

# CHISAGO LAKES LAKE IMPROVEMENT DISTRICT LAKE ELLEN & KROON LAKE CARP BARRIERS



Many lakes in the Chisago Lakes area have abundant carp populations. Carp feeding can agitate lake sediments, which may lead to the release of phosphorus into the water column and subsequent increases in algae growth. Carp can also disrupt the growth of native aquatic vegetation. Common carp prefer to spawn in

seasonally flooded basins, particularly waterbodies that experience winterkill. This condition negatively impacts the native fish community, thereby minimizing predation of their eggs and fry by native fish such as sunfish and bowfin.

At least two primary areas for carp reproduction have been identified in the Chisago Lakes Lake Improvement District (LID). Linn Lake is a primary breeding area for carp in South Center Lake, and Lake Ellen is a primary breeding area for carp in Green and Little Green Lakes. During the spring spawning period, masses of carp have been observed trying to migrate into both Linn Lake and Lake Ellen through the road culverts. In addition, with higher 2020 water levels, carp have been observed attempting to migrate from Chisago Lake (higher population of carp) into Kroon Lake (lower or minimal carp population).

In the early summer of 2020, temporary carp barriers were installed on both sides of two culverts under Highway 8 between Lake Ellen and Little Green Lakes. In addition, a barrier was installed between Chisago and Kroon Lakes. The purpose of the barriers is to reduce carp migration into Lake Ellen and Kroon Lake, and subsequent spawning. Carp are forced to spawn in the larger lakes where the eggs are vulnerable to sunfish predation. Prevention of carp spawning in Lake Ellen likely reduced the 2020 age class of carp in Green/Little Green/Ellen Lakes, along with reducing potential establishment in Kroon Lake. Care was taken not to interfere with Northern Pike spawning, which occurs when water temperature is below 55F, by waiting to install the barriers until after water temperatures reached 60F.



## Partners:

- Chisago-Lindstrom (Kroon) Lakes Association
- Green Lake Association
- Chisago Lakes Lake Improvement District
- City of Lindström
- MN Department of Transportation
- MN Department of Natural Resources

Left: Lake Ellen culverts

Below: Kroon Lake carp barrier.  
Director Gary Schumacher.



LAKE IMPROVEMENT DISTRICT