



**WHITE LAKE** Property Owners Association  
Preservation Project



## ENVIRONMENT BULLETIN

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# Pollen Storm

Every year from mid-May to mid-June I find myself standing at the end of our dock on the western shore of White Lake looking South. What I see is a yellowish cloud over Sunset Bay which is heading in my direction. Anyone who suffers from allergies has felt the oncoming storm for some time. Dread is in the air!

The oncoming pollen cloud is also a reminder that it is a good time to close the cottage windows and to cover, if possible, any patio furniture.

Much of White Lake is nestled in forests which feature spruce and pine along with deciduous trees such as birch, oak and maple. All of these trees produce pollen in the spring.

The annual pollen storm can be mild or more severe depending on the weather. Cooler temperatures can extend the duration of the storm and rain can function to cleanse the air of pollen and deposit it on land and water.



As far as trees are concerned, one unintended consequence of their reproductive cycle is the loss of huge amounts of pollen to the lake. Some of the pollen ends up floating on the surface of the lake, while most of it slowly sinks to the bottom. On the way down to the sediments, pollen grains become food for small fish and other creatures and also provide added nutrients in support of primary algal growth, the basis of the lake food chain.

What we see on the surface can be easily mistaken as an algal bloom. The wind can act to concentrate the pollen in sometimes very long 'lines' on the surface of the lake, in much the same way we see lake foam lines developing in the fall.



Eventually, the floating mass of pollen will begin to decompose giving off foul odours in the process.

Once pollen sinks and becomes part of the sediments at the bottom of the lake, some of it will decompose and release nutrients, including phosphorus. It has been reported that for some lakes, as much as 10% of the phosphorus entering the lake ecosystem is derived from pollen.

Because there is usually a lack of oxygen in sediments, some of the pollen will be preserved in the sediment. In fact, sediments thousands of years old can be recovered by coring.



These cores can be divided into slices of one centimetre or less. The slices can be precisely dated using radiocarbon dating techniques, and analyzed for their preserved pollen content. Scientists (Paleolimnologists) can then use this information to reconstruct the forest cover and even the climate over thousands of years.

A recent study of sediment cores from White Lake, which we participated in, found that the lake is 'filling in' at the rate of about 1 millimetre per year. This means that in about 3,000 years, you will be able to take a walk across Three Mile Bay, in the summer, without getting wet!