

# Libby : June Runoff Forecast & Flood Control Calculation

WY 2020

Runoff Forecast and Flood Control			
Most Probable Runoff Volume:	Apr-Aug	5795	KAF
	Apr-Jul	5262	KAF
	May-Jul	4918	KAF

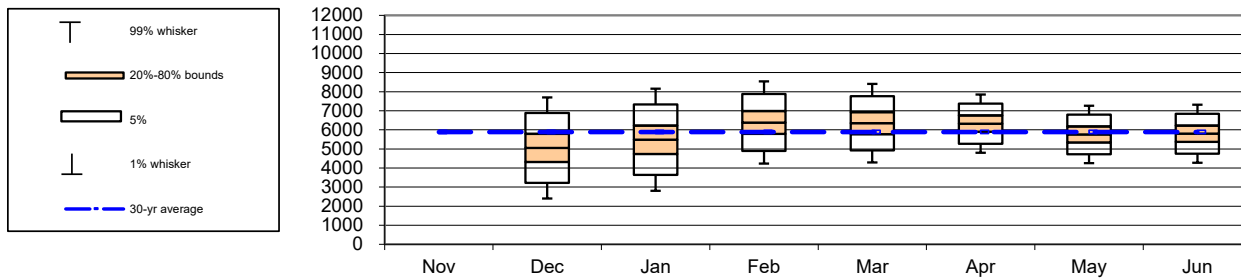
1981-2010 Average	Percent of Average	1929-2008 Average	Percent of Average
5885	98%	6282	92%
5342	98%	5720	92%
4821	102%	5199	95%

Seasonal Flood Control								
VARQ Flood Control Implemented								
Forecast Date >>	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Apr-Aug Runoff Forecast		5050	5481	6386	6349	6324	5759	5795
First-of-Month Elev	2440.8	2438.4	2426.4	2424.6	2406.2	2404.0	2405.5	2421.5

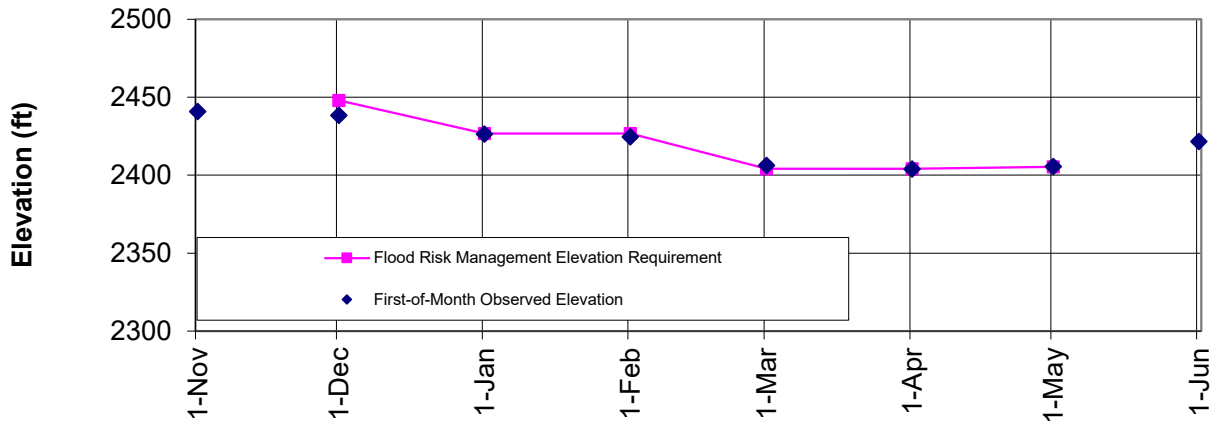
Date >>	30-Nov	31-Dec	31-Jan	29-Feb	31-Mar	30-Apr
Flood Control Space	500	1400	1400	2240	2243	2202
Flood Control Elevation	2448.0	2426.7	2426.7	2404.2	2404.1	2405.3

Spread of values around expected forecast



## Libby Flood Control Elevations - 2020

Latest water supply forecast: Jun



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, Alex Nathan (206) 316-3155, 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. The Akamina Pass snow station was destroyed in a fire in Sept. 2017. Akamina Pass SWE was estimated based on a regression equation and observed values at nearby sites Grave Creek, Poorman Creek, Morrissey Ridge, and Mount Odium.
4. Due to COVID-19, there were no overnight observers at Cranbrook A meaning no precipitation measurements were reported. The Cranbrook Airport Auto station was used instead.
5. Fernie, BC data was from direct communication with Environment and Climate Change Canada.

### Libby : June Runoff Forecast & Flood Control Calculation

Apr-Aug Runoff Forecast Calculation:						
Variable	Month(s)	Units	Observed Value	Percent of Average	Regression Coefficient	Marginal Runoff (KAF)
			A		B	=A*B
SOI	ΣJun:Jul					
Eureka RS, MT	ΣOct:May Prcp	inches	7.99	92%	37.7	300.9
West Glacier, MT	ΣOct:May Prcp	inches	20.24	96%	22.5	454.7
Cranbrook A, BC	ΣOct:May Prcp	millimeters	180.70	78%	2.0	366.9
Fernie, BC	ΣOct:May Prcp	millimeters	922.20	109%	0.5	463.0
Hawkins Lake, MT	1-Jun SWE	inches	2.00	16%	10.1	20.2
Stahl Peak, MT	1-Jun SWE	inches	36.70	126%	10.3	378.3
East Creek, BC	1-Jun SWE	millimeters	818.00	112%	0.4	353.6
Moyie Mountain, BC	1-Jun SWE	millimeters	0.00	0%	0.8	0.0
Sunshine Village, AB	1-Jun SWE	millimeters	539.60	113%	0.6	335.3
Akamina Pass, AB	1-Jun SWE	millimeters	96.20	154%	0.7	65.4
South Racehorse Creek, AB	1-Jun SWE	millimeters	7.60	8%	0.6	4.9
Intercept			1		978.0	978.0

Forecast June-August Inflow (KAF)	Σ	3721.0
Observed April-May Inflow (KAF)		2074.5
1-June Forecast, April-August Inflow (KAF)	Σ	5795.5

### Data used in Libby Water Supply Forecast

WY 2020

Climate Data	SOI	Jun-19	Jul-19						Units	
		-0.50	-0.40							
Precipitation Data		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Units
Eureka RS, MT		0.75	1.23	0.46	1.01	0.47	0.47	0.93	2.67	inch
West Glacier, MT		2.08	1.65	2.69	5.81	1.99	1.26	1.22	3.54	inch
Cranbrook A, BC		16.60	14.30	28.60	22.90	8.20	18.00	13.90	58.20	mm
Fernie, BC		103.00	35.00	216.00	185.00	97.00	82.00	45.40	158.80	mm
Snow Water Equiv		1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun	Units		
Hawkins Lake, MT			19	22	26	25	2	inch		
Stahl Peak, MT			15	29	34	40	40	37	inch	
East Creek, BC				778	893	1050	1057	818	mm	
Moyie Mountain, BC				193	320	404	526	500	0	mm
Sunshine Village, AB				273	408	512	614	624	540	mm
Akamina Pass, AB					363	444	527	328	96	mm
South Racehorse Creek, AB					289	358	468	360	8	mm
Streamflow		Jan	Feb	Mar	Apr	May	Jun	Units		
Libby Inflow Volume			172.2	209.1	171.0	343.8	1730.7		KAF	
Reservoir Elevation		1-Nov	1-Dec	1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun	Units
Libby FOM Elev		2440.8	2438.4	2426.4	2424.6	2406.2	2404.0	2405.5	2421.5	feet

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