

PROTECTING WOLVERINE LAKE

Wolverine Lake was classified as a Mesotrophic lake as recently as 2003. This means that the lake quality was significantly better less than a decade ago with moderate nutrient levels and clearer water—a big improvement over today’s condition of Wolverine Lake. Today, the Lake is classed as a moderately Eutrophic to Eutrophic Lake, which means it has high nutrient levels, moderate to high turbidity and supports large biomass. Algal blooms are likely and may be severe at times. Dissolved oxygen is depleted in deeper waters, which restricts fish populations to warm water species.

Let’s face it; the most important asset in our community is our lake, and we need to protect it! This begins by taking small measures to protect the lake, so we can enjoy it for generations to come. One of the ways we can achieve this is by banning together as a community to do our part. By working together we can achieve improved water quality, better fishing, and less aquatic (lake) weeds and algae blooms!

Water Quality Indicators

The village has collected lake water quality data for several years, through the Water Management Board’s (WMB) efforts and Professional Lake Management (PLM), our lake management consultant.

The 3 most important indicators of the water quality in Wolverine Lake are:

- **Nitrate:** Nitrate is very soluble and promotes plant growth. Nitrate concentrations appear to be somewhat stable in our lake (meaning they remain about the same over time).
- **Phosphorus:** Phosphorus is less soluble than nitrate and tends to adsorb (bind) to sediments, which can promote accumulation in lake sediments. Phosphorus also “limits” (or controls) aquatic weed and algae growth. This means that if aquatic weeds and algae have excess phosphorus, they can grow out of control. Phosphorus concentrations in our lake vary considerably, appearing to be highest during the summer.
- **Dissolved Oxygen Concentrations:** Dissolved oxygen is essential to fish and most aquatic organisms, and unlike nitrate and phosphorus, is beneficial for lake health. The decaying process can deplete oxygen in the lower depths of the lake. Dissolved oxygen concentrations vary over the time and with measurement depth in the lake. They are generally highest in the spring, when the lake is fairly oxygenated throughout the water column. It appears that there may be a disturbing trend in the data indicating a slight drop in spring time levels in certain areas of the lake.

What You Can Do

Whether you live on or off the lake, there are numerous small steps you can take to reduce nutrient levels in our lake. We can reduce the amount of Nitrates and Phosphorus that get into the lake, thus improving the dissolved oxygen level, and decreasing aquatic weeds. For both nitrates and phosphorus, the **TWO MAJOR SOURCES ARE RUNOFF FROM FERTILIZERS AND SEEPAGE FROM SEPTIC SYSTEMS.**

Please consider and implement the ones that make the most sense to you.

In Your Yard

- Only use slow-releasing, phosphorus-free fertilizers (middle number should be zero: 29-0-10).
- Delay spring application until at least 3 weeks after green up and eliminate late fall applications.
- If you usually fertilize 3 or 4 times a year, try living with 1, 2, or 3 times a year.
- Follow the application rates on the fertilizer bags—Do not over fertilize! The rule of thumb is typically 1 pound nitrogen per 1,000 sq. ft.

(Note: Research indicates the average person at least doubles the application rates, thinking more is better. A 5,000 sq. ft bag is supposed to cover 5,000 sq. ft!)

- Fertilize the day after a rain and lightly water (*i.e.*, a few minutes only) after fertilizing to move it into the root zone. Do not fertilize if the forecast calls for rain in the two days following application.
- Fertilize *at least 15 feet from the lake edge*, as required by ordinance.
- Plant a green, native plant buffer zone along the shoreline to minimize runoff and erosion. Incorporating a slight rise in the middle of the buffer zone helps further minimize runoff.
- Keep fertilizer off of paved surfaces, sweep or blow fertilizer back onto lawn.
- Keep an eye on professional lawn services, and let them know the rules.
- Reduce your dependence on fertilizers. Use compost, which may be available through the DPW.
- If you live on the lake, use lake water to water your lawn. It contains nutrients that are good for the lawn, and potentially removes nutrients from the lake.
- Control the amount of water you use for your lawn—Do not over water. Overwatering promotes leaching of nutrients from the lawn, which is bad for both lawn and lake.
- Use a mulching lawn mower, thereby returning the nutrients to the lawn (*i.e.*, use less fertilizer).
- Keep your lawn mower blades sharp, they cut better and damage grass less.
- Do not allow grass clippings or leaves to enter the lake.
- Rake leaves up periodically rather than waiting for all of them to fall. This prevents them from entering the lake and reducing nutrient loss and runoff while they lay on the ground surface.
- Bag your leaves or use leaf pickup during the designated times. Do not burn leaves—it's illegal.
- Landscape with native plants that need less maintenance, reduce runoff, and absorb nutrients.
- Compost, but do it away from the lake.
- Move your camp fires away from the lake. The ash contains phosphorus. Clean up ashes after they have completely gone out/cooled by composting or disposing of them as yard waste.
- Properly maintain seawalls/shoreline to reduce erosion of sediments into the lake.
- Reduce the size of your lawn area to reduce chemical and water usage.
- Clean up after your pet promptly, and do not allow pets to defecate near lake.
- Do not feed waterfowl. It's illegal and only exacerbates water quality issues.

At Home

- Use detergents or cleaning products that *do not contain phosphorus*. The average automatic dishwasher detergent contains about 2 million times the enriched phosphorus concentration that can produce severe algae blooms.
- Use detergents sparingly—Only use what is recommended, more is not always better!
- Avoid washing boats with detergents while on the lake, and only use phosphorus-free detergent on boats—The residues will be transferred to the lake when the boat is launched.
- Dispose of chemicals at hazardous waste drop off locations—Never dump chemicals down the drain!
- Have your septic system holding tank emptied every 1 to 3 years. This allows inspection of the system and promotes a properly functioning septic system.
- Replace or repair broken or malfunctioning septic systems. A properly functioning system helps remove nutrients from wastewater before they enter the groundwater or lake.
- Fix leaky faucets or toilets, and use low flow-rate fixtures to reduce the amount of water that “flushes” through your septic system and nutrients leaching to the groundwater and lake.

In Your Community

- Get involved in the issues that interest you—Contact Village Hall or the website for local events and opportunities.
- Organize a beachfront cleanup, an aquatic weed removal (as long as it's not in an area with invasive species), a neighborhood spruce up, or a park cleanup event for your neighborhood or local park.
- Help your “neighbor” rake up their leaves and remove aquatic weeds (in non-invasive species area).
- Attend area workshops and awareness training events to learn more about water quality and other issues.
- Educate, educate, educate!!! Tell your neighbors, friends, and family what they can do to help! (Nicely, of course!).