

Libby : June Runoff Forecast & Flood Control Calculation

WY 2012

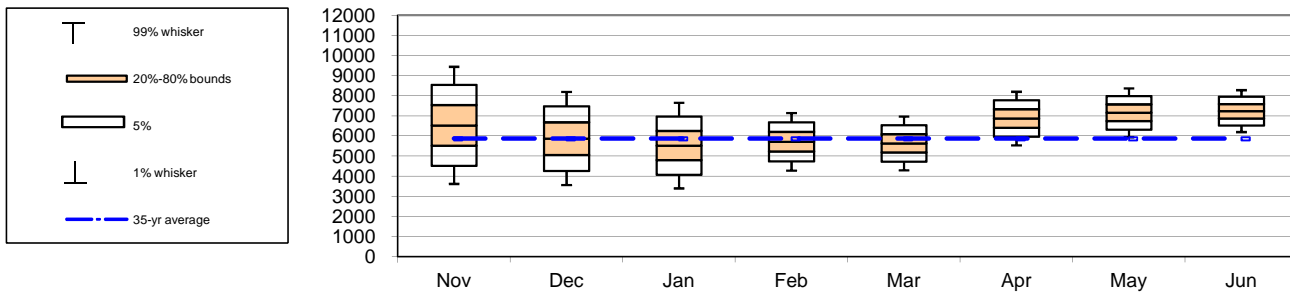
Runoff Forecast and Flood Control			
Most Probable Runoff Volume:	Apr-Aug	7240	KAF
	Apr-Jul	6564	KAF
	May-Jul	5762	KAF

1975-2009 Average	Percent of Average	1929-1999 Average	Percent of Average
5865	123%	6337	114%
5303	124%	5771	114%
4797	120%	5247	110%

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	7159	7240
First-of-Month Elev	2448.3	2435.6	2412.5	2410.3	2407.9	2402.3	2389.8	2420.1

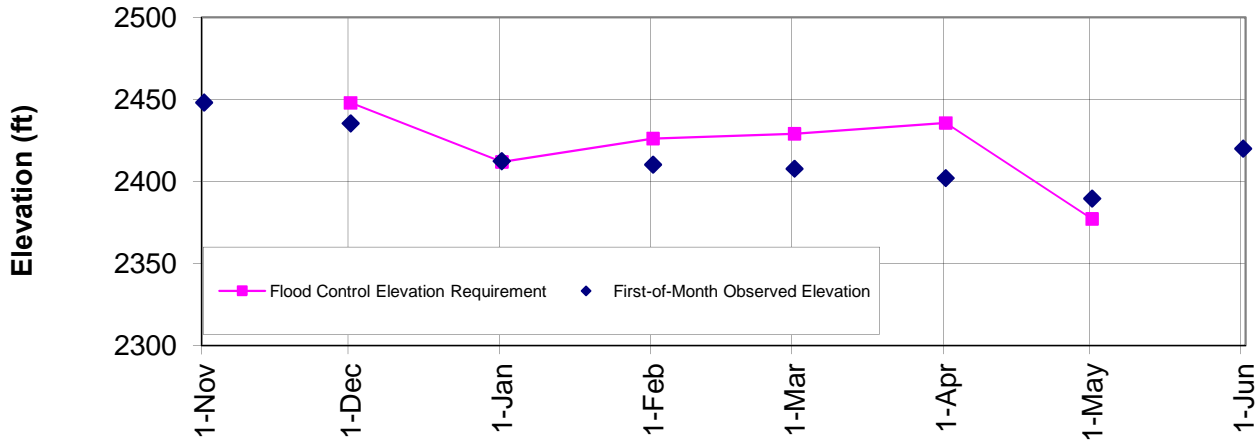
Date >>	30-Nov	31-Dec	31-Jan	28-Feb	31-Mar	30-Apr
Flood Control Space	500	1965	1419	1300	1030	3058
Flood Control Elevation	2448.0	2412.0	2426.2	2429.2	2435.7	2377.3

Spread of values around expected forecast



Libby Flood Control Elevations - 2012

Latest water supply forecast: Jun



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		-1.8	-53.9
PNA	∑Oct:Jan		0.29		-72.4	-21.0
West Glacier, MT	∑Jan:May Prcp	inches	15.58	133%	87.2	1359.2
Fernie, BC	∑Jan:May Prcp	inches	24.17	120%	35.9	868.3
East Creek, BC	1-Jun SWE	inches	34.25	120%	21.9	751.3
Stahl Peak, MT	1-Jun SWE	inches	36.35	132%	22.0	801.3
Gardiner Creek, AB	1-Jun SWE	inches	17.36	127%	16.3	282.2
Intercept			1		526.2	526.2
1-June Jun-Aug Forecast (KAF)						∑ 4513.7
Libby Inflow (KAF)	April	802	158%	May	1924	120%
1-June Apr-Aug Forecast (KAF)						7239.7

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	2.48	inch
Fernie, BC	120.10	73.80	52.60	64.90	64.00	321.90	126.20	37.00	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	926	870	mm
Stahl Peak, MT			11	19	28	39	42	36	inch
Gardiner Creek, AB			200	354	438	688	617	441	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	1924.0		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	2420.1	feet