

# Libby : June Runoff Forecast & Flood Control Calculation

WY 2008

## Runoff Forecast and Flood Control

|                              |         |      |     |
|------------------------------|---------|------|-----|
| Most Probable Runoff Volume: | Apr-Aug | 6536 | KAF |
|                              | Apr-Jul | 5902 | KAF |
|                              | May-Jul | 5684 | KAF |

1929-1999  
Average

Percent of  
Average

6337 103%

5771 102%

5247 108%

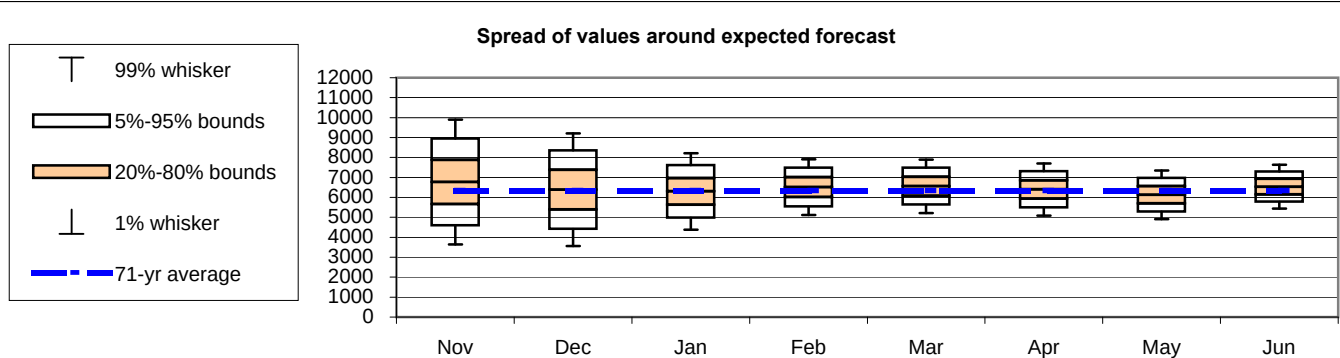
## Seasonal Flood Control

## VARQ Flood Control Implemented

| Forecast Date >>        | Nov    | Dec    | Jan    | Feb    | Mar    | Apr    | May    | Jun    |
|-------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Apr-Aug Runoff Forecast | 6764   | 6385   | 6298   | 6513   | 6558   | 6396   | 6128   | 6536   |
| First-of-Month Elev     | 2435.0 | 2429.7 | 2411.0 | 2408.2 | 2399.2 | 2396.2 | 2395.7 | 2424.1 |

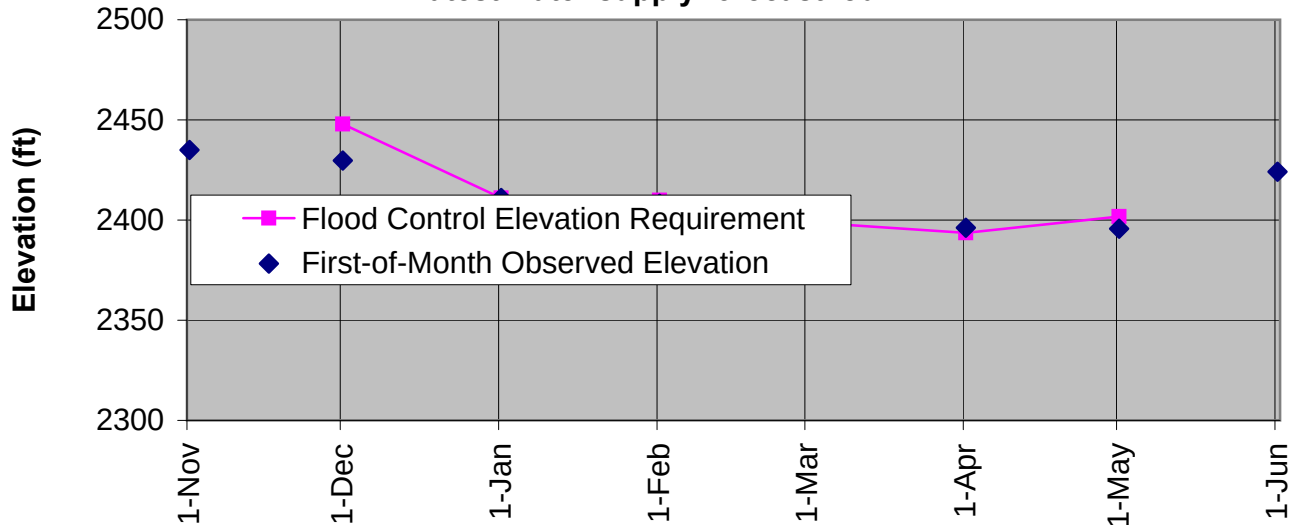
  

| Date >>                 | 30-Nov | 31-Dec | 31-Jan | 28-Feb | 31-Mar | 30-Apr |
|-------------------------|--------|--------|--------|--------|--------|--------|
| Flood Control Space     | 500    | 2000   | 2039   | 2418   | 2587   | 2323   |
| Flood Control Elevation | 2448.0 | 2411.0 | 2410.0 | 2398.9 | 2393.5 | 2401.8 |



## Libby Flood Control Elevations - 2008

Latest water supply forecast: Jun



### Notes:

- 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), or John McCoskery (503 808-3951).
- Subsequent forecasts may differ from the originally published forecast due to updated values for precipitation, snow or streamflow.

# Libby : June 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                  |
| Glacier NP RP, BC             | ΣOct,Nov,Dec Prcp | inches | 25.04          | 115%               | 9.2                    | 230.8                 |
| Kaslo, BC                     | ΣOct,Nov,Dec Prcp | inches | 11.98          | 106%               | 23.9                   | 286.1                 |
| West Glacier, MT              | ΣOct,Nov,Dec Prcp | inches | 8.88           | 103%               | 30.5                   | 270.7                 |
| Banff, AB                     | May Prcp          | inches | 3.08           | 143%               | 54.4                   | 167.5                 |
| Fernie, BC                    | May Prcp          | inches | 2.75           | 87%                | 42.7                   | 117.5                 |
| Cranbrook, BC                 | May Prcp          | inches | 1.35           | 82%                | 167.2                  | 225.1                 |
| Morrissey Ridge, BC           | 1-May SWE         | inches | 30.55          | 111%               | 18.7                   | 571.4                 |
| Hawkins Lake, MT              | 1-May SWE         | inches | 32.80          | 118%               | 19.4                   | 636.5                 |
| Stahl Peak, MT                | 1-May SWE         | inches | 43.30          | 118%               | 20.5                   | 885.6                 |
| East Creek, BC                | 15-May SWE        | inches | 40.00          | 110%               | 12.5                   | 498.4                 |
| Sullivan Mine, BC             | 15-May SWE        | inches | 5.91           | 143%               | 37.7                   | 222.6                 |
| Moyie Mtn, BC                 | 15-May SWE        | inches | 17.13          | 171%               | 28.811                 | 493.4                 |
| Intercept                     |                   |        | 1              |                    | -34.7                  | -34.7                 |
| 1-June Jun-Aug Forecast (KAF) |                   |        |                |                    |                        | Σ 4570.8              |
| Libby Inflow (KAF)            | April             | 218    | 42%            | May                | 1748                   | 101%                  |
| 1-June Apr-Aug Forecast (KAF) |                   |        |                |                    |                        | 6536.2                |

## Data used in Libby Water Supply Forecast

WY 2008

| Climate Data              | June   | July   | Aug    | Sep    |        |        |        |        |       |
|---------------------------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| SOI                       | 0.20   | -0.50  | 0.10   | 0.20   |        |        |        |        |       |
| Precipitation Data        | Oct    | Nov    | Dec    | Jan    | Feb    | Mar    | Apr    | May    | Units |
| Cranbrook A, BC           |        |        | 59.40  | 26.40  | 14.60  | 13.80  | 11.20  | 34.20  | mm    |
| Fernie, BC                | 137.20 | 85.40  | 172.00 | 129.60 | 86.90  | 59.50  | 53.00  | 69.90  | mm    |
| Glacier NP Rogrs Pass, BC | 168.60 | 211.00 | 256.50 |        |        |        |        |        | mm    |
| Kaslo, BC                 | 81.80  | 87.80  | 134.60 |        |        |        |        |        | mm    |
| Banff, AB                 |        |        | 39.30  | 20.00  | 13.10  | 8.90   | 32.30  | 78.20  | mm    |
| Fortine 1N, MT            | 0.62   | 1.02   | 0.86   |        |        |        |        |        | inch  |
| West Glacier, MT          | 2.96   | 2.00   | 3.92   |        |        |        |        |        | inch  |
| Libby 1 NE RS, MT         | 2.05   | 1.91   | 3.03   | 2.68   | 0.92   | 1.69   |        |        | inch  |
| Snow Water Equiv          |        |        | 1-Jan  | 1-Feb  | 1-Mar  | 1-Apr  | 1-May  | 15-May | Units |
| Vermillion Rvr No. 3, BC  |        |        | 136    | 187    | 280    | 286    |        |        | mm    |
| East Creek, BC            |        |        | 562    | 705    | 919    | 915    | 982    | 1016   | mm    |
| Morrissey Ridge, BC       |        |        |        |        |        |        | 776    |        | mm    |
| Moyie Mountain, BC        |        |        |        |        |        |        |        | 435    | mm    |
| Sullivan Mine, BC         |        |        |        |        |        |        |        | 150    | mm    |
| Hawkins Lake, MT          |        |        |        | 18.7   | 24.1   | 29.1   | 32.8   |        | inch  |
| Stahl Peak, MT            |        |        |        | 27.1   | 33.8   | 39.2   | 43.3   |        | inch  |
| Streamflow                |        |        | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Units |
| Libby Inflow Volume       |        |        | 159.7  | 148.0  | 158.9  | 217.8  | 1747.6 |        | KAF   |
| Reservoir Elevation       | 1-Nov  | 1-Dec  | 1-Jan  | 1-Feb  | 1-Mar  | 1-Apr  | 1-May  | 1-Jun  | Units |
| Libby FOM Elev            | 2435.0 | 2429.7 | 2411.0 | 2408.2 | 2399.2 | 2396.2 | 2395.7 | 2424.1 | feet  |