03176500 vs. NR6_8051_8000

Daniel Hildebrand, Hailey Alspaugh, and Kelsey Reitz

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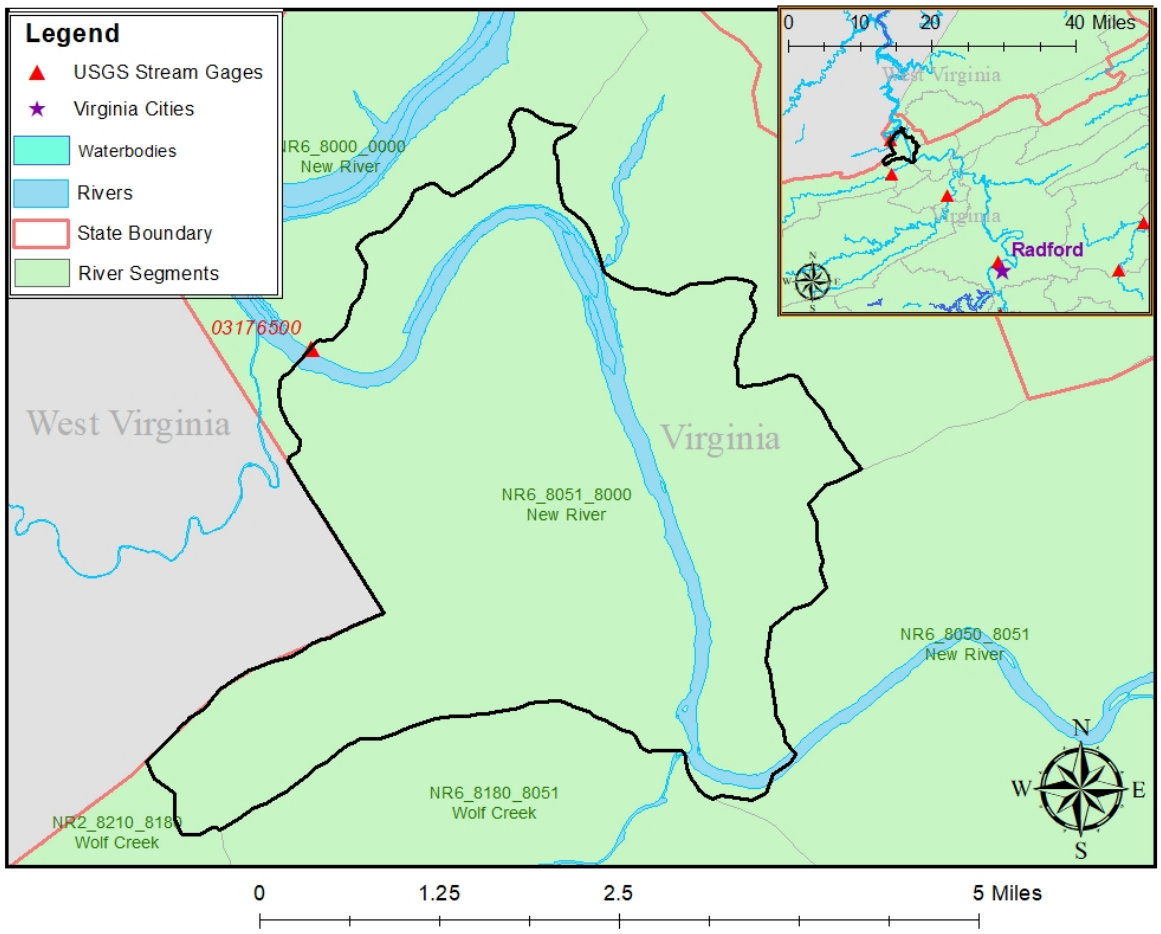

This river segment follows part of the flow of the New River. The gage is located in Giles County, VA (Lat 3722'22", Long 8051'39") approximately 23 miles northwest of Radford, VA. Drainage area is 3783 sq. miles. This gage started taking data in 1927 and is still taking data. The Claytor dam and American Electric Power Company Power Plant is 55 miles upstream which causes a diversion of water. The water is withdrawn upstream and discharged into the East River just above its confluence with the New River. The average daily discharge error between the model and gage data for the 20 year timespan was -0.8%, with 36.7% of its rolling three month time spans above 20% error.

Table 1: Monthly Low Flows

	USGS Gage	Model	Pct. Error
Jan. Low Flow	1190	1310	-10.1
Feb. Low Flow	1310	1420	-8.4
Mar. Low Flow	1500	2740	-82.7
Apr. Low Flow	1710	3170	-85.4
May Low Flow	2050	4800	-134
Jun. Low Flow	2920	5070	-73.6
Jul. Low Flow	2440	2890	-18.4
Aug. Low Flow	2990	2180	27.1
Sep. Low Flow	2280	2630	-15.4
Oct. Low Flow	1520	3870	-155
Nov. Low Flow	1310	2540	-93.9
Dec. Low Flow	1250	1600	-28

Table 2: Monthly Average Flows

	USGS Gage	Model	Pct. Error
Overall Mean Flow	4980	5020	-0.8
Jan. Mean Flow	6110	5890	3.6
Feb. Mean Flow	7230	7140	1.24
Mar. Mean Flow	8050	7860	2.36
Apr. Mean Flow	7280	6250	14.1
May Mean Flow	5980	4550	23.9
Jun. Mean Flow	4710	4800	-1.91
Jul. Mean Flow	3230	4750	-47.1
Aug. Mean Flow	2960	4050	-36.8
Sep. Mean Flow	3110	3430	-10.3
Oct. Mean Flow	2900	3480	-20
Nov. Mean Flow	4010	3760	6.23
Dec. Mean Flow	4440	4410	0.68

Table 3: Monthly High Flows

	USGS Gage	Model	Pct. Error
Jan. High Flow	4800	2690	44
Feb. High Flow	7460	3150	57.8
Mar. High Flow	8320	5760	30.8
Apr. High Flow	13000	12300	5.38
May High Flow	13700	10300	24.8
Jun. High Flow	17600	11800	33
Jul. High Flow	14600	8760	40
Aug. High Flow	12400	9560	22.9
Sep. High Flow	7530	6600	12.4
Oct. High Flow	5620	5520	1.78
Nov. High Flow	5500	4960	9.82
Dec. High Flow	4630	3310	28.5

Table 4: Period Low Flows

	USGS Gage	Model	Pct. Error
Min. 1 Day Min	557	897	-61
Med. 1 Day Min	1130	1070	5.31
Min. 3 Day Min	618	898	-45.3
Med. 3 Day Min	1180	1080	8.47
Min. 7 Day Min	646	899	-39.2
Med. 7 Day Min	1250	1130	9.6
Min. 30 Day Min	947	919	2.96
Med. 30 Day Min	1540	1360	11.7
Min. 90 Day Min	1280	1150	10.2
Med. 90 Day Min	2240	2370	-5.8
7Q10	852	931	-9.27
Year of 90-Day Min. Flow	2002	2002	0
Drought Year Mean	2510	2540	-1.2
Mean Baseflow	2560	3910	-52.7

Table 5: Period High Flows

	USGS Gage	Model	Pct. Error
Max. 1 Day Max	89400	41300	53.8
Med. 1 Day Max	40000	23300	41.8
Max. 3 Day Max	58600	34800	40.6
Med. 3 Day Max	29500	20400	30.8
Max. 7 Day Max	39100	27100	30.7
Med. 7 Day Max	20100	16900	15.9
Max. 30 Day Max	21100	19300	8.53
Med. 30 Day Max	11300	11800	-4.42
Max. 90 Day Max	14300	14200	0.7
Med. 90 Day Max	8850	8210	7.23

Table 6: Non-Exceedance Flows

	USGS Gage	Model	Pct. Error
1% Non-Exceedance	954	977	-2.41
5% Non-Exceedance	1210	1210	0
50% Non-Exceedance	3480	3940	-13.2
95% Non-Exceedance	13200	12900	2.27
99% Non-Exceedance	25200	19600	22.2
Sept. 10% Non-Exceedance	1250	1100	12

Fig. 1: Hydrograph

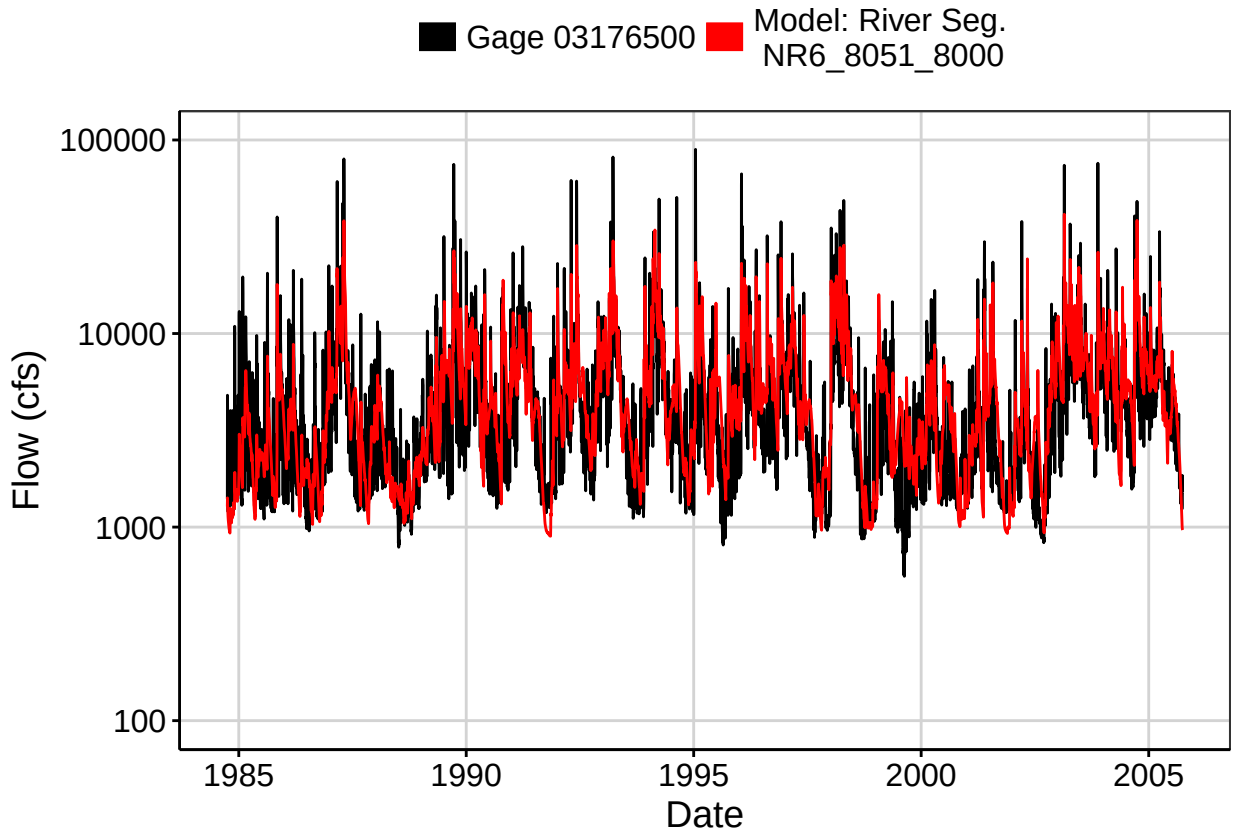

Fig. 2: Zoomed Hydrograph

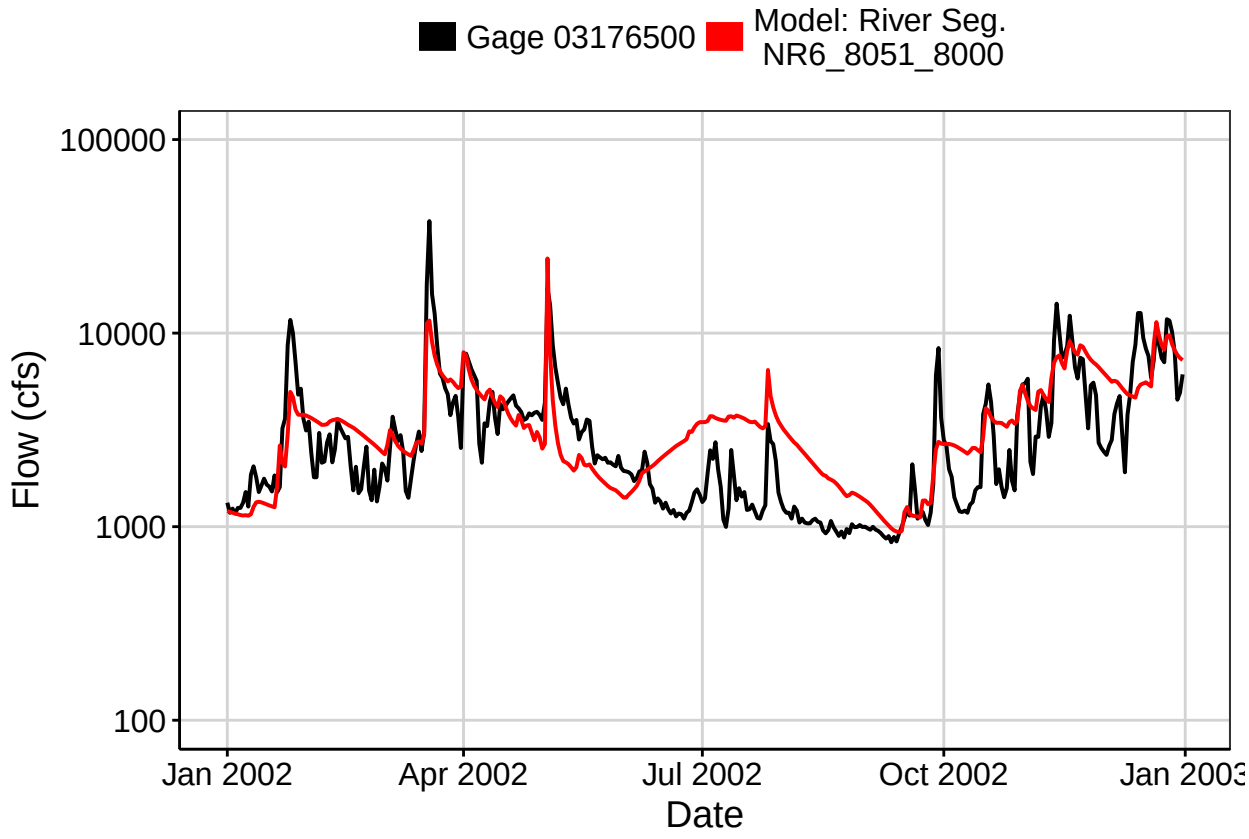

Fig. 3: Flow Exceedance

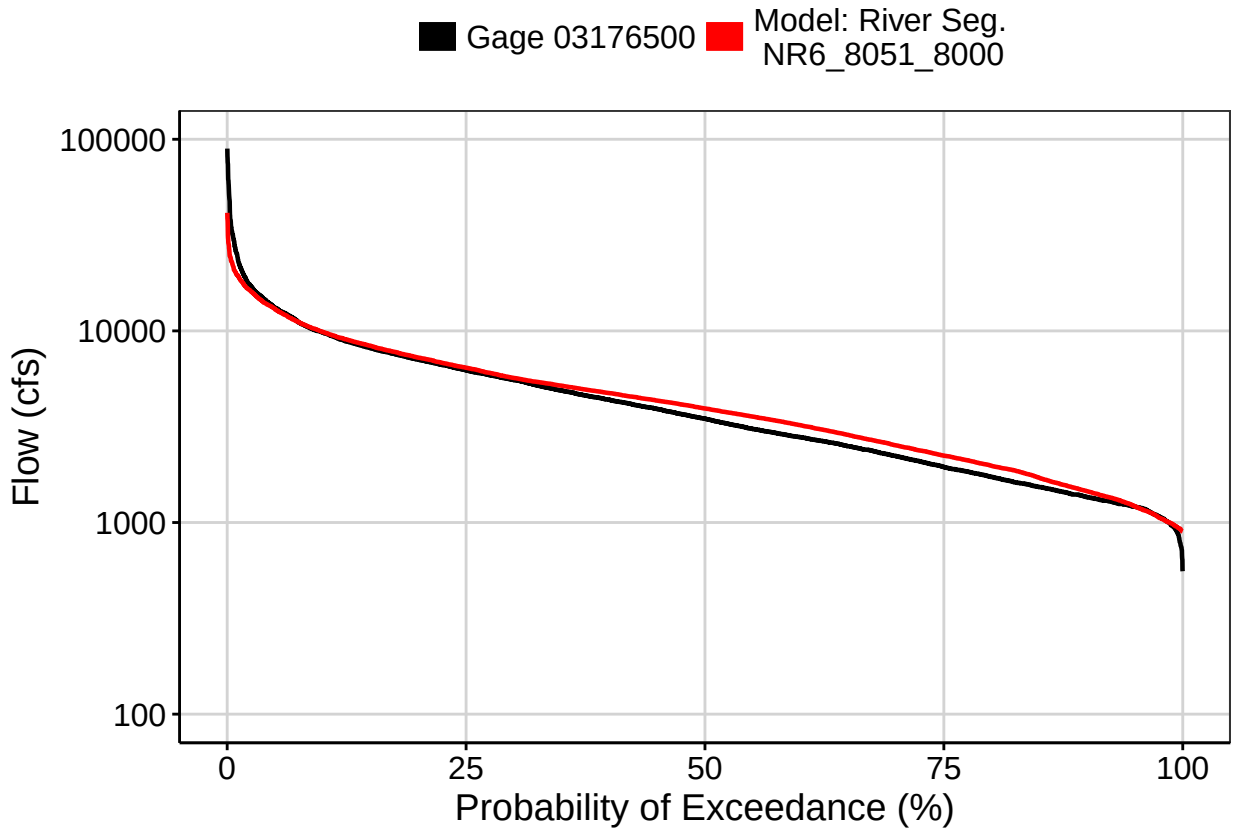

Fig. 4: Baseflow

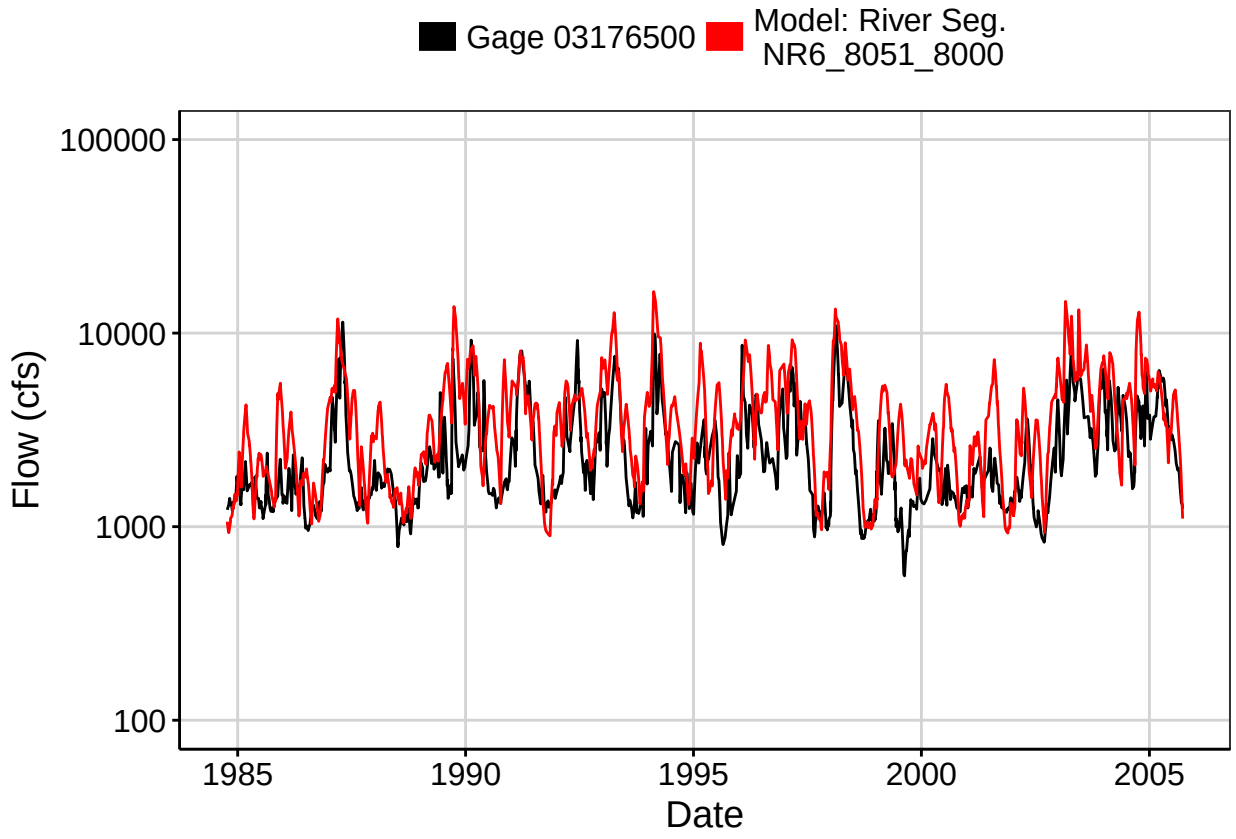

Fig. 5: Combined Baseflow

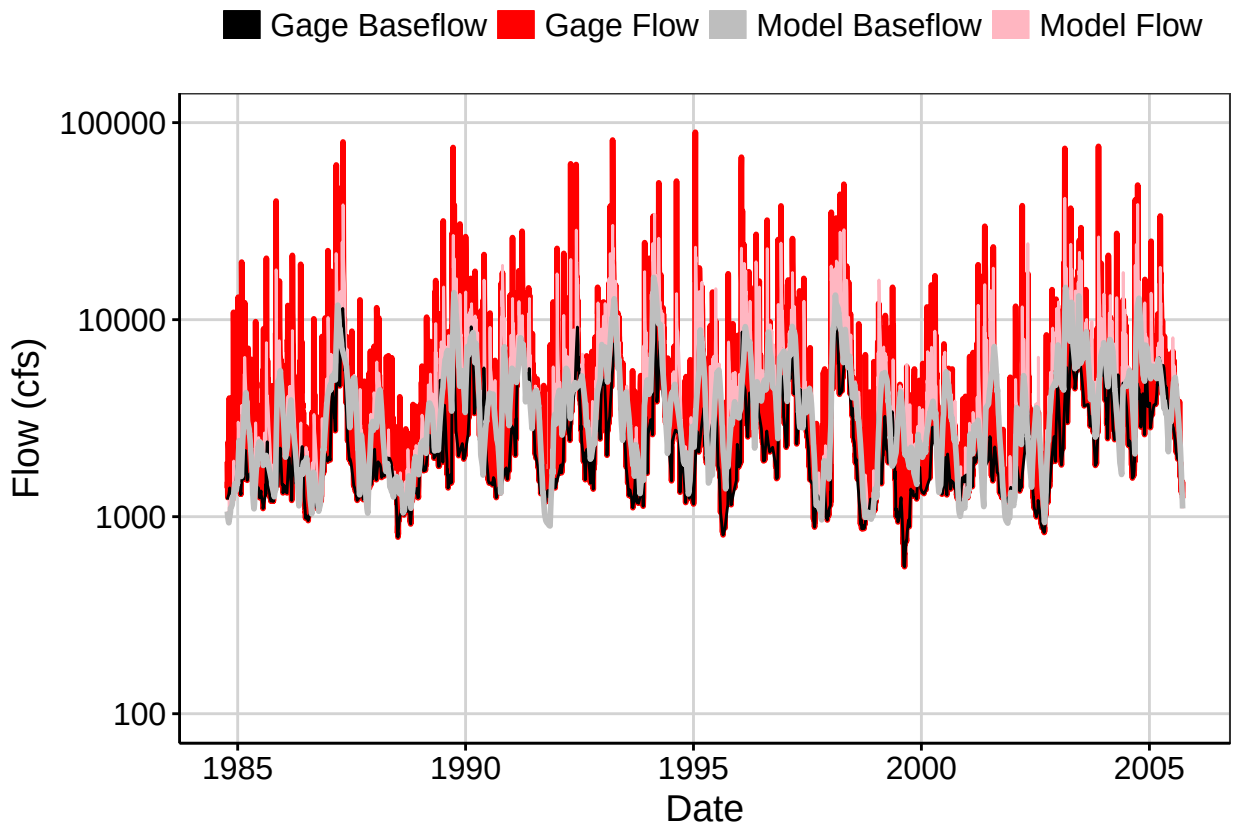

Fig. 6: Largest Error Segment

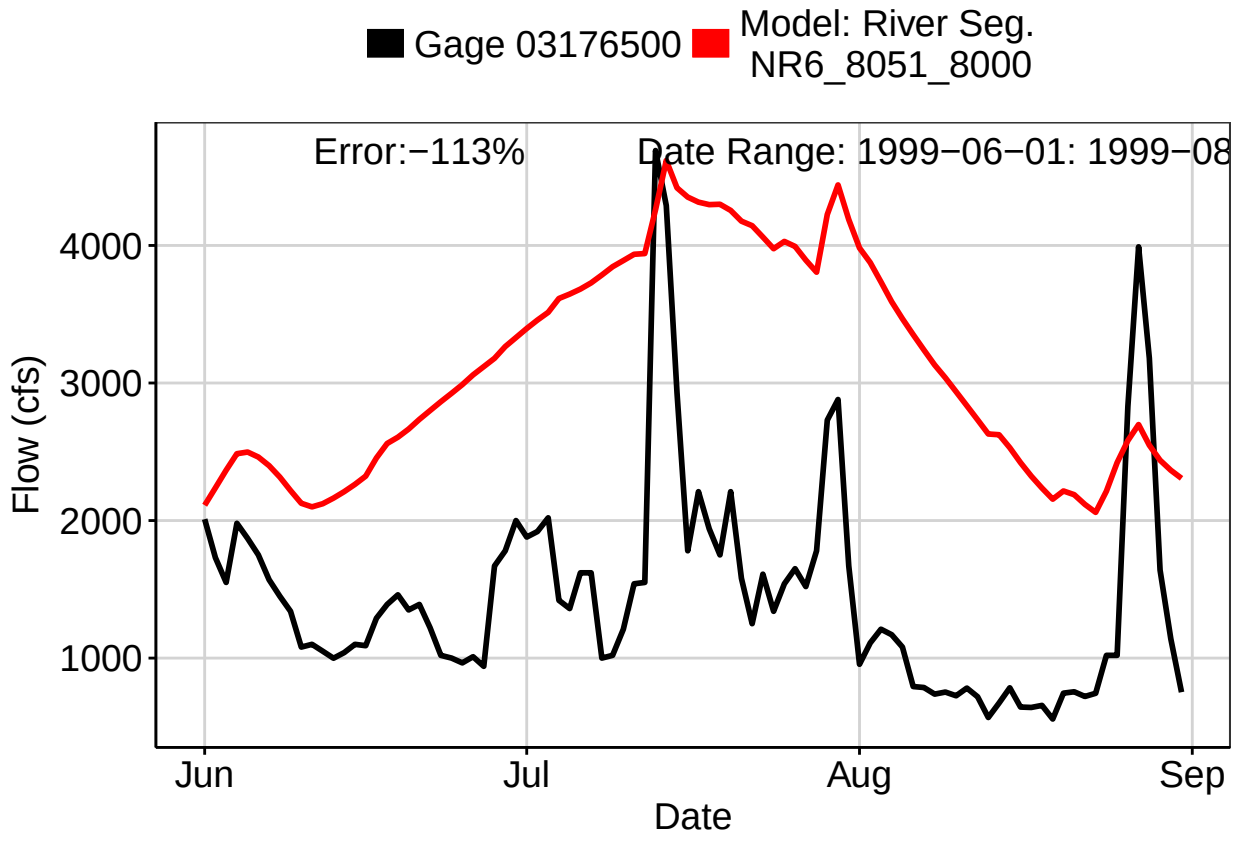

Fig. 7: Second Largest Error Segment

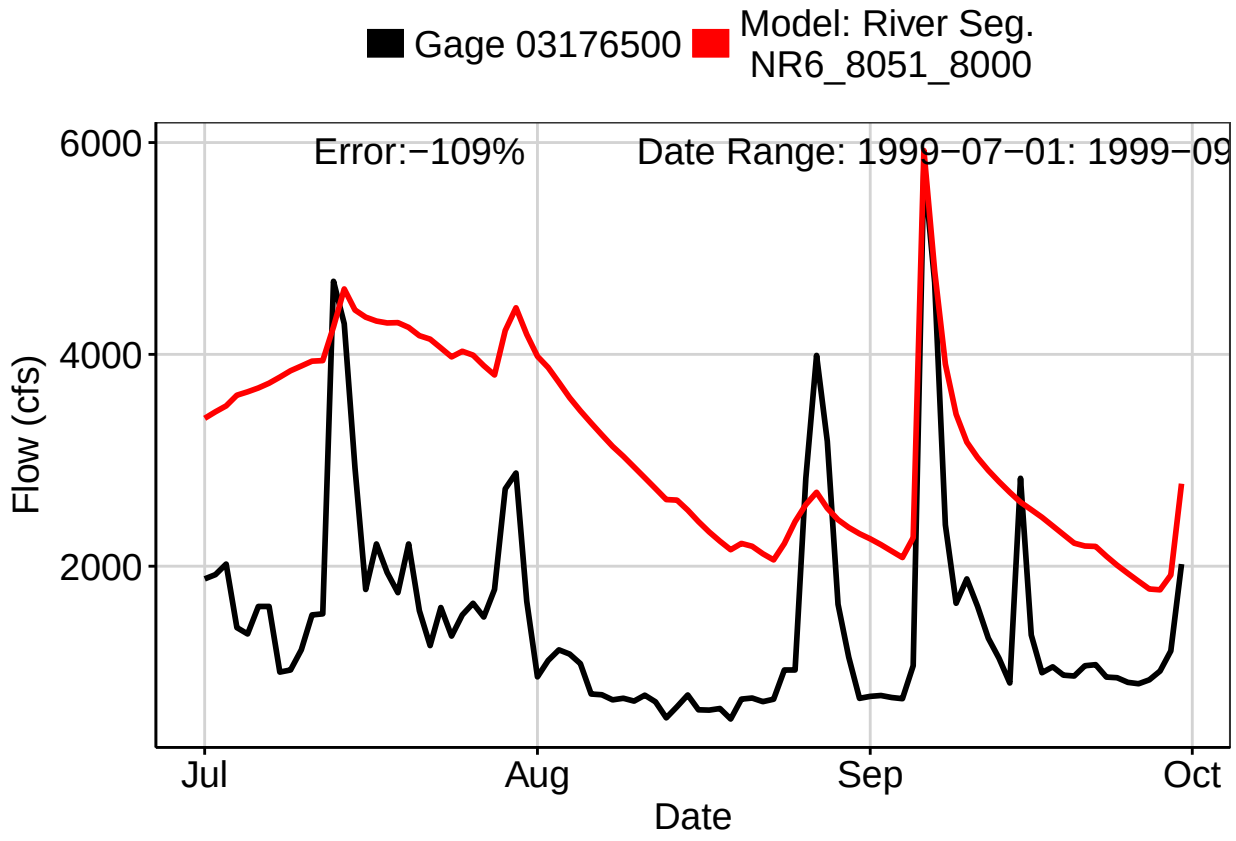

Fig. 8: Third Largest Error Segment

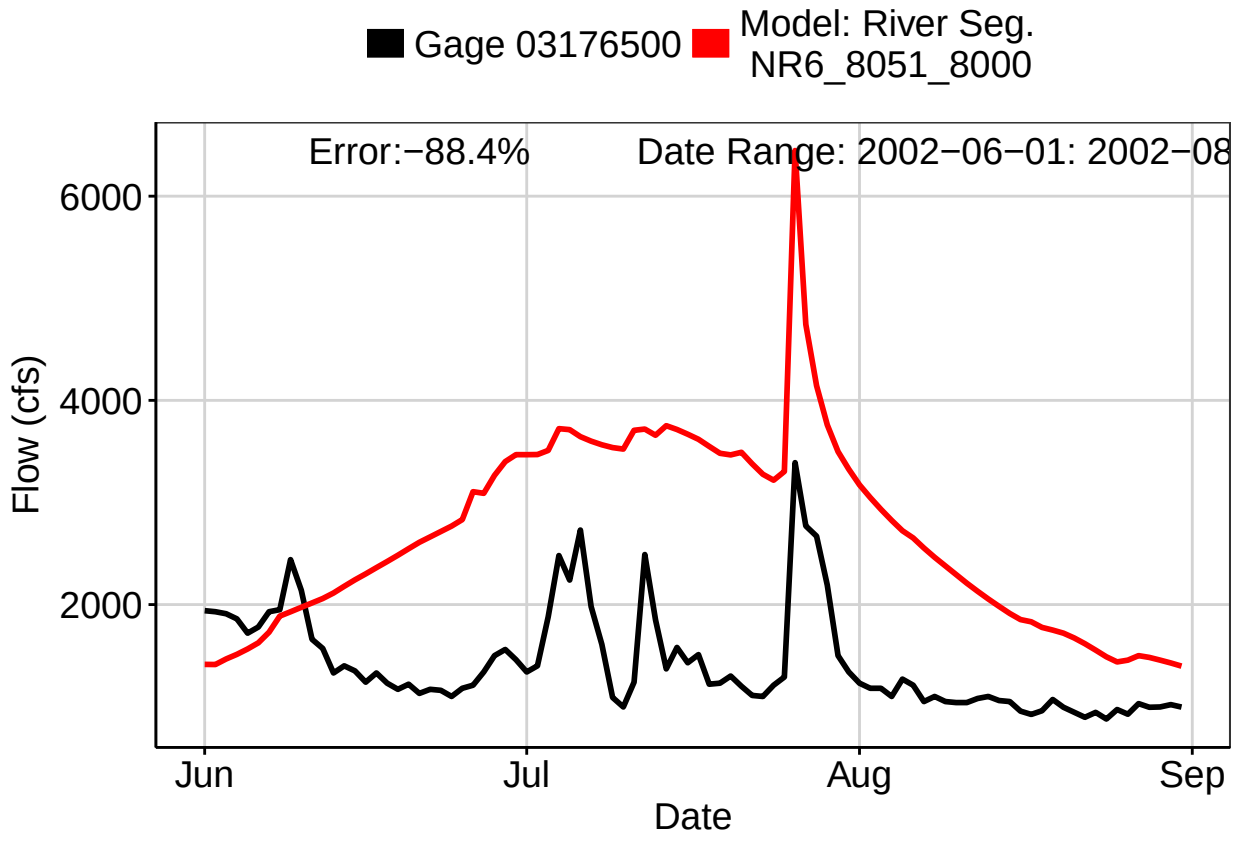

Fig. 9: Residuals Plot