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Defending Our Urban Forest from the Emerald Ash Borer

Michelle Bourdeau

We knew it was coming; a dark shadow creeping its way from Michigan, hopping the border into Ontario, leaving millions of ash (*Fraxinus sp.*) trees dead and many once tree-lined streets barren. We kept hoping that a solution would be found before the Emerald Ash Borer (EAB) could reach the Greater Toronto Area, but by 2008 it was too late. The EAB had been detected in Toronto and we had to find a way to deal with the impending loss of 860,000 ash trees in this city.

Before the EAB hit the streets of North America, green ash trees (*Fraxinus pennsylvanica*) were seen as a great urban tree that could withstand many of the stresses faced in these harsh environments, *and* it was native. Many professionals were adopting it as an alternative to the hardy but invasive Norway maple (*Acer platanoides*) so it was being planted heavily both as street trees and in backyards. At LEAF (Local Enhancement & Appreciation of Forests), green ash was our most popular tree for many years through our subsidized Backyard Tree Planting Program. As a non-profit organization dedicated to the protection and improvement of the urban forest, we had to come up with a plan of action.

The first step was education – we knew we had to get the word out to residents that the EAB was here and what the implications would be. However, before we could start spreading the word, we needed to make sure we understood the context of the EAB in Toronto and that we weren't duplicating any

efforts. We connected with City of Toronto Urban Forestry staff and other experts to make sure we were tackling the issue in complementary ways by sharing information and ideas. Additionally, it was one thing to tell the general public about the issue – that all of their beloved ash trees would soon be dead – but we also had to empower them with information about what they can do in the face of EAB.

The EAB kills trees quickly. It is estimated that an ash tree will be dead within 2-3 years of initial infestation. The adult beetle lays its eggs in the crevices of the bark in late May and June. When the larvae hatch, they tunnel underneath the bark, cutting off the flow of water and nutrients within the tree. The larvae over-winter under the bark, pupate in the spring and emerge again as adults between May and July of the following year. Signs of infestation include yellowing leaves, thinning crown, dead branches, cracks and splits in the bark, and holes from woodpeckers feeding. The most telling sign that the EAB has infested your tree are the D-shaped exit holes left from the adult beetle emerging from under the bark.

In 2011, TreeAzin® was registered and approved for use in Ontario and was the only treatment available to protect existing ash trees. This pesticide is derived from the Indian neem tree seed and is injected directly into the conductive tissues of the tree every two years. With this development, residents in Ontario finally had a way to save their mature ash trees.



LEAF's greatest strength was working with individual homeowners and community groups through various tree-related planting, education and stewardship programs. We were well-situated to reach out to these communities to spread the word about the EAB and the ways that individuals could take action to protect their own trees as well as the ones in their neighbourhoods. Aside from educating people about this threat and the anticipated outcome, the messaging focused on two specific actions: plant new trees and treat existing healthy ash trees.

With the understanding that Toronto could lose a significant proportion of our tree canopy (one estimate placed it at 8.6%), we had to start planting new trees immediately; and not just where we anticipated losing an ash tree, but anywhere with plantable space. This messaging put the responsibility on everyone to defend the urban forest, not just those people with existing ash trees. In addition, we stressed the importance of planting

© 2013 Paula Jacobs/ LEAF a diverse selection of native species - the translation being, "If your street is lined with maples, plant an oak, or, if your street is lined with oaks, plant a hackberry, etc." Through LEAF's subsidized Backyard Tree Planting Program or the City's free Front Yard Tree Planting Program, it was easy and inexpensive to do your part.

For those people with existing ash trees, we provided them with options regarding whether to treat or remove their ash and replant. For those with healthy mature trees, treatment was always the most economically attractive option and could save some people thousands of dollars, not to mention a wonderful tree. The City of Toronto also had a budget to treat many of the publicly-owned ash trees lining residential and commercial streets, as well as parks, and were taking suggestions regarding good candidates for treatment. If a resident had an ash tree out front that was important to save, they could put a request in to the Urban Forestry department or apply for permission to treat it themselves.

We started our campaign by sharing this information through client communications, newsletters and social media. However, we quickly realized that despite having a network of thousands, we live in a city of millions and we needed more voices. And thus the EAB Ambassador Program was conceived.

With input from City of Toronto Urban Forestry staff and support from Live Green Toronto and Ontario Power Generation, the program launched in 2011. In partnership with York Region, the program expanded to those nine municipalities north of Toronto in 2013. The premise for the program was quite simple – concerned individuals sign up to become EAB Ambassadors and become the voices we need to spread the word throughout Toronto and York Region.

The EAB Ambassador program is similar to “train-the-trainer” programs – LEAF provides intensive training workshops, which for many attendees was a crash-course in basic tree biology and ash tree identification. We also created an EAB Kit which included all the information and materials they might need to be able to share this messaging with others. Ambassadors pledged to spread the word through a variety of networks in a variety of ways:

- Online through their social networks (Facebook, Twitter) or by email to friends and family
- Distributing informational postcards – events, coffee shops, community centres or dropping them in mailboxes
- Going door-to-door to talk to their neighbours and leave informational materials
- Giving a brief presentation at a community, school or club meeting



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The key was that LEAF provided materials, support and training so that Ambassadors could easily accomplish all of the above. Ambassadors that wanted to put in extra effort in their community were also given tools to organize bulk replanting, treatments or removals in their neighbourhood. Within the first year we had recruited 175 EAB Ambassadors who reported spending a total of 400 hours reaching out to their communities in the various ways mentioned above.

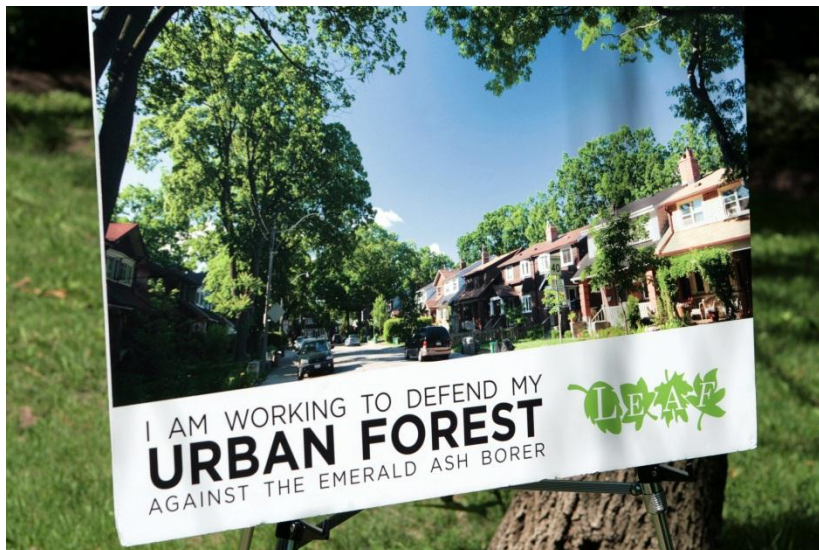


For 2013, we've placed an emphasis on door-to-door canvassing and community presentations. The face-to-face interaction that accompanies these methods helps to reinforce the severity of the issue and promote discussion. By partnering with local organizations, councillors and other green groups, we're organizing canvassing events to provide support

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and foster a sense of community between the Ambassadors. In our first week, we reached over 500 households in Toronto.

While the EAB infestation in Toronto will soon run its course, the crisis has created an acute awareness of the value and the vulnerability of these living organisms that make our cities a more livable place. The short-term implication of EAB will unavoidably be reduced tree canopy and high economic costs. Yet we hope that in the long-term, there will be lessons learned, not only in the importance of biodiversity and investing in urban forest management, but also a heightened awareness and appreciation by the general public of our urban forest.



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