



US Army Corps
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Waterways Experiment
Station

Zebra Mussel Research Technical Notes

Section 1 — Environmental Testing

Technical Note ZMR-1-10

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The NEPA Process 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. In addition to being a valuable planning tool, compliance with NEPA is required if Federal funds are used for zebra mussel control. Nashville District has discovered that early entry into the NEPA process is important, considering the rapidity with which zebra mussel infestations can reach nuisance levels and the serious consequences of being unprepared. The purpose of this technical note is to document basic procedures followed and the results of Nashville District's NEPA compliance for a zebra mussel control program.

Additional information This technical note was written by Mr. Richard Tippit, Mr. Joe Cathey, and Mr. Tom Swor, U.S. Army Engineer District, Nashville. For additional information, contact Mr. Tippit, (615) 736-2020, Mr. Cathey, (615) 736-5027, or Mr. Swor, (615) 736-7666. For additional information on environmental compliance procedures, see ZMR-1-05, "Developing a Protocol to Ensure Environmental Compliance in a Zebra Mussel Control Program." Dr. Ed A. Theriot, WES, (601) 634-2678, is Manager of the Zebra Mussel Research Program.

Approach The Nashville District has completed NEPA review for the zebra mussel control program planned at District facilities. The basic procedure followed is outlined below:

- A review was conducted to determine if any NEPA documents existed which would provide coverage for nuisance, biofouling organisms. No existing documents were located.
- Tennessee Valley Authority (TVA) became a joint lead agency in preparation of the Environmental Assessment (EA). TVA is a major water resources agency and power utility, with numerous facilities within the geographic boundaries of Nashville District. On the Tennessee River, some facilities are collocated—such as TVA dams that have associated Corps of Engineers navigation locks.

- Alternatives were developed. A broad-based alternative that would enact a range of control options was selected as the action plan. Control methods included chemical treatments, antifoulant coatings, physical removal, thermal shocking, desiccation, and oxygen deprivation. The scope of the EA was expanded to include other attached biofouling molluscs in addition to *Dreissena polymorpha*.
- Facilities were broadly defined and included hydropower dams, non-power dams, navigation locks, fossil-fueled and nuclear-fueled generating plants, certain types of recreation sites (boat ramps, beaches), and miscellaneous other sites where control measures might be needed.
- A scoping letter was mailed to appropriate Federal, state, and local agencies, conservation organizations, and individuals. Scoping is intended to surface pertinent issues that should be addressed. The main issue raised was the need to avoid impacting nontarget species.
- It was important to clearly define the limits of treatment. This was accomplished in the EA as follows:

Zebra mussel control would be limited to use in or on types of facilities as defined earlier; no attempt would be made to control zebra mussels away from these facilities (i.e., in the open environment). Some types of control measures are expected to be necessary at these facilities for the remainder of their productive lives.

- The affected environment and the consequences of the alternatives were analyzed. Factors considered were water quality, aquatic biota, threatened and endangered species, water supplies, solid wastes/hazardous wastes, safety, economics, recreation, aesthetics, and cultural resources. Chemical controls were the most controversial because of their ability to affect nontarget aquatic life. Strict adherence to National Pollutant Discharge Elimination System (NPDES) permit limits and minimization of the use of chlorination in facilities resulted in protection of the aquatic environment. Most factors evaluated indicated that the environmental effect of a zebra mussel control program at facilities was negligible.
- The draft EA was issued for review and comment. Since the EA was generic rather than site-specific, not all questions regarding threatened and endangered species could be resolved for all potential treatment locations. A strong commitment was included which acknowledged the need for future additional site-specific studies to determine potential impacts to listed species from nonselective treatment technologies such as chlorination.
- Nashville District's NEPA review resulted in a Finding of No Significant Impact (FONSI), which has been signed by the District Commander.

Conclusions A successful NEPA process will be essential to a functioning zebra mussel control program where Federal monies are expended. A complete and thorough analysis within the NEPA document will provide a good baseline of information that can aid in obtaining required permits from state regulatory agencies. A generic or broad-based EA may necessitate additional site-specific investigations to fully satisfy impact analysis requirements. The NEPA process is an excellent vehicle for carrying out a public review of proposed actions. Finally, NEPA is a dynamic process that is always open to review and further iteration as the baseline situation changes.