

September 10 Sunset (continued from page 3)

Talk was casual — the fun of meeting new people or hanging out with old friends, or getting to know familiar faces just that much better. Family, friends, sports, personal histories — all topics for a delightful time.

I think about how lucky we were to spend that evening with such nice people doing something so special. More than most days we celebrated the day's end, watching the sun become orange and big and then swiftly drop below the horizon. In the distant sky, small silvery airplanes added to the ambience. True, most of us didn't hug our loved ones that night, but there would be a chance for that later, when we really needed it.

Having spent such a lovely last evening in what might now be called the "old world," I find myself thinking about those who lost their lives the next day, or lost their loved ones. What did they do that evening, the final evening of their lives? The night before their lives were

shattered? I'd bet few were so lucky as we were on Presque Isle.

It was a Monday night. Did any spend it doing laundry? Working late? Getting into a petty squabble with mates or children? Eating leftovers? Watching Dateline because there was nothing better on TV?

I very much enjoyed Presque Isle at the time, but since then, that evening has taken on a very precious quality because it was the last of what we realize now was a simpler time. It was before we began to talk of countless missing people and vengeance, using words like "horror" and "devastation" and "evil" and "war."

For many of us, joys will be bittersweet, at least for a while. We will have them in spite of our prevailing mood. Previously benign images, like airplanes, skylines and firemen, will remind us that life can be simply horrible.

I am grateful to have September 10 on Presque Isle as a night I will never forget.

Contribute to "Keystone Shorelines"

Pennsylvania Sea Grant welcomes contributions or story ideas for inclusion in *Keystone Shorelines*, which is published quarterly. Contact Steve Curcio at 814-898-6358 or via e-mail at xsc2@psu.edu for more information. We'll be glad to include your contributions as space permits. The deadline for submission for the Spring 2002 newsletter is March 31.



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KEYSTONE Shorelines
A QUARTERLY PUBLICATION OF PENNSYLVANIA SEA GRANT

Pennsylvania Sea Grant, part of the National Sea Grant Program, is a partnership of Penn State, the Commonwealth of Pennsylvania, and the National Oceanic and Atmospheric Administration dedicated to the sustainable development of coastal resources.

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W I N T E R 2 0 0 2

February Botulism Workshop Scheduled

Mark your calendar now for a day-long Botulism in Lake Erie workshop to be held Thursday, Feb. 28, at the Holiday Inn in Amherst, N.Y.

The tentative agenda includes an overview of the 2001 outbreaks, historical perspectives and human health issues relating to botulism, prioritizing research agendas and determining 2002 funding goals.

Event co-sponsors are Pennsylvania Sea Grant, New York Sea Grant, the Great Lakes Program at State University of New York at Buffalo, and New York Assemblyman Richard A. Smith. For more information, contact Eric Obert, Pennsylvania Sea Grant coastal environmental quality specialist, at 814-898-6453 or eco1@psu.edu, or Helen Domske of New York Sea Grant's Great Lakes Program at 716-645-3610 or hmd4@cornell.edu.

Attention, Educators! New Classroom Materials Available for Great Lakes Exotic Species Education

ESCAPE: Exotic Species Compendium of Activities to Protect the Ecosystem is a comprehensive collection of over 36 multidisciplinary classroom activities for grades 5-9 designed to enhance your students' knowledge of exotic species. Created by teachers throughout the Great Lakes, this compendium contains activities that include science-based data collection, geography, art, music and more related to exotic species. Teacher workshops are tentatively planned for summer 2002. For more information please contact Anne Danielski at 814-898-6421 or add118@psu.edu.

You can also visit the ESCAPE Web site at www.iisgcp.org/edu/escape/index.html.

Science and Sailing Environmental Rediscoveries Receives 2001 Governor's Award for Environmental Excellence




from left to right:
David E. Hess
Secretary, DEP
Ron Esser
Owner of Momentum
Kelly Burch
Regional Director, DEP
Eric Obert
PA Sea Grant
Anne Danielski
PA Sea Grant
Jim Stewart
BCMS
Rich Eisenberg
BCMS
Erin Hersman
PA Sea Grant intern

Environmental Rediscoveries, Pennsylvania Sea Grant's flagship educational program, has been honored for outstanding environmental educational programming.

In a Harrisburg award ceremony held December 19, Pennsylvania Governor Mark Schweiker presented the 2001 Governor's Award for Environmental Excellence to Anne Danielski, Pennsylvania Sea Grant coastal education and maritime specialist. "We are thrilled to be recognized with the Governor's Award," said Danielski, who also serves as Environmental Rediscoveries' program director. "This award is the result of a lot of hard work, but our greatest reward is watching the students learn and appreciate the beauty and fragility of our bay and lake."

Environmental Rediscoveries is a partnership between the Bayfront Center for Maritime Studies, the Pennsylvania Department of

Environmental Protection, and Pennsylvania Sea Grant that provides area youth the opportunity to be sailors and scientists aboard the historic Friendship Sloop *Momentum*. As they sail around Presque Isle Bay, students use hands-on activities to learn about the history and ecology of the bay and lake. Over 1,000 area young people have participated in the Environmental Rediscoveries experience since the program was launched in spring 2000.

The Pennsylvania Department of Environmental Protection's Web site (www.dep.state.pa.us) features a page about the program, accompanied by a 30-second video.

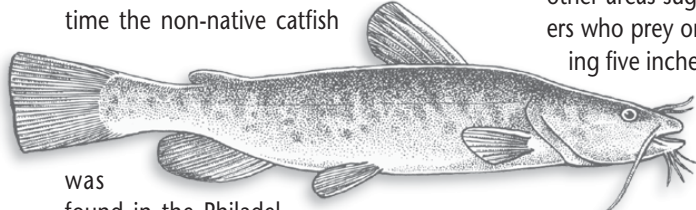
For more information on this program, visit the Environmental Rediscoveries Web site at www.pserie.psu.edu/seagrant/rediscoveries/index.html or contact Anne Danielski at 814-898-6421 or add118@psu.edu.

Flathead Catfish Introduced to Delaware River Watershed

Introduction Remains a Mystery; Anglers Asked to Catch and Keep Exotic Invader

Aquatic biologists from the Philadelphia Water Department suspected something fishy when they drew down the water of the Fairmount fish ladder for a routine clean out in spring 1999. What they found in puddles at the bottom of the fishway was a species of catfish new to the Delaware Valley.

The flathead catfish, or *Pylodictus olivaris*, was a notable catch because it was the first time the non-native catfish



was found in the Philadelphia portion of the Schuylkill River. Since then, ten flatheads were collected in the fishway in the spring draw down of 2000, and 12 in 2001. Last August, five flathead catfish more than 28 inches in length were collected from the ladder.

Although 1999 was the first time flatheads were caught so near Philadelphia, anglers have known about the catfish in the Springton and Blue Marsh reservoirs for more than three years. In fact, there are fish stories about a flathead weighing in excess of 45 pounds caught this summer from the Springton Reservoir in Delaware County. If confirmed, this weight would break the 43-pound, 9-ounce state record set for a native catfish caught in western Pennsylvania.

The Philadelphia populations of flatheads may have originated from fish moving downstream from Blue Marsh Reservoir or leaving Springton Reservoir, via the Crum Creek, to swim up the Delaware into the Schuylkill River.

No one knows for sure how the flathead was first introduced to the Delaware River Watershed; it may have been accidental or the fish may have been intentionally introduced by a zealous angler. The native range of flatheads includes a broad area west of the Appalachian Mountains encompassing the Mississippi, Missouri and Ohio river basins. This ichthyological oddity, which under ideal conditions can grow to more than 110 pounds, is hailed by anglers as one of the best of all

freshwater sport fish – extremely fun to hook and darn good eating. In parts of the country where flatheads are commercially fished, the meat sells for \$6 a pound.

So what does a 110-pound catfish eat? What flatheads are feeding upon in the Delaware Valley is a riddle, the punch line to which seems to be *any fish it wants*. Studies from other areas suggest flatheads are active hunters who prey on a wide variety of fish averaging five inches in length. When the flathead

was introduced into the New River valley in Virginia, researchers estimated that the catfish removed 20 to 35 percent of the black bass and sunfish in Byllesby Reservoir. A study of flatheads fished from six Oklahoma reservoirs found that gizzard shad formed 50 to 90 percent of the catfish diet. Flatheads introduced in the Altamaha River in Georgia eliminated bullheads and caused an 80 percent reduction in redbreasted sunfish. Carp, drum, white crappie, and channel catfish also have been found in flathead stomachs.

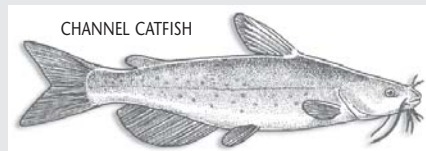
Exotic fish have the potential to deplete native fish populations directly by eating them or indirectly by out-competing with them for limited food or habitat resources. The American Fisheries Society found that exotic species contributed to 27 out of 40 North American freshwater fish extinctions in the past century. Scientists with The Nature Conservancy believe that non-native species are presently limiting the recovery of more than a third of imperiled North American fish. More study is needed to see if flatheads will deplete native populations of Delaware River fish such as sunfish, American shad, eel and striped bass.

If you catch a flathead, Pennsylvania Sea Grant would like your help in slowing their spread; anglers are asked to not return flathead catfish to eastern Pennsylvania waterways. Keep in mind that any fish caught from the lower portion of the Schuylkill River, including flatheads, should not be consumed. Preliminary tests indicate that the level of toxins in lower Schuylkill flatheads make them unhealthy to eat.

How to Tell a Flathead from Other Catfish



The flathead can be distinguished from other catfish by its broadly flattened head and projecting lower jaw. Flatheads are usually pale yellow or cream to light brown on the back and sides and highly mottled on the underside. Young fish may be very dark, almost black in appearance.



School Notes



Need educational resources for your science classroom?

Our educational materials collection is growing. If we don't have what you need we can find someone who does! E-mail or call us to see if we can help.

Know fellow teachers who would like to be on the Sea Grant mailing list? Please submit their names to us.

Would you like to teach your students more about the impact of zebra mussels? We have the **Zebra Mussel Mania Traveling Trunk** available to loan to your classroom. This trunk contains several fun activities and lessons relating to zebra mussels and other exotics.

The Environmental Rediscoveries program is booking for the spring 2002 and fall 2002 sailing season. Dates are filling fast. Please call today to reserve a sail for your class.

For information contained in *School Notes* please contact **Anne Danielski** at 814-898-6421 or add118@psu.edu.

Pennsylvania Sea Grant Now in the Delaware River Watershed

Urban Coastal Environmental Agent Ann Faulds is working in partnership with Pennsylvania Cooperative Extension to expand Pennsylvania Sea Grant into the Delaware Estuary. Her mission is to promote coastal economic and environmental stewardship in the Pennsylvania portion of the Delaware River Estuary. For more information, please contact Ann at 215-471-2216 or afulds@psu.edu.

Round Goby Watch

Gobies Making Headway Into Lake Erie Streams; Elk Creek Has Highest Density

The round goby, an aggressive, non-native species of fish introduced to the Great Lakes in the early 1990s by the ballast water of ocean-going vessels, has invaded the state's tributaries of Lake Erie according to Pennsylvania Sea Grant-supported research by a Gannon University biologist.

After collecting samples from six tributaries that feed Lake Erie, Dr. Edward C. Phillips found that the goby population was most dense in Elk Creek, where just over 137 gobies were collected per hour of electrofishing. Where present, gobies made up 17.1 percent of the fish present in Elk Creek, and were found as far as 1.4 miles from the mouth of the creek.

Round gobies had their second greatest density in Twenty Mile Creek, where almost 104 round gobies were collected in an hour. Gobies made up 30.4 percent of the fish collected, but were found no farther than four-tenths of a mile upstream, where a waterfall blocks further invasion.

The third greatest density of round gobies was found in Walnut Creek. Gobies made up 12.7 percent of the fish collected, and were found as far as three-tenths of a mile upstream. Gobies comprised only 1.5 percent of the fish found in Sixteen Mile Creek, primarily because fish were collected only from a pool just above the mouth.

No gobies were found in Twelve Mile Creek or Conneaut Creek. And no round gobies were collected in upstream areas of the sampled streams, indicating that thus far there has been no bait-bucket transfer of the fish.

Sea Grant Staffer Remembers Sept. 10 Sunset

On September 9-12, Pennsylvania Sea Grant hosted the 2001 Great Lakes Sea Grant Network Meeting. Over 50 Sea Grant professionals from nine states gathered in Erie for information sessions at the Bel-Aire Hotel and field visits to interesting and educational Erie-area sites.

Of course, the events of September 11 had a profound impact on all. Many conference attendees came to Erie by air, and ended up vanpooling with others to their homes or to a midpoint destination to be picked up by others to finish their journey. New York Sea Grant staff were relieved to hear that their friends, family, and colleagues in the New York area were safe.

Two weeks after the conference, Irene Miles, visiting media communications specialist of Illinois-Indiana Sea Grant, sent the following e-mail to Great Lakes Sea Grant staff. With her permission, we are sharing her thoughts with you in this newsletter. She wrote:

The evening of September 10 was just lovely in Erie, Pennsylvania. The Sea Grant Great Lakes gathering turned to Presque Isle to relax, eat and socialize. Along with a tasty beach party dinner, we were treated to a natural environment that aimed to please. The wind was just right to kick up the surf on Lake Erie, creating pounding waves that brought beautiful drama to our eyes and ears. The temperature was ideal for a walk on the beach, some folks squishing the sand between their toes, and the nearly cloudless sky provided a front seat to just another absolutely perfect sunset on the lake. We applauded the performance.

(continued on page 4)

