

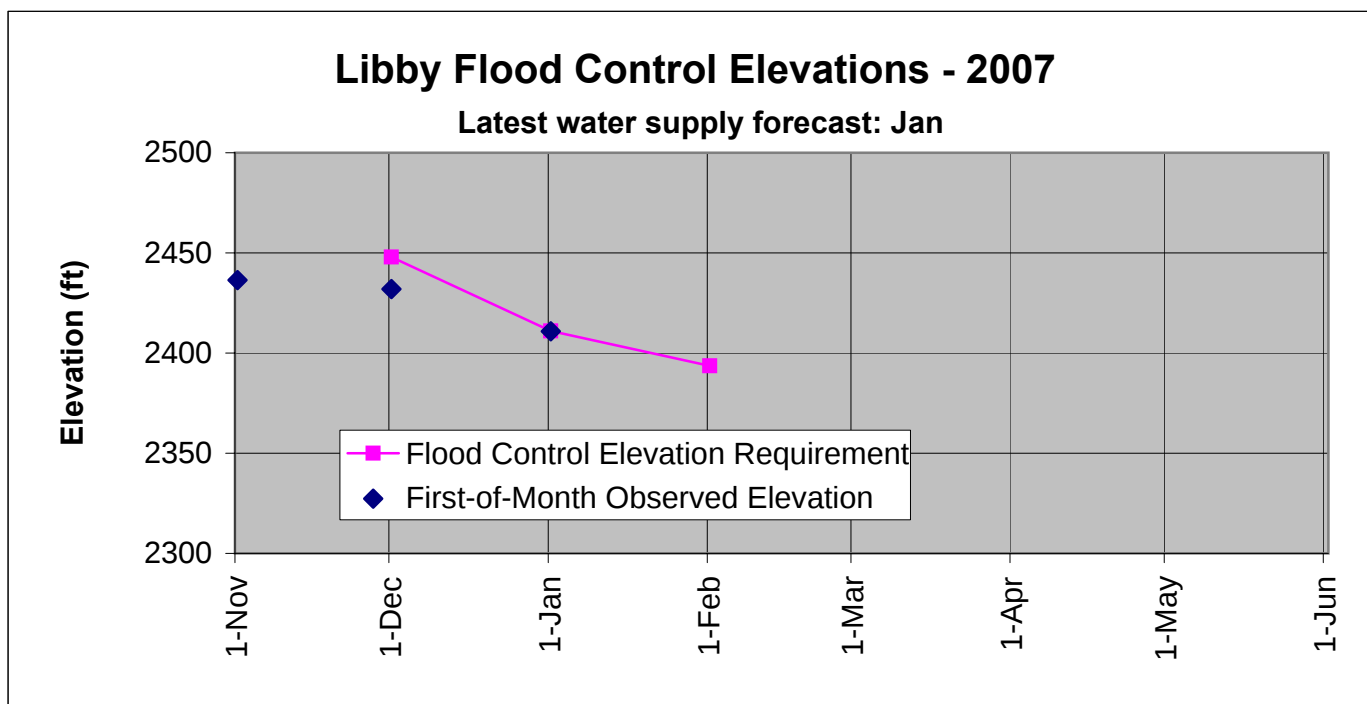
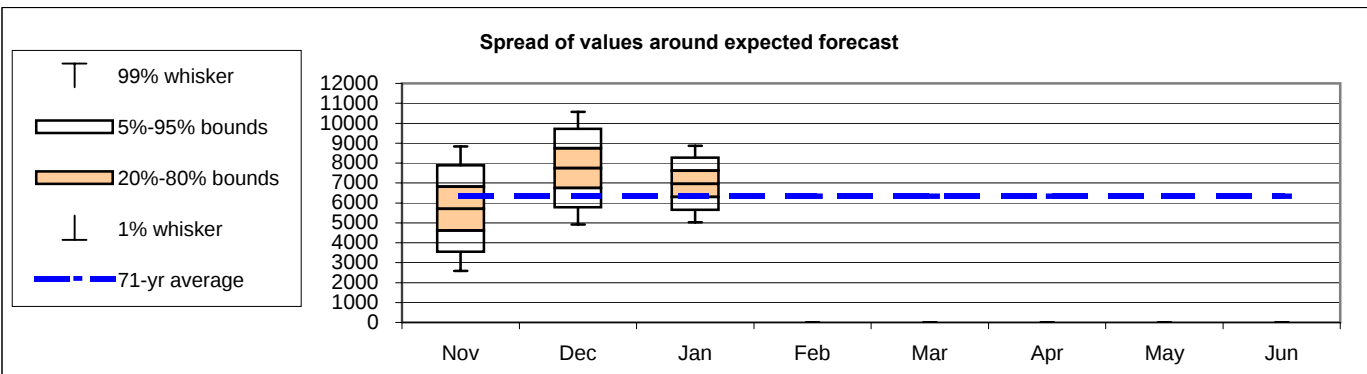
# Libby : January Runoff Forecast & Flood Control Calculation

WY 2007

| Runoff Forecast and Flood Control |         |        |     |
|-----------------------------------|---------|--------|-----|
| Most Probable Runoff Volume:      | Apr-Aug | 6955   | KAF |
|                                   | Apr-Jul | 6333   | KAF |
|                                   | May-Jul | 5758   | KAF |
| 31-Jan Flood Control Space        |         | 2582   | KAF |
| 31-Jan Flood Control Elevation    |         | 2393.7 | ft  |

| 1929-1999<br>Average | Percent of<br>Average |
|----------------------|-----------------------|
| 6337                 | 110%                  |
| 5771                 | 110%                  |
| 5247                 | 110%                  |

| Seasonal Flood Control VARQ Flood Control Implemented |        |        |        |        |        |        |        |        |
|-------------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Forecast Date >>                                      | Nov    | Dec    | Jan    | Feb    | Mar    | Apr    | May    | Jun    |
| Apr-Aug Runoff Forecast                               | 5710   | 7745   | 6955   |        |        |        |        |        |
| First-of-Month Elev                                   | 2436.4 | 2432.0 | 2410.8 |        |        |        |        |        |
| Date >>                                               | 30-Nov | 31-Dec | 31-Jan | 28-Feb | 15-Mar | 31-Mar | 15-Apr | 30-Apr |
| Flood Control Space                                   | 500    | 2000   | 2582   |        |        |        |        |        |
| Flood Control Elevation                               | 2448.0 | 2411.0 | 2393.7 |        |        |        |        |        |



### 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 Etzel (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.
- Vermillion River snow measurements, with adjustments, are serving as a surrogate for Marble Canyon.

## Libby : January 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                  |
| Fernie, BC           | ΣOct,Nov,Dec Prcp | inches | 23.28          | 148%               | 21.8                   | 508.3                 |
| Glacier NP RP, BC    | ΣOct,Nov,Dec Prcp | inches | 23.72          | 109%               | 22.0                   | 522.8                 |
| Kaslo, BC            | ΣOct,Nov,Dec Prcp | inches | 13.72          | 121%               | 44.2                   | 605.8                 |
| Fortine 1N, MT       | ΣOct,Nov,Dec Prcp | inches | 4.75           | 121%               | 109.4                  | 519.7                 |
| West Glacier, MT     | ΣOct,Nov,Dec Prcp | inches | 10.29          | 119%               | 47.3                   | 486.8                 |
| Libby 1 NE RS, MT    | ΣOct,Nov,Dec Prcp | inches | 9.46           | 152%               | 70.1                   | 663.3                 |
| Banff, AB            | Dec Prcp          | inches | 0.81           | 64%                | 93.2                   | 75.2                  |
| Cranbrook, BC        | Dec Prcp          | inches | 1.42           | 85%                | 112.5                  | 159.4                 |
| Vermillion R #3, BC  | 1-Jan SWE3        | inches | 7.24           | 127%               | ----                   |                       |
| Marble Canyon, BC    | 1-Jan SWE3        | inches | 8.55           |                    | 57.7                   | 493.3                 |
| East Creek, BC       | 1-Jan SWE         | inches | 21.85          | 118%               | 23.8                   | 521.1                 |
| Intercept            |                   |        | 1              |                    | 2398.9                 | 2398.9                |
| 1-Jan Forecast (KAF) |                   |        |                |                    | Σ                      | 6954.6                |

### Data used in Libby Water Supply Forecast

WY 2007

| Climate Data              | June   | July   | Aug    | Sep   |       |       |       |        |       |
|---------------------------|--------|--------|--------|-------|-------|-------|-------|--------|-------|
| 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  |       |       |       |       |        | mm    |
| Fernie, BC                | 48.30  | 438.40 | 104.60 |       |       |       |       |        | 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  |       |       |       |       |        | 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   |       |       |       |       |        | inch  |
| Snow Water Equiv          |        |        | 1-Jan  | 1-Feb | 1-Mar | 1-Apr | 1-May | 15-May | Units |
| Vermillion Rvr No. 3, BC  |        |        | 184    |       |       |       |       |        | mm    |
| East Creek, BC            |        |        | 555    |       |       |       |       |        | 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            | 2436.4 | 2432.0 | 2410.8 |       |       |       |       |        | feet  |