



US Army Corps
of Engineers
Waterways Experiment
Station

Zebra Mussel Research

Technical Notes

Section 3 — Control Strategies

Technical Note ZMR-3-17

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Buffalo District Floating Plant Experience with Zebra Mussels

Background In 1988, zebra mussels were observed on a Cleveland-based floating plant. In 1989 a tugboat was transferred from Cleveland to Buffalo. The next summer, a diving inspection of the tugboat revealed that the underwater portion of the hull was covered with a layer of zebra mussels, as were sea chest screens. The following spring, two tugboats of the Buffalo plant were covered with mussels.

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Concerns Mussels attached to the hull of boats create resistance that decreases boat speed. Removal of mussels resulted in a 20-percent increase in speed for one tugboat. Clogging of sea chest inlet screens is another significant problem. Furthermore, attached mussels may accelerate corrosion of vessels.

Control methods Numerous methods of removal were tested. Sandblasting was inadequate because the shells shredded and the soft bodies absorbed much of the sandblast, slowing the process. Hydroblasting was unsatisfactory, likely due to the low pressure (3,450-4,830 kPa) of the machine. Mechanical removal by scraping was found to be effective.

Preventive treatment Once cleaned, the vessels were painted with two coats of epoxy primer and then two coats of copper-based antifouling paint. The coating provided resistance against mussel infestation.