New methods improve quagga and zebra mussel identification

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The earliest possible detection of quagga and zebra mussels has long been a goal of biologists seeking to discover their presence in water bodies. The Bureau of Reclamation's Detection Laboratory has released two reports identifying a new sampling method to improve the accuracy of quagga and zebra mussel detection while still at the microscopic larval stage. The reports also outline the processes and procedures used to identify invasive mussels through DNA testing.

"Improving the accuracy of testing provides Reclamation and its partners better information about the presence of quagga and zebra mussels in water bodies where our facilities are located," laboratory manager Denise Hosler said. "These sampling procedures allow for the improved detection when the mussels are in their larval stage."

For early detection, Reclamation searches samples from reservoirs, lakes, canals and other water bodies for the microscopic larval form of quagga and zebra mussels. Because they are so small, multiple testing methods are used, including cross-polarized light microscopy, scanning electron microscopy and PCR testing of the DNA of larvae in the water sample.

"Early detection of mussel larvae does not mean that the water body will necessarily become infested," Reclamation's Director of Research and Development Curt Brown said. "Early detection provides a warning for managers that a water body is being exposed to mussels through some pathway, so they can consider additional means to prevent further

introduction."

Provided by Bureau of Reclamation