



Update – February 2019

Friends of the Muskoka Watershed have launched Canada's first non-industrial (residential) wood ash (**NIWA**) recycling program, designed to solve the calcium decline problem in Muskoka's forests and lakes.

The **ASHMuskoka** project is a unique collaboration between scientists, municipal officials, and property owners, including the region's maple sugar producers.

"We've known for a long time that calcium is a key factor in our forests and waterways and wood ash is an efficient way to return calcium back into the forest and from there into the waterways," explained Norman Yan, one of the nation's leading freshwater biologists and the chair of Friends of the Muskoka Watershed.

In the first two years of study, five to ten tonnes of ash will be spread in test plots located in sugar bushes in Muskoka. (Sugar maple trees are particularly prone to calcium loss and tend to respond very quickly when calcium levels are restored.) Graduate students and research scientists will monitor the sites, studying the impact of the ash on tree growth, bird populations, water quality, and a wide range of other factors. In the final year of the study, Friends of the Muskoka Watershed aims to have 1,000 Muskoka residents share up to 100 tonnes of ash (believed to be 1/3 of the annual wood ash production in the District).

The ultimate goal is to have a **province-wide** ash collection system, sufficient to supply hundreds of tonnes of ash every year.

Currently, Friends of the Muskoka Watershed are recruiting 100 to 200 Muskoka residents who are willing to donate their ash. They will be partnering with the District Municipality of Muskoka to set up collection of the ash.

"In the meantime," said Yan, "if you want to contribute your ash to help save our forest, please stockpile it for now and email us at ASHMuskoka@fotmw.org for further information."

Find out more about wood ash and the project, on the next page...



Where did all the calcium go?

A century of acid rain has flushed calcium from the soil and from the lakes and rivers. Most of Muskoka's lakes have lost 25% to 50% of the calcium they need. Even though acid rain has largely stopped, without intervention it will take centuries for calcium levels to rebound.

Why is this a problem?

All life needs calcium. In Muskoka, forests are about 1% calcium by weight, and when calcium isn't available, the trees and other forest plants can't grow as quickly or efficiently. Many aquatic creatures – particularly hard-shelled creatures like crayfish, and molluscs – are even more dependent on calcium. Crayfish diversity in many lakes has already declined by 25%. When trees aren't growing as quickly, they can't capture carbon as efficiently, impacting their ability to help fight climate change. In lakes, the tiny crustacea and molluscs are often filter-feeders, performing a vital function in cleaning our waterways. Just one group of species filters the entire volume of Lake Muskoka every week in the summer.

Is this a problem everywhere?

No. The problem is most severe in areas with thin soils, granite bedrock, and a history of being exposed to acid rain. Muskoka and other parts of central Ontario are uniquely positioned to feel the brunt of this problem.

What will wood ash do?

Wood ash is about 1/3 calcium by weight, and also contains many other key nutrients like potassium and magnesium. Much of it is absorbed into the soil and quickly taken up by trees and other plants. What isn't absorbed by the plants will make its way into the Muskoka lakes.