

# Libby: May Runoff Forecast & Flood Risk Management Calculation

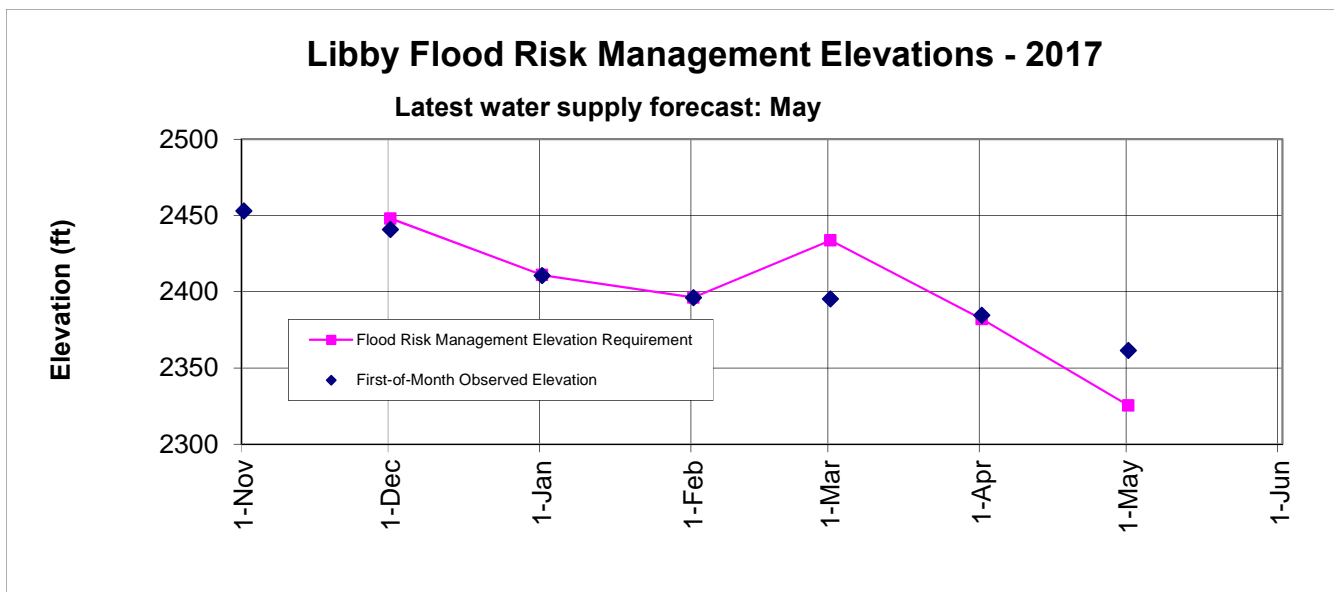
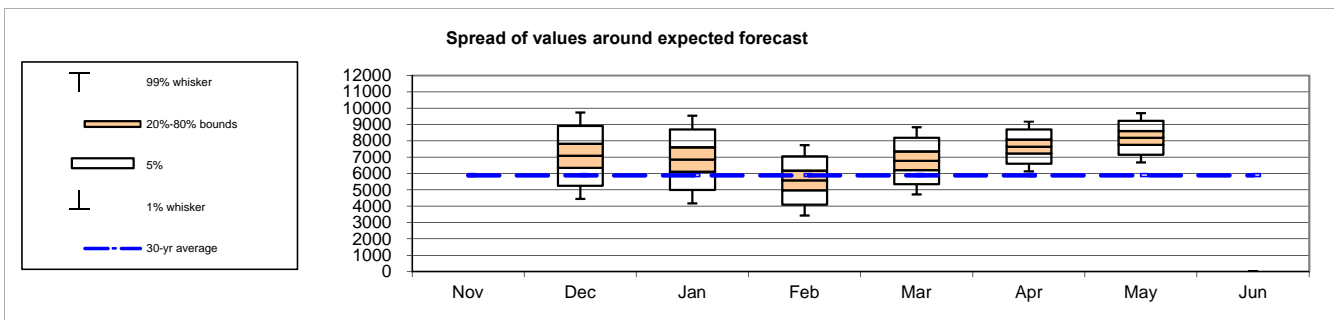
WY 2017

Runoff Forecast and Flood Risk Management				1981-2010 Average	Percent of Average	1929-2008 Average	Percent of Average
Most Probable Runoff Volume:	Apr-Aug	8190	KAF	5885	139%	6282	130%
	Apr-Jul	7436	KAF	5342	139%	5720	130%
	May-Jul	6699	KAF	4821	139%	5199	129%

Seasonal Flood Risk Management VARQ Flood Risk Management Implemented								
Forecast Date >>	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Apr-Aug Runoff Forecast		7093	6861	5583	6783	7654	8190	
First-of-Month Elev	2452.9	2440.9	2410.5	2396.2	2395.2	2384.7	2361.5	

Date >>	30-Nov	31-Dec	31-Jan	28-Feb	31-Mar	30-Apr	
Flood Risk Management Space	500	2000	2503	1114	2924	4303	
Flood Risk Management Elevation	2448.0	2411.0	2396.2	2433.7	2382.1	2325.4	



Notes:

1. The given forecast is the official Corps of Engineers forecast for Libby. If you have any questions please contact Joel Fenolio (206) 764-6683, Kristy Riley (206) 316-3947, Kevin Shaffer (206) 764-3660, Logan Osgood-Jacobs (206) 764-6928, or Kristian Mickelson (206) 764-6927.
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. October Precip capped at Mean plus 2 standard deviations. A memo to NWD summarizes the methodology used.

# Libby: May Runoff Forecast & Flood Risk Management 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:Apr Prcp	inches	11.13	164%	57.5	639.3
West Glacier, MT	ΣOct:Apr Prcp	inches	26.10	141%	28.0	731.8
Cranbrook A, BC	ΣOct:Apr Prcp	millimeters	310.93	168%	2.8	870.6
Fernie, BC	ΣOct:Apr Prcp	millimeters	910.92	120%	0.6	555.7
Hawkins Lake, MT	1-May SWE	inches	34.20	130%	17.3	591.7
Stahl Creek, MT	1-May SWE	inches	50.00	133%	16.7	837.0
East Creek, BC	1-May SWE	millimeters	1170.00	127%	0.6	666.9
Moyie Mountain, BC	1-May SWE	millimeters	587.00	162%	0.9	534.2
Sunshine Village, AB	1-May SWE	millimeters	810.00	131%	1.3	1020.6
Akamina Pass, AB	1-May SWE	millimeters	472.00	140%	0.6	259.6
South Racehorse Creek, AB	1-May SWE	millimeters	407.00	111%	0.8	337.8
Intercept			1		408.0	408.0
1-May Forecast (KAF)						Σ 7453.1

## Data used in Libby Water Supply Forecast

WY 2017

Climate Data				Jun-16	Jul-16				
SOI				0.60	0.40				
Precipitation Data	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Units
Eureka RS, MT	2.34	1.07	1.53	0.57	3.12	1.27	1.23		inch
West Glacier, MT	5.91	2.71	2.27	1.32	3.53	5.53	4.83		inch
Cranbrook A, BC	54.93	20.20	46.60	16.80	83.80	51.60	37.00		mm
Fernie, BC	238.07	157.00	76.00	33.00	168.00	124.00	114.85		mm
Snow Water Equiv			1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun	Units
Hawkins Lake, MT				12	22	30	34		inch
Stahl Creek, MT			21	22	33	40	50		inch
East Creek, BC				527	711	1020	1170		mm
Moyie Mountain, BC			171	221	376	560	587		mm
Sunshine Village, AB			281	388	514	681	810		mm
Akamina Pass, AB				188	368	516	472		mm
South Racehorse Creek, AB				206	340	506	407		mm
Streamflow			Jan	Feb	Mar	Apr	May	Jun	Units
Libby Inflow Volume			227.9	203.7	452.8	737.0			KAF
Reservoir Elevation	1-Nov	1-Dec	1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun	Units
Libby FOM Elev	2452.9	2440.9	2410.5	2396.2	2395.2	2384.7	2361.5		feet

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