Multi-Year Study of Douglas County Lakes a Foundation for Future Action

In the Ice Block Lake region of Douglas County, where 10,000 years ago hundreds of lakes were formed when huge chunks of ice were left behind by a receding glacier, an important three-year study recently concluded.

Steve McComas, president and owner of Blue Water Science, which conducted the study, surveyed 45 of the counties most popular recreational lakes. All to create a map of each water body's non-native and native vegetation and track animal invasive species, especially zebra mussels.

"All the lakes we surveyed have public accesses and are important recreational resources," the scientist explained. "The intent of the study was to determine the status of invasive as well as native species in each lake."



In his 30-plus page final report McComas pinpoints the locations and population densities of more than 40 native aquatic species as well as the location and density of invasive purple loosestrife, Eurasian watermilfoil and curlyleaf pondweed, if present in a lake. Starry stonewort, the most recent invasive plant to garner attention, was not found in any of the 45 surveyed waters.

"Aquatic plants are essential for maintaining good water quality and supporting vital habitat for fish as well as other lake organisms," said McComas. "They are also somewhat like a canary in a coal mine. If plant communities start changing, it could be a sign that lake conditions are changing. Maybe for the better; maybe for the worse."

In the surveyed lakes coontail is the dominant aquatic plant, according to the study. "It's a good plant for water quality," he said; "maybe not necessarily the best for fish habitat, at least not as good as some of the other pond weeds; but it's still a nice native plant to have in a lake."



Using various search methods to ensure complete coverage, Steve McComas of Blue Water Science surveyed 45 Douglas County lakes over three years to identify and document native and non-native vegetation in each body of water.

Bulrush, chara, Northern watermilfoil and sago pondweed are also among the native species with widespread populations among the lakes.

Of the 45 lakes surveyed 13 have curlyleaf pondweed in in low densities, according to the report. Five have a population of Eurasian watermilfoil and just two have purple loosestrife

"Overall, the need for management seems relatively light because invasive species have not been too overwhelming," McComas explains. "In the relatively low number of lakes that contain milfoil, only a few acres need to be treated, for example. "Douglas County, in general, is in pretty good shape regarding invasive plants," McComas said. "Conversely, 27 of the lakes we surveyed are infested with zebra mussels, so the most pervasive invasive species appears to be mussels."

Benchmark Data

Documenting the location and density of each aquatic plant species creates a powerful tool for managing a lake in the future, McComas explains.

"We now have data on plant coverage for all these lakes. We have the number of species per lake and how deep they're growing, which is an important parameter. For example, in Lake Moses, we found plants growing down to 29



feet—the deepest of all lakes. So, in the future if its clarity begins to decrease, we'd want to know if the plants are being impacted. Are they still growing that deep?"

The same is true regarding the tracking of zebra mussels, he explains. "We now have maps of all the infestations, which provides an important benchmark for future reference. These surveys were all systematic and quantitative, so they can be repeated, and you can make accurate conclusions on how the lake may be changing."

"As always, early detection efforts are critical to our AIS prevention plan," said Douglas County AIS Prevention Coordinator Justin Swart, "so a rapid management response can be employed to contain the infestation and prevent further spread.

"On a broader scope," he added, "the surveys will help us track the overall health of the county's lakes. We will continue monitoring a subset of the original lakes each year—nine were scheduled in 2022—so we can determine what types of changes, if any, are taking place and then formulate an appropriate response if needed."

This information is produced and distributed by the Mississippi Headwaters Board in an effort to motivate everyone to protect our natural resources. A recreation based lifestyle is part of our MN Traditions and is only preserved when we protect our aquatic resources from invaders such as zebra mussels and Eurasian milfoil. To support Minnesota Traditions join us on social media here:

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