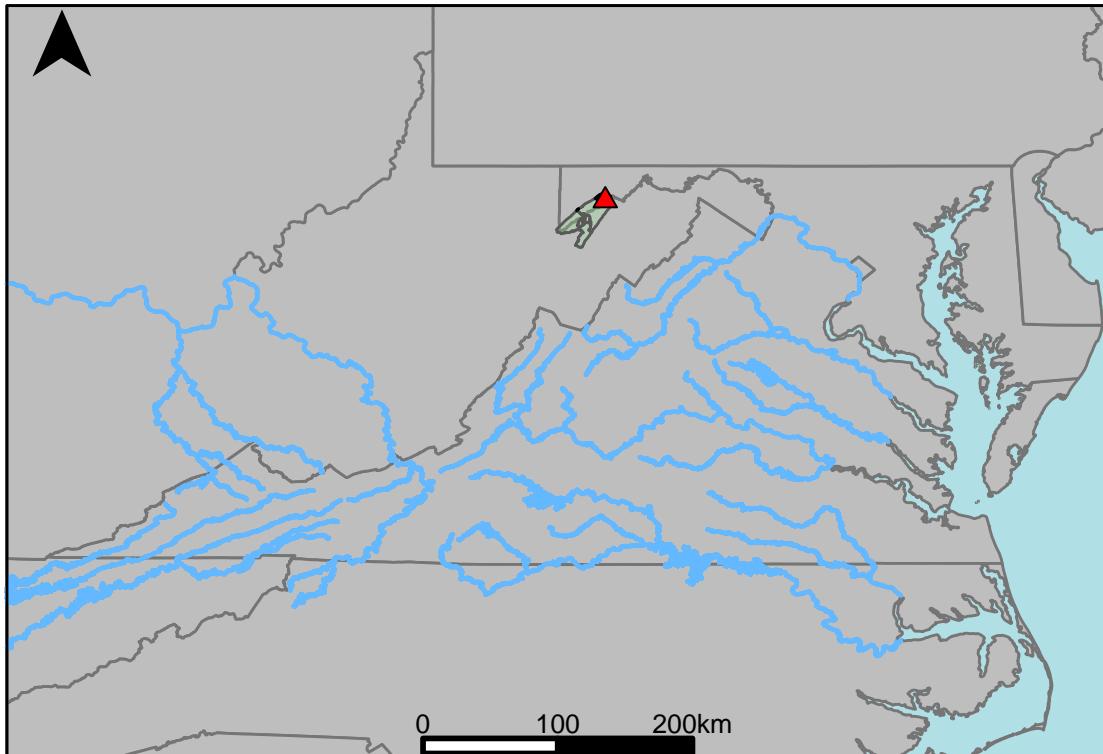


River Segment: PU3_4450_4440 - Scenario : CFBASE30Y20180615 : Gage 01595800 vs. VAHydro



This river segment follows part of the flow of the Potomac River at Barnum, WV. Gage 01595800 is located in Mineral County, VA (Lat 39 26'42.4", Long 79 06'38.9") approximately 4.0 miles southwest of Piedmont W. VA. Drainage area is 266 sq. miles. This gage started taking data in 1966 and has been taking data periodically until now. Prior to July 1981, there has been regulation at low flow by Stony River Reservoir, 39 mi upstream from station (see station 01595200). Since July 1981, complete there has been regulation by Jennings Randolph Lake, 1.7 mi upstream from station, capacity 96,600 acre-ft. There is a U.S. Army Corps of Engineers satellite data-collection platform at station. The average daily discharge change between scenario 1 and scenario 2 for the 20 year timespan was 5.44355%, with 41.7% of its rolling three month time spans above 20% difference.

Table 1: Monthly Low Flows

	USGS Gage	VAHydro	Pct. Difference
Jan. Low Flow	174	90.1	-48.22
Feb. Low Flow	174	258	48.28
Mar. Low Flow	244	238	-2.46
Apr. Low Flow	302	287	-4.97
May Low Flow	316	293	-7.28
Jun. Low Flow	291	385	32.3
Jul. Low Flow	270	302	11.85
Aug. Low Flow	290	241	-16.9
Sep. Low Flow	245	162	-33.88
Oct. Low Flow	210	140	-33.33
Nov. Low Flow	184	32.6	-82.28
Dec. Low Flow	168	37.3	-77.8

Table 2: Monthly Average Flows

	USGS Gage	VAHydro	Pct. Difference
Overall Mean Flow	496	523	5.44
Jan. Mean Flow	698	642	-8.02
Feb. Mean Flow	600	618	3
Mar. Mean Flow	841	858	2.02
Apr. Mean Flow	696	711	2.16
May Mean Flow	707	671	-5.09
Jun. Mean Flow	402	454	12.94
Jul. Mean Flow	243	308	26.75
Aug. Mean Flow	231	271	17.32
Sep. Mean Flow	278	285	2.52
Oct. Mean Flow	266	328	23.31
Nov. Mean Flow	384	497	29.43
Dec. Mean Flow	608	638	4.93

Table 3: Monthly High Flows

	USGS Gage	VAHydro	Pct. Difference
Jan. High Flow	673	895	32.99
Feb. High Flow	288	991	244.1
Mar. High Flow	1210	1140	-5.79
Apr. High Flow	1500	1180	-21.33
May High Flow	1050	1230	17.14
Jun. High Flow	2060	1810	-12.14
Jul. High Flow	1530	1380	-9.8
Aug. High Flow	2140	1260	-41.12
Sep. High Flow	1400	862	-38.43
Oct. High Flow	289	479	65.74
Nov. High Flow	349	550	57.59
Dec. High Flow	739	368	-50.2

Table 4: Period Low Flows

	USGS Gage	VAHydro	Pct. Difference
Min. 1 Day Min	88.9	4.09	-95.4
Med. 1 Day Min	141	17.1	-87.87
Min. 3 Day Min	95.3	5.08	-94.67
Med. 3 Day Min	145	18.9	-86.97
Min. 7 Day Min	98	7.95	-91.89
Med. 7 Day Min	148	27.9	-81.15
Min. 30 Day Min	103	25	-75.73
Med. 30 Day Min	174	87.3	-49.83
Min. 90 Day Min	132	66	-50
Med. 90 Day Min	219	248	13.24
7Q10	105	9.02	-91.41
Year of 90-Day Min. Flow	2011	2010	-0.05
Drought Year Mean	560	493	-11.96
Mean Baseflow	307	309	0.65

Table 5: Period High Flows

	USGS Gage	VAHydro	Pct. Difference
Max. 1 Day Max	4940	3580	-27.53
Med. 1 Day Max	3600	2190	-39.17
Max. 3 Day Max	4490	3450	-23.16
Med. 3 Day Max	3090	2120	-31.39
Max. 7 Day Max	3430	2900	-15.45
Med. 7 Day Max	2390	1890	-20.92
Max. 30 Day Max	1700	1530	-10
Med. 30 Day Max	1190	1080	-9.24
Max. 90 Day Max	1460	1230	-15.75
Med. 90 Day Max	858	820	-4.43

Table 6: Non-Exceedance Flows

	USGS Gage	VAHydro	Pct. Difference
1% Non-Exceedance	110	16.9	-84.64
5% Non-Exceedance	142	80.9	-43.03
50% Non-Exceedance	301	411	36.54
95% Non-Exceedance	1510	1410	-6.62
99% Non-Exceedance	2440	2070	-15.16
Sept. 10% Non-Exceedance	143	17.3	-87.9

Fig. 1: Hydrograph

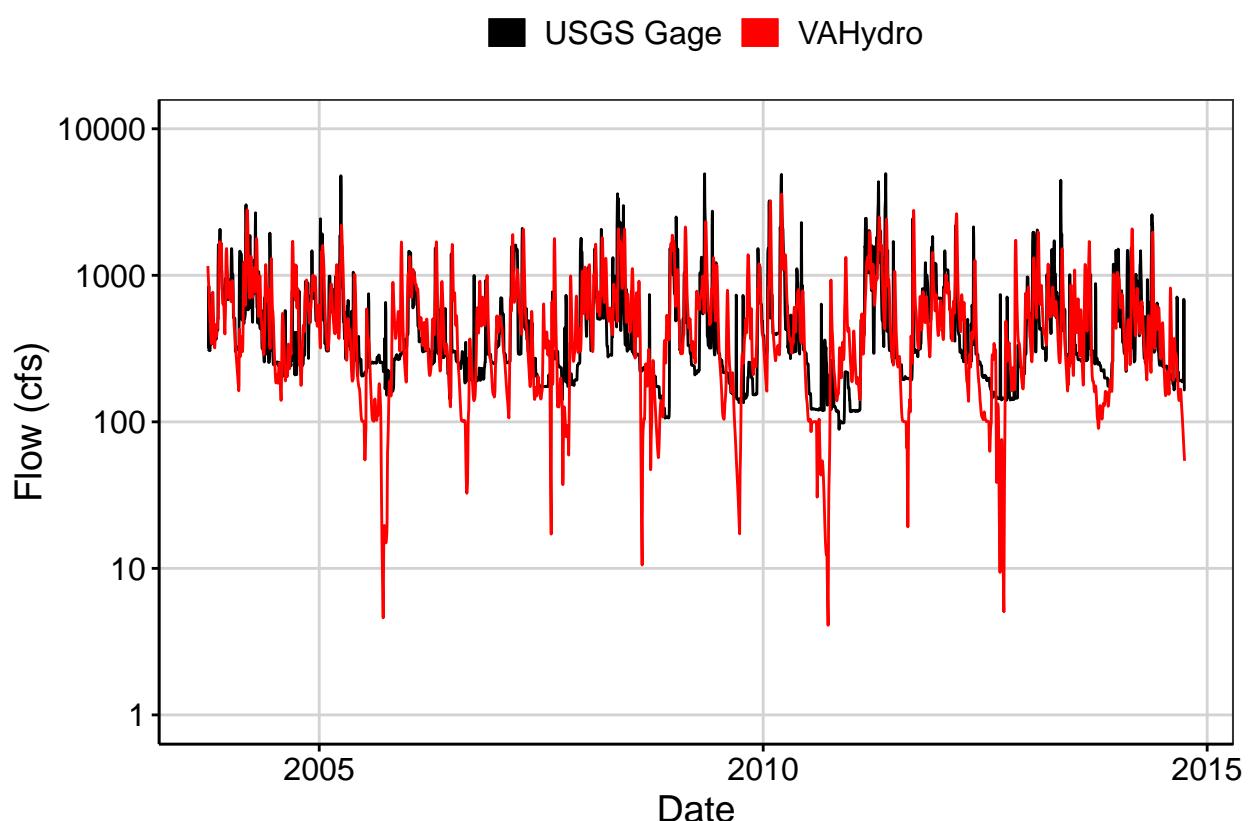


Fig. 2: Zoomed Hydrograph

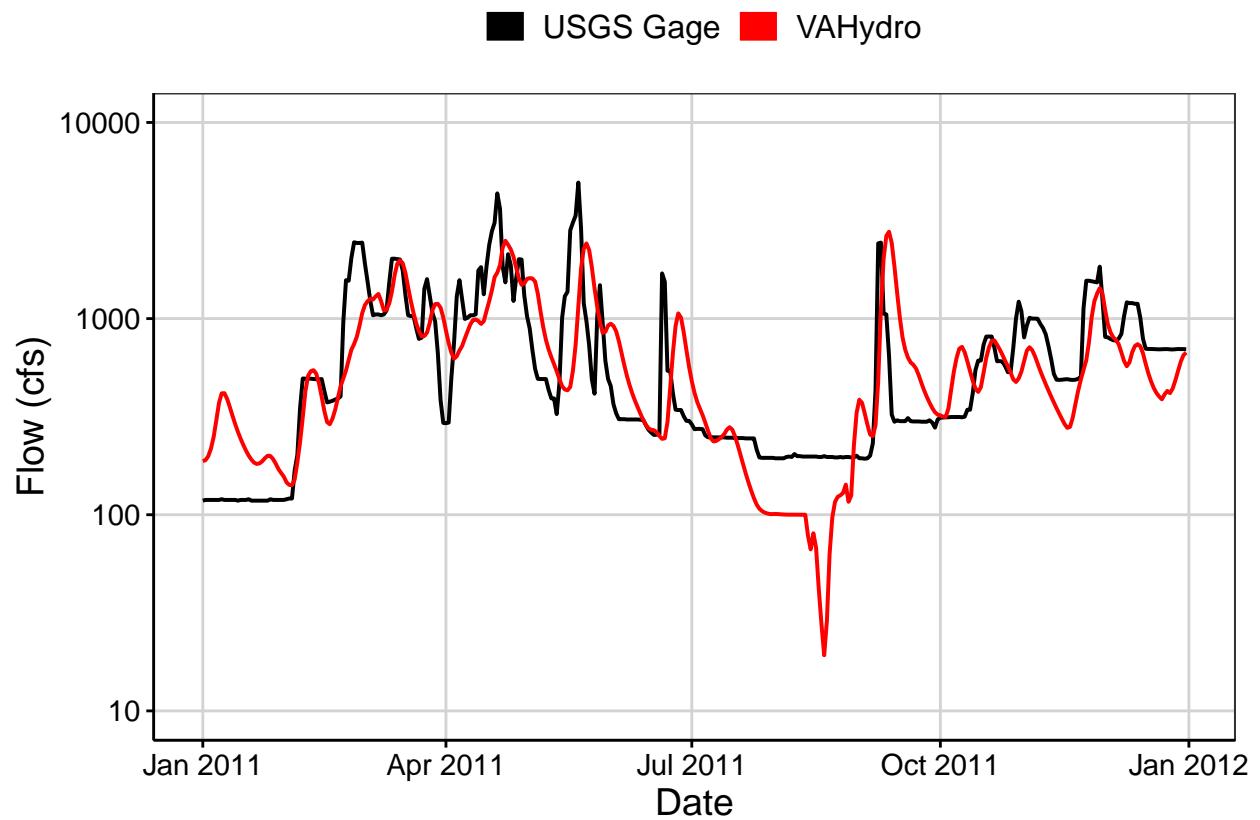


Fig. 3: Flow Exceedance

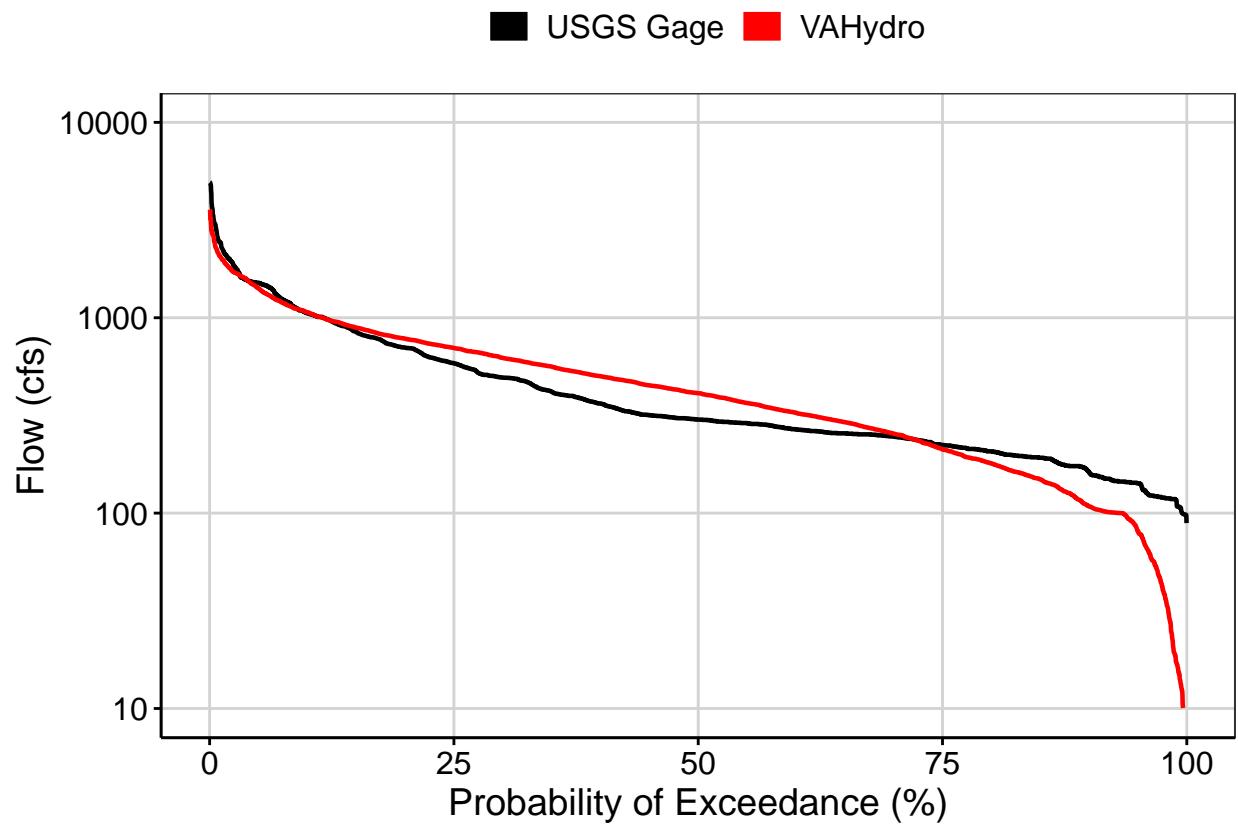


Fig. 4: Baseflow

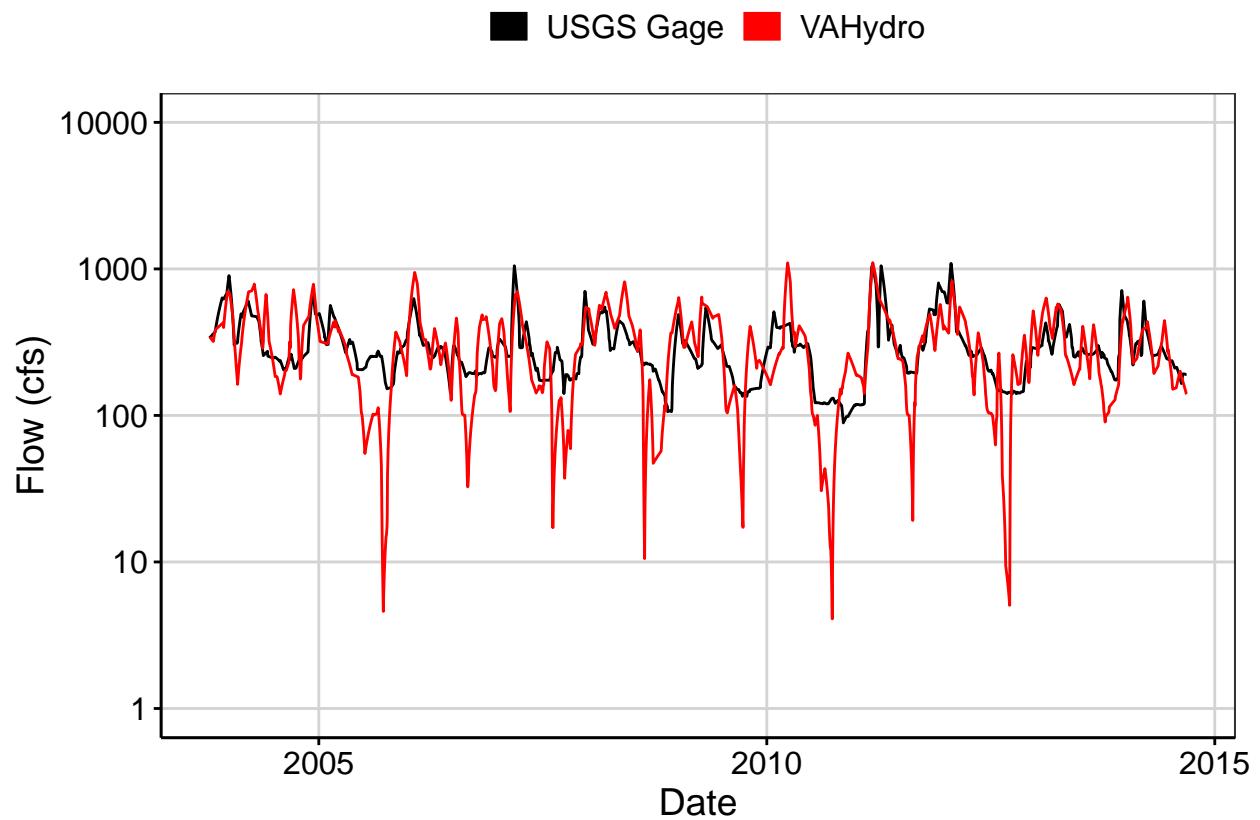


Fig. 5: Combined Baseflow

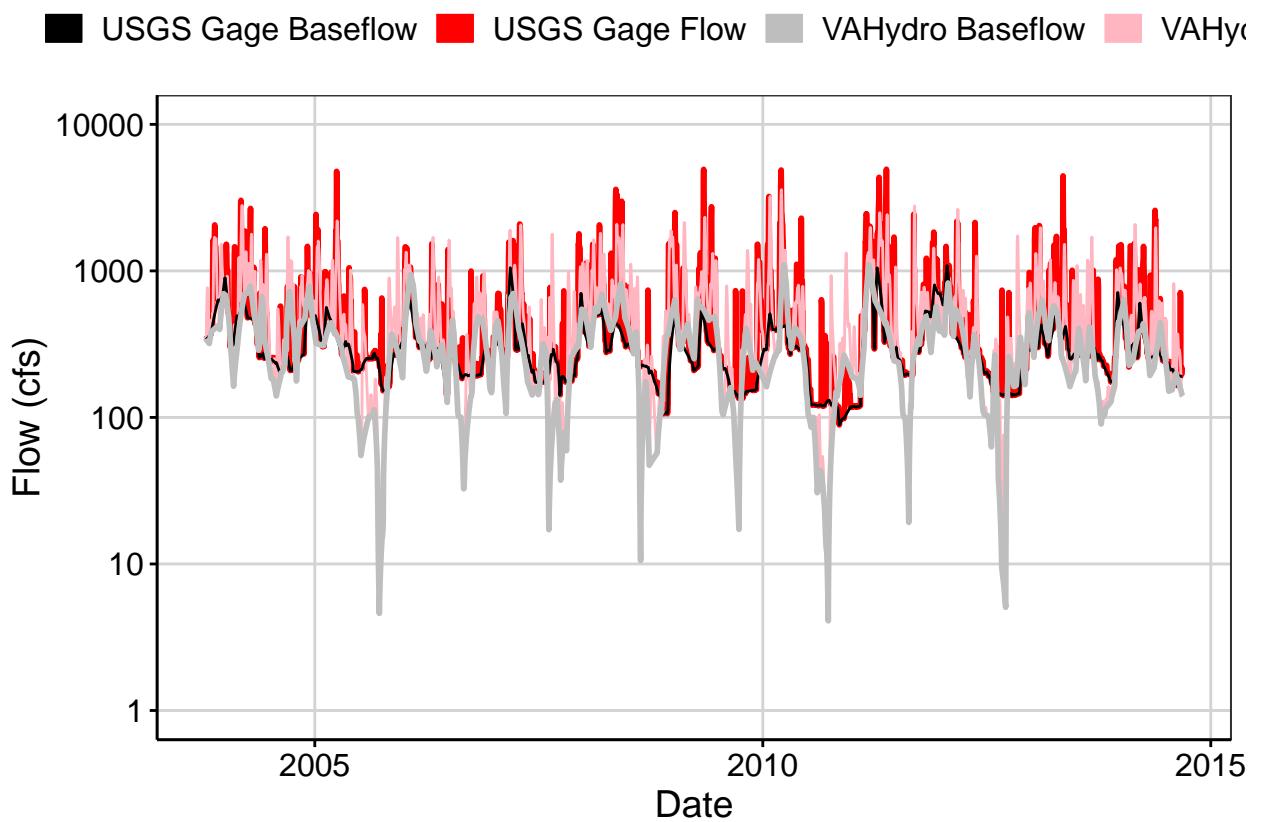


Fig. 6: Largest Difference Segment

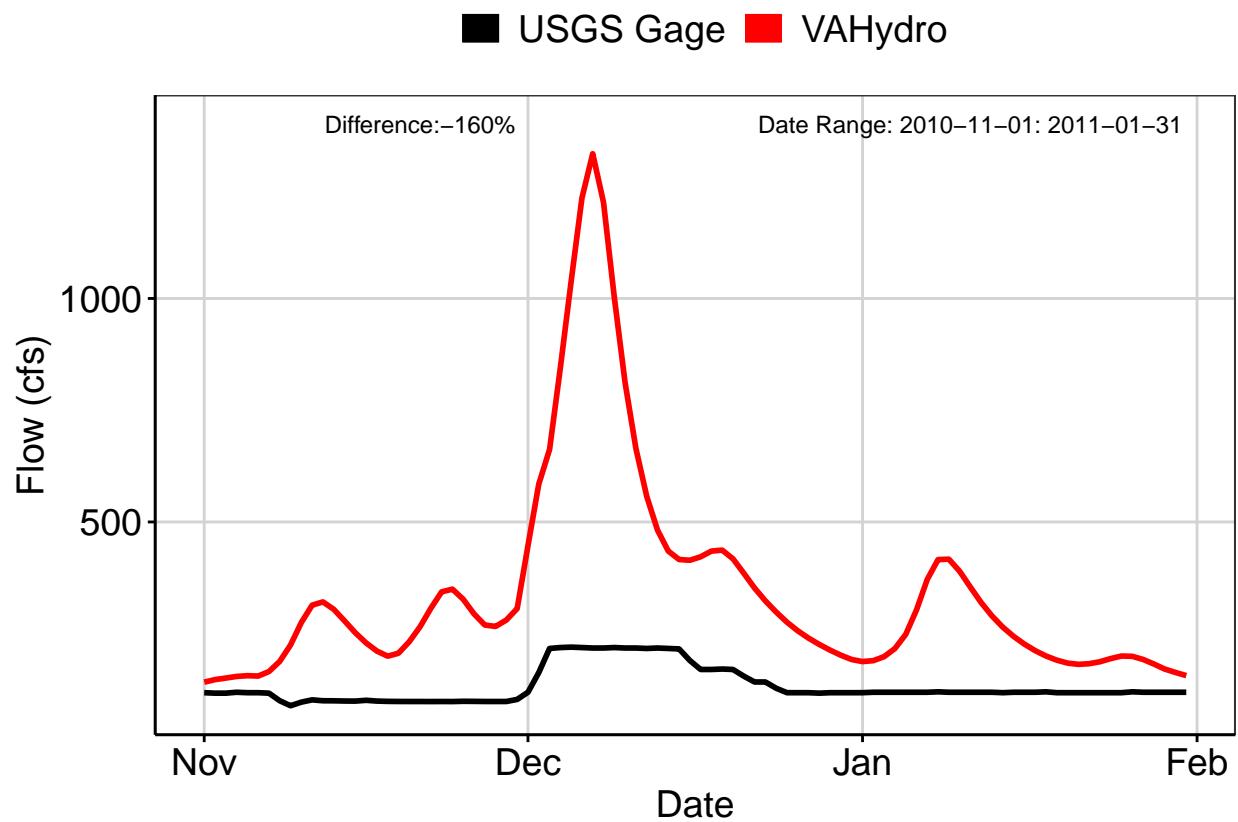


Fig. 7: Second Largest Difference Segment

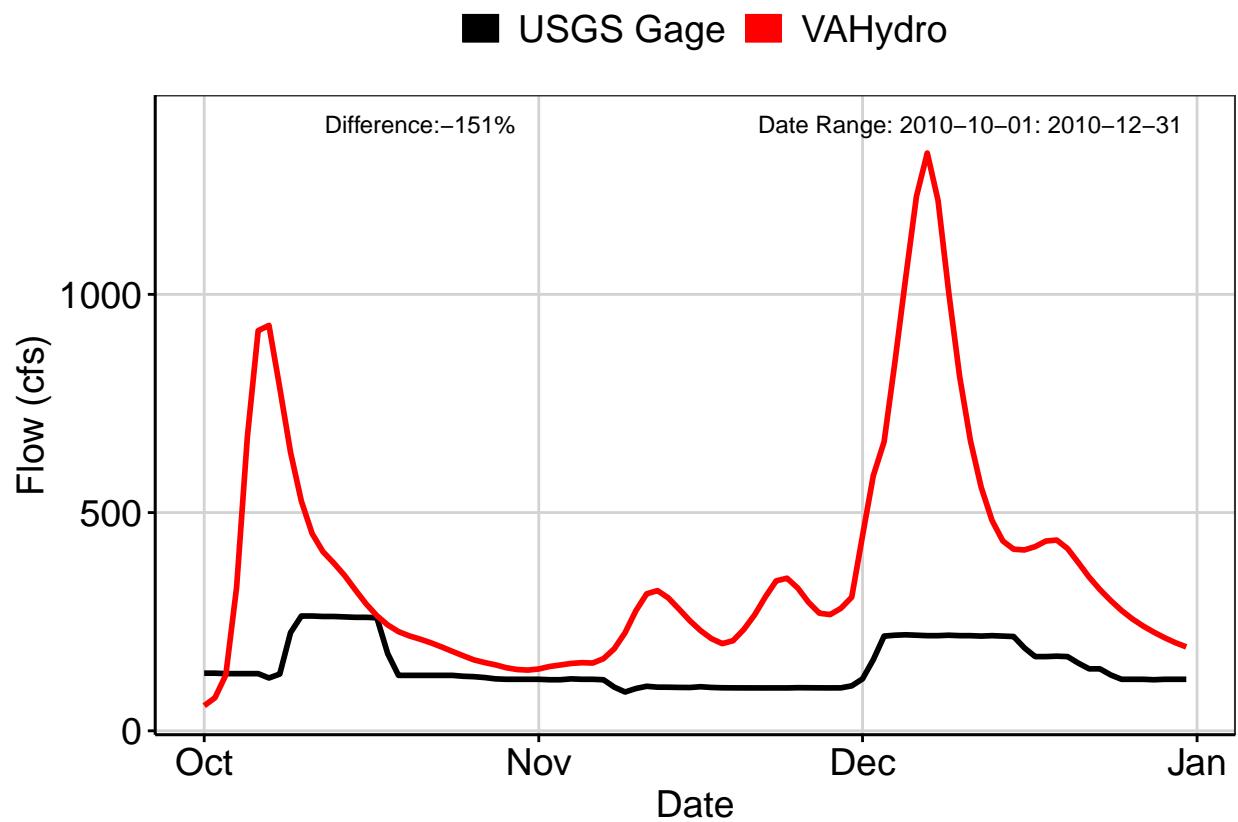


Fig. 8: Third Largest Difference Segment

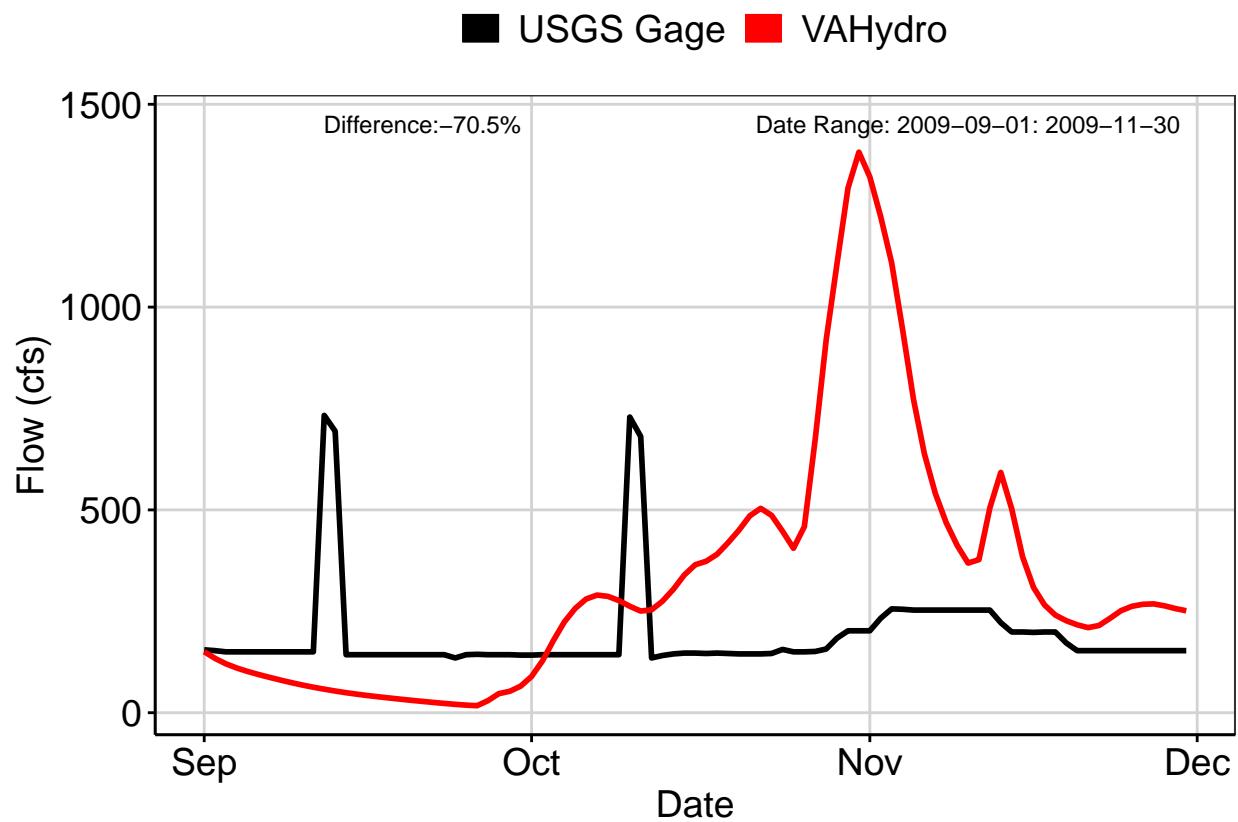


Fig. 9A: Residuals Plot

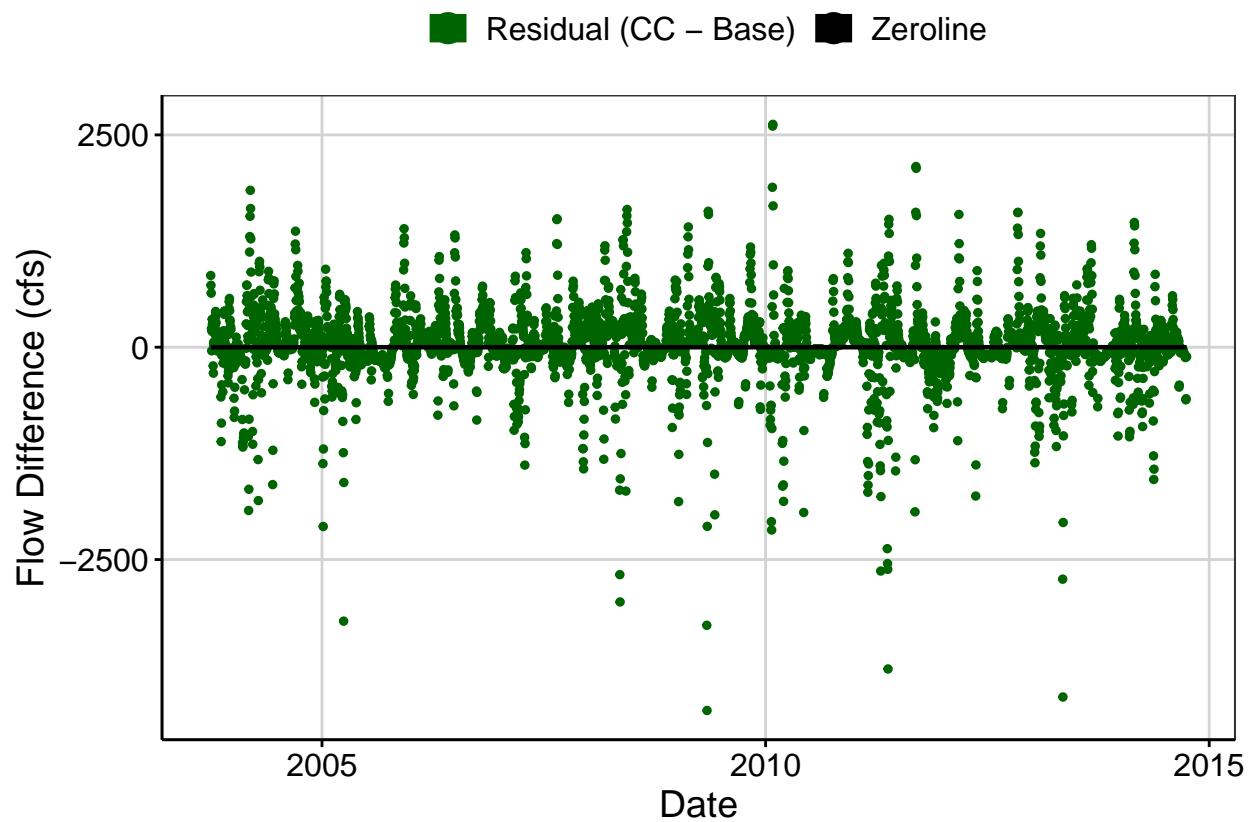


Fig. 9B: Area Weighted Residuals Plot

