby gages. For the groundwater budget presented in the GSP, precipitation in the groundwater subbasin was determined based on records from Henshaw Dam, Palomar Mountain Observatory, and Vista stations. Daily precipitation values were distributed in the watershed model using adjustment factors based on 30-year (1981 through 2010) gridded PRISM (Parameter-elevation Regression on Independent Slopes Model) precipitation data developed by the National Resources Conservation Service (NRCS) National Water and Climate Center (NWCC) and the PRISM Climate Group at Oregon State University.

Precipitation trends (illustrated by the cumulative departure from mean precipitation curve shown in Figure 2) at the Henshaw Dam station are indicative of precipitation and recharge experienced in the USLR Groundwater Subbasin and provide information on WY type. WY type (i.e., wet, above normal, below normal, dry, or critical) was determined from recorded precipitation at Henshaw Dam using the categories presented in Table 3-1 below. These classifications are based on the thresholds outlined in DWR Water Year Type Dataset Development Report (2021). WY 2021 is classified as dry based on recorded precipitation of 15.8 inches at Henshaw Dam (Table 3-2).

Table 3-1. Percent Exceedance Ranges and Precipitation Thresholds for Water Year Type

Water Year Type	Percent Exceedance[1] Range [%]	Threshold Between Year Type [in/yr]	Number of Years in Historical Record (WY 1943-2021)
Wet	0% - 30%	28.2	23
Above Normal	>30% - 50%	21.1	16
Below Normal	>50% - 70%	17.8	15
Dry	>70% - 85%	15.0	13
Critical	>85% - 100%	-	12

[1] Percent exceedance refers to the percentage of precipitation values that are greater than a given threshold for the entire period of record. For example, for a year classified as wet hydrology type, that year's precipitation falls in the upper 30% of precipitation values observed at Henshaw Dam. For the Henshaw period of record (1943 through 2021), the highest 30% of annual precipitation records is represented by values greater than 28.2 inches.

Table 3-2. Water Year Type Based on Precipitation at Henshaw Dam Station

Water Year	Precipitation [inches]	Water Year Type
2015	18.03	Dry
2016	19.28	Below Normal
2017	35.44	Wet
2018	10.29	Critical
2019	35.21	Wet
2020	28.24	Wet
2021	15.78	Dry

3.2 Monitoring Network

The current USLR GSP monitoring network consists of 30 existing wells owned and operated by various water agencies and private agricultural operations. Figure 3 shows the locations of the monitoring network wells.

Representative monitoring sites (RMSs), a subset of the monitoring network, were chosen to provide sufficient distribution throughout the subbasin, have known well construction details, are operational/pumping wells that may be impacted by undesirable results, and have screened intervals representative of alluvial material (see Figure 4). At the moment, RMSs are largely represented by municipal and agricultural supply wells since selection was limited to available information collected or

supplied during the GSP development process. The PVGSA plans to refine the monitoring network in the future to incorporate wells in data gap areas, if available, including shallow and/or domestic wells. Additional RMSs may also be needed to monitor sustainability management criteria for groundwater dependent ecosystems (GDEs) and interconnected surface water if additional data collection and analyses indicate these are present in the subbasin. It may be necessary at the five-year review to adjust sustainability management criteria to accommodate new information collected through annual reporting and data collection efforts.

Static groundwater levels and water quality are measured twice per year: once in the spring and once in the fall, to represent seasonal high and seasonal low, respectively. Measured depth to water (DTW) data, land surface elevations, and measured groundwater elevations in feet above mean sea level (ft amsl) for WY 2021 are provided in Table 1. These data were filed on DWR's SGMA Portal Monitoring Network Module (MNM). Groundwater elevation data were used to produce equipotential contour maps and hydrographs for this annual report. Water quality data from monitoring wells are summarized in Table 2.

3.3 Groundwater Elevations

During development of the GSP, water level data were received from basin stakeholders or obtained through State databases, such as the California Statewide Groundwater Elevation Monitoring (CASGEM) Program database. Information received from various entities was reviewed to identify any anomalies. Water level measurements were also taken at wells in the GSP Monitoring Network (see Section 3.2). Very few water level measurements are available in Pala Subbasin. This is a data gap area that the PVGSA would like to address in the near future.

3.3.1 Elevation Contours

Contours of groundwater elevation were developed based on observed water level data for fall 2020 and fall 2021 (Figures 5 and 6, respectively), which show the seasonal low in groundwater elevations. The groundwater elevation contours represent lines of equal elevation on the groundwater surface and groundwater flow occurs perpendicular (i.e., at 90°) to the contours. Contours are also dashed where there is little control, requiring inference of elevations.

As shown on Figure 5, very few water level measurements were available for fall 2020. Observed measurements from fall were supplemented with June 2020 measurements, where available, to provide a few additional points in support of creating groundwater elevation contours.

Contours from fall 2021, which are based on more observed data points, indicate that there are localized pumping depressions along the San Luis Rey River in Pauma Subbasin, where higher rates of pumping occur. In general, water elevations were higher in fall 2021 than fall 2020. The greatest amount of change is seen in Pauma Subbasin; groundwater elevations in Pala Subbasin remain fairly similar between fall 2020 and fall 2021. Trends and changes in groundwater levels are better displayed in the hydrographs provided in the following section.

3.3.2 Hydrographs

Groundwater elevation hydrographs at key wells identified in the GSP (also known as representative monitoring sites, or RMSs – see Section 3.2) are presented in Figures 7 and 8. Water level measurements

from these key wells are also summarized in the following table, which provides a comparison of spring 2021 and fall 2021 to spring and fall measurements from the previous year. Evaluation of water levels relative to sustainable management criteria (SMC) is provided in Section 5.2.1.

Table 3-3. Fall and Spring Groundwater Elevations at Representative Monitoring Sites (RMSs)

RMS	Spring Groundwater Conditions		Fall Groundwater Conditions	
	WY 2021 [ft amsl]	Change from WY 2020 to 2021 [ft]	WY 2021 [ft amsl]	Change from WY 2020 to 2021 [ft]
MW-1	1,452	129	1,449[R]	NM
MW-2	1,268	-3	1,249[R]	NM
MW-5	805	9	799[R]	NM
MW-9	700	NM	687	NM
MW-10	667	NM	662	NM
MW-12	637	NM	629	16
MW-13	607	NM	600	NM
MW-19	589	3	568	NM
MW-20	586	4	565	NM
MW-23	601	NM	583	NM
MW-24	582	NM	548	NM
MW-25	544	NM	235[P]	NM
MW-26	553	3	542	NM
MW-27	549	18	539[R]	NM

NM = No 2020 measurement available
[R] = Recovering water level
[P] = Pumping water level

It is important to note the significant change in water levels in MW-1 between spring 2020 and spring 2021. Additional investigation at this well is needed to understand water level offsets in data between 2015 and 2020. It is currently unclear whether these changes are caused by measurement complications with the well or are reflective of geologic complexity in the area.

3.4 Change in Groundwater Storage

Change in groundwater storage was estimated for WY 2021 using the water level contours developed in Figures 7 and 8 and aquifer parameters values from the calibrated groundwater flow model. Using this

information, the change in groundwater storage (in acre-ft) was calculated for each model cell using the following equation:

$$Change\ in\ Groundwater\ Storage = (WL_{2021} - WL_{2020}) \times SY \times A$$

Where:

WL_{2021} = Groundwater elevation from fall 2021 (spatially interpolated between water level contours), ft

WL_{2020} = Groundwater elevation from fall 2020 (spatially interpolated between water level contours), ft

SY = Specific yield of model cell from calibrated groundwater model, unitless

A = Model cell area (100 ft x 100 ft = 1,000 ft^2 or 0.02 acres), acres

The individual changes in groundwater storage were then summed over the model area for the entire USLR Valley Groundwater Subbasin. A map of WY 2021 groundwater storage change is provided as Figure 9 while annual change in storage since WY 2015 is summarized in the following table. Cumulative change in storage is shown on Figure 10. As shown, groundwater storage was estimated to increase by approximately 5,400 acre-ft during WY 2021. Increases in groundwater storage in the last few years is consistent with observed water level trends at many of the RMSs showing a recent increase in water levels.

Table 3-4. Annual Change in Groundwater Storage (WY 2015 – 2021)

Water Year	Water Year Type	Change in Groundwater Storage* [acre-ft]
2015	Dry	-5,594
2016	Below Normal	-25
2017	Wet	18,694
2018	Critical	-9,505
2019	Wet	20,413
2020	Wet	11,041
2021	Dry	5,382
Average (2015-2021)	-	5,772

* Change in groundwater storage from WY 2015 through 2020 calculated from calibrated groundwater model. WY 2021 change in groundwater storage calculated from the difference in groundwater elevation contours

It is important to note that the groundwater storage change illustrated on Figure 9 is a direct product of the groundwater elevation contours used to calculate change in water level, which were generated using

limited data (particularly for fall 2020). Therefore, estimated change in groundwater storage has increased uncertainty in these data gap areas. In addition, slight changes in contour placement may cause apparent changes in groundwater storage.

Due to the uncertainty in water levels associated with MW-1 discussed in Section 3.3.2, the groundwater subbasin area in this upper area was not included in the change in groundwater storage calculations. Additional data analysis is recommended to develop a greater understanding of water level and well operational relationships in this area. However, aquifer thickness (and therefore amount of groundwater in storage) is thought to pinch out above this location. Continued collection of water level elevations will provide more confidence in change in storage estimates in the future.

3.5 Water Quality

The water quality contaminants of most concern in the USLR Groundwater Subbasin are total dissolved nitrates (TDS) and nitrate (NO_3). The most common sources of these constituents include gradual accumulation through natural processes (which are especially pronounced in the absence of very wet precipitation years), agricultural applications, irrigation and septic return flows, recycled water use or spreading, use of imported water, and evapotranspiration. The Water Quality Control Plan for the San Diego Basin (Basin Plan) sets water quality objectives to protect the beneficial uses designated for the water body (surface or groundwater). TDS and nitrate (NO_3) groundwater objectives for the USLR Valley Groundwater Subbasin are summarized below.

Table 3-5. Groundwater Quality Objectives in the Upper San Luis Rey Valley Groundwater Subbasin

Hydrologic Subarea	TDS	Nitrate (NO_3)
	[mg/L]	
Pauma Subbasin	800	45
Pala Subbasin	900	45
National and State Maximum Contaminant Levels (MCLs)		
Primary Drinking Water Standard	1,000	45
Secondary Drinking Water Standard	500	-

Notes:
[1] Concentrations not to be exceeded more than 10% of the time during any one-year period.
[2] The Basin Plan allows for measurable degradation of groundwater in this basin to permit continued agricultural land use. Point sources, however, would be controlled to achieve effluent quality corresponding to the tabulated numerical values. In future years demineralization may be used to treat groundwater to the desired quality prior to use.

Historical water quality data in the USLR Valley Groundwater Subbasin is generally very limited. Water quality samples were taken at select wells in the basin during development of the GSP. All of these wells are located in Pauma Subbasin based on access to wells. TDS and nitrate concentrations from the fall 2021 water quality sampling event are shown on Figures 11 and 12, respectively. Current TDS samples indicate concentrations ranging from 130 mg/L to 1,400 mg/L (Figure 11) while nitrate (NO_3) concentrations range

from non-detect (<0.9 mg/L) to 137 mg/L (Figure 12). Higher concentrations of TDS tend to be located near the San Luis Rey River in the main part of Pauma Subbasin. Increased levels of nitrate are also found in this area (vicinity of MW-21 and MW-22) as well as in the Rincon area. Water quality results for all sampled constituents are provided in attached Table 2.

3.6 Interconnected Surface Water

Given the depth to groundwater in much of the basin, percolation from streamflow is thought to be largely in free fall conditions; that is, the streams are not in direct hydraulic connection with the underlying water table and aquifer system so that surface recharge must percolate through the unsaturated zone before becoming accessible to groundwater pumping. This is especially true for tributaries to the San Luis Rey River (e.g., stream channels crossing alluvial fans). While there are areas within the basin where groundwater has been known to enter the San Luis Rey River (such as in the downgradient Pala Subbasin area where there is standing water), not enough stream flow or groundwater level information near stream channels is available to definitively delineate gaining or losing stream reaches – that is, where streams are interconnected or disconnected from underlying groundwater. This has been identified as a data gap area and additional data collection following GSP implementation will help to develop a better understanding of interconnected surface waters in the basin.

3.7 Land Subsidence

Land subsidence is not considered a concern for the USLR Groundwater Subbasin due to a lack of observed evidence of subsidence, absence of significant thickness of compressible fine-grained sediments, and overall shallow character of the alluvial basin. Updated Interferometric Synthetic Aperture Radar (InSAR) data gathered from January 1, 2015, through October 1, 2020, show a change in ground surface vertical displacement of less than 0.05 feet (DWR, 2022). This is within the range of uncertainty of the InSAR data (Towill, 2021) and is therefore not considered to be significant.

3.8 Seawater Intrusion

Given the distance of the downgradient boundary from the ocean, seawater intrusion is also not of concern for the USLR Groundwater Subbasin. In addition, while seawater intrusion has historically occurred in the downgradient Lower San Luis Rey Groundwater Subbasin, minimum threshold groundwater elevations designed to maintain a seaward groundwater gradient are currently being implemented in the Mission Subbasin to protect inland areas from further seawater intrusion. No recent data indicate the presence of seawater intrusion.

4.0 Water Use and Supply

The aquifers in the Pauma and Pala Subbasins are used for domestic, agricultural, commercial, and municipal water supply purposes. The majority of urban areas are supplied water by water agencies but there are some private wells that provide water for domestic use. Residential water uses include household consumption, irrigation of landscape and/or agricultural crops, watering horses or other livestock, and pumping water to fill swimming pools or ponds. Commercial uses include store front and retail trade strip malls, low-rise office buildings, libraries, post offices, and fire and police stations. Industrial uses include extractive industry (mining), light industrial, and warehousing/public storage. The majority of private pumping in the subbasin is used for agricultural irrigation.

4.1 Groundwater Extractions

Groundwater pumping was estimated during development of the USLR GSP based on historical pumping records, where available. Estimates of unrecorded pumping for those areas not served by a water service entity were primarily based on land use and published associated water use (including the demand estimates provided in Table 3-6 of the County of San Diego's (County's) General Plan Update Groundwater Study; County, 2010) and other estimates of water use from previous studies. Since agricultural irrigation represents such a large portion of groundwater pumping in the basin, estimates of agricultural water use were based on crop type using available crop mapping data. Multi-year coverage was available from DWR at https://data.cnra.ca.gov/dataset/statewide-crop-mapping, as well as from the San Diego Association of Governments (SANDAG). Crop-specific agricultural demand estimates from the County's Table 3-6 were then applied to the areas identified by the crop mapping. Pumping estimations were also made for tribal areas, including casino usage, based on available reports (Geo-Logic Associates, 2009; Pala Band of Mission Indians, 2019; Stetson, 1984; Tierra Environmental Services, 2007). Estimated pumping rates were simulated in the groundwater model at locations of known or estimated pumping and adjusted during model calibration.

Groundwater pumping during WY 2021 was also estimated using available reported pumping volumes from water agencies and agricultural pumpers in the groundwater subbasin. Pumping from water agencies was not broken down into water use by sector (i.e., agricultural versus residential and commercial use). It was assumed that 90% of water supplied by water agencies is used for agriculture based on land use in the subbasin and previous estimates of agricultural water use from total water supplied by YMWD. The remaining 10% is assumed to be used for residential and commercial.

Unreported pumping for WY 2021 was estimated based on an analysis of the relationship between previous model pumping estimates and precipitation. Due to limited time availability for data collection, some updated pumping from entities that reported during GSP development period was not received in time for the 2021 annual report. In this case, pumping for those entities was assumed to be the same as WY 2020 pumping. Groundwater extraction volumes will be updated in subsequent annual reports as additional data become available. Reported and unreported groundwater pumping is summarized below of agricultural and residential/commercial use. For WY 2021, groundwater pumping in the subbasin was estimated to be approximately 11,900 acre-ft. This includes approximately 10,300 acre-ft of water for agricultural applications and 1,600 acre-ft for residential and commercial use.

Table 4-1. Groundwater Extractions in the Upper San Luis Rey Valley Groundwater Subbasin by Water Use Sector

Water Year	Reported		Unreported		Total
	Agricultural[1]	Residential & Commercial[2]	Agricultural[3]	Residential & Commercial[4]	
	[acre-ft]				
2015	4,075	404	6,341	1,199	**12,019**
2016	4,685	380	6,394	1,223	**12,681**
2017	5,316	511	5,308	1,082	**12,218**
2018	6,418	626	4,542	1,029	**12,614**
2019	5,551	519	4,877	1,052	**11,999**
2020	3,952	347	6,710	1,239	**12,248**
2021	2,735	211	7,518[5]	1,412[6]	**11,876**

[1] Reported pumping for water agencies did not specify agricultural vs. residential/commercial use. Agricultural use assumed to be 90% of reported pumping for these agencies.

[2] Reported pumping for water agencies did not specify agricultural vs. residential/commercial use. Residential and commercial use assumed to be 10% of reported pumping for these agencies.

[3] Unreported agricultural pumping was estimated for the development of groundwater budgets in the USLR GSP based primarily on land use and crop type, then adjusted during model calibration.

[4] Unreported residential and commercial pumping was estimated for the development of groundwater budgets in the USLR GSP based primarily on water consumption reports for tribal areas.

[5] The model calibration period covered January 1990 through December 2020. Therefore, agricultural groundwater pumping from January 2021 through September 2021 was estimated based on the relationship between precipitation and estimated agricultural groundwater pumping for previous years. Unreported agricultural pumping for WY 2021 that was reported for previous WYs was assumed to be the same as WY 2020 pumping.

[6] Unreported residential and commercial pumping for WY 2021 that was reported for previous WYs was assumed to be the same as WY 2020 pumping.

4.2 Surface Water Supply

Surface water supply in the USLR Valley Groundwater Subbasin includes imported water and local surface water diversion. Within the subbasin, YMWD receives imported water through Metropolitan Water District of Southern California (Metropolitan) and the San Diego County Water Authority (Water Authority). This imported water includes Colorado River supplies (transported from Lake Havasu through the Colorado River Aqueduct to Diamond Valley Lake and then to Lake Mathews in Riverside County via Lake Skinner) and State Water Project (SWP) supplies (delivered to Lake Perris, the terminus of the 444-mile California Aqueduct). The use of imported water in the basin has increased since imported water deliveries began in 1947 with the completion of the first San Diego Aqueduct (Recon, 1996). The increased use of imported water in the subbasin has allowed for a reduction in groundwater pumping, assisting with the increase in groundwater levels within the last five to ten years.

Reported surface water diversions include diversions by Improvement District "A" to catchment basins and other diversions by surface water diversion permit holders. For this 2021 annual report, an estimate of surface water use was made based on previously compiled diversion records and the relationship between these diversions and precipitation at Henshaw Dam. Surface water diversion volumes will continue to be updated in subsequent annual reports as additional data become available. Surface water deliveries are summarized below. Total surface water use in the USLR Valley Groundwater Subbasin for WY 2021 is estimated to be approximately 6,000 acre-ft. This includes 5,600 acre-ft of imported water and 400 acre-ft of local surface water.

Table 4-2. Surface Water Deliveries in the Upper San Luis Rey Valley Groundwater Subbasin

Water Year	Imported Water[1]	Diversions from San Luis Rey and Tributaries[2] [acre-ft]	Total
2015	4,468	455	**4,923**
2016	3,621	467	**4,088**
2017	4,494	742	**5,236**
2018	6,088	368	**6,456**
2019	4,756	678	**5,434**
2020	4,685	466	**5,151**
2021	5,611	406	**6,017**

[1] Values reported by Fiscal Year (July 1 through June 30)
[2] Values based on reported diversions for WY 2015 through 2020. WY 2021 estimated based on previous values and diversion correlation to precipitation at Henshaw Dam Station

4.3 Total Water Use

Total water use in the subbasin using the estimates developed above is summarized in Table 4-3 and Figure 13. As shown, water use in the subbasin in WY 2021 was estimated to be approximately 18,000 acre-ft/yr.

Table 4-3. Total Water Use in Upper San Luis Rey Valley Groundwater Subbasin

Water Year	Groundwater	Imported Water[1]	Surface Water Diversions	Total
	[acre-ft]			
2015	12,019	4,468	455	**16,942**
2016	12,681	3,621	467	**16,769**
2017	12,218	4,494	742	**17,454**
2018	12,614	6,088	368	**19,070**
2019	11,999	4,756	678	**17,433**
2020	12,248	4,685	466	**17,399**
2021	11,876	5,611	406	**17,893**

[1] Values reported by Fiscal Year (July 1 through June 30)

5.0 Progress Towards GSP Implementation and Sustainability

The USLR Valley Groundwater Subbasin has been classified by DWR as a medium-priority basin. Pauma and Pala Subbasins were considered to be at or near hydrologic balance in the 1984 study by Stetson. Following this study, groundwater elevations – particularly in Pauma Subbasin – showed declines from the 1990s through the early 2000s. Over the last ten years or so, water levels have recently stabilized and have started to show recovery. This seems to be due in large part to the use of imported water to augment groundwater supplies, allowing for a reduction in groundwater pumping. The sustainability goal for the USLR Subbasin is to manage and preserve its groundwater resource as a sustainable water supply. To the greatest extent possible, the goal is to preserve historic operations of beneficial use in the basin as well as allow for future planned uses as conceived by the GSA and basin stakeholders. One of the main ways to accomplish this goal is to operate the subbasin within the sustainable yield.

Sustainable yield is defined by SGMA (Water Code, section 10721(w)) as the maximum quantity of water, calculated over a base period representative of long-term conditions in the basin and including any temporary surplus, that can be withdrawn annually from a groundwater supply without causing an undesirable result. Preliminary estimates of the sustainable yield of the subbasin range from approximately 12,700 acre-ft/yr under historical conditions (1991 through 2020) to 20,300 acre-ft/yr under current (2016 through 2020) conditions. Projections of future water budgets assuming similar land use, groundwater pumping, and imported water use indicate a sustainable yield of approximately 13,600 acre-ft/yr. As indicated in Section 4.1, groundwater pumping during WY 2021 was estimated to be 11,900 acre-ft.

The USLR GSP outlines sustainability criteria to allow the PVGSA to define, measure, and track sustainable management for different sustainability indicators in the subbasin. The GSP also proposed several potential management actions and projects that could be implemented to further ensure that undesirable results do not occur in the subbasin going forward. Progress towards implementing the Plan is discussed in the following sections.

5.1 Projects and Management Actions

As outlined in the USLR GSP, the PVGSA intends to avoid future undesirable results through active monitoring and adaptive basin management. Frequent assessment of progress towards maintaining sustainability will allow the GSA to proactively enact management actions and/or projects as needed to curb any potential issues before they lead to undesirable results. If basin monitoring indicates that additional action is necessary, the GSA will research the feasibility of implementing supplementary management actions and/or projects. Proposed projects will be prioritized by considering potential cost, available funding, and anticipated benefits to groundwater levels, storage, water quality, and/or interconnected surface water. Section 6.3 of the USLR GSP describes potential projects and management actions.

Since completing the USLR GSP in January of 2022, the PVGSA's attention in terms of projects and management actions has been primarily focused on data collection efforts. Groundwater level and water quality monitoring programs are essential for effective management of groundwater resources and evaluating sustainability. Understanding the amount of groundwater pumping in the basin is also crucial for basin management and evaluating whether the subbasin is being operated within the conceptual

sustainable yield. As discussed in the USLR GSP, significant data gaps exist in the subbasin. The PVGSA was able to obtain/extend grant funding to cover additional studies and the installation of monitoring sites. These studies and management actions, which are anticipated to be completed by June 2023, include:

- **Aquifer pumping test**: An aquifer test measures aquifer and well characteristics (specific capacity, well efficiency relationships, transmissivity and storativity) by creating a stress and measuring the response in the test well or observation well(s). Typical tests include a Constant Rate Pump Test (well pumped at constant rate) or Step Drawdown Test (involving 3 or 4 pump rates). Information from the aquifer test will be used to refine the conceptual model of the basin and may be used for future model updates.
- **Installation of surface flow gage(s) in the subbasin**: Streamflow data is important to evaluate long-term and seasonal changes in surface flow and potential depletions of interconnected surface water and impacts on verified groundwater dependent ecosystems (GDEs). However, there are no current streamflow gages in the subbasin. A feasibility study will be conducted regarding the installation of at least one surface flow gage to provide more resolution and understanding of groundwater and surface water interactions.
- **CIMIS station installation feasibility study**: A local California Irrigation Management Information System (CIMIS) station would provide more accurate evapotranspiration (ET) estimates and other climatic data for the USLR Subbasin microclimate. This would allow agricultural users in the subbasin to adjust their irrigation system timing – leading to increased efficiency and reduced water demand, as encompassed within the agricultural management plan and best management practices
- **Installation of new, dedicated monitoring well**: A new monitoring well will be sited and installed in a data gap area to provide additional water level and water quality information for basin monitoring. One potential location is downgradient of the Rincon Reservation boundary to provide a monitoring point near the upstream end of the San Luis Rey River within the Pauma Subbasin.

During development of this annual report, the PVGSA also sent out a data request letter to basin stakeholders requesting additional information on existing wells in the subbasin, water level measurements, and pumping records, among other items. This information will facilitate understanding of hydrologic conditions and water use in the subbasin and be used in future annual reports and model updates to refine groundwater pumping estimates, generate groundwater elevation contours, and calculate change in groundwater storage.

In addition to progressing with data collection management actions and projects, The San Diego Regional Agricultural Water Management Plan drought response conservation program (Ordinance No. 100-08), and agricultural irrigation best management practices continue to be enacted within the USLR Subbasin. Additional details on these current management actions can be found in Sections 6.2.1.1 and 6.2.1.2 in the USLR GSP. The PVGSA also plans to begin developing Interactive Tribal and Drought Resilience Work Groups within the next year.

As noted in the GSP, the current DWR-defined basin boundaries do not adequately represent the true extent of the groundwater subbasin based on geologic contacts and topographic changes indicating the presence of crystalline bedrock. The difference between the current DWR groundwater subbasin and proposed subbasin is shown on Figure 1. The PVGSA will be requesting a scientific basin modification for the refinement of the USLR Groundwater Subbasin boundaries when the next modification period begins. The DWR website indicates that the next basin modification period is not expected before 2022.

5.2 Sustainable Management Criteria (SMC)

Sustainable groundwater management involves the use and management of groundwater without causing undesirable results. SGMA identified six sustainability indicators which refer to effects caused by groundwater conditions occurring throughout a basin that, when significant and unreasonable, cause undesirable results (Water Code Section 10721(x)). These are:

- Reduction of Groundwater in Storage
- Chronic Lowering of Groundwater Levels
- Degraded Water Quality
- Depletion of Interconnected Surface Water
- Land Subsidence (not considered applicable in the USLR Valley Groundwater Subbasin)
- Seawater Intrusion (also not considered applicable in the USLR Valley Groundwater Subbasin)

For these sustainability indicators, the USLR GSP developed quantitative sustainable management criteria (SMCs) that allow the GSA to define, measure, and track sustainable management. These include minimum thresholds (MTs) to define undesirable results for each sustainability indicator and measurable objectives (MOs) to track the performance of sustainable management. The development of these sustainable management criteria relied upon information about the USLR Subbasin developed in the hydrogeologic conceptual model, the description of current and historical groundwater conditions, and the water budget. Additional information on the sustainability criteria can be found in Section 4.0 (Sustainable Management Criteria) in the USLR GSP.

Progress towards implementing sustainable management regarding the six sustainability indicators is described in the following subsections.

5.2.1 Chronic Lowering of Groundwater Levels

SMCs for groundwater levels in the USLR Groundwater Subbasin were developed based on input from local pumpers participating in the GSP process and monitoring network. Currently, these sites include municipal, private, and agricultural wells located almost exclusively in the Pauma Valley portion of the USLR Groundwater Subbasin. Participating pumpers provided the minimum depth for each of their wells to operate successfully based on their past experiences during drought conditions. Groundwater levels falling below these elevations (defined as the MT for each well) represent an undesirable result at the specific well location. Undesirable results for the subbasin are indicated when two consecutive exceedances occur in each of two consecutive years, in 25 percent or more of the Key Wells.

The MO for the USLR Subbasin is set at a groundwater elevation that coincides with three years of operational storage for the basin, where a minimum of 18,000 acre-ft/year is required to meet the water

demands of the basin. Three years of groundwater storage is therefore equivalent to 54,000 acre-ft. This value is conservative because it allows three years of groundwater reserves to meet water demand, even though much of that demand is currently satisfied through imported water. Therefore, this approach for defining MOs against the lowering of groundwater levels (as well as groundwater storage) also allows protection against periods of prolonged drought or below average precipitation years. The calibrated USLR Groundwater Model (USLRGM) was used to calculate these elevations at the RMSs. In general, this corresponds to approximately 50 ft of groundwater elevation over MTs.

WY 2021 groundwater elevations (both spring and fall), MTs, and MOs at RMSs are summarized in Table 5-1 below. SMCs are also shown in relationship to historical groundwater levels and known well screen intervals for each key well on Figures 5 and 6.

Table 5-1. Water Year 2021 Groundwater Elevations and Sustainable Management Criteria for Representative Monitoring Sites

RMS	Groundwater Elevation		Sustainable Management Criteria	
	Spring 2021	Fall 2021	Minimum Threshold	Measurable Objective
	[ft amsl]		[ft amsl]	
MW-1	1,452	1,449[R]	1,291	1,350
MW-2	1,268	1,249[R]	1,108	1,168
MW-5	805	799[R]	730	789
MW-9	700	687	623	682
MW-10	*667*	*662*	629	688
MW-12	*637*	*629*	596	655
MW-13	*607*	*600*	566	625
MW-19	*589*	*568*	549	609
MW-20	*586*	*565*	545	604
MW-23	601	583	506	565
MW-24	582	548	385	444
MW-25	544	235[P]	157	216
MW-26	*553*	*542*	502	561
MW-27	*549*	*539*[R]	497	557

Italicized values are above MTs but below MOs

Currently (WY 2021), groundwater levels at the RMSs indicate:

- 7 of the representative wells (50%) are above measurable objectives under both spring and fall groundwater conditions.
- 7 of the representative wells (50%) are within the operating range between measurable objective and minimum threshold under both spring and fall groundwater conditions.
- 0 of the representative wells (0%) are below the minimum threshold under both spring and fall groundwater conditions.

With ongoing monitoring, changes in individual wells status relative to MOs and MTs will be able to be identified and discussed in future annual reports. One of the ongoing management actions is to continue to evaluate current RMSs, improve coverage of RMSs to include sites in data gap areas (particularly Pala Subbasin) and incorporate information from private and/or shallow groundwater wells, and revise SMCs as needed to protect beneficial use in the subbasin.

5.2.2 Reduction of Groundwater Storage

Based on historical and current pumping and groundwater trends, managing groundwater levels in the future above the MTs set for groundwater levels will result in an appropriate amount of groundwater in reserve to sustain pumping during drought periods. Therefore, groundwater elevation is used as a proxy for groundwater storage and SMCs for the reduction of groundwater storage are the same as those presented for groundwater levels above.

5.2.3 Degraded Water Quality

Undesirable results for water quality in the USLR Subbasin are defined as the degradation of groundwater from current ambient conditions. Ambient TDS and nitrate groundwater quality in the basin was evaluated by taking median concentration of average water quality in wells with at least three water quality readings from 2016 through 2021. Well locations with available datasets during this period are shown on Figure 14. The median was chosen as a representative value of overall basin water quality because medians can be reliably calculated for datasets with mixed censored and non-censored data (detects and non-detects), allow for the use of an entire water quality dataset while minimizing the skewing effect of potential data outliers, and do not rely on parametric statistical methods that assume normal data distribution to remove potential outliers. Results are summarized in the following table.

Table 5-2. Ambient Water Quality (2016 through 2021)

Hydrologic Subarea	2016-2021 Ambient Groundwater Quality[1]		Minimum Threshold	
	TDS [mg/L]	Nitrate (NO_3) [mg/L]	TDS [mg/L]	Nitrate (NO_3) [mg/L]
Pauma Subbasin	635 (+28)	27.0 (+1.2)	800	45
Pala Subbasin	NA[2]	NA[2]	900	45

[1] Change in ambient quality from that presented in the USLR GSP (calculated from 2015 through 2020) shown in parentheses
[2] Insufficient data to characterize ambient groundwater quality in Pala Subbasin

As shown on Figure 14, no wells in the Pala Subbasin met the criteria of having at least three water quality readings in the last seven years. Therefore, ambient concentrations in this area were not able to be determined. The Pauma Subbasin current ambient values are approximately 635 mg/L and 27.0 mg/L for TDS and nitrate as NO_3, respectively.

5.2.4 Depletion of Interconnected Surface Water

Very few measurements of surface flow are available in Pauma and Pala Valleys. Therefore, current understanding of surface water and groundwater interactions in the USLR Subbasin are informed by reported observations, groundwater levels (where data are available), and model-calculated streamflow and groundwater elevations using the USLRGM (what limited gaged measurements of surface flow were available were used to calibrate the surface water model component). Since surface water is not a significant source of water supply in the USLR Subbasin, undesirable effects from depletions in interconnected surface water primarily relate to potentially groundwater dependent ecosystems (GDEs). Areas of potentially dependent vegetation were identified in the USLR GSP, but these areas need to be verified through field investigation and additional data collection. RMSs and SMCs will then be refined as necessary to avoid significant and unreasonable effects to GDEs.

5.2.5 Land Subsidence

Land subsidence as a sustainability indicator is not considered applicable to the USLR Groundwater Subbasin and no sustainability management criteria were developed. However, the GSA has determined that any land subsidence caused by the lowering of groundwater levels in the subbasin would be considered significant and unreasonable. Evidence of or potential for land subsidence will be reevaluated in the five-year report.

5.2.6 Seawater Intrusion

Seawater intrusion as a sustainability indicator is not applicable to the USLR Groundwater Subbasin and no sustainability management criteria were developed. The absence of seawater intrusion will be verified in the five-year report.

6.0 Conclusions

Information provided in this first annual report of the USLR Groundwater Subbasin, which covers the period for WY 2021 (i.e., October 2020 through September 2021), indicate the following conditions:

- WY 2021 is classified as dry based on recorded precipitation of 15.8 inches at Henshaw Dam.
- Though few data points were available for fall 2020, water elevations were generally higher in fall 2021. Contours from fall 2021 indicate that there are localized pumping depressions along the San Luis Rey River in Pauma Subbasin, where greater rates of pumping occur.
- Groundwater storage was estimated to increase by approximately 5,400 acre-ft during WY 2021.
- Groundwater levels and groundwater in storage for WY 2021 in all RMSs are above MTs. Water levels in 50% of the RMSs are also above MOs.
- Current TDS concentrations in water quality monitoring wells range from 130 mg/L to 1,400 mg/L while nitrate (NO_3) concentrations range from non-detect (<0.9 mg/L) to 137 mg/L. Higher concentrations of TDS tend to be located near the San Luis Rey River in the main part of Pauma Subbasin. Increased levels of nitrate are also found in this area (vicinity of MW-21 and MW-22) as well as in the Rincon area.
- Current ambient water quality in Pauma Subbasin (2016-2021) is approximately 635 mg/L and 27.0 mg/L for TDS and nitrate as NO_3, respectively. These values do not violate MTs for water quality.
- Total water use in the subbasin in WY 2021 was estimated to be approximately 18,000 acre-ft/yr. This includes 11,900 acre-ft of groundwater pumping, 5,600 acre-ft of imported water, and 400 acre-ft of local surface water.
- WY 2021 groundwater pumping is within the estimated safe yield for the USLR Groundwater Subbasin of between 12,700 acre-ft/yr (calculated for long-term historical conditions from 1991 through 2020) to 20,300 acre-ft/yr (calculated for current conditions from 2016 through 2020).

6.1 Next Steps

Progress towards GSP implementation and sustainability will continue. Results of basin monitoring efforts and investigations performed this coming water year will be presented in the next annual report (WY 2022), to be submitted to DWR by April 1, 2023. Next steps and recommendations include:

- Continued stakeholder outreach and data collection.
- Spring 2022 and fall 2022 monitoring events for water level and water quality at GSP Monitoring Network wells.
- Refine estimates of groundwater pumping and water use in the Subbasin as information becomes available.
- Update existing groundwater contours if additional data become available and develop contours for WY 2022.
- Progress with additional grant-funded studies and the installation of monitoring sites discussed (to be completed by June 2023).

- Begin developing Interactive Tribal and Drought Resilience Work Groups
- Pursue scientific basin modification for the refinement of the USLR Groundwater Subbasin boundaries.
- Start to develop a better understanding of interconnected surface waters and potential GDEs in the subbasin through additional data collection.

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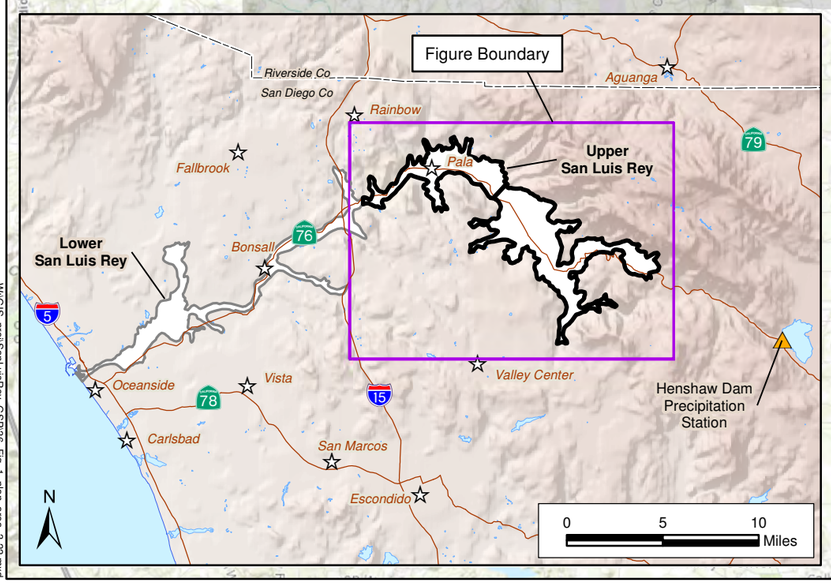
FIGURES

Upper San Luis Rey Valley Groundwater Subbasin - Pala Subbasin

Upper San Luis Rey Valley Groundwater Subbasin - Pauma Subbasin



EXPLANATION

Groundwater Basins/Subbasins

- San Luis Rey Valley Groundwater Basin (DWR Bulletin 118, 2016)
- Upper San Luis Rey Valley Groundwater Subbasins - Pala and Pauma (AB1944, 2018)
- Pala/Pauma Subbasin Boundary at Frey Creek (SWRCB D1649, 2002)
- Proposed Pala/Pauma Subbasin Boundary

Pauma Valley GSA

- Pauma Municipal Water District
- Pauma Valley Community Services District
- San Luis Rey Municipal Water District
- Upper San Luis Rey Resource Conservation District
- Yuima Municipal Water District

NOTE: The proposed Upper San Luis Rey Valley Groundwater Basin boundaries are based on geology but have not yet been approved by DWR

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Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS User Community

PLAN AREA

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PAUMA VALLEY GSA

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FIGURE 1

UPPER SAN LUIS REY VALLEY GROUNDWATER SUSTAINABILITY PLAN ANNUAL REPORT - WATER YEAR 2021

GEOSCIENCE

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Cumulative Departure from Mean Annual Precipitation
Henshaw Dam Station (1943-2021)

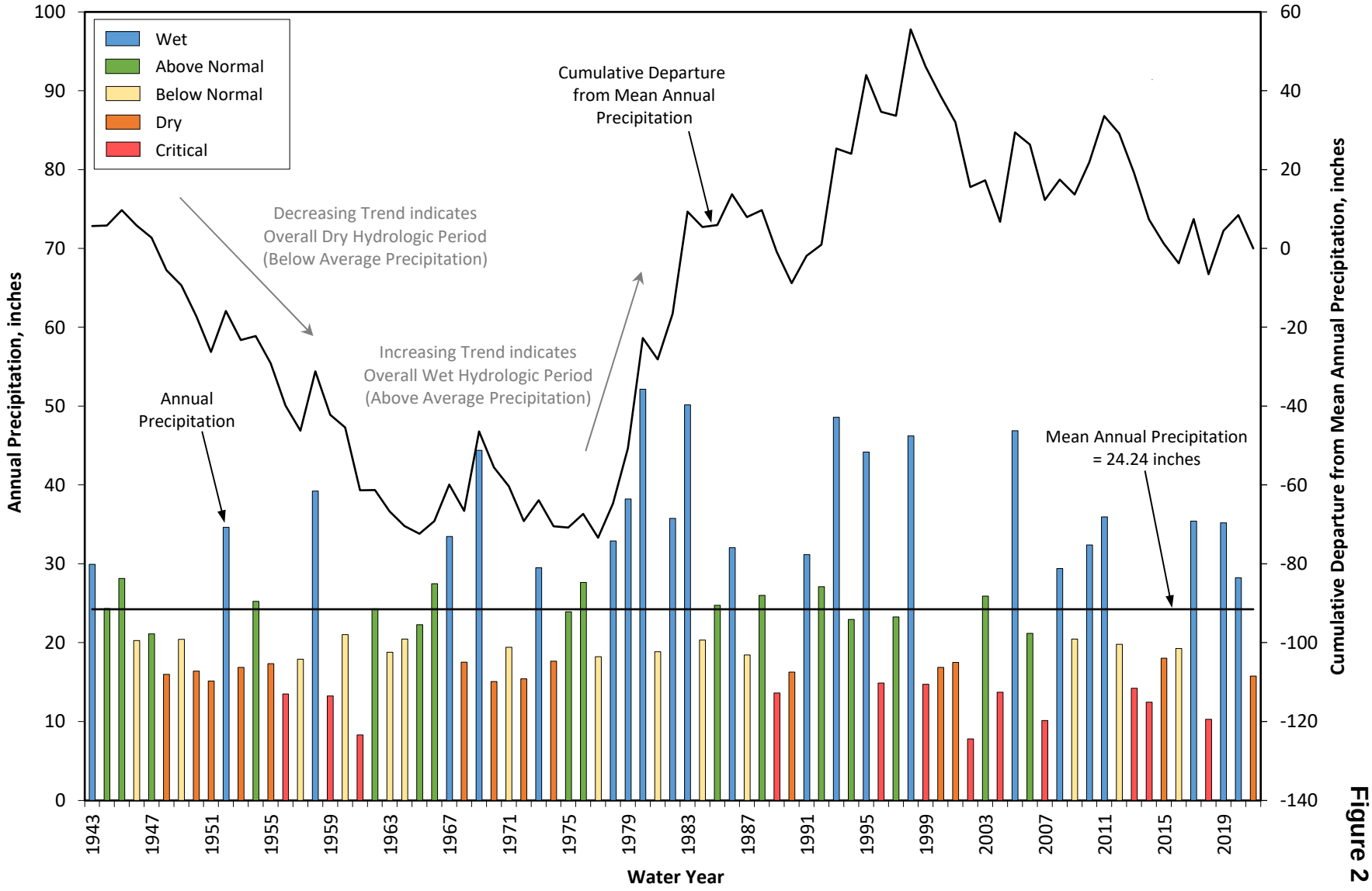
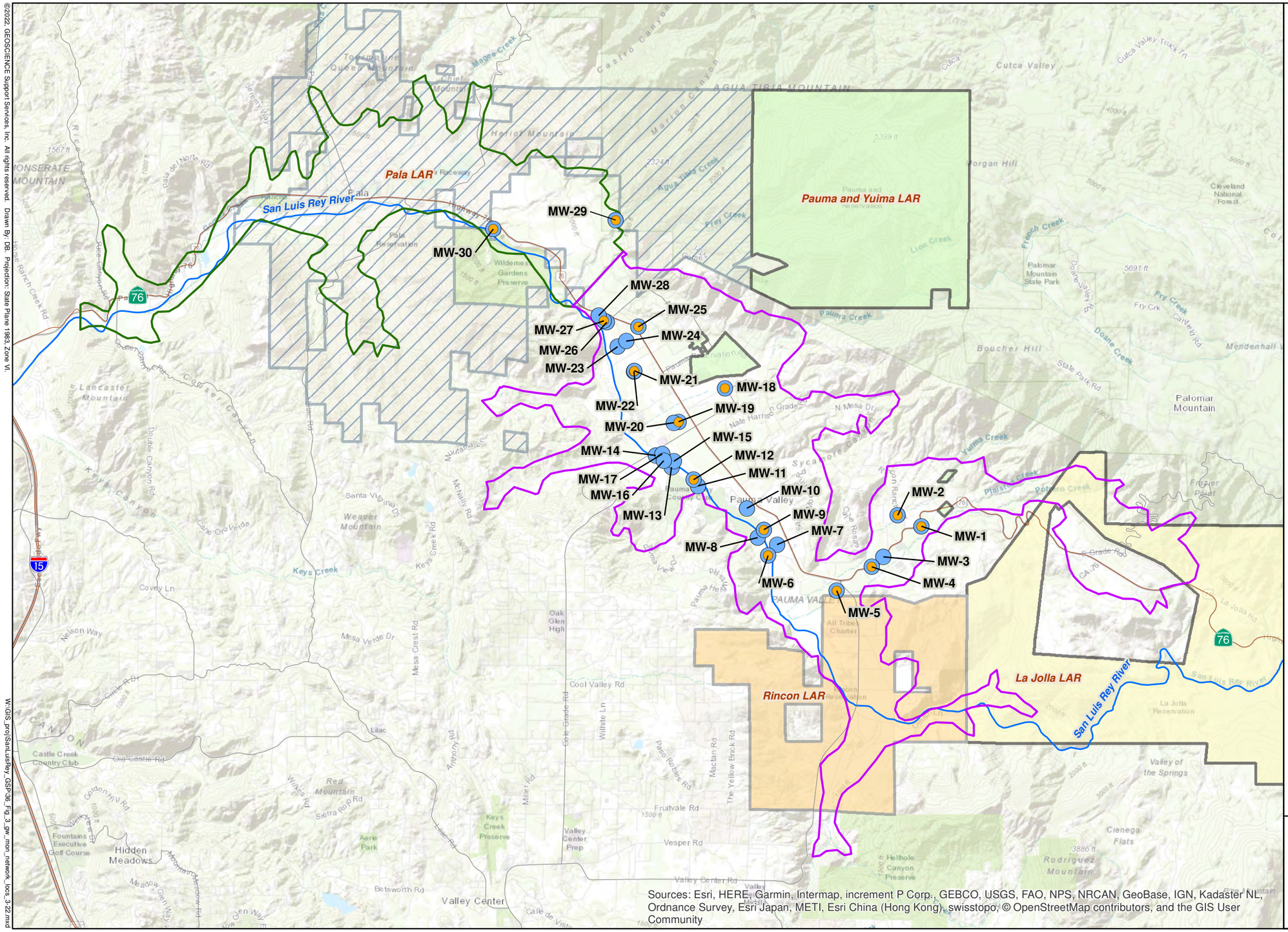


Figure 2



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS User Community

EXPLANATION

- Monitoring Network Well Location (Water Level)
- Monitoring Network Well Location (Water Quality)
- Pala Subbasin Boundary (SWRCB D1649, 2002; DWR Bulletin 118, 2020; and AB1944, 2018)
- Pauma Subbasin Boundary (SWRCB D1649, 2002; and DWR Bulletin 118, 2020)

Land Area Representation (BIA, 2020)

- La Jolla LAR
- Pala LAR
- Pauma and Yuima LAR
- Rincon LAR

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MONITORING NETWORK

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PAUMA VALLEY GSA

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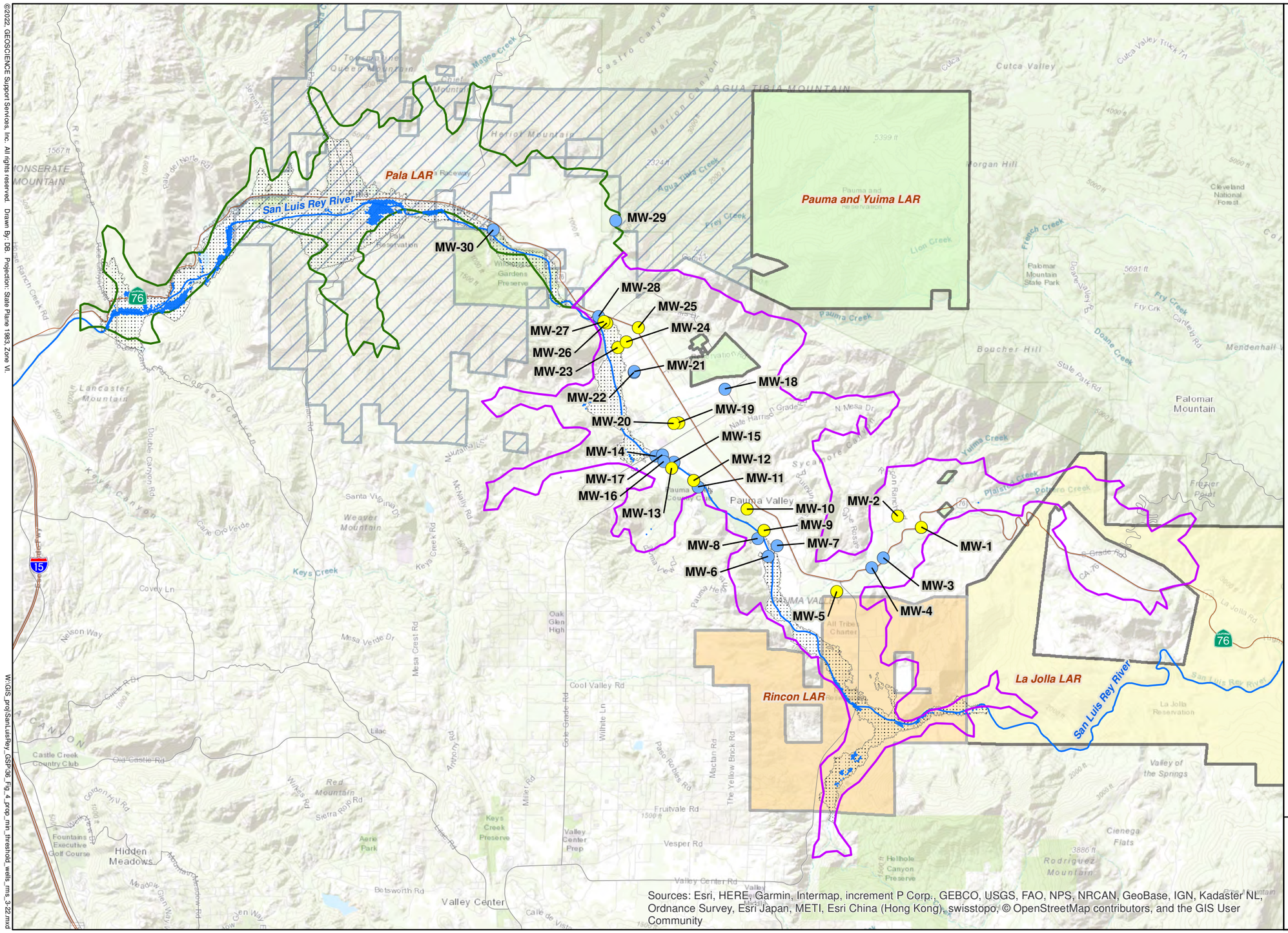
FIGURE 3

UPPER SAN LUIS REY VALLEY GROUNDWATER SUSTAINABILITY PLAN ANNUAL REPORT - WATER YEAR 2021

GEOSCIENCE



EXPLANATION

- Representative Monitoring Site with Minimum Threshold (MT) and Measurable Objective (MO) for Groundwater Elevation
- Monitoring Network Well Site
- Pala Subbasin Boundary (SWRCB D1649, 2002; DWR Bulletin 118, 2020; and AB1944, 2018)
- Pauma Subbasin Boundary (SWRCB D1649, 2002; and DWR Bulletin 118, 2020)
- Estimated Depth to Groundwater Less Than 50 ft (represents location for potential interconnected surface waters, as suggested by the Nature Conservancy. Additional information needs to be collected to verify actual areas of interconnected groundwater / surface water)
- 20 - 30 ft (30 ft represents the depth suggested by the Nature Conservancy to be used in identification of potential GDEs. Additional information needs to be collected to verify actual extent of GDEs)

Land Area Representation (BIA, 2020)

- La Jolla LAR
- Pala LAR
- Pauma and Yuima LAR
- Rincon LAR

N

0 1 2

Miles

REPRESENTATIVE MONITORING SITES (RMSs)

W:\GIS_proj\SanLuisRey_GSP\36_Fig_4_prop_min_threshold_wells_rms_3-22.mxd

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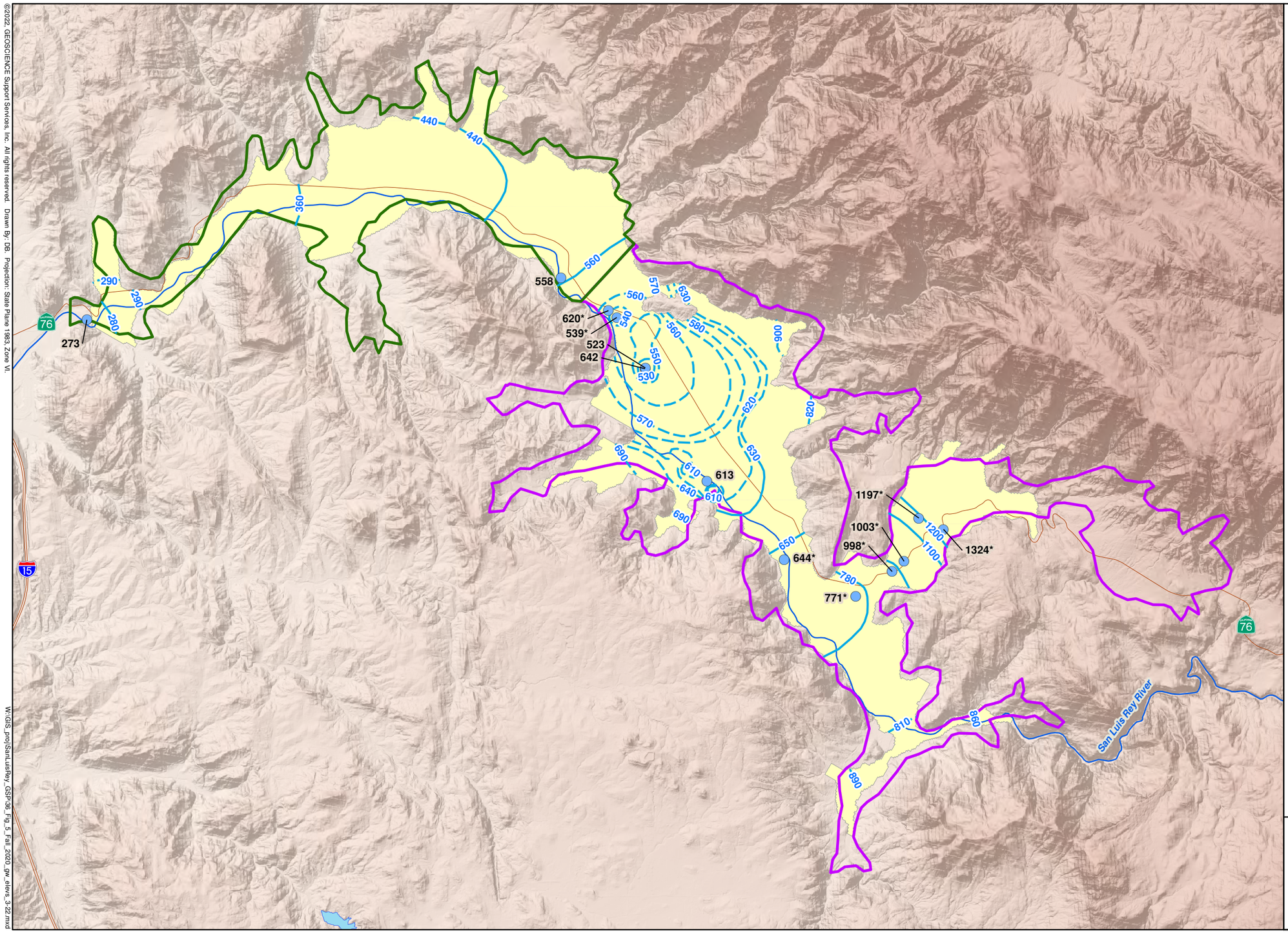
FIGURE 4

UPPER SAN LUIS REY VALLEY GROUNDWATER SUSTAINABILITY PLAN ANNUAL REPORT - WATER YEAR 2021

GEOSCIENCE



EXPLANATION

- Pala Subbasin Boundary (SWRCB D1649, 2002; DWR Bulletin 118, 2020; and AB1944, 2018)
- Pauma Subbasin Boundary (SWRCB D1649, 2002; and DWR Bulletin 118, 2020)
- 610 — Fall 2020 Groundwater Elevations (ft amsl) (dashed where inferred)
- 579 — Well with Fall 2020 Water Level Measurement (ft amsl) *June 2020 reading used since Fall 2020 reading was unavailable
- Active Model Area (representative of alluvial aquifer area)

N

0 1.25 2.5

Miles

GROUNDWATER ELEVATIONS FALL 2020

W:\GIS_proj\SanLuisRey_GSP\36_Fig_5_Fall_2020_gw_elevs_3-22.mxd

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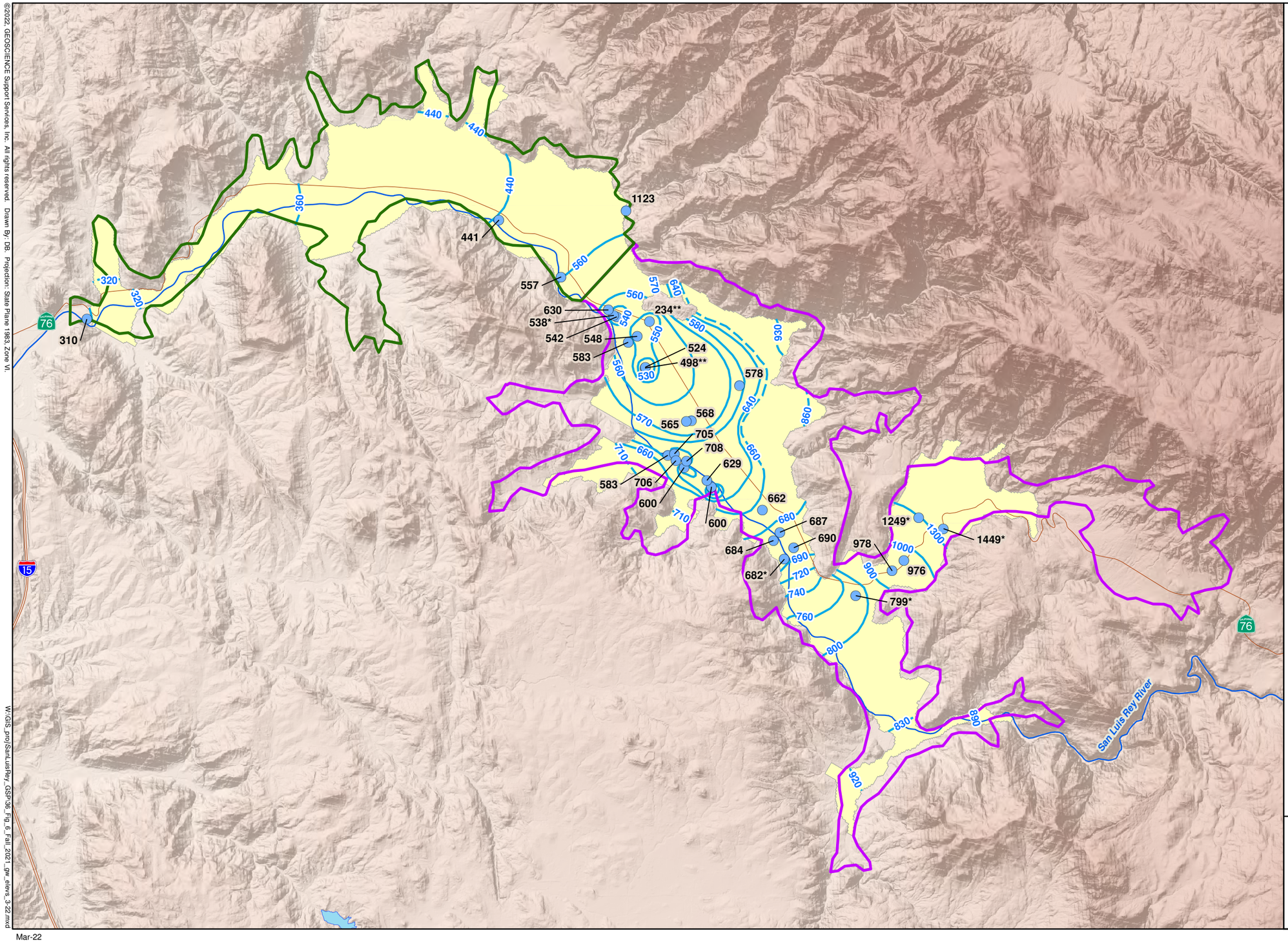
FIGURE 5

UPPER SAN LUIS REY VALLEY GROUNDWATER SUSTAINABILITY PLAN ANNUAL REPORT - WATER YEAR 2021

GEOSCIENCE



EXPLANATION

- Pala Subbasin Boundary (SWRCB D1649, 2002; DWR Bulletin 118, 2020; and AB1944, 2018)
- Pauma Subbasin Boundary (SWRCB D1649, 2002; and DWR Bulletin 118, 2020)
- 610 — Fall 2021 Groundwater Elevations (ft amsl) (dashed where inferred)
- 579 — Well with Fall 2021 Water Level Measurement (ft amsl)
  * Recovering Water Level
  ** Pumping Water Level
- Active Model Area (representative of alluvial aquifer area)

N

0 1.25 2.5

Miles

GROUNDWATER ELEVATIONS FALL 2021

W:\GIS_proj\SanLuisRey_GSP\36_Fig_6_Fall_2021_gw_elevs_3-22.mxd

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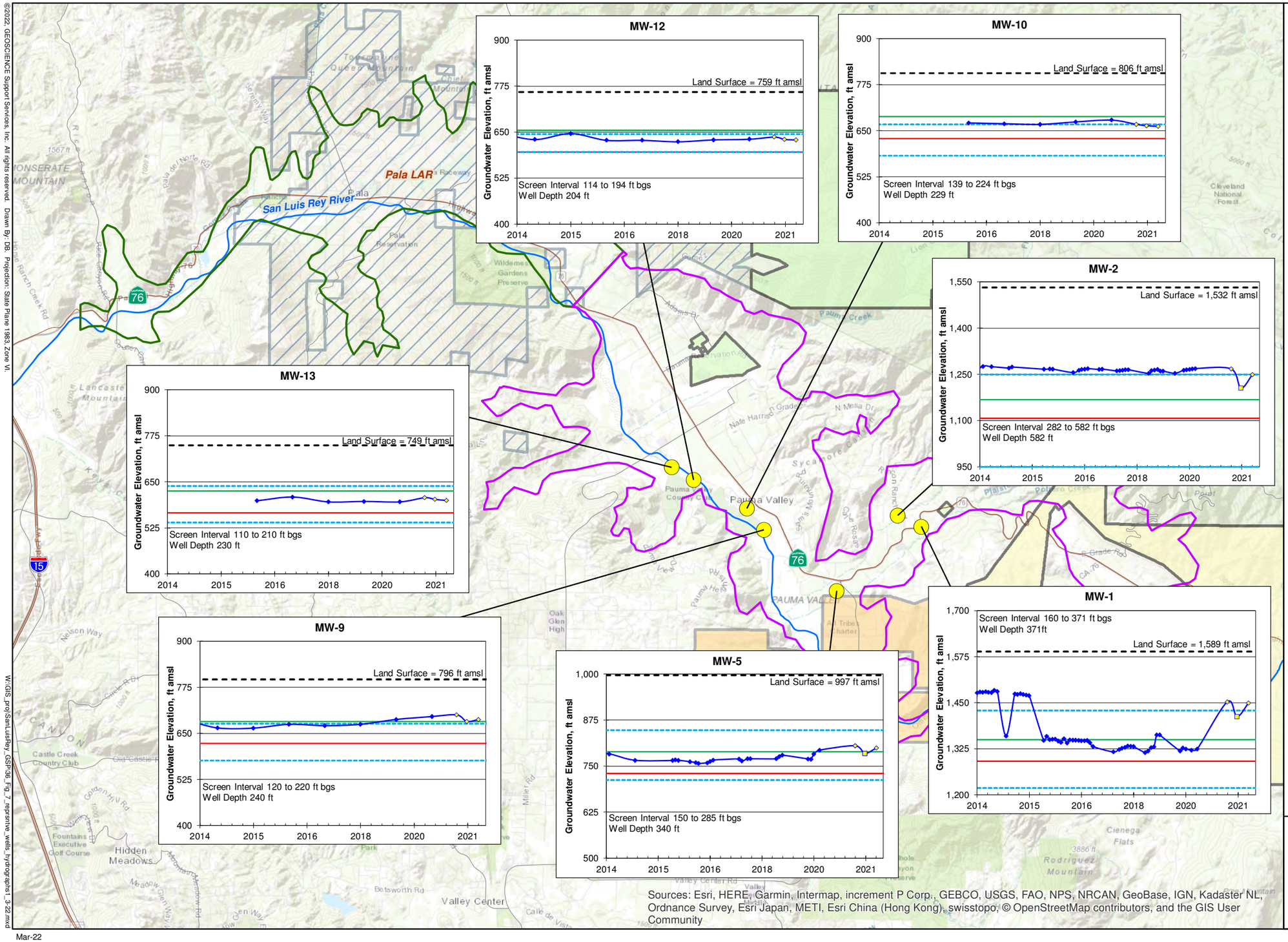
FIGURE 6

UPPER SAN LUIS REY VALLEY GROUNDWATER SUSTAINABILITY PLAN ANNUAL REPORT - WATER YEAR 2021

GEOSCIENCE



EXPLANATION

- Representative Monitoring Site with Minimum Threshold (MT) and Measurable Objective (MO) for Groundwater Elevation
- Pala Subbasin Boundary (SWRCB D1649, 2002; DWR Bulletin 118, 2020; and AB1944, 2018)
- Pauma Subbasin Boundary (SWRCB D1649, 2002; and DWR Bulletin 118, 2020)

Land Area Representation (BIA, 2020)

- La Jolla LAR
- Pala LAR
- Pauma and Yuima LAR
- Rincon LAR

- Minimum Threshold
- Measurable Objective
- Screen (top and bottom)
- Land Surface
- Measured During Static Periods
- Measured During Pumping Periods
- Geoscience Measured During Static Periods
- Geoscience Measured During Pumping Periods

N

0 1 2

Miles

GROUNDWATER HYDROGRAPHS FOR REPRESENTATIVE WELLS 1 of 2

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PAUMA VALLEY GSA

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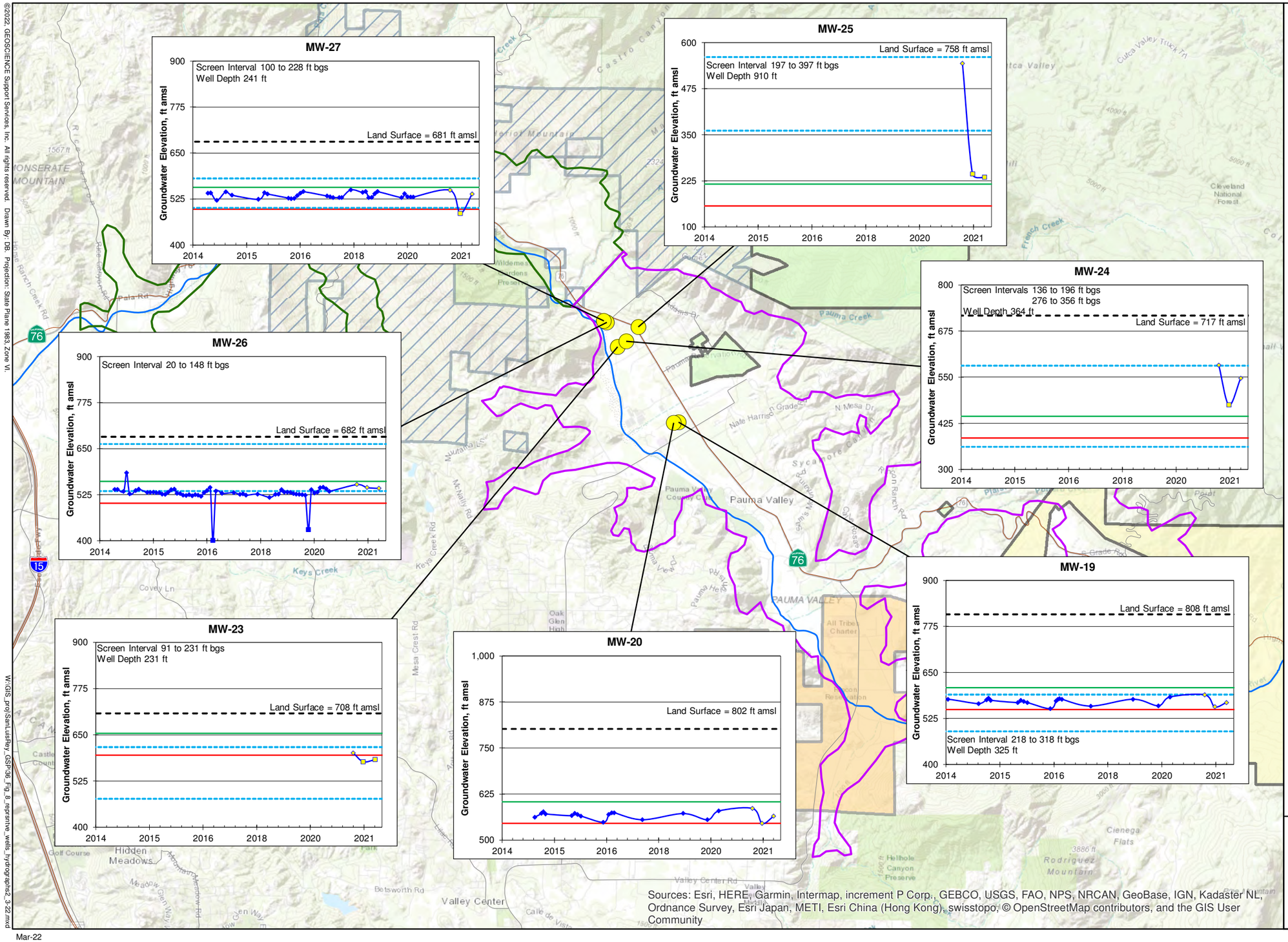
FIGURE 7

UPPER SAN LUIS REY VALLEY GROUNDWATER SUSTAINABILITY PLAN ANNUAL REPORT - WATER YEAR 2021

GEOSCIENCE



EXPLANATION

- Representative Monitoring Site with Minimum Threshold (MT) and Measurable Objective (MO) for Groundwater Elevation
- Pala Subbasin Boundary (SWRCB D1649, 2002; DWR Bulletin 118, 2020; and AB1944, 2018)
- Pauma Subbasin Boundary (SWRCB D1649, 2002; and DWR Bulletin 118, 2020)

Land Area Representation (BIA, 2020)

- La Jolla LAR
- Pala LAR
- Pauma and Yuima LAR
- Rincon LAR

- Minimum Threshold
- Measurable Objective
- Screen (top and bottom)
- Land Surface
- Measured During Static Periods
- Measured During Pumping Periods
- Geoscience Measured During Static Periods
- Geoscience Measured During Pumping Periods

N

0 1 2

Miles

GROUNDWATER HYDROGRAPHS FOR REPRESENTATIVE WELLS 2 of 2

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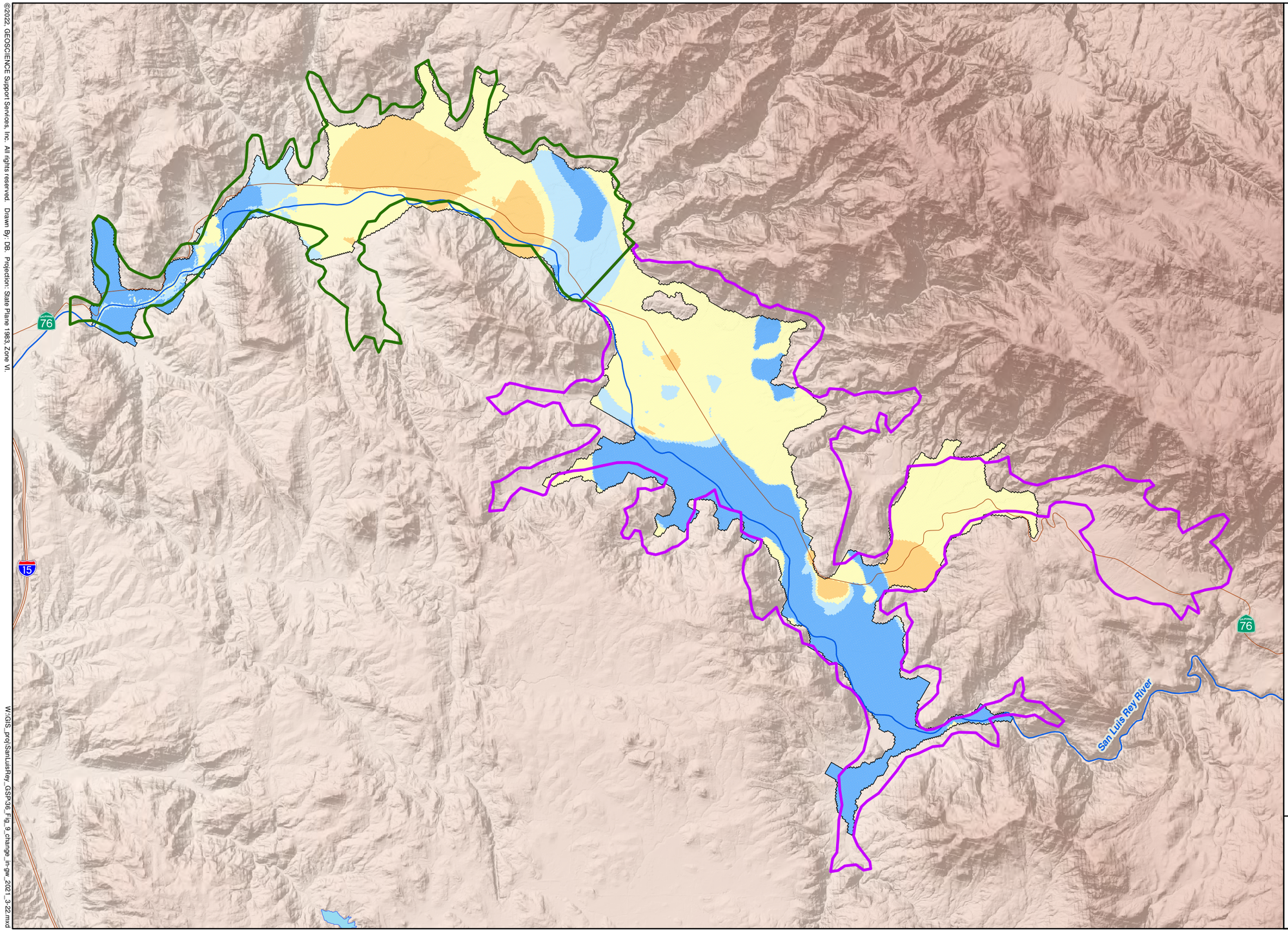
FIGURE 8

UPPER SAN LUIS REY VALLEY GROUNDWATER SUSTAINABILITY PLAN ANNUAL REPORT - WATER YEAR 2021

GEOSCIENCE



EXPLANATION

Pala Subbasin Boundary (SWRCB D1649, 2002; DWR Bulletin 118, 2020; and AB1944, 2018)

Pauma Subbasin Boundary (SWRCB D1649, 2002; and DWR Bulletin 118, 2020)

Active Model Area (representative of alluvial aquifer area)

Change in Groundwater Storage

Fall 2021 minus Fall 2020
(Total storage change calculated for each colored area)

Increasing Storage
- 8,384 acre-ft
- 302 acre-ft

Decreasing Storage
- -103 acre-ft
- -3,201 acre-ft

N

0 1.25 2.5

Miles

CHANGE IN GROUNDWATER STORAGE WATER YEAR 2021

W:\GIS_proj\SanLuisRey_GSP\36_Fig_9_change_in-gw_2021_3-22.mxd

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FIGURE 9

UPPER SAN LUIS REY VALLEY GROUNDWATER SUSTAINABILITY PLAN ANNUAL REPORT - WATER YEAR 2021

GEOSCIENCE

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Cumulative Change in Groundwater Storage

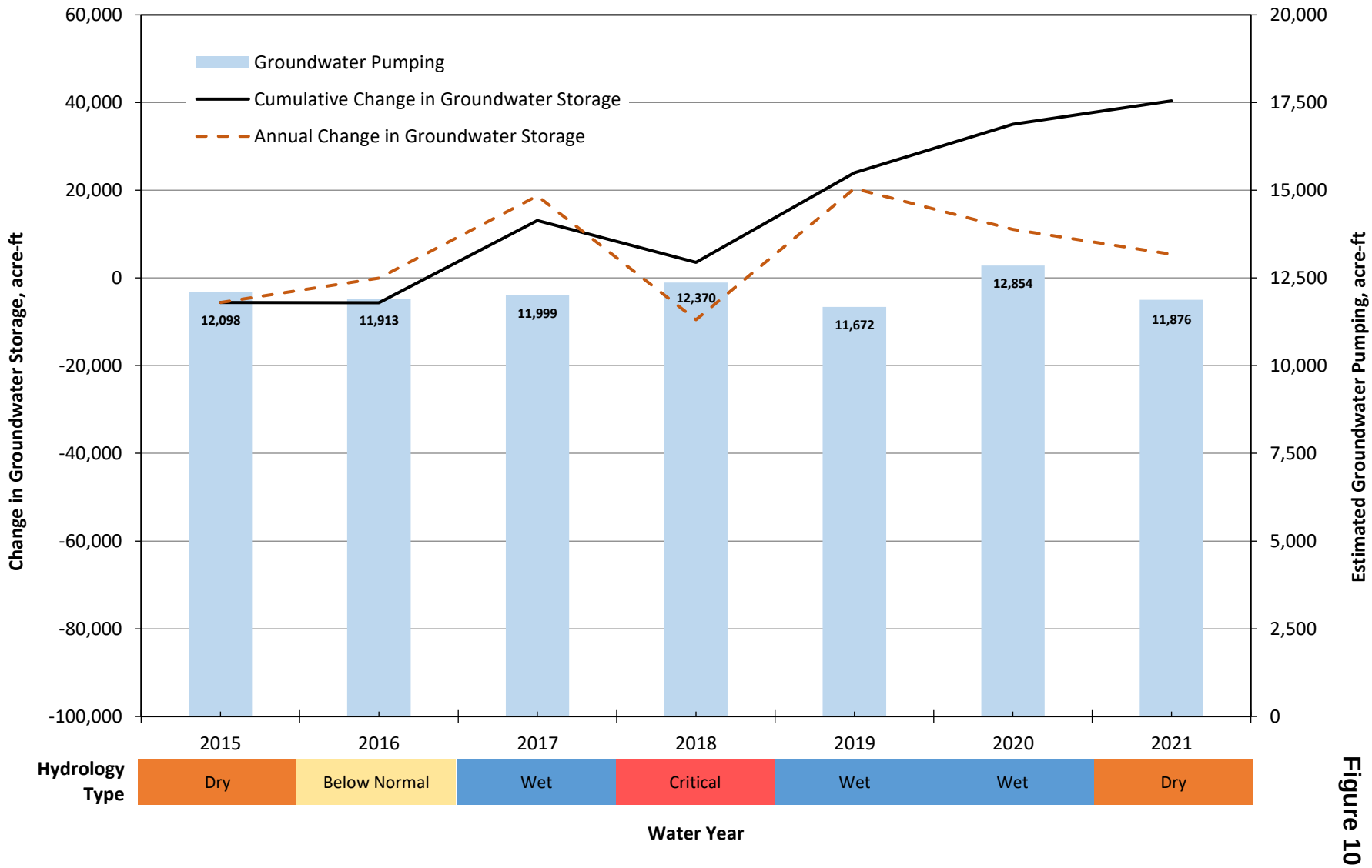
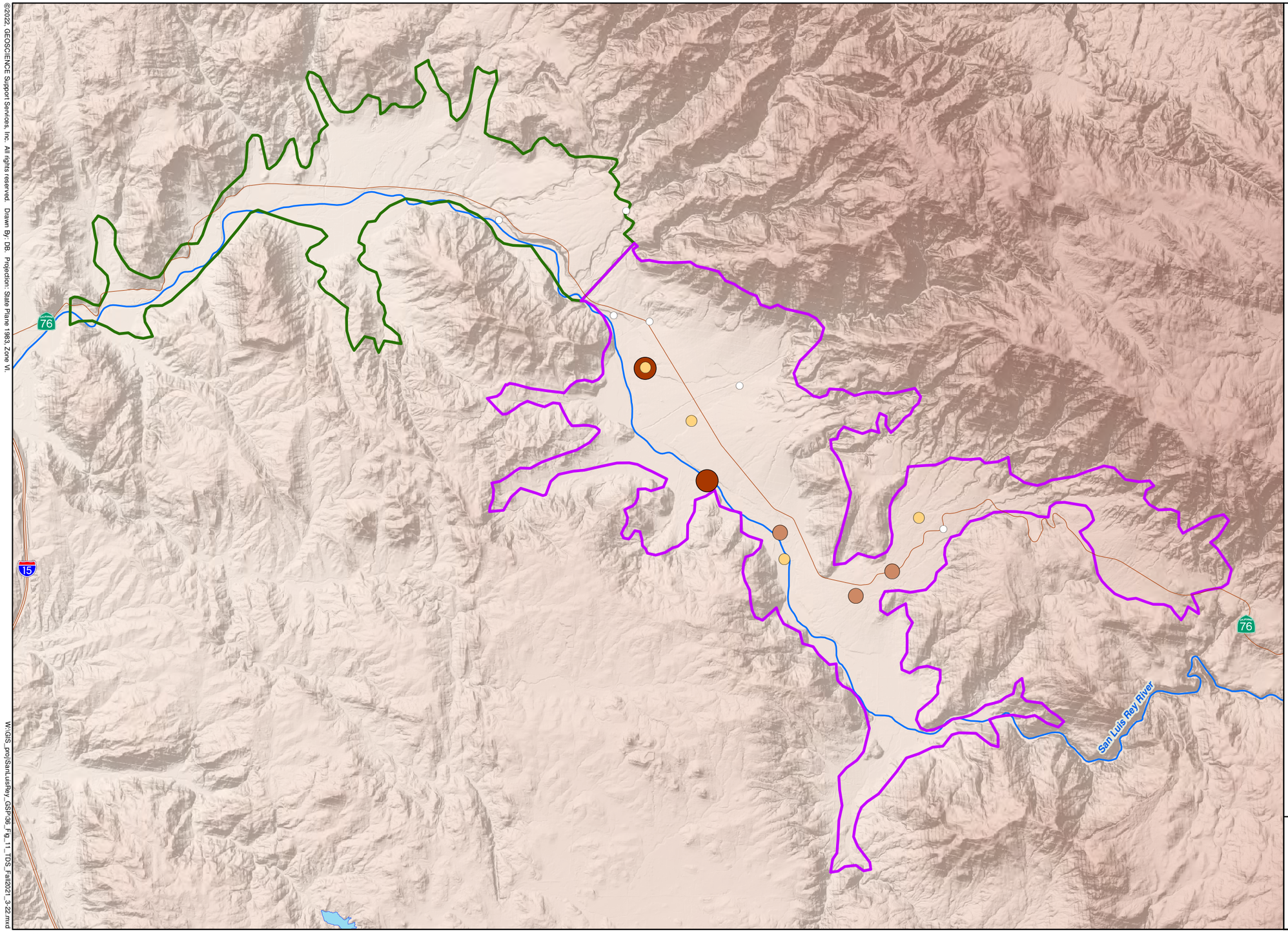


Figure 10



EXPLANATION

Pala Subbasin Boundary (SWRCB D1649, 2002; DWR Bulletin 118, 2020; and AB1944, 2018)

Pauma Subbasin Boundary (SWRCB D1649, 2002; and DWR Bulletin 118, 2020)

TDS Concentration, mg/L
(Source: Field Survey, October 2021)

- 0 - 500
- 500 - 800
- 800 - 1,000
- 1,000 - 2,500

Primary Maximum Contaminant Level for TDS = 1,000 mg/L

N

0 1.25 2.5

Miles

TOTAL DISSOLVED SOLIDS FALL 2021

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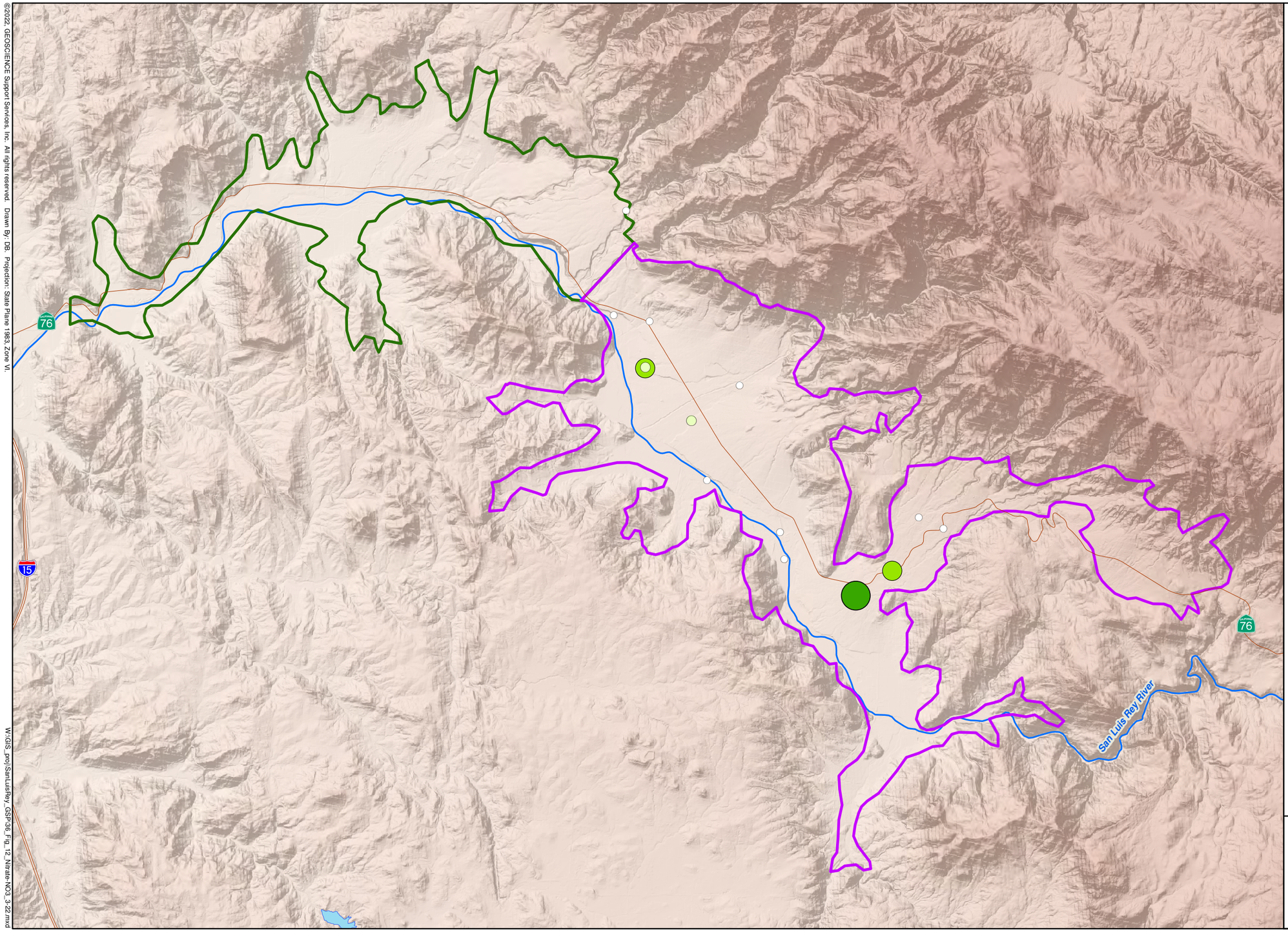
FIGURE 11

UPPER SAN LUIS REY VALLEY GROUNDWATER SUSTAINABILITY PLAN ANNUAL REPORT - WATER YEAR 2021

GEOSCIENCE



EXPLANATION

Pala Subbasin Boundary (SWRCB D1649, 2002; DWR Bulletin 118, 2020; and AB1944, 2018)

Pauma Subbasin Boundary (SWRCB D1649, 2002; and DWR Bulletin 118, 2020)

Nitrate (as NO3), mg/L
(Source: Field Survey, October 2021)

- 0 - 45
- 45 -90
- 90 - 135
- 135 - 140

Primary Maximum Contaminant Level for Nitrate (as NO3) = 45 mg/L

N

0 1.25 2.5
Miles

NITRATE (as NO3) CONCENTRATIONS - FALL 2021

W:\GIS_proj\SanLuisRey_GSP\36_Fig_12_Nitrate-NO3_3-22.mxd

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PAUMA VALLEY GSA

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FIGURE 12

UPPER SAN LUIS REY VALLEY GROUNDWATER SUSTAINABILITY PLAN ANNUAL REPORT - WATER YEAR 2021

GEOSCIENCE

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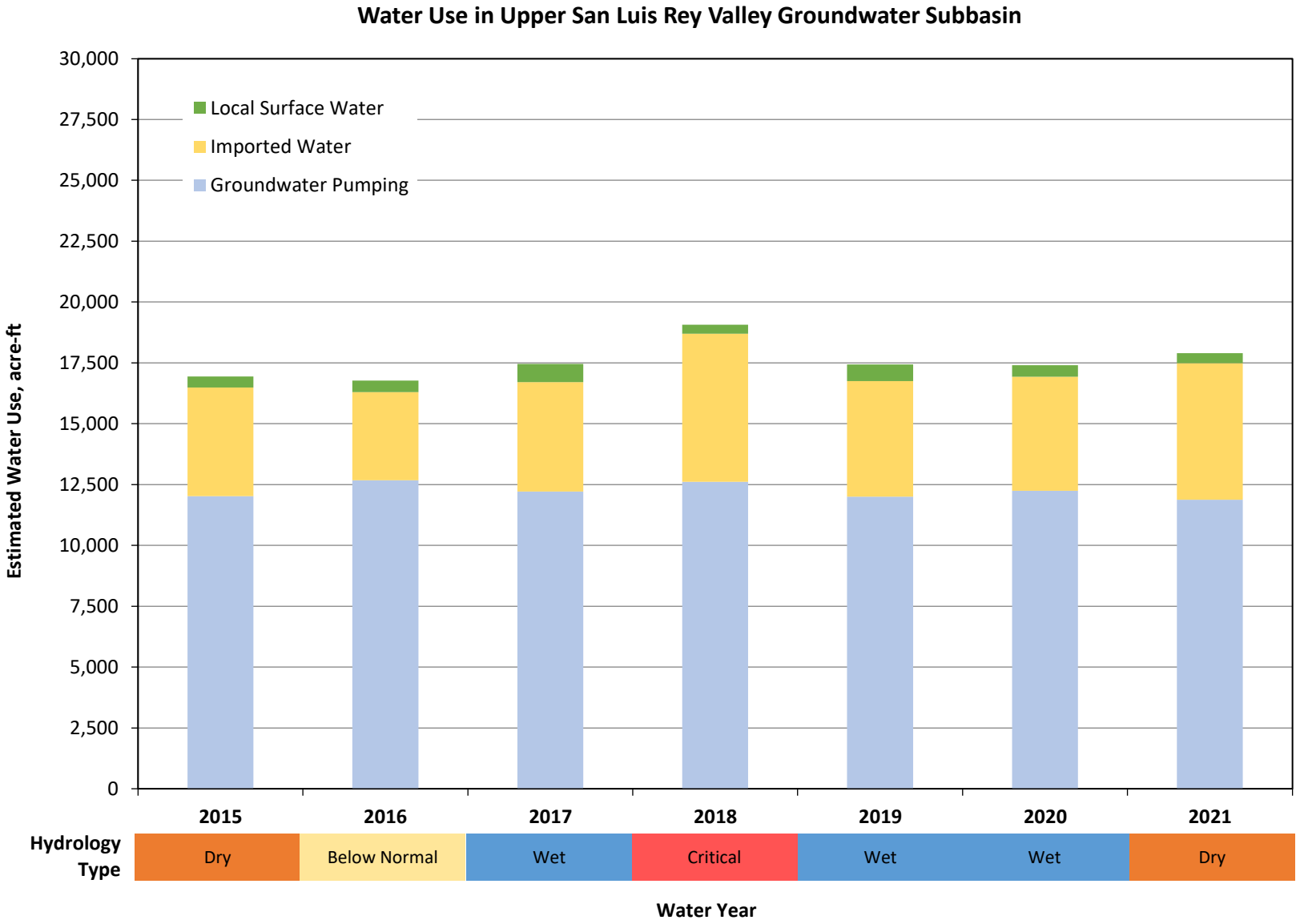
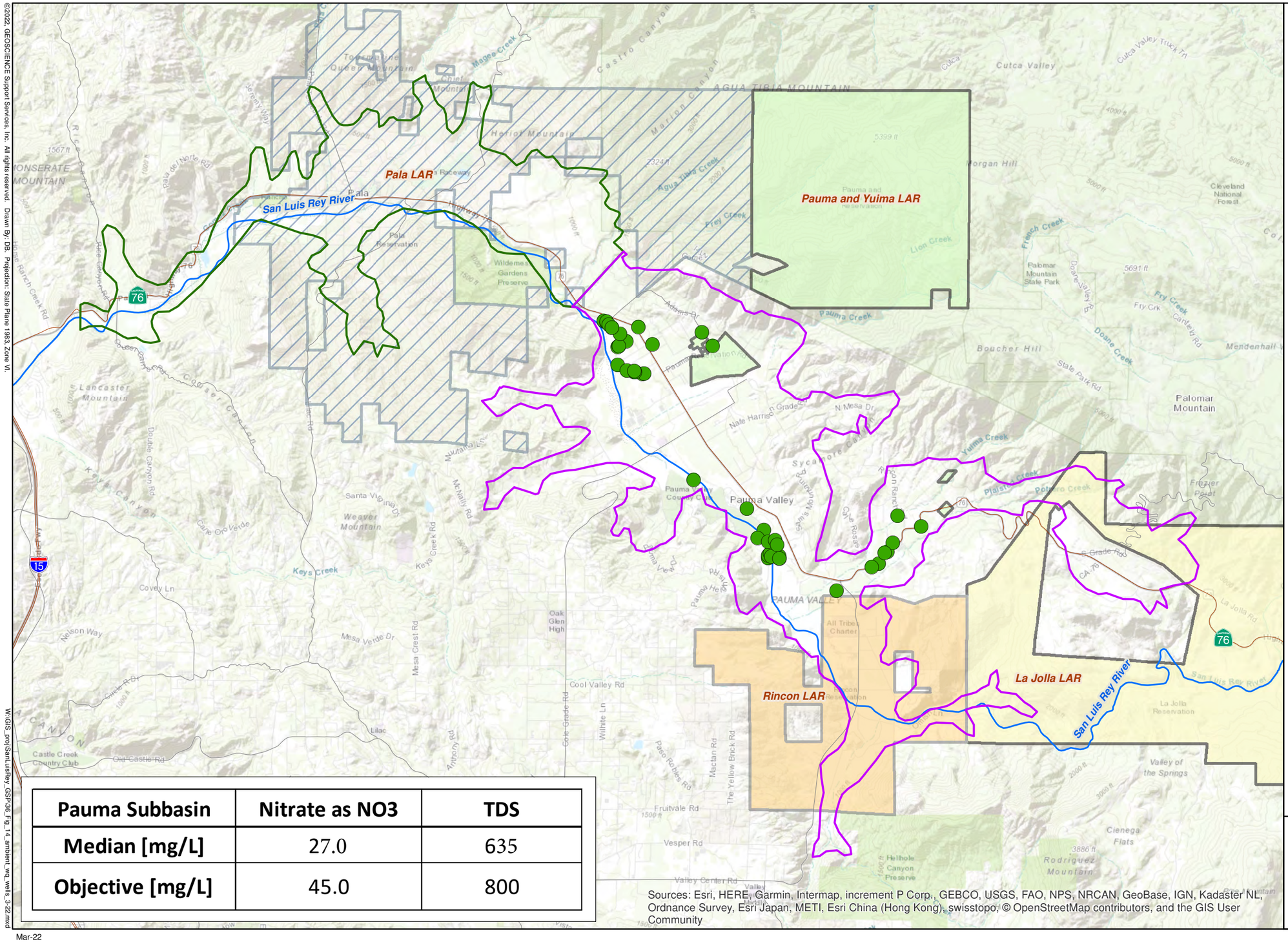


Figure 13



Pauma Subbasin	Nitrate as NO3	TDS
Median [mg/L]	27.0	635
Objective [mg/L]	45.0	800

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS User Community

EXPLANATION

- Groundwter Quality Monitoring Network Well Location
- Pala Subbasin Boundary (SWRCB D1649, 2002; DWR Bulletin 118, 2020; and AB1944, 2018)
- Pauma Subbasin Boundary (SWRCB D1649, 2002; and DWR Bulletin 118, 2020)

Land Area Representation (BIA, 2020)

- La Jolla LAR
- Pala LAR
- Pauma and Yuima LAR
- Rincon LAR

N

0 1 2

Miles

WELLS USED FOR CALCULATION OF AMBIENT WATER QUALITY

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FIGURE 14

GEOSCIENCE

TABLES

Table 1. Water Year 2021 Water Level Measurements from Monitoring Network Wells

Monitoring Well Name	Date	Time	Depth to Water [ft]	Reference Point Elevation [ft amsl]	Water Level Elevation [ft amsl]	Notes
MW-1	10/21/21	9:58	142.02	1,590.91	1,448.89	Recovering water level
MW-2	10/21/21	10:06	284.86	1,533.45	1,248.59	Recovering water level
MW-3	10/21/21	9:17	302.70	1,278.20	975.50	
MW-4	10/21/21	9:26	221.41	1,199.66	978.25	
MW-5	10/21/21	9:48	201.19	1,000.24	799.05	Recovering water level
MW-6	10/21/21	9:38	122.56	805.36	682.80	Recovering water level
MW-7	10/19/21	11:45	112.18	801.90	689.72	
MW-8	10/19/21	11:30	115.58	799.70	684.12	
MW-9	10/19/21	11:40	111.15	798.24	687.09	
MW-10	10/19/21	11:56	147.00	808.66	661.66	
MW-11	10/19/21	12:04	167.95	767.63	599.68	
MW-12	10/19/21	11:15	131.65	760.65	629.00	
MW-13	10/19/21	11:10	151.04	750.67	599.63	
MW-14	10/19/21	10:56	161.95	744.83	582.88	
MW-15	10/19/21	12:21	49.15	756.69	707.54	
MW-16	10/19/21	12:30	42.88	748.59	705.71	
MW-17	10/19/21	12:25	42.06	747.31	705.25	
MW-18	10/19/21	13:30	378.00	956.00	578.00	
MW-19	10/19/21	13:22	243.10	811.47	568.37	
MW-20	10/19/21	13:20	239.53	804.18	564.65	
MW-21	10/21/21	11:12	217.21	741.04	523.83	
MW-22	10/21/21	11:16	243.18	741.34	498.16	Pumping water level
MW-23	10/21/21	13:00	127.79	710.57	582.78	
MW-24	10/21/21	12:50	172.13	719.66	547.53	
MW-25	10/21/21	13:12	525.84	760.77	234.93	Pumping water level
MW-26	10/21/21	10:40	145.16	687.18	542.02	
MW-27	10/21/21	10:33	143.77	682.37	538.60	Recovering water level
MW-28	10/21/21	10:30	120.40	749.92	629.52	
MW-29	10/19/21	14:36	125.91	1,248.98	1,123.07	
MW-30	10/19/21	14:20	60.31	501.05	440.74	

Table 2: Water Year 2021 Water Quality Results from Monitoring Network Wells

	Monitoring Well Name:		MW-1		MW-1 DUP	MW-2		MW-4 DUP	MW-4		MW-5		MW-6		MW-9 DUP
	Sample Collection Date:		24-Mar-21	13-Oct-21	13-Oct-21	25-Mar-21	13-Oct-21	24-Mar-21	24-Mar-21	13-Oct-21	24-Mar-21	13-Oct-21	24-Mar-21	13-Oct-21	25-Mar-21
Constituent	**Method**	**Units**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Aluminum	EPA 200.7	µg/L	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Arsenic, Total	EPA 200.8	µg/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Boron, Dissolved	EPA 200.7	mg/L	< 100	< 100	< 100	< 200	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 200
Calcium	EPA 200.7	mg/L	65	65	66	89	83	150	150	160	130	130	110	92	75
Calcium, Dissolved	EPA 200.7	mg/L	63	61	63	75	81	150	140	160	120	120	100	85	70
Chloride, Dissolved	EPA 300.0	mg/L	51	57	57	81	83	160	160	150	130	130	130	120	84
Chromium, Total	EPA 200.8	µg/L	< 1.0	< 1.0	< 1.0	2.4	2.0	1.1	1.2	1.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hardness, Total	SM2340B/EPA 200.7	mg/L	240	240	240	270	300	580	570	630	500	490	430	370	300
Iron, Dissolved	EPA 200.7	µg/L	< 100	< 100	< 100	< 200	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 200
Magnesium	EPA 200.7	mg/L	19	18	18	24	22	49	48	54	41	39	39	34	26
Manganese, Dissolved	EPA 200.8	µg/L	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Nitrate as N	EPA 300.0	mg/L	9.3	10	10	8.7	8.9	21	21	26	32	31	3.4	2.2	2.6
Nitrite as N	EPA 300.0	mg/L	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Nitrate+Nitrite as N	EPA 300.0	mg/L	9.3	10	10	8.7	8.9	21	21	26	32	31	3.4	2.2	2.6
Nitrite as N, Dissolved	EPA 300.0	mg/L	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Perchlorate	EPA 314.0	µg/L	< 4.0	< 2.0	< 2.0	--	--	4.7	4.9	3.8	6.1	4.9	--	--	--
pH (Field measured)	Water Quality Meter	pH	6.66	6.89	6.89	6.74	6.76	6.95	6.95	6.88	6.96	6.84	6.64	6.60	6.75
Phosphorus, Dissolved Total	SM 4500P B E	mg/L	0.075	0.052	0.063	0.055	0.060	0.060	0.057	< 0.050	0.063	0.052	0.055	< 0.050	0.080
Potassium, Dissolved	EPA 200.7	mg/L	5.8	5.3	5.5	6.9	7.0	6.9	6.6	6.7	6.3	5.8	4.7	4.0	3.7
Sodium, Dissolved	EPA 200.7	mg/L	35	34	35	43	44	58	58	58	52	51	65	59	51
Specific Conductance (E.C)	SM2510B	µmhos/cm	620	630	640	790	800	1,300	1,300	1,400	1,200	1,200	1,000	960	800
Specific Conductance (E.C) (Field Measured)	Water Quality Meter	µS/cm	595	691	691	749	854	1,311	1,311	1,515	1,164	1,261	1,007	1,041	794
Sulfate, Dissolved	EPA 300.0	mg/L	95	98	98	130	130	210	200	200	170	170	230	190	150
Temperature (Field Measured)	Water Quality Meter	° C	19.7	19.2	19.2	18.1	20.3	21.8	21.8	20.3	20.3	20.9	18.9	21.5	19.2
Total Dissolved Solids	SM2540C	mg/L	400	420	420	490	530	840	850	990	760	840	680	620	530
Turbidity (Field Measured)	Water Quality Meter	NTU	89.05	24.97	24.97	26.97	33.98	75.53	75.53	47.45	12.30	44.60	73.19	24.97	21.45
Zinc	EPA 200.8	µg/L	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50

Notes:

mg/L = Milligrams per Liter; µg/L = Micrograms per Liter

µmhos/cm = Micromhos per Centimeter = µS/cm = Microsiemens per Centimeter

NTU = Nephelometric Turbidity Units

° C = Degrees Celsius

-- indicates sample not analyzed for the constituent, or data not available

* Sample from MW-30 was collected from the storage tank (not from the well), so field parameters were not measured

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Table 2: Water Year 2021 Water Quality Results from Monitoring Network Wells

	Monitoring Well Name:		MW-9		MW-12		MW-12 Dup	MW-18 Dup	MW-18		MW-19		MW-19 Dup	MW-21	
	Sample Collection Date:		25-Mar-21	14-Oct-21	25-Mar-21	14-Oct-21	14-Oct-21	29-Mar-21	29-Mar-21	12-Oct-21	29-Mar-21	12-Oct-21	12-Oct-21	25-Mar-21	14-Oct-21
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Aluminum	EPA 200.7	µg/L	< 50	< 50	< 50	< 200	< 200	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 200
Arsenic, Total	EPA 200.8	µg/L	< 2.0	< 5.0	< 2.0	< 5.0	< 5.0	< 2.0	< 2.0	3.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0
Boron, Dissolved	EPA 200.7	mg/L	< 200	< 200	< 200	< 200	< 200	< 200	< 200	160	< 200	< 100	< 100	200	140
Calcium	EPA 200.7	mg/L	74	150	190	190	200	13	13	8.3	87	96	95	57	92
Calcium, Dissolved	EPA 200.7	mg/L	70	150	180	190	190	12	12	8.0	83	92	92	52	88
Chloride, Dissolved	EPA 300.0	mg/L	83	150	260	260	260	18	18	20	78	86	86	81	100
Chromium, Total	EPA 200.8	µg/L	< 1.0	< 20	< 1.0	< 20	< 20	< 1.0	< 1.0	< 1.0	< 1.0	1.1	1.1	< 1.0	< 20
Hardness, Total	SM2340B/EPA 200.7	mg/L	290	590	780	840	850	37	38	23	330	370	370	190	300
Iron, Dissolved	EPA 200.7	µg/L	< 200	< 100	< 200	< 100	< 100	< 200	< 200	< 100	< 200	< 100	< 100	< 200	< 100
Magnesium	EPA 200.7	mg/L	25	50	73	75	75	1.2	1.2	< 1.0	27	31	31	10	17
Manganese, Dissolved	EPA 200.8	µg/L	< 20	< 10	< 20	< 10	< 10	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 10
Nitrate as N	EPA 300.0	mg/L	2.5	1.3	2.8	2.2	2.2	< 0.20	< 0.20	< 0.20	9.8	11	11	10	14
Nitrite as N	EPA 300.0	mg/L	< 0.1	< 0.1	< 1.0	<0.2	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Nitrate+Nitrite as N	EPA 300.0	mg/L	2.5	1.3	2.8	2.2	2.2	< 0.20	< 0.20	< 0.20	9.8	11	11	10	14
Nitrite as N, Dissolved	EPA 300.0	mg/L	< 0.1	< 0.1	< 0.1	< 0.2	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Perchlorate	EPA 314.0	µg/L	--	--	< 4.0	< 2.0	< 2.0	--	--	--	--	--	--	--	--
pH (Field measured)	Water Quality Meter	pH	6.75	6.56	6.38	6.46	6.46	8.48	8.48	8.96	7.22	7.08	7.08	8.06	7.64
Phosphorus, Dissolved Total	SM 4500P B E	mg/L	0.060	< 0.050	< 0.050	0.060	< 0.050	0.080	0.23	< 0.050	0.083	0.057	0.063	< 0.050	< 0.050
Potassium, Dissolved	EPA 200.7	mg/L	3.8	5.6	5.8	6.2	6.3	< 2.0	< 2.0	< 1.0	4.6	4.7	4.8	2.0	2.8
Sodium, Dissolved	EPA 200.7	mg/L	52	67	120	120	130	58	57	56	35	37	37	82	86
Specific Conductance (E.C)	SM2510B	µmhos/cm	820	1,300	1,900	1,900	1,900	340	340	320	790	860	860	810	960
Specific Conductance (E.C) (Field Measured)	Water Quality Meter	µS/cm	794	1,427	1,855	2,040	2,040	405.6	405.6	354.8	800	938	938	846	1,047
Sulfate, Dissolved	EPA 300.0	mg/L	150	380	560	540	540	94	94	84	160	170	170	200	230
Temperature (Field Measured)	Water Quality Meter	° C	19.2	19.9	19.3	19.2	19.2	24.7	24.7	25.6	18.7	19.2	19.2	22.9	23.6
Total Dissolved Solids	SM2540C	mg/L	530	930	1,400	1,400	1,300	220	240	210	540	560	570	530	630
Turbidity (Field Measured)	Water Quality Meter	NTU	21.45	50.88	1.46	0.54	0.54	0.96	0.96	4.51	1.50	0.82	0.82	4.50	2.18
Zinc	EPA 200.8	µg/L	< 50	< 10	< 50	< 10	< 10	< 50	< 50	< 50	< 50	< 50	< 50	< 50	21

Notes:

mg/L = Milligrams per Liter; µg/L = Micrograms per Liter

µmhos/cm = Micromhos per Centimeter = µS/cm = Microsiemens per Centimeter

NTU = Nephelometric Turbidity Units

° C = Degrees Celsius

-- indicates sample not analyzed for the constituent, or data not available

* Sample from MW-30 was collected from the storage tank (not from the well), so fiel

DRAFT

Table 2: Water Year 2021 Water Quality Results from Monitoring Network Wells

Monitoring Well Name:			MW-22		MW-25		MW-27		MW-29		MW-30	
Sample Collection Date:			25-Mar-21	14-Oct-21	25-Mar-21	14-Oct-21	24-Mar-21	14-Oct-21	24-Mar-21	12-Oct-21	3/24/2021*	10/12/2021*
Constituent	**Method**	**Units**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Aluminum	EPA 200.7	µg/L	< 50	< 50	< 50	< 50	< 50	< 50	82	77	< 50	< 50
Arsenic, Total	EPA 200.8	µg/L	< 2.0	< 5.0	4.1	< 5.0	< 2.0	< 2.0	< 2.0	5.7	< 2.0	< 2.0
Boron, Dissolved	EPA 200.7	mg/L	< 200	< 100	< 200	< 200	< 100	< 100	450	440	< 100	< 100
Calcium	EPA 200.7	mg/L	170	180	34	38	92	82	< 1.0	< 1.0	43	40
Calcium, Dissolved	EPA 200.7	mg/L	160	180	33	35	89	79	< 1.0	< 1.0	42	39
Chloride, Dissolved	EPA 300.0	mg/L	180	180	33	35	58	56	15	16	37	41
Chromium, Total	EPA 200.8	µg/L	< 1.0	< 20	< 1.0	< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hardness, Total	SM2340B/EPA 200.7	mg/L	630	670	96	110	320	280	< 3.0	< 3.0	170	150
Iron, Dissolved	EPA 200.7	µg/L	< 200	< 100	< 200	< 100	< 100	< 100	< 100	< 100	< 100	< 100
Magnesium	EPA 200.7	mg/L	46	47	2.6	2.8	22	18	< 1.0	< 1.0	14	13
Manganese, Dissolved	EPA 200.8	µg/L	< 20	< 10	< 20	< 10	< 20	< 20	< 20	< 20	< 20	< 20
Nitrate as N	EPA 300.0	mg/L	23	22	1.6	1.7	4.7	4.6	< 0.20	< 0.20	4.2	5.2
Nitrite as N	EPA 300.0	mg/L	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Nitrate+Nitrite as N	EPA 300.0	mg/L	23	22	1.6	1.7	4.7	4.6	< 0.20	< 0.20	4.2	5.2
Nitrite as N, Dissolved	EPA 300.0	mg/L	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Perchlorate	EPA 314.0	µg/L	--	--	--	--	--	--	--	--	--	--
pH (Field measured)	Water Quality Meter	pH	6.31	6.43	8.23	8.11	7.27	7.27	10.03	10.06	--	--
Phosphorus, Dissolved Total	SM 4500P B E	mg/L	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	0.10	< 0.050	< 0.050	0.057	0.063
Potassium, Dissolved	EPA 200.7	mg/L	5.9	6.7	2.6	3.0	4.4	4.0	< 1.0	< 1.0	4.5	4.3
Sodium, Dissolved	EPA 200.7	mg/L	63	67	78	85	53	49	43	42	37	38
Specific Conductance (E.C)	SM2510B	µmhos/cm	1,500	1,500	590	600	800	750	210	200	470	470
Specific Conductance (E.C) (Field Measured)	Water Quality Meter	µS/cm	1,360	1,615	615	642	791	820	221.6	233.4	--	--
Sulfate, Dissolved	EPA 300.0	mg/L	380	370	170	170	200	170	2.7	1.8	73	65
Temperature (Field Measured)	Water Quality Meter	° C	17.8	18.8	23.2	25.9	20.2	21.7	21.3	21.5	--	--
Total Dissolved Solids	SM2540C	mg/L	1,100	1,100	340	370	530	490	120	130	310	200
Turbidity (Field Measured)	Water Quality Meter	NTU	0.86	0.32	1.29	1.99	1.94	1.05	7.94	31.8	--	--
Zinc	EPA 200.8	µg/L	< 50	14	< 50	< 10	< 50	< 50	< 50	< 50	< 50	< 50

Notes:

mg/L = Milligrams per Liter; µg/L = Micrograms per Liter

µmhos/cm = Micromhos per Centimeter = µS/cm = Microsiemens per Centimeter

NTU = Nephelometric Turbidity Units

° C = Degrees Celsius

-- indicates sample not analyzed for the constituent, or data not available

* Sample from MW-30 was collected from the storage tank (not from the well), so fiel

March 28, 2022

TO: **Honorable President and Board of Directors**

FROM: **Amy Reeh, General Manager**

SUBJECT: **Director Divisional Boundaries – Redistricting**

Background:

Background: Government Code 22000 requires that Special District's evaluate the population changes within their divisional boundaries and determine if a change needs to be made to to those boundaries. Head counts in divisons may not differ more than 10% from the divisional average when determining balanced populations.

In addition to population considerations, Districts may also consider topography, geography, cohesiveness, contiguity, integrity and compactness of territory and community of interests of the division when determining the necesssity , if any, to redistrict the the divisonal boundaries.

In addition to reviewing the divisional boundaries, the District must determine which division the new annexed area (Rancho Corrido) should be included with. District staff is recommending to include the are within Division 4 due to itscontiguity with other divisional properties.

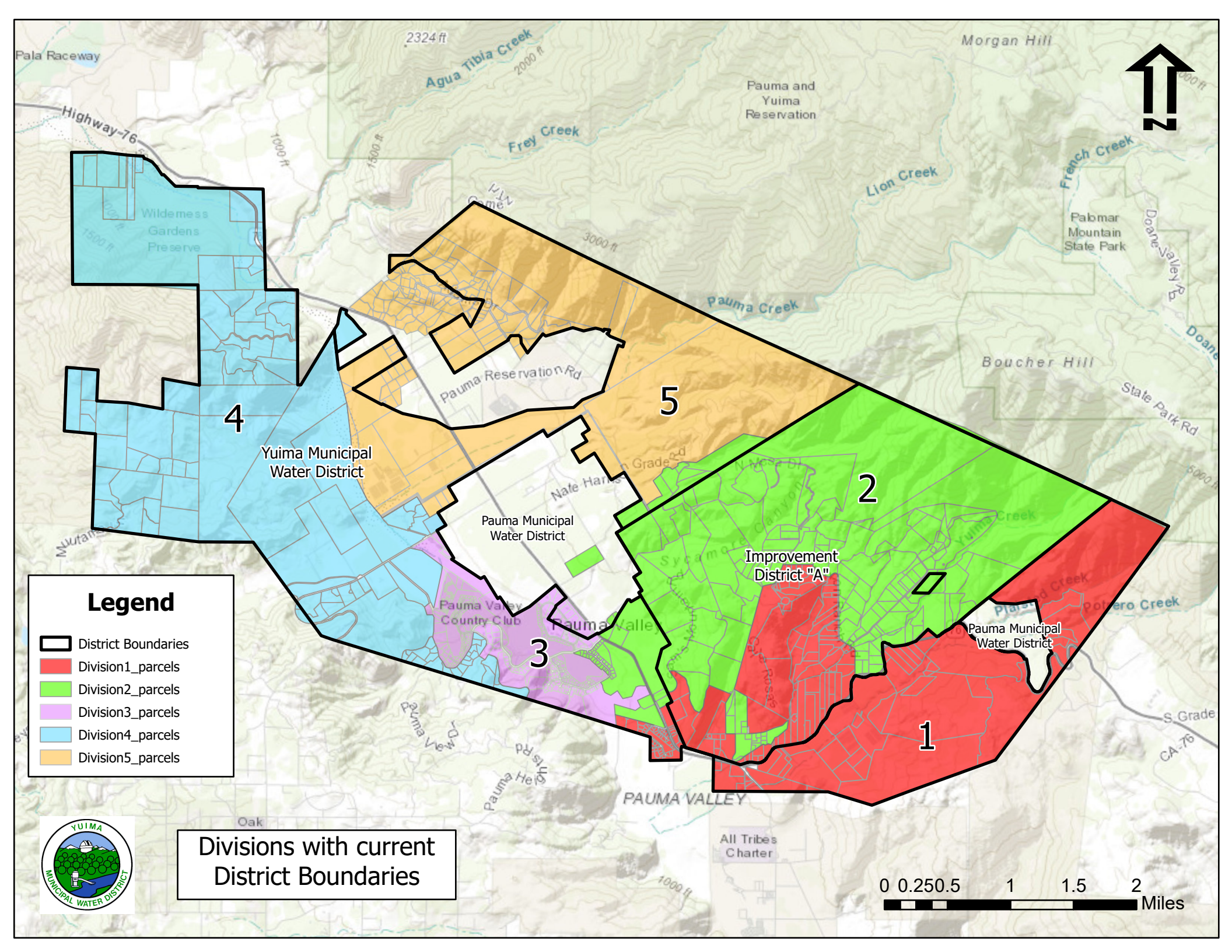
The map provided reflects the proposed divisional boundaries, including the addition of the Rancho Corrido area.

RECOMMENDATION: That, if the Board so desires, approve the resolution adjusting the divisional boundaries of the District.

SUBMITTED BY:

_____

Amy Reeh
General Manager


Legend
District Boundaries
Division1_parcels
Division2_parcels
Division3_parcels
Division4_parcels
Division5_parcels
Divisions with current District Boundaries
Yuima Municipal Water District
Pauma Municipal Water District
Improvement District "A"
Pauma Municipal Water District
1
2
3
4
5
Pala Raceway
Highway-76
Agua Tibia Creek
Frey Creek
Pauma and Yuima Reservation
Morgan Hill
Lion Creek
French Creek
Palomar Mountain State Park
Doane Valley Rd
Pauma Creek
Pauma Reservation Rd
Boucher Hill
State Park Rd
Wilderness Gardens Preserve
Pauma Valley Country Club
Pauma Valley
PAUMA VALLEY
Oak
All Tribes Charter
S Grade
CA-76
0 0.250.5 1 1.5 2 Miles

III.
CLOSED SESSION

IV.
INFORMATION / REPORTS

TOP NEWS

Final adoption of the State's long-term water use efficiency standards expected this year

This year we expect the final adoption of long-term water use efficiency (WUE) standards by the State Water Resources Control Board (SWRCB.) On December 24, 2021, SWRCB started the 45-day comment period on water loss regulations for urban water suppliers. This was one of the last steps needed before SWRCB officially adopts the final water loss regulations. The Department of Water Resources (DWR) is currently completing its final review of the other components of the WUE standards including outdoor, variances, and commercial, industrial, and institutional standards before making its recommendations to SWRCB. As we see the final recommendations, our attention shifts from DWR's regulatory process to the final regulation adoption and actions needed for implementation.

To assist water suppliers in determining how WUE standards could impact urban water use, SWRCB has released a new Water Use Objective Exploration Tool. The tool is a work in progress and is not an indicator of what the final standards will be. It does show possible scenarios and compares WUE standards with recent water use trends and the 2020 efficiency target. The following components of a supplier's urban water use objective either rely on surrogate data, or are excluded from the tool at this time:

- The budget associated with the standard for outdoor irrigation of landscape areas with Dedicated Irrigation Meters
- The budget associated with the water loss standard
- Budgets associated with variances

The tool can be found at: https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/regs/objective-exploration.html.

The SWRCB would like feedback and corrections to be sent to its conservation team at: ORPP-WaterConservation@Waterboards.ca.gov.

MWD Proposed Biennial Budget and Rates

At its February 2022 meeting, the Metropolitan Water District (MWD) board set March 8 as its combined public hearing date for its proposed calendar years 2023 and 2024 water rates and charges and suspending its statutory ad valorem property tax rate limitation for fiscal years (FYs) 2023 through 2026. MWD also held its first budget and rates workshop at its February Finance and Insurance (F&I) Committee during which staff presented a high-level overview of the proposed "transitionary" FYs 2023 and 2024 biennial budget; the associated calendar years 2023 and 2024 rates and charges; and the updated 10-year rate forecast.

MWD staff is proposing "overall" annual rate increases of 8% in both calendar years 2023 and 2024, but in the proposed budget's cover memo, MWD indicated the proposal "ignores the critical strategic initiatives" such as emergency drought response, the Regional Recycled Water Program, inflation in labor costs, and MWD's "operational cost of maintaining the aging infrastructure."

MWD Proposed Biennial Budget and Rates (continued)

MWD staff suggested that to undertake these "initiatives," another 80 positions are needed. If these positions were included in the budget, then the "overall" rate in 2023 would increase by 9% instead of 8%. No member agency pays the "overall" rate, so actual rate impacts will vary by MWD member agency. Staff posted the more than 600-page budget proposal on Friday afternoon before Monday's workshop, and the F&I Committee's discussion was limited to under 10 minutes.

Following the first workshop, the Water Authority Delegates sent a letter to MWD with questions on the proposed budget and rates. At the second workshop held on February 22, staff described its request of 81 additional positions (as opposed to 80), on top of the proposed staffing increase of 20 full-time positions. (The proposed budget also includes 12 additional temporary positions.) The remaining biennial budget and rates setting schedule is:

- March 7: Workshop #3
- March 8: Public Hearing on proposed rates, charges, and "applicability of the tax rate limit pursuant to Section 124.5 of the MWD Act"
- March 22: Workshop #4, if needed
- April 11:
  - ◊ Present recommended board action on the budget, rates, and charges
  - ◊ Workshop #5, if needed
- April 12: Board action to adopt the budget, rates, and charges and determine applicability of the tax rate limit.

Due to the Water Authority's success in the rate litigation, the proposed budget allocates 100% of demand management costs on supply rates. Through its demand management programs, MWD provides subsidies to its member agencies (and subagencies) for local resources and conservation programs and projects. For more about MWD's plans to recover its demand management costs, see the memo *Update on Metropolitan Water District's Demand Management Cost Recovery* starting on page 39 of the Water Authority's February 2022 Board packet found here: https://www.sdcwa.org/meetings-and-documents.

COMMUNITY OUTREACH

Passing of Bruce Wilcox, who dedicated his career to Salton Sea issues

Bruce Wilcox, who served as the first Assistant Secretary for Salton Sea Policy under California Natural Resources Agency from 2015 until his retirement in 2019, passed away in January. Bruce was instrumental in developing the state's Salton Sea Management Program Phase 1 and also served as a commissioner on the QSA Joint Powers Authority (QSA JPA) of which the Water Authority is a member along with the state, the Imperial Irrigation District (IID), and the Coachella Valley Water District. The QSA JPA funds the implementation of mitigation projects that address the distinct environmental impacts of the QSA. Before joining the state, he served as an ecologist and environmental manager for IID and led the implementation of the mitigation projects funded by the QSA JPA. Bruce was dedicated to Salton Sea issues and coalition building and worked collaboratively with the Water Authority.

In this file photo from October 2018, Bruce Wilcox, Assistant Secretary for Salton Sea Policy under California Natural Resources Agency, discusses the restoration of the Salon Sea during a workshop at the Imperial County Board of Supervisors' chambers.

DEPARTMENT NEWS

Hauck Mesa Storage Reservoir - Construction Update

Construction continues on the Hauck Mesa Storage Reservoir project that includes constructing a new 2.1 million-gallon prestressed concrete storage reservoir, bi-directional flow control facility (FCF), isolation valve vault, reservoir overflow piping, and various site improvements. The new infrastructure will enhance the reliability of recent improvements to Twin Oaks Valley Water Treatment Plant and Valley Center Pump Station by protecting the Water Authority's Aqueduct system from unintended surges due to pump station operations, maintaining water deliveries during unplanned pump station outages, and balancing water deliveries between the First and Second Aqueducts.

The construction contract was awarded to Pacific Hydrotech Corporation (PHC) in January 2021 for $11,370,360. Construction activities began with the demolition of an existing steel tank, purchased from Valley Center Municipal Water District (VCMWD) back in 2017, and the removal and relocation of VCMWD existing distribution pipeline. In October 2021, PHC successfully completed a 40-day shutdown which involved the removal of a section of the Water Authority's 66-inch diameter Valley Center Pipeline and the installation of new 66-inch steel piping with isolation valves and 30-inch diameter connections to the future reservoir and FCF. Construction of the new reservoir floor was completed in January 2022 and installation of the reservoir walls is underway. The first of six wall sections were successfully poured, and the Contractor anticipates completing the remaining five wall sections in March 2022. The facility is scheduled to be commissioned in September 2022 and incorporated into operations shortly thereafter with final completion scheduled for Winter 2022.

Reservoir Floor (Center), Flow Control Facility (Left), and Valve Vault (Top)

Concrete Pour for First Reservoir Wall Section

DEPARTMENT NEWS

Asset Management Monitoring System Detects Pipeline Issue

On January 26, 2022, General Manager Kerl announced a developing concern related to Pipeline 4 in the Bonsall area near West Lilac Road. An urgent repair was deemed necessary for two sections of Prestressed Concrete Cylinder Pipe (PCCP), following the detection of wire breaks that occurred in relatively quick succession, an early warning of a potentially significant level of deterioration.

The Water Authority operates an acoustic fiber optic monitoring (AFO) system within PCCP pipelines. The AFO system continuously monitors the PCCP pipe for wire breaks, which allows Water Authority staff to assess the health of the PCCP pipe. Data is primarily used to plan long-term rehabilitation projects as part of the CIP projects prioritization effort, conducted each two-year budget cycle.

The data obtained by the AFO system also serves as an early-warning system for indications of rapid deterioration, which may require more urgent, localized repairs. This is the case for the pipeline in Bonsall.

Staff has coordinated with Member Agencies and neighbors to minimize impacts where possible and deliver an efficient repair, scheduled to be complete by mid-March.

The AFO System was installed in Pipeline 4 in 2009

HEADWATERS

Sweet Partnership

Thirteen years ago in early 2009, San Diego County faced a serious water crisis. Critical Sierra Nevada snowpack levels were far below normal and water restrictions were in place. At the that time, the San Diego County Water Authority still relied on imported water for a third of its supply to residents, businesses, and agriculture. The Water Authority knew it would need help from the public to get through the worst without hurting the local economy. The Water Authority partnered with the San Diego-Imperial Council of the Girl Scouts to distribute water conservation tip sheets across the region with the scouts' popular cookies. Then Water Authority Board Chair and Carlsbad Mayor Claude A. "Bud" Lewis and Girl Scouts CEO Jo Dee Jacob announced the program at Girl Scout Headquarters in Balboa Park.

"We are proud to have the Girl Scouts partner with us to deliver this important conservation message. We want everyone who has purchased cookies from the Girl Scouts to take a moment to read the card and do all they can to implement the water saving tips listed," said Lewis. "With water use restrictions in San Diego County likely this year, it is important that find every opportunity to remind residents, businesses and public agencies to do all they can to save water now."

In March 2009, 400,000 conservation cards were handed out with two million boxes of delicious Girl Scout cookies. The cards read: "Please take a few moments to implement one or more saving tips. The amount of water saved could have a huge impact on our region!"

The partnership was part of a $1.8 million outreach program. It successfully helped the San Diego region prepare for potential water supply allocations. The campaign was the Water Authority's largest advertising and marketing effort in decades.

In 2009, then Water Authority Board Chair and Carlsbad Mayor Claude A. "Bud" Lewis and Girl Scouts CEO Jo Dee Jacob announced a partnership to distribute water-saving tip sheets during annual cookie deliveries at Girl Scout Headquarters in Balboa Park.

YUIMA MUNICIPAL WATER DISTRICT
ADMINISTRATIVE REPORT
March 2022
Amy Reeh
General Manager

ANNEXATIONS/NEW SERVICE REQUESTS

Pauma Valley Water Company (PVWC) There is still no resolution to the cherry-picking issue; however, it was suggested that some agricultural parcels may request to annex into the District depending on the cost to them. The problem becomes that the design of the new infrastructure is only designed to accommodate the 60 domestic parcels. Any agricultural meters would put a significantly larger demand on the system, requiring a revision to the current design. Additionally, there are several domestic parcels being served by PVWC that are owned by tribal entities that are either in the reservation trust or will soon become part of the reservation. Under AB1328, Muncipial Water Districts are allowed to serve reservation lands as longs as certain criteria is met. Current talks with SDCWA and MET are trying to address the reservation service issue and the cherry-picking.

DISTRICT BUSINESS

Drought Situation – * as the drought continues to drag on, the likelihood of mandated cutbacks continues to grow. Below are the latest conservation numbers.

Progress Towards Governor's 15% Savings Goal

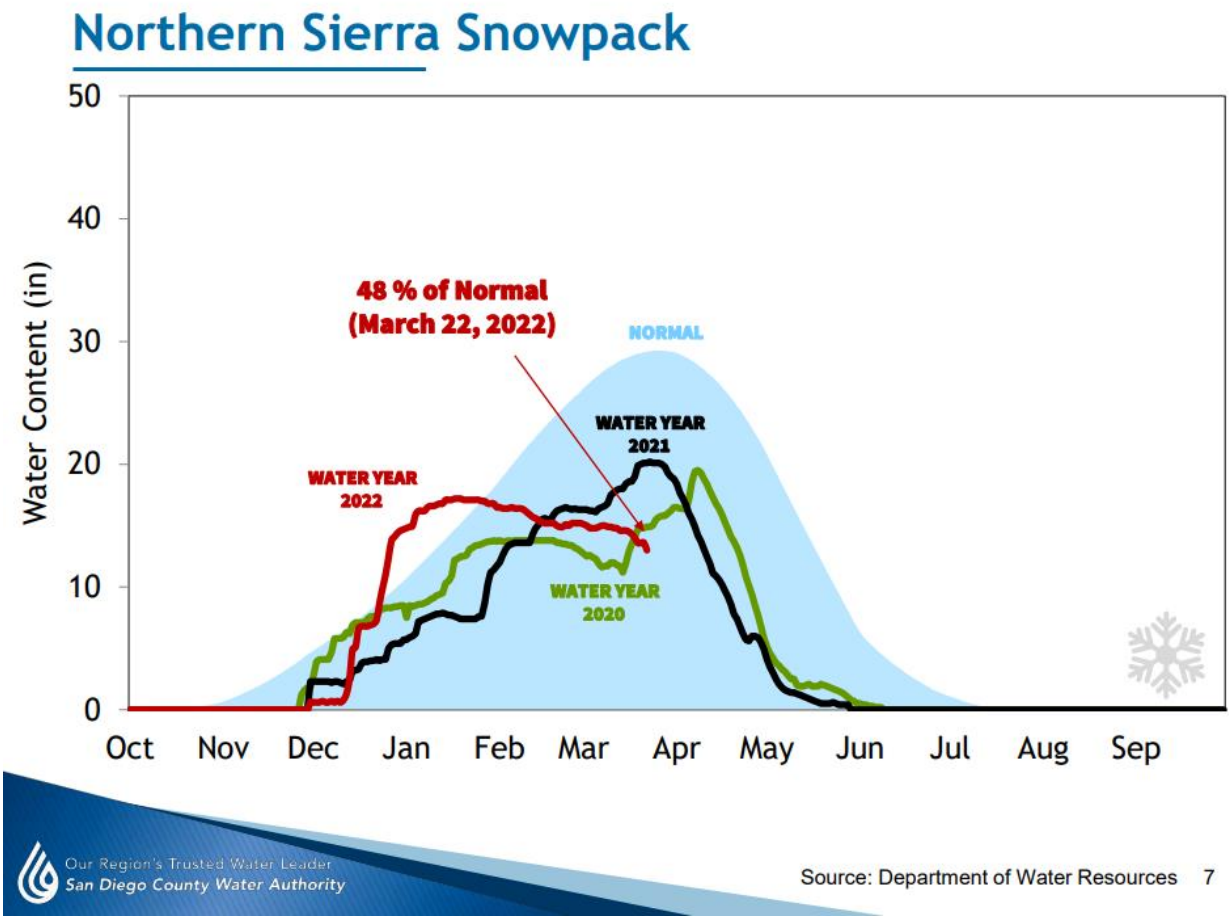
- Cumulative savings at 6.4% (July 2021 -January 2022)
  - Savings measured against 2020 baseline
  - January water use increased due to dry weather
- Monthly water savings

	July 2021	Aug. 2021	Sept. 2021	Oct. 2021	Nov. 2021	Dec. 2021	Jan. 2022
Statewide	-1.9%	-5.0%	-3.9%	-13.3%	-6.8%	-16.2%	+2.6%
South Coast Region	-0.2%	-3.1%	-4.2%	-12.2%	+0.7%	-18.3%	+1.8%
San Diego Region	-1.1%	-3.5%	-7.5%	-17.3%	+7.5%	-23.8%	+11.2%

San Diego County Water Authority

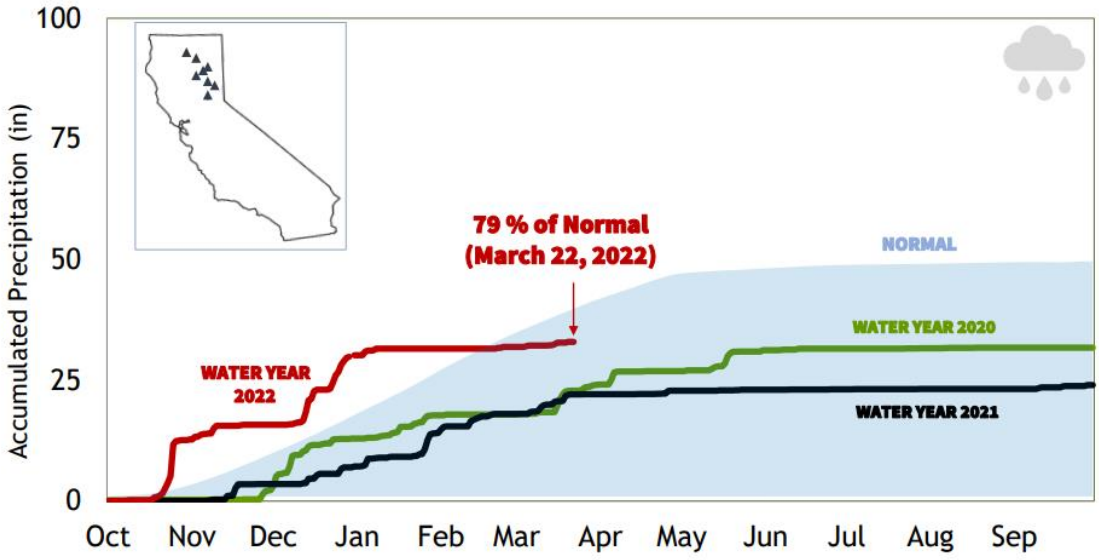
2

Due to a dry January and February the conservation numbers were not as positive as needed. Therefore the previous allocation of water from the State Water Project has been reduced from 15% to 5%. This will be re-evaluated in April after the supply conditions are re-evaluated. Below are some information pictures related to the current water supplies that will be evaluated to determine if cutbacks will occur.



(Continued on next page)

Northern Sierra 8-Station Precipitation Index



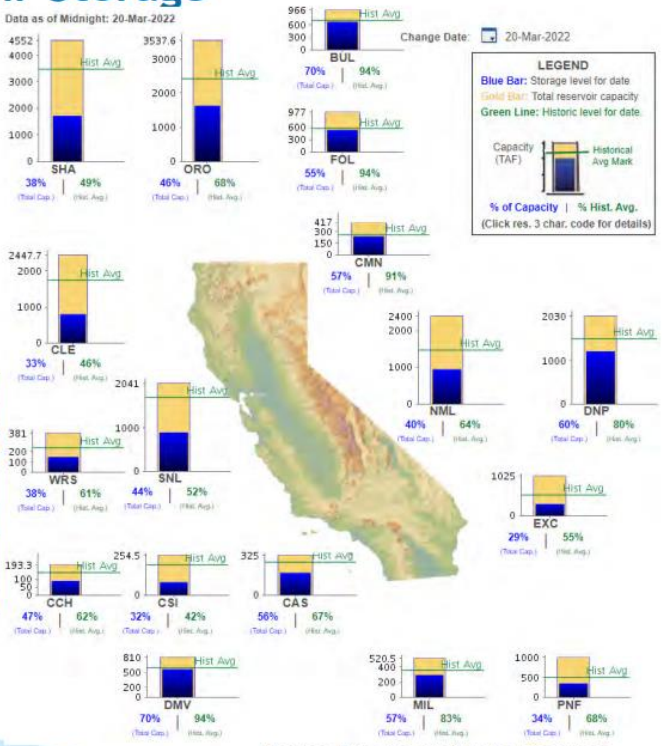
Our Region's Trusted Water Leader
San Diego County Water Authority

Source: Department of Water Resources 8

Statewide Reservoir Storage

Lake Oroville

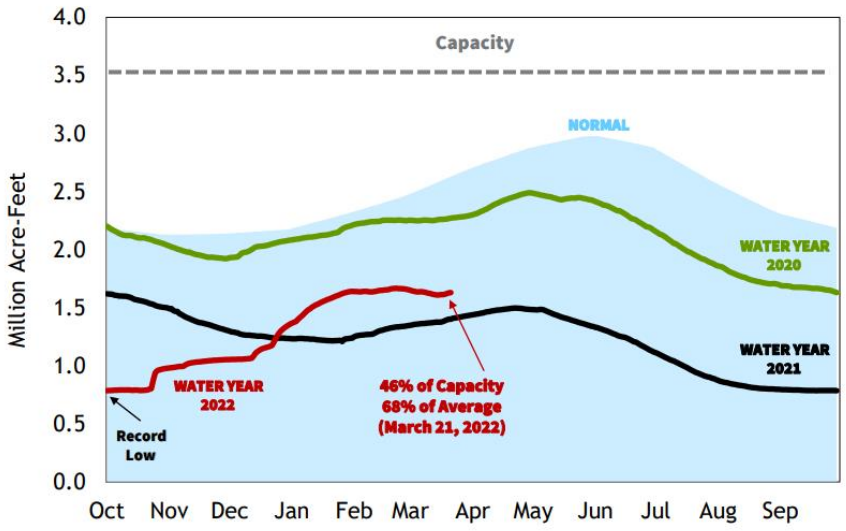
San Luis Reservoir



Our Region's Trusted Water Leader
San Diego County Water Authority

Source: Department of Water Resources 9

Lake Oroville Storage Volume

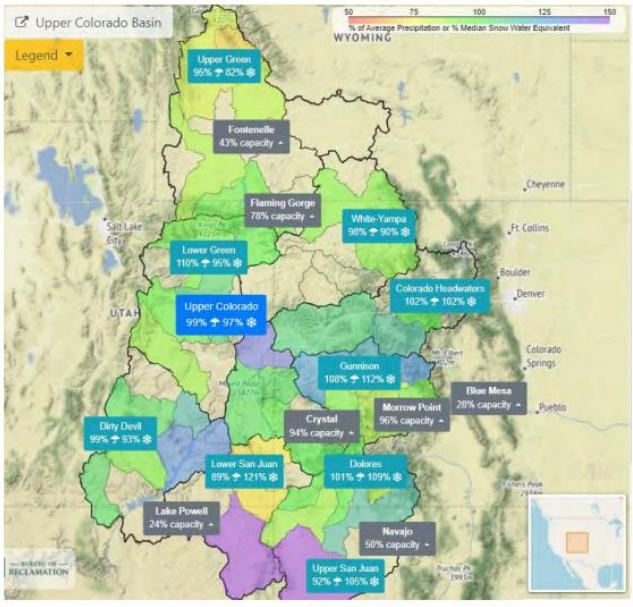


Our Region's Trusted Water Leader
San Diego County Water Authority

Source: Department of Water Resources 10

Colorado River Basin Conditions

- As of March 21, 2022:
  - Precipitation 99% of normal
  - Snow water equivalent 97% of normal
  - Lake Mead 33% full (8.7 MAF)
  - Lake Powell 24% full (5.8 MAF)



Our Region's Trusted Water Leader
San Diego County Water Authority

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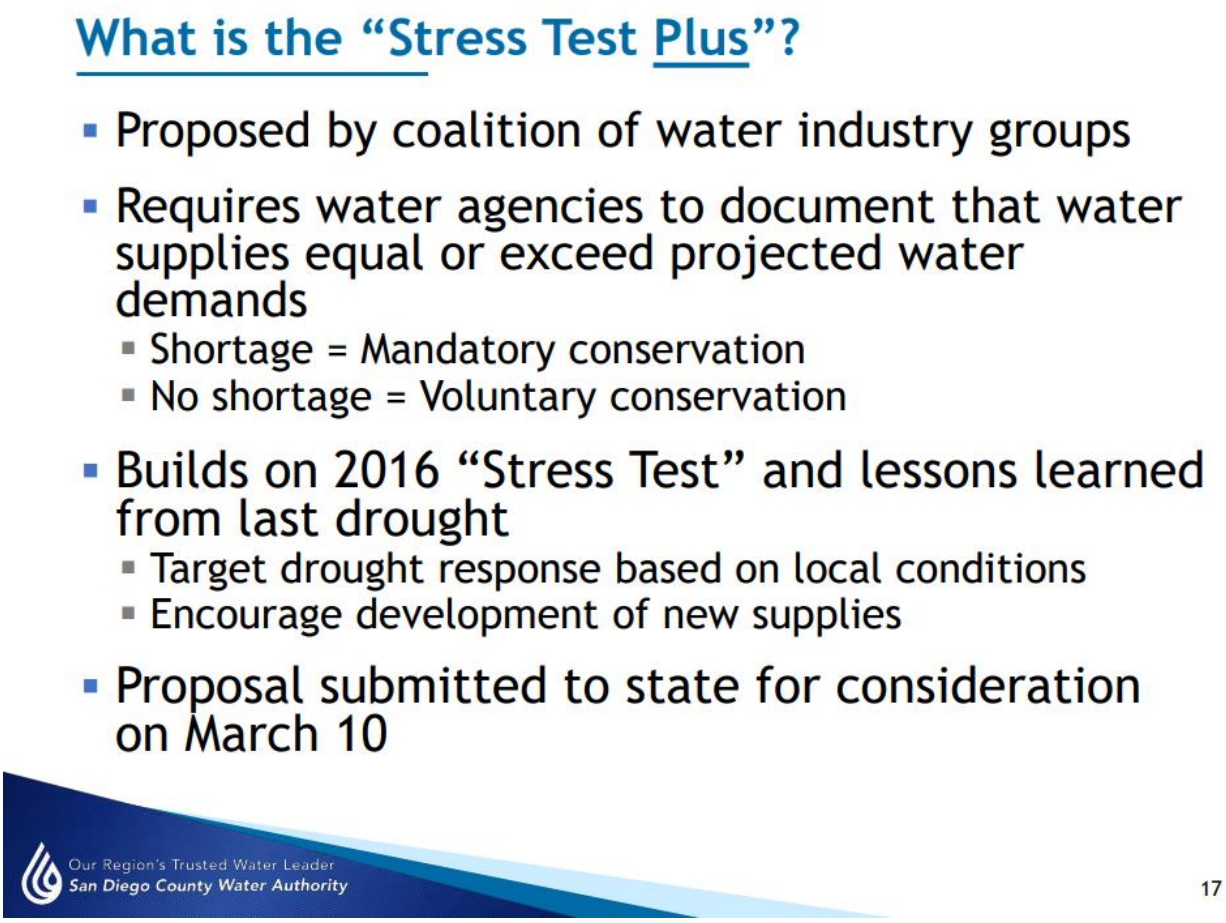
While the state has historically taken a "one size fits all" attitude towards cutbacks; the San Diego County Water Authority has actively been working with the state to allow the San Diego region to conduct a "Stress Test Plus" for San Diego County to determine what (if any) cutbacks are needed. What is a Stress Test Plus? Below is a slide from the Water Authority's March Board meeting explaining the concept.



The proposal submitted to the state on March 20th included a listing of all of the Authority's member agencies demand. For Yuima, the process used was a win/win. Due to the small size of our agency, our estimated demand from the authority were the first to be deducted from the Authority's supply; this helps ensure our demands can be met throughout the drought. However, this does not mean that Yuima will be exempt from any possible cutbacks. The information on the next page is an example of the calculation submitted to the state. As you can see the test shows that our region has enough supplies to meet our region's demands.

(Continued on Next Page)

SWRCB - Updated Emergency Regulation
Regional Supply Sufficiency
(Calendar Year 2019)
All figures in acre-feet

For Reference Purposes

Water Authority Supplies (estimated 6/13/16)	
QSA	240,200
Desalination	50,000
MWD	233,242
Less: Small Water Suppliers [1]	(10,194)
Total	513,247

Urban Supplier [1]	CY 13 & CY 14 Average Potable Water Use [2] (A)	% of Total (B)	Water Authority Supply (C) = 513,247 AF x (B)	Surplus / (Deficit) Before Local Supplies or Water Authority Storage Draw (D) = (C) - (A)	Member Agency Local Supply [3] (E)	Surplus / (Deficit) Before Water Authority Storage Draw (F) = (C) + (E) - (A)	Water Authority Storage Draw to Cover Remaining Deficit [4] (G)	Final Surplus / Supply Sufficiency [5] (H)
Carlsbad M.W.D.	17,832	3.324%	17,062	(770)	2,500	1,730	0	1,730
Escondido, City of	23,983	4.471%	22,947	(1,036)	855	(181)	181	0
Fallbrook P.U.D.	12,793	2.385%	12,241	(552)	109	(443)	443	0
Helix W.D.	34,103	6.358%	32,630	(1,472)	348	(1,124)	1,124	0
Lakeside W.D.	4,173	0.778%	3,993	(180)	750	570	0	570
Oceanside, City of	28,727	5.355%	27,486	(1,240)	3,300	2,060	0	2,060
Olivenhain M.W.D.	21,393	3.988%	20,469	(924)	-	(924)	924	0
Otay W.D.	32,570	6.072%	31,164	(1,406)	-	(1,406)	1,406	0
Padre Dam M.W.D.	11,622	2.167%	11,120	(502)	-	(502)	502	0
Poway, City of	12,197	2.274%	11,670	(527)	85	(441)	441	0
Rainbow M.W.D.	21,996	4.101%	21,047	(950)	-	(950)	950	0
Ramona M.W.D.	6,002	1.119%	5,743	(259)	-	(259)	259	0
Rincon Del Diablo M.W.D.	6,665	1.242%	6,377	(288)	-	(288)	288	0
San Diego, City of [6]	197,820	36.879%	189,279	(8,541)	1,800	(6,741)	6,741	0
San Dieguito W.D.	6,641	1.238%	6,354	(287)	760	473	0	473
Santa Fe I.D.	11,820	2.204%	11,309	(510)	1,007	497	0	497
Sweetwater Authority	20,879	3.892%	19,977	(902)	10,900	9,998	0	9,998
Vallecitos W.D.	17,240	3.214%	16,495	(744)	3,500	2,756	0	2,756
Valley Center M.W.D.	28,498	5.313%	27,267	(1,230)	-	(1,230)	1,230	0
Vista I.D.	19,456	3.627%	18,616	(840)	1,715	875	0	875
Totals	**536,408**	**100.000%**	**513,247**	**(23,161)**	**27,630**		**14,490**	**18,959**

[1] Small Water Suppliers' (Del Mar, Pendleton MCB and Yuima MWD) projected net demands are first deducted from Water Authority Supplies.

[2] Includes water provided for commercial agricultural use for the following member agencies: Escondido, Fallbrook PUD, Oceanside, Olivenhain MWD, Otay WD, Poway, Rainbow MWD, San Diego, San Dieguito WD, Santa Fe ID, Vallecitos WD and Valley Center MWD. Under the Emergency Regulation this water is excluded from a member agency's potable water production total.

[3] Based on updated member agency supply projections. Includes desalination for Carlsbad MWD and Vallecitos WD for 2017, 2018 and 2019.

[4] Total Water Authority beginning-of-year storage is projected to be 130,875 AF.

[5] Zero denotes supply sufficiency; positive value denotes surplus.

[6] Excludes Cal-Am Water Company's deliveries and local use.

REPORTING

Staff is currently working on the 2021 Consumer Confidence Report. These Reports, in addition to the EARS report are due on April 1st.

In addition to the regular reporting requirements of the District, the County Fire Department is conducting their periodical ISO rating review and has requested a significant amount of information in relation to our operations. District staff is gathering the information for them. ISO ratings are important and help keep fire insurance costs down for the area so it is important to provide the information requested; however, it is another time consuming task for staff that is already over burden with daily tasks.

UPDATE: District staff continues to work with SWRCB staff on finalizing all of the operating permit amendments and the sanitary survey. There is some serious concerns about the continued operation of the Schoepe Well facility. Die to outside influences that are out of the District's control. District staff is working through these concerns as well as look at the cost of addressing SWRCB's requests for continued operation. SWRCB was onsite on February 9th to conduct another Sanitary Survey. This is the fourth survey since 2017 although surveys have historically been done every three years. The results of this survey were not available at the time this report was written but will be reported to the Board when available. This visit required staff to adjust the priority of assisting the SWRCB with updating their records and completing the documents discussed below. The State Water Resources Control Board (SWRCB) has requested that the District assist them with updating some records that are missing from their current operating permit file for Yuima. The SWRCB provided the District with a 66-page document to complete in assistance with completing their missing documents and information.
The SWRCB was advised that we would assist as our workload and time permits but that we have limited staff and many other operational requirements that take precedence. *The District continues to work on this very cumbersome and time consuming task.*

Groundwater Sustainability Plan

***Update: ****The Annual Report required by Water Code 10728 is due to DWR by April 1st and is on the March agenda for approval.* The final Groundwater Sustainability Plan was submitted to DWR on January 31, 2022. DWR is reviewing the submission for completeness and will release the plan for DWR's 90 day comment period. It is unknown when the GSA will receive notification as to whether the Plan is approved, requires revisions (which allows 180 days to complete) or is denied. District staff will monitor the comments received and work with the members of the GSA to address and respond as necessary.

Yuima Municipal Water District - Production/Consumption Report

YUIMA GENERAL DISTRICT			FISCAL		CALENDAR	
Produced and Purchased Water	Feb-22	Jan-22	2021-22	2020-21	2022	2021
11-1590 IDA	0.0	0.0	7.5	63.1	0.0	50.3
10-1009 SDCWA	303.4	109.0	3540.1	5610.9	412.5	5015.4
10-1001 SCHOEPE	7.9	7.2	46.9	124.8	15.0	93.0
Total Produced and Purchased	**311.3**	**116.2**	**3594.6**	**5798.8**	**427.5**	**5158.7**
Consumption						
CUSTOMERS GENERAL DISTRICT	83.9	35.7	1261.9	2621.4	119.6	2143.6
10-2100 TAP 1	87.3	29.1	856.1	1063.4	116.4	1080.0
10-1590 TAP 2	72.4	19.5	869.5	1179.7	91.9	1114.3
10-1200 TAP 3	73.0	37.2	598.1	838.5	110.2	826.5
Total Consumption - Yuima	**316.6**	**121.6**	**3585.6**	**5702.9**	**438.2**	**5164.4**
Storage Level Changes	-4.7	0.0	-4.6	1.4	-4.7	7.5
Slippage - Acre Feet	**-10.0**	**-5.3**	**4.4**	97.3	-15.3	1.8
Slippage %	**-3.2**	**-4.6**	**0.1**	**1.7**	**-3.6**	**0.0**
IMPROVEMENT DISTRICT "A"						
Produced Strub Zone Wells						
20-2012 RIVER WELL 12	32.6	0.0	134.2	204.0	32.6	197.9
20-2091 RIVER WELL 19A	34.6	23.0	272.7	429.7	57.6	406.0
20-2020 RIVER WELL 20A	0.0	16.3	66.4	227.7	16.3	133.2
20-2025 RIVER WELL 25	32.8	19.7	198.4	299.8	52.5	290.2
20-2022 FAN WELL 22	21.3	10.3	90.5	183.0	31.6	155.4
Total Produced Strub Zone Wells	**121.3**	**69.3**	**762.2**	**1344.2**	**190.6**	**1182.6**
Produced Fan Wells						
20-2007 WELL 7A	0.0	0.0	0.0	1.4	0.0	0.5
20-2000 WELL 10	0.0	0.0	0.0	2.9	0.0	0.1
20-2014 WELL 14	20.7	7.0	150.0	256.9	27.7	231.7
20-2017 WELL 17	8.5	4.1	77.7	141.5	12.6	122.4
20-2018 WELL 18	0.0	0.0	13.5	29.6	0.0	17.0
20-2023 WELL 23	0.0	0.2	26.3	48.4	0.2	45.7
20-2024 WELL 24	2.9	3.0	56.4	98.4	5.9	89.3
20-2029 WELL 29	7.1	2.4	67.6	105.3	9.5	96.0
20-20410-500 HORIZONTAL WELLS	10.6	8.7	74.1	125.3	19.3	119.7
Code K Usage WELL USE AGREEMENTS ("K")	20.5	9.7	149.8	229.8	30.2	220.2
Total Produced Fan Wells	**70.3**	**35.1**	**615.3**	**1039.5**	**105.4**	**942.7**
Total Produced Strub and Fan Wells	**191.6**	**104.4**	**1377.5**	**2383.7**	**296.0**	**2125.3**
Purchased Water						
10-2100 TAP 1	87.3	29.1	856.1	1063.4	116.4	1080.0
90 minus 20-2008 TAP 2	72.4	19.5	869.5	1179.7	91.9	1114.3
10-1200 TAP 3	73.0	37.2	598.1	838.5	110.2	826.5
Total Purchased Water	**232.7**	**85.8**	**2323.7**	**3081.5**	**318.5**	**3020.8**
Total Produced and Purchased	**424.3**	**190.2**	**3701.3**	**5465.2**	**614.5**	**5146.1**
Consumption						
CUSTOMERS IDA	403.9	185.3	3493.7	5257.9	589.2	4851.0
Interdepartmental to Y	0.0	0.0	7.5	63.1	0.0	50.3
Total Consumption - IDA	**403.9**	**185.3**	**3501.2**	**5320.9**	**589.2**	**4901.3**
Storage Level Changes	-5.8	4.3	-1.8	2.2	-1.5	4.8
Slippage - Acre Feet	**14.6**	**9.2**	**198.2**	**146.4**	**23.8**	**249.7**
Slippage %	**3.4**	**4.8**	**5.4**	**2.7**	**3.9**	**4.9**
Combined General District and IDA						
PRODUCED YUIMA	311.3	116.2	3594.6	5798.8	427.5	5158.7
PRODUCED IDA	191.6	104.4	1377.5	2383.7	296.0	2125.3
Total Produced and Purchased	**502.9**	**220.6**	**4972.1**	**8182.5**	**723.5**	**7284.0**
Consumption	**487.8**	**221.0**	**4763.1**	**7942.3**	**708.8**	**7044.9**
Storage Level Changes	-10.5	4.3	-6.5	3.6	-6.2	12.4
Slippage - Acre Feet	4.6	3.8	202.6	243.7	8.5	251.4
Slippage %	0.9	1.7	4.1	3.0	1.2	3.5

Notes: Horizontal Wells waste 2 acre ft

Well 24 flush out chlorine .11 acre feet

Yuima Municipal Water District

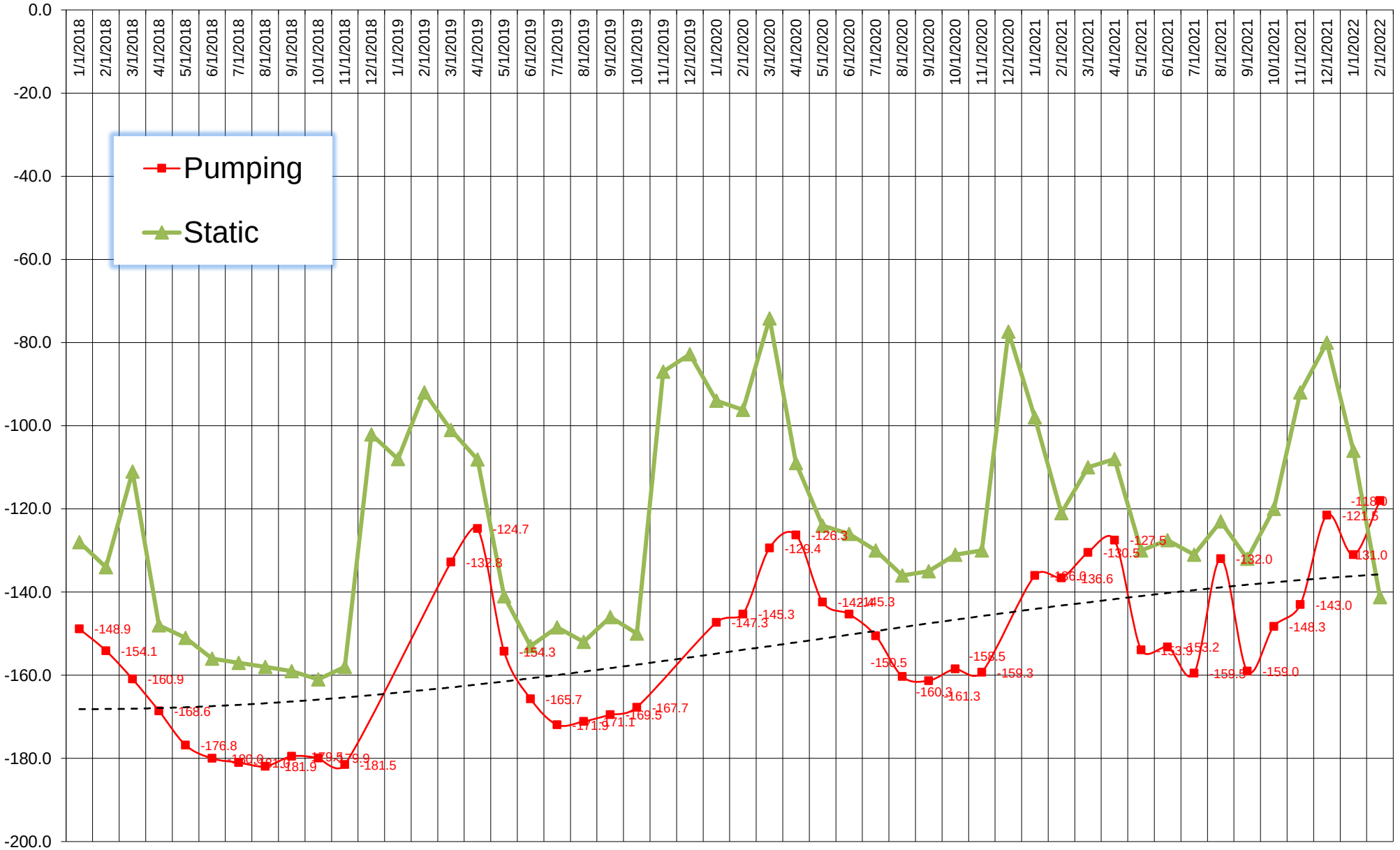
River Well Static (21A) and Pumping Levels

For Yuima Wells No. 12, 19A, 20A and 25

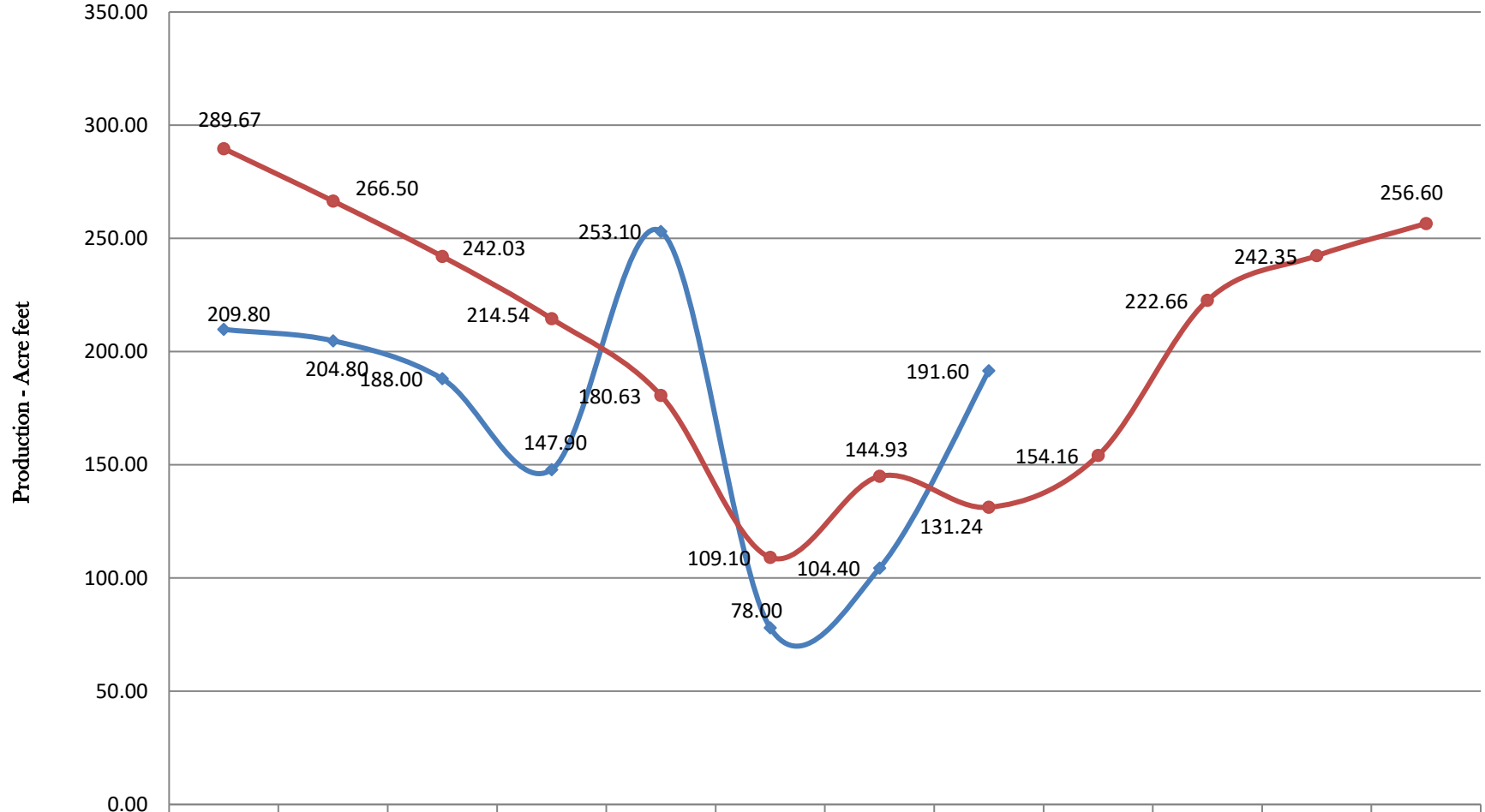
(Increasing Inverse = improving water levels)

Pumping and Static Levels (feet below ground level)

(Updated February 2022) 2018-Current



Yuima Municipal Water District
Monthly Production of District Owned Wells
Updated February 2022



	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
FY 2021/22	209.80	204.80	188.00	147.90	253.10	78.00	104.40	191.60				
15-Yr Avg.	289.67	266.50	242.03	214.54	180.63	109.10	144.93	131.24	154.16	222.66	242.35	256.60

YUIMA MUNICIPAL WATER DISTRICT

Well Level Report

(* static level with surrounding wells off 24 hrs)	January 2022			February 2022			March 2022			April 2022			May 2022			June 2022		
	Static Level	Pumping Level	GPM	Static Level	Pumping Level	GPM	Static Level	Pumping Level	GPM	Static Level	Pumping Level	GPM	Static Level	Pumping Level	GPM	*Static Level	Pumping Level	GPM
Monitor Well No. 21A Elev 800' Depth 251'	106			118														
Well No. 12 (River) Elev 800' Depth 207'	80				145	161												
Well No. 19A (River) Elev 800' Depth 215'	80	129	299		135	269												
Well No. 20A (River) Elev 800' Depth 225'	76	120	299		127													
Well No 25 (River) Elev 805' Depth 210'	84	144	261		158	224												
Well No. 3 (Fan) Elev 1220' Depth 547'	222			219														
Well No. 7A (Fan) Elev 1240' Depth 554'	270			244	230													
Well No. 8 (Fan) Elev 1227' Depth 1000'	343			345														
Well No. 9 (Fan) Elev 1252' Depth 436'	258			253														
Well No. 10 (Fan) Elev 1210' Depth 405'	215			216	214													
Well No. 13 (Fan) Elev 1280' Depth 403'	272			281														
Well No. 14 (Fan) Elev 1310' Depth 542'	308	359	299		389	299												
Well No. 17 (Fan) Elev 1375' Depth 597'	346	384	67	350	392	119												
Well No. 18 (Fan) Elev 2380' Depth 1000'	240			220														
Well No 22 (Fan) Elev 997.4' Depth 1100'	198	220	158		223	155												
Well No. 23 (Fan) Elev 1587' Depth 963'	134			132	256	50												
Well No. 24 (Fan) Elev 1530' Depth 582'	268	344	126		328	85												
Well No. 29 (Fan) Elev 1314' Depth 450'	298	322	132	306	336	125												
Well No. 41 (Horizontal) Elev 2627' Depth 555'			13			12												
Well No. 42 (Horizontal) Elev 2632' Depth 675'			31			22												
Well No. 44 (Horizontal) Elev 3040' Depth 465'			7			7												
Well No. 45 (Horizontal) Elev 2900' Depth 845'																		
Well No. 46 (Horizontal) Elev 3050' Depth 870'			5			7												
Well No. 47 (Horizontal) Elev 3050' Depth 1007'			4			4												
Well No. 48 (Horizontal) Elev 3160' Depth 785'			5			4												
Well No. 49 (Horizontal) Elev 3160' Depth 905'			8			8												
Well No. 50 (Horizontal) Elev 3120' Depth 1215'			15			15												
Schoepe No. 2 (River) Elev 700' Depth 253'	134	194	30	173	192	42												
Schoepe No. 3 (River) Elev 700' Depth 265'	135			135														
Schoepe No. 3-R (River) Elev 700' Depth 200'	135	148	95	142	153	90												
Schoepe No. 4 (River) Elev 700' Depth 185'	119			120														
Schoepe No. 5 (River) Elev 700' Depth 1000'	122			122														

YUIMA MUNICIPAL WATER DISTRICT

REPORT OF DISTRICT WATER PURCHASED AND PRODUCED

	Month Comparative One (1) Year Ago			Fiscal Year to Date Comparatives		
	Feb-22	Feb-21	%CHANGE	2021/22	2020/21	%CHANGE
LOCAL SUPPLY	199.5	118.5	68.4%	1432.0	1713.9	-16.4%
AUTHORITY	303.4	128.1	136.8%	3540.1	3991.5	-11.3%
TOTAL PRODUCED & PURCHASED	502.9	246.6	103.9%	4972.1	5705.4	-12.9%
CONSUMPTION	487.8	217.8	124.0%	4763.1	5423.2	-12.2%
% LOCAL	39.7%	48.1%	-8.4%	28.8%	30.0%	-1.2%
%AUTHORITY	60.3%	51.9%	8.4%	71.2%	70.0%	1.2%

FISCAL YEAR ENDING JUNE 30 COMPARATIVES

	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
LOCAL SUPPLY	2571.6	2311.7	1688.5	2107.5	2058.1	2334.3	2726.6	3145.7	4199.9	4353.8	3356.5	2858.8	3729.7	2583.6
AUTHORITY SUPPLY	5610.9	4684.7	4819.6	4780.9	4470.6	3621.1	4468.4	4596.1	2149.3	1183.6	1617.7	2521.8	2347.0	3719.8
TOTAL PRODUCED & PURCHASED	8182.5	6996.4	6508.1	6888.4	6528.7	5955.4	7195.0	7744.8	6349.2	5537.4	4974.2	5380.6	6076.7	6303.4
CONSUMPTION	7879.3	6727.3	6351.1	6629.8	6379	5887.8	7175.6	7591.1	6310.3	5486.9	4959.0	5310.8	5909.0	6088.3
% LOCAL	31.4%	33.0%	25.9%	30.6%	31.5%	39.2%	37.9%	40.6%	66.1%	78.6%	67.5%	53.1%	61.4%	41.0%
% AUTHORITY	68.6%	67.0%	74.1%	69.4%	68.5%	60.8%	62.1%	59.4%	33.9%	21.4%	32.5%	46.9%	38.6%	59.0%

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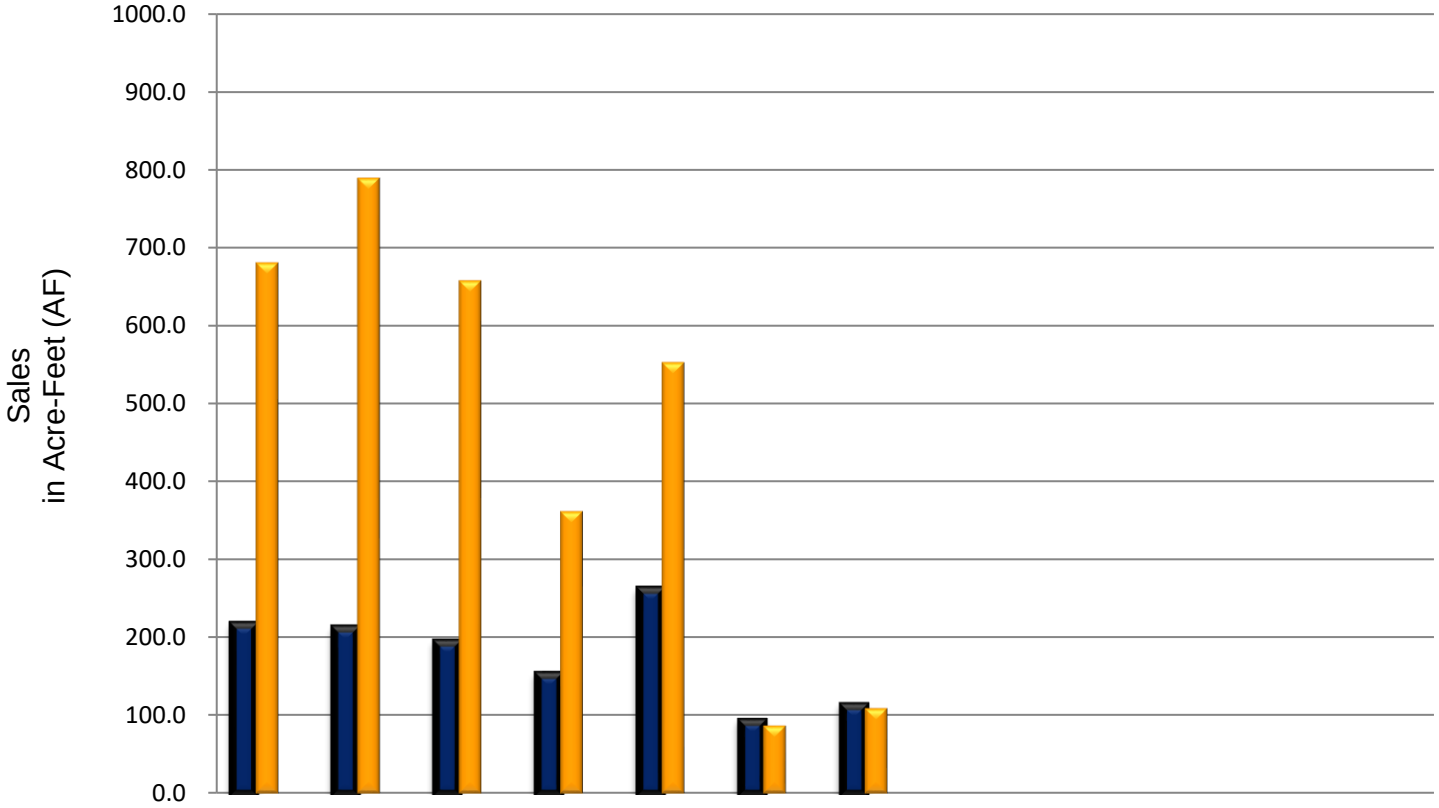
produced

YUIMA MUNICIPAL WATER DISTRICT

WATER PRODUCED & PURCHASED

2021-22



	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
LOCAL SUPPLY PRODUCED	215.1	210.7	192.5	151.3	259.8	91.5	111.6	0.0	0.0	0.0	0.0	0.0
AUTHORITY PURCHASED	680.2	788.8	657.5	361.6	552.5	87.0	109.0					
TOTAL PROD/PURCH	895.3	999.5	850.0	512.9	812.3	178.5	220.6					

YUIMA MUNICIPAL WATER DISTRICT
2021-22 Capital Projects
As of February 28, 2022

	Job Number	Approved 2021-22 Budget	Approved Budget Carry Forward	Current Year Expenditures 2021-22	Prior Year Expenditures Forward	Total Project Expenditures	Percent Expended to Budget
1 **McNally Tank 2 Interior and Exterior Recoating**	10-600-60-6500-613	**$450,000**			$ -	$ -	0%
2 **Headquarters Solar Project**	10-600-60-6600-600	**$0**	$ 97,000	$ 43,500	$ 53,500	$ 97,000	100%
3 **Vehicle Replacement - 2 trucks**	10-600-60-6600-600	**$0**	$ 60,000	$ -	$ -	$ -	
Total General District Capital Projects - Proposed 2020-21		**$450,000**	**$ 157,000**	**$ 43,500**	**$ 53,500**	**$ 97,000**	62%
1 **Pump Station 4 Pump Cover**	20-600-60-6300-680	**$ 20,000**	$ -	$ -	$ -	$ -	0%
2 **Pipeline & Facilities Replacements - IDA** Rincon Ranch Rd.	20-600-60-6500-671	**$ -**	$ 340,000	$ 51,181	$ 271,854	$ 323,036	95%
3 **Pump Station 4 Bypass Valve**	20-600-60-6300-680	**$ 9,764**	$ -				
4 **Dunlap CL2 Analyzer Building Replacement**	20-600-60-6300-680	**$ 10,000**	$ -				
Total IDA Capital Projects - Approved for 2021-22		**$ 39,764**	**$ 340,000**	**$ 51,181**	**$ 271,854**	**$ 323,036**	85%
Total Proposed General District & IDA Capital Projects 2021-22		**$ 489,764**	**$ 497,000**	**$ 94,681**	$ 325,354	$ 420,036	85%
		$986,764		**$420,036**			

YUIMA MUNICIPAL WATER DISTRICT
OPERATIONS REPORT
March 2022

Staff Report

WELLS

YUIMA General District

WELLS	FLOW / GPM	STATUS
PVW2	20	IN SERVICE
PVW3	0	OUT OF SERVICE - PUMP
PVW3R	84	IN SERVICE
PVW4	0	OFF DUE TO WATER LEVEL
PVW5	0	OFF DUE TO WATER LEVEL

IDA

WELLS	FLOW / GPM	STATUS
12	164	IN SERVICE
19A	299	IN SERVICE
20A	249	Out of Service – Water Quality
25	224	IN SERVICE
22	160	IN SERVICE

WELLS	FLOW / GPM	STATUS
3	0	OFF DUE TO WATER LEVEL
7A	0	Out of Service – Water Quality
8	0	OFF DUE TO WATER LEVEL
9	0	OFF DUE TO WATER LEVEL
10	0	Out of Service – Water Quality
13	0	OFF DUE TO WATER LEVEL
14	224	IN SERVICE
17	120	IN SERVICE
18	135	IN SERVICE
23	53	IN SERVICE
24	119	IN SERVICE
29	106	IN SERVICE

WELLS	FLOW / GPM	STATUS
41	19	IN SERVICE

42	31	IN SERVICE
43	0	OFF DRILL BIT LODGED
44	31	IN SERVICE
45	0	OFF - SEDIMENT
46	9	IN SERVICE
47	3	IN SERVICE
48	1	IN SERVICE
49	8	IN SERVICE
50	8	IN SERVICE

Well #18 – Supplies "Ag Only" open reservoirs at 135 gpm, Pettis and Dunlap and is being used to supply both reservoirs alternately as required.

Horizontal Wells – Per SWRCB all supplies must be used for AG only; cannot blend die to high Iron and Manganese. Supplies going into Dunlap open reservoir. Repairs to the Horizontal well line have been completed. The line was relocated to mitigate future damage that occurs in the deep, difficult to access ravine. The line now parallels the well line road and connects to the old Upper Catch line which also has been repaired.

BOOSTER STATIONS

BOOSTER STATIONS		
STATION	**PUMPS**	**STATUS**
PERRICONE	1.2.3.4	PUMP 1 - SEAL
FOREBAY	1,2,3,4	2 OF THE 4 PUMPS HAVE BEEN PULLED FOR WARRANTY REPAIR
EASTSIDE	1,2,3	OK
1	1,2,3,4	OK
4	1,2,3	OK
6	1,2,3	OK
7	1,2,3	OK
8	1,2,3,4	OK
SCHOEPE	1,2,3	3 OK, 1 & 2 DOWN

RESERVOIRS AND TANKS

All tanks and reservoirs are currently in normal operation. However, there are some issues that need to be addressed in the near future.

- Dunlap tank is a bolt together, galvanized tank with a life expectancy of 25 years. The tank is currently 19 years old and has high level of corrosion on the interior due to the high levels of iron and manganese that comes from the horizontal well water. The District used the tank to blend the horizontal well water until May of 2019 when the SWRCB directed us to stop that practice and only use the well water for agricultural purposes.

Repair or replacement of the tank needs to occur. The District will seek information on all options available to make an informed decision as to what the best course of action will be. *SUPERIOR TANK TO EVALUATE AND MAKE REPAIR / REPLACEMENT RECOMMENDATION.*

- Eastside Tank was inspected and cleaned in May of 2019. The exterior of the tank was found to be in good condition with a few minor repairs. The interior of the tank, however, was found to be in extremely poor condition and was recommended to be recoated within the next three years. The tank should be re-inspected in 2022.
- Tank 1 – *INSPECTION AND CLEANING SCHEDULED FOR April 2022* was inspected and cleaned in 2019 and found to be in good condition. The exterior of the tank is in good condition. The interior of the tank is in good condition as well. The
- Tank 8 was also inspected and cleaned in May of 2019. The exterior is in good condition with a small roof repair needed. The tank exterior should be recoated within the next 3-5 years. The interior of the tank was found to be in poor condition and was recommend to be recoated within the next three years. The tank should be re-inspected in 2022.
- Perricone Tank *WAS LAST INSPECTED IN AUGUST 2021*. The interior and exterior of the tank was recoated in 2016. The exterior of the tank was found to be in very good condition. The interior of the tank was found to be in overall good condition. The tank does not need to be cleaned for 2-3 more years. There are a few minor areas of corrosions that can be fixed to mitigate any serious damage.
- Zone 4 Tank – *Cleaned and inspected – January 2022* – Some sediment, interior coating looked good, tank cleaned up nicely.
- McNally 1 Tank *SCHEDULED FOR CLEANING AND INSPECTION IN April 2022*
- McNally 2 Tank was inspected and cleaned in June 2019. *SCHEDULED FOR INTERIOR AND EXTERIOR RECOATING IN FY 2021/22*.
- Schoepe Tank *SCHEDULED FOR INSPECTION AND CLEANING IN APRIL 2022*
- Forebay tank is in excellent condition and due for inspection in August of 2021 (1 year after interior coating) and then every 3 years thereafter.
- All three nitrate analyzers have had the annual maintenance completed in August 2021.

Bacteriological samples

The Yuima and IDA distribution systems and all special raw water groundwater well bacteriological tests are taken on schedule and the District remains in compliance of all water quality standards.

Other required water quality testing

Due to repeated positive bacti tests on Well 20 the pump was removed, the well was videoed, scrubbed, and swabbed with chlorine. The well passed the most current lab test and we are waiting on SWRCB for approval to put back online.

Well 23 has gradually increased in Nitrates. We are now reporting grab samples weekly to the SWRCB.

DISTRICT OPERATIONS PERSONNEL

No current limitations.

OTHER PROJECTS AND PROGRAMS

Pump Maintenance – Pump maintenance has been scheduled for all pumps at all pump stations except for Schoepe.

Forebay Pump Station – As previously reported to the Board, all pumps at the Forebay station have an issue with leaking oil. Manager Reeh spoke with Craig Barrett and Dan Waldrop from Barrett Pumps two separate times. Manager Reeh discussed the main concerns of the District and requested a schedule of work to be done and timeframe when it will be completed. The status on the pumps are as follows.

***Pump #1*:** Service call from Barrett found that the fan shroud was offset and the noise was from the fan hitting the shroud when the motor was on. It has been corrected and this pump is now running fine and has been put in the lead.

Pump #2: Still leaking oil, has not been removed for repair, estimated to be pulled repaired and reinstalled by April 30, 2022.

Pump #3: Doesn't run, motor failure, pulled and being repaired at this time, estimated to be repaired and reinstalled by April 30, 2022.

Pump #4: Fully operational. Was the lead pump until #1 was repaired and put into the lead.

CWA Emergency Storage Project (ESP) Valley Center MWD / Yuima MWD Inter-tie
The ESP project is moving forward and preliminary construction planning are at the 60% design phase. The project is due to start construction in early 2023 and should take about 1 month to complete.

Vehicle Replacement in CIP Budget: Due to continued delays resulting from Covid-19 and labor / supply chain issues the District has had a difficult time finding replacement vehicles. Upon the advice of the Fleet Dealer management decided to order the trucks scheduled for replacement. Additionally, keeping in mind the shortage of vehicles and the lead time in delivery of order vehicles, management decided to order two replacement vehicles that were scheduled for next fiscal year. Once these vehicles have been received all fleet vehicles will have been replaced before the 2024 end date for purchasing gas powered vehicles. This will give the district several years to plan for and prepare facilities to operate electric vehicles.

SAFETY PROGRAMS AND TRAINING

Staff continues with tailgate safety meetings. Individuals are training with JPIA.

WATER METERS AND SERVICES

Meter Replacements, Downsizing and Removals

District staff is currently analyzing and replacing older meters in the District to help reduce slippage. Older prop meters tend to become less accurate, especially with the high usage District meters encounter. In an effort to optimize staff and make meter reading more efficient in the near future; all new meters installed are AMR meters that can be incorporated into the District's AMR meter reading program.

RAINFALL RECORD 2021/2022 YUIMA SHOP

Location: 34928 Valley Center Road, Pauma Valley @ **1050' elevation**

	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	
1			0.04										
2													
3													
4													
5				0.40									
6													
7													
8				0.32									
9						0.25							
10						0.01							
11													
12													
13													
14						1.54							
15								0.15					
16						0.01							
17						0.05	0.09						
18	0.44			0.04			0.22						
19													
20													
21													
22								0.36					
23						0.69		0.02					
24						1.14							
25			0.10	0.22		0.06							
26	0.83			0.01		0.35							
27			0.01										
28			0.02			0.02							
29						0.03							
30													
31		0.30				0.01							TOTAL YEAR
TOTALS	1.27	0.30	0.17	0.99	0.00	4.16	0.31	0.53	0.00	0.00	0.00	0.00	7.73
1987/88 (B)	0.00	0.00	0.00	2.60	4.17	1.20	2.97	2.23	0.97	6.95	0.40	0.00	21.49
1988/89 (B)	0.00	1.25	0.00	0.00	1.36	4.78	1.38	3.25	0.60	0.25	0.43	0.00	13.30
1989/90 (B)	0.00	0.00	1.03	0.50	0.00	0.55	4.45	2.65	0.92	3.22	0.95	1.10	15.37
1990/91	0.32	0.93	0.00	0.16	0.83	0.85	1.30	2.60	13.10	0.20	0.00	0.00	20.29
1991/92	0.70	0.00	0.40	0.85	0.30	1.90	3.25	5.60	5.30	0.15	0.50	0.00	18.95
1992/93	0.00	1.75	0.00	1.55	0.00	5.10	17.25	8.60	1.55	0.00	0.00	0.70	36.50
1993/94	0.00	0.00	0.00	0.25	2.35	0.90	1.20	4.60	5.30	2.00	0.20	0.00	16.80
1994/95	0.00	0.00	0.00	0.40	0.80	0.75	9.35	3.00	9.40	2.00	0.75	1.10	27.55
1995/96	0.10	0.00	0.00	0.00	0.20	0.85	1.50	3.50	2.30	0.50	0.00	0.00	8.95
1996/97	0.00	0.00	0.00	0.00	4.55	2.40	6.35	0.75	0.00	0.00	0.00	0.00	14.05
1997/98	0.00	0.00	2.10	0.10	2.45	2.10	3.70	10.95	4.05	3.30	3.05	0.15	31.95
1998/99	0.00	0.00	1.15	0.00	2.45	1.36	1.93	1.00	0.80	2.32	0.05	0.50	11.56
1999/2000	0.25	0.00	0.10	0.00	0.10	0.25	0.60	5.20	1.55	0.95	0.45	0.00	9.45
2000/2001	0.00	0.00	0.05	0.98	0.45	0.00	2.80	6.20	1.70	1.70	0.50	0.00	14.38
2001/2002	0.00	0.00	0.00	0.00	1.35	1.90	0.60	0.15	1.80	0.65	0.00	0.00	6.45
2002/2003	0.00	0.00	0.20	0.00	2.85	3.60	0.25	6.40	3.45	2.10	0.65	0.00	19.50
2003/2004	0.00	0.40	0.00	0.00	1.55	1.55	0.70	4.25	0.75	1.05	0.00	0.00	10.25
2004/2005	0.00	0.40	0.00	7.20	1.55	4.55	8.70	6.60	1.75	1.05	0.10	0.00	31.90
2005/2006	0.50	0.00	0.10	1.85	0.00	0.50	1.75	2.45	3.55	2.65	0.50	0.00	13.85
2006/2007	0.00	0.20	0.30	0.40	0.05	1.40	0.50	2.70	0.30	0.80	0.10	0.00	6.75
2007/2008	0.00	0.25	0.00	0.20	0.50	5.30	5.80	3.80	0.60	0.00	1.00	0.00	17.45
2008/2009	0.00	0.00	0.00	0.00	1.60	4.95	0.05	4.45	0.30	0.75	0.00	0.00	12.10
2009/2010	0.00	0.00	0.00	0.00	1.10	3.65	7.45	4.00	0.55	2.60	0.00	0.00	19.35
2010/2011	0.20	0.00	0.00	3.15	1.45	8.60	1.25	4.40	2.65	0.30	0.40	0.05	22.45
2011/2012	0.00	0.00	0.15	0.65	2.65	1.20	1.15	2.05	2.25	3.15	0.10	0.00	13.35
2012/2013	0.00	0.00	1.50	0.40	0.45	2.70	1.50	1.25	1.70	0.10	0.40	0.00	10.00
2013/2014	0.28	0.00	0.00	1.48	0.15	0.40	0.25	0.95	2.95	0.80	0.00	0.00	7.26
2014/2015	0.00	0.20	1.00	0.00	1.00	4.90	0.70	0.90	1.60	0.75	1.20	0.50	12.75
2015/2016	1.90	0.30	1.70	0.35	0.90	2.65	3.40	1.15	1.50	0.75	0.40	0.00	15.00
2016/2017	0.00	0.00	1.00	0.16	1.75	4.37	7.17	6.05	0.20	0.00	1.34	0.00	22.04
2017/2018	0.07	0.12	0.13	0.00	0.00	0.00	3.18	0.88	2.55	0.01	0.12	0.00	7.06
2018/2019	0.00	0.00	0.00	1.27	2.51	1.63	2.34	7.98	1.68	0.40	1.83	0.12	19.76
2019/2020	0.00	0.00	0.30	0.00	4.17	2.46	0.17	0.64	5.39	5.96	0.03	0.20	19.32
2020/2021	0.00	0.00	0.00	0.07	1.52	0.79	1.09	0.06	1.55	0.51	0.10	0.02	5.71
34 Year Average	0.13	0.17	0.33	0.72	1.39	2.36	3.12	3.57	2.49	1.41	0.46	0.13	16.26

YUIMA MUNICIPAL WATER DISTRICT
DELINQUENT ACCOUNTS LISTING
2/28/2022

YUIMA

ACCOUNT NUMBER	PAST DUE AMOUNT	ACTION
01-0650-02	10,262.26	Notice
01-1041-01	29.86	Notice
01-1044-01	230.59	Notice
01-1050-05	9.25	Notice
01-1055-02	111.15	Notice
01-1062-10	69.08	Notice
01-1071-08	82.21	Notice
01-1073-08	127.35	Notice
01-1079-00	66.45	Notice
01-1224-00	26.71	Notice
01-1351-07	190.92	Notice
01-1651-01	375.83	Notice
01-1655-02	108.18	Notice
	$ 11,689.84	

IDA

ACCOUNT NUMBER	PAST DUE AMOUNT	ACTION
02-0845-03	62.19	Notice
02-0906-03	82.81	Notice
02-2984-09	1,676.87	Lien Filed
02-3137-00	55.49	Notice
02-4005-02	114.77	Notice
02-4175-01	90.40	Notice
02-4185-01	148.91	Notice
02-5330-09	462.74	Notice
02-6199-05	243.03	Notice
02-6500-00	33,205.68	Lien Filed
02-6657-00	148.91	Lien Filed
02-7125-00	1,504.94	Lien Filed
02-7248-02	183.47	Lien Filed
02-7249-01	5,651.33	Lien Filed
02-7435-00	133.03	Notice
02-8445-00	21.13	Notice
	$ 43,785.70	

LIENS FILED / TRANSFERRED TO TAX ROLL

for liens filed and transfer to tax roll:
July agenda
auditor and controller by Aug 10th

V.
OTHER BUSINESS