



US Army Corps  
of Engineers  
Waterways Experiment  
Station

# Zebra Mussel Research

## Technical Notes

Section 1 — Environmental Testing

Technical Note ZMR-1-05

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### Developing a Protocol to Ensure Environmental Compliance in a Zebra Mussel Control Program

#### Background and purpose

As with all of its projects and programs, the U.S. Army Engineer District, Nashville is using the National Environmental Policy Act (NEPA) process in developing its zebra mussel control strategies. Not only is NEPA an excellent planning tool, but compliance with NEPA is required if Federal funds are used for zebra mussel control. Control methods used at public facilities must not negatively affect native biota or existing water quality. Early consideration of the NEPA process is required if agencies are to quickly and efficiently deal with zebra mussel infestations. The purpose of this note is to describe the development of a protocol to ensure environmental compliance.

#### Additional information

This technical note was written by Dr. Andrew C. Miller, U.S. Army Engineer Waterways Experiment Station (WES), and Mr. H. Joe Cathey, Mr. Tom Swor, and Mr. Richard Tippit, U.S. Army Engineer District, Nashville. For additional information, contact Mr. Tippit, (615) 736-2020, Mr. Swor, (615) 736-7666, or Mr. Cathey, (615) 736-5027. Dr. Ed Theriot, WES, (601) 634-2678, is Manager of the Zebra Mussel Research Program.

#### Approach

The Nashville District took the following approach in developing its protocol:

- Identify individuals in other water resource agencies who might also have to comply with NEPA (cooperative agencies).
- Review existing permits to determine whether modifications are needed.
- Identify state agencies and key personnel who will be involved in the regulatory process.
- Develop strategies for preparing environmental documents (environmental assessments).

The District intends to develop and implement a basin-wide strategy for compliance rather than deal with facilities individually.

District personnel are now seeking cooperation from other water resource agencies in their area (notably the Tennessee Valley Authority) who must also comply with NEPA. This will avoid duplication of effort and facilitate coordination with state regulatory agencies. Existing permits are being examined to determine whether any will require modification. Currently, permits do not deal with chlorine discharge associated with hydropower or navigation facilities.

Consideration of NEPA as part of zebra mussel control could lead to other environmental considerations through the mandatory evaluation of alternative control technologies. Several programs already exist that will support this process. An active zebra mussel monitoring program is already underway in the Nashville District and includes locks, dams, and other facilities. In addition, the District monitors existing water quality, plankton, and benthos at selected projects. Environmental data collected by WES at field stations where zebra mussel control is planned could be used to determine environmental effects.

The cumulative effects of chlorine use for zebra mussel control in large rivers of the United States could be extensive. The U.S. Environmental Protection Agency and other control agencies in this country and Canada have expressed concern over increased use of biocides. Chlorine discharge into natural waterbodies will probably soon be prohibited or severely restricted. Construction and operation agencies must develop a variety of methods and strategies that include redesign, operational changes, increased inspection, and maintenance. The rapid spread of zebra mussels throughout the eastern United States argues for immediate action. However, personnel in federal agencies must ensure that implementation of control methods and strategies is not delayed by lack of compliance with NEPA.