

Filamentous Algae

What is filamentous algae?

Filamentous algae is an algae that forms dense, hair-like mats. It starts growing at the bottom of the lake and on plants. As it grows, it produces oxygen that gets trapped within its tangled strands. This trapped oxygen then causes the algae to rise to the surface of the water. As the algae dies, it turns brown.

Is it new to our lake?

Filamentous algae is not new to lakes – it is a part of lake ecosystems as are many other kinds of algae.

Why can there be large amounts of filamentous algae some weeks and less another?

Weather is definitely a factor for how much filamentous algae grows. If there are large precipitation events, then nutrients (phosphorus) will be carried to the lake via stormwater and can cause excess algae to grow. In the spring after ice-out, it is typical for filamentous algae to grow when the water is clear allowing the sun to penetrate to the lake bottom. When air and water temperatures heat up, the warm water is also an ideal growing condition for filamentous algae. Wind influences where the filamentous algae mats are located on a lake. Therefore, the algae can accumulate at the downwind shore, and are not a reflection of the quality of the area where they are located.

Is there a connection with zebra mussels?

Zebra mussels filter algae out of the water column and excrete nutrients onto the lake bottom. This has the effect of making the water clearer allowing for greater growth of filamentous algae which benefit from nutrients near the lake bottom.

Is it harming the lake?

Filamentous algae provide cover for aquatic insects, snails, and other small animals which are valuable fish food. Excessive amounts of algae are certainly unsightly and smell bad. However, it is not causing any irreparable harm because the lake's critters are well-adapted to experience periodic episodes such as a summer with excessive algae growth.

Is it toxic to humans?

It is not toxic to humans. However, it is always good practice to wash your hands after contact with any surface waters or algae.

Can mechanical harvesting machines be used to pick it up?

These machines are not designed to pick up filamentous algae. As confirmed by harvester operators on Madison lakes and Lake Ripley, the machines do not effectively pick it up. In addition, harvesters need a permit from the Department of Natural Resources (DNR) and when allowed on a lake, they are not permitted to operate in water with less than 3 feet of depth.

Can chemicals be used to treat it?

Chemical algae treatments are generally very ineffective. Spot treatments are very temporary and entire lake treatments are not practical. Algae quickly return (because nutrients are still in the water) and the danger from toxic copper build-up (from the chemicals) in the lake sediment is great. When chemicals kill algae, the sudden large-scale death can result in the growth of an algae than can be toxic to wildlife and humans. Chemical control requires a DNR permit.

How can filamentous algae be removed from the lake in the short-term?

The best method is to take out the floating clumps with use of a rake or net. You can compost these piles or use them in your garden as mulch. Removing floating plants and filamentous algae from the lake requires no permit. However, the DNR sometimes require permits for removal of rooted plants from the lake—so be sure to contact the DNR prior to removing any rooted plants from the lake.

What can be done in the long-term?

High filamentous algae growth in one year does not predict the same growth in future years. Adopting preventive measures to limit the flow of nutrients into the lake can help reduce the severity of future nuisance filamentous algae growth during high precipitation years. Some watershed-scale steps for reducing nutrient pollution include installing conservation practices to prevent erosion, reducing nutrient inputs from streets, installing native shoreline restorations instead of lawns next to the lake, and controlling construction site erosion. Property owners interested in installing conservation practices on their land to reduce nutrient loading to our waters should contact the Lake Ripley Management District at 608-423-4537 or Jefferson County Land and Water Conservation Department at 920-674-7121.

Sources of information: Wisconsin Department of Natural Resources, Minnesota Department of Natural Resources