

Libby : February Runoff Forecast & Flood Risk Management Calculation

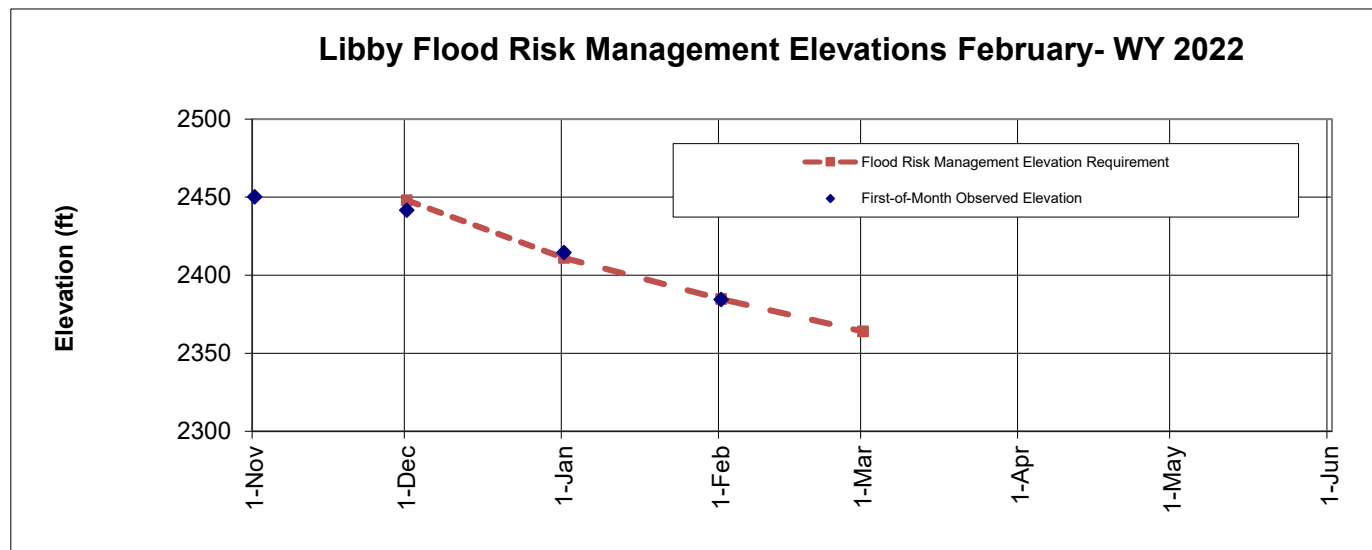
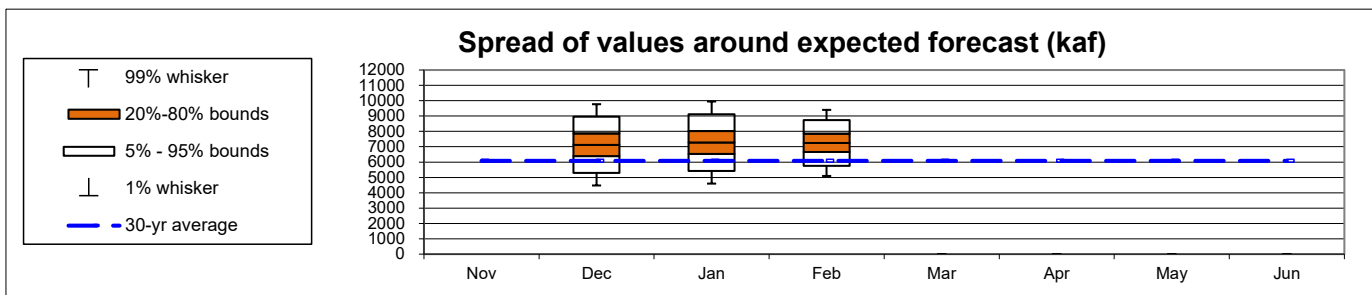
WY 2022

Runoff Forecast	February	1991-2020 Average	1991 - 2020 Percent of Average	1929-2008 Average	1929 - 2008 Percent of Average
Most Probable Runoff Volume: Apr-Aug (kaf)	7249	6080	119%	6259	116%
Most Probable Runoff Volume: Apr-Jul (kaf)	6641	5570	119%	5708	116%
Most Probable Runoff Volume: May-Jul (kaf)	5978	5014	119%	5183	115%

Flood Risk Management	February
28-Feb Flood Risk Management Space (kaf)	3416
28-Feb Flood Risk Management Elevation (ft)	2363.9

Forecast/Reservoir Data	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Apr-Aug Runoff Forecast (kaf)		7123	7273	7249				
First-of-Month Elev (ft)	2450.2	2441.6	2414.4	2384.5				

Seasonal FRM Requirements	30-Nov	31-Dec	31-Jan	28-Feb	31-Mar	30-Apr
Flood Risk Management Space (kaf)	500	2000	2851	3416		
Flood Risk Management Elevation (ft)	2448.0	2411.0	2384.6	2363.9		



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, Jason Chang (206) 764-3528, or Kevin Shaffer (206) 764-3660.
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. Cranbrook A gage data was intermittent during December and January. Nearby Cranbrook Airport Auto gage data was used instead.

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Apr-Aug Runoff Forecast Calculation:

Variable	Month(s)	Units	Observed Value A	Percent of Average	Regression Coefficient	Marginal Runoff (kaf) =A*B
SOI	ΣJun:Jul					
Eureka RS, MT	ΣOct:Jan Prcp	inches	3.93	85%	78.5	308.4
West Glacier, MT	ΣOct:Jan Prcp	inches	15.71	121%	31.0	486.2
Cranbrook A, BC	ΣOct:Jan Prcp	millimeters	147.30	119%	2.8	418.3
Fernie, BC	ΣOct:Jan Prcp	millimeters	818.84	164%	0.7	589.6
Hawkins Lake, MT	1-Feb SWE	inches	16.90	104%	30.6	517.1
Stahl Peak, MT	1-Feb SWE	inches	28.10	117%	23.0	646.0
East Creek, BC	1-Feb SWE	millimeters	935.00	151%	0.8	701.3
Moyie Mountain, BC	1-Feb SWE	millimeters	235.00	80%	1.5	347.8
Sunshine Village, AB	1-Feb SWE	millimeters	596.89	155%	1.5	877.4
Akamina Pass, AB	1-Feb SWE	millimeters	420.33	134%	1.3	533.8
South Racehorse Creek, AB	1-Feb SWE	millimeters	347.18	133%	1.5	531.2
Intercept			1.00		1291.5	1291.5
February Forecast	April - August	kaf				7248.6

Data used in Libby Water Supply Forecast

WY 2022

Climate Data	Jun-21	Jul-21
SOI	0.40	1.40

Precipitation Data	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Eureka RS, MT (inch)	1.52	1.12	0.63	0.66				
West Glacier, MT (inch)	3.51	4.63	4.54	3.03				
Cranbrook A, BC (mm)	34.20	34.10	45.80	33.20				
Fernie, BC (mm)	180.85	337.00	194.82	106.17				
Snow Water Equiv	1-Nov	1-Dec	1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun
Hawkins Lake, MT (inch)				17				
Stahl Peak, MT (inch)			19	28				
East Creek, BC (mm)				935				
Moyie Mountain, BC (mm)			127	235				
Sunshine Village, AB (mm)			432	597				
Akamina Pass, AB (mm)				420				
South Racehorse Creek, AB (mm)				347				
Streamflow	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Libby Inflow Volume (kaf)			299.2					
Reservoir Elevation	1-Nov	1-Dec	1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun
Libby FOM Elev (feet)	2450.2	2441.6	2414.4	2384.5				

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