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## Susquehanna River American Shad

Shad operations got underway in 2008 at Conowingo with 71 American shad passing through the fish-way on April 16, the 1st day of operations. This is one week earlier than the April 23, 2007 start of operations last year. Little movement at the fish-ways is seen until water temperatures reach at least 50° F, which encourages upstream shad movement.

With only 21 shad passing at York Haven, a very disappointing 2008 season ended on June 12. The 2008 passage season was poor due to a combination of weak year classes and sustained high water flows and low water temperatures during the early portion of the run in April and most of May. These environmental conditions further limited movement of those fish that were present in the river.

Low numbers of shad passing Safe Harbor dam meant that few fish would be available to reach the fish-way at York Haven. By the time they did, unseasonably warm weather prevailed and water temperatures quickly climbed beyond those preferred for spawning. This can cause the urge to continue migrating upstream to weaken considerably. In addition, spent shad which had already spawned due to the rising water temperatures, were observed passing the viewing windows with increasing frequency. Hence, the decision was made by the appropriate agencies to discontinue upstream American shad passage for this year.

Weekly reports are provided below.

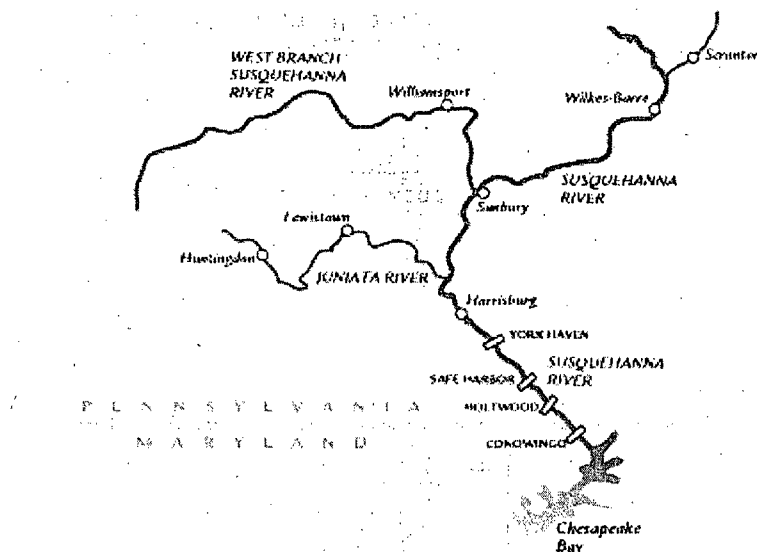
### 2008 Passages

	Fish Passage Facilities (downstream >>> upstream)			
<i>Date/Event</i>	<i>Conowingo</i>	<i>Holtwood</i>	<i>Safe Harbor</i>	<i>York Haven</i>
<i>Last day of operation</i>	June 6	June 9	June 11	June 12
<i>Final count</i>	<b>19,914</b>	<b>2,795</b>	<b>1,252</b>	<b>21</b>
June 14	-	-	1,252	21
June 7	19,914	2,784	1,209	-
May 31	18,889	1,430	550	-
May 24	14,299	848	366	-
May 17	13,108	835	353	-
May 10	11,024	743	289	-
May 3	6,423	640	200	-
April 26	4,526	565	-	-
<i>1st shad</i>	April 16	April 21	April 28	May 27
<i>1st day of operation</i>	April 16	April 21	April 28	May 21

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### Susquehanna River Fish-Way Operations

There are fish passage facilities (fish-ways) at each of the four Hydroelectric Dams on the lower Susquehanna River. Conowingo, Holtwood and Safe Harbor Dams, the first three moving upriver, have fish lifts or elevators. York Haven Dam, the fourth dam, has a vertical slot fish ladder. Fish lifts work by using water currents to attract the migrating fish into a channel. Crowder gates close to crowd the fish over the hopper bucket, and the bucket is lifted vertically to the level of the reservoir upstream. The water and fish in the bucket are then dumped into an exit trough which leads the fish to the reservoir.

**Summary of Shad Passages -- Final Counts**

YEAR	Conowingo	Holtwood	Safe Harbor	York Haven
2007	25,464	10,338	7,215	192
2006	56,899	35,968	24,929	1,913
2005	68,853	34,189	24,425	1,772
2004	109,360	3,482	2,109	219
2003	125,135	25,254	16,646	2,536
2002	108,001	17,522	11,705	1,555
2001	193,574	109,976	89,816	16,200
2000	153,546	29,421	21,079	4,675
1999	69,712	34,702	34,150	--
1998	39,904	8,235	6,054	--
1997	90,971	28,063	20,828	--
Conowingo was built in 1991 but didn't pass fish until 1997. Holtwood and Safe Harbor came online in 1997, York Haven in 2000.				

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