



# Kenilworth Channel Naturalization and Shoreline Stabilization

## Frequently Asked Questions – Water Quality

*Updated July 30, 2021*

The Minneapolis Park & Recreation Board (MPRB) is preparing for a project that will naturalize and stabilize the Kenilworth Channel between the Burnham Road bridge and Cedar Lake. During the project, the channel will be dewatered and bypass pumping will allow for Cedar Lake water to flow towards Lake of the Isles. With this type of work, additional efforts are being made to ensure that the construction project does not impact the water quality within the Minneapolis Chain of Lakes Regional Park.

### **PROJECT RELATED WATER QUALITY QUESTIONS**

#### **How will the channel be dewatered? How will water move from Cedar Lake to Lake of the Isles?**

Temporary dams will be placed at either end of the project area (one near Cedar Lake and one between Burnham Road and the SWLRT bridge) and the water between the two dams will be pumped out. A small pump will remove groundwater that enters the work area and discharge it downstream. In addition, bypass pumps and pipes will pump water from Cedar Lake towards Lake of the Isles to maintain lake water levels.

#### **What is being done during the construction project to protect water quality?**

Instead of having the work done with water in the channel, the work will be completed in a dewatered (dry) condition. This will significantly reduce the impact of construction on water quality, as the work area will be contained and separated from the lake water. The construction work will be completed before water is reintroduced into the channel to avoid erosion and other potential negative impacts to water quality.

Water that enters the work area (groundwater seepage) will be pumped to a spot in the Kenilworth Channel outside of the dewatered work area. There will be daily monitoring of turbidity (a numeric measurement of water clarity) at the pump discharge location to assess the amount of sediment in the water. If the amount of sediment in the water is too high, additional containment and/or filtration measures will be used to treat the pumped water.

#### **Will the naturalization and stabilization project improve water quality when complete?**

While improving water quality is not a primary goal of this project, the project will result in stabilization and revegetation of the channel banks. This will reduce erosion and runoff, which will reduce sediment and nutrient input into the water from the banks. Added vegetation in the channel will likely increase nutrient uptake, which could have an added water quality benefit.

#### **How do I stay up-to-date on the project?**

For more information and to sign up for email project updates, visit [www.minneapolisparcs.org/kenilworth](http://www.minneapolisparcs.org/kenilworth)

## **GENERAL WATER QUALITY QUESTIONS**

### **How does the MPRB monitor water quality at Cedar Lake and Lake of the Isles?**

MPRB Water Resources conducts a comprehensive water quality monitoring program of all the lakes in Minneapolis, including Cedar Lake and Lake of the Isles. Staff monitor the lakes twice per month during the growing season and through the winter for physical, biological, and chemical parameters. Beaches are monitored weekly for bacteria and are visually monitored for blue-green algae. Staff update a [Lake Water Quality](#) map with current water quality results. In addition to lake and beach water quality monitoring, staff monitor aquatic invasive species, aquatic plant growth, stormwater best management practices, lake levels, groundwater, and weather trends. Monitoring results and trend analysis are published in the MPRB Water Resources Annual Report. Data collected is shared with the City of Minneapolis, Minnehaha Creek Watershed District and the Minnesota Pollution Control Agency, who all work as partners in projects to continue to improve and protect the lakes of Minneapolis.

### **What historical changes have led to the lakes we see today?**

Cedar Lake and Lake of the Isles are very different from each other in terms of ecosystems and function. Both have a long history of man-made intervention that includes dredging, elimination of wetlands and water level manipulation as well as the addition of stormwater management and restoration activities.

Like all the Chain of Lakes, Cedar Lake was altered from its natural state when it was dredged in the early 1900s to inhibit plant growth and improve boating. Water enters Cedar from Brownie Lake through a dredged channel and drains through another channel to Lake of the Isles. When the channel to Lake of the Isles was dredged the water level in Cedar Lake dropped five feet, drastically changing the depth, shape, and ecology of the lake. Because of these alterations, Cedar Lake can produce more algae growth than some of the other deep lakes in Minneapolis.

Lake of the Isles was dredged to increase the lake area, fill marsh to create parkland, deepen the North Arm, replace the marshy east side of the lake with an upland shoreline, and create the channel where the lake flows out to Bde Maka Ska. The lake was dredged to an average depth of eight feet making it the shallowest of the Chain of Lakes with dense stands of aquatic plants.

### **What has been done in recent history to improve and protect water quality at Cedar Lake and Lake of the Isles?**

The MPRB works with partners to help improve water quality at both lakes. In the 1990s, The Clean Water Partnership (CWP) was formed between St. Louis Park the City of Minneapolis, the Minnehaha Creek Watershed District (MCWD) and MPRB to collaborate on a comprehensive study, goal identification, and implementation of projects and practices to improve the water quality of the Minneapolis Chain of Lakes (Brownie, Cedar, Isles, Bde Maka Ska and Harriet). Improvements at Cedar and Isles included the construction of stormwater management structures such as grit chambers and constructed wetlands, alum treatments on both lakes, and significant shoreline restoration. To date, more than \$25 million has been spent to enhance water quality through this partnership.

The fact that Cedar Lake and Lake of the Isles are very different from each other will require unique restoration approaches and each lake will respond differently to those approaches. The alum treatment projects on Cedar Lake and Lake of the Isles have reached the end of their anticipated lifespan. Newer techniques may have more of a benefit, with longer lasting impacts compared to those implemented during the CWP.

### **What are some natural occurrences that happen regularly at Cedar Lake and Lake of the Isles?**

Both lakes receive stormwater from large urban watersheds. There are 32 locations where stormwater enters Cedar Lake and Lake of the Isles. Despite efforts to minimize the impacts of stormwater, nutrients in stormwater can lead to increased algae growth and reduced water clarity.

Blue-green algae blooms have occurred on both Cedar Lake and Lake of the Isles, sometimes causing scums along the shoreline or throughout the surface of the lake. Some of the blooms in Cedar and Isles have been known to produce toxins that have the potential to make people or animals sick. Nutrients from stormwater contribute to blue-green algae growth along with nutrients that are recycled within the lake.

Filamentous algae is a non-toxic, natural, and common occurrence at both lakes. Feeding off dissolved nutrients, it can grow to create bright green mats of slimy growth that floats to the surface during the spring and summer. Filamentous algae is harmless but can create unpleasant aesthetic issues.

Because of its shallow lake bottom, Lake of the Isles can have extensive aquatic plant growth, especially during years with lower lake levels. This growth is managed through harvesting but can still impact recreation activities.

Plant growth at Cedar Lake is also managed through harvesting to provide swimming and boating access. Cedar Lake often has more native aquatic plant diversity than most of the other Minneapolis lakes.