



## NOAA FISHERIES SERVICE



Invasive species can hitchhike to new habitats in many ways – they can be transported by cargo, vehicles, watercraft, timber, construction equipment, or landscaping materials.

Above: Woody debris is placed in a stream to create habitat suitable for spawning salmon. Below: Removal of the Merrimack Village Dam, New Hampshire



### NOAA Habitat Restoration Prevents Aquatic Invasive Species

Pursuant to Executive Order 13112, recipients of NOAA funding cannot implement any actions that are likely to cause or promote the introduction or spread of invasive species, and should provide for re-establishment of native species and habitat conditions in ecosystems that have been invaded. NOAA habitat restoration grant recipients are expected, where possible and/or practicable, to

- Prevent the introduction of invasive species.
- Detect and respond rapidly to and control populations of invasive species in a cost-effective and environmentally sound manner.
- Monitor restored sites frequently; invasive species populations must also be managed immediately after initial detection for most effective control.
- Promote public education on invasive species.

The NOAA is continuously working with staff, grant recipients, and the general public to promote methods involving the prevention, early detection, and control of invasive species. The NOAA Restoration Center:

- Provides guidance to grantees and technical reviewers to consider invasive species during the planning and development of habitat restoration actions.
- Guides the development and technical review of the habitat restoration actions to prevent and control invasive species within the project area.
- Increases awareness and understanding of ramifications of proposed habitat restoration activities in the context of invasive species.
- Monitors for introductions of invasive species during and following restoration.
- Provides training and support for the development of Invasive Species Risk Assessment and Planning plans - a tool that manages the risk of invasive species during natural resource management activities.

### Great Lakes Restoration Initiative

NOAA recently awarded \$9.2 million to nine projects throughout the Great Lakes Region that will restore fish habitat by removing dams and barriers, constructing fish passage, restoring wetlands, and removing marine debris and invasive species. NOAA received funding from the Environmental Protection Agency through President Obama's Great Lakes Restoration Initiative to support these projects.

The selected projects are required to develop an Invasive Species Risk Assessment and Planning plan and conduct post-construction monitoring for the introduction of newly established invasive species. In addition, a new partnership is being developed between the Community-based Restoration Program and the National Wildlife Federation to provide technical guidance to the grantees on how to make projects more resilient to the effects of climate change.



The 1987 U.S.-Canada Great Lakes Water Quality Agreement lists 43 Areas of Concern - specific geographic regions that particularly impair aquatic life. (Photo credit: Great Lakes Wiki)



## American Recovery and Reinvestment Act of 2009

Under the American Recovery and Reinvestment Act of 2009, NOAA provided \$167 million to fund 50 coastal habitat restoration projects. These projects are restoring damaged wetlands, shellfish beds, coral reefs and reopening fish passages that boost the health and resiliency of our nation's coasts and Great Lakes. A significant number of these restoration projects involve the removal of invasive species and the reinstatement of native ecosystems. Below are two such examples; for additional information on these and other NOAA-funded Recovery Act projects, visit the NOAA Recovery Act website at <http://www.noaa.gov/recovery>.

### **San Francisco South Salt Pond Restoration**

San Francisco Bay has lost an estimated eighty-five percent of its wetlands to development; this project represents part of the largest tidal wetland restoration on the West Coast of North America. This project supports the efforts of the Invasive Spartina Control Project, a multi-agency, region-wide effort which uses aggressive control actions to eradicate *Spartina alterniflora* and its hybrids from the San Francisco Estuary. Control of these invasive plants is necessary to provide circulation to former salt ponds which will contribute to the recovery of threatened and endangered species, increase habitat for migratory birds and marine mammals, and improve productivity within San Francisco Bay's ecosystems.



Treated invasive *Spartina alterniflora* X *foliosa* within the San Francisco Estuary  
(Photo credit: Drew Kerr, California Coastal Conservancy's Invasive Spartina Project).

### **Maunalua Bay Reef Restoration**

This project will restore the coral reefs in Maunalua Bay, Hawaii through manual removal of the invasive algae species, *Avrainvillea amadelpha*, from twenty-two acres of nearshore waters. The restored sand bottom and hard substrate habitat will enable seagrass expansion and coral recruitment, providing additional, critical habitat for marine biodiversity and foraging grounds for several threatened or endangered marine animals, most notably the green sea turtle. Further, this project will transform existing small-scale community removal efforts already underway into a large-scale removal model. Local communities will experience first hand how their efforts can succeed at a larger, more biologically meaningful, scale.



Invasive algae removal on Maunalua Bay  
(Photo credit: NOAA)

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