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#### www.islandnaturetrust.ca

Throughout the magazine you will see QR codes accompanying some articles. The codes are a gateway to additional online info & resources.

When you see a code simply open your smartphone camera app, aim at the code and click the pop-up link on your screen. You will then be taken directly to the article or page on your smartphone browser.

## A MESSAGE FROM OUR EXECUTIVE DIRECTOR

Winter 2023! Where has the time gone? Here at the Trust we have been reflecting on the past calendar year while planning a strong finish to our fiscal year. In 2022 our species at risk and stewardship teams were busy in the field while our land protection team added 19 new properties to our natural areas.

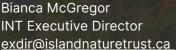
Though we have not been able to address all of the destruction caused by post-tropical storm Fiona, staff and volunteers continue to be busy with priority projects including clearing public footpaths and removing thousands of kilograms of debris from Barachois Beach in time for the return of our beloved Piping Plovers.

In response to the damage created by Fiona, and the anticipated long recovery process for our forested areas, we recently launched an initiative aimed at protecting and stewarding important native seed trees. Through the Mother Tree Initiative we are asking individuals and businesses to sponsor an identified seed tree in one of our natural areas. These trees, with their proven DNA, will be instrumental in the natural regeneration of their respective immediate landscapes, not to mention great seed providers for nurseries dedicated to ensuring a steady supply of native species for planting. More information is provided in the following pages.

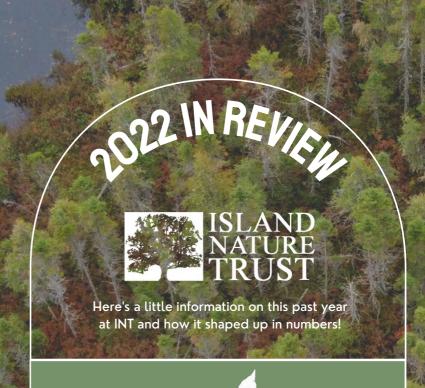
Finally, we are in the last leg of our Match-a-Patch campaign for 2022-2023 with a total of \$105,000 raised to date. We have \$45,000 left to raise by March 31st to meet our fundraising targets. All money raised is pledged to land protection efforts and will be matched by our partners in conservation; MapleCross Fund and the Province of Prince Edward Island. Head to our website for ways to donate. Every little bit helps.

Thank you to all of our readers, supporters, donors, volunteers and friends. We could not have the impact we have without your continued engagement.









## LAND ACQUISITION

- 1,338 acres or 541 hectares
- 19 Natural Areas
- For a total of 88 Natural Areas





## **VOLUNTEERS**

- 63 Conservation Guardians
- 7 Passport to Nature Events
- 1,000+ volunteer hours contributed
- Helped remove 11,662 lbs of Fiona debris from Barachois Beach

## CONSERVATION

- 5,166 trees and shrubs planted
- 1,477 lbs of invasive plants removed from Natural Areas
- 5,000 marram grass plugs planted
- 5,291 lbs of illegally dumped garbage removed





### **SPECIES AT RISK**

- 28th year of the Piping Plover Program
- 9th year of delivering Farmland Birds Program



Forested areas are one of the most at-risk ecosystems on the island, so much so that the federal government recently declared PEI's forested landscape a priority for protection.

It's hard to eloquently sum up the connection that each of us feels to trees and the forest. Post-tropical storm Fiona certainly gave us all pause to consider such feelings. The number of trees lost was devastating.

When viewed from a practical lens, trees provide shelter, structure, windbreaks and a feeling of being rooted. They provide products for building and heating. Trees remind us of play, of adventure and of home. There are some trees however, that we should be paying particular attention to for their regenerative qualities, the matriarchs of the forest – the Mother Trees.

Mother Trees in the Wabanaki-Acadian Forest are impactful in their age and stature. They hold ecological significance as seed and nursery providers for new generations of their species.

The newly launched Mother Tree initiative will highlight these incredible trees, their influence on the natural regeneration of our forests, and as seed providers give individuals and organizations an opportunity to honour their importance through sponsorship.

Shortly after Fiona hit, the INT stewardship team canvassed many of our natural areas to identify

species and forests of note where mother trees were present and in need of protection. So far staff have identified mother trees in 26 of our natural areas.

Money raised will go to support the ongoing stewardship efforts of the trees themselves, the natural areas that they live in, as well as the acquisition of other impacted forested properties that will benefit from mother tree saplings as part of their recovery.

Islanders and Island businesses are being invited to sponsor mother trees for three-year tenures. There are three levels of participation ranging from \$2,500 to \$7,500 annually.

Not every species is found in every forested area and often two or more species are prevalent in the same forest. The natural areas are divided into three categories: those with no footpaths, those with private footpaths and those with public footpaths. Recognition levels also increase with the amount of sponsorship.

Eight species of mother tree have been identified across the Island and include Eastern Hemlock, Red Oak, Red Maple, White Ash, White Pine, Eastern White Cedar, Yellow Birch and Sugar Maple.

This program is tailored to those who want to pledge a significant gift and has been well-received by businesses, social clubs and individuals alike and has already been championed by local businesses such as Bookmark in Charlottetown.

# Eastern Hemlock

This coniferous tree is one of the longest-lived tree species in our native Wabanaki-Acadian forest, living up to 300 to 500 years and providing important habitat for wildlife.



An iconic tree of the Wabanaki-Acadian forest, Red Oak can grow up to 25m tall and live for over 250 years. It is native to the Island and produces acorns, an edible nut which is also an important food source for wildlife.



An abundant and fastgrowing deciduous tree that is prized for its bright red colored leaves in the fall. Red maple trees can live up to 150 years, and are predicted to do well on PEI in projected climate change conditions.



A very tall growing and stately coniferous tree that can reach heights of over 35m, with a lifespan of 400 to 500 years. The silhouette of this tree can often be spotted rising above the forest canopy.

## Eastern White Cedar

The species tends to be found only in the western half of the Island and prefers to grow in rich and wet swampy areas or in calcareous soils. This slowgrowing species can live up to 350 years of age.



This species is among the tallest of the native birch trees, growing up to 25m tall and living up to 300 years.

This hardwood species grows best in moist rich soils.



This deciduous species grows tall and slender in Acadian forests, reaching heights of over 23m and living up to 200 years. It can survive periodic flooding and its seeds are an important food source for birds.



A deciduous species known for its byproduct, maple syrup. These trees grow well in shade and require deep, moist, and fertile soils. Sugar maples live between 150 to 300 years and reaching heights of up to 28m.

To learn more about the tiers and express an interest in sponsoring a <u>Mother Tree</u>, please visit;

islandnaturetrust.ca/mothertree

or contact Melissa Cameron, Fund Development Coordinator at:

development@islandnaturetrust.ca or (902) 892-7513.







It's no secret that Island Nature Trust relies on incredible scientists to help communicate our mission and vision and shape the work that happens in our Natural Areas, but did you know that the majority of the scientists who work at INT are women?

To celebrate the International Day of Women and Girls in Science (Feb 11, 2023), we asked our scientists to share their journey and passion with us and learned about their inspiration and work efforts. We hope that you enjoy reading their responses to our questions below and that you share this piece with aspiring scientists who identify as women or girls in your life.

Brittany MacLean Land Stewardship Coordinator



## What do you like most about your work? What's your favorite part of the job?

**Jenna-** I love work that forces me outdoors no matter the weather and have found some of my best days are ones that I dreaded heading out in the rain. That sense of satisfaction you get from a tough day in the field doing meaningful work is like no other.

**Brittany-** I would have to say that I get to be outside almost every day, enjoying and appreciating nature. Most people go for walks in nature after work, but I get to be out there for work. I also love the feeling of contributing to something bigger than myself; that hopefully my efforts today, will help nature in the future thrive.

Amy- As others have mentioned, it's hard to pick just one thing! I love spending my days exploring PEI's forests, wetlands, coastlines, and other natural spaces. I also absolutely love connecting with amazing folks across PEI and with likeminded organizations throughout the Maritimes. Most of all, though, I feel so lucky and grateful to be able to work every day for such an important cause that has impacts extending far beyond the boundaries of our little province.

**Sarah-** The thing I like most about my work is the opportunity it provides to constantly be learning about the natural world. It is a big treat to conduct fieldwork as part of my job, and ultimately it is rewarding to contribute to the conservation of species-at-risk.

**Shannon-** This is a really tough one for me as the list is SO very long. My work feels deeply meaningful to me. I feel incredibly blessed and privileged that as a part of my paid work I have the opportunity to deepen my connection to and knowledge of the natural world, to work to conserve it, and to share the beauty of that world with others.

Kerry-Lynn- It's an honor to have a direct, positive impact on ecosystem and wildlife conservation across PEI. Every acre that we work to protect in perpetuity impacts so many species that rely on these wild areas to carry out their lifecycle. I feel very fortunate to spend my working hours making concrete impacts in the field that I am so passionate about.

#### What (or who) inspired you to go into this field?

**Jenna-** I was blessed with a childhood spent in the woods with many supportive friends and family who fostered curiosity and a love of the natural world.

**Brittany-** My father, he would take me whenever he went into the woods or out fishing. When we went, he would always talk about how he noticed the changes in the environment from when he was my age. That peeked my interesting into why things were changing in the first place. That, and I loved *The Nature of Things* growing up!

Amy- My parents nurtured a love of nature and the outdoors from a young age – I remember spending hours looking through pictures in field guides as a child. I've been fortunate to be mentored by some incredibly strong and capable women throughout my undergraduate degree and at my first conservation-related summer job at NCC in Nova Scotia. I'm also continually inspired by the wonderfully passionate, strong, and knowledgeable people who I have the privilege of knowing and working with in this field.

Sarah- I was active in the Guiding movement (Girl Guides) from the time I started kindergarten, which is where I learned to camp and hike and generally love the outdoors. Both of my parents were incredibly supportive of my desire to pursue an education and a career in STEM. They would tell you that they knew very early on that I was going to be a scientist. I used to read my mom's old edition of *Campbell Biology* in the basement when I was in high school and I was more curious than the high school biology curriculum had room for.



**Shannon-** My parents, and Island Naturalist Daryl Guignion. My parents fostered in me a love of the outdoors and a belief that women could do anything. And Daryl was a pivotal mentor for me as a budding young scientist and naturalist.

Kerry-Lynn- Jane Goodall.

One piece of advice that you'd offer to other women and girls looking to start a career in science?

Jenna- Don't be afraid to mess up a little!
Science can be tough and unpredictable and mistakes will happen- your resiliency and adaptability are far more important than perfection. Be tenacious in the way you keep showing up and working hard and the rest will fall into place.

**Brittany-** That you are more capable than you may think, and if you are interested in something go learn about it!

Amy- One thing that's helped me grow both professionally and personally is learning to push myself outside of my comfort zone. Try new experiences and opportunities even if they make you nervous! You'll build up your confidence eventually, whether it takes 1 try or 50 tries – believe in yourself and your abilities, and don't be afraid to ask for help or guidance along the way! I'm also a firm believer in sharing knowledge and making space for others in this important and rewarding field.

**Sarah-** I would say always stay curious because science is for everyone. Don't shy away from subjects you are passionate about or want to excel at, because your energy, perspectives, and knowledge are needed in the scientific community. There are people out there who will embrace you and share your enthusiasm for asking questions.

**Shannon-** Don't be afraid to bring your compassion, sensitivity and creativity to the table. These are essential qualities that aid in our ability to collaborate effectively and to understand the world around us.

**Kerry-Lynn-** Be persistent when working to acquire the work opportunities and experiences that you desire. If something doesn't work out the way you hoped, do your best to learn from your experiences and take that knowledge forward on your next adventure.



# PASSPORT TO NATURE 2023

Passport to Nature is an immersive, nature-based event series designed to help Islanders and visitors learn more about PEI's wild places. Our mission with this program is to help you discover and understand the rich wildlife these special places have to offer.

A full list of the Passport to Nature 2023 events is available on the Island Nature Trust website along with registration. Check out what fun activities we have coming up and register now! All About Krummholz

**MAR** 25

APR 22

**Youth Outdoor Survival Skills** 

Paddle the Morell River

**MAY** 21

**JUN 17** 

Black Ash Tree Hike & Learn

Orchid Walk & Talk

JUL 08

AUG 10

Walk to St.Peter's Island (members)

(public

Walk to St.Peter's Island

AUG 11

**SEP 14** 

Medicine Walk (all ages)

Medicine Walk (7-12 yrs)

**SEP** 15

ост 01

**Mushroom Walk & Talk** 

Trivia Night for Nature Nerds

NOV 02





The Land Acquisition Team has been hard at work over the past few months. It is likely that by the end of March 2023 the Trust will have acquired the largest amount of acreage we have ever secured within one fiscal year! This could not have been accomplished without the collaboration, funding, and support of the numerous donors and partners that have been coming together for the sake of conservation across PEI.

Since April 2022, the Trust has secured more than 30 additional ecologically sensitive properties across PEI. Some of these properties are directly adjacent to existing Natural Areas providing area expansion and landscape connectivity for wildlife. For example, INT's

Acadian Marshes - Percival River Salt Marsh Natural Area, previously comprised of 502 acres, is growing by another 50 acres! This 552-acre parcel, located in the southwest region of PEI, is now INT's second largest Natural Area. Efforts to secure and grow this designated Natural Area have been ongoing since the Trust received its first donation of a parcel of land in the region back in 1997. Though it has taken much time and persistence, efforts are coming to fruition! Quite frankly, that's the name of the game when it comes to land acquisition and designated protection on PEI. Determination, persistence, and time are required to achieve the securement and connectivity of protected areas across our fragmented landscape?

Kerry-Lynn Atkinson <u>conserve@islandnaturetrust.ca</u>

## ADD A PATCH RECENT DONATIONS



## Sapper Aubin J Gallant Natural Area

Island Nature Trust is pleased to announce the donation of the Sapper Aubin J Gallant Natural Area, a 104-acre property in Union Corner. Generously donated by Leonard Gallant in memory of his father, with blessings from his sons Shane of Halifax, NS, and Stephen of Cambridge, ON. Sapper Gallant, born in Union Corner, was a D-Day veteran. He served with the 18th Field Engineers and landed first on Juno Beach to prepare for allied troops to land. Sapper Gallant fought in the battles of Carpiquet, Caen, Falaise Gap, and Calais before retiring to a farm in Mont Carmel, PEI in 1945.

This property contains lowland mixed wood forest and several pocket bogs. These ecosystems are both known for their high carbon storage capabilities and biodiversity. The canopy species present provide habitat for migratory songbirds, including the federally at-risk Canada warbler. The lowland forest has a rich understory of ferns, shrubs, and wildflowers. INT staff observed snowshoe hare, green frogs, and wood frogs during visits to the property. Island Nature Trust is very grateful for this gift that contributes to a relatively unprotected region of PEI and will protect the property through the PEI Natural Areas Protection Act.

## **Buffalo Road Natural Area**



The Buffalo Road Natural Area is a 13-acre property in Anglo Rustico. It contains reforested farmland sloping into a freshwater marsh along Chapel Creek. There is a small patch of riparian hardwood forest that acts as a heat and sediment buffer to the waterway. This property was generously donated by Janet Marshall and her late husband, Geoffrey Paynter. Geoffrey and Janet utilized provincial programs to reforest the field, planting spruce, pine, oak, hemlock, and larch. INT will continue the legacy of these two environmentalists through stewardship and protection under the PEI Natural Areas Protection Act.

Please note this property is not open to the public.

## **David and Dessie Dingwell Natural Area**



Nestled in the Eglington - Bay Fortune region is the David and Dessie Dingwell Natural Area. This 12-acre property contains mature treed bog, mixedwood forest, and lowland shrub forest. This mix of ecosystems provides habitat for a wide range of wildlife, including the federally at-risk Canada Warbler. Island Nature Trust Staff have observed migratory songbirds and the track of small mammals within the property. INT will designate this parcel under the PEI Natural Areas Protection Act, to protect the wildlife found within, as wished by the donor. Generously donated by Dessie Dingwell.

Thanks to conservation alliances with organisations such as L'nuey, the Nature Conservancy of Canada, Ducks Unlimited, the Province of PEI, and Parks Canada, INT has been making strides towards achieving the minimum target of 7% land protection across the Island. This is no easy task and cannot be accomplished by one organisation alone. Aligning our conservation objectives and efforts is proving beneficial – let's celebrate our successes and keep the momentum going!

Would you like to Add A Patch by donating land?
Please contact Land Aquistion Coordinator, Simon Andrea at <a href="mailto:acquisition@islandnaturetrust.ca">acquisition@islandnaturetrust.ca</a> or call **902-892-7513** 

Celebrating a true Island steward

# JOHN ANDREW



BY DAN MCASKILL

Prince Edward Island has lost a great champion of our land and water with the passing of Dr. John Andrew of Charlottetown (East Royalty) on January 24th. John learned the importance of soil and water quality on the family's multi-generational, mixed farm and Andrew's Mills property. He used this knowledge and advocated for better stewardship, trail development, and enjoyment of nature in both Halifax and Charlottetown.

John believed strongly in community service, the greater good, and education. This guiet-spoken man co-founded the Wright's Creek Watershed Environmental Committee (WCWEC) along with Darren Riggs in 2005 to improve the Wright's Creek -Andrew's Pond ecosystem. He was its volunteer watershed coordinator and Co-chair for the ensuing 18 years. He promoted and developed hiking and cycling trails/routes, developed signage to share community history and environmental knowledge, prepared funding applications, fielded permit requests, supervised contractors and summer students, liaised with landowners, and presented briefs to Charlottetown City Council. He served on its Sustainability sub-committee and contributed to heritage displays. Over \$500,000 was raised to improve silt control and fish passage (sediment traps, armouring of ditches, spring rejuvenation, silt excavation, and bypass renovation), create trails, develop interpretive signage, and build observation decks and docks, and plant native trees and shrubs.

For over a decade, John served as a director of the Hillsborough River Association (HRA) and a member of its Events Planning Committee. He led or assisted with Andrew's Pond historic mill tours, interpretive trail hikes, canoeing and snowshoeing events, the development of panels for the HRA's Canadian Heritage River Online Interactive Map project, and the WCWEC Achievements column in Hillsborough Tidings. In addition, John and his wife Christine hosted two very successful fishing derbies at Andrew's Pond. John also served as a director of the Hillsborough Area Watershed Coop and coordinated watershed activities with the Ellen's Creek Watershed Group.

To ensure this riparian zone legacy and its hiking trails

were protected, John and his family donated the 6.6 acre Andrew's Pond North property to the City of Charlottetown. Wishing to ensure that the Andrew's Mills property, buildings, forest, and trails were also conserved and recognizing its watershed education potential, he and his family explored options to conserve the property and expand stewardship knowledge. They donated the property and buildings to Holland College to become the John and Christine Andrew Centre of Excellence in Watershed and Aquifer Management.

John's contributions were recognized by Citizen Recognition Awards from both Halifax and Charlottetown, heritage preservation awards from Charlottetown and the PEI Museum and Heritage Foundation, and the "Brookie Award" for promotion of urban watershed health in Charlottetown. In recognition of his many contributions in radiation therapy in Ontario, Nova Scotia, and Prince Edward Island, he received the University of Prince Edward Island's Distinguished Alumni Award and was made a Fellow of the Canadian Organization of Medical Physicists. In 2021, John and his wife Christine were awarded the Island Nature Trust's Hon. J. Angus MacLean Natural Area Award for their outstanding contributions to natural areas. These distinctions culminated in 2022, when John was conferred the Order of Prince Edward Island.

Over the decades, John wore many hats including electron microscope imaging developer, full Professorship of Radiation Oncology and Associate Professor in Radiology at Dalhousie University, developer of radiotherapy beam filters (compensators) to improve cancer treatment efficacy and the world's first computerized compensator design system, mentor to Honours B.Sc., M.Sc. and Ph.D. students, author of 42 published papers and abstracts as well as many presentations, medical physicist, scout leader, United Church Elder, historian, Prince of Wales College Alumni Association President, PEI Green Party Candidate, and more.

Thanks John. We will miss your presence and wise counsel and hope that your contributions will continue to inspire environmental stewardship for generations to come.

To date, the Trust is grateful to have received 36 cash donations from individuals in tribute of John Andrew. Contributions will help our stewardship program manage the longterm integrity of our natural areas.



# Artificial Intelligence for Island Community Conservation

By Janell Smith <a href="mailto:finance@islandnaturetrust.ca">finance@islandnaturetrust.ca</a>

In 2022 Island Nature Trust (INT) was awarded funding from RBC Foundation through RBC Tech for Nature to implement a technology-based project, "LandSteward: Artificial Intelligence for Island Community Conservation." Through this project INT collaborated with Korotu Technology Inc. (Korotu) to create, launch, and pilot "LandSteward" - a cutting edge technology utilizing remote sensing data and artificial intelligence driven analysis tools to monitor changes in the landscape – allowing INT to explore ways that technology can help the organization achieve its vision of a network of protected areas across Prince Edward Island.



## LandSteward

Through this project, INT and Korotu utilized the newly developed LandSteward in two main ways:

- 1. Farmland Bird Program Using Remote Sensing to Detect Mowing Events
- 2. Natural Areas Measuring Carbon Storage on INT Natural Areas





## Farmland Bird Program

As you may be aware, INT staff monitor for presence and reproductive effort of the threatened bobolink (Dolichonyx oryzivorus) in participating agricultural fields across the province through our Farmland Bird Program. Bobolink are a grassland bird that nest in hayfields, with their nests directly on the ground. Research has demonstrated that most bobolink young fledge the nest by July 15th, and therefore mowing hayfields after that date will allow for a greater number of young to fledge. Agricultural producers in PEI can voluntarily delay cutting their hayfields until at least July 16th. INT partners with the Province of PEI to deliver this project, and participants can apply to be compensated through the provincial Alternative Land Use Services (ALUS) program for providing habitat for a species-at-risk. In 2022, LandSteward was piloted on 27 fields, using remote sensing technology to monitor when hayfields were mowed. The benefit of this is that it can alert INT to fields cut before July 16th, allowing staff to follow up with the producer.





## **Natural Areas**

With the impacts of climate change being felt more than ever, INT recognizes the importance of understanding the level of carbon stored in its forests, providing a baseline for future changes, as well as informing staff on how carbon sequestration varies in different types of forests. In addition, many of INT's projects, particularly those funded by the federal government, require reporting on greenhouse gas (GHG) emissions and the carbon stored and/or carbon sequestration potential of the project. Collecting the data required to report on GHG metrics on the ground, such as dominant tree species, average age of trees, average diameter of trees at breast height, and average tree height, can be very time consuming for INT staff, as multiple sample plots must be assessed at each property. LandSteward has allowed some of these processes to be automated, and while ground-truthing is still completed to confirm accuracy, it has saved much time and resources. In 2022 LandSteward was used to analyze carbon storage on 80 of INT's properties across PEI. In addition to making reporting more efficient, assessing carbon stored on INT-stewarded properties provides a baseline for our future work.

## **Looking Forward**

Technology, such as LandSteward, is proving useful to INT in many ways – allowing us to expand our reach, access new funding, and supporting our small staff to complete work in a timely manner. Going forward we hope to build on this project, expanding the tool to help prioritize natural areas with high carbon storage and ecological connectivity, utilize change detection to monitor fluctuations of carbon in existing forests (e.g. analyze the impacts of major weather events, such as post-tropical storm Fiona), and expand the delayed hay program.

This project was made possible with support from RBC Foundation, ALUS Canada, Environment and Climate Change Canada, and the Province of PEI.



## STEWARDSHIP AT HOME

by Michael Speelman stewardship@islandnaturetrust.ca



## **Bat Myths:**

#### Little brown bats are blind:

False. While little brown bats do use echolocation to hunt and navigate, they also have excellent sight.

#### All bats feed on blood:

False. None of the bat species in Canada feed on blood.

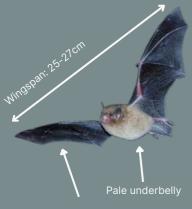
#### Bats are flying rodents:

False. Bats are actually more closely related to humans than they are to rodents.

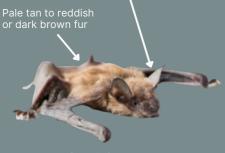
#### All bats have rabies:

False. A small percentage of bats do contract rabies, but the risk to humans is very small.

## Little Brown Bat Identification:



Ears and wings are dark brown to black



Weight: 7-9a

# Featured Forest Dweller: Little Brown Bat -Myotis lucifugus-

#### Overview

Bats are the only mammals capable of true flight. The little brown bat has the largest range of any bat in Canada. They can be found from Alaska, to Newfoundland, and as far south as Mexico! While harmless to humans, little brown bats can be voracious hunters, eating around half their weight in insects each night.

Females establish summer maternity colonies, often in buildings or large diameter trees. Foraging occurs over water. Little brown bats typically overwinter in cold and humid hibernacula (such as caves or mines). Individuals can travel as far as 1,000km from their summer roost to their winter roosts. Little brown bats tend to return to the same roosts every year.

#### **Threats**

White-nose-syndrome (*Pseudogymnoascus destructans*), a fungus-caused disease, emerged as a serious threat to bats in North America, hitting little brown bats especially hard, with winter hibernacula populations declining up to 99%. Other causes of decline are colony eradication, chemical contamination (pesticides), and reduction of food sources (insects).

#### What you can do to support the little brown bats on your land:



Avoid the use of pesticides or mosquito control sprays, as these can poison or reduce the little brown bat's food supply and even harm them directly.



<u>Keep shorelines as natural as possible.</u> Bats use open freshwater for drinking and insect foraging, so protecting riparian areas will both provide insect habitat and help improve their water quality.



<u>Installing bat houses</u> can help little brown bats find a suitable roosting site during the summer season. Houses should be installed at least 12 feet high in a location that gets sunlight to keep the bats warm. Larger, multi-chamber bat houses tend to provide a more suitable roosting site than smaller, single-chamber houses.



<u>Plant native flowers</u>, which will attract native insects for little brown bats to feed upon. See our spring planting guide on the next page for more information on native species planting.



Leave dead and dying trees standing on your property to provide summer roosting habitat. Little brown bats often rely on cavities in trees as their summer roosting sites. They also roost under the loose bark of white birch.



Contact professionals that can safely remove bats from manmade structures when required. Call 1-833-434-BATS (2287) to report bat sightings and for help removing bats from buildings.



## Where to get Native Species

#### J. Frank Gaudet Tree Nursery / Your Local Watershed Group

Charlottetown, Queens County Phone: (902) 368-4683 Email: kfarra@gov.pe.ca

J. Frank Gaudet Tree Nursery Services does not sell directly to the public, but has several programs landowners may qualify for.

The nursery provides many local watershed groups with stock for their planting programs. Contact your local watershed group to find out if they have any programs that your land may qualify for. To find your local watershed group, visit peiwatershedalliance.org.

The nursery also provides native stock to a variety of local nurseries and garden centers where they can be purchased by the general public.

## Macphail Woods Ecological Forestry Project

Orwell, Queens County Phone: (902) 651-2575 Email: macphailwoods@gmail.com

The native plant nursery at Macphails carries a wide selection of trees, shrubs, wildflowers, and ferns. Macphails also offers services for planning and performing plantings on private properties.

#### **Arbor Nursery**

Earnscliffe, Queens County Phone: (902) 651-3020

Arbor Nursery has a variety of native trees and shrubs available for purchase. Consulting and planting services are also available.

#### **Local Nurseries & Garden Centers**

Many local garden centers sell some native species. However, most will also (or predominantly) sell non-native species, so make sure to confirm whether a species is native or not before making a purchase.

## Sowing the Seeds for Life

Planting native species can improve natural areas, provide resources for wildlife (including the little brown bat), and beautify the landscape. With a wide variety of trees, shrubs, wildflowers, and ferns to choose from, there's a native species that will suit your needs!

### Letting your site guide what you plant

What you plant will heavily depend on the site you intend to do your planting in. When choosing the species you will plant, make sure to consider the following factors:

#### Sunlight conditions

One of the most important factors to consider when choosing what to plant on a given site is the amount of sunlight available. Some species thrive in full sunlight conditions, but cannot tolerate much shade. Other species can tolerate shady conditions but may struggle in full sunlight.

#### Soil moisture

Another key factor to consider when matching a species to a site is the soil moisture. Some species prefer well-drained soils, while other species are best suited for wet, moist, and/or boggy soil conditions.

#### Wind

Some species have developed to survive in forest interiors, which typically are not subject to much wind. These species may struggle if planted in a site with strong winds. Other species, like some pioneer forest species and shoreline species, have a high tolerance for buffeting winds.

### Soil type and nutrition

The soil of a site can have a large impact on the success of a planting. Some species can tolerate more sandy soil conditions, some need rich forest soils to thrive, and some can tolerate the depleted soils of abandoned farmland.

#### Structural diversity

Enhancing the structural diversity of a site can improve the type and quality of habitat it provides for a variety of wildlife species. For example, if the surrounding area is primarily mature, closed canopy forest, then planting some shrubs and other lower growing species can diversify the available habitat types.

### Your goals

Are you trying to enhance habitat for a certain species? Are you looking to diversify an old softwood plantation? Are you aiming to improve the visual aesthetic of your property? Your goals should be considered when selecting what species to plant.

Want to know more about what species to plant on your site? Please check out the planting guides provided by Macphail Woods Ecological Forestry Project at: macphailwoods.org/nursery/planting-guide/







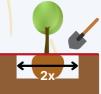
## **Tree Planting Guide**

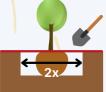
While the act of planting is relatively straightforward, a well planted tree will have an improved likelihood of long-term success. Early spring is the best time for planting trees and shrubs, as the planting process can be more stressful after leaves have developed and during the heat of summer. Fall is also a good time for planting hardwoods, but not softwoods. When choosing where to plant, always make sure your tree has room to grow - ideally a tree will have no obstructions in at least a 20' diameter area around it from the ground up to it's maximum growth height. Following this guide will help ensure your tree planting is successful.

### What you will need:

- A round-point shovel
   Water
- Compost
- Mulch

- Pruning shears
- Rake (for cleanup)





1. Dig a hole about twice as large in diameter as the root ball of your tree. Dig the hole straight down on the sides and to a depth that will allow the tree to sit level with the surrounding ground.



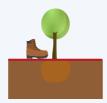
3. Set the tree in the center of the hole. Fill around the tree with a mixture of soil and compost, ensuring the tree is sitting straight.



5. Add a 'donut' of mulch around the tree, leaving a small gap between the base of the tree and the mulch.



2. Using your shovel, loosen up the dirt on the bottom of the hole to make it easier for the roots to take hold. If the roots are circling the root ball, pull them loose or cut as needed.



4. Lightly tamp the soil around the tree with your foot as you go. After tamping, the refilled soil should be level with the surrounding ground.



6.Generously water the tree. For best results, continue to water the tree regularly throughout the growing season.

## Bareroot vs. Container Grown

#### **Bareroot**

Bareroot stock should be planted early in the season before leaves begin to open. They should be planted relatively soon after purchasing. Make sure to keep the roots from drying out while the tree is waiting to be planted. If planting after the tree is in leaf, prune approximately 30% of the branches to decrease moisture loss, but avoid pruning the lead stem.

#### **Container Grown**

Container grown stock is better able to tolerate planting at any time during the growing season. A downside to container grown stock is that roots may begin to circle within the container with the risk of strangling the stem over time. If you see this in your container grown stock, prune or pull the circling roots before planting.



This project was undertaken with the financial support of: Ce projet a été réalisé avec l'appui financier de:





## BUILDING BACK BETTER: RESILIENCY IN TIME

By Lance Moore - Imoore@islandnaturetrust.ca

Overnight, our forests underwent a drastic transformation. With 120 kph winds and 80 mm of rainfall, post-tropical storm Fiona ushered in another wave of post-storm forest management. Some forest stands were obliterated into nothing more than a heap of downed trees. These scenes are frequent across the Maritimes, but serve to remind us of the lack of control we have with nature. Although it is easy to be disheartened by the losses, it is important to remember that what occurred was a natural event. Many of our forests could have been in better shape to face Fiona, but disturbance regimes are part of any natural system. The dead and downed trees we see all around us are part of this process.

Ecosystems, such as forests, are constantly adapting to dynamic changes. Whether it be pathogens, pests or climatic events, forests grow and develop alongside the onslaught of challenges that are thrown their way. The species that struggle to adapt to the challenges eventually fail and are replaced by species that thrive. This constant succession produces diverse, resilient forests. Each region has developed and adapted to the disturbance regimes that commonly occur there. Just as the boreal forests of northern Alberta have adapted to repeating standreplacing fires, our Wabanaki-Acadian forests are subject and adapted to isolated windfall events such as hurricanes. Due to the history of settlement and land use, the Island's forests we see today resemble a patchy framework of homogenous forests, which do not widely reflect the historic Wabanaki-Acadian forests of this region. Forests, like most complex

ecosystems, are most resilient to change and disturbances when they are healthy, robust, and diverse. The fragmentation and lack of species diversity that we see in some forest stands on the Island compromises the longevity and health of our forested landscape.

When a forest exists on a landscape, the trees and shrubs that border the edge of that forest experience more pressures than their companions in the interior of the forest. The edge species experience harsher winds (especially in storms), more evaporation, less humidity, extra UV radiation, and are more likely to have competition from nonnative or invasive species. The species that grow in these edges tend to be more suited to the adverse conditions than their interior counterparts. The problem arises when humans cut into these forests and create new edges, whether for building homes, creating roads, or clearcutting to harvest timber. These interior species are not adapted to these rougher zones, so the drastic change in conditions weakens these newly created edges and often causes dieback into the forest stand. Due to the extreme fragmentation of forests on the Island, our already weakened human-made forested edges were not able to combat the severe effects of Fiona.

As with any other ecosystem, the goal for resiliency is diversity. Unfortunately, our Island has been subjected to historical forestry practices which involve single-species tree plantings, or "monoculture plantations", that did not do our forest ecosystems any favours. Many of the trees that met their demise with post-tropical storm Fiona were spruce. A shallow-rooted species, these trees acted as sails against the winds that pounded the Island, with many stands of spruce being totally flattened. A diverse set of forest species acts to provide multiple root depths and wood strengths that can enhance forest stability and resiliency through hurricanes. The term "diversity" is not just limited to forest species - it includes forest structure as well.







This includes pit and mound topography along the forest floor, rather than flat ground, a diverse plant height (small and large shrubs, mid-canopy, canopy) and the inclusion of coarse woody debris.

It may be difficult to look at a forest stand post-Fiona and see the positives, but that doesn't mean they aren't there. For some, coarse woody debris (dead wood in the forest, either as standing dead trees or logs on the forest floor) is considered a nuisance. Often devoid of any merchantable value, these dead trees were only seen as a barrier to get the desirable goods. However, much research in the 20th century brought to light the importance of coarse woody debris. Deadwood serves both fauna and flora by providing shelter, food, nesting, travel corridors and viable microclimates. Examples include wood ducks that use hollow trees for nesting or saprophytic beetles that utilise the deadwood as food. Coarse woody debris serves to recycle nutrients back into the soil for other organisms to use. During the growth of a tree, carbon, nitrogen, potassium, phosphorus and more chemical elements are used as the building blocks for wood, leaves and cell formation. Once the tree dies, microorganisms slowly leach those elements back into the soil's organic layer. In addition, the deadwood enhances the organic layer depth, which is desperately needed by many forests that were once used for agriculture. One positive of Fiona is that our forests now have a wealth of coarse woody debris to help with the building back of healthier forests!

It is natural to grieve the loss of our forests, but let that grief invigorate us to steward our forests better today. Many of us have the opportunity to start from scratch, so let's use this blank slate to create a healthy Wabanaki-Acadian forest that will be resilient against the next onslaught of storms.

#### Pictures:

- 1.INT's Kildare Forest Natural Area in Alberton contains mid-to-late successional forest, which proved resilient against the impact of posttropical storm Fiona.
- Early successional Wabanaki Acadian forest at in INT's Crown Point Wji'Kijek Natural Area is an example of a healthy, rich and diverse understory.
- 3. A Red Pine plantation in INT's Hennessey Farm Woodlot Natural Area, is a mono-culture that results in little understory diversity.









## **Brush Piles**

Creating habitat by tidying up!

By Johanna Merth - <u>jmerth@islandnaturetrust.ca</u>

## Step 1: Decide on a Location

Decide where you would like to place your pile. Choose an area that can be left undisturbed for several years. Finding the right place for your pile will save you having to move it in the future.



## **Step 2: Collect Brush**

Resist the urge to over 'clean' an area. Leftover smaller brush will break down quickly so long as it is touching the ground. Collect larger logs, as well as large and small branches that you want to place in your brush pile.

02

## **Step 3: Place large logs at bottom**

Large logs serve as the foundation of the brush pile. These will collect moisture and provide excellent habitat for amphibians, insects and fungi. The logs can be stacked or laid haphazardly.



Next, layer down branches and bows. These can be laid across one another and on top of the base logs. Be sure to not over-pack the pile! Leave spaces for various critters to burrow and hide.



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## **STEP 5: Be Patient**

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Brush piles will settle (get smaller) and decompose over time. This time frame depends on the size of your pile. This will take several years. Be patient and let nature do its thing.

Drop by our office to pick up a copy of our 'Pocket Guide to Brush Piles', produced with generous support from the PEI Wildlife Conservation Fund!

# VOLUNTEER FEATURE:

# Sara Develous -Piping Plover Guardian

My name is Sara Deveau and I have had the wonderful opportunity to be a Piping Plover Guardian for many years in Eastern PEI. My interest in "birding" started way back in Morell High School with an amazing teacher and mentor, Lou Daley, who offered a bird identification course. His passion for wildlife, specifically birds, and his genuine desire to pass that along to his students hooked a lot of us into the love of birding. I know many of my fellow classmates have that continued dedication and we still confer with him on many occasions!

Back in the late 70's we did not have the luxury of bird apps but that did not stop my cousin and I as we would borrow the large Audubon birding book from the Charlottetown library and off we would go with that large 18X12 guide and a pair of binoculars that my dad had from the war! We meant business!

Growing up on a farm in Cable Head and trying to bird watch before school meant getting up with the crows to put all the cats in the barn to protect my few and far between subjects, but I knew I was hooked. So it is no great surprise that when I started volunteering with Island Nature Trust on the guardian program, I became as dedicated as that young gal many years ago. And over the years, I have learned so much from the great staff at INT.

So now armed with a better pair of binoculars and a few more Piping Plover Guardians up here in the East we are so excited each Spring to get back out in the field, and our field consists of beautiful beaches. I cannot tell a lie, the thrill of the first sightings of these little special endangered birds is still magical.







## **The BIG Picture**

Help us build The Big Picture by sending in your photos of wildlife in natural areas across PEI! Tag us and use #givingbacktonature on social media or send your photos to:

bigpicture@islandnaturetrust.ca

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## **BIODIVERSITY LOSS IN PEI**

## FINDING SOLUTIONS TOGETHER

On February 16th, 2023, Island Nature Trust hosted an event, *Biodiversity Loss in PEI: Finding Solutions Together*, at the Farm Centre in Charlottetown.

The purpose of the event was to bring together expert organizations, institutions, and members of the public who are actively working towards halting and reversing biodiversity loss across Prince Edward Island and Atlantic Canada, to share their knowledge with attendees.

We heard from eight knowledgeable presenters on topics including historical losses of biodiversity in PEI, the importance of moving forward together, improving backyard biodiversity, wetland restoration, application of two-eyed seeing, provincial work of the Forested Landscape Priority Place, supporting landscape-scale climate resilience, and legal protections for species at risk in PEI

environmental issues facing our home and how essential it is that immediate action is taken across all levels of civil society.

We would like to send a special thanks to each of you who placed your own personal commitment onto the tree of action. It was inspiring to see each leaf, representing an individual's action, filling the branches as a symbol of our shared commitment towards halting and reversing biodiversity loss in our own back yards.

Our collective work is not done. We hope this event has deepened the drive to work towards addressing the ecological challenges within our province. We were inspired by the dedicated individuals in attendance and believe this event has helped to forge new connections and prompt discussion as we move forward to implement action.







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Island Nature Trust is so very pleased to be partnering with talented local author Kara Griffin and gifted watercolor artist Shawn Larson to create a children's story book, and accompanying children's activity book, about bank swallow in PEI. This project is being supported by the PEI Alliance for Mental Health and Wellbeing. We thank them for choosing our proposal and for allowing us to move forward with this uplifting project.

Since the fall of 2022, Kara Griffin, Shawn Larson and Island Nature Trust have been hard at work. Countless hours have been spent painting, writing, securing a publisher, working with an editor, learning about the publication process, sharing ideas, creating the content for the activity book and looking forward to the next steps of getting the storybook and activity book into the hands of children province wide.

The philosophy behind this project is to empower and encourage some of our youngest members of society to connect the dots between observation, compassion and action. Through this project, we seek to teach children about the fascinating details of the ecosystems which support the bank swallow, the challenges they face,

the captivating biology of this species, along with the role humans can have in bettering this species odds of survival.

As the bank swallow are near and dear to many Islanders, the goal is that by fostering a young generation of environmental stewards, we will help children recognize that they too have a role and say in the outcome of the species; we will empower them to share their knowledge and to be Guardians of the world around them.

It is our belief that people of all ages, are more likely to want to protect nature if they have a direct relationship with it. Through storytelling, and specifically this storybook, we seek to engage youth and provide an opportunity for their voices to be heard.

Please reach out to Johanna Merth at jmerth@islandnaturetrust.ca if you have any questions about this exciting project.





## **NEW PARTNERSHIPS**

#### Art by Angie:

Summerside multi-disciplinary singer-songwriter and artist Angie Arsenault launched her abstract paintings in the Fall of 2022 with 25% of the proceeds benefitting Island Nature Trust. Angie's art and passion for nature shone through her work and it was a pleasure to meet her in person for a cheque presentation. To learn more about Angie and see her 'Home on the Red Island' collection, please visit: https://artbyangiea.com/-thank you Angie!

#### 1% for the Planet:

1% for the Planet is an organization with a mission to connect their members with high-impact environmental partners that align with their values and add to their brand story. At Island Nature Trust we are pleased to be the recipient of 1% of the proceeds from Rustico Surf Club. Their dedication to the mission and vision of INT is evident not only through their pledge, but in helping raise awareness for the Trust.

For more information about how to partner with 1% for the Planet and select INT as a recipient for your pledge, please contact Melissa Cameron, the Fund Development Coordinator at development@islandnaturetrust.ca or (902) 892-7513.

#### InFocus Canada:

InFocus Canada raises money for important charities and supports professional photographers and their work all through the lens of sustainable fashion. InFocus Canada has generously donated 10% of the sale price of each of local PEI photographer Dave Brosha's 'Island Dream' scarves to the Trust. To view and purchase this beautiful scarf please visit InFocus Canada.



## **DONOR PROFILE**

## **MOTHER TREE INITIATIVE:**

Island Nature Trust is thrilled to announce that Charlottetown's locally-owned independent bookstore, Bookmark is the inaugural sponsor for the Mother Tree Initiative. An Island business since 1972, the Bookmark staff have promoted "the benefits of the written word, the beauty of the book as a physical object, and the value of sharing stories and ideas." To celebrate it's 50th anniversary, Bookmark has made five \$10,000 donations to community organizations, of which one is Island Nature Trust. Bookmark has been supported by the Prince Edward Island community through significant industry turmoil and disruption over the years, and the PEI community has supported and sustained Bookmark over this time.

Bookmark's donation will fulfill a three-year sponsorship of a Red Maple species at the North Lake Creek Natural Area.

We are so grateful for the support of Dan and Marlene MacDonald and their staff at Bookmark and wish to thank them for their generous sponsorship.



To learn more about the tiers and express an interest in sponsoring a Mother Tree, please visit;

islandnaturetrust.ca/mothertree

or contact Melissa Cameron, Fund Development Coordinator at;

development@islandnaturetrust.ca or (902) 892-7513.







Welcome to the Young Naturalists page. Learn about one of the Islands species, solve puzzles and express your

creative side!

## Eastern White Pine Pinus strobus

## Did you know ..?

The Eastern White Pine is a coniferous tree, meaning it bears needle-like leaves and reproduces through cone distribution.

The Eastern White Pine is the largest native conifer found in eastern North America. They are known to grow as tall as 30 metres.

Conifer needles grow in various lengths and bundles. Eastern White Pine needles grow in bundles of 5 at lengths between 2 - 5 inches.

## SPY



Feel free to share your achievements on social media by using hashtag:

## #givingbacktonature

islandnaturetrust

**Island Nature Trust** 



# Nature is our security blanket.

# But it's worn out!

Help us repair this patchwork landscape so it can continue protecting you!



## **Match a Patch**

Donate cash so we can acquire natural areas that protect and provide for us all.

Your donation will be tripled!



## **Mend a Patch**

Donate cash to our stewardship fund to bolster our conservation efforts.



## do a raten

Donate land for us to protect from future development.







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## **MERCH**



SAVE THE DATE

Break out your pool cue and
help support INT! The 3rd
help support INT! The 3rd
Annual Barrie Willis Memorial
Annual Barrie Willis Memorial
Annual Barrie Willis Memorial
Scotch Doubles Tournament
Scotch Doubles Tournament
Annual Barrie Willis Memorial
Street All on Saturday,
Will be held on Saturday,
Wi



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## **KEEP WARM + SUPPORT INT!**

From hats to hoodies, we've got you covered!

ORDER ONLINE AT —
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## **MEMBERSHIP RENEWAL**

Please take a moment to fill out the form below and return it to the address above with your membership fee. You can also renew and pay easily online at:

www.islandnaturetrust.ca Thank you for your support!

Name:			
Mailing Address:		Postal Code	:
Telephone:	E-mail:		
Membership Categor Student (\$10) Sir	r <b>y:</b> ngle (\$20) Family (\$25) <i>(Tax receipts will be issued f</i>		on \$:
Payment Method: Ch	neque Money Order	Visa Master Card	
Card Number:	Exp. Date	s Signature	

## GET IN TOUCH islandnaturetrust.ca/about/staff/



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Jordan Smith Office Coordinator



Sarah Hirtle Coastal Species-At-Risk Coordinator shirtle@islandnaturetrust.ca



Benjamin Henger Farmland Birds Coordinator landbirds@islandnaturetrust.ca

## WHO ARE WE...?

Island Nature Trust is a non-government, not-forprofit organization dedicated to protection and management of Natural Areas on Prince Edward Island (Canada). We acquire lands to be held in trust for future generations, manage these lands as an example of appropriate and sustained use, and help private owners voluntarily protect their lands. We work with government and private landowners to create a true natural areas network on Prince Edward Island, consisting of core protected areas connected by corridors.

## **BOARD OF DIRECTORS**

Executive: President - Gordon MacKay, Vice President – Kim Horrelt, Treasurer – George Mason, Member-atlarge - Marie-Ann Bowden, Secretary – Patricia Caporaso

Group Representatives: Keila Miller - PEI Wildlife Federation, Jeanne Maki - Nature PEI

General Directors: Andrea McManus, Roger Coffin, Roger Roy, David Hooley, June Jenkins Sanderson

#### **Contact Us:**

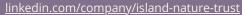
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