



Federal Clean Water Act Section 319 Grant

Tracking Code: #2003-0029



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Higgins Lake Watershed Implementation Project

July 26, 2004 thru June 30, 2006

The Higgins Lake Watershed Implementation Project began in July, 2004 to update the management plan to meet the new EPA requirements and to implement key recommendations of the original plan. Higgins Lake is considered a high quality oligotrophic lake and proactive; preventative management practices are fundamental to protecting this resource. As part of this project numerous outreach activities took place, including a survey and direct mail of resource materials to riparian property owners, a land use planning workshop developed for local officials, a shoreline workshop for property owners and the creation of an education kiosk and two public service announcements. In addition, five native greenbelts were installed around the lake—a cost-share program which will continue after the grant ends.

Grant Amount: \$ 93,500

Match Funds: \$ 45,000

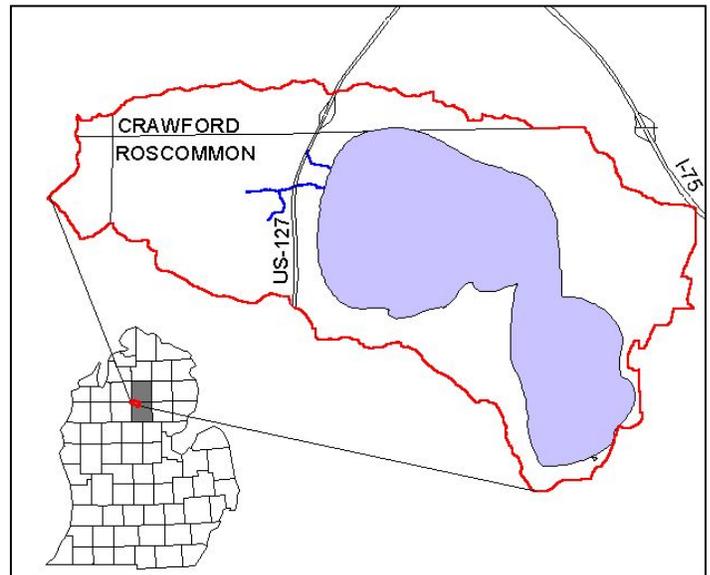
Total Amount: \$ 138,350

Best Management Practices:

- Installation of five native greenbelts along Higgins Lake shoreline totaling 344 linear feet

Annual Load Reductions:

- 133 pounds sediment
- .52 pounds phosphorous
- 3 pounds nitrogen



I&E Activities:

- Conducted a pre and post riparian survey
- Developed a greenbelt brochure
- Disseminated 1,200 riparian educational packets
- Hosted a Land Use Workshop for local officials
- Hosted a Shoreline Naturalization Workshop for riparian landowners
- Produced a permanent 2-sided outdoor educational kiosk
- Developed 2 30-second PSA's
- Updated the watershed management plan
- Hosted 4 public input meetings
- Presented watershed information at 5 township and county meetings



Partners involved:

- MDEQ, MDNR, NRCS
- Crawford-Roscommon Cons. District
- Genesis Graphics, Rough Cut Prod.
- Northwest Design Group
- Higgins Lake Foundation
- Roscommon Community Foundation
- Gerrish, Lyon, Beaver Creek Twp.
- Higgins Lake Property Owners Assoc.
- Higgins Lake Civic Assoc.
- US Geological Survey
- Muskegon Watershed Alliance
- Annis Water Institute
- Roscommon Equalization Department
- MSU Extension





Springstead Property Before: This property had an eroding seawall and manicured lawn all the way to the shoreline



Springstead Property After: The seawall was removed and native plants including little bluestem, columbine, joe-pye weed and red-osier dogwood were planted. The landowner also agreed to a 30 foot "no-mow" zone.



Kik Property Before: This property had a manicured lawn all the way to the shoreline.



Kik Property After: Over 900 flowers, shrubs and grasses were installed at this property including serviceberry, big bluestem, black eyed susan, butterfly weed, grey dogwood, bearberry, ninebark and purple coneflower.

A Look at Higgins Lake

"A lake is the landscape's most beautiful and expressive feature. It's the Earth's eye, looking into which the beholder measures the depth of his own nature."
— Henry David Thoreau



Pinpointing Pollution

Though Higgins Lake exhibits some of the highest water quality in the state it is still susceptible to many types of nonpoint source pollution. Nonpoint pollution, often referred to as "polluted runoff," can be difficult to identify because it comes from a wide variety of sources. As snow melts or rain washes over driveways, streets, lawns, agriculture fields, and construction sites, it picks up sediment, trash, nutrients, and hazardous chemicals, depositing them to the nearest surface water and in some cases contaminating groundwater. Despite the ability to pinpoint the origin of polluted runoff the cumulative effect it has can degrade water quality. The following is a list of nonpoint source pollutants found in many northern Michigan waterbodies including Higgins Lake.

- Excess nutrients from fertilizers and faulty septic systems
- Increased sediment from eroding banks typically caused by access to the water and/or the removal of vegetation
- Bacteria from faulty septic systems, stormwater runoff, pet waste and agricultural practices
- Oil, grease and heavy metals from stormwater runoff and motorcraft engines
- Invasive aquatic species including Eurasian watermilfoil and zebra mussels
- Trash and debris left on the ice or along the lakeshore

Watershed size
28,731 acres

Miles of shoreline
21.8 miles

Higgins Lake surface area
10,198 acres

Deepest point in the lake
130 feet in the north basin

Watershed Wise

A watershed is an area of land where water drains to a common point. No matter where you are, you're in a watershed. The Higgins Lake Watershed forms the headwaters, or the beginning, of the Muskegon River Watershed, which eventually empties into Lake Michigan.

Yours to Protect

Examining the Effects of Nonpoint Pollution

Clean water is essential to all life, yet everyday activities can impact water quality thus reducing recreational opportunities and harming the ecosystem of the lake. The following is a list of pollutants and the detrimental effects they have on water quality.

- Excess nutrients lead to increased weed and algae growth.
- Stormwater erosion causes water, obstructs waterways, impacts wildlife habitat and can smother fish spawning areas.
- Bacteria can cause illness in humans and wildlife. Too much bacteria in a waterbody can lead to beach closures.
- Oil and heavy metals can increase health risk factors in humans and wildlife.
- Invasive species interfere with the natural ecosystem by displacing native species, they also interfere with recreation activities including swimming, fishing and boating.
- Trash disrupts wildlife, interferes with recreation activities and spoils the natural beauty of the lake.

Taking the First Steps Toward Responsible Stewardship

Higgins Lake is known for its crystal clear waters, abundant wildlife, and countless recreational opportunities making it very important for those living around or using the lake to be aware of their impact on water quality. Because the majority of polluted runoff is directly linked to human activities you have the power to make changes to protect your waters. Whether you're a visitor to Higgins Lake or a permanent resident you have the opportunity to positively influence this valuable resource.

Letours on Higgins Lake

Though you may only visit Higgins Lake for a few hours your help is needed to prevent pollutants from entering the lake. Consider following these few steps:

- Stop the spread of invasive species by cleaning your boat, trailer, and other equipment before entering Higgins Lake.
- Remove trash and debris when leaving the lake, especially when ice fishing.
- Be careful to avoid spills when fueling your boat.
- Use designated boat launches to reduce erosion at boat ends.
- Dispose of pet waste appropriately before it can be washed into the lake.
- Always respect other users and private property.

Home on Higgins Lake

Maintaining a healthy yard can provide years of recreation enjoyment, be aesthetically pleasing, provide wildlife habitat, and protect one of your most valuable resources—Higgins Lake. Listed below are numerous stewardship practices to help homeowners protect water quality.

- Monitor native vegetation along the lakeshore. If help control erosion, capture pollutants and provide vital wildlife habitat.
- Reduce the amount of fertilizer used and, when applying fertilizer, use a "no-phosphorus" product.
- Reduce shoreline erosion by planting native vegetation, creating mulched walkways or installing walls, if necessary.



For more information visit www.higginslake.org powered by H2O20 First, a nonprofit organization working to conserve the lake's water, and wildlife. ©2010 Michigan. If you would like to learn more about Higgins Lake, please contact our community education and outreach department at (231) 344-0700.

Partnership of the following organizations:
 • Michigan Department of Natural Resources
 • Michigan Department of Environment, Great Lakes and Energy
 • Michigan Department of Transportation
 • Michigan Department of Health and Human Services
 • Michigan Department of Education
 • Michigan Department of Agriculture and Rural Affairs
 • Michigan Department of Economic Development
 • Michigan Department of Public Safety
 • Michigan Department of Corrections
 • Michigan Department of Community Affairs
 • Michigan Department of Public Health
 • Michigan Department of State
 • Michigan Department of Technology, Management and Information Services
 • Michigan Department of Treasury
 • Michigan Department of Veterans Affairs
 • Michigan Department of Workforce Development
 • Michigan Department of Wildlife and Natural Resources
 • Michigan Department of Energy, Great Lakes and Environment
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 • Michigan Department of Education
 • Michigan Department of Agriculture and Rural Affairs
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 • Michigan Department of State
 • Michigan Department of Technology, Management and Information Services
 • Michigan Department of Treasury
 • Michigan Department of Veterans Affairs
 • Michigan Department of Workforce Development
 • Michigan Department of Wildlife and Natural Resources

This 24" X 36" educational kiosk was placed at South State Park.