

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

Report Date: 1/14/2022

Units are cfs unless noted otherwise

	<u>1/7/2022</u>	<u>1/8/2022</u>	<u>1/9/2022</u>	<u>1/10/2022</u>	<u>1/11/2022</u>	<u>1/12/2022</u>	<u>1/13/2022</u>
I. Upper East Fork Reach							
Potter Valley Project							
Tunnel Diversion	46.0	46.0	46.0	46.0	46.0	46.0	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	44.0	44.0	44.0	44.0	44.0	44.0	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)	41.0	41.0	41.0	41.0	41.0	41.0	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	242.4	200.3	160.9	140.4	128.0	119.7	111.8
Net Reach Loss(-)/Gain(+)	+196.4	+154.3	+114.9	+94.4	+82.0	+73.7	+65.8
Unimpaired Natural Flow @ Calpella (est.)	201.4	159.3	119.9	99.4	87.0	78.7	70.8
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)	484	391	314	256	239	248	207
(cfs)	244	197	159	129	121	125	105
Natural Flow	203	159	120	99	87	84	71
Import	41	38	39	30	34	41	34
Storage Change (ac-ft)	+426.0	+328.0	+257.0	+186.0	+129.0	+86.0	+29.0
(cfs)	+215	+165	+130	+94	+65	+43	+15
Stored Natural Flow (cfs)	203	159	120	94	65	43	15
Stored Import Water (cfs)	12	6	10	0	0	0	0
Evaporation (ac-ft)	2.8	3.8	4.8	3.8	3.8	5.7	5.7
RVCWD Diversion (ac-ft)	0	0	0	0	0	0	0
CVD Release Gage	28	30	27	33	54	79	87
Storage (Project Water)	0	0	0	0	0	0	0
Natural Flow	0	0	0	5	21	39	55
Import Water	29	31	28	29	33	40	32
East Fork Min Instream Flow Requirement	25	25	25	25	25	25	25
Compliance Gage	<i>Rvr mi.</i>						
CVD Release	99.9	28	30	27	33	54	79
CVD Project Water Release to Meet Min Flow Requirement							
Total Pass-through Water	29	31	28	33	54	79	87
Project Water Release Required	No	No	No	No	No	No	No
III. Upper Russian River Reach							
Minimum Instream Flow Requirement	150	150	150	150	150	150	150
Controlling Compliance Gage							
Min Gage Flow	240	214	164	144	144	155	152
Controlling Gage	Forks	Forks	Forks	Forks	Forks	Forks	Forks
All Compliance Gages	<i>Rvr mi.</i>						
Forks (CVD + USGS 11461000)	99.0	240	214	164	144	144	155
Talmage (USGS 11462080)	96.1	423	418	341	304	293	277
Hopland (USGS 11462500)	84.8	483	505	422	373	353	329
Cloverdale (USGS 11463000)	70.9	812	869	741	658	611	558
Geyserville (USGS 11463500)	54.4	1,308	1,334	1,148	996	893	768
Jimtown (USGS 11463682)	48.5	1,108	1,109	997	878	796	705
Digger Bend (USGS 11463980)	38.2	>400 cfs	>400 cfs	>400 cfs	>400 cfs	>400 cfs	>400 cfs
Healdsburg (USGS 11464000)	35.6	1,424	1,392	1,298	1,172	1,069	934
Net Reach Loss(-)/Gain(+)							
Forks - Talmage	+197	+194	+172	+159	+150	+134	+124
Talmage - Hopland	+87	+63	+71	+66	+58	+53	+50
Hopland - Cloverdale	+358	+338	+306	+278	+255	+240	+225
Cloverdale - Jimtown	+285	+241	+210	+188	+168	+150	+137
Jimtown - Digger Bend	n/d	n/d	n/d	n/d	n/d	n/d	n/d
Digger Bend - Healdsburg *when Digger Bend >400 cfs, next u/s gage (Jimtown) used	+307	+282	+283	+281	+265	+246	+224
Upper Russian Net Reach Loss/Gain	+1,235	+1,118	+1,043	+973	+897	+823	+760
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	31	28	33	54	79	87
Project Water Release Required	No	No	No	Yes	Yes	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)	+532.0	+381.0	+286.0	+248.0	+210.0	+134.0	+191.0
(cfs)	+268	+192	+144	+125	+106	+68	+96
Evaporation (ac-ft)	2.5	3.8	3.8	5.0	5.0	5.1	5.1
Inflow (Natural Flow)	346	271	223	204	184	146	176
WSD Release Gage	77	77	77	77	76	76	77
Storage (Project Water)	0	0	0	0	0	0	0
Natural Flow	77	77	77	77	76	76	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	76	76	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	76	76	77
Yoakim (USGS 11465200)	11.1	147	136	127	120	114	111	107
Lambert (USGS 11465240)	6.8	181	173	164	158	152	148	145
Dry Crk Mouth (USGS 11465350)	0.1	410	387	347	300	265	241	222
WSD to Russian River Confluence Reach Analysis								
Total Pass-through Water		77	77	77	77	76	76	77
Net Reach Loss(-)/Gain(+)								
WSD - Yoakim		+70	+59	+51	+44	+38	+36	+30
Yoakim - Lambert		+34	+36	+36	+36	+38	+36	+38
Lambert - Dry Crk Mouth		+228	+213	+183	+143	+113	+93	+77
WSD - Dry Crk Mouth		+332	+308	+269	+223	+188	+165	+145
WSD Project Water Release to Meet Min Flow Requirement								
Net Reach Loss/Gain to Controlling Gage		+70	+59	+51	+44	+38	+36	+30
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	31	28	29	33	40	32
Natural Flow	1,235	1,118	1,043	977	918	862	814

Dry Creek Flow (Mouth Gage)

L. Sonoma Project Water	0	0	0	0	0	0	0
Natural Flow	410	387	347	300	265	241	222

Russian River d/s of Confluence Flow

L. Mendocino Project Water + Import Water	29	31	28	29	33	40	32
L. Sonoma Project Water	0	0	0	0	0	0	0
Natural Flow	1,645	1,505	1,390	1,277	1,183	1,103	1,036

VII. Lower Russian River Reach

Minimum Instream Flow Requirement

Controlling Compliance Gage								
Min Gage Flow		2,360	2,220	2,040	1,790	1,590	1,440	1,330
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	2,360	2,220	2,040	1,790	1,590	1,440	1,330

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	2,406	2,264	2,089	1,837	1,637	1,487	1,377
Net Reach Loss(-)/Gain(+)	+572	+486	+444	+365	+303	+250	+221
L. Mendocino Project Water + Import Water	29	31	28	29	33	40	32
L. Sonoma Project Water	0	0	0	0	0	0	0
Natural Flow	2,217	1,990	1,834	1,642	1,486	1,353	1,258

Confluence to Hacienda (Guerneville) Reach Analysis

Net Reach Loss(-)/Gain(+)	+526	+441	+395	+318	+256	+203	+174
L. Mendocino Project Water + Import Water	29	31	28	29	33	40	32
L. Sonoma Project Water	0	0	0	0	0	0	0
Natural Flow	2,171	1,946	1,786	1,595	1,439	1,306	1,211

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

Lower Russian River

Sonoma Water Total	91.1	87.8	96.6	92.6	92.6	92.7	93.6
Wohler	45.5	50.2	45.9	46.4	46.3	45.8	46.4
Mirabel	45.6	37.6	50.7	46.2	46.3	46.9	47.1
Town of Windsor River Wellfield	4.1	3.8	3.9	4.8	4.5	4.4	4.5
Camp Meeker & Occidental	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>

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

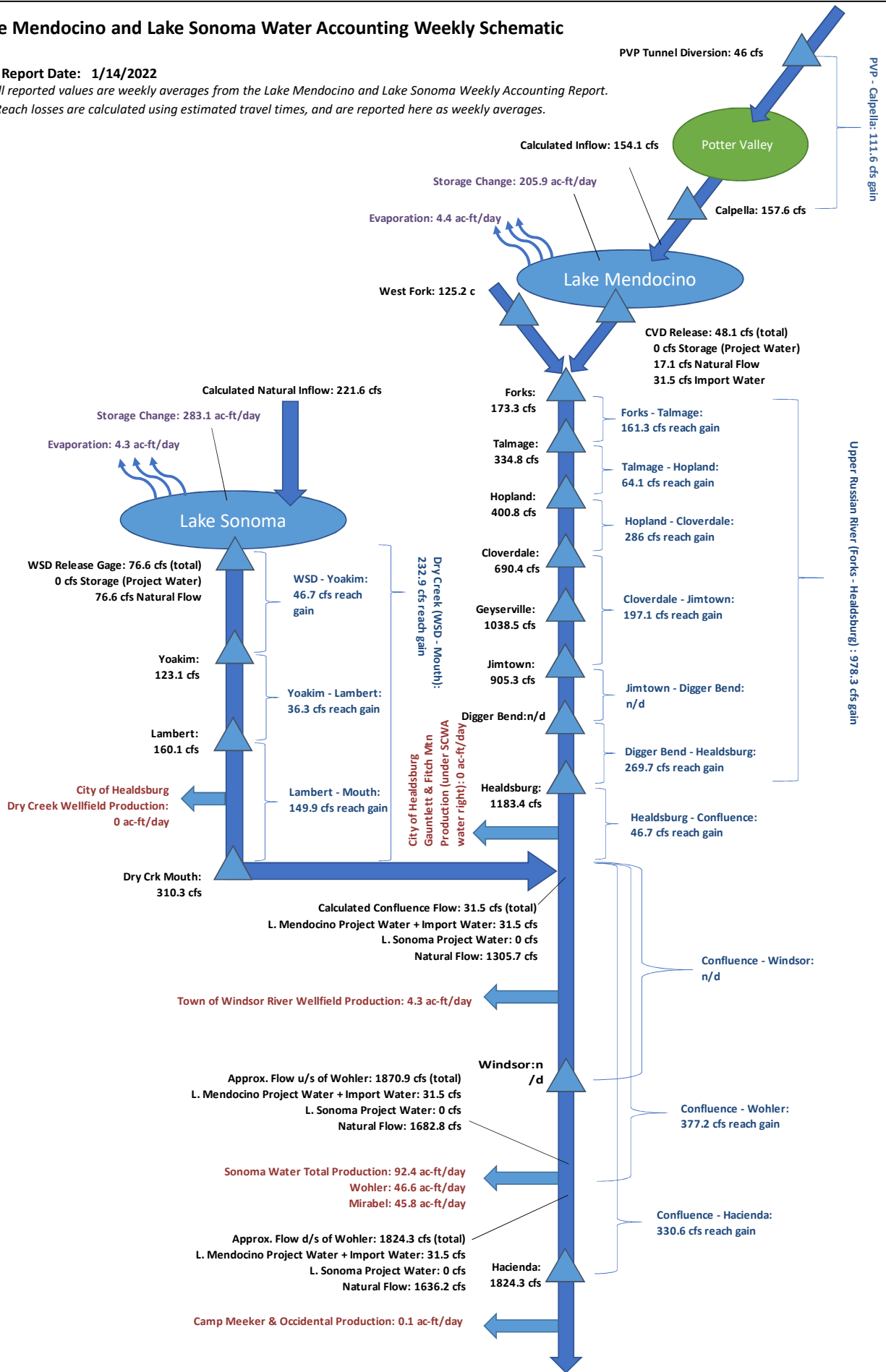
Notes:

- 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).

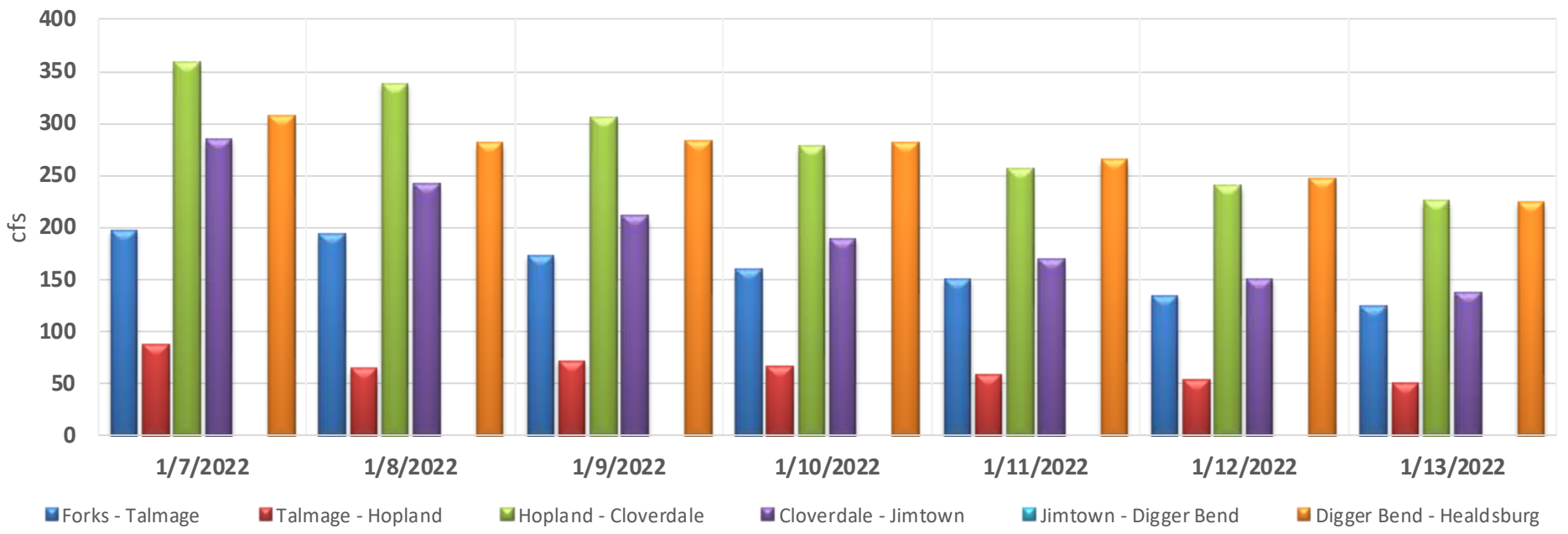
Lake Mendocino and Lake Sonoma Water Accounting Weekly Schematic

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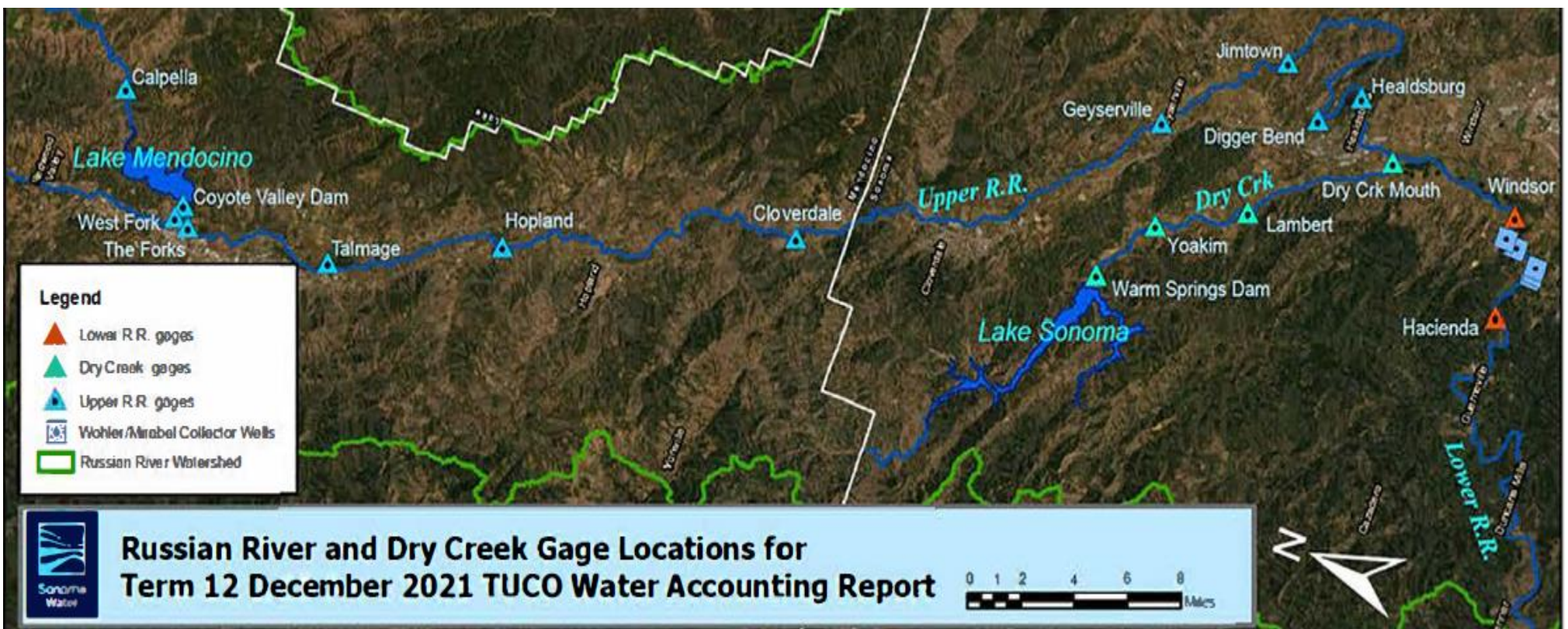
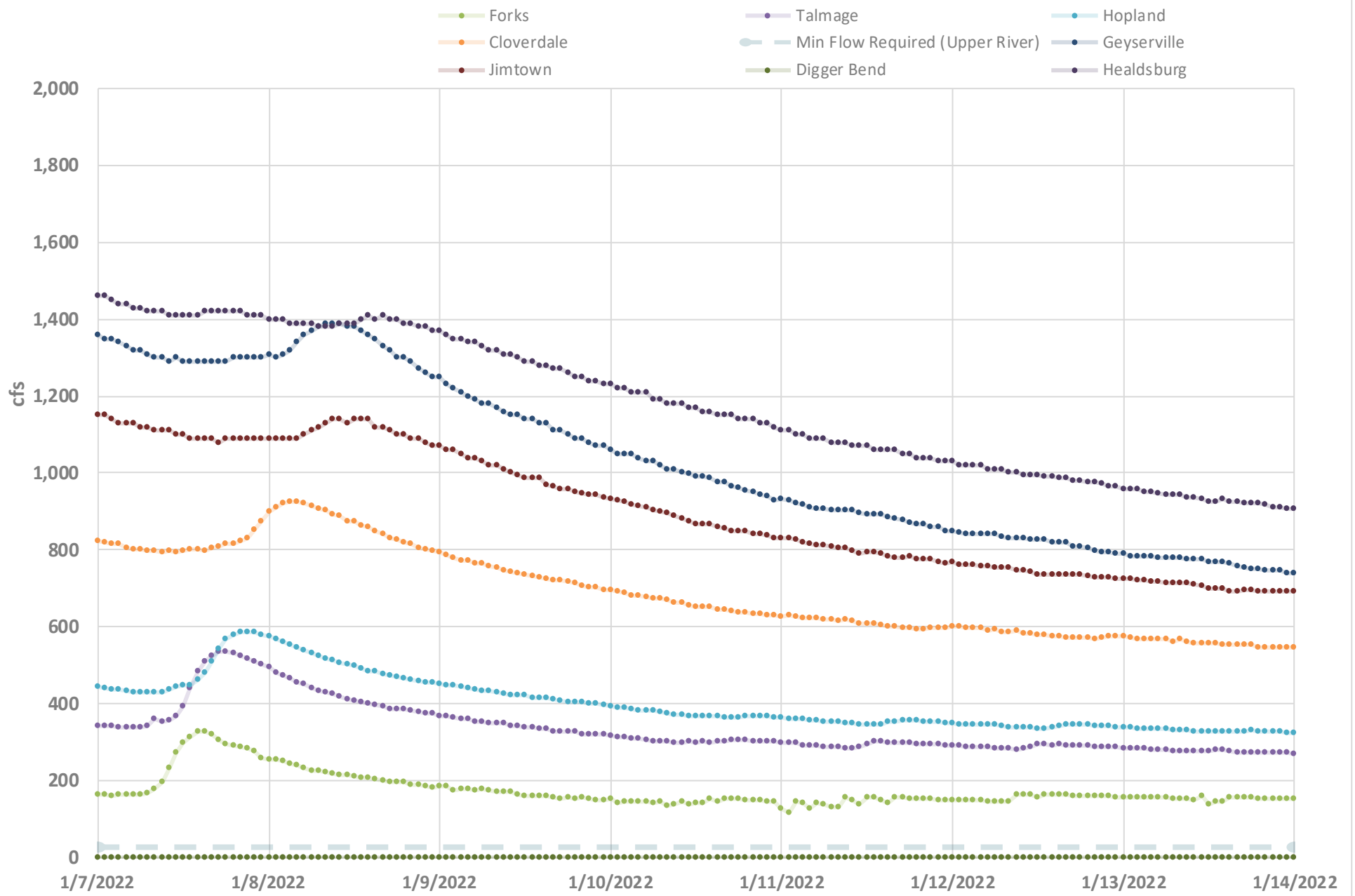
All reported values are weekly averages from the Lake Mendocino and Lake Sonoma Weekly Accounting Report.
Reach losses are calculated using estimated travel times, and are reported here as weekly averages.



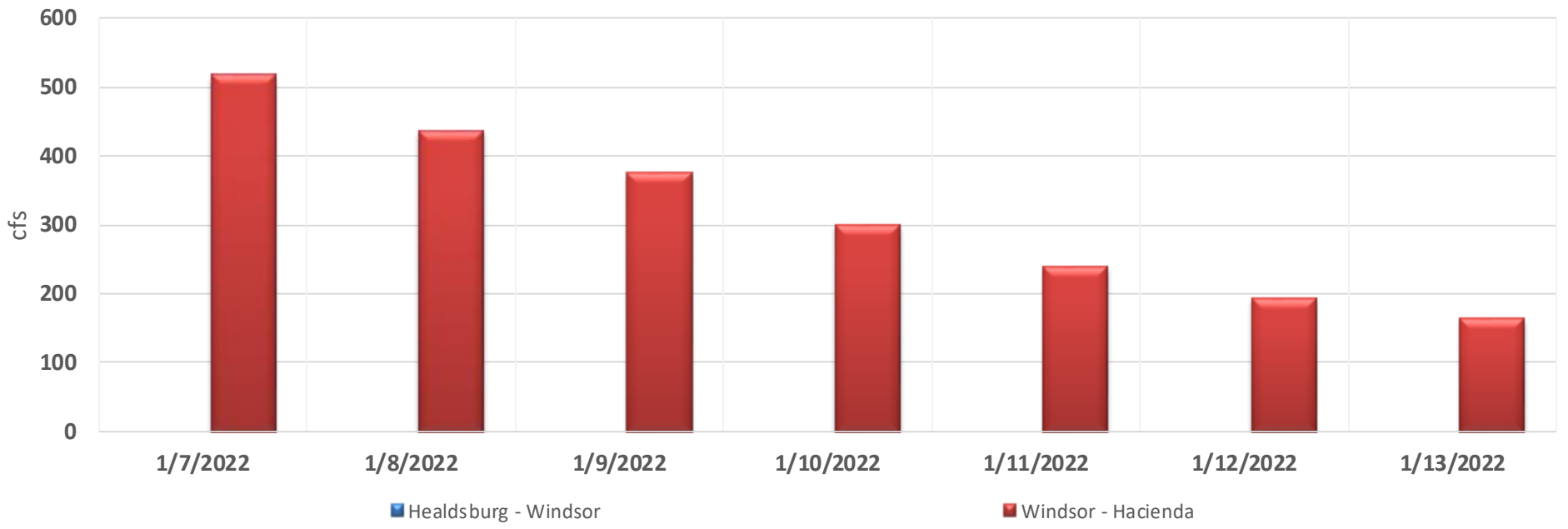
UPPER RUSSIAN RIVER NET REACH GAINS (+) / LOSSES (-)



UPPER RUSSIAN RIVER STREAM FLOWS

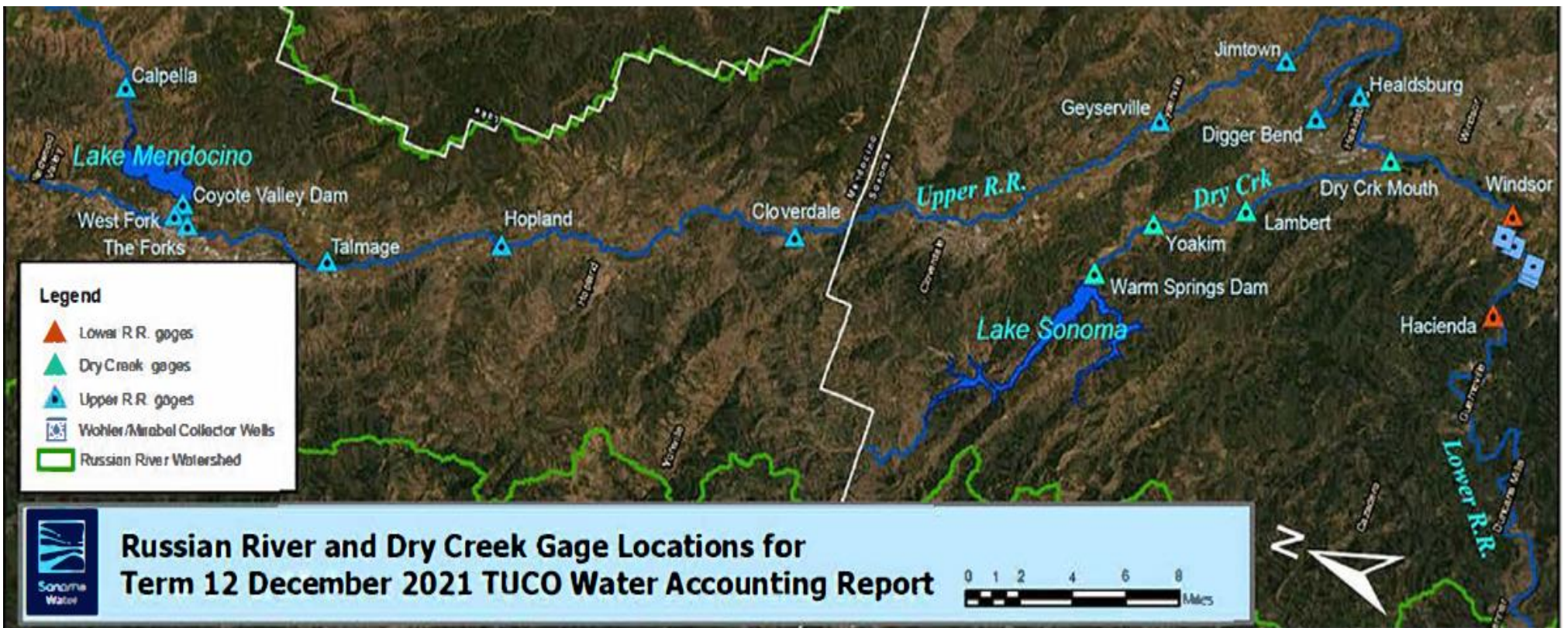
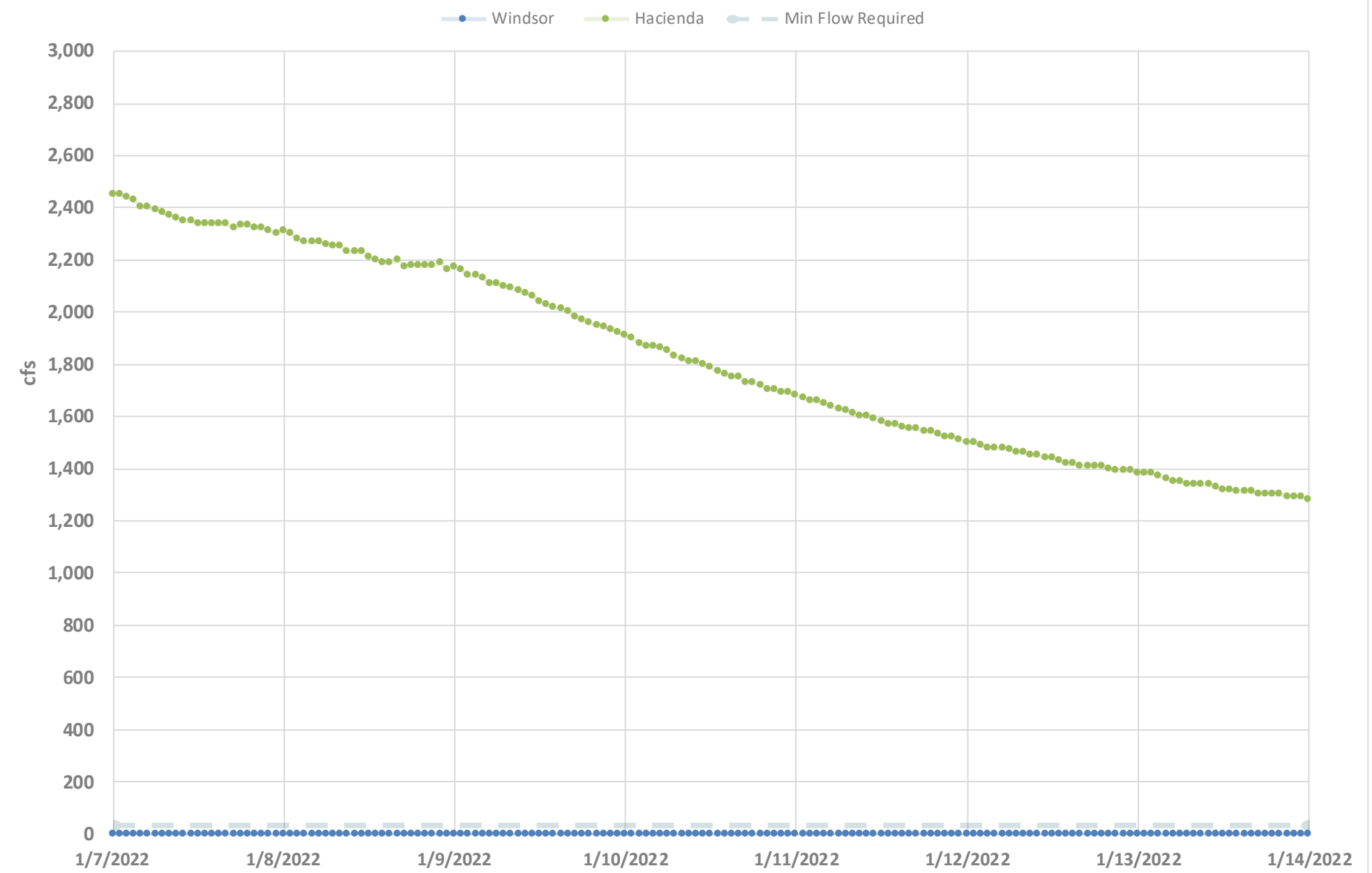


LOWER RUSSIAN RIVER NET REACH GAINS (+) / LOSSES (-)

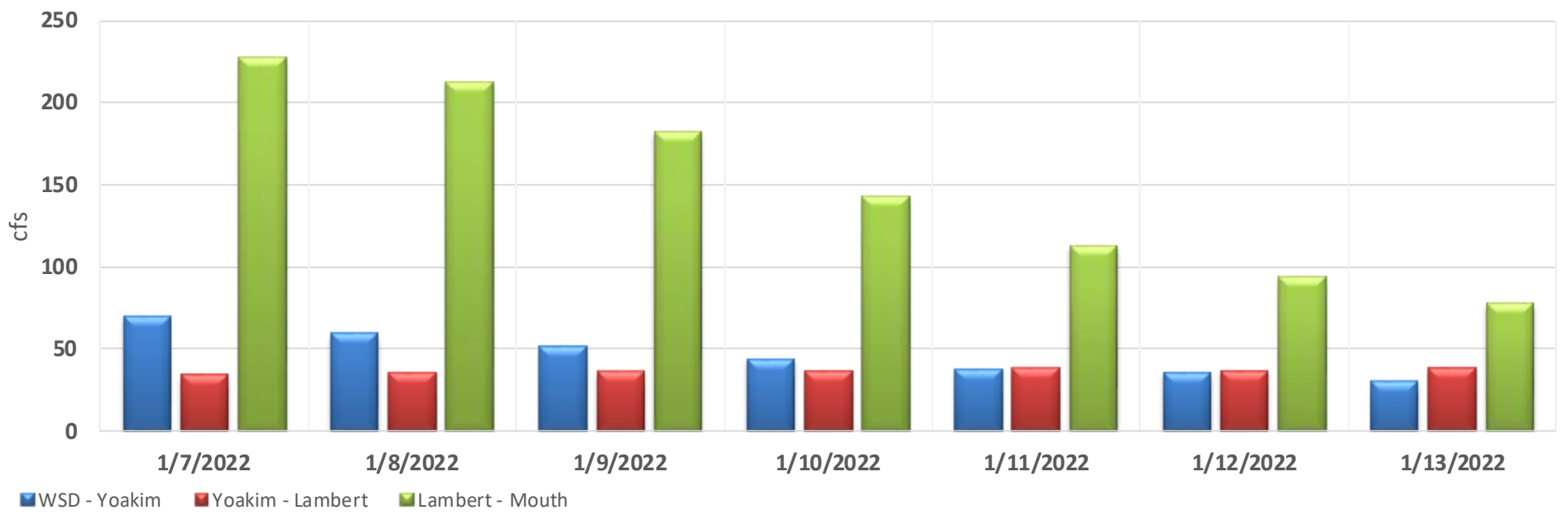


Note: Windsor gage is a seasonal gage and not operational. Reach gains for Windsor – Hacienda reach calculated with Healdsburg gages as upstream gages

LOWER RUSSIAN RIVER STREAM FLOWS



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



DRY CREEK STREAM FLOWS

