

Libby : April Runoff Forecast & Flood Control Calculation

WY 2012

Runoff Forecast and Flood Control

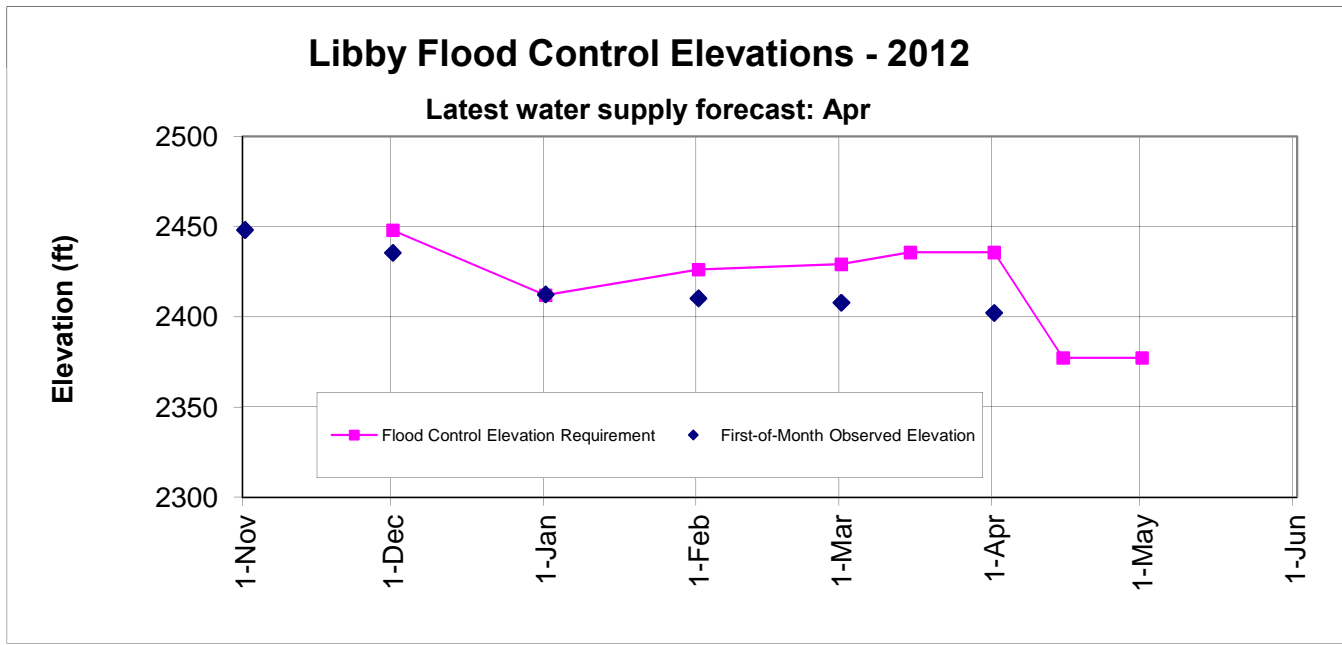
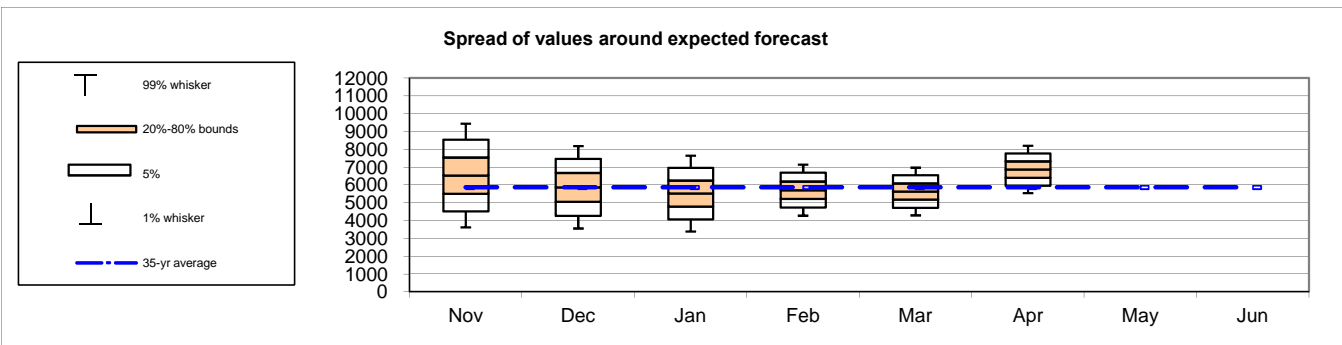
Most Probable Runoff Volume:	Apr-Aug	6872	KAF
	Apr-Jul	6214	KAF
	May-Jul	5621	KAF
30-Apr Flood Control Space		3058	KAF
30-Apr Flood Control Elevation		2377.3	ft

1975-2009 Average	Percent of Average	1929-1999 Average	Percent of Average
5865	117%	6337	108%
5303	117%	5771	108%
4797	117%	5247	107%

Seasonal Flood Control VARQ Flood Control Implemented

Forecast Date >>	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Apr-Aug Runoff Forecast	6532	5876	5524	5714	5635	6872		
First-of-Month Elev	2448.3	2435.6	2412.5	2410.3	2407.9	2402.3		

Date >>	30-Nov	31-Dec	31-Jan	28-Feb	15-Mar	31-Mar	15-Apr	30-Apr
Flood Control Space	500	1965	1419	1300	1030	1030	3058	3058
Flood Control Elevation	2448.0	2412.0	2426.2	2429.2	2435.7	2435.7	2377.3	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.

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
QBO	∑Jan:Mar		29.67		-1.8	-54.4
PNA	∑Oct:Jan		0.29		-83.9	-24.3
West Glacier, MT	∑Dec:Mar Prcp	inches	11.58	113%	51.3	594.6
Fernie, BC	∑Dec:Mar Prcp	inches	19.82	113%	41.4	820.7
Sunshine Village, AB	1-Apr SWE	inches	28.43	128%	52.4	1490.8
East Creek, BC	1-Apr SWE	inches	39.42	117%	25.8	1018.5
Stahl Peak, MT	1-Apr SWE	inches	38.90	112%	27.3	1061.2
Gardiner Creek, AB	1-Apr SWE	inches	27.09	117%	18.1	491.0
Three Isle Lake, AB	1-Apr SWE	inches	23.94	126%	51.2	1226.4
Intercept			1		247.9	247.9
1-Apr Forecast (KAF)					∑	6872.3

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			inch	
Fernie, BC	120.10	73.80	52.60	64.90	64.00	321.90			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			mm
East Creek, BC				428	668	743	1001			mm
Stahl Peak, MT				11	19	28	39			inch
Gardiner Creek, AB				200	354	438	688			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				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			feet	