"This institution is an equal opportunity provider."

Partners News

January/February 2022

Protecting your wooded land for the future is essential to clean water, clean air, wildlife habitat, sustainable wood supply...all things that are necessary to society and health, and that are gone forever if the land is developed.

Contact Us

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Have you paid your PIF dues?

WELCOME NEW MEMBER(S)

Ann Carlson and Burt Johnson

Inside this issue:

Notes from Joe and others

Farewell to our colleague Don Peterson

As we commented in the last issue, the death of PIF members remains a troubling concern. Recently Don Peterson passed away unexpectedly. Don was not only a beginning and faithful member, but it was his foresight that helped establish Partners in Forestry Cooperative. Don was well known and in forestry circles in both Wisconsin and Michigan. He was the spirit in the Master Logger Program, and worked with certification programs. He was well respected in forestry circles in both states.

Don was the head of Renewable Resource Solutions as well as the driving force in the non-profit Sustainable Resource Institute. More recently, as we covered in November, Don led the effort to mitigate the 2018 Father's Day flood damage on the Pilgrim River Watershed project. His foresight and skill at grant writing has benefitted the project deeply with stream bank restoration and tree planting.

We wish the team he created, including his son Hunter, the very best going forward in Don's absence.

Wood Markets

It has been a crazy two years with wood markets. Lumber for framing-building construction is back to all-time highs following a closer to normal couple months in the fall of 2021. Yet pulp wood markets continue to struggle. We must embrace all the values of our forest lands as we continue to search out practical sources of income for sustainable forest management on our lands.

Appreciate our Conifer Trees

Often called evergreens, which they mostly are except for tamarack and any larch in our area, conifers are gymnosperms. In Greek they would be termed naked seed, as they lack the nutrition common in angiosperms. They have adapted to incredible adversity, as we see with black spruce and tamarack in the soggiest of sites. Balsam Fir is extremely cold tolerant, as 50 below F does not distress the species: one study subjected balsam fir to -320 F in liquid nitrogen and the plants survived. In the winter, evergreens can actually photosynthesis, not enough to grow, but enough to assist their endurance.

As we covered in the Celebrating Local Wood and Alternative Forest Products handbook last year, conifers have offered us tremendous benefits. From the construction lumber category SPF (spruce, pine, fir) to woodworking with white pine, cedar and hemlock, our uses of these woods fulfill many of our social and practical needs. And take the overwhelming environmental and intrinsic benefits of conifer while hiking under towering pine, or becoming engulfed in old growth stands of cedar and hemlock.

Whitetails

Most all of us woodland owners love the whitetail deer, however within reason. Over the fast 3 decades the deer population has exploded in the north, placing great strain on the habitat, plants, other animals and on humans. Nature, it appears, may be on a correction course, as Chronic Wasting Disease (CWD) has expanded to Vilas County. First discovered on a deer farm in September 2021 in central Vilas County and confirmed in a wild deer following deer season. This trend does not bode well for the future health of the deer herd, as CWD has continued to spread across the state for 20 years now. To summarize, besides getting your deer tested if you are a hunter, we as a society need to deal with the consequences of feeding and baiting deer, allowing deer farms to expand for big rack trophy deer, and of course the ridiculous management of sparing antlerless deer during hunting season.

Wood from Madison Wisconsin goes to DC

On January 6, 2021, rioters at the United States Capitol stormed the building, causing large-scale destruction. As crews work to restore the incredibly old wood on parts of the building, such as doors and windows, lumber from Madison is already in Washington D.C. to offer material to the restoration project. The USDA Forest Products Laboratory is supplying that lumber, which was gathered over the decades from various projects dating back to 1910. Following a project, leftover wood is collected, documented, and stored away from the elements. "We store it, keep it out of the weather, and keep it documented as to where it came from and the source of it and what it was used for," said Dr. Bob Ross, one of the many people working behind the scenes to help supply the restoration project in D.C.

The wood has some history of its own. Much of the 3,000 pounds of wood shipped to the Capitol by truck is left over from World War I. "This particular wood came out of a need to develop propellers," said Dr. Ross. The remaining lumber from the war effort will now replace the vintage wood lost on January 6 of last year. Ross added it is essential for the restoration process to replace the vintage wood with vintage wood, to maintain the quality of the lumber still part of the structure. He says the wood is made of a wide variety of trees, much of it from old growth clear mahogany, originally sourced from South America and the Philippines.

See the full story with photos at
FPL sends historic legacy mahogany to help restore U.S. Capitol | US Forest Service (usda.gov)

Carbon Storage

Among the many benefits that forests provide, there is rapidly growing attention to their capacity to mitigate climate change via carbon sequestration and storage in vegetation, soils and harvested wood products. Most all shared and fiscal benefits from carbon sequestration to date, have gone to the largest forest owners. Under the direction of PIF's John Schwarzmann, we will begin the exploration of how family forest owners may become involved.

American Bird Conservancy:

We recently received this message and share it here. The attachments mentioned will be on the PIF website, or please ask if you would like the PDF.

Hey Partners in Forestry! My name is Michael Paling and I'm a forester with American Bird Conservancy. I work with private landowners to help them improve their habitat for birds through a program called the Regional Conservation Partnership Program (RCPP). This program is a partnership between ABC and the USDA's NRCS to provide private landowners with funding to improve habitat for two target bird species: the Golden-winged warbler and the Kirtland's warbler. Landowners with mature aspen, tag alder or jack pine would be the best suited for this program and I thought this would be pertinent info for your members. I've attached some PDF's that can give more details about the program and what we're trying to do. One PDF is a map that shows which counties are eligible for the work throughout Michigan, Wisconsin, and Minnesota. If you have questions, feel free to email myself or my co-worker, Pat Weber, and we'd be happy to give more info.

Michael Paling; CCF
Michigan Forester American Bird Conservancy
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AMERICAN BIRD CONSERVANCY

INTRODUCING THE HEADWATERS CEDAR COMMUNITY FOREST PROPOSAL

A project of Northwoods Alliance Inc., in partnership with Partners in Forestry and others -
200 acres in the Town of Land O Lakes, described as the west half of Section 27 lying south of County Road B, Town 43 North, Range 8 East.

A successful project will open 200 acres to non-motorized public access (has been closed since about 1993), access will be from County B (shown) and the surrounding state forest.

Threat of Conversion- fragmentation and parcelization are rampant of late in Vilas County, thus utilizing the current opportunity to protect this parcel is critical.

Letters of support, sent with the application to the USFS Community Forest and Open Space Conservation program, demonstrates widespread community support: Town of Land O Lakes, Lac du Flambeau Band of Lake Superior Chippewa, Northwoods Land Trust, Wisconsin Green Fire, Land O Lakes Fish & Game Club, Nature Conservancy of Wisconsin, Sustainable Resource Institute and Partners in Forestry Cooperative.

This cycle of Community Forest grant opportunities highlights a pilot area in the western Lake Superior watershed, through a partnership with EPA and the Great Lakes Restoration Initiative. This project is in the pilot area with the Ontonagon River watershed.

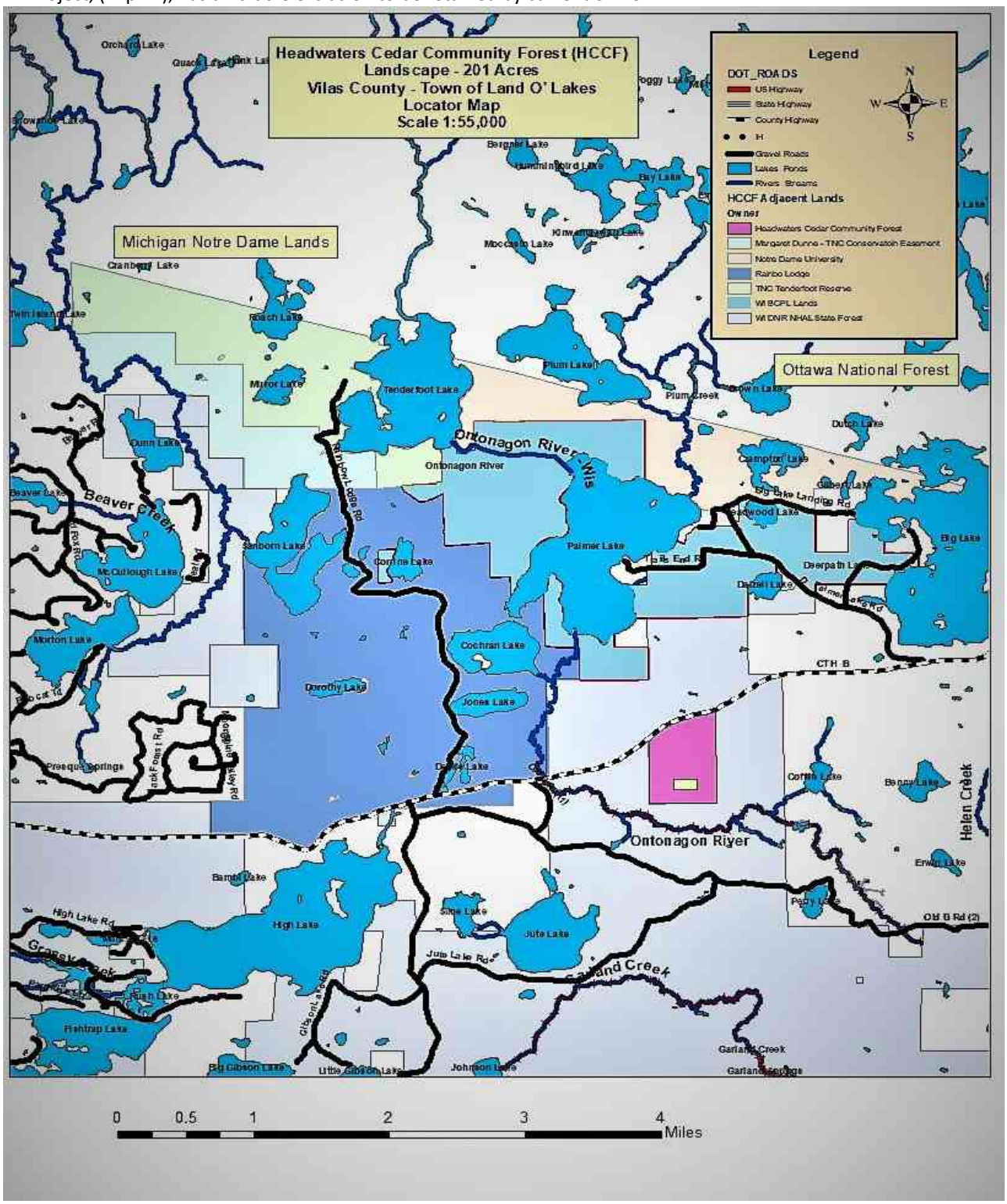
Forested stands are highlighted by 49 acres of majestic looking cedar (stand is 94% cedar) with rich understory of spreading wood fern, orchids, mountain maple.

HCCF Project Forest photos by Partners in Forestry Coop

Other timber stands include 46 acres black spruce, 46 acres aspen, 25 acres northern hardwood, 17 acres seed origin white pine and 17 acres of alder -scrub timber. Hemlock and yellow birch are scattered throughout. Community input will be welcomed concerning timber management practices as well as location of trails and other features involved in Community Forest management.

Surrounded by Northern Highland State Forest (NHAL) and in close proximity to Board of Commissioners of Public Lands, The Nature Conservancy's Tenderfoot Reserve, University of Notre Dame Environmental Research Center and in wildlife corridor from NHAL to the Ottawa—this project will protect the state forest and surrounding habitat! Located in the Border Lakes Conservation area, on the Winegar Moraine landform.

Project, (in pink), has a 10-acre exclusion to be retained by current owner



Map by NWA Project map with timber stands is available on request

This project will protect the Great Lakes near the source-Wetlands of black spruce, cedar and alder filter runoff from hills on the NHAL before draining to the Tenderfoot Creek—this is at the beginning of the Ontonagon River tributary which flows into Palmer and Tenderfoot lakes before releasing in the UP where it joins with the Cisco just north of US 2 and achieves federal Wild and Scenic River designation in the Ottawa National Forest on the way to Lake Superior. Lake Superior Action Management Plan (LAMP) prioritizes protecting tributary health.

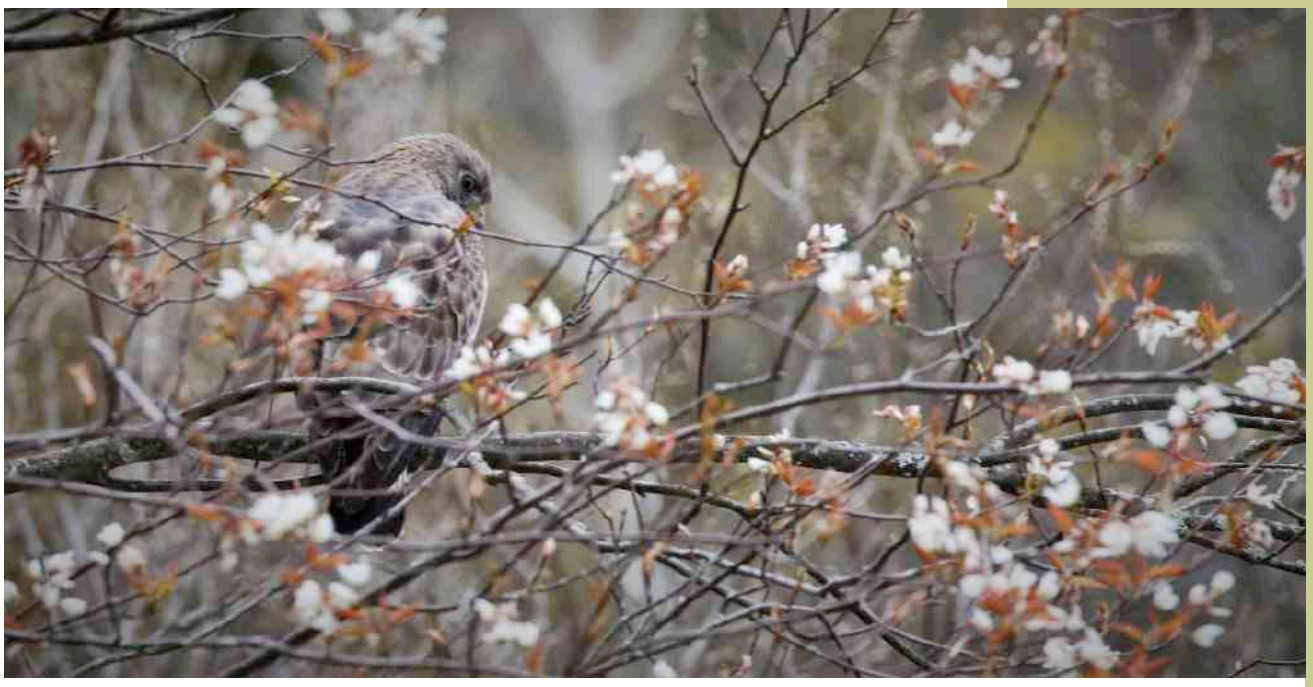
2 photos below WDNR: Vernal pool on HCCF collects runoff from NHAL and forms seasonal stream flowing to the Ontonagon River on the NHAL

Project <1 mile from Devils Lake Vista on the Sub-continental divide NWA photo October

Wisconsin Wildlife Action Plan states that the Winegar Moraine is the best opportunity to protect larger blocks of forest habitat from fragmentation. Active Goshawk habitat with dozens of others species of birds and mammals migrating through the Border Lakes as a wildlife corridor from the greater NHAL to the Ottawa demonstrates importance to wildlife.

Wildlife photos: PIF & NWA project file

Goshawk above, red shouldered hawk below



Bobcat with kitten Land O Lakes

Northwoods Alliance Inc. is a grass roots, all volunteer, non-profit and public charity. We seek to protect critical parcels of land for the environmental, economic, social and intrinsic benefits to society. Our efforts have long focused on the Ontonagon River watershed and the Border Lakes area. Many of our successful projects can be viewed within Northwoods Forest Conservation: A Handbook, which is available on request. Within this watershed, completed projects by NWA leaders, include several in the neighborhood of the Headwaters Cedar Community Forest project, and down river in the UP with Wildcat Falls Community Forest, conservation easement on the South Branch near Ewen and the Victoria reservoir where the Wild & Scenic Ontonagon River enters the reservoir. Other notable projects include the Pilgrim River Watershed project, and the Upper Wisconsin River Legacy Forest.

We appreciate the value of partnerships and rely on community support. For further information please contact us.

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In addition to the recent discovery of CWD, Vilas County is now the furthest northern county in Wisconsin to have fully established Oak Wilt. A sad testimony, but a highlight to the importance of our mission. We will have more details on this in the spring issue.

Pilgrim River visits in winter. On the Pilgrim River watershed project a volunteer group is grooming parts of the logging roads for skiing and snow shoeing. In addition there are further back woods trails and overlooks to explore. If you have Facebook, look for Boundary Road Trails or ask us for directions.

Contact us with requests for any or all of the three books in the Northwoods Forest Conservation series: A Handbook, Celebrating Local Wood and Alternative Forest Products or Managing for the Future.

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Suggested old growth hike, from John Bates and Our Living Ancestors

Frog Lake and Pines SNA

Frog Lake State Natural Area, Iron County

Location and Directions: Iron County, T42N-R4E, Sections 8, 9, 16, 17.
From the junction of Hwys. 51 and 47 in Manitowish, take Hwy. 47 south for 0.6 mile – the site is signposted on your right. A small 4-car parking lot can be accessed by driving 50 yards in on the old road. Walking west on the old road into the site quickly brings you to a trail intersection; taking the south fork of the trail (to the left) leads to Frog Lake, while staying straight on the old road leads you in a mile to a canoe campsite on the Manitowish River. Old logging roads radiate throughout the site, but are now overgrown and very difficult to follow.
Size: 1,176 acres designated in the state natural area.
Forest Type: Upland red and white pine within a wetland mosaic
Age of the oldest-known trees: 120 years+, the oldest tree is 217 years - the red pine that the researcher cut the cookie out of and found it began in 1804!
Status: Owned by the WDNR and first established as a State Natural Area in 1983.
Frog Lake and Pines features an undisturbed wilderness lake surrounded by old-growth northern dry-mesic (red and white pine) forest in a large lowland complex bordering the Manitowish River. About one-quarter of the shoreline around the lake consists primarily of mature to old red and white pines. The first one-third mile of the old road leading back to the Manitowish River is also lined with large white pines, a few of which are 36 inches dbh. Bushwhacking north into the pine woods leads you to a ridge that supports the largest white pines, a few of which are 40 inches in diameter.

The big pines are mostly found in this first section of the trail, which then degrades into an aspen forest and open field, the remains of the John Nutter farm that was carved out of this wilderness area back in the early 1920s and then sold to the WDNR in 1968. Other large pines can be found along the river corridor leading all the way to the Turtle Flambeau Flowage (TFF).

At less than 50 acres of older growth pines, Frog Lake and Pines may be the best old pine site left in Wisconsin, a testament to how thoroughly the best pine lands were sought out and cut.

The SNA lies within the 6,265-acre Manitowish River Wilderness, the only designated wilderness area on state property. Wetlands cover over two-thirds of the wilderness, with islands of pine scattered along the shoreline and inland. The Manitowish River, a state-designated “exceptional” river, flows quietly for 16 miles through the wilderness area from the Hwy. 47 bridge to the TFF.

The understory under the pines supports thickets of hazelnut that make snowshoeing in the site a challenge at times, but occasionally the hazel grades into a fairly open understory with bracken fern, bunchberry, wild sarsaparilla, American starflower, rough-leaved rice grass, and Canada mayflower. Every year, Mary and I watch along the shore of Frog Lake for the first blooms of trailing arbutus to signal spring is truly arriving.

Historically, fires swept through the dry sandy soils every 50 to 200 years, but some trees survived over 300 years. The stand-replacing fires created red pine, aspen, and white birch forests that eventually succumb and yield to the more shade-tolerant white pine, balsam fir, red maple, and red oak.

Nesting birds common to older pine woods like this include pine warbler, black-and-white warbler, pileated woodpecker, blue-headed vireo, hermit thrush, Swainson's thrush, red-breasted nuthatch, and blackburnian warbler. A wolf pack frequents the area, and cougar sightings occur with some frequency – it’s truly a wild area.

The 42-acre Frog Lake is a deep (45 feet maximum depth), soft seepage lake with a dense community of submergent aquatic vegetation including white and yellow pond-lilies and three rare plants – purple

bladderwort (Utricularia purpurea), small purple bladderwort (Utricularia resupinata), and Robbin's spike-rush (Eleocharis robbinsii). Migrating waterfowl make significant use of the lake, with common loon and trumpeter swan frequently present.

The SNA is managed as a preserve for northern dry-mesic forest and northern sedge meadow, as an aquatic preserve and wetland protection site, and as an ecological reference area. Natural processes are allowed to determine the structure of the forest which over the course of time will convert the oak/red pine component to white pine. White pine reproduction is vigorous under the partially shaded canopy throughout the site.

John has a new book out now: Wisconsin Wild Lakes; A Guide to the Last Undeveloped Wild Lakes
www.manitowishriverpress.com

Frog Lake red pine fire scar.

Frog Lake white pine.

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Future Articles

If you have questions that you would like to see addressed in the newsletter, suggestions for, or have articles for, future newsletters, please contact us at partnersinforestry@gmail.com or by mail:

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Carbon Credits from your woods?

John Schwarzmann

As carbon dioxide (CO2) and other greenhouse gases warm the planet and destabilize the climate with each passing year, one approach to preventing or reducing CO2 emissions is with forest or agriculturally based carbon credits.

A carbon credit is a generic term for any tradable certificate or permit representing the right to emit one metric ton of carbon dioxide or the equivalent amount of a different greenhouse gas (tCO?e). Carbon credits and carbon markets are a component of national and international attempts to mitigate the growth in concentrations of greenhouse gases (GHGs). Carbon trading is an application of an emissions trading approach. Greenhouse gas emissions are capped and then markets are used to allocate the emissions among the group of regulated sources.

The idea behind the emissions trading approach is that a base national, state or company emission rate would be determined, then that nation, state or company would set future emission targets based on that rate. The idea gained momentum at the 1992 Kyoto conference which came to be known as the Kyoto Protocol, a draft international treaty which extended the 1992 United Nations Framework Convention on Climate Change (UNFCCC) that commits national governments to reduce greenhouse gas emissions.

Two Markets - Even before Kyoto rules came into force, organizations began creating trading mechanisms for companies wishing to voluntarily participate in carbon emission reductions in advance of the imposition of regulatory mandates. These markets came to be known as “pre-compliance” or “voluntary” markets.

Mandatory carbon trading markets also arose after Kyoto, with California cap and trade being the most prominent example in the United States. In an effort to reduce greenhouse gases (GHS), the State of California passed a law in 2006 and extended it in 2017 capping CO2 emissions of big polluters and mandating future reductions towards a target of reducing emissions to 40% below 1990 levels by 2030.

For example, under a business-as-usual scenario, let's say a power company could expect to emit 120,000 tons of GHG's in year one of the California law that only allows it to emit 100,000 tons. In the long-term, the goal is for the company to find ways of producing power without emitting as many GHG's. However, to meet its regulatory burden in the short-term, it will need to buy 20,000 carbon offsets to bring its emissions down to its mandate.

At the same time a large landowner such as a timberland investment management organization (TIMO) like Lyme Timber or an educational institution like the Wisconsin Board of Commissioners of Public Lands (BCPL) or a large private landowner or group of smaller landowners own timberland that has the potential to be harvested (lands legally protected from timber harvesting such as wilderness aren't valid for carbon credits) for lumber for homes or pulpwood for the pulp and paper industry. 3,000, non-contiguous, acres is the approximate bare minimum footprint for a viable project. If the landowner(s) agrees to reduce timber cutting compared to similar lands operated under a business-as-usual scenario, for time periods of 40 to 100 years, it can receive carbon credits that it can sell to the power company. The landowner can be paid to sequester and hold carbon in their forest and the power company can meet its regulatory mandate.
Carbon credits are sold separately either in the voluntary or the mandatory “compliance” market created by law. Voluntary and compliance credits trade at different pricing levels, with compliance credits generally selling at a premium to voluntary offsets.
In order to sell a carbon credit, a forest must meet verifiable standards applicable to each of the two markets. Standards can be developed and enforced by government agencies (in the case of compliance markets) or non-profit organizations (which provide services for both compliance and voluntary markets). In California, a

state agency in charge of reducing air pollution , the Air Resources Board (ARB) developed the standards that a forest or farm landowner must meet in order to receive carbon credits that they can then sell in the compliance market.

For the voluntary market, carbon credit standards have been developed by non-profit organizations. Some examples of private Standards are the Climate Action Reserve, American Carbon Registry (managed by Winrock), and the Verified Carbon Standard (managed by Verra). The organizations behind the standards generate fees from managing the certifications of projects as well as handling the logistics of issuing and retiring credits.
Standards generally apply to establishing methodologies for measuring the amount of carbon in a forest and the rate of carbon sequestration, and how those lands compare to a "baseline" scenario. In order to estimate the amount of forest carbon that is prevented from going into the atmosphere by reducing or postponing timber harvesting or preventing land use conversions to non-forest uses, standards were developed to establish a level playing field for applicants (landowners).

For forest landowners there are three ways that their lands can generate carbon credits: 1) A landowner can plant trees on non-forested lands that will result in holding more carbon than the existing land use. This project is called afforestation, reforestation and revegetation (ARR); 2) A landowner can grow older forests with larger trees that hold more carbon per unit area than the typical forest of that type. This project is called improved forest management (IFM) or proforestation; 3) A landowner can demonstrate that they can prevent conversion to another land use such as row agriculture, grazing land, or residential, commercial or industrial developments. This project is called (REDD) reduced deforestation and degradation.

The landowner works with a consulting firm to develop a project and register it as adhering to one of the carbon offset projects described above. ARR, IFM and REDD have a particular set of rules or "protocols" that sets out how carbon credits will be assigned to different types of projects based on various criteria. The consulting firm sends foresters to your land to establish and measure permanent plots to determine your carbon yield. They evaluate forest stocking, age, species and other data to perform calculations in accordance with both voluntary and compliance carbon offset standards for carbon growth and yield modeling.

After these steps, the consulting firm will send your project to a third party verifier such as Verra and Winrock or the California ARB to determine compliance with the relevant standards. Credits can take anywhere from 18 to 24 months to generate, depending on many factors including: project type, location, forest heterogeneity, verifiers' schedules, and regulatory body backlogs.

Costs are usually spread out through a fee for advising clients and developing projects, and also takes a commission out of revenues generated in the sale of credits.

Next Newsletter – A closer look at IFM projects and how they would impact both landowner revenue and carbon sequestration.

John has a Master degree in Forestry. He wrote a very detailed timber management plan for the Wildcat Falls Community Forest. Following a long career in conservation with the State of Wisconsin Board of Commissioners of Public Lands, he has recently retired. PIF & NWA are proud to have him on board as VP of both organizations. We are grateful he shares the rational in the plan with us all.

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Insight Over Time and Seeing Things for What They Are

by Marianne Patinelli-Dubay

I do an awful lot of thinking and dreaming about things in the past and future – the timelessness of the rocks and the hills – all the people who have existed there. I prefer winter and fall, when you can feel the bone structure in the landscape - the loneliness of it - the dead feeling of winter. Something waits beneath it - the whole story doesn't show. I think anything like that – which is contemplative, silent, shows a person alone – people always feel is sad. Is it because we've lost the art of being alone?" – From *The Art of Andrew Wyeth* by Wanda M. Corn

Before I sought enlightenment, the mountains were mountains and the rivers were rivers. While I sought enlightenment, the mountains were not mountains and the rivers were not rivers. After I reached *satori*, the mountains were mountains and the rivers were rivers" – From *The Way of Zen* by Alan Watts

When I was younger I understood seasons to be a series of months that signal a time of year. These days I think of seasons as a series of years that mark a time of life and I have come to rely on life and experience rather than on calendars to mark time, through personal growth. Winter, spring, summer and fall are more like the mood that fills a memory rather than a marker by which I measure time. Yet as if the two are linked, the arrival of a calendar season always carries with it a memory of a life season that is long gone. I can't say why the ochre and white landscape of winter calls to mind a verdant June from my past, but it never fails that this time of year I am suddenly accompanied by a person from another season who is brought forward like atmosphere out of the grey ledges, planes and angles of this landscape.

Sometimes rather than a person I used to know, I am visited by something I used to think or something I used to be certain of that I now believe is entirely wrong. Recently a colleague remarked along these lines that ethical agreement is complicated by the fact that people don't agree with each other about what is actually right. This struck me as an understatement because if agreement doesn't hold over the course of a single life, how can we possibly achieve agreement between people over time? To resolve this dilemma I turn towards the East, towards the Masters and to what I have learned through my own Catholic tradition about striving and detachment as the two complementary qualities that compete, even as they shape the rhythm of every ordinary life.

Together these qualities hold the possibility for ethical behavior in tension. I mean that our natural striving, for knowledge, material things, for honor and advancement are all activated by desire. Striving occupies us in the moment (or often in the years) between our desire for something, our certainty that we are correct in pursuing it and its attainment. Here in pursuit, what we want to possess takes on the qualities of any marvelous thing that is outside of our grasp. Of course the instant we have it, its commonness flattens our desire for it and makes ordinary all of the qualities that it seemed to have from a distance. Human nature is inclining, always advancing on the next marvelous thing. Striving, according to this way of thinking, is easier and easier to understand than its counterpart – detachment.

Detachment in contrast feels unnatural, the openhandedness of it often strikes us as irresponsible. How can we manage and control a circumstance or an object, a person towards the good if we loosen our grip? Knowledge might not come, actors might do harm, acquisitions might fall through our fingers if we aren't tight-fisted. Except it is only when we detach from permanent ownership, the fantasy of achieving absolute correctness, ultimate knowledge and the illusion that we can engineer the correct outcome, that we can see things for what they are. In a funny way, detachment allows us to see more clearly.

It took me a long time to understand how to balance the wisdom that I live in a temporary and enchanted world; that I and my ideas of right and wrong are subject to change along with my responsibility to do right within limits. In the beginning, before I desired to shape and engineer my circumstances and the circumstances of others, I saw life and things more or less for what they were. When I began to layer on my desire to possess, to achieve, to attain then these same things took on a different quality. I'm just now emerging into the third phase of Zen Master Dogen's wisdom: when mountains are simply mountains again and I am learning to settle into the landscape as it is. With my intentions directed towards the good, aware of my limits and my obligations I'm *not-striving* towards complete understanding but trying to accept that I am just looking through a bamboo tube at a corner of the sky. (*Mountains and Waters Sutra* by Sansui-kyō)

Marianne Patinelli-Dubay leads the Environmental Philosophy Program at SUNY-ESF's Newcomb Campus on the Huntington Wildlife Forest. In addition to teaching and writing, Marianne Chairs the Adirondack Chapter of the Society of American Foresters and is a professional member of the Forest Stewards Guild. Please send your comments to mpatinelli@esf.edu

PIF Note: *At the Partners in Forestry website, please see photo of an original oil painting created by Marianne's mother* ***Louise Patinelli.***

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Searching for a singular day

"I haven't known peace and quiet for so long, I don't remember what it's like," – Bob Dylan

By JOHN PEPIN Michigan Department of Natural Resources

Sometimes, like today, when I am sitting alongside the still, clear waters of one of these north-country, freshwater lakes, I get a feeling inside. It's a strange sensation. I feel like at any second an ancient voice could come to me through the deafening silence, from through the trees and across the water, to whisper secrets of the universe, while at the same time, I have a feeling of loss and emptiness.

It's as though the vastness of the sky and the universe are drawing me up with them, much the way a tornado sucks trees out of the earth, twirling them toward the heavens. And yet, there is no wind whatsoever. I am stirred with emotion.

I relish the time I have here alone to be enveloped in this scenery without a single other human being. Not enough time is afforded to quiet time, time to think and time to not think – time to just be. It feels like things are flipped upside down, out of proportion.

The largest measure of my days is consumed, like most folks I would imagine, in meeting all types of diverse demands, while the time I can steal away to get outside to the piney woods, or these desolate backwater lakes and creeks, is limited. It seems to me it should be the other way around. Since the earliest times I can recall, I have been compelled to visit the quiet places like this. It's a strong pulling I feel deep within me. It is clear to me that I need to be here, but I don't often understand exactly why.

Why do I find my most sublime peace and comfort among these gigantic boulders covered in bluish-green and cream-colored lichens? Why do the black waters, dark and unknown, mean so much? How do the smells of the trees and the air, and the voices of the birds and animals, enchant me so? Why has it been this way since the very beginning?

It seems being among the outdoor habitats – whether boreal forests, prairies, deserts, mountains or seascapes – is a vital need that must be fulfilled for me to exist. It's like having – or not having – water, oxygen, food or sleep. When I am in places like this, I close my eyes to see what I can sense. There is so much here beyond sight to absorb. Even the darkness within, when I close my eyes, is fascinating to consider.

I love the taste and the smell of the rain, the feel of soft grasses and finely sorted beach sands beneath me and the sounds of bats of the evening echolocating. I often wonder about the things I do and where I fit into the mosaic and art of nature and life. Maybe I don't. Maybe I just hope I do.

I keep working to learn more through thinking and doing, seeing and gathering and walking and reading – always searching. I keep trying to keep the kid inside of me alive by looking at things in new ways and trying to discover new levels of understanding.

Not surprisingly, with the world so packed tight full of things to experience, I find often that I have more to learn than what I know. That helps make every day a new, and potentially better, day.

Up from this lake, there are quiet woods where no one ever seems to go much. There are promontories across this wide peninsula that few ever climb. These are the places I want to go to. It's where I want to be. I plan to do something I have thought about before, but never

done. The reason I have never done it is likely because of the internal and external demands on me that wouldn't allow it to happen.

Largely, my inner monologue would center around not having the time to afford this type of activity. The external demands are self-evident. But I am determined that happen it will.

I want to go to one of these quiet, seldom-visited places. There I will sit quietly for an entire day – from before sunrise to after sunset. I will not do anything but sit, experience, observe and relax. I will open my soul to the nature around me. I will bring a notebook in case I want to jot down some thoughts, maybe my camera, some water and something to eat, but nothing more.

I will no doubt encounter the rattling of my mind back and forth and up and down and here and there. But I think that after the mundane, internal recitation subsides there will be moments of clarity and resolve to find. I also imagine I will see things that I wouldn't expect. I will also be provided the opportunity to see the comings and goings of the place – everything from the winds and the light to the animals, plants and rocks – as the sun moves low across the sky.

Maybe there will be a creek or a river there to sing to me. Maybe there won't be. Perhaps instead, there will be nothing but a splendid stand of sawtooth aspen or a jack pine barren or a green and yellow meadow. The woods might also be dull, gray, brown and rusted. The day may be cold, warm or hot. It won't matter. The experience will reveal itself as a genuine study in truth and beauty.

From other observations I've made in other places, there will likely be a timing involved for all the activities to take place. Periods of the day when the woodpeckers or the blue jays will appear, times when there won't be any birds at all. The deer will pass slowly, nodding their heads as they walk. Squirrels and chipmunks will make their scuffling noises in the underbrush. There might be fireflies or a morning moon to see.

There will also be the cool and darkness of the early daytime, followed by the warming of the later morning into early afternoon before the return to shadows and sinking temperatures. I hope to understand more about these cycles. I also hope to see where I fit in or don't. Do humans in general – and me in particular – have a true place here amid the fabric of nature or are we merely interlopers?

As I sit, I will try not to make any impact at all. No fires. No garbage. Not even footprints, if I can help it. I want to experience this quiet place to its fullest, without imposing my own presence on it. I also want to leave it as I found it, to allow it to remain a place people hardly ever go.

Above all, I hope that I will be given to opportunity to be left alone to myself. I wouldn't want the experience tarnished with the contrivance or interruption of the sights or sounds of humans.

I often think about the silence and vastness of the world the first peoples must have experienced here in this place. The nights were darker back then, the waters of the big lakes even colder and the skies clearer. It must have been stunning and profound to experience.

Following Christmas, this idea of taking an entire day to sit quietly alone amid the grandeur of nature holds even more attraction for me. It's going to be getting even louder and busier, more crowded, pressurized and obligatory.

I hope the truest and most admirable sentiments of the holidays – those of peace, love, happiness and goodwill toward each other – can prevail into the new year. But I am hoping to put my thumb on the scale a little bit by generating love, happiness and goodwill.

I presume that if I can find that quiet place undisturbed, where the tree bark – like the moss and the ferns – has stories to tell, and the trees can unveil a storied history untold, I will indeed find peace on earth. At least for one single day.

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TREE BUDS: HONEST FRIENDS

Paul Hetzler

How to distinguish one leaf-bereft hardwood from another in winter is more of a challenge than summer tree ID, but there are practical reasons – and a few offbeat and interesting incentives – to tell one species from another in the dormant season. Hikers and skiers can benefit from such a skill, and in survival situations, hydration and warmth may depend on it. And if you're among those who adore wintertime camping, you can have even more fun when you know common woody species.

In late winter and early spring, a pathogen-free beverage flows from sugar, silver, and red maples when temperatures rise above zero in the day and freeze again at night. A bit later in the spring yet prior to leaf-out, our native white (paper), yellow, black, grey, and river birches yield copious, healthful sap as well. The same can be said for wild grape stems, although it's critical that one can recognize other vines out there like Virginia creeper and poison ivy.

Being able to tell native shrub dogwood and *Viburnum* from invasive honeysuckle, *Euonymus*, and buckthorn may score you some tasty dried berries, and save you from the nasty effects of consuming the wrong ones. If you need fuel wood in a hurry, basswood won't help, but ash, which has similar bark, definitely will. Black and pin cherry also burn respectably when green.

Foliage is front and center when you crack open a typical field guide. Without such a luxury, we have to look more closely. Bark comes to mind, and while sometimes helpful, it's not always reliable: bark characteristics change as trees age. Not all hickories have shaggy bark, and the majority of birch species aren't white-barked. Cherry and ironwood have lenticels on young wood only. Even the characteristic diamond-shaped furrows of ash bark may look different in some conditions.

A better diagnostic tool is arrangement: whether or not twigs grow opposite one another on the branch. Most trees have alternate twig growth, so we'll focus on opposites: maple, ash and dogwood, or "MAD." Shrubs and small trees in the family *Caprifolaceae*, such as viburnums, are opposite, too. The prompt "MAD Cap" may help keep track of who's opposite and who's not.

All our native dogwoods are shrubs, so maple and ash are the sole members of the opposite-tree club. You'd think that would simplify things, but twigs on any given ash or maple branch might be missing their "partner twigs" opposite them. Wind, ice, pathogens, and other things will do that, so don't trust branch arrangement entirely.

Location gives us some clue about tree ID, too. Riparian zones and other low-lying wooded habitats which are seasonally flooded are not likely to produce healthy sugar maple, white ash, red oak and white pine. On the other hand, red & silver maple, green & black ash, bur oak, white cedar, eastern hemlock, and elm will thrive in those types of places. Invasive and non-regional species like buckthorn, Norway maple and boxelder may show up on sites with a history of disturbance.

Even the health profile of a species can be helpful. The presence of black knot lesions indicates a cherry tree, for instance. A towering hardwood with a crop of like dark tennis balls throughout the canopy is a hickory that is infested with *Phomopsis* gall disease. A deep, slanting scar on the lower trunk of a hardwood is likely a calling-card from the sugar-maple borer.

Smell is an honest indicator, but it only works for a few species. Yellow & black birch twigs smell and taste like wintergreen. Peel a cherry twig and you'll get a whiff of bitter almond. Most features of red and silver maple are very similar, but silver maple twigs smell rank when broken.

Fortunately for us, buds (like Vulcans) cannot lie. Look closely at a twig to see if the buds are opposite or alternate. Bud size, shape and placement will give further clues. Beech have long, lance-like buds, while those of balsam-poplars are sticky and aromatic. Red and silver maples have puffy, reddish buds. Sugar maple buds are brown and conical, like a sugar cone. Oaks have clusters of buds at the end of each twig. Black locust buds are "submerged" under the bark.

Inside each bud is an embryonic leaf (and/or flower). To protect their tender charges, most tree buds have overlapping scales that open in spring. Basswood buds have two or three scales, which vary greatly in size. Sugar maple buds have many, uniform scales. Butternut and hickory buds have no scales, but depend on a bit of fuzz to guard leaf embryos. All in all, the best winter tree ID tools are buds. It would be a sad world if we couldn't count on our buds to tell the truth.

For more details on tree ID, see Cornell's book "Know Your Trees," available as a free download (http://www.uvstorm.org/Downloads/Know_Your_Trees_Booklet.pdf).

An ISA-Certified Arborist since 1996, and former Cornell educator, ***Paul Hetzler*** *wanted to be a bear when he grew up, but failed the audition. Having gotten over much of his self-pity concerning that unfortunate event, he now writes essays about nature.*

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INDULGING REFORESTATION

Paul Hetzler

As a child in a devout Catholic household, I was intrigued by "Indulgences," a way for sinners to reduce their afterlife penalties by paying a fee commensurate with their bad deeds. This was years before Heaven went digital, of course, and as a youngster I assumed these bookkeeping adjustments were made in such a way that God didn't notice the erasure marks in the Eternal Ledger.

When I first heard the phrase "carbon offsets" it reminded me of the practice of Indulgences – if you pay enough cash, you can fly your Learjet to Nova Scotia to see the total eclipse of the sun, and through some kind of accounting magic, not emit a speck of CO_2. Someone would instantly plant a forest, pump carbon dioxide into a deep ocean trench, or build a wind farm for you.

Apparently, I'm too cynical at times, because carbon offsets are genuine. But there are limitations. In a July 2021 Denzeen article, Fredrika Klarén, who runs the Sustainability Division at the Chinese electric-car maker Polestar, says "It is impossible to get down to zero [CO_2 emissions] with offsets alone."

One of the most popular and easily understood ways to offset carbon emissions is to plant trees. If you buy a certain product, the manufacturer will plant a certain number of trees so you can indulge in your acquisition without guilt. I like the idea of my purchases causing trees to be planted.

However, it turns out that afforestation, the planting of "new" forests (often in places where they once existed) is seldom a good way to sequester carbon. It takes a new seedling about ten years just to break even from the energy it took to have it planted, and even more time to offset the early management of young forest stands. How long before a forest begins to sequester carbon in a meaningful way?

Paul Gambrill, CEO of The Nori Carbon Removal Marketplace told Denzeen that "Planting trees is probably the most difficult potential method from a measurement and verification perspective. Forests need to have a permanence of 100 years to be effective carbon stores." Wow. It's going to take a lot of centenarians to manage these offsets properly. This is certainly another strong argument to preserve old-growth forests and to support conservation easements and land trusts as ways of protecting woodlands.

Before too many people jump off the afforestation bandwagon, though, we should keep in mind that there are loads of other good reasons to plant trees and conserve woodlands. Forests prevent erosion, conserve water, protect fisheries, filter particulate air pollution, transform and neutralize gaseous contaminants, safeguard biodiversity, and provide us with priceless cultural and spiritual benefits. And we can actually help lower the age at which forests become effective at reversing CO_2 concentrations.

The main reason it takes a century for trees to store carbon in a meaningful way is the short life of a piece of lumber. Some log homes in Scandinavia date back 600 years or more, yet the average lifespan of

wood used in North American construction today is around 40 years – then it goes into a landfill, or in some cases is burned. Shoddy work plays a part in that quick turnaround, for sure, but the main cause is short-sighted urban and suburban planning.

With few exceptions, demolished homes are not dismantled so that the lumber can be reused. Buildings are splintered with a grapple boom for expediency, and then the whole mess taken to a dump. Tearing down homes to build high-density apartments might be excused on occasion, but all too often, larger single-family units are the result. This practice needs to be curtailed. No one seems to like regulation, yet that's the only thing that brought about fire-safety standards and cars whose gas tanks don't blow up, and put an end to child labor and forced unpaid overtime in this country. Sometimes laws are necessary.

If we can find ways to encourage the salvage and reuse of building materials by way of incentives, and restrict wantonly wasteful practices through local by-laws and other legal means, we can do as much good as if we plant acres of forests. By all means let's keep planting trees and indulging carbon offsets, but we should look for other ways to help mitigate the catastrophic effects of climate change.

Paul Hetzler is an ISA Certified Arborist who is saving up to offset a possible future Learjet purchase.

A PIF favorite for some years now, Paul now has his newest book available. Head of the Class: Smart as a Slime Mold-Natures Funny Bone Revealed is a worthy companion to Shady Characters.
You can check these books out at
https://www.amazon.com/dp/B09DN16VYC
https://www.amazon.com/dp/B08BR6NHDY

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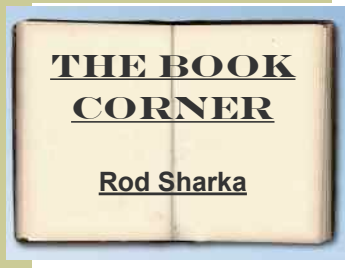

FINDING THE MOTHER TREE; DISCOVERING THE WISDOM OF THE FOREST. BY SUZANNE SIMARD (2021)

Although this book contains a lot of scientific information about inter- and intra-tree species communication through underground fungal networks, it is not really a science book. It is an autobiography. A non-fiction novel about a female scientist, starting with Simard's childhood as a nature-loving, dirt eating girl who grew up in British Columbia amidst a family of loggers. Destined to follow in her family's footsteps, she became a forester. Her first job was working as a seasonal, summer, junior forester for a logging company marking forest plots for timber sales and overseeing plantation plantings. From the very start of her career, Simard's critical observational skills and instincts led her to question current forestry policies dictated by the Canadian forestry department. Being a female in a male dominated field, her story detailed the challenges she faced in trying to get any of her colleagues to listen to her and respect her as an equal. Her resolve led her to pursue a PhD in forest ecology. She became an fearless field scientist and the results of her research led her to challenge misguided governmental policies.

Simard is credited with proving the interdependence of trees via mycorrhizal networks of symbiotic fungi connecting the plant roots, which was termed the "wood-wide-web" by the editor of Nature when her seminal paper appeared in 1997. Back then, she just finished her PhD with the Canadian forestry department, and already made many enemies, being a woman, whose research contradicted official policies and, worse, the stubborn arrogance of forestry officials.
At that time, the imposed policy by the Canadian forestry department was called "clear-cut" and "free-to-grow. As such, all timber was removed from large swathes of virgin forest. Then, every native plant trying to regrow was suppressed by expensive mechanical or chemical means so a monoculture of cash crop conifers

planted in a grid would, in theory, be able to grow without competition from so-called “weed” plants like birches or shrubs. But Simard observed that the newly planted seedling trees were not thriving as the imposed theory predicted. Her research ultimately proved that the birches were not the “evil weeds” the officials claimed. The birches and cash crop Douglas firs formed a complex symbiotic relationship where they shared carbon molecules via the mycorrhizal networks that connected with their root systems to the benefit of both species.

Despite the fame that Simard acquired from the publication of her seminal paper produced in 1997, her supervisors hinted that she had no future in the forestry department, given the fact that the conservative government was slashing her funding and that her research had resulted in her making too many enemies among her supervisors and government officials.

Fortunately, Simard was just then offered a tenure track university position in Vancouver. She hesitantly accepted just to have an income, even though her husband and family were not happy living in the city. This meant she would have to commit to a 9-hour commute every weekend to be able to be with her daughters at least briefly. Months of following this grueling routine ultimately led to the end of her marriage. Adding to this was a devastating diagnosis of an aggressive breast cancer which resulted in bilateral mastectomies and chemotherapy.

This book is a deeply personal story of determination and perseverance. Simard was always passionate about keeping her connection to nature, and she invites her readers to do the same. She drew strength from family, friends, her new partner, and from her connection with fellow cancer sufferers. She survived and learned not to give in, not to cancer, not to societal expectations, not to bullying or patronizing from peers or officials.

Though some readers may not appreciate Simard’s frequent anthropomorphisms, the science behind her work is quite sound, and the author’s overshadowing theme of stewardship is clear, understandable, and admirable.

I highly recommend “Finding the Mother Tree” for its artful storytelling, its thorough scientific inquiry and easily understandable implications, as well as its ability to bring more humanity into the process of science.

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Have you checked out PIF’s website?

www.partnersinforestry.com

The website is for members to expose your business, service or tree farm, share thoughts, ideas, articles, photos, and links.

SELECTING LUMBER SPECIES

See the PIF website for detailed information, courtesy of the USFS Forest Products Lab and State and Private Forestry, on selecting species, and their properties for construction lumber. While we advocate for local wood whenever practical, we acknowledge that approach is not always feasible. For example, most all treated lumber currently on the market is southern pine. Use wood, use local wood when feasible and become educated on the properties of the species you may select.

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