

Libby : June Runoff Forecast & Flood Control Calculation

WY 2019

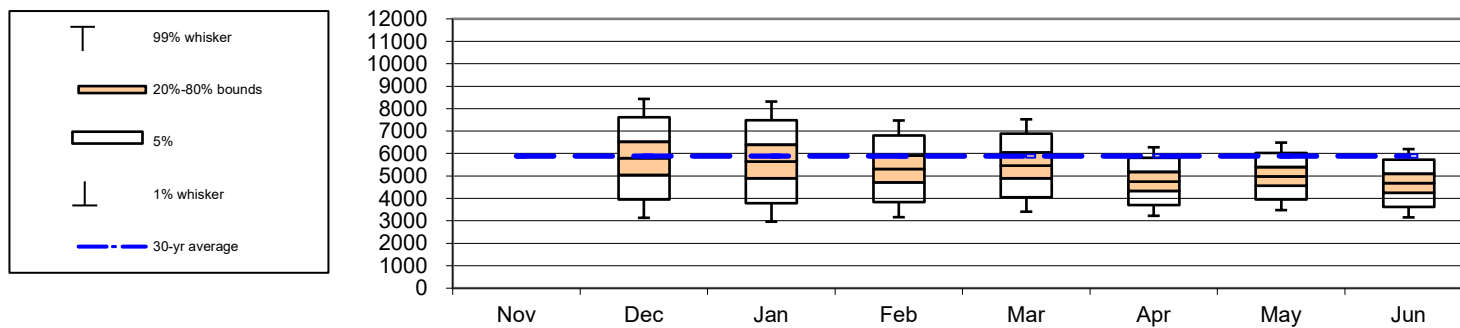
Runoff Forecast and Flood Control			
Most Probable Runoff Volume:	Apr-Aug	4676	KAF
	Apr-Jul	4238	KAF
	May-Jul	3809	KAF

1981-2010 Average	Percent of Average	1929-2008 Average	Percent of Average
5885	79%	6282	74%
5342	79%	5720	74%
4821	79%	5199	73%

Seasonal Flood Control VARQ Flood Control Implemented								
Forecast Date >>	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Apr-Aug Runoff Forecast		5784	5639	5318	5467	4752	4983	4676
First-of-Month Elev	2441.9	2434.6	2415.5	2413.3	2410.6	2405.8	2409.2	2417.0

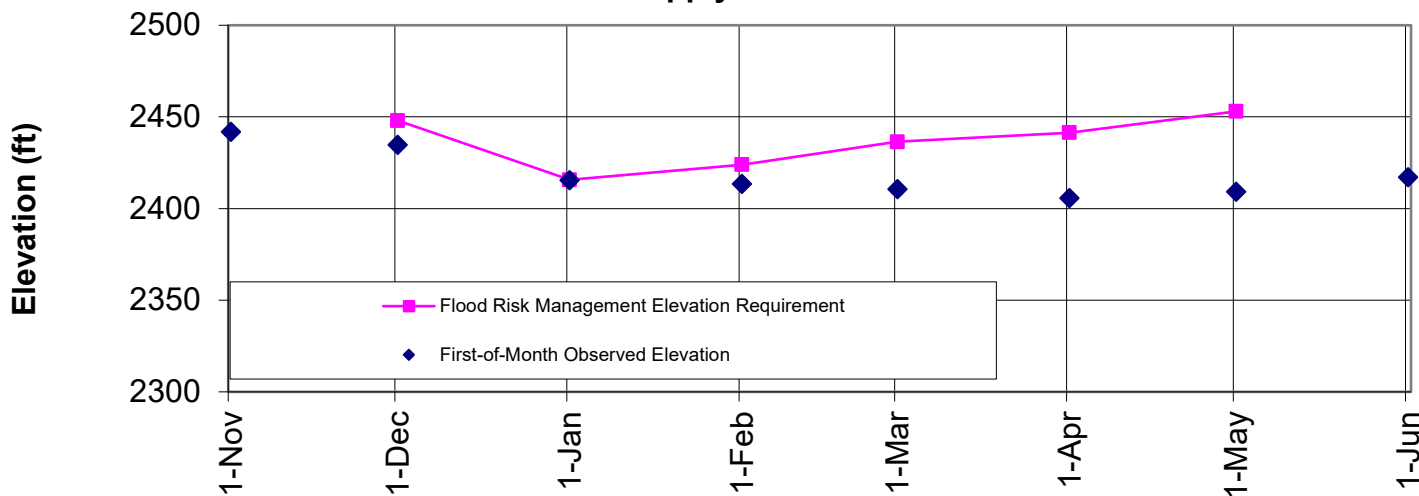
Date >>	30-Nov	31-Dec	31-Jan	28-Feb	31-Mar	30-Apr
Flood Control Space	500	1826	1511	1002	790	276
Flood Control Elevation	2448.0	2415.7	2423.9	2436.4	2441.4	2453.0

Spread of values around expected forecast



Libby Flood Control Elevations - 2019

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 Logan Osgood-Zimmerman (206) 764-6928, Kevin Shaffer (206) 764-3660, Sonja Michelsen (206) 316-3947, or Jon Moen (206) 764-3561.
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.

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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	7.74	89%	37.7	291.5
West Glacier, MT	ΣOct:May Prcp	inches	18.55	88%	22.5	416.7
Cranbrook A, BC	ΣOct:May Prcp	millimeters	183.20	79%	2.0	371.9
Fernie, BC	ΣOct:May Prcp	millimeters	624.00	74%	0.5	313.3
Hawkins Lake, MT	1-Jun SWE	inches	0.00	0%	10.1	0.0
Stahl Peak, MT	1-Jun SWE	inches	15.00	52%	10.3	154.6
East Creek, BC	1-Jun SWE	millimeters	589.00	81%	0.4	254.6
Moyie Mountain, BC	1-Jun SWE	millimeters	0.00	0%	0.8	0.0
Sunshine Village, AB	1-Jun SWE	millimeters	386.50	81%	0.6	240.2
Akamina Pass, AB	1-Jun SWE	millimeters	45.18	72%	0.7	30.7
South Racehorse Creek, AB	1-Jun SWE	millimeters	0.00	0%	0.6	0.0
Intercept			1		978.0	978.0

Forecast June-August Inflow (KAF)	Σ	3051.5
Observed April-May Inflow (KAF)		1624.8
1-June Forecast, April-August Inflow (KAF)	Σ	4676.2

Data used in Libby Water Supply Forecast

WY 2019

Climate Data									SOI
				Jun-18	Jul-18				
				-0.10	0.20				
Precipitation Data	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Units
Eureka RS, MT	1.64	0.55	0.40	0.94	1.74	0.80	0.96	0.71	inch
West Glacier, MT	2.55	3.19	2.24	2.29	2.29	1.09	3.55	1.35	inch
Cranbrook A, BC	34.50	14.60	26.60	19.00	33.60	4.00	20.20	30.70	mm
Fernie, BC	87.00	139.00	117.00	83.00	68.00	13.00	90.00	27.00	mm
Snow Water Equiv	1-Jan			1-Feb	1-Mar	1-Apr	1-May	1-Jun	Units
Hawkins Lake, MT				13	17	18	20	0	inch
Stahl Peak, MT			14	20	25	28	31	15	inch
East Creek, BC				709	806	842	961	589	mm
Moyie Mountain, BC			153	223	299	284	233	0	mm
Sunshine Village, AB			272	373	379	433	443	387	mm
Akamina Pass, AB				259	316	348	260	45	mm
South Racehorse Creek, AB				180	252	241	169	0	mm
Streamflow	Jan			Feb	Mar	Apr	May	Jun	Units
Libby Inflow Volume			162.5	120.6	175.8	429.5	1195.3		KAF
Reservoir Elevation	1-Nov	1-Dec	1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun	Units
Libby FOM Elev	2441.9	2434.6	2415.5	2413.3	2410.6	2405.8	2409.2	2417.0	feet

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