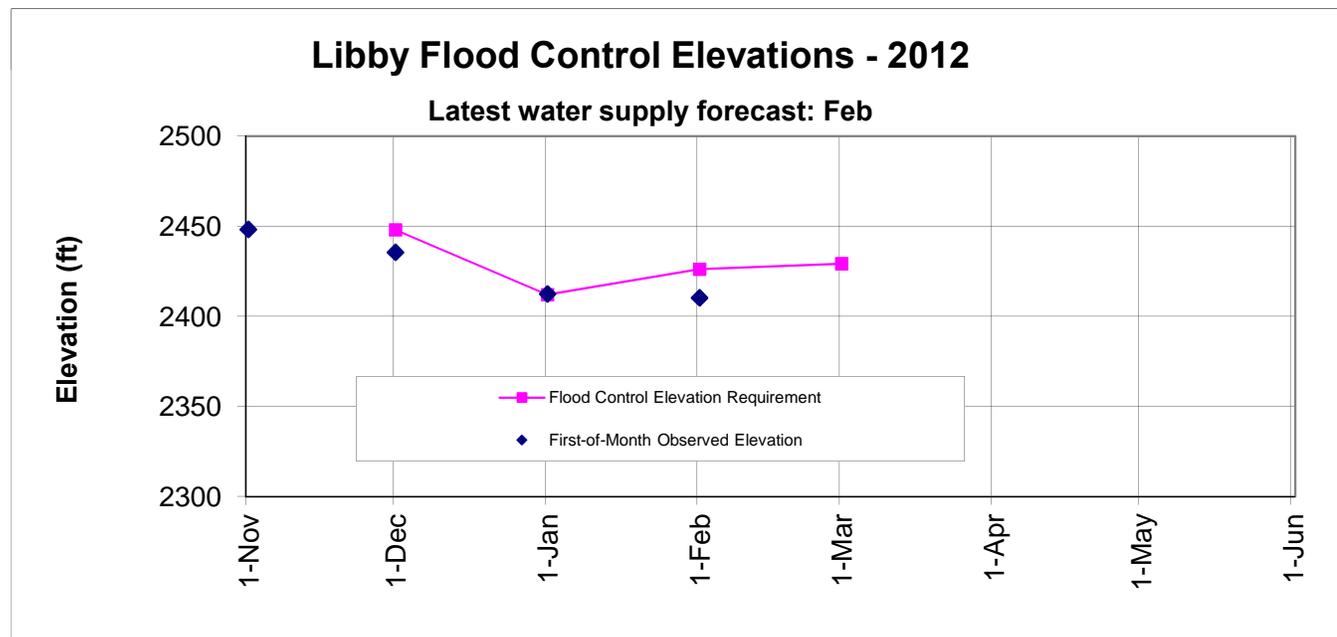
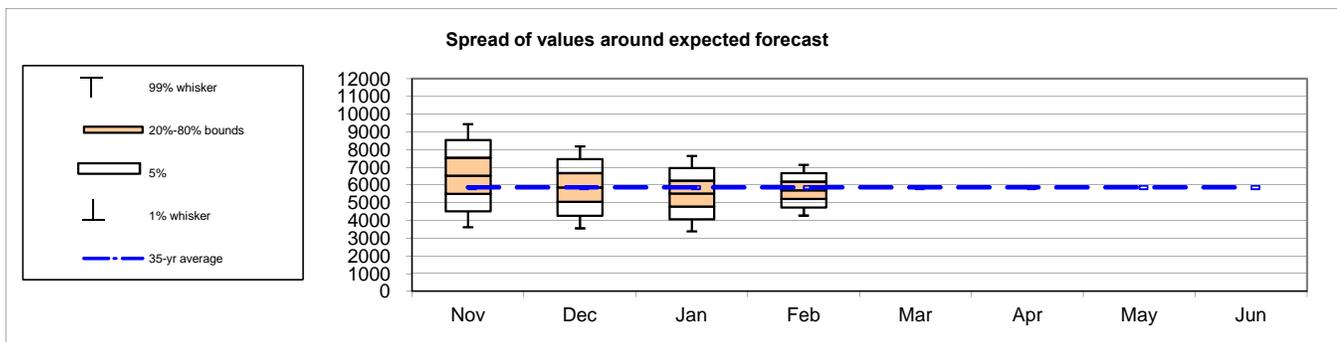


# Libby : February Runoff Forecast & Flood Control Calculation

WY 2012

Runoff Forecast and Flood Control				1975-2009 Average	Percent of Average	1929-1999 Average	Percent of Average	
<b>Most Probable Runoff Volume:</b>	<b>Apr-Aug</b>	<b>5713</b>	<b>KAF</b>	5865	97%	6337	90%	
	<b>Apr-Jul</b>	<b>5165</b>	<b>KAF</b>	5303	97%	5771	90%	
	<b>May-Jul</b>	<b>4672</b>	<b>KAF</b>	4797	97%	5247	90%	
<b>29 Feb Flood Control Space</b>		<b>1298</b>	<b>KAF</b>					
<b>29 Feb Flood Control Elevation</b>		<b>2429.2</b>	<b>ft</b>					
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	5713				
<b>First-of-Month Elev</b>	2448.3	2435.6	2412.5	2410.3				
Date >>	30-Nov	31-Dec	31-Jan	29-Feb	15-Mar	31-Mar	15-Apr	30-Apr
<b>Flood Control Space</b>	500	1965	1419	1298				
<b>Flood Control Elevation</b>	2448.0	2412.0	2426.2	2429.2				



**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, Kevin Shaffer (206) 764-3660, or Kristian Mickelson (206) 764-6927.
- The January forecast has changed due to updated 1-Jan SWE input for the Gardiner Creek, Alberta, snotel site. Subsequent forecasts may differ from the originally published forecast due to updated values for precipitation, snow or streamflow.
- The Lost Creek South, Alberta, snotel site is not currently functioning. Historical 1 February SWE data for Lost Creek South was regressed onto historical 1 February SWE for Mount Odium, Alberta. The regression was linear, with a correlation coefficient of 0.89. The result of the regression was used to estimate the 1 February 2012 SWE at Lost Creek South.

# Libby : February 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		29.67		-7.9	-233.4
Eureka, MT	∑Oct:Jan Prcp	inches	3.88	89%	62.2	241.2
Libby 1 NE RS, MT	∑Oct:Jan Prcp	inches	7.85	99%	54.7	429.2
West Glacier, MT	∑Oct:Jan Prcp	inches	10.95	88%	32.3	353.8
Fernie, BC	∑Oct:Jan Prcp	inches	12.13	55%	13.9	168.3
Floe Lake, BC	1-Feb SWE	inches	20.96	107%	10.9	228.5
Sunshine Village, AB	1-Feb SWE	inches	17.36	112%	22.4	388.1
East Creek, BC	1-Feb SWE	inches	26.28	107%	7.0	184.1
Stahl Peak, MT	1-Feb SWE	inches	19.25	80%	19.7	378.4
Gardiner Creek, AB	1-Feb SWE	inches	13.94	93%	16.6	231.0
Three Isle Lake, AB	1-Feb SWE	inches	14.37	111%	29.7	426.5
Lost Creek South, AB	1-Feb SWE	inches	20.59	129%	16.9	348.5
Morrissey Ridge, BC	1-Feb SWE	inches	18.01	98%	23.9	430.9
Hawkins Lake, MT	1-Feb SWE	inches	21.70	133%	32.9	714.3
Intercept			1		1423.0	1423.0
1-Feb Forecast (KAF)					∑	5712.5

## 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			
Precipitation Data	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Units	
Eureka, MT	2.17	0.44	0.48	0.79					inch	
Libby 1 NE RS, MT	1.92	2.00	1.74	2.19					inch	
West Glacier, MT	3.90	1.51	2.06	3.48					inch	
Fernie, BC	120.10	73.80	52.60	61.50					mm	
Snow Water Equiv				1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun	Units
Floe Lake, BC			409	533						mm
Sunshine Village, AB			276	441						mm
East Creek, BC			428	668						mm
Stahl Peak, MT			11	19						inch
Gardiner Creek, AB			200	354						mm
Three Isle Lake, AB			241	365						mm
Lost Creek South, AB			355	523						mm
Morrissey Ridge, BC			285	458						mm
Hawkins Lake, MT			14	22						inch
Streamflow				Jan	Feb	Mar	Apr	May	Jun	Units
Libby Inflow Volume			169.0							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					feet	