



Otter Tail County Coalition of Lake Associations  
[www.Ottertailcountycola.org](http://www.Ottertailcountycola.org)  
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## **OTC COLA Water Quality Testing Results 2018 Big Pine Lake 560-130**





**Congratulations!** Because of the Pine Lakes Lake Improvement District and your team of volunteers you have collected valuable water quality information for Big Pine Lake in 2018. The data has been collected, analyzed and now has been integrated into a multi-year trend analysis. This information is valuable to lake property owners concerned about the future of living at the lake. It is also an important resource to state and county agencies for making beneficial decisions on lake management.

Big Pine Lake is located near Perham, Minnesota. To see where Big Pine Lake is on an interactive map and for more information about the Lake click [HERE](#).

Samples were taken for **Phosphorus, Chlorophyll** and water **Clarity** (Secchi) analysis. Learn about collecting water samples [HERE](#). The samples were analyzed by [RMB Laboratories](#) in Detroit Lakes, MN. Click [HERE](#) for a technical explanation of the analysis.

Additional water quality analysis updated to 2017 for Big Pine Lake is available on the Minnesota Pollution Control Agency website (MPCA); click [HERE](#), then click on the **Water Quality Summary tab**.

For the trend analysis for Big Pine Lake OTC COLA compiled data from 10 years from 2009. The measurements were first averaged by month and then averaged by year.

KEY	NUMBER	COLA	year	Phosphorus	Chlorophyll	Secchi Ft	TSI Avg.
Big Pine 560-130	560-130	COLA	2009	31.0	17.4	9.6	51.8
			2010	29.0	16.2	8.2	51.8
			2011	32.4	17.6	9.3	52.2
			2012	31.6	14.8	7.6	53.0
			2013	35.2	19.2	7.4	54.0
			2014	31.6	19.0	7.4	53.4
			2015	31.6	10.8	7.6	51.6
			2016	50.8	24.4	8.0	53.2
			2017	37.8	24.8	8.1	53.6
			2018	36.2	16.2	7.6	52.8
<b>Big Pine 560-130 Average</b>				<b>34.7</b>	<b>18.0</b>	<b>8.1</b>	<b>52.7</b>
							

The mini-graphs at the bottom of each test represent the trend line for the years included. The analysis category assigned to Big Pine Lake is **Mixed**. Mixed means trend lines do not support a decrease or increase in clarity or data appears to be inconsistent. Your interpretation of the trend may differ from that which is offered. To see definitions of the subjective trend categories, click [HERE](#)

## Ecoregion Comparison

Another approach to evaluating clarity in lakes is test data compared to Ecoregions. An Ecoregion is a geographical area where the land use (agriculture, forest, prairie, etc.), underlying geology, potential native plant community, and soils are relatively similar. The lakes in Otter Tail County are in the Northern Central Hardwood Forest Ecoregion. Click [HERE](#) to learn more about Ecoregions.

Compare the **Big Pine 560-130 Average** to the Northern Central Hardwood Forest Ecoregion ranges of averages shown here:

**Phosphorus: 23–50, Chlorophyll: 5–22, Secchi (ft): 5–10.5**

## What Is A Healthy Lake?

It is widely accepted that the amount of phosphorus in a lake often determines the ultimate disposition of health for a lake. The amount of phosphorus in a lake is the primary nutrient for proliferation of algae and aquatic plant life. Control of infusion to Big Pine Lake of phosphorus from animal waste, human waste and fertilizers is the most probable objective to pursue to nurture health of Big Pine Lake.

[MORE](#)

# Concerned About Phosphorus?

## What to do

- Investigate and control property owner septic system efficiency
- Identify and pursue adverse land run off from farms and feed lots
- Educate lake property owners on detrimental use of phosphate lawn fertilizers

## Who Can Help

### [OTC COLA](#)

- COLA sponsored water quality testing
- Monthly [NEWSLETTERS](#)     [SUBSCRIBE](#)
- OTC COLA [WEBSITE](#)
- Attend summer monthly meetings
- Participate in COLA events
- Network with fellow COLA members
- OTC COLA [BROCHURE](#)

### Minnesota Department of Natural Resources [MN DNR](#)

### Minnesota Pollution Control Agency [MPCA](#)

- The MPCA monitors environmental quality, offers technical and financial assistance and enforces environmental regulations in the State of Minnesota.
- Financial assistance for water projects

### East Otter Tail Soil & Water Conservation District [EOT SWCD](#)

- [Shore & Water](#)
  - Shoreland restoration
    - Funding assistance available

### Otter Tail County [Land & Resource Management](#)

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