Students Raise, Release Shad

Instructions

Read the following newspaper article. As you read take notes on predators and prey of shad and what habitat restoration projects the students do to help clean up the water quality of the Potomac River.

Greenbriar West Students Return fish to Potomac River

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Excerpted from an article by Bonnie Hobbs, June 28, 2007

Fifth-graders at Greenbriar West Elementary (GBW) learned firsthand that even children can play an important role in preserving the environment and the ecosystem. They were among students at 18 other schools who collected shad eggs, raised them into fish and then released them into the Potomac River.

In fact, for the past 12 years, students throughout the Washington, D.C., area have participated in the American Shad Restoration Project. And once returned to their spawning grounds, the fish swim more than 12,000 miles to the sea — and then come back to lay their eggs in Great Falls National Park.

Participating last month from GBW were students in teacher Mary Margaret Wetterhahn's fifth-grade GT class. And, she said, "It's one of the only conservation efforts in the country where children are saving a threatened animal." The students caught 2,500 shad eggs off Dogue Creek near Fort Belvoir and brought them back to their classroom. They also read the award-winning book, "Let the River Run Silver Again!" by biologist/educator Sandy Burk.

"Shad are an important part of the ecosystem of the Potomac River and Chesapeake Bay," said Burk. "And the shad restoration program is a documented success. So far this year, students have released over 20,000 fish into the Potomac River below Great Falls, as well as into the Anacostia River."

In Virginia, this program is funded by the Virginia Chesapeake Bay Restoration Fund. And thanks partly to the student shad program, American shad are returning to the Potomac River and Great Falls in increasing numbers. "Because of dams, pollution and overfishing, the shad fishery for the whole Chesapeake Bay was closed," said Burk. But, added Wetterhahn: "This program began in 1996, and we're now seeing levels returning to where the fishery might be able to be reopened."

While raising the fish in their classroom, her students explained why shad are important to the Chesapeake Bay's ecosystem. "Many animals who live there, including dolphins, eat them," said Niharika Dar, 10. "The bald eagles and osprey catch them," said Matt Alvarez, 11. "So if the shad population comes back, then the bald eagle and osprey population will, too, as a result." "That's because shad are part of the food chain," said Hannah Zarnich, 11. "The shad eat plankton that hide in the grasses, and the bald eagles and dolphins eat the shad."

For three weeks prior to their catching the shad eggs, the students prepared water in a big, blue bucket in which they would hatch. "We put in bio-balls — plastic, spiky disks that grow healthy bacteria on them," said Matt. "And we added a liquid bacteria to help the healthy bacteria grow to help our fish survive," said Niharika. At first, they put in too much so, said Hannah, "The ammonia level was too high," added Matt.

Hannah said they recorded water-quality targets; Niharika said they also kept records of the number of dead eggs "because we want to know how many we release at the end of the project. Some just die naturally and some don't get fertilized."

Wetterhahn said they generally got 10 eggs per milliliter of water.

Burk expected 50 percent to survive. "In nature, one out of 1,000 go to sea to hatch," she said. "In a hatchery, that number goes up dramatically." Matt said they planned to watch the eggs and fish develop over their rapid, three-day gestation.

Hannah was pleased that they learned how to keep the water stable for the eggs, and she was happy knowing that, by returning the shad to the river, "It brings back other creatures and increases life in the ecosystem." Matt said the experience also prepared them to take care of their own fish at home "and we can teach other kids about the shad program."

Noting that her students take the sixth-grade SOLs for math, Wetterhahn said, "Keeping data tables, making predictions and problem-solving totally correlated with what they were doing in math. And it was such a real-life, learning experience."

Burk said the GBW students had "the highest rate of viable eggs" of the schools participating that week because of how well they maintained their tank. "It's probably the best batch of eggs I've seen in Fairfax County," she said. "Several thousand fish will come from this." Added school Principal Lori Cleveland: "This class has worked very hard, and it's a credit to Mrs. Wetterhahn."

Delighted with the students' efforts and caring, Burk said, "This shad-conservation success story gives a message of hope. It shows how people really can make a difference in helping restore our rivers and fisheries."

For more information, see www.potomacriver.org and click on Living Resources. "Let the River Run Silver Again!" is available at www.mwpubco.com, www.amazon.com and at bookstores.