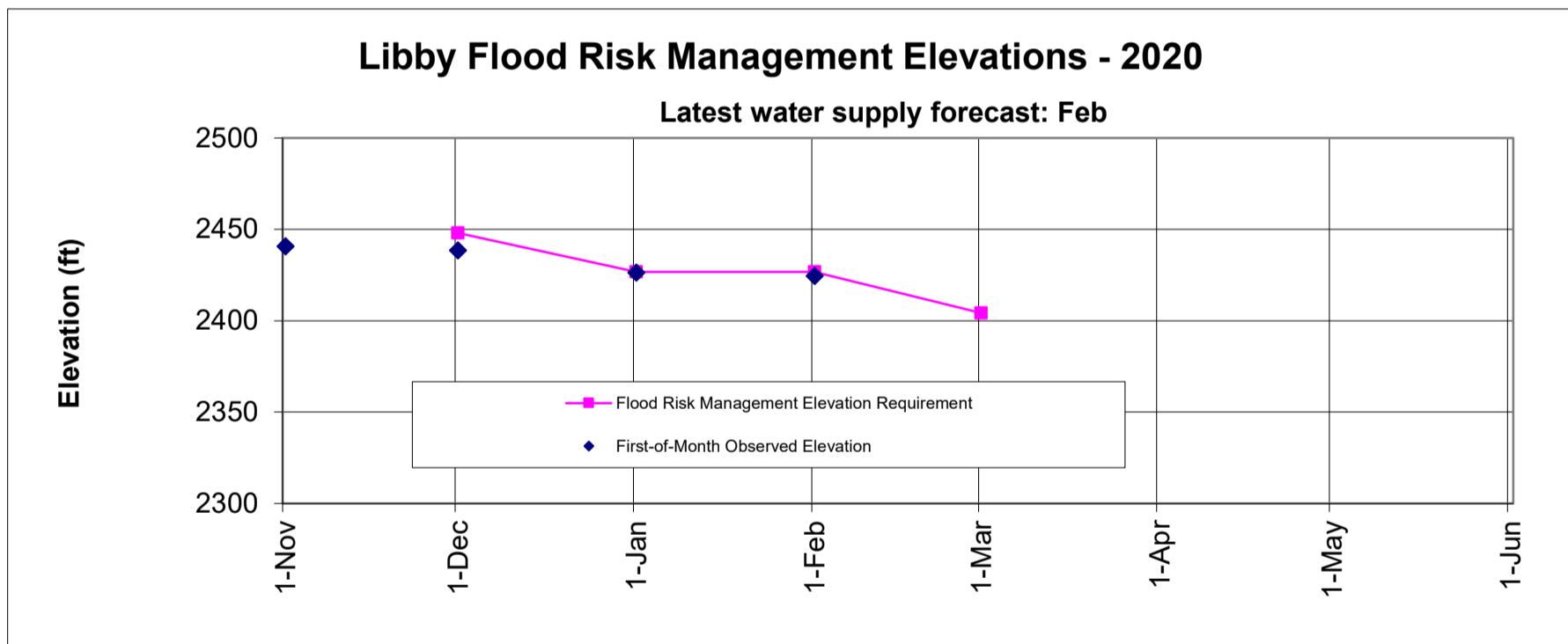
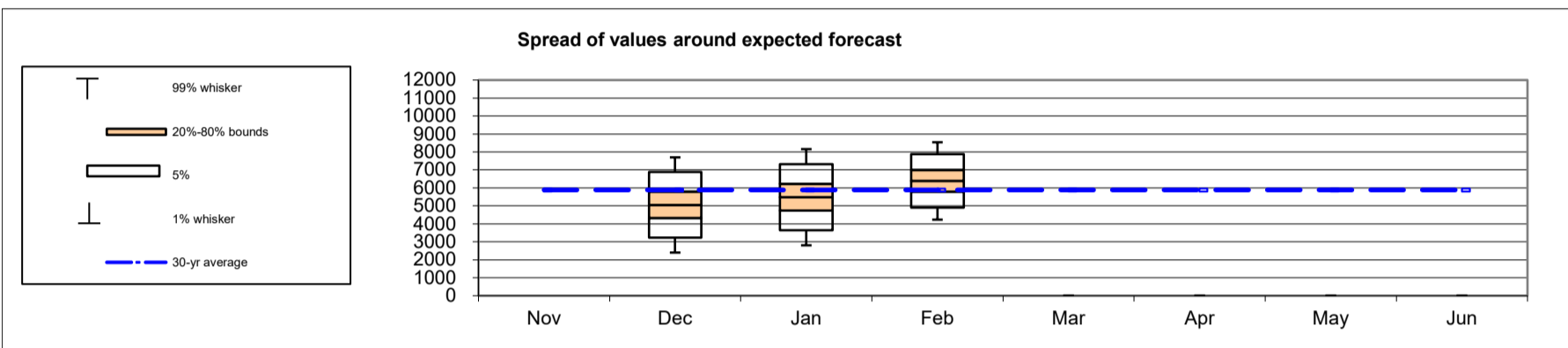


Libby : February Runoff Forecast & Flood Risk Management Calculation

WY 2020

Runoff Forecast and Flood Risk Management			
Most Probable Runoff Volume:	Apr-Aug	6386	KAF
	Apr-Jul	5797	KAF
	May-Jul	5231	KAF
29 Feb Flood Risk Management Space		2240	KAF
29 Feb Flood Risk Management Elevation		2404.2	ft
Seasonal Flood Risk Management		VARQ Flood Risk Management Implemented	
Forecast Date >>	Nov	Dec	Jan
Apr-Aug Runoff Forecast		5050	5481
First-of-Month Elev	2440.8	2438.4	2426.4
			Feb
			6386
			2424.6
Date >>	30-Nov	31-Dec	31-Jan
Flood Risk Management Space	500	1400	1400
Flood Risk Management Elevation	2448.0	2426.7	2426.7
			29-Feb
			2240
			2404.2

1981-2010 Average	Percent of Average	1929-2008 Average	Percent of Average
5885	109%	6282	102%
5342	109%	5720	102%
4821	109%	5199	102%



Notes:

- 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 Alexander Nathan (206) 316-3155.
- 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, Hand Creek, Lost Creek South, Mount Odlum, and Three Isle Lake.

Libby : February 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:Jan Prcp	inches	3.45	80%	78.5	270.7	
West Glacier, MT	ΣOct:Jan Prcp	inches	12.23	100%	31.0	378.5	
Cranbrook A, BC	ΣOct:Jan Prcp	millimeters	82.40	71%	2.8	234.0	
Fernie, BC	ΣOct:Jan Prcp	millimeters	539.00	109%	0.7	388.1	
Hawkins Lake, MT	1-Feb SWE	inches	19.20	117%	30.6	587.5	
Stahl Peak, MT	1-Feb SWE	inches	29.40	125%	23.0	675.9	
East Creek, BC	1-Feb SWE	millimeters	777.50	127%	0.8	583.1	
Moyie Mountain, BC	1-Feb SWE	millimeters	320.00	111%	1.5	473.6	
Sunshine Village, AB	1-Feb SWE	millimeters	408.24	106%	1.5	600.1	
Akamina Pass, AB	1-Feb SWE	millimeters	363.22	114%	1.3	461.3	
South Racehorse Creek, AB	1-Feb SWE	millimeters	288.53	103%	1.5	441.5	
Intercept			1		1291.5	1291.5	
1-Feb Forecast (KAF)						Σ	6385.8

Data used in Libby Water Supply Forecast

WY 2020

Climate Data		Jun-19	Jul-19						Units	
SOI		-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					inch
West Glacier, MT		2.08	1.65	2.69	5.81					inch
Cranbrook A, BC		16.60	14.30	28.60	22.90					mm
Fernie, BC		103.00	35.00	216.00	185.00					mm
Snow Water Equiv		1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun	Units		
Hawkins Lake, MT			19						inch	
Stahl Creek, MT			15	29					inch	
East Peak, BC				778					mm	
Moyie Mountain, BC			193	320					mm	
Sunshine Village, AB			273	408					mm	
Akamina Pass, AB				363					mm	
South Racehorse Creek, AB				289					mm	
Streamflow		Jan	Feb	Mar	Apr	May	Jun	Units		
Libby Inflow Volume		172.2							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					feet

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