

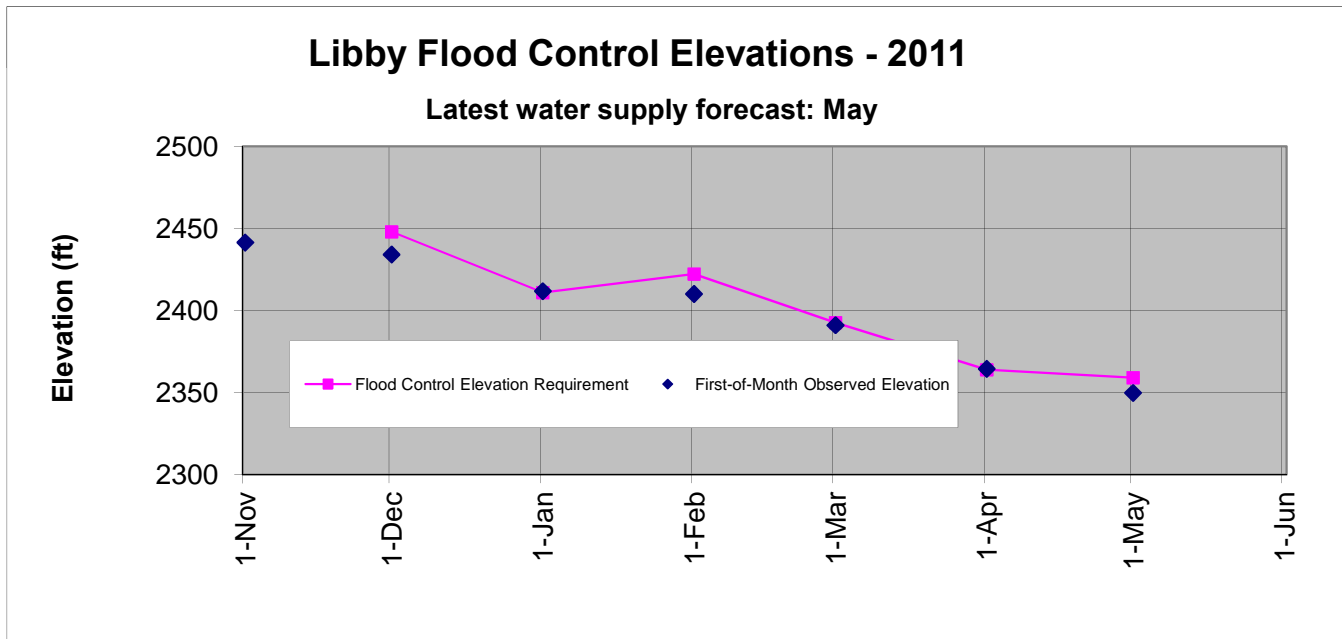
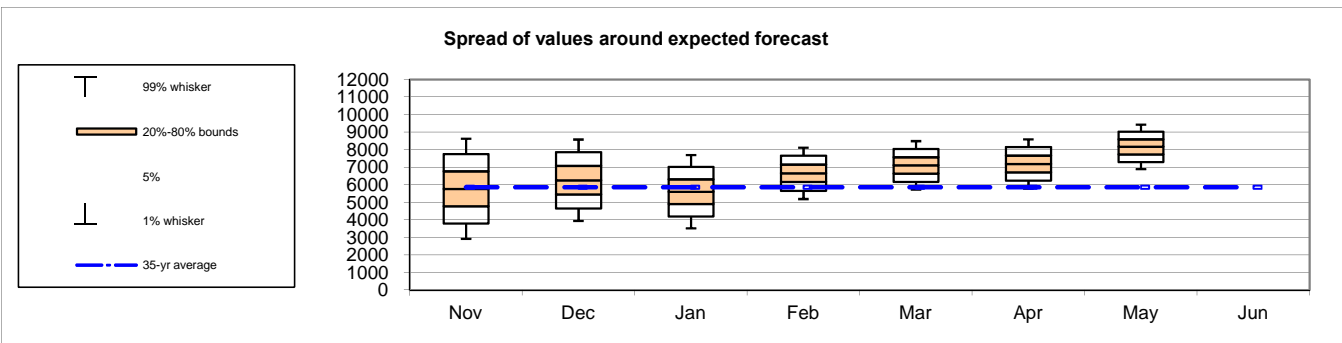
# Libby : May Runoff Forecast & Flood Control Calculation

WY 2011

Runoff Forecast and Flood Control			
<b>Most Probable Runoff Volume:</b>	<b>Apr-Aug</b>	<b>8165</b>	<b>KAF</b>
	<b>Apr-Jul</b>	<b>7342</b>	<b>KAF</b>
	<b>May-Jul</b>	<b>7031</b>	<b>KAF</b>

1975-2009 Average	Percent of Average	1929-1999 Average	Percent of Average
5865	139%	6337	129%
5303	138%	5771	127%
4797	147%	5247	134%

Seasonal Flood Control VARQ Flood Control Implemented								
Forecast Date >>	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
<b>Apr-Aug Runoff Forecast</b>	5775	6262	5610	6656	7111	7191	8165	
<b>First-of-Month Elev</b>	2441.5	2434.2	2411.9	2410.2	2391.1	2364.6	2349.9	
Date >>	30-Nov	31-Dec	31-Jan	28-Feb	31-Mar	30-Apr		
<b>Flood Control Space</b>	500	2000	1488	2612	3416	3536		
<b>Flood Control Elevation</b>	2448.0	2411.0	2422.3	2392.7	2364.0	2359.2		



Notes:

- 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 Kristian Mickelson (206 )-764-6927.
- 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
QBO	∑Jan:Mar		-52.68		-2.5	131.0
PNA	∑Oct:Jan		-0.12		-88.1	10.6
West Glacier, MT	∑Jan:Apr Prcp	inches	17.40	192%	81.6	1420.6
Fernie, BC	∑Jan:Apr Prcp	inches	21.77	134%	39.6	861.8
Sunshine Village, AB	1-May SWE	inches	28.80	120%	57.9	1667.4
East Creek, BC	1-May SWE	inches	42.52	120%	27.6	1175.0
Stahl Peak, MT	1-May SWE	inches	59.30	162%	30.3	1796.4
Gardiner Creek, AB	1-May SWE	inches	40.13	166%	17.8	713.7
Intercept			1		78.0	78.0
1-May May-Aug Forecast (KAF)					∑	7854.4
Libby Inflow	April	KAF	311	61%		
1-May Apr-Aug Forecast (KAF)						8165.4

### Data used in Libby Water Supply Forecast

	WY 2011									
Climate Data	Jan-10	Feb-10	Mar-10	Jun-10	Jul-10	Oct-10	Nov-10	Dec-10	Jan-11	
SOI				0.10	2.00					
QBO	-16.02	-16.98	-19.68							
PNA						1.80	-0.84	-2.08	1.00	
Precipitation Data	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Units	
Eureka, MT	0.52	2.11	0.84	1.13	1.14				inch	
Libby 1 NE RS, MT	1.27	2.65	2.71	2.21	1.76				inch	
West Glacier, MT	2.36	3.65	4.53	6.32	2.35	4.01	4.72		inch	
Fernie, BC	73.50	174.70	97.89	217.30	126.00	67.60	142.00		mm	
Snow Water Equiv				1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun	Units
Floe Lake, BC			251	458	623					mm
Sunshine Village, AB			167	335	461	615	731			mm
East Creek, BC			296	574	758	941	1080			mm
Stahl Peak, MT			20	30	37	48	59			inch
Gardiner Creek, AB			334	521	647	812	1019			mm
Three Isle Lake, AB			165	301	366	501				mm
Lost Creek South, AB			162	341	459					mm
Morrissey Ridge, BC			233	521	578					mm
Hawkins Lake, MT			11	17	26					inch
Streamflow				Jan	Feb	Mar	Apr	May	Jun	Units
Libby Inflow Volume			217.0	173.6	217.4	311.0				KAF
Reservoir Elevation	1-Nov	1-Dec	1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun	Units	
Libby FOM Elev	2441.5	2434.2	2411.9	2410.2	2391.1	2364.6	2349.9		feet	