Lake Owasso, Ramsey County, MN

2022 Aquatic Vegetation Control Summary

Lake Management, Inc
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Marine on St Croix, MN 55047

In 2022, Lake Management, Inc (LMI) was contracted by The Lake Owasso Improvement Association (LOIA), to provide aquatic vegetation control services. Minnesota Department of Natural Resources (DNR) issued permits 16F-3A965, 2022-1134, 2022-2151, 2021-1247, 2021-1480, 2021-2197 and 2019-1323 allowing for 41.74 acres of control.

LMI based first application timing on plant development. Shoreline applications occurred on 6-3-22 for 194 individual homeowners. Two navigation channels were treated in the south basin on 6-9-22 and totaled 2.82 acres. Two offshore areas (>150') totaling 11.56 acres were treated in the SW basin on 6-9-22. The invasive species Eurasian water milfoil (EWM) and curly-leaf pondweed (CLP) were targeted when present, along with slender naiad, large-leaf pondweed, coontail, algae, and minor amounts of other native aquatic vegetation species. Flumioxazin, diquat and algaecides were applied to 8,616 shoreline feet. Twelve properties received lily control, as allowed by permit, using triclopyr.

LMI inspects Lake Owasso from spring to fall and with the information gathered, makes treatment recommendations to the LOIA. Under the 2022 DNR permit, individuals may receive up to two applications for nuisance aquatic vegetation control. Following inspections and based on homeowner and LOIA input, secondary applications were made on 7-26-22. Footage for the 118 homeowners totaled 5,101 feet. The same aquatic herbicides used on the first application were used on the second. EWM was the dominant species targeted, with varying levels of naiad, large-leaf pondweed, coontail, flat-stem pondweed, and algae, as well as small amounts of other native aquatic vegetation species.

Summary

In 2022, spring inspections of Lake Owasso revealed significant increases in EWM density and distribution. EWM growth was nearing the surface in mid-May and impacts to navigation and recreation were already occurring at this early date. LMI noted substantial increases of EWM greater than 150 feet from shore, areas not allowed for control under standard DNR shoreline permitting.

Based on DNR permit guidelines, LMI provided a recommendation to LOIA of targeting approximately 15 acres of EWM control in three areas, all greater than 150' from shore. LMI chose these areas based on plant density and impacts on recreation and navigation. The goal of this plan was to respond quickly and rapidly control EWM, while staying within DNR allowances and LOIA budget.

MN DNR permitted the use of flumioxazin for faster performance and longer-term controls. LMI performed both the channel controls (2.82a) and offshore areas (11.56a) on 6-9-22. Applications, along with shoreline applications performed on 6-3-22, were effective in reducing EWM mass and greatly improved recreation and navigation.

With lower water levels and warmer temperatures, many Minnesota lakes saw increases in nuisance aquatic growth. While over the last several seasons EWM frequency has increased on Lake Owasso, 2022's expansion was unexpected. Many factors such as nutrient availability, water depth, clarity, etc., all play a role in cyclical plant development. Determining the exact cause for shifts in plant profiles is often challenging with all variables considered.

Curly-leaf pondweed distribution remained similar to the past several years and was sampled more frequently in waters deeper than EWM was found.

Native vegetation growth continues at similar diversity with density decreasing in 2022. EWM forms dense surface matting, impeding the growth of natives. The slender naiad that was especially problematic in 2016/2017 was present, but nuisance levels have declined from the 2017 peak.

LMI has continued discussions with LOIA relating to options for the future control of EWM on Lake Owasso. Newer products and technologies have shown promise in providing longer term solutions for EWM and DNR has begun allowing these projects on MN waters. LMI recommends LOIA continue to discuss these options for 2023.