



2021 Annual Lake Studies

Overview

The City funds annual lake projects on Marion, Lee, Orchard, East and Valley lakes.

2021 funded projects included:

- Aquatic plant surveys
- Algae studies
- Aquatic plant genetic analysis
- Stormwater pond reuse sampling

These activities, coupled with water quality monitoring, assist in diagnosing lake health and informing lake management activities.

In addition, in 2021:

- ⇒ Kingsley Lake: The Black Dog Watershed Management Organization sponsored habitat monitoring as part of a plan to uphold habitat quality of this strategic water body (one in the watershed holding high water quality).
- ⇒ Valley Lake: Through a partnership with the Lakeville Lions, the City converted the public swimming beach to a pollinator garden, resulting in 5,000 ft² of shoreline restoration.
- ⇒ Orchard Lake: The City used State Bonding Bill funds to replace damaged culverts that connect two wetland complexes located at the northeast corner of the lake. The new culverts will help stabilize wetland hydrology, improve wetland vegetation and facilitate natural water quality benefits that the wet lands provide to the lake.
- ⇒ East Lake: The City, through a partnership with the Vermillion River Watershed Joint Powers Organization, was awarded funds to restore 1,600 ft of lake shoreline and to improve 18 acres of forest and oak savannah vegetation within East Lake woods. Work will begin 2022.



Practices

- ◆ Water quality monitoring
- ◆ Vegetation and habitat monitoring
- ◆ Fisheries enhancement

Benefits

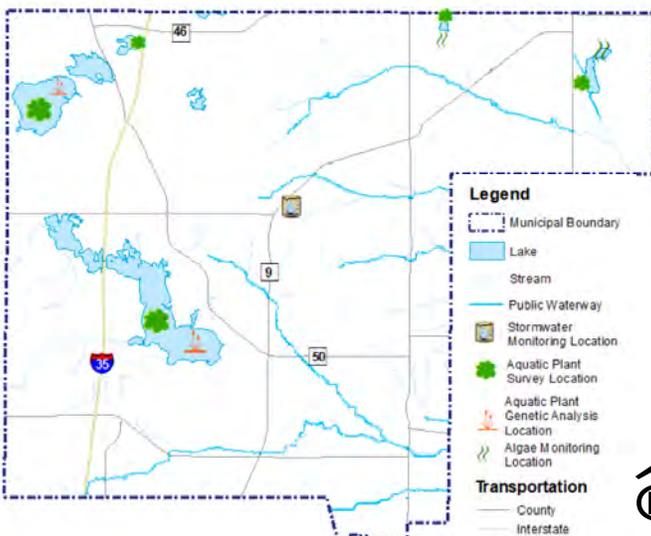
- ◆ Water quality enhancement
- ◆ Long term monitoring database
- ◆ Aquatic invasive species rapid response

Contractor

- ◆ Blue Water Science

Timeline

- ◆ Aquatic plant surveys: early and late summer
- ◆ Reuse ponds: once monthly May—Sept.



Lake Marion has 15 different species of submerged aquatic plants!

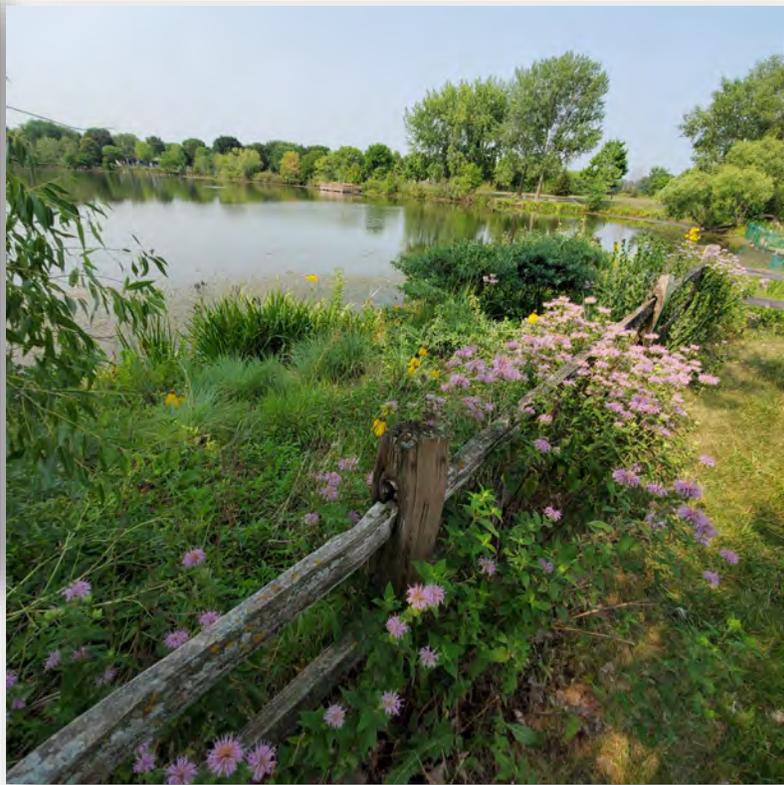
The City sponsored a Eurasian watermilfoil (EWM) treatment method boasting 3 year efficacy in 2018. Since then, no nuisance EWM has been observed!

Funding

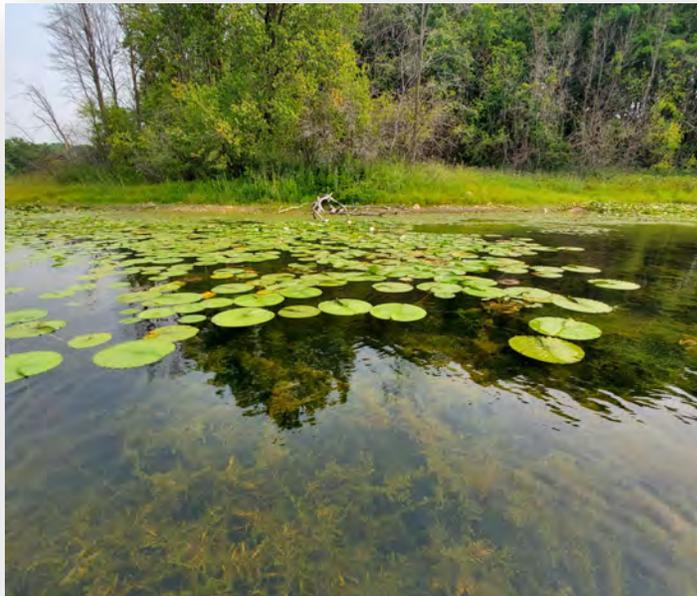
Project Cost: \$20,384



(Above) The aquatic plant survey at East Lake found zero submerged plant species throughout the lake. With poor water quality, limited to no plant community and nuisance fish species present, staff have prioritized seeking funding to improve the lake's health.



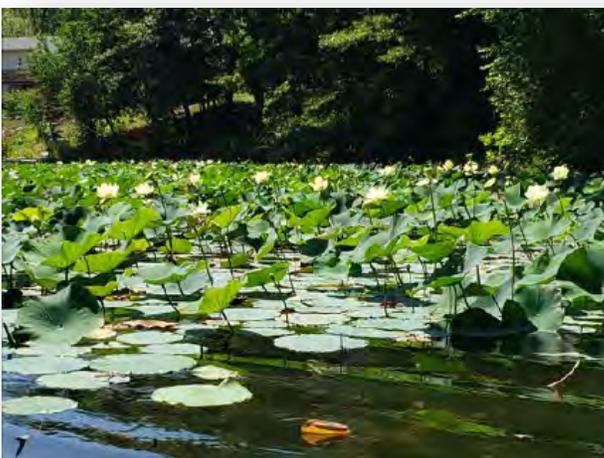
(Above) City staff have implemented several shoreline restoration projects on Valley Lake to help address watershed runoff that may be contributing to poor water quality.



(Above) Habitat monitoring on Kingsley Lake defines vegetative quality of submergent, emergent and upland areas to track trends relating to the suitability of use for wildlife functions.



(Above) Vegetation surveys continue to show submerged vegetation diversity booming in Lake Marion.



(Left) American lotus flowers blooming on Lee Lake. This unique flower does not occur in any other Lakeville lakes.