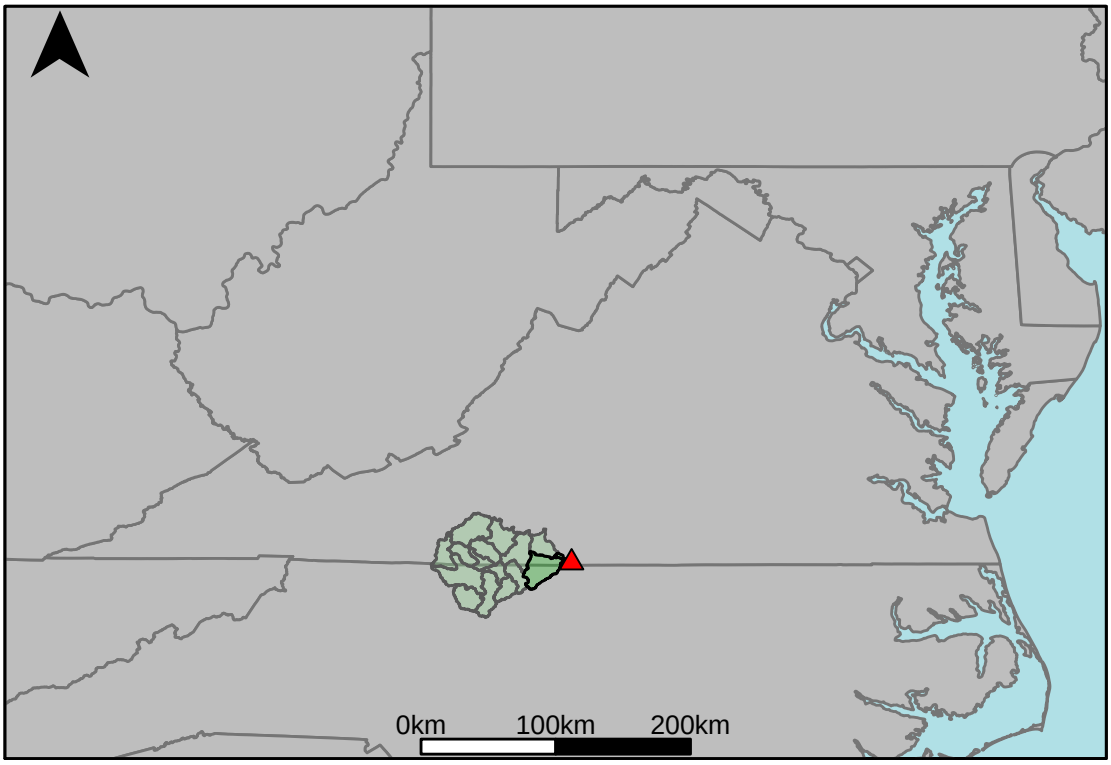
Appendix C.9: USGS Gage 02075045 vs. OD5_8900_8770+OD5_8890_8770



This river segment follows part of the flow of the Dan River. The gage is located in Pittsylvania County, VA (Lat 3633'45", Long 7922'12") approximately 2 miles southeast of Danville, VA. Drainage area is 2116 sq. miles. This gage started taking data in 1995 and is still taking data. There are a number of dams and mills located in Danville that are expected to regulate the flow of this area, especially during low flow conditions. The average daily discharge error between the model and gage data for the 20 year timespan was -6.02%, with 33.3% of its rolling three month time spans above 20% error.

Table 1: Monthly Low Flows

	USGS Gage	Model	Pct. Error
Jan. Low Flow	612	480	-21.6
Feb. Low Flow	840	837	-0.36
Mar. Low Flow	731	917	25.4
Apr. Low Flow	1040	1040	0
May Low Flow	1500	1750	16.7
Jun. Low Flow	1460	1730	18.5
Jul. Low Flow	1470	1530	4.08
Aug. Low Flow	1210	1110	-8.26
Sep. Low Flow	1100	987	-10.3
Oct. Low Flow	653	672	2.91
Nov. Low Flow	569	659	15.8
Dec. Low Flow	506	514	1.58

Table 2: Monthly Average Flows

	USGS Gage	Model	Pct. Error
Overall Mean Flow	2160	2290	6.02
Jan. Mean Flow	2480	2340	-5.65
Feb. Mean Flow	2710	3460	27.7
Mar. Mean Flow	3010	3700	22.9
Apr. Mean Flow	3010	3350	11.3
May Mean Flow	2330	2410	3.43
Jun. Mean Flow	2180	2230	2.29
Jul. Mean Flow	1430	1140	-20.3
Aug. Mean Flow	1610	1490	-7.45
Sep. Mean Flow	2370	2420	2.11
Oct. Mean Flow	1380	1570	13.8
Nov. Mean Flow	1520	1480	-2.63
Dec. Mean Flow	1990	2020	1.51

Table 3: Monthly High Flows

	USGS Gage	Model	Pct. Error
Jan. High Flow	2270	2220	-2.2
Feb. High Flow	3200	3510	9.69
Mar. High Flow	4290	2180	-49.2
Apr. High Flow	5360	5170	-3.54
May High Flow	6640	5420	-18.4
Jun. High Flow	9740	11200	15
Jul. High Flow	5980	5650	-5.52
Aug. High Flow	6740	4330	-35.8
Sep. High Flow	4360	2910	-33.3
Oct. High Flow	2540	1300	-48.8
Nov. High Flow	2920	1730	-40.8
Dec. High Flow	3800	2280	-40

Table 4: Period Low Flows

	USGS Gage	Model	Pct. Error
Min. 1 Day Min	104	198	90.4
Med. 1 Day Min	360	386	7.22
Min. 3 Day Min	109	210	92.7
Med. 3 Day Min	472	406	-14
Min. 7 Day Min	126	213	69
Med. 7 Day Min	635	457	-28
Min. 30 Day Min	224	229	2.23
Med. 30 Day Min	783	608	-22.3
Min. 90 Day Min	336	364	8.33
Med. 90 Day Min	1110	820	-26.1
7Q10	290	256	-11.7
Year of 90-Day Min. Flow	2002	2002	0
Drought Year Mean	731	654	-10.5
Mean Baseflow	1270	1400	10.2

Table 5: Period High Flows

	USGS Gage	Model	Pct. Error
Max. 1 Day Max	41500	64000	54.2
Med. 1 Day Max	20800	20900	0.48
Max. 3 Day Max	34500	39800	15.4
Med. 3 Day Max	14600	13700	-6.16
Max. 7 Day Max	24500	24800	1.22
Med. 7 Day Max	7410	8800	18.8
Max. 30 Day Max	9250	10700	15.7
Med. 30 Day Max	3950	4500	13.9
Max. 90 Day Max	6300	7590	20.5
Med. 90 Day Max	2860	3350	17.1

Table 6: Non-Exceedance Flows

	USGS Gage	Model	Pct. Error
1% Non-Exceedance	221	252	14
5% Non-Exceedance	490	393	-19.8
50% Non-Exceedance	1560	1480	-5.13
95% Non-Exceedance	5320	6350	19.4
99% Non-Exceedance	14600	15200	4.11
Sept. 10% Non-Exceedance	452	453	0.22

Fig. 1: Hydrograph

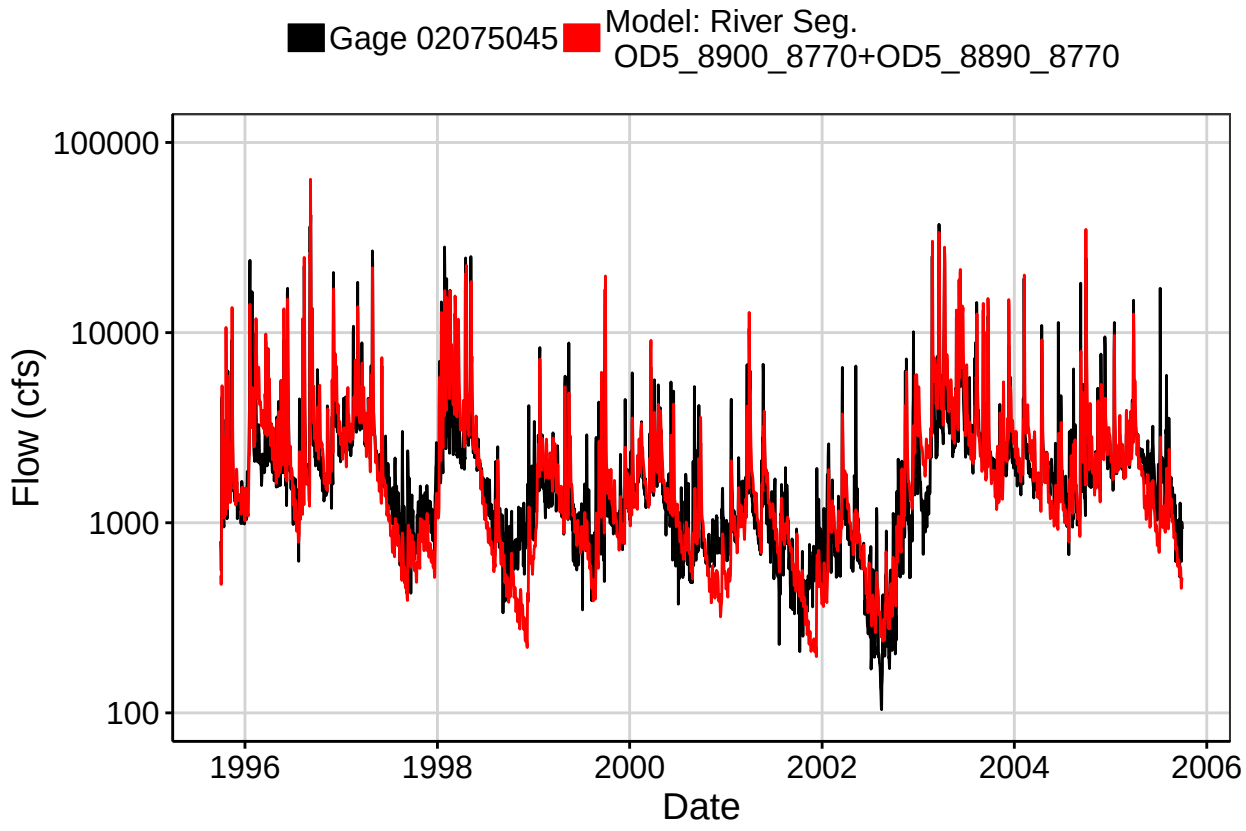


Fig. 2: Zoomed Hydrograph

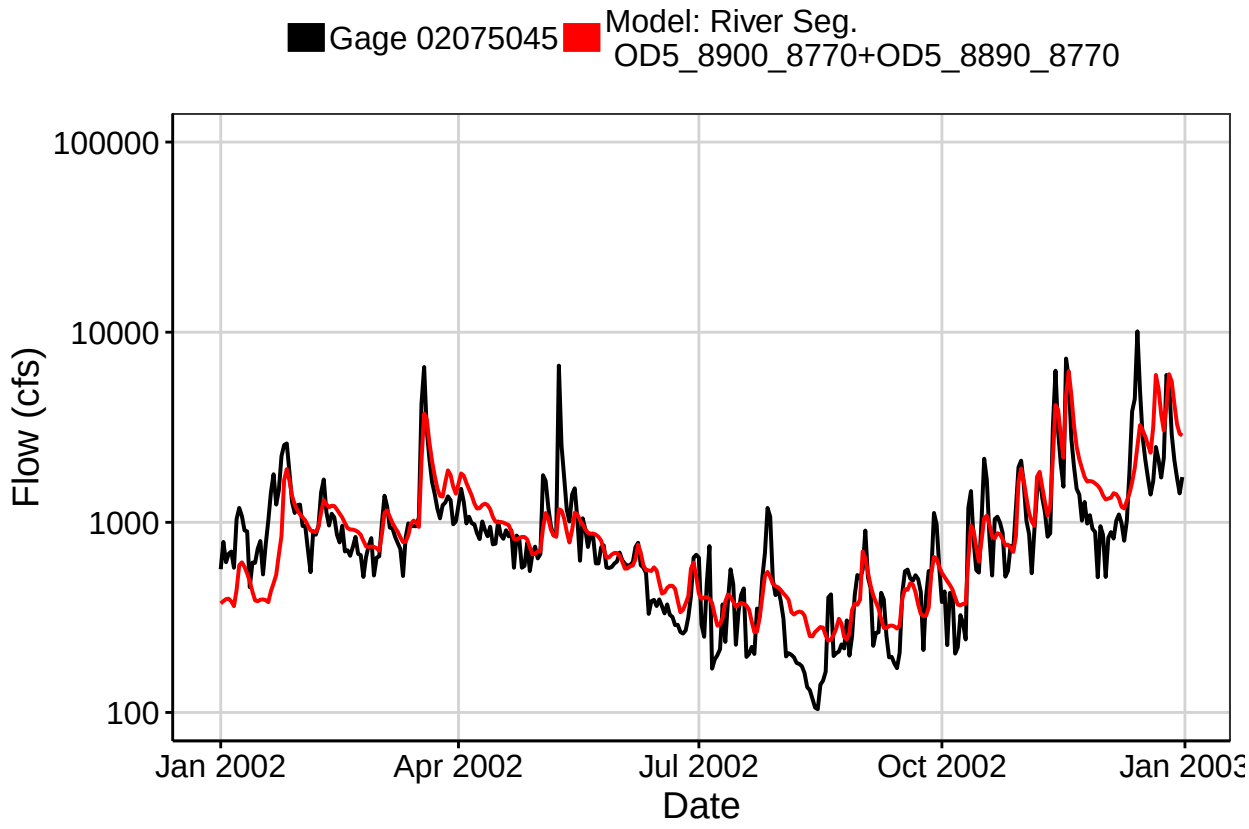


Fig. 3: Flow Exceedance

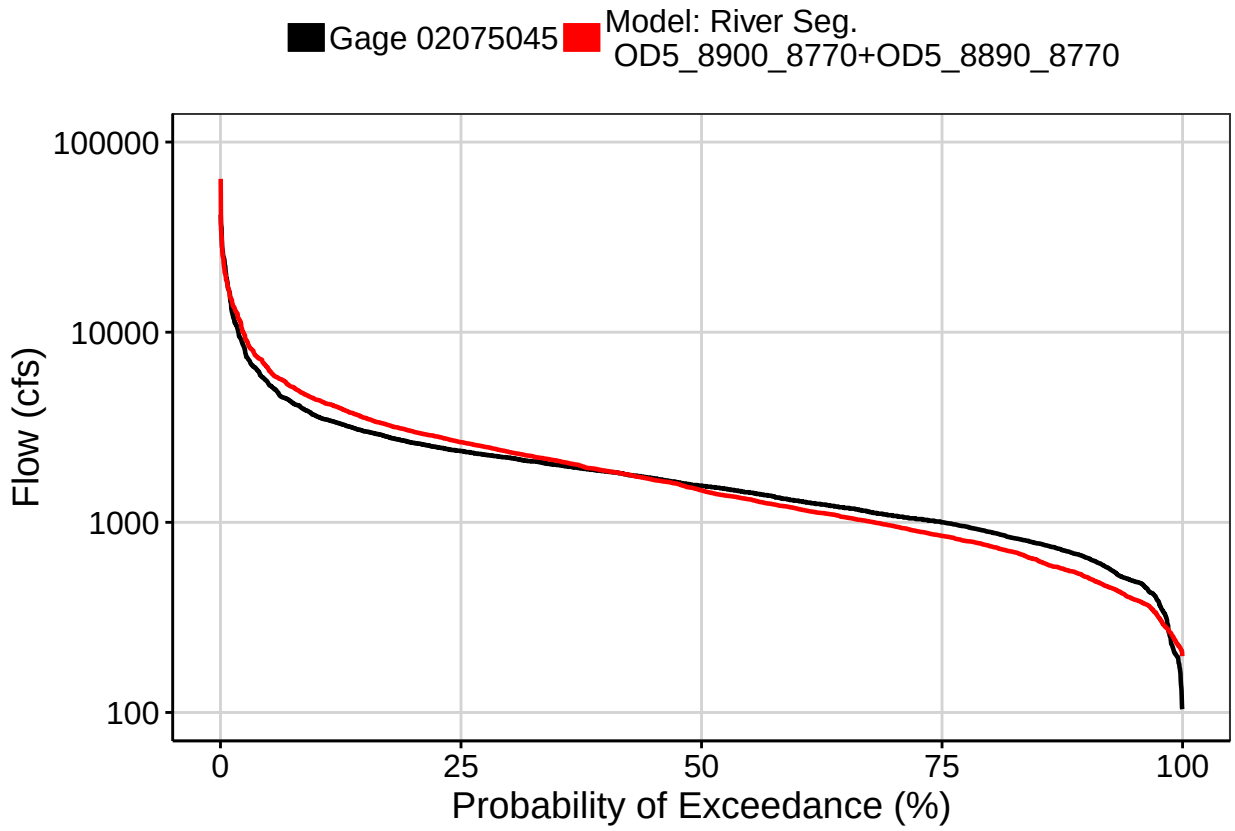


Fig. 4: Baseflow

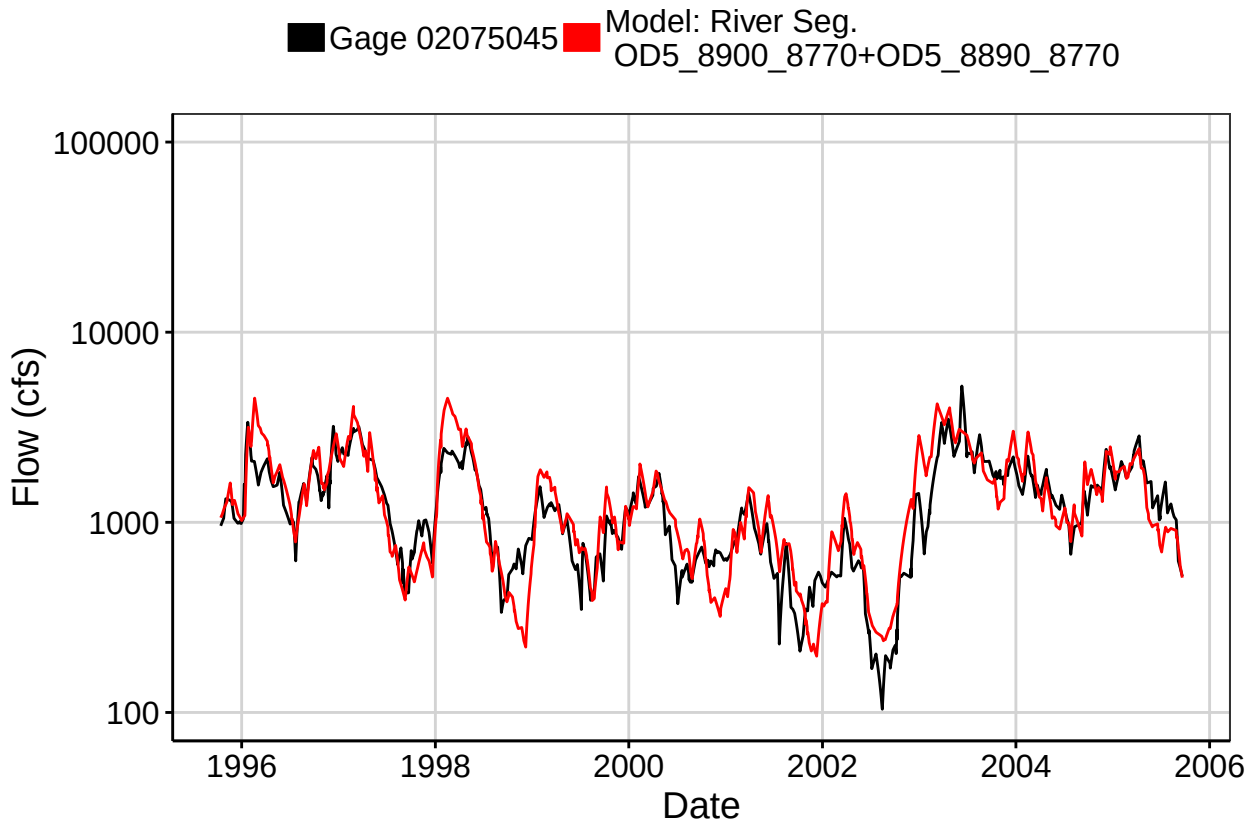


Fig. 5: Combined Baseflow

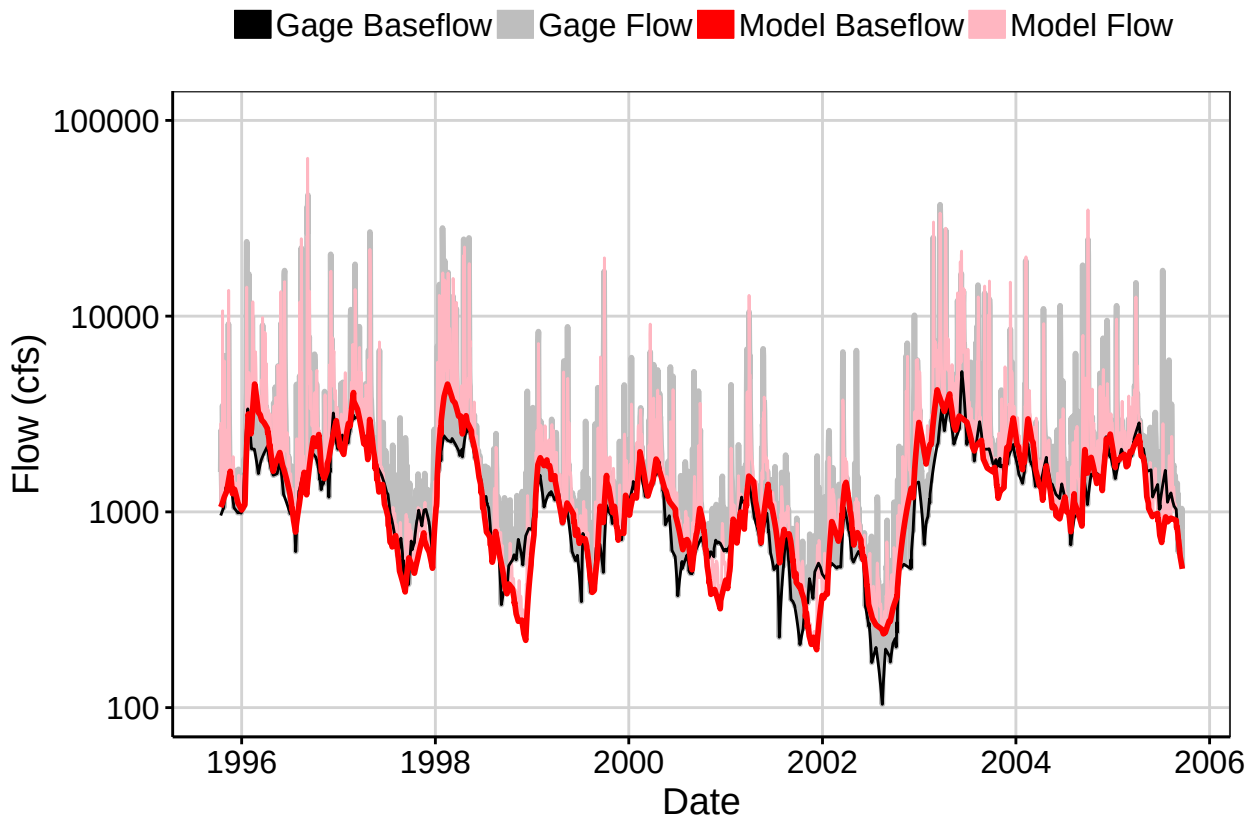


Fig. 6: Largest Error Segment

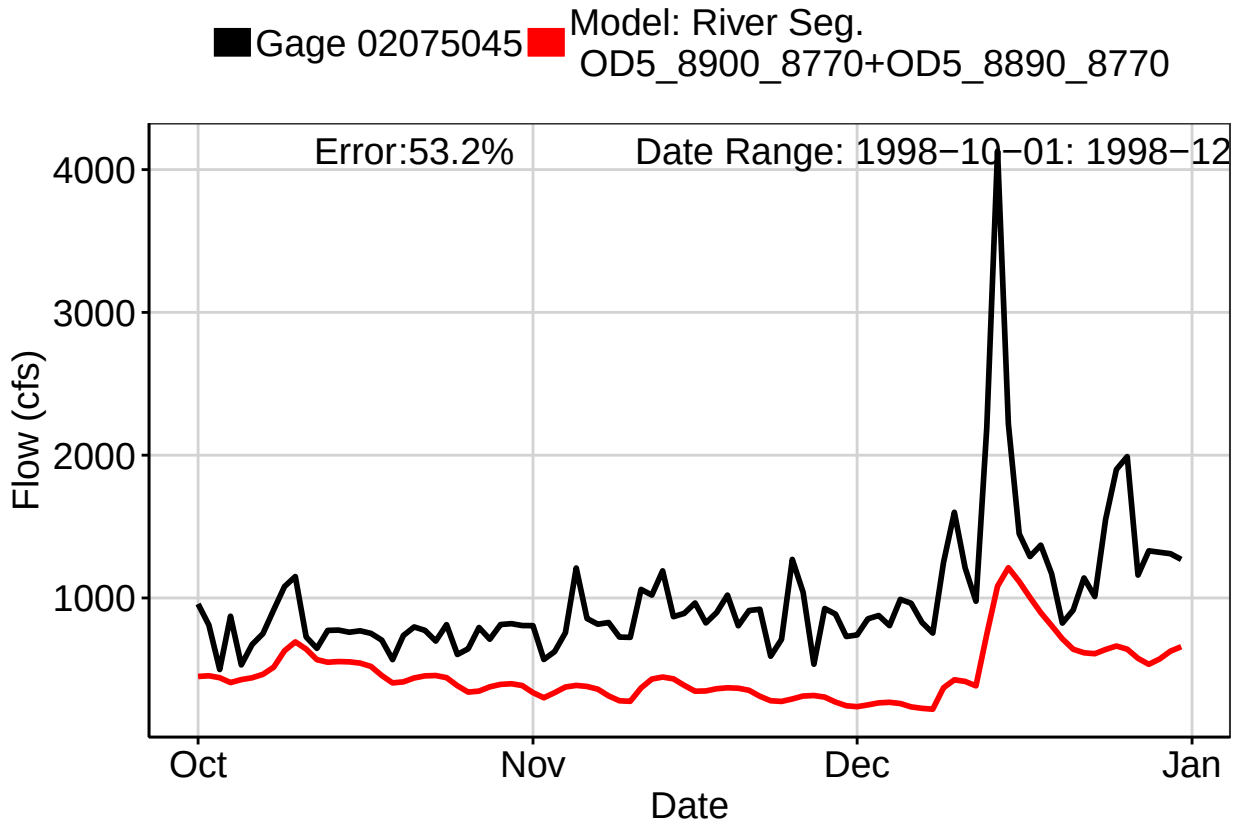


Fig. 7: Second Largest Error Segment

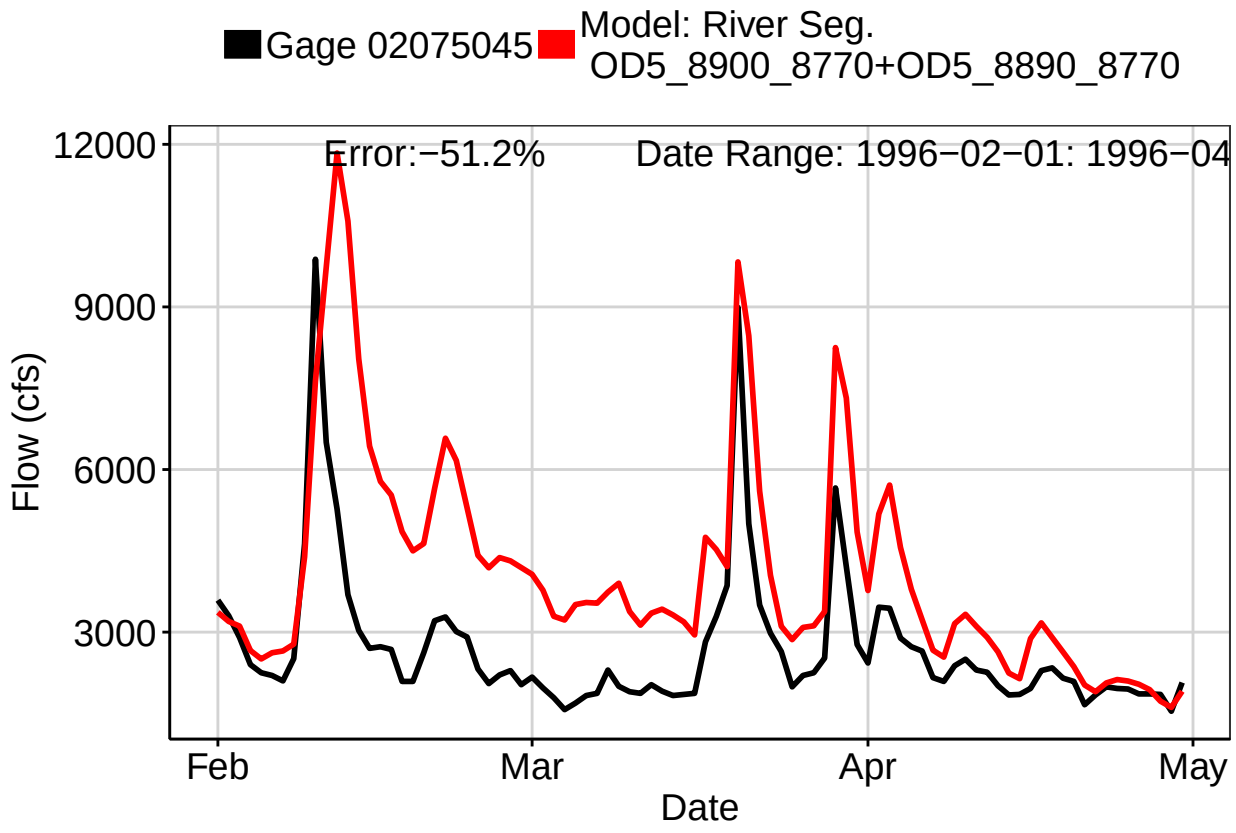


Fig. 8: Third Largest Error Segment

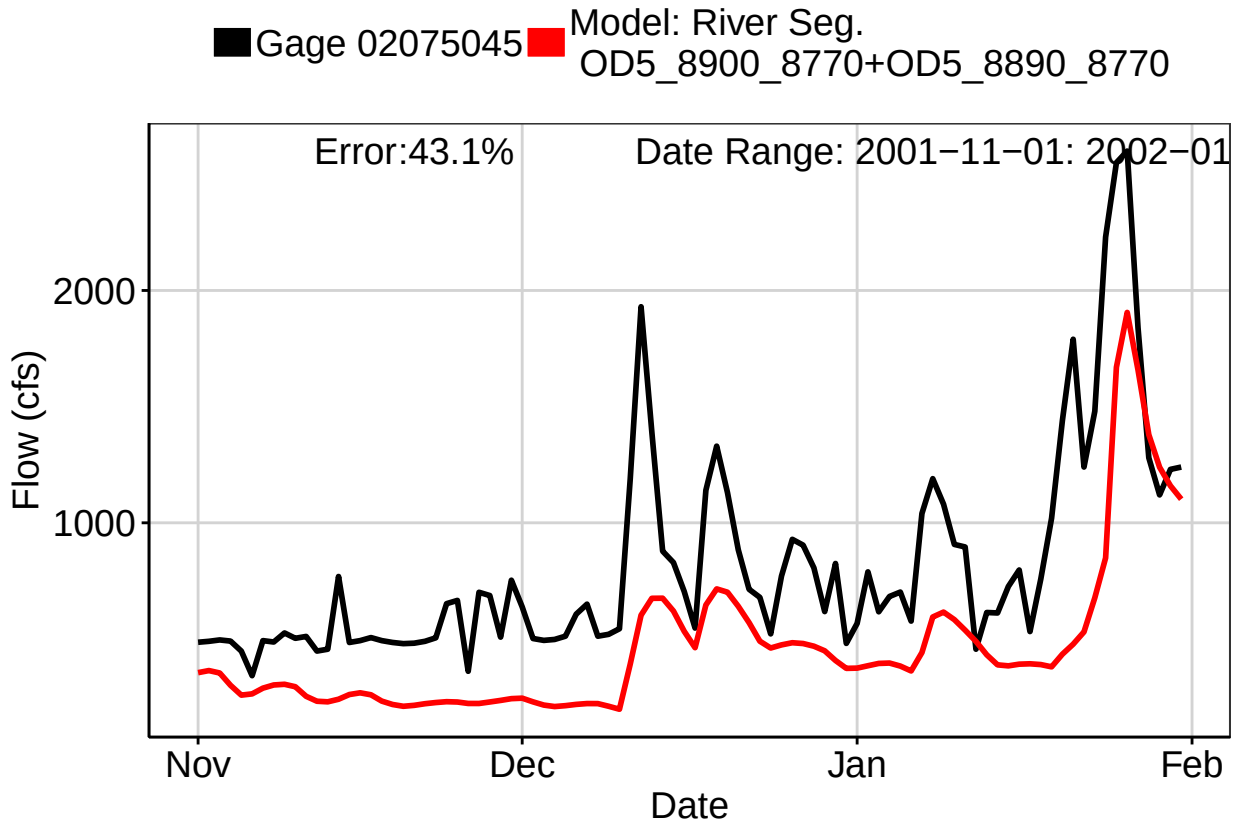


Fig. 9: Residuals Plot