

# Shad School

By Bob Sadzinski and Tony Jarzynski

American shad (shad) were once highly sought in the Chesapeake Bay, prized for both their roe and flesh. George Washington was the most prominent American shad fisherman in the region, landing thousands of pounds on the Potomac River.

As an anadromous species (Glossary of Terms), American shad (American Shad Fact Sheet) are most susceptible to capture during their spawning run. As pollution, loss of habitat and fishing increased, American shad populations began to decline. In 1980, the DNR closed the recreational and commercial fishery for American shad in Maryland waters. Also in 1980, the DNR initiated American shad research in the Susquehanna River.

In recent years, American shad have increased abundance significantly in the Susquehanna River bringing back the memories of the "good old days." In the last five years, the fish lifts at Conowingo Dam, the first dam on the Susquehanna River, have passed almost 130,000 American shad annually. The popularity of the catch and release fishery below Conowingo Dam has also increased significantly and now you may find yourself shoulder to shoulder with other anglers during the peak of the spawning run, catching up to 100 American shad per day.



Shad School brought together the history and cultural significance of American shad through hands-on activities, field trips and aquaculture. Originally designed by the Susquehanna River Basin Commission (SRBC) and the DNR, students learned the American shad life cycle, identification and physiology. In addition, students handled other anadromous and catadromous (Eel facts) species, collected data that DNR fishery biologists collected and removed scales and otoliths (ear bones) for age analysis. In addition, the schools toured the Conowingo Dam fish passage structures including the east and west fish lifts.

The three schools involved in the program this year were Perryville Middle School and North Harford and Queen Anne's County High Schools. In early May, these schools received American shad eggs or fry which required daily care, feeding

and testing water quality. Upon arrival at the schools, the shad fry were allowed to acclimate before they were released from the transport bags into the 30-gallon aquariums.

Brine shrimp had to be hatched and were fed to the shad three times a day. "Feeding American shad was groundbreaking for the schools", said Bob ("Mr. Bob") Sadzinski who led the project for the DNR, "because this was the first time in Maryland, shad have been kept for several weeks in classrooms requiring feeding." In general, when American shad are raised outside a hatchery they have not been kept longer than a few days because of feeding and water quality problems.

Students putting fish in tank.

"We expected ten percent survival," said Tony Jarzynski of the DNR, "but on average we had 30% survival of the American shad fry!" Many of the fish that did die was because of the long ride between the hatchery and the schools.



In thank you notes sent from Perryville Middle School students to Mr. Bob after handling adult shad and young eels during classroom presentations, students said, "I liked having you come to our classroom but I could never work for you because of that fishy smell. Another student commented, "The thing I liked the most was holding the baby eels... they are so cute and cool". One other commented, "I want to thank you for letting us dissect fish, it was cool in a disgusting way."

Within the DNR, the Alosid, Aquaculture, and Fish Passage projects, while Maryland Sea Grant and Exelon Corporation (who manage Conowingo Dam) provided outside assistance with this project. Grants supplied by the Aquatic Resource Education Program (MD DNR) allowed for the purchase of required equipment for the schools (<http://www.dnr.state.md.us/education/are>).

At the American shad stocking ceremony at Deer Creek in Harford County DNR Secretary C. Ronald Franks said, "This program is exceptional not only for the thousands of American shad raised by these students, but also because of the lessons they have learned - the students, not the shad -- about the importance of restoring our natural resources. It's heartening to see them learn about a fish that is such a part of Maryland's culture. And it's even more gratifying to know that they are starting down a path of stewardship that will help ensure the protection and enhancement of our natural and living resources for generations to come."

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Students with DNR Secretary Franks