



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

Partners in Forestry
Landowner Cooperative

6063 Baker Lake Road
Conover, WI 54519

partnersinforesy@gmail.com

715-479-8528

PIF's Website:

www.partnersinforesy.com

PIF Board

- Joe Hovel
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- Joe Koehler
- Charlie Mitchell
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Have you paid
your PIF dues?

Partners News

January/February 2019

WELCOME TO NEW MEMBER(S)

TODD & MERRIE SCHAMBERGER
NATURAL LAKES OWNERS ADVANCEMENT ASSOCIATION, INC.

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Northwoods Alliance Inc. Update: Wildcat Falls Conservation Project!

As we begin a new year of working to achieve a community forest at Wildcat Falls, we are very thankful to those individuals and organizations who have contributed in the past year. To start 2019 off on the right path, Friends of Sylvania Wilderness has donated \$3,000.

And to take that another step they have also pledged an additional \$3,000 as a challenge match. The Friends of Sylvania understand the significant natural value of these areas and that we need to work as a community to protect and preserve these threatened natural communities. We are excited about partner groups supporting this great project, as the Upper Peninsula Environmental Coalition did last year with their spring grant. This project has a solid base of support and needs your help to be successful. Be part of the community, and if you are able, please consider a donation to Northwoods Alliance Wildcat Falls project so we can utilize the generous offer from Friends of Sylvania.

www.northwoodalliance.org

WHERE DID THE WATERFALL GO

This winter I had heard someone say they went to Wildcat Falls and could not find an open stream of water, wondering if they were in the right place. So by mid January several of us trekked out to check out winter at Wildcat Falls. And, oh my, does it look different.

The rugged topography of rocks is now much more-gentle, as if buried in much more snow than has fallen this winter. The slope, still distinct, was more of a steep hill than a challenging stepping stone as one walk over the top of the audible flowing water underneath. We were all puzzled.

On the way there and the journey home we saw several open but slow moving streams. Mary and I started to discuss why falling water would freeze over so fast. I theorized it was the mist forming a shell over the falls, essentially it makes ice packed snow in a shield over the falling water. So I did some research, and found much more extensive discussions about the topic that I expected. One even talked of a 55 meter cascade in Switzerland; that freezes over before any nearby rivers. In the discussion a hydrologist gave this summation which is easy to follow.

The continual mist created by the falling water, freezes first to the rocks beside the falls and then grows out from there, eventually forming the outer shell. It thickens as the volume of water decreases throughout the winter, the mists rising up to wet the surface of the shell on both sides and then freezing to it. It's quite a simple and beautiful feat of nature; to find the fastest flowing water freezing over the earliest.

So, it would seem, Wildcat Falls is a victim of its own natural forces in the winter.

Joe

**WILDCAT FALLS
"THROUGH THE SEASONS"
-2019-**



Winter Snowshoe & Tracking—Saturday, Feb.23rd 1-3 p.m., limit of 20 people, please sign up by contacting carolmasonsherrill@yahoo.com or calling 906-358-0016, directions and questions



Spring Ephemeral & Birding Hike – tbd



Summer Hike & Mushroom Foraging – tbd



Fall Color Hike - tbd

Mark your calendar for this presentation if you are concerned about Lyme or any Tick-Mosquito transmitted infection!

Ticks and Mosquitoes in Wisconsin: what we can do to reduce the nuisance and the risk of disease transmission

Susan Paskewitz, PhD Professor and Department Chair of Entomology, University of Wisconsin

Wednesday, May 22, 2019, 9:30 – 11:30 am, Nicolet College Lakeside Center Theater

Dr. Paskewitz will talk about two important groups of bloodsucking arthropods in Wisconsin, ticks and mosquitoes. She will start with some fun facts and then discuss the current picture for disease risks in the state and concerns about new invasive species. Finally, the lecture will provide information about what works for personal protection and strategies that are available for controlling these pests on properties. Come with questions!

Persistent Lyme Disease:

As many of us know, late stage Lyme Disease is chronic and mimics many other disease conditions, even after long term antibiotic treatments in many. Essential oils from garlic, thyme and several other herbs and medicinal plants show strong activity against the bacterium which causes Lyme, according to a team of researchers from John Hopkins School of Public Health. The study suggests that these oils may be useful in treating persistent, antibiotic resistant Lyme cases. The study results were published in the journal **Antibiotics** and included tests of 35 essential oils. Ying Zhang MD, PhD, a professor of immunology and micro biology at John Hopkins said especially the oil from 10 of the 35 surpassed standard antibiotics in treating persistent cases. Garlic, thyme, cloves, cumin, myrrh, cinnamon bark and allspice all showed impressive killing activity against dormant and slow growing Lyme bacteria according to Dr. Zhang.

Have you checked out PIF's website? www.partnersinfores-try.com

The website is for members to expose your business, service or tree farm, share thoughts, ideas, articles, photos, and links. This is your COOP, we need your input as much or more than your dues.

MEMBER PROFILE:

A CONVERSATION WITH JOEL DEANGELO



Grandma and Grandpa with grandsons and their uncle.

PIF: Since you joined Partners in Forestry a years and a half ago, I have been very impressed with your level of engagement. We appreciated reading about your maple syrup operation and your passion with wildlife management in previous issues. Please first tell us about your career before you settled in Vilas County and what your past recreational pursuits entailed.

JOEL: Here's some historical perspective, just because I'm getting old and like to reminisce. I grew up in an ethnic neighborhood in Chicago near Midway

airport. If you reached out a window you could almost touch hands with the neighbor next door. My brothers and I played ball on the local school yard that was completely asphalt covered. The nearest green area park was over a mile away. A vacant lot down the street which held chunks of concrete and other debris was our wilderness to explore. A wildlife inventory would have consisted of robins, sparrows and pigeons. We were very happy because that was the only world we knew.

My parents would take us fishing for one week a year. At first it was to various lakes in Wisconsin which included Black Oak Lake near Land O'Lakes and moved on to Lake Vermilion in Minnesota. That played a big part in opening up our perspective of the natural world. Two of my brothers now own cabins on Lake Vermilion where my family first vacationed over 50 years ago. My wife Pat and I live year round on Kentuck Lake which is 12 miles East of Eagle River. My other brother has a cabin with 40 acres on the Chippewa Flowage near Winter, WI.

I'm a CPA with an MBA in Finance. The last 20 years or so of my career I was part owner in a floor covering wholesale distribution business that operated in 10 Midwestern states. At one point we were \$180 million in sales with 335 employees. I was the Chief Operating Officer and then spent the last two years making acquisitions and overseeing those businesses.

PIF: What sparked your interest in forest land?

JOEL: When we became empty nesters with our kids moving on to college, we bought a weekend cabin in Southern Wisconsin on Camp Lake. That first fall, as we laid in bed, we'd be woken by the blasts from shotguns. Later we found out they were duck and goose hunters. Most of our early vacations with the kids were camping at various national parks, so hunting seemed like just another good reason to be outdoors enjoying nature. At age 49 I walked into a Gander Mountain and told the guy at the gun counter that I wanted to buy a gun to hunt ducks and geese. That actually opened the door to my love of hunting and wildlife. For me forested land is wildlife habitat.

PIF: Tell us a bit about your land investments. You have forest land in two counties, correct? Talk about your land so we understand your interest.

JOEL: My passion for hunting was growing and I started bow hunting just so I'd have an excuse to spend more time in the woods. Illinois is shotgun only, so I wanted to buy land in Wisconsin so I could rifle hunt deer. In June, 2001 I bought 90 acres in Lincoln County south of Tomahawk. The property is flat and wet, with a natural water flow moving from North to South. The property also has a pond that holds water even in the driest summers. About 30 acres had been clear cut a few years before I bought the property. Another 40 acres had been select cut about 15 years prior to my purchase. One of the first things I did was have a wildlife biologist out of Merrill walk the property with me. I learned that my property was on the edge of a wolf pack territory. He said the general area was heavily populated with black bears and our walk kicked up the first woodcock I had ever seen. I expressed an interest in wanting to improve the property for wildlife and he suggested that I consider putting in a larger shallow pond. He mailed me a package that was over an inch thick in forms and requirements. I was willing to pay to have a pond dug, but now I would have to contact about a half dozen agencies because my pond might be in a wetland area. The time and money now required was just overwhelming me as an out of state land owner. I'd come up and enjoy my property by doing road and deer stand maintenance and primarily deer hunted with some bear and grouse hunting.

I retired in December, 2012 and I needed a storage building as well as a closer property for bow hunting so I purchased 40 acres in Vilas County, near Conover, in August, 2013. This property was hilly, high and dry, with a mature forest and 30 minutes from my new home. I wanted a property with a different kind of habitat than I had in Lincoln County.

PIF: You recently entered into new management plans under NRCS guidelines. I view this as a very positive step in your career as a land manager. What are some of the goals of your plans? Will you work with NRCS on any management practices under the EQIP Program? Please fill us in as to what practices you may engage in.

JOEL: The forester you recommended was patient enough to let me walk with him as he did his forestry plan work on my properties and having him talk about what he was seeing as we walked was an incredible education for me.

My Lincoln property doesn't have any cuttings scheduled for the next 15 years due to the cuttings done by the prior owner. That cut will primarily be a thinning. I've joined the Ruff Grouse Society and have talked to their forester several times. I'll probably continue to seek out periodic shearing of alder and aspen to promote habitat for grouse, woodcock and songbirds. At the first cutting I will be required to leave snag and den trees per my plan.

My Vilas property will have a cutting in 2020. We will clear out all the non-oaks in one area to promote an oak stand. Taking out a lot of the mature aspen and then thinning out a lot of other areas to open up the canopy. Keeping most of the sugar maple for maple syrup and future hardwood logs is an objective. Also thinning out a lot of the red maples and creating a couple of small open areas. I'm glad the forester that I developed this plan with will be around for this cutting because it will be critical in transitioning this property as a wildlife habitat. We'll probably be applying for the NCRS money later this year to cost share for the tree marking for this cut.

PIF: What may the future hold for your lands? Do you have offspring who are appreciative of and engaged with the land?

JOEL: I couldn't wait to move out of Chicago. My kids were raised in the suburbs and couldn't wait to move into the city. My hope is my grandsons. The coverts program that I attended and talked about in a previous issue gave me a lot of ideas for how to expose them to the love I have for wildlife and the habitats I am attempting to create. Since I'm enrolling both properties in MFL shortly, it's either my grandsons or I need to live until 119!

PIF: Please explain a bit more of your recreational past times in the north woods. What triggered the maple syrup interest and the wildlife interest?

JOEL: I like to hunt, fish, trap, atv, snowmobile, hike, snowshoe, kayak, canoe, camp, etc. I put a well in on my Vilas property and a garden. Sometimes I just pack a lunch and take a book to Conover and just spend hours chain sawing or doing nothing but enjoying the woods and listening to the birds. My focus in retirement is to have fun and expose myself to new interests. In March, the ice is deteriorating and turkey hunting is still a month away. After dealing with our January and February cold it's time to get out and enjoy those days warming above freezing. It's maple syrup time and a great reason to be in the woods and sitting by a warm fire watching sap evaporate.

Joining DMAP (Deer Management Assistance Program) was a key to finding my roadmap to wildlife habitat development. I wanted to improve my properties for deer hunting. At the first meeting they had a speaker talking about young forests with a focus on song birds. I talked to him later and I told him about my properties. Just happens that they had a federally sponsored program for doing shearing to create woodcock habitat and one of their focus areas was Lincoln County. I ended up having 3 acres sheared at no cost to me and I saw the results as better deer habitat. Then a grad student out of Maine asked to do a follow up study on the shearing areas to see if it was being used by golden winged warblers as well as other species. She did a good job of sending me updates on her observations and I then attended a presentation she did in Woodruff on the results of her study and I was fascinated. That was the beginnings of me becoming a birder. At that same DMAP meeting I met a neighbor who owned 240 acres and was a member of DMAP and PIF. Part of the DMAP program that day was touring my neighbor's property and a property owned by some guy named Joe Hovel. Through the Young Forest Program I'm having another 7 acres sheared next month in Lincoln through NRCS funding. In setting up that shearing, the Young Forest forester who was with ABC (American Bird Conservatory) asked me if I'd like to get forestry plans done on both my properties and that led to two EQIP programs through NRCS. Those plans are just now being finalized.

PIF: I have heard you talk about your public service. I much appreciate hearing from folks who support the greater good. Would you care to tell us about your community service?

JOEL: I'm a CPA that paid someone to do my taxes the last 25 years of my career. When I retired I decided I had the time now and I had gotten out of some complicated tax shelters. I saw an ad in the paper for tax volunteers. It's a program sponsored by AARP and VITA for elderly and low income families. We have to get recertified every year by the IRS and we do returns at the senior center in Eagle



Recent picture of me. I sled the trails on my Vilas property to keep walkways packed down for maple syrup season. Some years there can still be a couple feet of snow on the ground when it's time to tap trees and lug full bags back to the stove.

River. We are also scheduled to do returns for 3 days at the Crandon library. The thanks we get from the people we serve for saving them the fees they'd pay to have their returns done is very gratifying. I'm starting my sixth year and enjoying it more every year. I'm also the Treasurer of our lake-district board. I had spent about 2 ½ years on the board for the Headwaters Council for the Performing Arts in Eagle River as Treasurer and then President. Now a lot of my free time is spent learning about how to improve my property as wildlife habitat.

PIF: Do you have any suggestions about how Partners in Forestry could become more robust to sustain the organization into the future?

JOEL: I think my experience of wanting to put in a pond on my Lincoln county property is a good example of a landowner wanting to improve his property for wildlife and not knowing how. PIF can promote itself as a roadmap being provided by other landowners in how to find and navigate the many resources that are out there to do with your property whatever you choose. People who love their land need that link to other like-minded individuals.

PIF note: As Joel suggests, we have a valuable role in networking among members, agencies and like minded individuals. We can better accomplish this goal by getting to know one another better through profiles like this. Please consider being a subject of a coming story.

Trees on High - How Trees Adapt to Elevation

Scott Bowe

The human body is amazing by how it adapts to working and playing at high elevations. Elevation has impact on other organisms besides humans. Let's look at elevation and how trees adapt to this harsh environment.

Imagine a mountain. What changes can you see as you move from the lowlands up the mountain? One example is that tree type and tree abundance change. You move from deciduous forest in the lowlands to needled trees further up. Finally you reach a point called an alpine tree line above which trees can't grow. There are a number of factors that impact tree growth with elevation. Major factors include temperature, water, soil, and sunlight to name a few.

Temperature is a major factor and it changes dramatically with elevation. As you increase in elevation, there is less air above you so the air pressure decreases. As the air pressure decreases, air molecules spread out and the temperature decreases. For every 1,000 feet you gain in elevation, the temperature drops about 5 degrees Fahrenheit. Colder temperatures at higher elevations often means more snowfall. Most needled trees employ a conical shape that allows them shed snow more efficiently, which prevents breaking under heavy snow loads.

Water is another major factor. As warm, moist air rises up the windward side of the mountain, the air temperature cools and loses its capacity to hold moisture. The resulting rainfall at these lower elevations can support deciduous forest development, such as the aspen forests you will see in Colorado. At higher elevations, needled trees are better suited for the temperature and moisture

conditions. The needles smaller surface area and waxy coating help reduce water loss when compared to broadleaf trees. Above a certain elevation the rising air becomes too dry and cold discouraging tree growth. This is the alpine tree line I mentioned earlier. Even though rainfall may not be a significant factor for some mountains, atmospheric humidity can be very important. Both the overall levels of precipitation and humidity influence soil moisture, which will impact where trees can grow.

Other factors such as soil and sunlight play a role as well. If you imagine a mountain top, it doesn't bring images of the deep black topsoil that you might find in the Mississippi River Valley. Mountain soil is normally rocky and thin. But there can be plenty of sun. Higher elevations receive much more intense radiation than at the base of a mountain. The earth's atmosphere is filled with water vapor, particulate matter, and gases that filter the sun's radiation before reaching the earth's surface at lower elevations. High elevations do not benefit from this atmospheric filter. In fact, many high elevation plants have had to develop strategies to deal with the sun. Shrubs and grasses tend to thrive because of their small leaves and extensive root systems have adapted to deal with limited water and intense sunlight.

In addition to changes in plant communities by elevation, similar changes happen when we look at increasing latitudes across the globe. Recall that latitude measures distance from the equator where lines of latitude on the globe are parallel to the equator. One of the main drivers here is temperature. When we look at the angle of the sun on the equator, it is about 90 degrees and sunlight travels through the least amount of atmosphere to reach the earth's surface. The angle of the sun to high latitudes, like the arctic, is around 25 degrees, so sunlight has much more of the earth's atmosphere to pass through blocking more energy. Less energy means lower temperatures.

Mid latitudes like we have here in Wisconsin show an abundance of deciduous trees found in our temperate forests. In the higher latitudes of Canada, you will find a boreal forest with an abundance of needled trees. At even higher latitudes, you will find the arctic tree line (similar to the alpine tree line of a mountain), where trees do not grow.

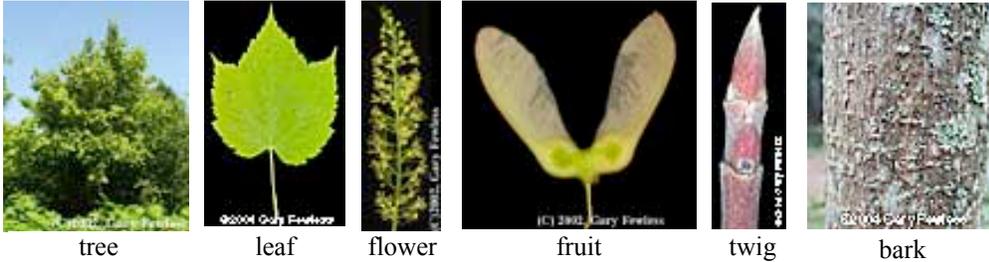
Trees are amazing and adaptable organisms. Whether you are heading for the mountains or driving north into Canada, pay attention to the trees around you and how they have adapted to their environment.

Scott Bowe is a Professor of Forest Products at the University of Wisconsin-Madison and Director of Kemp Natural Resources Station in Woodruff Wisconsin.

PIF note: After reading Scott's story on latitude and elevation, one species that jumps to my mind is the Mountain Maple.

I have encountered dense stands of this species in the Huron Mountains near Lake Superior. The below is from the Cofrin Center for Biodiversity at UW Green Bay, referring to native trees to Wisconsin. Admittedly a minor species, which is not considered an economic driver, because of its shrub like size, it did not even make your Forests Trees of Wisconsin; How to Know Them booklet. Most commonly found in higher elevations and damp environments.

Acer spicatum Lam.
Mountain maple
 Family: *Aceraceae*



Acer spicatum is a shrub or small tree. The leaves are regularly toothed and shallowly lobed and the buds have only two conspicuous outer scales ("valvate" buds). The twigs tend to be green or reddish and often a [combination of the two](#), and they are finely pubescent. The flowers are born in narrow, erect panicles. Where heavily browsed by deer or otherwise repeatedly damaged, they may form dense clumps of small stems.

Acer spicatum is a northern species, ranging from Saskatchewan to Newfoundland, south through New England to Pennsylvania (south to Georgia in the Appalachian Mountains) and west to Wisconsin and Minnesota. Although it is widely distributed in Wisconsin, it is more common in the north and is uncommon over large portions of the south. It is found primarily in wet forests, or on thin soils over limestone/dolomite rocks. It can be very aggressive on the Door Peninsula where it may form a dense understory following logging or heavy natural disturbance of forests. It is conspicuous along the Niagara Escarpment.

Go to Virginia for Maple Syrup.

No way, one would think so, but Highland County, Virginia boasts of a vibrant sugaring industry, credited to the higher elevations which make for a climate more like New England!

On the greater scale of things, looking out of the Northwoods to what is going on!

Fast Growing Trees. World Tree advertises free trees for those with space to grow them. They are looking for landowners to grow Empress trees, which they claim are non invasive, will regenerate, valuable hardwood lumber in 10 years, 30,000 BF per acre, drought resistant. From their mailing: Who plants the trees and where do they grow? The trees are planted by World Tree certified tree farmers. These are farmers who already have experience successfully growing Empress trees. Empress trees grow best in places with summer temperatures of 70°F (21°C) and above for at least 5-6 months a year and an altitude lower than 2,200 feet. Our farmers are located in Canada, the United States and select regions of Central America.

[Worldtree.info](#)

It would seem World Tree (and eventually perhaps agriculture) may have some non tree competition as land use intensifies. In yet another land owner mailing that came in, a North Carolina firm named Innovative Solar Systems is looking to take long term leases on vacant lands for solar farms. They advertise prices 'up to \$1250 acre annually'. The land must be in close proximity to 3 phase electric transmission lines, be cleared, be 150 acre minimum size and have mineral rights intact.

This is all symptomatic of increased land use and reaffirms our very reason for protecting forest lands. Of course we all support renewable energy, however we must recognize the down side which includes the need for minerals used in batteries and cable and infrastructure, and of course the loss of habitat.

Hazelnuts: Promoted by Arbor Day Foundation as a way to feed parts of the world, hazelnuts are a nutrient valuable food source. Hazels are poised to be the 'in' nut for 2019. A new study by the State University of Oregon, Linus Pauling Institute was published in the Journal of Nutrition, and found that older adults who added hazels to their diets for 16 weeks, significantly increased their levels of key micro nutrients. Especially noted were Vitamin E and Magnesium, which are considered major short falls in the average American diet. The study said most all tree nuts, not only hazels, are rich in vitamins and minerals and healthy fats. We can grow some of these in the upper mid-west for certain. Hazelnuts do well in zone 4 and hazel farms are sprouting up in parts of Wisconsin.



A 2-year old Hazelnut plantation established in the Driftless region of SW Wisconsin. Commonly marketed as Filberts, the nutritious nut is touted by the Arbor Day Foundation as a forest product which can help feed society.

PLANNING TIMBER SALES; a series by John Schwarzmann

If you own forestland and have ever considered selling timber, Partners in Forestry will print a series of articles in this and upcoming newsletters to help you ask the right questions, seek qualified help and make your experience both financially rewarding and ecologically sound. These articles will cover the how, what, when and why of common timber sales activities pertaining to preparation, advertisement, sales, contracts, and administration.

While most people have some experience selling assets such as cars and real estate, selling timber has little resemblance to these assets. All too often, private landowners rush into selling timber without assistance in response to a family emergency. These "quick cuts" often wind up losing both current and future income and result in cutover forests that look like they were hit by a storm. To avoid these common mistakes, PIF urges you to take the following initial steps in preparation to sell timber.

The first step is to get in touch with a responsible forester. There are two basic types of professional foresters: public and private. Public foresters work for either a state or federal agency. They can answer questions about managing your woodland and help develop your forest management plan. But landowners often have to wait for their assistance, and the type of assistance they can provide may be limited.

Private consulting foresters provide responsive service for a fee. They work to get the best dollar value for your timber and, like public foresters, will attempt to make your woodland vigorous and more valuable. Consulting foresters are paid either by hourly fee or commission on timber sold. You will likely find that charges will be less than those paid for plumbers, mechanics and other services that charge by the hour. You can find a consulting forester who works in your county at the WI Department of Natural Resources (DNR) website: <https://dnr.wi.gov/topic/ForestLandowners/locator/> If you live in another state, your state agency in charge of forest management may offer private landowner assistance or lists of consulting foresters. Also contact PIF for advice on locating a forester in your area. Our membership includes some excellent foresters.

Walk your property with a forester and discuss your long and short term goals – this will allow the forester to assist you in achieving your objectives. Frequently, landowner surveys show that most private landowners prefer a mix of wildlife habitat, outdoor recreation, timber and aesthetics.

If selling timber is one of your objectives, your forester should provide you an estimate of the minimum number of acres required to sell an economic timber sale. This threshold acreage can vary depending upon the type and age of your forest(s), local markets, and access. If your land doesn't meet thresholds for an economic timber sale, firewood production, possibly custom sawing of boards from may be a very rewarding alternative to selling timber.

Have your forester conduct a thorough inventory of your forest land. Your inventory data is necessary to create a management plan that will guide decisions toward meeting your objectives and determine your "basis". Forest inventories usually identify the mix of timber species, densities, tree ages, soils, number and condition of regenerating seedlings and saplings, insect and disease issues, and volume and break-down of timber products that may be cut from those trees.

Your timber "basis" establishes existing timber quantities and values for future income tax assessments. Ask your forester if he or she has experience in this type of tax work. If not, your forester shouldn't hesitate to tell you that they would seek advice from an expert. The larger your property and the longer your intended ownership, the more important it will be to properly establish your basis. There are experts in this timber tax field that can save you considerably in the long run.

Although a management plan is not required to sell timber, having one will help you be a better steward of your land. A plan will help you understand the actions required to meet a certain objective, and how you and your forester can use harvesting as a tool for meeting some of those objectives. Your plan might include some of the following objectives:

- Reducing overcrowding in the forest
- Creating wildlife habitat
- Renovating a neglected or degraded woodland
- Identifying and planning for regeneration of trees well suited to grow upon the type of soil on your property

- Salvaging damaged trees
- Improving the overall health and vigor of the forest
- Developing areas for recreational activities
- Creating vistas and trails
- Controlling invasive species

With your inventory data in hand, you and your forester can decide if it's the right time for a timber harvest on your property. Timber harvests are scheduled to meet one or all of the following goals: 1) reduce crowding and maintain tree vigor – this is called a thinning; 2) create conditions to regenerate desirable tree species on all or portions of your forest – these harvests are often called gap-selection or shelterwood cuts which describe the holes in the overstory that are created to allow light to stimulate regeneration on the forest floor; 3) cut an even-aged forest where trees are reaching their biological age limit. These types of cuts often remove most of the mature trees and are frequently called clearcuts and are often used for short-lived tree species such as balsam fir and trembling aspen.

Next Newsletter will review Step #2 – Delineation and physical layout of a timber sale

John is Forest Supervisor for the Board of Commissioners of Public Lands and is PIF VP.

Glyphosate:

Following a report that an appeal court would reverse the judgment issued in California against Bayer-Monsanto, it was reported that Monsanto has a long ways to go to stay afloat. There are now more than 8,000 legal cases pending against the makers of Glyphosate, most of them directly related to use of Roundup.

FUTURE ARTICLES

We always enjoy member feed back. Let us hear from you!

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 partnersinforesstry@gmail.com or by mail:

Partners In Forestry
6063 Baker Lake Rd
Conover, WI 54519

As a service to PIF members, contact Joe for special pricing in your needs for:

- Napoleon wood stoves
- wood finishes and preservatives
- garden and tree amendments
- grass seed for trails
- Tool handles, replacement handles

A Well-Rounded Perspective

Paul Hetzler, Cornell University Extension

Global warming might be a lot more fun if it came with a thermostat. Like most people in the northern States, there are times when I wish it was not quite so chilly. If I could tweak some climate-dial so my tomato plants could safely go into the garden on May 1, guaranteed frost-free, it would be wonderful. And few of us would complain if we could suddenly grow peaches and oranges in our backyards.

But aside from a complete lack of control over the whole process, my main gripe about global warming is its first name. It's just that hardly anyone besides astronauts has a decent grip on the massive size of the round lump of water and rock upon which we all live. Whenever there is a cold snap, a lot of us—me included sometimes—wish global warming would hurry the heck up and get on with it. And some of us even question whether weather is actually changing at all.

One of the issues is that no one looks at globes anymore. The next time you see a web-based or wall map, verify that it is flat. Unless you have a unique wrap-around computer screen, or an IMAX theater in your bedroom, chances are you're staring at a rectangular, flat object. Ever wonder how cartographers turn a spherical object into a smooth planar representation? Yeah, me neither. I'm still not quite sure how it's done.

The one thing I do know is that the flat image on our map is, by definition, distorted. If you don't believe me, take a basketball, a pair of sharp scissors, and maybe a medium-hot iron, and try to make the basketball into a flat rectangle with no bulges or ragged edges. I'll check up on you in a few weeks to see how you are coming along.

Surprise—our maps are all wrong. Sort of, I mean, people have been using them to get around for hundreds of years, so they are not completely useless. But in order to take a puffy round globe and mash it square and flat, some cheating is required.

Hopefully you can get your hands on an old globe at a flea market, dig one up from the attic or basement, or maybe pinch one from your kid's classroom at the next parent-teacher conference night. Once you finally have the whole world in your hands, check

out the longitude lines, the ones which run north-south. They are far apart near the equator but converge at the poles. Now go to your computer, smart phone or wall map, and notice that the same longitude lines are now magically square like a tic-tac-toe grid. Now go crack a cold beer or something, because trying to figure this out always gives me a headache.

The map of the world we have used for generations is called the Mercator Projection, after the first guy to successfully iron out a globe. That is actually quite close to how he did it, by the way. It was the handiest method to git-er-done at the time, and we were all grateful the whole class could finally see all the countries at once without fighting over who got to spin the globe. Of course there was the minor issue of inaccuracy, but humanity is a busy lot, and it took a while before another model emerged. Today we have something called the Peters-Gall Projection, soon to be the world standard. It is highly accurate, but also a real shock the first time you see it.

Pictures used to be worth a thousand words, but the exchange rate fell off a cliff after cheap cameras and smart phones came on the scene. Still, a good picture is more powerful than quite a few words, and a bunch of numbers as well. Look at a Mercator projection of Greenland as compared to Africa—they look roughly the same size (if anything, Greenland looks bigger). An old Encyclopedia Britannica will tell you the same thing today's Wikipedia will: Africa is 11,730,000,000 square miles, and Greenland is 836,300 square miles. This means almost nothing.

Until you look at the Gall-Peters map and see that Africa dominates the planet. It is more than 3 times the size of the United States, and nearly 15 times as big as Greenland. And good luck finding the latter—it looks like it shriveled up in the cold water and retreated into the North Pole.

Being a ninth-generation American raised in western New York State, I had assumed the United States took up most of the world. It turns out that it only feels that way. Americans consume 24% of the world's fossil fuels, but we make up only 4.4% of the world's population. However, the really big deal is that the US comprises less than 2% of the surface of Planet Earth. So if a few of us in the northern states decide it's too cold for our liking, and

therefore the planet cannot possibly be heating up, we need to get a hold of ourselves. As odd as it may seem, other things are happening in the 98.1% of the globe that lies outside the 50 US States and territories.

We have but a puny taste of the Earth’s weather, and need to bear in mind that most of the world gets a different flavor from what we experience in our backyard. Our planet is heating up—temperature readings around the world are unequivocal, as well as unbiased (anyone who doubts the accuracy of thermometers should certainly not trust more complex scientific gadgetry like heart monitors, testing labs, or computers for that matter). So let’s try to find a more realistic perspective of how small we really are, and to behave accordingly.

Also, kindly return those globes when you’re done.

PIF note: And if we are still feeling at all significant, given our minuscule presence on the one planet we call earth, here is a sample paragraph from the Galaxy Song. First, of course, realize that a light year is 91/2 trillion kilometers, or almost 6 trillion miles.

*Our galaxy itself contains a hundred billion stars;
It's a hundred thousand light-years side to side;
It bulges in the middle sixteen thousand light-years thick,
But out by us it's just three thousand light-years wide.
We're thirty thousand light-years from Galactic Central Point,
We go 'round every two hundred million years;
And our galaxy itself is one of millions of billions
In this amazing and expanding universe.*

Many times we wonder about browning trees near the highways!

Minimizing Salt Injury to Trees and Shrubs

Paul Hetzler, Cornell University Extension

Every winter brings its annual a-salt on roads and walkways. In icy conditions, salt may be necessary for safety, but too much of it is worse than a bad pun. Cars, equipment, and concrete suffer in obvious ways, but damage to trees and other woody plants is less visible. Salt injures trees and shrubs by several means.

When road-salt spray hits twigs, buds and, in the case of evergreens, foliage, such direct contact causes yellowing of needles, and subsequent death of evergreen twigs and limbs. It also leads to stunted or deformed growth, such as witches’ brooms, on hardwoods. Severe or repeated direct exposure, especially for sensitive species like white pine or cedar, can kill the whole tree.

Less noticeable is the effect salt has on roots when it is directly deposited onto a tree’s root zone by plowing or through runoff. For an established tree, its root zone is two to three times its branch length or drip line. High concentrations of salt in the soil may kill a tree over the course of just a few years. But even at lower concentrations it makes water less available to tree roots, producing drought stress even in the presence of moisture.

This latter injury is chronic, and can show up as browned leaf edges, a condition known as marginal leaf scorch, in the hottest part of the summer. In July and August, deicing salt is the last thing on people’s minds in terms of a diagnosis. It can also manifest as subtle, cumulative damage that weakens a tree year after year until eventually it succumbs to opportunistic agents such as insects or diseases. Many large old sugar maples planted on roadsides have fallen victim to cumulative stress, with salt at or near the top of the list of factors.

Salt actually damages soil structure, causing what is known as sodium compaction. Roots need to get oxygen through soil pores, and healthy soil forms tiny clumps which form natural channels for air to pass.

The chemical bonds holding the clumps together are broken by salt, and as a result the pore spaces collapse, restricting roots' access to air and further stressing trees.

While it was formerly assumed that rain or heavy irrigation could wash road salt from the soil each summer, it now appears this is rarely the case, and that salt levels often slowly build over time. An approximation of soil-salt levels can be made using a conductivity meter to check the electrical conduction in a soil slurry. Readings over about 3,000 micro-mhos per square centimeter may indicate a problem.

There are many strategies for dealing with the issue. Species selection is top of list. Trees such as honey-locust, hawthorn, and Norway maple are more salt-tolerant than others, and can be used in place of sensitive trees like sugar maple.

Homeowners can use low-salt recipes to reduce salt damage. Employing sand or commercially available mineral abrasives rather than rock salt, or by at least switching to mixture of salt and sand, will ease the stress on woody plants. Alternative deicing products such calcium magnesium acetate (CMA) are much less toxic to plants, though they generally cost more.

Physical barriers are another tool to combat salt damage. Constructing a fence of burlap or geotextile fabric to keep salt spray from contacting foliage will help a great deal. Protective berms to deflect and/or divert salt-laden spring runoff from root areas can assist as well.

For more information on ways to reduce the harm wrought by winter's "a-salt" on trees and shrubs, contact your local Cooperative Extension office or natural resource professional.

Paul Hetzler's second book should be released soon. The title is "Don't Be Such a Duck! Mallard Malfeasance, Incendiary Spiders, Killer Caterpillars, and Other true Stories"

SHADY CHARACTERS



PAUL HETZLER is Horticulture and Natural Resources Educator for Cornell Cooperative Extension of St. Lawrence County, NY. His work has appeared in The Lancet, Prime Number, Highlights for Children, and in weekly natural history columns he writes for newspapers across northern New York State.

Partners News favorite, Paul Hetzler reached a milestone on October 5, 2018 with the release of his book **Shady Characters, Plat Vampires, Caterpillar Soup, Leprechaun Trees and Other Hilarities of the Natural World**.

Should you wish to check out the book, the direct link is <https://www.amazon.com/dp/099860609X>

If you enjoy Paul's writing as we do exposing it, get yourself a copy of this book. From trees to porcupines, groundhogs, knot weed and big foot, you will not regret reading Shady Characters. PIF applauds Paul on this accomplishment and we wish him the best. We were proud to have a couple of these books as door prizes at the PIF Annual Meeting on November 3, 2018.

Author, Environmentalist and founder of 350.org Bill McKibbin said of Paul's book "You will—I guarantee—learn from these stories. And I also guarantee the learning will be a great deal of fun.

And continue to enjoy Paul's stories in Partners News.

THE SCENT OF FRESH WOOD

*The scent of fresh wood,
among the last things you will forget
when the veil falls.
The scent of fresh white wood
in the spring sap time:
is as though life itself walked by you,
with dew in its hair.
That sweet and naked smell
kneeling like women-soft and blond
in the silence inside you,
using your bones as a willow flute.
With the hard frost beneath your tongue
you look for fire to light a word,
and know, mild as southern wind in the mind,
there is still one thing in the world
you can trust.*

-By Hans Borli, from Norwegian Wood.

In his book, *Norwegian Wood*, author Lars Mytting also offers young gals some wisdom in how to search for a good mate, using the firewood pile as a source. Ironically, Lars claims the following is folk wisdom from Maine USA.

Upright and solid pile: Upright and solid man.

Low pile: Cautious man, could be shy or weak.

Tall Pile: Big, ambitious but be cautious of collapse.

Unusual shape: Free thinking, open spirit, but check the quality of construction.

Flamboyant pile, widely visible: Extroverted, but possibly a bluffer.

A lot of wood: A man of foresight, loyal.

Not much wood: A life lived from hand to mouth.

Logs from big trees: Appetite for life, but can be rash and extravagant.

Pedantic pile: Perfectionist, may be introverted.

Collapsed pile: Weak will, poor judge of priorities.

Unfinished pile, logs lying around: Unstable, lazy, prone to drinking.

Everything thrown on ground: Ignorant, decadent, lazy, drunk (possibly all).

Old and new wood piled together: Be suspicious, he may be a thief.

Large and small wood piled together: Frugal, considerate to have kindling within.

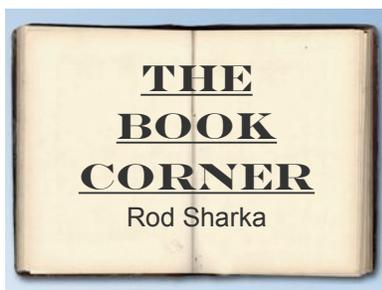
Rough, gnarled logs, impossible to chop: Persistent, stubborn or overburdened.

No wood pile: No husband!

See Partners News January 2014 page 21, for wood heat chart, BTU values from various woods.



This contemporary appearing cook stove used in northern Wis., is energy efficient, clean burning, made by La Nordica in the Italian Alps.



For this issue of the Partners News, may I recommend the following book for your reading pleasure:

The Nature Fix: Why Nature Makes us Happier, Healthier, and More Creative.

by Florence Williams

Did you know that spending time in a forest activates the vagus nerve, which is responsible for inducing calm and regeneration? Or that spending just one single day in a wooded area increases the number of natural killer cells in the blood by almost 40 percent on average?

From forest trails in Korea, to islands in Finland, to eucalyptus groves in California, Florence Williams investigates the science behind nature's positive effects on the brain. Delving into brand-new research, she uncovers the powers of the natural world to improve health, promote reflection and innovation, and strengthen our relationships. As our modern lives shift dramatically indoors, these ideas—and the answers they yield—are more urgent than ever.

Williams points out that the world of office towers, traffic lanes, and E-mail isn't ideally suited to our brain's perceptual and cognitive systems. The dramatic loss of nature-based exploration in our lives has happened so fast that we've hardly noticed.

In her travel to South Korea, she learns that their Forest Agency employs Shinrin Yoku master Juyoung Lee as head of their "Human Welfare" division. Here, Lee conducts research on forest environments and human health. Shinrin Yoku (literally translated as "Forest Bathing") is a term that was coined by the Japanese government in 1982, but is based upon ancient Shinto and Buddhist practices which involve letting nature into your body through all five senses. Extensive modern medical research discussed by Williams shows that the benefits of mindful walks in the woods result in lowering blood pressure, reducing heart rate, reducing cortisol (stress hormone) levels, and decrease sympathetic nerve activity...all of which results in better mood and lower anxiety levels.

It's all very encouraging, but how exactly does nature have such an effect on people? To answer that question, Williams shadows researchers on three continents who are working on the frontiers of nature neuroscience.

Maybe it's the forest smells that turn us on; aerosols present in evergreen forests act as mild sedatives while also stimulating respiration. Perhaps it's the soundscape, since water and, especially, birdsong have been proven to improve mood and alertness. Nature's benefits might be due to something as simple as the fact that natural landscapes are, literally, easy on the eyes. Many of nature's patterns — raindrops hitting a pool of water or the arrangement of leaves — are organized as fractals, and the human retina moves in a fractal pattern while taking in a view. Such congruence creates alpha waves in the brains — the neural resonance of relaxation.

As little as 15 minutes in the woods has been shown to reduce test subjects' levels of cortisol. Increase nature exposure to 45 minutes, and most individuals experience improvements in cognitive performance.

In the last 11 years that I have been a Nature Conservancy Stewardship Volunteer overseeing the care and management of the Tenderfoot Forest Reserve, I have spent many, many days each spring through fall working amongst the giant, old-growth trees. Even though I may return home physically exhausted after a long day of trail clearing or invasive honeysuckle control work, I have always noticed that I return home feeling mentally and emotionally refreshed and invigorated. After reading this book, I now understand and appreciate why. *The Nature Fix* is a thoughtful, refreshing book with a simple but powerful message: "Go outside, often, sometimes in wild places. Bring friends or not. Breathe."

PIF note: See Partners News, April 2016, for coverage on the broad importance of White Pine.



Old white pine

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permission of the
author.

White Pines!

John Bates

Last week I led a group of tree-lovers into a tiny remnant stand of old-growth white pines near Mercer. The site is an “island” of mostly old-growth white pines surrounded by alder swamp. Some very limited logging within it, but left behind were a number of pines with diameters at breast height over 40”, including the largest at 50”.

The best statistics I can find for white pines in Wisconsin says that we have just over 1,000 acres of white pines left that are 150 years and older. Since white pines can live to be 400 years old, 150 years is only their middle age. Remember also that 640 acres is one square mile. So, we have less than two square miles of older white pine left in our entire state, which puts those few that are left in the category of truly rare.

Why did we cut them so thoroughly? For farmers, the forests were a formidable obstacle to remove from the land before their crops could be sown. For settlers, the wood meant jobs in the bush camps, sawmills, and finishing factories. I’ll let a few quotes tell more of the story:

“It is much to be regretted that the very superabundance of trees in our state should destroy, in some degree, our veneration for them. They are looked upon as cucumbers of the land; and the question is not how they shall be preserved, but how they shall be destroyed.” (Increase Lapham, *The Antiquities of Wisconsin*, 1855)

“Logs less than three feet in diameter are counted ‘under size’ by many lumbermen.” (C.H. Brigham, *The Lumber Region of Michigan*, 1868)

“Every new settler upon the fertile prairies means one more added to the vast army of lumber consumers, one more new house to be built, one more barn, one more 40 acres of land to be fenced, one more or perhaps a dozen corn crib needs.” (The *Northwestern Lumberman*, 1880) “An 1888 log jam on the Menominee River is said to have backed up 500 million board feet.” (William Cronon, *Nature’s Metropolis: Chicago and the Great West*)

"The longest log jam in the world took place in 1894 in Little Falls, Minnesota. 7 miles long, half a mile wide, and 60 feet high . . . It was estimated to contain over four billion board feet of lumber." (Wisconsin Historical Society)

"No wood [white pine] has found greater favor or entered more fully into supplying all those wants of an." (George Hotchkiss, History of the Lumber and Forest Industry of the Northwest, 1898)

"The desolation of much of the pine area in the 1920's and early 1930's is difficult to describe to anyone who did not see it. In many places the entire landscape as far as the eye could see supported not a single tree more than a few inches in diameter. Only the gaunt stumps of the former pines, frequently with their root systems fully exposed as a result of the consumption of the topsoil by fire, remained to indicate that the area was once a forest rather than a perpetual barren." (John Curtis, Vegetation of Wisconsin, 1959)

What we didn't cut, we burned, often purposely: "Some 42% of the historic wildfires in the Northeast and the Midwest are estimated to have been due to land-clearing operations of settlers." (C.S. Sargent, 1880, quoted in From Coastal Wilderness to Fruited Plain, Gordon Whitney).

"Perhaps more good pine timber was burned than ever reached the sawmills." (Robert Fries, Empire of Pine, 1951)

So, white pines were felled as fast as they could be found, and the history is remarkable to read – recommended resources include: White Pine: American History and the Tree That Made a Nation by Andrew Vietze; Empire in Pine: The Story of Lumbering in Wisconsin by Robert Fries; Caulked Boots and Cant Hooks: One Man's Story of Logging the North by George Corrigan; The White Pine Industry in Minnesota: A History by Agnes Larson; Deep Woods Frontier: A History of Logging in Northern Michigan by Theodore Karamanski; The Great Lakes Forest: An Environmental and Social History by Susan Flador, editor; and The Vegetation of Wisconsin by John Curtis.

Standing among remnant white pines has a certain magic to it. Thoreau wrote that the sound of white pines was "like great harps on which the wind makes music" (from 1/16/1857).

Sigurd Olson wrote in his book Listening Point, "As I stood there, I could hear the soft moaning of the wind in the high dark tops and feel the permanence and agelessness of the primeval. In among those tall swaying trees was more than beauty, more than great boles reaching toward the sky. Silence was there and a sense of finality and benediction that comes only when nature has completed a cycle and reached the crowning achievement of a climax, when all of the inter-relationships of the centuries have come at last to a final glory."

John Eastman said of the wind in pines, "Pine is the larynx of the wind. No other trees unravel, comb, and disperse moving air so thoroughly. Yet they also seem to concentrate the winds, wringing mosaics of sound from gale weather – voice echoes, cries, sobs, conversations, maniacal calls. With the help of only slight imagination, they are the receiving stations to which all winds check in, filtering out their loads of B-flats, and F minors, processing auditory debris swept from all corners of the sound-bearing world."

Finally, John Curtis noted in his seminal book Vegetation of Wisconsin, "Most of the big pines cut in the heyday of lumbering business were about 400 years old . . . The occasional giants were 7 to 10 feet d.b.h. reported by the surveyors must have been still older. Results from modern studies, therefore, cannot give a true picture of the actual magnitude and majesty of a mature pine forest at its optimum."

True enough. My hope is that someday, long from now certainly, we will again have forests with trees of this size and age.

Follow-up to John's White Pine Article

by Rod Sharka

I have always been fascinated by big old trees. After first reading the above fascinating article in John's newspaper column last week, I had to call him to ask for permission to reprint his article in this PIF newsletter, as well as to find out where exactly these white pines were located.

John informed me that the old white pine site was NE of Mercer off of Co HWY J on the edge of the DuPage Lake Peatlands State Natural Area. So, on the afternoon of Monday, Jan. 21 (following a



Big Mercer pines



50 inch DBH Mercer

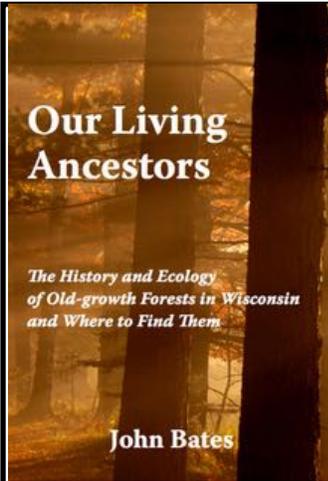


Mercer Pine.50 inch



50 inch DBH Mercer Pine 2

very cold night of -24°F), I decided to go exploring after it warmed up a bit. I was able to find the well packed snowshoe trail left by John's group from a few days earlier per his excellent directions. The trail took me through an area of young paper birch and white spruce. Then it passed through a fairly old hemlock/cedar stand, followed by a trek through a wetland area of marsh/bog and finally an alder swamp before coming to an "island" surrounded by wetland with over 50 huge white pine growing among hemlock, yellow birch, and cedar. As John mentioned in his article, most of the white pine measured between 40" and 50" DBH, with the largest a tad over 50". My guess is that because it was a relatively small stand that was surrounded by wetland, it would have been too much trouble to "harvest" these pines back in the day, which may have been the reason they have survived to this day. Needless to say, I acquired my "nature fix" for the day by wandering amongst these magnificent specimens in awe. I can only imagine what the pinelands of the northwoods must have looked like before the "big cut" in the 1800's through early 1900's. I am so grateful that the Wisconsin DNR has seen fit to protect this area for future generations. I'm sure this was made possible by the Knowles-Nelson Stewardship Fund which has been so important for preserving such state treasures. All the more reason to continue this fund.



Our Living Ancestors: The History and Ecology of Old-Growth Forests in Wisconsin (and Where to Find Them)

By John Bates, softcover, 336 pages, over 200 maps, photos, graphics, \$27.95 retail.

Note: John is offering the book at a discounted cost of \$20.00 to PIF members, just mention that you are a PIF member and saw the ad in the PIF newsletter. \$5.00 of this special offer will go the Northwood Alliance, Inc

Discounted books may be purchased directly from John at manitowish@centuryTel.net or 715-476-2828. Snail mail may be sent

“*Our Living Ancestors* is a remarkable blend of the beauty, history and ecology of Wisconsin’s 16 million acres of forest. This book should be required reading for all who depend upon and care about our amazing forests.”

Michael Dombeck, PhD, Chief Emeritus, U.S. Forest Service

“This book is an ideal resource for anyone who wants to understand Wisconsin’s forests. It is extremely well researched, clearly presented, and masterfully written. Bates has turned what could be a dry subject into a lively, living symphony of words.”

Joan Maloof, Founder and Director of the Old-Growth Forest Network

“The book is a veritable goldmine of information . . . There is simply no better book written on these topics for a wide audience.”

RIVER OTTER

Known as *Lontra canadensis*, the river otter is the most playful member of the weasel family. . . . Otters are found throughout Wisconsin with greater concentration in numerous wetlands of the northern half of the state. Otters are mustelids, in the same family of weasels as mink, martens, badgers, fishers and wolverines.

While they are more leaning toward nocturnal in the summer months being most commonly seen in early morning and evening, they do not hibernate and are more active during the day in the winter.



Otter snip 09-12-2018. Photo by Tom and Toni while camping on Forest County.
