

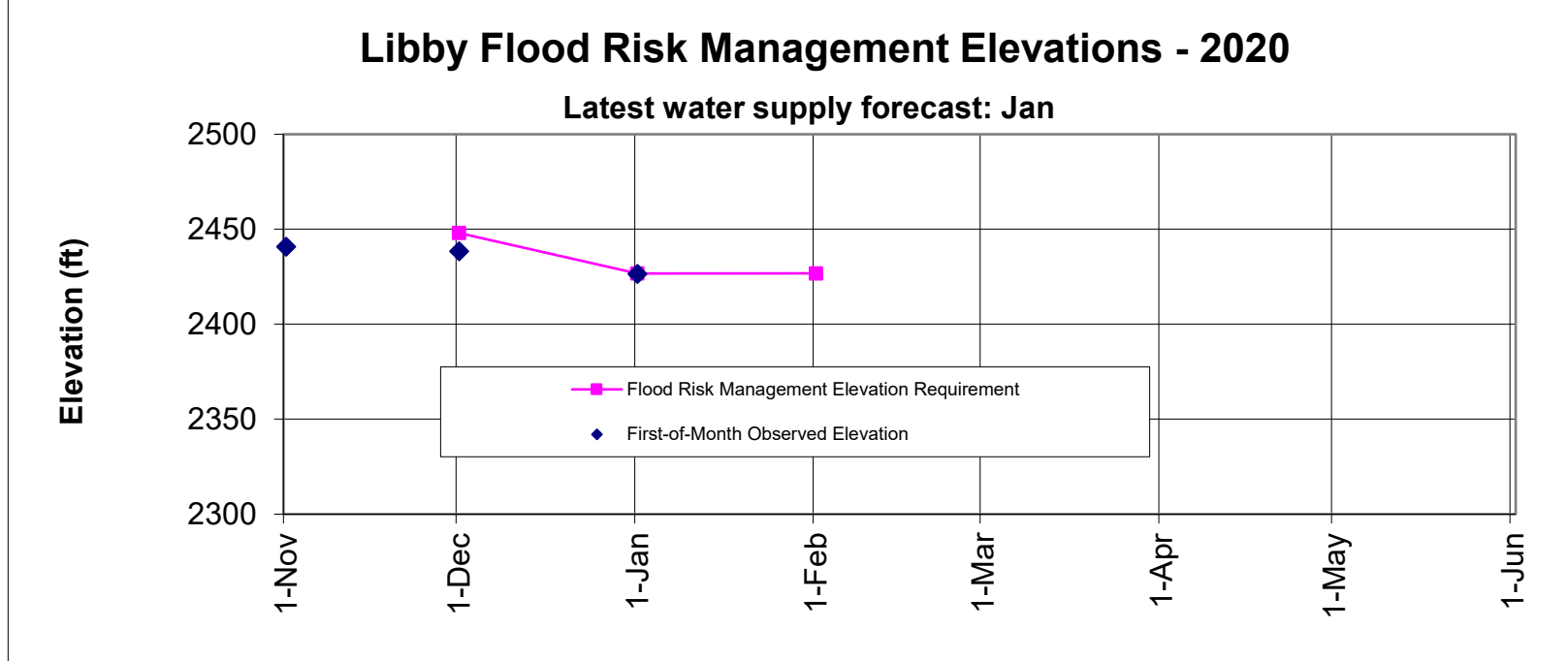
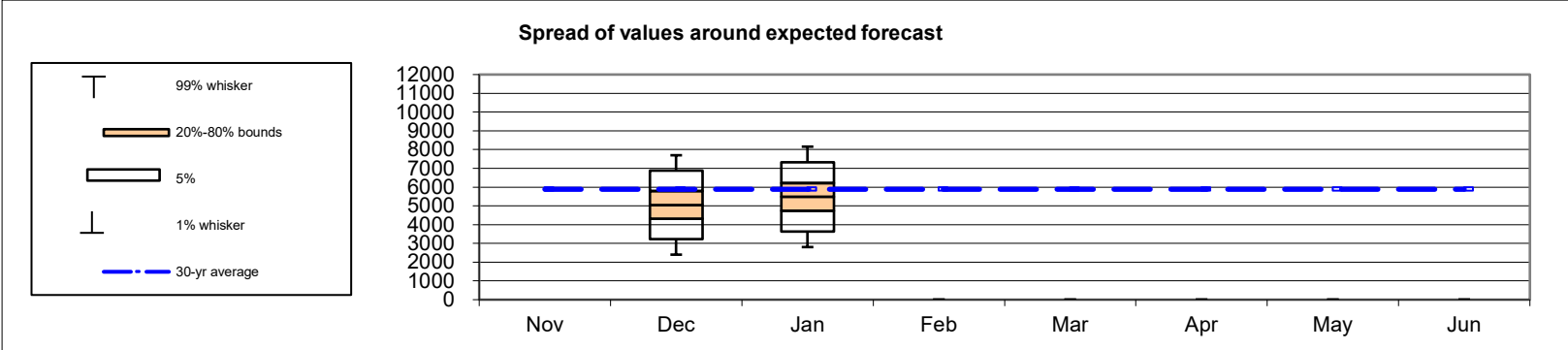
Libby : January Runoff Forecast & Flood Risk Management Calculation

WY 2020

Runoff Forecast and Flood Risk Management			
Most Probable Runoff Volume:	Apr-Aug	5481	KAF
	Apr-Jul	4975	KAF
	May-Jul	4490	KAF
31-Jan Flood Risk Management Space		1400	KAF
31-Jan Flood Risk Management Elevation		2426.7	ft

1981-2010 Average	Percent of Average	1929-2008 Average	Percent of Average
5885	93%	6282	87%
5342	93%	5720	87%
4821	93%	5199	86%

Seasonal Flood Risk Management								
VARQ Flood Risk Management Implemented								
Forecast Date >>	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Apr-Aug Runoff Forecast		5050	5481					
First-of-Month Elev	2440.8	2438.4	2426.4					
Date >>	30-Nov	31-Dec	31-Jan	29-Feb	15-Mar	31-Mar	15-Apr	30-Apr
Flood Risk Management Space	500	1400	1400					
Flood Risk Management Elevation	2448.0	2426.7	2426.7					



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 Alexander Nathan (206) 316-3155.
2. If you notice that 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.

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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	∑Jun:Jul		-0.90		95.3	-85.8
Eureka RS, MT	∑Oct,Nov,Dec Prcp	inches	2.44	72%	141.7	345.8
West Glacier, MT	∑Oct,Nov,Dec Prcp	inches	6.42	71%	58.4	375.1
Cranbrook A, BC	∑Oct,Nov,Dec Prcp	millimeters	59.50	65%	4.6	272.5
Fernie, BC	∑Oct,Nov,Dec Prcp	millimeters	354.00	97%	1.2	424.8
Hawkins Lake, MT	1-Jan SWE	inches				0.0
Stahl Peak, MT	1-Jan SWE	inches	15.40	95%	34.6	533.3
East Creek, BC	1-Jan SWE	millimeters				0.0
Moyie Mountain, BC	1-Jan SWE	millimeters	193.00	108%	1.6	305.9
Sunshine Village, AB	1-Jan SWE	millimeters	273.11	100%	2.1	584.5
Akamina Pass, AB	1-Jan SWE	millimeters				0.0
South Racehorse Creek, AB	1-Jan SWE	millimeters				0.0
Intercept			1		2724.4	2724.4
1-Jan Forecast (KAF)					∑	5480.6

Data used in Libby Water Supply Forecast

WY 2020

Climate Data	SOI	Jun-19	Jul-19	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Units
		-0.50	-0.40									
Precipitation Data				Jan	Feb	Mar	Apr	May	Jun	Units		
Eureka RS, MT				0.75	1.23	0.46						inch
West Glacier, MT				2.08	1.65	2.69						inch
Cranbrook A, BC				16.60	14.30	28.60						mm
Fernie, BC				103.00	35.00	216.00						mm
Snow Water Equiv				1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun	Units		
Hawkins Lake, MT												inch
Stahl Peak, MT				15								inch
East Creek, BC												mm
Moyie Mountain, BC				193								mm
Sunshine Village, AB				273								mm
Akamina Pass, AB												mm
South Racehorse Creek, AB												mm
Streamflow				Jan	Feb	Mar	Apr	May	Jun	Units		
Libby Inflow Volume												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						feet

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