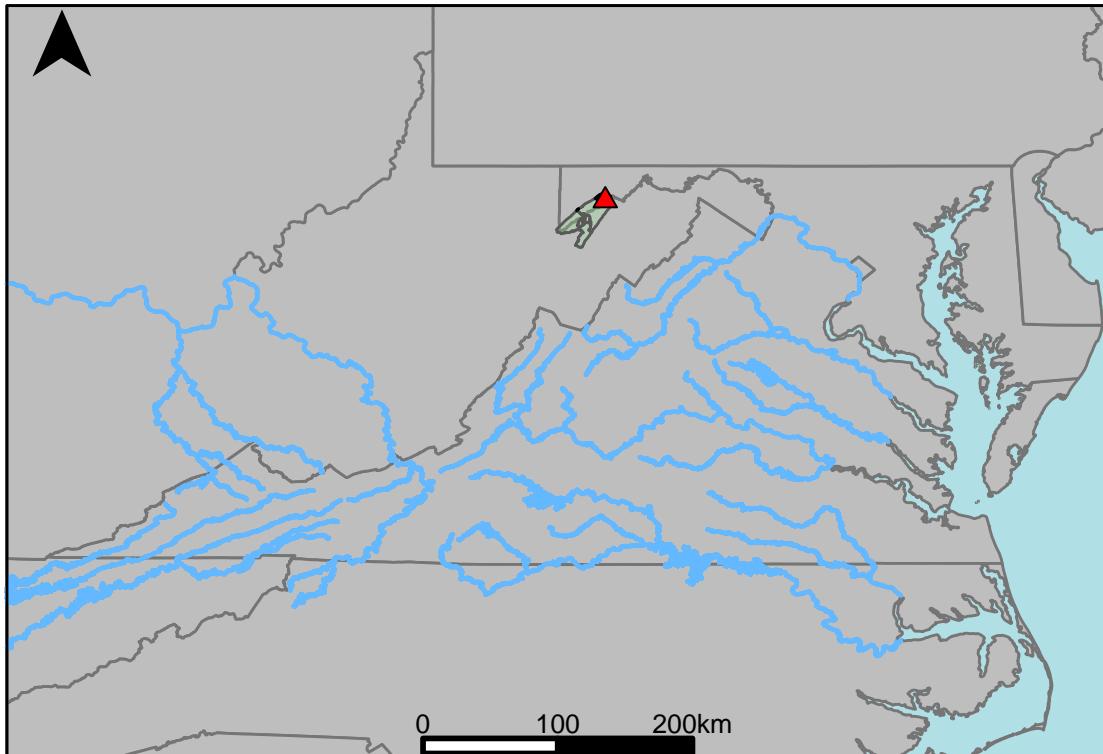


River Segment: PU3_4450_4440 - Scenario : CFBASE30Y20180615 : Gage 01595800 vs. VAHydro



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 34.0726%, with 74.2% of its rolling three month time spans above 20% difference.

Table 1: Monthly Low Flows

	USGS Gage	VAHydro	Pct. Difference
Jan. Low Flow	174	162	-6.9
Feb. Low Flow	174	322	85.06
Mar. Low Flow	244	330	35.25
Apr. Low Flow	302	363	20.2
May Low Flow	316	410	29.75
Jun. Low Flow	291	513	76.29
Jul. Low Flow	270	419	55.19
Aug. Low Flow	290	331	14.14
Sep. Low Flow	245	225	-8.16
Oct. Low Flow	210	151	-28.1
Nov. Low Flow	184	36.4	-80.22
Dec. Low Flow	168	48.6	-71.07

Table 2: Monthly Average Flows

	USGS Gage	VAHydro	Pct. Difference
Overall Mean Flow	496	665	34.1
Jan. Mean Flow	698	855	22.5
Feb. Mean Flow	600	824	37.3
Mar. Mean Flow	841	1120	33.2
Apr. Mean Flow	696	921	32.3
May Mean Flow	707	824	16.6
Jun. Mean Flow	402	568	41.3
Jul. Mean Flow	243	364	49.8
Aug. Mean Flow	231	298	29
Sep. Mean Flow	278	362	30.2
Oct. Mean Flow	266	392	47.4
Nov. Mean Flow	384	635	65.4
Dec. Mean Flow	608	825	35.7

Table 3: Monthly High Flows

	USGS Gage	VAHydro	Pct. Difference
Jan. High Flow	673	1020	51.56
Feb. High Flow	288	1480	413.89
Mar. High Flow	1210	1630	34.71
Apr. High Flow	1500	1340	-10.67
May High Flow	1050	1820	73.33
Jun. High Flow	2060	2160	4.85
Jul. High Flow	1530	1740	13.73
Aug. High Flow	2140	1390	-35.05
Sep. High Flow	1400	1000	-28.57
Oct. High Flow	289	516	78.55
Nov. High Flow	349	604	73.07
Dec. High Flow	739	413	-44.11

Table 4: Period Low Flows

	USGS Gage	VAHydro	Pct. Difference
Min. 1 Day Min	88.9	4.32	-95.14
Med. 1 Day Min	141	17.4	-87.66
Min. 3 Day Min	95.3	5.4	-94.33
Med. 3 Day Min	145	20.2	-86.07
Min. 7 Day Min	98	8.35	-91.48
Med. 7 Day Min	148	28.7	-80.61
Min. 30 Day Min	103	28.6	-72.23
Med. 30 Day Min	174	91.3	-47.53
Min. 90 Day Min	132	73.7	-44.17
Med. 90 Day Min	219	270	23.29
7Q10	105	9.43	-91.02
Year of 90-Day Min. Flow	2011	2010	-0.05
Drought Year Mean	560	676	20.71
Mean Baseflow	307	383	24.76

Table 5: Period High Flows

	USGS Gage	VAHydro	Pct. Difference
Max. 1 Day Max	4940	5190	5.06
Med. 1 Day Max	3600	3040	-15.56
Max. 3 Day Max	4490	4070	-9.35
Med. 3 Day Max	3090	2740	-11.33
Max. 7 Day Max	3430	3630	5.83
Med. 7 Day Max	2390	2460	2.93
Max. 30 Day Max	1700	2020	18.82
Med. 30 Day Max	1190	1500	26.05
Max. 90 Day Max	1460	1570	7.53
Med. 90 Day Max	858	1090	27.04

Table 6: Non-Exceedance Flows

	USGS Gage	VAHydro	Pct. Difference
1% Non-Exceedance	110	17.5	-84.09
5% Non-Exceedance	142	95.4	-32.82
50% Non-Exceedance	301	518	72.09
95% Non-Exceedance	1510	1820	20.53
99% Non-Exceedance	2440	2660	9.02
Sept. 10% Non-Exceedance	143	19	-86.71

Fig. 1: Hydrograph

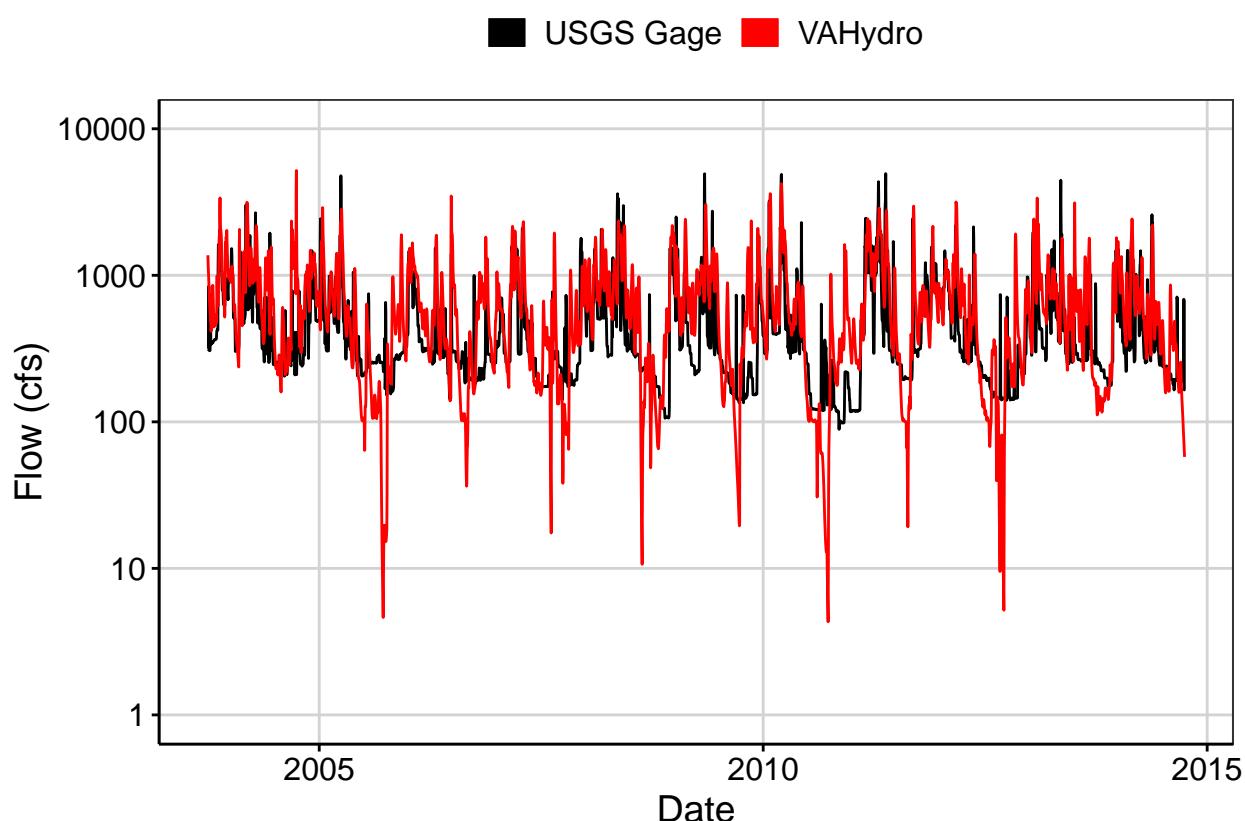


Fig. 2: Zoomed Hydrograph

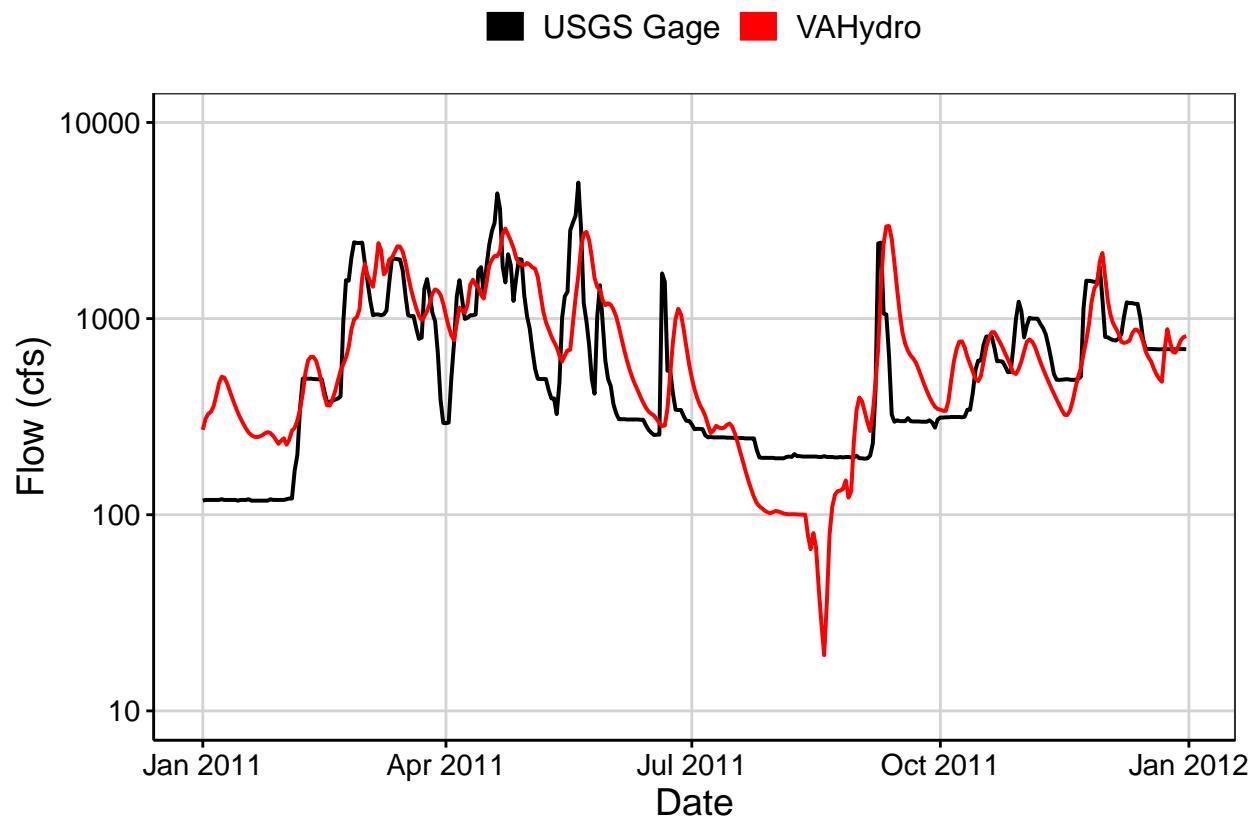


Fig. 3: Flow Exceedance

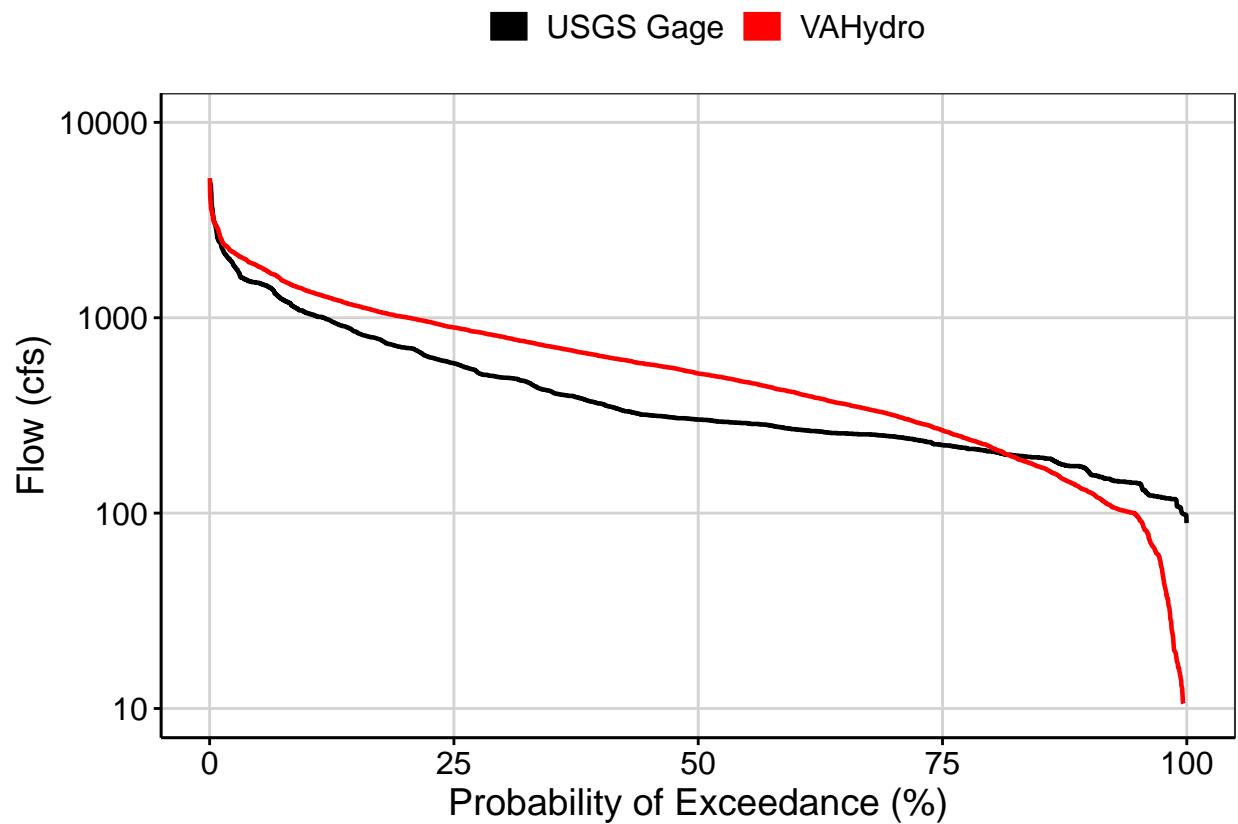


Fig. 4: Baseflow

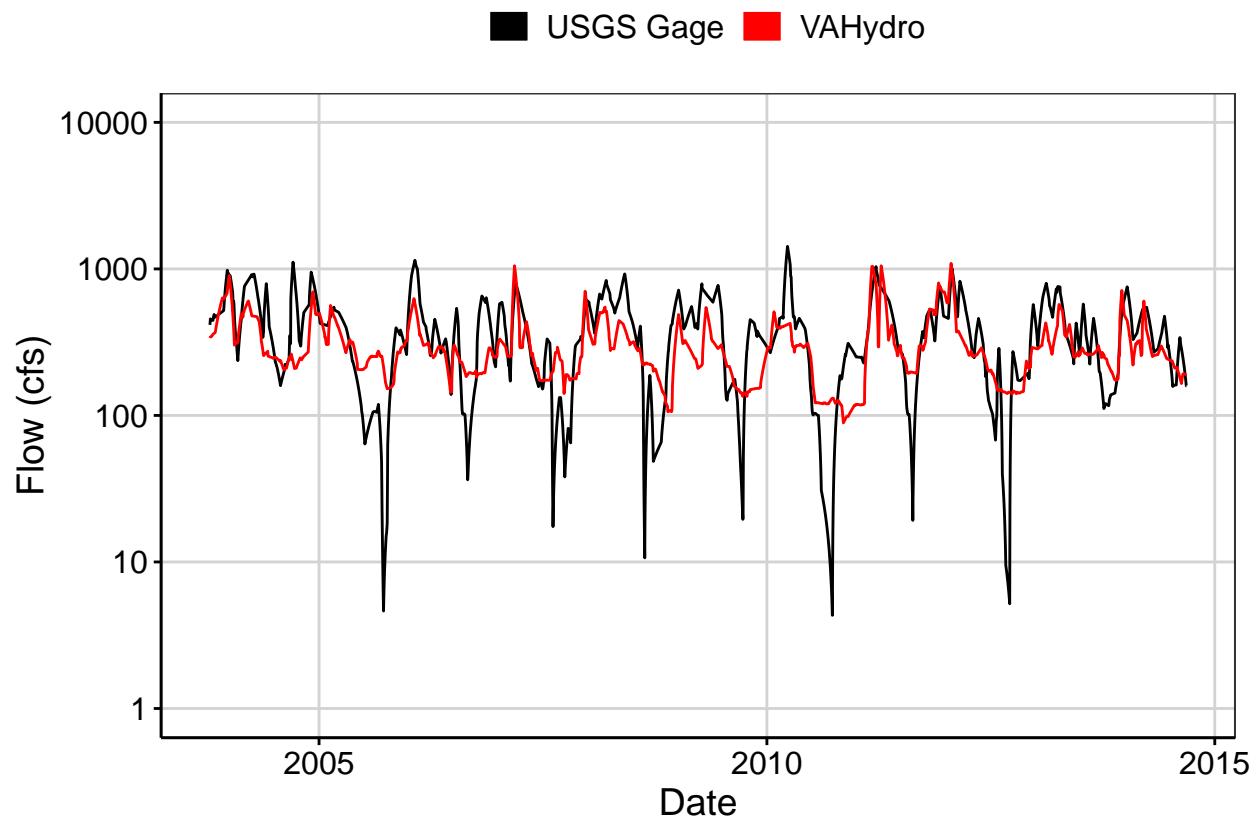


Fig. 5: Combined Baseflow

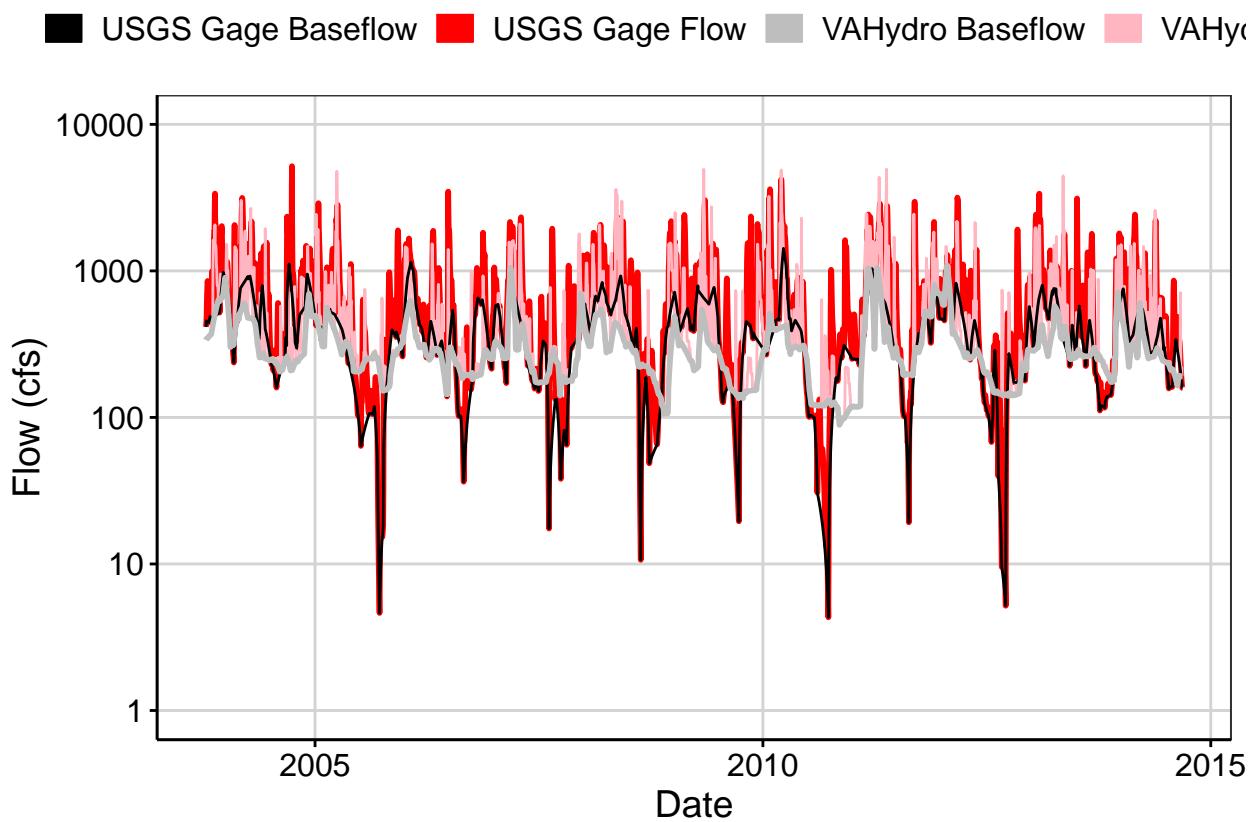


Fig. 6: Largest Difference Segment

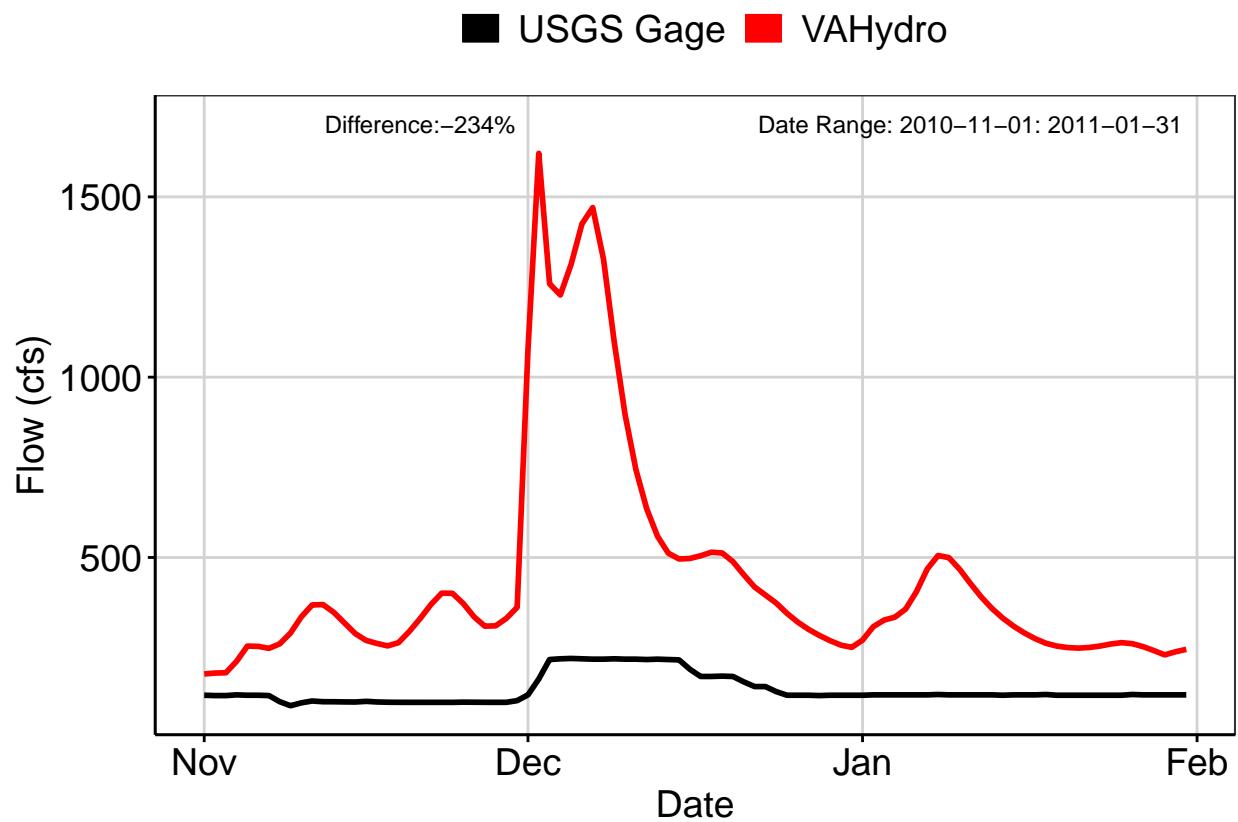


Fig. 7: Second Largest Difference Segment

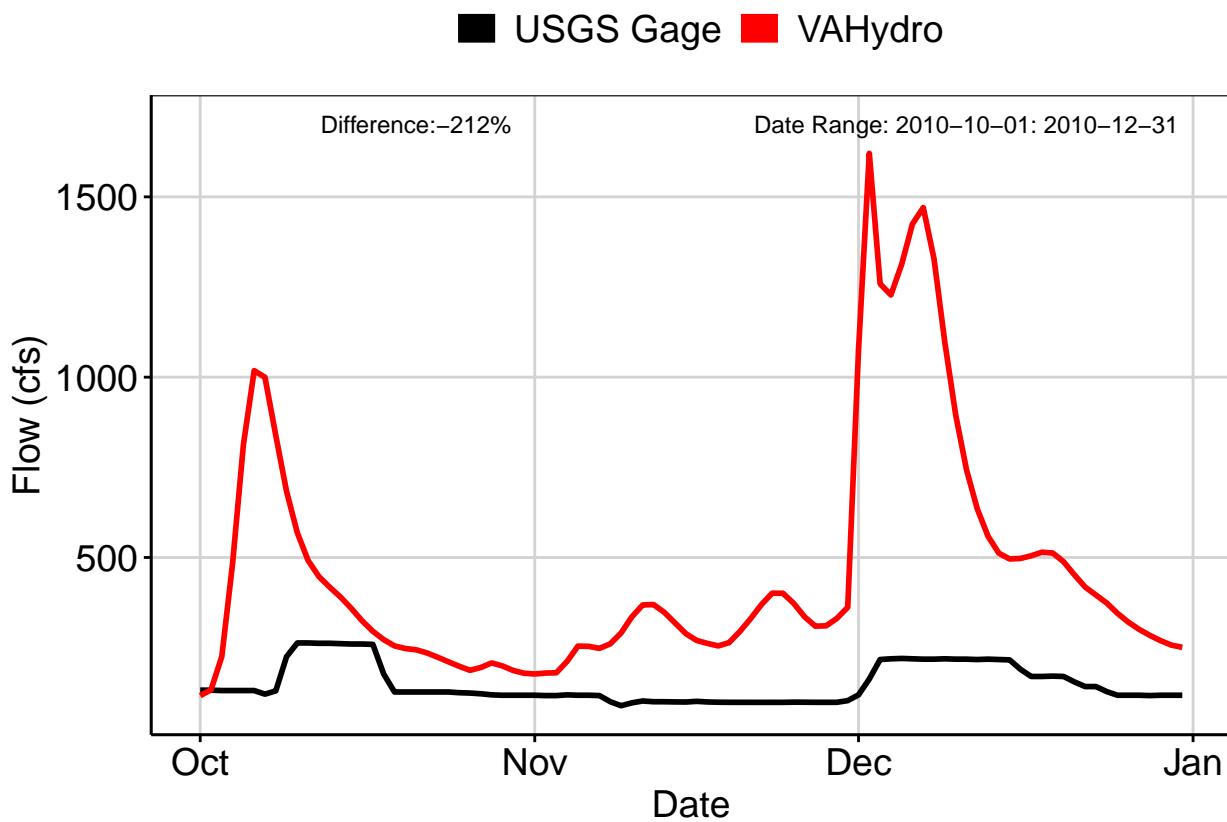


Fig. 8: Third Largest Difference Segment

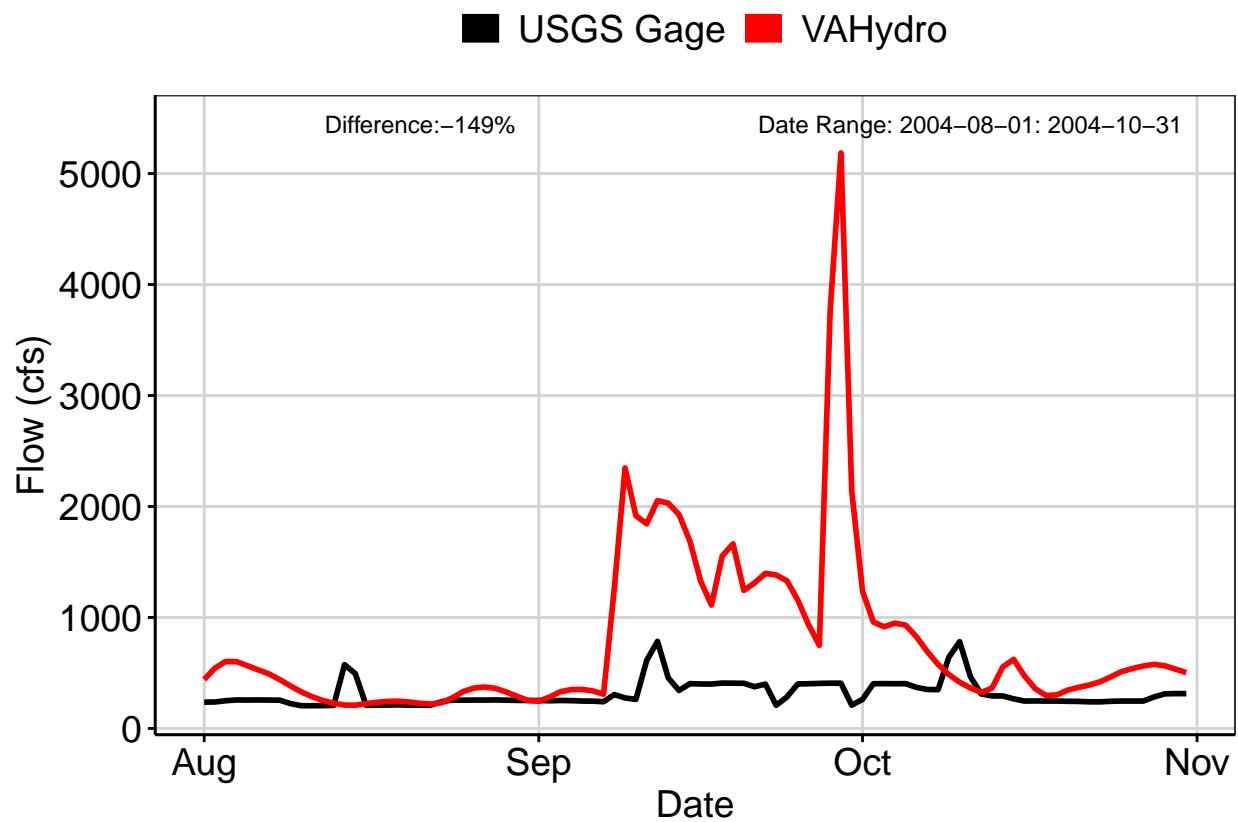


Fig. 9A: Residuals Plot

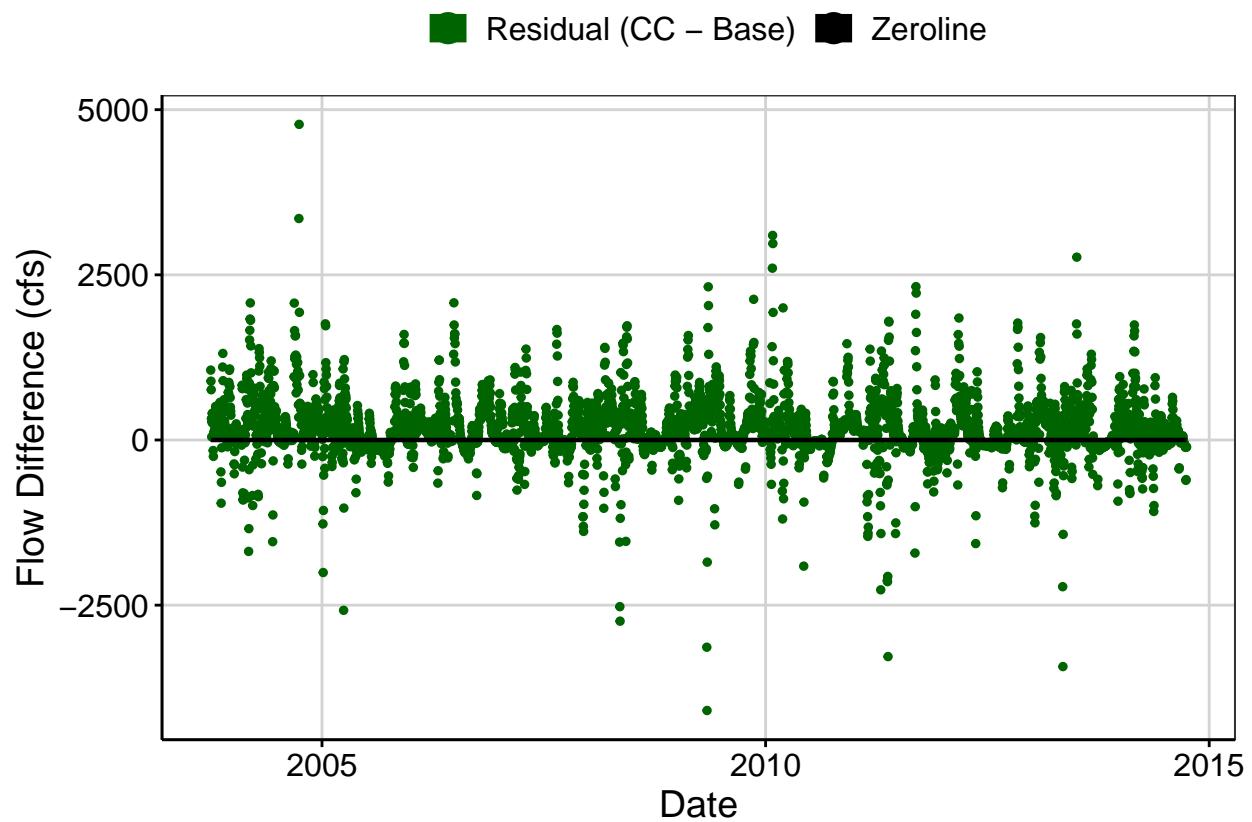


Fig. 9B: Area Weighted Residuals Plot

