

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

Report Date: 1/21/2022

Units are cfs unless noted otherwise

	<u>1/14/2022</u>	<u>1/15/2022</u>	<u>1/16/2022</u>	<u>1/17/2022</u>	<u>1/18/2022</u>	<u>1/19/2022</u>	<u>1/20/2022</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	104.6	99.4	95.4	92.4	89.1	86.0	83.4
Net Reach Loss(-)/Gain(+)	+58.6	+53.4	+49.4	+46.4	+43.1	+40.0	+37.4
Unimpaired Natural Flow @ Calpella (est.)	63.6	58.4	54.4	51.4	48.1	45.0	42.4
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)	229	202	192	190	156	163	149
(cfs)	115	102	97	96	79	82	75
Natural Flow	74	61	56	55	48	45	42
Import	41	41	41	41	31	37	33
Storage Change (ac-ft)	+43.0	+0.0	-28.0	-44.0	-71.0	-72.0	-100.0
(cfs)	+22	+0	-14	-22	-36	-36	-50
Stored Natural Flow (cfs)	22	0	0	0	0	0	0
Stored Import Water (cfs)	0	0	0	0	0	0	0
Evaporation (ac-ft)	4.8	5.7	3.8	5.7	4.8	4.8	4.8
RVCWD Diversion (ac-ft)	0	0	0	0	0	0	0
CVD Release Gage	91	99	109	115	112	116	123
Storage (Project Water)	0	0	12	19	33	34	48
Natural Flow	52	59	56	55	48	45	42
Import Water	40	40	41	41	31	37	33
East Fork Min Instream Flow Requirement	25	25	25	25	25	25	25
Compliance Gage	<i>Rvr mi.</i>						
CVD Release	99.9	91	99	109	115	112	116
CVD Project Water Release to Meet Min Flow Requirement							
Total Pass-through Water	91	99	97	96	79	82	75
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	152	150	153	154	148	148	151
Controlling Gage	Forks	Forks	Forks	Forks	Forks	Forks	Forks

All Compliance Gages

	<i>Rvr mi.</i>						
Forks (CVD + USGS 11461000)	99.0	152	150	153	154	148	151
Talmage (USGS 11462080)	96.1	263	256	254	252	245	238
Hopland (USGS 11462500)	84.8	313	303	298	295	287	271
Cloverdale (USGS 11463000)	70.9	531	509	492	484	471	444
Geyserville (USGS 11463500)	54.4	664	613	577	550	528	480
Jimtown (USGS 11463682)	48.5	670	634	603	579	556	512
Digger Bend (USGS 11463980)	38.2	>400 cfs	>400 cfs	>400 cfs	>400 cfs	>400 cfs	>400 cfs
Healdsburg (USGS 11464000)	35.6	846	787	735	694	662	595

Net Reach Loss(-)/Gain(+)

Forks - Talmage	+110	+107	+102	+97	+96	+91	+85
Talmage - Hopland	+48	+46	+44	+42	+41	+38	+37
Hopland - Cloverdale	+215	+204	+194	+186	+182	+177	+172
Cloverdale - Jimtown	+127	+116	+104	+92	+79	+70	+62
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	+170	+147	+127	+112	+102	+91	+79
Upper Russian Net Reach Loss/Gain	+669	+620	+571	+529	+500	+467	+436

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	91	99	97	96	79	82	75
Project Water Release Required	No	Yes	No	No	Yes	Yes	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).

1/14/2022 1/15/2022 1/16/2022 1/17/2022 1/18/2022 1/19/2022 1/20/2022

IV. Lake Sonoma

Lake Sonoma

Storage Change (ac-ft)	+77.0	+115.0	+57.0	+77.0	+19.0	+20.0	+19.0
(cfs)	+39	+58	+29	+39	+10	+10	+10
Evaporation (ac-ft)	6.3	5.1	5.1	5.1	3.8	5.1	5.1
Inflow (Natural Flow)	119	137	107	113	86	92	88
WSD Release Gage	77	76	76	71	75	79	76
Storage (Project Water)	0	0	0	0	0	0	0
Natural Flow	77	76	76	71	75	79	76

V. Lower Dry Creek Reach

Minimum Instream Flow Requirement

Controlling Compliance Gage

Min Gage Flow	77	76	76	71	75	79	76
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	76	76	71	75	79
Yoakim (USGS 11465200)	11.1	102	99	94	92	89	81
Lambert (USGS 11465240)	6.8	142	138	135	130	130	127
Dry Crk Mouth (USGS 11465350)	0.1	207	192	179	168	159	147

WSD to Russian River Confluence Reach Analysis

Total Pass-through Water	77	76	76	71	75	79	76
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Net Reach Loss(-)/Gain(+)

WSD - Yoakim	+25	+23	+18	+20	+14	+9	+5
Yoakim - Lambert	+39	+38	+42	+39	+40	+43	+45
Lambert - Dry Crk Mouth	+65	+53	+44	+37	+30	+25	+19
WSD - Dry Crk Mouth	+129	+114	+103	+95	+84	+77	+69

WSD Project Water Release to Meet Min Flow Requirement

Net Reach Loss/Gain to Controlling Gage	+25	+23	+18	+20	+14	+9	+5
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	40	40	53	60	64	71	81
Natural Flow	721	679	627	583	548	512	478

Dry Creek Flow (Mouth Gage)

L. Sonoma Project Water	0	0	0	0	0	0	0
Natural Flow	207	192	179	168	159	156	147

Russian River d/s of Confluence Flow

L. Mendocino Project Water + Import Water	40	40	53	60	64	71	81
L. Sonoma Project Water	0	0	0	0	0	0	0
Natural Flow	928	871	806	751	707	668	625

VII. Lower Russian River Reach

Minimum Instream Flow Requirement

Controlling Compliance Gage

Min Gage Flow	1,240	1,160	1,080	1,020	970	926	885
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>
Hacienda (USGS 11467000)	21.8	1,240	1,160	1,080	1,020	970	885

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	1,272	1,190	1,127	1,066	1,011	966	925
Net Reach Loss(-)/Gain(+)	+219	+211	+213	+205	+190	+181	+184
L. Mendocino Project Water + Import Water	40	40	53	60	64	71	81
L. Sonoma Project Water	0	0	0	0	0	0	0
Natural Flow	1,147	1,082	1,019	956	897	849	808

Confluence to Hacienda (Guerneville) Reach Analysis

Net Reach Loss(-)/Gain(+)	+187	+181	+166	+158	+149	+141	+143
L. Mendocino Project Water + Import Water	40	40	53	60	64	71	81
L. Sonoma Project Water	0	0	0	0	0	0	0
Natural Flow	1,115	1,052	973	910	856	809	768

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

Lower Russian River

Sonoma Water Total	63.6	59.6	92.7	92.2	81.0	78.9	79.5
Wohler	45.5	45.5	45.4	46.3	71.0	77.0	52.3
Mirabel	18.1	14.2	47.3	45.9	10.0	1.8	27.3
Town of Windsor River Wellfield	4.3	4.1	4.0	4.2	4.5	4.5	4.4
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

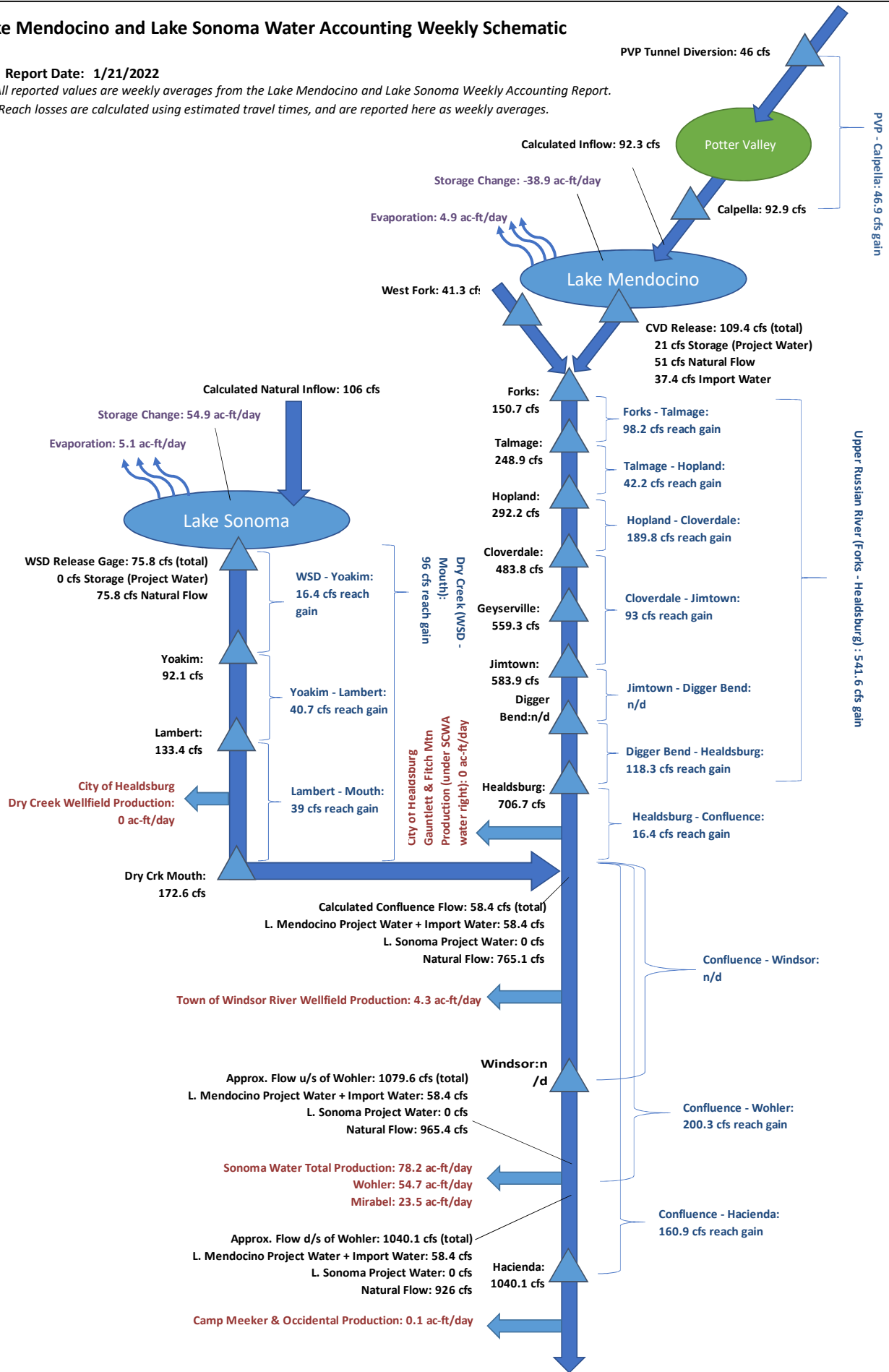
City of Healdsburg							
Dry Creek Wellfield	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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).

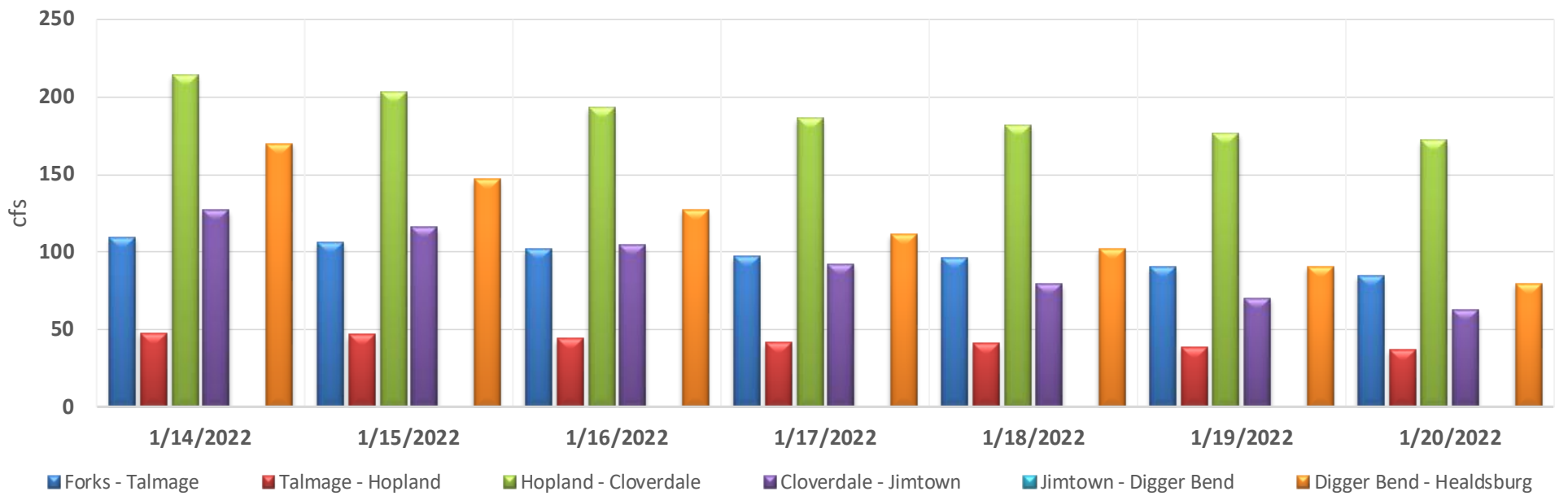
Lake Mendocino and Lake Sonoma Water Accounting Weekly Schematic

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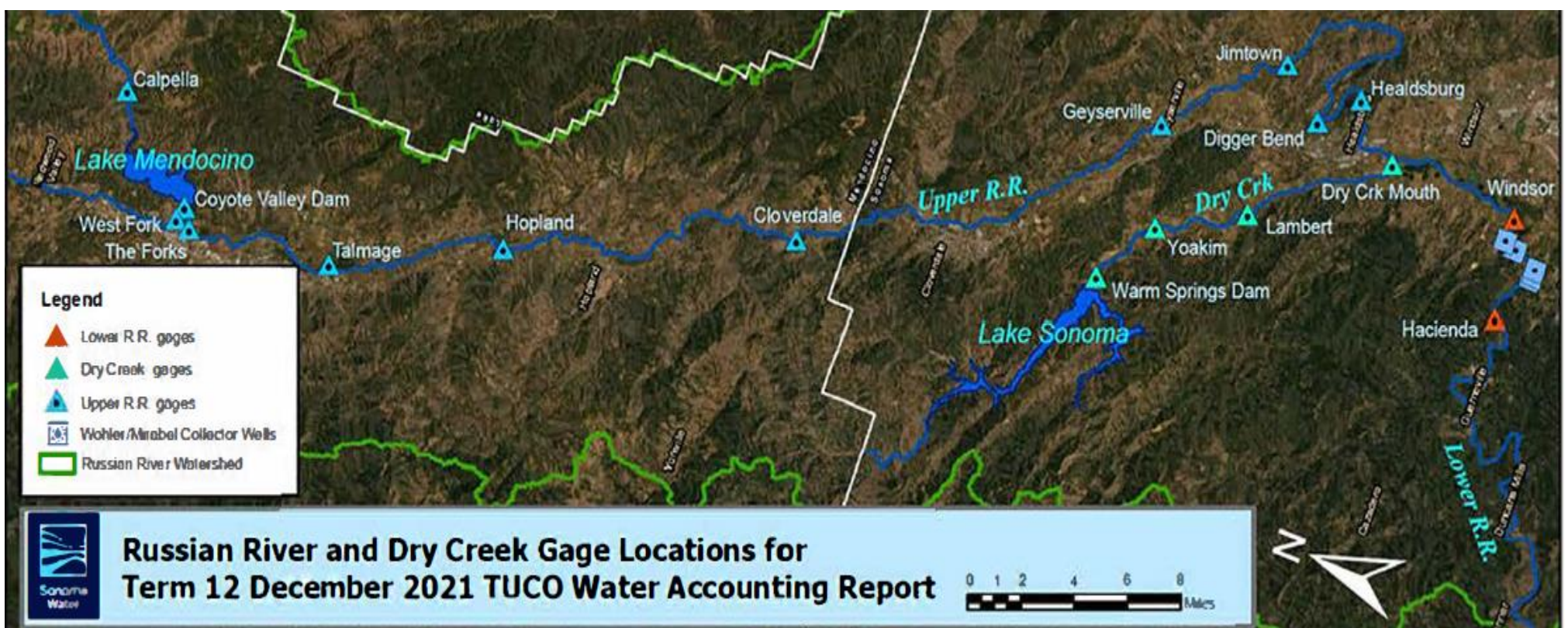
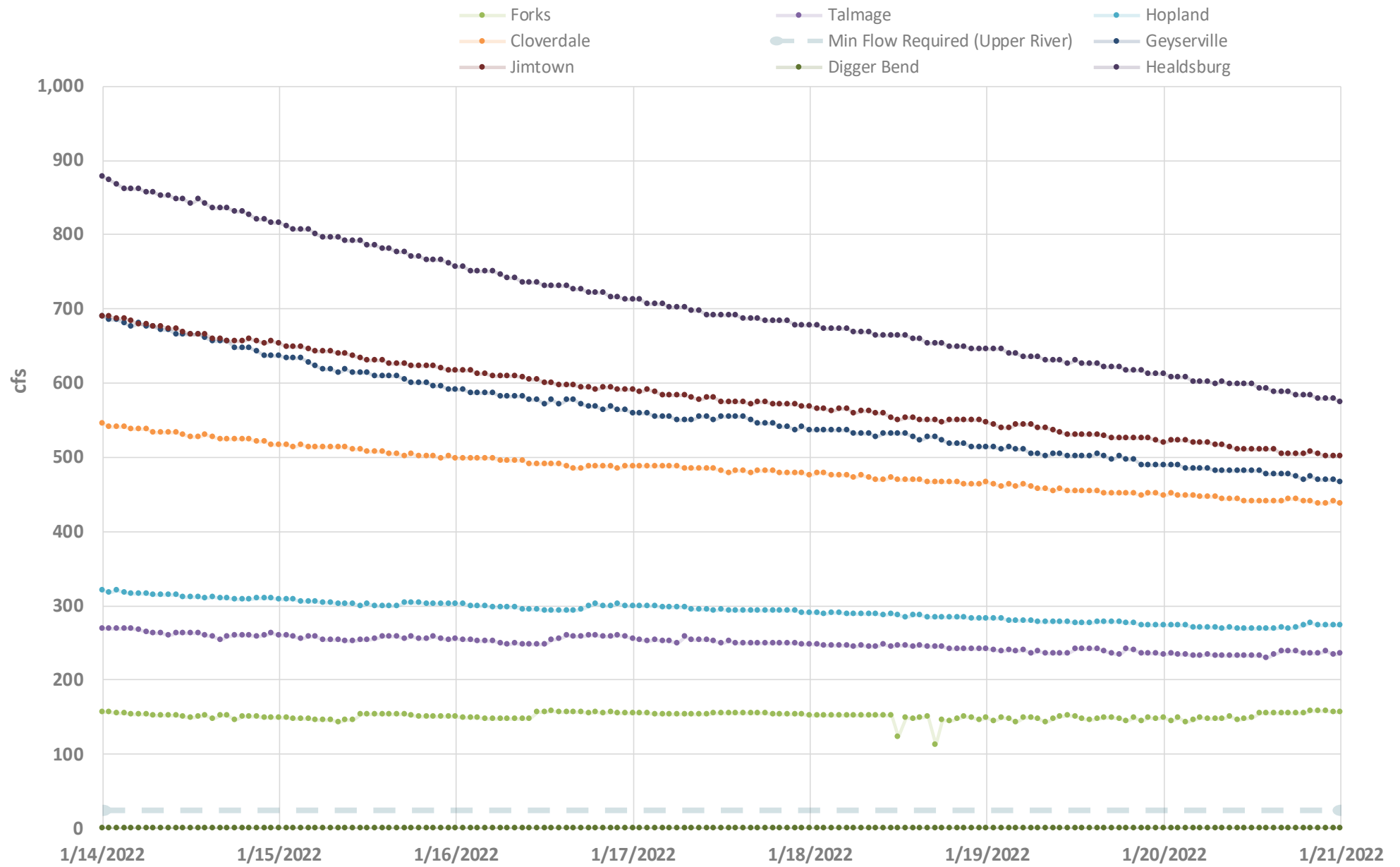
All reported values are weekly averages from the Lake Mendocino and Lake Sonoma Weekly Accounting Report.
Reach losses are calculated using estimated travel times, and are reported here as weekly averages.



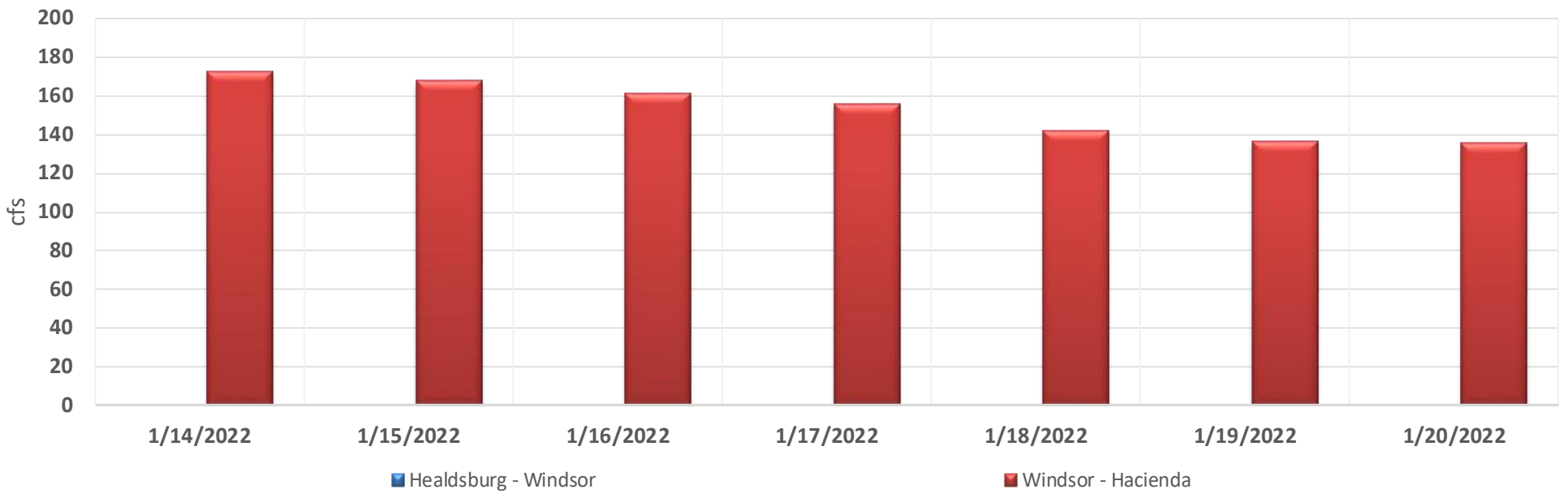
UPPER RUSSIAN RIVER NET REACH GAINS (+) / LOSSES (-)



UPPER RUSSIAN RIVER STREAM FLOWS

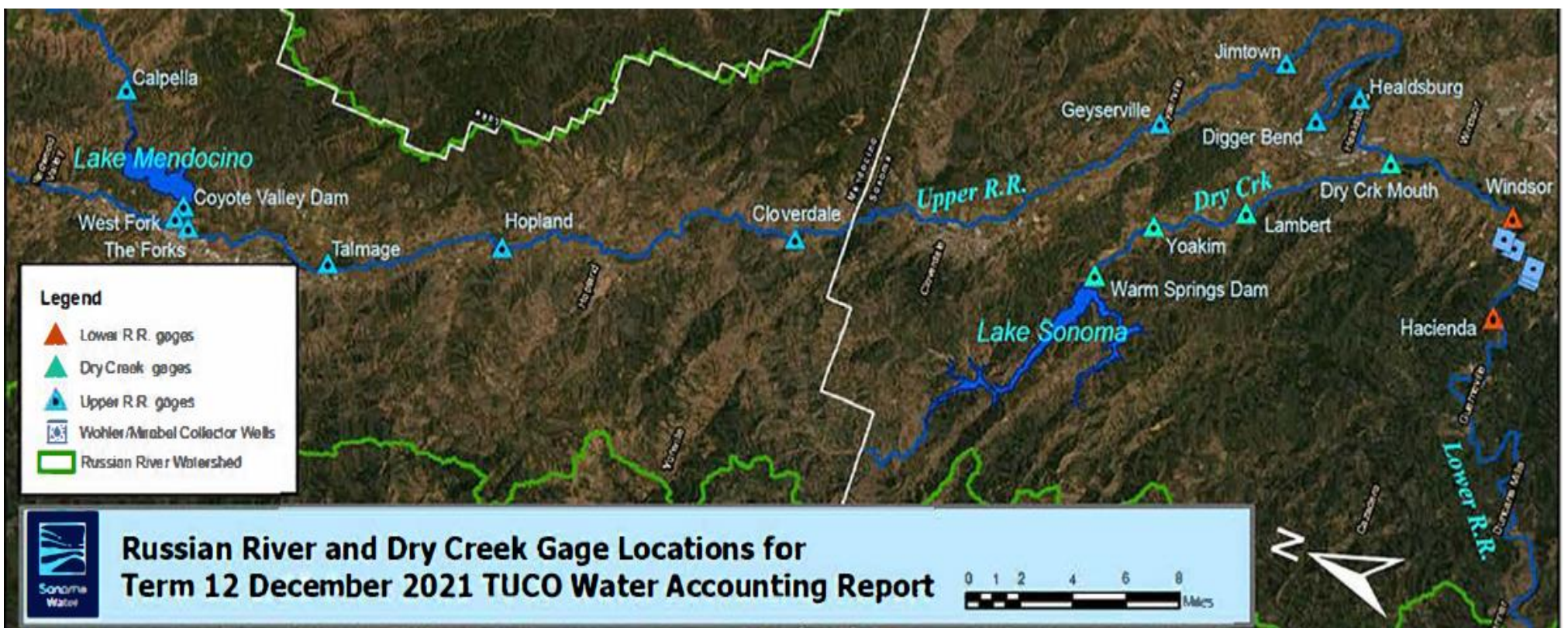
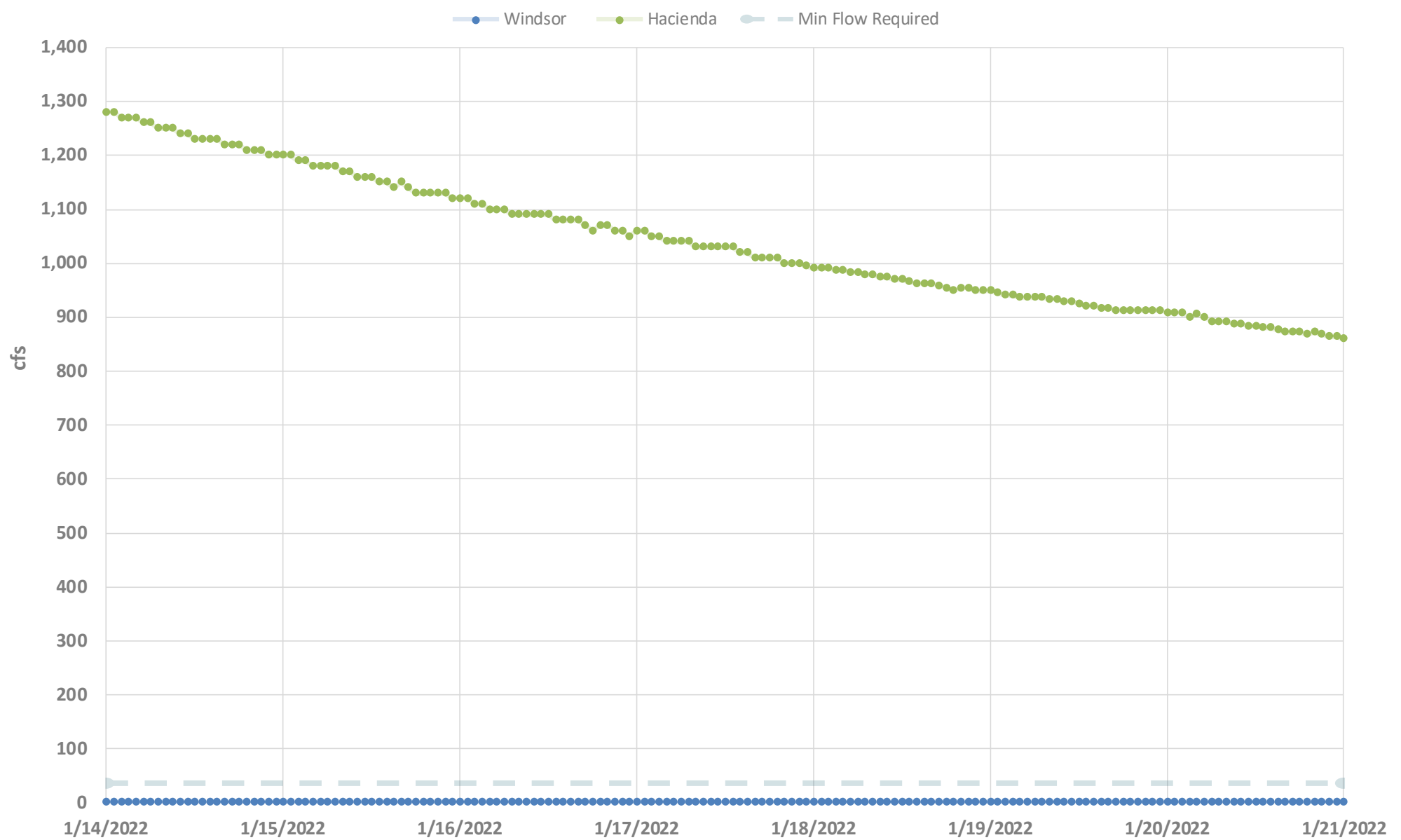


LOWER RUSSIAN RIVER NET REACH GAINS (+) / LOSSES (-)

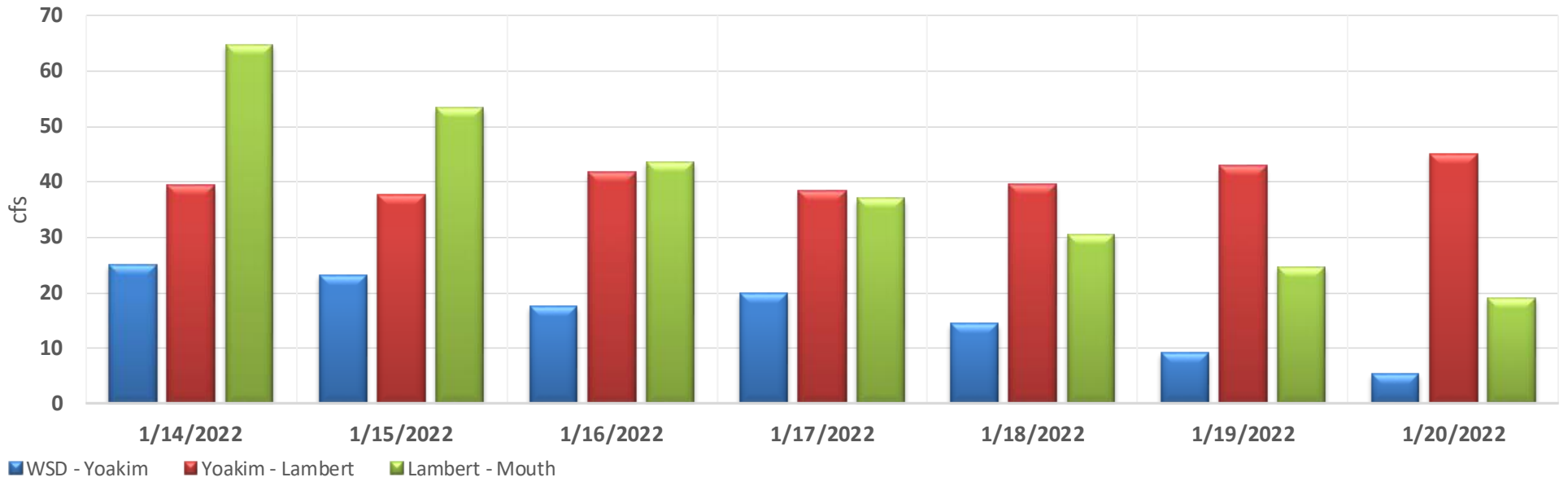


Note: Windsor gage is a seasonal gage and not operational. Reach gains for Windsor – Hacienda reach calculated with Healdsburg gages as upstream gages

LOWER RUSSIAN RIVER STREAM FLOWS



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



DRY CREEK STREAM FLOWS

