

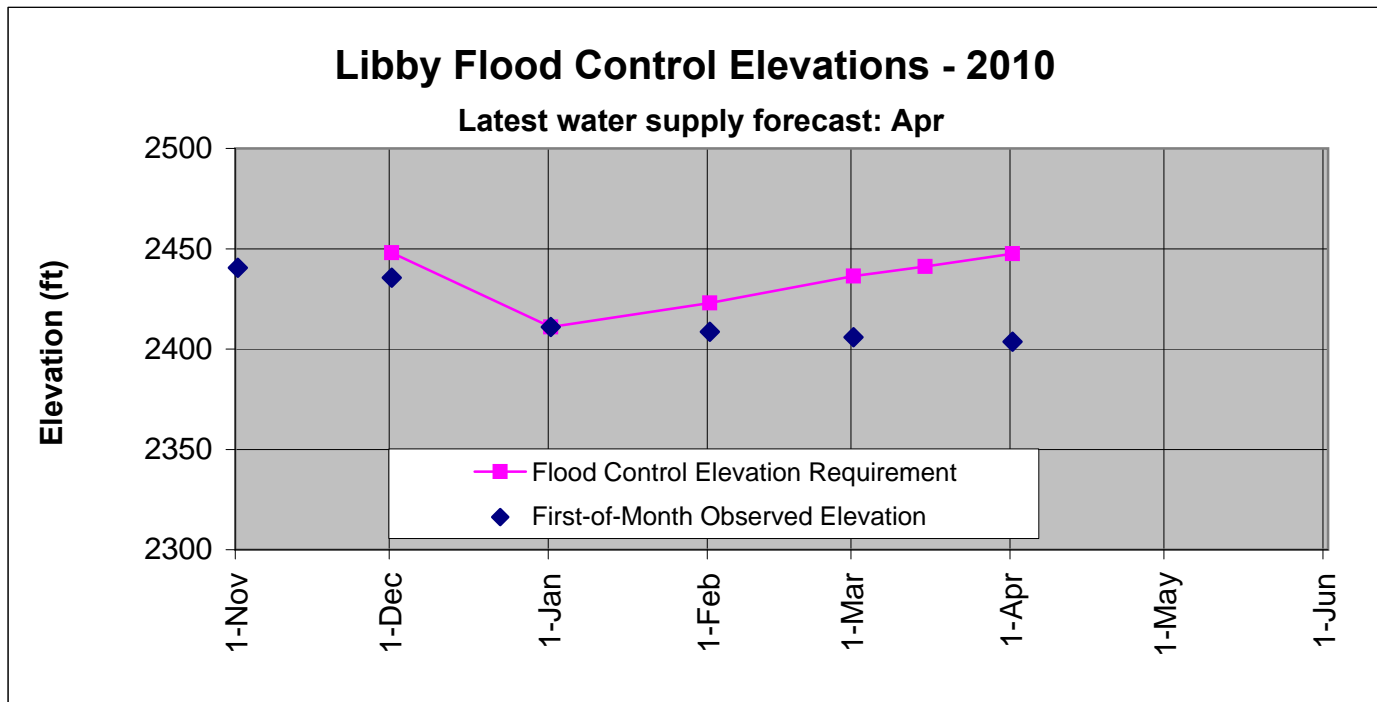
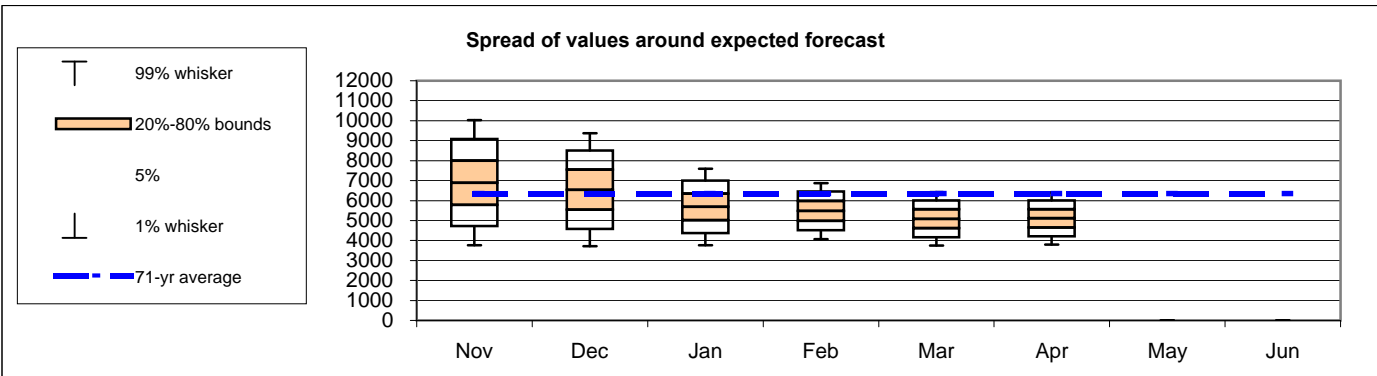
# Libby : April Runoff Forecast & Flood Control Calculation

WY 2010

Runoff Forecast and Flood Control			
Most Probable Runoff Volume:	Apr-Aug	5103	KAF
	Apr-Jul	4647	KAF
	May-Jul	4225	KAF
30-Apr Flood Control Space		522	KAF
30-Apr Flood Control Elevation		2447.5	ft

1929-1999 Average	Percent of Average
6337	81%
5771	81%
5247	81%

Seasonal Flood Control								
VARQ Flood Control Implemented								
Forecast Date >>	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Apr-Aug Runoff Forecast	6895	6544	5682	5478	5084	5103		
First-of-Month Elev	2440.5	2435.6	2410.9	2408.5	2405.9	2403.6		
Date >>	30-Nov	31-Dec	31-Jan	28-Feb	15-Mar	31-Mar	15-Apr	30-Apr
Flood Control Space	500	2000	1546	1000	800	522		
Flood Control Elevation	2448.0	2411.0	2423.0	2436.4	2441.1	2447.5		



**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), Amy Reese (206 764-3660), or Kenneth Brettman (206 764-6567).
2. Subsequent forecasts may differ from the originally published forecast due to updated values for precipitation, snow or streamflow.
3. Vermillion River snow measurements, with adjustments, are serving as a surrogate for Marble Canyon.

# Libby : April Runoff Forecast & Flood Control Calculation

Apr-Aug Runoff Forecast Calculation:							
Variable	Month(s)	Units	Observed Value	Percent of Average	Regression Coefficient	Marginal Runoff (KAF)	
			A		B	=A*B	
Glacier NP RP, BC	ΣOct,Nov,Dec Prcp	inches	22.87	105%	19.4	442.9	
Kaslo, BC	ΣOct,Nov,Dec Prcp	inches	11.95	105%	43.1	515.2	
Fortine 1N, MT	ΣOct,Nov,Dec Prcp	inches	4.08	104%	104.8	427.7	
West Glacier, MT	ΣOct,Nov,Dec Prcp	inches	8.06	94%	46.1	371.3	
Banff, AB	ΣDec-to-Mar Prcp	inches	1.56	36%	69.1	107.7	
Fernie, BC	ΣDec-to-Mar Prcp	inches	9.72	50%	30.6	297.3	
Cranbrook, BC	ΣDec-to-Mar Prcp	inches	2.76	51%	56.6	156.5	
Libby 1 NE RS, MT	ΣDec-to-Mar Prcp	inches	4.22	58%	65.0	274.2	
Vermillion R #3, BC	1-Apr SWE <sup>3</sup>	inches	9.11	79%	----		
Marble Canyon, BC	1-Apr SWE <sup>3</sup>	inches	10.97		47.0	515.7	
East Creek, BC	1-Apr SWE	inches	28.62	79%	17.8	510.6	
Hawkins Lake, MT	1-Apr SWE	inches	19.90	76%	19.9	396.6	
Stahl Peak, MT	1-Apr SWE	inches	29.80	85%	19.8	589.6	
Intercept			1		497.9	497.9	
1-Apr Forecast (KAF)					Σ	5103.2	

## Data used in Libby Water Supply Forecast

WY 2010

Climate Data	June	July	Aug	Sep						
SOI	-0.30	0.10	-0.70	0.30						
Precipitation Data	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Units	
Cranbrook A, BC			23.20	29.40	4.20	13.40			mm	
Fernie, BC	101.10	82.30	85.70	43.00	19.60	98.70			mm	
Glacier NP Rogrs Pass, BC	179.40	258.50	143.00						mm	
Kaslo, BC	126.60	95.20	81.80						mm	
Banff, AB			9.90	11.10	1.40	17.20			mm	
Fortine 1N, MT	1.82	0.73	1.53						inch	
West Glacier, MT	3.18	1.38	3.50						inch	
Libby 1 NE RS, MT	1.98	1.16	1.23	1.28	0.32	1.39			inch	
Snow Water Equiv				1-Jan	1-Feb	1-Mar	1-Apr	1-May	15-May	Units
Vermillion Rvr No. 3, BC				123	175	202	231			mm
East Creek, BC				450	585	615	727			mm
Morrissey Ridge, BC										mm
Moyie Mountain, BC										mm
Sullivan Mine, BC										mm
Hawkins Lake, MT					13.8	15.5	19.9			inch
Stahl Peak, MT					20.8	24.7	29.8			inch
Streamflow				Jan	Feb	Mar	Apr	May	Jun	Units
Libby Inflow Volume				162.3	130.0	164.0				KAF
Reservoir Elevation	1-Nov	1-Dec	1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun	Units	
Libby FOM Elev	2440.5	2435.6	2410.9	2408.5	2405.9	2403.6			feet	