



Long Term Habitat Management

Muskegon Lake AOC

Kathy Evans, West Michigan
Shoreline Regional
Development Commission

WMSRDC
WEST MICHIGAN SHORELINE
REGIONAL DEVELOPMENT COMMISSION

Saw Mill and Industry-Filled Shoreline Areas

Nearly 50 sawmills left wooden piers, slabwood, bark and sawdust in and around Muskegon Lake. Dozens of foundries followed the disposal pattern with spent sand and slag. Meanwhile, downtown urban renewal resulted in demolition materials to armor the eroding shoreline with broken concrete, bricks and rubble.



Muskegon Lake lost nearly 20% of its surface area, open water and wetlands because of the filling that occurred over the course of 75+ years

Muskegon Lake Area of Concern Projects

Past, Present and Future

Restoration under the American Recovery and Reinvestment Act

- 1 Edgewater shoreline and wetland restoration
- 2 Grand Trunk shoreline, wetland, and open water habitat restoration
- 3 GL&V shoreline and open water habitat restoration
- 4 Ruddiman Creek mouth open water habitat restoration
- 5 Amoco Peninsula shoreline and wetland restoration
- 6 Lakeshore Trail shoreline and wetland restoration
- 7 Centerpoint Bay & Kirksey Peninsula shoreline and wetland restoration
- 8 Michigan Steel and Hartshorn Peninsula shoreline and wetland restoration
- 9 East Hartshorn Peninsula shoreline, wetland and open water habitat restoration
- 10 Heritage Landing Circle shoreline, wetland and open water habitat restoration
- 11 Heritage Landing Rotary Park shoreline, wetland and open water habitat restoration
- 12 Heritage Landing Scrap Bay shoreline, wetland and open water habitat restoration
- 13 Ryerson Creek streambank, wetland, and fish passage restoration
- 14 South Branch at Richards Park shoreline and wetland restoration
- 15 Pointe Marine shoreline and wetland restoration
- 26 Former Standard Oil Dock/Amoco/BP



Thank you to all our partners who are helping to restore Muskegon Lake!



Restoration under NOAA's Great Lakes Habitat Restoration Program

- 16 Muskegon Lake Nature Preserve wetland enhancement
- 17 Ruddiman Creek upstream shoreline, wetland restoration and invasive species management
- 18 Ryerson Creek wetland, riparian and fish passage restoration

Restoration under the Great Lakes Legacy Act

- 19 Ruddiman Creek contaminated sediment removal
- 20 Division Street outfall contaminated sediment removal
- 21 Zephyr contaminated sediment removal (upcoming)
- 22 Ryerson Creek contaminated sediment removal (upcoming)

Upcoming restoration under the Great Lakes Restoration Initiative

- 23 Bear Creek wetland and fish passage restoration and water quality improvements
- 24 Mill debris removal
- 25 Veterans Park Muskegon Lake wetland, shoreline, and fish passage restoration
- 26 Muskegon River wetland restoration
- 27 Fenner's Ditch Oil Remediation

Overview of Today's Topics

(Brief overview)

- Conservation easements
- Letters of Federal Interest
- As-Built Surveys
- Monitoring and Management Plans
- Pre and Post Ecological Monitoring



Overview of Today's Topics

- Muskegon Lake Watershed Partnership
Shoreline Stewards
- Shoreline Steward Field Sessions and
Classroom Trainings
- Web-Based Long-Term Habitat
Management Plan
- Renewed Landowner Commitments
- Long-Term Funding Strategy for
Maintenance

- Executed with willing, private landowners
- 20-year landowner agreement (option)
- Filed on Property Deeds

Received & Sealed for Record
MARK F. FAIRCHILD REGISTER OF DEEDS
Muskegon County Michigan
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Page: 1 of 25

Mark Fairchild, Muskegon Co RD 334

GL&V, LLC Fish and Wildlife Habitat Protection Commitment
(Commitment)

This Commitment is effective this 29th day of October 2013 for a 20 year period on Restored Resource property owned by the GL&V, LLC, herein after referred to as the "Landowner".

Funding for the Restored Resource, habitat project was provided by the National Oceanic and Atmospheric Administration through a Coastal and Marine Ecosystem Restoration and American Recovery and Reinvestment Act Program grant. Commitment Number: NA09NMF6340234 to the grant recipient, Great Lakes Commission and grant sub-recipient, Western Lakeshore Regional Development Commission with the Landowner, GL&V, LLC.

Mailing Address: PO Box 8, Ferryburg, MN 46400; Phone: (612) 261-1000; Fax: (612) 261-1001; E-mail: info@glvllc.com
Restoration Site Address: 1800 Lakeshore Dr, Muskegon, MI 49765
(201) 755-2223
Contacts: George Bailey, Joe Bailey, Joe Burns, Ron Munk, Mike Butterni III

The Landowner executes this **Fish and Wildlife Habitat Protection Commitment** to protect and enhance the Restored Resource property (Commitment property) that restored open water habitat and shoreline habitat on the Landowner's property on Muskegon Lake.

Through this Commitment, the Landowner agrees to maintain certain fish and wildlife habitat restored on property owned by the Landowner in the City of Muskegon, Michigan, and to comply with the Great Lakes Commission and the Landowner's guidelines for managing the habitat restoration per **Exhibit B, GL&V, LLC: "Landowner Habitat Monitoring and Management Plan"** prepared by Carol

[illegible][illegible]

(Above is Page 1 of 36 of the "Habitat Monitoring and Management Plan", the complete document has been provided to the Landowner, GL&V, LLC, and incorporated herein)

Notice of Federal Interest

- Filed on property deed along with as-built survey, reference to landowner management plan, and landowner letter of commitment
- Filed on restored public properties and private properties

Received & Sealed For Record
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Mark Fairchild, L.S., Muskegon Co. REG. 022 Page: 1 of 8

Notice of Federal Interest

The West Michigan Shoreline Regional Development Commission (WMSRDC), 316 Morris Ave, Suite 340, PO Box 387, Muskegon MI 49443, is the local governmental entity that received federal funds for the habitat restoration that has been established on the State of Michigan's "Grand Trunk" property, maintained by the City of Muskegon, located in the City of Muskegon, Muskegon County, MI as more particularly described in **Exhibit A**, property description; **Exhibit B**, habitat restoration located on the property ("As-Built" restoration map); and **Exhibit C**, "Landowner Letter of Commitment" and "City of Muskegon Commitment Letter to Maintain" attached hereto.

The West Michigan Shoreline Regional Development Commission acquired habitat restoration funding for this property per the "Landowner Letter of Commitment," as match for American Recovery and Reinvestment Act of 2009, pursuant to a Cooperative Agreement between the Department of Commerce - National Oceanic and Atmospheric Administration (NOAA) and the Great Lakes Commission (dated June 28, 2009, Agreement Number: NA09NMP4630294, a copy of which is kept at the NOAA Fisheries Office of Habitat Conservation Restoration Center, 1315 East West Highway, Silver Spring, MD 20910 and at the offices of the Great Lakes Commission at 2805 S. Industrial Hwy., Suite 100, Ann Arbor, MI 48104. The purpose of this project is to protect, restore, and enhance degraded fish and wildlife habitat on public and private lands in the Muskegon Lake Area of Concern. The restoration project completed on this site (Exhibits A and B) is directed at long-term protection and restoration of important wetlands, shoreline and riparian habitats, resulting in benefits for many wetland dependent wildlife species and to human society.

Per **Exhibit C**, "Landowner Letter of Commitment" and "City of Muskegon Commitment Letter to Maintain," the landowner and City of Muskegon have agreed to ensure the long-term conservation of the restored property per **Exhibit B**, the "As-Built" restoration map. Consent will be requested for any proposed changes to the habitat restoration from the National Oceanic and Atmospheric Administration.

In witness where of the West Michigan Shoreline Regional Development Commission has set its hand this 17 day of April, 2013.

STATE OF)
COUNTY OF) SS:

The foregoing instrument was acknowledged
Program Manager, West Michigan Shoreline
on behalf of such entity.

MARK FAIRWEATHER
NOTARY PUBLIC - STATE OF MICHIGAN
COUNTY OF MUSKEGON
My Commission Expires: Aug. 28, 2018
Acting in the County of MUSKEGON

PREPARED BY:
Greg Mund
Consultant for West Michigan Shoreline
Regional Development Commission
Muskegon, MI 49443-0387

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
LANSING
REBECCA A. HUMPHRIES
DIRECTOR

March 31, 2009

Ms. Kathy Evans, Program Manager
West Michigan Shoreline Regional Development Commission
316 Morris Ave, Suite 340
P.O. Box 387
Muskegon, Michigan 49443-0387

Dear Ms. Evans:

Please consider this a letter of conditional support from the Department of Natural Resources (DNR) for the Great Lakes Commission's (GLC) proposed fish and wildlife habitat restoration project for various locations around Muskegon Lake, including Grand Trunk, Hartshorn Marina and Boating Access Site, and Fisherman's Landing. It is our understanding that the West Michigan Shoreline Regional Development Commission (WMSRDC) and the Muskegon Lake Watershed Partnership (MLWP) will be coordinating the applications and execution of several grant opportunities through the National Oceanic and Atmospheric Administration (NOAA) Coastal and Marine Habitat Restoration Project Grants under the American Recovery and Reinvestment Act.

The Department maintains ownership of the Grand Trunk (61-012) boating access property for which the City of Muskegon (City) currently operates through a lease with the Department. As the City will work closely with WMSRDC and MLWP through the engineering and construction process, it is imperative there is an understanding within this effort that any engineering and construction occurring on the property owned by the Department, along with the type and use of plant materials for this project is subject to review by Department staff. This includes the DNR, Parks and Recreation Division and Office of Land and Facilities.

The Department also has sponsored development at Fisherman's Landing (61-007), Hartshorn Marina (61-201), and Hartshorn Boating access site (61-006) through the Waterways program. As per condition of the grants for which the City received funds for development, any changes to the existing structures or operations of facilities requires Department approval. We ask that our aforementioned staff be included in the process of the restoration effort to ensure compliance with the grant requirements.

The restoration proposed for the sites will enhance the City of Muskegon's efforts to restore Muskegon Lake fish and wildlife habitat and to improve access for the general public. We believe the proposed changes are consistent with the mission of the Department and we intend to maintain these opportunities for such purposes in the future.

NATURAL RESOURCES COMMISSION
Kathy A. Chertner, Chair • Mary Brown • Shirley J. Coleman, Jr. • John Mackay • J. R. Richardson • Frank Whitelaw
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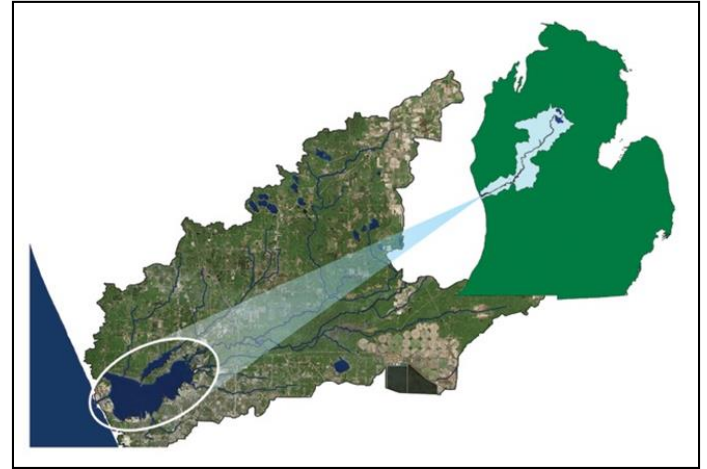
Pre and Post Ecological Monitoring

- During the grant period with partners such as Grand Valley State University Annis Water Resources Institute and private consultants
- Following the grant with Great Lakes Marsh Monitoring Program y local volunteers



Muskegon Lake Watershed Partnership

- A “PAC” and more
- Volunteer-based watershed group
- Receives basic staff support and meeting space through local organizations (regional planning office, university, local government offices)
- Developed a “Life After Delisting” Action Plan in 2018



Muskegon Lake Watershed Partnership “Shoreline Stewards”

A MLWP Volunteer Program

How it works:

- Muskegon Lake Shoreline Stewards Face Book Group (Umbrella Group)
- A “lead” volunteer (Shoreline Steward) “adopts” a restored habitat site and oversees a “Friends” FB Group
- The “MLWP Shoreline Stewards FB Group” provides outreach (volunteer recruitment, field sessions)
- Each “Friends of Group” is connected with the MLWP Shoreline Stewards (for networking, hosting their own “pop up” habitat maintenance sessions)

Muskegon Lake Watershed Partnership Shoreline Stewards Umbrella Group



**Muskegon Lake Shoreline Stewards
Friends of Muskegon Lakeshore Trail**
Field Session / Habitat Restoration Management Training*

Tuesday, August 6, 2:30 pm - 4:30pm
Meet on the Muskegon Lakeshore Trail bike path bridge over Ruddiman Creek

Field Guide/Speakers and Facilitators:
*Brian Majka, Restoration Ecologist, GEI Consultants
Mary Cooper, Shoreline Steward, Muskegon Lake Watershed Partnership
Kathy Evans, Environmental Program Manager, WMSRDC*

The field session will focus on the functions and values of the Great Lakes Coastal Wetland habitats and how you can help maintain this important ecosystem right here on Muskegon Lake

- Learn about shoreline dynamics and how plant communities adapt to changes in water elevations, wind, ices and other stressors.
- Perform some hands on maintenance for an experiential learning experience - learn what is native and what is a non-native invasive plant.
- Enjoy the beauty of the native Michigan wetland plants, flowers, rushes, sedges, shrubs and trees.
- Learn how hands-on, experiential activities enhance student learning experiences and classroom curriculum.

What to bring: Wear rubber boots or garden shoes. Bring garden gloves and hand pruners if you have them. Some tools will be available on site.

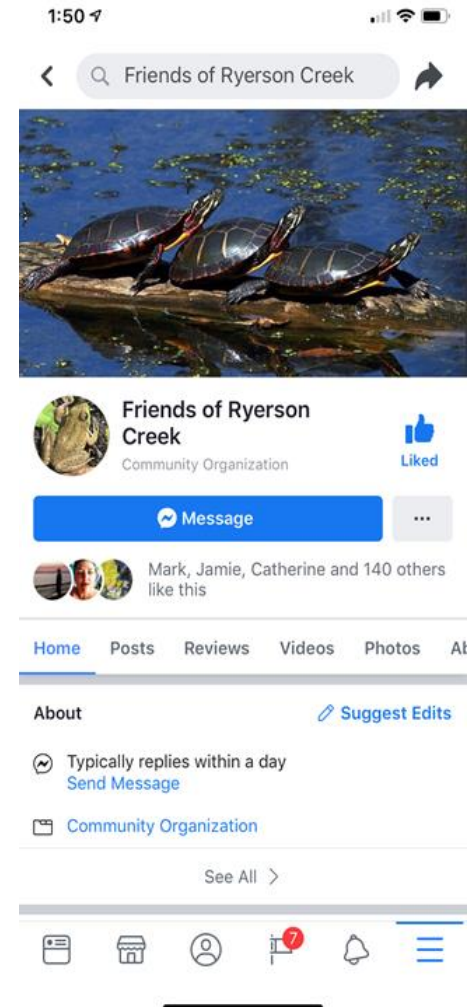
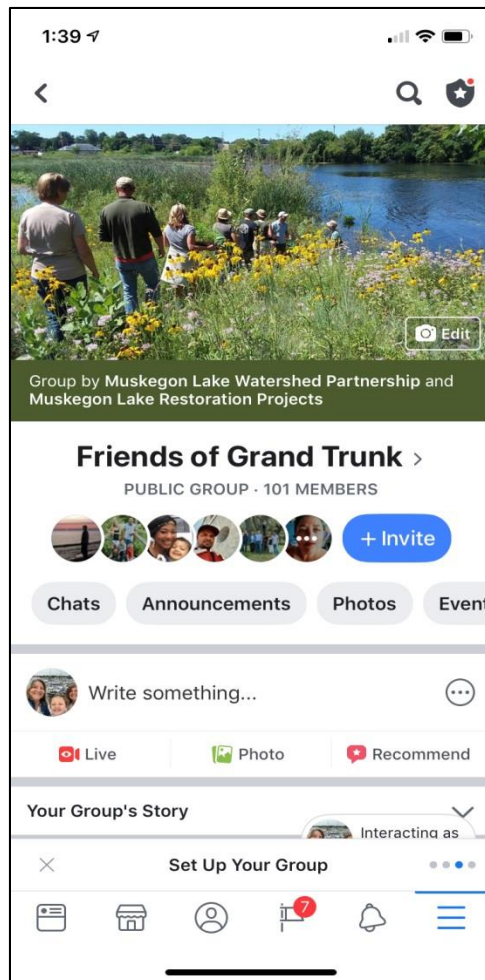
Please RSVP to kathy@muskegonlake.org or reply to the Facebook event at Muskegon Lake Watershed Partnership Shoreline Stewards

Parking - Limited parking is available along the Lakeshore Trail, just west of the Ruddiman Creek/ Lakeshore Trail bike path bridge. It is located at the entrance to the Lake Express Ferry / GL&V Dock. Parking is also available at Grand Trunk Launch Ramp (further west).

*Training is supported by a WMSRDC grant from the NOAA/ Great Lakes Commission Regional Partnership for Great Lakes Habitat Restoration



Shoreline Steward Face Book Groups



Long-Term Habitat Management Plan



The web-based plan will house:

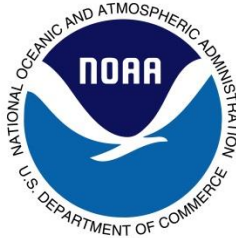
- Monitoring & Management Plans for Each Restored Habitat Site
- Links to Information and Partner Resources
 - Michigan Natural Shoreline Partnership, MISIN, Stewardship Network, Others
- Stewardship Events/Volunteer Calendar
- Links to MLWP Shoreline Steward Face Book Groups

Landowner Commitments and Long-Term Funding Strategy

- Renewed Commitments from Landowners
 - Review existing agreements and management plans
 - Provide “recognition signage” for using best practices through Michigan Natural Shorelines Partnership “Shoreland Stewards” program
- Long Term Maintenance Funding
 - Community Development Group
 - Synergies – Mutually reinforcing community partners are interested in maintenance of shoreline parks and restored habitats

Thank You!

The development of the
Muskegon Lake Long Term Habitat Management Plan is
receiving grant support through
National Oceanic and Atmospheric Administration / Great
Lakes Commission Regional Partnership for
Great Lakes Habitat Restoration



Kathy Evans, West Michigan Shoreline Regional Development Commission,
kevans@wmsrdc.org

316 Morris Avenue, Suite 340, Muskegon, MI 49440

