Capital Improvement Project
Lakeville: East Lake Invasive Fish Barrier & Removals



Figure 1. A worker examines carp and goldfish after removing them from East Lake.

East Lake, a shallow lake in Lakeville, is impaired for total phosphorus (TP), a problem exacerbated by invasive common carp and goldfish digging for food in lake bottom sediments. These fish can also make their way into the connected North Creek, a tributary to the Vermillion River, and disrupt ecosystems there. Earlier studies had found that carp and goldfish biomass in East Lake had reached 192 lbs/acre, well above the 100 lbs/ac number associated with negative water quality impact.

The Vermillion River Watershed Joint Powers Organization (VRWJPO), partnering with the City of Lakeville and Dakota County, received a competitive Clean Water Fund grant from the Minnesota Board of Water and Soil Resources (BWSR) in 2023 to install a low-voltage electric barrier between East Lake and its connection with North Creek. Blocking fish movement prevents introduction of additional invasive fish populations and facilitates in-lake removals of invasive fish. The electric barrier began operating in spring 2024 and is turned on from March through November each year. VRWJPO staff have observed fish being deterred, though not harmed, by the active barrier.

The partners' consultant removed approximately 9,600 lbs. of invasive carp and goldfish biomass over the summers and falls of 2024 and 2025 via electrofishing and baited box nets. This reduced carp population to an estimated 67 lbs/ac and goldfish to an estimated 108 lbs/ac. Scientific calculations suggest that the total reduction in the invasive fish populations also could reduce TP loading in the lake by nearly 75 lbs/year. Monitoring of water quality and fish populations will continue going forward.

3/2026

Partners:

- VRWJPO
- City of Lakeville
- Dakota County
- BWSR

Timeline:

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

Location: Lakeville

Subwatershed: North Creek

Costs and Contributions:

- VRWJPO: 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 approximately 75 lbs/year.
- East Lake has high recreational value to residents, being part of East Lake Park and connected to Dakota County's 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. Workers remove common carp and goldfish from a baited box net in East Lake.



Figure 3. Low-voltage electric barrier site on a channel connecting East Lake to North Creek.

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.

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