

The Ecological and Community Significance of the Pollinator Preserve

In the spring of 2009, the AMCC undertook to create the first pollinator preserve in this region. The site for this project is the former dog park along the Grand River just north of the AMCC clubhouse. Most AMCC members are generally aware that this club project has significant ecological importance, but are not fully comfortable with all of the biological details. The fact that the concept has been a bit tough to grasp, however, hasn't stopped many members from volunteering for numerous work parties. In order to follow much of what has been going on in this piece of land, though, we should all be clear on the ecological context of this project.

Let's start by discussing what pollination actually means. It is the transfer of pollen from one flower to another flower or plant. All flowering plants must transfer pollen among flowers from different plants in order to maintain gene flow within that plant population. Even plants that are predominantly self-pollinating (such as many garden vegetables) usually cannot set fruit without this process. More precisely, during pollination, pollen grains must move from the anther (the male organ) to the stigma (the female organ).

Some plants (such as corn, ragweed and pine trees) rely on the wind to disperse their pollen. But most flowering plants have evolved a reliance on insects for this function. In return, those insects that fulfill this pollination role also rely on the pollen or nectar from the flowers on those plants for food. They are guided to these food sources by the colours and aromas we have come to appreciate in both wild and garden flowers. The most effective pollinators, bees, have evolved a complete dependence on floral products, both nectar and pollen, throughout their lives.

It is important to note here, that the native wild bees are not a significant threat to sting. Although some (mainly bumblebees) are capable of quite painful stings, they are not inclined to do so unless they are severely threatened (such as being sat upon). That does not mean that the occasional hornet nest will not turn up in the preserve just by chance. But one is much more likely to encounter such hornets around trash bins or abandoned pop cans in the city.

So why do these pollinating insects need a preserve? Unfortunately, research has shown that many of the most important pollinators, particularly bees, are threatened with extinction, or have at least been undergoing major population declines. One of the contributing factors in this decline is lack of food. Some might ask why bees are not better kept in bee hives, rather than in a pollinator preserve. Only the European honeybee can be kept in managed hives, although they too can live as feral populations. Almost all other species live exclusively in natural habitats and do not benefit from any man-made shelters. There are hundreds of bee species in Ontario, as well as numerous species of flies, beetles and butterflies that all feed on pollen or nectar. Consequently, getting to observe and know your wild pollinators can provide the same type of naturalist experience that bird watching entails.

With all the green spaces and public walkways around Cambridge, why do we need a pollinator preserve? While the vegetation bordering those public lands certainly offer significant floral forage, the plants on these sites are often non-native, and the variety of plants is usually quite limited. The preserve will include a wide range of flowering trees and shrubs, many of which have already been planted. It will also include cells dedicated to collections of native wild ground level flowers. A cell is created by planting through circles of mulch-covered cardboard so that other less desirable plants are unlikely to invade and take over the plot. Two such cells were

planted this spring and two more have been prepared for planting next year. All of the plantings will consist of native species. Since bee populations are seasonal, with different types of bees spread out over the summer, plants are being selected to maintain some form of continuous floral display from spring until fall.

It is important to understand that this site is not a garden. It won't have the manicured orderly look of an ornamental flower plantation. Instead, it is a natural habitat. It will receive no chemical additives and, other than some vigilance against non-native invasive species, it will not be dependent on any regular manual weeding. One of the most promising advantages of this site for pollinators is expected to be its longevity. We think partly because of this project, this site should never be taken over by development or cleared for any sort of recreational use. That will allow populations of many types of pollinators, as well as other beneficial insects, to build up to viable levels. As a result, pollinators, including some species that are not now commonly seen in this area, can spread to surrounding lands and provide pollination to a wide range of both wild and cultivated plants.

Besides the actual conservation role, the preserve will provide several other benefits to the community. The showcase of the project will be a public education display. Walkways through the preserve will allow visitors to watch bees and other pollinators at work on the flower patches and will also lead visitors to the education centre. Another part of the education process is that the trees and shrubs will have identifying labels. An additional aspect of this project is that, since the site borders the "r.a.r.e." research properties in Blair, it could attract research projects, or at least student projects.

Although this concept is relatively new, we are not the only group that has tried to establish such a site. Many communities are looking at creating such habitats. Nevertheless, feedback to date indicates that our project is among the most advanced efforts. Big challenges remain, however. The biggest and most costly will be the creation of the education centre. Fund-raising for this component is already underway. But the same commitment remains that no direct funding from AMCC will ever be sought.

The AMCC membership has demonstrated that taking on this project is a natural fit to the community spirit of the club. The progress that has been achieved to date on the preserve was mainly possible because of the volunteer work parties. The support from the city of Cambridge and other regional organizations has also been a major factor in this progress, both in terms of material and assistance, and in the guidance and planning phases. One of the prime motives behind the launching of this project was the search for a fitting legacy to the club history and to past members and their loved ones. Progress on the preserve to date suggests that this achievement should in itself be a significant club legacy, as well as an important nature conservation and education tool for Cambridge.

Jim Dyer, December 2010