

# Libby : May Runoff Forecast & Flood Control Calculation

WY 2009

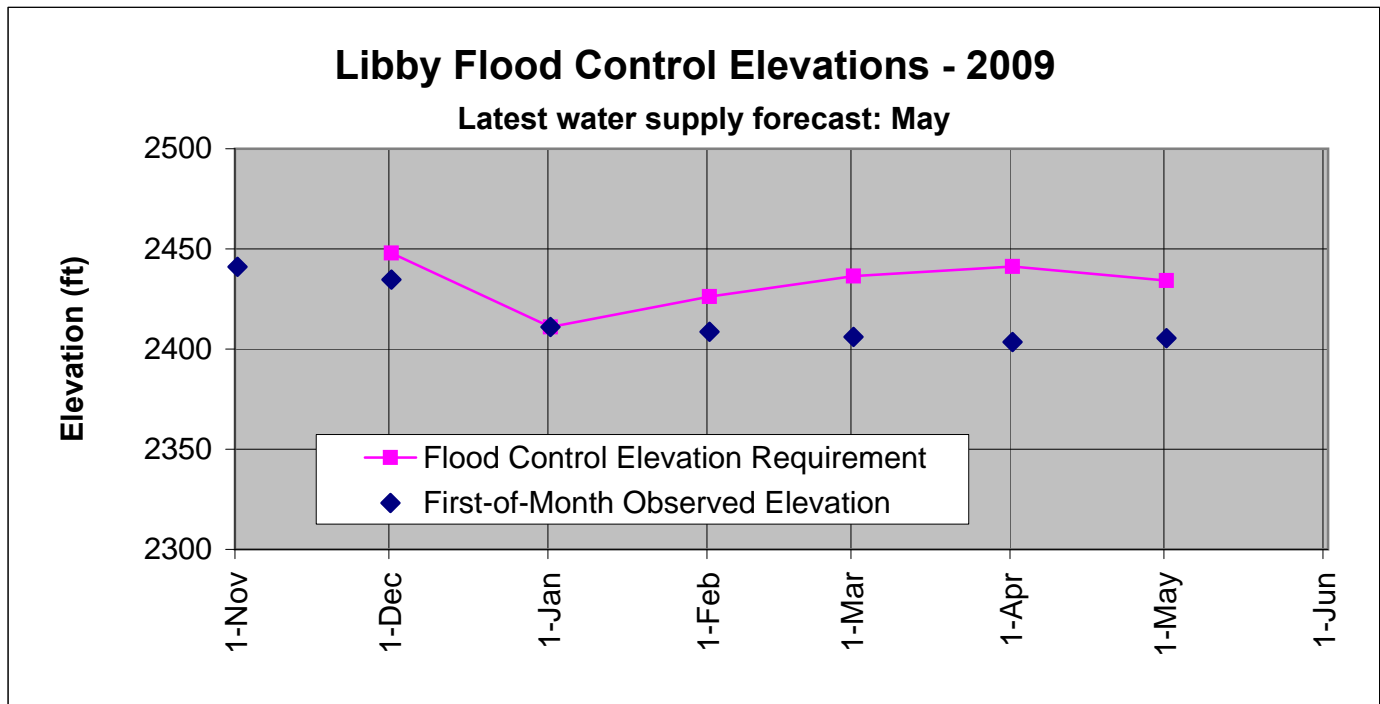
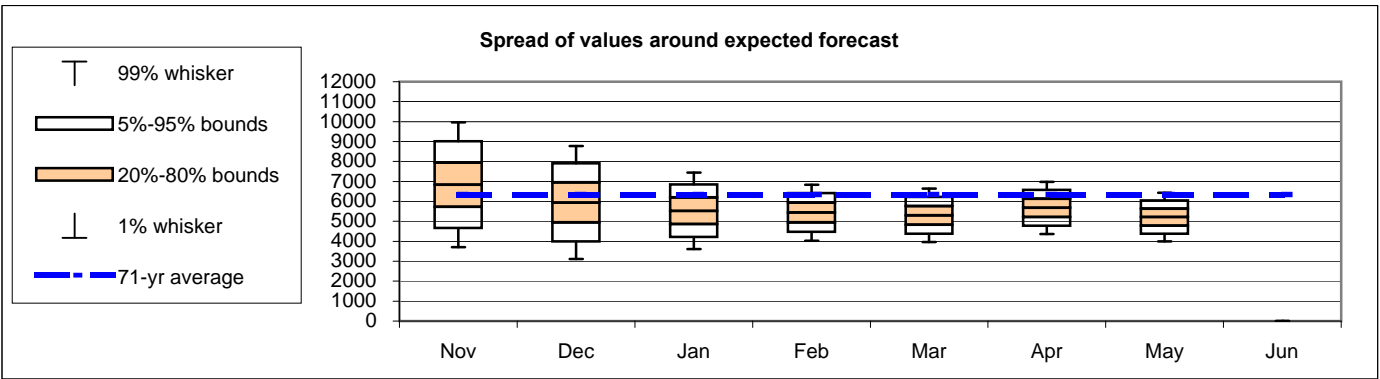
Runoff Forecast and Flood Control			
Most Probable Runoff Volume:	Apr-Aug	5209	KAF
	Apr-Jul	4731	KAF
	May-Jul	4428	KAF

1929-1999 Average	Percent of Average
6337	82%
5771	82%
5247	84%

Seasonal Flood Control VARQ Flood Control Implemented								
Forecast Date >>	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Apr-Aug Runoff Forecast	6828	5944	5526	5436	5296	5672	5209	
First-of-Month Elev	2441.0	2434.7	2411.0	2408.6	2406.1	2403.5	2405.5	

Date >>	30-Nov	31-Dec	31-Jan	28-Feb	31-Mar	30-Apr
Flood Control Space	500	2000	1421	1000	800	1092
Flood Control Elevation	2448.0	2411.0	2426.2	2436.4	2441.1	2434.2



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.

# Libby : May 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	∑Oct,Nov,Dec Prcp	inches	20.75	95%	22.3	462.8
Kaslo, BC	∑Oct,Nov,Dec Prcp	inches	10.74	95%	50.4	540.8
West Glacier, MT	∑Oct,Nov,Dec Prcp	inches	8.14	95%	51.8	422.0
Banff, AB	∑Dec-to-Apr Prcp	inches	4.61	80%	67.9	312.7
Fernie, BC	∑Dec-to-Apr Prcp	inches	13.82	61%	32.5	448.6
Cranbrook, BC	∑Dec-to-Apr Prcp	inches	5.91	91%	63.5	375.7
East Creek, BC	1-May SWE	inches	25.98	68%	16.0	415.4
Morrissey Ridge, BC	1-May SWE	inches	23.31	85%	19.8	461.1
Hawkins Lake, MT	1-May SWE	inches	27.30	98%	20.6	563.7
Stahl Peak, MT	1-May SWE	inches	32.50	89%	21.2	688.1
Intercept			1		214.8	214.8
1-May May-Aug Forecast (KAF)						∑ 4905.7
Libby Inflow	April	KAF	304	58%		
1-May Apr-Aug Forecast (KAF)						5209.3

## Data used in Libby Water Supply Forecast

WY 2009

Climate Data	June	July	Aug	Sep					Units
SOI	0.30	0.20	0.80	1.50					
Precipitation Data	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Units
Cranbrook A, BC			49.80	8.48	17.00	49.20	25.70		mm
Fernie, BC	74.00	68.30	85.00	77.00	57.00	91.20	40.90		mm
Glacier NP Rogrs Pass, BC	164.40	174.60	188.00						mm
Kaslo, BC	82.00	91.60	99.20						mm
Banff, AB			39.10	12.00	24.50	24.00	17.40		mm
Fortine 1N, MT	0.46	0.65	1.84						inch
West Glacier, MT	1.37	3.20	3.57						inch
Libby 1 NE RS, MT	0.62	0.76	2.75	2.20	1.51	2.55			inch
Snow Water Equiv			1-Jan	1-Feb	1-Mar	1-Apr	1-May	15-May	Units
Vermillion Rvr No. 3, BC			126	192	202	264			mm
East Creek, BC			326	424	503	608	660		mm
Morrissey Ridge, BC							592		mm
Moyie Mountain, BC									mm
Sullivan Mine, BC									mm
Hawkins Lake, MT				13.3	15.3	23.8	27.3		inch
Stahl Peak, MT				18.4	22.5	30.7	32.5		inch
Streamflow			Jan	Feb	Mar	Apr	May	Jun	Units
Libby Inflow Volume			166.0	130.0	154.7	303.7			KAF
Reservoir Elevation	1-Nov	1-Dec	1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun	Units
Libby FOM Elev	2441.0	2434.7	2411.0	2408.6	2406.1	2403.5	2405.5		feet