

WATER QUALITY CONCERNS OF LAKESIDE HOMEOWNERS

Waterfront properties have always lured families with their aesthetics and the option to spend quality time fishing, boating or swimming. With it comes the responsibility of caring for the property and the body of water. Actions on the land, as well as in the water, affect the health of the lake and everyone's enjoyment of it. Late spring and summer are times when nutrients and sunlight stimulate plant growth to their fullest. These months are a good time to observe the lake and check for any apparent water quality issues. However, every year is different in temperature and precipitation, so remember to adjust for these variations.

This document gathers information about the possible causes and concerns with water quality which may ultimately lead to harmful algal blooms (HABs). This guide also helps a waterfront property owner with a little time invested in learning and managing the concerns of lakefront living, and will pay them back as healthy living and a boost to property values¹. Signs of overgrowth may include a blue-green or green discoloration to the water or a "spilled paint" or "pea soup" like consistency on the surface. A [HAB toolkit](#) for privately owned water bodies is available at sbeap.org/water-quality/harmful-algal-blooms.

AQUATIC BUFFER

An aquatic buffer is an area along a shoreline or waterbody where development is restricted or prohibited. These buffers filter out pollutants washing from the land and protects the water's edge against erosion. Unfortunately, lakefront property owners often artificially harden their shorelines with lawns and paved areas, or add artificial beaches and docks. These alterations damage or destroy essential habitat, weaken the lake ecosystem, allow pollutants such as pesticides and fertilizers to wash into the lake and may result in HABs.



AQUATIC PLANTS

When aquatic plants grow, they produce oxygen during the day and consume oxygen at night, a balance in the level of oxygen is critical for a healthy lake ecosystem, as lack of overnight oxygen may lead to a fish kill. Aquatic plants help keep the sediment at the bottom of a lake, improving water clarity, and native aquatic plants keep undesirable invasive plants in check. However, as lakes become enriched with nutrients, aquatic plant and algae growth tends to increase. Spruce up your waterbody with the right aquatic plants, and when treating a lake, it's crucial to choose the right solution that is safe for aquatic life. For example, terrestrial herbicides can kill aquatic organisms and should never be applied to waterbodies. Duckweed, Azolla, rushes, sedges, etc., are a few common plants used for nutrient management, including other native species. Care must be taken to prevent some of these aquatic plants from growing into invasive species.

INVASIVE SPECIES AND WILDLIFE

Invasive species alter typical ecosystem processes, as they tend to grow and outcompete native species. Some aquatic invasive species alter the invaded ecosystems in ways that assist the growth of HABs and impede swimming and other water activities, thus having a negative effect on waterfront property values. An example of this is Zebra mussels promoting harmful algal growth by feeding on the harmless phytoplankton or algae, thus allowing the cyanobacteria to grow². A vegetative buffer makes waterfronts less attractive to waterfowl compared with a well-groomed lawn. Waterfowl feces high in phosphorus pollutes the water and the surrounding areas. The nutrients from the feces promote the cause of harmful algal blooms and aquatic weed growth.

WATER QUALITY

The watershed areas that drain to the lake often are the main sources of contamination of the surface water and the water found in poorly constructed nearby wells.

Microorganisms or other contaminants such as nutrients may exist naturally or be introduced to surface waterbodies by stormwater runoff or septic tanks leaching. Shallow or poorly constructed wells located near an infected water body may be at higher risk because it is connected to surface water through the groundwater. These sources of contamination can also feed microorganisms and result in an overgrowth like cyanobacteria. Some of the other main waterborne



microorganisms are E. coli, Cryptosporidium and Giardia parasites, and viruses. Untreated surface water should never be used for any potable use. Even various types of home treatment, such as boiling, will not remove the toxins and may worsen the contamination. Make sure your well has been properly installed, maintained and is undergoing routine testing. If you suspect a HAB contamination, seek medical treatment immediately, then report to KDHE Epidemiology³ at KDHE.EpiHotline@ks.gov or call 877-427-7317.

TIPS FOR WATERFRONT HOMEOWNERS

- Grow native plants and trees along the water edge to minimize shoreline erosion.
- Mow vegetation tall or not at all around the edge of the waterbody to keep out the pollutants
- Limit the use or manage the application timing of fertilizers and pesticides for better nutrient management
- Plant a rain garden to absorb rainwater.
- Use driveways and paths that allow rain to soak in.
- Properly dispose of household hazardous waste

The quality of a lake is ultimately a reflection of how we take care of its watershed. Healthy watersheds make healthy lakes and higher property values. As a lakefront property owner, you can help protect the water quality and natural beauty of your lake for yourself, your neighbors and future generations.

¹ https://19january2017snapshot.epa.gov/sites/production/files/2015-10/documents/learning_lakefront_property.pdf

² <https://www.sciencedaily.com/releases/2021/06/210624135534.htm>

³ https://www.kdheks.gov/algae-illness/reporting_incidents.htm