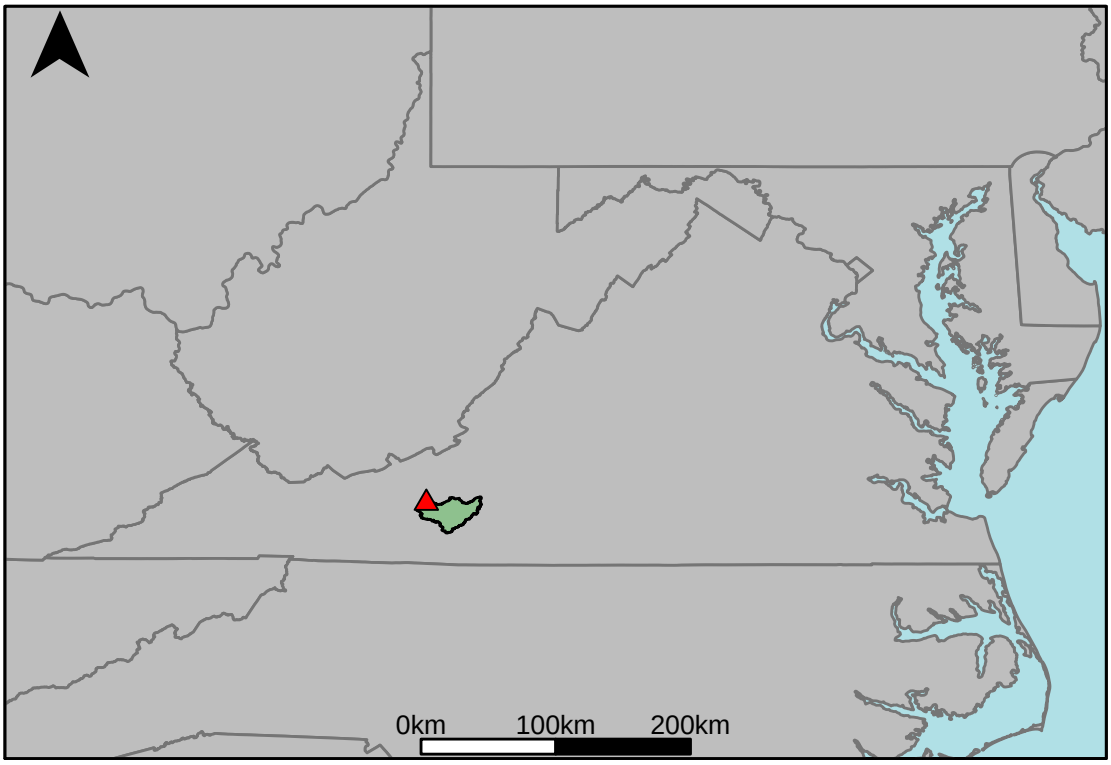
Appendix F.5: USGS Gage 03170000 vs. NR3_8420_8430



This river segment follows part of the flow of the Little River, a tributary of the New River. The gage is located in Pulaski County, VA (Lat 3702'15", Long 8033'25") approximately 6 miles south of Radford, VA. Drainage area is 309 sq. miles. This gage started taking data in 1928 and is still taking data. There are no known anthropogenic alterations in this area that would affect the flow conditions. The average daily discharge error between the model and gage data for the 20 year timespan was -1.4%, with 39.6% of its rolling three month time spans above 20% error.

Table 1: Monthly Low Flows

	USGS Gage	Model	Pct. Error
Jan. Low Flow	133	78.9	-40.7
Feb. Low Flow	150	112	-25.3
Mar. Low Flow	178	186	4.49
Apr. Low Flow	130	194	49.2
May Low Flow	200	320	60
Jun. Low Flow	276	349	26.4
Jul. Low Flow	301	236	-21.6
Aug. Low Flow	279	202	-27.6
Sep. Low Flow	218	166	-23.9
Oct. Low Flow	169	121	-28.4
Nov. Low Flow	142	107	-24.6
Dec. Low Flow	122	91.7	-24.8

Table 2: Monthly Average Flows

	USGS Gage	Model	Pct. Error
Overall Mean Flow	357	362	1.4
Jan. Mean Flow	398	440	10.6
Feb. Mean Flow	471	566	20.2
Mar. Mean Flow	532	640	20.3
Apr. Mean Flow	500	551	10.2
May Mean Flow	399	372	-6.77
Jun. Mean Flow	358	338	-5.59
Jul. Mean Flow	257	212	-17.5
Aug. Mean Flow	232	196	-15.5
Sep. Mean Flow	280	246	-12.1
Oct. Mean Flow	233	209	-10.3
Nov. Mean Flow	318	281	-11.6
Dec. Mean Flow	318	305	-4.09

Table 3: Monthly High Flows

	USGS Gage	Model	Pct. Error
Jan. High Flow	394	197	-50
Feb. High Flow	763	472	-38.1
Mar. High Flow	695	461	-33.7
Apr. High Flow	925	949	2.59
May High Flow	1000	901	-9.9
Jun. High Flow	1560	1550	-0.64
Jul. High Flow	895	1040	16.2
Aug. High Flow	865	707	-18.3
Sep. High Flow	594	435	-26.8
Oct. High Flow	471	341	-27.6
Nov. High Flow	399	219	-45.1
Dec. High Flow	446	239	-46.4

Table 4: Period Low Flows

	USGS Gage	Model	Pct. Error
Min. 1 Day Min	31	10.8	-65.2
Med. 1 Day Min	95	50.9	-46.4
Min. 3 Day Min	31.3	11	-64.9
Med. 3 Day Min	98.5	52.4	-46.8
Min. 7 Day Min	32	11.6	-63.7
Med. 7 Day Min	105	56.7	-46
Min. 30 Day Min	52.9	18	-66
Med. 30 Day Min	133	77.3	-41.9
Min. 90 Day Min	75.4	46.8	-37.9
Med. 90 Day Min	189	124	-34.4
7Q10	59.2	25.9	-56.2
Year of 90-Day Min. Flow	2002	2002	0
Drought Year Mean	148	132	-10.8
Mean Baseflow	235	236	0.43

Table 5: Period High Flows

	USGS Gage	Model	Pct. Error
Max. 1 Day Max	9330	9530	2.14
Med. 1 Day Max	3760	4090	8.78
Max. 3 Day Max	4810	5540	15.2
Med. 3 Day Max	2340	2780	18.8
Max. 7 Day Max	2790	3510	25.8
Med. 7 Day Max	1500	1750	16.7
Max. 30 Day Max	1480	1890	27.7
Med. 30 Day Max	785	922	17.5
Max. 90 Day Max	1030	1320	28.2
Med. 90 Day Max	587	634	8.01

Table 6: Non-Exceedance Flows

	USGS Gage	Model	Pct. Error
1% Non-Exceedance	73	33.5	-54.1
5% Non-Exceedance	104	62.9	-39.5
50% Non-Exceedance	261	236	-9.58
95% Non-Exceedance	804	979	21.8
99% Non-Exceedance	1860	2180	17.2
Sept. 10% Non-Exceedance	58.5	101	72.6

Fig. 1: Hydrograph

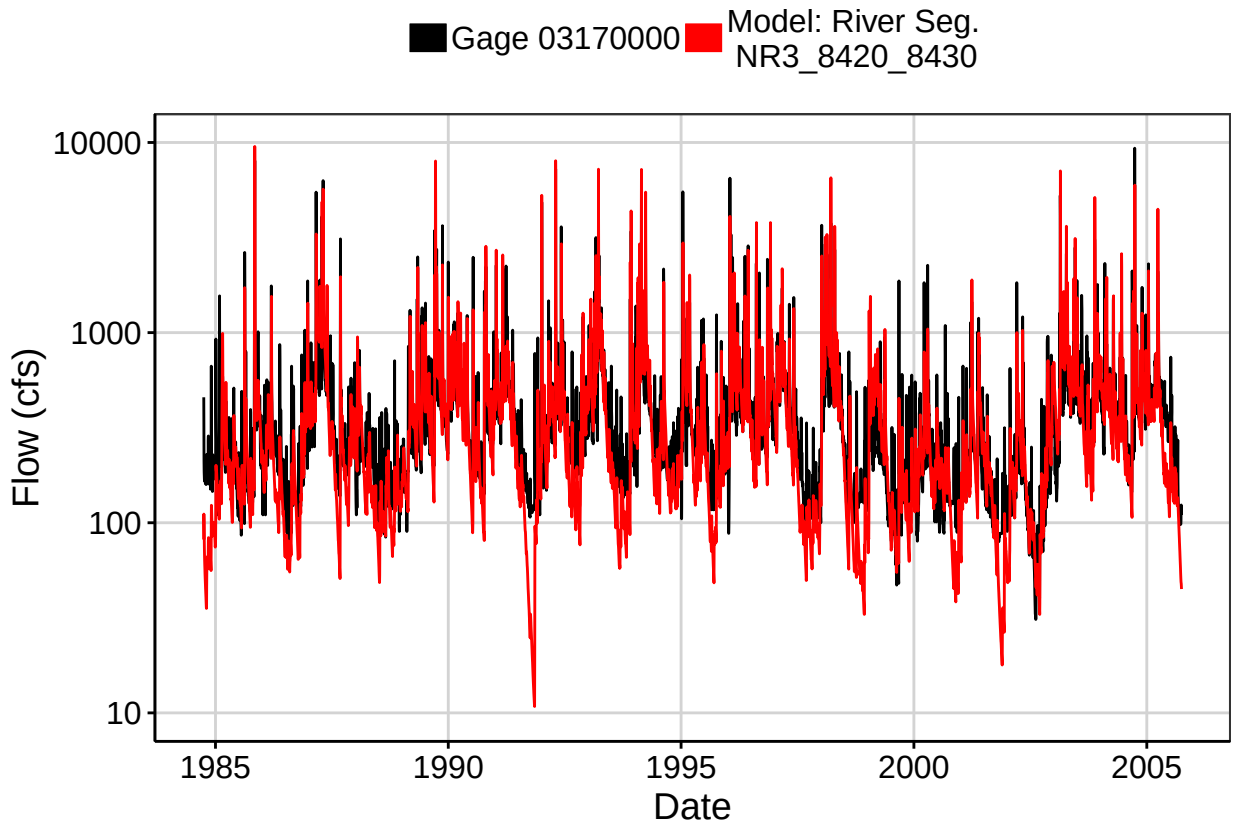


Fig. 2: Zoomed Hydrograph

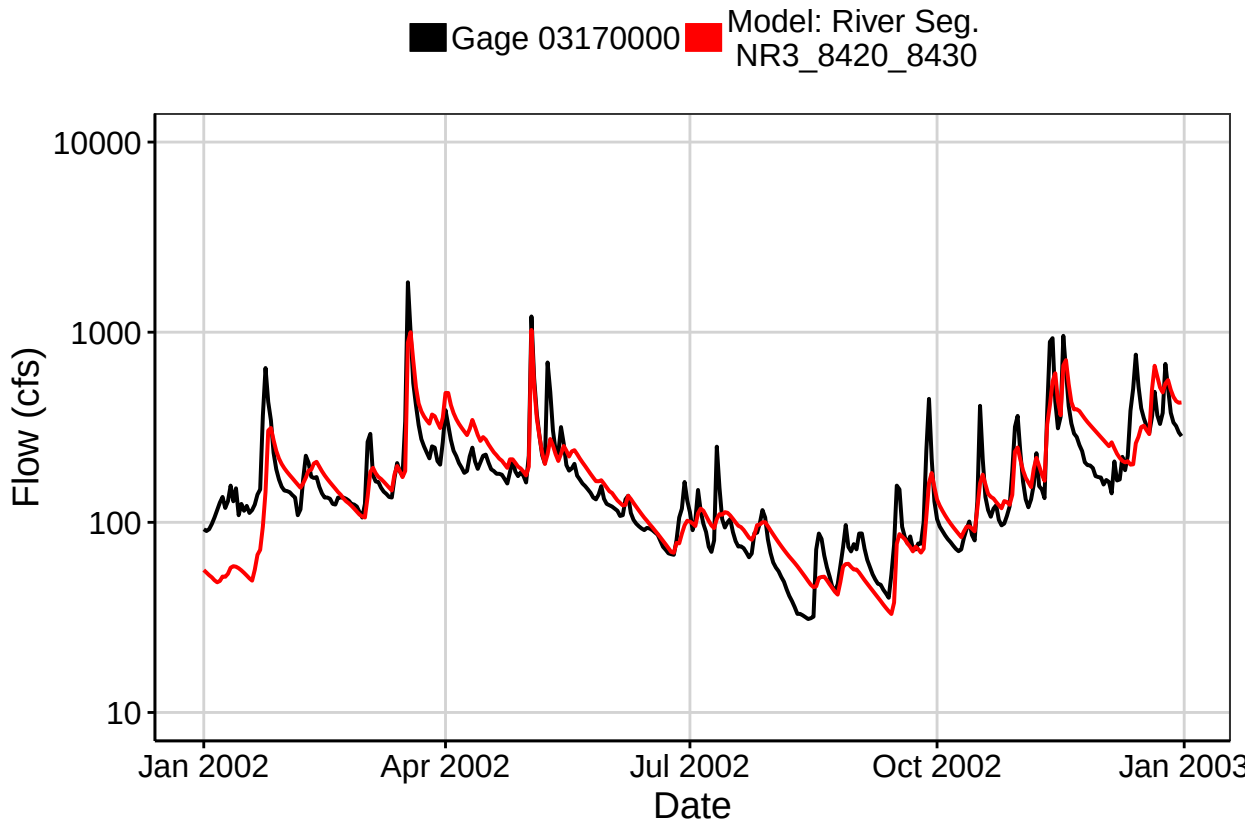


Fig. 3: Flow Exceedance

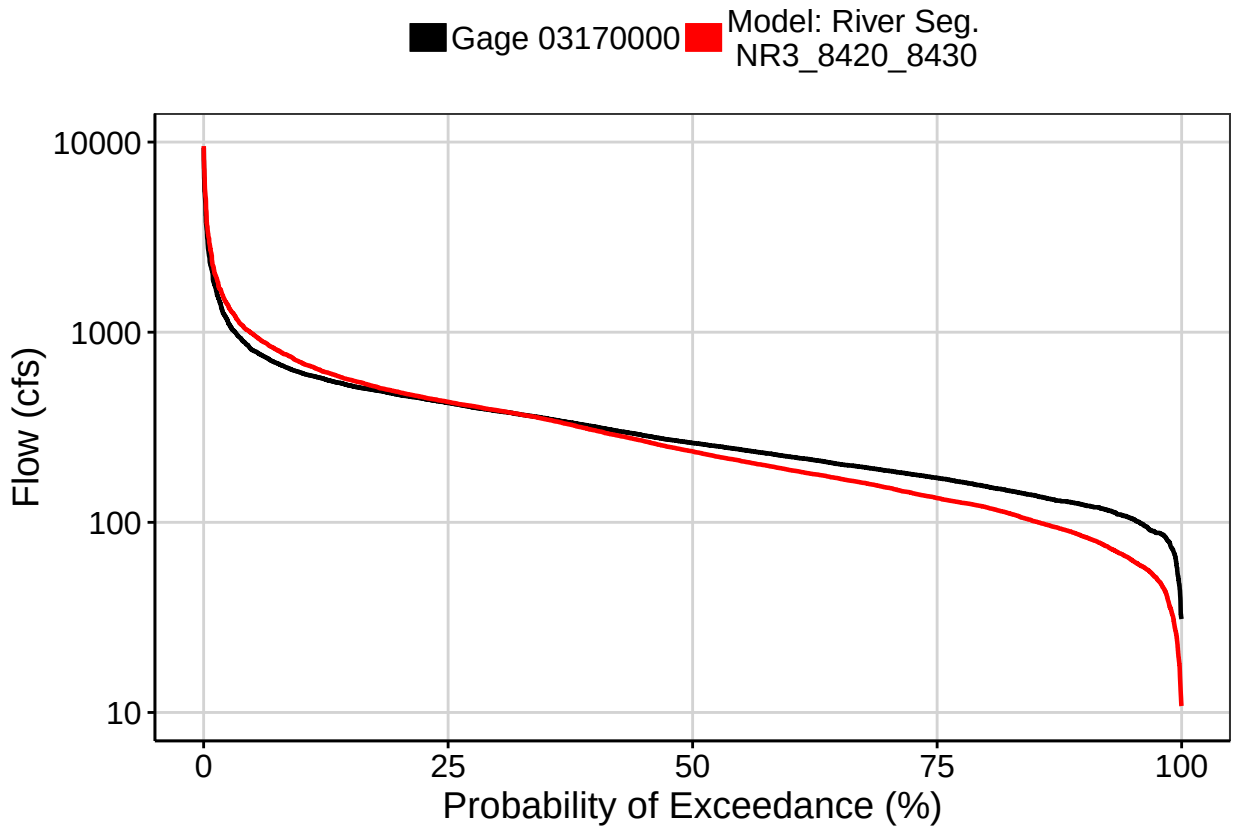


Fig. 4: Baseflow

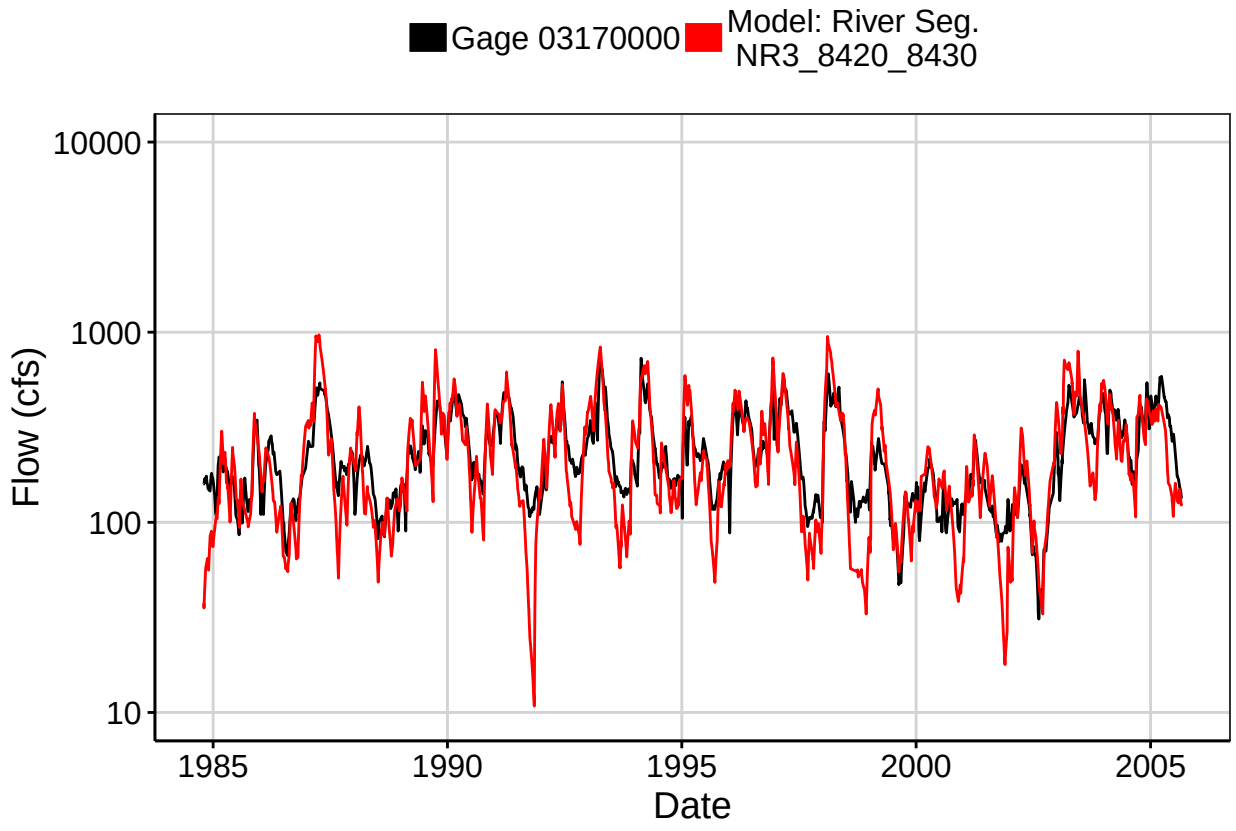


Fig. 5: Combined Baseflow

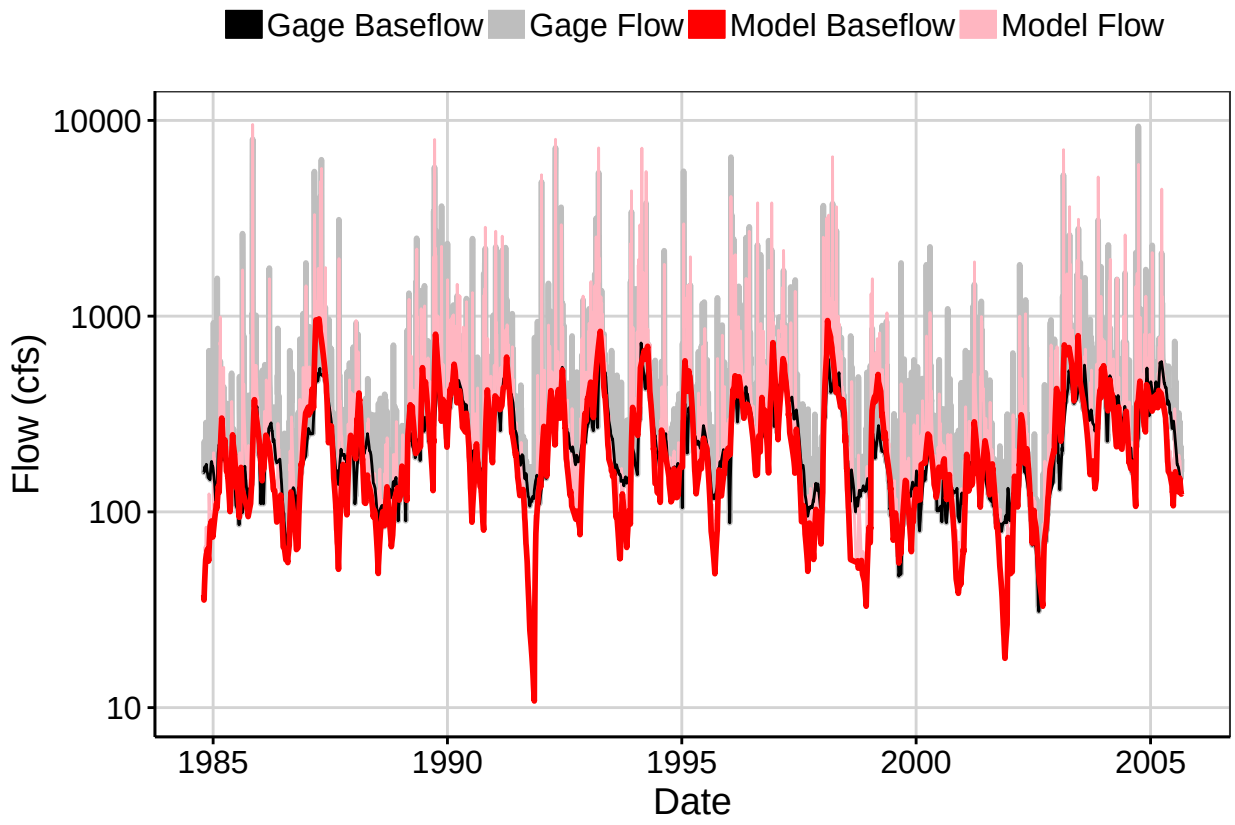


Fig. 6: Largest Error Segment

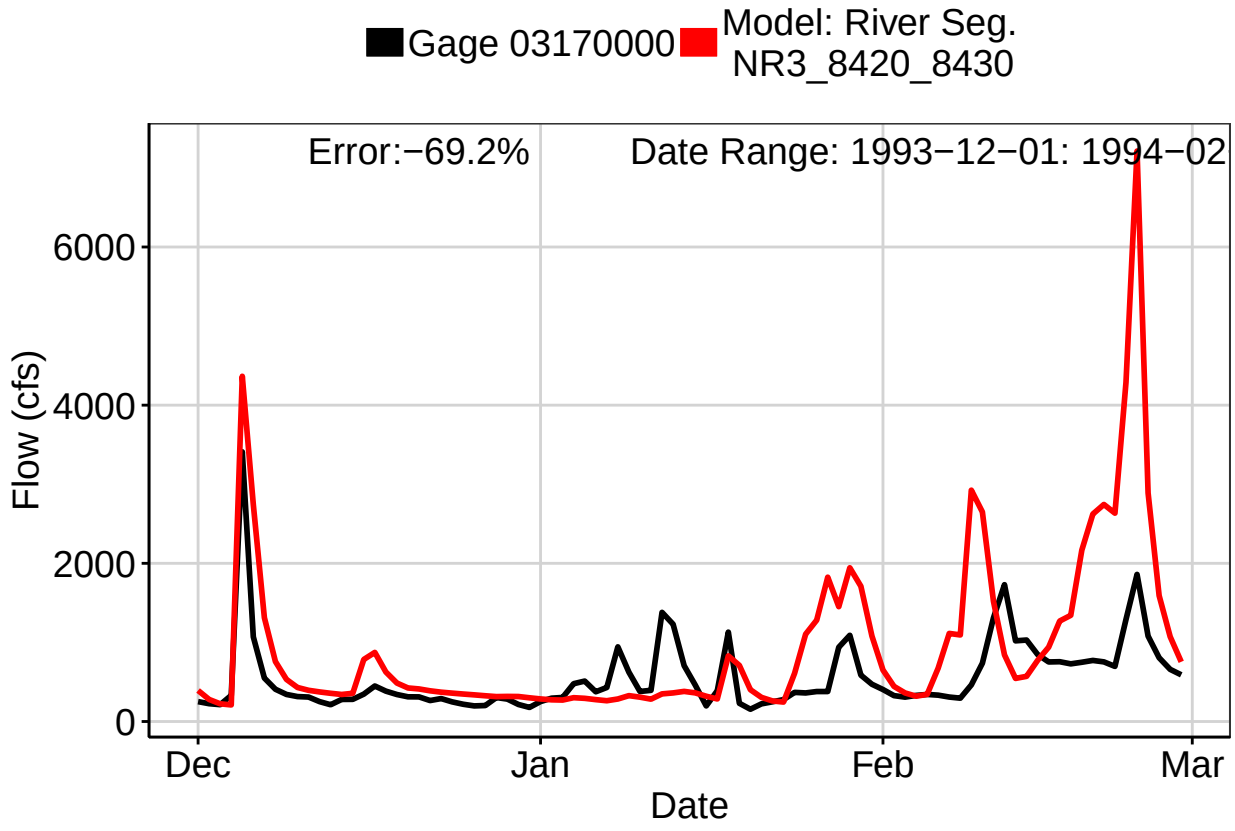


Fig. 7: Second Largest Error Segment

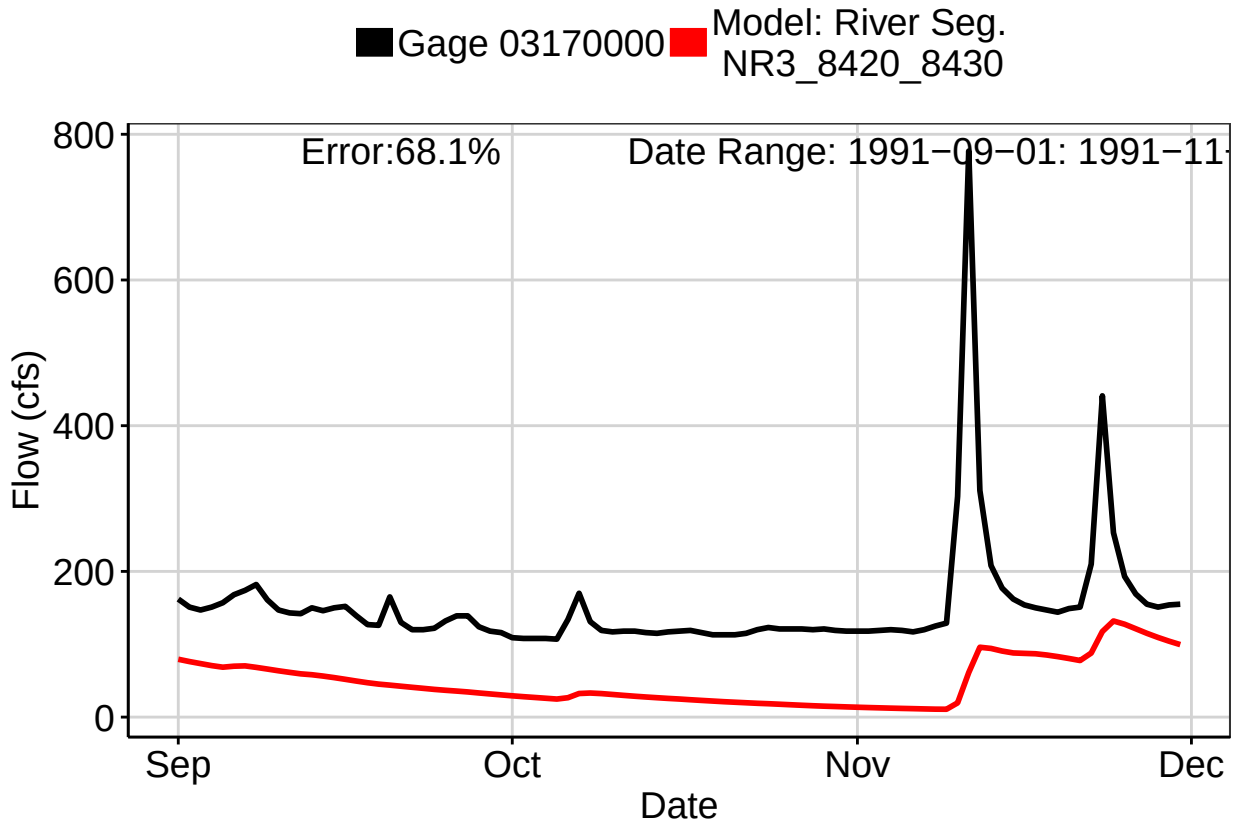


Fig. 8: Third Largest Error Segment

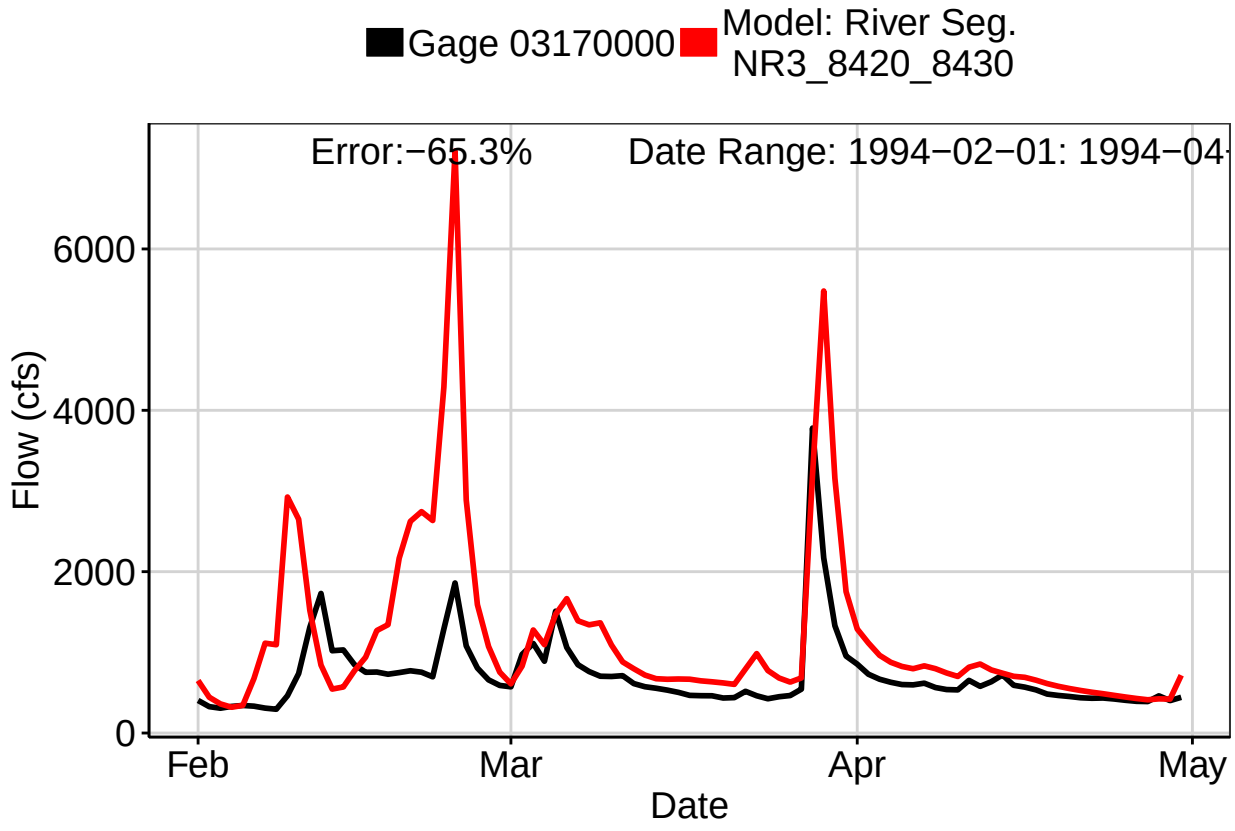


Fig. 9: Residuals Plot