

BAXTER CREEK WATERSHED:

2023 WATERSHED FORUM AND ANNUAL GENERAL MEETING

Building on the success of last years community Watershed Forum we are planning another Watershed Forum for this year tentatively scheduled for **Monday, September 25th, 2023**. Event details including tables and speakers to be announced on our website at www.baxtercreekwatershed.org.

Baxter Creek Watershed Alliance 2023 Annual General Meeting (AGM):

We are planning to host our AGM this September just after our Watershed Forum. This will be an opportunity for local community members to apply or be invited, nominated, and elected to join our Board of Directors. Do you have an interest in conserving natural resources in your watershed and community? Do you have skills which can benefit our growing federally incorporated non-profit? Consider apply as a voting member of our Board of Directors. Stay tuned for more details!



MNRF Fishing and Recreation Area; Courtesy: Kirk Hillsley, 2022

“COMMUNITY CONNECTIONS”: FLEMING GEOCOMMUNITY 2023 PROJECT

This spring we completed our second Fleming College GeoCommunity project through the Geomatics Program at in the Fleming School of Environmental & Natural Resource Sciences. Called the “Baxter Creek Watershed Community Connections” the project focused on delivering a series of mapping products for engaging the local community in conservation. To see these new free and open products visit the Baxter Creek Watershed Hub at <https://baxtercreekwatershed.org/baxter-creek-hub>.

The project team consisted of Jordan Tishler (Project Lead), Sam Pethick (Lead Cartographer), and Kris Lebert (Lead Data Manager).

Included in the deliverables was an updated Baxter Creek base reference map in downloadable and online formats, an updated thematic map series, and two volunteer-based mobile data collection tools which community volunteer “citizen scientists” can use to collect environmental data for the watershed such as breeding frogs and toads, as well as natural and cultural heritage features. If you or someone you know is interested in volunteering to help collect local environmental data for our records, please contact us via email at baxtercreekwatershed@gmail.com.

TRENT COMMUNITY RESEARCH CENTRE: 2023 COMMUNITY-BASED RESEARCH PROJECT

We are excited to announce that a research proposal submitted by BCWA has been selected by the Trent University Community Research Centre for a 2023

School of the Environment Community-based Research Project. The project will be a benthos study which will start in September by student Mariah Shaw. Benthic ecology is the study of organisms (benthic-invertebrates are bottom dwelling aquatic invertebrates) that make up bottom communities (sediments, aquatic plant communities and rock outcrops) in lakes, streams, estuaries and oceans, to determine environmental health and conduct environmental impact studies. Benthic data are key indicators of the water ecology conditions.

“Let's steal away in the noonday sun, it's time for a summertime dream.”

— *Gordon Lightfoot*

IN MEMORIAM

On March 25, 2023 we lost our good friend, colleague, and director, David Nathaniel Webster, who passed away with family at his side and listening to Gordon Lightfoot tunes. Dave worked for many years as a hydrogeologist for the Ministry of Natural Resources and Forestry and previously in the private sector, including running his own business for several years. He did exploration work in El Salvador and Labrador, work that fit well with his love of travel.



David was a member of the BCWA Board of Directors and one of our founding members. He was a steadfast, humble, and generous individual who quietly contributed to the development of “watershed science” which he considered so critical to as a baseline for the growing community of Millbrook. In fact, our 2023 Baxter Creek Benthics Study was a proposal developed by Dave and submitted to Trent’s School of the Environment. We are fortunate to be able to carry on David’s work for the benefit of future generations of humans and wildlife in our watershed.

Dave had a lifelong affection for the outdoors and the rocks and minerals he'd find there. He enjoyed nothing more than sharing that love with family and friends on camping and canoeing trips and at the family cottage north of Kingston.

Dave was most proud of his three beautiful children, Keegan, Gillian and Everett. He was an involved father who embraced and supported his children's choices and interests. Dave is deeply missed by his loving wife of 28 years Rhondda Gillian Husband. They raised their children in Millbrook, where they soon built a close community of friends and renovated their century home.

Dave found new joy after leaving the MNR by taking up a teaching position at Fleming College, where he passed on his knowledge and love of geology to a new generation. His commitment preserving Ontario's geological heritage was reflected in *A Framework for the Conservation of Ontario's Earth Science Features*, a book he was both honoured and proud to have updated and contributed new sections to as part of his role at the MNR. Dave helped establish and volunteered for several years with the Millbrook Traditional Explorers camping club for local children.

DOG STRANGLING VINE!!!

“I am new to the area and I am shocked by the abundance of invasive species in and around my property.” – posted on a public Millbrook area Facebook page

There is an old saying: *“The road to hell is paved with good intentions”*. The good intentions of gardeners and horticulturists on the constant lookout for new and novel additions to the garden or for sale have resulted in the proliferation of many invasive plant species into the environment. In the following weeks, attention will be paid to some of these terrible interlopers.

Dog Strangling vine (DSV) is considered one of the worst threats to Ontario’s biodiversity. Anyone travelling to Toronto will see that both sides of the Don Valley Parkway are entirely covered with this plant – not other plants – native or non-native. Dog Strangling vine, also known as swallowwort, describes two highly invasive plant species - black swallowwort –*Cynanchum louiseae* [*Vincetoxicum nigrum*] and pale swallowwort - *Cynanchum rossicum* [*Vincetoxicum rossicum*) that originate from Eurasia and are members of the milkweed family.

Discovered as a rare plant on the steppes of the Ukraine, it was first introduced as an ornamental horticultural curiosity in the mid-1880s in the eastern United States and was widely admired and shared by horticulturists and gardeners. Even as late as the early 1990s, seeds were offered in mail order catalogues. Rumours have circulated that it may have been introduced to Ontario from the Experimental Farm in Ottawa, where the fluffy white seeds were being tested as possible life-jacket filler, but there is no supporting evidence of that. The Government of Ontario MNRF website on the subject of DSV indicates Dog Strangling vine was first found in Ontario in the late 1800s.

Its botanical name, *Cynanchum*, is from the Greek, *kyon* means ‘dog’ and ‘ancho’ to strangle, hence its common name, dog strangling vine, but there are no reports of it strangling a dog. However, the thick masses of intertwined plants can make it difficult to walk through.



Current range of dog strangling vine – range map courtesy of USDA website

Dog Strangling vine is now taking over this region and the problem is exacerbated by the close proximity of the 10,000 acre Ganaraska Forest where control measures were not implemented when it was first spotted and it has now overtaken large parts of the forest. The problem is so bad, a local horse-riding club dedicated workdays to cut down this invasive plant so trails within the Ganaraska Forest could be accessed on horseback. Traffic and trails within the forest has helped to spread this invasive plant well beyond its borders.

What is dog strangling vine? It is a herbaceous, flowering perennial vine with small maroon flowers that will grow anywhere in any kind of soil, drainage or light conditions.

It produces numerous distinct seedpods from August to October.

Each pod can hold up to 250 seeds. The seeds are dispersed by wind. **A stand of dog-strangling vine can produce as many as 32,000 seeds per square metre. Research indicates seeds have an 80% or greater**

germination rate. Dog strangling vine has a very large and persistent seed bank. Seeds can remain viable for long periods of time.



DSV in flower – photo Ken Towle (GRCA) - on the right seed pods – courtesy Ironwood Property Maintenance.

More identification photos and great information on this invasive including control measures (it is definitely here to stay) assembled by the Ontario Invasive Plant Council can be found in the following link:

https://www.ontarioinvasiveplants.ca/wp-content/uploads/2016/06/OIPC_BMP_DogStranglingVine.pdf

What this terrible invasive plant does:

Dog strangling vine populations are easily established in disturbed areas which then spread into adjacent undisturbed, habitats. It will grow anywhere, sun or shade, in any kind of soil and in any habitat except in a wetland. It is drought resistant and fire tolerant. In areas where a fire has occurred, studies found the plant colonies not only survived but increased.

Dog-strangling vine forms extensive monospecific stands and outcompetes native plants for space, water and nutrients. It creates heavy, dense shade. Its roots produce chemicals through allelopathy that prevent neighboring plants from growing. The altered soil chemistry may no longer support native plant species and will allow other invasive species to move in also.

Dense patches of dog-strangling vine suppress native tree seedlings, young saplings and groundcover plants. Dog strangling vine negatively impacts reforestation efforts by out-competing tree seedlings. It forms a thick dense intertwined mass that hinders the movement of animals. Dense stands of dog strangling vine reduce habitat for grassland birds including species at risk such as Bobolink and Eastern Meadowlark.

Deer and other herbivores avoid this plant leading to more grazing of remaining native plants, thus putting pressure on these populations. Livestock do not graze on it (even goats avoid it). Leaves and roots may be toxic to livestock. Plant-eating insects avoid dog-strangling leading to declines in insect populations for birds and mammals.

.....And the vine threatens the monarch butterfly, a species at risk in Ontario. Because this plant is in the milkweed family and monarch butterflies require milkweed species as a specific host plant, they lay their eggs on the plant. However, the larvae (caterpillars) are unable to eat this plant, and thus are unable to complete their life cycle and do not survive.

How to Control Dog Strangling Vine

The main objective is to reduce its spread by preventing plants from producing seed heads since each single plant can produce thousands of seeds, most which will easily germinate.

Mechanical methods:

1. If possible, if there are only a few plants, dig up the entire root ball and destroy the entire plant.
2. Mow or use weed eaters or hand cut plants at ground level. Garden guru Paul Zammit recommends cutting the plants below ground level if possible.
3. Some online advice states not to pull the vine upwards like one does for other weeds because supposedly this action breaks the roots causing more vines to spring up at the break. This has not been the case here in the Moraine garden; plucking small plants does seem to be a fairly good control measure.
4. For a large, infested area, cover the area with a tarp or plastic for at least two years. Newspaper as mulch in areas surrounding trees where often there are hundreds of tiny DSV seedlings and little or no other plant species has proven to be effective.
5. Collect the seed heads before they open. Garden expert Ed Lawrence recommends putting seeds of these noxious plants into paper bags, allowing them to dry out, then burning them in a fireplace or fire pit. An online website suggests soaking seeds for several days in alcohol or gas as an effective way to ensure that the seeds will never germinate – but disposal could be problematic! Another recommended method is to boil the seeds for about 10 minutes. This could be done on an outside fireplace (firepit) or a barbecue, gas stove, camp stove, whatever produces heat sufficient to boil the seeds. However, the easiest disposal method, employed here on the Moraine for larger quantities, is to place the seeds (or whole plants) in heavy-duty black plastic garbage bags, add water to soak well, close the bag and leave it in the sun for a few months. The resulting stew can then be safely disposed of in compost piles (or garbage) if allowed by your local municipality. Seeds can also be stored in water until they rot (several months).

Chemical methods:

While no one wants to use herbicides, sometimes a widespread infestation, especially on large rural properties leaves the application of chemicals as the only option to try and exert some measure of control.

The Ontario Invasive Plant Council and some other authorities recommend a strong solution of Glyphosate (22% solution) – sold under the name of Roundup which is available to homeowners. This herbicide works best when applied to small, emerged and vigorously growing plants between mid-June to just before seed pod development in late August onwards. A recent University of Guelph study found a product called Total

Wipeout, which contains ammonium salt of fatty acids (five per cent), which homeowners can also purchase at a garden centre or hardware store will control top growth for newly emerged seedlings but is not effective on mature plants. It is recommended these herbicides available to homeowners be used twice during the growing season. Unfortunately, both Roundup and Total Wipeout are non-selective herbicides which mean they kill any plants they come in contact with leaving sprayed areas to becoming re-infested with new DSV plants or other invasive plants.

NOTE: One can now find glyphosate-free Roundup, previously only available in Europe, in local hardware stores. This Roundup herbicide uses a very strong vinegar (acetic acid) solution as a weedkiller. Household vinegar is usually around 5% acetic acid; this weed killer contains double the concentration. Like glyphosate, vinegar solutions are also non-selective and will burn any plant it comes in contact with. It is best used on hot sunny days when weeds are already stressed. This herbicide is very strong and must be used with care. It can cause severe eye irritation and severe skin burns. The weeds may come back after a week or two (the root systems may not be killed off) and it must be re-applied. It may prove effective on tiny, baby dog strangling vine plants.

Ordinary household vinegar and stronger pickling vinegar used full-strength can also be used as weed-killer. An even more potent domestic weed-killer can be made by adding one cup salt to one gallon vinegar and a teaspoon or more of dish detergent. **However, any area sprayed with salt will permanently damage the soil and kill all living organisms in the soil.** This homemade combination recipe is only recommended for removal of vegetation from an area such as sidewalk cracks or gravel driveways.

There are more effective herbicides to deal with Dog Strangling vine such as Estaprop - a selective herbicide that will not harm grasses. Herbicides containing imazapyr - sold under the name Arsenal has proven to be very effective in field trials. The University of Guelph has recently begun screening herbicides to identify those which could be used by farmers and non-farm landowners. So far, Eragon LQ and Blackhawk are agricultural herbicides that have shown the greatest success in decimating Dog Strangling vine seedlings. However, these more effective herbicides can only be applied by licensed, certified professionals. Many lawn and weed care companies offer these services. Locally, Sean Gillen of Ironwood Maintenance 705-927-5105 (seangillen@nexicom.net) and in the Port Hope area - Bill Newell, who can be reached through the Northumberland Land Trust, are licensed applicators.

Bio-control:

Researchers found that in its natural habitat in the Ukraine, larvae of a specific moth (*Hypena opulenta*) help keep this plant under control. The caterpillars of this moth will feed on Dog Strangling vine. A research group led by Agriculture and Agri-food Canada released *Hypena opulenta* caterpillars in trial areas around Ottawa and Toronto in 2014. Before the caterpillars could be released as a control agent, stringent testing was conducted to make sure they would not feed on other plants, especially its relatives in the milkweed family; some of which are endangered. As soon as a panel of expert reviewers was convinced that the risk of *Hypena* attacking other plants was very small, the release was approved. It will take many years to see if this is an effective bio-control method.

Final note:

It is important for everyone - including municipalities - to put every effort into controlling and eradicating this horribly invasive plant. Dog strangling vine is listed as a noxious weed under the Ontario Weed Control Act and regulated as “restricted” under Ontario’s Invasive Species Act. As indicated in the official notice issued by Peterborough County in the June 2020 issue of The Millbrook Times, “Weed Control is Your Responsibility” noxious weeds must be destroyed on one’s property. If not, a municipality “may enter upon the said lands and have the weeds destroyed, charging the costs against the lands as taxes a, as set out in the Act. The co-operation of all citizens is earnestly solicited”.

“One must maintain a little bit of summer, even in the middle of winter.”

- Henry David Thoreau

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Baxter Creek Watershed Alliance (Corporation# 13483819) is a Canadian federal nonprofit corporation entity registered with Corporations Canada, located in the Village of Millbrook, Township of Cavan-Monaghan, County of Peterborough, Ontario, Canada.

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