

# Milk River Project Water Supply and Projected Operations



— BUREAU OF —  
RECLAMATION

November 2022



<b>Median Forecasted Operations</b>	<b>Sherburne</b>	<b>Fresno</b>	<b>Nelson</b>
November Inflow Forecast (kaf)	5	2	0
% of Average	68	82	-
November Release Forecast (cfs)	0	45	0
November 30 Elevation Forecast (feet)	4750.6	2561.5	2212.1

# Operations Review

## November 1 Elevation and Storage

	<b>Elevation (feet)</b>	<b>Storage (acre-feet)</b>	<b>Percent of Average</b>	<b>Percent Full</b>
Sherburne Reservoir	4744.55	12,068	62	18
Fresno Reservoir	2561.63	42,162	99	46
Nelson Reservoir	2212.68	45,653	81	58

## Past Inflows (1,000's of acre-feet)

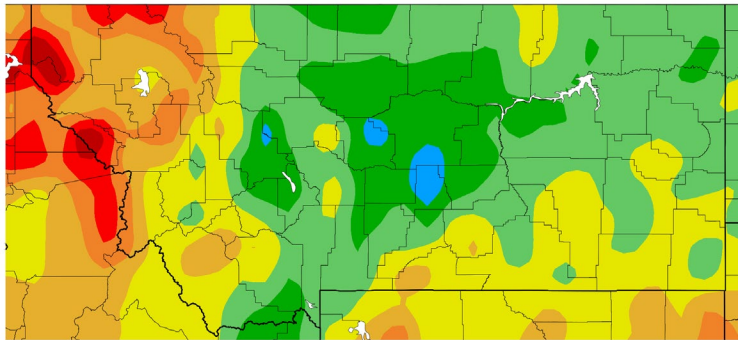
<b>Month</b>	<b>Sherburne Reservoir</b>		<b>Fresno Reservoir</b>	
	<b>Inflow</b>	<b>% of Average</b>	<b>Inflow</b>	<b>% of Average</b>
<b>Water Year 2023</b>				
October	2.4	36	8.0	127
<b>Water Year 2022</b>				
October	7.2	108	1.1	17
November	17.8	243	1.2	39
December	12.6	358	0.6	35
January	2.7	98	-0.2	-
February	1.6	70	0.6	14
March	3.9	102	11.6	47
April	4.8	48	37.6	119
May	27.6	89	35.6	85
June	57.3	150	43.8	89
July	25.7	141	34.1	116
August	8.5	100	32.5	112
September	4.2	76	30.4	146

# Climate Departure from Normal

October 1 through October 31, 2022

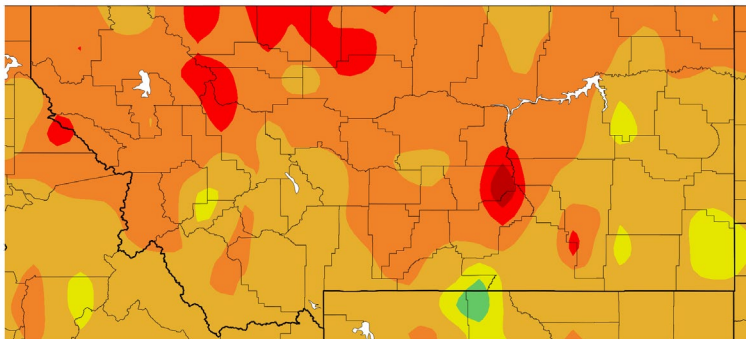
## Precipitation

Departure from Normal (inches)



## Temperature

Departure from Normal (°F)



HPRCC using provisional data NOAA Regional Climate Centers

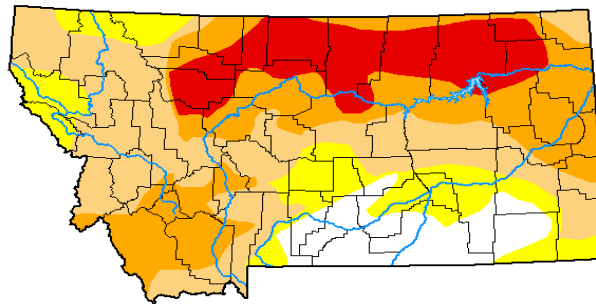
# CLIMATE SUMMARY

The climate in the St. Mary and Milk River basins was warmer than average during October. It was drier than average in the St. Mary River basin and near average in the Milk River basin. Moderate to extreme drought conditions persist throughout the Milk River basin. Abnormally dry conditions remain in the St. Mary River basin.

There is a 50-60 percent chance that precipitation will be above average in the St. Mary and Milk River basins during November. There is a 40 to 50 percent chance temperatures in the St. Mary and Milk River basins will be below average.

## Montana Drought Monitor Map

October 25, 2022



**Intensity:**

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

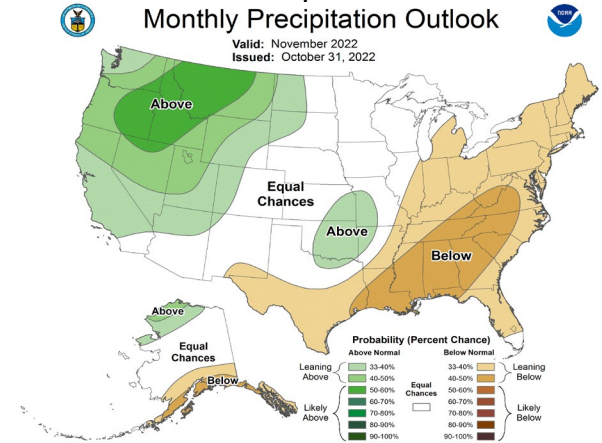


# November Climate Outlook

## Precipitation

Monthly Precipitation Outlook

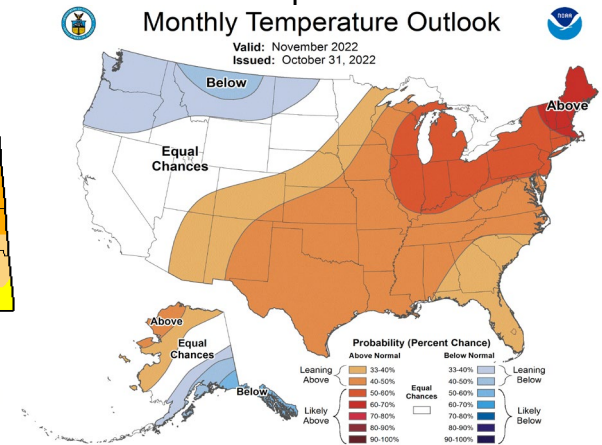
Valid: November 2022  
Issued: October 31, 2022



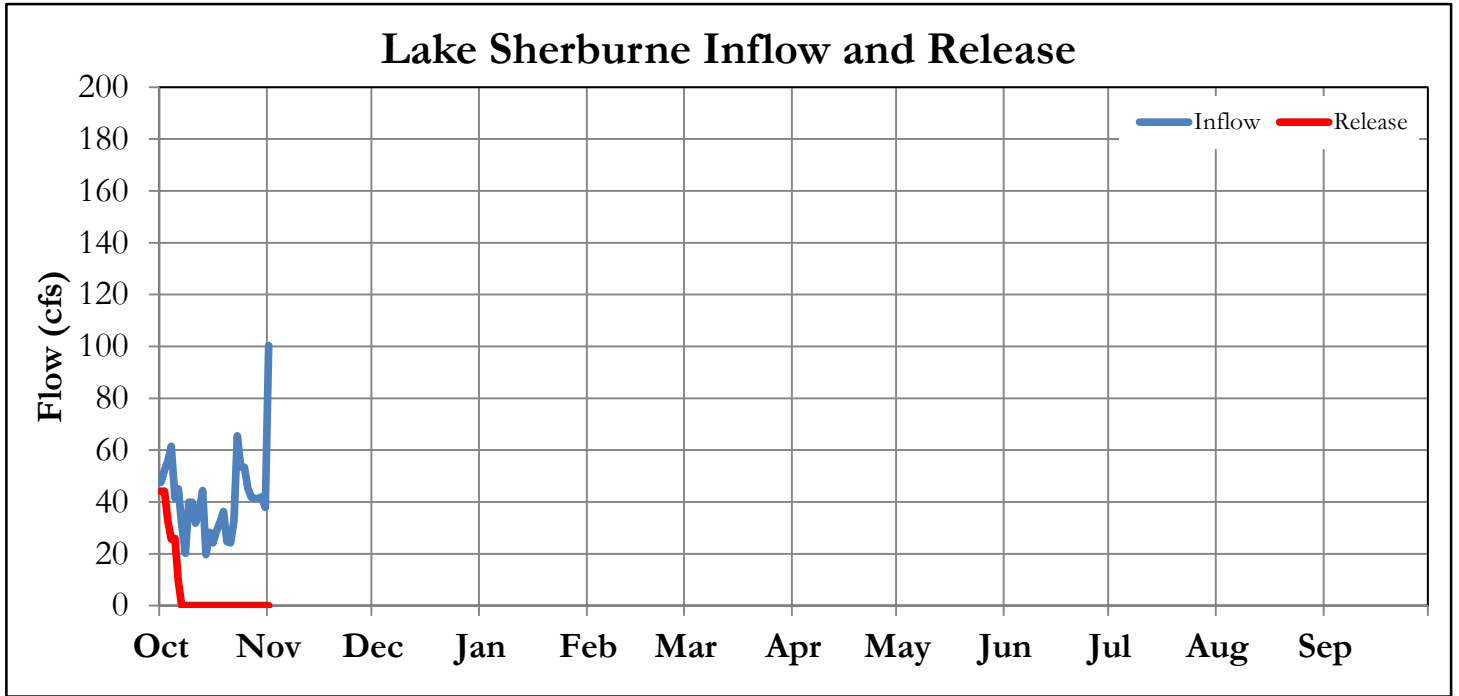
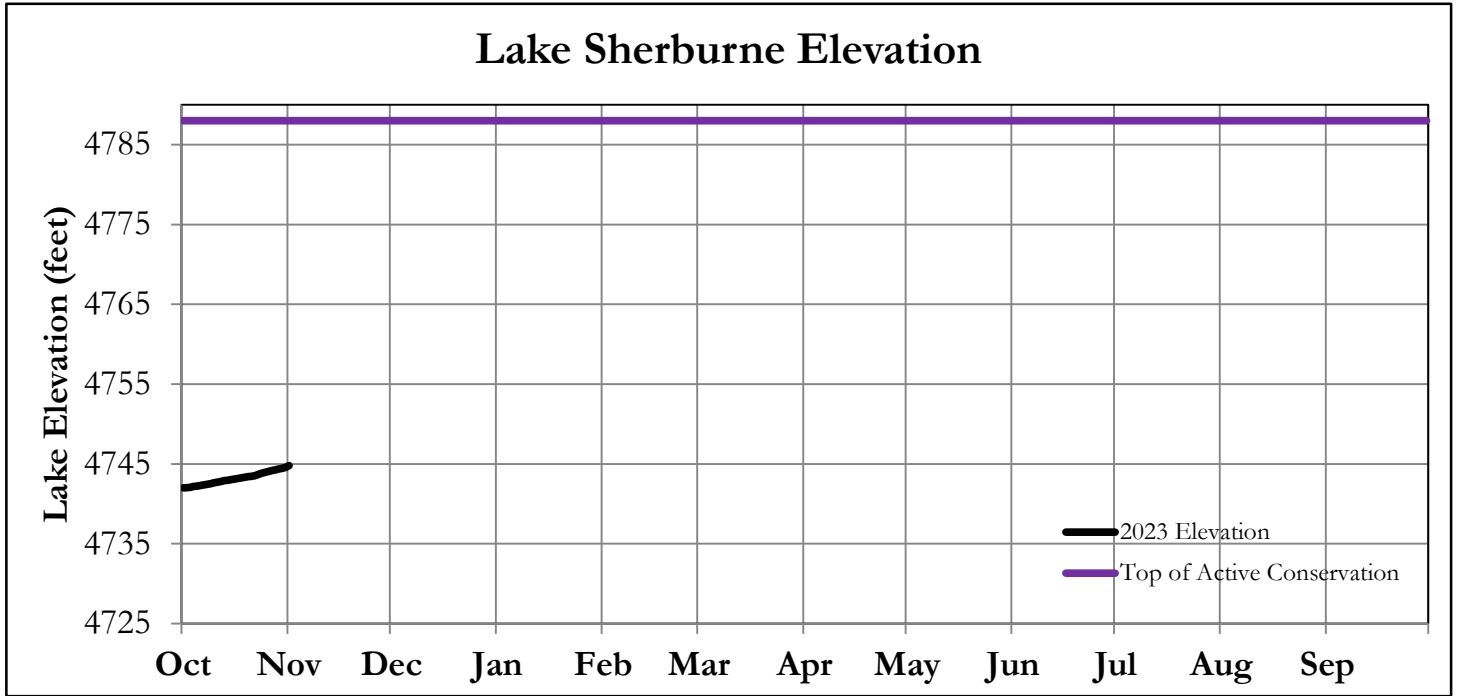
## Temperature

Monthly Temperature Outlook

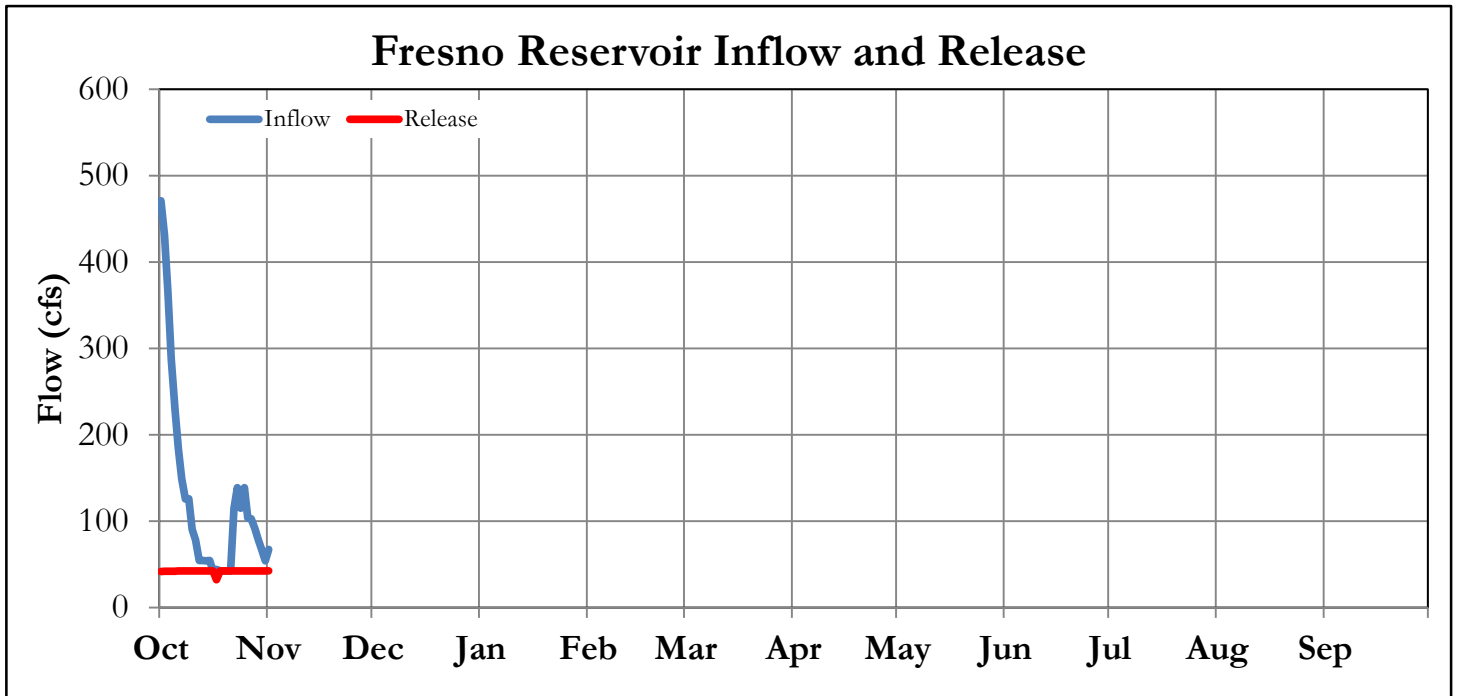
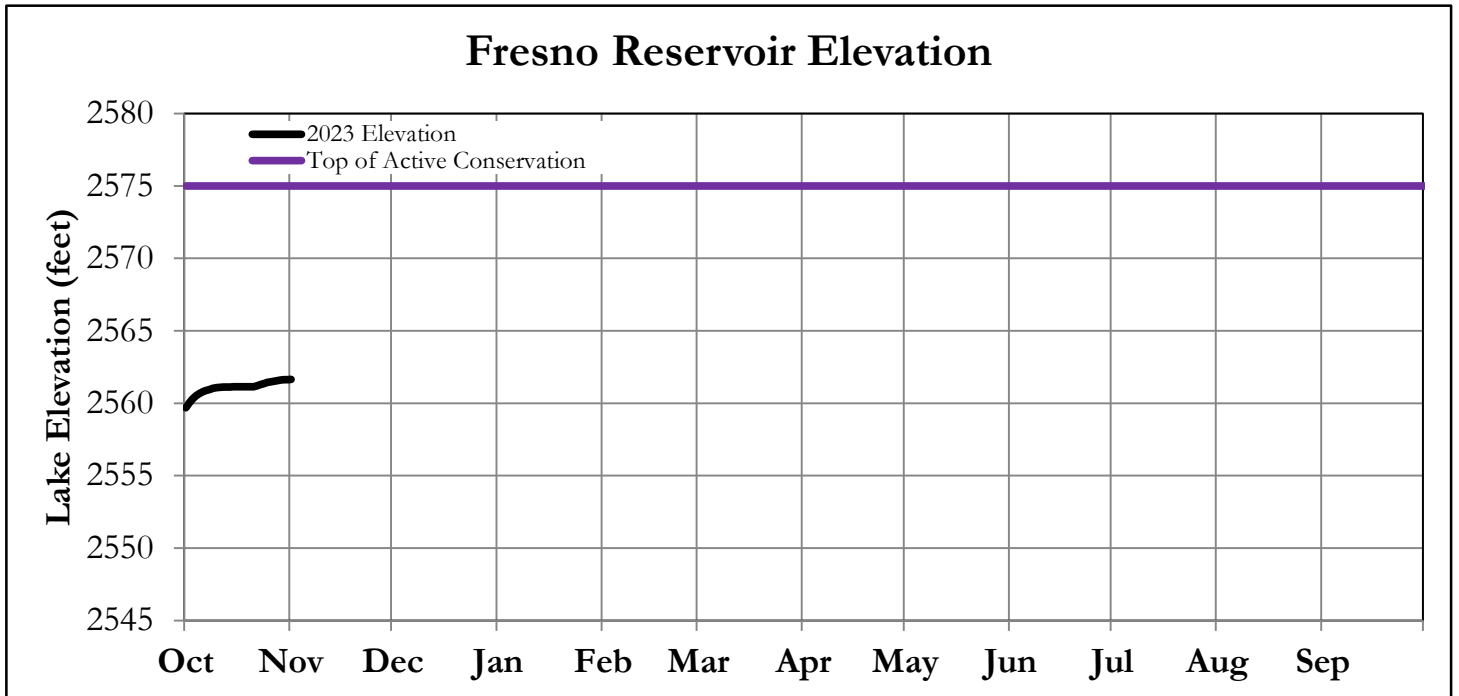
Valid: November 2022  
Issued: October 31, 2022



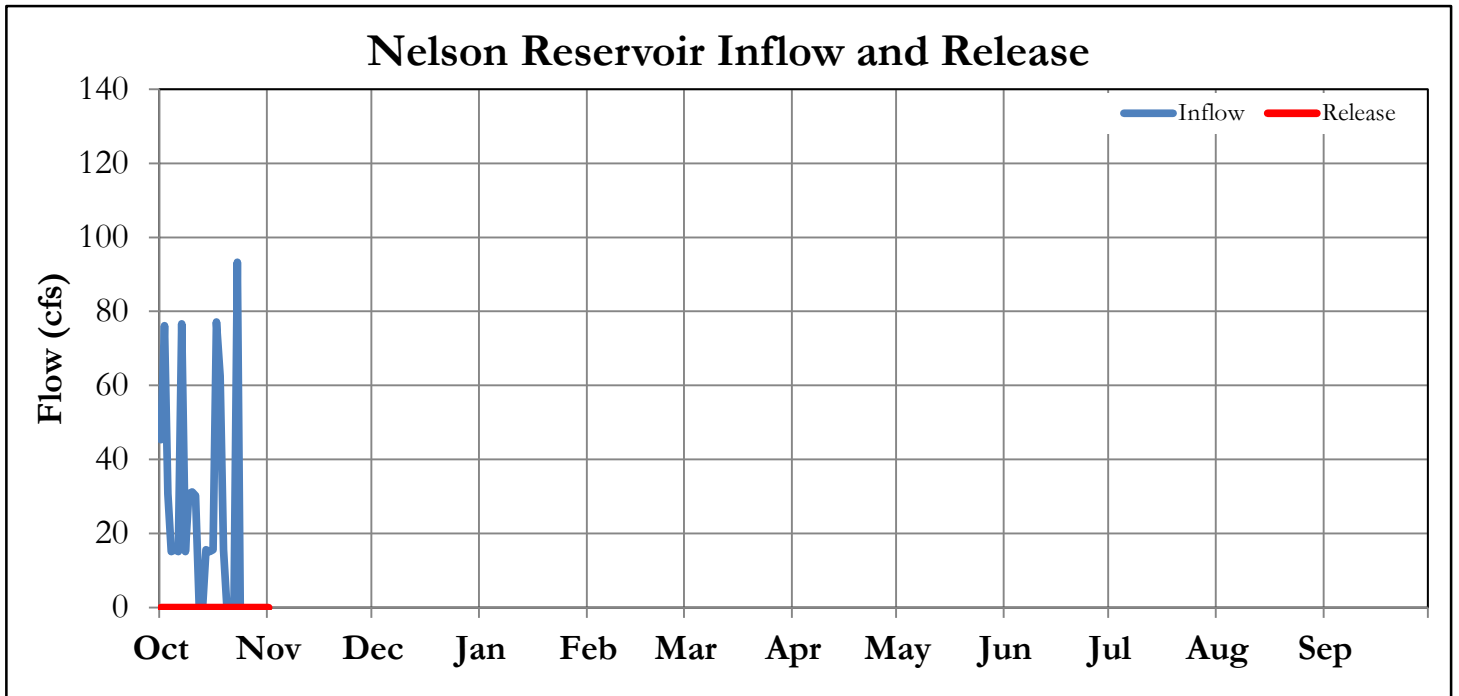
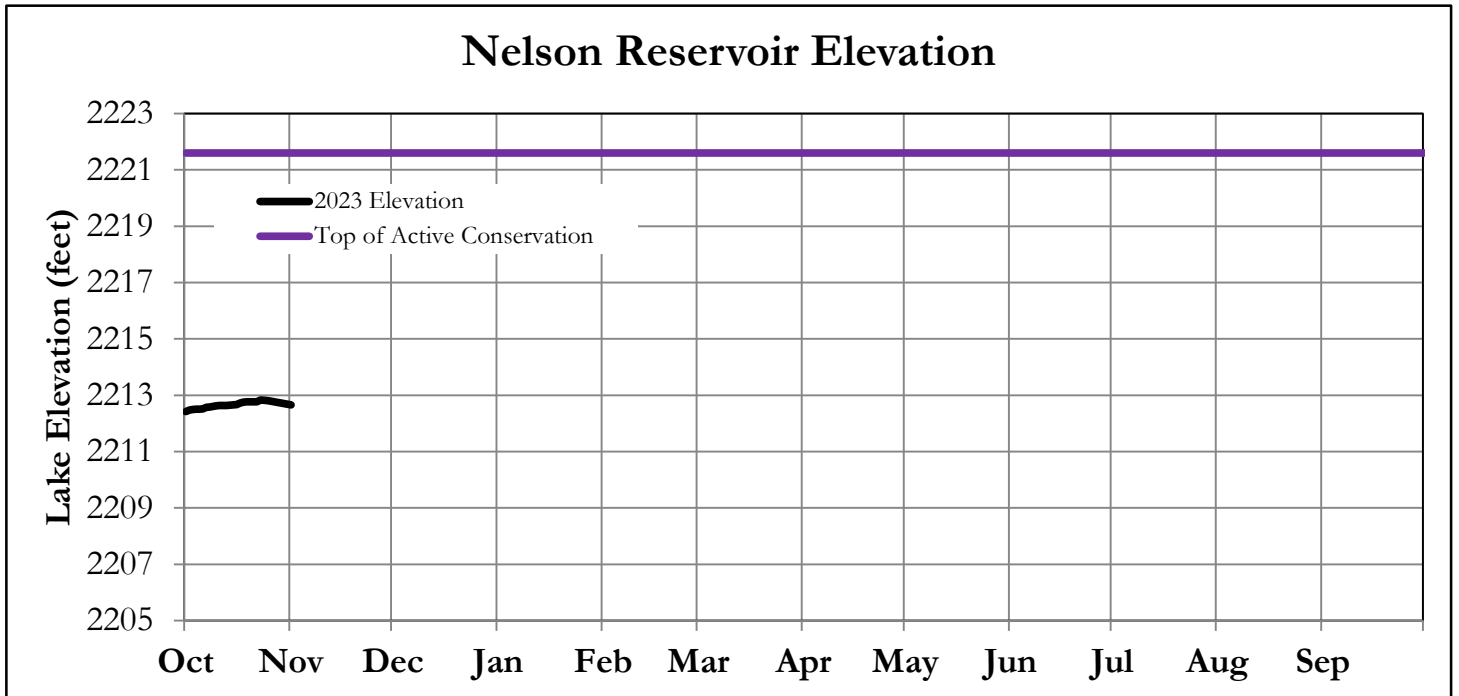
# OPERATIONS REVIEW: Lake Sherburne



# OPERATIONS REVIEW: Fresno Reservoir



# OPERATIONS REVIEW: Nelson Reservoir



# OPERATIONS OUTLOOK (November 1, 2022 through October 31, 2023)

<b>Median Inflow Conditions</b>													
<b>Sherburne Reservoir</b>	<b>Initial Content</b>		<b>12,068 acre-feet</b>										
	<b>Elevation</b>		<b>4744.55 feet</b>										
	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Total</b>
<b>Sherburne Inflow (kaf)</b>	5.3	3.7	2.9	2.8	3.2	9.5	32.9	39.3	17.5	8.6	7.2	6.8	139.7
<b>Sherburne Release (kaf)</b>	0.0	0.0	0.0	0.0	0.3	30.8	15.9	1.5	15.6	35.3	33.3	9.8	142.5
<b>Sherburne Release (cfs)</b>	0	0	0	0	5	518	259	25	254	574	560	159	
<b>Net Content Change (kaf)</b>	5.3	3.7	2.9	2.8	2.9	-21.3	17.0	37.8	1.9	-26.7	-26.1	-3.0	-2.8
<b>End of Month Content (kaf)</b>	17.4	21.1	24.0	26.8	29.7	8.4	25.4	63.2	65.1	38.4	12.3	9.3	
<b>End of Month Elevation (feet)</b>	4750.6	4754.4	4757.2	4759.8	4762.5	4739.9	4758.6	4786.3	4787.4	4769.7	4744.8	4741.1	
	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Total</b>
<b>St. Mary River Runoff (kaf)</b>	12.9	8.8	7.2	6.1	8.7	24.5	95.5	135.0	80.6	32.3	19.0	18.7	449.3
<b>Natural Flow at Boundary (kaf)</b>	18.2	12.5	10.1	8.9	11.9	34.0	128.4	174.3	98.1	40.9	26.2	25.5	589.0
<b>St. Mary Canal Diversion (cfs)</b>	0	0	0	0	50	501	600	600	600	600	550	200	
<b>St. Mary Canal Diversion (kaf)</b>	0.0	0.0	0.0	0.0	3.1	29.8	36.9	35.7	36.9	36.9	32.7	12.3	224.3
	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Total</b>
<b>Fresno Reservoir</b>	<b>Initial Content</b>		<b>42,162 acre-feet</b>										
	<b>Elevation</b>		<b>2561.63 feet</b>										
	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Total</b>
<b>Milk River Runoff (kaf)</b>	2.4	2.2	1.8	4.7	14.5	15.1	7.3	5.0	0.8	0.0	2.8	4.2	60.8
<b>From St. Mary Canal (kaf)</b>	0.0	0.0	0.0	0.0	0.0	26.8	33.2	28.6	29.5	29.5	27.8	11.1	186.5
<b>Fresno Inflow (kaf)</b>	2.4	2.2	1.8	4.7	14.5	41.9	40.5	33.6	30.3	29.5	30.6	15.3	247.3
<b>Fresno Release (kaf)</b>	2.7	2.8	2.8	2.5	2.8	4.4	40.5	46.3	61.2	64.6	6.0	2.8	239.4
<b>Fresno Release (cfs)</b>	45	46	46	45	46	74	659	778	995	1051	101	46	
<b>Net Content Change (kaf)</b>	-0.3	-0.6	-1.0	2.2	11.7	37.5	0.0	-12.7	-30.9	-35.1	24.6	12.5	7.9
<b>End of Month Content (kaf)</b>	41.9	41.3	40.3	42.5	54.2	91.7	91.7	79.0	48.1	13.0	37.6	50.1	
<b>End of Month Elevation (feet)</b>	2561.5	2561.3	2560.9	2561.8	2565.9	2575.0	2575.0	2572.4	2564.0	2545.8	2559.7	2564.6	
<b>Irrigation Allotment (ft/ac)</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.50	0.65	0.60	0.00	0.00	2.00
<b>Irrigation Delivery (kaf)</b>	0.0	0.0	0.0	0.0	0.0	0.0	23.2	46.3	60.2	55.6	0.0	0.0	185.3
<b>FBIIP Demand (kaf)</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	6.0	6.0	0.0	13.0
<b>Fresno to Dodson Gain (kaf)</b>	0.0	0.0	0.0	0.0	17.4	18.2	12.6	16.4	6.8	2.0	5.4	2.0	80.8
<b>Bowdoin Demand (kaf)</b>	0.0	0.0	0.0	0.0	0.0	2.0	1.5	0.0	0.0	0.0	0.0	0.0	3.5
<b>Transfer to Nelson (kaf)</b>	0.0	0.0	0.0	0.0	10.0	20.0	10.0	10.0	5.0	5.0	5.0	1.0	66.0
	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Total</b>
<b>Nelson Reservoir</b>	<b>Initial Content</b>		<b>45,653 acre-feet</b>										
	<b>Elevation</b>		<b>2212.68 feet</b>										
<b>Delivery to Nelson (kaf)</b>	0.0	0.0	0.0	0.0	9.0	18.0	9.0	9.0	4.5	4.5	4.5	0.9	59.4
<b>Net Content Change (kaf)</b>	-1.8	-1.8	-1.8	-1.7	7.2	16.2	2.6	-2.0	-13.5	-13.9	2.7	-0.9	-8.7
<b>End of Month Content (kaf)</b>	43.9	42.1	40.3	38.6	45.8	62.0	64.6	62.6	49.1	35.2	37.9	37.0	
<b>End of Month Elevation (feet)</b>	2212.1	2211.5	2210.8	2210.1	2212.7	2217.4	2218.1	2217.6	2213.8	2208.7	2209.8	2209.5	
<b>Total Release (kaf)</b>	0.0	0.0	0.0	0.0	0.0	0.0	4.6	9.2	16.2	16.6	0.0	0.0	46.6

# OPERATIONS OUTLOOK (November 1, 2022 through October 31, 2023)

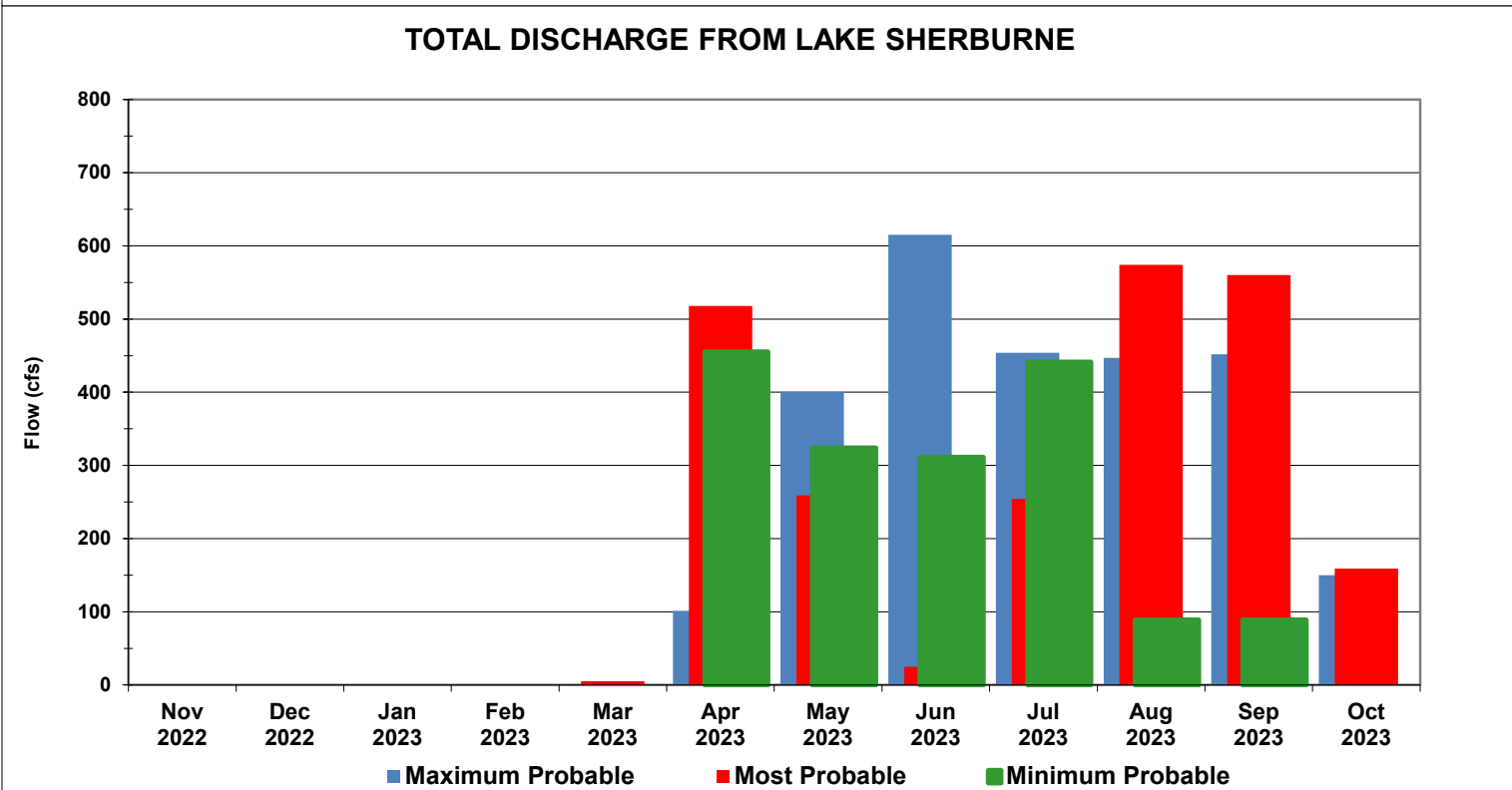
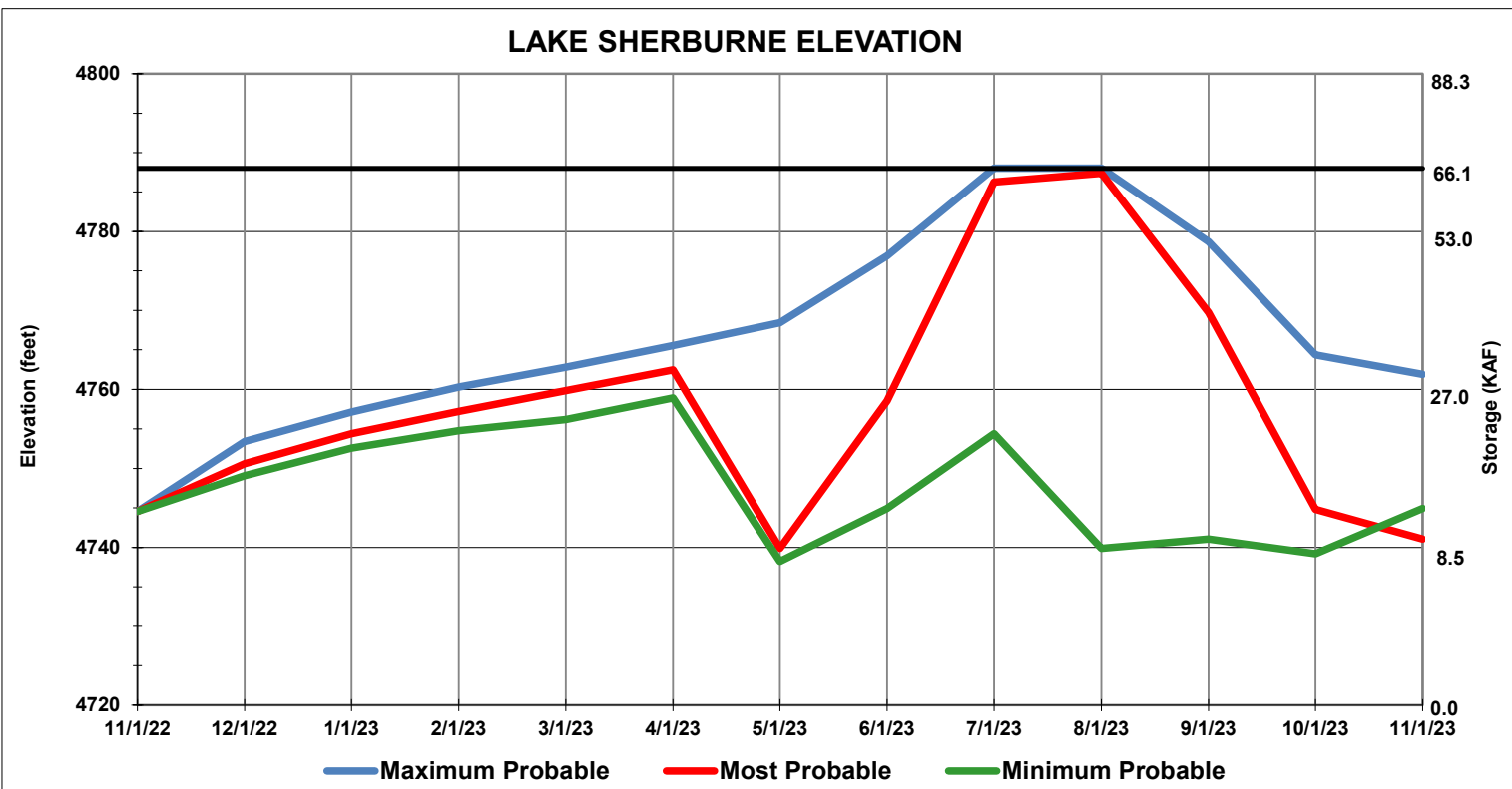
<b>Minimum Inflow Conditions</b>													
<b>Sherburne Reservoir</b>	<b>Initial Content Elevation</b>		12,068 <b>acre-feet</b> 4744.55 <b>feet</b>										
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Total
<b>Sherburne Inflow (kaf)</b>	3.9	3.3	2.2	1.4	2.9	8.5	25.1	27.2	14.4	6.4	3.9	4.5	103.7
<b>Sherburne Release (kaf)</b>	0.0	0.0	0.0	0.0	0.0	27.1	19.9	18.5	27.1	5.5	5.3	0.0	103.4
<b>Sherburne Release (cfs)</b>	0	0	0	0	0	455	324	311	441	89	89	0	
<b>Net Content Change (kaf)</b>	3.9	3.3	2.2	1.4	2.9	-18.6	5.2	8.7	-12.7	0.9	-1.4	4.5	0.3
<b>End of Month Content (kaf)</b>	16.0	19.3	21.5	22.9	25.8	7.2	12.4	21.1	8.4	9.3	7.9	12.4	
<b>End of Month Elevation (feet)</b>	4749.1	4752.6	4754.8	4756.2	4758.9	4738.2	4745.0	4754.4	4739.9	4741.1	4739.2	4745.0	
	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Total</b>
<b>St. Mary River Runoff (kaf)</b>	4.8	4.8	4.0	4.6	4.1	7.4	68.2	81.5	42.1	21.7	14.5	8.4	266.1
<b>Natural Flow at Boundary (kaf)</b>	8.7	8.1	6.2	6.0	7.0	15.9	93.3	108.7	56.5	28.1	18.4	12.9	369.8
<b>St. Mary Canal Diversion (cfs)</b>	0	0	0	0	0	400	600	600	499	99	101	0	
<b>St. Mary Canal Diversion (kaf)</b>	0.0	0.0	0.0	0.0	0.0	23.8	36.9	35.7	30.7	6.1	6.0	0.0	139.2
<b>Fresno Reservoir</b>	<b>Initial Content Elevation</b>		42,162 <b>acre-feet</b> 2561.63 <b>feet</b>										
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Total
<b>Milk River Runoff (kaf)</b>	0.5	0.2	0.3	0.7	4.7	3.5	1.3	1.2	0.0	0.0	0.6	2.0	15.0
<b>From St. Mary Canal (kaf)</b>	0.0	0.0	0.0	0.0	0.0	17.9	33.2	28.6	20.0	4.0	4.8	0.0	108.5
<b>Fresno Inflow (kaf)</b>	0.5	0.2	0.3	0.7	4.7	21.4	34.5	29.8	20.0	4.0	5.4	2.0	123.5
<b>Fresno Release (kaf)</b>	2.7	2.8	2.8	2.5	2.8	10.9	26.9	46.3	33.4	6.1	6.0	2.8	146.0
<b>Fresno Release (cfs)</b>	45	46	46	45	46	183	437	778	543	99	101	46	
<b>Net Content Change (kaf)</b>	-2.2	-2.6	-2.5	-1.8	1.9	10.5	7.6	-16.5	-13.4	-2.1	-0.6	-0.8	-22.5
<b>End of Month Content (kaf)</b>	40.0	37.4	34.9	33.1	35.0	45.5	53.1	36.6	23.2	21.1	20.5	19.7	
<b>End of Month Elevation (feet)</b>	2560.7	2559.6	2558.5	2557.6	2558.5	2563.0	2565.6	2559.2	2552.4	2551.2	2550.8	2550.4	
<b>Irrigation Allotment (ft/ac)</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.50	0.35	0.00	0.00	0.00	1.10
<b>Irrigation Delivery (kaf)</b>	0.0	0.0	0.0	0.0	0.0	0.0	23.2	46.3	32.4	0.0	0.0	0.0	101.9
<b>FBIIP Demand (kaf)</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	6.0	6.0	0.0	13.0
<b>Fresno to Dodson Gain (kaf)</b>	0.0	0.0	0.0	0.0	8.7	9.1	6.3	8.2	3.4	1.0	2.7	2.0	41.4
<b>Bowdoin Demand (kaf)</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Transfer to Nelson (kaf)</b>	0.0	0.0	0.0	0.0	10.0	20.0	10.0	5.0	0.0	0.0	0.0	0.6	45.6
<b>Nelson Reservoir</b>	<b>Initial Content Elevation</b>		45,653 <b>acre-feet</b> 2212.68 <b>feet</b>										
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Total
<b>Delivery to Nelson (kaf)</b>	0.0	0.0	0.0	0.0	9.0	18.0	9.0	4.5	0.0	0.0	0.0	0.5	41.0
<b>Net Content Change (kaf)</b>	-1.8	-1.8	-1.8	-1.7	7.2	16.2	0.3	-8.0	-8.2	-1.8	-1.8	-1.3	-4.5
<b>End of Month Content (kaf)</b>	43.9	42.1	40.3	38.6	45.8	62.0	62.3	54.3	46.1	44.3	42.5	41.2	
<b>End of Month Elevation (feet)</b>	2212.1	2211.5	2210.8	2210.1	2212.7	2217.4	2217.5	2215.3	2212.8	2212.2	2211.6	2211.1	
<b>Total Release (kaf)</b>	0.0	0.0	0.0	0.0	0.0	0.0	6.9	10.7	6.4	0.0	0.0	0.0	24.0



# OPERATIONS OUTLOOK (November 1, 2022 through October 31, 2023)

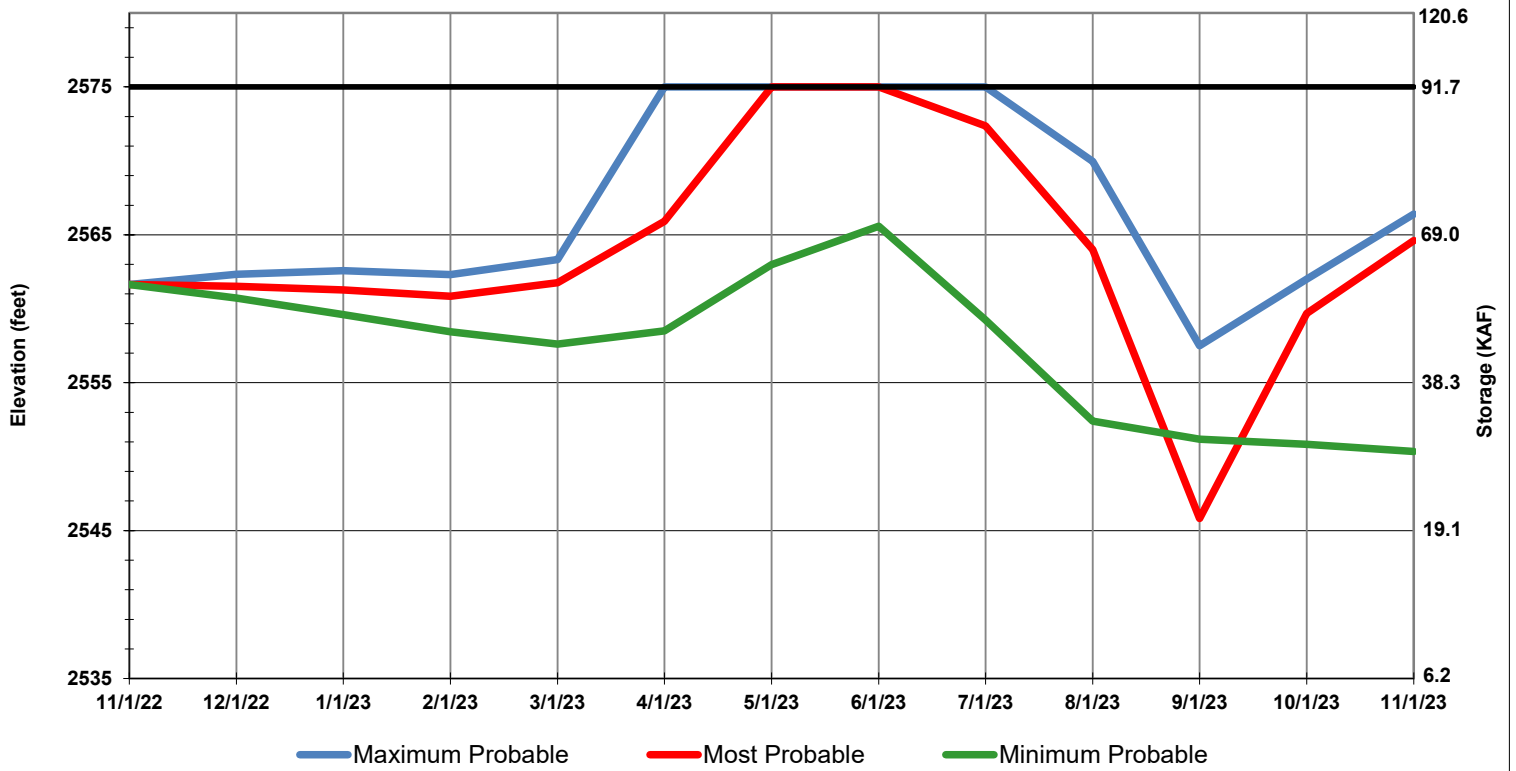
<b>Maximum Inflow Conditions</b>													
<b>Sherburne Reservoir</b>	<b>Initial Content Elevation</b>		12,068 <b>acre-feet</b> 4744.55 <b>feet</b>										
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Total
<b>Sherburne Inflow (kaf)</b>	8.0	3.8	3.4	2.8	3.2	9.5	36.1	54.5	27.9	12.3	7.8	6.4	175.7
<b>Sherburne Release (kaf)</b>	0.0	0.0	0.0	0.0	0.0	6.0	24.6	36.6	27.9	27.5	26.9	9.2	158.7
<b>Sherburne Release (cfs)</b>	0	0	0	0	0	101	400	615	454	447	452	150	
<b>Net Content Change (kaf)</b>	8.0	3.8	3.4	2.8	3.2	3.5	11.5	17.9	0.0	-15.2	-19.1	-2.8	17.0
<b>End of Month Content (kaf)</b>	20.1	23.9	27.3	30.1	33.3	36.8	48.3	66.2	66.2	51.0	31.9	29.1	
<b>End of Month Elevation (feet)</b>	4753.4	4757.1	4760.3	4762.8	4765.6	4768.5	4776.9	4788.0	4788.0	4778.7	4764.4	4761.9	
	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Total</b>
<b>St. Mary River Runoff (kaf)</b>	34.6	21.2	15.8	14.4	21.7	46.1	147.5	215.6	130.5	51.7	39.3	46.3	784.7
<b>Natural Flow at Boundary (kaf)</b>	42.6	25.0	19.2	17.2	24.9	55.6	183.6	270.1	158.4	64.0	47.1	52.7	960.4
<b>St. Mary Canal Diversion (cfs)</b>	0	0	0	0	0	0	0	301	600	600	550	99	
<b>St. Mary Canal Diversion (kaf)</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.9	36.9	36.9	32.7	6.1	130.5
<b>Fresno Reservoir</b>	<b>Initial Content Elevation</b>		42,162 <b>acre-feet</b> 2561.63 <b>feet</b>										
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Total
<b>Milk River Runoff (kaf)</b>	4.4	3.4	2.1	5.1	48.4	38.5	27.4	39.2	7.0	3.7	10.3	10.0	199.5
<b>From St. Mary Canal (kaf)</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.2	31.4	33.2	29.4	5.5	114.7
<b>Fresno Inflow (kaf)</b>	4.4	3.4	2.1	5.1	48.4	38.5	27.4	54.4	38.4	36.9	39.7	15.5	314.2
<b>Fresno Release (kaf)</b>	2.7	2.8	2.8	2.5	3.1	38.5	27.4	54.4	61.2	72.9	29.5	2.8	300.6
<b>Fresno Release (cfs)</b>	45	46	46	45	50	647	446	914	995	1186	496	46	
<b>Net Content Change (kaf)</b>	1.7	0.6	-0.7	2.6	45.3	0.0	0.0	0.0	-22.8	-36.0	10.2	12.7	13.6
<b>End of Month Content (kaf)</b>	43.9	44.5	43.8	46.4	91.7	91.7	91.7	91.7	68.9	32.9	43.1	55.8	
<b>End of Month Elevation (feet)</b>	2562.3	2562.6	2562.3	2563.3	2575.0	2575.0	2575.0	2575.0	2570.0	2557.5	2562.0	2566.4	
<b>Irrigation Allotment (ft/ac)</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.50	0.65	0.70	0.20	0.00	2.30
<b>Irrigation Delivery (kaf)</b>	0.0	0.0	0.0	0.0	0.0	0.0	23.2	46.3	60.2	64.9	18.5	0.0	213.1
<b>FBIIP Demand (kaf)</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	6.0	6.0	0.0	13.0
<b>Fresno to Dodson Gain (kaf)</b>	0.0	0.0	0.0	0.0	22.6	23.7	16.4	21.3	12.0	3.0	7.0	4.0	110.0
<b>Bowdoin Demand (kaf)</b>	0.0	0.0	0.0	0.0	0.0	2.0	1.5	0.0	0.0	0.0	0.0	0.0	3.5
<b>Transfer to Nelson (kaf)</b>	0.0	0.0	0.0	0.0	10.0	20.0	15.0	10.0	5.0	5.0	12.0	5.0	82.0
<b>Nelson Reservoir</b>	<b>Initial Content Elevation</b>		45,653 <b>acre-feet</b> 2212.68 <b>feet</b>										
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Total
<b>Delivery to Nelson (kaf)</b>	0.0	0.0	0.0	0.0	9.0	18.0	13.5	9.0	4.5	4.5	10.8	4.5	73.8
<b>Net Content Change (kaf)</b>	-1.8	-1.8	-1.8	-1.7	7.2	16.2	7.1	-2.0	-9.2	-16.7	3.4	2.7	1.6
<b>End of Month Content (kaf)</b>	43.9	42.1	40.3	38.6	45.8	62.0	69.1	67.1	57.9	41.2	44.6	47.3	
<b>End of Month Elevation (feet)</b>	2212.1	2211.5	2210.8	2210.1	2212.7	2217.4	2219.2	2218.7	2216.3	2211.1	2212.3	2213.2	
<b>Total Release (kaf)</b>	0.0	0.0	0.0	0.0	0.0	0.0	4.6	9.2	11.9	19.4	5.6	0.0	50.7

# LAKE SHERBURNE

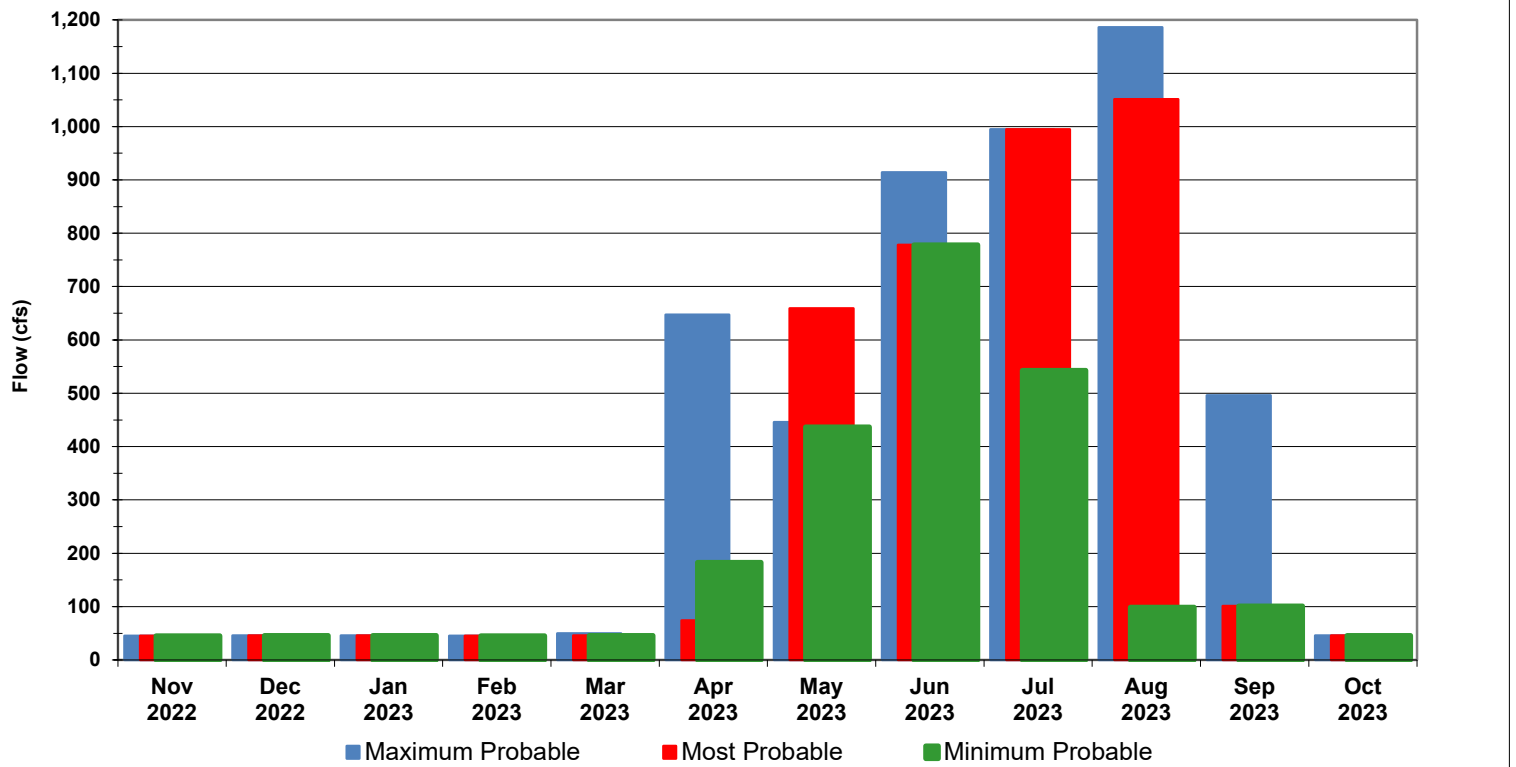


# FRESNO RESERVOIR

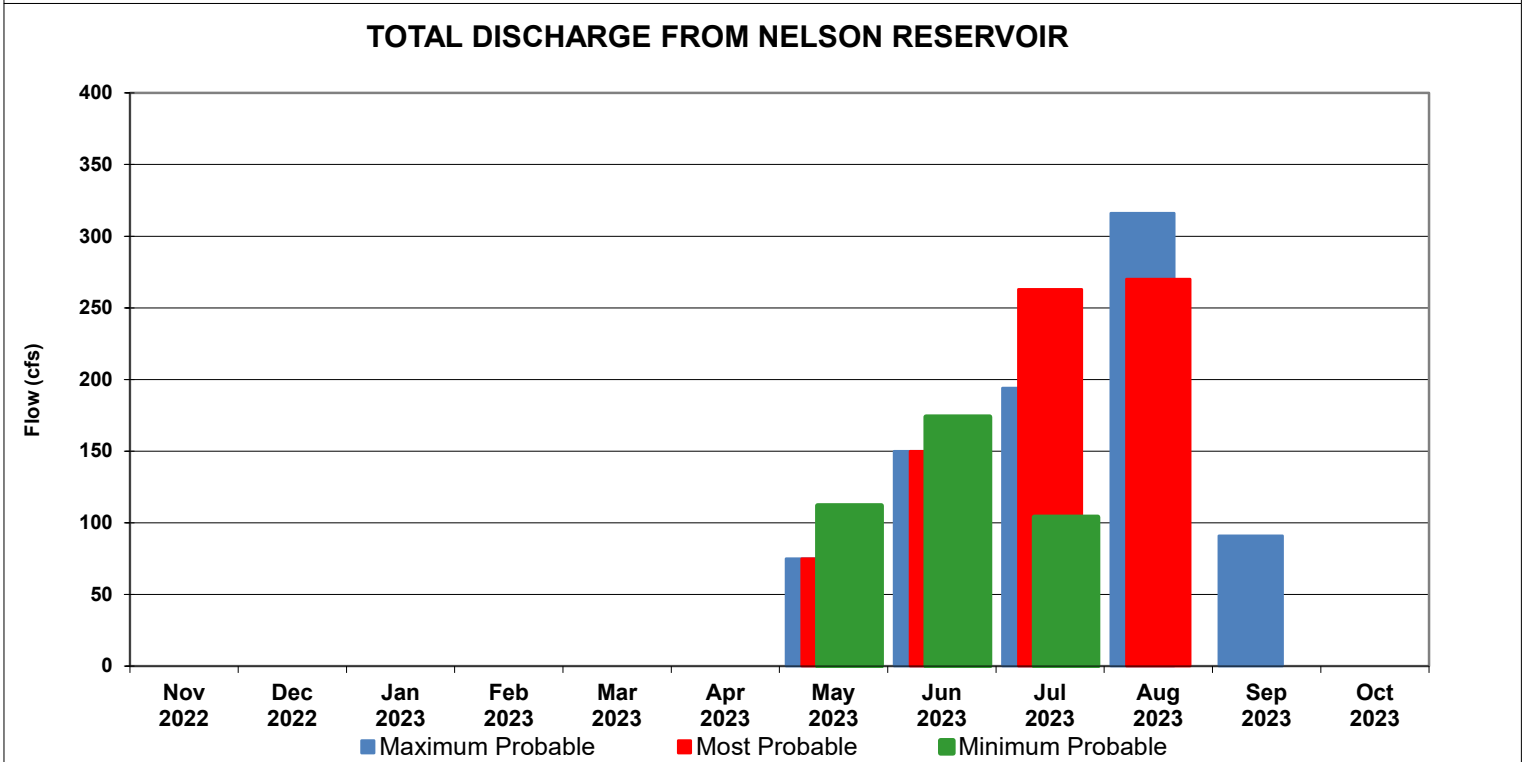
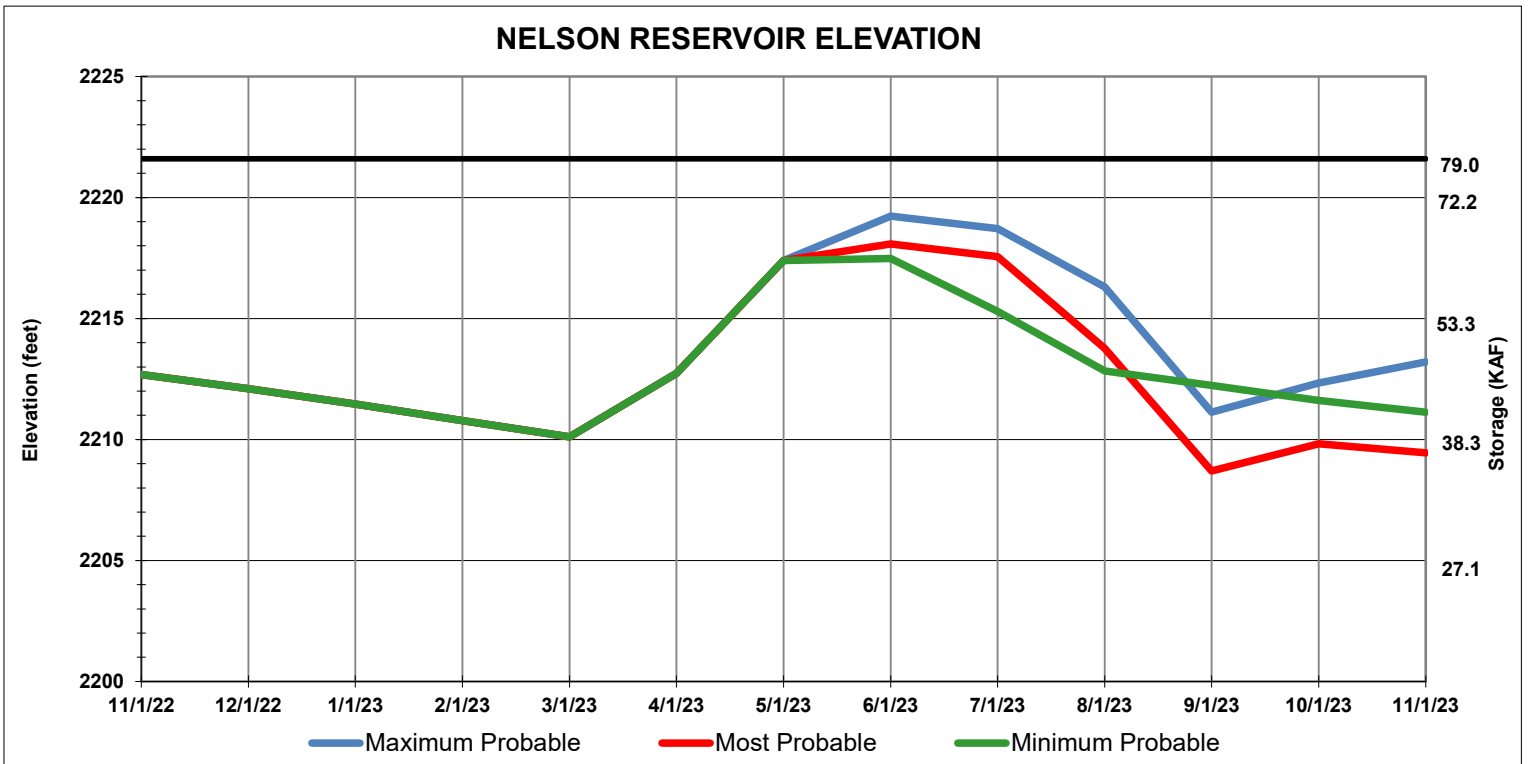
## FRESNO RESERVOIR ELEVATION



## TOTAL DISCHARGE FROM FRESNO RESERVOIR



# NELSON RESERVOIR



## Contact Us

Clayton Jordan  
[cjordan@usbr.gov](mailto:cjordan@usbr.gov)  
 406-247-7334

Stephanie Micek  
[smicek@usbr.gov](mailto:smicek@usbr.gov)  
 406-247-7320

Chris Gomer  
[cgomer@usbr.gov](mailto:cgomer@usbr.gov)  
 406-247-7307

Monthly Operating Plans, Current Conditions, Snowpack and Other Water Management Information  
[https://www.usbr.gov/gp/lakes\\_reservoirs/warepts/main\\_menu.html](https://www.usbr.gov/gp/lakes_reservoirs/warepts/main_menu.html)