Lakes are dynamic systems. Some of the seasonal changes and organisms can look strange and even concerning. Descriptions of phenomenon that often raise questions are described below.

**OILY SHEEN**
What may look like spilled petroleum may in fact be something else entirely. Some species of bacteria rely on iron and manganese and may appear oily, slimy, black, red, or orange, as the metals start to solidify. In the spring and summer the oily sheen may also be insect skeletal cases that clump to form dark clouds with an oily sheen in the water. The best way to test whether petroleum is present is to dip a stick in the water. If the oily substance separates and quickly swirls back together after the stick is removed, petroleum is in the water. Otherwise, the sheen will disburse naturally when disturbed indicating the presence of bacteria.

**ORANGE OR REDDISH-BROWN SLIME**
There is a group of bacteria that use iron as a source of energy and excrete orange material as they grow and reproduce. This usually occurs in acidic environments, however it may also indicate pollution if large areas are covered. If the orange stain seems to be hard or crusty, this may be iron-rich groundwater that has been exposed to air once it reached the surface. Bacteria have a more fuzzy appearance.

**YELLOW POWDER/DUST**
In the spring and early summer, pollen from pines and other trees can fall onto the water surface forming large yellow mats. Until the pollen becomes water-logged and sinks, it may collect on shoreline edges or float for long periods in open water. Sometimes yellow rings can be seen on rocks and docks as remnants of pollen patches during the summer.
JELLY-LIKE CLUMPS
From first glance these clumps might look like egg masses, however, they are actually Bryozoans, or small animals. They stick to woody debris, aquatic vegetation and docks. They are not harmful and in fact help filter the water to improve quality. They can also appear stringy and moss-like.

GREEN MAT
Particularly in wetland areas a green mat may be present on the water’s surface. If closely examined, the mat may be composed of hundreds or thousands of tiny floating plats. Both Duckweed and Watermeal often form these mats.

GREEN JELLY BLOBs
Microscopic single-celled protozoans gather together and secrete a jelly-like substance that is green in colour due to algae that live in the cells.

FOAM
Although foam can indicate pollution, more often than not in the Cataraqui Region the foam is formed naturally as waves mix with the air. Organic material can disturb the water tension forming bubbles that are easily dispersed by wind and accumulate along shorelines. Sometimes a fish smell can also be present. Foam can be white, cream or various shades of brown.
Algae are simple plants requiring sunlight, and nutrients for growth. They occur naturally in ponds, lakes, rivers, and streams, providing essential food and habitat for many aquatic food webs. Algae affect the pH and oxygen levels within a waterbody and vary widely in both size and form.

In the Cataraqui Region it is common to see both filamentous and non-filamentous algae. Filamentous algae are composed of long green hair-like fibers. During the spring and fall lakes may appear greener as a result of green algae present in the water column during lake turnover.

In cases where there is an abundance of nutrients algae can reproduce to become both a nuisance and a water quality issue (i.e. an algae bloom). An algae bloom is an accumulation of algae forming a dense mat at the surface. Blooms are a natural occurrence in many lakes throughout the summer depending on the weather and water quality conditions.

Blue green algae blooms affect some lakes in the Cataraqui Region. These algae (cyanobacteria) can form extensive blooms within the surface and water column. Blue-green algae blooms often look like spilled paint or pea soup, but can vary in colour from olive green to red and may appear to form gelatinous masses within the water column. Some cyanobacteria contain toxins that are dangerous for human and animal consumption. If a bloom is spotted, always assume there are toxins present prior to further examination from the Ministry of Environment and Climate Change. Avoid swimming, inhaling, or ingesting the water, as toxins may cause itchiness or irritation. Dogs are particularly susceptible to becoming ill from toxic algae.
• Use phosphate-free products
• Maintain septic systems
• Reduce fertilizer use near water
• Read more about blue-green algae: [www.ontario.ca/page/blue-green-algae](http://www.ontario.ca/page/blue-green-algae)
• Contact local Health Unit: 1-800-268-1154
• Report blue-green algae to the Ministry of Environment and Climate Change