Website Record

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http://www.timesleader.com/sports/Mussels_pose_threat_to_river_01-06-2009.html

Text used from website for EIS below (copy and paste below):

January 6
Mussels pose threat to river

Zebra mussels have some worried about Susquehanna

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Sports Reporter

Since 1986, Dr. Brian Mangan has been watching the Susquehanna River for an invader.

Zebra mussels have caused extensive damage to the Great Lakes since they arrived there in the late 1980's.

U.S. Geological Survey

Zebra mussels can suffocate ecosystems by filtering out plankton, which is the basis of the food chain.

GLSGN Exotic Species Library

After 22 years of waiting, it has appeared.

In November, zebra mussels were found in the lower section of the river on the Conowingo Dam, and in 2007 they were found in the Susquehanna in Hallstead, N.Y., just across the Pennsylvania border.

Basically, the invasive bivalve has surrounded northeastern Pennsylvania and it looks like they will eventually make their way into the area.

"It's only a matter of time," Mangan said. "The habitat is here and they'll certainly find a place to grab and take hold.

"I've been waiting for them for 20 years."

It's a wait that Mangan hoped would've lasted at least another 20 years.

The zebra mussel is a native of Eastern Europe and was introduced into the Great Lakes when ocean-going ships released infested ballast water.

Mangan, who is a biology professor at King's College and director of the Susquehanna River Institute, feels that boat traffic from infested areas could serve as the conduit for the arrival of the zebra mussel here. But what he can't predict is the impact they will have on the area.

In the Great Lakes, where the mussels were first discovered in the late 1980s, more than $1 billion has been spent on control measures. They plug water intakes, disrupt aquatic food chains and even create new pathways for aquatic diseases. Zebra mussels have few enemies, although crayfish have been known to act as a predator.

Basically, the half-inch zebra mussel can destroy an aquatic ecosystem.

Even one as large as the Susquehanna River.

Rob Wnuk, regional fisheries biologist for the Pennsylvania Fish and Boat Commission, said the zebra mussel poses a threat to young smallmouth bass and even walleye in the river.

The mussels filter microscopic zooplankton and phytoplankton from the water – a crucial food source for young bass. The filtration capabilities of the zebra mussel can result in increased water clarity, an aspect that could impact Susquehanna River walleye which prefer murky water, according to Wnuk.

“We’re definitely concerned about it but we can’t predict the impacts,” he said.

PPL’s Susquehanna Nuclear Power Plant in Salem Township relies on water from the river to operate the facility. The corporation is concerned about the impending arrival of the zebra mussel, and they have hired Mangan as a consultant to keep watch.

Mangan said the mussels like to attach themselves to pipe intakes and reproduce to a degree that they can clog the inside of the pipe.

“If you’re PPL, they could be a pretty big threat,” he said.

The Susquehanna River Basin Commission, which regulates water usage on the river, is also watching the situation closely. Dave Heicher, chief of watershed assessment and protection for the commission, said it took a while for zebra mussels to make the jump from the Great Lakes and Finger Lakes into the Susquehanna River. But now that they are in the river, the mussels can be spread relatively easily.

Heicher said the larvae, called veliger, can disperse into the current and spread to new areas. They can also spread via live well water, boats and even bait buckets that are emptied at the end of a fishing trip.

“Basically anything that can carry water. It’s tough,” Heicher said. “We wish we knew if they would be a significant problem in the river, but right now it’s unknown.”

The zebra mussel isn’t the only bivalve threatening the Susquehanna River ecosystem. Mangan said he has found the invasive Asian clam in the river near Berwick in 2002.

The Asian clam has a drab brown color and is similar in size to the zebra mussel. It also poses similar threats.

“I suspect if the zebra mussel and Asian clam get a foothold, they can really upset the ecology,” Mangan said.

As of now, zebra mussel populations in the river are very small, Mangan added, and it is possible they could simply burn themselves out and disappear.

But if there are subsequent introductions, albeit inadvertent, he said that won’t be the case.

In the meantime, Mangan will continue his monitoring efforts and keep his fingers crossed that the zebra mussel sightings in the river continue to be few and far between.

If not, he fears the unknown impacts will turn into a reality that could damage the river's ecosystem.

"I don't think they'll have an impact like they did in lake systems, but they could appear overnight and explode," Mangan said. "We don't know how the river will push back."

Report sightings

Preventive measures

Zebra mussels have two shells and measure about one inch in length. The shells have a striped pattern and are flat on the top and bottom. If you find something that may be a zebra mussel, call Dr. Brian Mangan at 208-5900, extension 5799, or report the sighting through the Susquehanna River Institute Web site at www.susquehannariverinstitute.org.

Pennsylvania Sea Grant recommends that all water be drained from a boat, including bilges, live wells, bait buckets, and coolers, to prevent the spread of zebra mussels. Since mussels can cling to vegetation, be sure to check your boat each time you take it out of the water and remove any plants. Thoroughly wash your boat and all equipment with hot water (140 F or above).

Boats and trailers should be dried for five days before moving to a new water body. Once established in a water body, control of zebra mussels is difficult. Chemical control has only been feasible in isolated ponds and lakes where there is no discharge to nearby streams. In Pennsylvania, it is unlawful to possess, sell, purchase or transport zebra mussels.

For more information, visit the following websites:

http://seagrant.psu.edu/

http://www.susquehannariverinstitute.org/

http://nas.er.usgs.gov/