



Otter Tail Coalition of Lake Associations

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Water Quality Analysis Reports 2021





Dead 56-0383-00





10-Year Trend Analysis

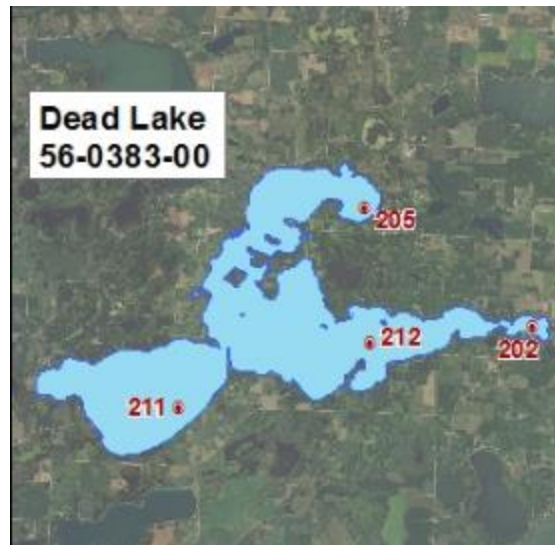
Lake / Site	Year	Phosphorus Ave	Chlorophyll a Ave	Secchi Ft	TSI Ave
Dead 56-0383-00 202	2012	29.4	7.4	13.1	47.4
	2013	24.2	6.4	13.9	45.6
	2014	20.8	5.8	13.2	44.8
	2015	25.0	7.8	11.8	47.6
	2016	28.4	8.8	12.1	46.8
	2017	24.6	7.3	11.9	46.5
	2018	24.4	8.2	11.4	47.8
	2019	25.4	5.1	12.0	45.8
	2020	22.4	7.2	11.1	46.2
	2021	23.4	6.2	13.8	44.6
Dead 56-0383-00 202 Total		24.9	7.0	12.4	46.3

Lake / Site	Year	Phosphorus Ave	Chlorophyll a Ave	Secchi Ft	TSI Ave
Dead 56-0383-00 205	2012	27.0	10.8	9.3	50.2
	2013	22.2	7.2	7.9	48.4
	2014	21.2	10.6	9.4	49.0
	2015	26.8	8.0	8.9	49.0
	2016	23.3	7.5	9.1	47.5
	2017	26.2	8.0	9.8	49.3
	2018	19.2	6.1	9.2	46.8
	2019	18.2	6.7	9.6	46.0
	2020	22.4	10.9	8.4	50.0
	2021	22.8	5.8	9.3	46.8
Dead 56-0383-00 205 Total		22.8	8.2	9.1	48.3

Lake / Site	Year	Phosphorus Ave	Chlorophyll a Ave	Secchi Ft	TSI Ave
Dead 56-0383-00 211	2012	26.4	5.4	7.6	48.6
	2013	19.6	5.2	9.4	45.8
	2014	26.2	15.3	6.6	54.5
	2015	28.0	7.4	8.3	49.8
	2016	25.6	5.0	7.0	48.5
	2017	23.4	5.0	6.7	48.2
	2018	30.4	10.1	5.2	52.6
	2019	22.2	6.1	6.4	49.0
	2020	21.6	4.7	8.0	47.4
	2021	22.0	6.2	8.3	47.2
Dead 56-0383-00 211 Total		24.5	6.9	7.4	49.0
					

Lake / Site	Year	Phosphorus Ave	Chlorophyll a Ave	Secchi Ft	TSI Ave
Dead 56-0383-00 212	2012	22.4	5.6	9.0	48.3
	2013	16.6	4.8	10.3	44.0
	2014	22.2	7.6	8.4	48.2
	2015	21.2	7.4	8.3	48.4
	2016	19.4	4.0	9.3	45.2
	2017	21.4	4.6	9.4	46.2
	2018	21.6	7.9	8.3	48.6
	2019	21.8	8.3	7.7	49.2
	2020	19.4	6.8	9.3	47.3
	2021	16.4	5.2	10.3	44.6
Dead 56-0383-00 212 Total		20.2	6.2	9.0	47.0
					

Lake / Site	Year	Phosphorus Ave	Chlorophyll a Ave	Secchi Ft	TSI Ave
Dead 56-0383-00 216	2012	21.8	6.4	9.6	47.0
	2013	21.6	6.0	8.8	47.6
Dead 56-0383-00 216 Total		21.7	6.2	9.2	47.3
					



OTC COLA compiled available **Dead Lake** data for years from 2012. Samples were taken for **Phosphorus**, **Chlorophyll-a** and water **Clarity** (Secchi). The results were averaged by site and year along with the [TSI Index](#). The mini-graphs at the bottom of each analysis represent the trend line for the years included. See [Water Quality Analysis Reports](#).

The classic model will indicate an inverse relationship between the nutrient elements (phosphorus, chlorophyll-a) and secchi (water clarity) measure. If phosphorus and chlorophyll-a trend to rise, water clarity will trend to decrease. If phosphorus and chlorophyll-a trend to increase, water clarity will trend to decrease.

[Water Quality Parameter Relationships](#)

Dead Lake was infested with zebra mussel in 2019

Congratulations to Dead Lake Association and the dedicated volunteers who participated in the OTC COLA [Water Monitoring Program](#). Water quality monitoring and testing is crucial to successful lake stewardship. See [The Case for Water Quality Monitoring](#)

The samples were analyzed by [RMB Laboratories](#) in Detroit Lakes, MN. Learn about collecting water samples on the [RMB Training](#) website. See the RMB [Trophic State Index](#) page for an in-depth explanation of analysis results.

Detailed analysis results and general information on **Dead Lake** is available from a number of sources:

[DNR Lake Finder](#) for Dead Lake

[MPCA Lake Dashboard](#) for Dead Lake- See Water Quality Summary tab

[UMN LakeBrowser](#) for Dead Lake See- [UMN LakeBrowser](#)

[RMB Lakes Database](#) Interactive access to data for all lakes in the RMB program

Ecoregion Comparison

Another approach to evaluating health of 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 (NCHF). Click [HERE](#) to learn more about Ecoregions.

Compare the **Dead Lake Total** 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?

A healthy lake is most often described as one whose physical, biological and chemical properties are in equilibrium. This balance provides stability that allows native aquatic organisms to flourish. Because each lake is different, it is difficult to compare lakes to each other. It is best to compare your own lake to itself over time. See [The Case For Water Quality Monitoring](#).

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

Concerned About Phosphorus?

What to do

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

[Why Does Our Lake Continue To Get More Weeds?](#)

Lake Organizations and Resources

[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](#)

[WWW.lakeadmin.org](http://www.lakeadmin.org)

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Minnesota Pollution Control Agency [MPCA](#)

- The MPCA provides technical and financial assistance and enforces environmental regulations in the State of Minnesota.

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

- [Shore & Water](#)
- [Financial Assistance](#)

West Otter Tail Soil & Water Conservation District [WOT SWCD](#)

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

- The Department of Land and Resource Management is designed to enforce county and state ordinances / rules.

[West Central Initiative](#)

- **Mission:** Serving to improve west central Minnesota through funding, programs and technical assistance.

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

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