US Army Corps
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Station

Zebra Mussel Research Technical Notes

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Use of Bridal Veil to Collect Zebra Mussels

Background and purpose

Currently there is great interest in zebra mussel monitoring as this species rapidly spreads throughout the inland waterway system. Monitoring is particularly important at facilities that use raw water potentially infested with immature mussels. It is important to determine if zebra mussels are present in critical systems so that control methods can be implemented immediately. Once zebra mussels are detected, continued monitoring can provide information on the severity of the problem. Monitoring can also be used to determine the efficacy of control methods, such as chemical feed systems or microfiltration.

Devices that rely solely on mussel settlement, such as plates, are often not colonized until surrounding populations have reached high densities. As an alternative to settling plates, a bridal veil monitor can be used. The bridal veil is very fine material that traps immature zebra mussels in flowing water.

Bridal veil monitors have been used extensively for zebra mussel monitoring by Dr. S. J. Nichols of the National Biological Survey and Dr. William Kovalak of Detroit Edison. This technical note describes construction of the bridal veil monitor.

Additional information

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Materials

The bridal veil is housed in 0.5-in. plastic mesh that is rolled into a cylinder and capped at both ends with additional mesh (Figure 1). Hot glue or plastic wire ties can be used to secure the mesh cylinder. One end cap is permanently attached to the housing; the other should be easily removable. Any fine-mesh filter material can be placed in the housing, although previous workers have used bridal veil. The monitor is loaded with approximately 1 sq ft of fine mesh.

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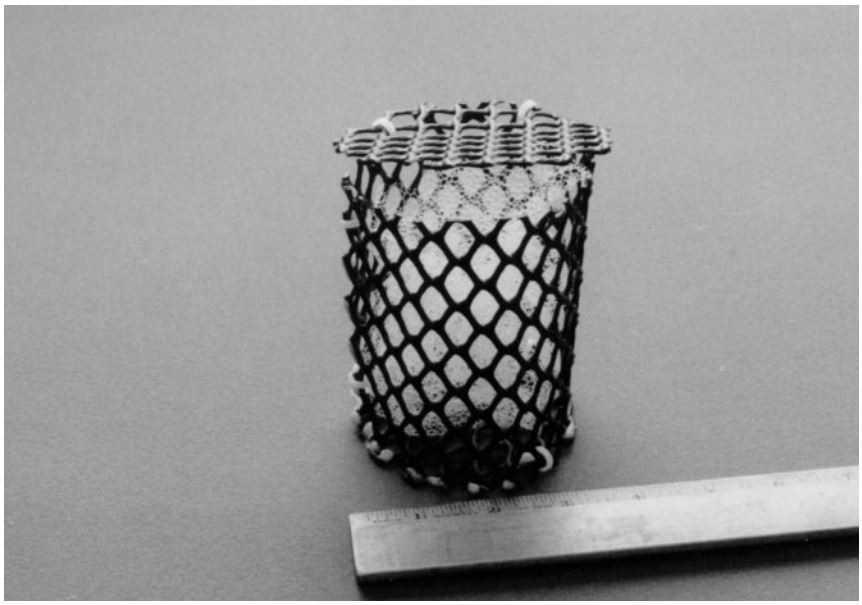

Figure 1. Bridal veil monitor

Use of the monitor

The fine mesh acts as a filter, removing zebra mussel larvae in presettlement stages. It also can function as a substratum for settling larvae. It has an advantage over plates that collect only settling larvae. If ambient suspended sediment concentrations are high, the mesh should be removed and inspected at least every 2 weeks. After removal, the mesh can be kept cool to keep larvae alive, or placed in preservative for later examination. Both the mesh and settled material in the sample jar should be examined for mussels. A cross-polarized light system on a dissecting microscope is particularly helpful for locating zebra mussel larvae.