

Lake Mendocino and Lake Sonoma Water Accounting Weekly Report (Term 12, Dec 2021 TUCO)

Report Date: 12/17/2021

Units are cfs unless noted otherwise

	12/10/2021	12/11/2021	12/12/2021	12/13/2021	12/14/2021	12/15/2021	12/16/2021
I. Upper East Fork Reach							
Potter Valley Project							
Tunnel Diversion	46.0	46.0	46.0	46.0	46.0	46.0	44.0
PVID Requested Delivery	5.0	5.0	5.0	5.0	5.0	5.0	5.0
PVID Canals Actual Delivery	2.9	3.0	3.2	3.4	2.8	2.4	1.9
East Fork Release	43.0	43.0	43.0	43.0	43.0	44.0	42.0
PVID E Fork Diversions	2.1	2.1	1.8	1.7	2.2	2.6	3.1
PVID Water Use - PG&E Contract	5.0	5.0	5.0	5.0	5.0	5.0	5.0
PVID Water Use - License 5264	0.0	0.0	0.0	0.0	0.0	0.0	0.0
East Fork Downstream of PVID (Import)	40.9	41.0	41.2	41.4	40.8	41.4	38.9
PVID Canal Net Return Flow (assumed)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
East Fork / Potter Valley Reach Analysis							
USGS E Fork @ Calpella	47.8	48.7	248.3	509.6	457.9	877.7	872.1
Net Reach Loss(-)/Gain(+)	+1.8	+2.7	+202.3	+463.6	+411.9	+831.7	+828.1
Unimpaired Natural Flow @ Calpella (est.)	6.8	7.7	207.3	468.6	416.9	836.7	833.1
Non-PVID East Fork Net Reach Losses (est.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Natural Flow	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Import (neg. value is return flow)	0.0	0.0	0.0	0.0	0.0	0.0	0.0

II. Lake Mendocino

Reservoir Operations

Calculated Inflow (ac-ft)	100	126	468	878	904	1,485	1,753
(cfs)	50	63	236	443	456	749	884
Natural Flow	9	22	207	443	417	749	845
Import	41	41	29	0	39	0	39
Storage Change (ac-ft)	+42.0	+68.0	+409.0	+820.0	+846.0	+1,428.0	+1,694.0
(cfs)	+21	+34	+206	+413	+427	+720	+854
Stored Natural Flow (cfs)	9	17	178	413	388	720	815
Stored Import Water (cfs)	12	17	29	0	39	0	39
Evaporation (ac-ft)	2.0	2.0	3.4	2.8	2.2	1.5	1.6
RVCWD Diversion (ac-ft)	0	0	0	0	0	0	0
CVD Release Gage	28	28	28	28	28	28	29
Storage (Project Water)	0	0	0	0	0	0	0
Natural Flow	0	5	29	29	29	28	29
Import Water	28	23	0	0	0	0	0
East Fork Min Instream Flow Requirement	25	25	25	25	25	25	25
Compliance Gage		<i>Rvr mi.</i>					
CVD Release	28	99.9	28	28	28	28	29
CVD Project Water Release to Meet Min Flow Requirement							
Total Pass-through Water	28	28	29	29	29	28	29
Project Water Release Required	No	No	No	No	No	No	No

III. Upper Russian River Reach

Minimum Instream Flow Requirement

Controlling Compliance Gage

Min Gage Flow	39	39	118	350	492	627	1,187
Controlling Gage	Forks	Forks	Hopland	Hopland	Forks	Hopland	Forks
All Compliance Gages							
		<i>Rvr mi.</i>					
Forks (CVD + USGS 11461000)	39	99.0	177	397	492	849	1,187
Talmage (USGS 11462080)	60	96.1	192	472	853	791	2,087
Hopland (USGS 11462500)	46	84.8	118	350	1,134	627	2,755
Cloverdale (USGS 11463000)	64	70.9	139	680	1,785	1,692	3,772
Geyserville (USGS 11463500)	88	54.4	122	773	2,405	1,875	6,024
Jimtown (USGS 11463682)	97	48.5	119	476	1,773	1,522	5,893
Digger Bend (USGS 11463980)	112	38.2	143	>400 cfs	>400 cfs	>400 cfs	>400 cfs
Healdsburg (USGS 11464000)	109	35.6	155	1,083	2,333	2,267	7,431

Net Reach Loss(-)/Gain(+)

Forks - Talmage	+21	+21	+37	+176	+269	+343	+525
Talmage - Hopland	-14	-14	-37	+21	+157	+144	+415
Hopland - Cloverdale	+18	+18	+77	+400	+652	+1,161	+1,049
Cloverdale - Jimtown	+33	+30	+38	+131	+153	+331	+2,157
Jimtown - Digger Bend	+14	+15	+31	<i>n/d</i>	<i>n/d</i>	<i>n/d</i>	<i>n/d</i>
Digger Bend - Healdsburg *when Digger Bend > 400 cfs, next u/s gage (Jimtown) used	-3	-5	+19	+704	+670	+874	+1,787
Upper Russian Net Reach Loss/Gain	+69	+65	+165	+1,432	+1,902	+2,853	+5,933

CVD Project Water Release to Meet Min Flow Requirement

Net Reach Loss(-)/Gain(+) to Controlling Gage	+0	+0	-0	+197	+0	+487	+0
Storage (Project Water)	0	0	0	0	0	0	0
Pass-through Water (Nat. + Imp.) + Natural	0	0	-0	197	0	487	0
Total Pass-through Water	28	28	29	226	29	515	29
Project Water Release Required	No	No	No	No	No	No	No

Notes:
 - Water Accounting for the Upper Russian River is an analysis that approximates the current conditions based on methodology in Term 11 (2/11/21 Order) report and modified by Term 12 (6/14/21 Order) report. Values listed include estimated values where measurements are not currently available (red italics).

	12/10/2021	12/11/2021	12/12/2021	12/13/2021	12/14/2021	12/15/2021	12/16/2021
IV. Lake Sonoma							
Lake Sonoma							
Storage Change (ac-ft)	-131.0	-114.0	+834.0	+1,349.0	+1,126.0	+2,999.0	+2,670.0
(cfs)	-66	-57	+420	+680	+568	+1,512	+1,346
Evaporation (ac-ft)	3.8	3.8	1.3	1.3	3.8	1.3	4.0
Inflow (Natural Flow)	10	18	496	756	644	1,589	1,424
WSD Release Gage	74	74	75	75	75	77	75
Storage (Project Water)	64	56	0	0	0	0	0
Natural Flow	10	18	75	75	75	77	75

V. Lower Dry Creek Reach

Minimum Instream Flow Requirement		75	75	75	75	75	75	75
Controlling Compliance Gage								
Min Gage Flow		74	74	75	75	75	77	75
Controlling Gage		WSD Release	WSD Release	WSD Release	WSD Release	WSD Release	WSD Release	WSD Release
All Compliance Gages								
	<i>Crk mi.</i>							
WSD Release	14.3	74	74	75	75	75	77	75
Yoakim (USGS 11465200)	11.1	77	76	105	169	178	318	453
Lambert (USGS 11465240)	6.8	94	94	118	175	191	292	501
Dry Crk Mouth (USGS 11465350)	0.1	89	88	218	384	621	749	1,890
WSD to Russian River Confluence Reach Analysis								
Total Pass-through Water		10	18	75	75	75	77	75
Net Reach Loss(-)/Gain(+)								
WSD - Yoakim		+3	+2	+29	+92	+105	+220	+396
Yoakim - Lambert		+17	+18	+19	+12	+7	+45	-11
Lambert - Dry Crk Mouth		-5	-6	+105	+213	+420	+539	+1,310
WSD - Dry Crk Mouth		+15	+14	+153	+317	+532	+804	+1,695
WSD Project Water Release to Meet Min Flow Requirement								
Net Reach Loss/Gain to Controlling Gage		+3	+2	+29	+92	+105	+220	+396
Project Water Release Required		Yes	Yes	No	No	No	No	No

VI. Russian River - Dry Creek Confluence

Upper Russian River Flow (Healdsburg Gage)								
L. Mendocino Project Water + Import Water		28	23	-39	-378	0	-614	0
Natural Flow		69	69	194	1,461	1,931	2,882	5,962
Dry Creek Flow (Mouth Gage)								
L. Sonoma Project Water		64	56	0	0	0	0	0
Natural Flow		24	33	218	384	621	749	1,890
Russian River d/s of Confluence Flow								
L. Mendocino Project Water + Import Water		28	23	-39	-378	0	-614	0
L. Sonoma Project Water		64	56	0	0	0	0	0
Natural Flow		93	102	412	1,845	2,552	3,631	7,852

VII. Lower Russian River Reach

Minimum Instream Flow Requirement								
Controlling Compliance Gage								
Min Gage Flow		217	212	649	1,930	4,370	4,450	9,950
Controlling Gage		Hacienda	Hacienda	Hacienda	Hacienda	Hacienda	Hacienda	Hacienda
All Compliance Gages								
	<i>Rvr mi.</i>							
Windsor (USGS 11465390)	26.6	<i>n/d</i>	<i>n/d</i>	<i>n/d</i>	<i>n/d</i>	<i>n/d</i>	<i>n/d</i>	<i>n/d</i>
Hacienda (USGS 11467000)	21.8	217	212	649	1,930	4,370	4,450	9,950
Confluence to Windsor Reach Analysis								
Net Reach Loss/Gain to Windsor Gage		-	-	-	-	-	-	-
L. Mendocino Project Water + Import Water		-	-	-	-	-	-	-
L. Sonoma Project Water		-	-	-	-	-	-	-
Natural Flow		-	-	-	-	-	-	-
Confluence to SCWA Wohler Production Facility Reach Analysis								
Approx. Flow u/s of Wohler		280	261	711	1,975	4,411	4,502	10,009
Net Reach Loss(-)/Gain(+)		+82	+69	+338	+508	+1,456	+1,486	+688
L. Mendocino Project Water + Import Water		28	23	-39	-378	0	-614	0
L. Sonoma Project Water		62	54	0	0	0	0	0
Natural Flow		175	171	750	2,353	4,008	5,116	8,540
Confluence to Hacienda (Guerneville) Reach Analysis								
Net Reach Loss(-)/Gain(+)		+20	+20	+276	+463	+1,416	+1,434	+629
L. Mendocino Project Water + Import Water		28	23	-39	-378	0	-614	0
L. Sonoma Project Water		0	5	0	0	0	0	0
Natural Flow		175	171	688	2,308	3,967	5,064	8,481

VIII. Water Production under Sonoma Water Water Rights (ac-ft)

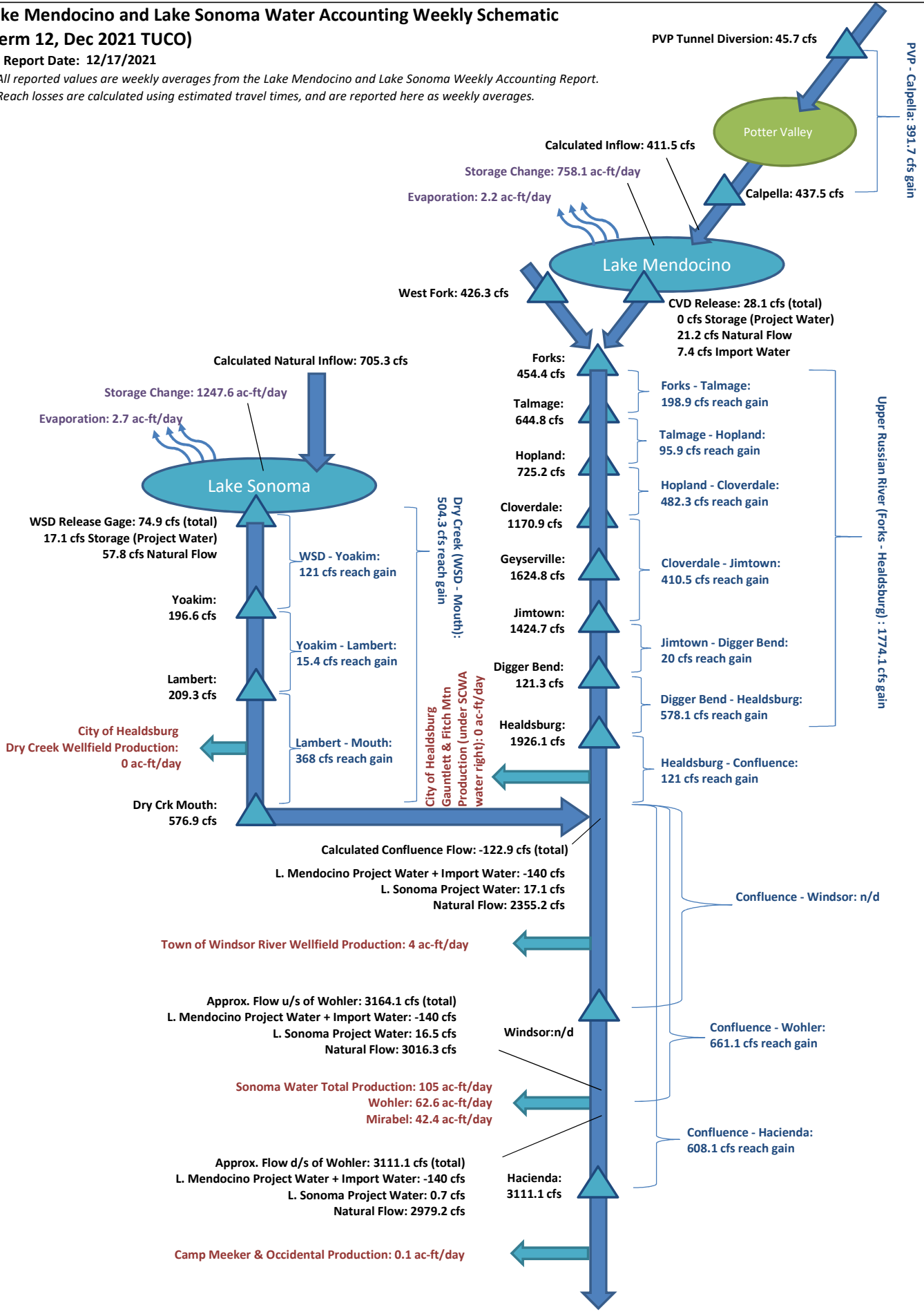
Lower Russian River								
Sonoma Water Total		124.1	97.1	122.8	89.8	80.6	102.9	117.8
Wohler		84.1	53.6	83.2	45.6	34.9	62.0	75.1
Mirabel		40.0	43.5	39.6	44.2	45.8	40.9	42.7
Town of Windsor River Wellfield		4.0	3.9	3.8	4.2	4.1	3.9	4.1
Camp Meeker & Occidental		0.1	0.1	0.1	0.1	0.1	0.1	0.1
Upper Russian River								
City of Healdsburg								
Gauntlett & Fitch Mtn		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dry Creek								
City of Healdsburg								
Dry Creek Wellfield		0.0	0.0	0.0	0.0	0.0	0.0	0.0

Notes:
- Water Accounting for the Lower Russian River and Dry Creek is an analysis that approximates the current conditions based on the methodology in Term 12 (6/14/21 Order) report. Values listed include estimated values where measurements are not currently available (red italics).

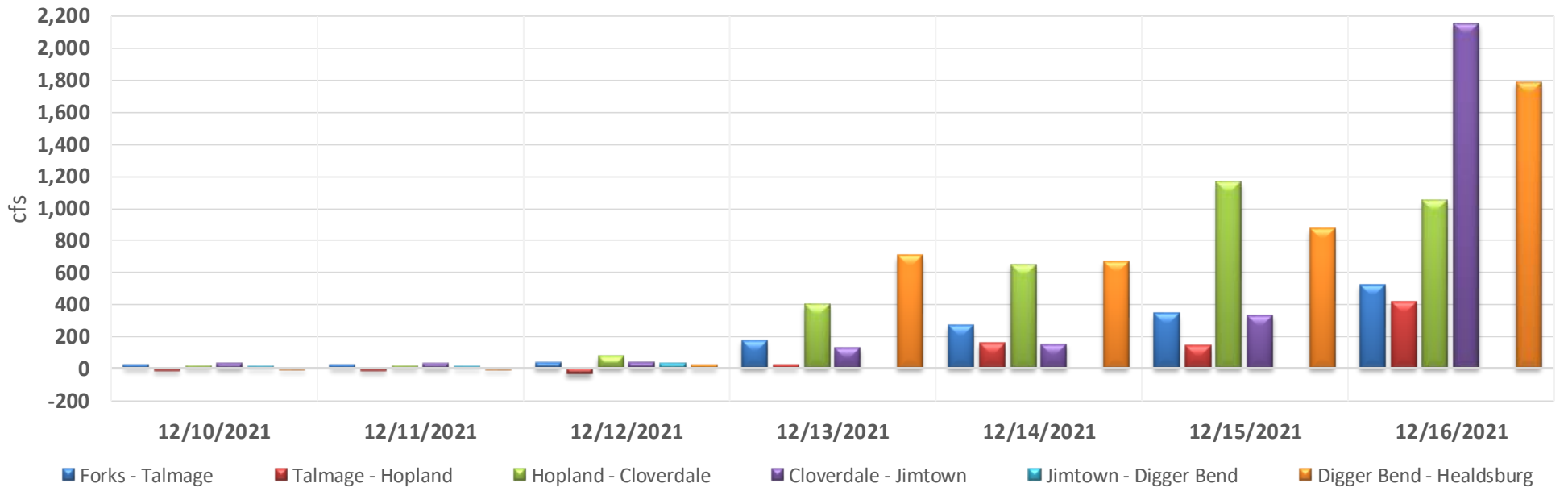
Lake Mendocino and Lake Sonoma Water Accounting Weekly Schematic (Term 12, Dec 2021 TUCO)

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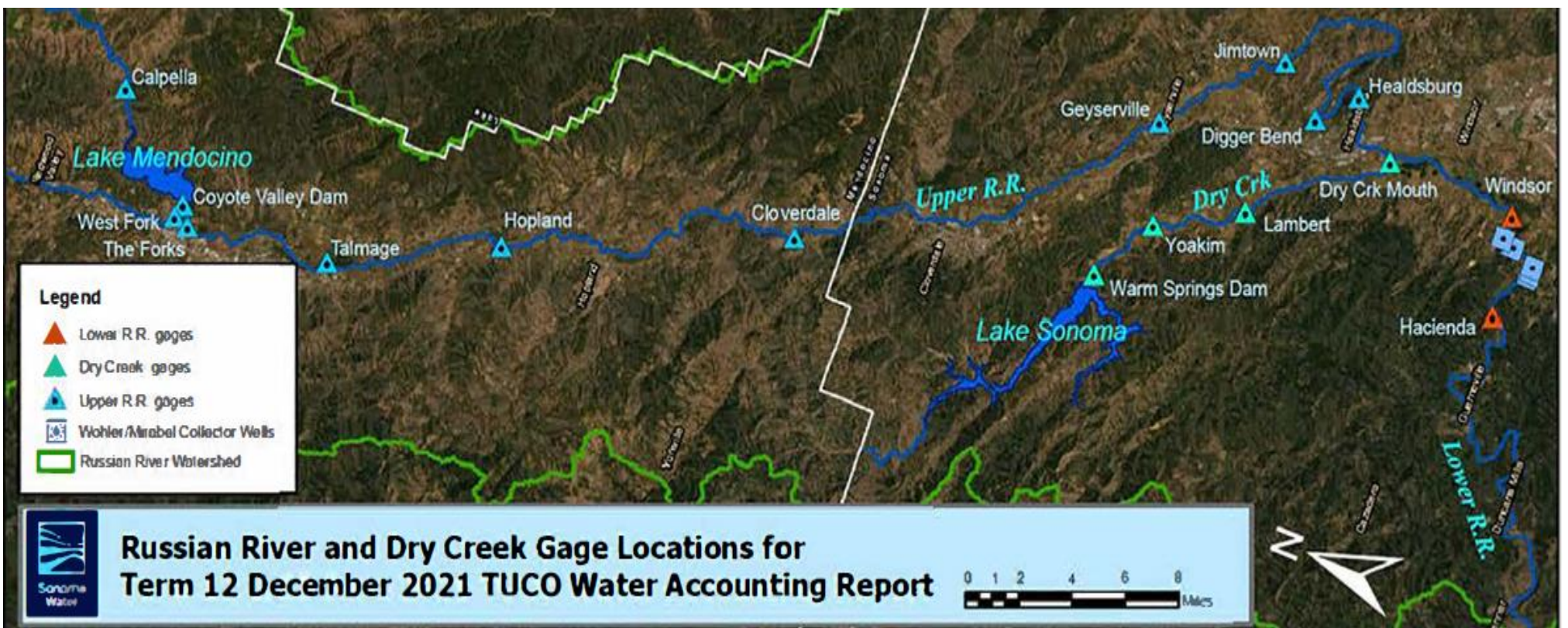
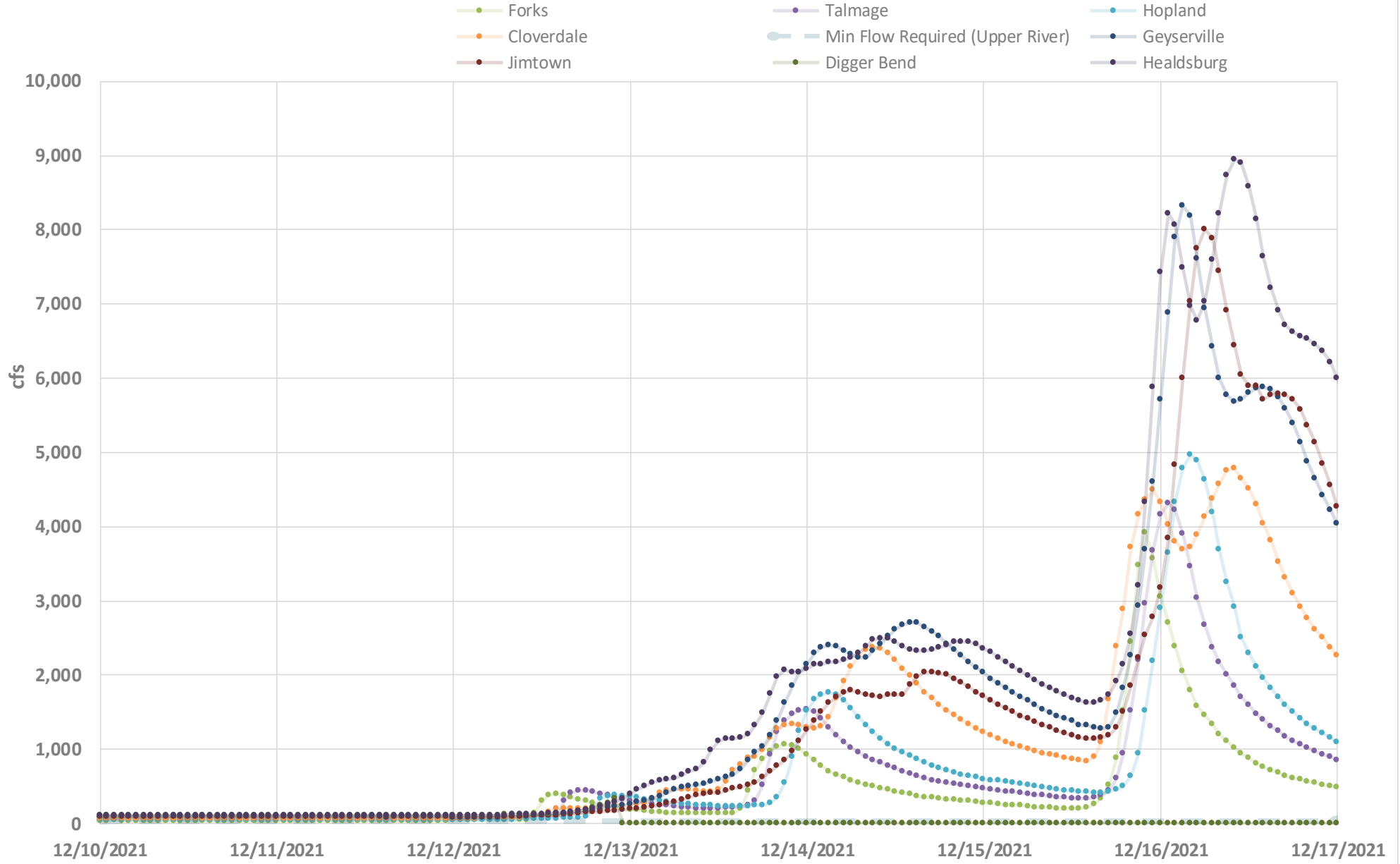
All reported values are weekly averages from the Lake Mendocino and Lake Sonoma Weekly Accounting Report.
Reach losses are calculated using estimated travel times, and are reported here as weekly averages.



UPPER RUSSIAN RIVER NET REACH GAINS (+) / LOSSES (-)



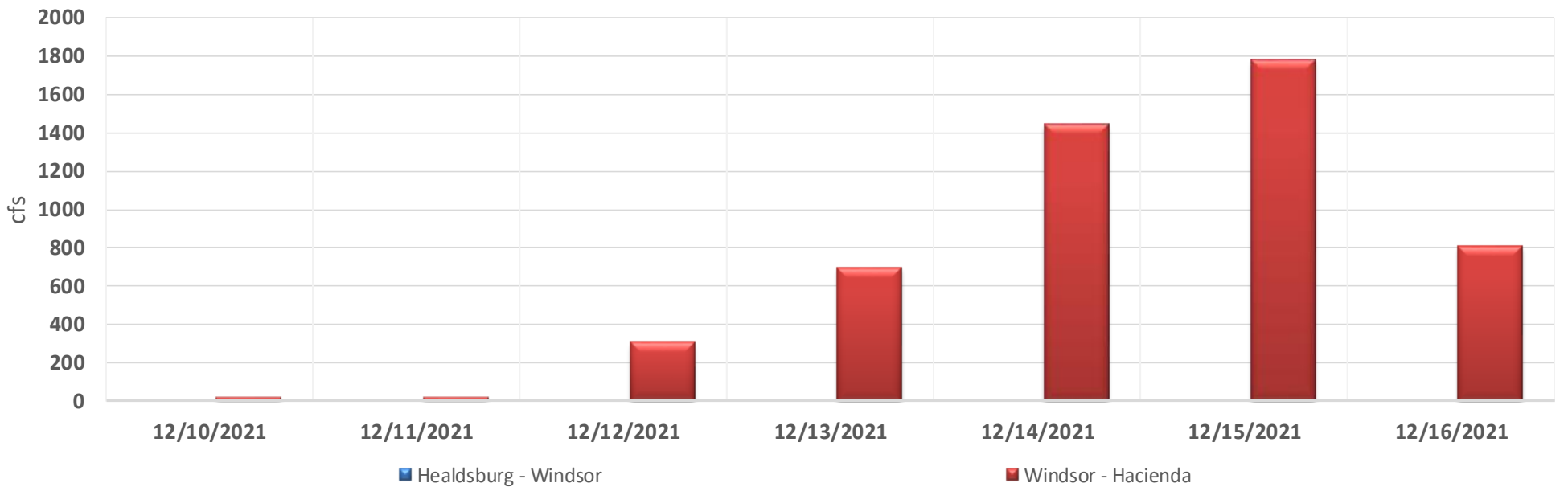
UPPER RUSSIAN RIVER STREAM FLOWS



Lake Mendocino and Lake Sonoma Water Accounting Weekly Report (Term 12, Dec 2021 TUCO)

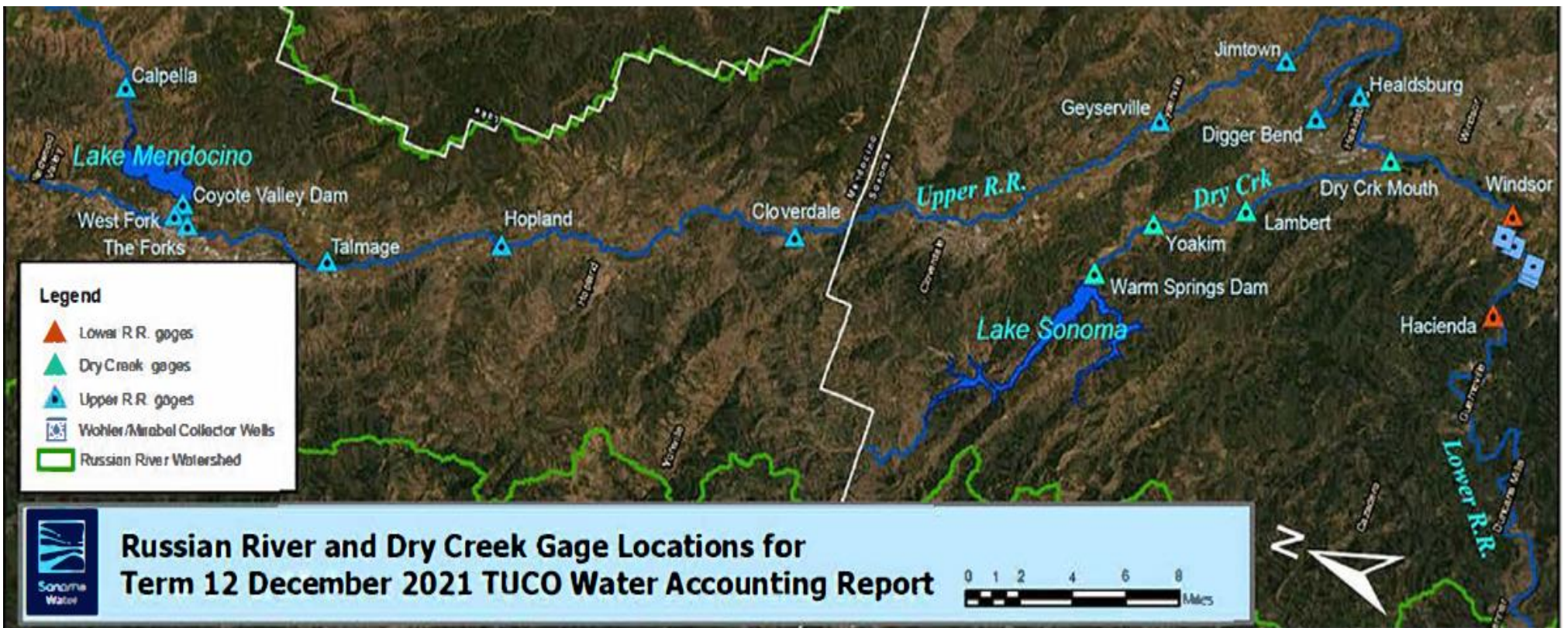
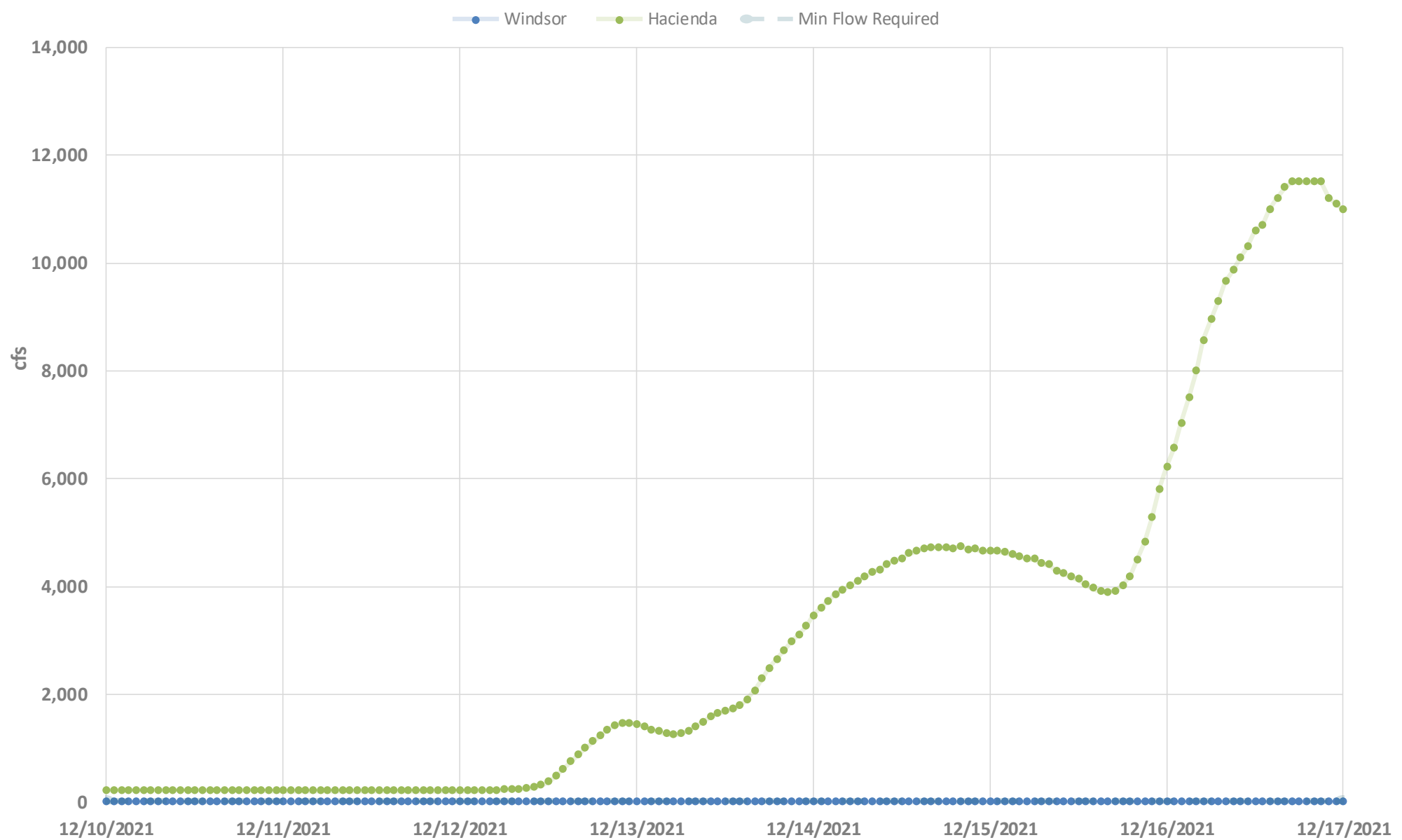
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LOWER RUSSIAN RIVER NET REACH GAINS (+) / LOSSES (-)

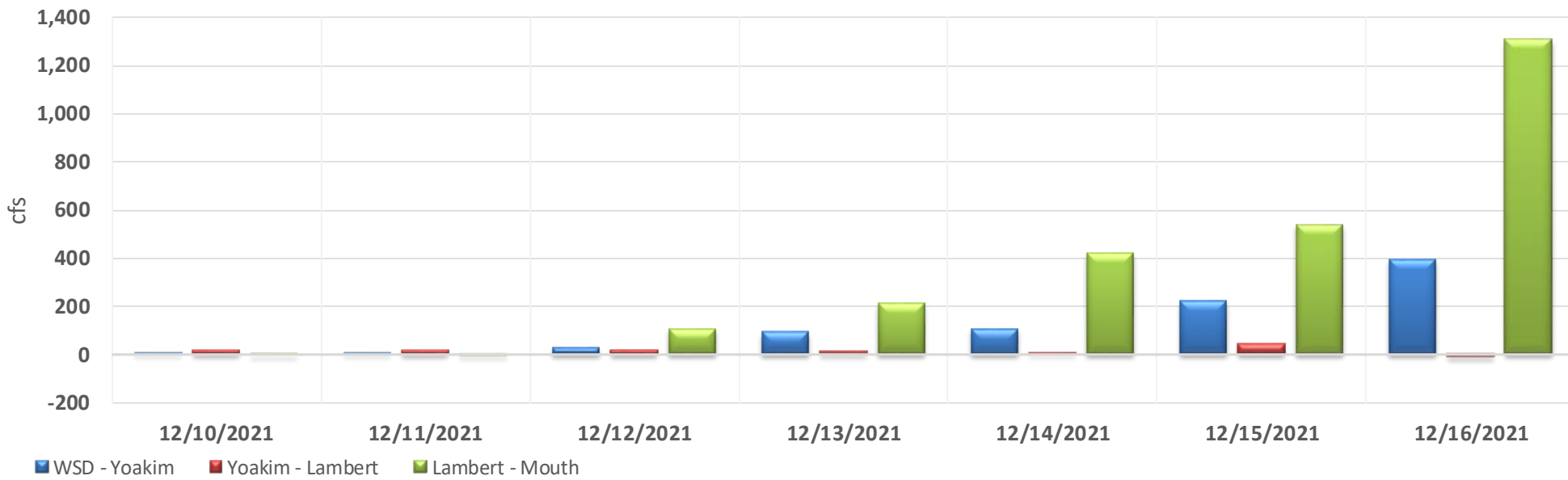


Note: Windsor gage is a seasonal gage and not operational. Reach gains for Windsor – Hacienda reach calculated with Healdsburg gages as upstream gages

LOWER RUSSIAN RIVER STREAM FLOWS



DRY CREEK NET REACH GAINS (+) / LOSSES (-)



DRY CREEK STREAM FLOWS

