

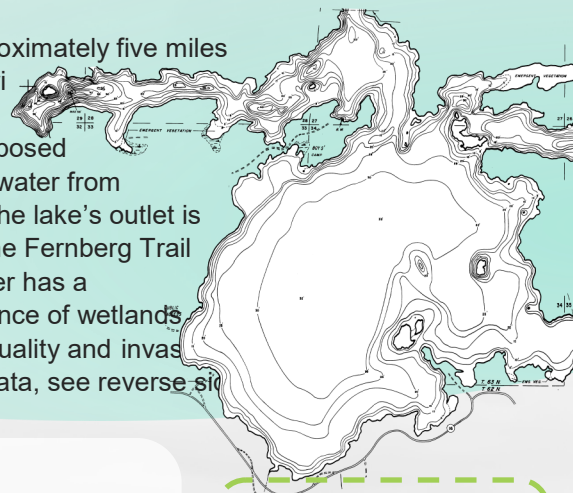


Farm Lake

Rainy River Headwaters

Get to Know:

At a Glance: Farm Lake is located approximately five miles east of Ely, MN. Farm Lake belongs to the Lower Kawishiwi River subwatershed within the larger Rainy River Headwaters Basin. The majority of the watershed is composed of forest, wetlands, and open water. Farm Lake receives water from White Iron Lake and the North Branch Kawishiwi River. The lake's outlet is through Garden Lake, with the Minnesota Power dam on the Fernberg Trail being largely responsible for water levels. The water has a tea-stained appearance due to the abundance of wetlands in the watershed. For water quality and invasive species data, see reverse side



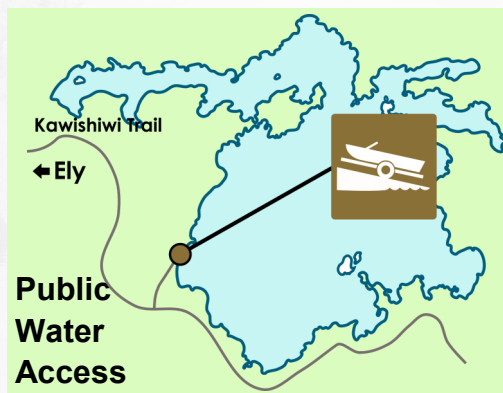
Good to Know:

Citizen scientists have been monitoring the water quality of Farm Lake since 2006 with the support of the Minnesota Pollution Control Agency. See the reverse side for a summary of their findings.

There are **protected slots** for Northern Pike and Walleye on Farm Lake. If you plan to fish, make sure to check the DNR website first.

Farm Lake is connected to South Farm Lake, as well as the North Branch Kawishiwi River, both in the BWCAW. **Entry point 31** is accessed from the boat landing shown to the right.

A **paleolimnological study** was performed on the White Iron chain of lakes, including Farm Lake, in 2013 by UMD's Natural Resources Research institute. They used chemical and biological clues found in lake sediment to better understand conditions in the lakes and on land prior to European settlement.



Stats:

- Max depth: 56 ft
- Area: 1,292 acres
- % Littoral area: 36%
- Shoreline length: 20 mi
- % Public ownership of shoreline: 20%
- Water level range: 2.4 ft
- Avg transparency: 6 ft
- Trophic State: mesotrophic
- Fish species include: black crappie, bluegill, burbot, hybrid sunfish, lake whitefish, largemouth bass, Lepomis sp., northern pike, pumpkinseed, rock bass, smallmouth bass, tullibee (cisco), walleye, yellow perch, white sucker, bluntnose minnow, Iowa darter, Johnny darter, logperch, spottail shiner

Areas of Concern:

Farm Lake has one confirmed **aquatic invasive species**: Rusty Crayfish (pictured left). Other threats in the area include: Spiny Waterflea, and Curly-leaf Pondweed. For more information on Farm Lake invasive species, see reverse side.

As with many Minnesota lakes, fish in Farm Lake have elevated levels of **mercury**. Refer to the Minnesota Department of Health guidelines for advice on how much fish can safely be eaten.

Climate change may present multiple challenges, including warming waters. Being a well-mixed (polymictic) lake, Farm Lake's cool-water fish species may experience a disproportionate amount of stress leading to declining cisco and lake whitefish populations.



Care about Farm Lake? Get Involved!

There are many ways you can make a difference. Here are some resources for learning more and getting started:

White Iron Chain of Lakes Association (WICOLA): www.wicola.org
Lake County Soil and Water Conservation District:
www.LakeCountySWCD.org/Volunteer.php



Water Quality

Updated July 18, 2018

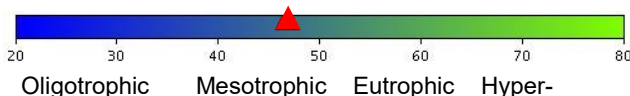


Farm Lake

Rainy River Headwaters

Get to Know:

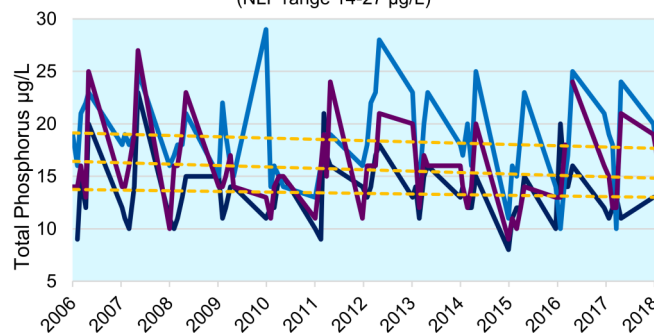
Farm Lake has over ten years of water quality data courtesy of volunteers who have been sampling through Citizen Lake Monitoring Plus, a program of the Minnesota Pollution Control Agency (MPCA). Volunteer measurements for Total Phosphorus, Chlorophyll-a, and Secchi depth are shown to the right for each of the three sites sampled. Apart from seasonal cycles, measurements are quite stable year over year. Total Phosphorus and Chlorophyll-a numbers are within expected ranges for lakes of the Northern Lakes and Forests (NLF) ecoregion. While Secchi depth is not, this is due to bog stained water, rather than an impairment. Total Phosphorus, Chlorophyll-a, and Secchi depth measurements are used to generate a Trophic State Index (TSI) number - a way of characterizing a lake's productivity. Farm Lake's mean TSI is **47**, which is mesotrophic:



Find water quality data from Citizen Lake Monitoring here:
www.rmbel.info/data/

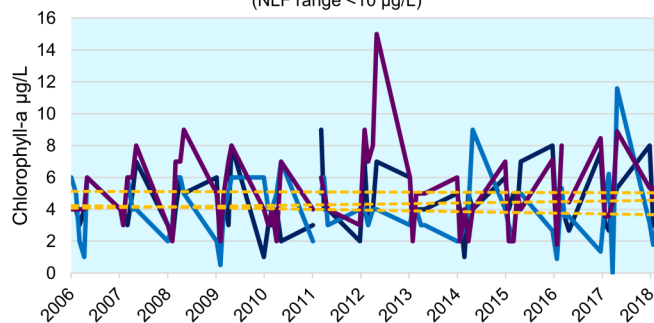
Total Phosphorus

(NLF range 14-27 µg/L)



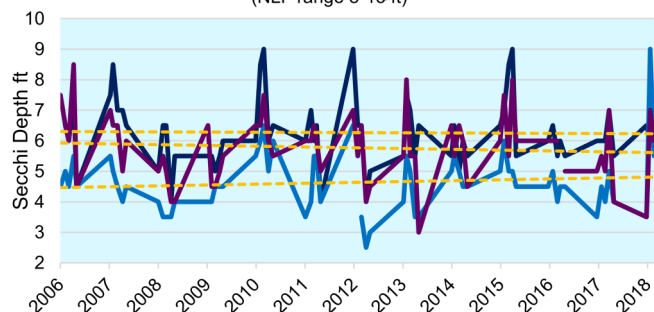
Chlorophyll-a

(NLF range <10 µg/L)



Secchi Depth

(NLF range 8-15 ft)



— N Kawishiwi — Silver Rapids — Central

Invasive Species

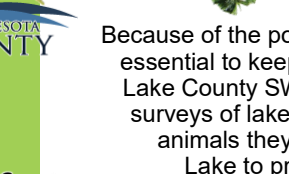
Curly Leaf
Pondweed



Spiny
Waterflea



Eurasian
Watermilfoil

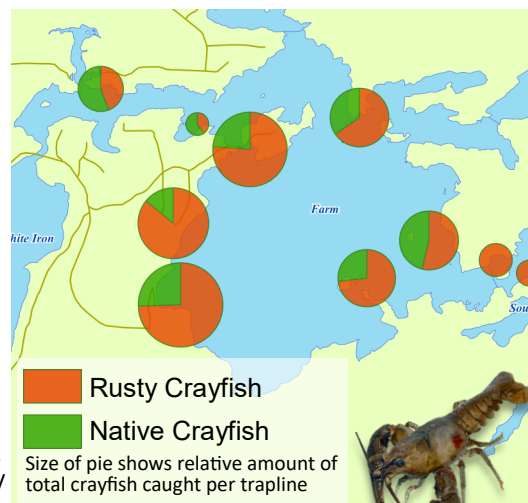


What is an aquatic invasive species (AIS)?

- Non-native: a species not normally found in an area
- Invasive: a non-native species which causes harm -environmental, economic, or to human health; generally threatens natural resources

Farm Lake has one confirmed invasive species: Rusty Crayfish. Trapping by Lake County SWCD and WICOLA members shows the progression of the rusty crayfish infestation. As of 2017, rusty crayfish are dominating the southwest portion of the lake. Some nearby AIS to watch out for are shown on the left.

Because of the potential for harm, prevention and early detection are essential to keep new invasive species from becoming established. Lake County SWCD is training citizen "sentries" to perform monthly surveys of lakes they frequent, and report on the plants and animals they observe. We are seeking more sentries for Farm Lake to provide timely knowledge of new invasions.



Farm Lake 2017
Rusty Crayfish distribution

Do you want to be trained as a citizen sentry? Do you live on Farm Lake and want to participate in crayfish trapping? Visit wicola.org for the latest events and information on how you can get involved!

