

Invasive zebra mussel colony found in city's water piping; city to start new water treatment to kill them



The interior of a City of Lawrence water transmission main is seen covered in zebra mussels. [Enlarge photo](#)

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City utility workers recently made an unpleasant discovery in one of the city's water transmission mains.

An inspection found the inside of the main coated with a layer of zebra mussels that stretched for approximately 2,000 feet, according to Philip Ciesielski, assistant director of utilities. Ciesielski said if the mussels, which are an invasive species, aren't controlled, it could have serious consequences.

"They have no natural predators in our ecosystems and they colonize extremely rapidly," Ciesielski said. "And what they do is, once they get on the inside of that pipe, if they were allowed to continue to colonize they would slowly just build on top of themselves and reduce the diameter of that pipe."

The infested transmission main moves water from Clinton Lake to the Clinton Reservoir Water Treatment Plant. Ciesielski said the layers of mussels, which are as much as two inches thick, reduce pumping capacity because of the space they take up as well as the friction they create. Left unchecked, they can completely choke off pipes and intake openings, he said.

At their meeting this week, city commissioners approved the purchase of about \$80,000 worth of the copper ion generation equipment to manage the mussels. Ciesielski said that the equipment will put low doses of copper ions into the raw water from the lake that will kill the mussels and their free-floating larvae.

The level of copper in drinking water is monitored, as too much copper can be hazardous to human health. As required by the Environmental

Protection Agency, the city tests tap samples for metals such as copper and lead every three years, and those results are included in the city's water report.

Ciesielski said that neither the copper nor the mussels affect the safety or quality of local drinking water. He noted the city's water treatment process controls for copper, and kills any mussels or larvae that may make it to the water treatment plant.

"For us they are more of a maintenance and an operation headache from physically trying to get the water up to the plant," Ciesielski said.

Lawrence has two major sources for its drinking water: the Kansas River and Clinton Lake. Zebra mussels were discovered in the Kansas River in 2009 and in Clinton Lake in 2013. The mussels can encrust water intake valves, the inside of pipes, as well as docks, ramps or boats.

The mussels are native to the Black and Caspian seas and were spread around the world by cargo ships. They were first discovered in the Great Lakes region in the 1980s and soon spread to other bodies of water. They were first found in Kansas in 2003.

The transmission main, which is three feet wide and nearly two miles long, had been checked in 2014 and at that time was clear of mussels.

To pay for the new equipment, the city will have to amend its capital improvement plan.

Before voting to approve the ionizing equipment, Commissioner Lisa Larsen said that fortunately the city has had some cost savings throughout the year that will allow it to cover the equipment. However, Larsen said the commission needs to be cognizant of unexpected expenses.

"We need to be careful about budgeting and making sure we can have resources to take care of these type of items," Larsen said.

Those who use the river or lake also need to be cognizant so they [don't spread the mussels to uncontaminated bodies of water](#). Zebra mussels are less than two inches long and will attach to any surface in the water, and their larvae are microscopic. To prevent their spread, fish, bait or water should never be moved from one body of water to another. Boats and any other equipment should be washed with hot water and allowed to dry for at least five days.

As for the utility department, Ciesielski said there will likely be more inspections for mussels in the future.

"We don't necessarily have that planned right now, but it's in our mind," Ciesielski said. "We do have points that we can open up along the pipe and take a look."

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