



## Zebra mussels clog up city golf course's irrigation system

By **Brad Johnson**,  
for the Watertown Current

Zebra mussels have infested the City of Watertown's golf course irrigation system putting at risk about 1,000 sprinkler heads and up to 18 miles of irrigation pipe.

The solution to this new problem is unknown but is likely to be expensive for the city of Watertown, said Cattail Crossing Golf Course Superintendent Scott Schunter.

The zebra mussel problem was discovered this past Wednesday when Schunter noticed several sprinkler heads bubbling water out of the ground.


After crews dug a two-foot hole to remove a sprinkler head it was found to be jammed with zebra mussel shells.

"My concern is that every sprinkler head is on a swing joint," Schunter said. "The first swing joint was packed full, which means we have to dig up the entire head."

Cattail Crossing draws its irrigation water out of Lake Kampeska, which first was infested with zebra mussels in 2020. They most commonly are spread by recreational boats.

Zebra mussels are invasive mollusks that are generally two inches or smaller. Each female can produce up to one million eggs annually. The eggs hatch into a tiny veliger (larvae) that attach to structure, such as rocks, boat docks,



 **Many sprinkler heads at Cattail Crossing Golf Course in Watertown were found to be infested with zebra mussels, causing some major problems for the course's irrigation system. Photos by Scott Schunter, Cattail Crossing Golf Course.**

an irrigation intake or the interior of the system.

They are too small for any main intake screen to prevent them from getting into the pipes, Schunter said. Once inside, they mature and later die leaving behind

the shells.

"Every time we take water from Lake Kampeska," Schunter said, "we are just adding zebra mussel larvae to the system."

Most likely, Schunter said, the entire

irrigation system is infested. Initially, "there were about 20 irrigation heads that just gurgled," he said, but now there are about 40 that need immediate attention.

Each sprinkler head takes two workers a combined three to four hours to dig up clean, replace and repair the sod.

Schunter said the city is not adding staff to deal with the problem, just diverting them from other projects that also need attention.

Schunter said he is reaching out through golf course networks to find a solution.

A 2011 story in Hole Notes, a publication of the Minnesota Golf Course Superintendents Association, said "The main impacts associated with zebra mussel colonization of golf course irrigations systems include: increased electro-corrosion of steel and cast iron pipe and fittings; loss of intake head; obstruction of valves, pipe, sprinklers and irrigation components."

In other words, it's a mess, Schunter said.

An investigation into remedies "is just beginning," he said, noting that different chemical treatments are possible. That includes "the use of an acid injector" to inject a "food grade acid into the system to change Ph in the water below 6.9, a stage at which the larvae won't grow."

There are other solutions that use chlorine, potassium permanganate,

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coating the intake system with copper sulfate, using ultraviolet light or ozone treatment.

Still others require specialized flushing in the fall, mechanical removal and replacing components with new ones made of copper, brass or galvanized metal, all of which can be toxic to zebra mussels.

All of them sound expensive and the chemical solutions are of concern because of the system's attachment to Lake Kampeska, a valuable city asset, he said.

"Regardless of the treatment he said, none of those affects the existing population (or the dead shells) in the pipe," he said. "It just prevents future contamination."

The most expensive solution is

eliminating Lake Kampeska as the water source. That requires complicated process of gaining state permits, digging a well and creating a new pumping system.

Prairie Winds Golf Club, which is nearby on the south side of Lake Kampeska, takes its irrigation water from a groundwater well, so likely will not face a similar threat.

Schunter said a priority is checking

the irrigation system's intake which is in about 12 feet of water on Lake Kampeska. It was built new in 2000. A diver plans to go down soon and look at the condition of the intake system "as soon as the water warms up."

In the meantime, staff will continue working on the 40 sprinkler heads needing immediate attention, Schunter said, "and who knows what the future will bring." ●