

# Northern CVP Water Temperature Report

## May - 2021

Page	Description
2	- Mean Daily Water Temperature, Release Flow Rates and Air Temperatures with Monthly Averages
3	- Redding 10-Day Forecasted Air Temperatures
4	- Sacramento River Mean Daily Water Temperature, Air Temperature and 10-Day Forecasted Air Temperature Plot - Water Temperature Measuring Station Details - Temperature Control Point Details
5	- Shasta Lake Isothermobaths & Cold Water Pool Statistics
14	- Trinity Lake Isothermobaths & Cold Water Pool Statistics
23	- Whiskeytown Lake Isothermobaths & Cold Water Pool Statistics
x	- <a href="#">TCD Configuration</a> (External Link)



— BUREAU OF —  
RECLAMATION

All Data in this Report is Preliminary and Subject to Change

DATE	Mean Daily Water Temperatures (°F)														Mean Daily Release (CFS)			Mean Daily Air Temperatures (°F)			
	TCD <sup>1</sup>	SHD	SPP <sup>1</sup>	KWK	SAC	CCR <sup>2</sup>	BSF	JLF	BND	RDB	IGO <sup>3</sup>	LWS	DGC	NFH	Shasta Generation	Spring Creek P.P.	Keswick Total	RDD	BSF	RDB	
Apr	50.2	52.3	50.1	52.8	53.4	54.0	55.6	56.6	57.4	57.9	51.4	50.3	53.9	53.3	3024	142	5927	62.2	60.6	62.4	
05/01	49.5	57.3	51.0	57.9	58.3	58.8	60.4	61.3	61.9	62.8	52.8	49.4	52.0	54.3	29	77	7472	68.5	68.6	68.6	
05/02	49.6	58.4	51.0	58.1	58.4	58.9	60.3	61.2	61.9	62.8	52.7	49.8	52.4	54.3	25	77	7877	70.0	69.2	69.6	
05/03	49.3	59.1	51.0	58.8	58.9	59.3	60.3	61.0	61.6	62.3	52.7	50.5	52.7	54.6	31	77	7822	75.0	70.4	73.1	
05/04	49.4	58.9	51.1	59.7	59.9	60.5	61.6	62.3	62.8	63.2	53.1	50.2	53.1	55.2	29	77	7817	75.5	71.4	73.9	
05/05	49.4	58.8	51.2	59.8	60.2	60.8	62.1	63.0	63.6	64.4	53.1	50.1	53.1	55.1	29	53	7824	74.0	70.6	73.5	
05/06	50.9	57.7	51.5	59.9	60.1	60.7	62.1	63.1	63.7	64.7	53.1	50.0	53.0	54.9	818	38	8405	71.0	68.4	72.1	
05/07	52.0	58.7	51.6	58.8	59.4	59.8	61.3	62.2	62.9	63.8	52.7	50.2	52.6	53.7	784	39	8460	#	-	66.3	68.1
05/08	51.6	59.5	51.6	59.1	59.1	59.3	59.9	60.4	60.9	61.9	51.6	50.4	52.6	54.0	776	38	8932	#	-	70.1	71.2
05/09	52.6	60.1	51.7	60.0	60.1	60.6	60.9	61.5	61.9	62.0	51.3	50.2	52.7	54.6	819	37	8963	#	-	71.9	73.9
05/10																					
05/11																					
05/12																					
05/13																					
05/14																					
05/15																					
05/16																					
05/17																					
05/18																					
05/19																					
05/20																					
05/21																					
05/22																					
05/23																					
05/24																					
05/25																					
05/26																					
05/27																					
05/28																					
05/29																					
05/30																					
05/31																					
May	50.5	58.7	51.3	59.1	59.4	59.8	61.0	61.8	62.4	63.1	52.6	50.1	52.7	54.5	371	57	8175	72.3	69.7	71.6	

Total CFS	3340	513	73572
Total AF	6625	1018	145927

**Legend**

- ? = 1-9 hours of data missing (Average includes estimations)
- ! = 10 or more hours of data missing (Average not calculated)
- # = Station out of service
- ↑ = Record high air temperature
- ↓ = Record low air temperature
- ☐ = Monthly Averages

**Notes**

- <sup>1</sup> Temperatures are weighted averages based on individual penstock flow and temperature
- Highlighted cells in the TCD column indicate a TCD change was made on that day
- <sup>2</sup> Current Sacramento River control point (see page 4 for more details)

DATE	Redding (RDD) Daily Air Temperatures (°F)																																					
	Actual			Forecasted																																		
	Previous Day			Current Day			1 Day			2 Days			3 Days			4 Days			5 Days			6 Days			7 Days			8 Days			9 Days			10 Days				
	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg	↓	↑	Avg		
05/01	54	89	71.5	54	84	69.0	52	82	67.0	51	87	69.0	52	89	70.5	55	93	74.0	56	85	70.5	46	75	60.5	50	76	63.0	52	84	68.0	54	82	68.0	54	86	70.0		
05/02	52	85	68.5	58	82	70.0	53	87	70.0	53	89	71.0	51	93	72.0	54	82	68.0	45	74	59.5	45	80	62.5	53	81	67.0	53	83	68.0	54	86	70.0	57	87	72.0		
05/03	57	83	70.0	62	85	73.5	57	89	73.0	54	92	73.0	54	80	67.0	45	77	61.0	46	81	63.5	48	82	65.0	57	82	69.5	54	87	70.5	56	88	72.0	59	88	73.5		
05/04	62	88	75.0	66	89	77.5	55	92	73.5	55	82	68.5	46	76	61.0	48	80	64.0	51	82	66.5	52	89	70.5	57	87	72.0	53	87	70.0	53	87	70.0	57	88	72.5		
05/05	61	90	75.5	56	93	74.5	57	86	71.5	49	80	64.5	51	85	68.0	54	86	70.0	54	89	71.5	56	94	75.0	55	91	73.0	57	94	75.5	58	92	75.0	59	90	74.5		
05/06	54	94	74.0	57	85	71.0	50	81	65.5	50	85	67.5	53	85	69.0	55	89	72.0	55	93	74.0	56	95	75.5	58	91	74.5	58	93	75.5	58	91	74.5	59	90	74.5		
05/07	55	87	71.0	59	81	70.0	51	86	68.5	53	84	68.5	53	89	71.0	56	94	75.0	57	94	75.5	58	93	75.5	59	92	75.5	58	93	75.5	59	91	75.0	58	88	73.0		
05/08	-	-	-	58	85	71.5	55	84	69.5	54	89	71.5	55	95	75.0	58	95	76.5	58	94	76.0	57	88	72.5	57	78	67.5	53	83	68.0	55	86	70.5	55	85	70.0		
05/09	-	-	-	64	86	75.0	57	90	73.5	57	95	76.0	56	96	76.0	58	94	76.0	57	92	74.5	57	89	73.0	57	89	73.0	57	91	74.0	58	89	73.5	59	89	74.0		
05/10	-	-	-	65	89	77.0	57	94	75.5	57	96	76.5	58	96	77.0	58	93	75.5	55	86	70.5	52	90	71.0	60	93	76.5	60	95	77.5	58	87	72.5	58	87	72.5		
05/11																																						
05/12																																						
05/13																																						
05/14																																						
05/15																																						
05/16																																						
05/17																																						
05/18																																						
05/19																																						
05/20																																						
05/21																																						
05/22																																						
05/23																																						
05/24																																						
05/25																																						
05/26																																						
05/27																																						
05/28																																						
05/29																																						
05/30																																						
05/31																																						

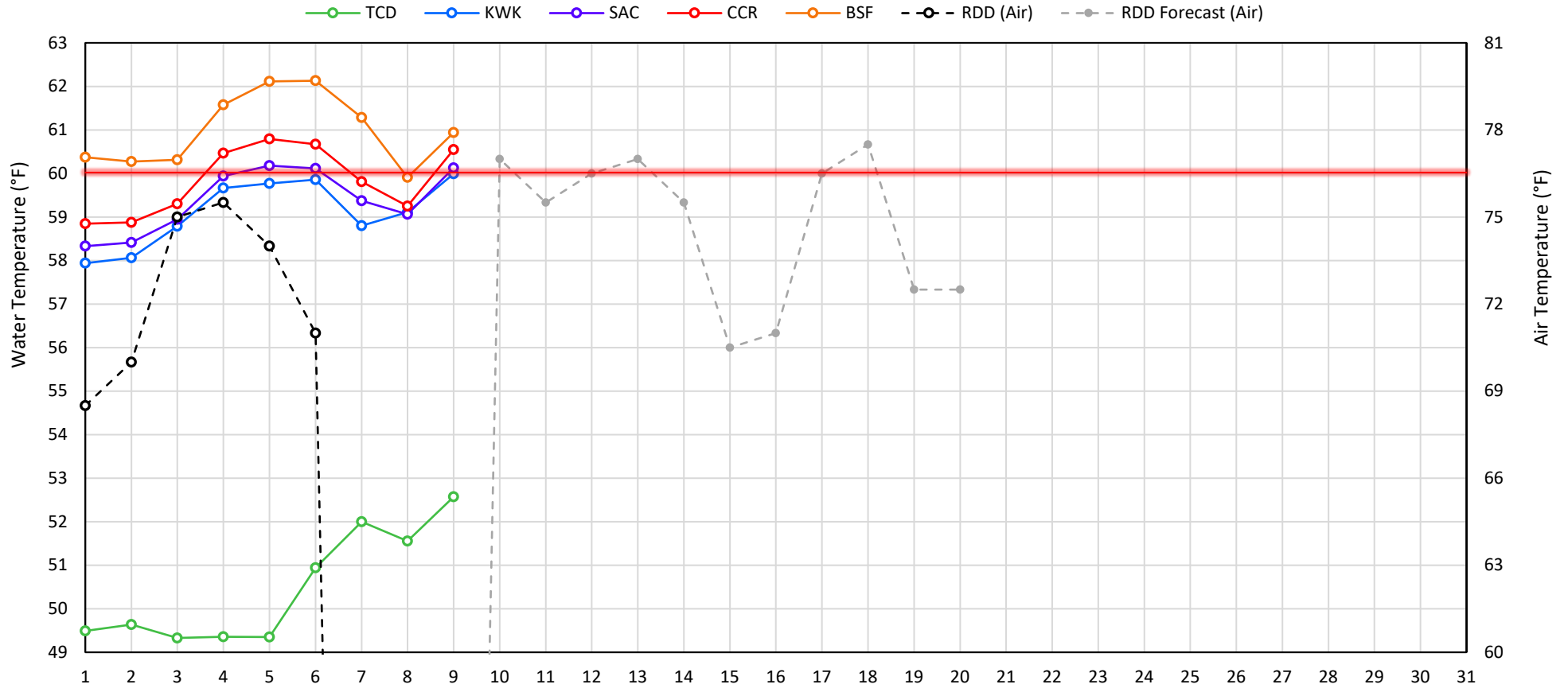
Web Links

- [10-Day Min/Max Forecast](#)
- [Previous Days Min/Max Actuals](#)

Legend

- NR = Forecasted temperatures not recorded
- 100** = Previous day actual temperatures in red and bolded indicate a record temperature for that date

## Mean Daily Temperatures



Station Details			
Code	Body of Water	Location <sup>1</sup>	CDEC Link
TCD	N/A	Shasta Power Plant	N/A
SHD	Sacramento River	0.3 miles downstream of Shasta Power Plant	<a href="#">Click Here</a>
SPP	N/A	Spring Creek Power Plant	N/A
KWK	Sacramento River	0.8 miles downstream of Keswick Dam	<a href="#">Click Here</a>
SAC	Sacramento River	4.8 miles downstream of Keswick Dam	<a href="#">Click Here</a>
CCR	Sacramento River	9.7 miles downstream of Keswick Dam	<a href="#">Click Here</a>
BSF	Sacramento River	25 miles downstream of Keswick Dam	<a href="#">Click Here</a>
JLF	Sacramento River	34 miles downstream of Keswick Dam	<a href="#">Click Here</a>
BND	Sacramento River	41 miles downstream of Keswick Dam	<a href="#">Click Here</a>
RDB	Sacramento River	58 miles downstream of Keswick Dam	<a href="#">Click Here</a>
IGO	Clear Creek	7.3 miles downstream of Whiskeytown Dam	<a href="#">Click Here</a>
LWS	Trinity River	1.1 miles downstream of Lewiston Dam	<a href="#">Click Here</a>
DGC	Trinity River	19 miles downstream of Lewiston Dam	<a href="#">Click Here</a>
NFH	Trinity River	38 miles downstream of Lewiston Dam	<a href="#">Click Here</a>

Water Right Temperature Control Points				
River	Point	Temp. (°F)	Begin Date	End Date
Sacramento	CCR	56	09/21/2020	04/18/2021
Sacramento	CCR	60	04/18/2021	TBD
Trinity	DGC	56	09/15/2021	10/01/2021
Trinity	NFH	56	10/01/2021	12/31/2021

### Notes

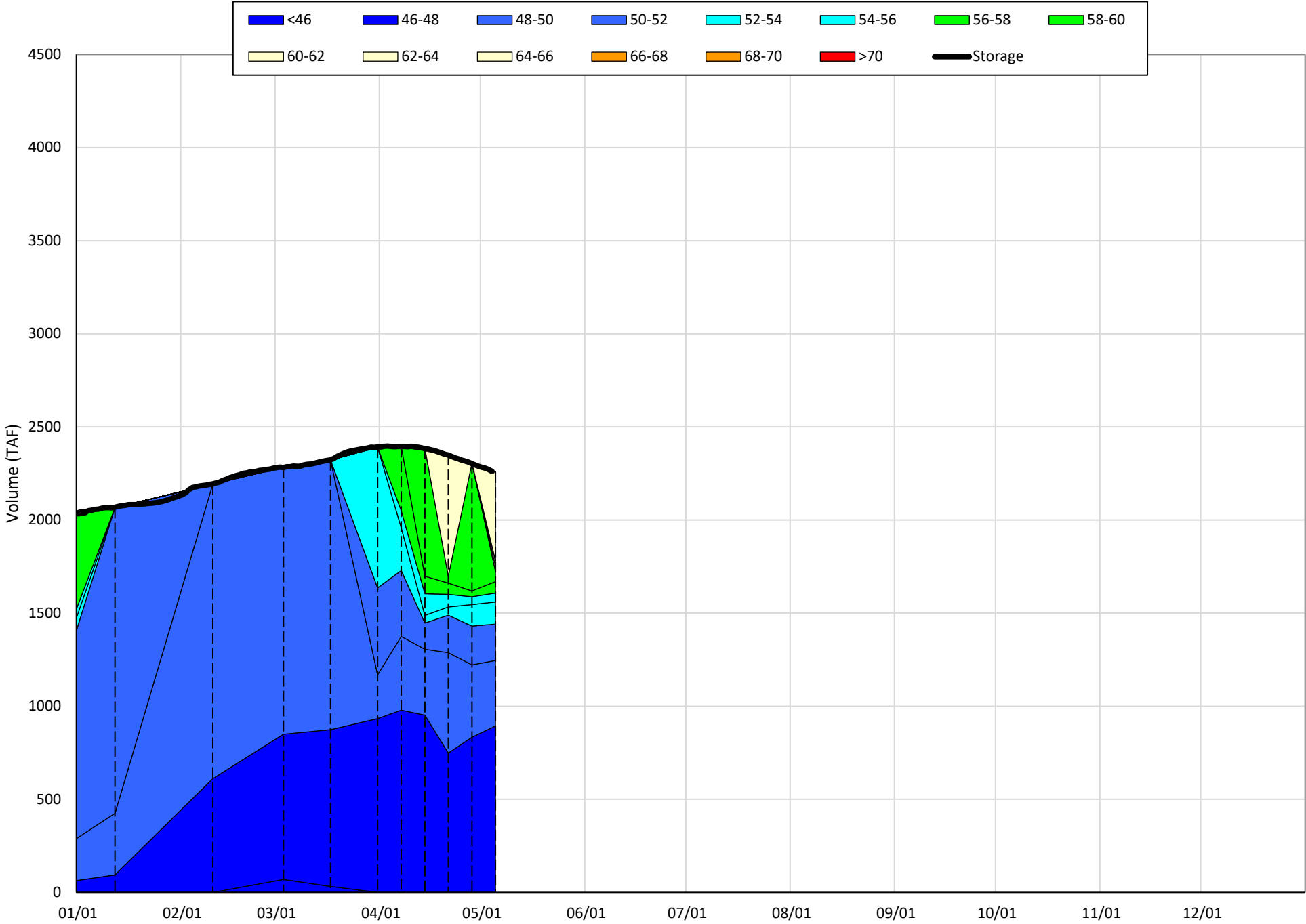
<sup>1</sup> Distances are approximate

# Shasta Lake Isothermobaths & Cold Water Pool Statistics

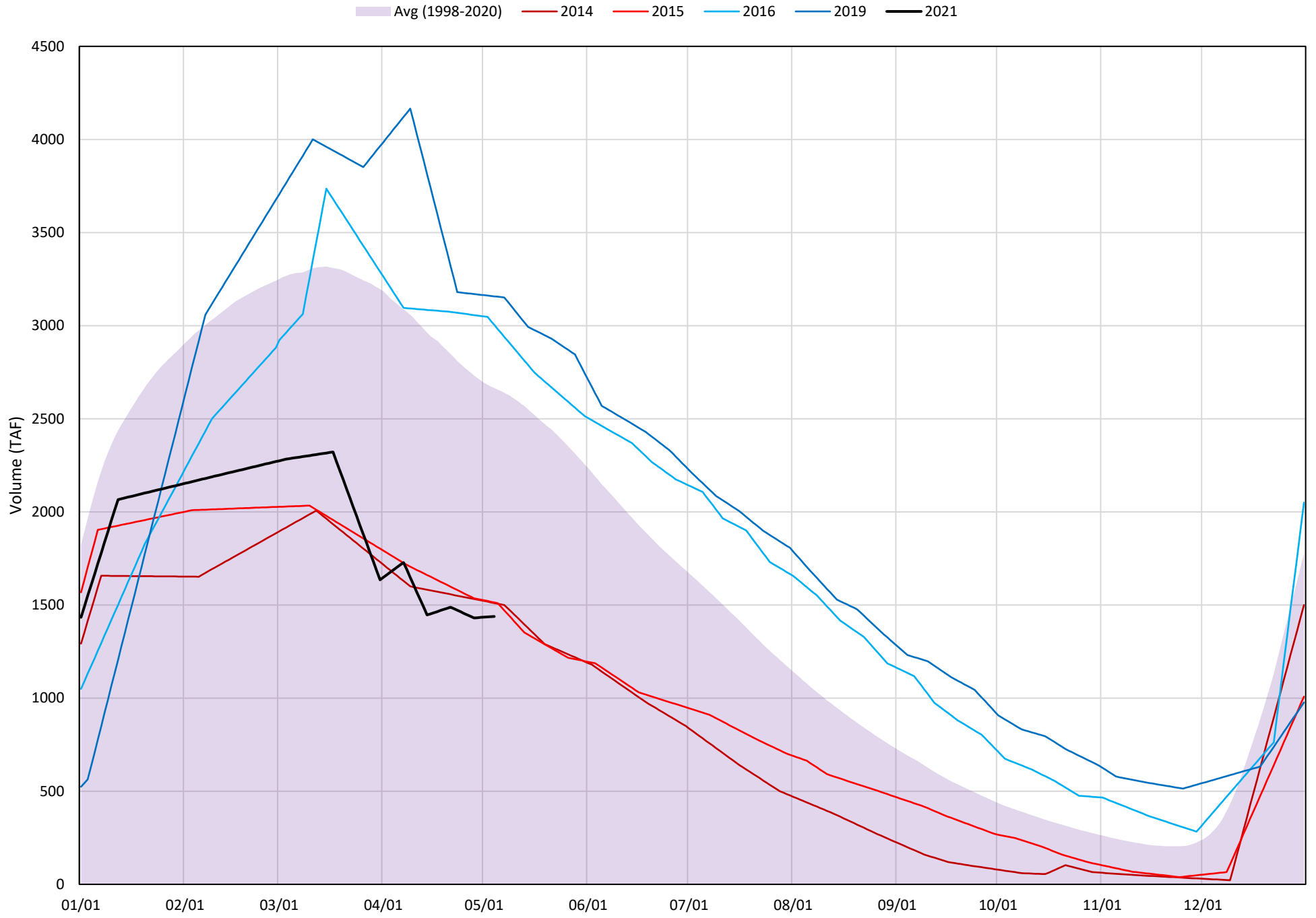
## 2021

Page	Description
6	- Shasta Lake Isothermobaths Plot
7	- Shasta Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$
8	- Shasta Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$
9	- Shasta Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$
10	- Shasta Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$ - Percent Exceedances
11	- Shasta Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$ - Percent Exceedances
12	- Shasta Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$ - Percent Exceedances
13	- Shasta Lake Cold Water Pool Comparison by Year

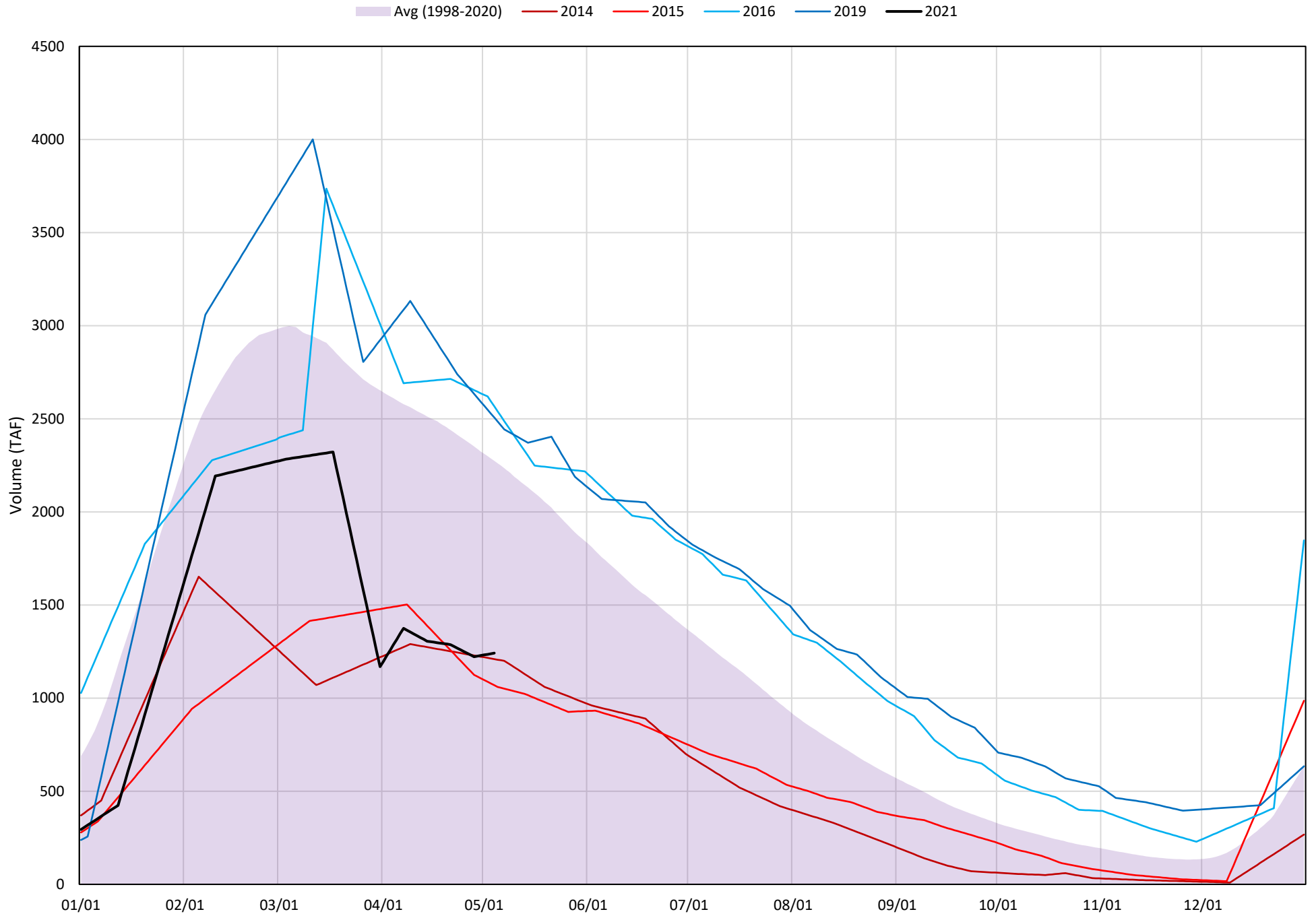
Shasta Lake Isothermobaths Plot - 2021



# Shasta Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$



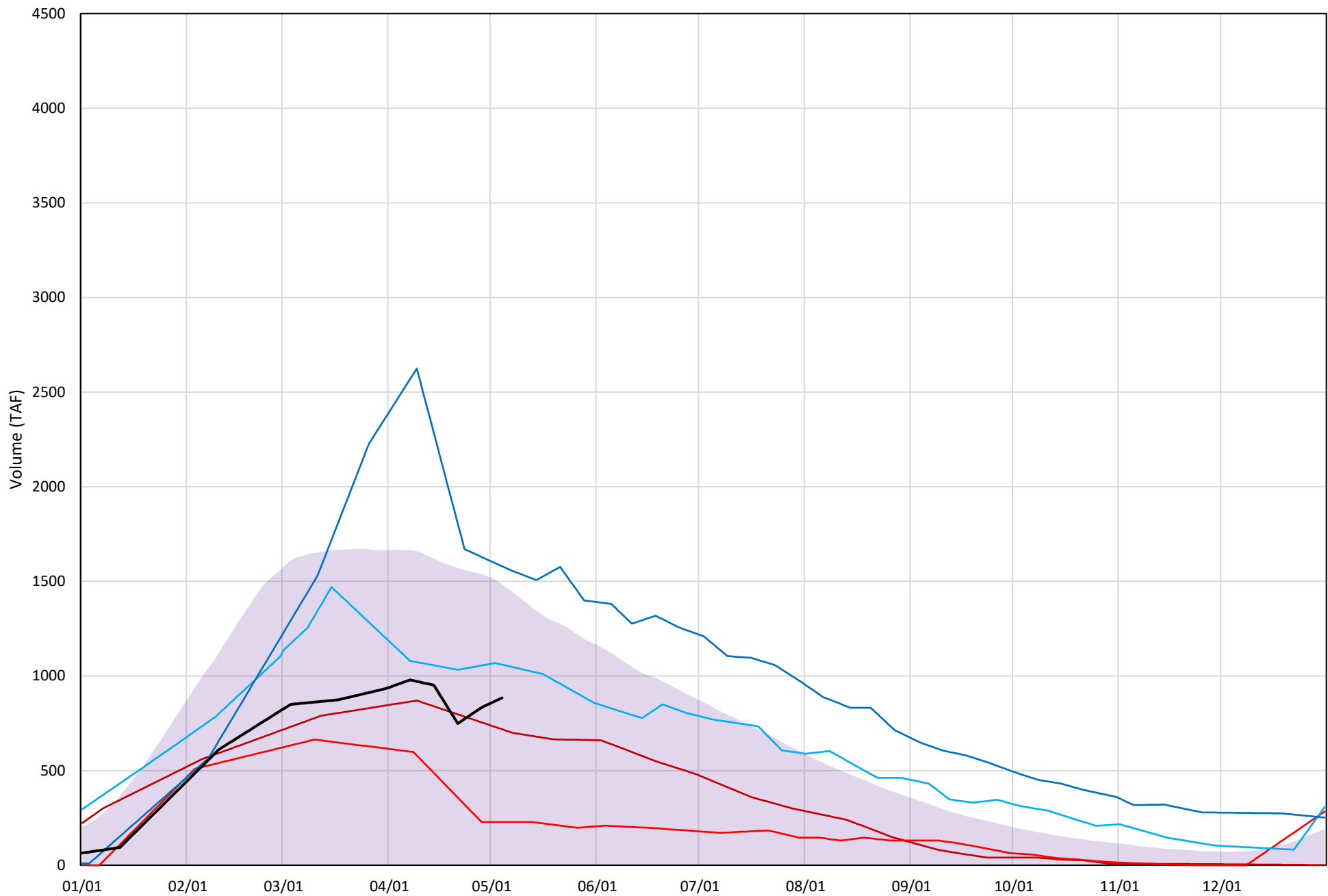
# Shasta Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$





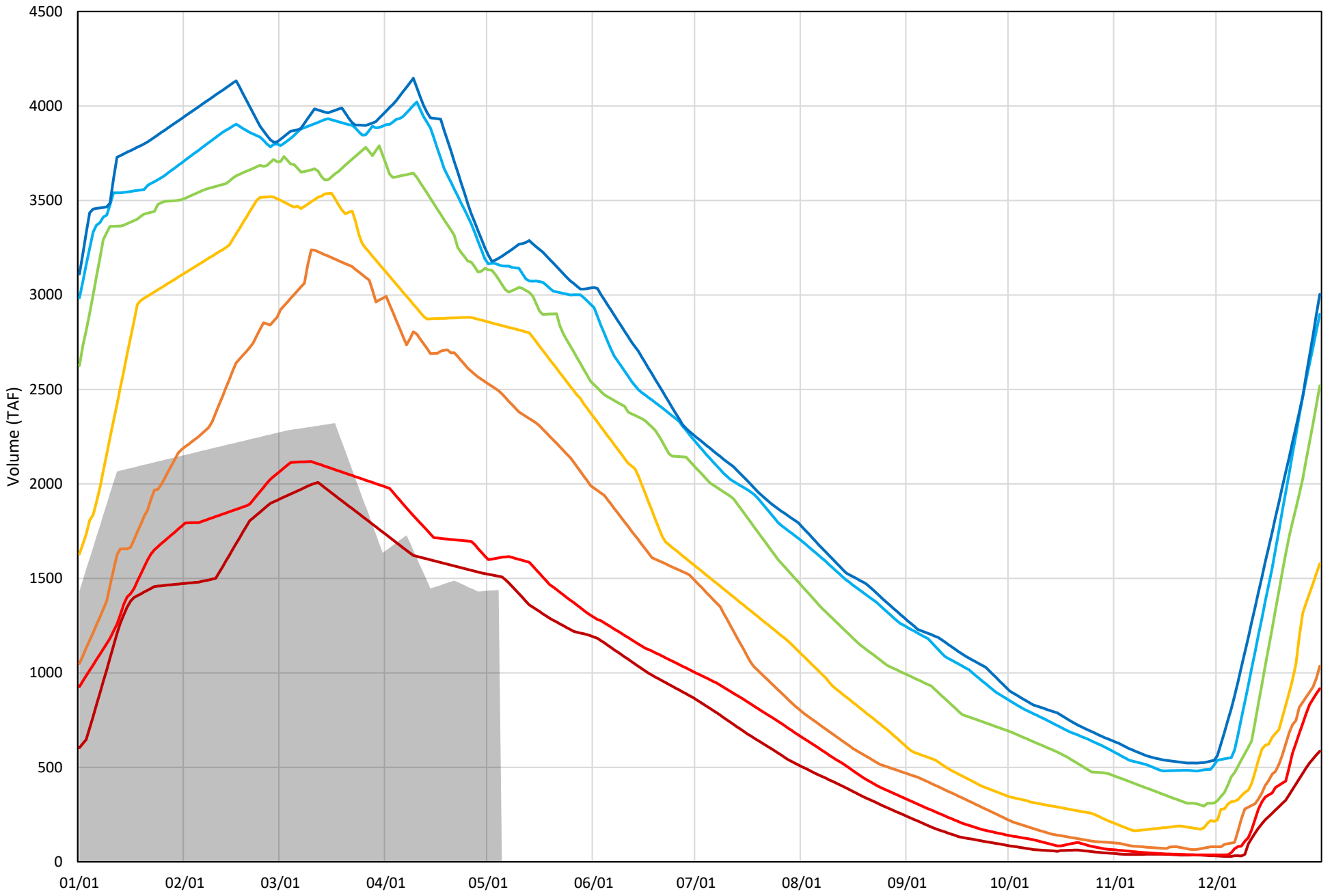
# Shasta Lake Cold Water Pool Volume $\leq 48^\circ\text{F}$

Avg (1998-2020) 2014 2015 2016 2019 2021



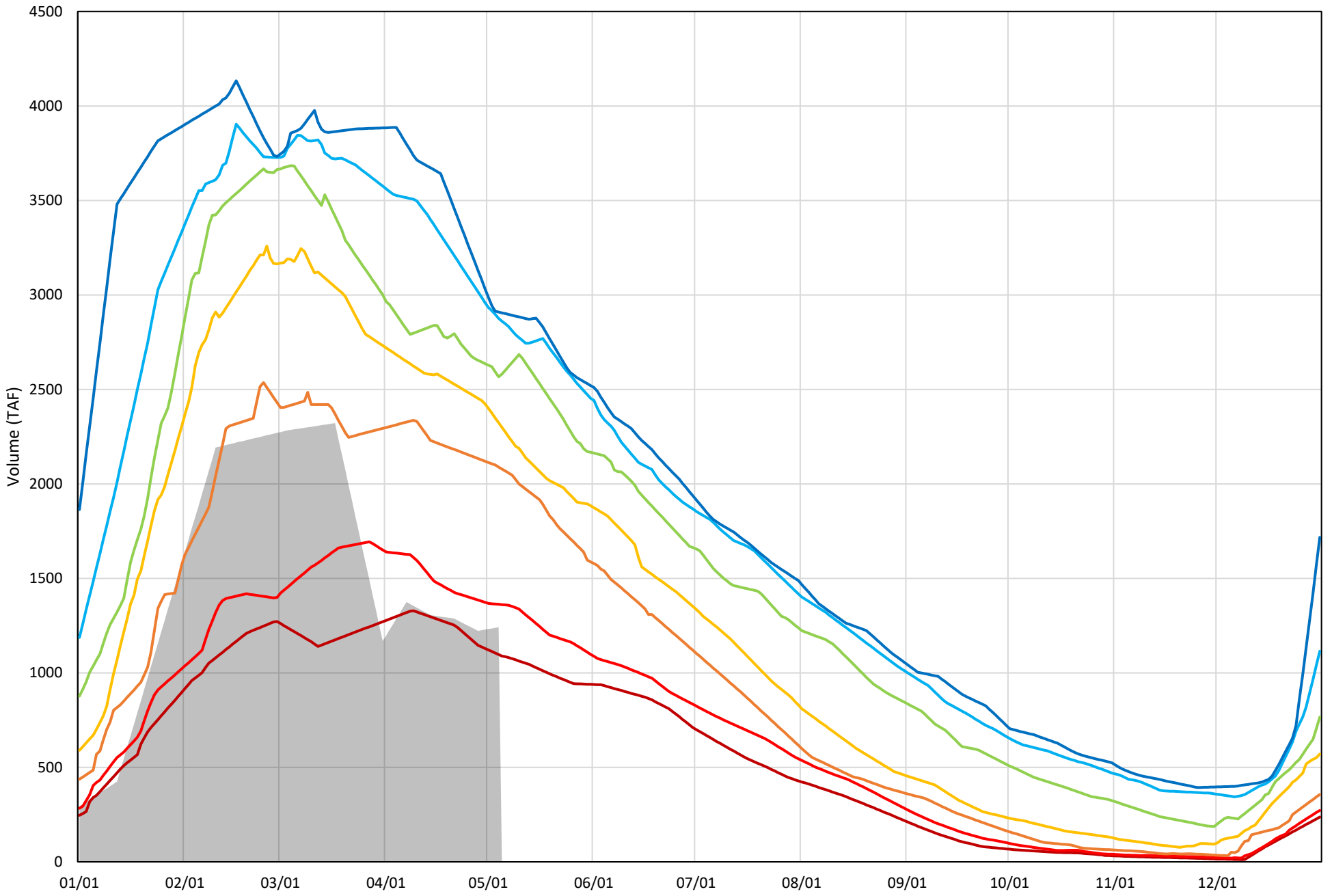
Shasta Lake Cold Water Pool Volume  $\leq 52^{\circ}\text{F}$  - Percent Exceedances (1998-2020)

2021 95 90 75 50 25 10 5



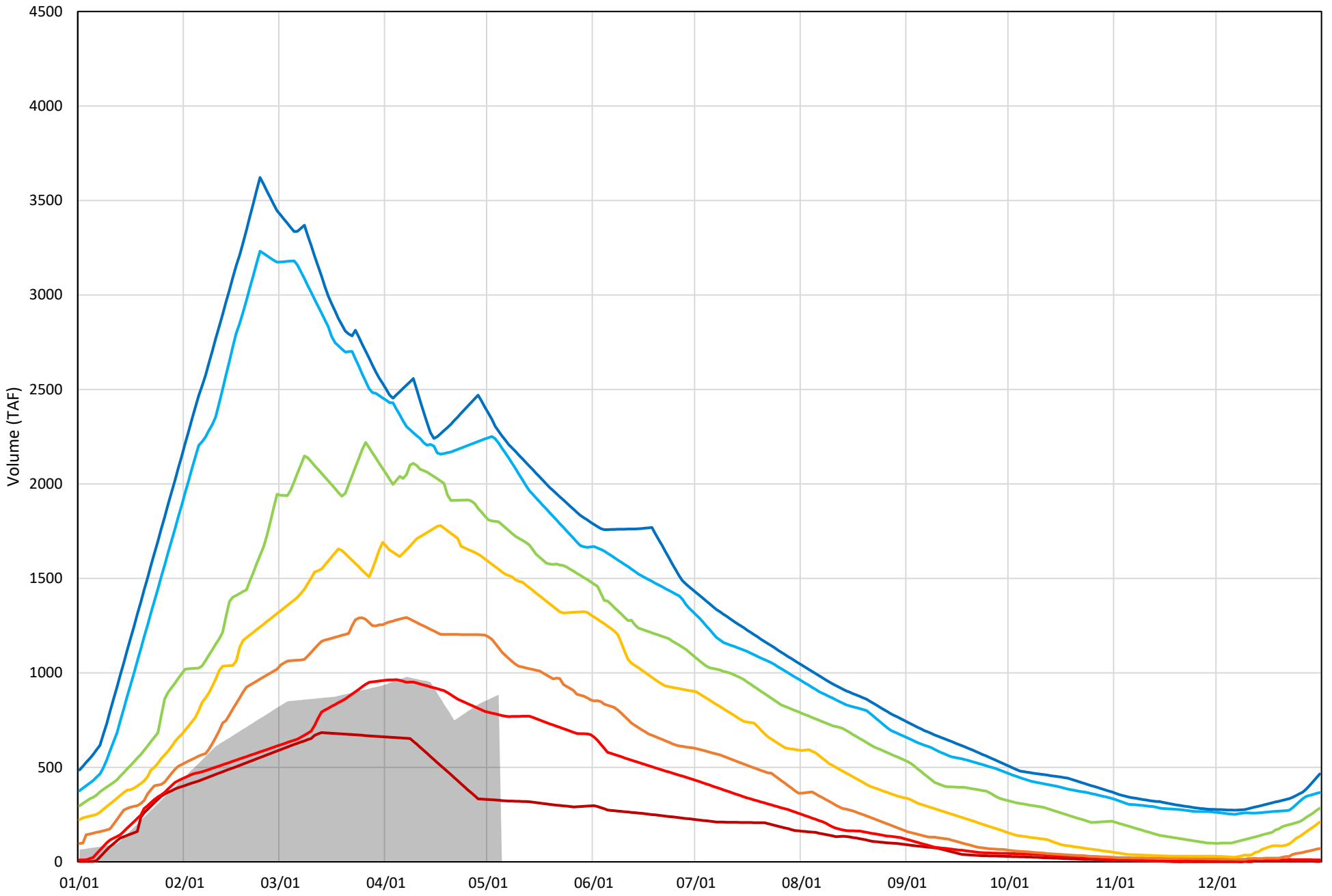
Shasta Lake Cold Water Pool Volume  $\leq 50^{\circ}\text{F}$  - Percent Exceedances (1998-2020)

2021 95 90 75 50 25 10 5



Shasta Lake Cold Water Pool Volume  $\leq 48^{\circ}\text{F}$  - Percent Exceedances (1998-2020)

2021 95 90 75 50 25 10 5



### Shasta Lake Cold Water Pool Comparison by Year (for Specified Date)

May-05 2021	$\Delta$ TAF				% $\Delta$			
	$\leq 52^\circ$	$\leq 50^\circ$	$\leq 48^\circ$	Abs. Avg.	$\leq 52^\circ$	$\leq 50^\circ$	$\leq 48^\circ$	Abs. Avg.
1998	1763	1600	1378	1581	123	129	156	136
1999	1644	1630	1260	1511	114	131	142	129
2000	1313	848	319	827	91	68	36	65
2001	1057	995	865	973	73	80	98	84
2002	1404	1258	889	1184	98	101	100	100
2003	1449	994	277	907	101	80	31	71
2004	1054	895	651	867	73	72	74	73
2005	1249	1048	239	845	87	84	27	66
2006	1511	1608	915	1345	105	130	103	113
2007	1125	1101	811	1012	78	89	92	86
2008	311	351	503	388	22	28	57	36
2009	541	478	525	515	38	39	59	45
2010	1550	1319	1011	1293	108	106	114	109
2011	1670	1638	1398	1568	116	132	158	135
2012	1723	1675	1042	1480	120	135	118	124
2013	1026	965	664	885	71	78	75	75
2014	72	-32	-166	90	5	-3	-19	9
2015	75	-172	-657	301	5	-14	-74	31
2016	1565	1325	175	1022	109	107	20	78
2017	1704	1083	776	1188	118	87	88	98
2018	1490	1222	248	987	104	98	28	77
2019	1719	1265	695	1226	119	102	79	100
2020	1185	656	-15	619	82	53	-2	46
2021	0	0	0	0	0	0	0	0

}

Historic - Current

}

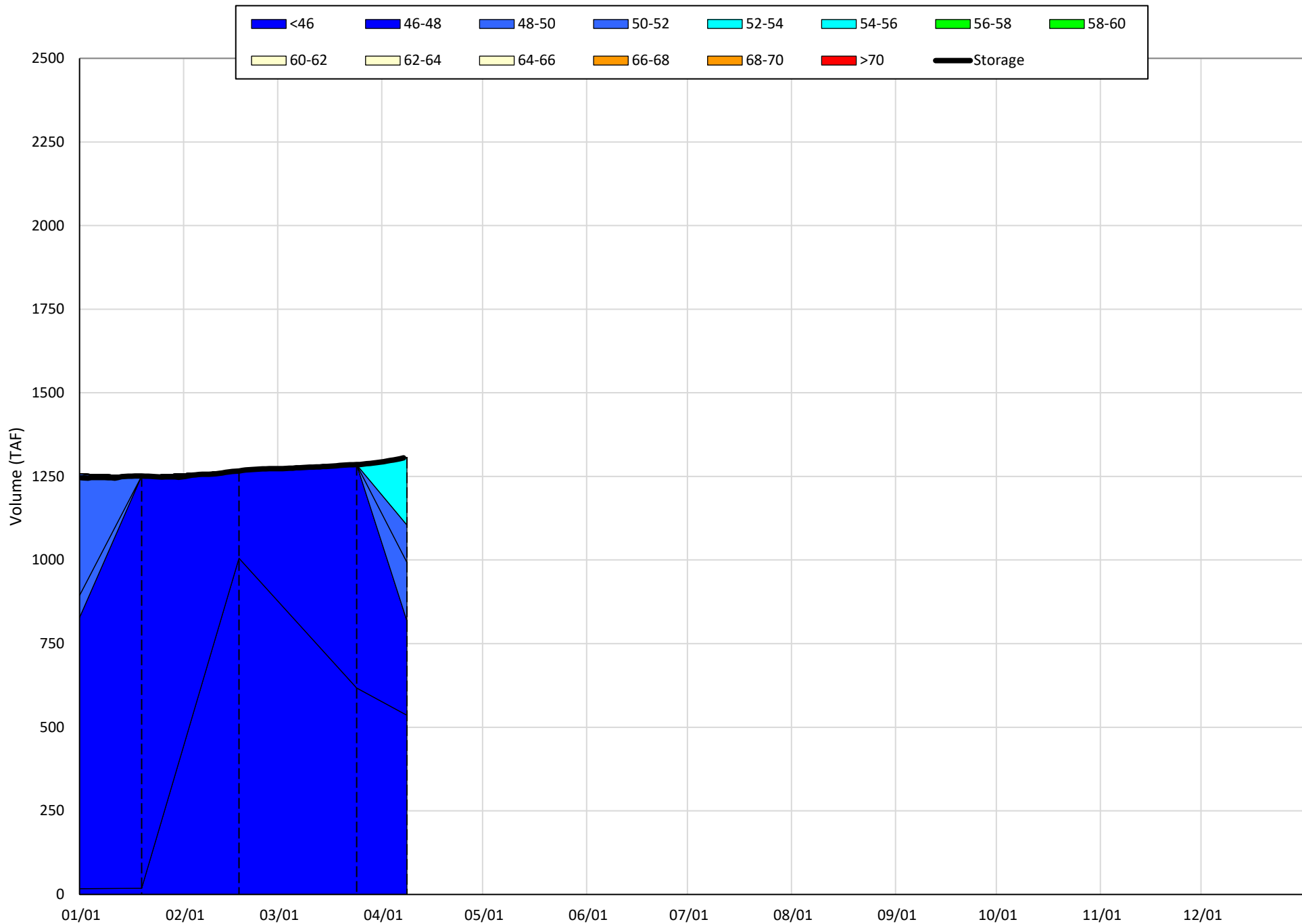
(Historic - Current) / Current

# Trinity Lake Isothermobaths & Cold Water Pool Statistics

## 2021

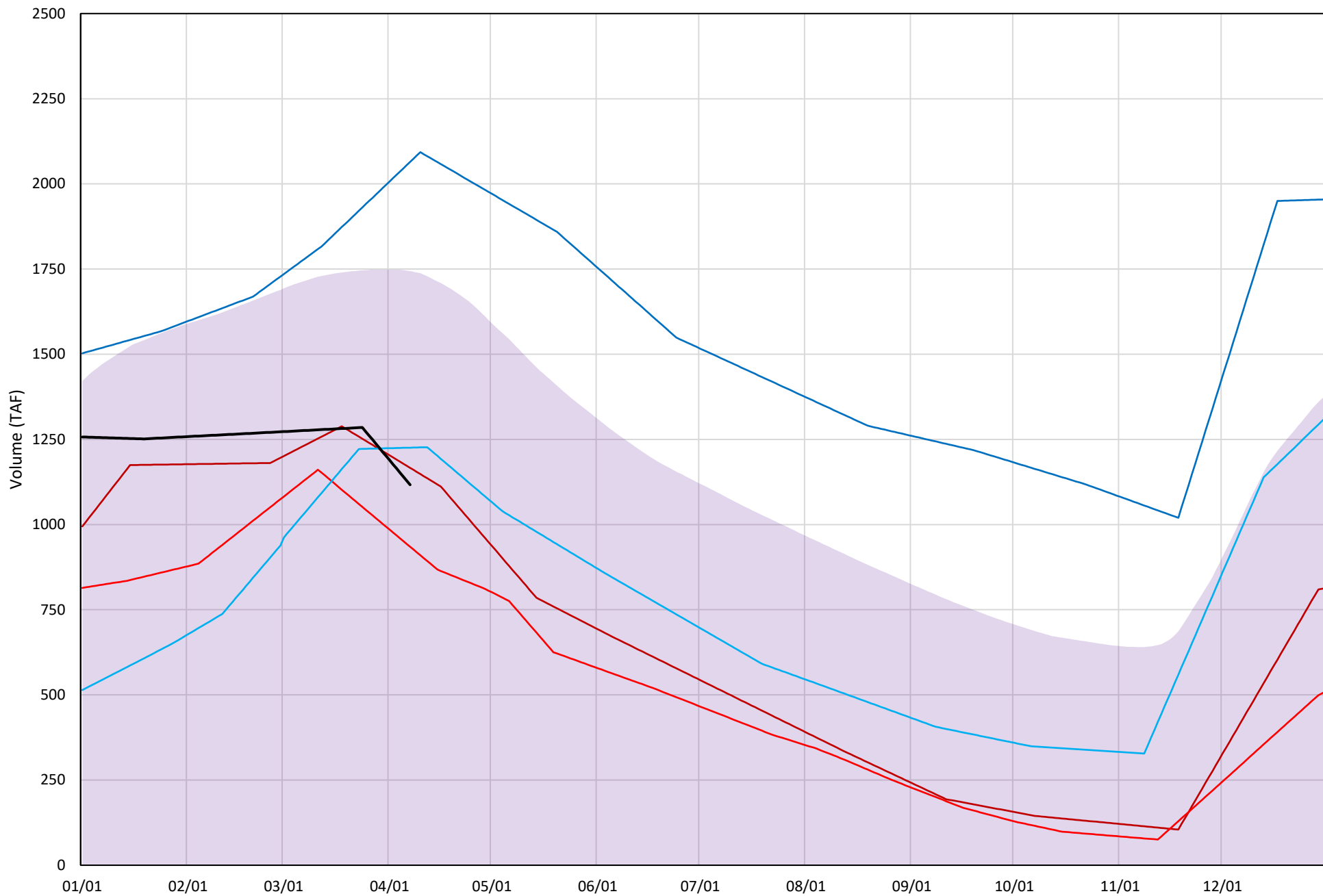
Page	Description
15	- Trinity Lake Isothermobaths Plot
16	- Trinity Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$
17	- Trinity Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$
18	- Trinity Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$
19	- Trinity Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$ - Percent Exceedances
20	- Trinity Lake Cold Water Pool Volume $\leq 50^{\circ}\text{F}$ - Percent Exceedances
21	- Trinity Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$ - Percent Exceedances
22	- Trinity Lake Cold Water Pool Comparison by Year

Trinity Lake Isothermobaths Plot - 2021



# Trinity Lake Cold Water Pool Volume $\leq 52^{\circ}\text{F}$

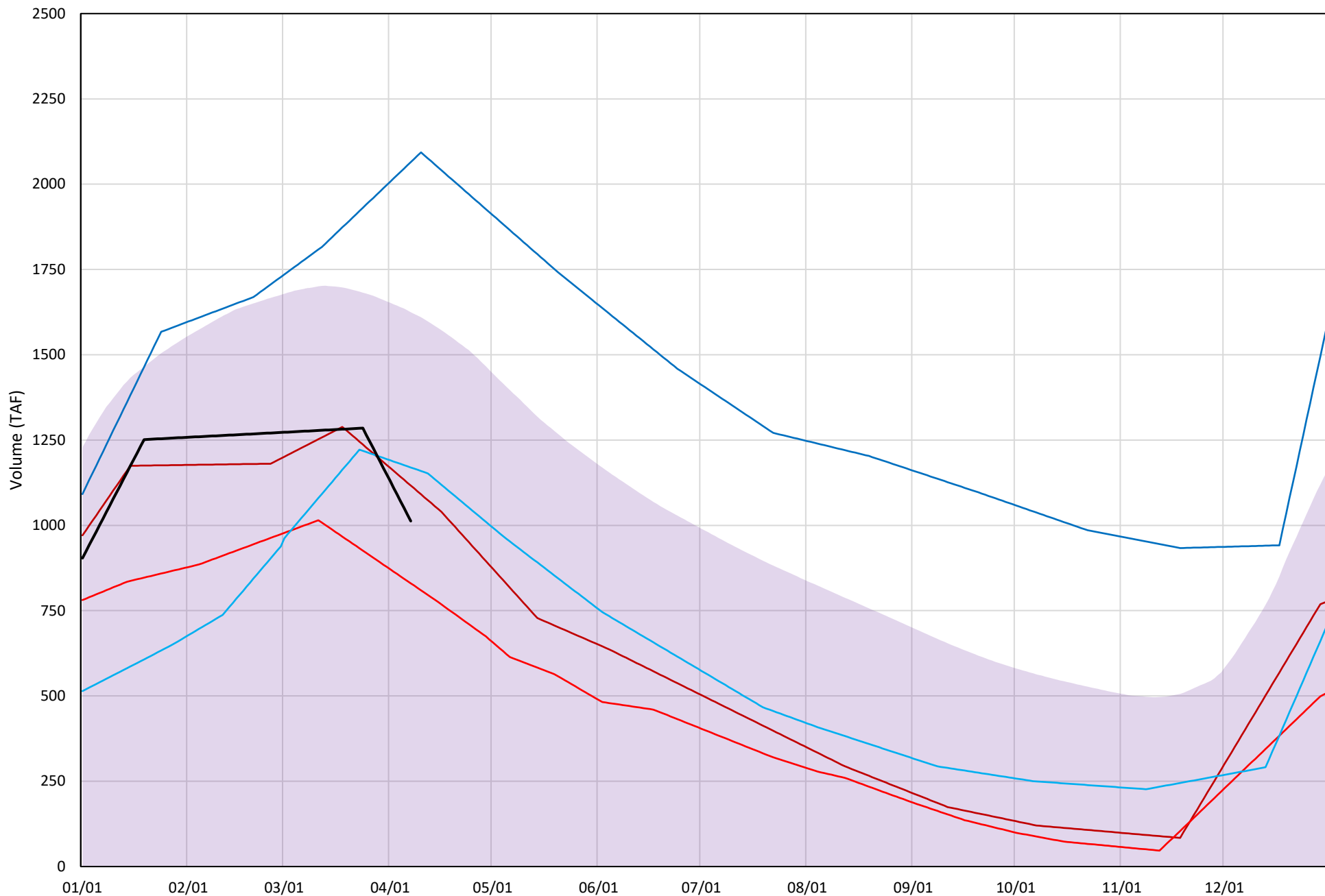
Avg (2000-2020) 2014 2015 2016 2019 2021





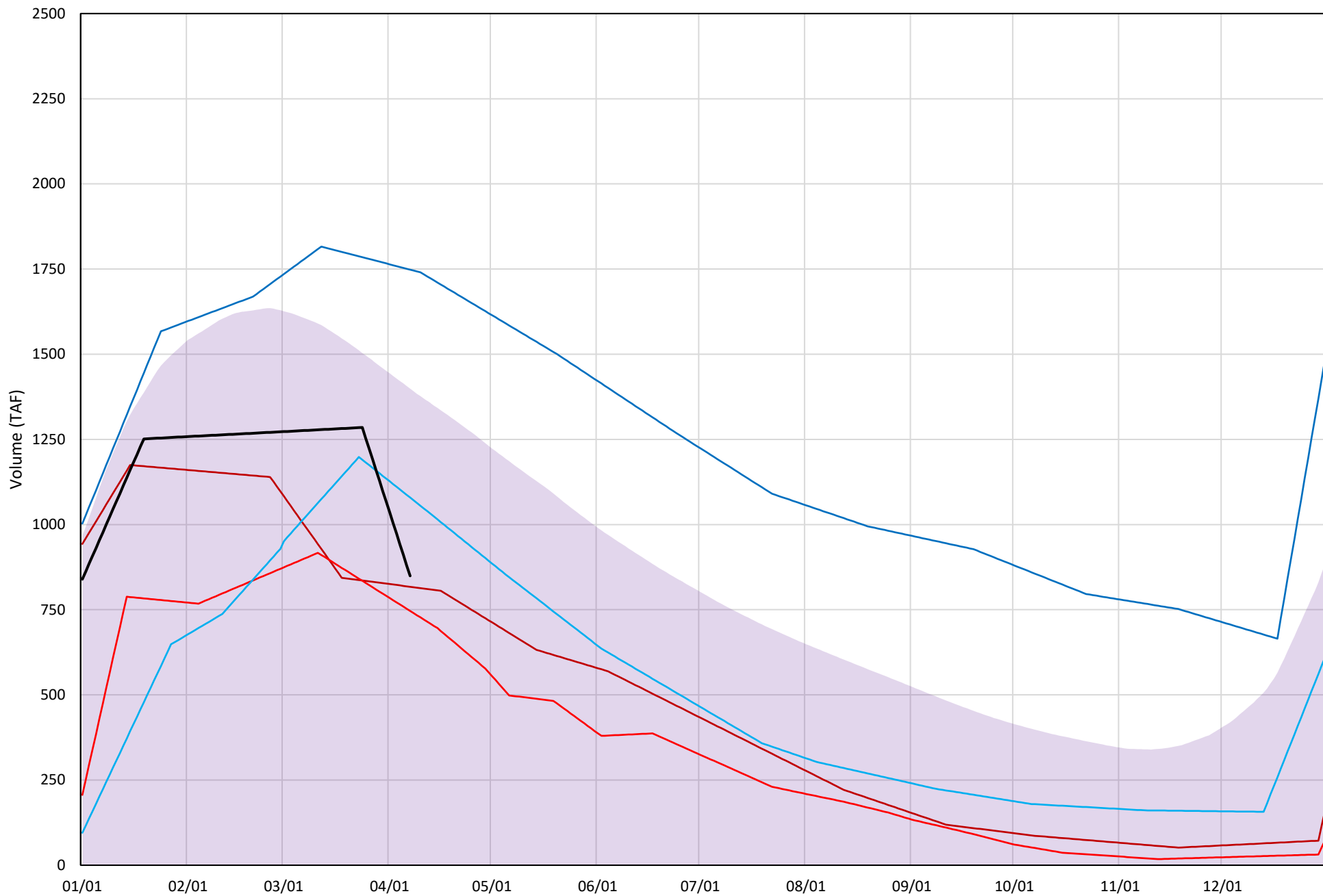
# Trinity Lake Cold Water Pool Volume ≤50°F

Avg (2000-2020) 2014 2015 2016 2019 2021



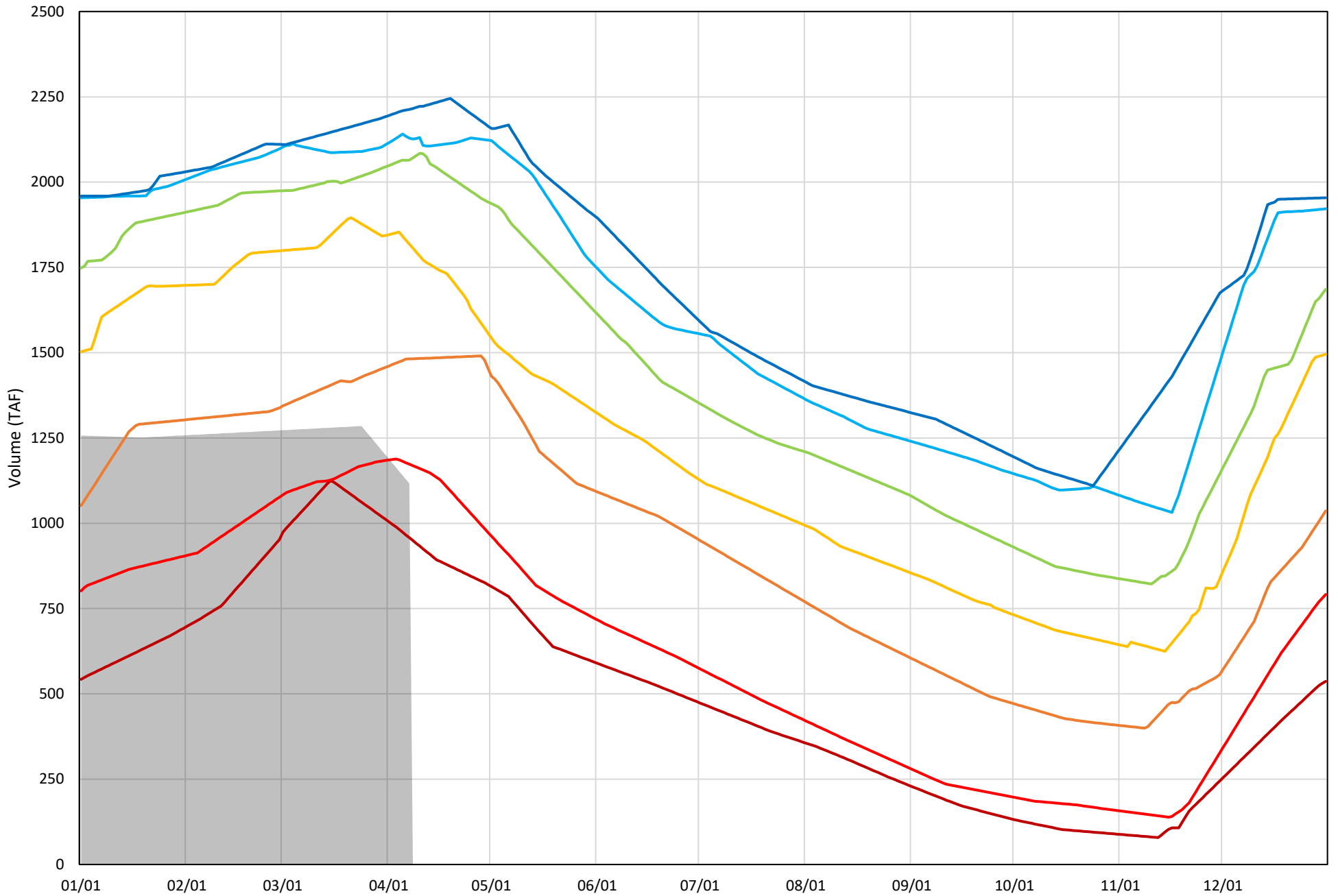
# Trinity Lake Cold Water Pool Volume $\leq 48^{\circ}\text{F}$

Avg (2000-2020) 2014 2015 2016 2019 2021



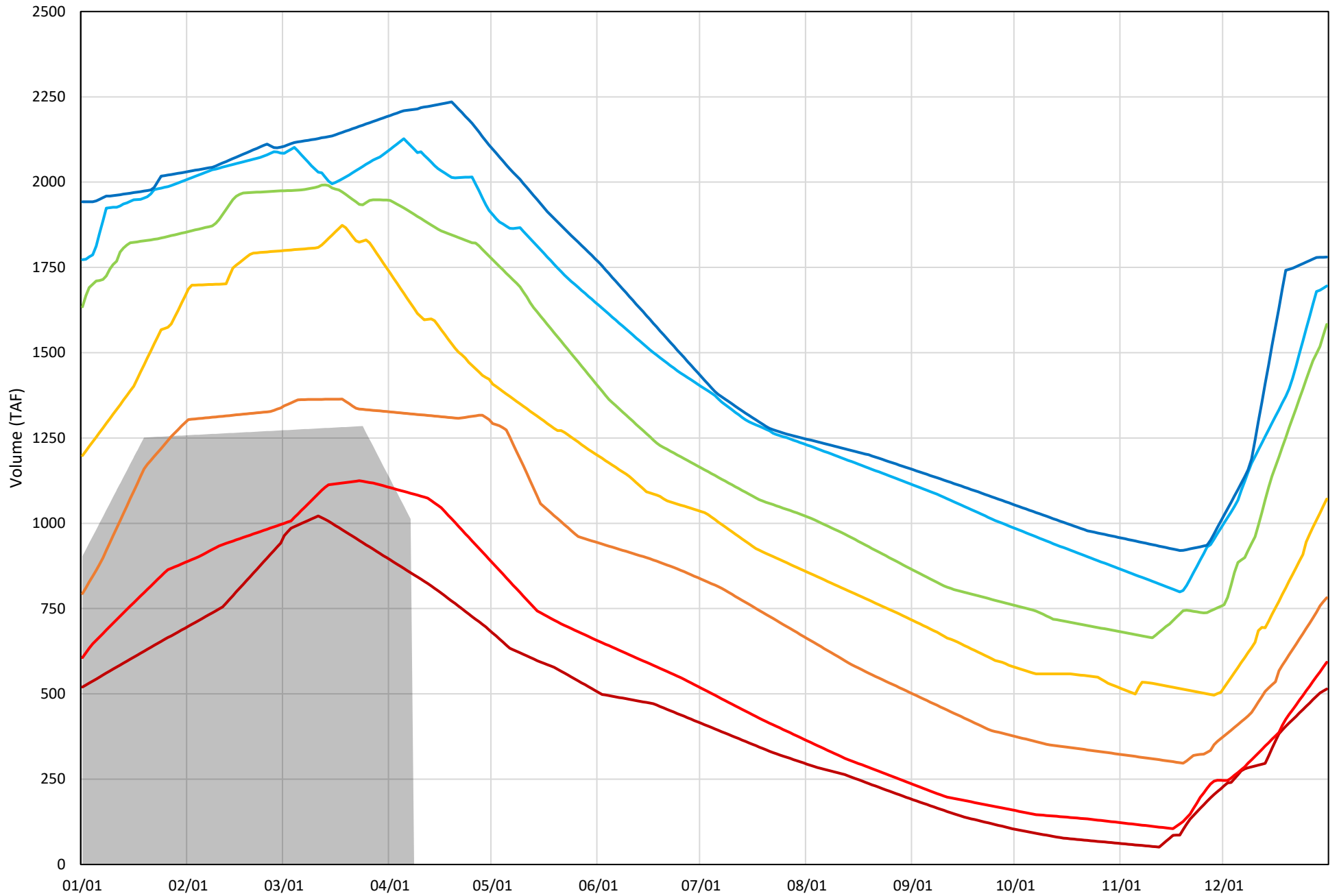
Trinity Lake Cold Water Pool Volume ≤52°F - Percent Exceedances (2000-2020)

2021 95 90 75 50 25 10 5

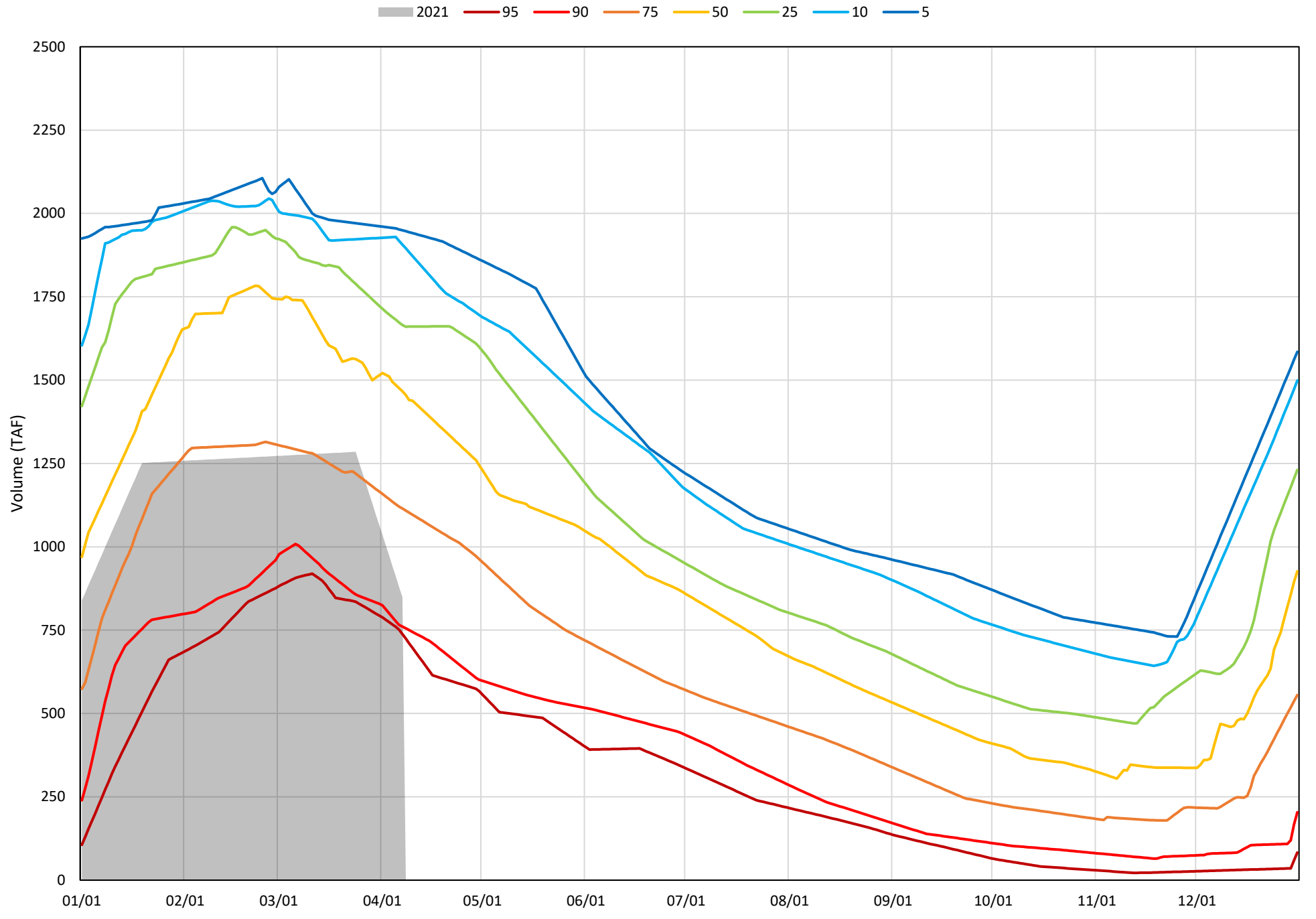


Trinity Lake Cold Water Pool Volume  $\leq 50^{\circ}\text{F}$  - Percent Exceedances (2000-2020)

2021 95 90 75 50 25 10 5



Trinity Lake Cold Water Pool Volume  $\leq 48^{\circ}\text{F}$  - Percent Exceedances (2000-2020)



Trinity Cold Water Pool Comparison by Year (for Specified Date)

Apr-08 2021	Δ TAF				% Δ			
	≤52°	≤50°	≤48°	Abs. Avg.	≤52°	≤50°	≤48°	Abs. Avg.
2000	990	964	717	890	89	95	84	89
2001	483	522	550	518	43	52	65	53
2002	625	676	733	678	56	67	86	70
2003	947	899	585	811	85	89	69	81
2004	717	691	718	709	64	68	85	72
2005	616	330	297	414	55	33	35	41
2006	1106	1210	1102	1139	99	119	130	116
2007	677	610	641	643	61	60	75	65
2008	490	578	486	518	44	57	57	53
2009	84	68	-112	88	8	7	-13	9
2010	247	287	234	256	22	28	28	26
2011	1014	1104	1079	1066	91	109	127	109
2012	842	858	969	890	75	85	114	91
2013	1006	788	620	805	90	78	73	80
2014	50	104	-32	62	4	10	-4	6
2015	-182	-183	-103	156	-16	-18	-12	15
2016	109	157	230	165	10	15	27	17
2017	946	899	905	917	85	89	107	93
2018	702	612	617	644	63	60	73	65
2019	948	1052	899	966	85	104	106	98
2020	744	632	407	594	67	62	48	59
2021	0	0	0	0	0	0	0	0

Historic - Current

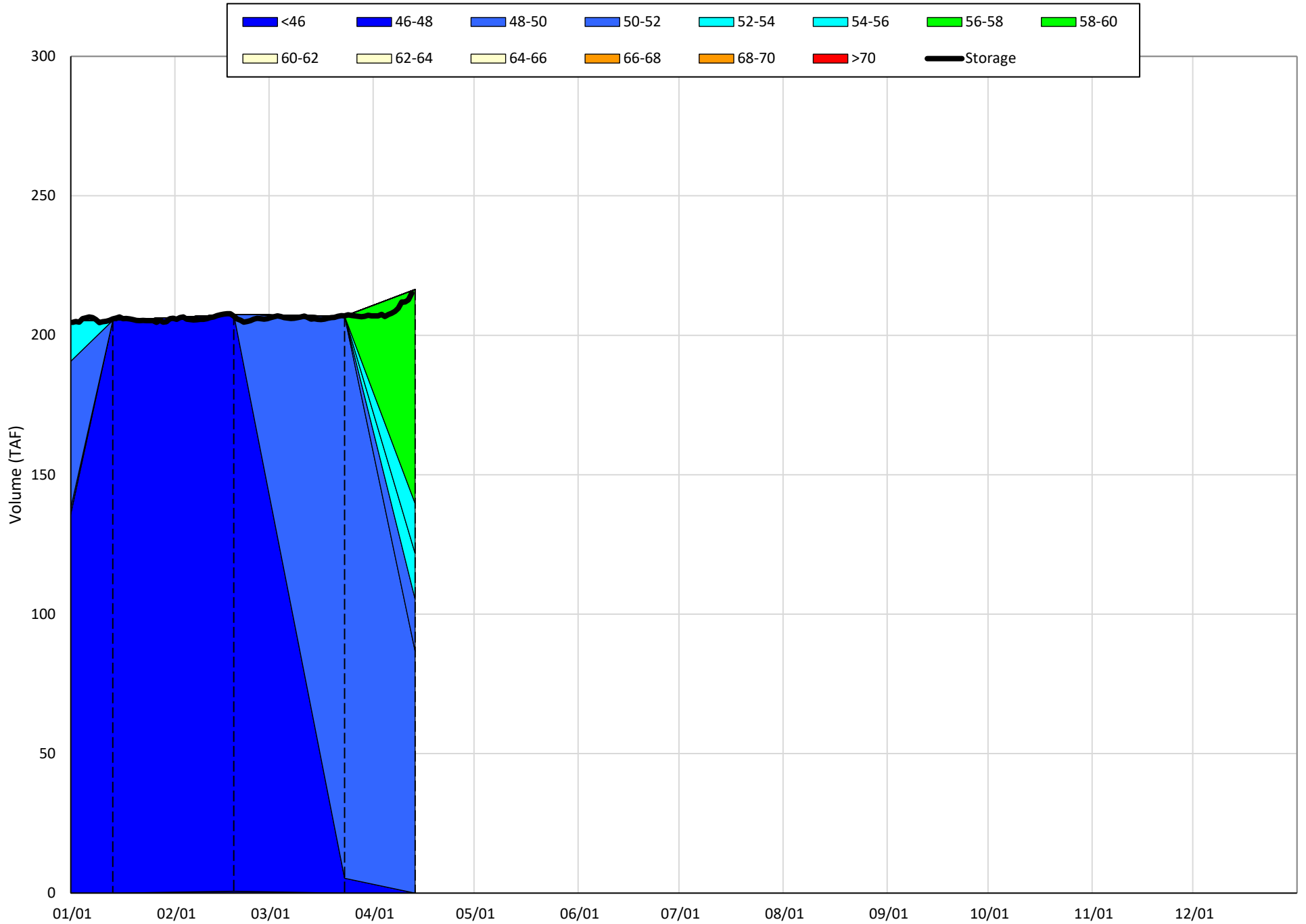
(Historic - Current) / Current

# Whiskeytown Lake Isothermobaths & Cold Water Pool Statistics

## 2021

Page	Description
24	- Whiskeytown Lake Isothermobaths Plot
25	- Whiskeytown Lake Cold Water Pool Volume $\leq 60^{\circ}\text{F}$
26	- Whiskeytown Lake Cold Water Pool Volume $\leq 58^{\circ}\text{F}$
27	- Whiskeytown Lake Cold Water Pool Volume $\leq 56^{\circ}\text{F}$
28	- Whiskeytown Lake Cold Water Pool Volume $\leq 60^{\circ}\text{F}$ - Percent Exceedances
29	- Whiskeytown Lake Cold Water Pool Volume $\leq 58^{\circ}\text{F}$ - Percent Exceedances
30	- Whiskeytown Lake Cold Water Pool Volume $\leq 56^{\circ}\text{F}$ - Percent Exceedances
31	- Whiskeytown Lake Cold Water Pool Comparison by Year

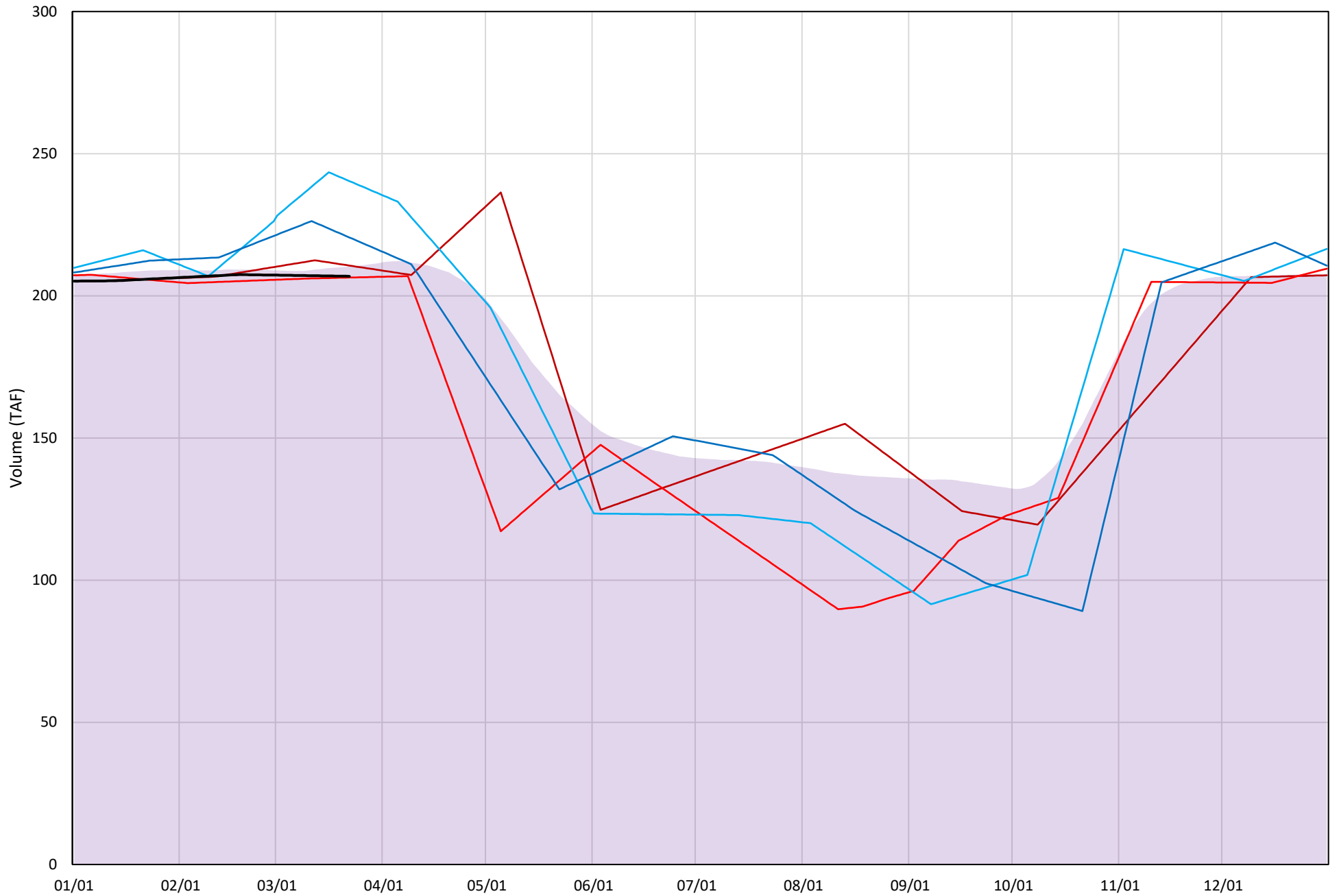
# Whiskeytown Lake Isothermobaths Plot - 2021





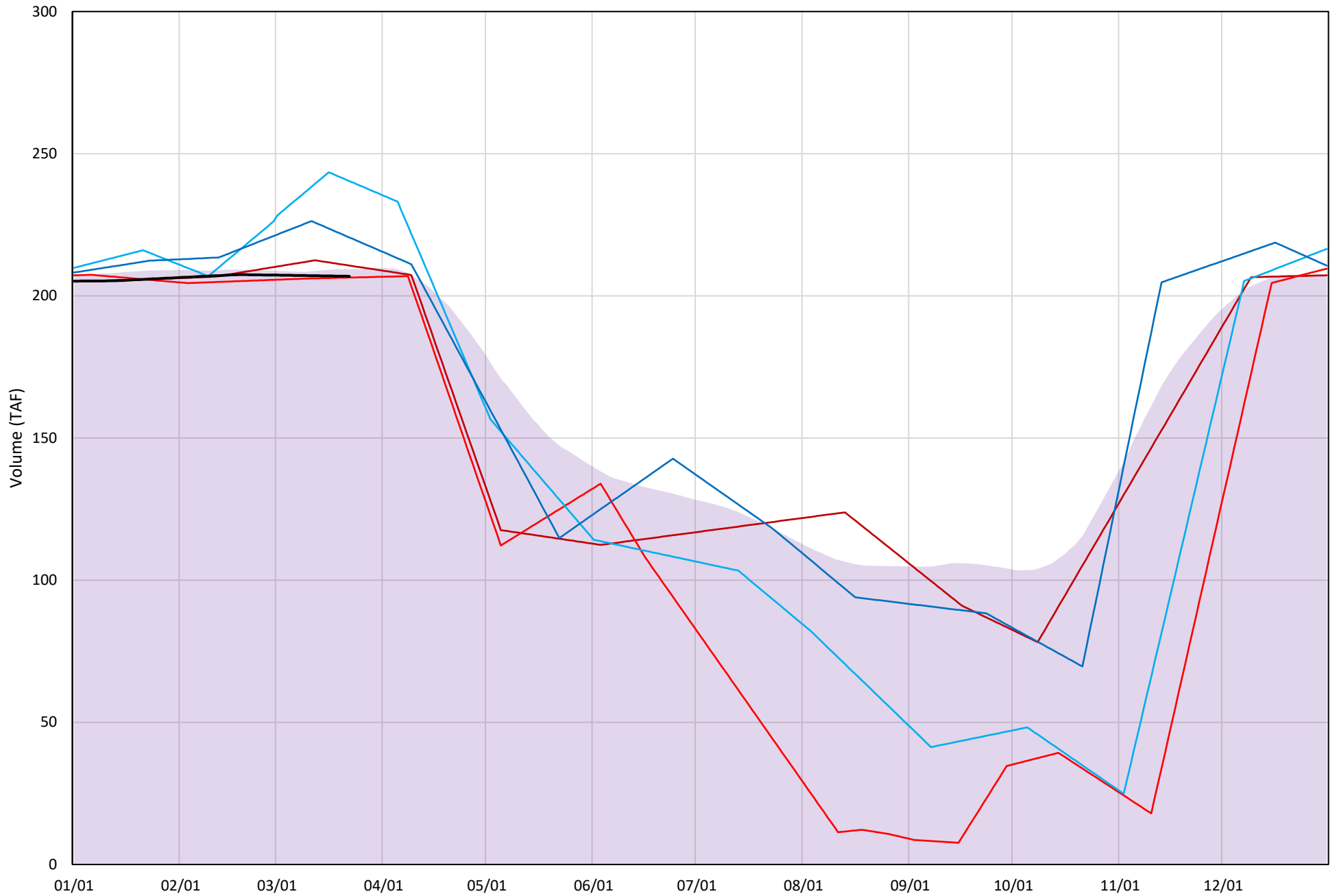
# Whiskeytown Lake Cold Water Pool Volume $\leq 60^{\circ}\text{F}$

Avg (2000-2020) 2014 2015 2016 2019 2021



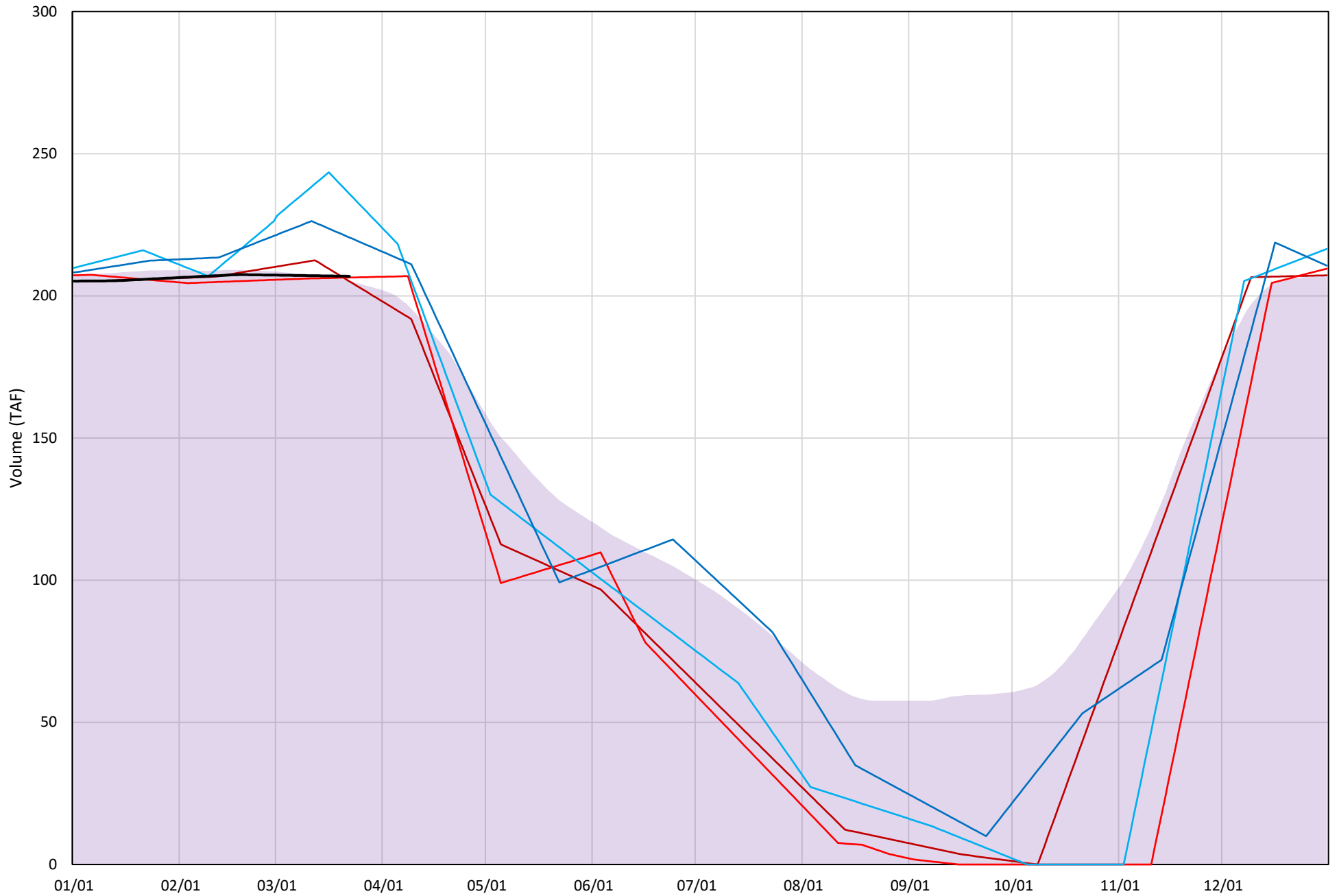
# Whiskeytown Lake Cold Water Pool Volume $\leq 58^{\circ}\text{F}$

Avg (2000-2020) 2014 2015 2016 2019 2021



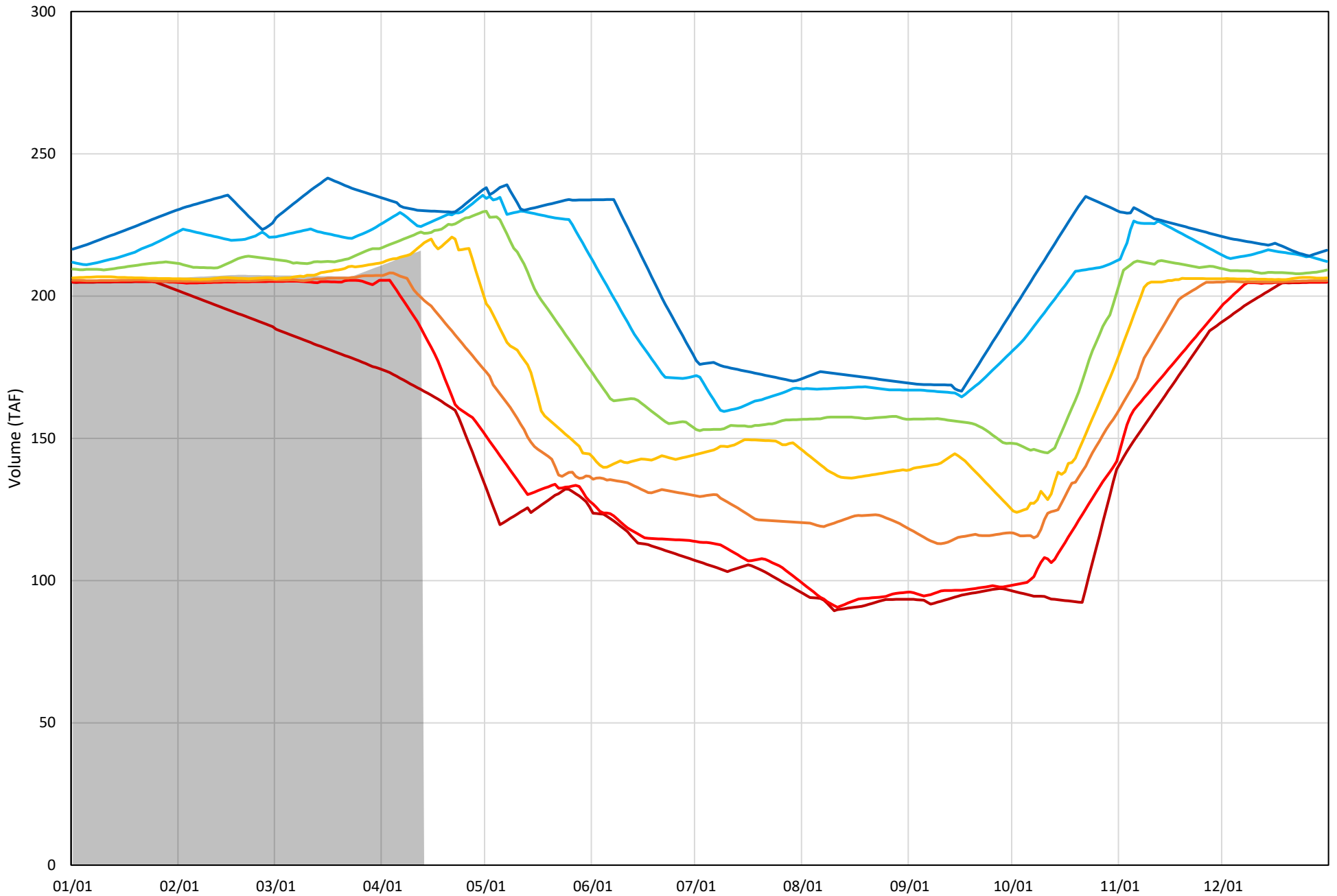
# Whiskeytown Lake Cold Water Pool Volume $\leq 56^{\circ}\text{F}$

Avg (2000-2020) 2014 2015 2016 2019 2021



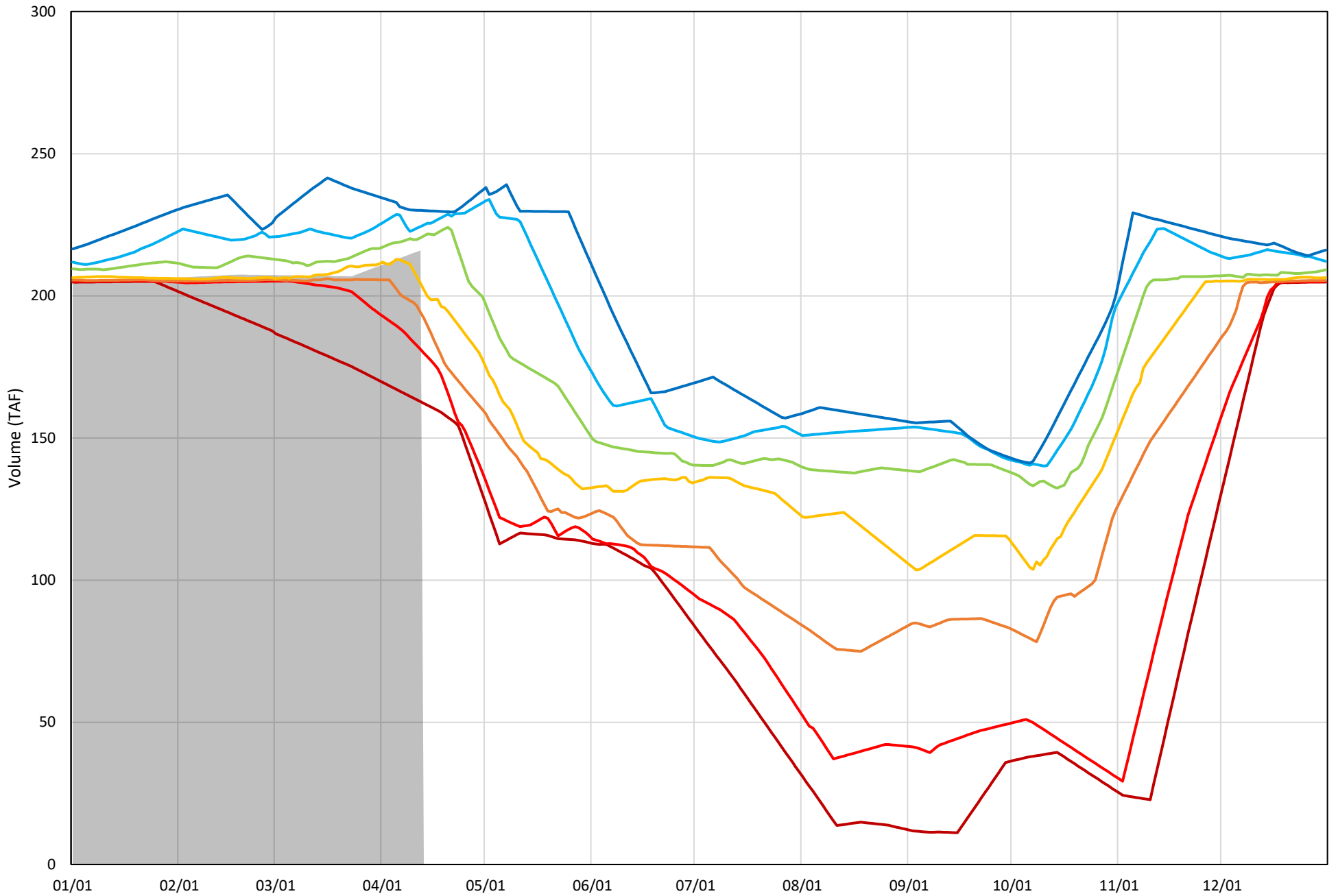
Whiskeytown Lake Cold Water Pool Volume  $\leq 60^{\circ}\text{F}$  - Percent Exceedances (2000-2020)

2021 95 90 75 50 25 10 5



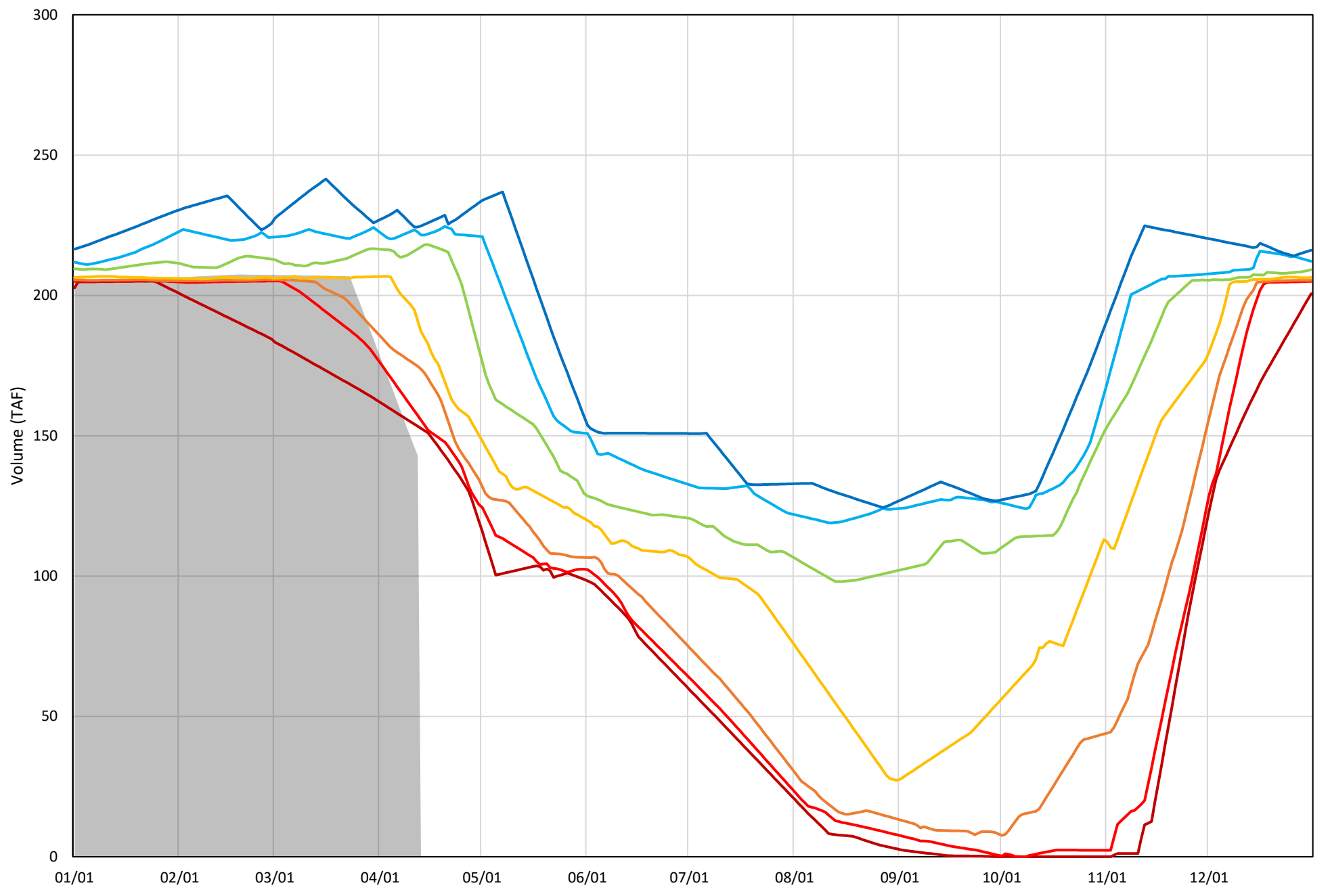
Whiskeytown Lake Cold Water Pool Volume  $\leq 58^{\circ}\text{F}$  - Percent Exceedances (2000-2020)

2021 95 90 75 50 25 10 5



Whiskeytown Lake Cold Water Pool Volume  $\leq 56^{\circ}\text{F}$  - Percent Exceedances (2000-2020)

2021 95 90 75 50 25 10 5



### Whiskeytown Cold Water Pool Comparison by Year (for Specified Date)

Apr-13 2021	Δ TAF				% Δ			
	≤60°	≤58°	≤56°	Abs. Avg.	≤60°	≤58°	≤56°	Abs. Avg.
2000	2	2	-19	8	1	1	-11	4
2001	-4	-23	-23	17	-2	-10	-13	8
2002	-3	-42	-17	21	-1	-19	-9	10
2003	-4	-4	38	15	-2	-2	21	8
2004	-8	-24	-10	14	-3	-11	-5	7
2005	3	3	45	17	1	1	25	9
2006	-2	-2	40	15	-1	-1	22	8
2007	-19	-23	6	16	-9	-10	3	7
2008	-2	-2	36	13	-1	-1	20	7
2009	-25	-29	10	21	-11	-13	5	10
2010	0	0	42	14	0	0	23	8
2011	9	9	43	21	4	4	24	11
2012	-57	-61	-27	48	-26	-27	-15	23
2013	-34	-34	1	23	-15	-16	0	10
2014	-11	-25	3	13	-5	-11	2	6
2015	-28	-29	11	23	-13	-13	6	11
2016	2	-8	16	9	1	-4	9	4
2017	2	-14	14	10	1	-6	8	5
2018	-25	-26	15	22	-11	-12	8	10
2019	-16	-17	24	19	-7	-8	13	9
2020	0	0	0	0	0	0	0	0

}

Historic - Current

}

(Historic - Current) / Current