

FREE LAKE SNAPSHOT · PREPARED FOR THE PINE SHADOW LAKE ASSOCIATION BOARD

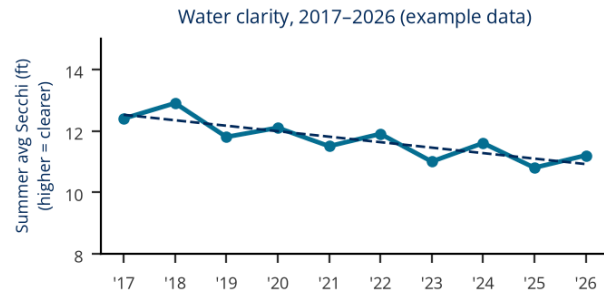
Pine Shadow Lake: Free Lake Snapshot

Fictional lake, Brainerd lakes area · October 2026 · All values are example data for illustration only

Lake facts (example data)

Surface area	412 acres
Maximum depth	38 ft
Mean depth	14 ft
Shoreline	7.9 miles
Watershed	about 6,800 acres (16:1)
Lakeshore properties	244
Public access	1 (north shore)
Inlet / outlet	Birch Creek / Shadow Creek
Monitoring	Volunteer Secchi, May–Sept

Water clarity trend



2026 summer average: **11.2 ft**. Ten-year average: **11.7 ft**. Trend line: about **0.18 ft less clarity per year**, roughly 1.6 ft over the decade (example data).

Phosphorus, chlorophyll-a, and trophic state

Measure (summer average)	Value	Range	Trophic score*	What it tells you
Total phosphorus (2025, 3 samples)	18 µg/L	14–23	46	The main nutrient that feeds algae
Chlorophyll-a (2025, 3 samples)	5.2 µg/L	2.8–8.9	47	How much algae is in the water
Secchi depth (2026, 10 readings)	11.2 ft	9.1–14.2	42	How far you can see into the water

Oligotrophic under 40 · very clear, low nutrients	Mesotrophic ◀ Pine Shadow, about 45 40–50 · clear, moderate nutrients	Eutrophic 50–70 · greener, more algae	Hypereutrophic over 70 · frequent blooms
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*Carlson Trophic State Index, a common lake-science scale, calculated from the example values above.

AIS status (example data)

Zebra mussels	Not found
Eurasian watermilfoil	Not found
Starry stonewort	Not found
Curly-leaf pondweed	Present, north bay
Chinese mystery snail	Present

Based on example volunteer observations. Always check the DNR's official infested waters list for a lake's current status.

Three plain-language takeaways

- 1 Pine Shadow is a healthy, clear lake today.** Moderate nutrients and modest algae put it in the middle "mesotrophic" range, the kind of lake most people picture up north.
- 2 Clarity is slowly slipping.** About a foot and a half over ten years. Not alarming yet, but the direction matters, and runoff, lawns, and septic systems are the usual suspects.
- 3 The biggest near-term risk is a new invader.** Zebra mussels have not been found. Keeping them out is far cheaper than managing them once they arrive.

What the board can do next

- ✓ **Test nutrients every summer**, not every other year: three samples, about \$420 a year (example cost).
- ✓ **Map the curly-leaf pondweed** with a June plant survey so changes can be tracked over time.
- ✓ **Keep the access greeters going** and add hours on the busiest summer weekends.
- ✓ **Host a shoreland workshop** on native buffers, rain gardens, and septic care.
- ✓ **Share this snapshot** at the annual meeting and repeat it each fall to track the trend.

A sample of the free snapshot Lake Association Office prepares for lake associations. Pine Shadow Lake is fictional; every number is example data.