

## **Partnership looks to restore wildlife in area**

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A team of scientists and students from the Institute for Public Administration's (IPA) Water Resources Agency (WRA) at the University of Delaware have partnered with biologists from the Delaware Division of Fish and Wildlife and the Brandywine Conservancy to help restore American shad and hickory shad to the White Clay Creek, a National Wild and Scenic River near Newark.

Funded by the National Fish and Wildlife Foundation and the U.S. National Park Service through the White Clay Creek Watershed Management Committee, the UD team -- IPA assistant policy scientist and principal investigator Martha Corrozi Narvaez and urban and regional planning master's degree students Sarah Chatterson, Erin McVey, and Stacey Mack -- surveyed the creek to determine the hydraulic, environmental, historic, and economic feasibility of removing seven historic dams along the White Clay Creek between I-95 and the UD campus above Newark into Pennsylvania. IPA has just published its initial report on dam removal.

In the spring, schools of American shad swim upstream in their perennial odyssey to reach ancestral spawning grounds in the freshwater creeks of the Delaware Basin. However, after spending five years growing to adulthood in the Atlantic Ocean, shad return to the tidal creeks of their birth only to be obstructed from their spawning habitat by hundreds of low dams built centuries ago for primitive hydropower for mills. Removal of these obsolete dams is designed to reopen 13 miles of White Clay Creek habitat to spawning of American shad for the first time in a century.

The UD team navigated the lower White Clay Creek by kayak between Newark and tidewater, recording observations of historic dams and assessing the hydraulic feasibility of dam removal. WRA plans to file grant applications with American Rivers, U.S. Fish and Wildlife Service, and NOAA to carry out the implementation phase of this shad-restoration project.

Part of the project is to promote Shad in Schools, a program that serves as an education tool for primary and secondary school students about American shad and the importance of water quality and fish habitat. Next year UD and the Brandywine Conservancy will begin working with the Delaware River Shad Fishermen's Association to obtain a source of American shad eggs for future Shad in Schools efforts in the Delaware Basin.

The future of the White Clay Creek as a shad fishery is promising. Through a sampling in late April 2010, biologists from state of Delaware fisheries discovered that hickory shad were more abundant than expected; they were able to count around 1,000 fish per hour.

Known as America's "founding fish" for their part in nourishing George Washington's troops after the freezing winter at Valley Forge, shad -- anadromous fish in the herring family -- are returning to the basin in numbers not recorded in a century, mainly due to remarkable water-quality improvements since the Clean Water Act was passed decades ago during the Nixon administration.

Since the White Clay Creek Wild and Scenic River legislation was introduced to Congress by then-Senator Joe Biden and signed by President Bill Clinton in 2000, WRA policy scientists have partnered with the National Park Service and served as Delaware co-coordinators of the bi-state watershed management plan.

The White Clay Creek in Delaware and Pennsylvania was the first national Wild and Scenic River in the USA designated on a watershed basis rather than as a traditional river corridor. The University of Delaware in Newark along the White Clay Creek is one of only two land-grant universities in the United States that has a designated National Wild and Scenic River flowing through campus, the other being Colorado State University.