

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

Report Date: 1/7/2022

Units are cfs unless noted otherwise

	<u>12/31/2021</u>	<u>1/1/2022</u>	<u>1/2/2022</u>	<u>1/3/2022</u>	<u>1/4/2022</u>	<u>1/5/2022</u>	<u>1/6/2022</u>
I. Upper East Fork Reach							
Potter Valley Project							
Tunnel Diversion	44.0	44.0	44.0	44.0	44.0	45.0	46.0
PVID Requested Delivery	5.0	5.0	5.0	5.0	5.0	5.0	5.0
PVID Canals Actual Delivery	2.0	2.0	2.0	2.0	2.0	2.0	2.0
East Fork Release	42.0	42.0	42.0	42.0	42.0	43.0	44.0
PVID E Fork Diversions	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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)	39.0	39.0	39.0	39.0	39.0	40.0	41.0
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	235.7	184.7	156.6	155.4	242.5	199.7	172.5
Net Reach Loss(-)/Gain(+)	+191.7	+140.7	+112.6	+111.4	+198.5	+154.7	+126.5
Unimpaired Natural Flow @ Calpella (est.)	196.7	145.7	117.6	116.4	203.5	159.7	131.5
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)	461	367	314	329	450	387	337
(cfs)	232	185	158	166	227	195	170
Natural Flow	197	146	119	127	203	160	131
Import	35	39	39	39	23	36	38
Storage Change (ac-ft)	+401.0	+306.0	+251.0	+266.0	+393.0	+325.0	+283.0
(cfs)	+202	+154	+127	+134	+198	+164	+143
Stored Natural Flow (cfs)	197	146	119	127	198	160	131
Stored Import Water (cfs)	5	8	7	7	0	4	11
Evaporation (ac-ft)	2.2	2.8	2.8	2.8	4.7	3.8	3.8
RVCWD Diversion (ac-ft)	0	0	0	0	0	0	0
CVD Release Gage	29	30	30	30	26	30	25
Storage (Project Water)	0	0	0	0	0	0	0
Natural Flow	0	0	0	0	4	0	0
Import Water	29	30	31	31	22	30	26
East Fork Min Instream Flow Requirement	25	25	25	25	25	25	25
Compliance Gage	<i>Rvr mi.</i>						
CVD Release	99.9	29	30	30	26	30	25
CVD Project Water Release to Meet Min Flow Requirement							
Total Pass-through Water	29	30	31	31	26	30	26
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	289	213	167	151	267	210	175
Controlling Gage	Forks	Forks	Forks	Forks	Forks	Forks	Forks

All Compliance Gages

	<i>Rvr mi.</i>						
Forks (CVD + USGS 11461000)	99.0	289	213	167	151	267	175
Talmage (USGS 11462080)	96.1	595	451	363	322	499	371
Hopland (USGS 11462500)	84.8	766	592	485	429	592	472
Cloverdale (USGS 11463000)	70.9	1,456	1,130	917	852	1,137	880
Geyserville (USGS 11463500)	54.4	2,360	1,872	1,503	1,297	2,068	1,470
Jimtown (USGS 11463682)	48.5	1,948	1,566	1,286	1,118	1,585	1,226
Digger Bend (USGS 11463980)	38.2	>400 cfs	>400 cfs	>400 cfs	>400 cfs	>400 cfs	>400 cfs
Healdsburg (USGS 11464000)	35.6	2,479	1,944	1,611	1,450	1,906	1,536

Net Reach Loss(-)/Gain(+)

Forks - Talmage	+293	+230	+192	+177	+234	+211	+192
Talmage - Hopland	+149	+127	+113	+108	+104	+96	+93
Hopland - Cloverdale	+651	+514	+419	+423	+563	+446	+396
Cloverdale - Jimtown	+347	+343	+308	+290	+511	+375	+313
Jimtown - Digger Bend	<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>
Digger Bend - Healdsburg *when Digger Bend > 400 cfs, next u/s gage (Jimtown) used	+473	+336	+296	+324	+379	+331	+292
Upper Russian Net Reach Loss/Gain	+1,913	+1,551	+1,328	+1,322	+1,791	+1,459	+1,285

CVD Project Water Release to Meet Min Flow Requirement

Net Reach Loss(-)/Gain(+) to Controlling Gage	+0	+0	+0	+0	+0	+0	+0
Storage (Project Water)	0	0	0	0	0	0	0
Pass-through Water (Nat. + Imp.) + Natural	0	0	0	0	0	0	0
Total Pass-through Water	29	30	31	31	26	30	26
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).

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IV. Lake Sonoma							
Lake Sonoma							
Storage Change (ac-ft)	+652.0	+448.0	+337.0	+881.0	+979.0	+681.0	+550.0
(cfs)	+329	+226	+170	+444	+494	+343	+277
Evaporation (ac-ft)	4.3	3.7	3.7	3.7	3.7	3.7	2.5
Inflow (Natural Flow)	408	305	249	523	572	422	356
WSD Release Gage	77	77	77	77	77	77	77
Storage (Project Water)	0	0	0	0	0	0	0
Natural Flow	77	77	77	77	77	77	77

V. Lower Dry Creek Reach

Minimum Instream Flow Requirement		75	75	75	75	75	75	75
Controlling Compliance Gage								
Min Gage Flow		77	77	77	77	77	77	77
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	77	77	77	77	77	77	77
Yoakim (USGS 11465200)	11.1	167	151	139	161	198	166	153
Lambert (USGS 11465240)	6.8	203	187	175	183	227	198	188
Dry Crk Mouth (USGS 11465350)	0.1	699	562	464	454	587	522	449
WSD to Russian River Confluence Reach Analysis								
Total Pass-through Water		77	77	77	77	77	77	77
Net Reach Loss(-)/Gain(+)								
WSD - Yoakim		+91	+75	+62	+81	+123	+89	+77
Yoakim - Lambert		+35	+34	+35	+33	+20	+31	+33
Lambert - Dry Crk Mouth		+497	+375	+290	+280	+355	+324	+261
WSD - Dry Crk Mouth		+623	+484	+387	+394	+499	+444	+371
WSD Project Water Release to Meet Min Flow Requirement								
Net Reach Loss/Gain to Controlling Gage		+91	+75	+62	+81	+123	+89	+77
Project Water Release Required		No	No	No	No	No	No	No

VI. Russian River - Dry Creek Confluence

Upper Russian River Flow (Healdsburg Gage)								
L. Mendocino Project Water + Import Water		29	30	31	31	22	30	26
Natural Flow		1,913	1,551	1,328	1,322	1,795	1,459	1,285
Dry Creek Flow (Mouth Gage)								
L. Sonoma Project Water		0	0	0	0	0	0	0
Natural Flow		699	562	464	454	587	522	449
Russian River d/s of Confluence Flow								
L. Mendocino Project Water + Import Water		29	30	31	31	22	30	26
L. Sonoma Project Water		0	0	0	0	0	0	0
Natural Flow		2,612	2,113	1,792	1,776	2,382	1,981	1,734

VII. Lower Russian River Reach

Minimum Instream Flow Requirement								
Controlling Compliance Gage								
Min Gage Flow		4,290	3,380	2,790	2,470	3,050	3,020	2,620
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	4,290	3,380	2,790	2,470	3,050	3,020	2,620
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		4,336	3,426	2,838	2,532	3,096	3,066	2,666
Net Reach Loss(-)/Gain(+)		+1,158	+920	+763	+628	+603	+766	+681
L. Mendocino Project Water + Import Water		29	30	31	31	22	30	26
L. Sonoma Project Water		0	0	0	0	0	0	0
Natural Flow		3,770	3,033	2,554	2,404	2,984	2,747	2,415
Confluence to Hacienda (Guerneville) Reach Analysis								
Net Reach Loss(-)/Gain(+)		+1,112	+874	+715	+566	+557	+721	+635
L. Mendocino Project Water + Import Water		29	30	31	31	22	30	26
L. Sonoma Project Water		0	0	0	0	0	0	0
Natural Flow		3,724	2,987	2,506	2,342	2,939	2,701	2,370

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

Lower Russian River								
Sonoma Water Total		91.5	91.3	95.3	122.7	90.9	91.0	90.9
Wohler		45.5	45.6	42.3	43.3	49.0	46.9	46.6
Mirabel		46.1	45.7	53.0	79.5	41.9	44.1	44.2
Town of Windsor River Wellfield		6.1	5.0	5.3	4.8	4.1	4.2	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

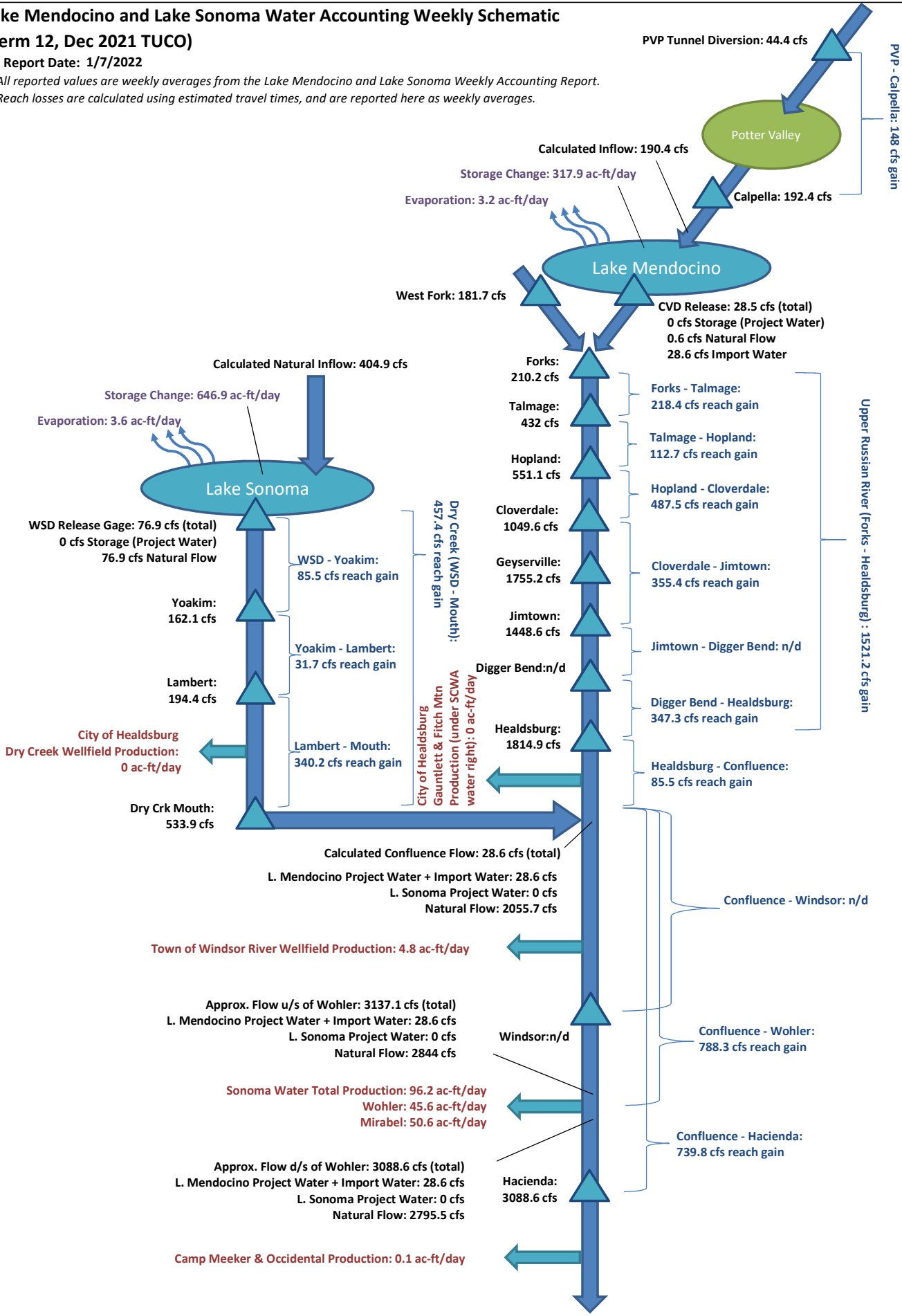
Notes:
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Lake Mendocino and Lake Sonoma Water Accounting Weekly Schematic

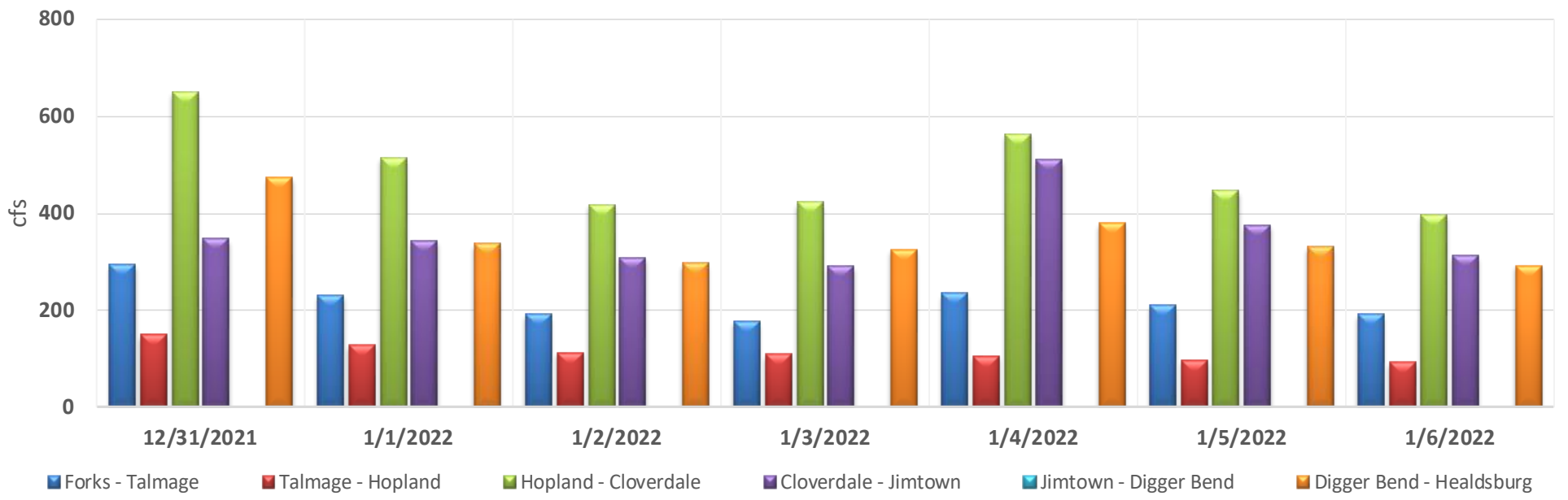
(Term 12, Dec 2021 TUCO)

Report Date: 1/7/2022

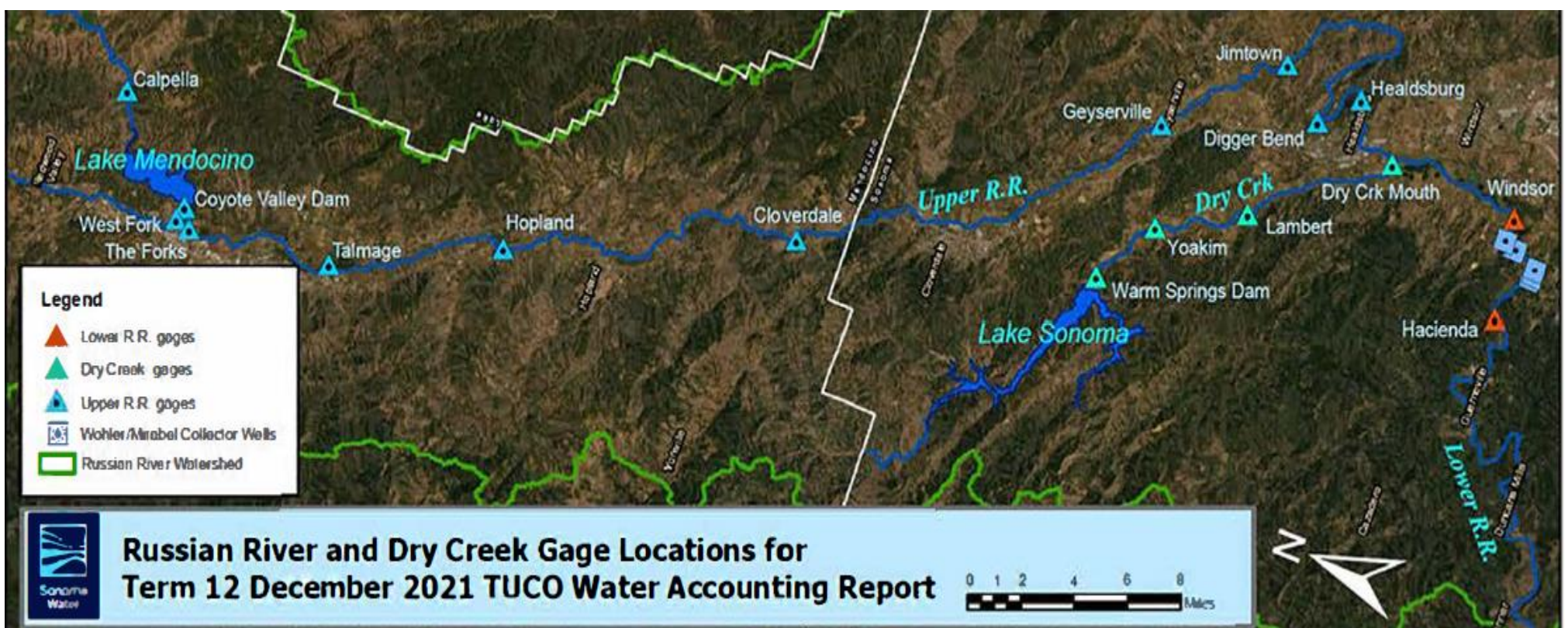
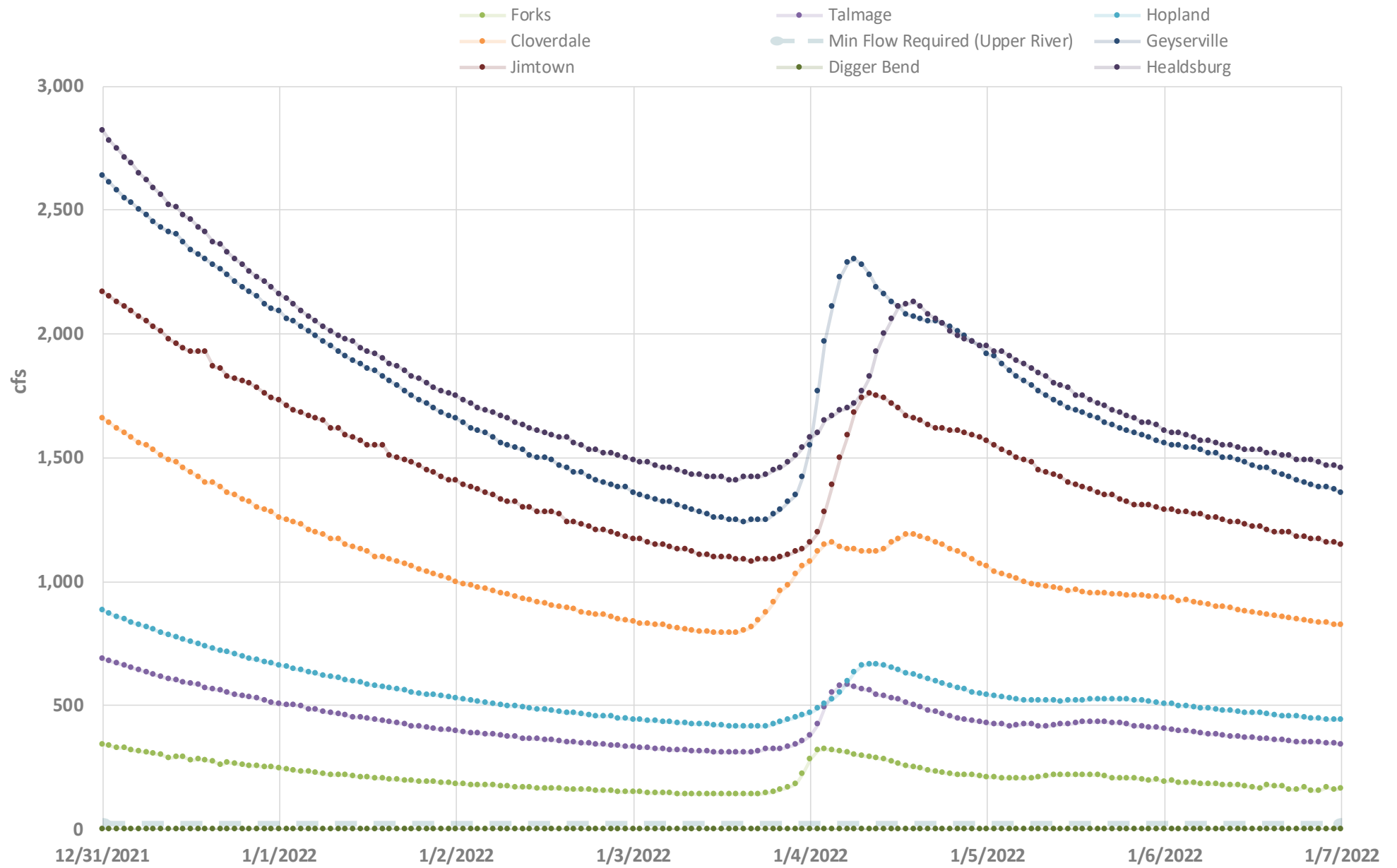
All reported values are weekly averages from the Lake Mendocino and Lake Sonoma Weekly Accounting Report.
Reach losses are calculated using estimated travel times, and are reported here as weekly averages.



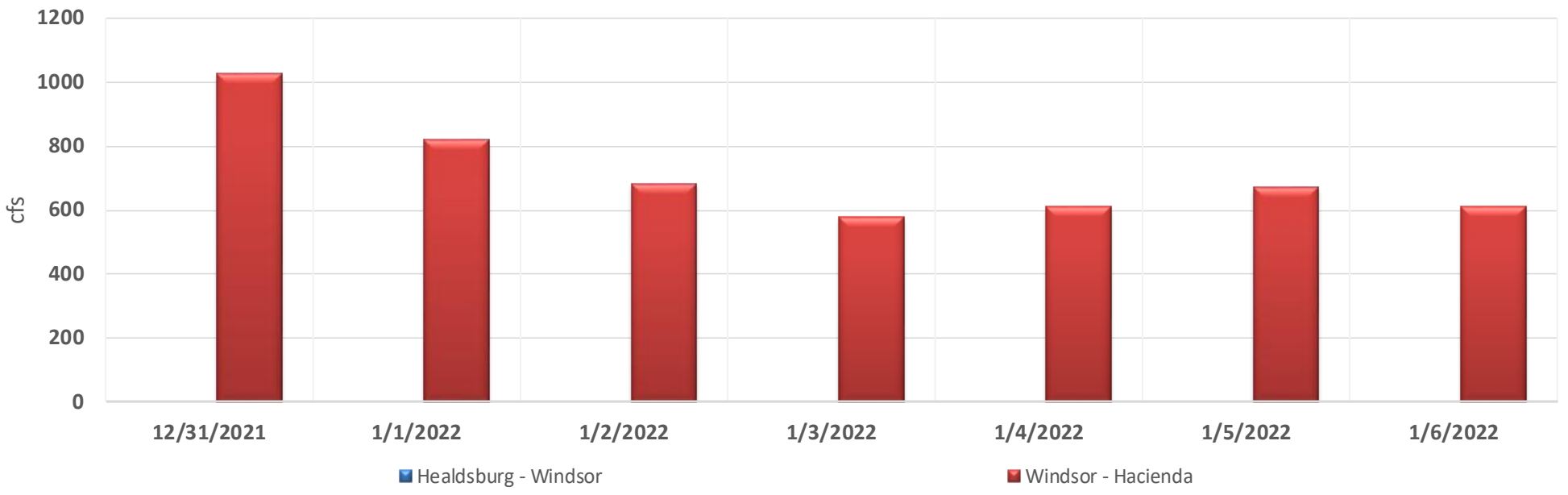
UPPER RUSSIAN RIVER NET REACH GAINS (+) / LOSSES (-)



UPPER RUSSIAN RIVER STREAM FLOWS

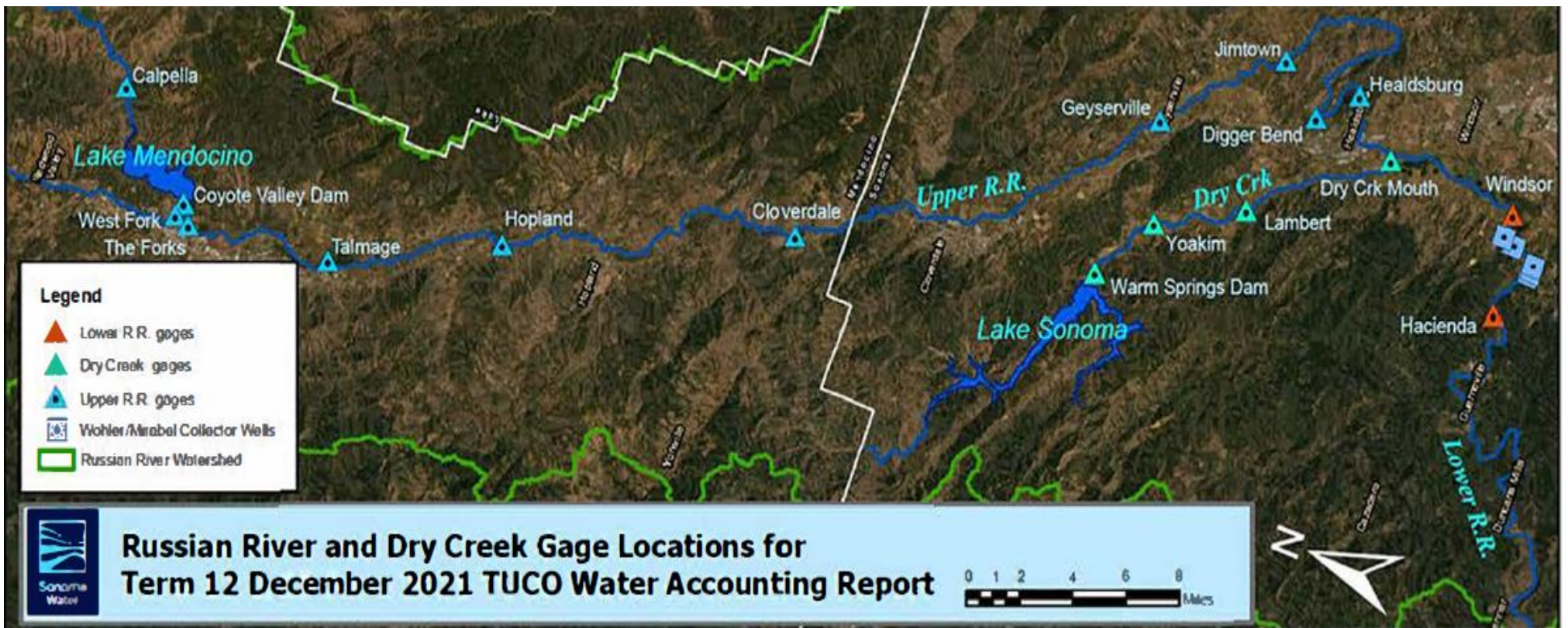
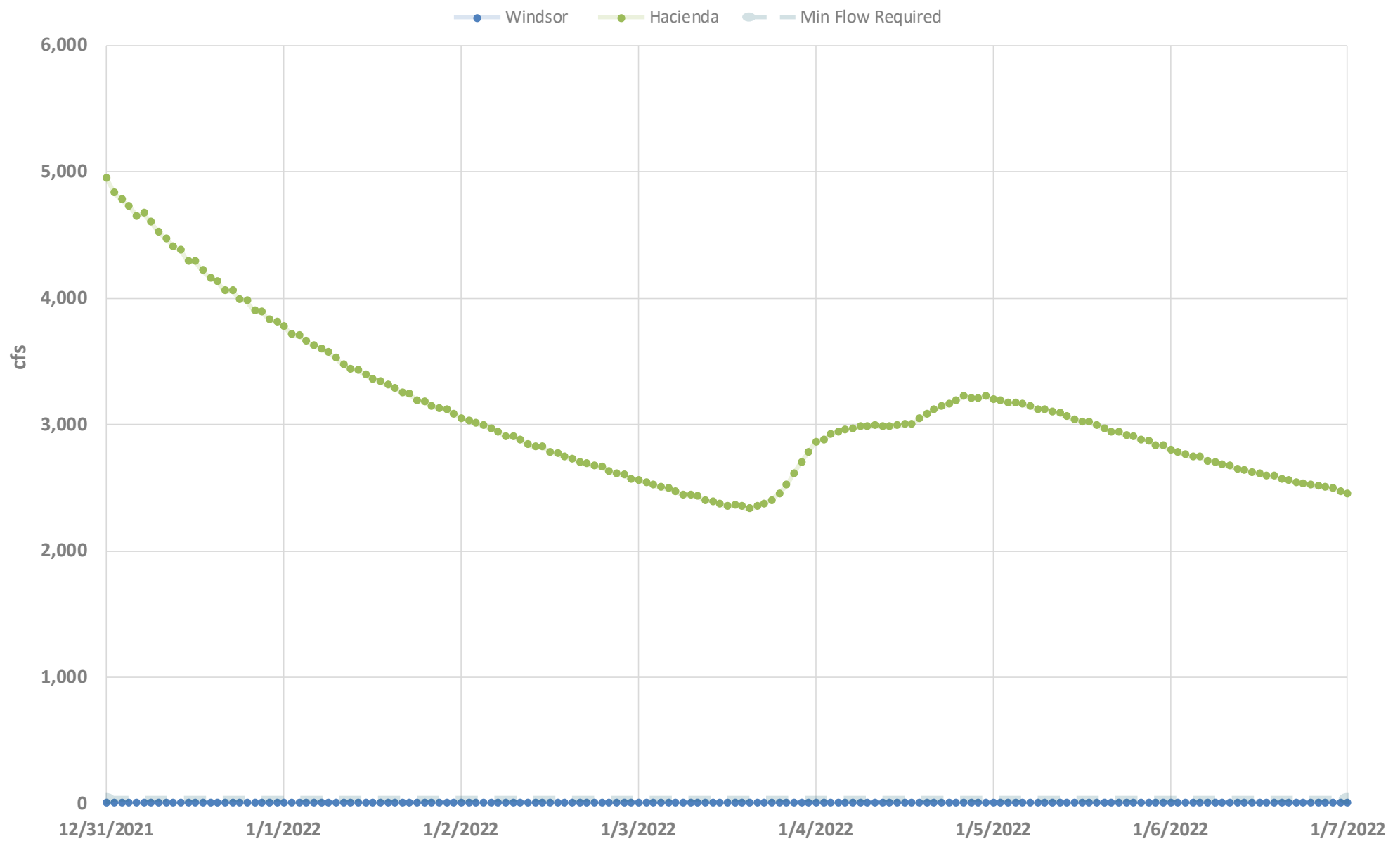


LOWER RUSSIAN RIVER NET REACH GAINS (+) / LOSSES (-)

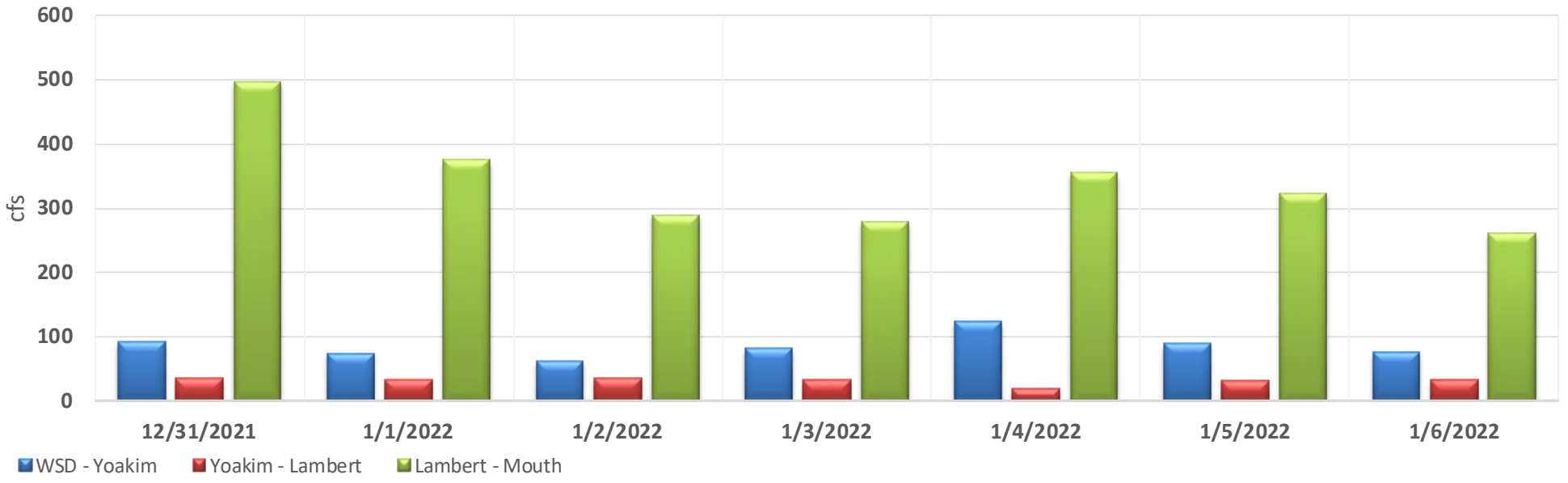


Note: Windsor gage is a seasonal gage and not operational. Reach gains for Windsor – Hacienda reach calculated with Healdsburg gages as upstream gages

LOWER RUSSIAN RIVER STREAM FLOWS



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



DRY CREEK STREAM FLOWS

