

Libby : May Runoff Forecast & Flood Control Calculation

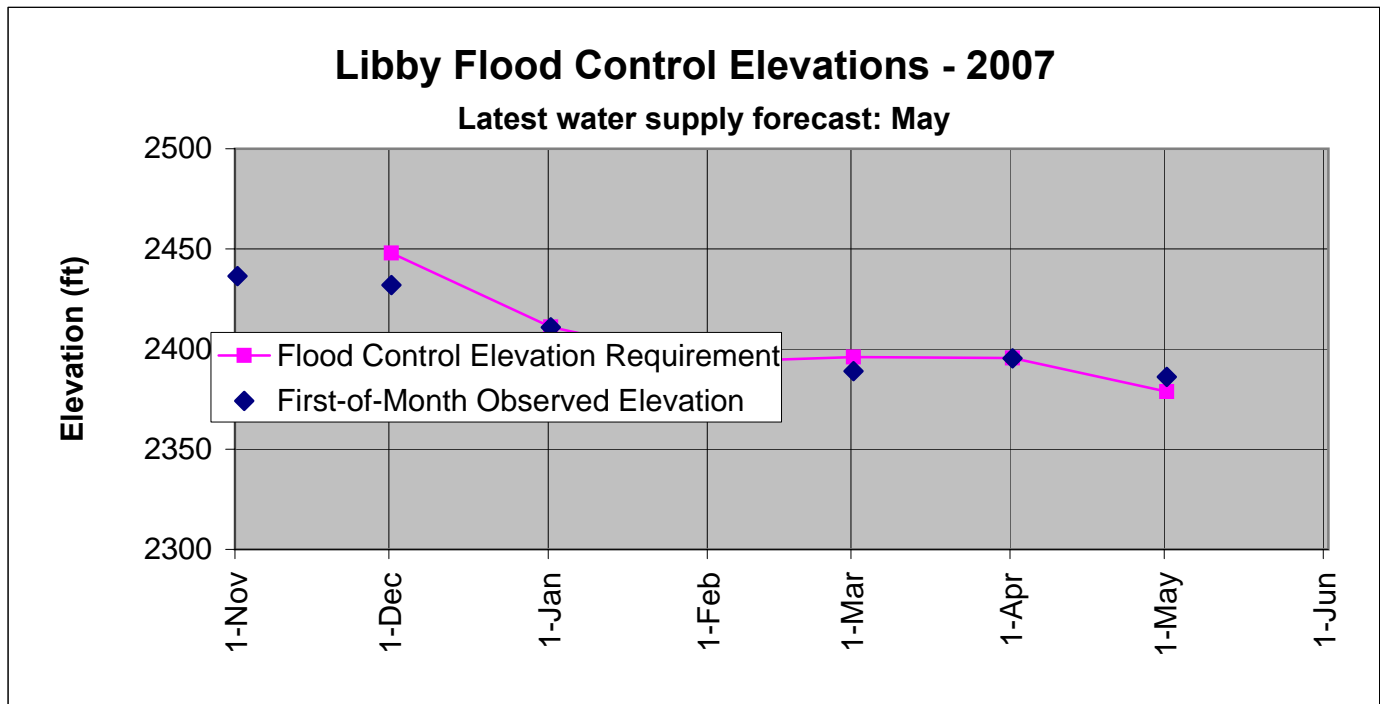
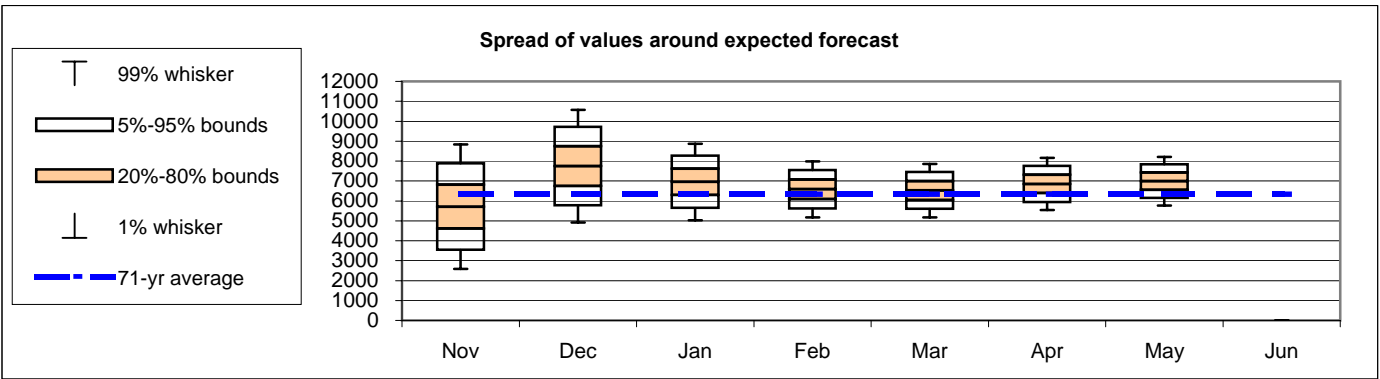
WY 2007

| Runoff Forecast and Flood Control | | | |
|-----------------------------------|---------|------|-----|
| Most Probable Runoff Volume: | Apr-Aug | 6990 | KAF |
| | Apr-Jul | 6375 | KAF |
| | May-Jul | 5693 | KAF |

| 1929-1999 Average | Percent of Average |
|-------------------|--------------------|
| 6337 | 110% |
| 5771 | 110% |
| 5247 | 109% |

| Seasonal Flood Control VARQ Flood Control Implemented | | | | | | | | |
|---|--------|--------|--------|--------|--------|--------|--------|-----|
| Forecast Date >> | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun |
| Apr-Aug Runoff Forecast | 5710 | 7745 | 6955 | 6582 | 6516 | 6847 | 6990 | |
| First-of-Month Elev | 2436.4 | 2432.0 | 2410.8 | 2393.7 | 2389.0 | 2395.4 | 2386.1 | |

| Date >> | 30-Nov | 31-Dec | 31-Jan | 28-Feb | 31-Mar | 30-Apr |
|-------------------------|--------|--------|--------|--------|--------|--------|
| Flood Control Space | 500 | 2000 | 2582 | 2511 | 2524 | 3020 |
| Flood Control Elevation | 2448.0 | 2411.0 | 2393.7 | 2396.0 | 2395.5 | 2378.7 |



- Notes:
1. The given forecast is the official Corps of Engineers forecast for Libby. If you have any questions please contact Ken Soderlind (503 808-3950), Patti Low (503 808-3958), Arun Mylvahanan (503 808-3961) or John McCoskery (503 808-3951).
 2. Subsequent forecasts may differ from the originally published forecast due to updated values for precipitation, snow or streamflow.
 3. 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 |
| Glacier NP RP, BC | ΣOct,Nov,Dec Prcp | inches | 23.72 | 109% | 22.3 | 529.1 |
| Kaslo, BC | ΣOct,Nov,Dec Prcp | inches | 13.72 | 121% | 50.4 | 690.7 |
| West Glacier, MT | ΣOct,Nov,Dec Prcp | inches | 10.29 | 119% | 51.8 | 533.4 |
| Banff, AB | ΣDec-to-Apr Prcp | inches | 6.13 | 107% | 67.9 | 415.9 |
| Fernie, BC | ΣDec-to-Apr Prcp | inches | 22.18 | 98% | 32.5 | 719.7 |
| Cranbrook, BC | ΣDec-to-Apr Prcp | inches | 5.55 | 86% | 63.5 | 352.5 |
| East Creek, BC | 1-May SWE | inches | 52.13 | 137% | 16.0 | 833.2 |
| Morrissey Ridge, BC | 1-May SWE | inches | 31.73 | 115% | 19.8 | 627.8 |
| Hawkins Lake, MT | 1-May SWE | inches | 29.20 | 105% | 20.6 | 603.0 |
| Stahl Peak, MT | 1-May SWE | inches | 37.20 | 102% | 21.2 | 787.6 |
| Intercept | | | 1 | | 214.8 | 214.8 |
| 1-May May-Aug Forecast (KAF) | | | | | | Σ 6307.7 |
| Libby Inflow | April | KAF | 682 | 130% | | |
| 1-May Apr-Aug Forecast (KAF) | | | | | | 6989.7 |

Data used in Libby Water Supply Forecast

WY 2007

| Climate Data | June | July | Aug | Sep | | | | | Units |
|---------------------------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| SOI | -0.70 | -0.80 | -1.60 | -0.70 | | | | | |
| Precipitation Data | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Units |
| Cranbrook A, BC | | | 36.00 | 28.60 | 31.70 | 20.80 | 23.80 | | mm |
| Fernie, BC | 48.30 | 438.40 | 104.60 | 113.40 | 80.00 | 194.80 | 70.50 | | mm |
| Glacier NP Rogrs Pass, BC | 94.50 | 315.00 | 193.00 | | | | | | mm |
| Kaslo, BC | 33.40 | 221.00 | 94.00 | | | | | | mm |
| Banff, AB | | | 20.50 | 17.40 | 20.20 | 40.30 | 57.20 | | mm |
| Fortine 1N, MT | 1.05 | 2.62 | 1.08 | | | | | | inch |
| West Glacier, MT | 1.89 | 6.21 | 2.19 | | | | | | inch |
| Libby 1 NE RS, MT | 1.36 | 5.85 | 2.25 | 2.01 | 1.11 | 2.00 | | | inch |
| Snow Water Equiv | | | 1-Jan | 1-Feb | 1-Mar | 1-Apr | 1-May | 15-May | Units |
| Vermillion Rvr No. 3, BC | | | 184 | 238 | 286 | 300 | | | mm |
| East Creek, BC | | | 555 | 746 | 875 | 1174 | 1324 | | mm |
| Morrissey Ridge, BC | | | | | | | 806 | | mm |
| Moyie Mountain, BC | | | | | | | | | mm |
| Sullivan Mine, BC | | | | | | | | | mm |
| Hawkins Lake, MT | | | | 20.0 | 25.0 | 28.7 | 29.2 | | inch |
| Stahl Peak, MT | | | | 21.9 | 27.5 | 31.2 | 37.2 | | inch |
| Streamflow | | | Jan | Feb | Mar | Apr | May | Jun | Units |
| Libby Inflow Volume | | | 210.8 | 160.3 | 499.6 | 682.0 | | | KAF |
| Reservoir Elevation | 1-Nov | 1-Dec | 1-Jan | 1-Feb | 1-Mar | 1-Apr | 1-May | 1-Jun | Units |
| Libby FOM Elev | 2436.4 | 2432.0 | 2410.8 | 2393.7 | 2389.0 | 2395.4 | 2386.1 | | feet |