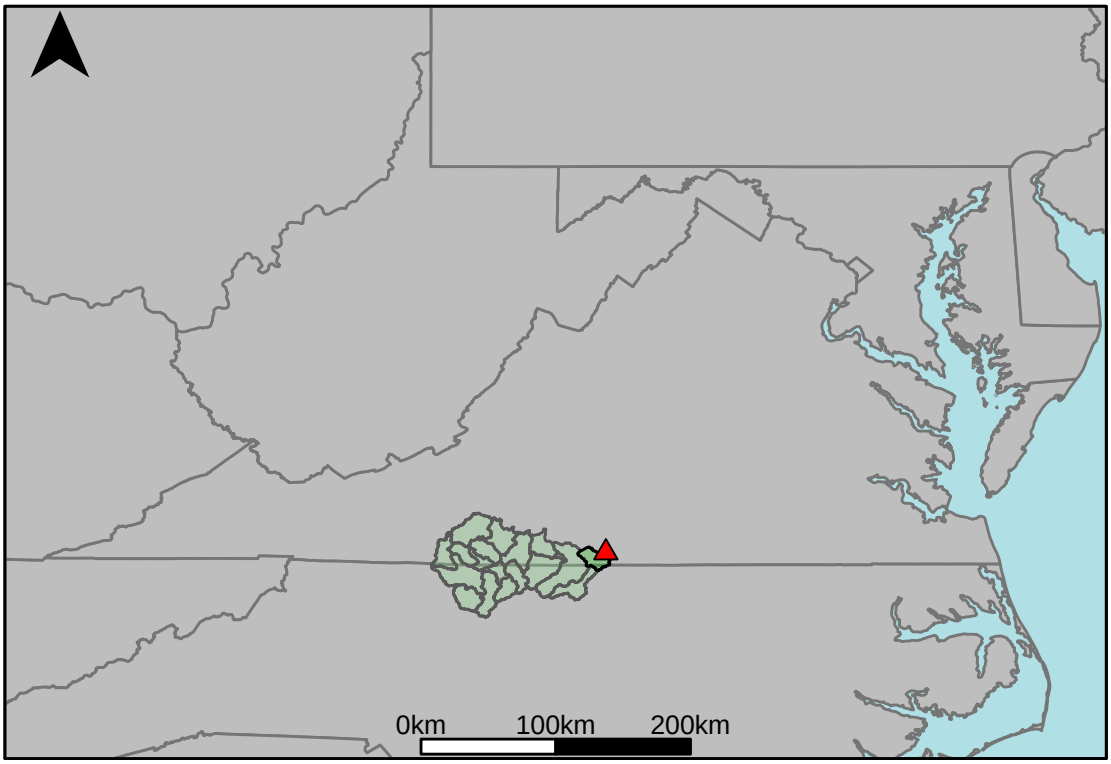
# Appendix C.10: USGS Gage 02075500 vs. OD5_8780_8660




This river segment follows part of the flow of the Dan River. The gage is located in Halifax County, VA (Lat 3638'32", Long 7905'23") approximately 17 miles northeast of Danville, VA. Drainage area is 2587 sq. miles. This gage started taking data in 1950 and is still taking data. There are a number of dams and mills in Danville that regulated the low-flow conditions in this area. The average daily discharge error between the model and gage data for the 20 year timespan was 2.13%, with 35.8% of its rolling three month time spans above 20% error.

**Table 1: Monthly Low Flows**

| | USGS Gage | Model | Pct. Error |
|---|---|---|---|
| Jan. Low Flow | 770 | 555 | -27.9 |
| Feb. Low Flow | 1000 | 850 | -15 |
| Mar. Low Flow | 1180 | 1150 | -2.54 |
| Apr. Low Flow | 1310 | 1330 | 1.53 |
| May Low Flow | 1720 | 2190 | 27.3 |
| Jun. Low Flow | 1830 | 2450 | 33.9 |
| Jul. Low Flow | 1820 | 1910 | 4.95 |
| Aug. Low Flow | 1440 | 1470 | 2.08 |
| Sep. Low Flow | 1260 | 1200 | -4.76 |
| Oct. Low Flow | 1050 | 863 | -17.8 |
| Nov. Low Flow | 819 | 694 | -15.3 |
| Dec. Low Flow | 736 | 605 | -17.8 |

**Table 2: Monthly Average Flows**

| | USGS Gage | Model | Pct. Error |
|---|---|---|---|
| Overall Mean Flow | 2820 | 2760 | -2.13 |
| Jan. Mean Flow | 3430 | 3250 | -5.25 |
| Feb. Mean Flow | 3540 | 3850 | 8.76 |
| Mar. Mean Flow | 4590 | 5220 | 13.7 |
| Apr. Mean Flow | 3960 | 4270 | 7.83 |
| May Mean Flow | 2930 | 2870 | -2.05 |
| Jun. Mean Flow | 2580 | 2450 | -5.04 |
| Jul. Mean Flow | 1990 | 1510 | -24.1 |
| Aug. Mean Flow | 1950 | 1570 | -19.5 |
| Sep. Mean Flow | 2330 | 2170 | -6.87 |
| Oct. Mean Flow | 1940 | 1900 | -2.06 |
| Nov. Mean Flow | 2090 | 1860 | -11 |
| Dec. Mean Flow | 2530 | 2340 | -7.51 |

**Table 3: Monthly High Flows**

| | USGS Gage | Model | Pct. Error |
|---|---|---|---|
| Jan. High Flow | 2630 | 1630 | -38 |
| Feb. High Flow | 4810 | 5230 | 8.73 |
| Mar. High Flow | 6410 | 4620 | -27.9 |
| Apr. High Flow | 9820 | 6620 | -32.6 |
| May High Flow | 9860 | 5870 | -40.5 |
| Jun. High Flow | 13200 | 11300 | -14.4 |
| Jul. High Flow | 9240 | 6930 | -25 |
| Aug. High Flow | 6570 | 4900 | -25.4 |
| Sep. High Flow | 3700 | 2920 | -21.1 |
| Oct. High Flow | 3990 | 2000 | -49.9 |
| Nov. High Flow | 3740 | 1450 | -61.2 |
| Dec. High Flow | 3040 | 1560 | -48.7 |

**Table 4: Period Low Flows**

| | USGS Gage | Model | Pct. Error |
|---|---|---|---|
| Min. 1 Day Min | 133 | 215 | 61.7 |
| Med. 1 Day Min | 574 | 422 | -26.5 |
| Min. 3 Day Min | 135 | 217 | 60.7 |
| Med. 3 Day Min | 757 | 436 | -42.4 |
| Min. 7 Day Min | 143 | 219 | 53.1 |
| Med. 7 Day Min | 802 | 483 | -39.8 |
| Min. 30 Day Min | 230 | 236 | 2.61 |
| Med. 30 Day Min | 1000 | 600 | -40 |
| Min. 90 Day Min | 353 | 387 | 9.63 |
| Med. 90 Day Min | 1380 | 938 | -32 |
| 7Q10 | 381 | 275 | -27.8 |
| Year of 90-Day Min. Flow | 2002 | 2002 | 0 |
| Drought Year Mean | 872 | 717 | -17.8 |
| Mean Baseflow | 1540 | 1630 | 5.84 |

**Table 5: Period High Flows**

| | USGS Gage | Model | Pct. Error |
|---|---|---|---|
| Max. 1 Day Max | 53400 | 84400 | 58.1 |
| Med. 1 Day Max | 28700 | 25000 | -12.9 |
| Max. 3 Day Max | 45400 | 60500 | 33.3 |
| Med. 3 Day Max | 23100 | 19600 | -15.2 |
| Max. 7 Day Max | 30700 | 35900 | 16.9 |
| Med. 7 Day Max | 14000 | 12400 | -11.4 |
| Max. 30 Day Max | 11900 | 13800 | 16 |
| Med. 30 Day Max | 6270 | 6340 | 1.12 |
| Max. 90 Day Max | 7980 | 9450 | 18.4 |
| Med. 90 Day Max | 3780 | 4260 | 12.7 |

**Table 6: Non-Exceedance Flows**

| | USGS Gage | Model | Pct. Error |
|---|---|---|---|
| 1% Non-Exceedance | 382 | 286 | -25.1 |
| 5% Non-Exceedance | 713 | 450 | -36.9 |
| 50% Non-Exceedance | 1900 | 1700 | -10.5 |
| 95% Non-Exceedance | 7570 | 8070 | 6.61 |
| 99% Non-Exceedance | 18900 | 18800 | -0.53 |
| Sept. 10% Non-Exceedance | 534 | 736 | 37.8 |

**Fig. 1: Hydrograph**

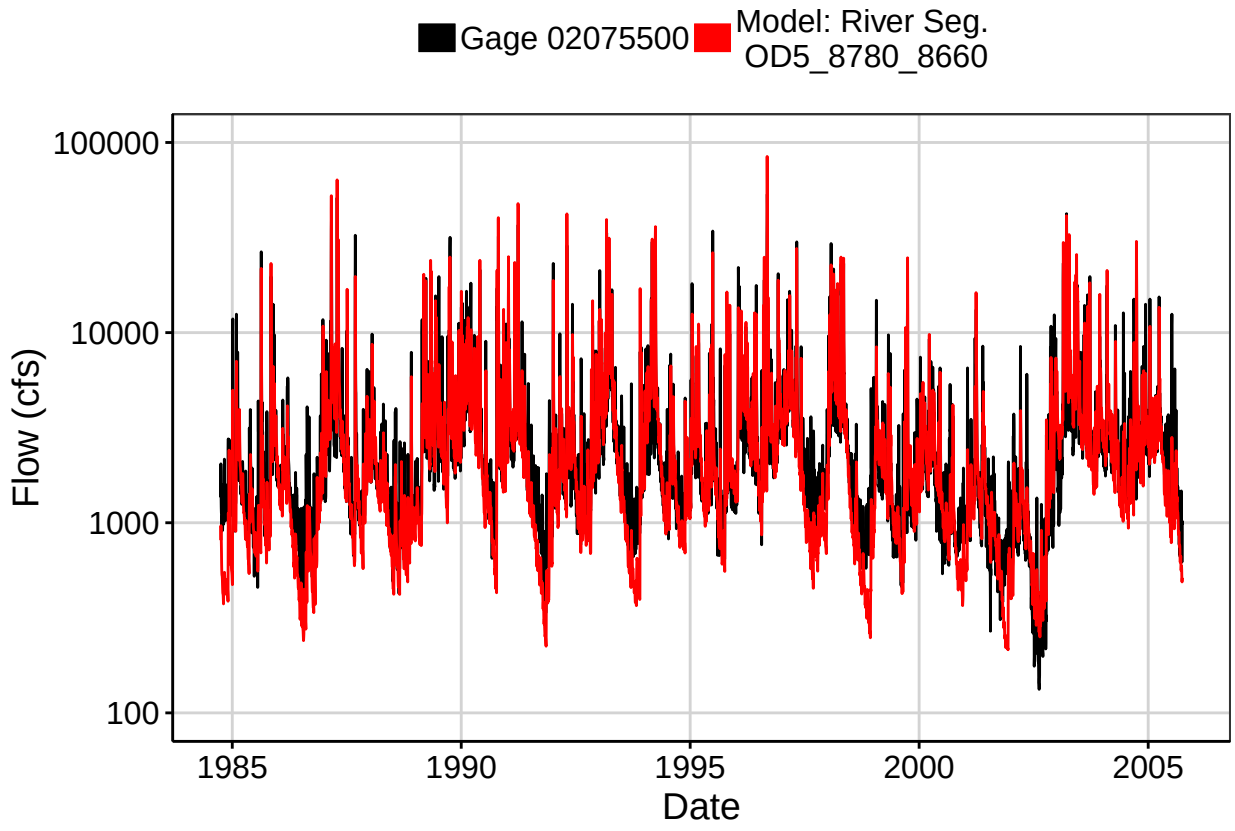


**Fig. 2: Zoomed Hydrograph**

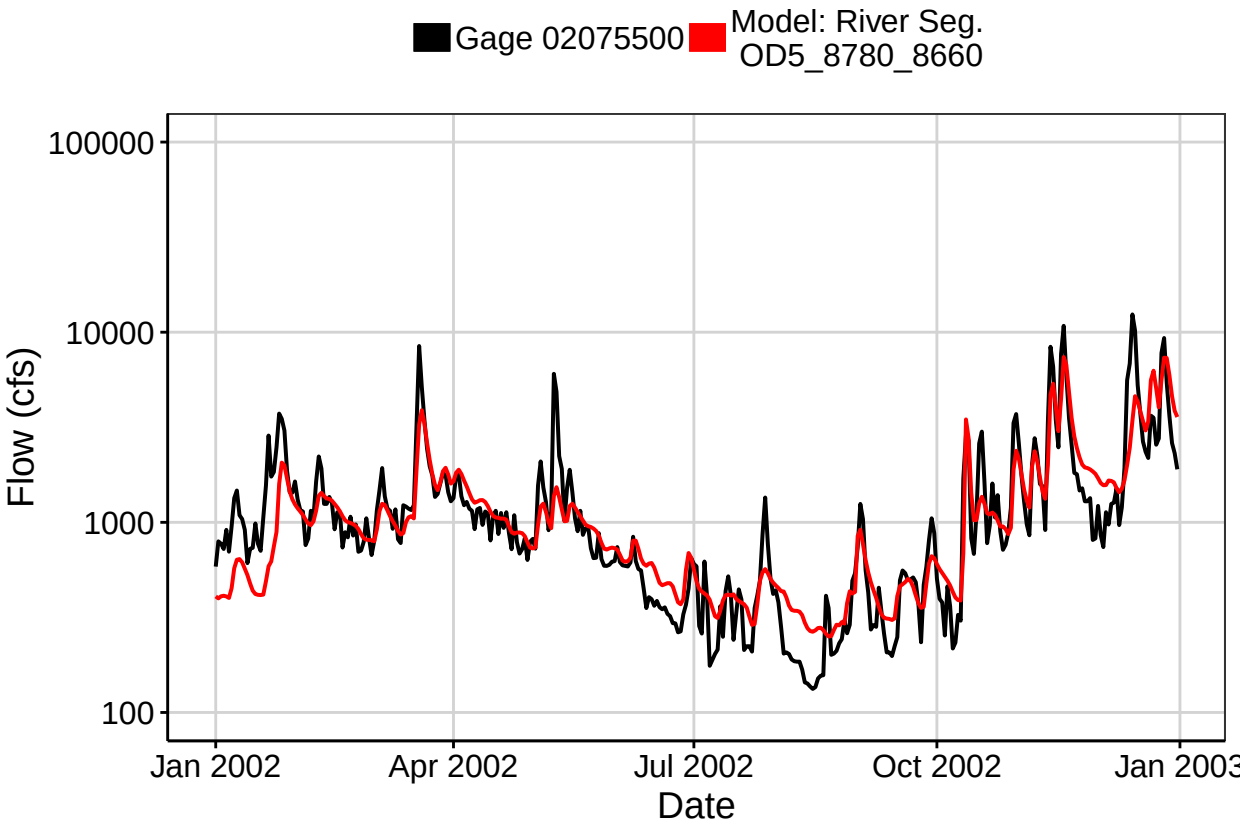


**Fig. 3: Flow Exceedance**

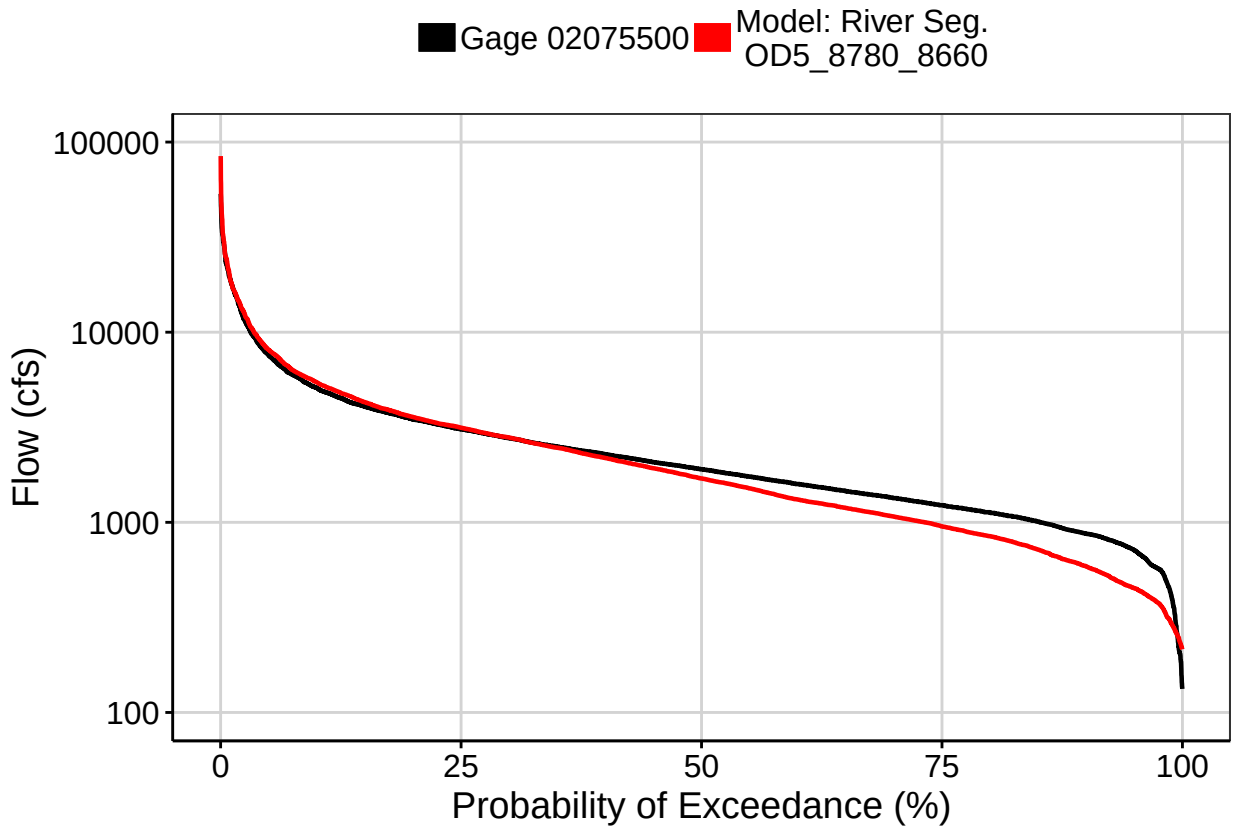


**Fig. 4: Baseflow**

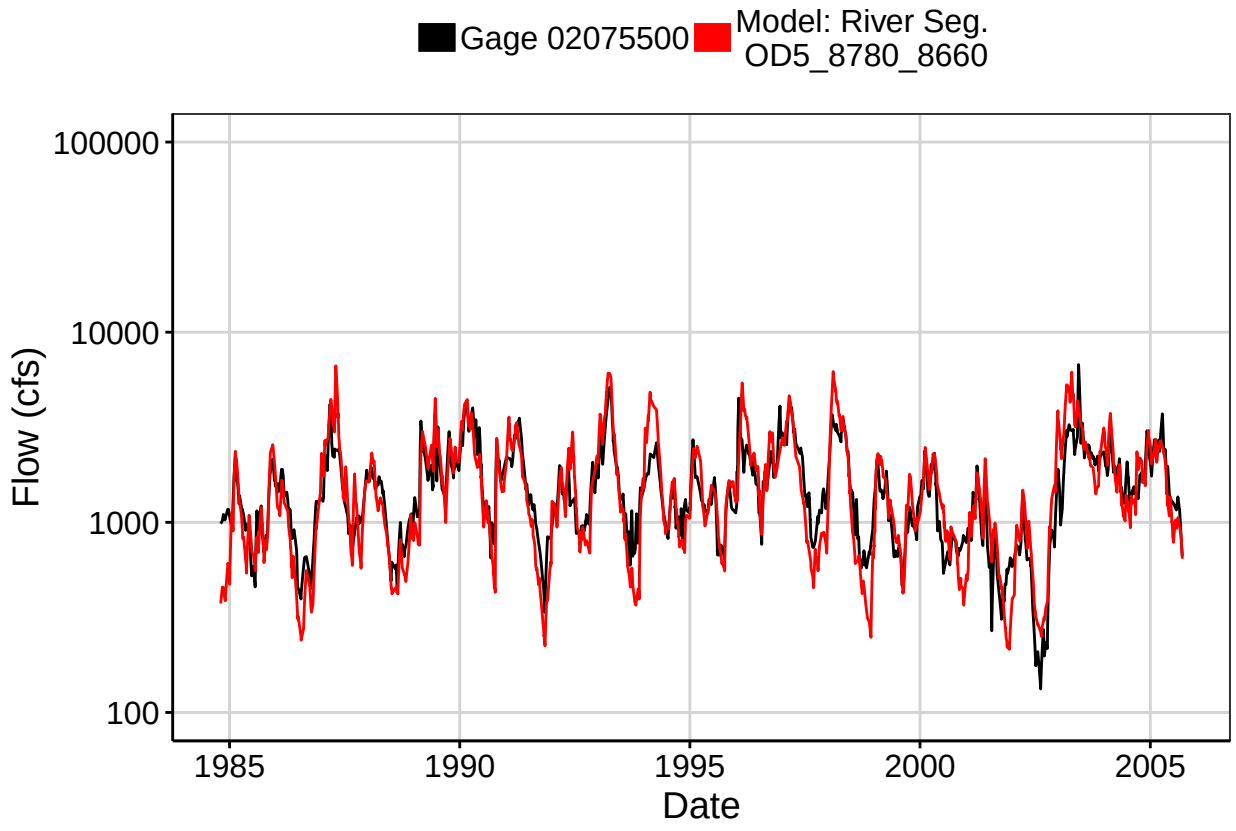


**Fig. 5: Combined Baseflow**

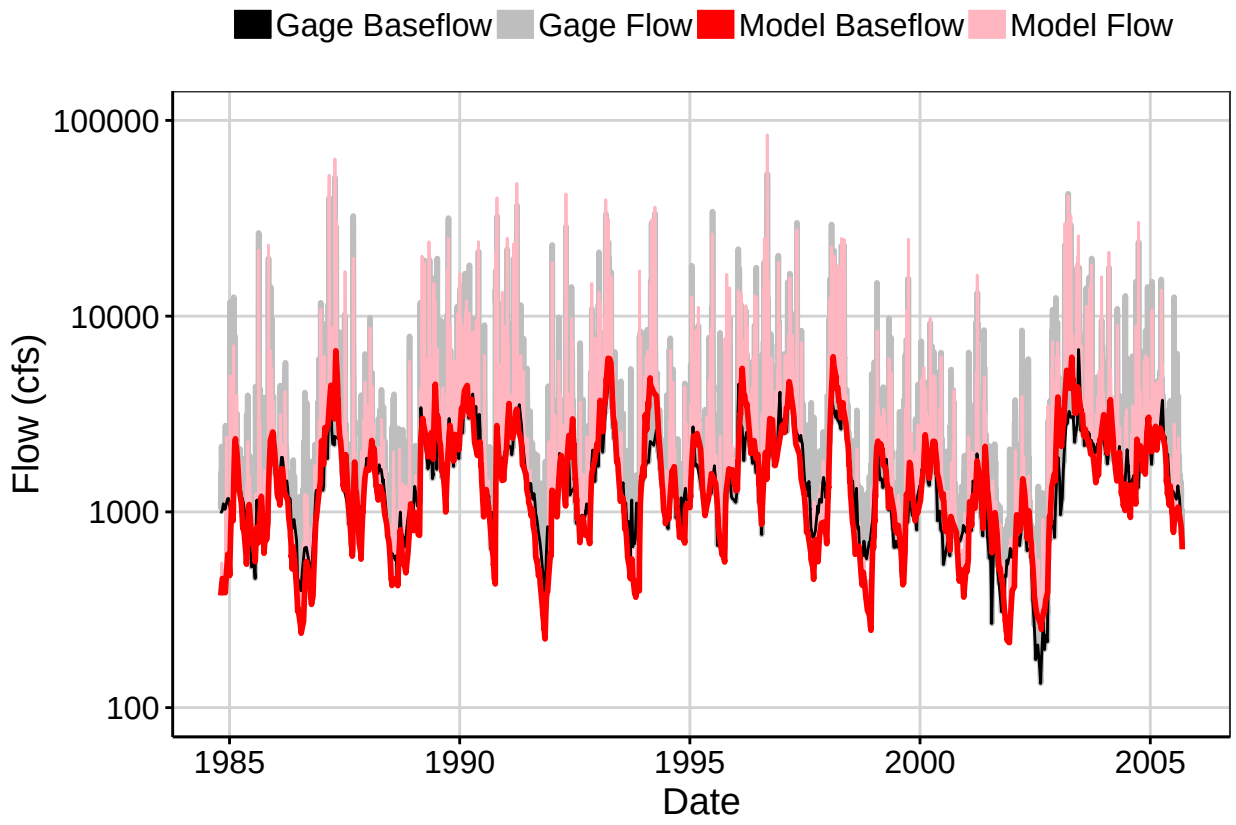


**Fig. 6: Largest Error Segment**

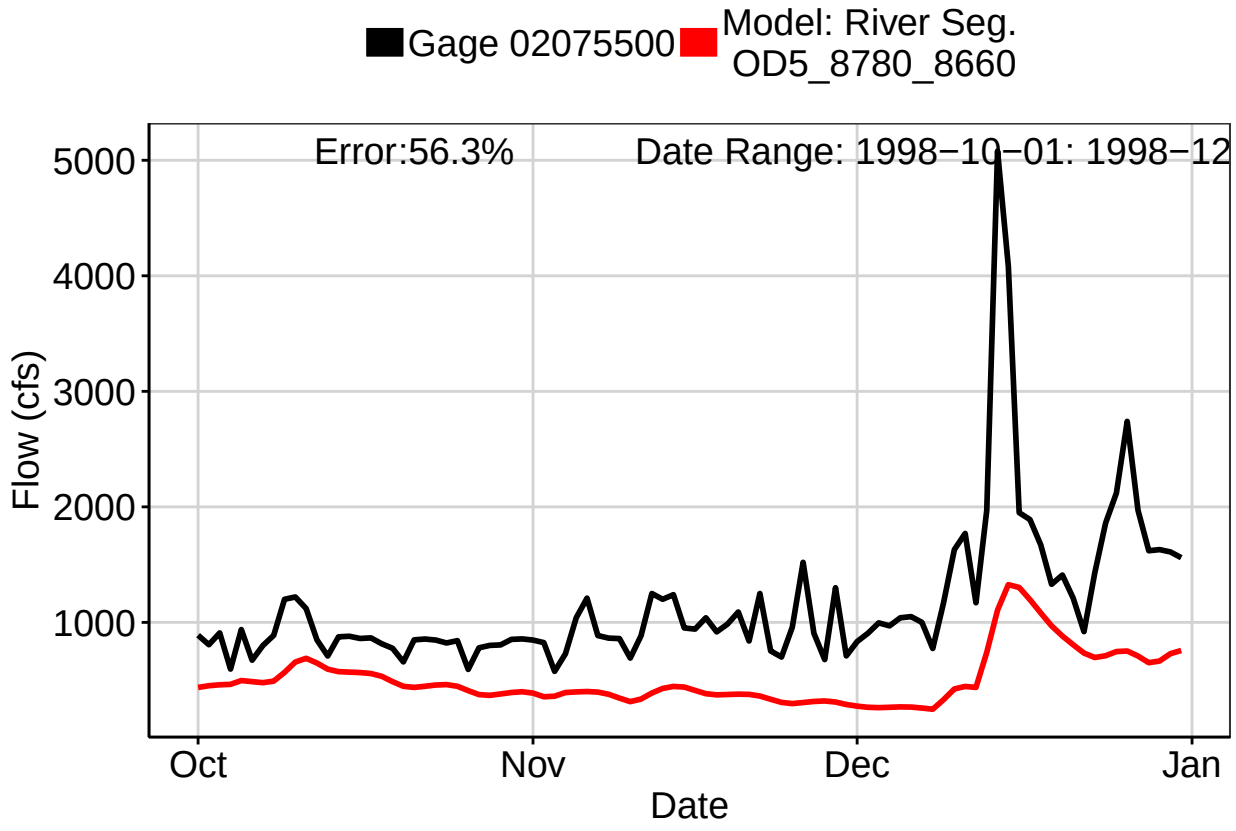


**Fig. 7: Second Largest Error Segment**

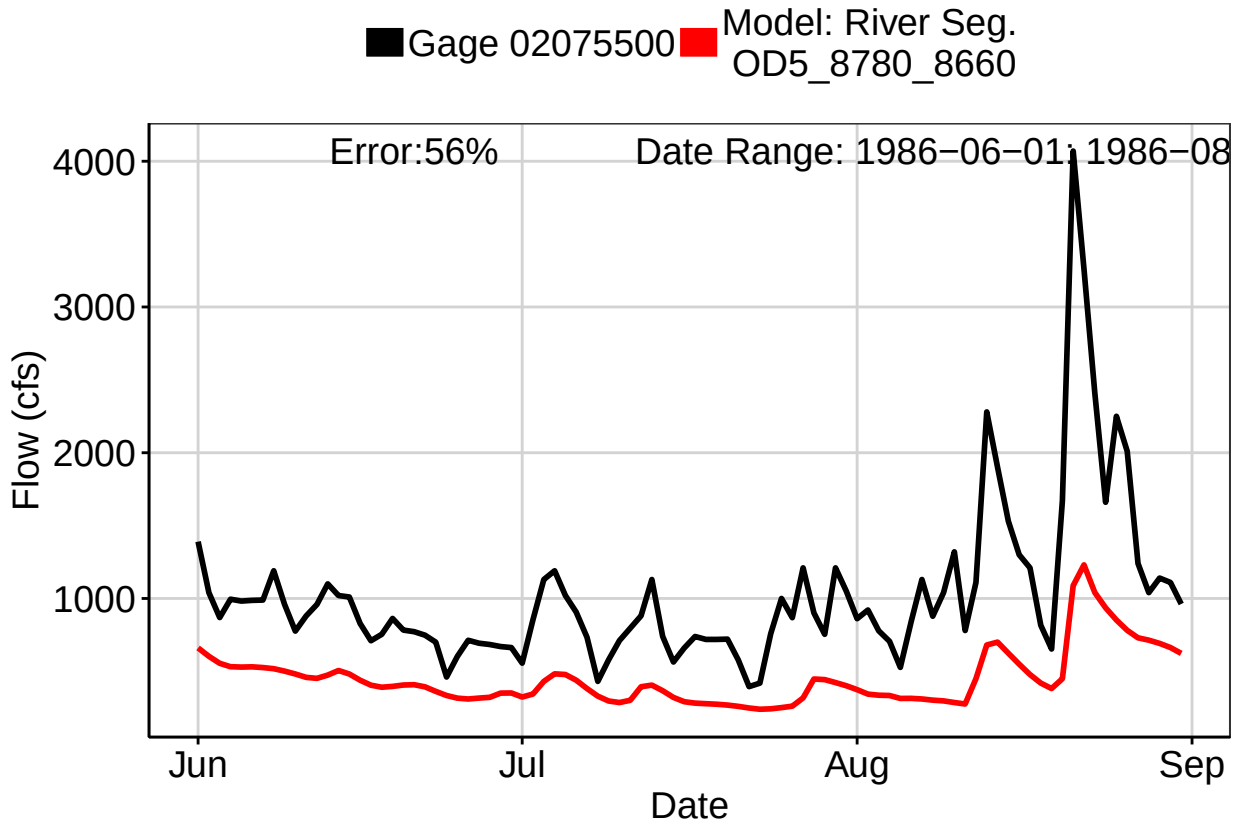


**Fig. 8: Third Largest Error Segment**

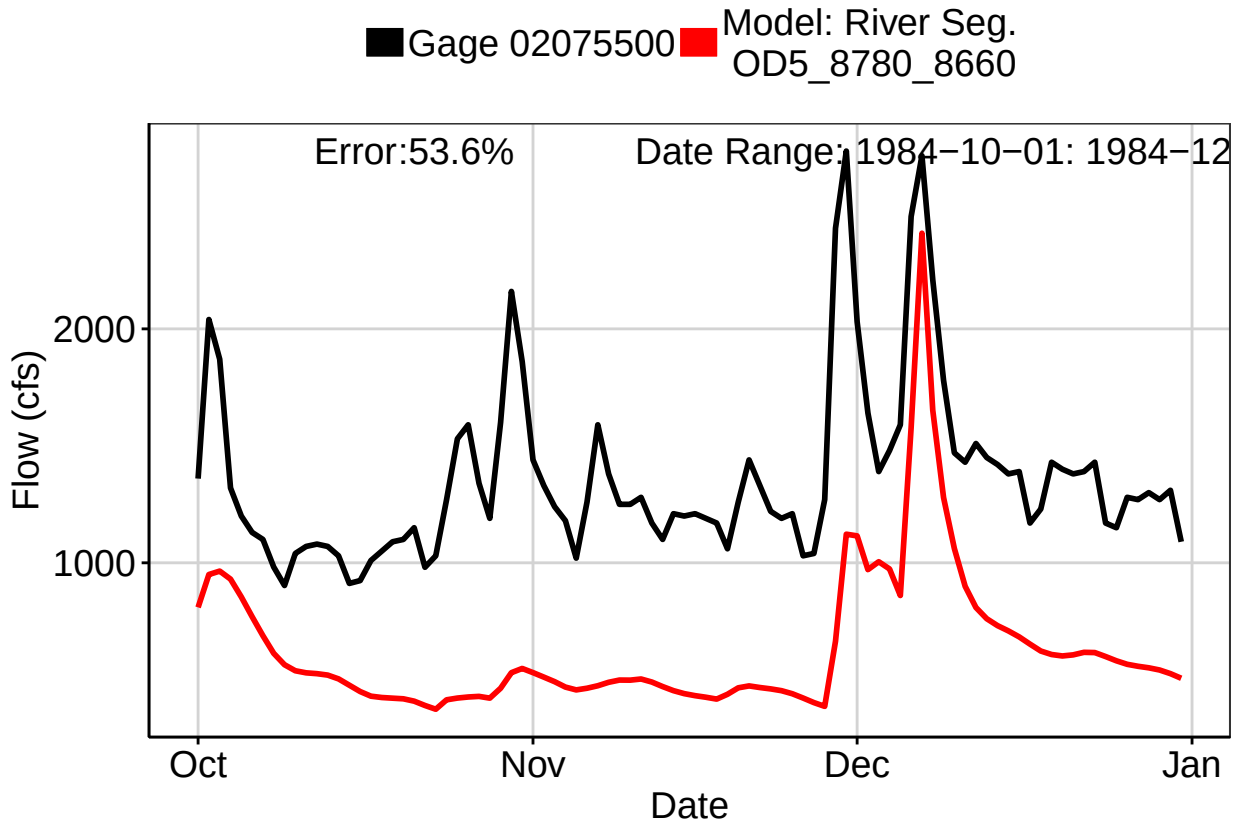


**Fig. 9: Residuals Plot**