

W385/W386 Operational Test

Baseline Hydrologic Data

Quarterly Update

Groundwater Level and Surface
Water Data

Prepared by: Eastern Sierra Environmental Group

Los Angeles Department of Water and Power

April, 2024

April 2024 Report Summary

LADWP is planning to activate modified production wells W385 and W386 while minimizing potential impacts on nearby groundwater-dependent resources. LADWP and ICWD staff have monitored surface water and groundwater in the Fish Slough and Laws areas since December 2019 to establish a hydrologic baseline condition. This baseline study is part of the background to conducting an operational test of W386. Data is compiled and reported on a quarterly basis.

The last quarterly report included data up to the end of 2023. Since then, groundwater levels in wells in Fish Slough have exhibited relatively stable or slightly increasing groundwater levels. This is consistent with seasonal trends during the 2020-21, 2021-22, and 2022-23 winters. This is likely attributed to reduced evapotranspiration, winter precipitation, and possibly some snowmelt due to increasing temperatures towards the spring season.

Wells in the Laws area north and south of the Owens River show similar increases in groundwater levels during the winter season. This is consistent with seasonal trends in previous winters. Wells during March exhibit declines in groundwater levels, likely due to decreasing precipitation as the winter season ends. Groundwater levels in T977 have decreased slightly since December 2023 after a year of steady increases since December 2022.

Both Northwest and Northeast Fish Slough springs have been stable. Northeast spring flow has remained low. Fish Slough at LA Station 2 (3216) has shown increases in flow over the 2023-24 winter. This is consistent with the seasonal trend evident in previous winters. However, Fish Slough at Owens River Station (3207) has shown declines in flow over the winter season. This is uncommon when looking at previous winter seasons. However, Station 3207 has generally exhibited erratic flow rates during the 2023-24 runoff year, likely due to the high runoff and flooding in the area.

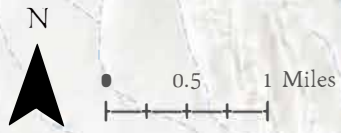
The surface water level at West Pond continues to remain above the staff gauge. Due to Owens River's high flows, hydrographers cannot install a new staff gauge. The surface water level at Southeast Fish Slough has remained relatively stable since installation of the staff gauge in early 2023.

Monitoring Well Information

Well	Total Depth (ft)	RP Offset from Ground (ft)	RP Elevation (ft-amsl)	Distance from W385/W386 (mi)
FS #1	61	1.82	4,228.90	7.1
FS #2	46	1.80	4,221.60	4.0
FS #3D	145	2.59	4,194.84	2.8
FS #3S	35	2.76	4,194.22	2.8
T397	180	1.87	4,230.07	7.1
T438	37	3.21	4,142.11	0.6
T576†	18	0.92	4,129.42	1.0
T704	32	2.33	4,150.63	0.1
T733	674	1.44	4,151.24	0.1
T752	680	2.97	4,200.17	1.8
T753	100	1.97	4,199.17	1.8
T754	210	3.82	4,201.02	1.8
T755	490	2.99	4,200.19	1.8
T756	45	2.00	4,154.60	0.7
T757	310	2.26	4,154.86	0.7
T758	575	2.24	4,154.84	0.7
T759	210	1.78	4,154.38	0.7
T826	17	0.94	4,148.54	0.4
T827	16	0.25	4,147.95	0.4
T828	15	0.98	4,147.68	0.5
T829	17	1.98	4,149.68	0.6
T830	14	1.05	4,154.25	0.6
T831	10	0.99	4,176.49	1.2
T838	37	1.89	4,137.29	0.8
T977	200	2.82	4,132.09	1.0
T978D	350	2.92	4,169.02	0.8
T978S	31	3.03	4,169.13	0.8
V875	21	1.84	4,132.85	0.6
W248	602	0.28	4,141.98	2.0
W385	560	2.50	4,151.26	-
W386	560	3.64	4,153.44	-
Zack	257	1.18	4,246.77	5.2

† Not a testing well, but included in graphs for analytical purposes

Index Map



Fish Slough

FISH SLOUGH

LAWS WELLFIELD

Production Wells
W385 & W386



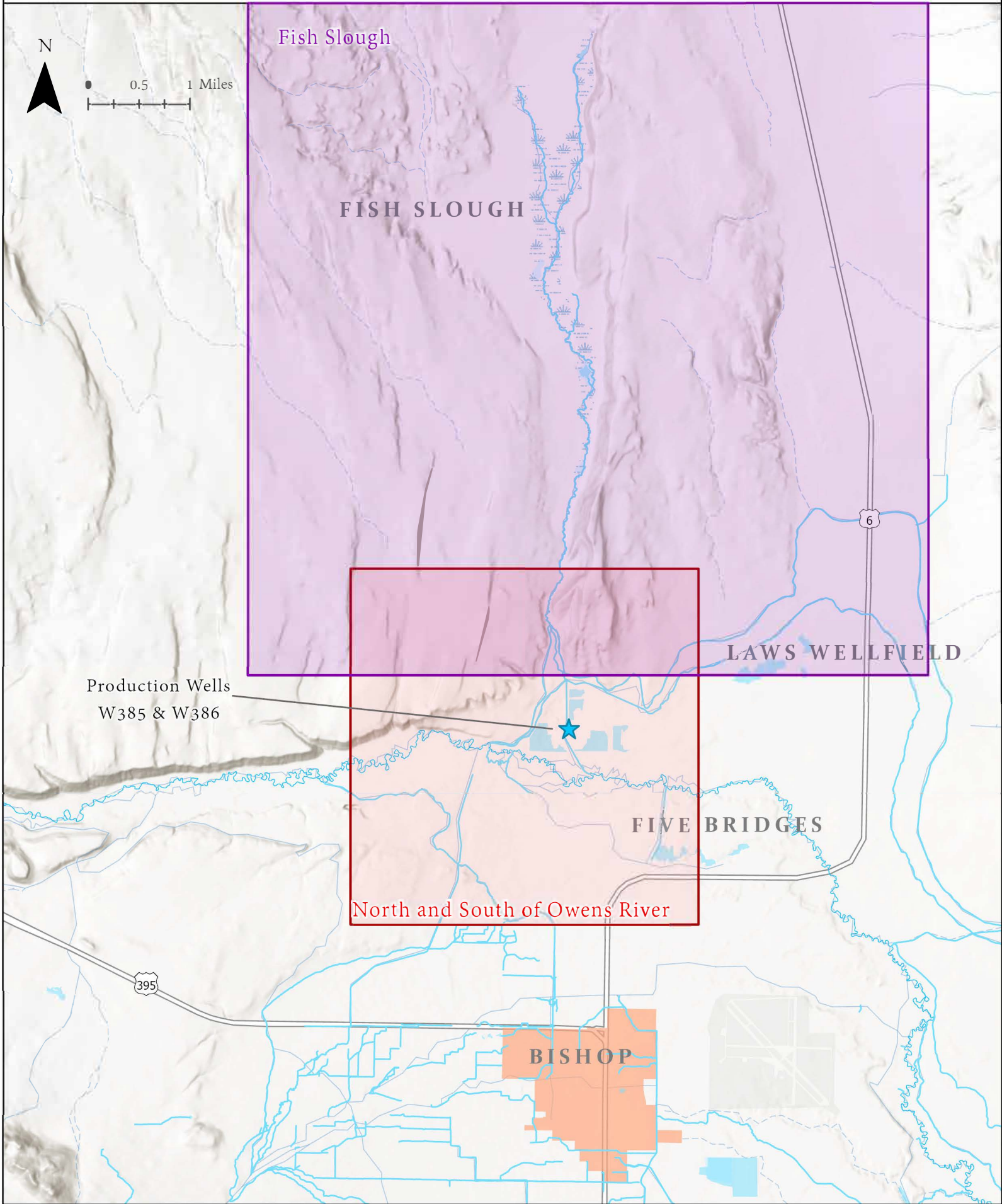
FIVE BRIDGES

North and South of Owens River

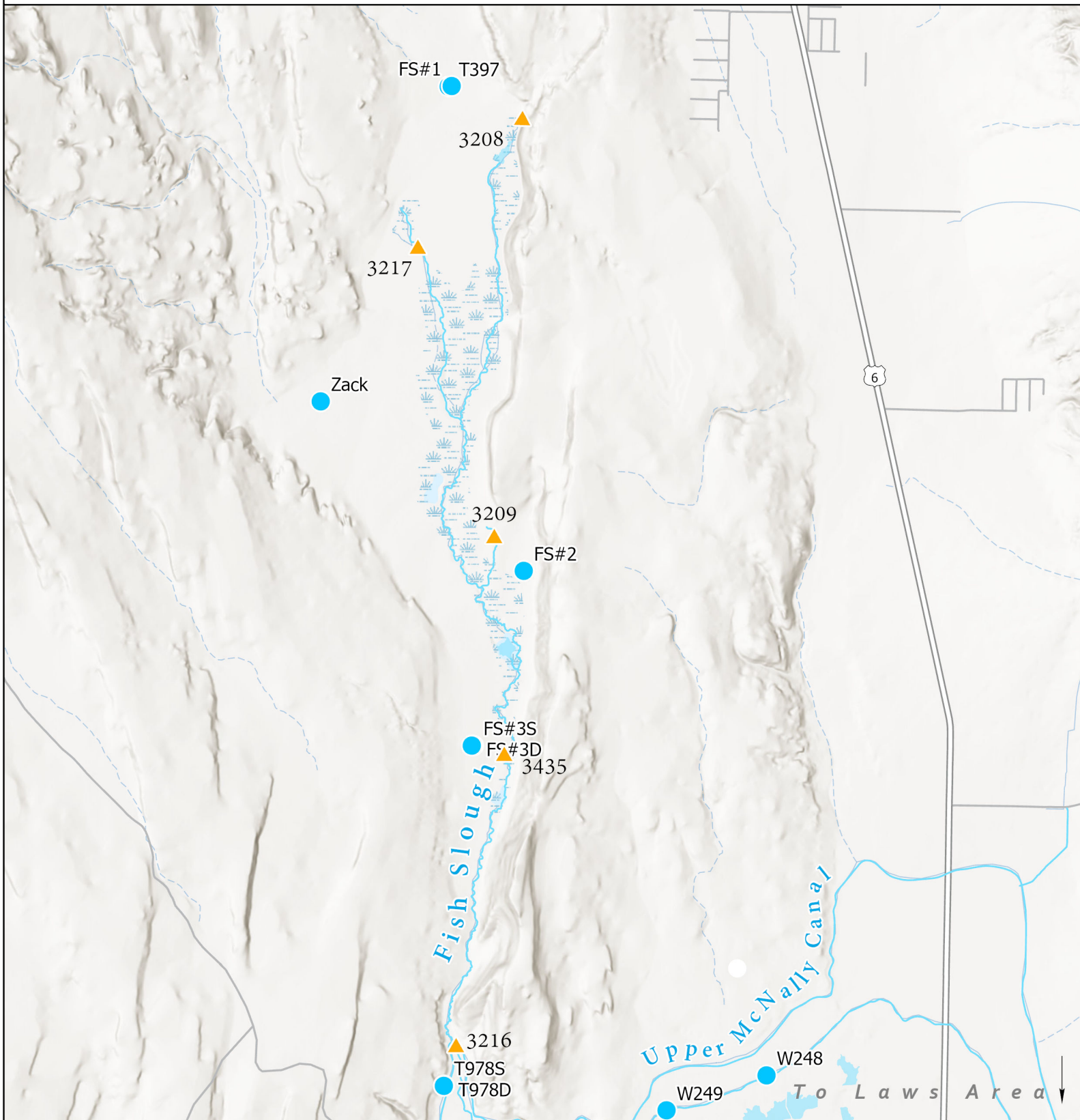
BISHOP

395

6



W385 - Fish Slough Area

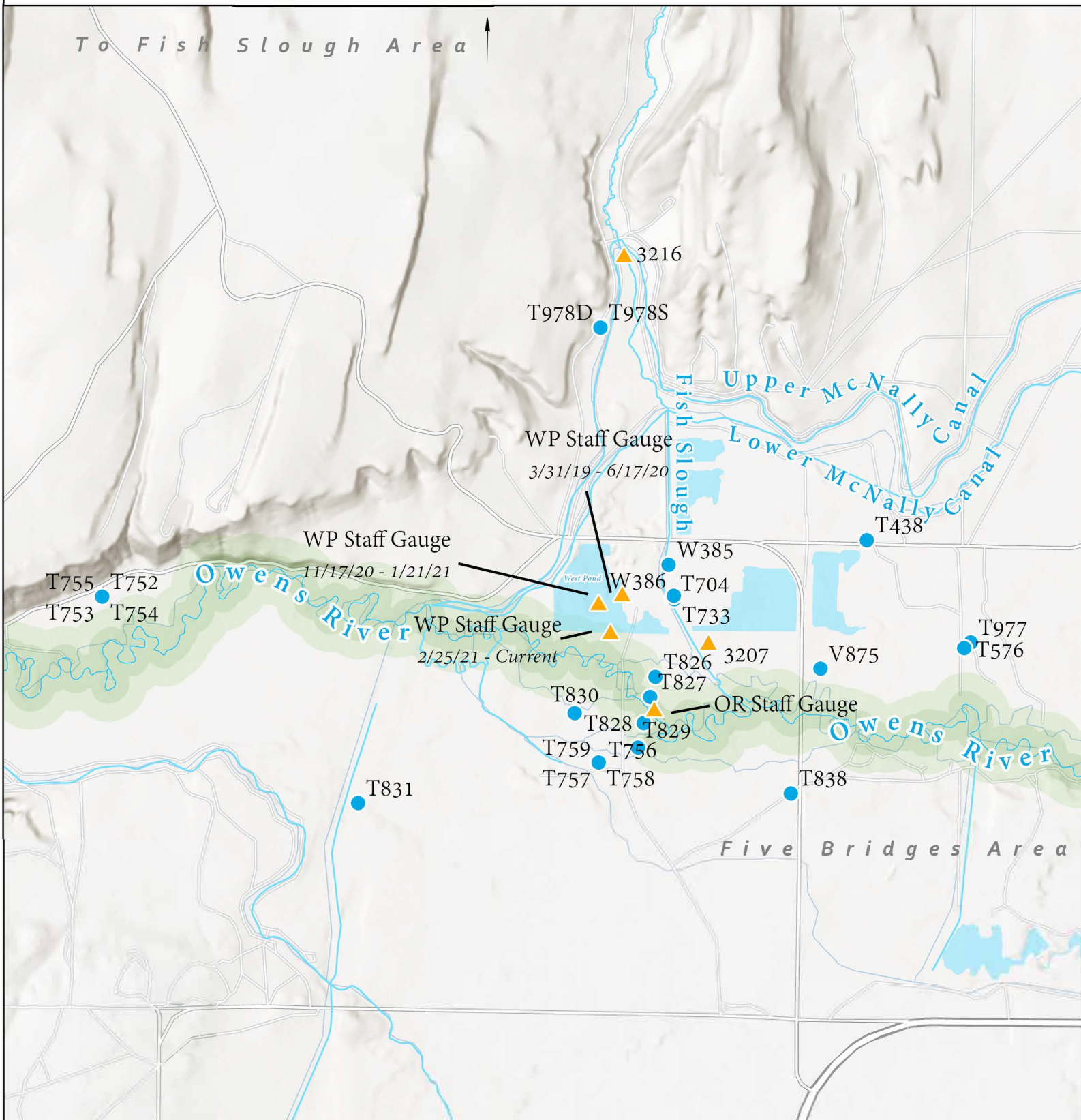


- GW Monitoring Well
- ▲ Flow Station/Staff Gauge
- Lake
- Waterway

0 0.5 1 2 Miles



North and South of Owens River



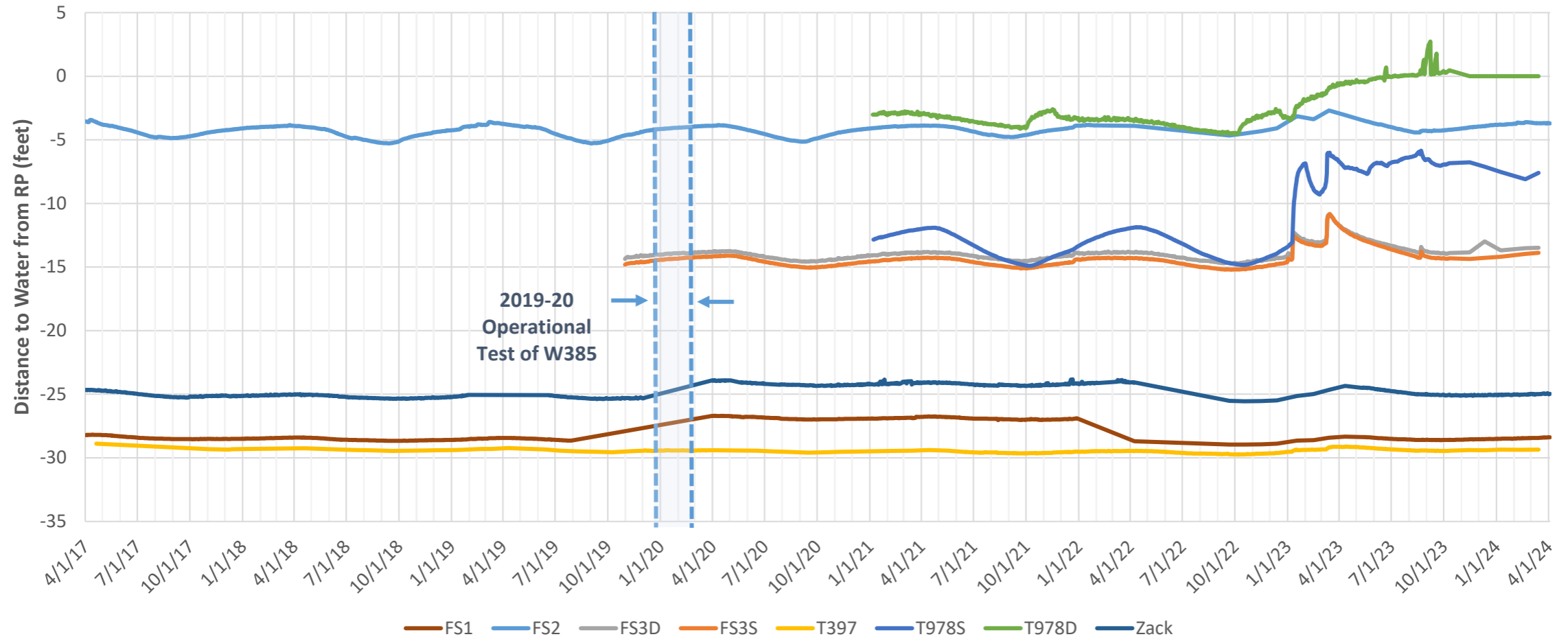
- GW Monitoring Well
- ▲ Flow Station/Staff Gauge
- Lake
- Waterway

0 0.25 0.5 1 Miles



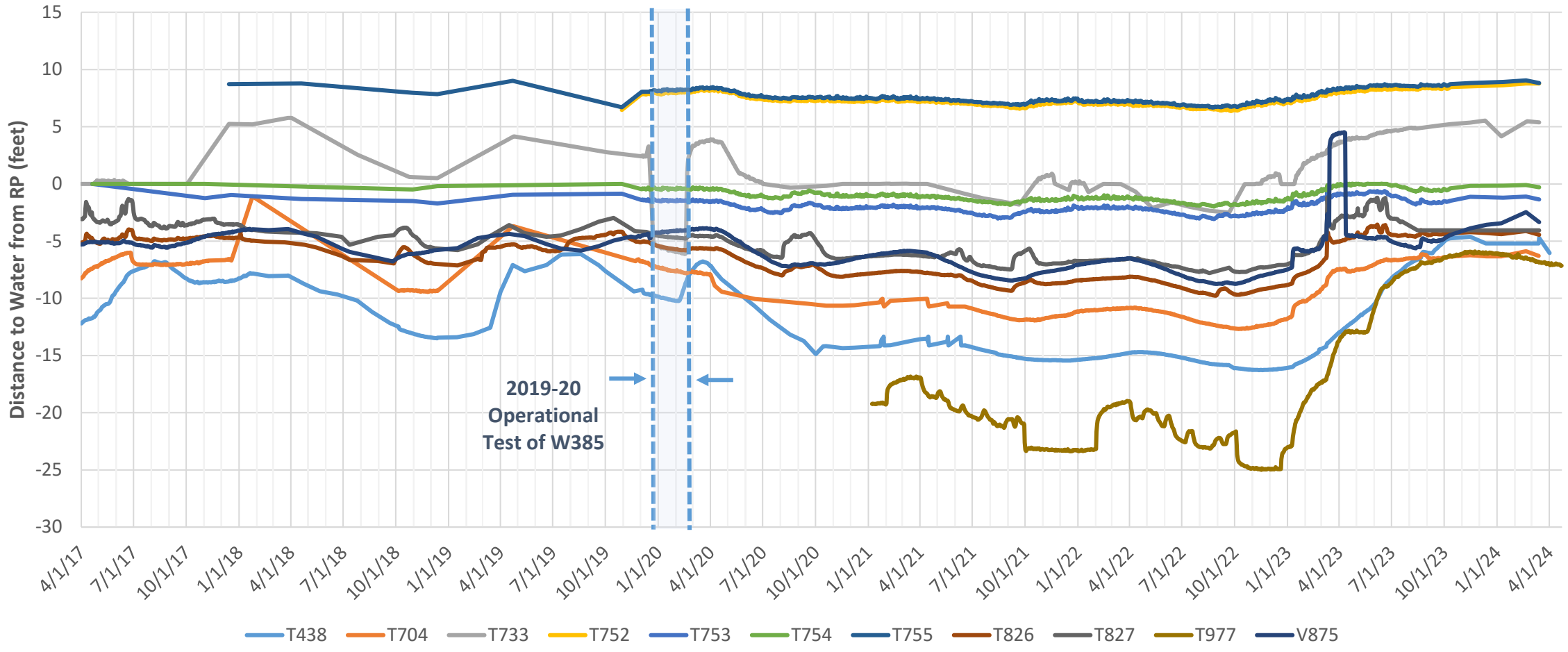
Groundwater Hydrographs

Test Monitoring Wells - Fish Slough



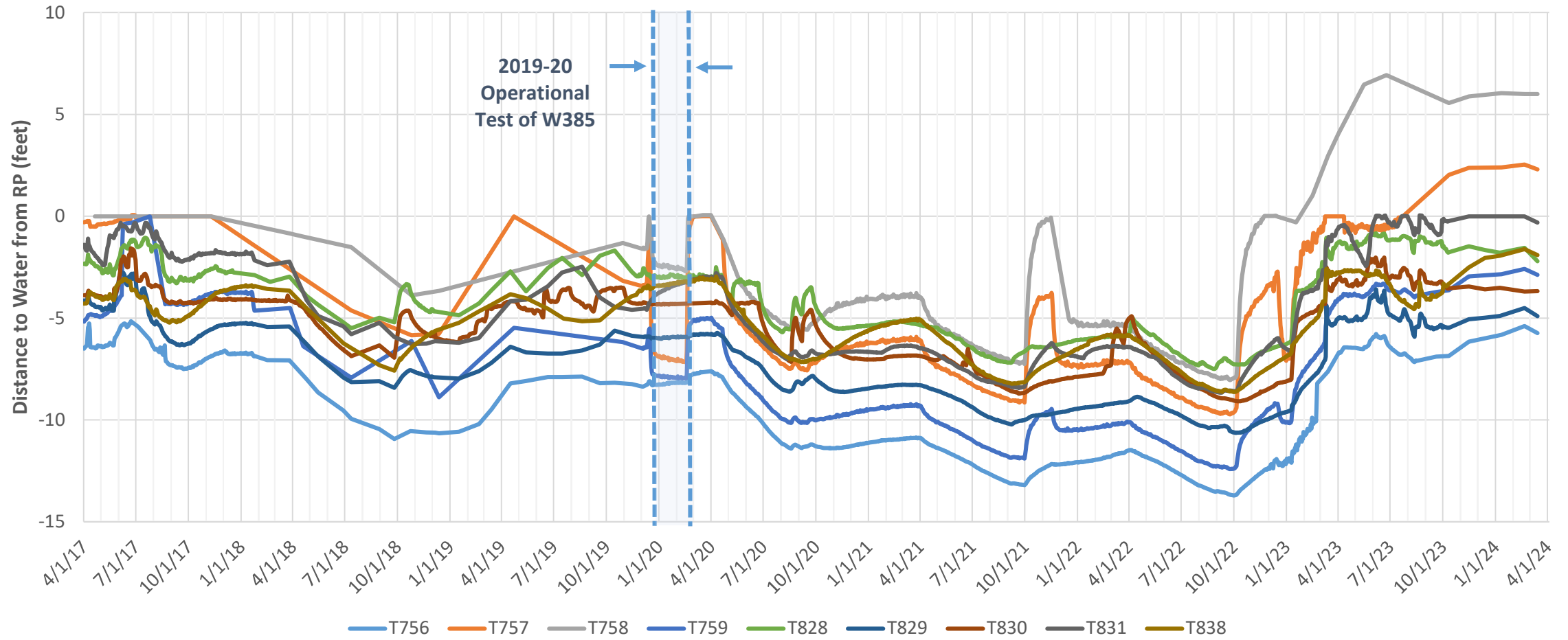
Note that the transducer at T978D was removed on October 10, 2023. T978D has been flowing since November 15, 2023.

Test Monitoring Wells - North of Owens River



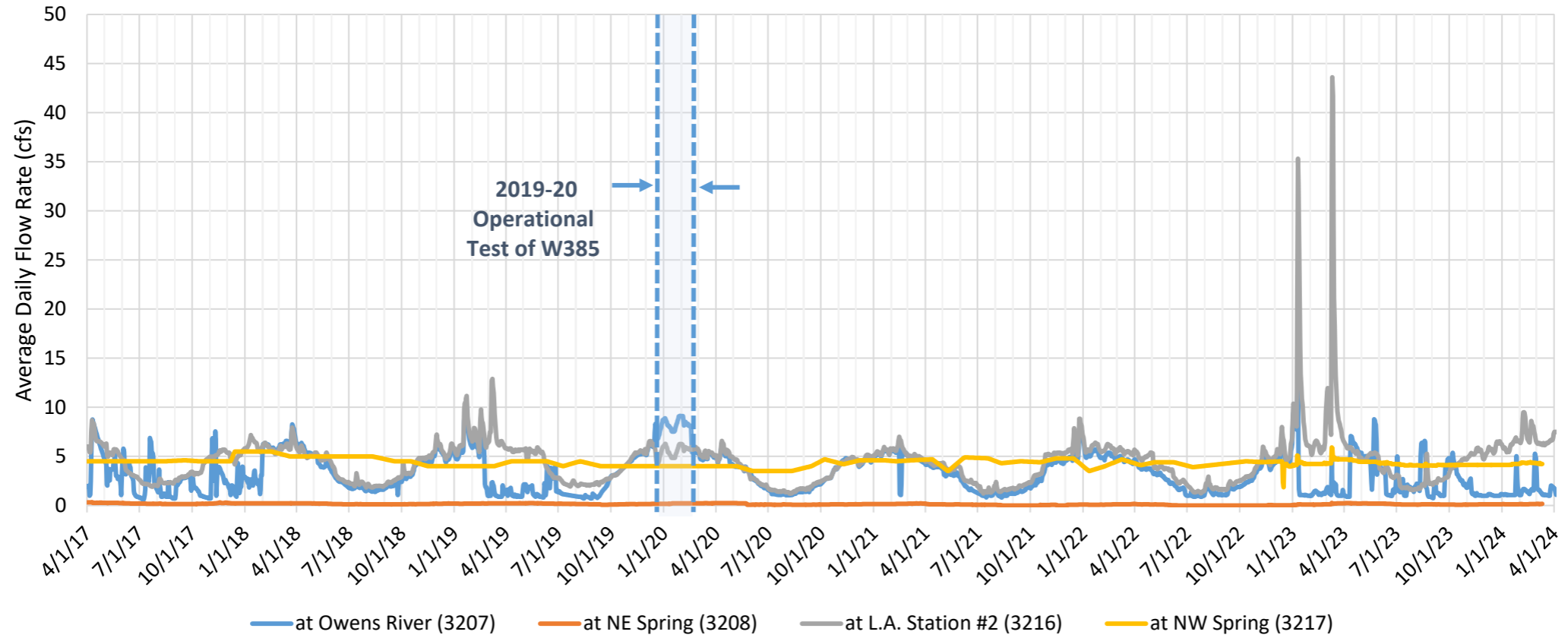
Note that W386 is not included in the above hydrograph. Nearby deep monitoring well T733 is considered a surrogate for W386. W386 has been flowing since October 2, 2023.

Test Monitoring Wells - South of Owens River

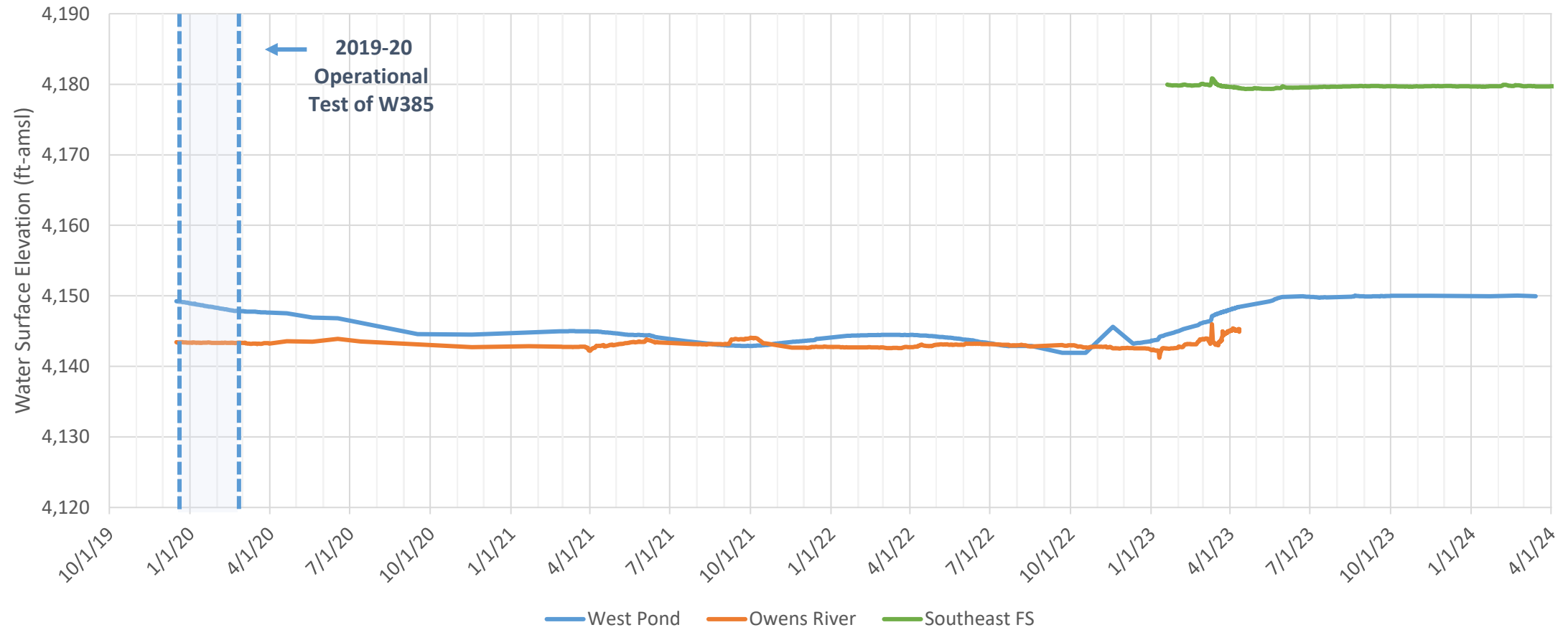


Note that T831 was flowing from November 15, 2023 to February 20, 2024.

Fish Slough Flows



Staff Gauge Water Levels



Note that the West Pond water level has been above the staff gauge since June 22, 2023.
Note that the Owens River Staff gauge remains offline due to high flows.

**Tabulated Groundwater
Values Nov 2023 - Apr 2024**

**Tabulated Surface Water
Values Nov 2023 - Apr 2024**

Date	Staff Gage		Fish Slough Flow Station	
	West Pond WSE (ft-amsl)	Owens River WSE (ft-amsl)	L.A. Station #2 (3216) Flow (cfs)	at Owens River (3207) Flow (cfs)
11/1/23			4.73	1.79
11/2/23			4.86	1.86
11/3/23			4.94	1.99
11/4/23			4.96	2.24
11/5/23			5.01	2.49
11/6/23			5.13	2.62
11/7/23			5.26	2.75
11/8/23			5.35	2.00
11/9/23			5.29	1.30
11/10/23			5.21	1.16
11/11/23			5.20	1.26
11/12/23			5.25	1.26
11/13/23			5.20	1.22
11/14/23			5.23	1.04
11/15/23	4150.01		5.31	0.98
11/16/23			5.44	0.98
11/17/23			5.72	1.19
11/18/23			5.84	1.25
11/19/23			5.81	1.09
11/20/23			5.88	1.07
11/21/23			5.72	1.03
11/22/23			5.52	1.02
11/23/23			5.55	1.03
11/24/23			5.69	1.06
11/25/23			5.67	1.03
11/26/23			5.43	0.99
11/27/23			5.26	0.98
11/28/23			4.95	0.98
11/29/23			4.74	0.98
11/30/23			4.71	0.98

Date	Staff Gage		Fish Slough Flow Station	
	West Pond WSE (ft-amsl)	Owens River WSE (ft-amsl)	L.A. Station #2 (3216) Flow (cfs)	at Owens River (3207) Flow (cfs)
12/1/23			4.77	0.98
12/2/23			4.92	0.98
12/3/23			5.08	0.98
12/4/23			5.25	0.98
12/5/23			5.34	0.98
12/6/23			5.39	0.98
12/7/23			5.52	1.01
12/8/23			5.83	1.16
12/9/23			5.97	1.16
12/10/23			5.85	1.16
12/11/23			5.74	1.16
12/12/23			5.67	1.13
12/13/23			5.71	1.07
12/14/23			5.77	1.07
12/15/23			5.67	1.07
12/16/23			5.43	1.03
12/17/23			5.30	0.98
12/18/23			5.34	0.98
12/19/23			5.45	0.98
12/20/23			5.65	0.98
12/21/23			6.03	0.98
12/22/23			6.39	0.98
12/23/23			6.51	0.98
12/24/23			6.32	0.98
12/25/23			6.30	0.98
12/26/23			6.37	0.98
12/27/23			6.53	0.98
12/28/23			6.53	0.98
12/29/23			6.36	1.08
12/30/23			6.28	1.16
12/31/23			6.26	1.16

Date	Staff Gage		Fish Slough Flow Station	
	West Pond WSE (ft-amsl)	Owens River WSE (ft-amsl)	L.A. Station #2 (3216) Flow (cfs)	at Owens River (3207) Flow (cfs)
1/1/24			6.15	1.16
1/2/24			5.99	1.11
1/3/24			5.81	1.09
1/4/24			5.81	1.07
1/5/24			5.91	1.10
1/6/24			5.87	1.17
1/7/24			5.71	1.13
1/8/24			5.56	1.07
1/9/24			5.41	1.07
1/10/24			5.43	1.11
1/11/24			5.53	1.08
1/12/24			5.55	1.07
1/13/24			5.44	1.07
1/14/24			5.64	1.07
1/15/24			5.97	1.07
1/16/24			6.22	1.07
1/17/24			6.12	1.07
1/18/24			6.19	1.07
1/19/24			6.24	1.07
1/20/24			6.41	1.07
1/21/24			6.47	1.07
1/22/24			6.57	1.05
1/23/24			6.69	1.06
1/24/24			6.80	1.07
1/25/24			6.92	3.43
1/26/24			6.54	5.01
1/27/24			6.60	2.75
1/28/24			6.63	1.91
1/29/24			6.63	1.69
1/30/24			6.59	1.36
1/31/24			6.53	1.07

Date	Staff Gage		Fish Slough Flow Station	
	West Pond WSE (ft-amsl)	Owens River WSE (ft-amsl)	L.A. Station #2 (3216) Flow (cfs)	at Owens River (3207) Flow (cfs)
2/1/24			6.41	1.07
2/2/24			6.36	1.07
2/3/24			6.50	1.07
2/4/24			6.71	1.27
2/5/24			7.63	1.42
2/6/24			8.88	1.59
2/7/24			9.48	1.68
2/8/24			9.50	1.68
2/9/24			9.44	1.68
2/10/24			9.01	1.60
2/11/24			8.38	1.59
2/12/24			7.65	1.52
2/13/24			7.16	1.42
2/14/24			6.78	1.36
2/15/24			6.70	1.36
2/16/24			6.56	1.31
2/17/24			6.46	1.19
2/18/24			6.41	1.16
2/19/24			7.34	1.50
2/20/24			7.87	1.47
2/21/24			8.60	1.63
2/22/24	4150.04		8.31	1.68
2/23/24			8.12	1.59
2/24/24			8.10	1.57
2/25/24			7.83	1.54
2/26/24			7.49	3.43
2/27/24			7.20	5.28
2/28/24			6.87	5.04
2/29/24			6.61	4.87

Date	Staff Gage		Fish Slough Flow Station	
	West Pond WSE (ft-amsl)	Owens River WSE (ft-amsl)	L.A. Station #2 (3216) Flow (cfs)	at Owens River (3207) Flow (cfs)
3/1/24			6.39	3.31
3/2/24			6.35	1.72
3/3/24			6.29	1.68
3/4/24			6.35	1.59
3/5/24			6.37	1.56
3/6/24			6.26	1.57
3/7/24			6.26	1.46
3/8/24			6.33	1.37
3/9/24			6.28	1.29
3/10/24			6.20	1.26
3/11/24			6.15	1.11
3/12/24			6.28	1.07
3/13/24			6.36	1.07
3/14/24	4149.94		6.32	1.10
3/15/24			6.14	1.11
3/16/24			6.15	1.07
3/17/24			6.26	1.07
3/18/24			6.35	1.08
3/19/24			6.38	1.07
3/20/24			6.34	1.07
3/21/24			6.35	1.00
3/22/24			6.47	0.98
3/23/24			6.51	0.98
3/24/24			6.50	0.99
3/25/24			6.63	1.54
3/26/24			6.68	2.03
3/27/24			6.69	2.01
3/28/24			6.63	1.91
3/29/24			6.71	1.91
3/30/24			6.92	1.81
3/31/24			7.29	1.80

Date	Staff Gage		Fish Slough Flow Station	
	West Pond WSE (ft-amsl)	Owens River WSE (ft-amsl)	L.A. Station #2 (3216) Flow (cfs)	at Owens River (3207) Flow (cfs)
4/1/24			7.50	1.75
4/2/24			7.49	1.62
4/3/24			7.49	1.25
4/4/24			7.49	1.09
4/5/24				
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4/7/24				
4/8/24				
4/9/24				
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End of Report