Nahant Marsh

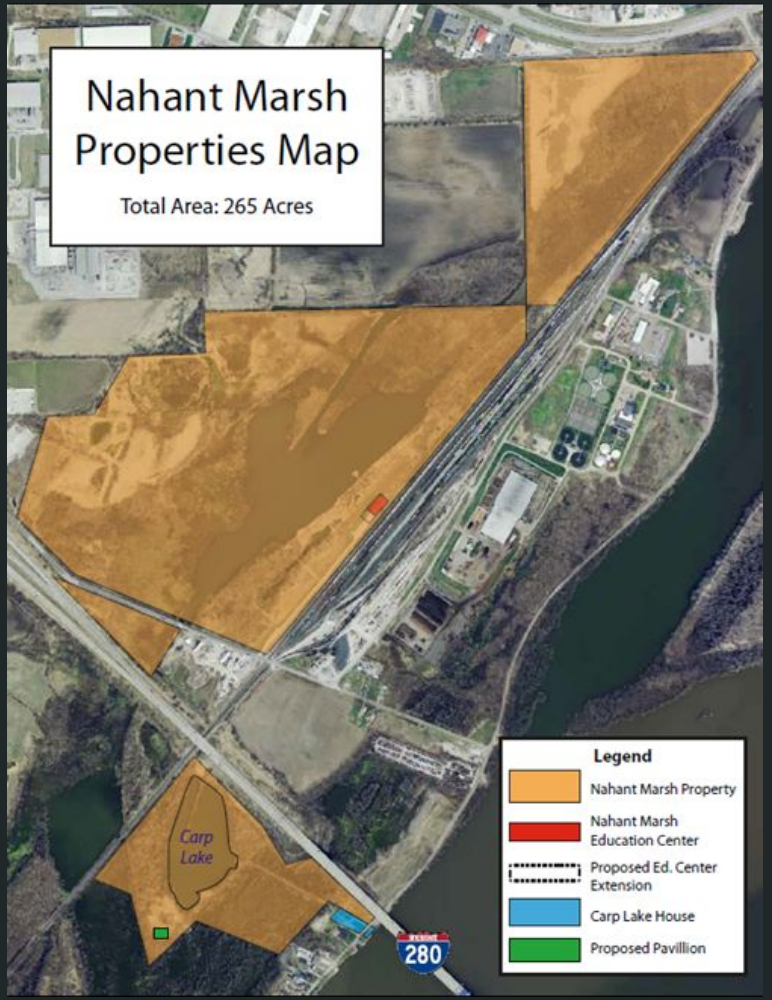
EPA Cleanup

General Information

- Nahant Marsh is a 305 acre wetland, adjacent to the Mississippi River
- Houses multiple wetland communities
  - Three predominant types here are
    - Bottomland Forest
    - Open-water habitat
    - Marshland
- Surrounding area includes suburban, industrial, as well as agricultural land

Borders of Nahant

- North: Highway 61
- East:
  - Northeast: railroad tracks
  - Southeast: Mississippi River
- South: Mississippi River
- West: Carp Lake



Scott County Sportsmen's Association

- Open from 1969-1996
- Shooting Club where locals could shoot birds in the marsh
  - One of the largest shooting ranges in the area
  - Lead bullets were used
  - Estimated that 9 tons of lead per year were shot
    - 243 tons total

Lead Poisoning

- Cattails Contaminated
  - Bottom-Up Effect
  - After the lead was uptaken by the cattails, other organisms assimilated it through the digestion of the cattails
    - Lead pellets were found in the gizzards of dead waterfowl
    - Lesions were also present and consistent with lead poisoning
- Animal Deaths
  - Resulted in shutdown of the shooting range
  - Property was put up for sale

Shooting ranges are under fire

Lead shot over wetlands has poisoned some area waterfowl

By Ross Bielema
OUTDOORS WRITER

One Quad-City area shooting range has closed and another plans to close because lead shot is poisoning waterfowl.

The Fairport Izaak Walton League closed its trap range south of Muscatine, Iowa, this summer after the U.S. Fish and Wildlife Service determined that lead shot was falling into the Mississippi River.

Mike Coffey, a contaminants biologist for the U.S. Fish and Wildlife Service, Rock Island, said the Fairport range and the Quad-City Skeet and Trap Club in Davenport could be charged with killing waterfowl out of season if they continued shooting programs.

Lead pellets from shotgun shells have been proven to be toxic to certain species of waterfowl, he explained. Ducks and geese ingest lead pellets on the bottom of marshes or other waters as they seek small pieces of gravel for their gizzards. The gravel is needed to help grind and digest their food.

The lead then leaches into the bird's digestive system and bloodstream, resulting in death. This is why non-toxic steel shot is required for waterfowl hunting nationwide.

Fish and Wildlife Service officials have investigated similar problems at shooting ranges on the East Coast and in Wisconsin, he said. Only recently have they examined Iowa shotgun ranges that fire over rivers and marshes.

The Migratory Bird Treaty Act that protects waterfowl and other migratory birds does not distinguish between intentional and accidental killing of birds.

"If you struck down a duck (with your car), you would be violating the spirit of the law," he said.

The Davenport club is continuing its shooting programs, including skeet, trap, sporting clays and five-

Why not use steel shot?

Waterfowl hunters used to steel shot might ask: Why can't trap and skeet shooters use steel shot, too?

Quad-City Skeet and Trap Club member Duane Sinsen said steel shot could damage expensive trap guns, because steel is so much harder than lead.

Many modern shotgun barrels are especially made to survive the use of steel shot. But trap and skeet shooters often use obsolete, collectible shotguns, or special shotguns not designed for steel shot.

Club president Tim Kelley noted that trap and skeet shooters often fire more rounds in a week than hunters fire in many seasons.

"It's nothing to shoot 500 rounds a weekend," he said.

Shooting that much steel shot could cause major damage to a firearm's barrel.

Steel shot and reloading components also cost more than double that of lead shot and components. Most club shooters reload their own ammunition to save money.

The U.S. Fish and Wildlife Service currently is seeking public comments on a plan to use bismuth-tin shot for waterfowl hunting next season.

Bismuth-tin shot currently is in use in Canada for waterfowl hunting, and appears to be non-toxic to waterfowl. Additional studies in the United States must be completed before it can be used here next year, however.

Club members said bismuth has a cost similar to

Sale of Nahant

- Offered to private/commercial purchasers
  - Deterred from buying due to the lead content and potential liability
  - Led to the steering committee for Nahant to be formed
    - Multiple organizations made this up including:
      - River Action Inc, Iowa Natural Heritage Foundation, City of Davenport, Izaak Walton League, Mississippi River Basin Alliance, US Army Corps of Engineers, Sierra Club, Scott Community College, Audubon Society, Wapsi Educational Center, US Fish and Wildlife Service, Iowa Dept. of Natural Resources, Quad City Conservation Alliance, Scott County Conservation Board, Quad City Master Gardeners.

EPA

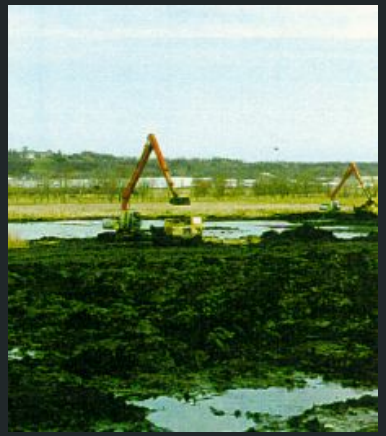
- Committee deemed it necessary for help from the EPA
  - Initial testing of marsh indicated high concentrations of heavy metal
    - Lead
    - Arsenic
    - Antimony
    - Polynuclear Aromatic Hydrocarbons (PAHs)
  - Shot was separated from soil using sieve in separate samples
    - Some samples contained over 500 shot pellets

EPA Efforts

- Restoration Efforts
  - Estimated 2 million to cleanup impacted soils
  - Iowa Natural Heritage Foundation bought the land for restoration
  - EPA agrees to clean property
    - Decided land will be used for conservation and education post cleanup

EPA Efforts

- Draining the Marsh
  - Pipe was used at first to initially drain marsh
    - Done to remove lead pellets from water
  - Didn't lower the water enough and so a pump was brought in
    - This lowered the water enough to start excavation

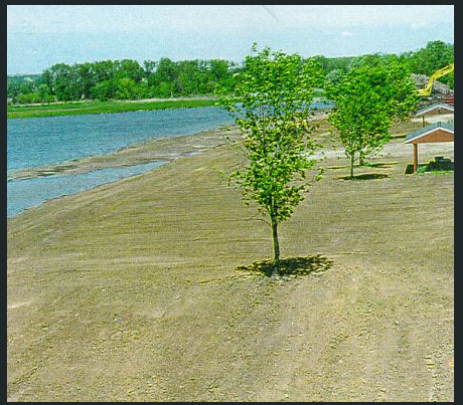


Excavation

- Excavation began February 1, 1999 and ended May 10, 1999
  - Efforts to excavate were hindered by heavy rains and warm winter weather
  - Long Stick Excavators were used to move soil
  - Trucks carried the soil to stockpile area
    - Treated and left to dry out before bringing to the landfill

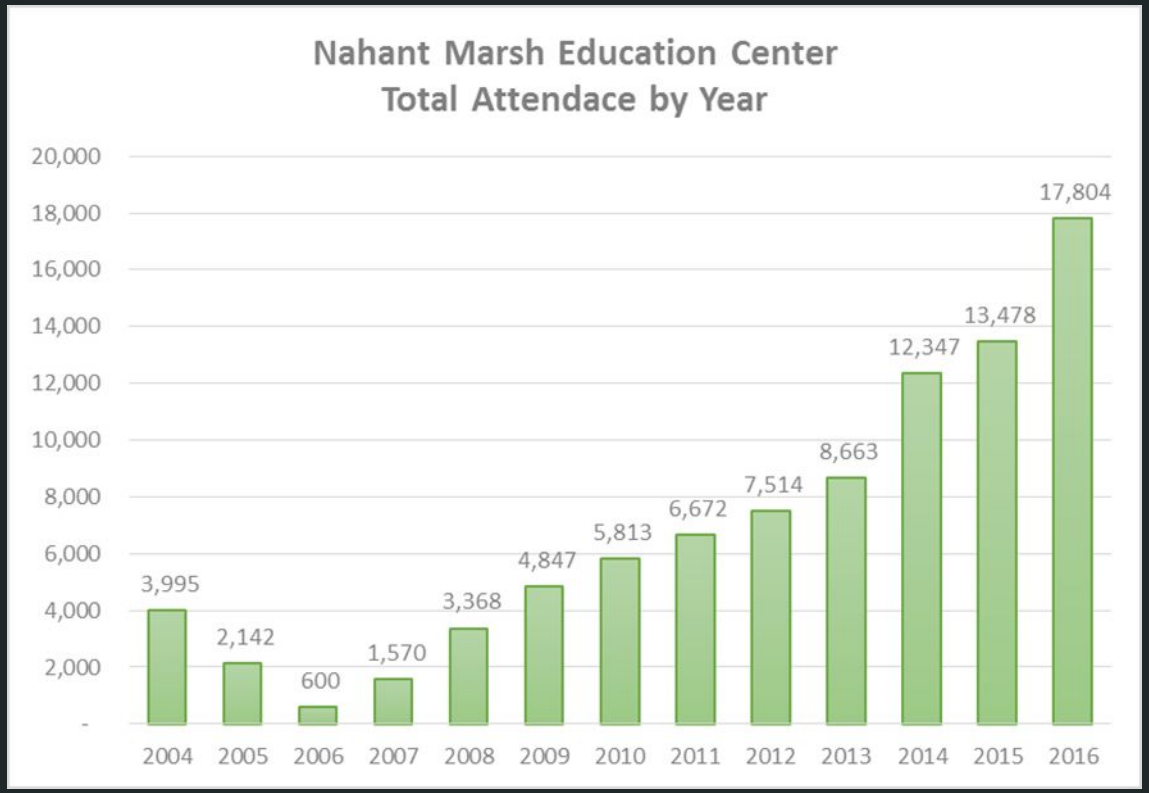
Excavation

- Treatment
  - Soil was treated with a phosphate based stabilization chemical
    - Done to render the metals insoluble
  - Marsh Mats were decontaminated at the end of the project
- Cleanup
  - Soil was removed and the remaining soil was graded and smoothed
  - Grasses were then planted



Nahant Today

- Educational Center
  - *Mission: The mission of Nahant Marsh Education Center is to protect, enhance, and restore the Marsh through education, research, and conservation.*
  - *Vision: Our vision is to foster wonder, appreciation, and stewardship of the natural world.*


Nahant Marsh Education Center
Total Attendace by Year
20,000
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
-
3,995
2,142
600
1,570
3,368
4,847
5,813
6,672
7,514
8,663
12,347
13,478
17,804
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016

Pressures of Nahant Marsh

- Not enough land
  - Need a buffering area from outside pollutants
- Surrounding Land Use
  - Industrial Landfilling
  - Agriculture
  - Auto Fluff Site
    - Buried non-reusable car parts near Carp Lake
- Reduction of Biodiversity
  - Several rare species throughout the Marsh
- Irregular variation in seasonal water levels

How Can You Help?

- Connect With Nature
  - Enjoy our trails
- Volunteer
  - Local cleanups throughout the year
  - Prescribed burns
- Support
  - Come out and visit us at the Education Center
  - Enjoy the programs we host
  - Donate
- Call us at: 563-336-3370 or visit our website at www.nahantmarsh.org for more information on how you can help!