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Clams studied as possible oil reducer



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CASEY ANDERSON/CASEY ANDERSON

Phillip Voegel, assistant professor of chemistry at Southeastern Louisiana University, retrieves a bag of clams taken from Lake Maurepas. Voegel is studying how clams, natural filter feeders, can be used to help clean bodies of water affected by the Deepwater Horizon underwater oil gusher last year.

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SLU study grows from leak research

By **BOB ANDERSON**
Advocate Florida parishes bureau
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HAMMOND — Rangia clams, once the object of massive shell dredging in Lake Pontchartrain, will be studied to see if they can reduce oil in contaminated water bodies, researchers at Southeastern Louisiana University say.

If the clams can significantly filter hydrocarbons from water, large containers of them eventually might be transported to contaminated lakes to remove oil pollution, researchers said. It's exciting that a biological resource like clams might help reduce damage from petroleum spilled into lakes, said Phillip Voegel, an assistant professor of chemistry at SLU.

The surprisingly inexpensive research has grown out of a monitoring program in which Rangia clams were regularly tested to see if they were bioconcentrating oil that leaked into the Gulf after the Deepwater Horizon explosion last year, Voegel said.

Caitlyn Guice, one of Voegel's students who helped with that monitoring, received a \$2,300 Louisiana Sea Grant Undergraduate Research Opportunities Grant to study the ability of the clams to remove hydrocarbon pollutants from natural water.

The clams are filter feeders that are expected to bioconcentrate hydrocarbons and reduce the concentrations of hydrocarbons in the aquariums in which they are placed for the tests, she said.

Guice plans to put clams in a five-gallon aquarium filled with lake water from the area in which they were taken and to fill a second aquarium with five gallons of lake water from the same area.

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After the clams acclimate to the first aquarium, hydrocarbons will be added to the two aquariums to produce a concentration of 50 parts per million of hydrocarbons in each.

For three weeks, samples will be taken from each of the aquariums, tested for hydrocarbons and compared, Guice said.

Then the clams will be tested to see how much of the material they have accumulated, Voegel said.

At that point, clams and water from an area with a different salinity will be collected and used in a similar test, researchers said.

They will test five salinity areas, with the suspected results that the clams will bioconcentrate more hydrocarbons as salinities decrease, Guice said in the application for the grant. That has been the case on tests done for seafood safety in other organisms.

“Looking at bioconcentration of hydrocarbons by shellfish in this manner is a complete shift in thinking from the typical focus on food safety,” Voegel said.

Guice, a junior chemistry major from Prairieville, said she will begin the research under Voegel’s guidance in the next few weeks, once the research funds arrive.

She hopes to complete the project by December.

The state Department of Environmental Quality shut down dredging for Rangia clams in Lake Pontchartrain in 1990 after the agency determined that turbidity caused by the dredges was having an adverse effect on the lake and its aquatic life.

In 2002, the Lake Pontchartrain Basin Foundation pronounced that the 630-square-mile lake had recovered from the effects of shell dredging and other environmental factors that had plagued it.

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Once their "job is done," what would be the health and condition of the clams?