

## Zumbro River appears to be flexing its mussels

A recent mussel count surprised a biologist tasked with finding them, and that's good news for water quality.

Written By: John Molseed | Nov 11th 2020 - 10am.

Water-quality initiatives in Rochester must be working out, because the Zumbro River is showing some impressive mussels.

On Nov. 5, Brett Ostby, senior biologist and co-owner of Daguna Consulting, waded into the South Fork of the Zumbro River to look for freshwater mussels up and downstream of the Elton Hills Drive bridge.

He expected to find a few dozen specimens — maybe 50 to 60, he said.

Instead, he found nearly 400 mussels from eight species native to Minnesota.

“I was pretty surprised how healthy the river was there,” Ostby said.

The survey of that section of the river was done to record and relocate threatened or endangered wildlife that could be affected by a planned bridge replacement over the river. It's a standard practice for most public infrastructure projects.



Brett Ostby pulls mussels from the Zumbro River in Rochester Nov. 5 (Contributed photo)

Most of the mussels were plain pocketbook mussels, with 314 of those. The second-largest representation was fat mucket, with 40 specimens found. Ostby also found specimens of elktoe and fluted shell mussels, which are both listed as threatened species in Minnesota. Ostby estimated many of the mussels to be at least 25 years old.

As part of his contract, Ostby calculated the cost of replacement of the species if the city were to lose the mussels at about \$68,000. However, their role cleaning the water is far more valuable than the dollar estimate, he added.

Many mussels means cleaner water. Mussels filter bacteria and algae from water. However, they're also sensitive to pollutants such as heavy metals or when the pH of the water is imbalanced. Mussels also need specific species of fish in order to propagate.

Each species relies on different species of host fish. Mussels ready to release larvae will put out a "lure" — a fleshy part of the mussel that resembles fish food. When a fish goes to strike the lure, the mussel releases larvae that lodge in the fish's gill. Once the larvae mature into juvenile mussels, they drop from the fish gills and settle on a stable place to grow.

Ostby said stability is likely a factor in why so many mussels were at and around the Elton Hills bridge. Many were up against the bridge piers or on and along riprap by the shore.

"Those are the most stable areas," Ostby said. "Most banks (of the Zumbro) are shifting sand."

It wasn't always that way. Erosion due to flooding and sediment deposits from development and agriculture have made the banks softer and less stable, he said.



Plain pocketbook mussels from the Zumbro River. (Contributed photo)

Ostby said he moved the mussels out of the area that will be affected by the bridge replacement project and put them back in the river in other nearby stable places. Some were tagged to find later.

He pointed out that the Zumbro River is defined as [impaired by Minnesota Pollution Control Agency standards](#). That means factors such as pollution (mostly from nitrates), suspended solids, connectivity and other issues create difficult conditions for native wildlife.

The Silver Lake dam not far upstream from the Elton Hills Drive bridge is one of the connectivity obstacles for fish moving up the river to spawn. Ostby said that also might be a factor in the healthy mussel population downstream of the dam. Fish trying to move upstream probably congregate downstream of the dam, which gives mussels more chances to spread larvae, he said.

For Ostby, the discovery of the mussel population was welcome good news for what he calls his “home” river.

“I grew up playing in the Zumbro River,” he said. “They’re kind of my mussels — I’ll probably check on them.”

*John Molseed is a tree-hugging Minnesota transplant making his way through his state parks passport. This column is a space for stories of people doing their part (and more) to keep Minnesota green. Send questions, comments and suggestions to [life@postbulletin.com](mailto:life@postbulletin.com).*