

Libby : January Runoff Forecast & Flood Control Calculation

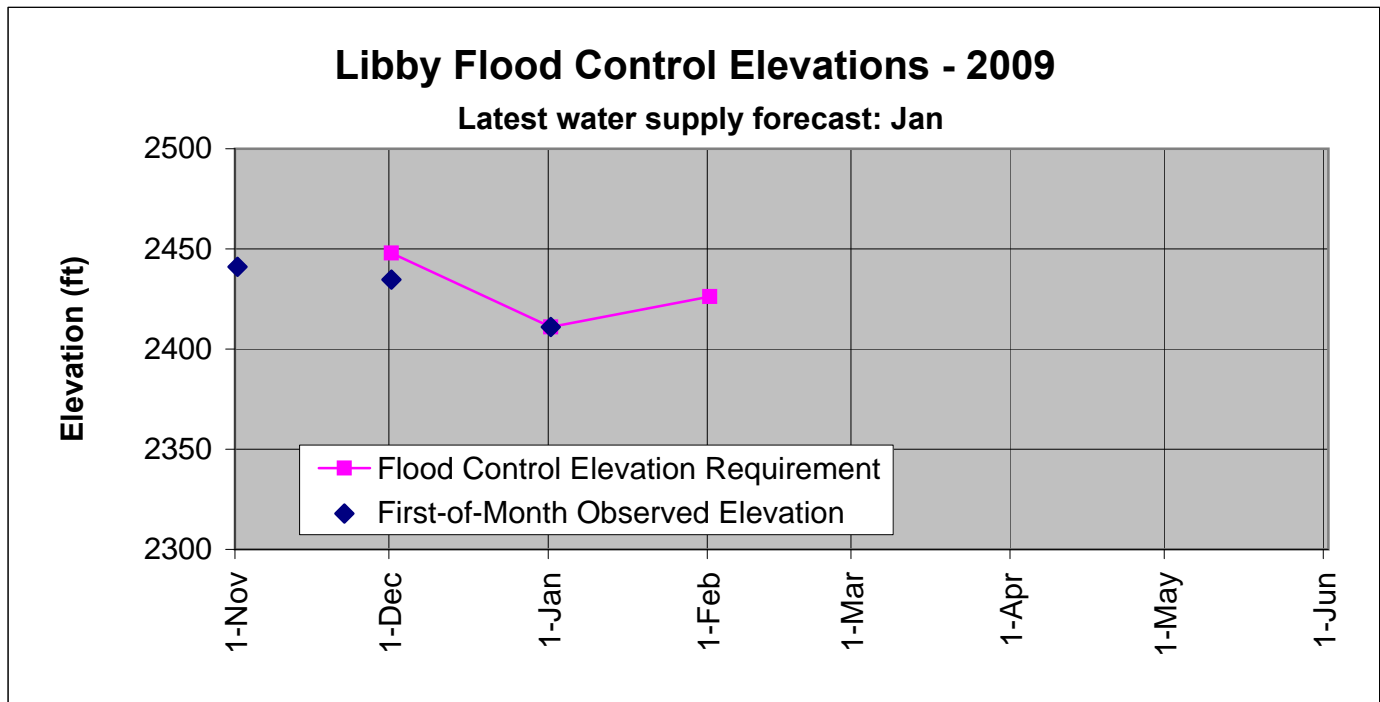
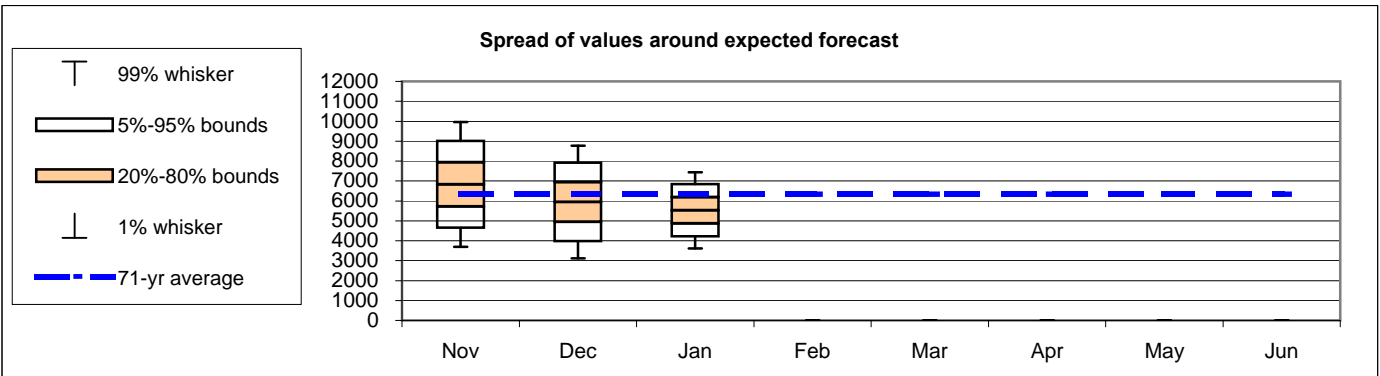
WY 2009

Runoff Forecast and Flood Control			
Most Probable Runoff Volume:	Apr-Aug	5526	KAF
	Apr-Jul	5032	KAF
	May-Jul	4575	KAF
31-Jan Flood Control Space		1421	KAF
31-Jan Flood Control Elevation		2426.2	ft

1929-1999 Average Percent of Average

6337 87%
5771 87%
5247 87%

Seasonal Flood Control		VARQ Flood Control Implemented						
Forecast Date >>	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Apr-Aug Runoff Forecast	6828	5944	5526					
First-of-Month Elev	2441.0	2434.7	2411.0					
Date >>	30-Nov	31-Dec	31-Jan	28-Feb	15-Mar	31-Mar	15-Apr	30-Apr
Flood Control Space	500	2000	1421					
Flood Control Elevation	2448.0	2411.0	2426.2					



- 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), Ken Brettmann (206 764-6567), or Carolyn Fitzgerald (206 764-3951).
 - Subsequent forecasts may differ from the originally published forecast due to updated values for precipitation, snow or streamflow.
 - Vermillion River snow measurements, with adjustments, are serving as a surrogate for Marble Canyon.

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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
Fernie, BC	ΣOct,Nov,Dec Prcp	inches	8.95	57%	21.8	195.4
Glacier NP RP, BC	ΣOct,Nov,Dec Prcp	inches	20.75	95%	22.0	457.3
Kaslo, BC	ΣOct,Nov,Dec Prcp	inches	10.74	95%	44.2	474.3
Fortine 1N, MT	ΣOct,Nov,Dec Prcp	inches	2.95	75%	109.4	322.8
West Glacier, MT	ΣOct,Nov,Dec Prcp	inches	8.14	95%	47.3	385.1
Libby 1 NE RS, MT	ΣOct,Nov,Dec Prcp	inches	4.13	66%	70.1	289.6
Banff, AB	Dec Prcp	inches	1.54	121%	93.2	143.5
Cranbrook, BC	Dec Prcp	inches	1.96	118%	112.5	220.5
Vermillion R #3, BC	1-Jan SWE ³	inches	4.96	87%	----	
Marble Canyon, BC	1-Jan SWE ³	inches	5.77		57.7	332.8
East Creek, BC	1-Jan SWE	inches	12.83	69%	23.8	306.1
Intercept			1		2398.9	2398.9
1-Jan Forecast (KAF)					Σ	5526.3

Data used in Libby Water Supply Forecast

WY 2009

Climate Data	June	July	Aug	Sep						
SOI	0.30	0.20	0.80	1.50						
Precipitation Data	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Units	
Cranbrook A, BC			49.80						mm	
Fernie, BC	74.00	68.30	85.00						mm	
Glacier NP Rogrs Pass, BC	164.40	174.60	188.00						mm	
Kaslo, BC	82.00	91.60	99.20						mm	
Banff, AB			39.10						mm	
Fortine 1N, MT	0.46	0.65	1.84						inch	
West Glacier, MT	1.37	3.20	3.57						inch	
Libby 1 NE RS, MT	0.62	0.76	2.75						inch	
Snow Water Equiv				1-Jan	1-Feb	1-Mar	1-Apr	1-May	15-May	Units
Vermillion Rvr No. 3, BC				126						mm
East Creek, BC				326						mm
Morrissey Ridge, BC										mm
Moyie Mountain, BC										mm
Sullivan Mine, BC										mm
Hawkins Lake, MT										inch
Stahl Peak, MT										inch
Streamflow				Jan	Feb	Mar	Apr	May	Jun	Units
Libby Inflow Volume										KAF
Reservoir Elevation	1-Nov	1-Dec	1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun	Units	
Libby FOM Elev	2441.0	2434.7	2411.0						feet	