

Star-Telegram

Zebra mussel DNA confirmed in several North Texas reservoirs

Posted Wednesday, Mar. 07, 2012

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Zebra mussel DNA has now been found in several North Texas reservoirs, including Eagle Mountain Lake, researchers confirm, but that doesn't mean for sure that the invasive species that can clog pipelines and litter shorelines with its shells has moved beyond Lake Texoma, where they first surfaced in 2009.

Officials say the find last fall shows that those lakes had some exposure to the mussels, but not enough to allow the creatures to become established.

"It suggests that, yes, boaters are moving mussels, but they're at such low levels, it is not enough to establish a colony," said Robert McMahon, professor emeritus at the University of Texas at Arlington who helped conduct the tests.

The mussels, which first showed up in the Great Lakes region in the 1980s, are believed to have been brought to North America in ballast water from a single ship from the Black Sea, according to the U.S. Geological Service. The mussels are now in the Mississippi River basin all the way to the Gulf Coast and have been found in 29 states, including Oklahoma, Arkansas and Louisiana.

Colonies have been found in Lake Texoma and Sister Grove Creek, which feeds into Lake Lavon, but no others have been confirmed in North Texas. Boats carrying the mussels were found in Lake Lavon and Lake Ray Hubbard, and one was stopped from entering Eagle Mountain Lake several years ago.

The most recent tests, which were conducted in October, found low levels of zebra mussel DNA in six lakes: Eagle Mountain, Lewisville, Ray Roberts, Arrowhead, Bridgeport and Caddo. But other tests found no sign of the striped mussels.

Despite the lack of firm sightings, the Tarrant Regional Water District, which owns Eagle Mountain and Bridgeport lakes, isn't taking chances.

Last month, the water district's board approved spending \$683,000 to study ways to prevent zebra mussels from clogging the \$2.3 billion pipeline that is being built with the city of Dallas to bring more water from East Texas lakes to the Metroplex. The water district is also studying ways to modify existing pipelines and intake valves to ward off the mussels, which like to attach to rocks and other hard surfaces, said David Marshall, the water district's engineering services director.

"We're planning for the inevitable," Marshall said. "If we didn't plan for it and had to retrofit, it would be really expensive. And once it's in your lakes, it is really hard to control."

Since the first adult mussel was found in Lake Texoma in 2009, the shorelines of that reservoir have been covered with them.

For scientists, the uncertainty is the threshold for establishing a colony.

The assumption is that zebra mussels were brought to Lake Texoma by boat, but no one knows when that occurred, though there is anecdotal evidence that they could have been there as early as 2006.

During the height of the drought last summer, water levels plunged at Lake Texoma and many zebra mussels died. But while things look much better around the lake than they did a year ago, officials are braced for another population explosion this summer.

"They're probably going to have a heyday spawning this year," said Bruce Hysmith, a fisheries biologist for Texas Parks and Wildlife who is based at Lake Texoma.

Boater education

Texas Parks and Wildlife is considering changing rules at Lake Texoma and Lake Lavon to try to stop the spread of zebra mussels.

Parks and Wildlife is proposing to exempt boaters from some exotic species regulations if they empty all bait buckets, live wells, bilges and "any other receptacles, containers or systems that could contain water." A public hearing is set for Tuesday in Fort Worth.

"If you're fishing and boating at Lake Texoma, you need to drain all of the water from your boat," said Brian Van Zee, Parks and Wildlife inland fisheries director.

Parks and Wildlife is continuing to promote boater education in the Lake Texoma area. When temperatures warm, the agency will use billboards, posters at gas stations, e-mails to registered voters and postcards.

The Tarrant Regional Water District is also conducting spot checks on its lakes and plans more boater education at fishing tournaments this spring. The U.S. Army Corps of Engineers is also trying to educate boaters on area corps lakes.

More tests will be conducted on 14 North Texas reservoirs once water temperatures warm enough for the mussels to start spawning.

Two other techniques -- looking for zebra mussel larvae and using a submerged monitor to look for newly settled juvenile mussels -- didn't find any sign of the species on area lakes in October.

David Britton, an aquatic invasive species coordinator for the U.S. Fish and Wildlife Service, said he still believes that the mussels' invasion of other lakes can be stopped.

He noted that many lakes in the Western U.S. have had positive DNA tests but no established colonies.

And even in lakes in parts of the country where the mussels have flourished, scientists have kept them out.

"We've had zebra mussels in the Great Lakes region for years, and there are still many bodies of water that don't have them," Britton said. "Those that are interested in keeping them out are successful."

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