BUCK LAKE: Water Quality Report Card

PRIOR LAKE SPRING LAKE WATERSHED DISTRICT

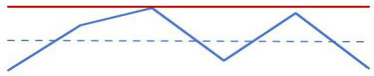
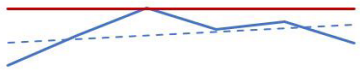
Quick Facts

Surface Area: 23 acres
Watershed Area: 3,350 acres
Average Depth: 3 feet
Maximum Depth: 9 feet

Water from Fish Lake flows through a wetland complex into Buck Lake and then flows through even more wetlands before emptying into Spring Lake. Water from the Buck Lake system is the second largest source of water inflow to Spring Lake. Buck Lake is very shallow lake with no public access and only a couple private docks. Buck Lake is a natural lake and it is used occasionally for recreation, such as kayaking and duck hunting. Buck Lake has a healthy wildlife population, including otter!

Water Quality

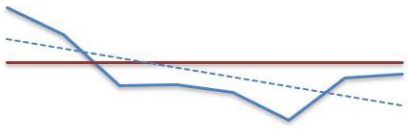
Despite high phosphorus levels, water clarity is good and algae blooms are infrequent. The lake has diverse and abundant plant coverage which uses the phosphorus and provides great habitat for wildlife. The high phosphorus levels are likely due to the upstream channel flowing through wetlands before getting to Buck Lake. The good water clarity suggest agriculture runoff and bank erosion are not big contributors to the high phosphorus levels, rather it could be from the upstream wetlands releasing phosphorus into the system.

Water Quality Indicator	Risk to Water Quality	Grade (2017-2019)	History (2014-2019)	Trend
PHOSPHORUS	Phosphorus is needed by plants and animals to survive, but can cause algae blooms if there is too much phosphorus available. In some cases, algae can produce a toxin which could cause illness or death in animals if ingested. Some sources of high phosphorus are fertilizer, human and animal waste, and soil erosion.	F		No Trend
CHL-A	Chlorophyll-a is a measurement of the amount of algae in a lake. Some algae can produce dangerous toxins and when algae dies and decomposes it consumes oxygen that would otherwise be used by fish and beneficial organisms. High algal concentrations threaten aquatic life and can impede recreation and enjoyment of the lake.	A		No Trend
CLARITY	Water clarity is affected by the abundance of algae or sediment in the water column. It is dependent on many factors including nutrients, temperature, wind, rain, and boat traffic. Low clarity means less sunlight to power photosynthesis in aquatic plants. These plants are beneficial for wildlife and stabilize the lake bed. Low clarity can also negatively impact a lake user's enjoyment and harm aquatic life.	A		No Trend

Grading Scale

Excellent	Good	Average	Marginal	Poor
A	B	C	D	F
All or most samples meet the desired threshold.	Many samples meet or are near the desired threshold.	Some samples meet or are near desired threshold.	Many samples do not meet the desired threshold.	Most samples do not meet the desired threshold.

Graph Explanation



The **solid blue line** shows the annual change in water quality from 2014-2019. The lower the line, the healthier the lake.

The District's goal is for the blue line to be below the **red line**, which is the water quality standard and the point at which the waterbody is not considered polluted.

The **blue dotted-line** is the trend line. A decreasing trend line shows improvement in the health of the lake over time.