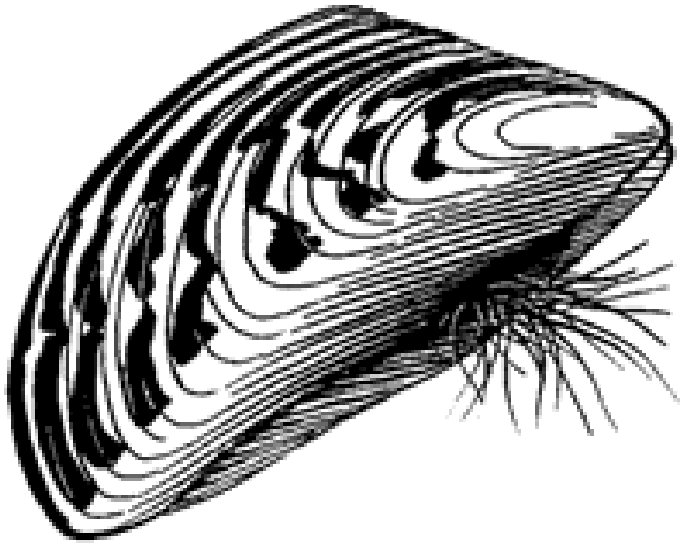


Menacing Mollusks: The Concern over Zebra Mussels and the Brav

By Daniel Johnson



For Minnesota golf course superintendents, there's one aquatic creature more terrifying than the Loch Ness Monster or the Creature from the Black Lagoon. This species of shellfish is known as the Zebra Mussel and although the invader's infestation of the U.S. Great Lakes appears to be permanent, there is hope. The efforts of a small company operating out of Long Lake combined with the continued diligence and swift action from superintendents may be enough to tame this beast.

The company is Waterfront Restoration. It specializes in chemical free lake weed control and now because of the demand, it provides Zebra Mussel control services. Tom Suerth founded the company in 2003 and has since been assisting private homes, fire departments, and now golf courses, with

their Zebra Mussel pest problem.

"Waterfront Restoration, LLC is committed to restoring residents' enjoyment of their lakefront with guaranteed effective, ecologically conscious aquatic nuisance control services," said Suerth.

Indigenous to Southern Russia and Caspian Sea, the Zebra Mussel is spreading like an infectious disease across U.S. waterways. By attaching onto boat hulls, these mollusks hitch a ride to infest new waters and continue to overrun native mussels by reproducing and maturing faster. At first glance, these small freshwater mussels and their beautiful striped shells may seem harmless, but with great numbers they inflict damage by clumping together against the inside of irrigation piping, clogging waterways like a carotid artery.

North Oaks Golf Club knows about the headaches that go along with having a Zebra Mussel infestation first-hand, as it suspected clogging of its intake pipes in the fall of 2010. That's when they called Waterfront Restoration.

"When entering the holding tank, we discovered the intakes were more than eighty percent clogged. . It took a long focused effort to free the intake screens of the buildup," said Suerth.

Although, the problem isn't new to the area, the massive spread of the

invaders is alarming. Zebra Mussels were first transported to the U.S. Great Lakes in the 1980s by transoceanic vessels, but as of 2010, they have already established themselves in the rivers, lakes and wetlands of 31 states, according to the Minneapolis Park and Recreation Board. The Board declared several of its home state's lakes infested in 2010, including Lake Minnetonka and Lake Nokomis. Since 1991, the Mississippi River has been carrying the mollusks, which is the water source that supplied North Oaks with its unwanted visitors.

Suerth, having an extensive background in Scuba diving, first started the company to help family and friends restore their lakefront properties by pulling lake weeds out of the water. Waterfront Restoration started out as a unique idea, but over the last nine years, has truly set itself apart, as it is one of a handful of businesses in the country catering to a high demand related to the Zebra Mussel.

"The need for truly effective control methods is enormous and growing rapidly as invasive species continue to spread," said Suerth. "We are



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the first company in Minnesota to offer manual extraction of Zebra Mussels.”

With the number of infested areas on the rise and the unfortunate truth that these mollusks aren’t going anywhere, the Minneapolis Park and Recreation Board suggests golf course superintendents and employees be aware of the issue and monitor it regularly. However, once the Zebra Mussels are discovered, fast action from superintendents is needed, or else courses may have to resort to drastic and expensive measures.

“More serious problems can prompt courses to build a second irrigation intake”, said Ty McClellan, an agronomist with the U.S. Golf Association’s Green Section in a turfnet.

com article. “Courses simply use one line until it becomes too clogged, then switch to the second line while the first is cleaned.”

Controlling the pests and preventing the serious clogs is the real challenge, since they accumulate and conglomerate so quickly. As suction lines and intake pumps suck in water for use on the course, they also suck in the mussels, which quickly form a massive encrustation over intake screens. That’s where an innovative problem-solving company like Waterfront Restoration comes in, sending in trained divers equipped with customized metal brushes and small detailing tools to scrape the hard shells away. The divers are always challenged, as each situation is a little

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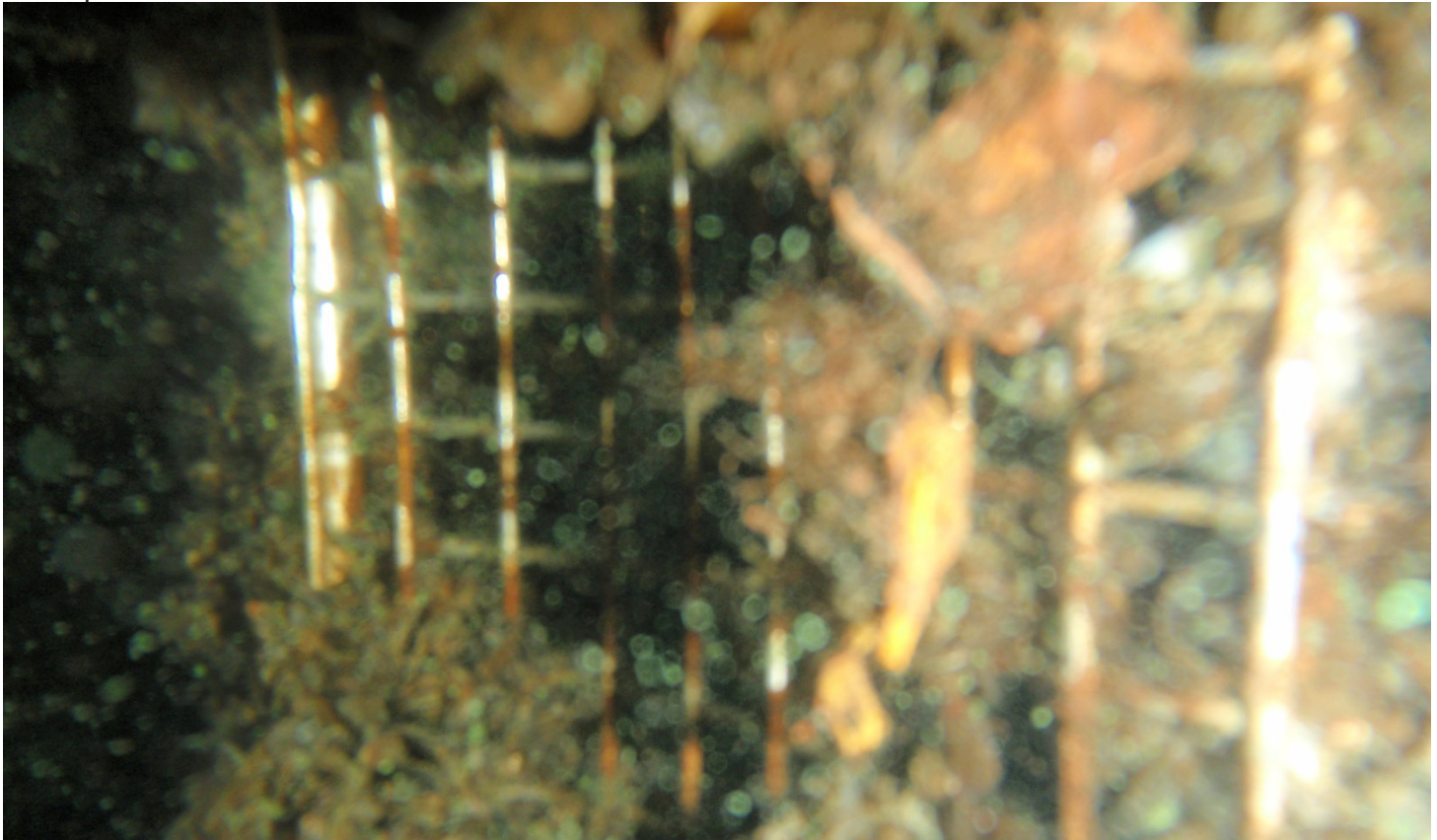
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BEFORE PHOTOS: The photo below is of a portion of an intakes. Estimated >80% covered with zebra mussel buildup.



different.

“The experience of the dive is completely unique each time,” said Suerth. “What’s consistent is that every dive is full of surprises. In many cases where mussels have developed multiple layers on top of themselves, it’s almost like chipping away cement from the structure to get through the calcified layers.”

After discovering the stripe-shelled creatures, North Oaks is doing what is necessary to keep its course in pristine condition and that means continuing to utilize Waterfront Restoration’s services on a regular basis.

“Because the Zebra population is exploding, we anticipate having Tom’s

crew out twice each year beginning in 2012,” said North Oaks superintendent Brian Boll.

North Oaks is one of the first area golf courses to be hit, but with the surrounding lakes and waterways becoming infested, it’s only a matter of time before other courses uncover their own nightmares lurking beneath course lakes and ponds. Hiawatha Golf Course and Meadowbrook Golf Course both have direct connections to Zebra Mussel infested water, according to the Minneapolis Park and Recreation Board.

Most of the time, the infestation has already begun before superintendents find it. After discovering their irrigation system was at risk, members at Winfield



Intake1 heavily covered in zebra mussel buildup, causing significant obstruction of water flow

Country Club in Winfield, Kansas chipped in almost \$8,000 for an acid-injection system, designed to kill the mussels, while improving grass growth, according to a 2007 *Kansas City Star* article. Once it was turned on, it worked, killing thousands of mussels, but the damage was already done to irrigation heads.

“It had clogged up irrigation heads, such that it took me two weeks to get the shells out of them,” said course superintendent Steve Hollembeak in the *Star* article.

Although filters, screens, acid injection stations and flushing have

helped golf courses prepare for and deal with infestations, a service like the one that Waterfront provides, might make all the difference in terms of course upkeep and provide golf course superintendents with the hope that the problem, although unsolved for now, will at least be contained.

“We do expect to serve a growing number of golf courses in the next several years as the infestation of Zebra Mussels spreads. We are prepared to handle the growing problem and have a team of divers trained specifically for this type of irrigation intake work,” said Derek Lee, former diver and current

Account Representative with Waterfront Restoration.

Like the Minneapolis Park and Recreation Board, Waterfront suggests golf courses train employees to monitor and identify zebra mussels and infestations. Taking proactive steps in preparing an action plan complete with budgets and equipment needs,

is something Waterfront recommends courses do.

“Fortunately, controlling Zebra Mussels on a localized level is highly cost effective. Getting started with a regular inspection program, even before the infestation begins, is highly recommended,” said Lee.



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