



Message from the President

Stephen Heard

As the leaves fall around us, and we start to see our gardens go to sleep for the winter, it's a good time to take stock of what we accomplished over the summer. You've probably done that for your home garden; this Newsletter is one way we can do it for our Fredericton Botanic Garden.

It's been a busy summer and fall. I'll start with our big staff news: Andrea Flemming has left the position of Garden Manager, and we welcome Grace Hayden to the team. We're grateful for everything Andrea has done for us and we're very pleased that she's sticking around to work on our online Plants of New Brunswick identification guide. And we're excited to have Grace join us; she brings new perspectives and valuable experience as our new Garden Manager. Welcome, Grace!

As many of our plants have gone quiet for winter, so has some of our art. I hope you've enjoyed *Ferns and Fiddleheads*, Jean Hudson's colourful installation of fern fronds near the Rock and Crevice Garden. Great news: although it's now been packed safely away for winter, it will reappear in the spring! Thanks to Jean for agreeing to lend us the piece, and to the City of Fredericton's Cultural Development Office for funding its reinstallation.



Finally, an exciting new look is coming to our Garden, as we prepare to install extensive new signage. We'll admit it: it hasn't been easy to find your way around the Garden, or even to know you're in it. With financial support from the Atlantic Canada Opportunities Agency (ACOA), we're in the final stages of manufacturing and installing new signs: welcome signs, information signs, maps, interpretive signs – you name it! They're gorgeous, and they're coming soon.

I know I always wrap these messages up by saying "there's much more going on". That's because it's always true! Please visit us often; and remember, we remain open through the fall, and all winter too. There's always something to do in your Garden.



The Bare Bones of Winter Tree Identification
with Dr. Jim Goltz
Saturday, January 21, 2:30pm
Meet at the Fredericton Botanic Garden
Resource Centre, 10 Cameron Court.



Garden Gift Shop

The Garden Gift Shop carries a variety of items ranging from books, t-shirts and aprons to greeting cards, any of which would make a great gift for the garden or nature lover in your life.. Members always get a 10% discount, and all proceeds directly support our work here at the Garden. Items can be purchased directly at the Resource Centre or online through the following link: <https://fbga-plant-sale.square.site/> The Resource Centre is open from 10-2 on Mondays throughout the winter.



Greeting cards: \$5

T-shirts (S-3XL): \$20

Aprons: \$15



Forcing Bulbs

Grace Hayden

Forcing bulbs to bloom earlier than usual indoors is a great way to add some pops of colour to your home in the depths of winter and it is very simple to do. Amaryllis, paperwhites and hyacinth are some of the most popular bulbs for forcing though it is possible to force many other bulbs too. Paperwhites and hyacinths can even be encouraged to bloom with just water, no soil.

Hyacinths can be potted up as single bulbs in a 4" pot or with multiple bulbs in a larger pot. Growing them with pebbles and water in a mason jar makes for a nice display. This could be an interesting project to do with kids as the roots will be visible in the jar as they grow. Paperwhites also grow well with this method. It's important to give hyacinths and paperwhites a cool start (around 5°C or 40°F) so that they have time to develop good roots and strong stems and leaves. Start them near a cool window and keep them in a cool spot so that the blooms last longer.

Amaryllis have a stunning, large flower and come in many different shades. They don't like to be in a pot with lots of extra space so pick your pot size accordingly. Use well drained soil to prevent root rot and ensure 25/30% of the bulb is above soil level.. Amaryllis bulbs do best in a bright, cool location with temperatures of 22-24°C but as they begin to flower, keep them at around 12-18°C to lengthen their bloom time. Keep the soil just moist and cut off stems as they finish blooming. Allow the leaves to grow so the bulb can store energy for blooming next year.



Science in the Garden

Dr. Amy Parachnowitsch, UNB

You might have noticed a new type of planting this summer and wondered about why there were rows of cloth bag planters next to the holding beds. The plants are fireweed, *Chamerion angustifolium*, a plant seen elsewhere in the garden (like the volunteer plants in



the bed along the resource centre) but more commonly along our NB roads and highways. This weedy plant is an expert colonizer of disturbed areas and is also common in clear-cuts. So why carefully

plant it at the garden? In the Floral Evolutionary Ecology Lab at the University of New Brunswick fireweed is one of the species we are using to ask questions about how pollinator interactions drive evolutionary patterns in plants. What makes it an excellent candidate for study is their attractive flowers with nectar resources that make them highly visited by bees and other insects. Although we know nectar is important for attracting and rewarding pollinators, it is not studied as often as other parts of the flower (think petal size, for an example) because it can be challenging to compete with the pollinators to get nectar to measure!

With the best of intentions, we germinated and grew plants at UNB before bringing them to the Botanic Garden. The experiment was set up to test specific hypotheses about the role of pollinators but as any gardener knows, plants can be plants, and don't always grow to our plans. While most plants did well,

many decided not to flower this year, making studying their flowers challenging! For us this meant we did not have the number of plants needed to do the experiment as we planned. Instead, we gathered data on the plants that did flower to help understand how some flower signals like flower size and petal shape are related to the nectar rewards in this species. We want to know if pollinators can use these signals to assess the likelihood of big rewards before they choose a flower in fireweed and the information will help inform future hypotheses and experiments.

Emily Estabrooks, a Botanic Garden volunteer and former summer student, is busy summarising the data on which she will base her honours thesis. So far, there are some interesting patterns with floral symmetry that Emily is exploring. She'll have a lot more to say when she presents her thesis next spring!



What's next for "Science in the Garden"? Despite the hiccups, it was a successful pilot test to see how the public would respond. We got to say hi to many visitors on their daily walks through the garden and plant loss was mostly due to factors other than human disturbances, both of which were encouraging! We'll see what Emily finds from this year's data and hope the plants survive our winter so we can continue to study them next year.



FBGA Membership

A Garden membership provides ongoing support to the maintenance of the Fredericton Botanic Garden.

- Individual \$30/year
- Senior/Student \$25/year
- Family \$45/year

In addition to free admission to most FBGA events and access to our Lending Library, members receive a 10% discount in the Garden Gift Shop, and a 10% discount at the following local garden centers:

- Co-Op Country Store (Northside)
- Corn Hill Nurseries
- Curries Greenhouses
- Kent Garden Center
- Scott's Nursery
- Wetmore's Nursery

In 2023, members can also avail of free admission to any gardens listed under the Reciprocal Admissions Program of the American Horticultural Society—find a list of gardens at <https://ahsgardening.org/gardening-programs/rap/>

Join or renew online at frederictonbotanicgarden.com/membership Paper forms are also available from the link above and at the Resource Centre.

Gift memberships are also available.

How You Can Support the Garden

After 30 years, the Botanic Garden remains a work in progress. This 53-acre community gem depends on volunteers for its development and maintenance in partnership with the City of Fredericton.

There are various ways as a member that you can support our beautiful Botanic Garden to continue to thrive and grow:

- ◇ Visit the Garden often throughout the year (even in winter) to become familiar with and appreciate the changing flora throughout the seasons;
- ◇ Renew your membership when it is due;
- ◇ Invite your friends and neighbours to become members, to visit and to support the Garden;
- ◇ Remain informed about activities through the newsletter, social media and e-mails;
- ◇ Participate in the Talks in the Garden, tours held within the Garden, and other special events such as the opening of new garden beds;
- ◇ Volunteer to serve on the Board of Directors or on a committee;
- ◇ Contribute financially through donations, endowment, and receive tax deductible receipts;
- ◇ Solicit support for projects from private corporations and community organizations;
- ◇ Support government financial assistance requests.

Membership numbers are an important consideration when corporations are looking to provide funding for a project. The Membership and Volunteer Committee is therefore striving to substantially increase the active numbers of members.

Holiday Plant Sale

Thank you so much for your continued support for our Holiday Plant Sale. We will be in touch in November with details for pick-up on November 22-23



Progress Report for 2022

By Jim Goltz

Activity in the Fredericton Botanic Garden in 2022 was intended to focus on consolidating work that had been started in previous years, rather than starting new gardens and projects, with two exceptions – to begin work in earnest on the Food Forest and the long-planned Pond Garden. A report on what was accomplished is as follows:

Wood chip mulch was added to the Resource Centre's Rhododendron and Azalea Garden, the Penny Garden and berm, the Daylily Garden berm, the NB Literature Garden, and the periphery of the Memorial Garden. Mulch in the form of pine needles, composting leaves from deciduous trees and/or grass clippings was appropriately added to garden beds in the Wabanaki Healing Garden, the Hal Hinds Memorial Garden and the Fern Gallery. The mulching not only helped reduce the growth of weeds, but also made the gardens look much neater, and improved water retention in the garden soils.



Plants were added to every garden, especially the Large Perennial Garden, Fern Gallery and Rock Garden. Volunteers Jim Goltz and Kyle MacCloskey added a rock wall and garden beds to the Fern Gallery, mainly to accommodate the species of ferns that have an affinity for rock, and specifically for those that prefer limestone, granite, shale and conglomerate. Various species of ferns will be added over the next few years as they become available. Rocks were meticulously placed to control erosion along a stream that passes through the lower portion

of the Fern Gallery, and retaining walls were constructed on either side of a culvert there.

Considerable effort was directed toward making the Botanic Garden much more neat, tidy, organized and beautiful. In addition to the mulching, and installation of structures to control erosion and improve drainage, two new showy public art features were installed; concerted efforts to remove weeds and invasive plants continued (largely through Weeding Wednesday events and the day-to-day work of staff); enhanced trimming was done to remove dead, dying and broken branches from woody plants; the rustic log disk path in the Wabanaki Healing Garden was redone; a path linking the NB Literature Garden and the Hal Hinds Memorial Garden was constructed; repairs were made to paths and stretches of road that had eroded; problems such as mildew were promptly addressed; rocks were strategically placed in the Hal Hinds Garden and Large Perennial Garden to retain soil, reduce erosion, enhance plant health and provide habitat for shade-loving plants that thrive in rocky areas; remedial work was done on a small bridge crossing a ditch near the Food Forest; new memorial benches and memorial trees were added; and the shelter for the Red Trilliums in the NB Literature Garden was upgraded. This progress was accomplished with the acquisition of a four-wheeler and a sturdy garden wagon funded by the Strategic Partners Grant from the City of Fredericton, the leadership of Garden Manager Andrea Flemming, the work of part-time gardener John Welling in addition to the summer students, the contributions of our many volunteers, especially Margaret Forster and Kyle McCloskey, and access to vehicles belonging to volunteers and staff.

Two picnic benches will be installed this month thanks to the Community Investment Fund from the Regional Development Commission. Four commemorative and memorial benches will also be installed this month thanks to our generous donors.



New Signage for the Garden

By Cynthia Stacey

Each year there are an increasing number of visitors to the garden during all seasons. Many of these visitors are new to our site and it can be a challenge for them to find their way around without confusion. Also, the features throughout the garden are growing and becoming increasingly more diverse. This is prompting visitors to want to learn more about our plants, beds, trails, and natural landscape.

mation signs for the key garden features, and four large interpretive signs. All signs are in French and English, except for the sign for the Wabanaki Healing Garden, which will also include information in Mi'gmaq and Wolastoqiyik. The interpretation signs pertain to the topics of pollination, the pond ecosystem, the forest ecosystem, and the urban food forest. In addition to these larger signs, there will be a series of wayfinding signs throughout the garden and along the trails to provide direction and information. Care was taken with color and material selection and the designs are generally in keeping with the park signage plans for the City but making use of the FBGA colours of burgundy and green.



With these needs in mind, the FBGA made an application to ACOA seeking funding for new signage in the Garden and we were successful. The relatively large project involved the design, production, and installation of a full-scale sign system. Included in the system are a new primary entrance sign along Prospect Street, and secondary entrance signs at Cameron Court and at the site of a new entrance gate at the end of the Prospect parking lot. There will also be four large orientation/map signs at strategic locations, 16 infor-

This is an exciting project for the Garden and we are very grateful to ACOA for providing 90% of the funding to make this project possible. It has been a labour of love and a great deal of hard work over the summer for members of the Sign Committee, the Board, the Association President (Steve Heard) and the former Garden Manager (Andrea Flemming).

Urban Food Forest / Forêt alimentaire urbaine

The Urban Food Forest is a collection of fruit and nut trees, berries, herbs, and more. It demonstrates an approach to urban food production involving "permaculture" - agriculture inspired by natural ecosystems.

La forêt alimentaire urbaine est une collection d'arbres fruitiers et de noix, de baies, d'herbes aromatiques et plus encore. Elle démontre une approche de la production alimentaire urbaine impliquant la « permaculture » - une agriculture inspirée des écosystèmes naturels.

Explore and be inspired for your own garden!

Explorez et laissez-vous inspirer pour votre propre jardin!



LE JARDIN BOTANIQUE DE FREDERICTON BOTANIC GARDEN

- ① Entrée Oval / Ovale d'entrée
- ② Perennial Garden / Jardin de Vivaces
- ③ Memorial Grove / Bosquet Commémoratif
- ④ Fern Corridor / Corridor des Fougères
- ⑤ Rhododendron & Azalea Grove / Bosquet de Rhododendrons et d'Azalées
- ⑥ New Brunswick Literature Garden / Jardin de la Littérature de Nouveau-Brunswick
- ⑦ Harold Hinds Memorial Garden / Jardin Commémoratif de Harold Hinds
- ⑧ Rock & Crevice Garden / Jardin de Rochers et Crevasses
- ⑨ Daylily Garden / Jardin d'Hémérocalles
- ⑩ Food Forest / Forêt Potager
- ⑪ Peony Garden / Jardin de Pivoines
- ⑫ Pollinator Garden / Jardin des Pollinisateurs
- ⑬ Wabanaki Healing Garden / Jardin de Guérison Wabanaki
- ⑭ Resource Centre and Parking / Centre de ressources et stationnement

Central Corridor & Trails

- Central Corridor**
The main route through the Botanic Garden site. It is a wide, clipped grassy roadway winding past feature garden beds and through natural wooded areas. The approximate distance is 1050 metres.
- Hemlock Trail**
The trail follows along the eastern boundary of the site next to Ode Park. It is a variable natural surface with some roots and rocks, and a moderate slope. The approximate distance is 500 metres one way, and the estimated time is 15 minutes.
- Creekside Trail**
The trail follows along parts of the creek running along the western side of the site. It has a natural surface and is relatively flat. The approximate distance is 400 metres one-way, and the estimated time is 15 minutes.
- Short-cut Trail**
The trail bypasses a portion of the Central Corridor. It is a natural surface with a short distance of moderate slope. The approximate distance is 200 metres, and the estimated time is 5 minutes.
- Woodland Trail**
The trail can be done as a loop or combined with the Memorial Grove Extension. It is a variable to rough natural surface with roots and rocks and is hilly with moderate to steep slopes in short sections. The loop is approximately 525 metres, and the estimated time is 20 minutes.
- Memorial Grove Extension**
This short trail can be accessed from the Memorial Grove to connect with the Woodland Trail or from the Woodland Trail to the Memorial Grove. It is a natural surface path of approximately 250 metres, and the estimated time is 5 minutes.

Corridor central et sentiers

- Corridor central**
La route principale du site du Jardin botanique. Il s'agit d'une large passerelle en gazon élagué qui serpente devant les plates-bandes et traverse des zones boisées naturelles. La distance approximative est de 1050 mètres.
- Sentier de la pruche**
Le sentier longe la limite Est du site adjoint au parc Ode. C'est une surface naturelle variable avec quelques racines et rochers, et une pente modérée. La distance approximative est de 500 mètres dans un sens et le temps estimé est de 15 minutes.
- Sentier au bord du ruisseau**
Le sentier suit des parties du ruisseau qui baignent le côté Ouest du site. C'est une surface naturelle et relativement plane. La distance approximative est de 400 mètres à sens unique et le temps estimé est de 15 minutes.
- Sentier raccourci**
Le sentier contourne une partie du Corridor central. C'est une surface naturelle avec une courte distance de pente modérée. La distance approximative est de 200 mètres et le temps estimé est de 5 minutes.
- Sentier boisé**
Le sentier peut être fait en boucle ou combiné avec le Prolongement du Bosquet commémoratif. C'est une surface naturelle variable et parfois parsemée avec des racines et des rochers et est vallonnée avec des pentes modérées à raides en courtes sections. La boucle est d'environ 525 mètres et le temps estimé est de 20 minutes.
- Prolongement du bosquet commémoratif**
Ce court sentier est accessible en partant du Bosquet commémoratif pour se connecter au Sentier boisé et terminer au Bosquet commémoratif. Il s'agit d'un sentier de surface naturelle d'environ 250 mètres et le temps estimé est de 5 minutes.

New signage has involved determining needs, writing the text for the signs, finding appropriate graphics, doing some of the translation, arranging contracts, selecting sign locations. A special thank you goes to the team at Creative Juices for their design expertise and their patience as we worked through the process.

We are now in the final stages of the project and expect to see at least most of the signs in place in the next few weeks, if the weather cooperates. During

the installation there maybe some disruptions to use and access in a few locations so we ask that you be patient. It will be worth it in the end as the colourful and informative signs will be welcoming, help with navigating the site and provide information to add to the enjoyment of all visitors.

Meet our new Garden Manager!

We're very excited to welcome our new Garden Manager, Grace Hayden, to our team – and to introduce her to you in this short profile. Grace began her position with us October 1st, and is now settling into the role and getting to know the rest of staff and volunteers. As you know, the Garden Manager is our main administrative staff person: she coordinates other staff and volunteers; maintains communication with members, volunteers, and the City; runs our social media (follow us on Facebook, Instagram, and Twitter!); and much more.

Grace has a keen interest in nature, the environment and self sufficiency. Originally from Ireland, she studied Social Science and worked in fundraising and admin for charities and government agencies. After completing work placements with an organic herb nursery and the Belfast Botanic Gardens, she undertook a National Award course in Horticulture with the College of Agriculture, Food & Rural Enterprise. Following a move to Finland, then Canada and time out to raise a family while working on their vegetable garden, she co-ordinated the Home & School gardening sub-committee in New Maryland Elementary School. Grace is particularly interested in no-dig gardening, permaculture, biodiversity, and native plants. There are lots of ways that these interests complement ongoing projects at the Garden – for example, in our Food Forest, Fern Gallery, and Pollinator Garden, just to name three!



We're thrilled to have Grace with us, and hope that you'll say hello to her when you see her around the Garden or in the Resource Centre every Monday from 10 until 2.

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The Fredericton Botanic Garden Association Newsletter is published by the Fredericton Botanic Garden Association, Inc. The FBGA is a registered charitable organization. The objectives of the FBGA are to guide the establishment of the Fredericton Botanic Garden and to foster an awareness and appreciation of plants. For information on membership and to become involved, please contact us:

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