

Libby : February Runoff Forecast & Flood Risk Management Calculation

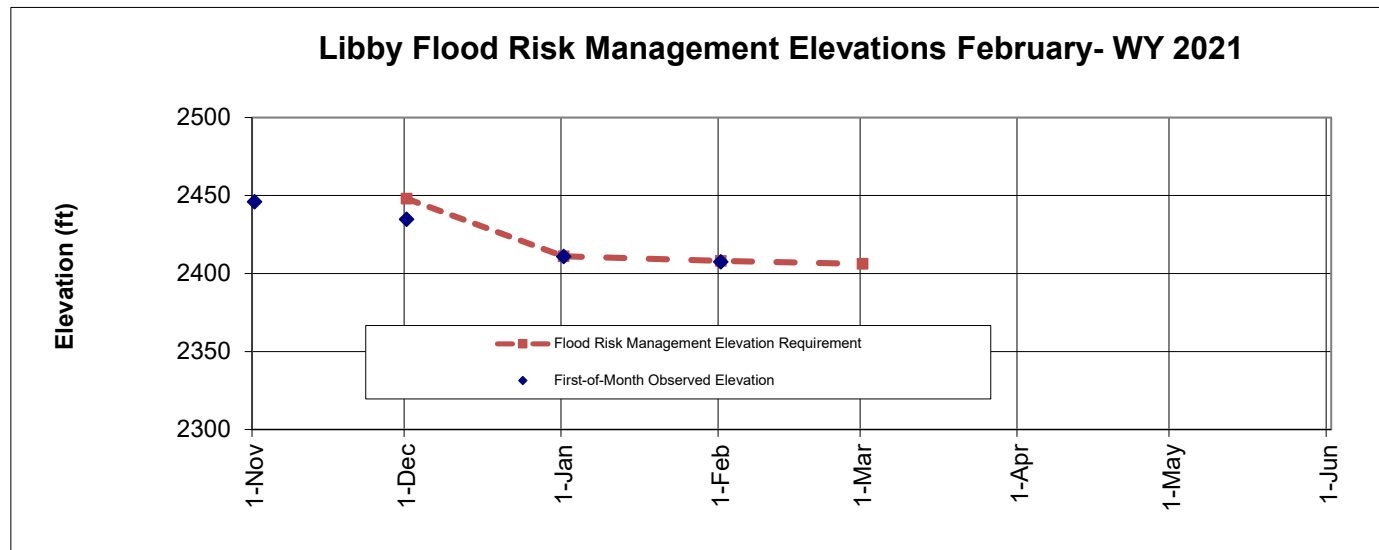
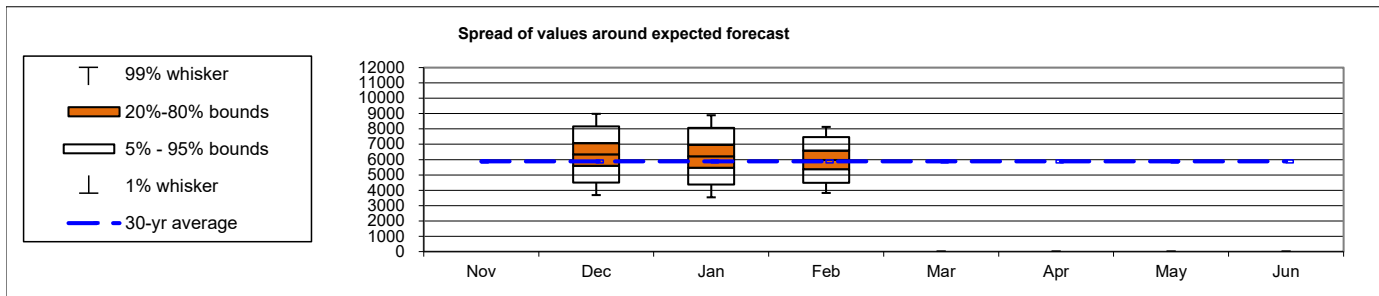
WY 2021

Runoff Forecast	February	1981-2010 Average	1981 - 2010 Percent of Average	1929-2008 Average	1929 - 2008 Percent of Average
Most Probable Runoff Volume: Apr-Aug (kaf)	5979	5885	102%	6282	95%
Most Probable Runoff Volume: Apr-Jul (kaf)	5428	5342	102%	5720	95%
Most Probable Runoff Volume: May-Jul (kaf)	4898	4821	102%	5199	94%

Flood Risk Management	February
28-Feb Flood Risk Management Space (kaf)	2173
28-Feb Flood Risk Management Elevation (ft)	2406.2

Forecast/Reservoir Data	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Apr-Aug Runoff Forecast (kaf)		6336	6215	5979				
First-of-Month Elev (ft)	2446.1	2434.8	2410.9	2407.6				

Seasonal FRM Requirements	30-Nov	31-Dec	31-Jan	28-Feb	31-Mar	30-Apr
Flood Risk Management Space (kaf)	500	2000	2105	2173		
Flood Risk Management Elevation (ft)	2448.0	2411.0	2408.1	2406.2		



Notes:

1. The given forecast is the official Corps of Engineers forecast for Libby. If you have any questions please contact Jon Moen (206) 764-3561, Justin Lawrence (206) 764-3699, Logan Osgood-Zimmerman (206) 764-6928, 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	4.04	94%	78.5	317.0
West Glacier, MT	ΣOct:Jan Prcp	inches	14.10	115%	31.0	436.4
Cranbrook A, BC	ΣOct:Jan Prcp	millimeters	110.00	95%	2.8	312.4
Fernie, BC	ΣOct:Jan Prcp	millimeters	493.21	100%	0.7	355.1
Hawkins Lake, MT	1-Feb SWE	inches	15.60	95%	30.6	477.4
Stahl Peak, MT	1-Feb SWE	inches	20.90	89%	23.0	480.5
East Creek, BC	1-Feb SWE	millimeters	715.00	117%	0.8	536.3
Moyie Mountain, BC	1-Feb SWE	millimeters	235.00	82%	1.5	347.8
Sunshine Village, AB	1-Feb SWE	millimeters	422.41	109%	1.5	620.9
Akamina Pass, AB	1-Feb SWE	millimeters	316.27	99%	1.3	401.7
South Racehorse Creek, AB	1-Feb SWE	millimeters	262.99	94%	1.5	402.4
Intercept			1.00		1291.5	1291.5
February Forecast	April - August	kaf				5979.3

Data used in Libby Water Supply Forecast

WY 2021

Climate Data	Jun-20	Jul-20
SOI	-0.40	0.40

Precipitation Data	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Eureka RS, MT (inch)	1.77	0.92	0.98	0.37				
West Glacier, MT (inch)	4.52	4.32	2.34	2.92				
Cranbrook A, BC (mm)	27.60	21.90	26.30	34.20				
Fernie, BC (mm)	118.80	158.00	106.68	109.73				
Snow Water Equiv	1-Nov	1-Dec	1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun
Hawkins Lake, MT (inch)				16				
Stahl Peak, MT (inch)			16	21				
East Creek, BC (mm)				715				
Moyie Mountain, BC (mm)			166	235				
Sunshine Village, AB (mm)			322	422				
Akamina Pass, AB (mm)				316				
South Racehorse Creek, AB (mm)				263				
Streamflow	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Libby Inflow Volume (kaf)			182.3					
Reservoir Elevation	1-Nov	1-Dec	1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun
Libby FOM Elev (feet)	2446.1	2434.8	2410.9	2407.6				

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