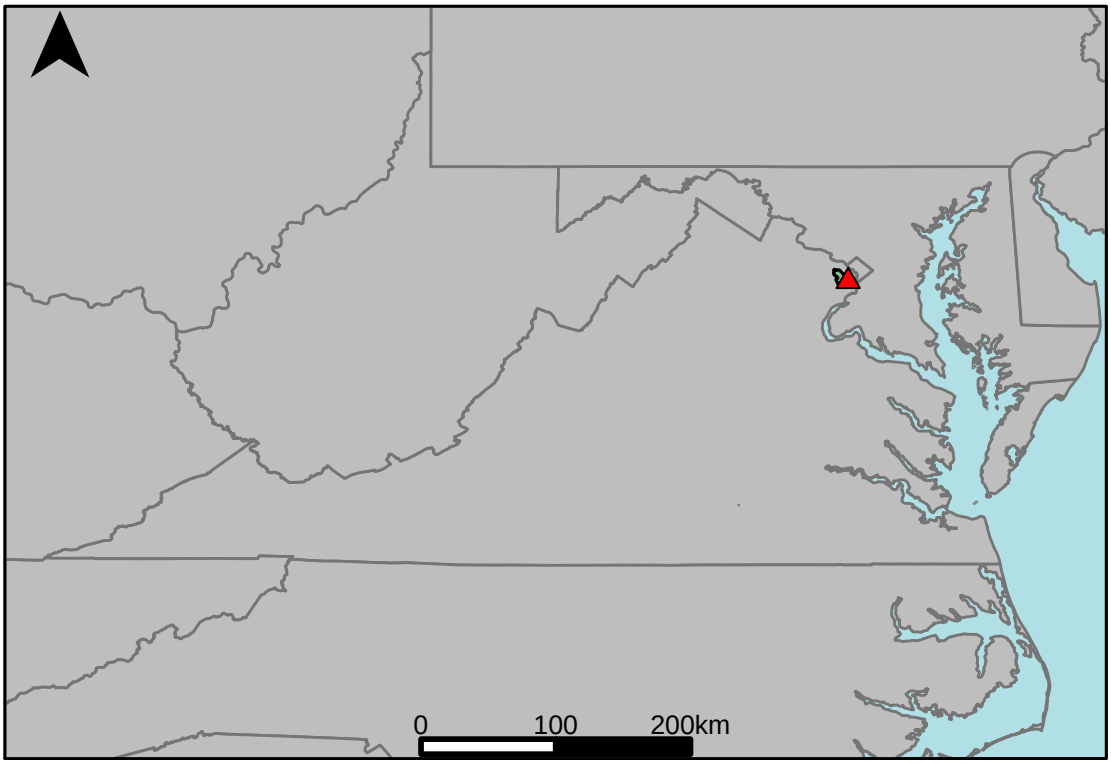
Appendix B.24: USGS Gage 01653000 vs. PL0_5000_0001 Lower Potomac River



This river segment follows part of the flow of the Cameron Run, a tributary of the Potomac. The gage is located in Alexandria County (Lat. 38°48'23.4", Long. -77°06'34.9"), approximately 1.2 miles southwest of Alexandria, VA. Drainage area is 33.9 sq. miles. This gage started taking data in 1955 and is still taking data. There has been some regulation by Lake Barcroft, formerly Alexandria Reservoir, on Holmes Run 3.6 mi upstream. The average daily discharge error between the model and gage data for the 20 year timespan was -15.4%, with 44.4% of its rolling three month time spans above 20% error.

Table 1: Monthly Low Flows

	USGS Gage	Model	Pct. Error
Jan. Low Flow	4.3	1.66	-61.4
Feb. Low Flow	7.6	2.96	-61.1
Mar. Low Flow	8.2	6.64	-19
Apr. Low Flow	9.6	11	14.6
May Low Flow	12.6	13.8	9.52
Jun. Low Flow	12	12	0
Jul. Low Flow	14	10.5	-25
Aug. Low Flow	11	6.45	-41.4
Sep. Low Flow	7	3.86	-44.9
Oct. Low Flow	6.6	2.03	-69.2
Nov. Low Flow	4.7	1.72	-63.4
Dec. Low Flow	4	1.65	-58.8

Table 2: Monthly Average Flows

	USGS Gage	Model	Pct. Error
Overall Mean Flow	38.3	44.2	15.4
Jan. Mean Flow	42.8	56.1	31.1
Feb. Mean Flow	41.7	58	39.1
Mar. Mean Flow	57.4	74	28.9
Apr. Mean Flow	42.1	47.3	12.4
May Mean Flow	43.7	47.8	9.38
Jun. Mean Flow	34.4	33.8	-1.74
Jul. Mean Flow	33.1	32	-3.32
Aug. Mean Flow	27.2	25.9	-4.78
Sep. Mean Flow	36	37.9	5.28
Oct. Mean Flow	27.2	29.7	9.19
Nov. Mean Flow	35.7	41.6	16.5
Dec. Mean Flow	38.6	46.8	21.2

Table 3: Monthly High Flows

	USGS Gage	Model	Pct. Error
Jan. High Flow	145	160	10.3
Feb. High Flow	300	323	7.67
Mar. High Flow	215	229	6.51
Apr. High Flow	337	336	-0.3
May High Flow	189	195	3.17
Jun. High Flow	341	377	10.6
Jul. High Flow	239	279	16.7
Aug. High Flow	206	244	18.4
Sep. High Flow	190	210	10.5
Oct. High Flow	162	296	82.7
Nov. High Flow	201	254	26.4
Dec. High Flow	200	275	37.5

Table 4: Period Low Flows

	USGS Gage	Model	Pct. Error
Min. 1 Day Min	1	0	-100
Med. 1 Day Min	3.4	0.65	-80.9
Min. 3 Day Min	1	0	-99.9
Med. 3 Day Min	3.67	0.73	-80.2
Min. 7 Day Min	1.07	0.01	-99.2
Med. 7 Day Min	3.96	1.03	-74
Min. 30 Day Min	2.52	0.86	-66
Med. 30 Day Min	7.11	4.2	-40.9
Min. 90 Day Min	8.66	7.63	-11.9
Med. 90 Day Min	21.4	18.2	-15
7Q10	1.91	0.08	-96
Year of 90-Day Min. Flow	2002	1999	100
Drought Year Mean	15.6	17.5	12.2
Mean Baseflow	11	10.1	-8.18

Table 5: Period High Flows

	USGS Gage	Model	Pct. Error
Max. 1 Day Max	1330	1910	43.6
Med. 1 Day Max	745	865	16.1
Max. 3 Day Max	599	916	52.9
Med. 3 Day Max	331	385	16.3
Max. 7 Day Max	306	467	52.6
Med. 7 Day Max	204	234	14.7
Max. 30 Day Max	141	200	41.8
Med. 30 Day Max	99	112	13.1
Max. 90 Day Max	95.8	135	40.9
Med. 90 Day Max	63.1	76	20.4

Table 6: Non-Exceedance Flows

	USGS Gage	Model	Pct. Error
1% Non-Exceedance	2.39	0.27	-88.7
5% Non-Exceedance	4	1.17	-70.8
50% Non-Exceedance	16	15.9	-0.62
95% Non-Exceedance	150	184	22.7
99% Non-Exceedance	389	416	6.94
Sept. 10% Non-Exceedance	3.14	0.78	-75.3

Fig. 1: Hydrograph

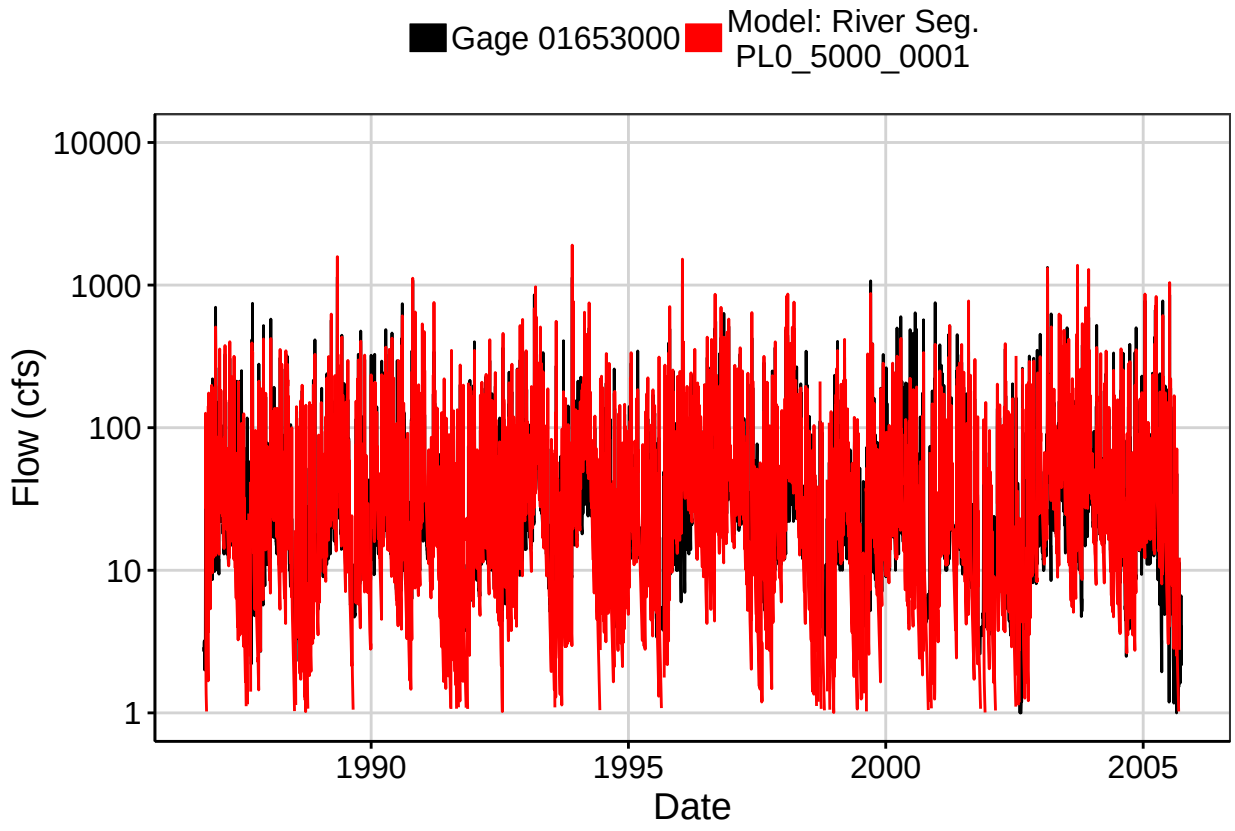


Fig. 2: Zoomed Hydrograph

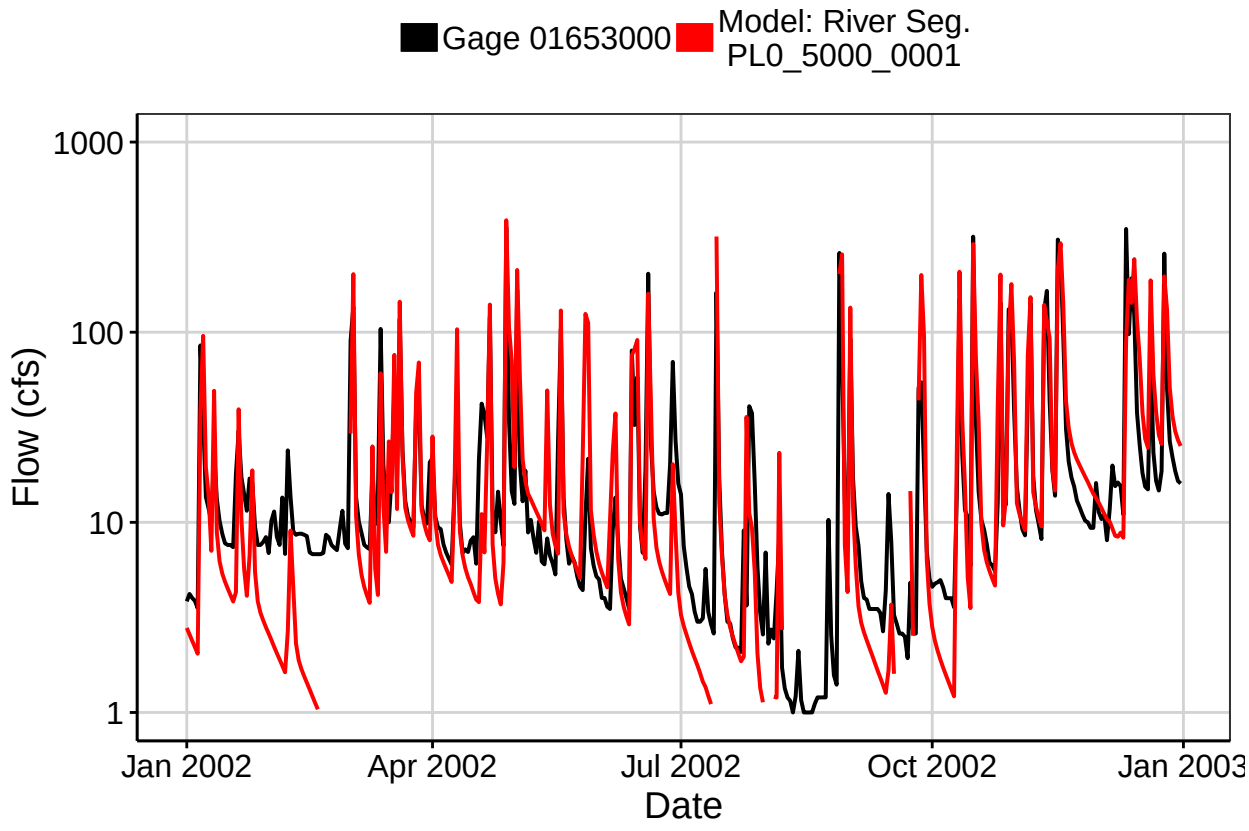


Fig. 3: Flow Exceedance

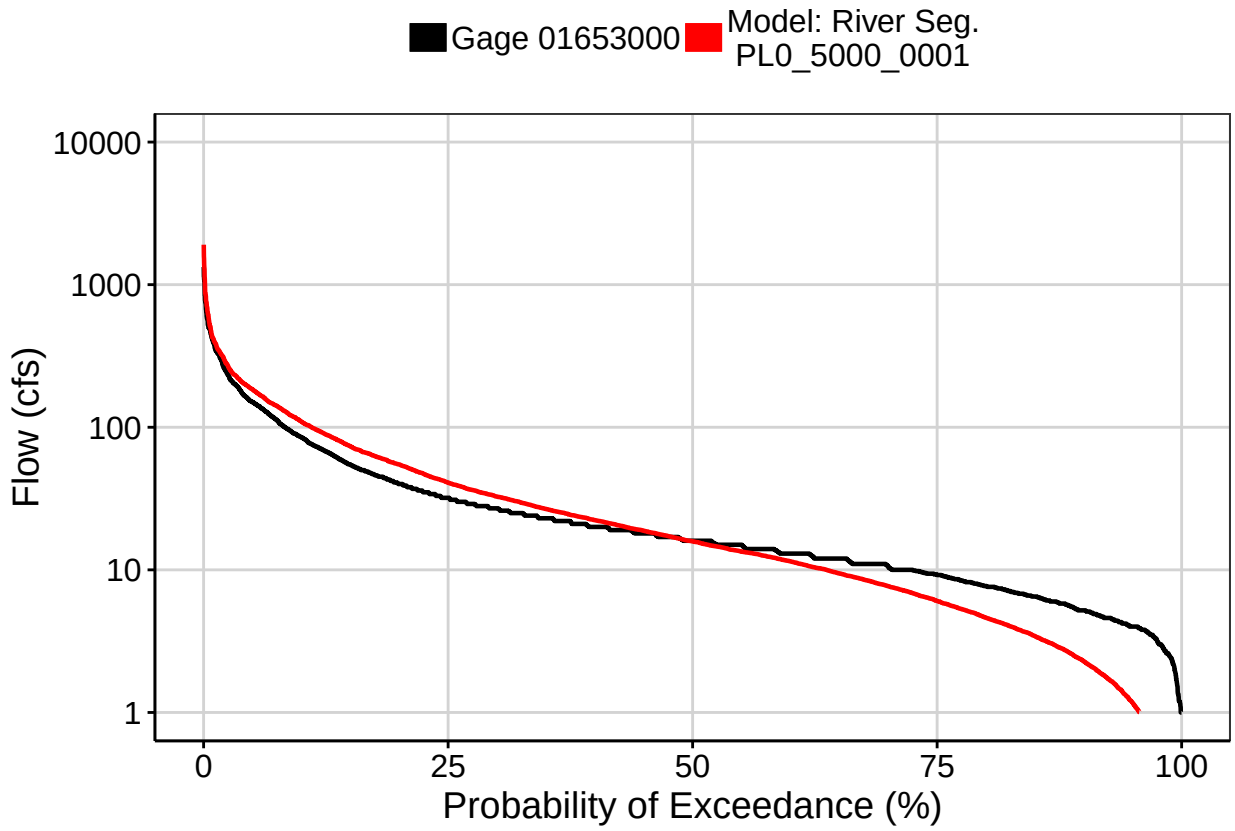


Fig. 4: Baseflow

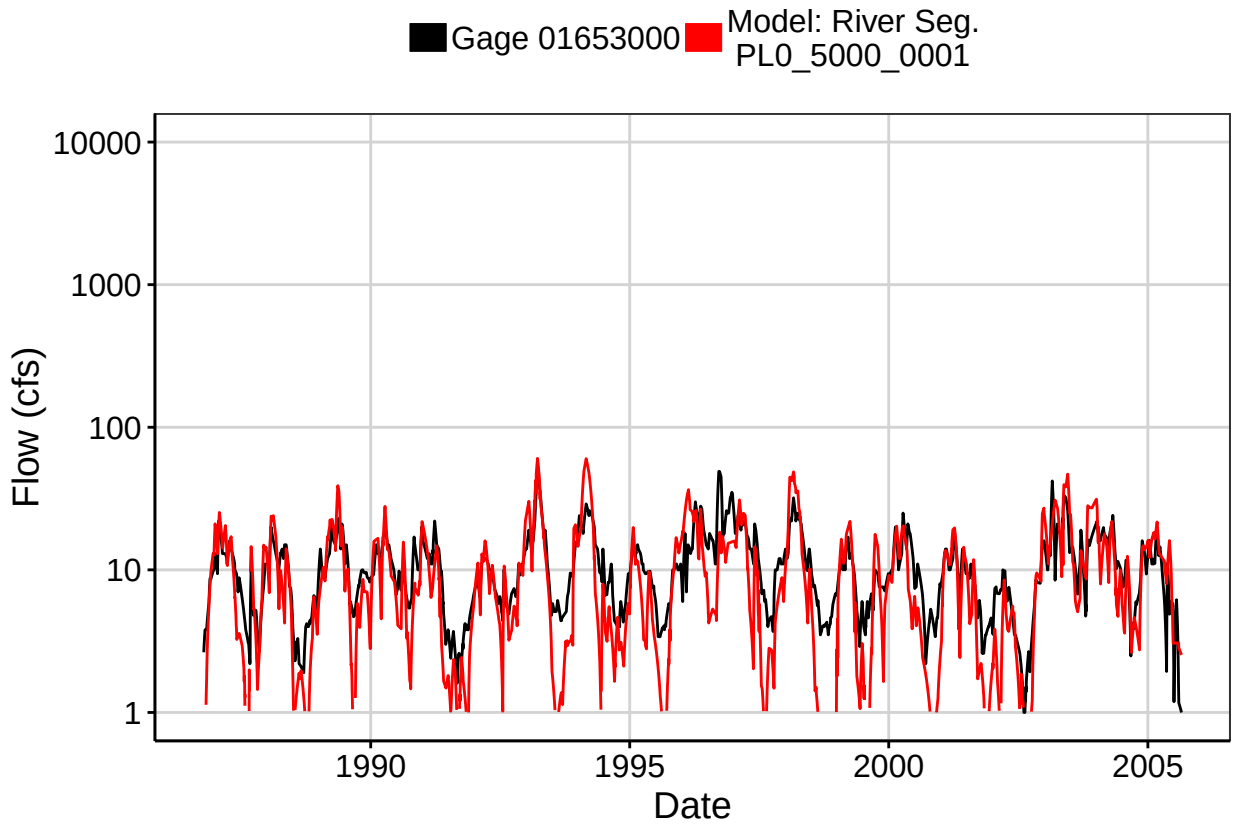


Fig. 5: Combined Baseflow

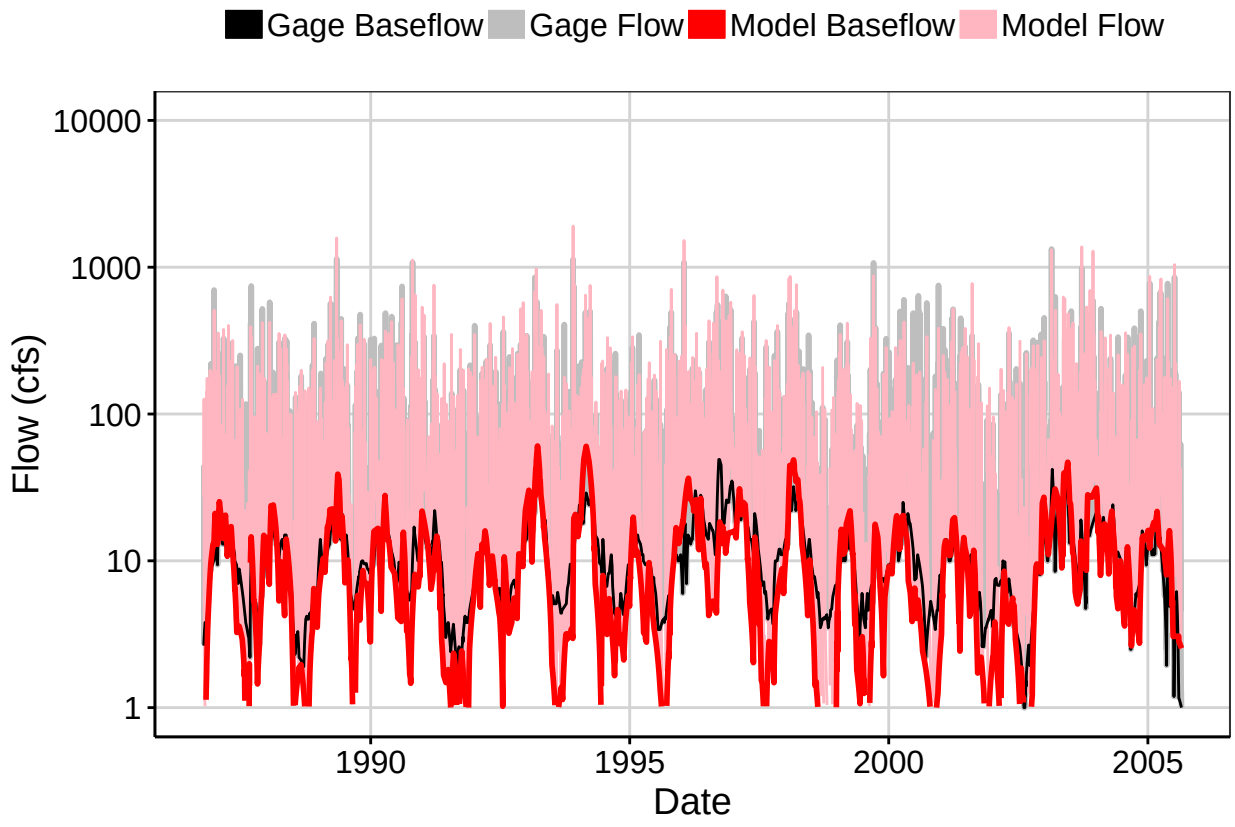


Fig. 6: Largest Error Segment

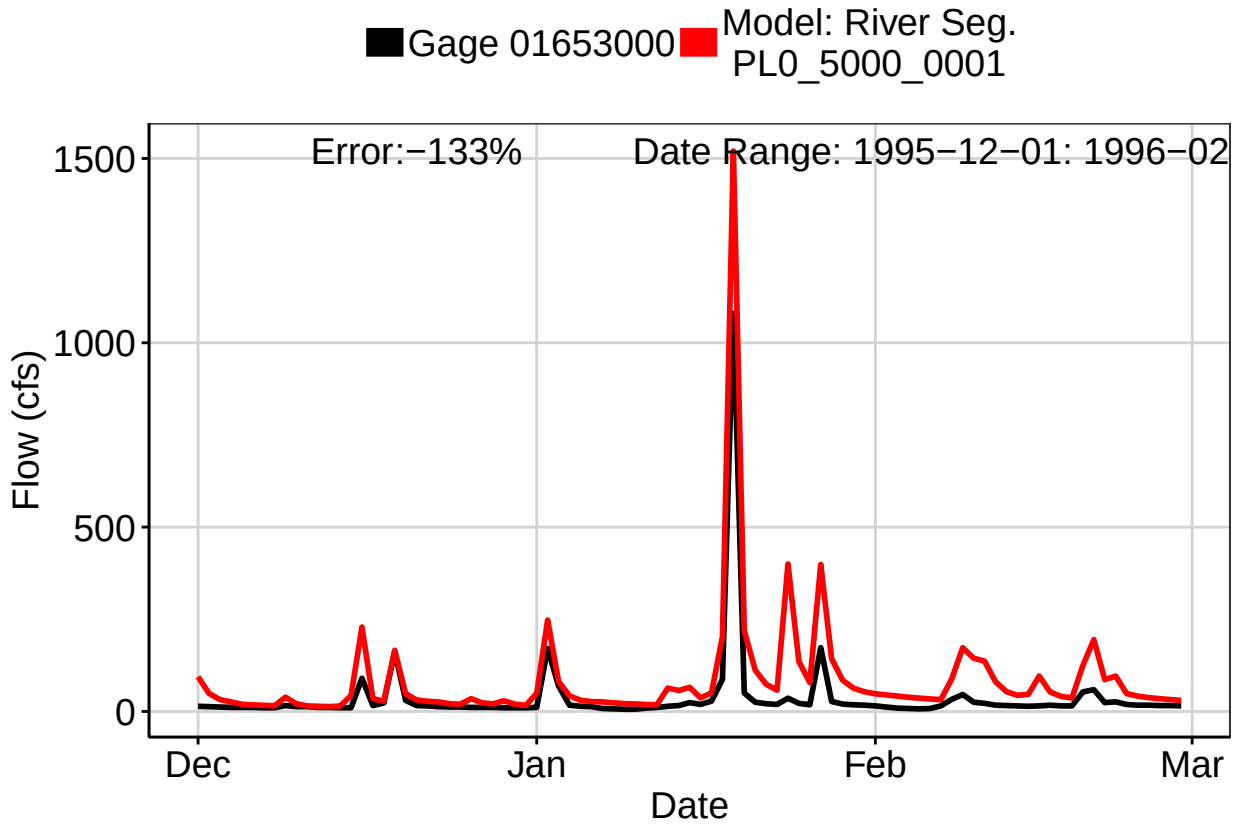


Fig. 7: Second Largest Error Segment

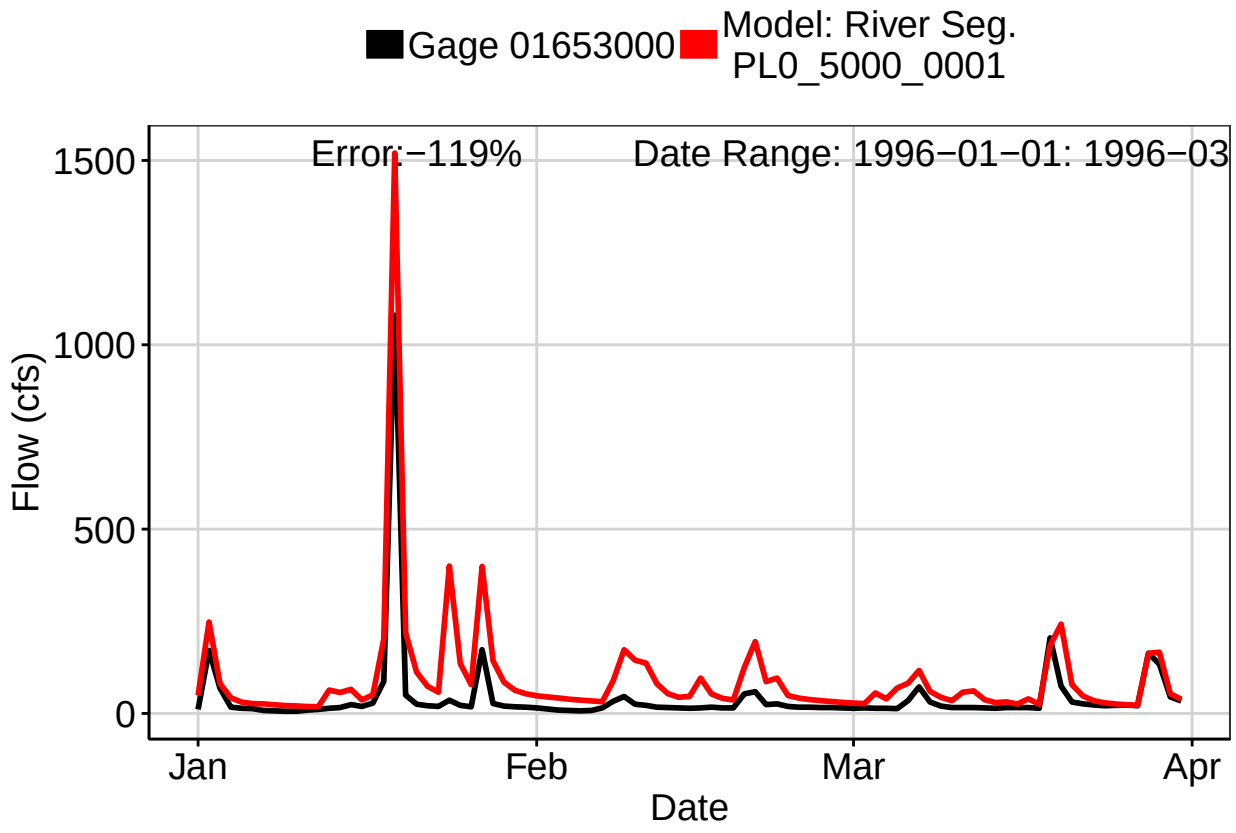


Fig. 8: Third Largest Error Segment

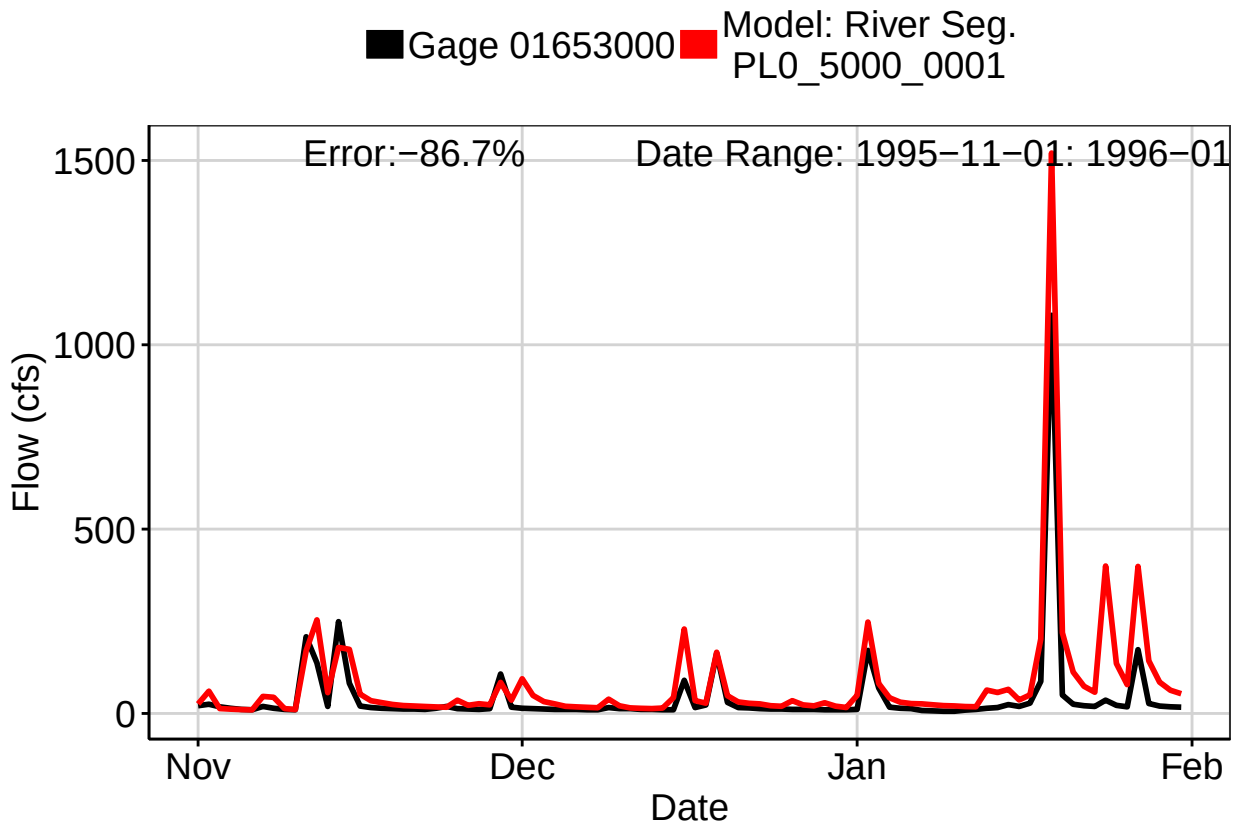


Fig. 9: Residuals Plot