

MAY final WSF sets BiOp actions as defined in table below.  
*Other projects provided for informational purposes only.*

| Forecast Point | Forecast Period                                        | Forecast                       | BiOp Actions to be Determined                                                                                                                     |
|----------------|--------------------------------------------------------|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Hungry Horse   | April – August<br>Provided by Reclamation              | January, February, March Final | Sets min. flows at Hungry Horse and Columbia Falls                                                                                                |
|                | May – September<br>Provided by Reclamation             | January, February, March Final | Sets VARQ FRM targets                                                                                                                             |
|                |                                                        | April Final                    | Sets VARQ FRM targets and VARQ refill flows                                                                                                       |
|                |                                                        | May, June Final                | Sets VARQ refill flows                                                                                                                            |
| The Dalles     | April – August<br>Provided by NWRFC                    | April Final                    | Sets spring flow objective at McNary Dam                                                                                                          |
|                |                                                        | May Final                      | Sets end of September draft limits at Hungry Horse and Libby                                                                                      |
|                |                                                        | July Final                     | Sets end of August draft limit at Grand Coulee                                                                                                    |
| Lower Granite  | April – July<br>Provided by NWRFC                      | April Final                    | Sets spring flow objective at Lower Granite                                                                                                       |
|                |                                                        | June Final                     | Sets summer flow objective at Lower Granite                                                                                                       |
| Libby          | April – August<br>Provided by Corps Seattle District   | December Final                 | Sets end of December variable draft target                                                                                                        |
|                |                                                        | January, February, March Final | Sets VARQ FRM targets                                                                                                                             |
|                |                                                        | April Final                    | Sets VARQ FRM targets and VARQ refill flows                                                                                                       |
|                |                                                        | May Final                      | Sets Libby min. sturgeon flow volume and min. bull trout flows for after sturgeon pulse through Sept. Sets VARQ FRM targets and VARQ refill flows |
|                |                                                        | June Final                     | VARQ refill flows                                                                                                                                 |
| Dworshak       | April – July<br>Provided by Corps Walla Walla District | January through June Final     | Manage for reservoir FRM and refill                                                                                                               |

May 4, 2015

### **Hungry Horse Dam**

Here are the volumes for the May final forecast for Hungry Horse Inflow:

May-Jul: 1,395 kaf (88%)

Jan-Jul: 2,415 kaf (115%)

Apr-Aug: 1,789 kaf (92%)

May-Sep: 1,490 kaf (88%)

The minimum flows downstream of Hungry Horse for the rest of the calendar year remain at:

Columbia Falls: 3,500 cfs

Hungry Horse: 900 cfs

**Mary Mellema**

River and Reservoir Operations

U.S. Bureau of Reclamation

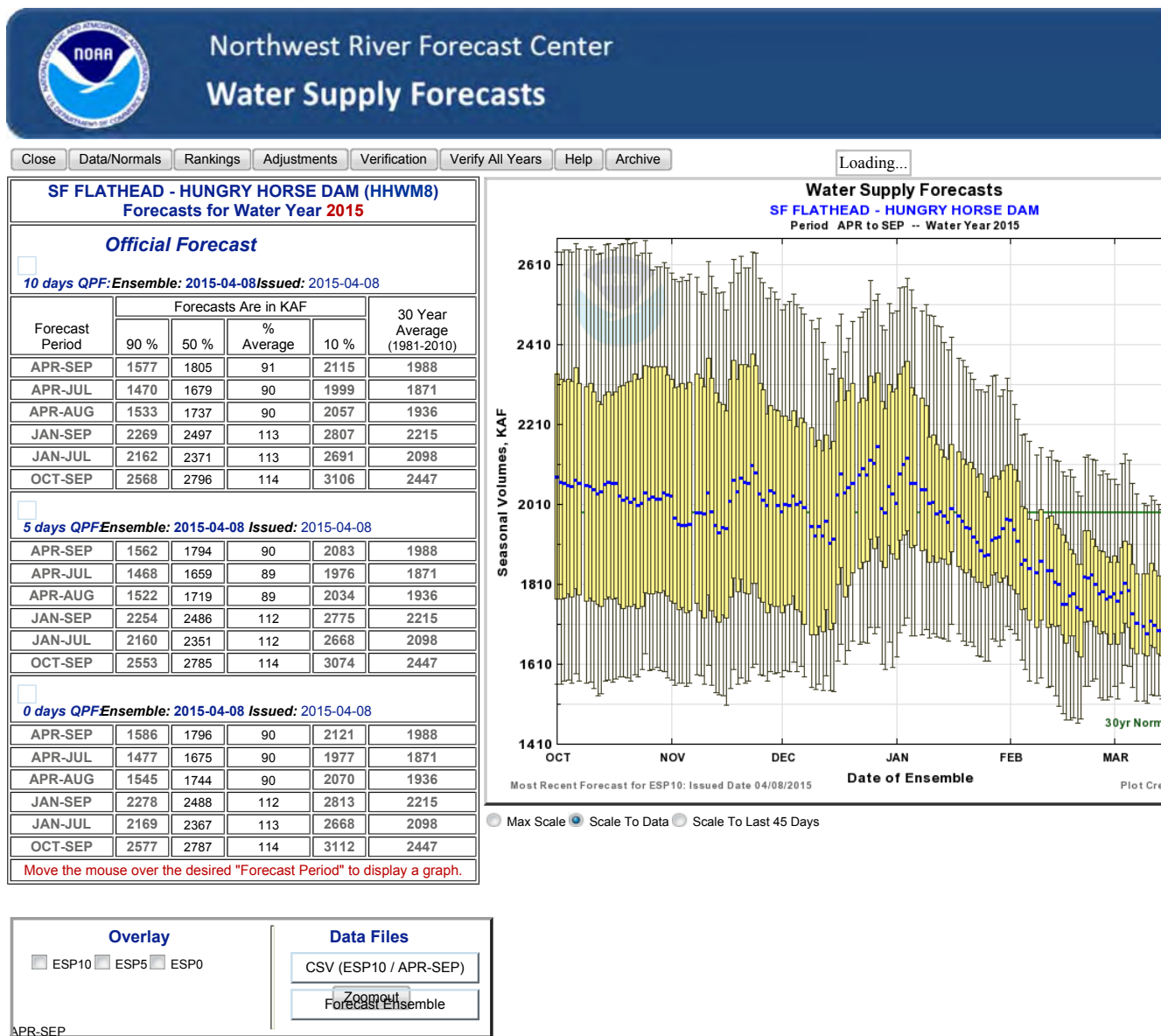
PN Regional Office

Boise, ID 83706

\*Hungry Horse Dam official water supply forecasts computed by the Bureau of Reclamation (on previous page).

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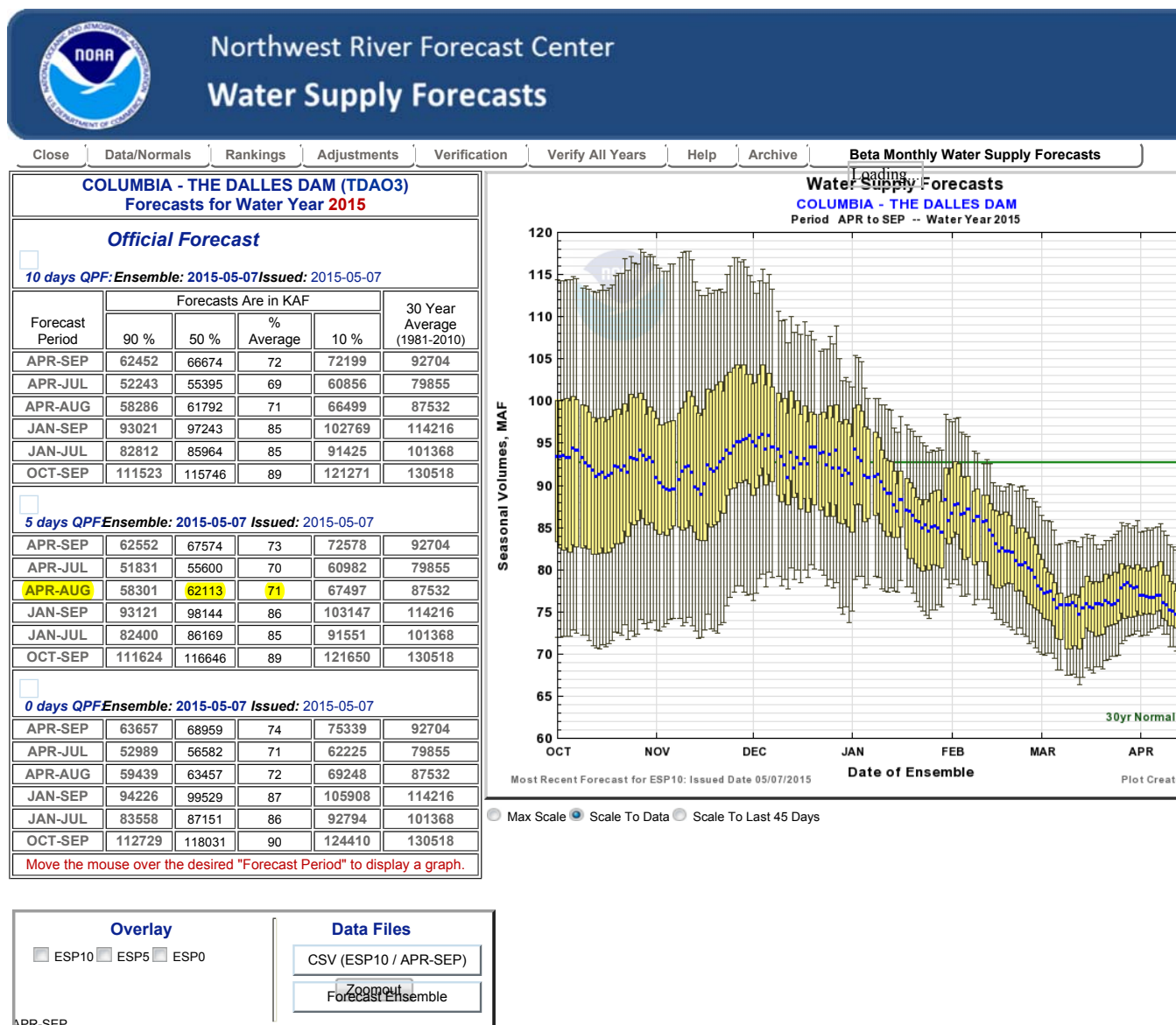
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Water Year 2015 - Official MAY Final WSF

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## Northwest River Forecast Center Water Supply Forecasts

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Beta Monthly Water Supply Forecasts

### SNAKE - LOWER GRANITE DAM (LGDW1) Forecasts for Water Year 2015

#### Official Forecast

☐ 10 days QPF Ensemble: 2015-05-07 Issued: 2015-05-07

| Forecast Period | Forecasts Are in KAF |       |           |       | 30 Year Average (1981-2010) |
|-----------------|----------------------|-------|-----------|-------|-----------------------------|
|                 | 90 %                 | 50 %  | % Average | 10 %  |                             |
| APR-SEP         | 11741                | 12272 | 55        | 13894 | 22279                       |
| APR-JUL         | 9901                 | 10361 | 52        | 11793 | 19848                       |
| APR-AUG         | 10808                | 11311 | 54        | 12833 | 21091                       |
| JAN-SEP         | 20055                | 20586 | 69        | 22207 | 29872                       |
| JAN-JUL         | 18215                | 18675 | 68        | 20106 | 27440                       |
| OCT-SEP         | 24772                | 25303 | 73        | 26924 | 34667                       |

☐ 5 days QPF Ensemble: 2015-05-07 Issued: 2015-05-07

|         |       |       |    |       |       |
|---------|-------|-------|----|-------|-------|
| APR-SEP | 11749 | 12418 | 56 | 14262 | 22279 |
| APR-JUL | 9881  | 10498 | 53 | 12199 | 19848 |
| APR-AUG | 10804 | 11459 | 54 | 13207 | 21091 |
| JAN-SEP | 20062 | 20732 | 69 | 22576 | 29872 |
| JAN-JUL | 18195 | 18812 | 69 | 20512 | 27440 |
| OCT-SEP | 24779 | 25449 | 73 | 27292 | 34667 |

☐ 0 days QPF Ensemble: 2015-05-07 Issued: 2015-05-07

|         |       |       |    |       |       |
|---------|-------|-------|----|-------|-------|
| APR-SEP | 11856 | 12728 | 57 | 14889 | 22279 |
| APR-JUL | 9978  | 10689 | 54 | 12857 | 19848 |
| APR-AUG | 10903 | 11694 | 55 | 13889 | 21091 |
| JAN-SEP | 20169 | 21042 | 70 | 23202 | 29872 |
| JAN-JUL | 18291 | 19002 | 69 | 21170 | 27440 |
| OCT-SEP | 24886 | 25759 | 74 | 27919 | 34667 |

Move the mouse over the desired "Forecast Period" to display a graph.

#### Overlay

☐ ESP10 ☐ ESP5 ☐ ESP0

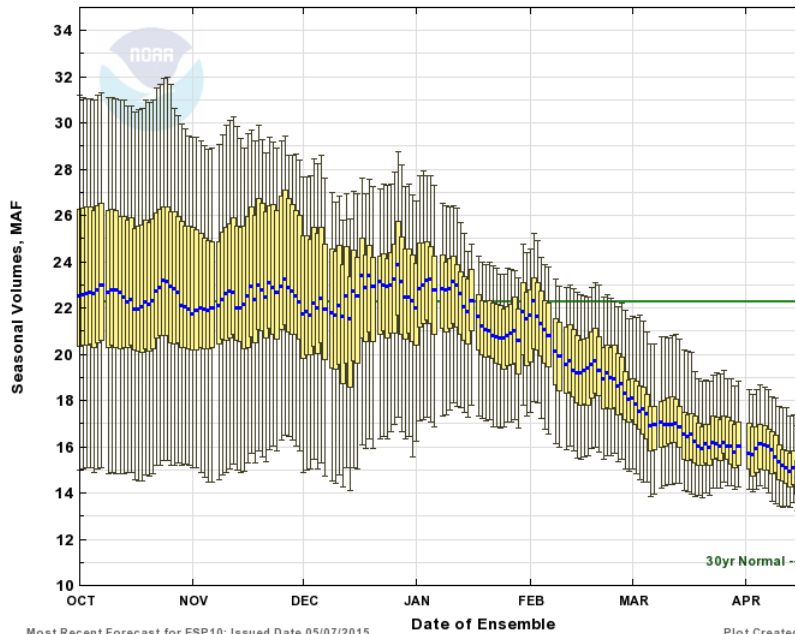
#### Data Files

CSV (ESP10 / APR-SEP)

Zoomout  
Forecast Ensemble

APR-SEP

### Water Supply Forecasts

**SNAKE - LOWER GRANITE DAM**  
 Period APR to SEP -- Water Year 2015

☐ Max Scale ☒ Scale To Data ☐ Scale To Last 45 Days


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## Libby: May Runoff Forecast &amp; Flood Control Calculation

WY 2015

## Runoff Forecast and Flood Control

Most Probable Runoff Volume:

**Apr-Aug**      **5396**      **KAF**  
**Apr-Jul**      **4908**      **KAF**  
**May-Jul**      **4338**      **KAF**

1981-2010  
AveragePercent of  
Average1929-2008  
AveragePercent of  
Average

5885  
5342  
4821

**92%**  
92%  
90%

6282  
5720  
5199

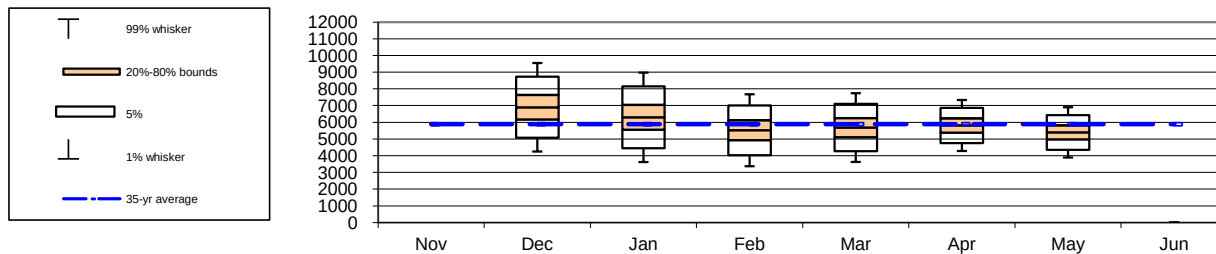
86%  
86%  
83%

## Seasonal Flood Control

## VARQ Flood Control Implemented

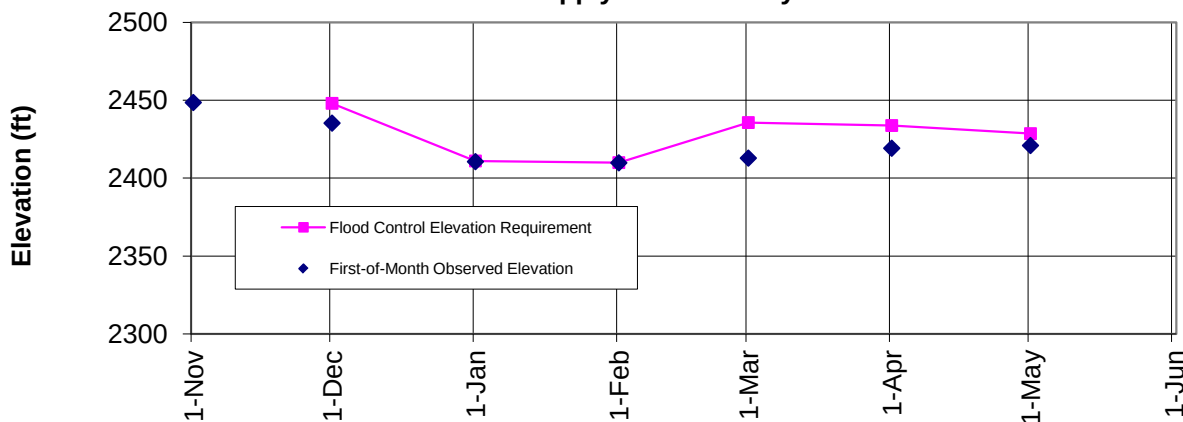
| Forecast Date >>        | Nov    | Dec    | Jan    | Feb    | Mar    | Apr    | May    | Jun |
|-------------------------|--------|--------|--------|--------|--------|--------|--------|-----|
| Apr-Aug Runoff Forecast |        | 6899   | 6297   | 5523   | 5683   | 5808   | 5396   |     |
| First-of-Month Elev     | 2448.5 | 2435.3 | 2410.6 | 2409.8 | 2412.9 | 2419.2 | 2420.9 |     |
| Date >>                 | 30-Nov | 31-Dec | 31-Jan | 28-Feb | 31-Mar | 30-Apr |        |     |
| Flood Control Space     | 500    | 2000   | 2037   | 1032   | 1112   | 1324   |        |     |
| Flood Control Elevation | 2448.0 | 2411.0 | 2410.0 | 2435.7 | 2433.8 | 2428.6 |        |     |

Spread of values around expected forecast



## Libby Flood Control Elevations - 2015

Latest water supply forecast: May



## 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 or Kevin Shaffer (206) 764-3660.
2. If a prior month's forecast as published in this document is different than what was originally published in the issue month, then the earlier forecast has been adjusted to reflect updated values for precipitation or streamflow.

**Libby: May Runoff Forecast & Flood Control Calculation**

| <b>Apr-Aug Runoff Forecast Calculation:</b> |                 |              |                       |                           |                               |                              |
|---------------------------------------------|-----------------|--------------|-----------------------|---------------------------|-------------------------------|------------------------------|
| <b>Variable</b>                             | <b>Month(s)</b> | <b>Units</b> | <b>Observed Value</b> | <b>Percent of Average</b> | <b>Regression Coefficient</b> | <b>Marginal Runoff (KAF)</b> |
|                                             |                 |              | <b>A</b>              |                           | <b>B</b>                      | <b>=A*B</b>                  |
| SOI                                         | Σ Jun:Jul       |              |                       |                           |                               |                              |
| Eureka RS, MT                               | Σ Oct:Apr Prcp  | inches       | 8.51                  | 125%                      | 57.5                          | 488.9                        |
| West Glacier, MT                            | Σ Oct:Apr Prcp  | inches       | 22.21                 | 120%                      | 28.0                          | 622.8                        |
| Cranbrook A, BC                             | Σ Oct:Apr Prcp  | millimeters  | 204.10                | 111%                      | 2.8                           | 571.5                        |
| Fernie, BC                                  | Σ Oct:Apr Prcp  | millimeters  | 880.50                | 116%                      | 0.6                           | 537.1                        |
| Hawkins Lake, MT                            | 1-May SWE       | inches       | 19.50                 | 74%                       | 17.3                          | 337.4                        |
| Stahl Peak, MT                              | 1-May SWE       | inches       | 24.80                 | 66%                       | 16.7                          | 415.2                        |
| East Creek, BC                              | 1-May SWE       | millimeters  | 932.00                | 101%                      | 0.6                           | 531.2                        |
| Moyie Mountain, BC                          | 1-May SWE       | millimeters  | 113.00                | 31%                       | 0.9                           | 102.8                        |
| Sunshine Village, AB                        | 1-May SWE       | millimeters  | 486.00                | 79%                       | 1.3                           | 612.4                        |
| Akamina Pass, AB                            | 1-May SWE       | millimeters  | 17.00                 | 5%                        | 0.6                           | 9.4                          |
| South Racehorse Creek, AB                   | 1-May SWE       | millimeters  | 229.00                | 63%                       | 0.8                           | 190.1                        |
| Intercept                                   |                 |              | 1                     |                           | 408.0                         | 408.0                        |
| May-Aug Forecast (KAF)                      |                 |              |                       |                           | Σ                             | 4826.6                       |

**Data used in Libby Water Supply Forecast****WY 2015**

| <b>Climate Data</b>        | <b>Jan-14</b> | <b>Feb-14</b> | <b>Mar-14</b> | <b>Jun-14</b> | <b>Jul-14</b> | <b>Oct-14</b> | <b>Nov-14</b> | <b>Dec-14</b> | <b>Jan-15</b> |
|----------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| SOI                        |               |               |               | 0.20          | -0.20         |               |               |               |               |
| <b>Precipitation Data</b>  | <b>Oct</b>    | <b>Nov</b>    | <b>Dec</b>    | <b>Jan</b>    | <b>Feb</b>    | <b>Mar</b>    | <b>Apr</b>    | <b>May</b>    | <b>Units</b>  |
| Eureka RS, MT              | 0.55          | 2.42          | 1.22          | 1.21          | 0.65          | 2.13          | 0.33          |               | inch          |
| West Glacier, MT           | 2.64          | 5.77          | 4.07          | 3.08          | 2.58          | 3.31          | 0.76          |               | inch          |
| Cranbrook A, BC            | 29.40         | 53.60         | 25.50         | 22.90         | 20.20         | 47.10         | 5.40          |               | mm            |
| Fernie, BC                 | 126.90        | 273.00        | 95.00         | 93.00         | 81.00         | 194.60        | 17.00         |               | mm            |
| <b>Snow Water Equiv</b>    | <b>1-Jan</b>  |               |               | <b>1-Feb</b>  | <b>1-Mar</b>  | <b>1-Apr</b>  | <b>1-May</b>  | <b>1-Jun</b>  | <b>Units</b>  |
| Hawkins Lake, MT           |               |               |               | 12            | 16            | 21            | 20            |               | inch          |
| Stahl Peak, MT             |               |               | 15            | 19            | 24            | 28            | 25            |               | inch          |
| East Creek, BC             |               |               |               | 537           | 706           | 872           | 932           |               | mm            |
| Moyie Mountain, BC         |               |               | 131           | 193           | 228           | 265           | 113           |               | mm            |
| Sunshine Village, AB       |               |               | 200           | 266           | 372           | 447           | 486           |               | mm            |
| Akamina Pass, AB           |               |               |               | 230           | 290           | 293           | 17            |               | mm            |
| South Racehorse Creek, AB  |               |               |               | 234           | 303           | 376           | 229           |               | mm            |
| <b>Streamflow</b>          | <b>Jan</b>    |               |               | <b>Feb</b>    | <b>Mar</b>    | <b>Apr</b>    | <b>May</b>    | <b>Jun</b>    | <b>Units</b>  |
| Libby Inflow Volume        |               |               | 220.6         | 335.4         | 485.2         | 569.9         |               |               | KAF           |
| <b>Reservoir Elevation</b> | <b>1-Nov</b>  | <b>1-Dec</b>  | <b>1-Jan</b>  | <b>1-Feb</b>  | <b>1-Mar</b>  | <b>1-Apr</b>  | <b>1-May</b>  | <b>1-Jun</b>  | <b>Units</b>  |
| Libby FOM Elev             | 2448.5        | 2435.3        | 2410.6        | 2409.8        | 2412.9        | 2419.2        | 2420.9        |               | feet          |

for:

Barbara Miller  
 Approving Official  
 Act. Ch., Hydrologic Engineering and Power Branch  
 Northwestern Division

Sara Marxen  
 Ch., Water Management Section  
 Seattle District

\*Libby Dam official water supply forecasts computed by the Corps Seattle District (on previous pages).

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## Northwest River Forecast Center Water Supply Forecasts

Close Data/Normals Rankings Adjustments Verification Verify All Years Help Archive **Beta Monthly Water Supply Forecasts**

### KOOTENAI - LIBBY DAM (LYDM8) Forecasts for Water Year 2015

#### Official Forecast

☐ 10 days QPF Ensemble: 2015-05-07 Issued: 2015-05-07

| Forecast Period | Forecasts Are in KAF |      |           |      | 30 Year Average (1981-2010) |
|-----------------|----------------------|------|-----------|------|-----------------------------|
|                 | 90 %                 | 50 % | % Average | 10 % |                             |
| APR-SEP         | 4660                 | 5206 | 83        | 5994 | 6254                        |
| APR-JUL         | 3826                 | 4354 | 82        | 5031 | 5342                        |
| APR-AUG         | 4318                 | 4772 | 81        | 5536 | 5885                        |
| JAN-SEP         | 5720                 | 6266 | 91        | 7055 | 6914                        |
| JAN-JUL         | 4886                 | 5415 | 90        | 6092 | 6002                        |
| OCT-SEP         | 6705                 | 7251 | 93        | 8040 | 7806                        |

☐ 5 days QPF Ensemble: 2015-05-07 Issued: 2015-05-07

|         |      |      |    |      |      |
|---------|------|------|----|------|------|
| APR-SEP | 4671 | 5248 | 84 | 6182 | 6254 |
| APR-JUL | 3833 | 4384 | 82 | 5236 | 5342 |
| APR-AUG | 4323 | 4917 | 84 | 5750 | 5885 |
| JAN-SEP | 5732 | 6309 | 91 | 7243 | 6914 |
| JAN-JUL | 4894 | 5445 | 91 | 6297 | 6002 |
| OCT-SEP | 6717 | 7294 | 93 | 8228 | 7806 |

☐ 0 days QPF Ensemble: 2015-05-07 Issued: 2015-05-07

|         |      |      |    |      |      |
|---------|------|------|----|------|------|
| APR-SEP | 4784 | 5332 | 85 | 6213 | 6254 |
| APR-JUL | 4017 | 4493 | 84 | 5317 | 5342 |
| APR-AUG | 4464 | 5041 | 86 | 5836 | 5885 |
| JAN-SEP | 5845 | 6393 | 92 | 7274 | 6914 |
| JAN-JUL | 5078 | 5554 | 93 | 6378 | 6002 |
| OCT-SEP | 6830 | 7378 | 95 | 8259 | 7806 |

Move the mouse over the desired "Forecast Period" to display a graph.

#### Overlay

☐ ESP10 ☐ ESP5 ☐ ESP0

#### Data Files

CSV (ESP10 / APR-SEP)

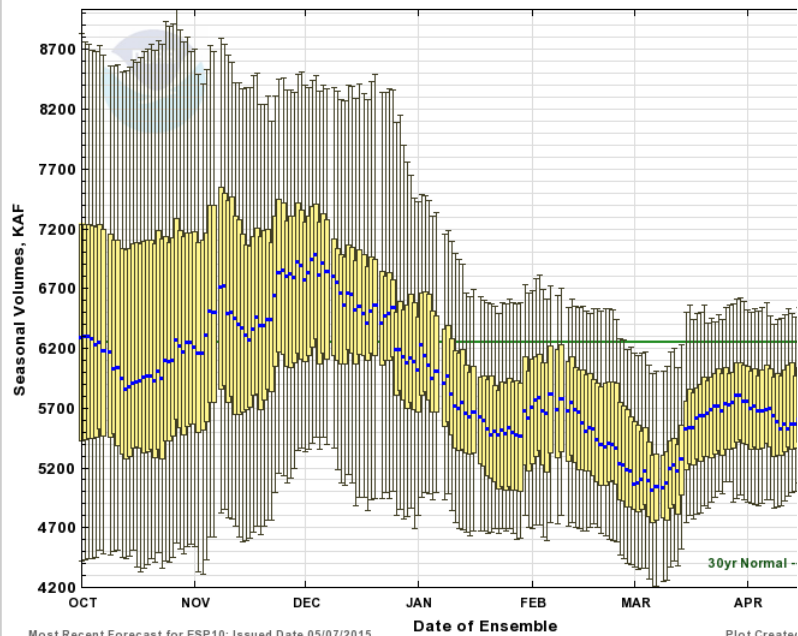
Zoomout  
Forecast Ensemble

APR-SEP

### Water Supply Forecasts

KOOTENAI - LIBBY DAM

Period APR to SEP -- Water Year 2015



☐ Max Scale ☒ Scale To Data ☐ Scale To Last 45 Days



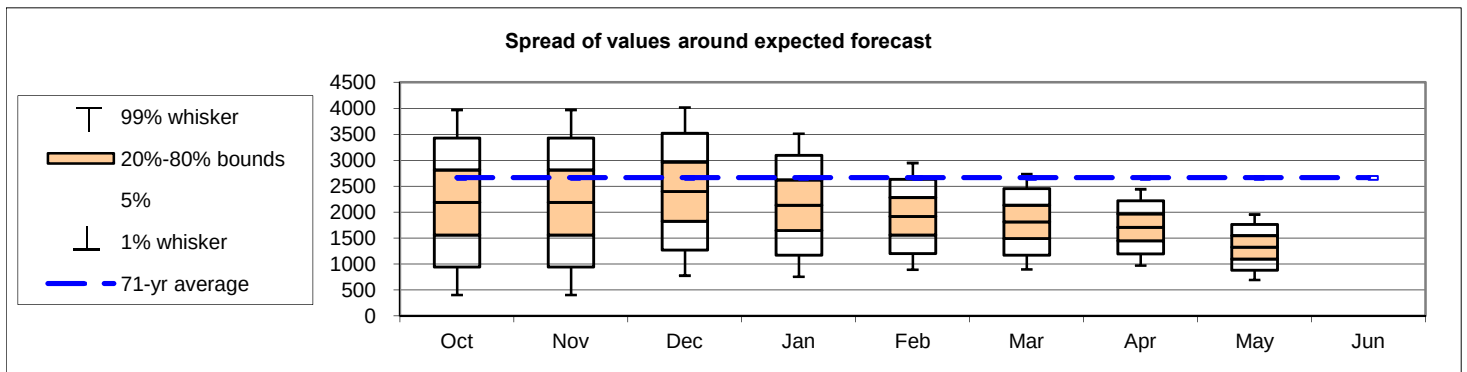
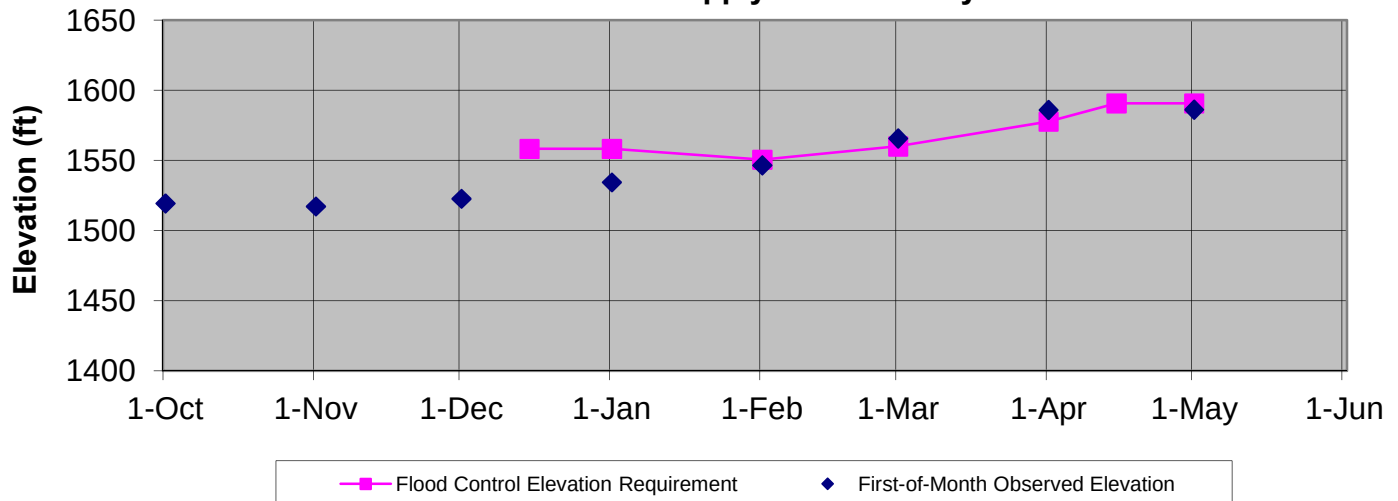
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**Dworshak : May Runoff Forecast & Flood Control Calculation****WY 2015**

| Runoff Forecast and Flood Control                                                |  |        |        |        |        | 1981-2010<br>Average | Percent of<br>30yr Average | 1929-2010<br>Average | Percent of<br>Average |     |      |     |
|----------------------------------------------------------------------------------|--|--------|--------|--------|--------|----------------------|----------------------------|----------------------|-----------------------|-----|------|-----|
| Most Probable Runoff Volume                                                      |  |        |        |        |        | Apr-Jul              | 1325                       | KAF                  | 2438                  | 54% | 2663 | 50% |
|                                                                                  |  |        |        |        |        | May-Jul              | 870                        | KAF                  | 1784                  | 49% | 1953 | 45% |
|                                                                                  |  |        |        |        |        |                      |                            |                      |                       |     |      |     |
| Seasonal Flood Control (assumes no shift of flood control space to Grand Coulee) |  |        |        |        |        |                      |                            |                      |                       |     |      |     |
| Forecast Date>>                                                                  |  | Oct    | Nov    | Dec    | Jan    | Feb                  | Mar                        | Apr                  | May                   | Jun |      |     |
| Apr-Jul Runoff Forecast                                                          |  | 2189   | 2189   | 2398   | 2136   | 1922                 | 1815                       | 1709                 | 1325                  |     |      |     |
| First-of-Month Elev                                                              |  | 1519.4 | 1517.2 | 1522.7 | 1534.4 | 1546.5               | 1565.7                     | 1586.1               | 1586.3                |     |      |     |
|                                                                                  |  |        |        |        |        |                      |                            |                      |                       |     |      |     |
| Date >>                                                                          |  | 15-Dec | 31-Dec | 31-Jan | 28-Feb | 31-Mar               | 15-Apr                     | 30-Apr               |                       |     |      |     |
| Flood Control Space                                                              |  | --     | 700    | 700    | 811    | 674                  | 397                        | 172                  | 172                   |     |      |     |
| Flood Control Elevation                                                          |  | --     | 1558.2 | 1558.2 | 1550.6 | 1560.0               | 1577.7                     | 1590.7               | 1590.7                |     |      |     |

**Dworshak Flood Control Elevations - 2015****Latest water supply forecast: May****Notes:**

1. The given forecast is the official Corps of Engineers forecast for Dworshak. If you have any questions please contact Jeremy Giovando (509 527 7053), or Steve Hall (509 527 7550).
2. Due to updated values for precipitation, snow or streamflow, subsequent forecasts may be different from the forecast published herein.
3. 15-Dec and 31-Dec flood control space is fixed at 700 KAF.
4. 30-Apr flood control elevation is based on the 95% confidence Flood Control Refill Curve as computed on 1 April.

# Dworshak : May Runoff Forecast & Flood Control Calculation

## Apr-Jul Runoff Forecast Calculation:

| Variable             | Month | Observed Value | % of Average | Regression Coefficient | Marginal Runoff (KAF) |
|----------------------|-------|----------------|--------------|------------------------|-----------------------|
|                      |       | A              |              | B                      | =A*B                  |
| SOI                  | Sep   | -0.70          |              | 122.04                 | -85.4                 |
| Hoodoo Basin SWE     | 1-Jan | 26.8           | 59%          | 11.71                  | 313.8                 |
| Shanghi Summit SWE   | 1-Jan | 0.0            | 0%           | 14.41                  | 0.0                   |
| Lost Lake SWE        | 1-Jan | 29.5           | 49%          | 9.67                   | 285.3                 |
| Hemlock SWE          | 1-Jan | 23.5           | 51%          | 11.58                  | 272.1                 |
| Intercept            |       | 1              |              | 84.24                  | 84.2                  |
| 1-May Forecast (KAF) |       |                |              | Σ                      | 870.0                 |

| Data Station                                         | Sept  | Nov  | Dec   | 1-Jan | 1-Feb | 1-Mar | 1-Apr | 1-May | 1-Jun |
|------------------------------------------------------|-------|------|-------|-------|-------|-------|-------|-------|-------|
| <b>Climate (Stdzd SOI)</b>                           |       |      |       |       |       |       |       |       |       |
| September SOI                                        | -0.70 |      |       |       |       |       |       |       |       |
| <b>Precipitation (in)</b>                            |       |      |       |       |       |       |       |       |       |
| Oct                                                  |       |      |       |       |       |       |       |       |       |
| Headquarters, ID                                     | 2.60  | 7.10 | 5.50  | 5.30  | 4.40  | 4.80  | 0.80  |       |       |
| Cumulative HQSI Data                                 | 2.60  | 9.70 | 15.20 | 20.50 | 24.90 | 29.70 | 30.50 |       |       |
| <b>Snow Water Equiv (First of Month values) (in)</b> |       |      |       |       |       |       |       |       |       |
| Elk Butte, ID                                        |       |      |       | 10.5  | 17.3  | 18.5  | 17.9  |       |       |
| Cool Creek, ID                                       |       |      |       | 16.7  | 23.5  |       |       |       |       |
| Hoodoo Basin, MT                                     |       |      |       | 14.0  | 20.2  | 24.2  | 25.8  | 26.8  | --    |
| Sherwin, ID                                          |       |      |       | 1.4   | 3.4   | 0.3   | 0.0   |       |       |
| Shanghi Summit, ID                                   |       |      |       |       |       |       |       | 0.0   | --    |
| Lost Lake, ID                                        |       |      |       | 16.1  | 24.1  | 28.2  | 30.2  | 29.5  | --    |
| Hemlock, ID                                          |       |      |       |       |       |       |       | 23.5  | --    |
| Crater Meadows Mar                                   |       |      |       |       |       | 34.9  | 35.1  |       |       |
| <b>Streamflow (End of Month) (kaf)</b>               |       |      |       | Jan   | Feb   | Mar   | Apr   | May   | Jun   |
| Dworshak Inflow                                      |       |      |       | 260   | 584   | 569   | 455   | --    | --    |

Approval:

John J. Heitstuman P.E.  
Chief Hydrology Section  
Walla Walla District USACE

Peter Brooks, P.E., D. WRE  
Ch., Hydrologic Engineering and Power Brar  
Columbia Basin Water Management Division

\* Dworshak Dam official water supply forecasts computed by the Corps Walla Walla District (on previous pages).

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## Northwest River Forecast Center Water Supply Forecasts

Close Data/Normals Rankings Adjustments Verification Verify All Years Help Archive **Beta Monthly Water Supply Forecasts**

### NF CLEARWATER - DWORSHAK DAM (DWRI1) Forecasts for Water Year 2015

#### Official Forecast

10 days QPF Ensemble: 2015-05-07 Issued: 2015-05-07

| Forecast Period | Forecasts Are in KAF |      |           |      | 30 Year Average (1981-2010) |
|-----------------|----------------------|------|-----------|------|-----------------------------|
|                 | 90 %                 | 50 % | % Average | 10 % |                             |
| APR-SEP         | 1362                 | 1470 | 57        | 1690 | 2575                        |
| APR-JUL         | 1256                 | 1337 | 55        | 1559 | 2419                        |
| JAN-SEP         | 2793                 | 2901 | 84        | 3121 | 3445                        |
| JAN-JUL         | 2687                 | 2768 | 84        | 2990 | 3289                        |
| OCT-SEP         | 3295                 | 3403 | 87        | 3623 | 3891                        |

5 days QPF Ensemble: 2015-05-07 Issued: 2015-05-07

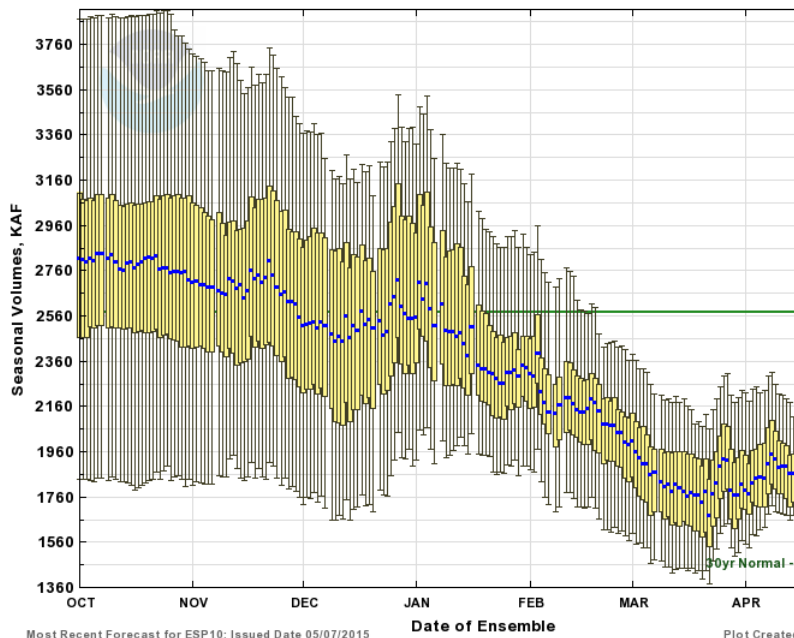
|         |      |      |    |      |      |
|---------|------|------|----|------|------|
| APR-SEP | 1371 | 1486 | 58 | 1783 | 2575 |
| APR-JUL | 1258 | 1363 | 56 | 1654 | 2419 |
| JAN-SEP | 2802 | 2917 | 85 | 3214 | 3445 |
| JAN-JUL | 2689 | 2794 | 85 | 3085 | 3289 |
| OCT-SEP | 3304 | 3419 | 88 | 3716 | 3891 |

0 days QPF Ensemble: 2015-05-07 Issued: 2015-05-07

|         |      |      |    |      |      |
|---------|------|------|----|------|------|
| APR-SEP | 1405 | 1520 | 59 | 1852 | 2575 |
| APR-JUL | 1289 | 1395 | 58 | 1723 | 2419 |
| JAN-SEP | 2836 | 2951 | 86 | 3283 | 3445 |
| JAN-JUL | 2720 | 2826 | 86 | 3154 | 3289 |
| OCT-SEP | 3338 | 3453 | 89 | 3785 | 3891 |

Move the mouse over the desired "Forecast Period" to display a graph.

### Water Supply Forecasts NF CLEARWATER - DWORSHAK DAM Period APR to SEP -- Water Year 2015



Max Scale Scale To Data Scale To Last 45 Days

#### Overlay

ESP10 ESP5 ESP0

#### Data Files

CSV (ESP10 / APR-SEP)

Zoomout  
Forecast Ensemble

APR-SEP



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\* Grand Coulee Dam water supply forecasts are not used for implementation of BiOp actions.

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### COLUMBIA - GRAND COULEE DAM (GCDW1) Forecasts for Water Year 2015

#### Official Forecast

☐ 10 days QPF Ensemble: 2015-05-07 Issued: 2015-05-07

| Forecast Period | Forecasts Are in KAF |       |           |       | 30 Year Average (1981-2010) |
|-----------------|----------------------|-------|-----------|-------|-----------------------------|
|                 | 90 %                 | 50 %  | % Average | 10 %  |                             |
| APR-SEP         | 44495                | 48172 | 80        | 52510 | 60110                       |
| APR-JUL         | 37145                | 39539 | 78        | 44035 | 51015                       |
| APR-AUG         | 41665                | 44791 | 79        | 48730 | 56763                       |
| JAN-SEP         | 60563                | 64240 | 94        | 68578 | 68694                       |
| JAN-JUL         | 53213                | 55607 | 93        | 60103 | 59599                       |
| OCT-SEP         | 71219                | 74896 | 97        | 79234 | 76824                       |

☐ 5 days QPF Ensemble: 2015-05-07 Issued: 2015-05-07

|         |       |       |    |       |       |
|---------|-------|-------|----|-------|-------|
| APR-SEP | 44873 | 48707 | 81 | 52651 | 60110 |
| APR-JUL | 37081 | 39767 | 78 | 44213 | 51015 |
| APR-AUG | 42011 | 45258 | 80 | 49182 | 56763 |
| JAN-SEP | 60941 | 64775 | 94 | 68719 | 68694 |
| JAN-JUL | 53148 | 55835 | 94 | 60281 | 59599 |
| OCT-SEP | 71597 | 75431 | 98 | 79375 | 76824 |

☐ 0 days QPF Ensemble: 2015-05-07 Issued: 2015-05-07

|         |       |       |    |       |       |
|---------|-------|-------|----|-------|-------|
| APR-SEP | 45635 | 49467 | 82 | 53479 | 60110 |
| APR-JUL | 37881 | 40627 | 80 | 44887 | 51015 |
| APR-AUG | 42770 | 45967 | 81 | 49790 | 56763 |
| JAN-SEP | 61703 | 65535 | 95 | 69547 | 68694 |
| JAN-JUL | 53949 | 56695 | 95 | 60955 | 59599 |
| OCT-SEP | 72359 | 76191 | 99 | 80203 | 76824 |

Move the mouse over the desired "Forecast Period" to display a graph.

#### Overlay

☐ ESP10 ☐ ESP5 ☐ ESP0

#### Data Files

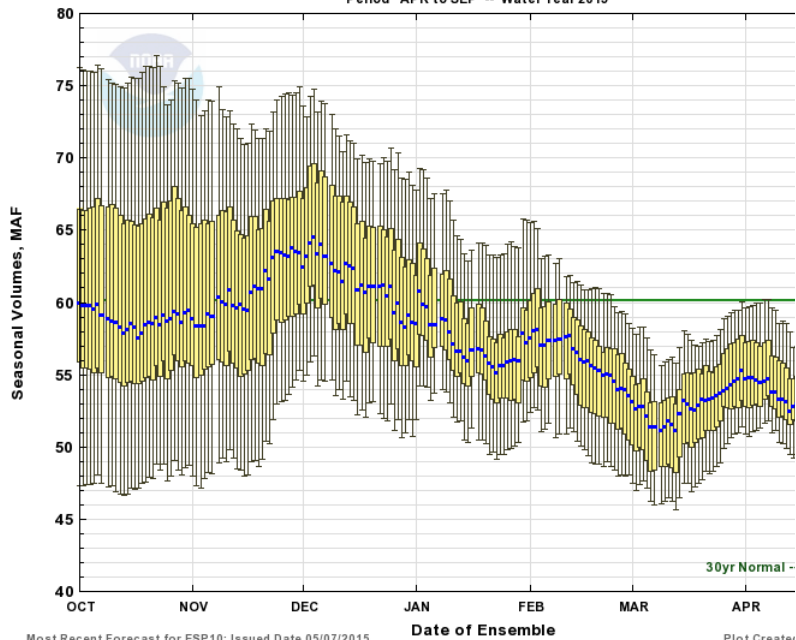
CSV (ESP10 / APR-SEP)

Zoomout  
Forecast Ensemble

APR-SEP

### Water Supply Forecasts

COLUMBIA - GRAND COULEE DAM  
Period APR to SEP -- Water Year 2015



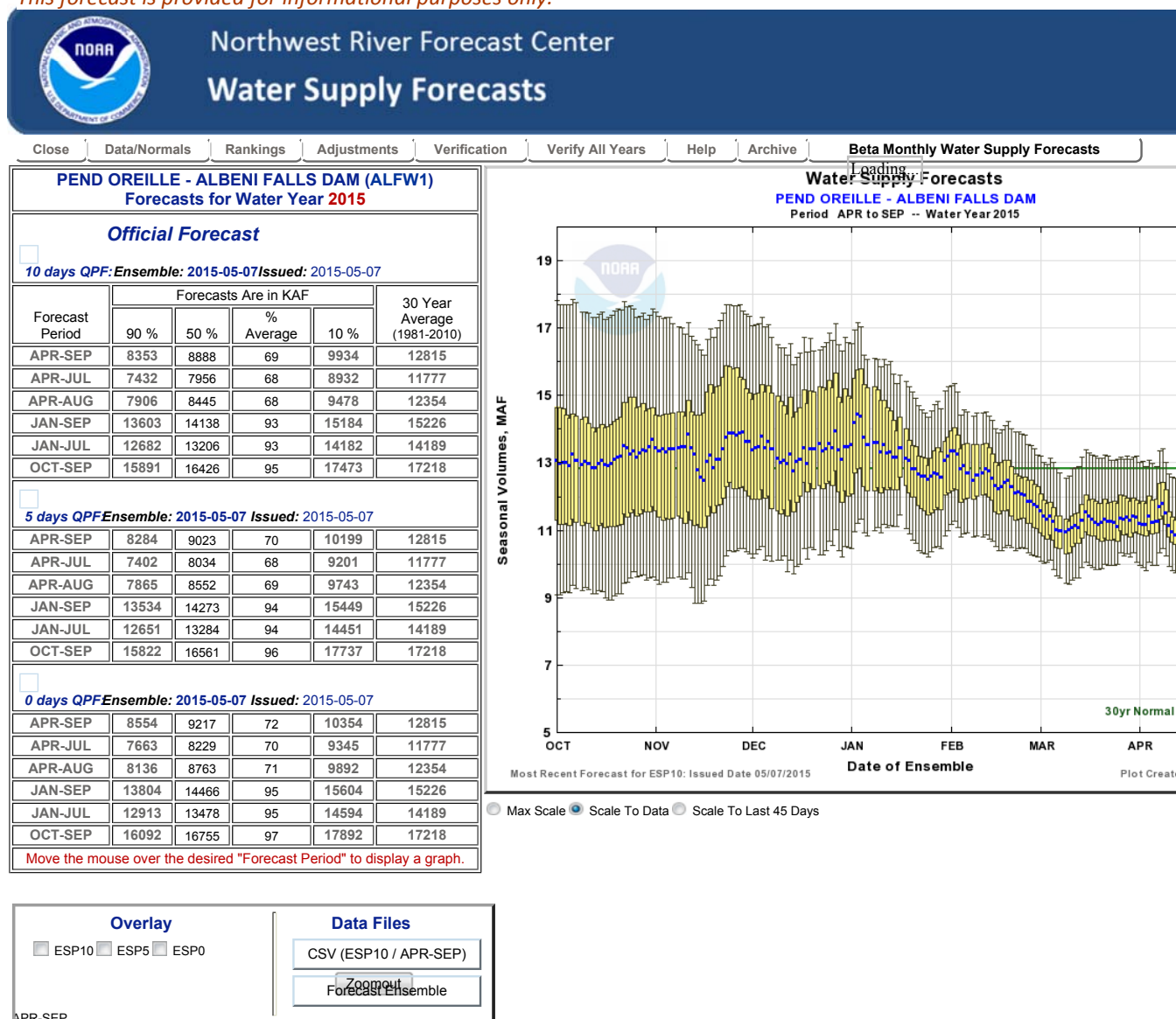
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\* Albeni Falls Dam water supply forecasts are not used for implementation of BiOp actions.

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