

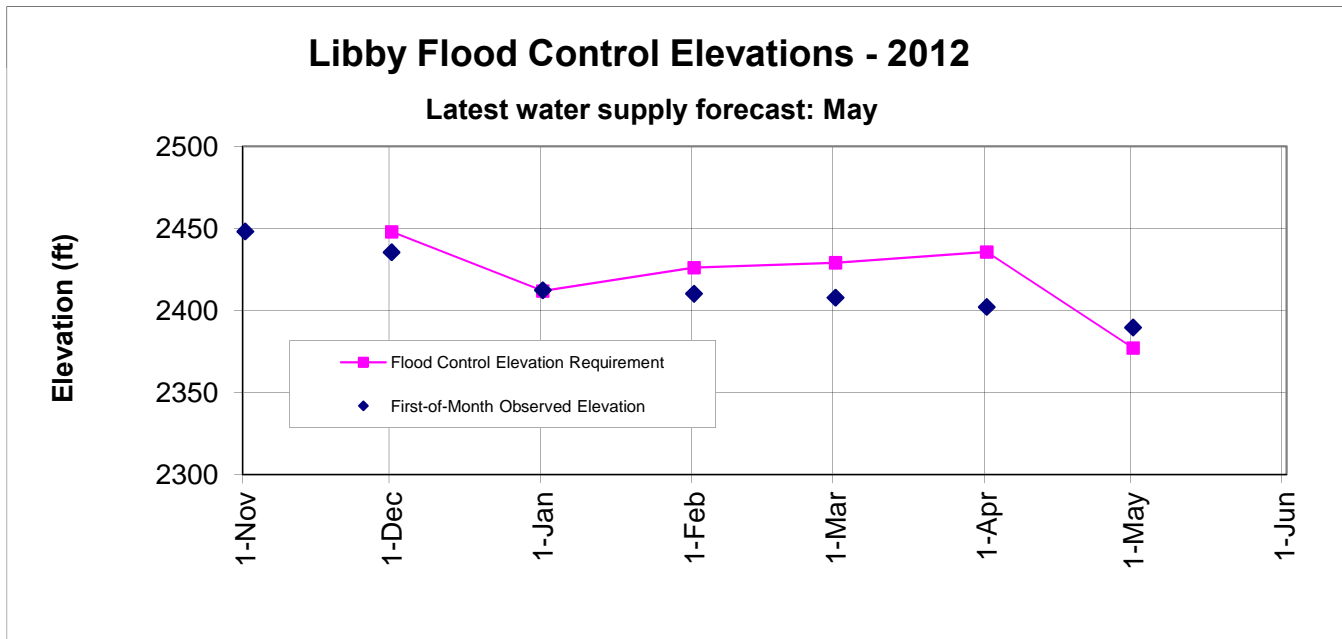
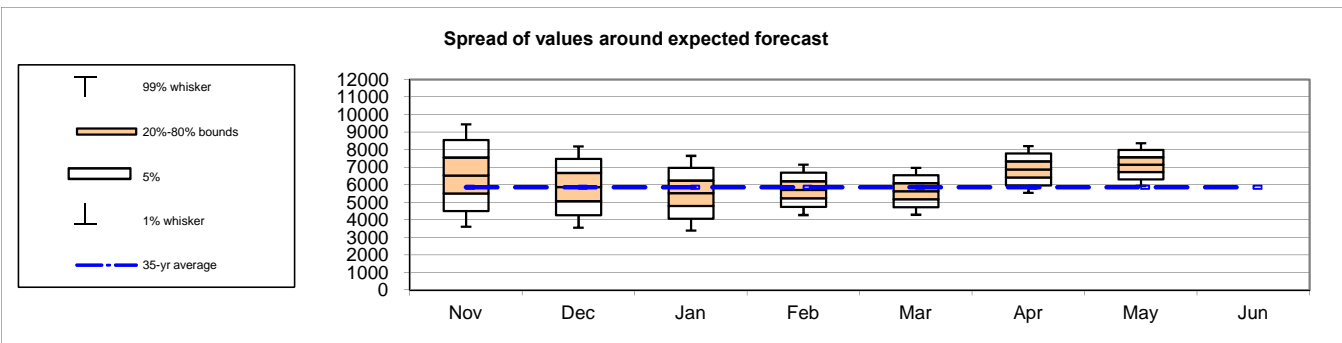
# Libby: May Runoff Forecast & Flood Control Calculation

WY 2012

Runoff Forecast and Flood Control			
<b>Most Probable Runoff Volume:</b>	<b>Apr-Aug</b>	<b>7155</b>	<b>KAF</b>
	<b>Apr-Jul</b>	<b>6489</b>	<b>KAF</b>
	<b>May-Jul</b>	<b>5687</b>	<b>KAF</b>

1975-2009 Average	Percent of Average	1929-1999 Average	Percent of Average
5865	122%	6337	113%
5303	122%	5771	112%
4797	119%	5247	108%

Seasonal Flood Control VARQ Flood Control Implemented								
Forecast Date >>	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
<b>Apr-Aug Runoff Forecast</b>	6532	5876	5524	5714	5635	6872	7155	
<b>First-of-Month Elev</b>	2448.3	2435.6	2412.5	2410.3	2407.9	2402.3	2389.8	
Date >>	30-Nov	31-Dec	31-Jan	28-Feb	31-Mar	30-Apr		
<b>Flood Control Space</b>	500	1965	1419	1300	1030	3058		
<b>Flood Control Elevation</b>	2448.0	2412.0	2426.2	2429.2	2435.7	2377.3		



**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, Kevin Shaffer (206) 764-3660, or Kristian Mickelson (206) 764-6927.  
 2. Subsequent forecasts may differ from the originally published forecast due to updated values for precipitation, snow 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
QBO	∑Jan:Mar		29.67		-3.0	-89.2
PNA	∑Oct:Jan		0.29		-87.2	-25.3
West Glacier, MT	∑Jan:Apr Prcp	inches	13.10	144%	83.4	1092.7
Fernie, BC	∑Jan:Apr Prcp	inches	22.72	140%	39.2	889.5
Sunshine Village, AB	1-May SWE	inches	30.63	127%	57.8	1769.8
East Creek, BC	1-May SWE	inches	36.32	102%	27.7	1004.2
Stahl Peak, MT	1-May SWE	inches	41.95	115%	30.2	1264.8
Gardiner Creek, AB	1-May SWE	inches	24.29	101%	17.6	428.0
Intercept			1		18.5	18.5
1-May May-Aug Forecast (KAF)					∑	6353.0
Libby Inflow	April	KAF	802	158%		
1-May Apr-Aug Forecast (KAF)						7155.0

## Data used in Libby Water Supply Forecast

	WY 2012									
Climate Data	Jan-11	Feb-11	Mar-11	Jun-11	Jul-11	Oct-11	Nov-11	Dec-11	Jan-12	
SOI				0.20	1.00					
QBO	9.18	10.05	10.44							
PNA						0.86	-0.76	0.06	0.13	
Precipitation Data	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May		Units
Eureka, MT	2.17	0.44	0.48	0.79	0.42					inch
Libby 1 NE RS, MT	1.92	2.00	1.74	2.19	0.80					inch
West Glacier, MT	3.90	1.51	2.06	3.48	2.28	3.76	3.58			inch
Fernie, BC	120.10	73.80	52.60	64.90	64.00	321.90	126.20			mm
Snow Water Equiv			1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun		Units
Floe Lake, BC			409	533	683					mm
Sunshine Village, AB			276	441	513	722	778			mm
East Creek, BC			428	668	743	1001	923			mm
Stahl Peak, MT			11	19	28	39	42			inch
Gardiner Creek, AB			200	354	438	688	617			mm
Three Isle Lake, AB			241	365	437	608				mm
Lost Creek South, AB			355	523	677					mm
Morrissey Ridge, BC			285	458	510					mm
Hawkins Lake, MT			14	22	25					inch
Streamflow			Jan	Feb	Mar	Apr	May	Jun		Units
Libby Inflow Volume			169.0	144.0	217.0	802.0				KAF
Reservoir Elevation	1-Nov	1-Dec	1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun		Units
Libby FOM Elev	2448.3	2435.6	2412.5	2410.3	2407.9	2402.3	2389.8			feet