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U.S. Army Corps of Engineers Nuisance Species Efforts

Introduction

Nuisance species are species that cause, or are likely to cause, economic or environmental harm or harm to human health. Nuisance species impact both terrestrial and aquatic ecosystems. As human societies have become more connected, opportunities for the spread of non-native nuisance species (i.e., *invasive species*) have increased (e.g., navigation activities can transport species and introduce them to multiple different watersheds and waterbodies). Many federal and nonfederal agencies managing land and water undertake efforts to prevent the introduction and spread of invasive species. Upon detection of nuisance species, agencies may devote resources to control and/or eradication efforts.

Congress has authorized various programs for U.S. Army Corps of Engineers (USACE) nuisance species activities and has expanded the scope of the authorizations as well as the appropriations for these activities. This In Focus discusses USACE nuisance species control efforts, including selected authorities, programs, and funding.

Effects of Nuisance Species

After introduction, invasive species may become established and spread; once established, it can be costly and difficult (or impossible, in some cases) to control or eradicate them. For more information, see CRS In Focus IF11011, *Invasive Species: A Brief Overview*.

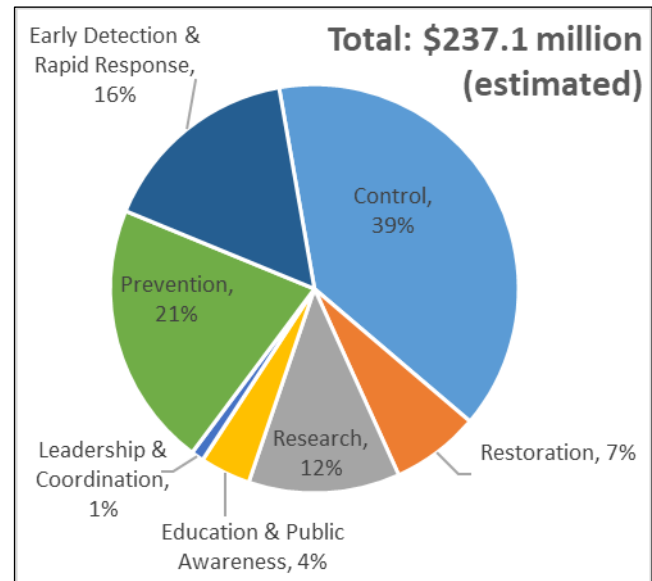
Harmful algal blooms (HABs) also can affect aquatic systems and their uses. Algal communities are naturally occurring components of healthy aquatic ecosystems. However, under certain environmental conditions—such as increased temperatures and nutrient concentrations (e.g., nitrogen and phosphorus)—colonies of algae can grow excessively (or *bloom*) and produce toxins, becoming nuisance species. For more information, see CRS In Focus IF10690, *Freshwater Harmful Algal Blooms: An Overview*.

USACE, part of the Department of Defense, develops and maintains civil works projects in the United States, principally to improve navigation, reduce flood and storm damage, and restore aquatic ecosystems. USACE is the steward of approximately 12 million acres of public lands and waters associated with hundreds of water resources projects nationwide. Nuisance species can affect USACE projects by outcompeting beneficial species, clogging water pipes, and affecting water quality and recreation. Invasive species affecting USACE projects include Asian carp, zebra and quagga mussels, feral hogs, and hydrilla (an aquatic plant species), among others. In addition, HABs have affected the aquatic systems where USACE projects exist. USACE projects can also serve as a vector for transporting nuisance species that damage other water bodies.

USACE Nuisance Species Activities

USACE generally undertakes efforts to prevent or reduce the introduction and establishment of invasive species and the proliferation of HABs at its projects, pursuant to its project and programmatic authorizations (some of which authorize specific activities), nationwide Invasive Species Policy Guidance, and engineering regulations. USACE typically funds nuisance species work for individual projects through project funding lines in the Operation and Maintenance (O&M) account; project planning documents address the nature of work at the project level. USACE also pursues nuisance species research that may involve field studies at USACE projects. As part of its regulatory responsibilities, USACE also may require permit applicants to consider nuisance species control. In FY2022, USACE spent an estimated \$237.1 million on nuisance species activities; **Figure 1** specifies this funding by response type.

Figure 1. USACE Estimated Spending on Nuisance Species Efforts by Response Activity, FY2022



Source: CRS, using FY2022 *National Invasive Species Council Crosscut Budget*, at <https://www.doi.gov/invasivespecies/crosscut-budget>.

Note: USACE estimates spending for fiscal years based on previous expenditures, projections of work, and known additions of funding.

Updating USACE Nuisance Species Policies

The John D. Dingell, Jr. Conservation, Management, and Recreation Act (P.L. 116-9) and America’s Conservation Enhancement Act (P.L. 116-188) amended the Fish and Wildlife Coordination Act (16 U.S.C. §§661 et seq.) to direct the Secretary of the Army to develop and implement a strategic plan for an invasive species program to achieve an annual net reduction of invasive species populations on

land or water managed by USACE. The Water Resources Development Act of 2020 (WRDA 2022; Division AA of P.L. 116-260) further directed USACE to periodically update its Invasive Species Policy Guidance. USACE published an updated guidance document in February 2023, which affirms collaboratively managing with partners both aquatic and terrestrial invasive species and HABs. The document also stated that USACE had drafted the strategic plan mandated by the Fish and Wildlife Coordination Act, which is to be used when finalized.

USACE Nuisance Species Programs

USACE has several programs that address nuisance species activities. Congress has amended the authorized activities under some of these programs and authorized pilot programs. Congress funds these programs annually, usually at a level higher than the Administration requested.

Aquatic Plant Control Program. Section 104 of the River and Harbor Act of 1958, as amended (33 U.S.C. §610), authorizes the Aquatic Plant Control Program, a program for the prevention, control, and progressive eradication of noxious aquatic plant growths and aquatic invasive species in U.S. waters. The program supports research and development of management solutions for invasive aquatic plants that affect USACE missions. The Water Resources Reform and Development Act of 2014 (P.L. 113-121) and subsequent WRDAs have amended this authority to also require USACE to establish and operate watercraft inspection and decontamination stations in selected river basins to prevent the spread of aquatic invasive species (such as quagga and zebra mussels) at USACE reservoirs. These watercraft inspection stations are to be constructed, operated, and maintained with a 50% federal cost share. Appropriations are authorized at \$130.0 million annually for these stations. For FY2023, Congress appropriated \$38.0 million for the Aquatic Plant Control Program under USACE's Construction account, including \$16.0 million for watercraft inspection and decontamination stations.

Aquatic Nuisance Research Program. The Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990, as amended (16 U.S.C. §4722), authorized the Aquatic Nuisance Species Research Program. An expansion of the former Zebra Mussel Research Program, the program supports research on new methods for preventing, detecting, monitoring, and controlling invasive aquatic species, as well as HABs, that impact navigable waters, infrastructure, and associated water resources. USACE disseminates this information to its field offices. Program activities do not require a nonfederal cost share.

Congress has recently authorized and funded new HAB activities under this program. WRDA 2018 (Title I of P.L. 115-270) directed USACE's Engineer Research and Development Center to implement a five-year HAB technology development demonstration program. WRDA 2020 authorized \$25 million for a HAB Demonstration Program, which was amended further in WRDA 2022 (Title LXXXI of Division H of P.L. 117-263). USACE released implementation guidance for the HAB Demonstration Program in 2022 and anticipates releasing a request for proposals in FY2023. In FY2023, Congress appropriated \$23.0 million for the Aquatic Nuisance Research Program

under USACE's O&M account and directed \$18.0 million of the funding to address HABs, including \$5.0 million for the HAB Demonstration Program.

Removal of Aquatic Growth Program. The Removal of Aquatic Growth Program is a navigation O&M authority as provided in several public laws to control nuisance plants that are negatively impacting USACE navigation projects in Gulf Coast states, Georgia, and South Carolina. In FY2023, Congress provided \$3.7 million for USACE to remove aquatic growth in Louisiana and Florida at federal expense.

Pilot Programs. WRDA 2020 authorized several USACE pilot programs related to nuisance species. The act directed USACE to carry out a pilot program to manage and prevent the spread of Asian carp in the Cumberland and Tennessee River watersheds using innovative methods. The pilot program received \$650,000 total from FY2022 and FY2023 appropriations for the Aquatic Nuisance Research Program, and USACE has stated that it is developing a management plan for the pilot program. The act also directed USACE to carry out a pilot program to identify and develop strategies for terrestrial noxious weed control on USACE-managed land. USACE allocated \$100,000 in FY2023 from funding provided for its O&M account to its Stewardship Support Program to conduct an assessment across USACE projects and to implement two control projects. WRDA 2020 also amended 33 U.S.C. §610 (1) to authorize USACE to enter into partnerships to control or eradicate invasive species in certain western river basins and (2) to authorize a pilot program to manage invasive species at public facilities associated with USACE reservoirs in the Upper Missouri River Basin. These two authorities remain unfunded as of FY2023 and are set to expire after FY2024.

Example USACE Nuisance Species Project

In some cases, Congress has authorized USACE to undertake nuisance species control efforts at specific water resource projects. An example is USACE efforts in the Chicago area to control the transfer of aquatic invasive species, including Asian carp, between the Great Lakes and the Mississippi River basins. Congress funded USACE's construction and operation of underwater electric barriers in the Chicago Sanitary and Ship Canal, which is a hydrologic link between the Great Lakes and the Mississippi River. Congress further authorized the Great Lakes and Mississippi River Interbasin Study to evaluate potential methods to prevent aquatic invasive species transfer between the basins. Study recommendations included a "Technology Alternative," consisting of nonstructural measures, an acoustic fish deterrent, an air bubble curtain, an engineered channel, an electric barrier, and a flushing lock at Brandon Road Lock and Dam. In 2019, the USACE Chief of Engineers signed a report recommending this alternative with a construction cost of \$830.8 million (FY2019 levels) at a 65% federal cost share and operation and maintenance at an 80% federal cost share. WRDA 2020 authorized construction for the project at 80% federal cost share and WRDA 2022 further amended the cost share to 90% federal. The project received \$273.7 million total in Construction appropriations in FY2022 and FY2023.

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