michigan lakefront solutions

A new perspective on Lake and Pond management

Cranberry Lake, Clare Co.
2021 Year End Report

Hayes Township, Clare Co.
T19N, R4W, Sec. 1 & 12
162 Surface Acres

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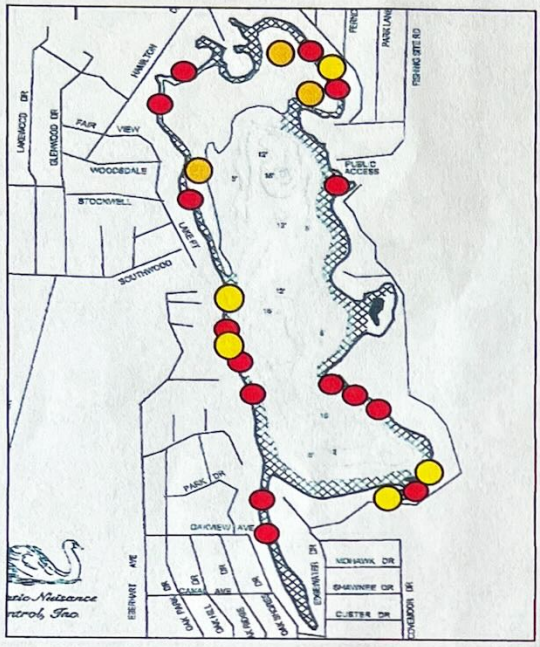
2014 N. Saginaw Rd. Suite 160
Midland, MI 48640

Main Phone: 989-967-3600
Web: www.helpmylake.com

2021 Cranberry Lake Year-End Report:

2021 Invasive species Location map:

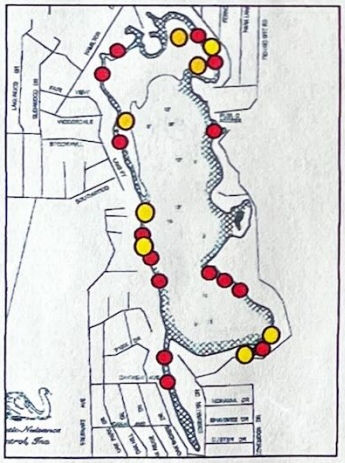


Invasive Species Locations:

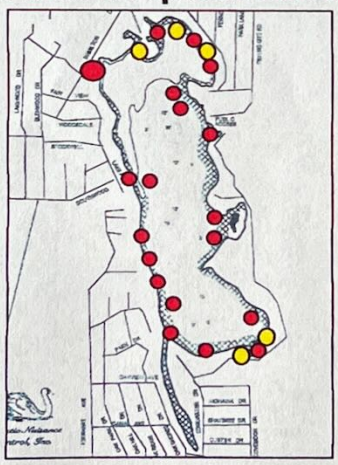
- Starry Stonewort
- Eurasian Milfoil
- Purple Loosestrife
- Curly-Leaf Pondweed
- Flowering Rush
- Phragmites
- Observed Blue-Green Algae Blooms

Details of invasive species on pages 5-8

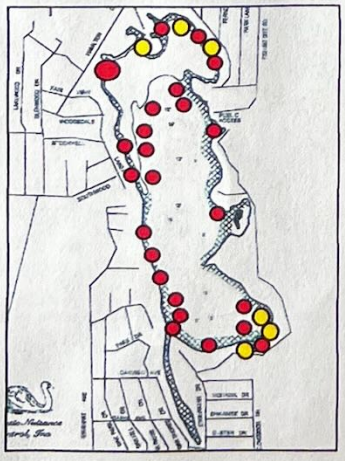
Historic Invasive species Location maps:



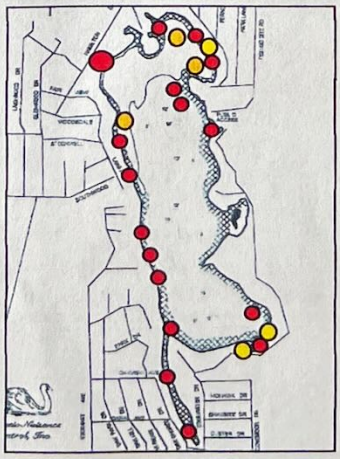
2020



2018



2017



2019

Invasive Species Locations:

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2021 Cranberry Lake Year-End Report:

Management Recommendations for 2022:

Cranberry Lake currently contains known invasive species that are actively under management. With a combined effort between the lake manager and various homeowners, we have been able to identify and contain these problem species. Going forward the lake residents should consider the following:

- Continued monitoring and active management of invasive species.
- Education of homeowners / visitors to identify invasive species and how to prevent further infestation.
- Recommendations to lake owners on proper fertilizer usage / other nutrient abatement strategies.
- Monitoring of water quality issues.

Please find in the following pages some identification information of invasive plants. We also have information at our website www.helpmylake.com

If you have any questions or would like to inquire about other services we provide please contact us anytime at 989-967-3600.

Michigan Lakefront Solutions is a Michigan owned business that specializes in aquatic weed and algae control in lakes, ponds, canals and marinas in central and northern Michigan.

We have 40 years of combined experience in the Lake and Pond Management industry. With backgrounds in both large and small operations, we can combine the best of both worlds. We aim to deliver a diverse array of services, yet maintaining a focus on the one on one connection with our customers and the waterbody they value. As part of our dedication to maintain healthy aquatic environments we offer the following services:

- Water testing to ensure a proper balance of nutrients
- Aeration systems to maintain oxygen levels and improve fish health
- Fountains for an aesthetically pleasing addition to any pond
- Lake management plans to give a detailed view of your lake
- Bactria / enzymes for excess muck and nutrient reduction

Michigan Lakefront Solutions is a member and active in the following organizations:

- Midwest Aquatic Plant Managers Association
- Michigan Lakes and Streams Association
- Aquatic Eco Restoration Foundation
- Michigan Chapter North American Lake Management Society
- North American Lake Management Society

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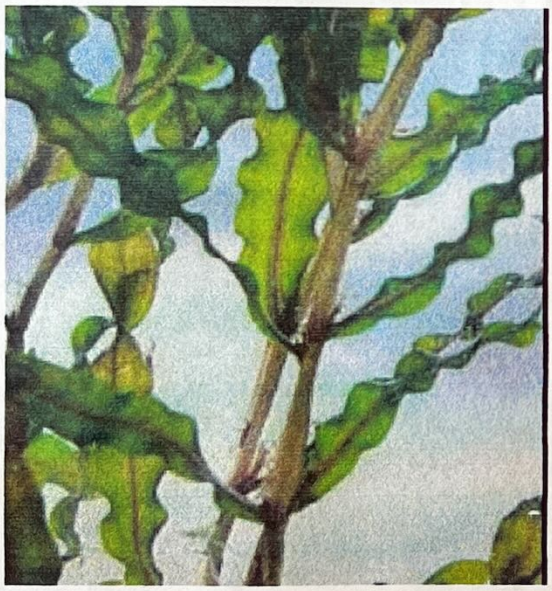
Invasive Species Reference

Eurasian Watermilfoil is an exotic, aggressive growing plant in Michigan lakes and ponds. Its origin has been traced to the Hudson Bay area during the 1940's.

Because it is not native to Michigan waters, there are no natural controls to prevent growth. Milfoil can reproduce by seed or by fragmentation. A small piece or fragment of the plant can form roots and develop into a new plant. In fact, a single wisp can multiply into dense mats that can restrict boating, fishing and swimming.

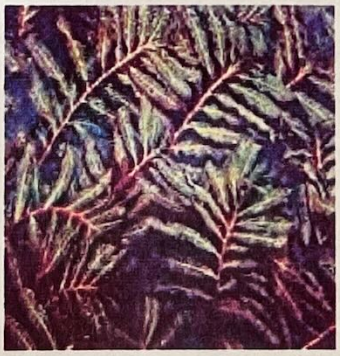
Eurasian Watermilfoil



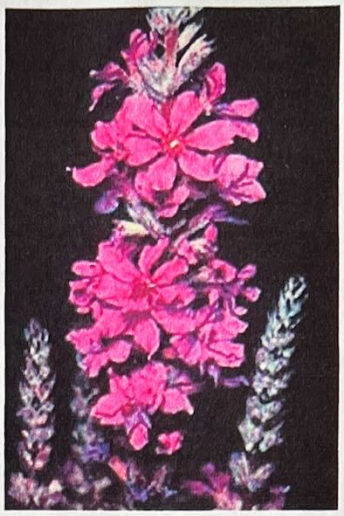
Curly-leaf pondweed was introduced into North America sometime in the late 1800's, and has now spread throughout many parts of the U.S. and Canada. This species usually emerges early each spring, flowers and sets seed in the late spring and early summer, then collapses sometime in July. In some cases re-growth communities can be found through August.

These plants are capable of surviving under the ice during the winter. Curly leaf can be a severe nuisance during the early part of the peak recreational use season. Early control of this species is recommended to reduce oxygen stress within the water body.

Curly Leaf Pondweed



Purple loosestrife grows most abundantly in parts of Canada, the northeastern United States, the Midwest, and in scattered locations in the West. Although this species tolerates a wide variety of soil conditions, its typical habitat includes cattail marshes, sedge meadows, and bogs. It also occurs along ditch, stream, and riverbanks, lake shores, and other wet areas. In such habitats, purple loosestrife forms dense, monospecific stands that can grow to thousands of acres in size, displacing native, sometimes rare, plant species and eliminating open water habitat. The loss of native species and habitat diversity is a significant threat to wildlife, including birds, amphibians, and butterflies, that depend on wetlands for food and shelter.



Purple loosestrife monocultures also cause agricultural loss of wetland pastures and hay meadows by replacing more palatable native grasses and sedges (Mal et al. 1992; Thompson et al. 1987).

Purple Loosestrife

Flowering rush is a rhizomatous, perennial monocot. It has narrow, linear leaves that arise from a stout rhizome). The leaves may be emergent, floating, or submersed. The emergent leaves are fleshy and triangular. The submersed and floating leaves are long and ribbon-like resembling those of wild celery (Eel Grass). The flower stalk rises above the leaves with a terminal cluster of many flowers. The flowers have 3 petals and 3 sepals. The flowers are most often pink but can be white.

Flowering rush most frequently grows as an emergent in shallow water along the shorelines of lakes, ponds, rivers and shallow marshes. The submersed growth form is found in deeper waters. Flowering rush will grow in a variety of sediments and water depths. Flowering occurs in late June to mid August and fruit is set by late summer.

Flowering Rush

Phragmites (Common reed) is a tall, coarse perennial with stout rhizomes. The stems are stout up to 4 m tall and 5-15 mm thick. The leaves are flat, stiff, 1-6 cm broad and to 6 dm long, serrate, tapering to long tips.

Plants grow in marshes, shores, often in tidal waters, along streams, lakes and estuaries. The invasive *Phragmites* is more likely to be found in disturbed sites such as roadsides, construction areas, agricultural fields, or along developed shorelines. Colonies of the introduced species tend to be denser than those of the native subspecies. Plants can form extensive colonies from rhizomes. Spread is by wind or waterborne seeds or vegetatively through rhizomes or rhizome fragments.

Phragmites

Invasive Species Alert

Courtesy of Michigan.gov

Starry Stonewort

(*Nitellopsis obtusa*)

Established in Michigan

Identification:

- Whorls of 4-6 branchlets/leaves with blunt tips
- Star-shaped bulbils are produced at the nodes, generally 3-6 mm wide
- Can reach up to 33 inches

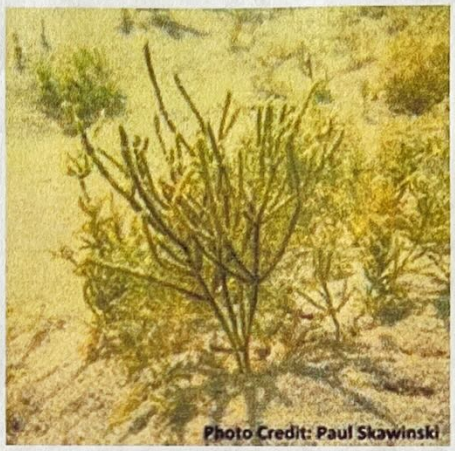


Photo Credit: Paul Skawinski

Habitat: This submerged annual macroalga invades lakes, ponds, reservoirs, and slow moving rivers. It will inhabit freshwater habitats ranging from 3 feet to 95 feet in depth.

Native Range: Europe and western Asia

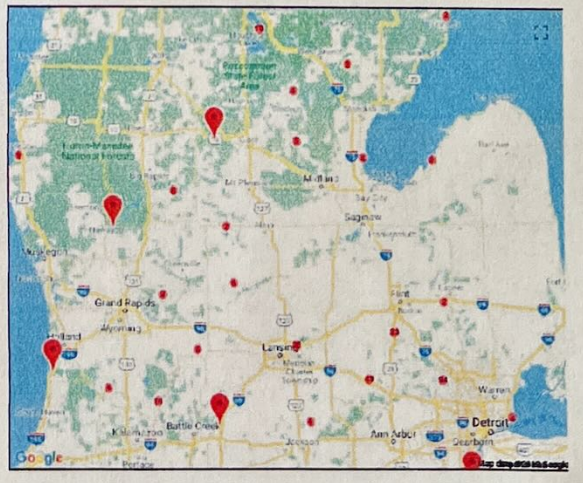
U.S. Distribution: Michigan, northern Indiana, southeastern Wisconsin, Minnesota, and the northeast United States

Starry stonewort Photo by Paul Skawinski

Starry stonewort Photo by Paul Skawinski

Local Concern: Starry stonewort forms dense mats in lakes and can significantly reduce the diversity of other aquatic plants. Dense mats of vegetation can also impede movement of fish, spawning activity, water flow, and recreational activities.

Distribution map courtesy of Midwest Invasive Species Network:



COMPUTATION OF COSTS

Cranberry Lake Level Special Assessment District – June 21, 2022 Assessment Hearing

Be It Known, that I, Carl J. Parks, Drain Commissioner, County of Clare, State of Michigan and delegated authority of the Cranberry Lake – Lake Level District, in accordance with the statute in such case made and provided, did on the _____ day of _____, 2022, made the following computation of the entire cost of said lake level, to-wit:

Cranberry Lake Computation of Cost (MCL 324.30712)		
Reference #	**Item**	**Cost**
1	Engineering Fees (Dam Inspection)	$2,000.00
2	Legal Fees and Bond Counsel, Including Estimated Costs of Appeals if Assessments Are Not Upheld	$7,300.00
3	Preparation of Assessment Rolls and Levying Assessments	$3,000.00
4	Notices and Publications	$1,500.00
5	Funds Borrowed for Legal and Engineering Review of Part 307 Level and SAD	$10,000.00
6	Interest on Bonds and Other Financing Costs for First Year	$500.00
7	**Gross Sum of Expenses**	$24,300.00
8	**Contingent Expenses +/- 15%**	$3,500.00
	TOTAL:	**$27,800.00**

Filed in my office with other papers pertaining to the within mentioned lake level. Dated at _____, Michigan, this _____ day of _____, 2022.

_____

Carl J Parks, Clare County Drain Commissioner

Cranberry Lake – Lake Level District