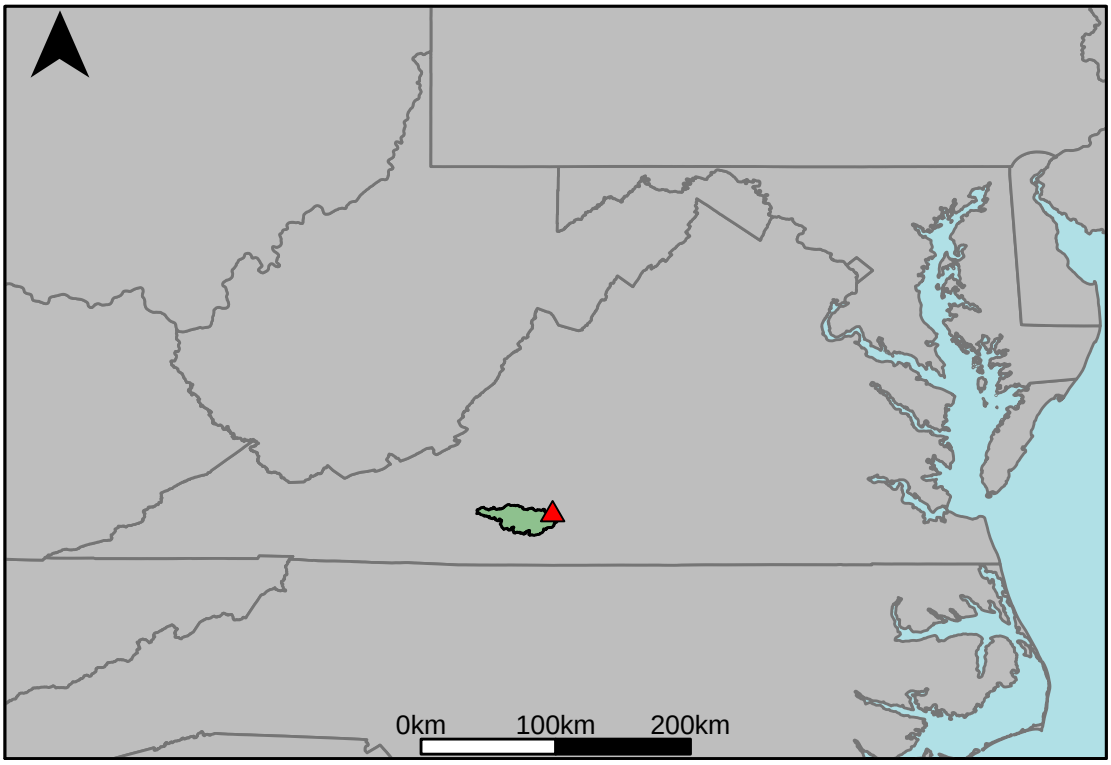
Appendix H.7: USGS Gage 02058400 vs. OR2_8460_8271



This river segment follows part of the flow of the Pigg River, a tributary of the Roanoke River. The gage is located in Pittsylvania County, VA (Lat 3656'45", Long 7931'30") approximately 26 miles northeast of Martinsville, VA. Drainage area is 351 sq. miles. This gage started taking data in 1963 and is still taking data. There is a small amount of diurnal fluctuation that has been recorded but the source is unknown. The average daily discharge error between the model and gage data for the 20 year timespan was 1.52%, with 42.1% of its rolling three month time spans above 20% error.

Table 1: Monthly Low Flows

	USGS Gage	Model	Pct. Error
Jan. Low Flow	152	71.4	-53
Feb. Low Flow	189	99	-47.6
Mar. Low Flow	201	178	-11.4
Apr. Low Flow	215	227	5.58
May Low Flow	282	321	13.8
Jun. Low Flow	319	337	5.64
Jul. Low Flow	304	224	-26.3
Aug. Low Flow	237	173	-27
Sep. Low Flow	185	153	-17.3
Oct. Low Flow	167	106	-36.5
Nov. Low Flow	136	95.7	-29.6
Dec. Low Flow	122	79.4	-34.9

Table 2: Monthly Average Flows

	USGS Gage	Model	Pct. Error
Overall Mean Flow	396	390	-1.52
Jan. Mean Flow	468	477	1.92
Feb. Mean Flow	474	569	20
Mar. Mean Flow	597	736	23.3
Apr. Mean Flow	546	584	6.96
May Mean Flow	388	382	-1.55
Jun. Mean Flow	353	330	-6.52
Jul. Mean Flow	286	217	-24.1
Aug. Mean Flow	255	194	-23.9
Sep. Mean Flow	413	319	-22.8
Oct. Mean Flow	285	240	-15.8
Nov. Mean Flow	341	299	-12.3
Dec. Mean Flow	357	344	-3.64

Table 3: Monthly High Flows

	USGS Gage	Model	Pct. Error
Jan. High Flow	444	228	-48.6
Feb. High Flow	822	920	11.9
Mar. High Flow	879	789	-10.2
Apr. High Flow	1190	1080	-9.24
May High Flow	1710	885	-48.2
Jun. High Flow	2190	2140	-2.28
Jul. High Flow	1330	1400	5.26
Aug. High Flow	755	671	-11.1
Sep. High Flow	502	401	-20.1
Oct. High Flow	620	275	-55.6
Nov. High Flow	450	209	-53.6
Dec. High Flow	679	239	-64.8

Table 4: Period Low Flows

	USGS Gage	Model	Pct. Error
Min. 1 Day Min	17.5	12.8	-26.9
Med. 1 Day Min	105	49.6	-52.8
Min. 3 Day Min	17.9	13.1	-26.8
Med. 3 Day Min	115	51.3	-55.4
Min. 7 Day Min	19.3	13.8	-28.5
Med. 7 Day Min	124	54.5	-56
Min. 30 Day Min	32.6	20.5	-37.1
Med. 30 Day Min	142	70.4	-50.4
Min. 90 Day Min	56.2	42.6	-24.2
Med. 90 Day Min	205	113	-44.9
7Q10	51.5	22.5	-56.3
Year of 90-Day Min. Flow	2002	1999	100
Drought Year Mean	133	107	-19.5
Mean Baseflow	235	231	-1.7

Table 5: Period High Flows

	USGS Gage	Model	Pct. Error
Max. 1 Day Max	34900	13000	-62.8
Med. 1 Day Max	6360	5170	-18.7
Max. 3 Day Max	15100	8660	-42.6
Med. 3 Day Max	3670	3900	6.27
Max. 7 Day Max	6930	4780	-31
Med. 7 Day Max	1870	2070	10.7
Max. 30 Day Max	2300	2310	0.44
Med. 30 Day Max	887	961	8.34
Max. 90 Day Max	1340	1410	5.22
Med. 90 Day Max	561	688	22.6

Table 6: Non-Exceedance Flows

	USGS Gage	Model	Pct. Error
1% Non-Exceedance	56.4	27.1	-52
5% Non-Exceedance	103	49.6	-51.8
50% Non-Exceedance	268	234	-12.7
95% Non-Exceedance	892	1080	21.1
99% Non-Exceedance	2940	3200	8.84
Sept. 10% Non-Exceedance	49.9	92.4	85.2

Fig. 1: Hydrograph

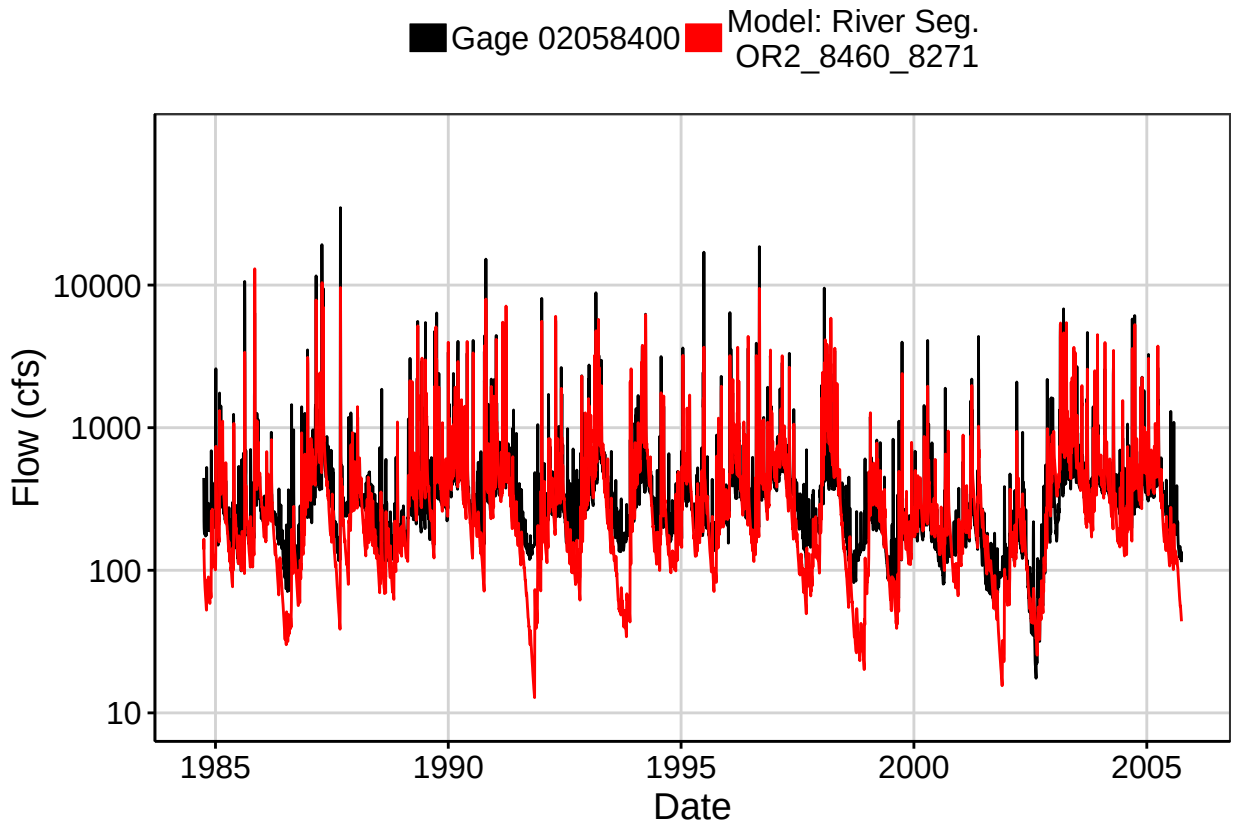


Fig. 2: Zoomed Hydrograph

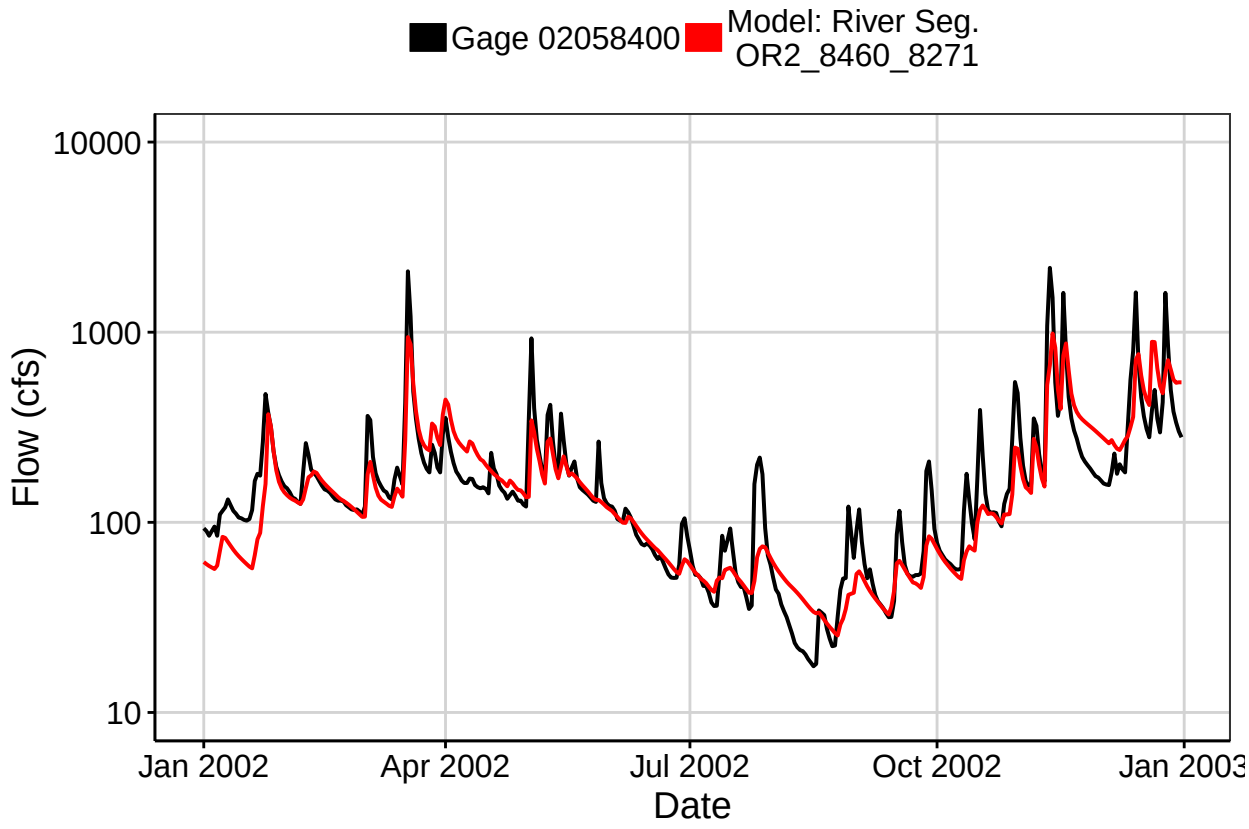


Fig. 3: Flow Exceedance

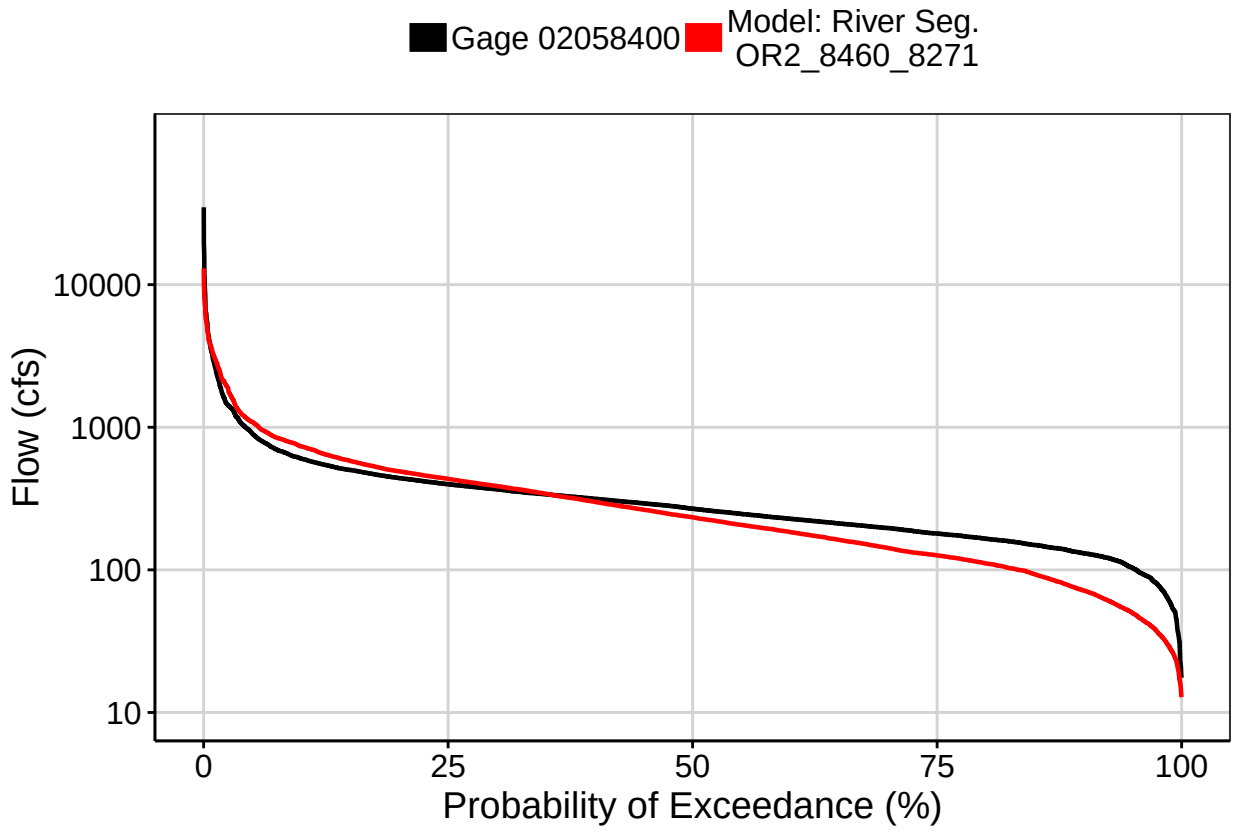


Fig. 4: Baseflow

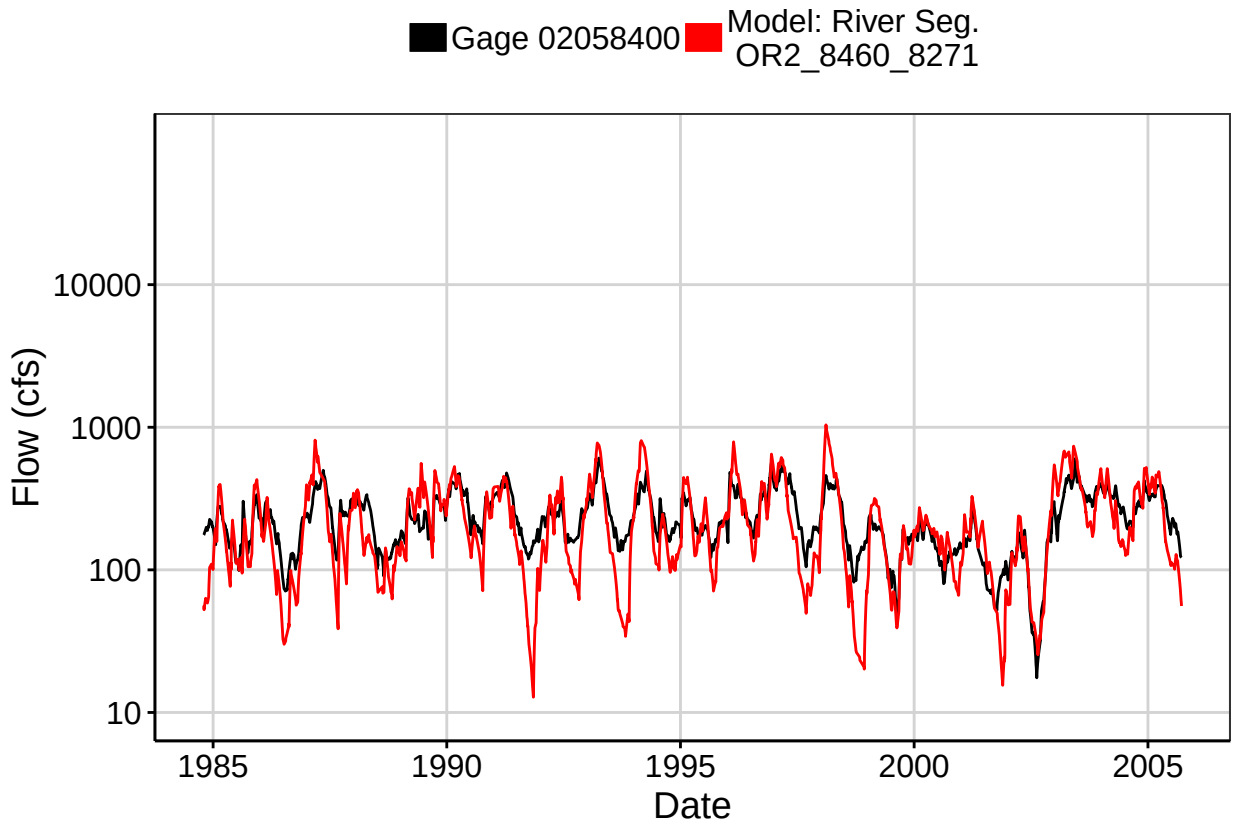


Fig. 5: Combined Baseflow

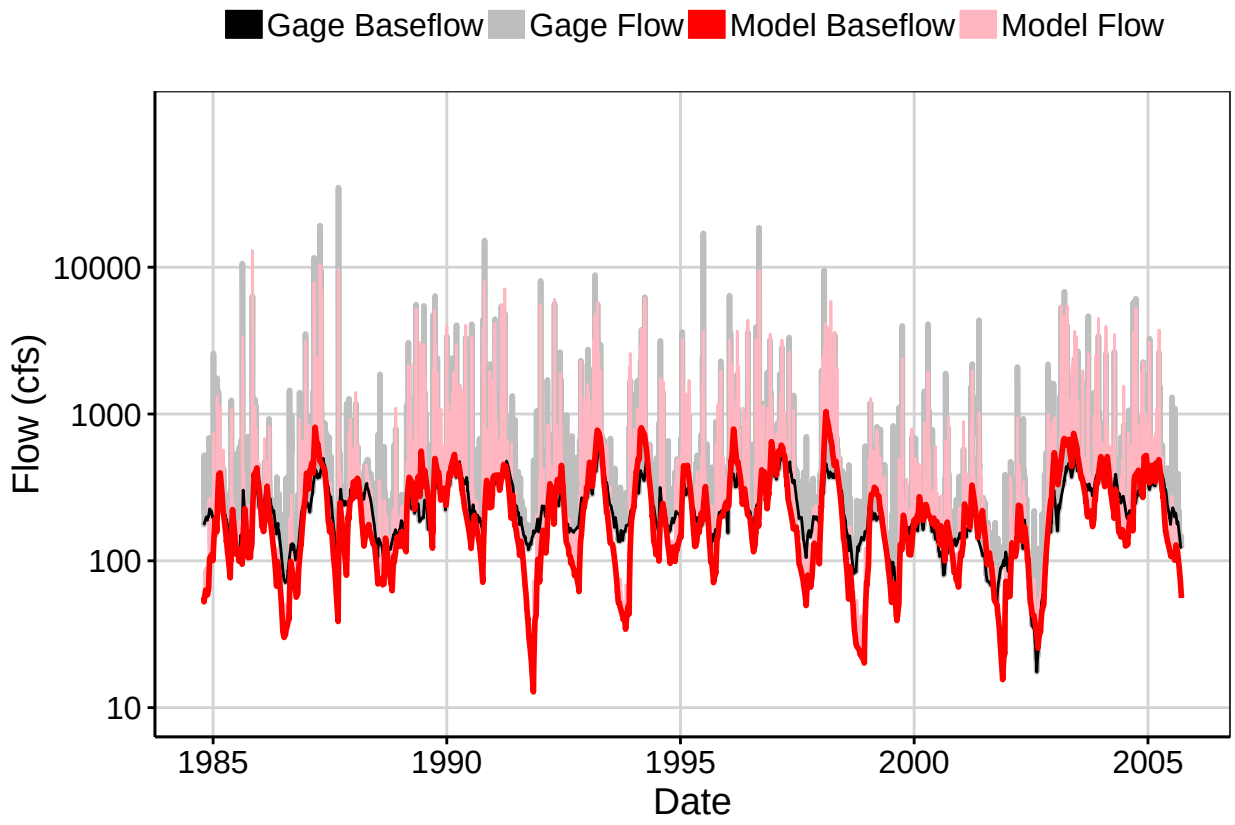


Fig. 6: Largest Error Segment

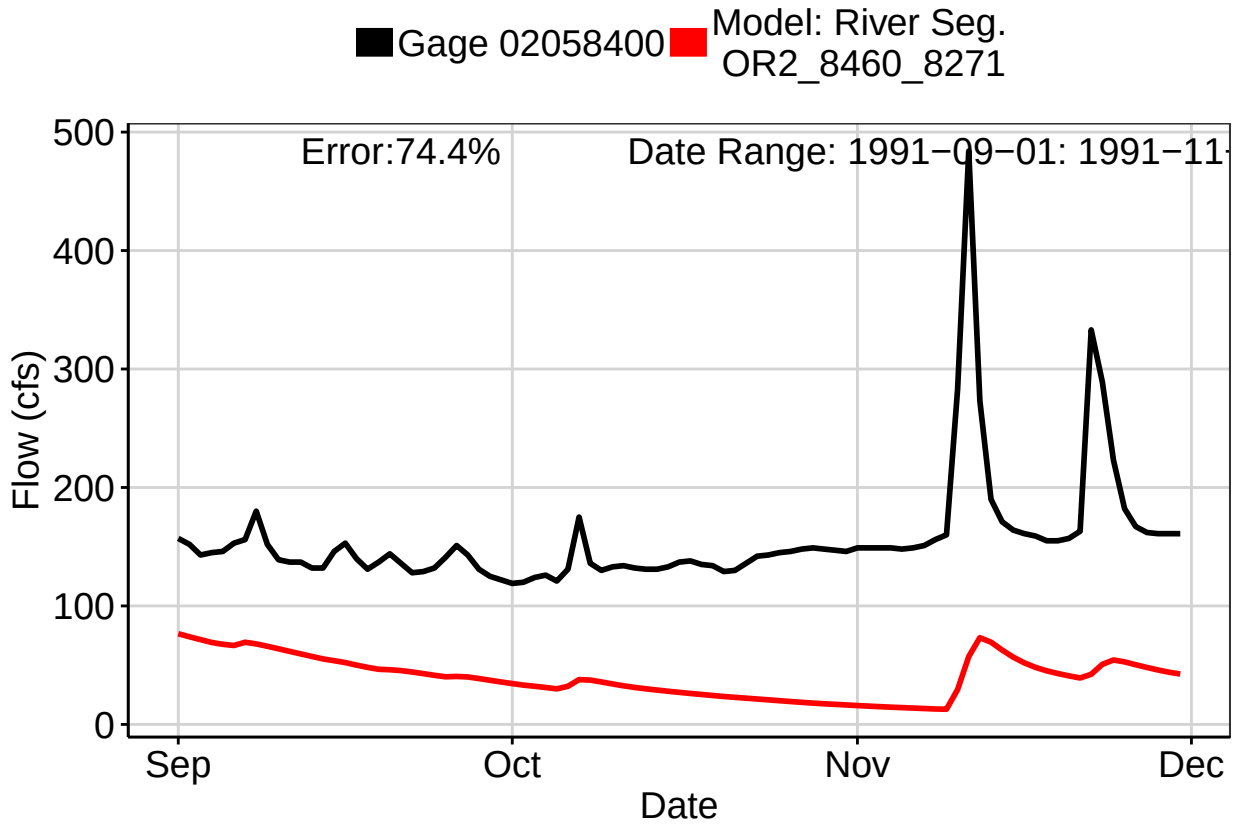


Fig. 7: Second Largest Error Segment

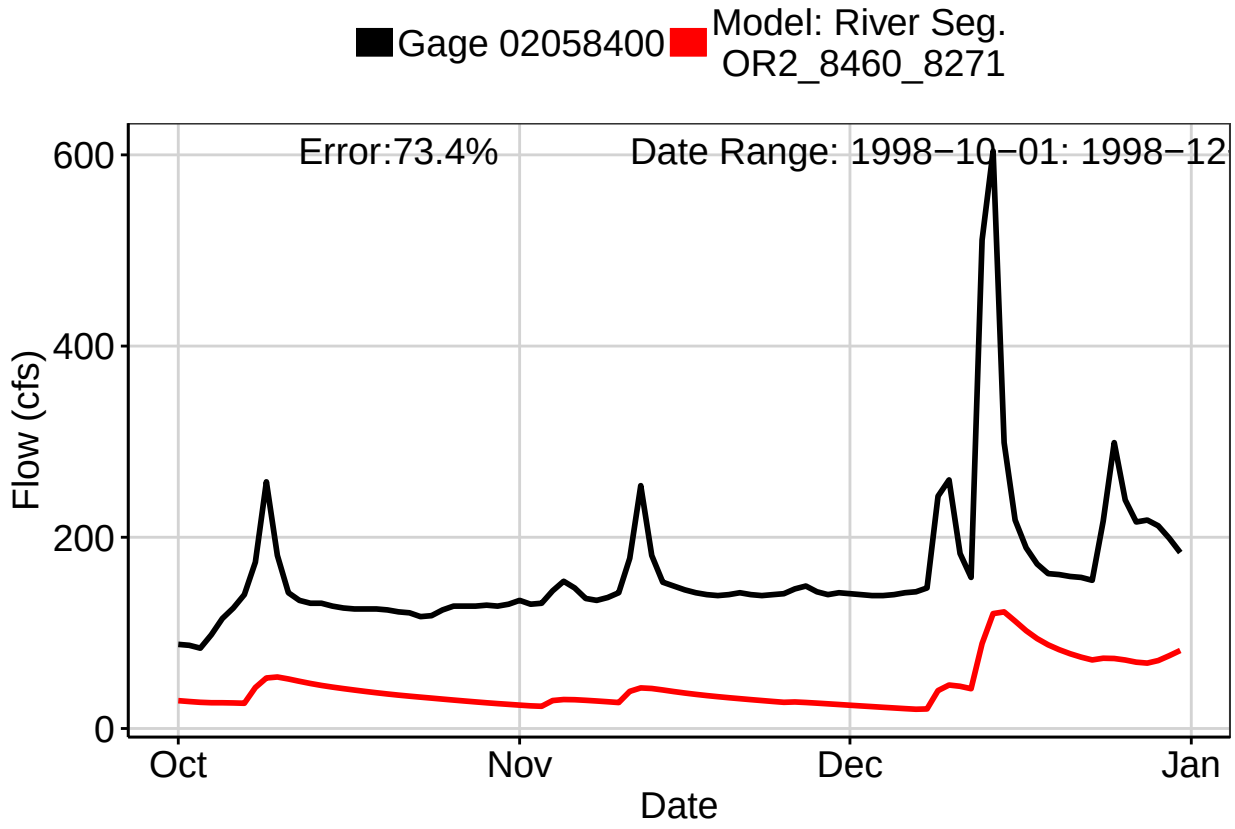


Fig. 8: Third Largest Error Segment

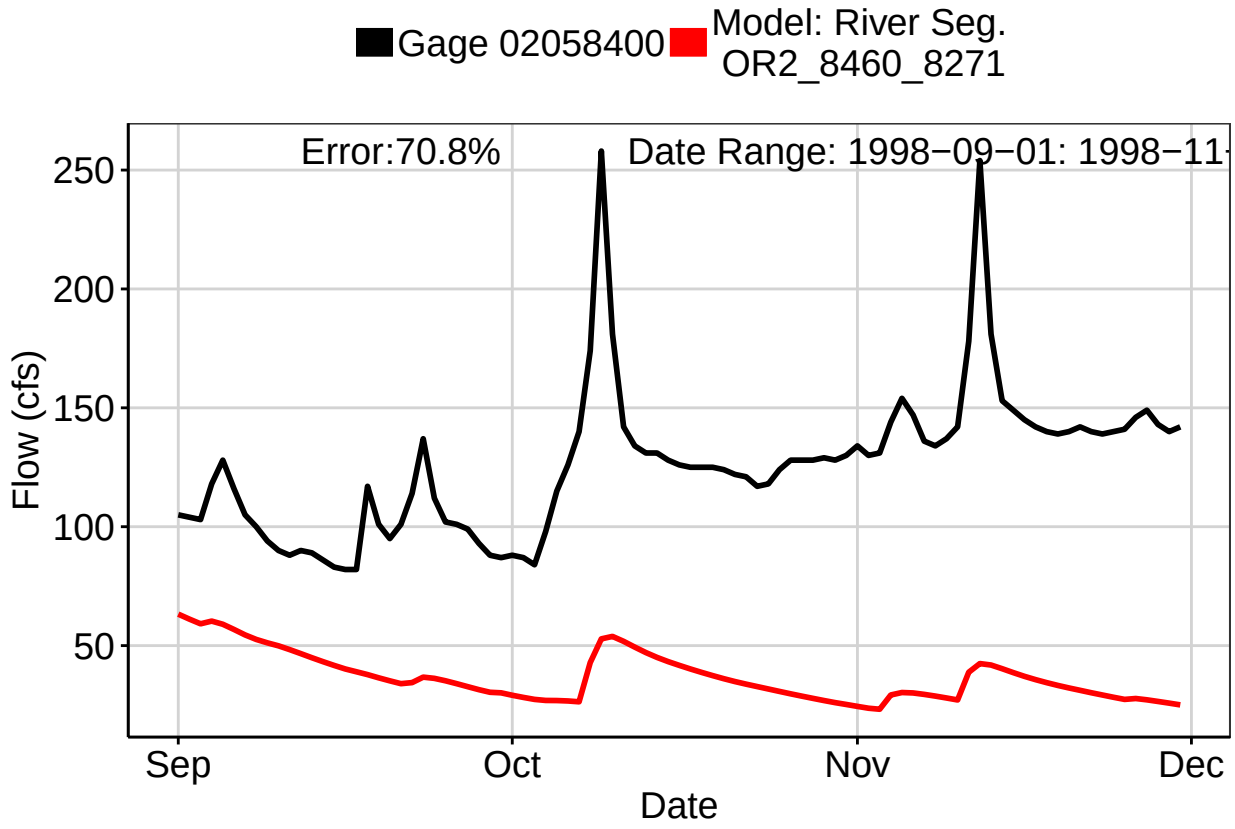


Fig. 9: Residuals Plot