**May 1, 2013, Revised**

# TABLE 1 (kaf)

## *Summary of Errors and Hedges*

*During the pre-season period, t(95%) = 1.664 and is applied to the 80-year median standard error for the single-tail 95% exceedance, August - November
During the seasonal forecast period, t(95%)=1.688 for Canadian Projects and 1.717 for Libby, and is dependent on the project and the forecast development period
80-year record refers to the 2010 Level Modified Flow Study
Hedge = Forecast SE x single-tail 95% exceedance t-statistic for Grand Coulee and Hungry Horse,
Hedge = Forecast CVSE x single-tail 95% exceedance t-statistic for Mica, Arrow, Duncan, and Libby

**kaf**

| Mica | Statistic | Aug-Nov | *1-Dec* | *1-Jan* | *1-Feb* | *1-Mar* | *1-Apr* | *1-May* | *1-Jun* | *1-Jul* |
|---|---|---|---|---|---|---|---|---|---|---|
| Jan-Jul 80-yr Volume | 80-year Median | 9793.1 | | | | | | | | |
| Jan-Jul 80-yr Volume | Standard Error about the Median | 1124.5 | | | | | | | | |
| Feb-Jul 80-yr Volume | 80-year Median | 9555.1 | | | | | | | | |
| Feb-Jul 80-yr Volume | Standard Error about the Median | 1119.4 | | | | | | | | |
| Jan-Jul Forecast | CVSE | | 870.8 | 855.3 | | | | | | |
| Feb-Jul Forecast | CVSE | | 882.8 | 865.8 | 613.1 | | | | | |
| Date-Jul Forecast | CVSE | | | | | 534.8 | 493.7 | 471.7 | 466.5 | 246.5 |
| Apr-Aug Forecast | CVSE | | 1031.1 | 943.2 | 591.6 | 494.3 | 432.7 | | | |
| Date-Aug Forecast | CVSE | | | | | | | 397.8 | 399.5 | 369.3 |
| **Hedge (Jan-Jul or date-Jul)** | t(95%) x CVSE | **1871.1** | **1470.0** | **1443.8** | **1035.0** | **902.8** | **833.4** | **796.2** | **787.4** | **416.0** |
| **Hedge (Feb-Jul or date-Jul)** | t(95%) x CVSE | **1862.7** | **1490.2** | **1461.5** | **1035.0** | **902.8** | **833.4** | **796.2** | **787.4** | **416.0** |

| Arrow Total | Statistic | Aug-Nov | *1-Dec* | *1-Jan* | *1-Feb* | *1-Mar* | *1-Apr* | *1-May* | *1-Jun* | *1-Jul* |
|---|---|---|---|---|---|---|---|---|---|---|
| Jan-Jul 80-yr Volume | 80-year Median | 20608.1 | | | | | | | | |
| Jan-Jul 80-yr Volume | Standard Error about the Median | 2463.0 | | | | | | | | |
| Feb-Jul 80-yr Volume | 80-year Median | 19942.5 | | | | | | | | |
| Feb-Jul 80-yr Volume | Standard Error about the Median | 2421.9 | | | | | | | | |
| Jan-Jul Forecast | CVSE | | 1949.0 | 1745.1 | | | | | | |
| Feb-Jul Forecast | CVSE | | 1946.0 | 1742.1 | 1287.0 | | | | | |
| Date-Jul Forecast | CVSE | | | | | 1121.3 | 951.4 | 849.8 | 798.3 | 449.5 |
| Apr-Aug Forecast | CVSE | | 2250.8 | 1911.0 | 1397.6 | 1185.2 | 979.3 | | | |
| Date-Aug Forecast | CVSE | | | | | | | 872.6 | 762.7 | 736.4 |
| **Hedge (Jan-Jul or date-Jul)** | t(95%) x CVSE | **4098.5** | **3289.8** | **2945.6** | **2172.4** | **1892.7** | **1606.0** | **1434.4** | **1347.5** | **758.7** |
| **Hedge (Feb-Jul or date-Jul)** | t(95%) x CVSE | **4030.0** | **3284.9** | **2940.6** | **2172.4** | **1892.7** | **1606.0** | **1434.4** | **1347.5** | **758.7** |

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| Duncan | Statistic | Aug-Nov | *1-Dec* | *1-Jan* | *1-Feb* | *1-Mar* | *1-Apr* | *1-May* | *1-Jun* | *1-Jul* |
|---|---|---|---|---|---|---|---|---|---|---|
| Jan-Jul 80-yr Volume | 80-year Median | 1857.3 | | | | | | | | |
| Jan-Jul 80-yr Volume | Standard Error about the Median | 244.2 | | | | | | | | |
| Feb-Jul 80-yr Volume | 80-year Median | 1800.2 | | | | | | | | |
| Feb-Jul 80-yr Volume | Standard Error about the Median | 239.7 | | | | | | | | |
| Jan-Jul Forecast | CVSE | | 169.1 | 150.0 | | | | | | |
| Feb-Jul Forecast | CVSE | | 167.7 | 148.4 | 122.6 | | | | | |
| Date-Jul Forecast | CVSE | | | | | 123.3 | 110.2 | 102.1 | 91.6 | 58.4 |
| Apr-Aug Forecast | CVSE | | 190.6 | 158.6 | 131.0 | 114.2 | 95.7 | | | |
| Date-Aug Forecast | CVSE | | | | | | | 87.1 | 78.1 | 76.1 |
| **Hedge (Jan-Jul or date-Jul)** | t(95%) x CVSE | **406.3** | **285.5** | **253.1** | **206.9** | **208.2** | **186.0** | **172.4** | **154.6** | **98.5** |
| **Hedge (Feb-Jul or date-Jul)** | t(95%) x CVSE | **398.9** | **283.1** | **250.5** | **206.9** | **208.2** | **186.0** | **172.4** | **154.6** | **98.5** |

| Libby | Statistic | Aug-Nov | *1-Dec* | *1-Jan* | *1-Feb* | *1-Mar* | *1-Apr* | *1-May* | *1-Jun* |
|---|---|---|---|---|---|---|---|---|---|
| Jan-Jul 80-yr Volume | 80-year Median | 6385.5 | | | | | | | |
| Jan-Jul 80-yr Volume | Standard Error about the Median | 1423.2 | | | | | | | |
| Jan-Jul Forecast | CVSE | | **921.4** | **894.4** | | | | | |
| Date-July Forecast | CVSE | | | | **619.0** | **566.7** | **499.3** | **451.4** | **395.2** |
| Apr-Aug Forecast | CVSE | | **947.4** | **840.7** | **564.5** | **527.4** | **532.3** | **487.3** | **417.9** |
| **Hedge (Jan-Jul) revised 2011** | t(95%) x CVSE | **2368.2** | **1582.1** | **1535.8** | **1063.0** | **973.1** | **857.4** | **775.1** | **678.7** |

| Dworshak | Statistic | Aug-Oct | *1-Dec* | *1-Jan* | *1-Feb* | *1-Mar* | *1-Apr* | *1-May* | *1-Jun* |
|---|---|---|---|---|---|---|---|---|---|

The CRTOC agreed that VECC's for Dworshak are no longer needed, therefore Hedges are no longer provided.

For information on April-July forecast errors as used in Flood Control Refill Curves, see the AER/TSR flood control SOP.

**May 1, 2013, Revised**
**kaf**

| Hungry Horse | Statistic | Aug-Dec | *1-Jan* | *1-Feb* | *1-Mar* | *1-Apr* | *1-May* | *1-Jun* |
|---|---|---|---|---|---|---|---|---|
| Jan-Jul 80-yr Volume | 80-year Median | 2120.3 | | | | | | |
| Jan-Jul 80-yr Volume | Standard Error about the Median | 511.2 | | | | | | |
| **Hedge (Jan-Jul)** | t(95%) x SE | **850.7** | **620.2** | **455.0** | **343.7** | **294.9** | **256.1** | **212.6** |

| Grand Coulee | Statistic | Aug-Dec | *1-Jan* | *1-Feb* | *1-Mar* | *1-Apr* | *1-May* | *1-Jun* |
|---|---|---|---|---|---|---|---|---|
| Jan-Jul 80-yr Volume | 80-year Median | 62652.7 | | | | | | |
| Jan-Jul 80-yr Volume | Standard Error about the Median | 11828.6 | | | | | | |
| **Hedge (Jan-Jul)** | t(95%) x SE | **19682.7** | **15249.1** | **11218.9** | **9743.2** | **8044.0** | **6522.4** | **5803.8** |

# TABLE 1 (ksfd)

## *Summary of Errors and Hedges*

*During the pre-season period, t(95%) = 1.664 and is applied to the 80-year median standard error for the single-tail 95% exceedance, August - November
During the seasonal forecast period, t(95%)=1.688 for Canadian Projects and 1.717 for Libby, and is dependent on the project and the forecast development period
80-year record refers to the 2010 Level Modified Flow Study
Hedge = Forecast SE x single-tail 95% exceedance t-statistic for Grand Coulee and Hungry Horse,
Hedge = Forecast CVSE x single-tail 95% exceedance t-statistic for Mica, Arrow, Duncan, and Libby

**ksfd**

| Mica | Statistic | Aug-Nov | *1-Dec* | *1-Jan* | *1-Feb* | *1-Mar* | *1-Apr* | *1-May* | *1-Jun* | *1-Jul* |
|---|---|---|---|---|---|---|---|---|---|---|
| Jan-Jul 80-yr Volume | 80-year Median | 4937.4 | | | | | | | | |
| Jan-Jul 80-yr Volume | Standard Error about the Median | 566.9 | | | | | | | | |
| Feb-Jul 80-yr Volume | 80-year Median | 4817.4 | | | | | | | | |
| Feb-Jul 80-yr Volume | Standard Error about the Median | 564.4 | | | | | | | | |
| Jan-Jul Forecast | CVSE | | 439.1 | 431.2 | | | | | | |
| Feb-Jul Forecast | CVSE | | 445.1 | 436.5 | 309.1 | | | | | |
| Date-Jul Forecast | CVSE | | | | | 269.6 | 248.9 | 237.8 | 235.2 | 124.3 |
| Apr-Aug Forecast | CVSE | | 519.8 | 475.5 | 298.3 | 249.2 | 218.2 | | | |
| Date-Aug Forecast | CVSE | | | | | | | 200.5 | 201.4 | 186.2 |
| **Hedge (Jan-Jul or date-Jul)** | t(95%) x CVSE | **943.4** | **741.1** | **727.9** | **521.8** | **455.2** | **420.2** | **401.4** | **397.0** | **209.7** |
| **Hedge (Feb-Jul or date-Jul)** | t(95%) x CVSE | **939.1** | **751.3** | **736.8** | **521.8** | **455.2** | **420.2** | **401.4** | **397.0** | **209.7** |

| Arrow Total | Statistic | Aug-Nov | *1-Dec* | *1-Jan* | *1-Feb* | *1-Mar* | *1-Apr* | *1-May* | *1-Jun* | *1-Jul* |
|---|---|---|---|---|---|---|---|---|---|---|
| Jan-Jul 80-yr Volume | 80-year Median | 10389.9 | | | | | | | | |
| Jan-Jul 80-yr Volume | Standard Error about the Median | 1241.8 | | | | | | | | |
| Feb-Jul 80-yr Volume | 80-year Median | 10054.3 | | | | | | | | |
| Feb-Jul 80-yr Volume | Standard Error about the Median | 1221.0 | | | | | | | | |
| Jan-Jul Forecast | CVSE | | 982.6 | 879.8 | | | | | | |
| Feb-Jul Forecast | CVSE | | 981.1 | 878.3 | 648.8 | | | | | |
| Date-Jul Forecast | CVSE | | | | | 565.3 | 479.7 | 428.4 | 402.5 | 226.6 |
| Apr-Aug Forecast | CVSE | | 1134.8 | 963.5 | 704.6 | 597.5 | 493.7 | | | |
| Date-Aug Forecast | CVSE | | | | | | | 440.0 | 384.5 | 371.3 |
| **Hedge (Jan-Jul or date-Jul)** | t(95%) x CVSE | **2066.3** | **1658.6** | **1485.1** | **1095.3** | **954.2** | **809.7** | **723.2** | **679.4** | **382.5** |
| **Hedge (Feb-Jul or date-Jul)** | t(95%) x CVSE | **2031.8** | **1656.1** | **1482.6** | **1095.3** | **954.2** | **809.7** | **723.2** | **679.4** | **382.5** |

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| Duncan | Statistic | Aug-Nov | *1-Dec* | *1-Jan* | *1-Feb* | *1-Mar* | *1-Apr* | *1-May* | *1-Jun* | *1-Jul* |
|---|---|---|---|---|---|---|---|---|---|---|
| Jan-Jul 80-yr Volume | 80-year Median | 936.4 | | | | | | | | |
| Jan-Jul 80-yr Volume | Standard Error about the Median | 123.1 | | | | | | | | |
| Feb-Jul 80-yr Volume | 80-year Median | 907.6 | | | | | | | | |
| Feb-Jul 80-yr Volume | Standard Error about the Median | 120.9 | | | | | | | | |
| Jan-Jul Forecast | CVSE | | 85.3 | 75.6 | | | | | | |
| Feb-Jul Forecast | CVSE | | 84.6 | 74.8 | 61.8 | | | | | |
| Date-Jul Forecast | CVSE | | 0.0 | 0.0 | 0.0 | 62.2 | 55.6 | 51.5 | 46.2 | 29.4 |
| Apr-Aug Forecast | CVSE | | 96.1 | 80.0 | 66.0 | 57.6 | 48.3 | | | |
| Date-Aug Forecast | CVSE | | | | | | | 43.9 | 39.4 | 38.3 |
| **Hedge (Jan-Jul or date-Jul)** | t(95%) x CVSE | **204.8** | **143.9** | **127.6** | **104.3** | **105.0** | **93.8** | **86.9** | **78.0** | **49.7** |
| **Hedge (Feb-Jul or date-Jul)** | t(95%) x CVSE | **201.1** | **142.8** | **126.3** | **104.3** | **105.0** | **93.8** | **86.9** | **78.0** | **49.7** |

| Libby | Statistic | Aug-Nov | *1-Dec* | *1-Jan* | *1-Feb* | *1-Mar* | *1-Apr* | *1-May* | *1-Jun* |
|---|---|---|---|---|---|---|---|---|---|
| Jan-Jul 80-yr Volume | 80-year Median | 3219.3 | | | | | | | |
| Jan-Jul 80-yr Volume | Standard Error about the Median | 717.5 | | | | | | | |
| Jan-Jul Forecast | CVSE | | **464.5** | **450.9** | | | | | |
| Date-July Forecast | CVSE | | | | **312.1** | **285.7** | **251.7** | **227.6** | **199.3** |
| Apr-Aug Forecast | CVSE | | **477.6** | **423.9** | **284.6** | **265.9** | **268.4** | **245.7** | **210.7** |
| **Hedge (Jan-Jul) revised 2011** | t(95%) x CVSE | **1194.0** | **797.6** | **774.3** | **535.9** | **490.6** | **432.3** | **390.8** | **342.2** |

**Dworshak**

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**May 1, 2013, Revised**

**ksfd**

| Hungry Horse | Statistic | Aug-Dec | *1-Jan* | *1-Feb* | *1-Mar* | *1-Apr* | *1-May* | *1-Jun* |
|---|---|---|---|---|---|---|---|---|
| Jan-Jul 80-yr Volume | 80-year Median | 1069.0 | | | | | | |
| Jan-Jul 80-yr Volume | Standard Error about the Median | 257.7 | | | | | | |
| **Hedge** | t(95%) x SE | **428.9** | **312.7** | **229.4** | **173.3** | **148.7** | **129.1** | **107.2** |

| Grand Coulee | Statistic | Aug-Dec | *1-Jan* | *1-Feb* | *1-Mar* | *1-Apr* | *1-May* | *1-Jun* |
|---|---|---|---|---|---|---|---|---|
| Jan-Jul 80-yr Volume | 80-year Median | 31587.4 | | | | | | |
| Jan-Jul 80-yr Volume | Standard Error about the Median | 5963.6 | | | | | | |
| **Hedge** | t(95%) x SE | **9923.4** | **7688.1** | **5656.2** | **4912.2** | **4055.5** | **3288.4** | **2926.1** |

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Hedge = Forecast CVSE x single-tail 95% exceedance t-statistic for Mica, Arrow, Duncan, and Libby

**kaf**

| Mica | Statistic | Aug-Nov | *1-Dec* | *1-Jan* | *1-Feb* | *1-Mar* | *1-Apr* | *1-May* | *1-Jun* | *1-Jul* |
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| Jan-Jul 80-yr Volume | 80-year Median | 9793.1 | | | | | | | | |
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| Feb-Jul 80-yr Volume | Standard Error about the Median | 1119.4 | | | | | | | | |
| Jan-Jul Forecast | CVSE | | 870.8 | 855.3 | | | | | | |
| Feb-Jul Forecast | CVSE | | 882.8 | 865.8 | 613.1 | | | | | |
| Date-Jul Forecast | CVSE | | | | | 534.8 | 493.7 | 471.7 | 466.5 | 246.5 |
| Apr-Aug Forecast | CVSE | | 1031.1 | 943.2 | 591.6 | 494.3 | 432.7 | | | |
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| **Hedge (Feb-Jul or date-Jul)** | t(95%) x CVSE | **1862.7** | **1490.2** | **1461.5** | **1035.0** | **902.8** | **833.4** | **796.2** | **787.4** | **416.0** |

| Arrow Total | Statistic | Aug-Nov | *1-Dec* | *1-Jan* | *1-Feb* | *1-Mar* | *1-Apr* | *1-May* | *1-Jun* | *1-Jul* |
|---|---|---|---|---|---|---|---|---|---|---|
| Jan-Jul 80-yr Volume | 80-year Median | 20608.1 | | | | | | | | |
| Jan-Jul 80-yr Volume | Standard Error about the Median | 2463.0 | | | | | | | | |
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| Feb-Jul 80-yr Volume | Standard Error about the Median | 2421.9 | | | | | | | | |
| Jan-Jul Forecast | CVSE | | 1949.0 | 1745.1 | | | | | | |
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| Date-Jul Forecast | CVSE | | | | | 1121.3 | 951.4 | 849.8 | 798.3 | 449.5 |
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| Duncan | Statistic | Aug-Nov | *1-Dec* | *1-Jan* | *1-Feb* | *1-Mar* | *1-Apr* | *1-May* | *1-Jun* | *1-Jul* |
|---|---|---|---|---|---|---|---|---|---|---|
| Jan-Jul 80-yr Volume | 80-year Median | 1857.3 | | | | | | | | |
| Jan-Jul 80-yr Volume | Standard Error about the Median | 244.2 | | | | | | | | |
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| Feb-Jul 80-yr Volume | Standard Error about the Median | 239.7 | | | | | | | | |
| Jan-Jul Forecast | CVSE | | 169.1 | 150.0 | | | | | | |
| Feb-Jul Forecast | CVSE | | 167.7 | 148.4 | 122.6 | | | | | |
| Date-Jul Forecast | CVSE | | | | | 123.3 | 110.2 | 102.1 | 91.6 | 58.4 |
| Apr-Aug Forecast | CVSE | | 190.6 | 158.6 | 131.0 | 114.2 | 95.7 | | | |
| Date-Aug Forecast | CVSE | | | | | | | 87.1 | 78.1 | 76.1 |
| **Hedge (Jan-Jul or date-Jul)** | t(95%) x CVSE | **406.3** | **285.5** | **253.1** | **206.9** | **208.2** | **186.0** | **172.4** | **154.6** | **98.5** |
| **Hedge (Feb-Jul or date-Jul)** | t(95%) x CVSE | **398.9** | **283.1** | **250.5** | **206.9** | **208.2** | **186.0** | **172.4** | **154.6** | **98.5** |

| Libby | Statistic | Aug-Nov | *1-Dec* | *1-Jan* | *1-Feb* | *1-Mar* | *1-Apr* | *1-May* | *1-Jun* |
|---|---|---|---|---|---|---|---|---|---|
| Jan-Jul 80-yr Volume | 80-year Median | 6385.5 | | | | | | | |
| Jan-Jul 80-yr Volume | Standard Error about the Median | 1423.2 | | | | | | | |
| Jan-Jul Forecast | CVSE | | **921.4** | **894.4** | | | | | |
| Date-July Forecast | CVSE | | | | **619.0** | **566.7** | **499.3** | **451.4** | **395.2** |
| Apr-Aug Forecast | CVSE | | **947.4** | **840.7** | **564.5** | **527.4** | **532.3** | **487.3** | **417.9** |
| **Hedge (Jan-Jul) revised 2013** | t(95%) x CVSE | **2368.2** | **1582.1** | **1535.8** | **1063.0** | **973.1** | **857.4** | **775.1** | **678.7** |

| Dworshak | Statistic | Aug-Oct | *1-Dec* | *1-Jan* | *1-Feb* | *1-Mar* | *1-Apr* | *1-May* | *1-Jun* |
|---|---|---|---|---|---|---|---|---|---|

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**May 1, 2013, Revised**
**kaf**

| Hungry Horse | Statistic | Aug-Dec | *1-Jan* | *1-Feb* | *1-Mar* | *1-Apr* | *1-May* | *1-Jun* |
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| Jan-Jul 80-yr Volume | 80-year Median | 2120.3 | | | | | | |
| Jan-Jul 80-yr Volume | Standard Error about the Median | 511.2 | | | | | | |
| **Hedge (Jan-Jul)** | t(95%) x SE | **850.7** | **620.2** | **455.0** | **343.7** | **294.9** | **256.1** | **212.6** |

| Grand Coulee | Statistic | Aug-Dec | *1-Jan* | *1-Feb* | *1-Mar* | *1-Apr* | *1-May* | *1-Jun* |
|---|---|---|---|---|---|---|---|---|
| Jan-Jul 80-yr Volume | 80-year Median | 62652.7 | | | | | | |
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Hedge = Forecast CVSE x single-tail 95% exceedance t-statistic for Mica, Arrow, Duncan, and Libby

**ksfd**

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| Feb-Jul 80-yr Volume | Standard Error about the Median | 564.4 | | | | | | | | |
| Jan-Jul Forecast | CVSE | | 439.1 | 431.2 | | | | | | |
| Feb-Jul Forecast | CVSE | | 445.1 | 436.5 | 309.1 | | | | | |
| Date-Jul Forecast | CVSE | | | | | 269.6 | 248.9 | 237.8 | 235.2 | 124.3 |
| Apr-Aug Forecast | CVSE | | 519.8 | 475.5 | 298.3 | 249.2 | 218.2 | | | |
| Date-Aug Forecast | CVSE | | | | | | | 200.5 | 201.4 | 186.2 |
| **Hedge (Jan-Jul or date-Jul)** | t(95%) x CVSE | **943.4** | **741.1** | **727.9** | **521.8** | **455.2** | **420.2** | **401.4** | **397.0** | **209.7** |
| **Hedge (Feb-Jul or date-Jul)** | t(95%) x CVSE | **939.1** | **751.3** | **736.8** | **521.8** | **455.2** | **420.2** | **401.4** | **397.0** | **209.7** |

| Arrow Total | Statistic | Aug-Nov | *1-Dec* | *1-Jan* | *1-Feb* | *1-Mar* | *1-Apr* | *1-May* | *1-Jun* | *1-Jul* |
|---|---|---|---|---|---|---|---|---|---|---|
| Jan-Jul 80-yr Volume | 80-year Median | 10389.9 | | | | | | | | |
| Jan-Jul 80-yr Volume | Standard Error about the Median | 1241.8 | | | | | | | | |
| Feb-Jul 80-yr Volume | 80-year Median | 10054.3 | | | | | | | | |
| Feb-Jul 80-yr Volume | Standard Error about the Median | 1221.0 | | | | | | | | |
| Jan-Jul Forecast | CVSE | | 982.6 | 879.8 | | | | | | |
| Feb-Jul Forecast | CVSE | | 981.1 | 878.3 | 648.8 | | | | | |
| Date-Jul Forecast | CVSE | | | | | 565.3 | 479.7 | 428.4 | 402.5 | 226.6 |
| Apr-Aug Forecast | CVSE | | 1134.8 | 963.5 | 704.6 | 597.5 | 493.7 | | | |
| Date-Aug Forecast | CVSE | | | | | | | 440.0 | 384.5 | 371.3 |
| **Hedge (Jan-Jul or date-Jul)** | t(95%) x CVSE | **2066.3** | **1658.6** | **1485.1** | **1095.3** | **954.2** | **809.7** | **723.2** | **679.4** | **382.5** |
| **Hedge (Feb-Jul or date-Jul)** | t(95%) x CVSE | **2031.8** | **1656.1** | **1482.6** | **1095.3** | **954.2** | **809.7** | **723.2** | **679.4** | **382.5** |

**May 1, 2013, Revised**

**ksfd**

| Duncan | Statistic | Aug-Nov | *1-Dec* | *1-Jan* | *1-Feb* | *1-Mar* | *1-Apr* | *1-May* | *1-Jun* | *1-Jul* |
|---|---|---|---|---|---|---|---|---|---|---|
| Jan-Jul 80-yr Volume | 80-year Median | 936.4 | | | | | | | | |
| Jan-Jul 80-yr Volume | Standard Error about the Median | 123.1 | | | | | | | | |
| Feb-Jul 80-yr Volume | 80-year Median | 907.6 | | | | | | | | |
| Feb-Jul 80-yr Volume | Standard Error about the Median | 120.9 | | | | | | | | |
| Jan-Jul Forecast | CVSE | | 85.3 | 75.6 | | | | | | |
| Feb-Jul Forecast | CVSE | | 84.6 | 74.8 | 61.8 | | | | | |
| Date-Jul Forecast | CVSE | | | | | 62.2 | 55.6 | 51.5 | 46.2 | 29.4 |
| Apr-Aug Forecast | CVSE | | 96.1 | 80.0 | 66.0 | 57.6 | 48.3 | | | |
| Date-Aug Forecast | CVSE | | | | | | | 43.9 | 39.4 | 38.3 |
| **Hedge (Jan-Jul or date-Jul)** | t(95%) x CVSE | **204.8** | **143.9** | **127.6** | **104.3** | **105.0** | **93.8** | **86.9** | **78.0** | **49.7** |
| **Hedge (Feb-Jul or date-Jul)** | t(95%) x CVSE | **201.1** | **142.8** | **126.3** | **104.3** | **105.0** | **93.8** | **86.9** | **78.0** | **49.7** |
| | | | | 127.02312 | | | | | | |

| Libby | Statistic | Aug-Nov | *1-Dec* | *1-Jan* | *1-Feb* | *1-Mar* | *1-Apr* | *1-May* | *1-Jun* |
|---|---|---|---|---|---|---|---|---|---|
| Jan-Jul 80-yr Volume | 80-year Median | 3219.3 | | | | | | | |
| Jan-Jul 80-yr Volume | Standard Error about the Median | 717.5 | | | | | | | |
| Jan-Jul Forecast | CVSE | | **464.5** | **450.9** | | | | | |
| Date-July Forecast | CVSE | | | | **312.1** | **285.7** | **251.7** | **227.6** | **199.3** |
| Apr-Aug Forecast | CVSE | | **477.6** | **423.9** | **284.6** | **265.9** | **268.4** | **245.7** | **210.7** |
| **Hedge (Jan-Jul) revised 2013** | t(95%) x CVSE | **1194.0** | **797.6** | **774.3** | **535.9** | **490.6** | **432.3** | **390.8** | **342.2** |

| Dworshak | Statistic | Aug-Oct | *1-Dec* | *1-Jan* | *1-Feb* | *1-Mar* | *1-Apr* | *1-May* | *1-Jun* |
|---|---|---|---|---|---|---|---|---|---|

**The CRTOC agreed that VECC's for Dworshak are no longer needed, therefore Hedges are no longer provided.**

**For information on April-July forecast errors as used in Flood Control Refill Curves, see the AER/TSR flood control SOP.**

**May 1, 2013, Revised**

**ksfd**

| Hungry Horse | Statistic | Aug-Dec | *1-Jan* | *1-Feb* | *1-Mar* | *1-Apr* | *1-May* | *1-Jun* |
|---|---|---|---|---|---|---|---|---|
| Jan-Jul 80-yr Volume | 80-year Median | 1069.0 | | | | | | |
| Jan-Jul 80-yr Volume | Standard Error about the Median | 257.7 | | | | | | |
| **Hedge** | t(95%) x SE | **428.9** | **312.7** | **229.4** | **173.3** | **148.7** | **129.1** | **107.2** |

| Grand Coulee | Statistic | Aug-Dec | *1-Jan* | *1-Feb* | *1-Mar* | *1-Apr* | *1-May* | *1-Jun* |
|---|---|---|---|---|---|---|---|---|
| Jan-Jul 80-yr Volume | 80-year Median | 31587.4 | | | | | | |
| Jan-Jul 80-yr Volume | Standard Error about the Median | 5963.6 | | | | | | |
| **Hedge** | t(95%) x SE | **9923.4** | **7688.1** | **5656.2** | **4912.2** | **4055.5** | **3288.4** | **2926.1** |

## For VECC computations:
## Use the "ksfd round to 1 Decimal" or kaf round to 1 Decimal" w
## into your VECC computations.

## To Revise this workbook:

1. When you revise this workbook, put the revision date in the "kaf" sheet, in cell A1. The

2. Revise the forecast errors on the "kaf" sheet, you can use any number of decimal place
The " kaf round to 1 Decimal" worksheet automatically takes data from the "kaf" sheet and

3. Any notes you revise on the "kaf" sheet from rows 3 through 7 will be automatically tran

4. Revise the forecast errors on the "ksfd" sheet, you can use any number of decimal plac
The "ksfd round to 1 Decimal" sheet automatically takes the data from the "ksfd" sheet anc
(As a note, the way it is now, for Libby and all Aug-Nov only, the "ksfd" sheet is automatica

## orksheets when you copy data from this workbook

date will be updated in all worksheets

es you want.
rounds everything to 1 decimal place.

nsferred to all of the other sheets.

ces you want.
d rounds everything to 1 decimal place.
ally populated from the data from the "kaf" sheet).