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Normandale Lake Updates

You are receiving this newsletter because you indicated an interest in the Normandale Lake Water Quality Improvement Project. Please read on for information about a community meeting, project history, and plans for 2020.

Normandale Lake Community Meeting

Wednesday, March 11, 2020 | 6:30-7:30 PM | Bloomington City Council Chambers

Curious about how well the drawdown and alum treatment worked at Normandale Lake? Join the Nine Mile Creek Watershed District and City of Bloomington on March 11 from 6:30-7:30 PM to hear past project results, learn more about carp management studies, and hear more about the upcoming herbicide treatment for curly-leaf pondweed in Normandale Lake and upstream areas.

The presentation will take place in the City Council Chambers, inside Bloomington Civic Plaza, at [1800 W Old Shakopee Rd.](#) There will be time for questions after the presentation.

Normandale Water Quality Improvement Project

Project Background

The Normandale Lake Water Quality Improvement Project has worked to address phosphorus levels in the lake and curly-leaf pondweed, an aquatic invasive plant. High phosphorus levels can contribute to algae blooms and water quality concerns. Prior to the project, the lake also had an abundance of curly-leaf pondweed, which can result in limited plant diversity. Excessive curly-leaf pondweed in a lake can also cause late summer algal blooms.

Through the Normandale Lake Water Quality Improvement Project the Nine Mile Creek Watershed District has been working to address these issues.

Project Steps

Lake Drawdown (2018/2019)

A winter freeze of a lake's sediment bed can kill the reproductive structure of curly-leaf pondweed, called a turion, thus stopping the plant's reproductive cycle. A lake must be drained for this to occur. Managing curly-leaf pondweed to improve water quality and improve native plant diversity was a goal of this step of the project.

In order to drain Normandale Lake, a temporary pump and an existing bypass pipe was used to draw the lake down in late-summer 2018. At the same time, the District installed a larger bypass pipe to maintain the lake drawdown and decrease potential impacts of rainfall or snowmelt events during the drawdown period. The lake was left empty over the winter of 2018-2019. Nine Mile Creek flows through Normandale Lake, so it was a quick process to refill the lake starting in early March 2019.



Normandale Lake with no water in it (drawn down) (2018)

Alum Treatment (2019)

The alum application was conducted on May 7-8, 2019, after the lake was refilled. Alum was applied from a treatment barge. When aluminum is applied to a lake as a solution of alum (aluminum sulfate), it forms an insoluble aluminum hydroxide floc that settles to the lake bottom. The aluminum binds with phosphorus in the sediment to prevent it from recycling back into the water column. Conducting the alum treatment before aquatic plants are reestablished in the lake will allow the aluminum floc to reach the sediment more evenly.



A alum treatment occurs on Normandale Lake (2019)

Curly-leaf Pondweed Herbicide Treatment (2020)

The herbicide treatment will occur in the spring of 2020 to target any remaining curly-leaf pondweed in Normandale Lake. The Minnesota Department of Natural Resources has developed a Lake Vegetation Management Plan (LVMP) for Normandale in response to a request from the District. The LVMP allows for a whole lake herbicide treatment, dependent on the outcome of spring 2020 plant surveys. Either endothall or diquat will be used for the herbicide treatment, which will be decided after the spring plant survey. The LVMP is available at ninemilecreek.org/normandale or via email or mail by contacting the District at esniegowski@ninemilecreek.org.

A contractor will apply the herbicide from a treatment boat or barge. The herbicide treatment may need to occur yearly, for up to five years. The need for herbicide treatment will be assessed yearly based on plant surveys.

Carp Management (ongoing)

A 2018 fish survey indicated that carp were at a level in Normandale Lake where management was recommended. A follow-up fish survey conducted by the Riley Purgatory Bluff Creek Watershed District in 2019 indicated that the drawdown did not impact the number of fish species in the lake. However, the carp population in the lake may have benefited, as was seen in the large number of young carp in the lake in 2019. In addition, 12 carp were radio-tagged for tracking in 2019. In the summary prepared for the District by Carp Solutions, it was reported that carp were leaving Normandale Lake, suggesting that there are carp nurseries outside of the lake. Efforts will continue in 2020 to determine the best methods for carp control in Normandale Lake.



Two young carp were counted during a fish survey on Normandale Lake (2019)

Normandale Lake Monitoring Results

The District continued to monitor Normandale Lake in 2019 to determine the success of the projects at the lake.

The weather conditions during the winter of 2018-2019 when Normandale Lake was drawn down were conducive to a hard freeze of the sediment in the lake. Measurements taken at the beginning of February 2019 showed that the top 15 to 24 inches of the sediment across Normandale Lake was frozen, which was a good indication for seeing successful results from the drawdown.

During 2019, the District conducted follow-up plant surveys, a turion survey, and water quality monitoring. The goal of the turion survey was to determine the level of turions in the lake's sediment following the drawdown. It was found that turions were present at 19 of the 50 sample points, and that there would be variability in the 2020 growing season in how much curly-leaf pondweed would be present at the sites. The plant surveys showed that the drawdown was successful in reducing the amount of curly-leaf pondweed in the lake. These results are in-line with District expectations that the drawdown would manage the curly-leaf pondweed population, and an herbicide treatment would be needed to treat remaining pockets of the invasive plant.

Barr Engineering, the District's engineering firm, is currently preparing the 2019 water quality monitoring report. Look for it soon on our website: ninemilecreek.org/lake-creek-monitoring.

The drawdown did not significantly impact the fish population or number of species in Normandale Lake. A fish survey conducted in 2019 found many young fish, indicating that species, including black crappies

and carp, successfully reproduced after the drawdown was complete. In 2020, the District is continuing to work with Carp Solutions to investigate carp management strategies that are suitable for Normandale Lake. Fish survey reports are available at: ninemilecreek.org/normandale.



Adopt a Drain!

You can help keep Normandale Lake healthy by adopting a storm drain! Volunteer to keep leaves and trash out of a storm drain near your home and protect a lake that you love.

Sign up at adopt-a-drain.org.

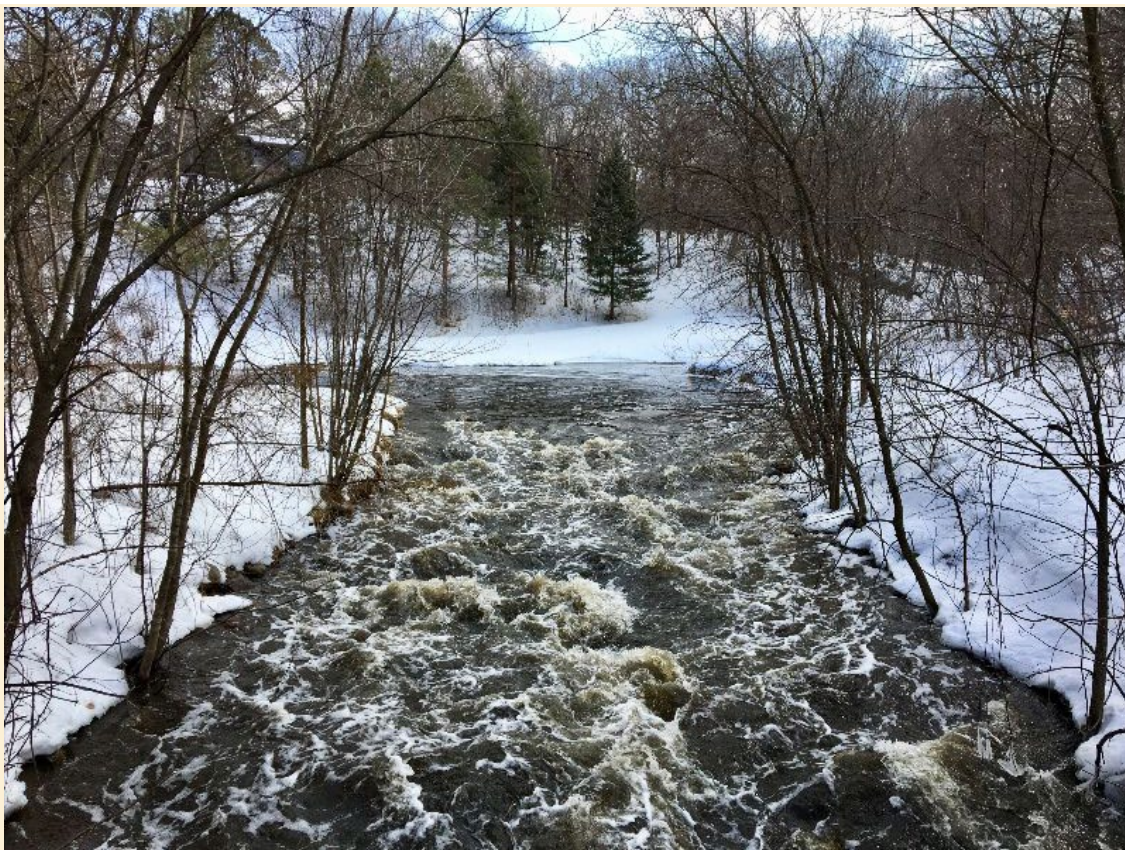
District Updates

High Water Levels

There is still snow on the ground, but the District is looking ahead to spring and potential flood risk. 2019 was the wettest year on record. It also rounded out the wettest five year period on record. The Minnesota Department of Natural Resources has [more information](#) about this record setting period. The National Weather Service has updated their [spring flood outlook](#) analyzing the risk factors for significant flooding. While flooding is not certain, river and lake levels are high going into spring, as are soil moisture levels. More factors that influence flooding are yet to be determined, such as how fast the snow will melt and the amount of spring rain.

The District is continuing to provide technical resources to our cities and local partners to help them prepare for the potential of localized flooding events. We will also continue to monitor water levels in our watershed. Watch for additional information and resources in the coming weeks.





Water rushes down Nine Mile Creek during the spring 2019 snowmelt

Upcoming Events

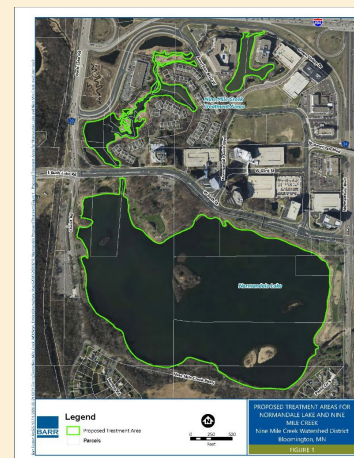
Normandale Lake Community Meeting

Wednesday, March 11, 2020: 6:30-7:30 PM

Bloomington Civic Plaza (1800 W Old Shakopee Rd.,
Bloomington)

City Council Chambers

Attend this Normandale Lake community meeting to learn about the planned herbicide treatment for curly-leaf pondweed in spring 2020. Hear about the outcomes of the lake drawdown and alum treatment, and find out about plans for carp management. Members of the public are welcome to comment and ask questions on the planned activities.



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**Nine Mile Creek
Watershed District**

12800 Gerard Drive
Eden Prairie, MN 55346

P. 952-835-2078

ranhorn@ninemilecreek.org

ninemilecreek.org

The Nine Mile Creek Watershed
District Board of Managers meets
the third Wednesday of each
month at 7:00 PM at the District
office.



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