

Libby : April Runoff Forecast & Flood Risk Management Calculation

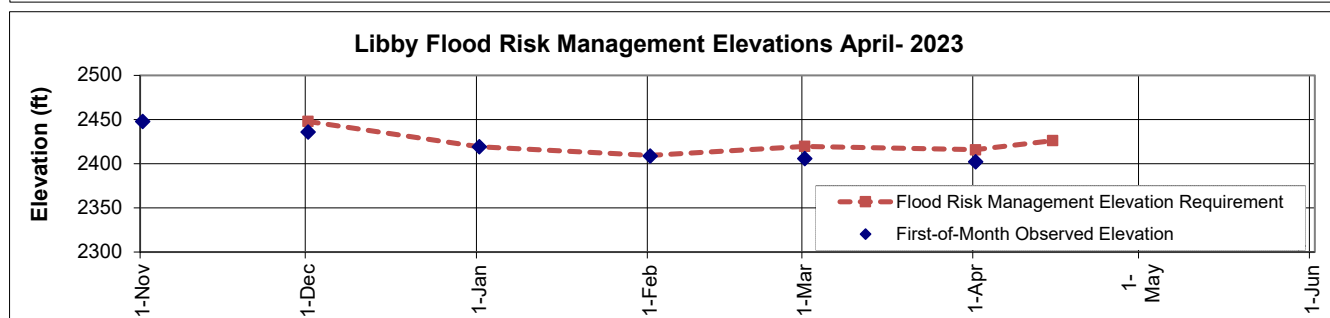
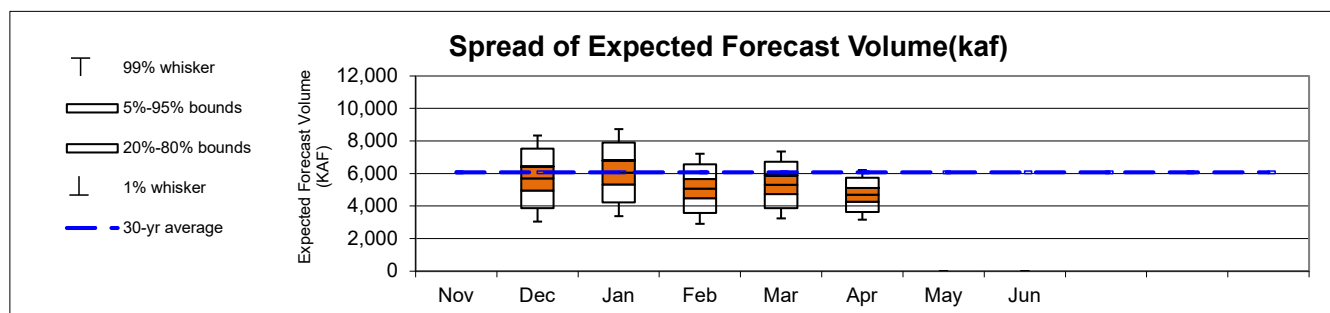
WY 2023

Runoff Forecast	April	Average	Average	Average	Average
Most Probable Runoff Volume: Apr-Aug (kaf)	4694	6080	77%	6259	75%
Most Probable Runoff Volume: Apr-Jul (kaf)	4300	5570	77%	5708	75%
Most Probable Runoff Volume: May-Jul (kaf)	3871	5014	77%	5183	75%

Flood Risk Management	April
30-Apr Flood Risk Management Space (kaf)	1419
30-Apr Flood Risk Management Elevation (ft)	2426.2

Forecast/Reservoir Data	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Apr-Aug Runoff Forecast (kaf)		5692	6061	5071	5298	4694		
First-of-Month Elev (ft)	2448.0	2435.9	2419.3	2409.0	2405.7	2402.4		

Seasonal FRM Requirements	30-Nov	31-Dec	31-Jan	28-Feb	31-Mar	30-Apr		
Flood Risk Management Space (kaf)	500	1689	2054	1678	1821	1419		
Flood Risk Management Elevation (ft)	2448.0	2419.3	2409.5	2419.6	2415.9	2426.2		



Notes:

- The given forecast is the official Corps of Engineers forecast for Libby. If you have any questions please contact Leon Basdekas (208) 353-2564, Jason Chang (206) 764-3528, Lumas Helaire (206) 316-3875, Ethan Cheng (206) 316-3875, or Kevin Shaffer (206) 764-3660.
- 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.

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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		1.80			0.0
Eureka RS, MT	ΣOct:Mar Prcp	inches	3.91	63%	68.52	267.9
West Glacier, MT	ΣOct:Mar Prcp	inches	12.29	69%	29.47	362.2
Cranbrook A, BC	ΣOct:Mar Prcp	millimeters	115.60	67%	2.99	345.6
Fernie, BC	ΣOct:Mar Prcp	millimeters	452.52	66%	0.71	321.3
Hawkins Lake, MT	1-Apr SWE	inches	21.80	85%	22.43	489.0
Stahl Peak, MT	1-Apr SWE	inches	28.00	78%	19.70	551.6
East Creek, BC	1-Apr SWE	millimeters	670.00	75%	0.73	489.1
Moyie Mountain, BC	1-Apr SWE	millimeters	379.00	85%	1.21	458.6
Sunshine Village, AB	1-Apr SWE	millimeters	392.70	70%	1.43	561.6
Akamina Pass, AB	1-Apr SWE	millimeters	381.00	81%	0.72	274.3
South Racehorse Creek, AB	1-Apr SWE	millimeters	371.80	90%	1.35	501.9
Intercept			1		70.54	70.5
January Forecast	April - August	kaf				4693.6

Data used in Libby Water Supply Forecast

Climate Data	Jun-22	Jul-22
SOI	1.70	0.80

Precipitation Data	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Eureka RS, MT (inch)	0.40	1.08	1.57	0.19	0.53	0.14		
West Glacier, MT (inch)	2.02	2.76	4.48	0.76	1.83	0.44		
Cranbrook A, BC (mm)	13.00	24.50	36.20	31.80	6.00	4.10		
Fernie, BC (mm)	98.81	118.00	112.27	36.07	52.32	35.05		

Snow Water Equiv	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Hawkins Lake, MT (inch)				14.1	18.5	21.8		
Stahl Peak, MT (inch)			15.6	19.0	25.5	28.0		
East Creek, BC (mm)				437.0	604.0	670.0		
Moyie Mountain, BC (mm)			219.0	256.0	325.0	379.0		
Sunshine Village, AB (mm)			236.1	261.3	356.4	392.7		
Akamina Pass, AB (mm)				254.4	339.9	381.0		
South Racehorse Creek, AB (mm)				242.2	326.4	371.8		

Streamflow	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Libby Inflow Volume (kaf)			170.3	122.5	131.7			

Reservoir Elevation	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Libby FOM Elev (feet)	2448.0	2435.9	2419.3	2409.0	2405.7	2402.4		

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