

Libby : March Runoff Forecast & Flood Risk Management Calculation

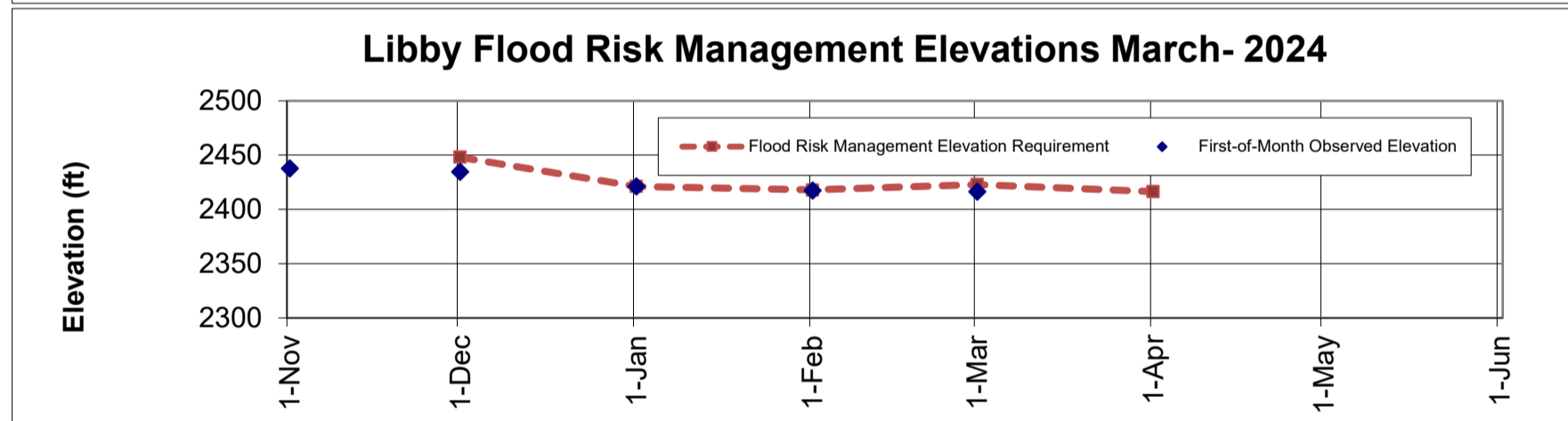
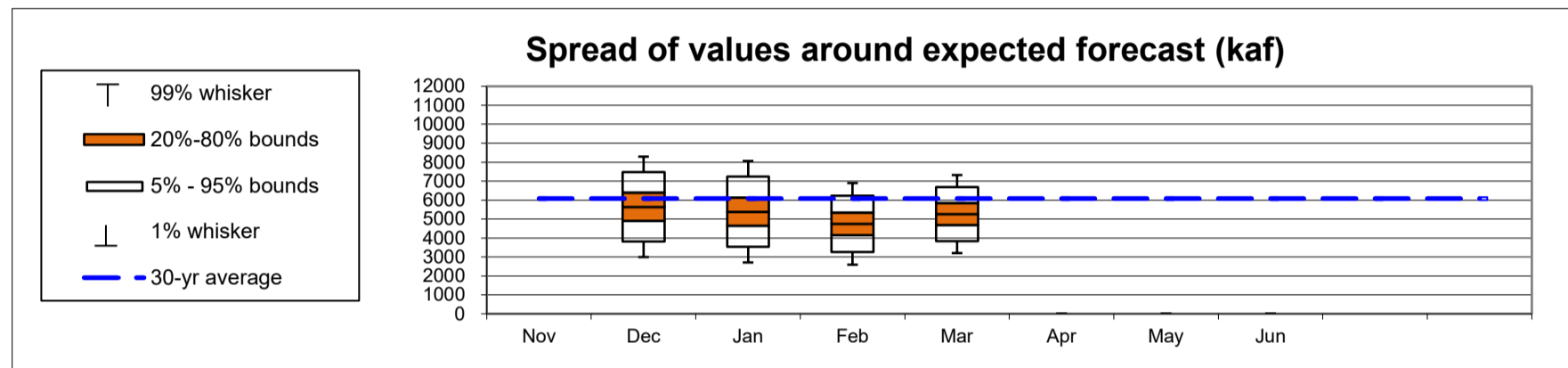
WY 2024

Runoff Forecast	March	1991-2020 Average	1991 - 2020 Percent of Average	1929-2020 Average	1929 - 2020 Percent of Average
Most Probable Runoff Volume: Apr-Aug (kaf)	5261	6080	87%	6259	84%
Most Probable Runoff Volume: Apr-Jul (kaf)	4820	5570	87%	5708	84%
Most Probable Runoff Volume: May-Jul (kaf)	4339	5014	87%	5183	84%

Flood Risk Management	March
31-Mar Flood Risk Management Space (kaf)	1799
31-Mar Flood Risk Management Elevation (ft)	2416.4

Forecast/Reservoir Data	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Apr-Aug Runoff Forecast (kaf)		5642	5385	4743	5261			
First-of-Month Elev (ft)	2437.9	2434.8	2421.2	2417.5	2416.4			

Seasonal FRM Requirements	30-Nov	31-Dec	31-Jan	28-Feb	31-Mar	30-Apr		
Flood Risk Management Space (kaf)	500	1613	1745	1547	1799			
Flood Risk Management Elevation (ft)	2448.0	2421.3	2417.9	2423.0	2416.4			



Notes:
 1. The given forecast is the official Corps of Engineers forecast for Libby. If you have any questions please contact Leon Basdekas (208) 353-2564, Courtney Moore (206) 316-3005, and David Varner (206) 316-3155.
 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.

Libby : March Runoff Forecast & Flood Risk Management Calculation
Apr-Aug Runoff Forecast Calculation:

Variable	Month(s)	Units	Observed Value A	Percent of Average (1991-2020)	Regression Coefficient B	Marginal Runoff (KAF) =A*B
SOI	Σ Jun:Jul					
Eureka RS, MT	Σ Oct:Feb Prcp	inches	4.84	91%	65.87	318.8
West Glacier, MT	Σ Oct:Feb Prcp	inches	14.23	94%	28.51	405.7
Cranbrook A, BC	Σ Oct:Feb Prcp	millimeters	103.80	71%	2.73	283.4
Fernie, BC	Σ Oct:Feb Prcp	millimeters	655.49	114%	0.63	413.0
Hawkins Lake, MT	1-Mar SWE	inches	15.60	76%	24.33	379.5
Stahl Peak, MT	1-Mar SWE	inches	26.30	89%	19.11	502.6
East Creek, BC	1-Mar SWE	millimeters	602.50	82%	0.65	391.6
Moyie Mountain, BC	1-Mar SWE	millimeters	226.50	62%	1.27	287.7
Sunshine Village, AB	1-Mar SWE	millimeters	370.10	83%	1.26	466.3
Akamina Pass, AB	1-Mar SWE	millimeters	289.50	72%	1.04	301.1
South Racehorse Creek, AB	1-Mar SWE	millimeters	264.00	79%	1.40	369.6
Intercept			1		1142.00	1142.0
March Forecast	April - August	kaf				5261.3

Data used in Libby Water Supply Forecast

Climate Data	Jun-23	Jul-23
SOI	0.30	-0.30

Precipitation Data	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Eureka RS, MT (inch)	0.58	1.88	0.70	1.12	0.56			
West Glacier, MT (inch)	1.52	4.12	2.74	3.39	2.46			
Cranbrook A, BC (mm)	4.80	22.20	27.40	24.10	25.30			
Fernie, BC (mm)	98.30	129.79	243.33	87.63	96.44			

Snow Water Equiv	1-Nov	1-Dec	1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun
Hawkins Lake, MT (inch)				9	16			
Stahl Peak, MT (inch)			12	21	26			
East Creek, BC (mm)				433	603			
Moyie Mountain, BC (mm)			85	138	227			
Sunshine Village, AB (mm)			169	234	370			
Akamina Pass, AB (mm)				212	290			
South Racehorse Creek, AB (mm)				148	264			

Streamflow	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Libby Inflow Volume (kaf)			161	192				

Reservoir Elevation	1-Nov	1-Dec	1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun
Libby FOM Elev (feet)	2437.9	2434.8	2421.2	2417.5	2416.4			

William D. Proctor, P.E.
 Approving Official
 Ch., Hydrologic Engineering and Power Branch
 Northwestern Division

Leon Basdekas, P.E.
 Upper Columbia Senior Water Manager
 Seattle District