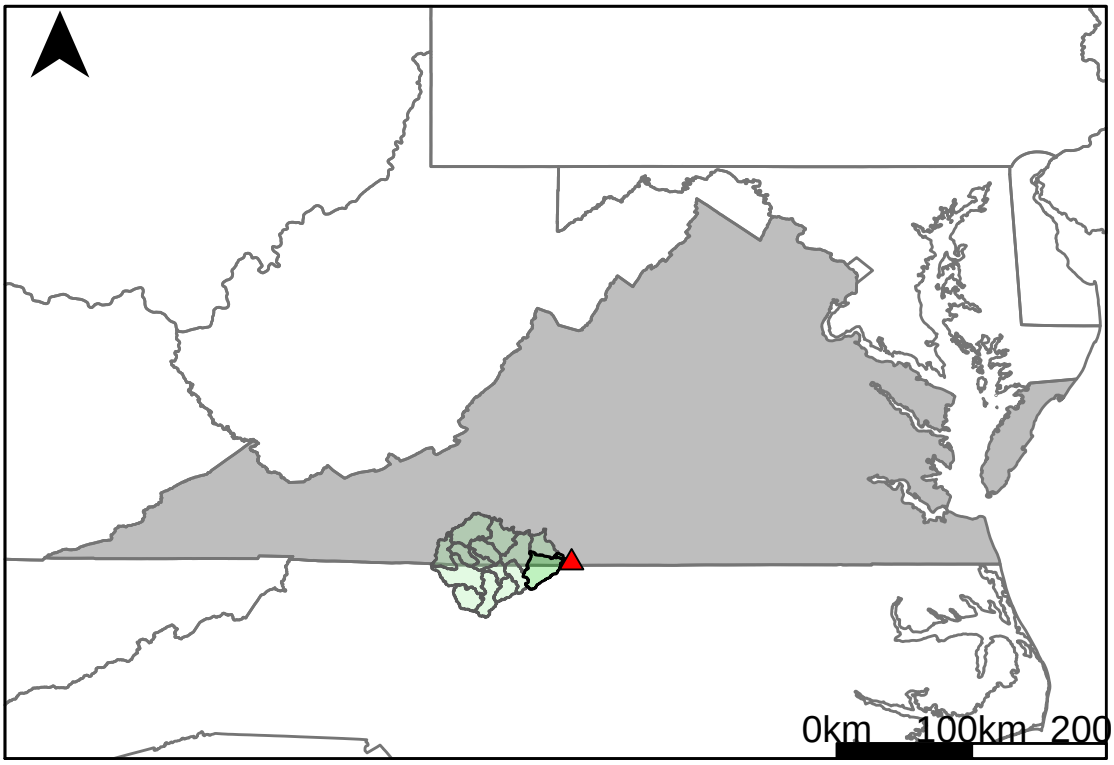
Appendix C.9: USGS Gage 02075045 vs. OD5_8900_8770+OD5_8890_8770



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 2.78%, with 34.3% of its rolling three month time spans above 20% error.

Table 1: Monthly Low Flows

	USGS Gage	Model	Pct. Error
Jan. Low Flow	612	429	29.9
Feb. Low Flow	840	589	29.9
Mar. Low Flow	731	915	-25.2
Apr. Low Flow	1040	1010	2.88
May Low Flow	1500	1610	-7.33
Jun. Low Flow	1460	1820	-24.7
Jul. Low Flow	1470	1380	6.12
Aug. Low Flow	1210	1070	11.6
Sep. Low Flow	1100	946	14
Oct. Low Flow	653	727	-11.3
Nov. Low Flow	569	536	5.8
Dec. Low Flow	506	503	0.59

Table 2: Monthly Average Flows

	USGS Gage	Model	Pct. Error
Overall Mean Flow	2160	2100	2.78
Jan. Mean Flow	2480	2430	2.02
Feb. Mean Flow	2710	2840	-4.8
Mar. Mean Flow	3010	3860	-28.2
Apr. Mean Flow	3010	3210	-6.64
May Mean Flow	2330	2200	5.58
Jun. Mean Flow	2180	1910	12.4
Jul. Mean Flow	1430	1220	14.7
Aug. Mean Flow	1610	1280	20.5
Sep. Mean Flow	2370	1640	30.8
Oct. Mean Flow	1380	1430	-3.62
Nov. Mean Flow	1520	1450	4.61
Dec. Mean Flow	1990	1790	10.1

Table 3: Monthly High Flows

	USGS Gage	Model	Pct. Error
Jan. High Flow	2270	1400	38.3
Feb. High Flow	3200	4230	-32.2
Mar. High Flow	4290	3750	12.6
Apr. High Flow	5360	6190	-15.5
May High Flow	6640	4320	34.9
Jun. High Flow	9740	10400	-6.78
Jul. High Flow	5980	5240	12.4
Aug. High Flow	6740	3560	47.2
Sep. High Flow	4360	2260	48.2
Oct. High Flow	2540	1550	39
Nov. High Flow	2920	1220	58.2
Dec. High Flow	3800	1230	67.6

Table 4: Period Low Flows

	USGS Gage	Model	Pct. Error
Min. 1 Day Min	104	186	-78.8
Med. 1 Day Min	360	353	1.94
Min. 3 Day Min	109	191	-75.2
Med. 3 Day Min	472	377	20.1
Min. 7 Day Min	126	201	-59.5
Med. 7 Day Min	635	425	33.1
Min. 30 Day Min	224	216	3.57
Med. 30 Day Min	783	516	34.1
Min. 90 Day Min	336	337	-0.3
Med. 90 Day Min	1110	762	31.4
7Q10	290	236	18.6
Year of 90-Day Min. Flow	2002	2002	0
Drought Year Mean	731	2100	-187
Mean Baseflow	1270	1250	1.57

Table 5: Period High Flows

	USGS Gage	Model	Pct. Error
Max. 1 Day Max	41500	52400	-26.3
Med. 1 Day Max	20800	19300	7.21
Max. 3 Day Max	34500	36100	-4.64
Med. 3 Day Max	14600	15400	-5.48
Max. 7 Day Max	24500	20900	14.7
Med. 7 Day Max	7410	9670	-30.5
Max. 30 Day Max	9250	10400	-12.4
Med. 30 Day Max	3950	4690	-18.7
Max. 90 Day Max	6300	7100	-12.7
Med. 90 Day Max	2860	3400	-18.9

Table 6: Non-Exceedance Flows

	USGS Gage	Model	Pct. Error
1% Non-Exceedance	221	247	-11.8
5% Non-Exceedance	490	371	24.3
50% Non-Exceedance	1560	1330	14.7
95% Non-Exceedance	5320	5870	-10.3
99% Non-Exceedance	14600	14600	0
Sept. 10% Non-Exceedance	454	456	-0.44

Fig. 1: Hydrograph

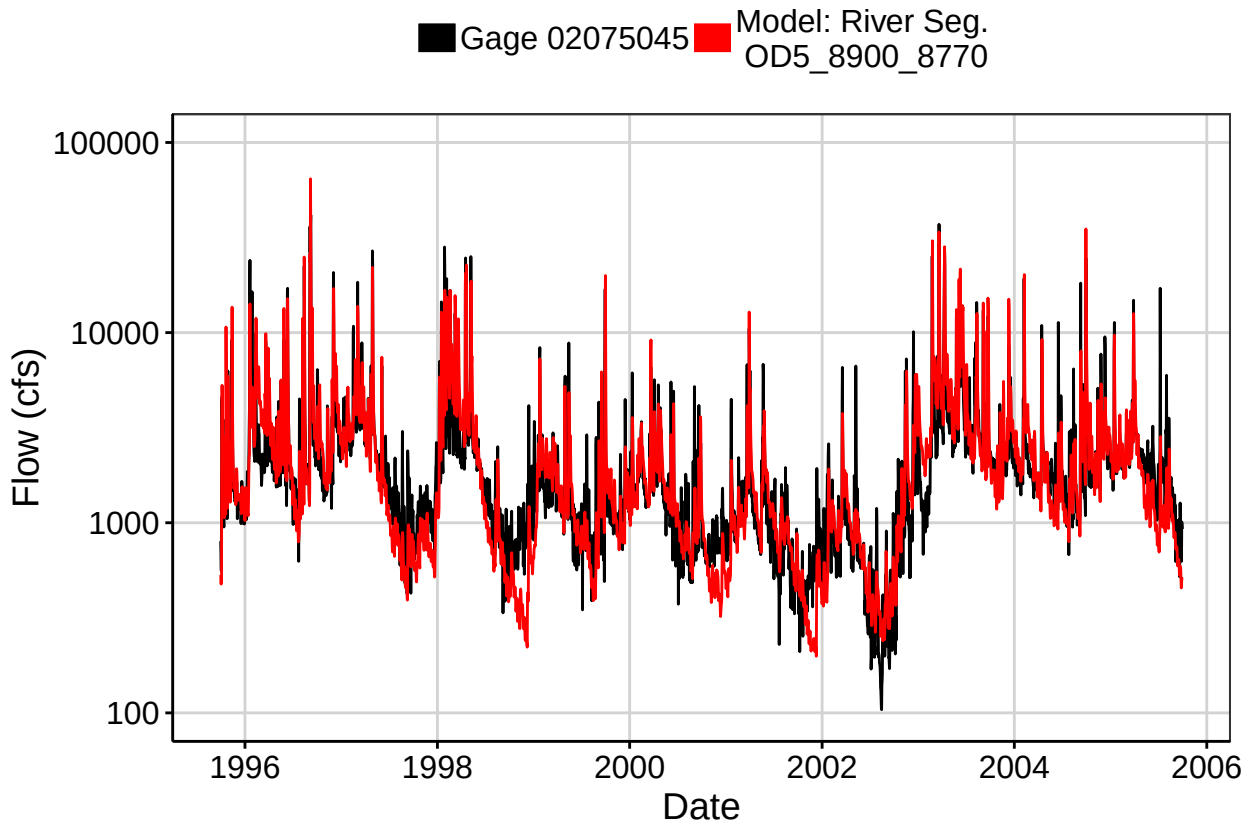


Fig. 2: Zoomed Hydrograph

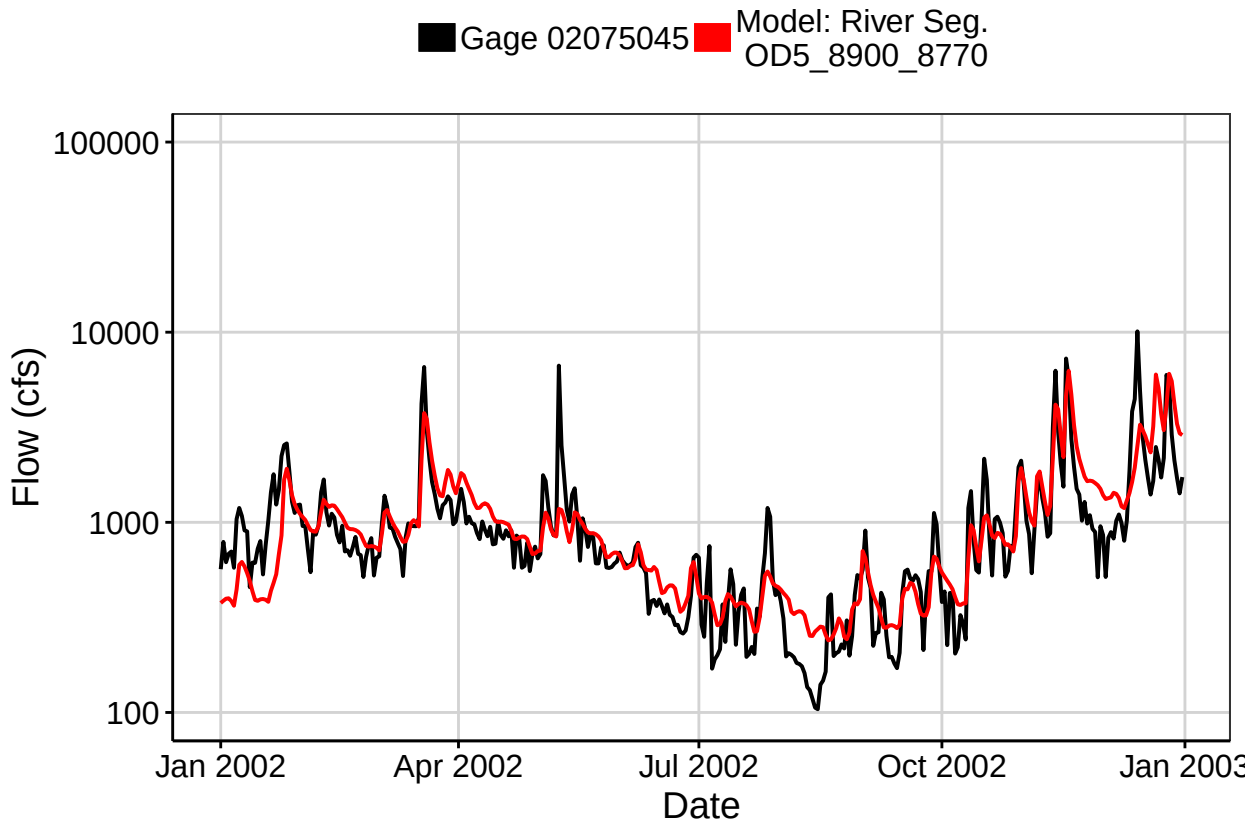


Fig. 3: Flow Exceedance

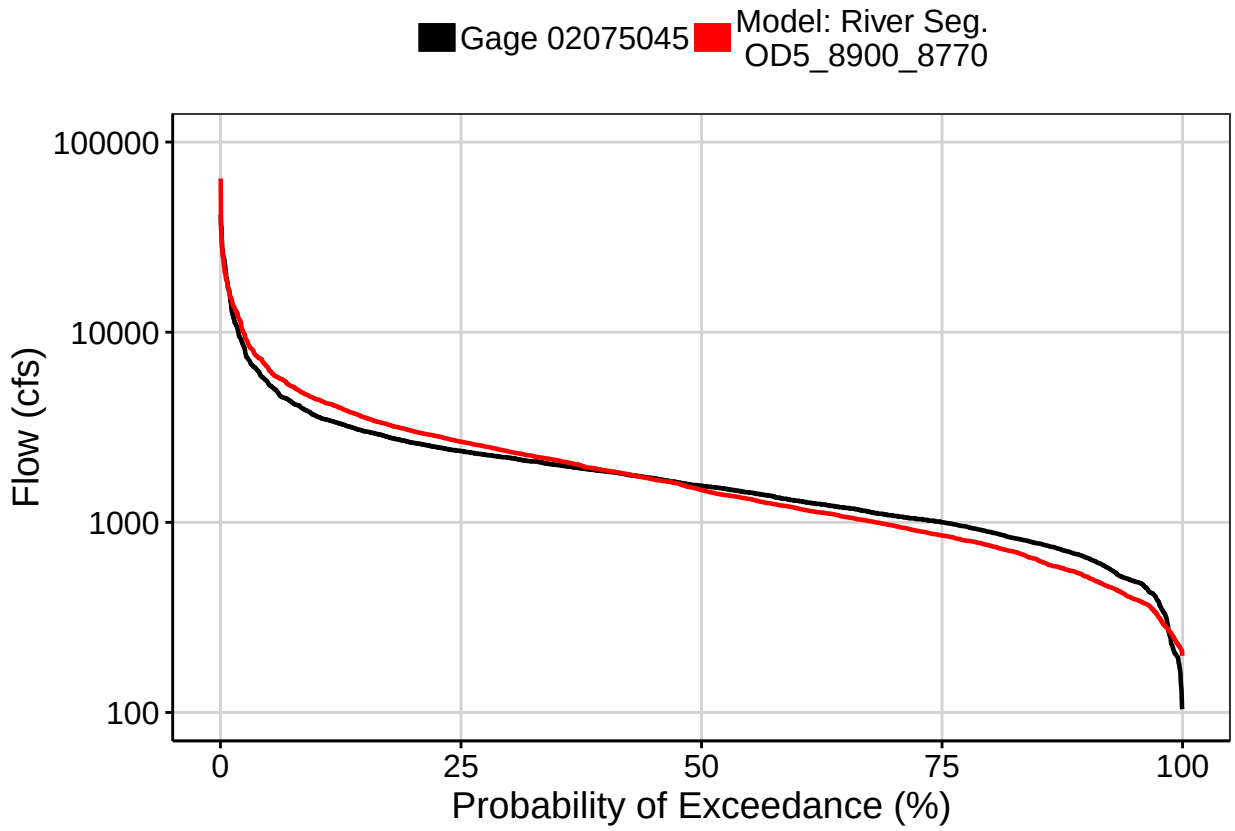


Fig. 4: Baseflow

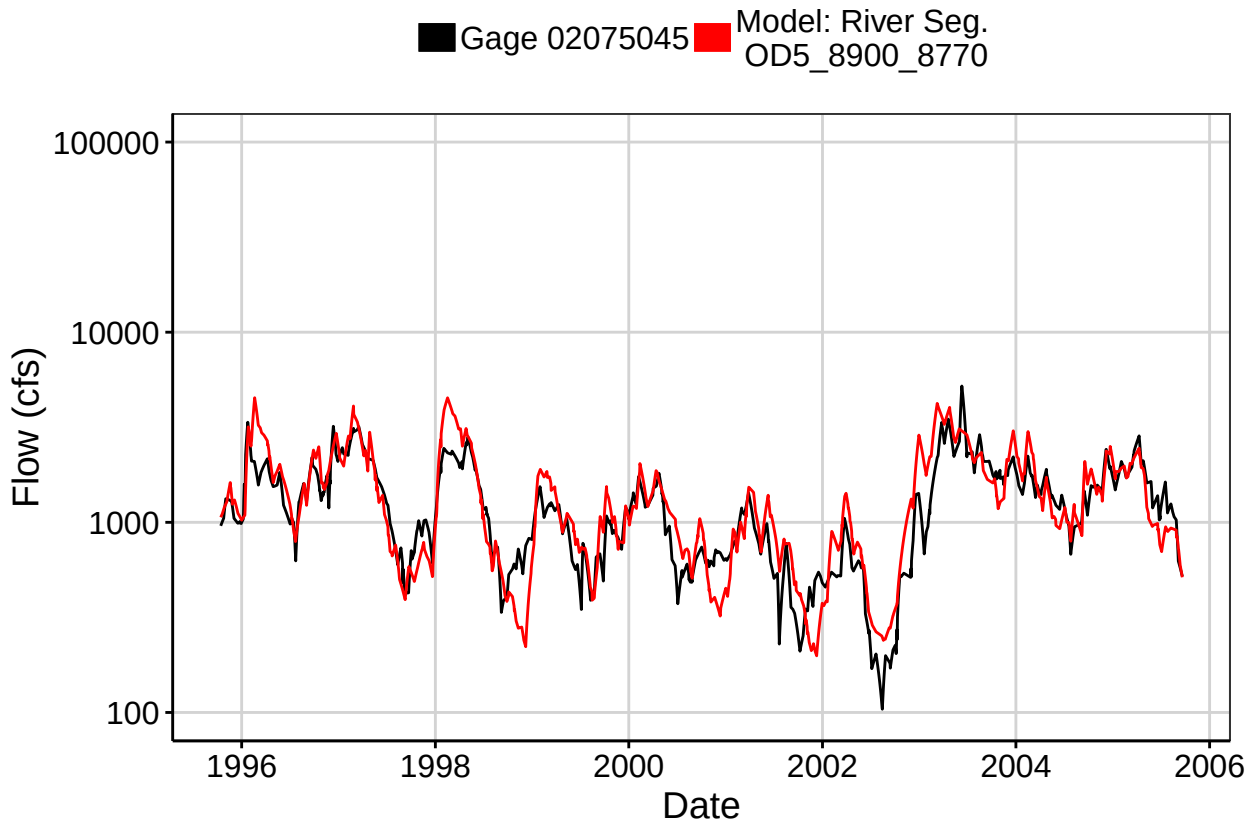


Fig. 5: Combined Baseflow

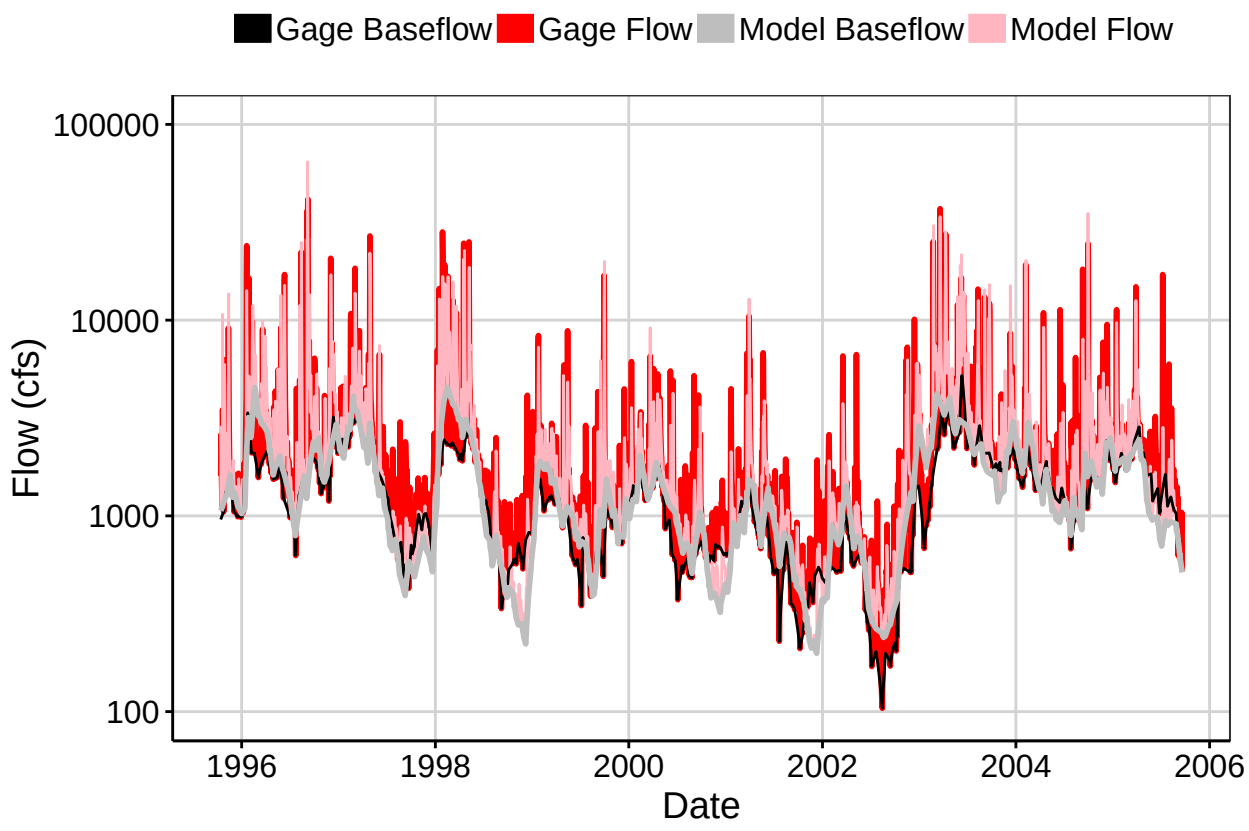


Fig. 6: Largest Error Segment

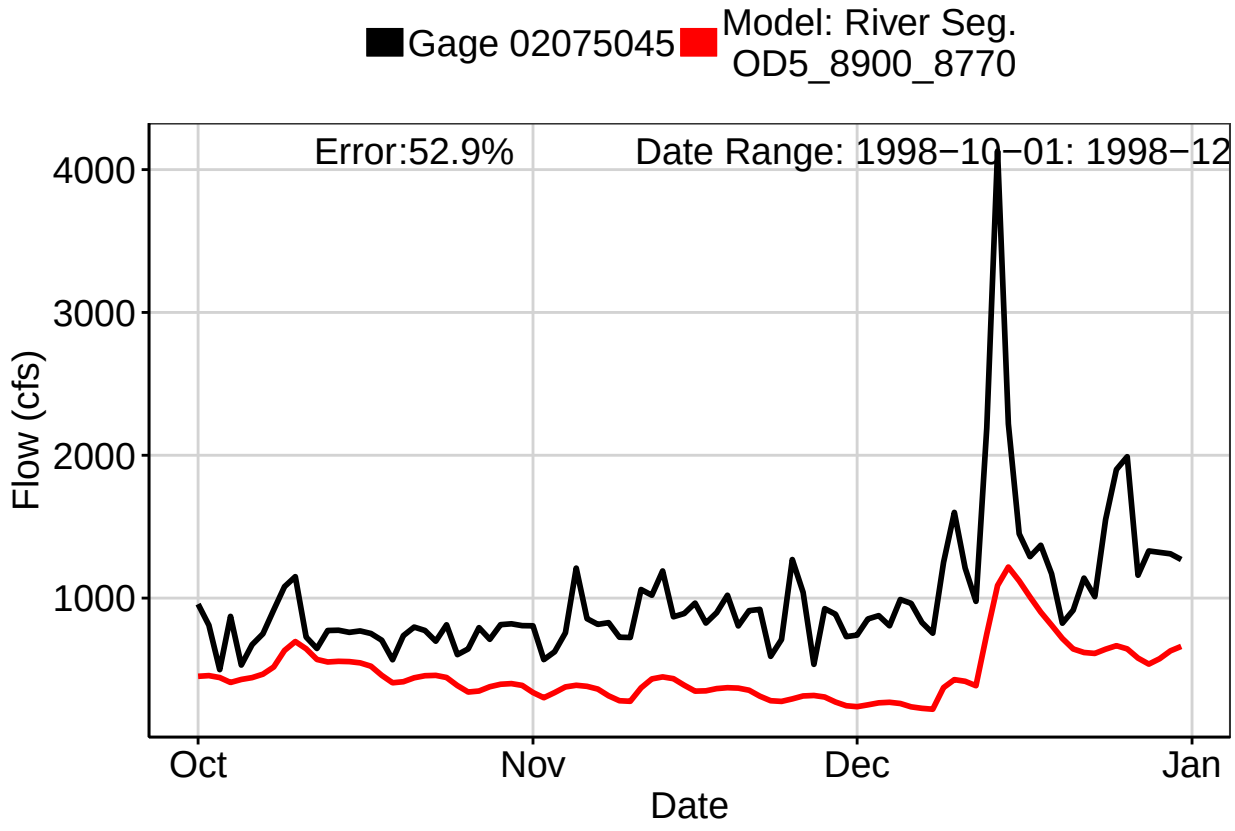


Fig. 7: Second Largest Error Segment

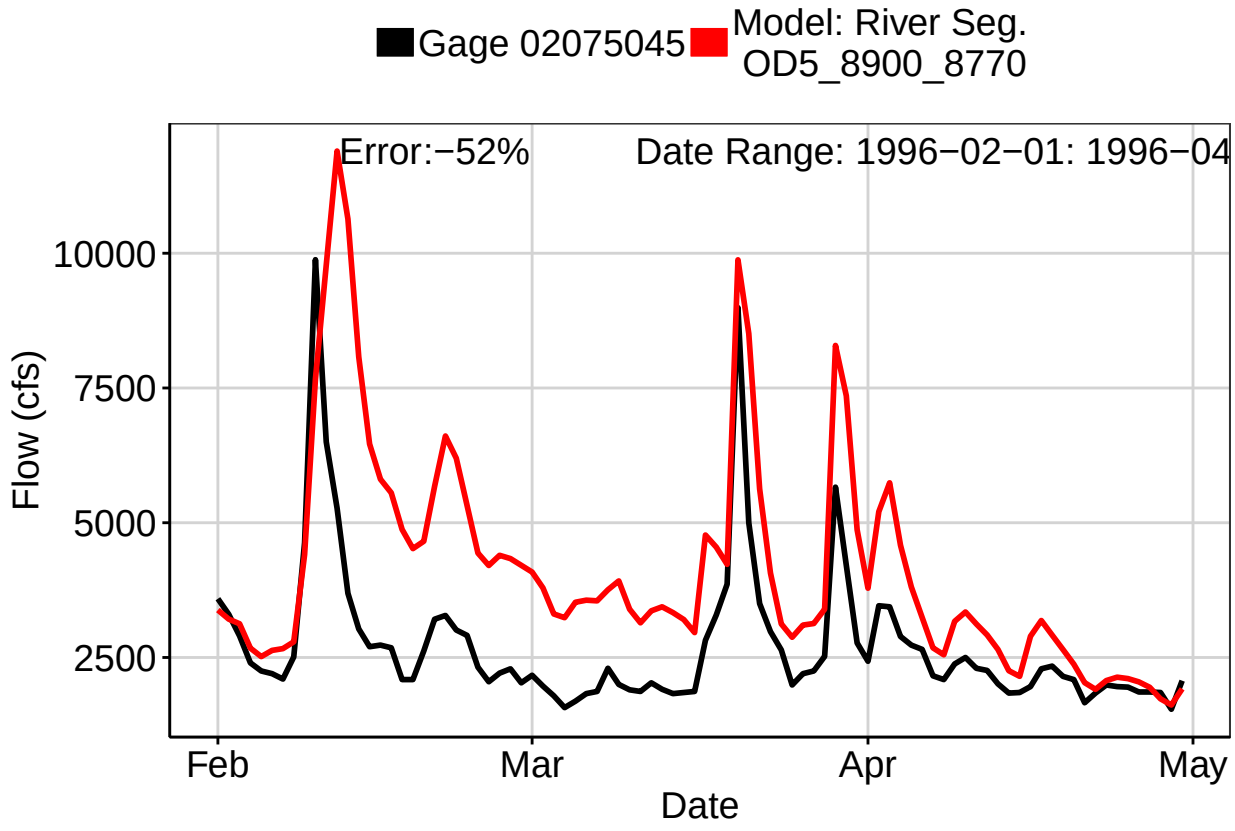


Fig. 8: Third Largest Error Segment

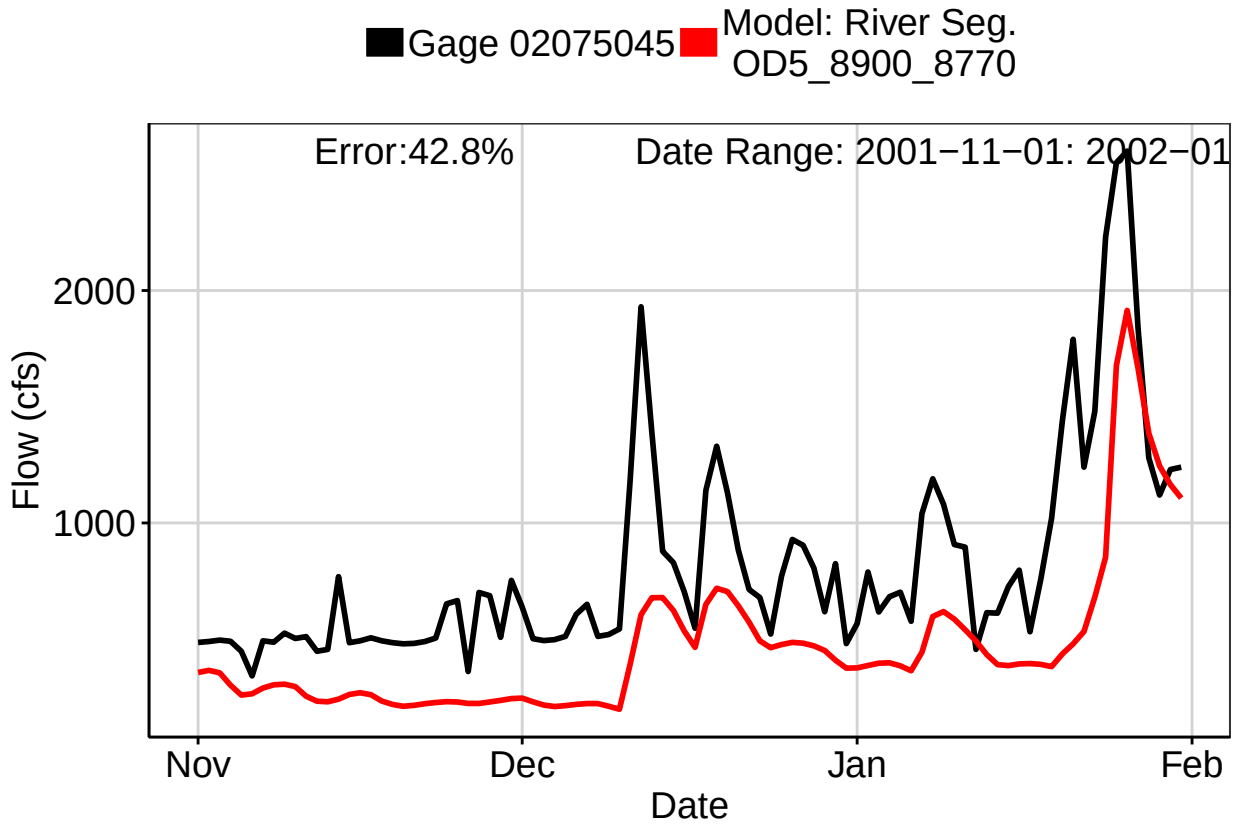


Fig. 9: Residuals Plot