

**WHITE LAKE PROPERTY OWNERS ASSOCIATION
SUMMARY OF ACTIVITIES IN THE PANDEMIC
2021-2022**

The White Lake Property Owners Association managed to carry out its functional duties in spite of the continuance of the pandemic.

The Buoy program

Our lake is 22 square kms with 100 kms of rocky shoreline. The buoy program is essential for the safe operation of powered vesels. Our WLPOA volunteer sets and retrieves over 40 marker buoys every year. He also mends any that are damaged. This is a great service to the boating community.

Lake Partners Program

The WLPOA Environmental Committee continued the work of sampling for the LPP (Lake Partners Program). This involves collecting water samples, Secchi and temperature readings at nine stations from mid May to mid October. In addition to the LPP program the Environmental Committee augments the collecting of temperature and secchi data at the end of each month from May to Sepember at all 9 stations.

Plankton & Algae Bloom Survey

A four metre vertical sample of plankton collected at deep water stations for each of the 20 sampling days allows us to monitor the cycles of phytoplankton and zebra mussel veligers.

Algal Bloom Watch

An intermittent Algal Bloom Watch continues throughout the ice-free months. We note the increase in filamentous algal growth that occurs in early summer months. We also track the occurence and duration of cyanbacterial blooms. When observed they are reported. Blooms have become a regular occurence from mid-September through October.

Loon & Cormorant Watch

We use our sampling opportunities to record a count of loons and cormorants.

WHITE LAKE PHRAGMITES PROGRAM

WLPOA members have participated in an annual harvesting of phragmites on County Road 24. This large cell poses a major risk to nearby wetlands on Lowney Lake and Pickerel Bay. With assistance from Lanark County Public Works the WLPOA community worked to curtail the further spread of phragmites from 2017 to 2019. Although covid restrictions impinged on this work since 2019, Lanark County adopted new management plans. They harvest and remove phragmites at multiple times of the year using remote-control tracked machinery. In 2021 our Aquatic Plant survey identified shoreline locations of native and invasive phragmites. Based on this information control measures were tested on 2 lake-front phragmites cells in 2022. This work formed the basis of 4 special reports prepared this year. (See below).

HOW WE USE THE DATA WE COLLECT

During the winter months we prepare reports for distribution to anyone taking an interest in these things.


BULLETINS 2020-2021

Short bulletins have proven popular with our lake residents. In 2020-2021 the following bulletins were posted:

WHITE LAKE PRESERVATION PROJECT

White Lake Loon Survey and Wildlife Observations
June 27 to July 4th, 2020
Joyce Dehman and Bob Corntine

Because of the ongoing Covid-19 pandemic, boat traffic was relatively light on White Lake. The weather was almost all week long and so we had ample time to complete our observations. This year, it was not only humans who were being as cautious these. The loons on White Lake were on their own finding with a very serious issue.



As we first setting on the lake, it quickly became evident that 2020 was a difficult year for loons. There were fewer adult loons to be seen and very few chicks.

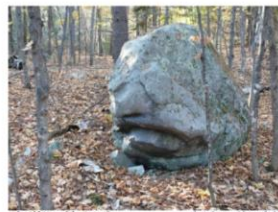
An article appearing in the Ottawa Citizen reported that the issue which resulted in poor loon reproduction was an infestation of a species of black fly (Simulium annulatum) which only affects loons and not humans. Dr. Froy, a lake researcher from California said that these black flies are "more in May, when the adult fly needs a source of blood in order to reproduce. And chicks of the fly are smaller than the adult fly (the loon) even around such time, just as they are with us on eggs. In years when fly numbers are low, the loons get up with it. But in years with many flies, loons can be driven off their nests and the eggs don't hatch. It has been a dreadful first round of events for most breeding pairs". The article further states: "Typical pairs in the study were abandoned

Photo credit: Joyce Dehman

WHITE LAKE Projects: Ontario Landfill & Environmental Education

ENVIRONMENT BULLETIN
Central Originator and David Overholt
January, 2020

Glacial Erratics



"The Old Man of the Forest"

photo by David Overholt

WHITE LAKE PRESERVATION PROJECT

ENVIRONMENT BULLETIN
Central Originator and David Overholt


Gypsy Moth Infestation

From your stroll through the woods over the last two days or so, you would have heard what sounded like very light rain falling on leafy trees. But the rain was falling not from the sky but from the leaves of the trees. It was the sound of thousands of caterpillars chewing on tree leaves, but of a specific year of gypsy moth larvae drooping below their web in the forest floor, your deck, or at the. These droppings are called frass by entomologists.

The gypsy moth is an invasive species native to Europe and Asia, and introduced to North America in the 1800s. Since that time, they have spread from the British west and now are common in western Canada. They were first detected in Ontario in 1974 with major defoliation events occurring starting in 1978.

Gypsy moths have a varied diet and there are a number of tree species including oak, birch, aspen, sugar maple, American beech, white pine and blue pine. Although they prefer oak trees, these moths will eat over three hundred species of trees and shrubs.

Gypsy moths are a serious pest to trees. The larvae chew holes in leaves and can completely defoliate an entire tree. During severe outbreaks, trees and shrubs are completely defoliated. This is capable of producing a saw stop of leaves, but tree growth is limited and weak or stressed trees are not immune.



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ENVIRONMENT BULLETIN
Central Originator and David Overholt

Double-Crested Cormorant Count

The double-crested cormorant (*Phalacrocorax auritus*) is a member of the cormorant family of seabirds. It is found in near rivers and lakes as well as in coastal areas, and is widely distributed across North America. In the Great Lakes, it is a native species in Ontario including White Lake. Measuring 70-100 cm (28-39 in) in length, it is an all-black bird which has a small double crest of black and white feathers in breeding season. It has a bare patch of orange-yellow facial skin. Five ophichthys are recognized. It usually eats fish and catches its prey by swimming and diving. Its feathers, like those of all cormorants, are not waterproof and it must spend time drying them out after spending time in the water. Once feathered by the use of DDT, the numbers of this bird have increased markedly in recent years (Wikipedia).



When large numbers of cormorants congregate in a roosting or nesting area, their droppings can kill trees and other vegetation. They also compete with loons and other fish-eating birds for food. For this reason, the cormorant has been hunted since through much of the range as well as the Great Lakes. However, which also most commonly, and destroy patches of forest and other natural resources. The cormorant does not support the killing of cormorants because they are a natural species to White Lake and are not present in numbers warranting action.

Cormorants have been using White Lake for many years. However, their numbers have always remained small. In recent years, we have noticed that the White Lake population of cormorants may be increasing. As part of our water quality monitoring program, we decided to start monitoring cormorant numbers on White Lake. From a week wide view


WHITE LAKE Projects: Ontario Landfill & Environmental Education

ENVIRONMENT BULLETIN
Central Originator and David Overholt
February 21, 2020

It's Our Fault!

As we stroll out of our cottage or residence towards the lake, how often do we think about the very rocks beneath our feet? What are they? How did we get there? How did they get there? Although the story of Lantz Highlands starts about 4.5 billion years ago when the earth was formed, it's perhaps better to focus on the more recent geological events which led to the formation of what we see today.

Fast forward to a mere 500 million years ago. By then there was still a bit of geological activity in our region, and Ontario was being stretched and uplifted leading to the formation of the Ottawa Valley. At that time, many cracks formed in the earth's crust including some in the White Lake area.



WHITE LAKE PRESERVATION PROJECT

ENVIRONMENT BULLETIN
Central Originator and David Overholt


E. coli

What is E. coli?
Escherichia coli, commonly called E. coli, is one of the most common species of fecal coliform bacteria. It is a normal component of the large intestine in humans and other mammals. There are many different strains of E. coli, most of which are harmless or even beneficial. Some strains, however, can make you sick. To all sorts about our million E. coli cells per gram of feces in our guts, and if you are healthy, some of these are capable of causing gastrointestinal illness.

Why do we test for E. coli?
When E. coli is found in water, it is evidence of sewage or animal waste contamination. Although, on its own, E. coli is not likely to cause illness, it is very easy to culture in the lab making it useful indicator for other microorganisms, pollutants or toxins which are much more difficult to detect and quantify.

How and when does E. coli get into a lake?
Even in isolated lakes, it is common to find very low levels of E. coli in the water. The source of the E. coli can be from lake sewage or runoff from the lake. From old animals and E. coli growing in soils near the shoreline. When there is a rain event, some of this watershed E. coli is washed into a lake.

Which larger and potentially dangerous levels of E. coli can enter a lake from upstream lakes or rivers which are used by farm animals, or by discharge from, for example, sewage treatment plants. An additional source is from faulty septic systems.



WHITE LAKE PRESERVATION PROJECT

ENVIRONMENT BULLETIN
Central Originator and David Overholt

Green Algae Bloom on White Lake

In recent days we have received a number of enquiries and have seen some social media posts on the current on-going green algal bloom on White Lake.

In order to assess the extent of this bloom, we sampled the occurrence of this bloom over a large part of White Lake. We covered the entire shoreline of White Lake north of Fish Creek in order to present a 'snapshot' for June 20, 2020 of algal bloom locations. We also collected samples of each lake for microscopic examination. Below is a map of the survey area.

We were not able to examine the entire shoreline of White Lake (1-2 km) due to time constraints, and to contact reports on other areas of the lake, in particular Hayes and Rose Bays. The Canal and the White Lake Village Basin.

Fluorescent green algae of the type we are seeing in the lake has been resident in the lake for likely a good part of the existence of White Lake. Similar algal blooms have been reported recently in the area, in particular in the Adams Canal, so the bloom in White Lake is not an isolated event.

Algal blooms when conditions are right for its rapid and uncontrolled growth. These conditions include the presence of excess nutrients (phosphorus), favourable water temperature and clarity, moderate and the absence of wind and waves. For White Lake, the presence of other animals in an additional factor promoting the growth of filamentous green algae. These animals lead to concentrated nutrients from open water to the shoreline area where filamentous algal blooms occur. The severity of the algal bloom resulted from the run of the above factors can be exacerbated by the removal of nutrients from areas of shoreline which have been de-forested or cleared in such a way that nutrients can enter the lake unimpeded by the presence of trees and other natural shoreline vegetation which prevent nutrients from entering the lake. The map below shows the results of the survey:




WHITE LAKE Projects: Ontario Landfill & Environmental Education

ENVIRONMENT BULLETIN
Central Originator and David Overholt
July 13, 2020

White Lake: Myths and Maps

Over the years we have heard cottagers and residents of White Lake breathe in the suggestion that the lake is artificial, created when the first dam was built in 1849. In one publication, the author states that "before it dam on Fisher Creek was constructed it resulted in the water levels increasing in three previously small interconnected water bodies", and thus forming the lake as we see it now.

We do not have a question of the dam as it was an dam, however the photo below shows the present day concrete structure in 1978.



© S. Bensch, A. Bensch, A. Bensch, and D. Overholt of the White Lake Study Area, Ontario Ministry of Natural Resources, Longpoint Ontario District Office, 2010

WHITE LAKE PRESERVATION PROJECT

ENVIRONMENT BULLETIN
Central Originator and David Overholt

Lake Foam


Every year in late summer and early fall we can see large white foam protruding in the wind across the lake. Sometimes there are extremely large accumulations of foam along the shoreline.

Although it is possible that it is pollution, for White Lake the foam is not to be very visible. We know this because pollution from detergents produce a foam which dissipates quickly and often smells unpleasant. Foam from detergents would also be observed throughout the year and not exclusively at the end of summer.

Natural lake foam is long lasting and even when there is no wind, often results a foamy surf. This is the kind of foam we have on White Lake which is good news!

What is lake foam and where does it come from?
Lake foam is a natural phenomenon that occurs on many lakes. Foam is produced when organic matter from decaying plants and plankton in the water and sediment decompose releasing compounds such as fatty acids. These compounds readily dissolve in water and act to reduce the surface tension of lake water to such that the same wave does, lower the foam.

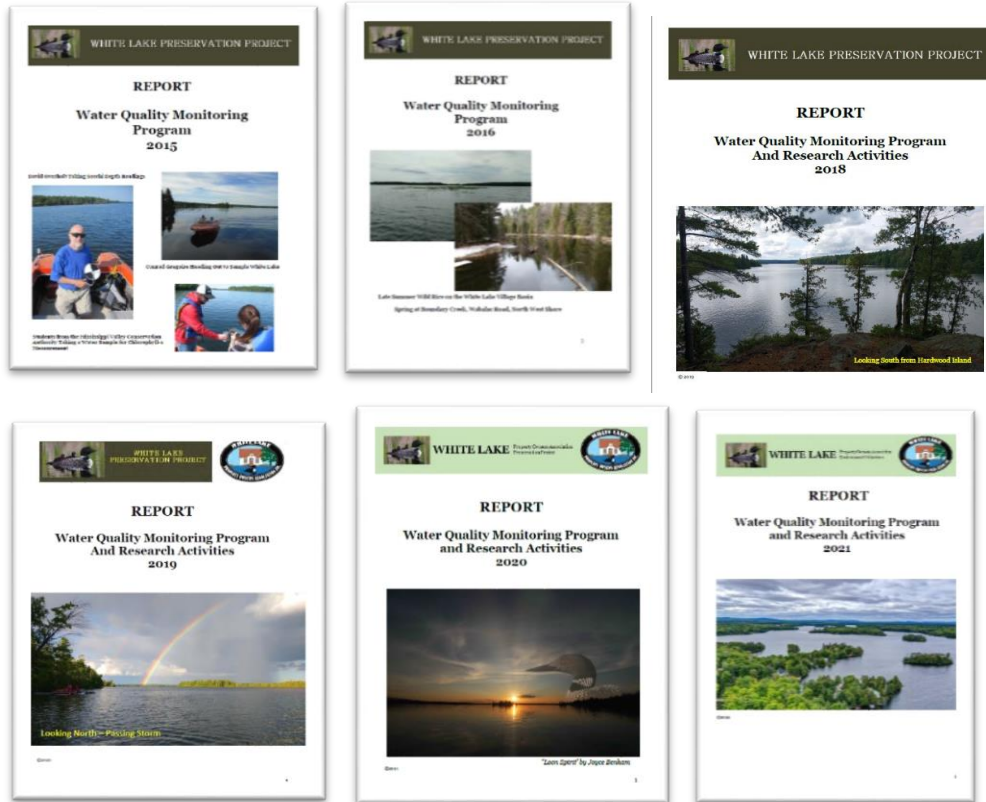
Chemists call this class of compounds surfactants (short for surface active agents). Like soap, these compounds are soluble in both water and oil and can concentrate on the surface of the lake because they are lighter than denser than water.



Water Site: August 20, 2020

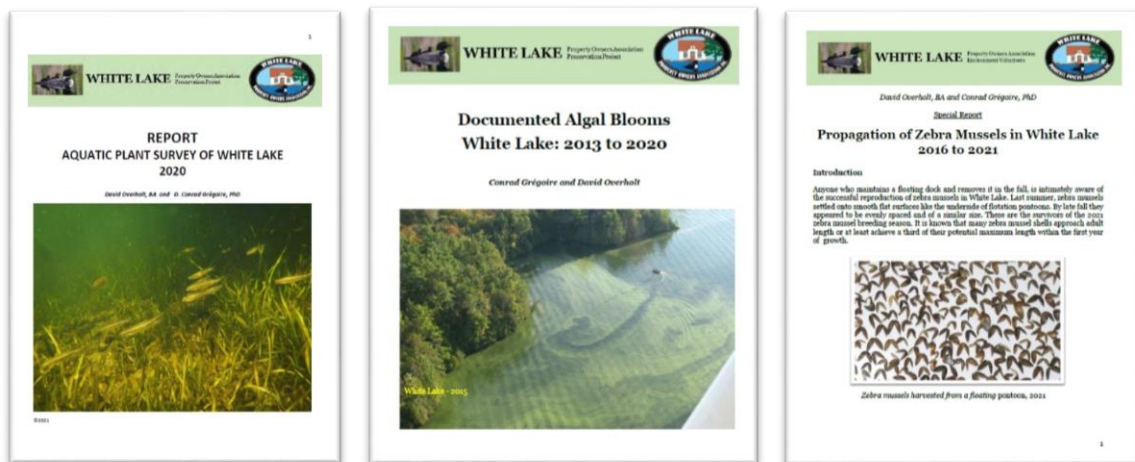
2020-2021 Annual Water Quality Reports

These reports produced every year since 2015 form the heart of our work. They allow us to characterize changes in the lake and compare them with previous years. We have been able to follow the impact of zebra mussel on lake phosphorus, the relative influence of ground water and a recent anomalous fluctuation in phosphorus levels. The latter is a possible effect from the recent Gypsy Moth invasion.



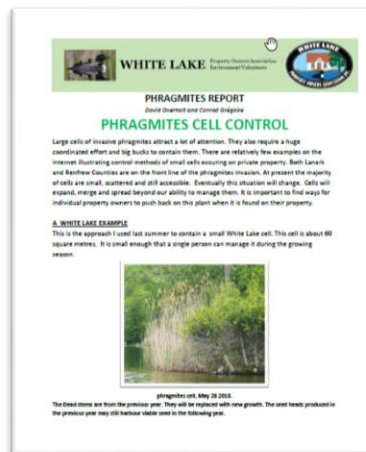
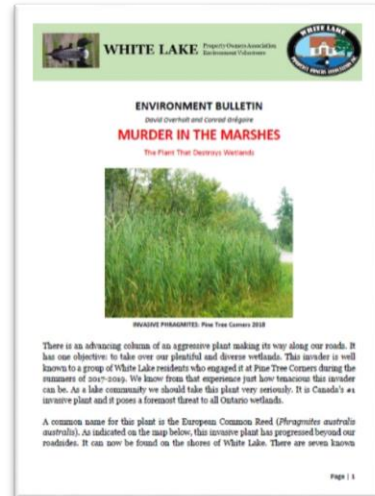
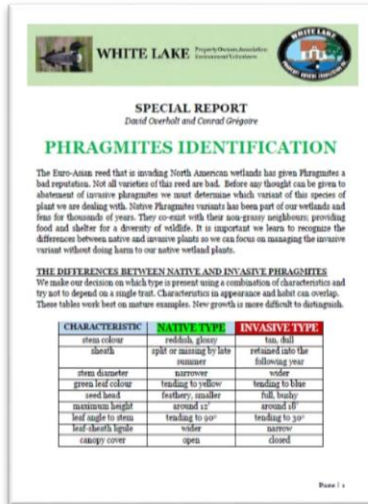
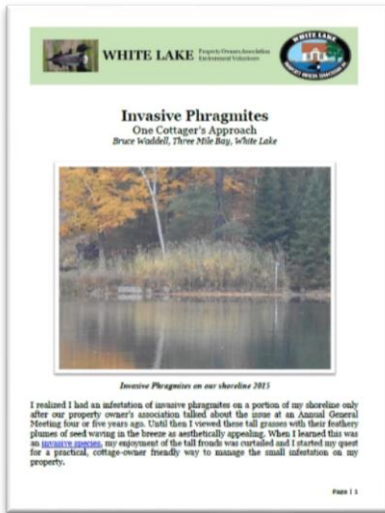
Special Reports 2021-2022

In spite of the Covid pandemic we managed to report on several special topics:



White Lake Invasive Phragmites Reports 2022

Based on our Aquatic Plant Survey conducted in 2020 we now have a good idea where both native and invasive phragmites can be found on our lake. This year we published four special reports on our experience controlling phragmites cells in 2021 on two lakefront properties.



All of our reports are available for download on our website:

<http://www.wlpp.ca>

WHITE LAKE SCIENCE AND INFORMATION WEBSITE

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