

Volume 5/Issue 4

January/February/March

Winter 2022

Woodland PEI

Newsletter of the PEI Woodlot Owners Association



*What will
you plant
this year?*

Featured in this Issue:

- Editor's Message and Report from the Board of Directors.... p 2-3
- In Search of the Mother Red Spruce.... p 4-9
- In Praise of Long-Lived Trees.... p 9-10



Editor's Message

If you haven't already done so, it's time to **GET YOUR FOREST INTO THE FEP PROGRAM** so you too can become more engaged with your woods.

Nova Scotia Department of Lands and Forestry offers many great online tools for private woodlot owners which are simple, easy-to-read and improve your knowledge in the woods. Their Woodlot Management Home Study Program is online at <https://woodlot.novascotia.ca>. Another not-to-be-missed source of news and information for independent woodlot owners in Atlantic Canada is the *Atlantic Forestry Review (AFR)*, published bi-monthly at www.RuralLife.ca.

Small-scale PEI woodlots can benefit greatly from tree identification, pruning and pre-commercial thinning (PCT). Actively managing such tasks can be accomplished easily with only a small investment in equipment for your woodlot. If you would rather, hire a contractor who can help you formulate and implement the plan. In either case you have increased your skills and knowledge of the woods. The return on your investment will come over time.

Another old saying is "The best time to plant a tree was 20 years ago--the second-best time is today." Watch for new tree planting opportunities when they become available. It takes time to pre-order and receive your native seedlings from PEI nurseries, as noted on p. 10. In this issue Doug Millington and Wanson Hemphill put the spotlight on our lovely native red spruce. As you read, consider the important question on the cover, "What will you plant this year?" Timber stand improvement does increase the useable fiber in your woods, helps with mental health, and will provide increased value in your forest products, many of which may not be on your radar at this time.

–Kathy Stuart

John Keuper, our wise Board member for Kings County, wrote in our Spring 2020 issue that there is **always value in the woods**, and how you turn that value into something you can use or sell is just a matter of **timing**.

Many years ago, in anticipation of great value someday, but back then not exactly sure how, the PEI Government created our long-standing **Forest Enhancement Program (FEP)** which still enables woodlot owners to stabilize and enhance their forests through active forest management. PEI, with the highest percentage of privately owned woodlots in Canada, has very little public land by comparison. Our FEP remains the envy of many jurisdictions in North America trying to accomplish forest improvement even though the Program is showing its need for increased resources, better understanding, more uptake by woodlot owners and sustained government support.

The FEP program first creates a plan by paying a professional forester to assess your lands and provide a management plan based on what YOU desire to make your lands productive, whether that's through timber products, recreation or wildlife habitat. Over the ten-year life of your plan, this forester identifies the trees and breaks the work out into urgent and important, and important but not urgent.

Report from the Board of Directors

After a two-month pause for the holidays and higher-level Covid concerns, PEIWOA's activities resumed with a vengeance in February.

Board meetings via Zoom have become efficient for province-wide Directors. The Board followed up with Ministers Myers and Thompson to provide access to lumber grading options for PEI sawmillers. The Board has also had long-standing concerns about National Building Code impacts. We are lobbying to increase the max allowable size for accessory buildings that are exempt from the Regulations, up from the tiny 20 m² (215 sq ft) now allowed to 55 m² (592 sq ft) or more, following New Brunswick's example.

The Board is also currently in the midst of an important strategic planning process with a facilitator. We have already had many thoughtful hours on developing a mission statement, examining challenges and distilling down much detail to establish goals for the next 5-10 years. The final draft will be brought to the membership in the coming months. We hope that these results will guide future programming, and that we identify how best to serve the needs of all woodlot owners in this era of increasing population and accelerating changes in the PEI landscape.

Having identified concerns about the proposed Environmental Rights Bill not fully passed, the Board held a zoom meeting with its sponsor, MLA Lynne Lund, who answered our questions. There are no further outstanding objections at this time.

PEIWOA participated with a booth at the popular PEI Winter Woodlot Tour in western Queens County on March 5, 2022.

Mark your calendar now for our 11th Annual Symposium and AGM on **April 23, 2022** at Milton Community Hall. It promises to be an exciting day of learning from forestry officials, Island experts and a meaningful exchange with other woodlot owners. Further details about registration will be forthcoming.

The PEIWOA membership year ends on March 31 and renewal reminders have been issued to those who are due. Thanks to those who have already sent payment. If you are not already a member, we encourage you to join and support us with your nominal membership fee. There is also an associate member category for those who do not own a woodlot. The participation and support of all members is very much appreciated.

To learn more about the PEI Woodlot Owners Association or to become a member, explore our website at www.peiwoa.ca or email to peiwoodlotowners@gmail.com. You may also visit us on **Facebook**.

--Kathy Stuart, Chair, Board of Directors

The PEIWOA Board and representatives on the Canadian Federation of Forest Owners (CFFO), the PEI Federation of Agriculture (PEIFA) and PEI Forested Landscape Priority Place for Species at Risk (PEI PLPP) are listed below.

Kings County: John Keuper (*Treasurer*), Kathy Stuart (*Chair*)

Queens County: Jesse Argent, Thomas Baglole, Doug Millington (*Secretary*), John J. Rowe

Prince County: Marcel Arsenault, Bruce Craig, Barry Murray, John Arthur Ramsay (*Vice Chair*)

PEIWOA Reps: Thomas Baglole (CFFO), Jeanne Maki (PEI PLPP), Matt Hughes (PEIFA)

In Search of the Mother Red Spruce

by Doug Millington



Doug Millington, Board member and intrepid investigative journalist, takes us on his quest for the Mother Red Spruce, a valued PEI native species useful in re-establishing a mixed wood Acadian Forest.

On PEI, white spruce is ever-present tip-to-tip, the clear plantation candidate of choice by virtue of its rapid growth in exposed, harvested areas. But while it may be the pragmatic choice for planting, red spruce is the sentimental favourite among many tree enthusiasts who admire its longevity, shade tolerance and physical beauty, not to mention its far superior aroma.

While red spruce plays a very distant second (or even third) fiddle to its ubiquitous white spruce cousin, it is no danger of disappearing from the Island landscape. It can be found pretty much throughout PEI in scattered pure stands or mixed in with other species.

This spring approximately 3,000 red spruce seedlings will be grown at the J. Frank Gaudet nursery in Charlottetown. Of course, this is a mere fraction of the planned outlay for white spruce, half a million seedlings, which is in turn a mere fraction of the white spruce seedling output commonly achieved in years gone by. There are several other tree species whose popularity as planting options far exceed the lowly red spruce.

Yet in spite of its underdog planting status, the red spruce attracts passionate followers. Please read, for example, Wanson Hemphill's article in this newsletter on p. 9. At a recent PEIWOA Board meeting, Wanson extolled the value of red spruce for its vital role in the task of re-establishing a mixed wood Acadian Forest.

At other meetings various Board members have praised red spruce for its shade tolerance and its utility as a wood source in everything from basic framing to fine furniture and instrument manufacture.

According to data from the U.S. Forest Service (USFS), red spruce can live for up to 400 years,

twice the maximum age of white spruce. It is an excellent candidate for planting in shaded areas, being shade tolerant to an almost magical degree.

USFS notes that understory trees no more than 1.2 or 1.5 m (4 to 5 ft) tall may be more than 50 years old. For decades, some reports say as long as a century, they can be limited to as little as one inch diameter growth in 25 years and still be able to resume normal growth in full sunlight. Wanson Hemphill notes that in his experience red spruce can be thinned for continued growth after 30 years, an impossibility with other conifers.

A factor playing against increased popularity of red spruce is its slow growth rate relative to white spruce. But eventually, reds start catching up. Under favourable conditions, red spruce may reach an average d.b.h. of 10 cm (4 in) and height of 7 m (23 ft) in 20 years.

As Wanson Hemphill points out on page 9, red spruce does start slowly, but once established it can put on a foot a year.

Mother Red Spruce (cont'd)

Red spruce's utility for construction lumber and other carpentry purposes is as robust as its more numerous spruce cousins. Red spruce also enjoys pride of place with instrument makers, especially guitar makers, being a popular choice for their all-important soundboards. In fact, red spruce was the overwhelming favourite for soundboard material until over-harvesting in the mid-1900s led to the selection of other, less depleted spruce varieties.

Having encountered so many Island red spruce enthusiasts, I wanted to know if the species was present on my own woodlot. According to an extensive field guide published by the provincial government, "red spruce is easily distinguished from white spruce." However, in the cold, mid-winter woodlot, the field guide is a tough read with its minute descriptions of ovoid cones, bud scales, furrowed bark and conical crowns. Being unfamiliar with these and other obscure field-book terms like *acuminate* and *pendent*, I searched for days without distinguishing the promised hairiness or the "awl-like basal scales" on red spruce twigs.

Still, I was determined to identify this most noble of conifer species, having heard from a harvester that he had noticed red spruce at the edge of a strip cut recently done in my woodlot's stand of old-field white spruce. As a guide on my quest, I enlisted professional Forester and Board member Thomas Baglole. Thomas has genuine admiration for red spruce, speaking of the species in tones others might use in describing vintage cars or golden retrievers. He uses words like "dainty" to describe the needles, and enthuses over the "beautiful architecture" of the crowns and the rich depth of the twigs' ochre hues.

And so, on a fine February morning, Thomas and I strapped on snowshoes and headed out to my Hampton woodlot, searching for red spruce.



RED SPRUCE SAPLING

Thomas didn't need to search for long. A short walk into the property, beside the access road that bisects the woodlot, he headed straight for what looked to me to be just another white spruce sapling. Thomas patiently explained the "giveaways" that allowed him to quickly and decisively pick out this youngster (*above*) from its surrounding white spruce and balsam fir neighbours.

RED SPRUCE IDENTIFICATION



PROTRUDING BUD SCALES: This feature of red spruce is somewhat of a 'smoking gun'. The bud scales of red spruce extend well beyond the end of the bud. White spruce bud scales are shorter than the bud. Bingo!

RED SPRUCE IDENTIFICATION (cont'd)



TWIG COLOUR: White spruce twigs are beige or brown, notably pale compared to the deep, rich orange-red of the red spruce displayed above.



BARK: Mature white spruce bark is smooth and grey, dull as dishwater. Mature red spruce bark separates into furrows of reddish-black scales or plates, resembling old white pine. Notice the red spruce sapling thriving in the shade of its likely parent to the left and a competing white spruce to the right.



CROWN ARCHITECTURE: This is another 'smoking gun' in Thomas' practiced view. This photo shows Thomas, holding his well-bundled newborn son and posing at the base of a fully mature red spruce in Prince County, near Duvar. The massive crown features the gently upward curving limbs and noticeably thicker needle growth typical of the red spruce.

RED SPRUCE IDENTIFICATION (cont'd)



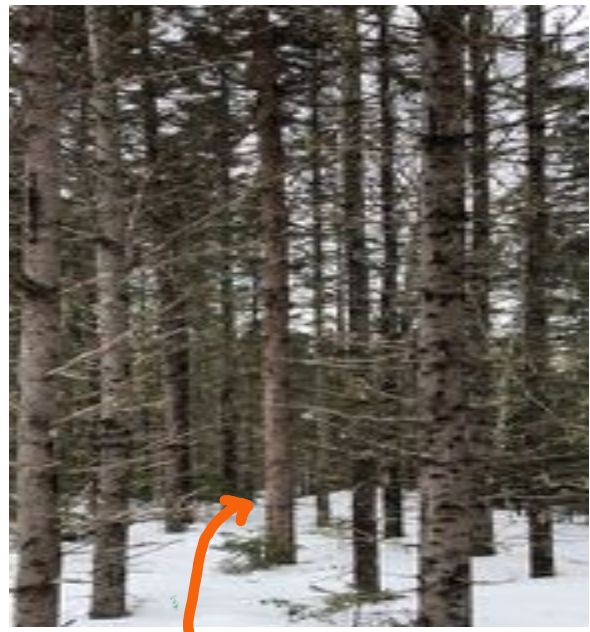
CROWN ARCHITECTURE: Back on the Hampton woodlot we were finding several mature red spruce displaying the same crown architecture.

Thomas explained that red spruce, being so shade tolerant, are able to support much more needle growth in crowded white spruce stands. With the recent strip cut on my woodlot removing shade cover, red spruce growth will accelerate, whereas remaining white spruce will continue to decline.

THE NOSE KNOWS: Just grab a handful of needles, rub them briskly between your hands and sniff the results. This test does not definitively identify red spruce, but it can eliminate white spruce as a possibility. If it's a white spruce...you'll know why they call it "cat" spruce.



NEEDLES: Red Spruce needles are noticeably (up to 3 mm) shorter than those of white spruce. Even suspended from the branches of a mature tree, the red spruce needles shown above appear much shorter than those of white spruce neighbours.



BARK: Notice that the red spruce, in the midst of surrounding white spruce, stands out by virtue of its scaliness and the red overtones of the bark.

Mother Red Spruce (cont'd)

So far, we had found adult red spruce with next generation saplings nearby. As we headed for our vehicle, Thomas wondered aloud where the seed stock for the adults had come from. We had just started driving away when Thomas spied something that made him pull over, stop the car and jump out shouting "come and see this!"



Fully Mature Red Spruce (behind the hardwood)

Through a curtain of roadside hardwood, just on my side of a brook that borders my woodlot, there stood a fully mature red spruce (*above*), its uppermost limbs arcing many metres skyward in all directions. The giant tree was 60% live growth, with the bottom ten metres clear of limbs, enough lumber for a lifetime of luthier's soundboards.

A closer examination from the woodlot side revealed the deep furrows of a tree (*right*) that may well have been growing for over a century, with a circumference of 69 inches and a diameter of 22 inches.

In a later email, Thomas worked out the implications of those measurements:

"It would store a whopping 4.3 tonnes carbon dioxide and have ~1,300 board feet of lumber. Just rough estimates of course, assuming the tree is 30 metres tall which I think is not unrealistic. That would put the tree at a value of ~\$1,800 out the other end of a sawmill (maybe \$75 stumpage to the landowner in a clearcut harvesting system) or something like \$75 - \$130 for the carbon standing in the forest.

By 2030, the carbon would be worth something like \$700+ if current government-legislated market conditions continue as planned and market conditions for carbon do not change drastically."



Deeply Furrowed Bark of Mature Red Spruce

Mother Red Spruce (cont'd)

Before I could mentally spend all that money, I was reminded that since the tree stood beside a waterway, it was not allowed to be harvested. This was not the least bit disappointing since that prohibition had ensured the tree's presence on my woodlot.

We couldn't help but imagine that this old-timer was possibly the source of the seed stock for the adults we had discovered growing further to the south of the woodlot. A good nor'easter might

have carried seeds two or three hundred metres to where the previously described red spruce stood. Perhaps this tree was the ultimate source of much of the red spruce regeneration that had taken place on my woodlot since the former farm fields had been abandoned mid-way through the last century. Even with all that history behind it, this tree, protected in its brookside valley, still has a century, maybe centuries, to go.

--Doug Millington

In Praise of Long-Lived Trees

by Wanson Hemphill

Editor's Note: Wanson Hemphill is a retired forest consultant trying to restore a forest in Covehead.

If forest owners wish to develop a healthy and biodiverse forest with continuous carbon capturing ability, and that contains a mixture of long-lived native trees of different species, ages and heights, they must plan, procure and plant many of these trees as seedlings since the seed sources of many of our original forest are not available.

Long-lived trees like Red Oak, Red Spruce, White Pine, Sugar Maple, Yellow Birch, Hemlock, White Ash and Cedar often need to be planted. Once established, a healthy mixed forest can reseed itself and provide an income from trees as they mature.

Many of these long-lived trees are only available in limited numbers from our Provincial Nursery where the short-lived White Spruce, Eastern Larch and Black Spruce seem to be the most common species grown and planted.

Restoring a forest similar to the original Acadian Forest can be challenging and take considerable time and effort. Acquiring seedlings, planting according to shade tolerance and site preferences and protecting tender hardwoods from rabbit browsing requires resources, patience and bug protection.

As Doug Millington describes in his article, Red Spruce is an amazing tree, native to PEI and can live 300 years, reaching up to 25 metres tall and 60 cm in diameter. It grows slowly at first but will average a foot a year once established. It is shade tolerant, which means it likes to grow in partial shade, and is very suitable for under-planting in existing plantations or in partial cuts where a variety of tree species and ages are desired.

The wood is strong, straight-grained with above average stiffness. It machines and glues well and is easy to paint and nail. It is highly valued for pulp, lumber, plywood and as sounding boards for musical instruments.

In Praise of Long-Lived Trees (cont'd)

White spruce is a valuable tree for lumber and grows well but is susceptible to red heart and only lives 50-60 years. Few options are available to a mature, pure White or Black Spruce stand other than clearcutting and replanting.

Trees that live 200-300 years continue to capture carbon while short-lived trees capture carbon in their lumber products. Clearcutting and exposing the mineral soil for replanting (Site Preparation) allows considerable carbon to escape.

The Frank Gaudet Nursery on Upton Road in West Royalty, PEI, grows very limited numbers of Red Spruce based on woodlot owner and forest technician requests.

As it takes 2-3 years to grow a seedling ready to be planted, greenhouse planting must be estimated and planned in advance. PEI Forest Enhancement (FEP) clients can purchase a variety of seedlings, when available, for 10 cents each plus GST. For more information on the tree nursery and services for landowners through the FEP program, call 902-368-6450.

--Wanson Hemphill



Seedlings at the Frank Gaudet Nursery



PEIWOA members' tour of the Nursery

Membership in PEIWOA

To join as a new member of PEIWOA, or 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) e-transfer from your bank through etransfer@peiwoa.ca where it will be auto-deposited securely into our account.

If you prefer, mail your cheque with your **current civic address, e-mail address and phone number** to: **PEI Woodlot Owners Association, 81 Prince Street, Charlottetown PE C1A 4R3**

2022-24 Membership Rates

One-year PEIWOA membership*, ending March 31, 2023	\$ 25.00
Two-year membership, ending March 31, 2024	40.00
50% discounted rate for members of PEIFA or NFU, ending March 31, 2024	20.00

*You will 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. We appreciate your support.