



Capital Improvement Project

Lakeville: East Lake Invasive Fish Barrier & Removals



Figure 1. Common carp and goldfish removed from East Lake in summer 2024.

East Lake, a shallow lake in Lakeville, is impaired for phosphorus, a problem exacerbated by invasive common carp and goldfish looking for food in phosphorus-bound lake bottom sediments. These fish species can make their way into the connected North Creek, a tributary to the Vermillion River, and disrupt ecosystems there. Earlier studies found that carp and goldfish biomass in East Lake had reached 192 lbs/acre. Negative water quality impacts associated with these bottom-feeding fish can be seen at 100 lbs/acre.

To address this problem, the Vermillion River Watershed Joint Powers Organization (VRWJPO), partnering with the City of Lakeville and Dakota County (Partners), received a competitive Clean Water Fund grant from the Minnesota Board of Water & Soil Resources (BWSR) in 2023 to install a low-voltage electric invasive fish barrier between East Lake and its connection with North Creek. Blocking fish movement prevents introduction of additional invasive fish populations, while facilitating successful reduction of in-lake invasive fish populations achieved through removals.

The electric barrier began operating in spring 2024. Partners began invasive carp and goldfish removal in the summer, netting nearly 2,800 pounds of fish via electrofishing and baited box nets. This reduced carp and goldfish biomass in East Lake to approximately 90 lbs/acre. This puts the lake below the threshold established for negative water quality impacts seen attributed to carp populations; however, fish removals found that invasive fish populations within the lake are dominated by goldfish. While goldfish are carp variants, there is no established goldfish biomass where water quality improvements can be expected. Fish removals and water quality monitoring will continue in 2025.

Partners

- VRWJPO
- City of Lakeville
- Dakota County
- BWSR

Installation

- 2023 – low voltage electric barrier installed
- 2024-2025 – fish removals

Location

- Lakeville

Subwatershed

- North Creek

Costs and Contributions (Estimated)

- VRWJPO: \$15,597 for in-kind grant administration/coordination; \$37,500 cash match for construction of barrier and fish removals
- City of Lakeville: \$37,500 cash match for barrier and fish removals
- Dakota County Parks: Operation and maintenance of barrier
- BWSR: \$300,000 competitive Clean Water Fund grant for engineering, technical assistance, and barrier construction

Benefits

- The project is estimated to reduce total phosphorus in East Lake by 23 pounds/year.
- East Lake has high recreational value to residents, being part of East Lake Park and connected to Dakota County North Creek Greenway. Addressing nutrient impairments will improve recreational experiences.
- Reducing targeted invasive fish species will provide a more habitable environment for native species and improve water quality conditions.



Figure 2. Common carp and goldfish caught and removed from East Lake.



Figure 3. Barrier site.

A grant from the Clean Water Fund, one of four funds established by the Clean Water, Land & Legacy Amendment, supported this project. [Clean Water Stories](#) can be found on the Minnesota Board of Water and Soil Resources website.

