# *Shad in the Schools*

The Brandywine Conservancy has been working since 2003 to restore American shad to the Brandywine River, which once supported them in the tens of thousands. In May, the Conservancy enlisted the help of students at local schools—two in Pennsylvania and two in Delaware—for our ongoing shad restoration project. The students raised baby shad in classroom hatcheries and released them into the Brandywine as part of a hands-on approach to learning about water quality, ecology and history.

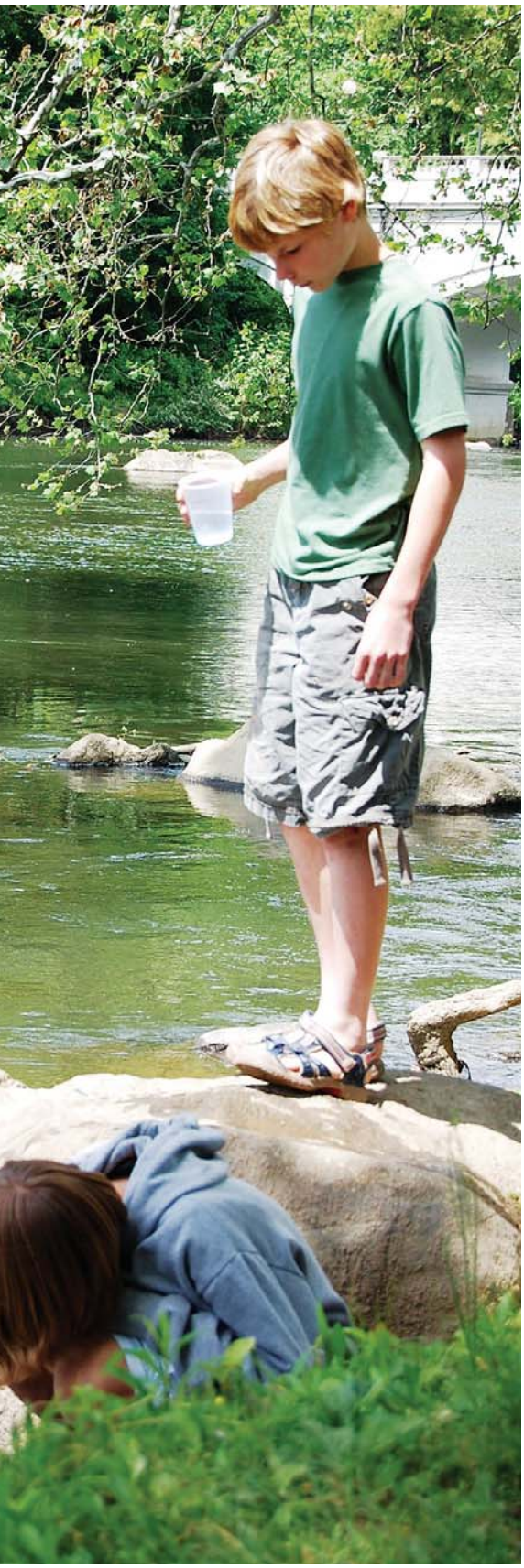
The four schools in the inaugural "Shad in the Schools" program included Tower Hill School (fifth grade) and Wilmington Friends School (seventh grade) in Delaware, and Chadds Ford Elementary (third grade) and Pocopson Elementary (fourth grade) in Pennsylvania. The University of Delaware also participated through its Water Resources Agency. Each school funded the costs of its equipment and the teachers who attended training.

On Sunday, May 2, Conservancy senior planner Robert Lonsdorf traveled to the Potomac River, along with two of the teachers and a volunteer, to join local biologists and watermen laying nets to obtain freshly harvested shad eggs. The following morning, each of the classrooms received several thousand eggs which were placed inside special hatcheries the students had constructed. Throughout that week, the students observed the eggs' growth while learning about water quality as well as about the importance of shad biology and history. They monitored and adjusted the water temperature, pH, ammonia, nitrate and chlorine levels each day, following protocols developed over the past 10 years in a similar program in the Potomac area.

On Friday, May 7, the students released the small fish, called "fry," into the Brandywine. So tiny they are barely more than "two eyes and a wiggle," the fry will grow several inches before they swim downstream in the fall and out to the Atlantic Ocean, where they will mature over the next 4-6 years. They will return to spawn in the Brandywine, which they "imprinted" when young.

Shad was an important food source for Native Americans as well as early settlers. However, in the 18th and 19th centuries, numerous dams were constructed along the river to power mills. These dams inadvertently blocked the shad from swimming upstream, fragmented and degraded natural river habitat, and reduced water quality. Today, many of the dams are good candidates for

*Photo credit: Lora Englehart*



*Conservancy staff member Robert Lonsdorf and students from Wilmington Friends school release shad fry into the Brandywine.*

removal, while others can be adapted using various options for fish passage.

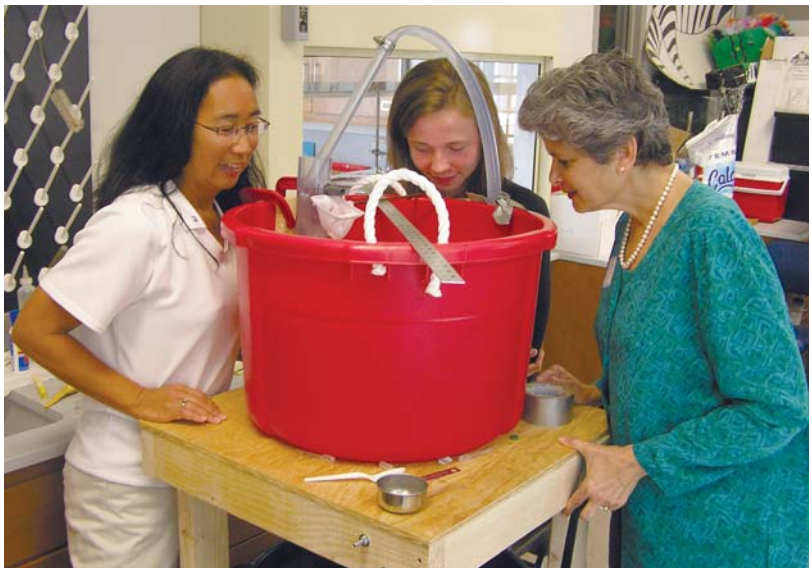
Restoring American shad and other migratory fish would augment the food supply of numerous populations of birds, mammals and resident fish, increasing the biological vitality of the watershed. Migrating shad would also create a new type of recreational fishing in the Brandywine, especially in the Wilmington area.

The Conservancy is focusing on a cooperative "bottom-up" approach to restoring the shad that begins in Delaware. We are developing partnerships with dam owners, state and federal agencies and other interested parties in Delaware and Pennsylvania. The Conservancy has prepared feasibility studies, which describe fish passage options such as dam removal, fish ladders, rock ramps and by-pass channels. The studies are available on the Conservancy's website at www.brandywineconservancy.org.

The Conservancy expects that when the estimated 8,000 fry released through the "Shad in the Schools" program return to the Brandywine starting in 2014, there will be increased spawning habitat available to them.

Word travels fast. The Conservancy has already been contacted by additional schools interested in participating in the "Shad in the Schools" program in 2011. The Conservancy hopes to expand the program to additional schools and broaden the curricula relating to these fascinating and important native fish.

*Teacher Karen Horikawa and student Louise Connelly, along with Sherri Evans-Stanton, director of the Environmental Management Center, take a look at the shad hatchery at Wilmington Friends school.*



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