

BUCK LAKE: 2024 Water Quality Report Card



Quick Facts

Surface Area: 23 acres

Average Depth: 3 feet

Watershed Area: 3,350 acres

Maximum Depth: 9 feet

Water from Fish Lake flows through a wetland complex into Buck Lake, then through additional wetlands before reaching Spring Lake. The Buck Lake system is the second largest water source for Spring Lake. Buck Lake is a shallow, natural lake with no public access and only a few private docks. It is occasionally used for recreation, such as kayaking and duck hunting, and supports a healthy wildlife population, including otters.

Despite high phosphorus levels, Buck Lake has good water clarity and infrequent algae blooms. Its diverse and abundant plant life utilizes the phosphorus, providing excellent wildlife habitat. The elevated phosphorus levels likely stem from the upstream wetlands releasing phosphorus rather than from agricultural runoff or bank erosion, as suggested by the lake's clarity.

**statistically significant

Water Quality Indicator	Risk to Water Quality	Grade (2022-2024)	History (2015-2024)	Trend
PHOSPHORUS	Phosphorus is needed by plants and animals to survive but can cause algae blooms if there is too much phosphorus available. Sources of high phosphorus include fertilizer, human and animal waste, and soil erosion.	F		 Declining **
CHL-A	Chlorophyll-a is a measure of the amount of algae in a lake. Some algae is normal in a healthy lake, but high concentrations threaten aquatic life and can impede on recreation and enjoyment of the lake. Some can even create harmful toxins.	B		 Improving **
CLARITY	Water clarity is affected by the abundance of algae and sediment in the water column. It is dependent on factors such as nutrients, temperature, wind, rain, and boat traffic. Low clarity means less sunlight to power photosynthesis in aquatic plants, which help keep the lake healthy.	C		 No Trend

Grading Scale					Graph Explanation
Excellent	Good	Average	Marginal	Poor	<p>The solid blue line shows the annual change in water quality over a ten year span. The lower the line, the healthier the lake.</p> <p>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.</p> <p>The blue dotted-line is the trend line. A decreasing trend line shows improvement in the health of the lake over time.</p>
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.	

BUCK LAKE: Project Highlight

Buck Stream Restoration

Buck Stream, a tributary flowing into the east side of Buck Lake, is one of the few remaining streams in the Prior Lake area that retains its natural character. It winds through wetlands, woodlands, and riffles, supported by vegetated banks. However, the stream eroded beyond its natural floodplain—an essential "ground sponge" that absorbs floodwaters. This erosion led to 76 tons of sediment and excess nutrients washing into Buck Lake each year, turning the water brown and harming its quality. Without intervention, the stream would have continued to degrade, further impacting Buck Lake.

In fall 2024, the Watershed District, Scott SWCD, and two landowners partnered to restore 1,300 crucial feet of Buck Stream with support from the Clean Water Fund. The project replaced invasive buckthorn dominating the banks with native plants, which will emerge in Spring 2025, to stabilize the stream and improve habitat. The Watershed District hopes to restore additional sections of the stream as more grant funding becomes available.



BEFORE



AFTER

