

Volume 6/Issue 1

April/May/June

Spring 2023

Woodland PEI

Newsletter of the PEI Woodlot Owners Association



Armillaria (Honey Mushrooms)
Cotton Park, Stratford Oct 18/22
Photo: R. Curley

Discovering Mushrooms



Editorial & Board Report

In this issue (p.4), we feature an in-depth article with PEI photos about fungi farming on your own woodlot. Doug Millington entices you to find, report, grow and enjoy the many useful and delicious varieties of PEI fungi and edible mushrooms that you may not have realized could grow on your land.

Preparation of this newsletter was accompanied by other flurries of activity, the main one being the provincial election on April 3rd which prompted us to postpone our AGM date to May 6th. In the run-up to the election, as a non-partisan NGO, and with over 10,000 private woodlot owners in the province, the PEIWOA Board prepared a briefing document for all parties outlining priorities for private woodlot owners within the broad themes of economic, environmental and social values. We pinpointed our main areas of concern and asked all the party leaders how they would respond to our questions.

The Board also contributed questions on behalf of woodlot owners to the Environmental Forum for Party Leaders held on March 23 at the Farm Centre.

On March 11, PEIWOA co-hosted the highly successful all-day workshop entitled “Building Resilient Forests Post-Fiona” and participated in a panel of groups involved in forest management. The 100+ attendees included a good turnout of woodlot owners. On p.3 see Kate MacQuarrie’s notes in point form from the March 11 session on achieving ecological balance and sustainability objectives. Kate is Director of the Forest, Fish & Wildlife Division for PEI.

PEIWOA signed a memorandum of understanding (MOU) with the SFA (Sustainable Forest Alliance) in December outlining the separate roles each plays towards common goals. The SFA has now launched its forest management services to woodlot owners who participate in its co-op structure and have enrolled in a forest management plan. See more on p. 9.

Your Board kept busy throughout February and March with developing several applications for major projects that could create funding opportunities and expand the scope of PEIWOA.

With further collaborations in mind, the Board also provided a detailed written response to a lengthy survey from the Watershed Alliance which is doing research on the goals of various organizations with regard to forestry, reforestation and climate change.

We look forward to seeing you at this year’s AGM & Symposium, now rescheduled for Saturday, May 6th at Tracadie Cross Community Centre. Further details will be announced in coming weeks.

--Kathy Stuart

2022-23 Board of Directors

Kings County:

Kevin Carver
John Keuper (*Treasurer*)
Kathy Stuart (*Chair*)

Queens County:

Jesse Argent
Thomas Baglolle (*Rep to Canadian Forest Owners*)
Wanson Hemphill
Doug Millington (*Secretary*)
Judy Shaw (*Rep to PEI Federation of Agriculture*)

Prince County:

Marcel Arsenault
Bruce Craig
Barry Murray
John Arthur Ramsay (*Vice-President*)

Past President: John J. Rowe (*Ex-Officio*)

Public Forest Lands: Immediate Response and Longer-term Planning

Kate MacQuarrie's Notes, Workshop March 11/23

From data using LIDAR pre-Fiona, satellite after:

- 3.8 million cu. metres of wood in forest in 2010
- 20% loss since 2010 (0.62 million cu m)
- 10% loss with Fiona (0.31 million cu m)
- 300,000 cu m/yr handling
- Task force recommendations, salvage incentive, sliding scale \$250 – 850/ha, 206 owners applied, 10% complete

Regarding post Fiona actions:

Short term:

- Maritime Lumber Bureau contacted regarding loosening restrictions on stamped lumber
- Disaster assistance, Red Cross
- In talks with ACOA regarding disaster relief
- Canada-US softwood lumber, no tariffs for PEI, NS

Mid Term:

- Satellite imagery analysis
- Assessing treatments for damage, varies from woodlot to woodlot

Fire Prevention

- Volunteer FD training
- Fire risk mapping
- Assessing equipment needs
- Chainsaw safety courses
- FireSmart program promotion

- Fire risk factors
 - Softwood risk high, due to resins in wood
 - Hardwood risk gradually increases with drying
 - Estimate next 10 years will be high risk
 - Site factors:
 - Wood on ground or not
 - Moisture
 - Exposure
 - Climate

● Fire risk mitigation

- Lay trees down
- Reduce volume
- Open access roads
- FireSmart program

● Forest Fish & Wildlife preparation

- 6 trucks and a float replaced in recent years
- Staff training
- New forest fire protection act, change to burning permits, no more permits, zones announced each day (red, yellow, green), restricted volume, no mid-day burning
- Mutual aid, resource sharing for fires with other regions, provinces

Long Term:

- Species selection, awareness of pests & disease, i.e., oak wilt gradually coming
- More silviculture
- Landscape level planning

Where we should manage now:

- Red pine, cedar, blowdown

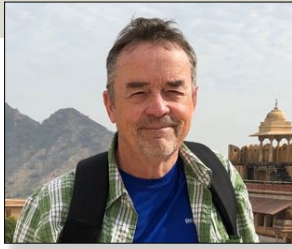
Complexity:

- Forests – ecology, soils, plants, etc.
- Climate – extreme weather, etc.
- Socio-economic - changing workforce, Land-use disconnect between urban and forest

From Kate MacQuarrie's presentation at *Building Resilient Forests Post-Fiona* workshop, March 11, 2023. For further information call 902-368-6450.

Fungus Farming in your Woodlot

by Doug Millington



Doug Millington, Board member and intrepid investigative journalist, proposes an alternative path that encourages Nature to help in clearing the “Fiona mess” in your woods...

In the wake of Fiona, government is fast-tracking a series of emergency initiatives: chainsaw courses, fire suppression training, salvage incentives, relaxed buffer zone harvesting guidelines, and enhanced marketing for under-utilized species, all aimed at quickly clearing away as much of the woodland mess as possible.

But there is another flurry of woodland activity that may go largely un-noticed: an explosion of growth by thousands of species of fungi producing a kaleidoscopic array of mushroom varieties, and collectively, given time, transforming those wind-blown trees into fertile forest soil.

Of course, economic pressures will direct most woodlot owners toward traditional, mechanized salvage strategies. But there may be situations, such as in riparian zones, where salvage is technically impractical or aesthetically undesirable. In those cases, a landowner might choose to just get the leaners on the ground and hand the job of Fiona recovery to the relentless appetites of fungi.

Felled and leaning trees, once they are safely down and limbed, will soak up moisture, alleviating at least part of the fire risk posed by Fiona’s fuel-filled aftermath. And with the spring thaw, that moist, felled wood will be a ready food source for thousands of species of Island mushrooms, many of which love digesting wood of all descriptions, some of which are safely edible, and all of which contribute to PEI’s much-needed biodiversity.

The biological kingdom of *fungi*, to which mushrooms belong, is one of the five kingdoms comprising all living creatures. The other kingdoms are *plants*, *animals*, *amoebas* and a rather random group of outliers called *protists*. Each Kingdom is divided into ever-more specific sub-layers: *phylum*, *class*, *order*, *family*, *genus* and *species*. Most mushrooms have two sets of genus/species names, one scientific (Latin) and the other common or colloquial.

Mushroom names can be a bit confusing, even to scientists. Consider an Island favourite, the genus we call the Chanterelle, scientific name: *Cantharellus*. By some counts there are as many as 70 species in the *Cantharellus* genus, each with its own Latin name, and thankfully, a handy English nickname such as Cascade Chanterelle, Smooth Chanterelle, White Chanterelle, Funnel Chanterelle, etc.

The common name for the one we love to eat is the Golden Chanterelle. But the scientific name for our “Golden” species is now uncertain. It was thought to be *Cantharellus cibarius* (or *C. cibarius* in scientific shorthand), but new research suggests it may in fact be *C. enelensis*.

While PhDs in lab coats figure it all out, the bottom line is that Chanterelles are all edible (some just barely), but only the ‘Golden’ Chanterelle, whatever its Latin name, sports the convex oval cap and fruity flavour that Islanders covet.

Fungus Farming (cont'd)

The biodiversity of the fungus kingdom is astounding. The total number of fungal species is estimated at between 2.2 and 3.8 million. The majority of those species are tiny *microfungi* like the yeast cells that brew our beer and rise our bread, or the troublesome microfungi that bring us athlete's foot and worse. The total number of fungal species is really just a guess. The fungal kingdom is still largely undiscovered with only about 150-thousand species scientifically described.



Chanterelles at Dromore Aug 28/16 Photo: B. Cottam

When it comes to the more commonly recognized mushroom species, *macrofungi* that can be seen with the naked eye (chanterelles, toadstools and the like), approximately 14,000 species have been described worldwide and assigned one of those Latin binomial handles.

How many mushroom species do we have in Canada? There is a national program called *General Status of Wildlife in Canada* which, every five years, reports on all known species of all kingdoms for every province. According to the latest report, *Wild Species 2020*, there are 6,951 known species of macrofungi in Canada. The previous *Wild Species* report (2015) listed fewer than 100 such species. Clearly, the national mushroom count is still in its early stages and growing fast.

PEI's list of mushrooms on the *Wild Species* list is by far the shortest of any province. "Pretty dismal" according to Island naturalist Ken Sanderson, a landscape conservationist with a special interest in GIS (Geographical Information Systems). GIS uses computer mapping to tell you where things are and what they look like wherever they happen to be. Ken Sanderson is using GIS to boost PEI's mushroom species count.

There's a website (and app) called *iNaturalist* that boasts millions of users worldwide, where mushroom observations can be reported and possibly identified. Last year Ken set up an online project called *Mushrooms of PEI* to plug into the *iNaturalist* database and allow anyone to easily catalogue a mushroom they have found, anywhere on PEI. User observations on *iNaturalist* can now be logged on an Island map which is formatted as a grid of 10 km-square zones, tip to tip.

Many of those 10 km-square zones are gradually filling up. The *Mushrooms of PEI* project now boasts 615 identified Island species. That's still behind our Maritime neighbours. A similar project in Nova Scotia currently lists over a thousand species. But PEI's count has increased nearly 30% over last year's total. The project also increased the number of map squares with 20+ known species from 13 to 48.

Mushrooms of PEI not only tracks mushrooms found, it also keeps tabs on the over 400 users who have found them. Many of those users have only contributed one or two samples, but there is a healthy core of serial contributors. Forty-five Islanders have 20 or more observations. About a dozen contributors have racked up hundreds of observations. Ken Sanderson, in 5th place, has made 405 observations comprising 201 distinct species.

Fungus Farming (cont'd)

In first place, with 1,224 observations and 289 species, is Island biologist and Past-President of *Nature PEI*, Rosemary Curley. A few years ago, she became aware that there were very few mushrooms identified on PEI and got involved in recording her finds on *iNaturalist*. She now co-administers the *Mushrooms of PEI* project.

On a recent outing, Rosemary Curley photographed “8 or 10” mushrooms and they were all on *iNaturalist* the same morning. “One of the big goals is to increase the number of species we know about, to expand the species list”. Lately she has been trying to focus on western PEI where several squares are as low as one or two observations, and a few register zero mushrooms.

To use *Mushrooms of PEI*, you need a camera and an internet connection. You just snap a photo of a mushroom you’ve found and upload it to *iNaturalist*.

Ken set up the *Mushrooms of PEI* project to automatically search the *iNaturalist* database and display the results when someone views the project page. “You don’t need to worry about identifying. As long as you can get close, you let the community of *iNaturalists* take it the next step.”

Observers should take several pictures, especially of the underside of the mushroom to show if it has gills or pores, an important identifying trait. The system also needs a fairly accurate location for the shot. You can use the online system to select a location if it’s not with the photo itself (“geo-tagged”). Users are encouraged to double-check the location before submitting. “When you upload [your photos] in the browser you just click on the location button and you’ll zoom to where you want, and you can change the size of the circle to fit your accuracy [estimate]... and away you go.”



Dryad’s Saddle on Elm at Miminegash River July 29/04
Photo: R. Curley

It’s a source of relaxation for contributors like Ken Sanderson. “For me, when I go to post, all I do is when I get home, I pour myself a glass of whiskey and away I go. I just throw the images up of that particular species or observation, pick the images I want to keep, and they [*iNaturalist*] store all the location information. I don’t even have to touch it.”

Another option is to use the *iNaturalist* app in the field. You open the app, submit your photo and tap the location button. “It’ll determine where you are, as long as it has permission to do so based on your phone, and then you just agree with it and set an accuracy level.”



The ‘Cat’ Catathelasma venticosum is a plate-sized edible. Photo taken at Valleyfield Demo Woodlot Sept 20/17 by R. Curley

Of course, once you've started submitting observations and getting to know the mushroom kingdom, you might want to eat some of them. As most people know, mushrooms can be poisonous. Never eat an unidentified mushroom. The *iNaturalist* site has A-I software that will attempt to identify any mushroom submitted, but it is still not recommended to eat a mushroom based on that information.

Some of the better books will give a recommendation on edibility. For first-hand information on edibles, field trips are posted regularly on the *iNaturalist* and *Nature PEI* websites and various Facebook groups. In a typical year there might be as many as ten mushroom-finding field trips to choose from.

Ken Sanderson feels the poison aspect of mushrooms is overplayed. "You don't randomly go through the woods shoving berries you don't identify in your mouth so why would you do that for mushrooms? We just take it for granted that unless you're a little kid, you're not shoving strange things in your mouth. There's lots of common mushrooms that with just a minimal amount of effort and caution you'll be fine with."

There's a bit of basic terminology to master before selecting your supper. "Agarics", "boletes", "polypores", "chaga"...have fun with Google and prepare to be overwhelmed by what you don't know. But rest assured, there is no shortage of edible fungi in your woodlot once you know what you're looking for: chanterelles, king boletes, shaggy manes, meadow mushrooms (no poisonous varieties on PEI), puffballs (to avoid inedible lookalikes ensure they are white all the way through with uniform flesh consistency), oyster mushrooms, honey mushrooms... the list goes on.

If you do decide to harvest a mushroom either to report or to eat, you can cut them or pull them. The choice is yours. Ken Sanderson often cuts them to avoid dealing with soil from the forest floor. If he plans to identify them, there are tell-tale features at the tip of the stem so he will pull them up with no harm to the mushroom. He says it's comparable to picking an apple from a tree. In the case of the mushroom, the 'tree' is a vast network of mycelia, root-like filaments, that remain unaffected by the harvest.

Mycelia (plural form of 'mycelium') are a collection of *hyphae*, the individual units of the fungus, which can be as thin as one cell (depending on the species), spreading out and searching for nutrients. Depending on proximity to the food source, mycelia get thicker, so turn over a log in the forest and you'll see the white strands of visible mycelia. In the case of honey mushrooms, they leave a black 'ropey' mycelium network underneath the bark.

The medicinal Chaga grows on birch, most often on yellow birch.

It is usually consumed as a tea, and little goes a long way.



Chaga on yellow birch at O'Leary Nov 11/22, R. Curley

Ken Sanderson says those buried networks play a critical role in the overall ecology of woodlots: "They're the foundation. They do everything. All the decomposition is mushrooms. The transfer of nutrients between plants, mushrooms and trees... those are mushrooms. The vigour and health of your forest is related to mushroom density and diversity."

Fungus Farming (cont'd)

Once you've started posting to *iNaturalist*, and after careful research you've found a side dish for dinner, maybe it's time to take a deeper dive and grow your own mushrooms on your own woodlot or even just in your back yard.

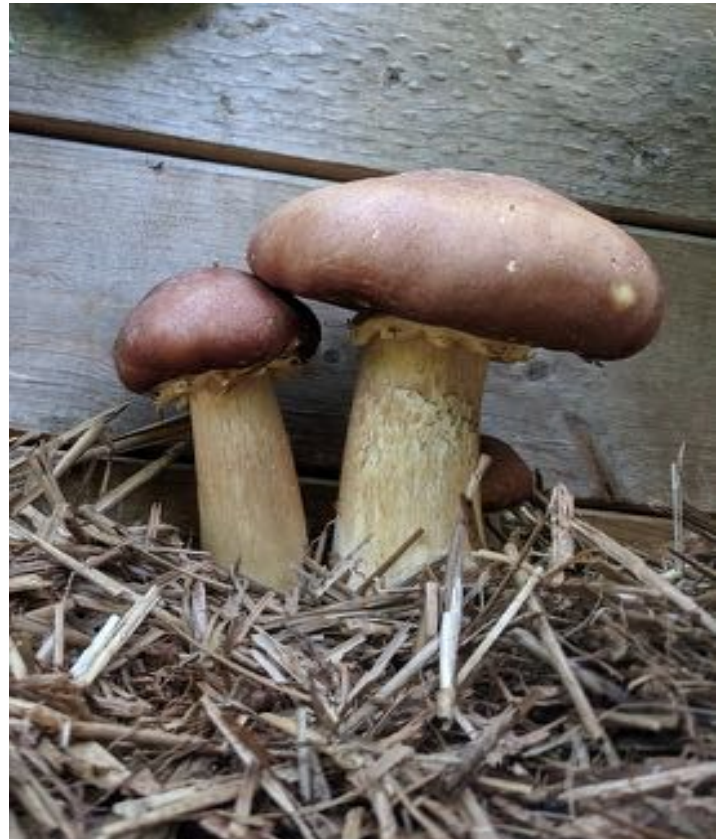
The basic technique for 'growing your own' is to acquire, through the miracle of the internet, a quantity of "spawn". Spawn is sawdust, grain, straw or some other substrate which has been inoculated with fungal spores and/or mycelium. Just Google "mushroom inoculant Halifax" and take your pick of suppliers.

Also, Ken Sanderson recommends checking out *Mycelium Running* by Paul Stamets, a book especially good for woodlot owners with chapters on mycoforestry, mycoremediation and growing particular species.

Once you have the spawn, you will need to feed it with wood from a recently-felled tree, certainly not a problem thanks to Fiona. Ken says there are lots of different ways to proceed:

"People will drill holes and shove the spawn in the hole and cover the hole with wax. Others will grow the spawn out onto dowel chunks and stick the dowels in the holes. Others will cut a slab or divot with a chainsaw, so you have a 'cap' on part of the log. Then they put the spawn on the log, put the cap over the spawn, then somehow hold the cap in place with a nail or with wax... just some way of keeping the moisture in and the bugs out until the mycelium is established."

In most cases the mushroom payoff will be during the following summer. Some species are faster. With oyster mushrooms, you could see a harvest during the first year.



Wine Cap Stropharia, also known as the garden giant, growing in garden straw. Hope River, August 25/19 by K. Sanderson

Most edible mushrooms thrive on hardwoods, but Ken Sanderson has been toying with the idea of inoculating with a species that grows on spruce. He's got lots of spruce stumps along his driveway and the mushrooms could help to break down the stumps. He says he'd love to see fewer downed softwoods being burned and more being consumed by fungi to return nutrients to the soil and keep carbon out of the air.

"It would be interesting if we could get some cultures going and everybody dowelling-up or spawning-up their logs or stumps and see how many mushrooms we can get."

--Doug Millington

The Sustainable Forest Alliance (SFA)

The Sustainable Forest Alliance: A Vital Voice for Forest Owners on PEI

We are thrilled to announce that after years of hard work and dedication, The Sustainable Forest Alliance of PEI is finally going public!

For many years, forest owners on PEI have been looking for support to ensure that their forests are managed sustainably....well, that search is over.

Who are we?

The Sustainable Forest Alliance is a non-profit cooperative that brings together forest owners, managers, land trusts, sawmills and any industry professionals that deal with forest products. Working in conjunction with PEIWOA, the SFA will initiate an era of collaboration amongst all members to build support for sustainable forestry practices, promote the use of local wood products and assist in conservation and protection of watersheds.

The organization was founded on the belief that a) the preservation of the island's forests is vital to the health of the community and the environment, and b) if managed effectively and sustainably, these forests can create a sustainable, local industry.

Our first order of business will be to build trust with forest owners and grow our membership. Without our members we have no voice and influence with government decisions such as land use and development. As members join, they will be given a membership package and welcomed by staff from our partner organization, Eastern Forest Solutions, which will develop a more comprehensive forest management plan followed by management options including carbon project potential.

This summer is going to be busy with the development of PEI's first forest carbon project!

The SFA and EFS will be enrolling forest owners into a carbon project with the goal of providing an annual revenue stream to assist these landowners in growing a carbon rich forest for the long term.

The Sustainable Forest Alliance will be an incredible organization that will perform critical work in promoting sustainable forestry practices on PEI. Our collaborative approach, commitment to education, and advocacy for forest owners will help to make them a vital voice on our Island. Their efforts have helped to ensure that the island's forests are managed sustainably, preserving this natural resource for future generations.

Reach out to us today, at info@peiforests.ca, to become a member and the opportunity to enroll in this years' carbon project.



**Sustainable
Forest Alliance**

Chips and Bark

- If your membership expired on March 31, 2023, you will be receiving a reminder that your **fees are due**. If you are already paid up until 2024 or 2025, you will not receive a notice. Thanks to all who have renewed already – your support is very important to our organization.
- **Tax information for woodlot owners** (Bulletin IT-373-R2):
<https://www.canada.ca/content/dam/cra-arc/formspubs/pub/it373r2-consolid/it373r2-consolid-e.pdf>



Come to our **2023 Symposium & 12th Annual General Meeting on May 6th** at **Tracadie Cross Community Centre**.

Further information will follow in April.

The Board is planning an exciting and productive day for you to have an opportunity to meet and exchange ideas with other woodlot owners, sawmillers, forestry technicians, contractors and artisans from across the province.

Membership in PEIWOA

To join as a new member of PEIWOA, or to simply renew if your current membership has expired, just do **two things**: (1) fill out our membership form online at www.peiwoa.ca, and (2) pay through your bank to etransfer@peiwoa.ca where it will be auto-deposited securely into our account.

If you prefer to mail your cheque, include your **current civic address, e-mail address & phone number**.

Send to: PEI Woodlot Owners Association, 81 Prince Street, Charlottetown PE C1A 4R3

2022-24 Membership Rates

One-year PEIWOA membership*, ending March 31, 2024	\$ 25.00
Two-year membership, ending March 31, 2025	40.00
50% discounted rate for members of PEIFA or NFU, ending March 31, 2025	20.00

*You may be asked for your number of acres (kept confidential) and the **County** where your woodlot is located to become an **Active** (voting) member. **Associate** (non-voting) members pay the same rates but are not required to own a woodlot.

Thank you for supporting the PEI Woodlot Owners Association. Together we will renew the forest!

www.peiwoa.ca