

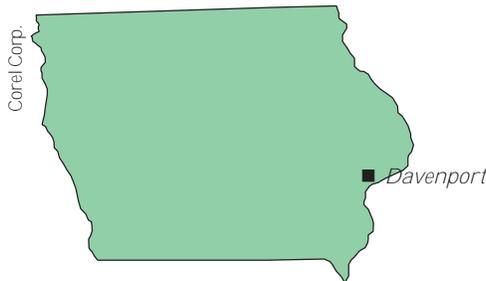


U.S. Fish & Wildlife Service

# Restoring Our Resources

## Iowa's Nahant Marsh

*When hazardous substances enter the environment, fish, wildlife, and other natural resources can be injured. The Department of the Interior, along with State, Tribal and other Federal partners, act as "trustees" for these resources. Trustees seek to identify the natural resources injured and determine the extent of the injuries, recover damages from those responsible, and plan and carry out natural resource restoration activities. These efforts are possible under the Natural Resource Damage Assessment and Restoration Program, the goal of which is to restore natural resources injured by contamination. The Interior Department, along with other trustees, is accomplishing this goal at Nahant marsh in eastern Iowa, bringing a cleaner, healthier environment to the people of the area.*



*The Nahant Marsh is located near Davenport, Iowa.*

### Nahant Marsh

Nahant marsh is a 78-acre cattail marsh and sedge meadow located in eastern Iowa along the Mississippi River. The marsh is on the outskirts of the City of Davenport in Scott County, Iowa, and is surrounded by industrial and residential developments. The marsh receives surface water from the Mississippi River and water levels fluctuate with the River. Nahant marsh is a resting and feeding place for thousands of migrating birds as they make their way north and south along the Mississippi corridor every year, as well as a nesting area for ducks and geese. The Marsh has always been a popular wildlife viewing place for the Iowa and Illinois Quad Cities community of some 300,000 people.

### The Problem

Between 1969 and 1995, the Quad Cities Trap and Skeet Gun Club conducted target practice at Nahant marsh. During this time, an estimated 240 tons of lead shot pellets settled in the Marsh bottom mud. In 1994, the U.S. Fish and Wildlife Service (Service) began investigating reports of sick and dying waterfowl being seen in the marsh. The birds recovered by Service

staff contained large numbers of lead shot in their gizzards and were diagnosed with lead poisoning. Waterfowl swallow lead shot pellets while feeding, and are poisoned by the lead as it enters their bloodstream during digestion. A single pellet can cause lead poisoning and may be enough to kill a bird. In some areas of the marsh, a handful of the bottom mud would yield over one hundred lead shot pellets.

### Solving the Problem

The U.S. Environmental Protection Agency (EPA) joined the Service in the Nahant Marsh investigation because of potential threats to human health from lead exposure. As part of this investigation, the Service and the EPA worked together to evaluate current and future adverse effects of the lead



*Service employee holds dead goose found in Nahant marsh. Ed Kocal/Iowa Department of Natural Resources photo.*

shot on waterfowl and other wildlife. A cleanup plan was then designed. The estimated cost of the cleanup was well beyond anything that the gun club could afford, so the gun club wanted to sell the site "as is" and relocate. The City of Davenport was interested in purchasing the lands for a park, but was concerned about the cleanup costs and any possible liability they might incur along with the property. In order to ensure the cleanup of the marsh, an agreement was developed in which the City paid the purchase price of the land to the EPA, instead of the gun club, in exchange for the EPA cleaning up the property. The only stipulation was that the property be sold and maintained as a natural habitat and used for educational purposes. In addition, the agreement resolved the City's liability concerns. A grant to the City for the purchase of Nahant marsh was awarded by the Iowa Natural Heritage Foundation.

### Restoring the Resources

The cleanup plan developed by the Service and EPA required the removal of the layer of marsh bottom sediments and shoreline soils that contained lead shot. This carefully planned removal of sediments was designed to leave the wetlands functioning properly. In addition, the depth of the marsh and shape of the shoreline were designed to enhance the value of the habitat for aquatic species and promote reestablishment of cattails and sedges.



Nahant marsh just outside of the cleanup area. It is hoped the remediation area will look like this in a few more years. USFWS photo.



Bulldozer removing contaminated sediment from Nahant marsh. USFWS photo.

### Reaching out to the Public

The Nahant Marsh Conservation Committee was formed by River Action, Incorporated, a local non-profit group. The Conservation Committee's purpose was to guide the redevelopment of the marsh into an outdoor education and research site. Committee members include the Service and several State and local government representatives and conservation groups.

The Conservation Committee used early 1900's botanical surveys of the marsh to develop a native meadow planting plan for the marshes, shoreline and adjacent areas. This revegetation plan was funded by a

Natural Resource Damage Assessment and Restoration (NRDAR) settlement with the gun club. Gun club buildings were remodeled into ecology laboratories. Students and volunteers now monitor natural revegetation and seeded plant communities to ensure their success. In addition, schools from across the country can educate students about the EPA remediation processes and redevelopment of hazardous waste sites by purchasing "Brownfields in a box", a case study of Nahant Marsh at <http://www.atec.org/publ/binb.cfm>.

### A Partnership for Success

The Nahant Marsh restoration effort has required immense planning, negotiating, and vision and is a perfect example of what can be achieved when Federal, state and local agencies, non-profit and private organizations and individuals work together to secure a cleaner, healthier environment for fish, wildlife and people. Cooperative efforts, such as this, will continue as the agencies and organizations entrusted with the care of our natural resources seek similar successes throughout the United States.

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