Water treatment plants battle zebra mussels

City projects spending $3 million over 3 years to fight invasive species

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Zebra mussels are here and they are not leaving anytime soon.

There are state rules in place to stop the invasive species’ spread into more Texas lakes, but water providers still need to deal with the cost of the damage the creatures are already causing.

“We have been monitoring the zebra mussel situation ever since they were first discovered in Lake Ray Roberts about two years ago,” said Timothy Fisher, assistant director of water utilities for the city of Denton.

Zebra mussels were first documented in Texas in April 2009 in Lake Texoma.

Zebra mussels, which have sharp, small shells, attach and multiply on nearly everything in the water, including boats, docks and pipelines. Their larvae are microscopic.

Fisher noted that adult zebra mussels were found last fall in the Ray Roberts Lake Water Treatment Plant and in U.S. Army Corps of Engineers trash racks at their outlet works on Ray Roberts Lake. More were discovered in an inspection of the raw water intake piping at the Ray Roberts plant.

This prompted city officials to develop four new capital projects to address the issue over the next three years. The four projects, which total $3.05 million, were not identified in previous budgets or capital plans.

“They were communicated as budgetary risks and unknowns to the Public Utilities Board and City Council in prior year budgets but they have now become operational concerns and are imparting real costs to the water utilities department,” Fisher said. “Although there is no immediate threat to water operations, their presences in our intake piping systems is a concern that must be addressed.

“At this time, we feel that our cost estimates are preliminary and our actual costs may be more than these figures. As we obtain more information and details, we may be able to develop better budgetary figures.”

The first project for the 2015 fiscal year involves the cleaning and removal of zebra mussels from the raw water piping at the Ray Roberts water treatment plant, budgeted at $500,000.

The second project, also for 2015 and budgeted for $150,000, is for a preliminary design evaluation for zebra mussel mitigation and control measures for the treatment plants at both Lewisville Lake and Ray Roberts Lake.

“Although we have not observed zebra mussels within our facilities at Lake Lewisville, their presence in the lake suggests it is only a matter of time before they will become an operational problem for this facility as well, Fisher said. “The study will evaluate zebra mussel control strategies for each facility and make recommendations for capital improvements, likely chemical feed systems, or operational procedures, like routing cleaning and removal, for both water treatment plants.

The other projects, scheduled for final design in 2015 and construction in the 2016 fiscal year, are for implementation of the recommended zebra mussel control strategies for the treatment plants at both Ray Roberts and Lewisville lakes and are budgeted at $1.2 million each.

Jason Pierce, manager of watershed and contract services for the Upper Trinity Regional Water District, said the creatures pose a real risk to the district’s infrastructure at Lewisville Lake.

“We have an intake structure there at the dam and a pipeline we use to take water out of Lewisville Lake, about a mile to our treatment plant in Lewisville,” he said. “Our board has authorized us to move forward in designing some improvements to help in preventing them [from] attaching themselves to our pipeline.

Pierce said the district is looking at a cost projection of about $800,000.

“Really, that’s a nominal financial impact, which we think will help keep them from attaching and doing what they do best,” he said.
Pierce said the cost of the mussel mitigation is part of the district’s capital improvement project, which has already been factored into its current rate structure for the water it provides to area cities.

"If that doesn’t work, we will have to go to our next step, which has not been identified yet, but we think the improvements we’re making now will do it," he said.

Starting this month, state rules now require all boaters to clean, drain and dry their boats before leaving any lake in the state to help stem the flow of zebra mussels.

Staff writer Peggy Heinkel-Wolfe contributed to this report.

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