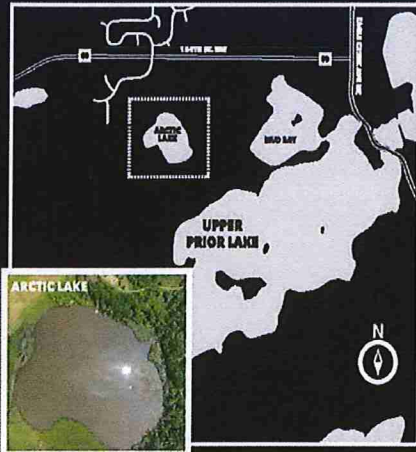


CLEANING UP ARCTIC LAKE

WHY RESTORE ARCTIC LAKE?

Arctic Lake, which flows to Prior Lake, is murky due to the accumulation of carp.



Carp is an **Invasive species** that gobbles up and crowds out other aquatic plant and animal life, while kicking up phosphorus on the lake floor, further **contributing to the decimation of oxygen and other aquatic life.**



COMMON CARP
(CYPRINUS CARPIO)

IMPACTS

Common carp are one of the **most damaging** aquatic invasive species due to their **wide distribution** and **severe impacts** in shallow lakes and wetlands.

Their feeding **disrupts shallowly rooted plants** by muddying the water.

Carp activities disturb lake bottom sediment which causes **phosphorus release** and an increase in algae abundance.

Water quality degradation leads to the **decline of aquatic plants** needed by waterfowl and fish.

RESTORATION PROJECT

ARCTIC LAKE

- BLOCK CARP**
Installed a carp barrier to prevent carp migration and spawning in the lake.
- LAKE AERATION SYSTEM**
Created to enhance the aesthetic beauty of the lake and improve the natural systems beneath the water's surface.
- WATER LEVEL CONTROL STRUCTURE**
Installed to control the depth and volume of water in the wetland.
- PEDESTRIAN PATH EXTENSION**
Constructed a paved path loop in Spring Lake Park for public use.
- IRON-ENHANCED SAND FILTER**
Introduced to achieve low phosphorus levels in nutrient-impaired waters.
- ENHANCED BERM (OR LEVEE)**
Reinforced a berm and replaced a broken culvert with a control structure. Installed a connector path across the berm to provide improved access to Spring Lake Park.

RESULT **90%**
REDUCTION IN PHOSPHORUS

Total phosphorus to the lake from the target area, which makes up two-thirds of the overall Arctic Lake Watershed, is projected to be reduced by 90 percent.

HISTORY OF THE PROJECT

In 2013, the City of Prior Lake, the Shakopee Mdewakanton Sioux Community (SMSC), and the Prior Lake-Spring Lake Watershed District formed a partnership to improve the water quality in Arctic Lake. A consultant, employed by the partners, determined that phosphorus-laden runoff and carp were the biggest factors contributing to poor water quality. This restoration project implemented several best management practices (see left) designed to clean up the lake.

In 2014, Scott County joined the project team and contributed to the project by constructing a bike path connection. The county's park operating partner, Three Rivers Park District, provided a project manager to oversee construction.

All of these measures support the natural balance of the lake, as well as enhance the aesthetic experience.



in partnership with

PRIOR LAKE - SPRING LAKE
WATERSHED DISTRICT

