

**DEPARTMENT OF THE ARMY**  
**COMPLETE STATEMENT**  
**OF**  
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**BEFORE THE**

**SUBCOMMITTEES ON FISHERIES CONSERVATION, WILDLIFE AND OCEANS**  
**AND**  
**PARKS, RECREATION AND PUBLIC LANDS**  
**OF THE**  
**COMMITTEE ON RESOURCES**  
**UNITED STATES HOUSE OF REPRESENTATIVES**

**ON**

**THE GROWING PROBLEM OF INVASIVE SPECIES**  
**APRIL 29, 2003**

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**INTRODUCTION**

Mr. Chairmen and members of the Subcommittees, I am Dr. Edwin Theriot, Director of Management in the Mississippi Valley Division, United States Army Corps of Engineers. I am pleased to be here today to respond to your questions concerning the invasive species affecting this Nation and the programs of the Army Corps of Engineers focused on addressing these problems. My testimony will focus on invasive aquatic nuisance species as that is the area most affecting the Army's Civil Works program and where we have specific authorities focused on the problems.

**SCOPE OF THE INVASIVE SPECIES PROBLEM**

In the broader picture, the introduction of invasive animals and plant species into habitats and ecosystems is a major threat to the well-being of the Nation. According to the National Invasive Species Council, invasive species account for about \$137 billion every year in economic costs. The strength of this Nation is based on the diversity and abundance of our natural resources. Our natural resources provide food to feed our nation and others; provide the resources needed by industry to strengthen our economy and move goods efficiently and cheaply; provide opportunities for our people to enjoy the beauty and benefits of these diverse habitats and ecosystems; plays major role in

the heritage of our country; and, create security for future generations. The replacement of these natural habitats and ecosystems with large monocultures of non-native species threatens our well-being and the strengths that make us a great country.

Invasive aquatic species, such as hydrilla, Eurasian watermilfoil, zebra mussels, Chinese mitten crabs, mosquitoes transporting West Nile virus, and others, can have a profound effect on the function and values of the water resources of the United States. These species are out of their native habitat, have no natural predators and their growth and reproduction is prolific. The population of a species can become so large that it can: impact the movement of ships and/or barges moving goods on our waterways; take up large amounts of space which significantly reduces the ability of the water body to store water for flood control or irrigation; slow the flow of water causing siltation and nutrient loading; clog machinery, valves, water intakes, and pipes that support operations affecting navigation, the generation of power and water supply; impede or prevent recreational activities such as boating, swimming, or fishing; and, can cause oxygen and light deprivation that significantly decreases water quality. In cases such as the West Nile virus the invasive species can be a direct threat to human health.

## **EFFORTS TO CONTROL OR ERADICATE UNWELCOME INVADERS**

The Army Corps has authorities to undertake research and other activities to control and eradicate aquatic nuisance species. They are the Aquatic Plant Control Program, authorized by section 104 of the River and Harbor Act of 1958, as amended, the Removal of Aquatic Growth program, authorized by the River and Harbor Act of 1916, as amended, the Non-indigenous Aquatic Nuisance Species Prevention and Control Act of 1990 (PL 101-646), and the National Invasive Species Act of 1996 (Subtitle C, Sec. 1202 (i)(3)(A)). In spite of these efforts and the efforts of others, invasive species continue to be introduced and many are spreading at an alarming rate. According to a General Accounting Office report issued in October 2002, all current efforts by the United States and Canada are not adequate to stop the introduction of invasive species into the Great Lakes from ballast water alone.

### **Aquatic Plant Control Program**

The Aquatic Plant Control Program has two primary components. The first is a component for undertaking activities to control aquatic plants on specific waters that is cost-shared on a 50/50 basis with non-Federal interests. The second is a research component (100 percent Federal funding) for the development of cost-effective, environmentally compatible management technologies.

The focus of the control component is selective eradication of specific types of exotic or nuisance aquatic plant infestations. Control actions would be implemented in areas where aquatic plant nuisance species threaten the regional economy because of negative impacts to navigation, flood control, public health, water quality, fish and

wildlife, drainage, irrigation, and to a lesser extent, recreation. The control component of the program is not applicable to Federal agency projects or facilities.

The Aquatic Plant Control Research Program (APCRP) is the research component of this program. The objective of this research is to develop cost-effective, environmentally compatible aquatic plant management technologies, which address national needs and priorities. Research conducted under the APCRP involves Corps of Engineers research efforts and cooperative research efforts with other Federal agencies, state agencies, universities, local governments, and private industry. Research efforts focus on developing capabilities to use host-specific biological agents, improved techniques for using herbicides, enhanced knowledge of the role of aquatic plants, developing integrated management strategies and guidance, and the development of techniques for establishing desirable aquatic vegetation. The APCRP provides water resources managers with the tools needed to restore aquatic ecosystems to achieve sustainable benefits provided by a healthy and diverse native aquatic plant communities. The effective use of new technologies is ensured through the appropriate transfer of information and techniques using a variety of media. Some of the new tools and products developed include the approval to release 12 insect biological control agents, environmentally compatible and user-safe formulations of aquatic herbicides, an ecosystem approach to aquatic plant management, techniques for ecosystem restoration, PC-based simulation and plant growth models, an automated system for detection and mapping of submersed aquatic vegetation, and an Aquatic Plant Information System on CD-ROM providing information on the identification and management of over 60 plant species.

The FY 2004 budget request is \$3 million. Since Fiscal Year 1996, the Corps annual Aquatic Plant Control Program budget request has been approximately that amount, with the focus being on the research component with the maximum return. Due to specific direction provided by Congress, much of the funding provided has been directed at specific control activities thereby limiting and delaying specific research efforts to control new invasive aquatic plants such as Giant Salvinia and *Arundo donax*.

### **Removal of Aquatic Growth**

In addition, we have activities in Alabama, Florida, Louisiana, Mississippi, and Texas. These activities ensure the removal of aquatic plant nuisance species in navigation channels that would impede the movement of commercial vessels. These activities are supported with "Operations and Maintenance" funding at 100 percent of Federal Cost. The average expenditures for these operations are approximately \$4 million per fiscal year.

### **Invasive Non-plant Species**

In addition, there are many other invasive species that impact or have a high potential to impact Corps civil works projects. Zebra mussels clog water intake structures, reduce hydropower output, and colonize on endangered species. The

Chinese mitten crab burrows into flood control levees and dams, threatening their structural integrity. The failure of a levee or dam could cause catastrophic economic and human loss to a region. Some dredged material disposal areas have mosquito-breeding habitats located near large population centers. We have already had to dispatch scientists to some of those areas to investigate whether those mosquitoes harbored the West Nile virus. Carp are causing extensive problems in river systems—eating native vegetation and disrupting the food chain. The Chicago Sanitation and Ship Canal Barrier system was completed last year to interdict carp going upstream and round gobys in the Great Lakes from entering the Mississippi River system.

We are working with other Federal agencies and the National Invasive Species Council (NISC) to develop a more coherent program for prevention, early detection and control of invasive species. Our Invasive Species Research Program is currently funded at about \$750,000 annually. To date the research has resulted in the development of guidance concerning control options, a Zebra Mussel Information System, a Zebra Mussel chemical control guide, a control handbook for facility operators, and guidance on dispersal barrier options to prevent the spread of aquatic invasive species. The results of this research have been made available to all interested parties and we will continue our efforts to find better methods for the prevention and inexpensive effective control of aquatic invasive species. We are working with the NISC to develop a uniform method for reporting economic cost of invasive species impacts. We are also working with NISC to improve reporting of interdiction and management costs through the invasive species interagency “cross cut” budget. The FY 2004 crosscut contained only a subset of Corps activities, in the FY 2005 effort we plan to expand the number activities included.

## **IS EXISTING STATUTORY AUTHORITY SUFFICIENT?**

In general, we believe that the existing statutory authority for Army Corps of Engineers programs for research and actual control of aquatic plant and nuisance species is sufficient. One of the action items listed in the National Invasive Species Management Plan is for the National Invasive Species Council to conduct an evaluation of current legal authorities relevant to invasive species. The evaluation is to include an analysis of whether and how existing authorities may be better utilized. Once this review is finished, and if warranted, recommendations will be made for changes in legal authority.

We believe that the majority of the Americans are not aware of the severity of the invasive species problem in the United States or the damage that occurs to our natural resources and our economy. We believe that the coordinated approach, and the interagency cross cut budget and management plan now underway by the NISC is sound and will lead to National multi-agency integration of prevention and management strategies

## CONCLUSION

We need research to prevent invasive species from degrading our locks, dams, and hydropower facilities. We know, for example, that zebra mussels accelerate the erosion rates at lock structures but we do not have techniques to coat those structures to prevent the zebra mussels from becoming attached. Further work needs to be done on ballast water to prevent the introduction of new species. Again, we are encouraged by the interagency ballast water management proposal between the U.S. Geological Survey, the Fish and Wildlife Service, the Coast Guard and the National Oceanic and Atmospheric Administration as a part of the FY 2004 invasive species cross cut budget. We would also recommend further herbicide research to examine slow release formulations and perform research on target specific types of herbicides. Natural biocides also need attention as a natural way of controlling some invasive species. Many of the species that are causing the greatest economic and ecological impact have natural predators in their countries of origin that keep the species populations in balance.

Finally, we think it is important that all Federal agencies inform the public about the economic cost of invasive species and what they can do to prevent introductions of new species to areas not infected. We cannot overstate the importance of human intervention. We are concerned that the U.S. population does not have a true grasp of the full impact that invasive species have on their day- to- day lives or understand the economic cost that these species represent. Accordingly, we think the invasive species public awareness survey proposed by agencies of the Department of the Interior and Department of Agriculture as part of the invasive species interagency cross cut budget will be an important step forward. The survey will increase our understanding about what the public knows about invasive species, and inform our decisions to target educational activities that address the knowledge gaps.

Thank you for the opportunity to present this information. I would be pleased to answer any questions.