

Libby : June Runoff Forecast & Flood Risk Management Calculation

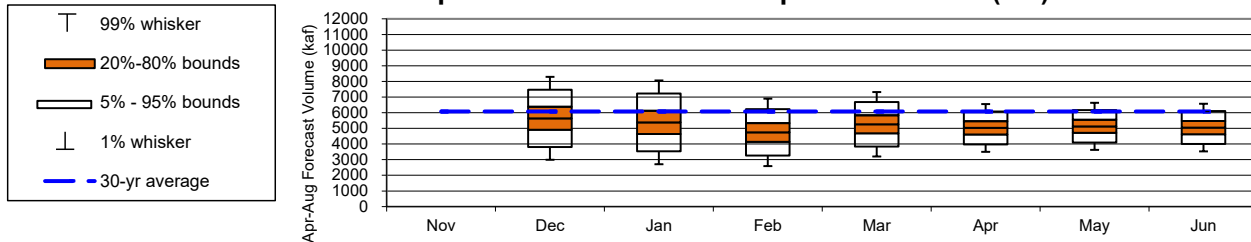
WY 2024

Runoff Forecast	June	1991-2020 Average	1991 - 2020 Percent of Average	1929-2020 Average	1929 - 2020 Percent of Average
Most Probable Runoff Volume: Apr-Aug (kaf)	5050	6080	83%	6259	81%
Most Probable Runoff Volume: Apr-Jul (kaf)	4604	5570	83%	5708	81%
Most Probable Runoff Volume: May-Jul (kaf)	4147	5014	83%	5183	80%

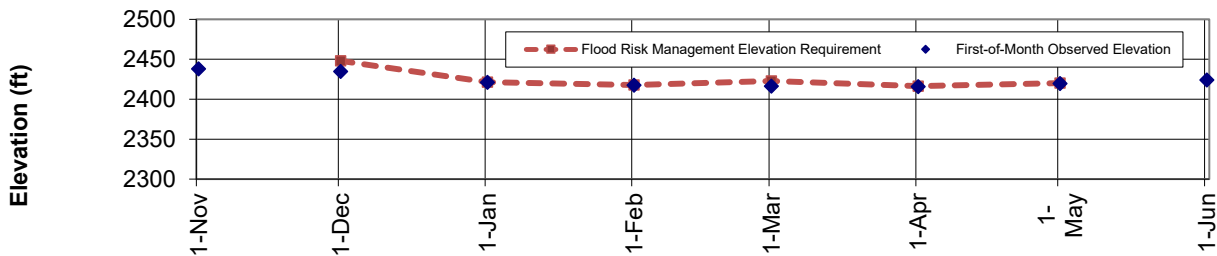
Forecast/Reservoir Data	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Apr-Aug Runoff Forecast (kaf)		5642	5385	4743	5261	5026	5129	5050
First-of-Month Elev (ft)	2437.9	2434.8	2421.2	2417.5	2416.4	2415.9	2419.7	2424.0

Seasonal FRM Requirements	30-Nov	31-Dec	31-Jan	28-Feb	31-Mar	30-Apr		
Flood Risk Management Space (kaf)	500	1613	1745	1547	1799	1658		
Flood Risk Management Elevation (ft)	2448.0	2421.3	2417.9	2423.0	2416.4	2420.1		

Spread of values around expected forecast (kaf)



Libby Flood Risk Management Elevations June- 2024



Notes:

1. The given forecast is the official Corps of Engineers forecast for Libby. If you have any questions please contact Leon Basdekas (208) 353-2564, Courtney Moore (206) 316-3005, David Varner (206) 316-3155 or Jason Chang (206) 764-3528.
2. If a prior month's forecast as published in this document is different than what was originally published in the issue month, then the earlier forecast has been adjusted to reflect updated values for precipitation or streamflow.
3. Nearby Cranbrook A (Auto), BC dataset was used in place of Cranbrook A, BC due to a missing data point in the latter.

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Apr-Aug Runoff Forecast Calculation:

Variable	Month(s)	Units	Observed Value A	Percent of Average (1991-2020)	Regression Coefficient B	Marginal Runoff (KAF) =A*B
SOI	ΣJun:Jul					
Eureka RS, MT	ΣOct:May Prcp	inches	7.8	86%	37.7	293.4
West Glacier, MT	ΣOct:May Prcp	inches	20.3	90%	22.5	455.3
Cranbrook A, BC	ΣOct:May Prcp	millimeters	181.0	75%	2.0	367.5
Fernie, BC	ΣOct:May Prcp	millimeters	831.0	98%	0.5	417.2
Hawkins Lake, MT	1-Jun SWE	inches	3.1	30%	10.1	31.3
Stahl Peak, MT	1-Jun SWE	inches	24.7	90%	10.3	254.6
East Creek, BC	1-Jun SWE	millimeters	618.0	89%	0.4	267.1
Moyie Mountain, BC	1-Jun SWE	millimeters	0.0	0%	0.8	0.0
Sunshine Village, AB	1-Jun SWE	millimeters	331.1	74%	0.6	205.7
Akamina Pass, AB	1-Jun SWE	millimeters	59.1	93%	0.7	40.2
South Racehorse Creek, AB	1-Jun SWE	millimeters	3.8	4%	0.6	2.4
Intercept			1		978.0	978.0
Forecast Inflow	June-August	kaf				3312.7
Observed Inflow	April - May	kaf	1737.6			1737.6
May Forecast	April - August	kaf				5050.3

Data used in Libby Water Supply Forecast

Climate Data				Jun-23	Jul-23
SOI				0.3	-0.3

Precipitation Data	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Eureka RS, MT (inch)	0.6	1.9	0.7	1.1	0.6	0.8	0.8	1.4
West Glacier, MT (inch)	1.5	4.1	2.7	3.4	2.5	2.0	1.3	2.8
Cranbrook A, BC (mm)	4.8	22.2	27.4	24.1	25.3	23.8	23.8	29.6
Fernie, BC (mm)	98.3	129.8	243.3	87.6	96.4	89.9	46.2	39.4

Snow Water Equiv	1-Nov	1-Dec	1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun
Hawkins Lake, MT (inch)			8.7	15.6	20.5	20.7	3.1	
Stahl Peak, MT (inch)			11.9	21.4	26.3	30.7	24.7	
East Creek, BC (mm)			433.0	602.5	711.5	834.5	618.0	
Moyie Mountain, BC (mm)			85.0	138.4	226.5	270.0	170.3	0.0
Sunshine Village, AB (mm)			168.7	233.9	370.1	372.2	494.8	331.1
Akamina Pass, AB (mm)			211.6	289.5	383.9	215.2	59.1	
South Racehorse Creek, AB (mm)			147.6	264.0	340.7	276.3	3.8	

Streamflow	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Libby Inflow Volume (kaf)			161.5	192.0	226.6	457.3	1280.3	

Reservoir Elevation	1-Nov	1-Dec	1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun
Libby FOM Elev (feet)	2437.9	2434.8	2421.2	2417.5	2416.4	2415.9	2419.7	2424.0

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