

Smallmouth bass, walleye and other fish passage at Susquehanna River Dams, 1997-2009

While the fish passage facilities on the Susquehanna River were designed to pass migratory fish, they also pass large numbers of fish species which are considered “residents” of the river. Gizzard shad, smallmouth bass, walleye, several species of catfish, suckers and other fishes undergo directed, within-river spawning migrations. Since 1997, a total of over 15 million fish (all species) have used the fishways at the four lower Susquehanna River Dams. Gizzard shad represented 80 percent of that total. The tables and figures below provide insight into the extent and timing of fish passage for some resident fish species.

Rivers can be viewed as highways for fish which permit spawning, feeding and wintering migrations. Dams block these migrations, disrupt the life cycles of fish, alter habitat, promote sedimentation, and result in changes in the aquatic community and productivity of the ecosystem. The counting which now occurs at the fish passage structures allows us to track fish species movements which were previously blocked by these dams and therefore not occurring at their present level.

Figure 1. Walleye passage at Susquehanna River Dams

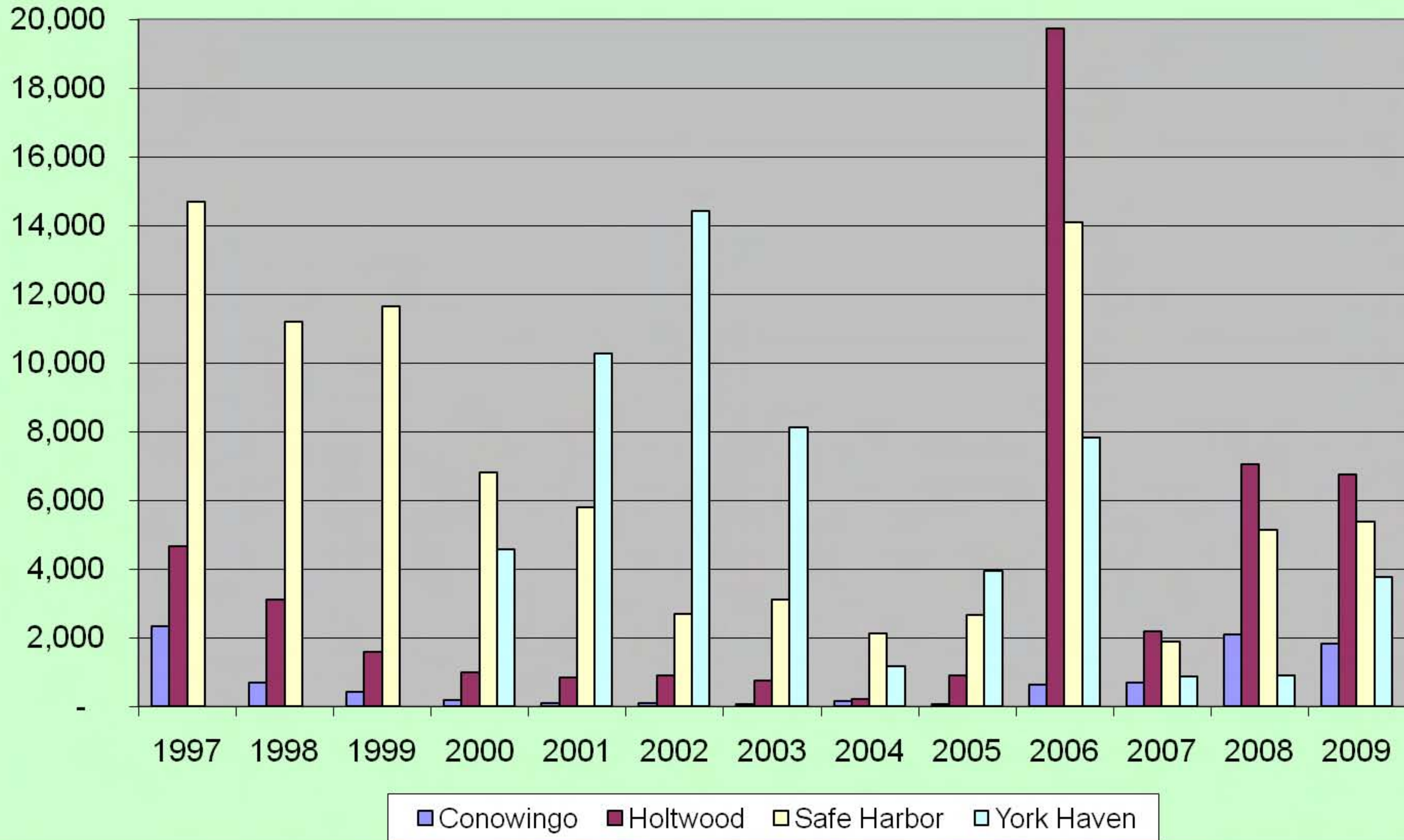


Figure 2. Smallmouth bass passage at Susquehanna River Dams

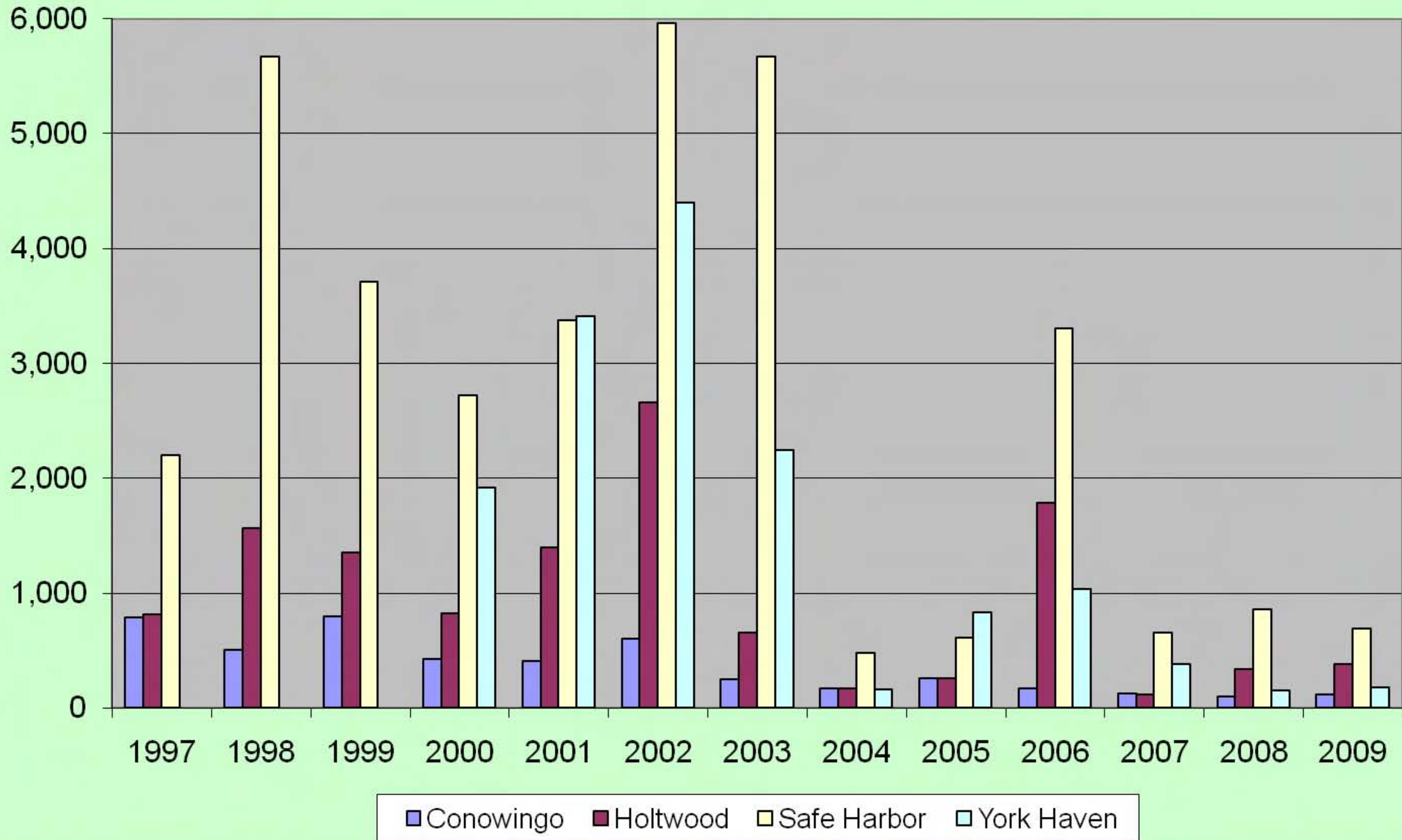


Figure 3. Channel catfish passage at Susquehanna River Dams

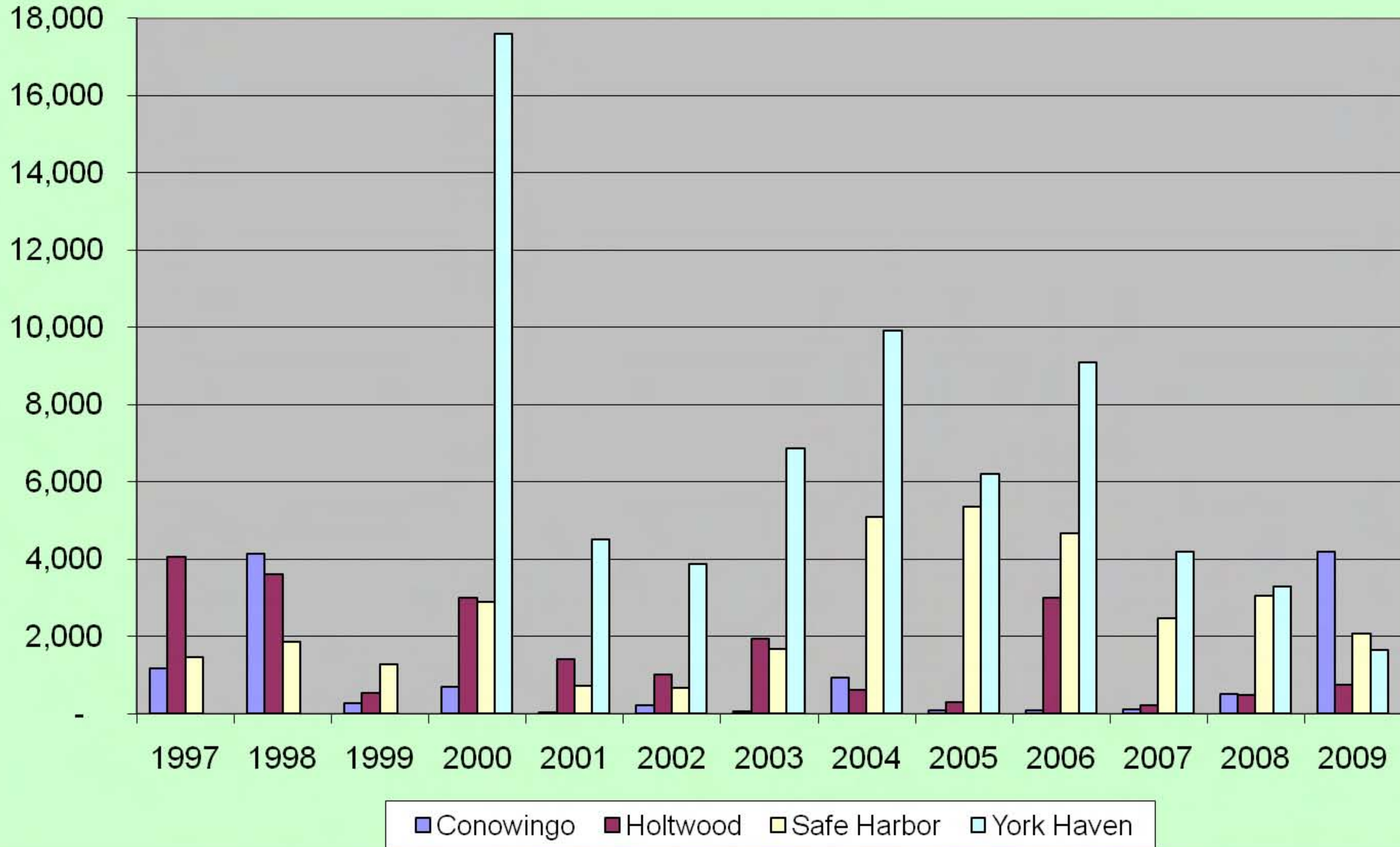


Figure 4. Smallmouth bass and walleye passage at Holtwood Dam, 2001

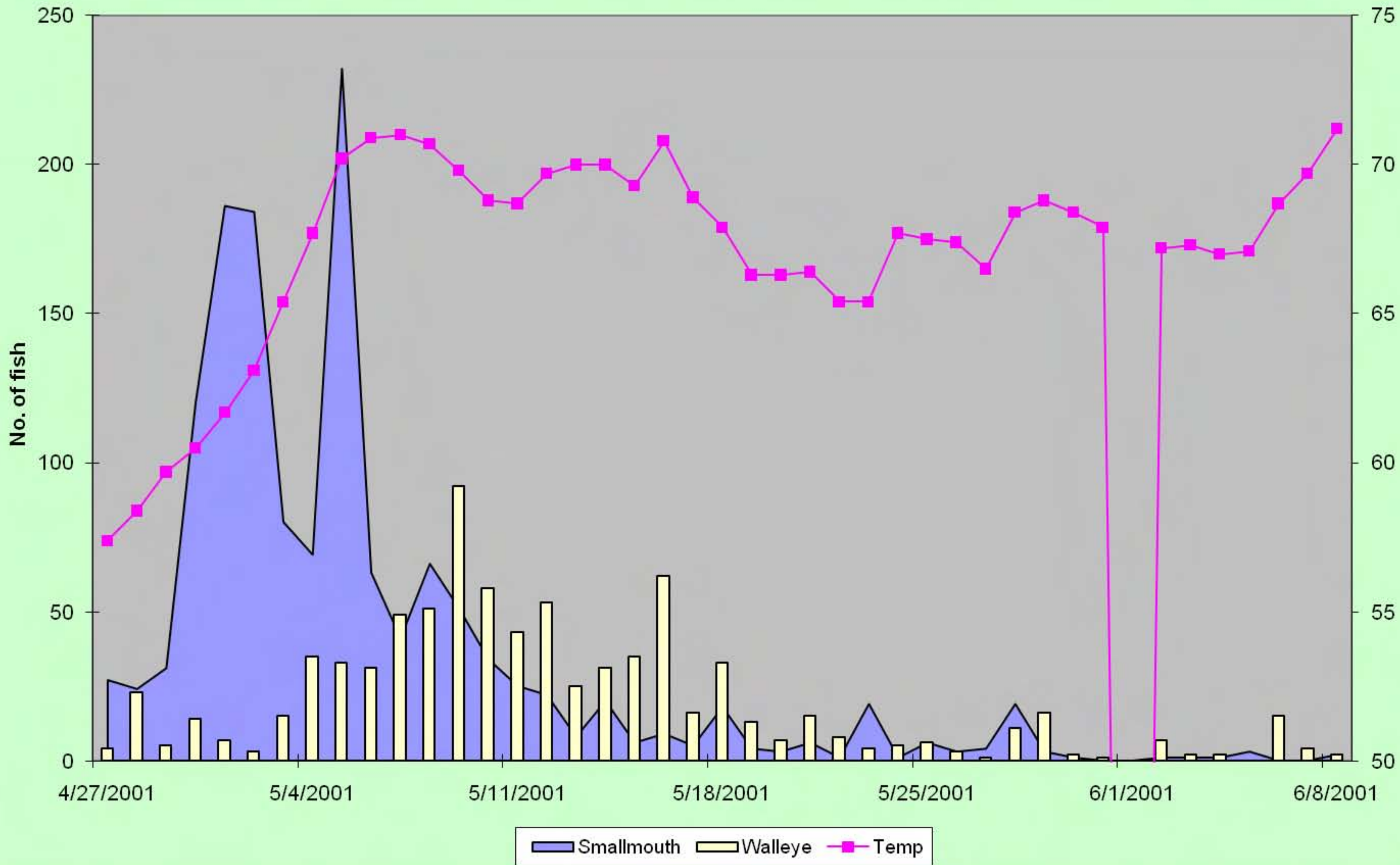


Figure 5. Smallmouth bass and walleye passage at Holtwood, 1999.

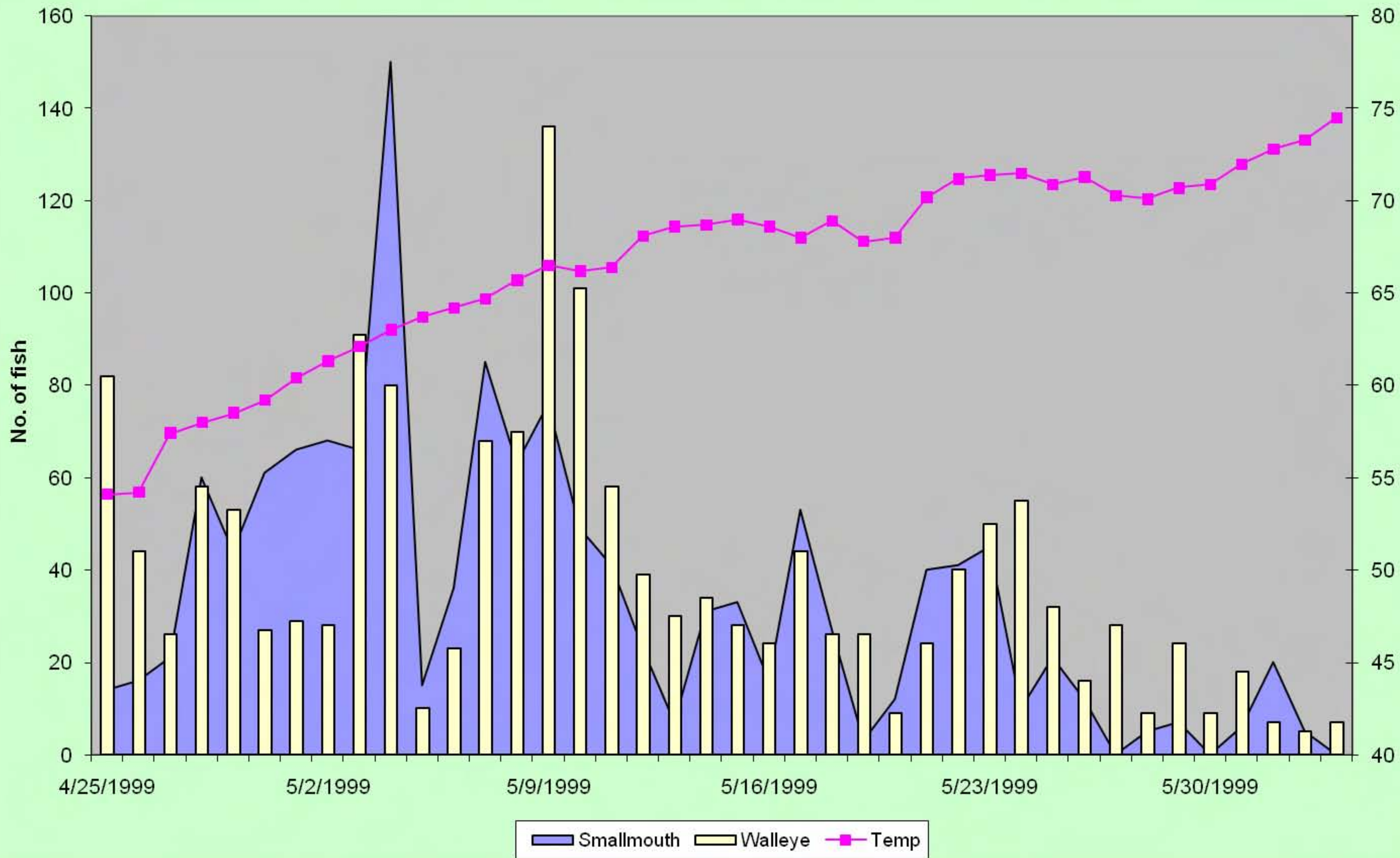


Figure 6. Smallmouth bass and walleye passage at York Haven Dam, 2001

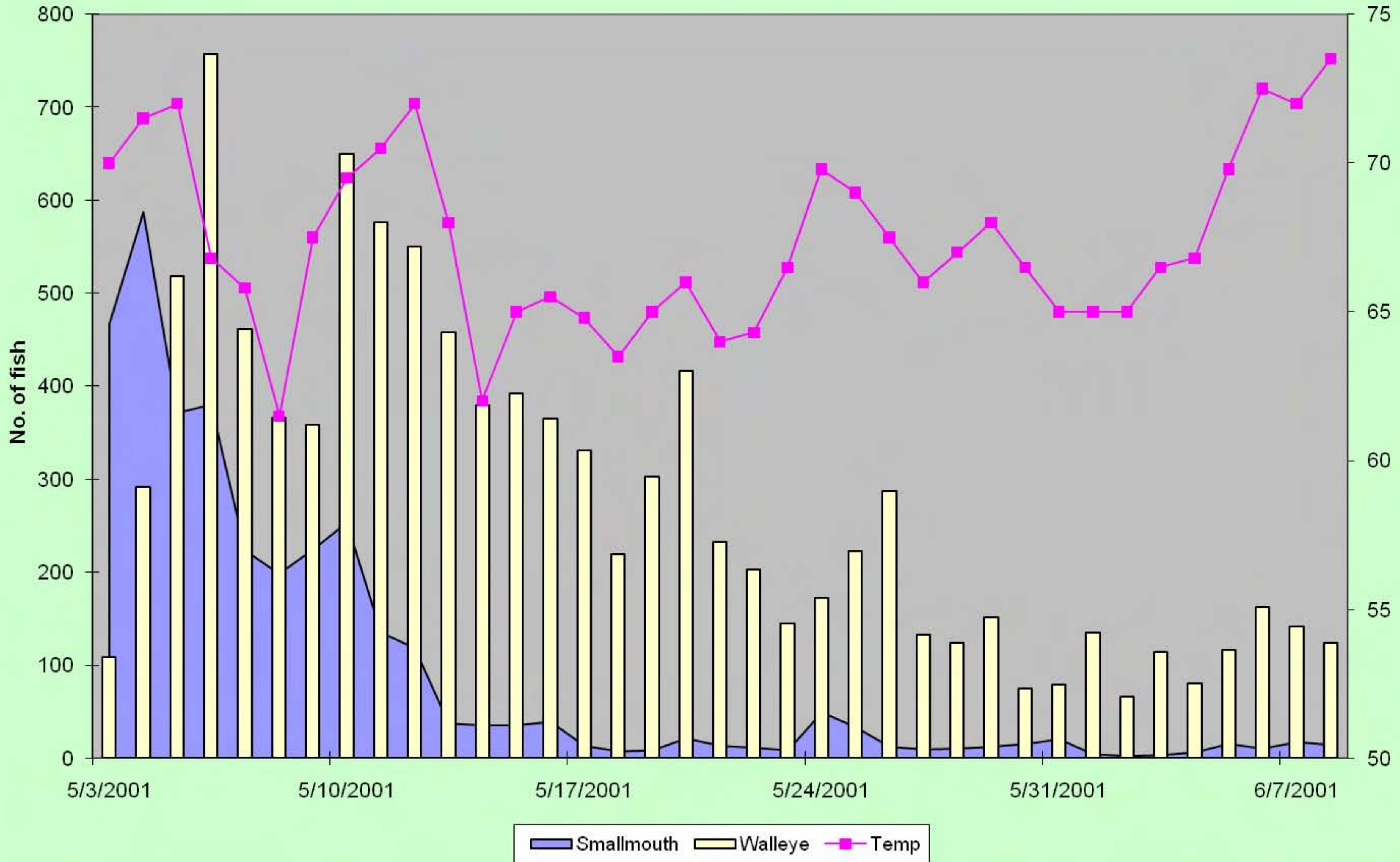


Figure 7. Smallmouth bass and walleye passage at York Haven Dam, 2003

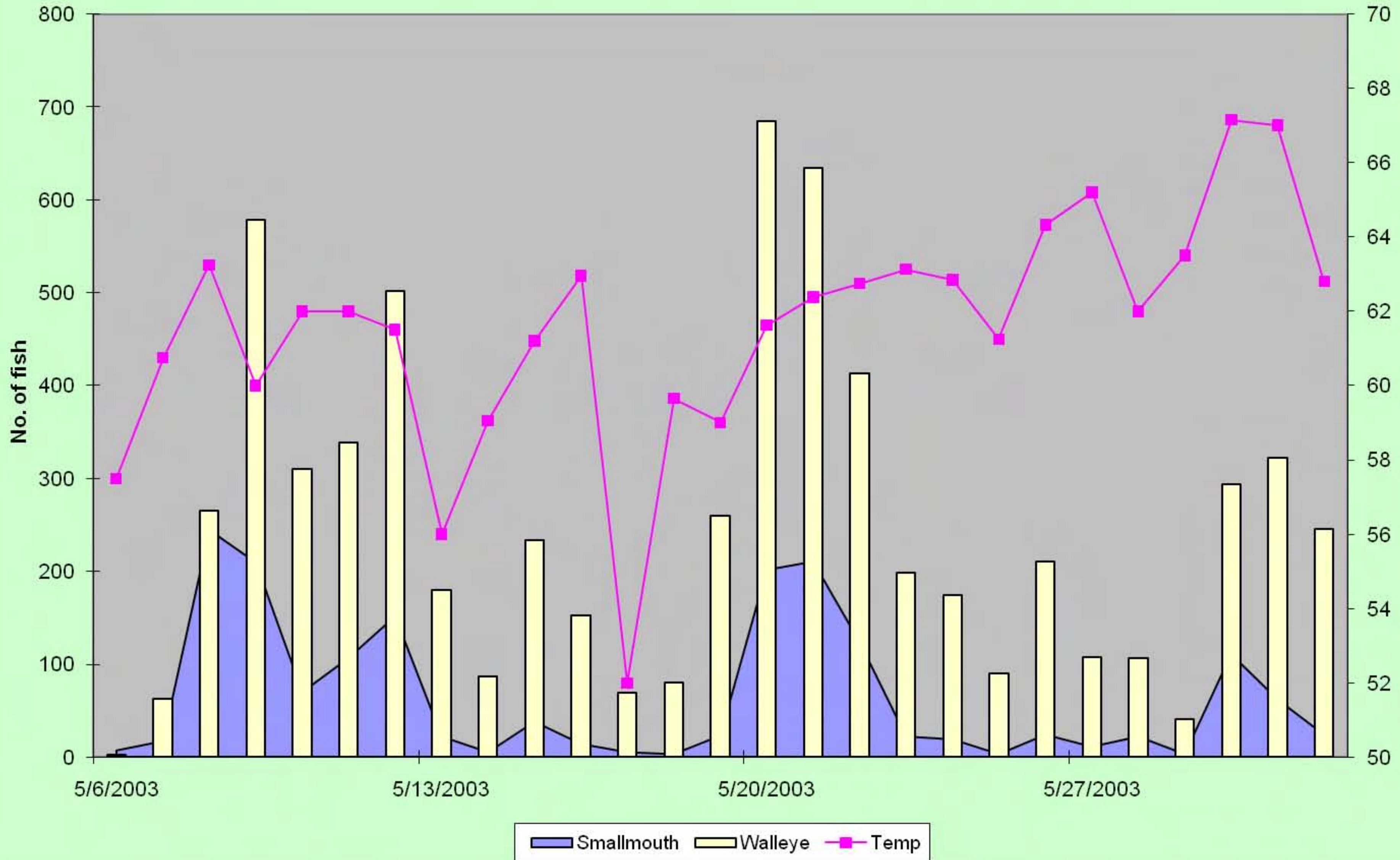


Figure 8. Smallmouth bass and walleye passage at Holtwood Dam, 2006

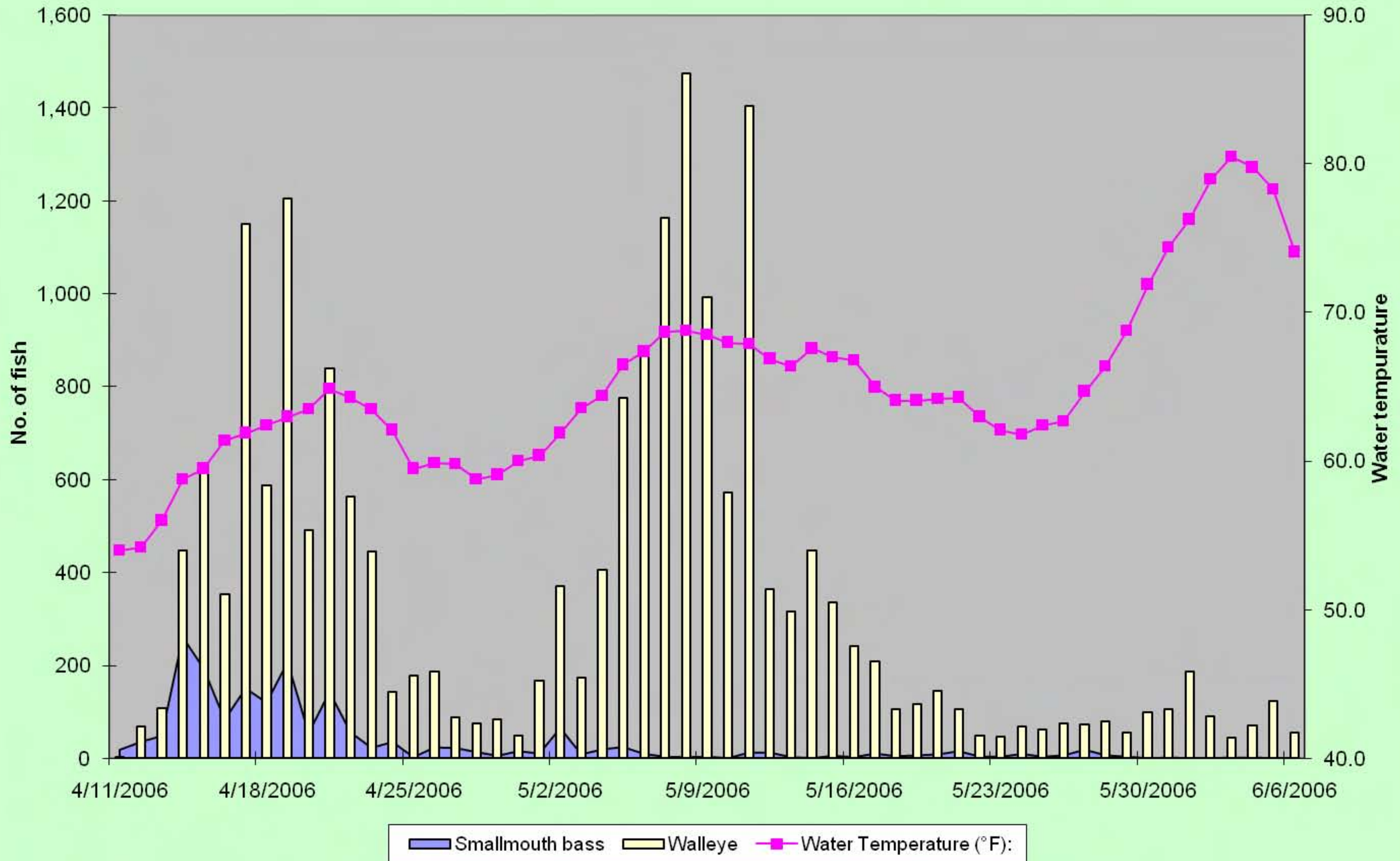


Figure 9. Smallmouth bass and walleye passage at York Haven Dam, 2006

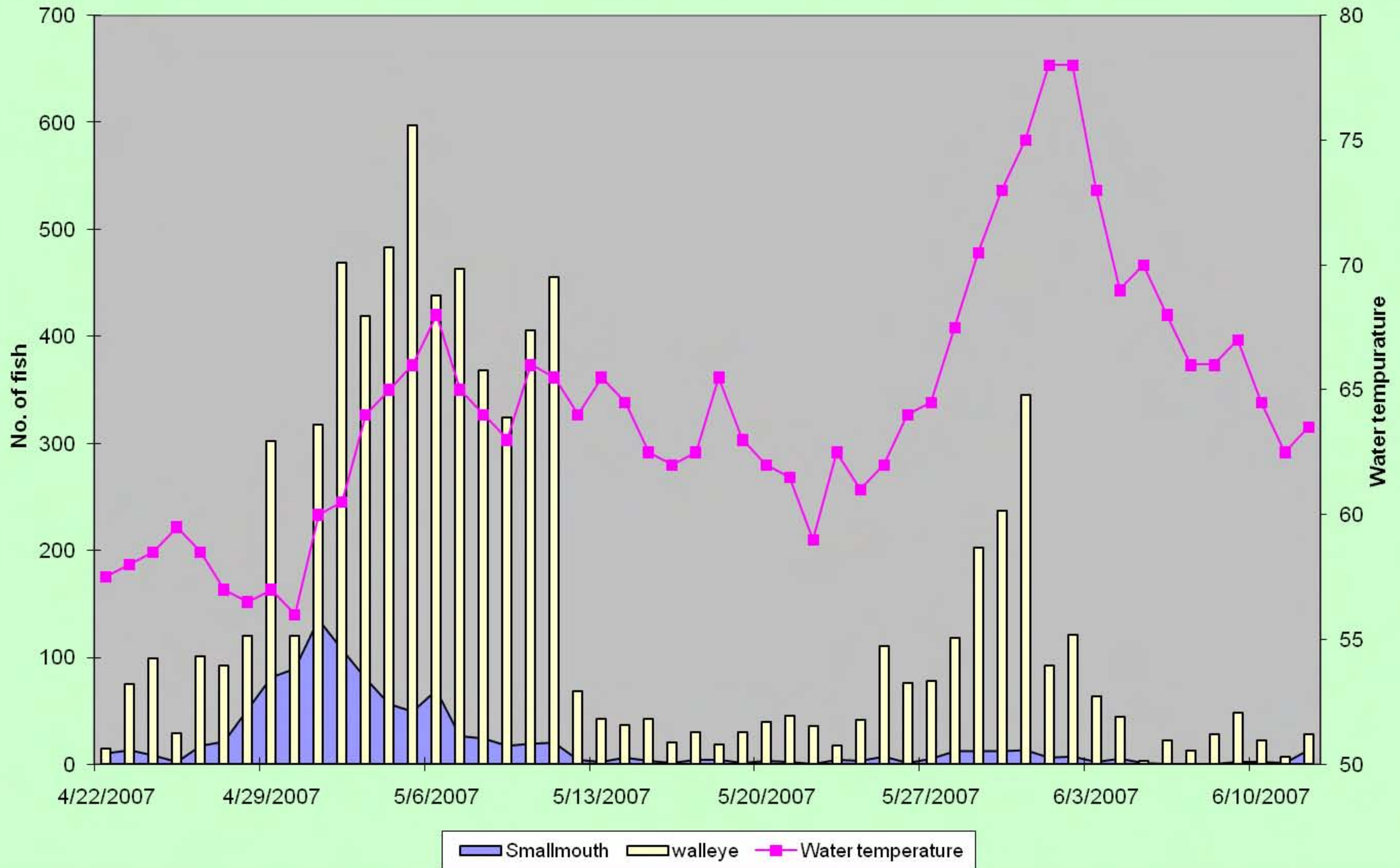


Table 1. Walleye passage at Susquehanna River Dams.

	Conowingo	Holtwood	Safe Harbor	York Haven
1997	2,334	4,652	14,699	no passage
1998	685	3,109	11,198	no passage
1999	421	1,568	11,632	no passage
2000	177	976	6,816	4,581
2001	91	842	5,779	10,260
2002	88	881	2,685	14,415
2003	59	748	3,117	8,132
2004	156	204	2,123	1,178
2005	47	892	2,651	3,946
2006	641	19,726	14,079	7,810
2007	695	2,167	1,869	879
2008	2,088	7,042	5,122	905
2009	1,832	6,750	5,377	3,752
Total	9,314	49,557	87,147	55,858
			Grand total	201,876

Table 2. Smallmouth bass passage at Susquehanna River Dams.

	Conowingo	Holtwood	Safe Harbor	York Haven
1997	783	817	2,200	no passage
1998	508	1,565	5,674	no passage
1999	797	1,348	3,714	no passage
2000	427	825	2,718	1,916
2001	404	1,399	3,379	3,414
2002	597	2,658	5,968	4,403
2003	247	657	5,673	2,242
2004	172	172	478	159
2005	256	258	611	832
2006	165	1,782	3,307	1,032
2007	123	118	655	378
2008	96	334	856	150
2009	113	381	687	176
Total	4,688	12,314	35,920	14,702
			Grand total	67,624

Table 3. Fish passage (all species combined) at Susquehanna River Dams.

	Conowingo	Holtwood	Safe Harbor	York Haven
1997	719,297	225,104	211,084	no passage
1998	712,993	162,584	135,604	no passage
1999	1,184,101	474,660	427,223	no passage
2000	493,955	181,434	169,942	134,279
2001	921,916	310,175	262,416	143,820
2002	656,894	135,285	135,720	145,935
2003	589,177	179,231	152,407	146,420
2004	715,664	177,574	148,020	99,836
2005	377,762	90,741	111,778	35,980
2006	714,918	296,038	179,150	195,410
2007	539,203	143,421	112,484	31,670
2008	943,838	248,980	179,136	23,028
2009	915,417	254,667	194,620	10,925
Total	9,485,135	2,879,894	2,419,584	967,303
			Grand total	15,751,916

Table 4. Gizzard shad passage at Susquehanna River Dams.

	Conowingo	Holtwood	Safe Harbor	York Haven
1997	344,332	167,916	116,158	no passage
1998	654,575	138,713	102,702	no passage
1999	950,500	430,006	361,093	no passage
2000	317,753	141,176	120,696	79,972
2001	429,461	188,098	151,873	89,272
2002	513,794	107,600	98,138	100,779
2003	459,634	145,732	117,031	113,513
2004	602,677	170,411	127,628	84,234
2005	305,378	52,708	44,387	12,805
2006	655,990	227,443	244,907	164,869
2007	508,627	121,927	84,466	21,843
2008	919,975	235,699	163,354	15,930
2009	876,412	228,712	174,233	76,995
Total	7,539,108	2,356,141	1,906,666	760,212
			Grand total	12,562,127

Table 5. Rock bass passage at Susquehanna River Dams.

	Conowingo	Holtwood	Safe Harbor	York Haven
1997	204	285	89	no passage
1998	74	228	464	no passage
1999	31	162	660	no passage
2000	25	153	527	8
2001	33	104	561	317
2002	41	71	170	37
2003	18	85	199	43
2004	7	15	280	0
2005	5	23	51	15
2006	14	136	132	35
2007	17	44	80	3
2008	14	59	82	0
2009	19	45	133	4
Total	502	1,410	3,428	462
			Grand total	5,802

Table 6. Channel catfish passage at Susquehanna River Dams.

	Conowingo	Holtwood	Safe Harbor	York Haven
1997	1,178	4,060	1,449	no passage
1998	4,135	3,604	1,860	no passage
1999	266	534	1,281	no passage
2000	677	3,007	2,884	17,613
2001	29	1,413	726	4,513
2002	199	1,006	656	3,859
2003	57	1,936	1,664	6,866
2004	928	621	5,077	9,910
2005	83	296	5,345	6,199
2006	75	2,995	4,673	9,097
2007	108	208	2,462	4,192
2008	496	468	3,039	3,286
2009	4,201	737	2,068	1,632
Total	12,432	20,885	33,184	67,167
			Grand total	133,668

Table 7. Flathead catfish passage at Susquehanna River Dams.

	Conowingo	Holtwood	Safe Harbor	York Haven
1997	0	0	0	no passage
1998	0	0	0	no passage
1999	0	0	0	no passage
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
2003	0	0	0	0
2004	0	4	3	2
2005	1	0	1	1
2006	0	4	0	0
2007	1	1	0	0
2008	0	1	26	0
2009	0	2	2	0
Total	2	12	32	3
			Grand total	49