

# MUSSELS SPREAD IN MIDWEST

**Biologists, conservation officials warn boaters to clean and dry gear before moving between lakes.**

By **BILL GRAHAM**  
The Kansas City Star

Zebra mussels are a nuisance and a health hazard, thanks to their sheer numbers and sharp shells.

They have proved that at El Dorado Reservoir in Kansas, where the mus-

sels in four years have formed dense colonies on underwater rocks and trees. Swimmers are warned to wear foot protection or risk cuts from the shells.

Invasive Eurasian mussels also are spreading throughout Lake of the Ozarks in Missouri.

Biologists wonder whether boaters this summer will take precautions to keep the damaging zebra mussels from spreading to other lakes and rivers.

"We're very concerned about the possibility of accidentally transferring them into other bodies of water," said Brian Canaday, invasive species coordinator for the Missouri Department of Conservation.

Zebra mussels have caused billions of dollars in damage in the Great Lakes and Mississippi River basins. They likely invaded those waters in cargo-ship ballast.

The mussels probably entered El Dorado Reservoir and Lake of the

Ozarks attached to boat hulls, or because free-floating larval young can survive in water in live wells, bait buckets and bilge pumps.

Signs are posted at most regional boat ramps asking boaters to clean and dry all gear before moving between lakes or rivers.

"The big message is, clean out the boats and the trailers," Canaday said.

Kansas biologists found zebra mus-

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## MUSSELS: Precautions are urged

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sels in El Dorado Reservoir near Wichita in 2003.

They are the size of an air-rifle BB when they first form shells and attach to a surface, then they grow to thumb size, said Jason Goeckler, aquatic nuisance specialist for the Kansas Department of Wildlife and Parks.

A mussel born in the spring can reproduce by fall, he said. One female can produce more than 1 million eggs, and a male more than 1 billion sperm.

They quickly form dense colonies as they attach to hard surfaces. Utilities, marinas and boat owners are plagued by repairs and cleanups. They also attach to native mussels and kill them. Because they feed by filtering nutrients from water, they rob food from native fish.

"They've pretty much covered our entire underwater habitat at El Dorado, and they're very dense," Goeckler said.

One liter of water from the

lake averages 300 of the mussel's larval stage, called veligers. Biologists now are finding an average of 65,000 mature mussels per square meter. Goeckler estimates that 2,175 mussels per meter per day are dropping onto bottom surfaces to grow shells and develop into adulthood.

The lake is still pleasant and safe, and visitors are encouraged. But they need to be prepared when they swim or fish.

"If you're swimming or wading and you don't wear protective footwear, you'll cut your feet," Goeckler said. "If you're fishing near the bottom after five casts or so, your line will be cut. Some people are starting to use steel leaders."

Boat owners are storing their craft on lifts at marinas, he said, or they are paying divers to clean hulls twice a year.

Zebra mussels were found

last June in the Gravois Arm of Lake of the Ozarks. They have since been found throughout the lake, although at low densities, Canaday said.

Now, the watch is on to see whether the numbers grow in the lake. They could also ride water currents downstream to the Osage River and float into the Missouri River near Jefferson City.

Plastic pipes and cinder blocks are suspended by ropes in the lake and in other waters throughout the state so biologists and marina owners can check them for zebra mussels.

But scientists have not discovered a way yet to eliminate the mussels from large lakes or rivers once they are established.

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