Partners News

January/February 2020

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.

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Joe Hovel
Jim Joyce
Joe Koehler
Charlie Mitchell
Margo Popovich
John Schwarzmann
Rod Sharka
Richard Steffes

Have you paid your PIF dues?

Please be safe this winter

and please take time to enjoy the beauty

Inside this issue:

A continuing thank you to the UW Center for Cooperatives for their continuing support of our education, community outreach, conservation efforts and value-added marketing research.

Wildcat Falls Updates: Following our report in the past issue, we want to thank recent donors who have brought our acquisition fund up to $84,800. Included is a $2000 contribution from Copper Country Chapter of Trout Unlimited and further support from the community. Please consider a contribution to this great effort, to make a Wildcat Falls Community Forest for future generations to enjoy. Visit www.northwoodalliance.org for progress updates.

PIF friend, and MDNR Service Forester in the UP, Gary Willis, sent this link with coverage from their Wildlife-forestry sessions:
The following is the link for the TV – 6 "Discovery!" Program that features the December 3 forum:
http://www.906outdoors.com/906outdoors/videos/S382.html
The Snowshoe Hare and Bobcat coverage starts at ~ 17 minutes into the program.

Checkout continuing updates at www.partnersinforestry.com. New items, past newsletters, forest management, habitat and so forth; there is an abundance of information there.

Please express your concerns over management on the Vilas County Forest. As we stated in the last issue, Al Murray wants our input as they develop their new 15 year plan. You can contact Al at almurr@vilascountywi.gov or let us know and we will incorporate your thoughts in the PIF comments.

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PIF note: The next in our cooperative series with the Northern Logger and the author, Marianne Patinelli-Dubay, PhD at SUNY College of Environmental Science and Forestry in the Adirondack Park in Newcomb NY. Marianne wants to hear from us. What is your position with land owner ethics? What exactly is sustainable forestry in your opinion? Let us know. Be involved. Marianne can be contacted at mpatinelli@esf.edu

COOPERATIVE SERIES

I have a difference of opinion with your response to a logger (November 2019) who asked what to do about a forest owner who has requested a heavy cut to "make as much money as possible" when the existing forest plan doesn't call for that type of harvest. I suggest that the owner's objectives should be met whenever possible while still doing the work responsibly. Perhaps when the plan was written the owner had no opinion on how a cut should be done (they usually don't in my experience) or perhaps even suggested that the goal was to leave as much as possible. But owners' goals change. Even if an ideal cut for that stand would be to cut light - if the owner's "alternative rate of return" is high- then there is no reason that a heavier cut can't be done correctly if the trees that are left are excellent growing stock. Here in Massachusetts, I've often discussed with the service foresters

changes in an owner's goals and they have been cooperative in allowing such changes, if it can be explained how a cut will still result in good silviculture. The important thing is that the stand isn't high graded- so most of the low quality wood should be removed. There is never, in my experience, only one right way to do forestry. In this case, such a heavy cut done correctly may not maximize the profit to the owner but it could come close. I would think the owner would approve of this approach in order to maintain the status of the property in the state tax program. — Joe Zorzin, MA Forester License #261

Thank you for carrying this conversation forward, Joe. One element common to ethics and forestry or logging is that the angle of approach is rarely limited to a single way. While there might not be a single correct approach, you have outlined one of many that holds to the honorable history of your profession alongside the promise of its future. Often we make the error of assuming that if there are many correct approaches, then perhaps *any* approach is correct or can be justified. Yet as you've illustrated here, there is a right and a wrong way. By outlining a responsible solution to the logger's dilemma, you've demonstrated that there are compromises that one might make in the execution of the cut, but that certain bedrock principals must hold. For example, when you assert that the right way of going about the job should align with "good silviculture."

I can see that one good answer to our logger's question is as you suggest, that he should encourage the landowner to talk with the forester about alternatives in the hopes that one can be agreed upon despite the logger's initial assessment that the forester "will not go against the plan." If something can be worked out, then the plan might be changed and the logger can continue to earn his pay without running afoul of best practices. In contrast, my response encouraged the logger to consider the long term impacts of a short-sighted harvest. In taking this approach I emphasized (and empathized with) the economic bind that the logger seems to have been in but I did not give equal weight to the relational aspects of the situation. In other words, after considering your response I'm now thinking about the situation in terms of the essential network that needs to be active among landowner, forester and logger. If this exchange is honest and thoughtful, then the solution to a dilemma like this is easier to see if not easy to achieve.

With that in mind, let's focus on the relationship that I thought was missing from the initial write-in, a relationship that is the very basis of your response. Your approach to an ethical compromise seems to come from long professional experience wherein loggers, foresters and landowners are working together in dialog to achieve the good result. In contrast, the dilemma originally presented reads as if these three parties might be laboring under some disconnect. In an ideal situation, the landowner would have approached the forester about the change he wanted to make to the plan so they could work out a solution along the lines you have recommended. By going straight to the logger, we're left to assume that the landowner meant to cut out the middleman, so to speak.

Your recommended solution rests on the assumption that a compromise might be struck between the landowner and the forester in order to come closer to the owner's financial goals. Perhaps, as you point out, some more lucrative (for the landowner) cut *could* pass muster with the state forester and achieve some if not all of the landowner's financial objectives. You're correct of course that this is a conversation that the landowner who wants to deviate from a plan, should have with the forester who is responsible for writing an agreeable plan. You're also right to point out that the forester should involve the landowner in crafting the objectives of the plan and for educating the landowner in what he may not have considered, either with

respect to the initial design or options further on. Yet in the situation as it's presented, I'm not convinced that the forester is as involved in these important aspects of the process as they ought to be. Instead, the logger seems in a position to decide independently whether to respond directly to the landowner's demands despite the risks. You have brought this communication breakdown to light through the compromise solution you've offered.

We run the risk of talking past each other in a column like this, where one field (philosophy and ethics) is reflecting on a problem encountered in a different field (forestry and logging). On this page, readers are asked to consider the human dimensions that underlie or drive a management decision just as you have done here by hi-lighting the vital nature of conversation and agreement among stakeholders and professionals. I often tell students that we're not doing forestry, we're doing philosophy as it pertains to forestry. This is challenging because critical inquiry forms the groundwork of my discipline, and in many ways process, resolution and action are the necessary elements of yours. The two can seem at odds if you imagine that philosophy is about stepping back while logging is about stepping forward and onto the site, into the situation to do a job. It would be a mistake to get lost in endless philosophical rabbit holes such that we never get around to *doing* good forestry. Yet, at some point the doing pauses and yields to deeper inquiry for the *practical* purpose of helping us to become better stewards of the land. You have helped us to do that here and I thank you for your insightful contribution.

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Another fine story on forest ethics from Marianne.

THE FOREST ETHICIST

Two students from Michigan recently asked Forester Carl Bleiler of Bigfork, Minnesota how he would handle a situation in which a logging company really needs to buy some wood, and there is a landowner willing to sell his timber. However, the landowner wants to harvest the trees in a manner that is totally wrong for good forest management and for the land. Mr. Bleiler explained that he would not buy the timber and that his "**business is a whole lot more than cutting trees. Anyone can cut trees down! It takes a professional logger and professional forester to harvest the trees properly to ensure future regeneration and growth. I still have to find a piece of timber for the company, so I'll have to work a little harder. There is plenty of timber growing out in the forest, but some timber tracts you have to work harder to buy. My timber buying approach is that I am buying trees and contracting in good faith with a landowner. If either one doesn't sit right with me, it's no deal.**"

What can we make of Carl's judgement, from an ethical perspective?

In the course of this discussion, the students learned something about the difference between a simple answer and the complicated reality that it is often mapped onto. The reality that Carl explained includes an honest relationship between the forester/timber buyer and the landowner, recognition of the additional work that

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professional integrity and a commitment to best practices will require, as well as an obligation to educate the landowner. The buyer in this situation takes on the role of client, educator, employee and principled agent.

What Mr. Bleiler's account accomplished was to encourage young professionals to think dimensionally and philosophically about logging, forestry and related practices in a way that seats action inside of circumstance and possibility. Carl helped these students to think both in real personal terms, and in broader dimensions about the situation that they are likely to find themselves in as they set out as foresters/ timber buyers.

I am confident that every mature professional reader of this publication, every logger, mill owner, every forester knows precisely what options are available to him in any circumstance that lands on this page. Yet the question remains not merely what should the professional do, but what are her preferences, where is the line that makes her uneasy – should she cross it and what aspects of the situation is she compelled to act on? Carl acknowledged that he didn't recall asking questions like these when he was starting out. On the contrary he recalls that his learning came on the job and primarily through firsthand experience. Seeing the impact of short-sighted decisions, following the advice of mentors and gathering wisdom, he established and learned to follow his own moral compass. Over time he learned as we all do, that thought-habits form around how an action aligns with ethical principles and constraints that are both operating in the background and also driving a decision about whether and how to harvest. When these good habits form correctly, the likelihood is greater that we will act in accordance with our best selves. This remains true even when the going becomes difficult, our ethical responses become ingrained like muscle-memory over time and we move in stride with right-doing.

You might ask, if we know what the right course of action is, why not just get on with it? Because a "no-go" reply to the question at hand tells us only what should be done, yet it matters whether we also have the language to consider the broader implications of this decision. Only when we become fluent journeymen and women across the terrain of right and wrong-doing, possibility and constraint, righteousness and resistance do we become real stewards of the land and of our professions. Sometimes digging into the ethical and philosophical, rhetorical and social considerations that underlie a practical action can feel beside the point. Yet I contend that unfolding the philosophical aspects of a situation doesn't stop you from taking action, rather it is to your benefit to know as much as you can about the position you occupy and the responsibilities that go along with it. As another reader recently pointed out, there are nuances to a successful timber sale and as in logging, so too in life.

You can send questions to Marianne Patinelli-Dubay at mpatinelli@esf.edu, by mail to SUNY-ESF's Newcomb Campus, 6312 State Route 28N, Newcomb, NY 12852 or by FAX at 518-582-2181.

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What is Sustainable Forestry? *In the past issue we discussed this question, and we asked for your input as well as opinions from our network of natural resource professionals. Here we share those with you to display the complexity of this simple question.*

First, I use several excerpts from Ron Eckstein's report, and I encourage you to read the full document at https://partnersinforestry.com/Documents/Forest%20Management%20Definitions.pdf or ask for it by email or a print version. Besides his steadfast work with PIF, Ron represents the Wisconsin Wildlife Federation and Wisconsin Green Fire on conservation issues.

What is Sustainable Forestry? PIF report Ron Eckstein, January 15, 2019
To answer this question, I reviewed various definitions relating to forest management. These definitions include silviculture, forest management, ecosystem management, sustainable forestry, sound forestry, generally accepted silviculture principles, landowner goals and objectives, and ecological forestry. My preference are those definitions associated with ecological forestry.

From WI DNR Division of Forestry Website
Forest Ecology: The science concerned with the forest as a biological community dominated by trees and other woody vegetation, the interrelationships between the various trees and other organisms constituting the community, and the interrelationships between the organisms and the physical environment in which they exist.

From WI Administrative Code NR 1.25 Generally accepted forestry management practices.
PURPOSE. Section 823.075 (1) (d), Stats., requires the department to define generally accepted forestry management practices.

"Sound management of a forest" means sustainably managing a forest with the application of ecological, physical, quantitative, managerial, economic, and social principles to the regeneration, management, utilization, protection and conservation of forest ecosystems to meet specified wildlife habitat, watershed, aesthetics, cultural and biological goals and objectives while maintaining the productivity of the forest.

From WI DNR's "Forest Management Guidelines, 2018"
FOREST ECOLOGY The science concerned with 1) the forest as a biological community dominated by trees and other woody vegetation; 2) the interrelationships between various trees and other organisms constituting the community; and 3) the interrelationships between organisms and the physical environment in which they exist.

SUSTAINABLE FORESTRY The practice of managing dynamic forest ecosystems to provide ecological, economic, social, and cultural benefits for present and future generations (from Ch.28.04(1)e, Wisconsin Statutes).

SILVICULTURE. The practice of controlling forest composition, structure and growth to maintain and enhance the forest's utility for any purpose.

Generally Accepted Silvicultural Principles. Site capability determines what types of forestry practices are sustainable. A site is defined by the sum total of environmental conditions surrounding and

available to the plants. A site is also a portion of land characterized by specific physical properties that affect ecosystem functions and differ from other portions of the land (Kotar, 1997).

Under the heading **Ecological Forestry,** Ron shows us eight different sections, we expose one of them here.

Franklin, Jerry F., Robert J. Mitchell, and Brian J. Palik. 2007 USDA Forest Service Northern Research Station General Technical Report NRS-19. Natural Disturbance and Stand Development Principles for Ecological Forestry. Three fundamental principles have emerged from research on natural disturbance regimes and stand development processes, which form the basis of an ecological forestry approach. These include 1) understanding the importance of biological legacies created by a tree-regenerating disturbance and incorporating legacy management into harvesting prescriptions; 2) recognizing the role of stand development processes, particularly individual tree mortality, in generating structural and compositional heterogeneity in stands and implementing thinning prescriptions that enhance this heterogeneity; and 3) appreciating the role of recovery periods between disturbances in the development of stand complexity. We label these concepts, when incorporated into a comprehensive silvicultural approach, the "three-legged stool" of ecological forestry.

And PIF friend Gary Willis referred the question on.

Our definition of sustainable forestry is in Part 525 Sustainable Forestry on State Forest Lands, of PA 451 of 1994:

(j) "Sustainable forestry" means forestry practices that are designed to meet present and future needs by employing a land stewardship ethic that integrates the reforestation, managing, growing, nurturing, and harvesting of trees for useful products with the conservation of soil, air and water quality, wildlife and fish habitat, and visual qualities.

David L. Price
Forest Planning and Operations Section Manager
Michigan Department of Natural Resources

PIF Vice President and silviculturist John Schwarzmann kept his reply brief, but it demonstrates the complexity of the question and the value in reading Ron's full report.

Books have been written on what that means. The first question is what are you trying to sustain? profit? product? a forest? If it's a forest, how big of an area? The larger the area, the greater the complexity in coming up with what it means to be sustainable.

And regular Partners News writer Hans Schmitt answered the question philosophically, honestly and optimistically.

Sustainability, by Hans Schmitt, Schmitt Forestry

After considering your sustainability question a few thoughts came to mind. First, I find it more a philosophical than practical question. The fact that people are asking for a definition indicates a lack thereof. I would suggest that some view it from a quantity standpoint, some a matter of quality and still others as a more emotional/experiential commodity. Still others may find them all important, at least to some degree. The one constant is time.

The quantity view would suggest that it's the ability of the land, water, etc. to produce a given quantity of a commodity over time without diminishing it's capacity to do so. The quality view would suggest that it's more a matter of producing a higher value product, repeatedly, over time. For example, a mile of trout stream will only produce so many pounds of fish. A quality approach would prefer X number of larger individuals over 5X number of smaller individuals (yes, I know a distribution is the ideal, but you get the idea). Still others view it from an emotional or experiential standpoint. Was it a good hike or bike ride, and why? And is it a reproducible experience?

Forestry and forest management is an applied science. Meaning we take the best knowledge we have and apply it to a situation or problem to produce, at least what we perceive to be, a probable, predictable, desirous outcome. Our knowledge is, to say the least, imperfect and probably always will be. The mere act of studying the natural system may be enough to alter the equation and it's variables. Furthermore, by the time we do the math, the system may have already changed and our knowledge remains imperfect.

Natural systems are huge, chaotic interactions. Very dynamic and resilient. I would suggest that nature is not as frail as we think. She is not a small, Tinkerbell-like fairy flitting amongst the flowers. She's a beast; huge, unpredictable, adaptable, and uncontrollable. Nature has an uncanny ability to rejuvenate, refresh, replace and reproduce. Our Wisconsin forests are the direct result of the whole scale clear-cutting of 100+ years ago. As they said in Jurassic Park, "nature will find a way".

So, where does all this leave us? I guess back to the philosophical side as we can't measure or quantify the unknown or undefined. In short, at least to me, it means "We are doing the best we can with the knowledge and technology at hand, to provide the renewable resources demanded by society while doing as little damage to the natural system as possible". Will we get things wrong? Yes. Will all the outcomes always conform to our plans and desires? No. Will there be unforeseen problems and issues? Yes. Collectively, it is up to us to maintain a very strong desire among landowners, loggers and foresters to do the right thing, as best we can.

And one of the founding PIF members, Bob Simeone of Sylvania Forestry, sent a document titled Forestry Principles in an Ecological Context. You can see this document entirely at
https://partnersinforestry.com/Documents/Principles%20of%20Sustainable%20Forestry.pdf

We leave you with the quote at the end of the document from Aldo Leopold, Land Ethic 1949:
"A thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends otherwise."

And PIF member, speaker at events, forester, retired accountant and mushroom grower Geary Searfoss offered the following in one sentence:
Utilizing of the forest to meet current human needs without compromising it's ability to meet future human needs all while maintaining the forest's functioning ecosystem.

PIF note: We have taken a basic question proposed to us and turned it into a discussion. That is a purpose of this publication, and I hope we all benefit from this. Let us hear from you! Thank you to all who contributed to this discussion. We asked these folks for their input in 'one sentence or as long as you care to write' and we share it here.

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United States Department of Agriculture

NRCS Offers Financial Assistance for Healthy Forest and Wildlife Practices

The USDA Natural Resources Conservation Service, through the Environmental Quality Incentives Program (EQIP), can help pay for Forest Management Plans. A forest management plan is a site specific conservation activity plan. This practice applies to non-industrial private forestland which will benefit from the development and implementation of conservation and resource management practices. To receive financial assistance for implementation of conservation practices a forest management plan must be developed. Once the plan is completed, we look at the recommendations and can also help pay to implement some of those practices. For example:

Forest trails and landings – the creation or management of temporary or infrequently used paths to access your woods, not recreational trails.

Road, trail and landing closures – used to re-establish vegetation on roads and trails no longer needed.

Woody residue treatment – assists in the removal of slash after a harvest.

Brush management – treats invasive and noxious plant species using hand tools, chemicals, machinery or a combination of methods.

Forest stand improvement – typically a thinning or marking to facilitate a thinning.

Early successional habitat – manages plant succession to develop and maintain habitat to benefit desired wildlife (Golden Winged Warbler) and/or natural communities (Northern Mesic Forest).

Tree and shrub site preparation – treatment of areas to improve site conditions for establishing trees and/or shrubs. Can include mowing or using chemical treatments.

Tree and shrub establishment – areas that are favorable for planting woody vegetation are eligible for this activity. Can be used to enhance an existing stand or provide food for wildlife.

Tree and shrub pruning – pruning branches can improve the quality of wood products, plant products (nuts, fruits, boughs), as well as improve the health and vigor of the woody plant.

If you would like to actively manage your forest but don't know where to start, give your local USDA NRCS Service Center a call. To find your local office, visit www.farmers.gov/service-center-locator.

To read more about forestry practices NRCS officers, visit www.nrcs.usda.gov/wps/portal/nrcs/main/wi/technical/landuse/forestry/.

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Amazonian Forest Update

January 2020

Robert Simeone*
Sylvania Forestry

By now most of us are aware of this summer's dramatic increase in burning and clearing of forest in the Amazon basin. Here are a few facts and a quick update.

The good news is that 80% of the Amazon forest that existed 1000 years ago, is still intact. The bad news is that 17% has been lost in just the past 30 years.

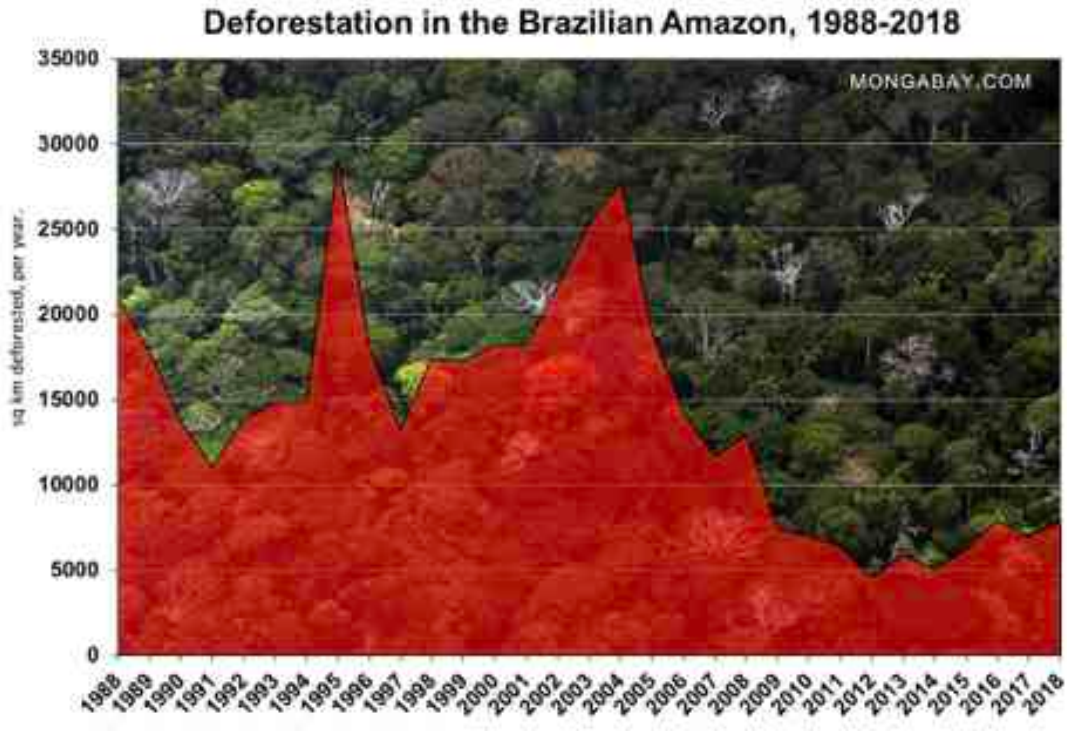
60% of the Amazon basin lies within the relatively flat plains of north central Brazil. However much of the most fragile lands with the highest rainfall and biologically-rich forests are found in the eight countries ((Bolivia, Peru, Ecuador, Colombia, Venezuela, Suriname, British Guyana, and French Guiana) that ring the upper Amazon watershed, which themselves are threatened by increasing rates of incursions and uncontrolled forest clearings. Is it any wonder that the number of birds in the United States and Canada (including many neotropical migrates) have declined by 3 billion, or 29 percent over the past half-century? Habitat loss has been identified as a major factor in this decline. See: https://www.nytimes.com/2019/09/19/science/bird-populations-america-canada.html.

In fact, the Amazon contains 30% of the world's remaining biodiversity, and some 20% of the earth's freshwater.

The Amazon is also home to some 30 M people, 10% of whom are indigenous people. Indigenous people are fiercely guarding their lands in the Amazon against deforestation and studies say there is less deforestation where these tribes live. Listen to the story: https://interactive.pri.org/2018/10/amazon-carbon/guardians.html

The Amazon forest is a massive carbon sink, which sequesters an estimated 80 Ton/Acre or a total of 150-200 BT of carbon. See: https://interactive.pri.org/2018/10/amazon-carbon/science.html

Since the colonization push of the 1960's, three decades of intense deforestation rates in the Brazilian Amazon reached a crescendo in 2004 when 6.8 M acres were lost *in a single year* (an area roughly the size of Belgium).



However, from 2004 to 2014 the Brazilian government under the administration of President Lula da Silva and his head the Brazilian Ministry of the Environment, Marina Silva, and her team implemented a series of progressive control measures which decreased annual deforestation by 75% (from a yearly average of 19,600 square kilometers between 1996 to 2005 to less than 5,000 square kilometers by 2014).

In addition to reducing deforestation, the Brazilian government nearly doubled the area of protected area, to a total of 560,000 square kilometers (an area roughly the size of Alaska). Listen to Brazilian forester, Tasso Azevedo tell the story of how this was achieved: https://www.ted.com/talks/tasso_azevedo_hopeful_lessons_from_the_battle_to_save_rainforests

Unfortunately, since 2016 everything began to change and deforestation rates have again begun to tick upward, reaching 2.4 M acres in the 12 month period between July 2018 and July 2019. Since July 2019, deforestation rates have spiked even higher resulting in the massive fires of the past year that we have all read about.

Several factors have contributed to this new increase.

1. Pent up resentments caused by a decade of governmental restrictions and seizures of cattle raised on illegally deforested land, increasing populist nationalism and the growing political influence of "*rualistas"* (soybean farmers, cattle ranchers). See this recent NYTimes *The Dispatch* video: https://nyti.ms/2Irmmr4.
2. The new Brazilian government of President Jair Bolsonaro has weakened enforcement of environmental laws by cutting funding and personnel at key government agencies, and has scaled back efforts to fight illegal logging, mining and ranching. Just last month, President Bolsonaro issued a new *Executive Decree MP 910* which legalizes large-scale land grabbing which could transfer 100-150 M acres of public land to private owners who would then be authorized to legally deforest. See: https://news.mongabay.com/2019/12/bolsonaros-brazil-2019-brings-death-by-1000-cuts-to-amazon-part-one/.
3. Trump's trade wars have fueled the Amazon fires. After the US, Brazil is the world's largest producer of soybeans. Since the tariffs where imposed, China scrambling to find new sources has turned to Brazil, increasing demand there, and driving new forest clearings for soybean expansion. See: https://www.desmoinesregister.com/story/opinion/columnists/2019/09/03/trumps-trade-war-china-fueling-amazon-rainforest-fires/2201495001/.

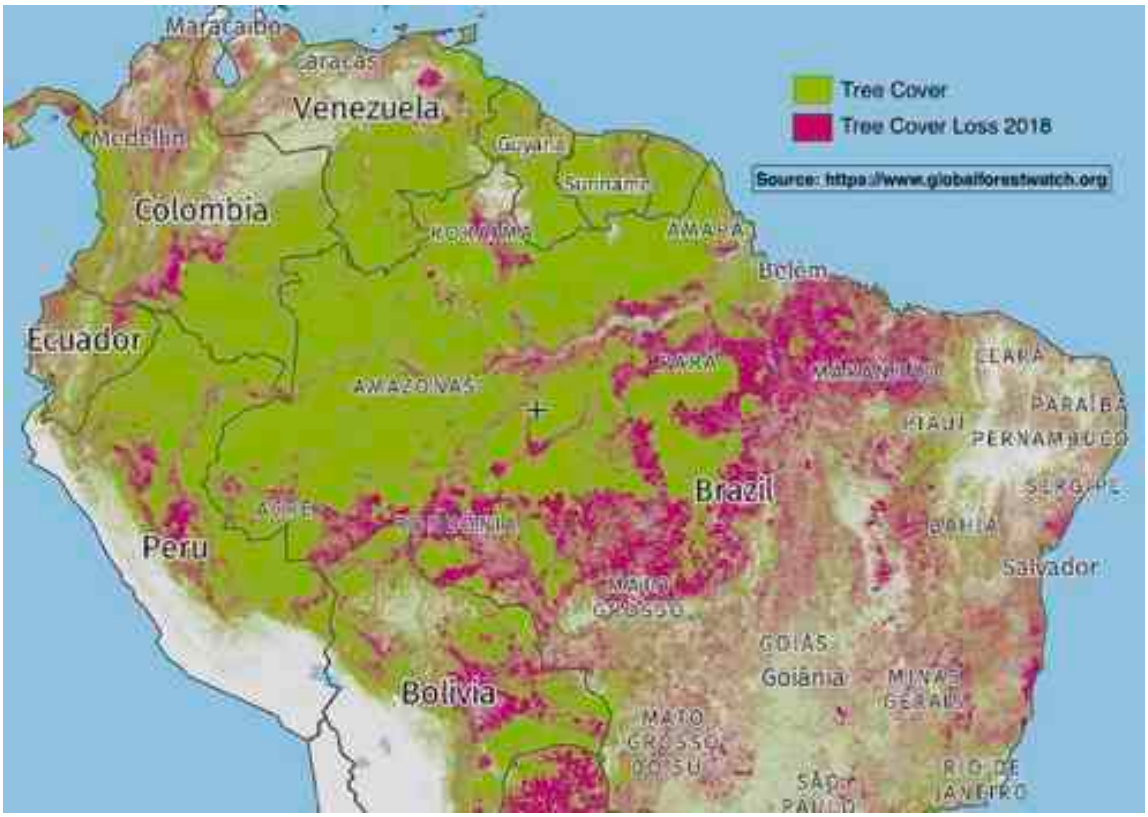
Climate Change and the Amazon Tipping Point

Scientists now believe that if a total of 20-25% of the forest is lost, humanity may soon pass a tipping point of no return– the point at which tree loss could cause a region-wide impact on Amazonian climate to become warmer and drier, further reducing any remaining forest to natural savannas (non forest areas). Beyond this tipping point the forest cover would continue to shrink no matter what humans may do to try to stop it. See: https://news.mongabay.com/2018/03/amazon-forest-to-savannah-tipping-point-could-be-far-closer-than-thought-commentary/.

At the current deforestation rates, a 20-25% loss could occur within the next 5-10 years. The resulting massive release of Amazonian sequestered carbon could further accelerate a cascading effect of *global* climate change.

What you can do.

First, re-examine your relationship with beef, soy, and palm oil products, all drivers of deforestation. Second, educate yourself and your children about this important issue using the links provided in this article. Finally, contact your representatives and let them know that you oppose the Trump tariffs, and support Brazil's monitoring and law enforcement strategy to fight amazon deforestation. See: https://news.mongabay.com/2019/12/brazil-knows-how-to-fight-amazon-deforestation-monitoring-and-law-enforcement-must-be-strengthened-commentary/.

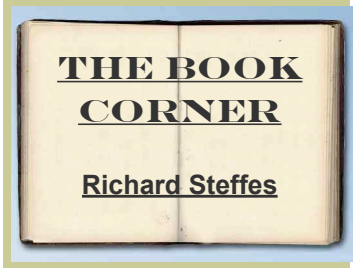


The light green areas show current forest cover. The dark red areas illustrate the regions where the expansion of the agricultural frontier are most intense, and the extent of forest loss by 2018. Map source: https://www.globalforestwatch.org.

* Robert Simeone has worked for the past 40 years in the forests of South America. He lives in Land O' Lakes, WI and is a member of PIF.

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. This is your COOP, we need your input as much or more than your dues.



THE OVERSTORY

A novel by Richard Powers

I recommend this book, but with a qualification: The author clearly is a brilliant writer who weaves nine characters through a 500-page book with many threads. Interspersed are facts and information about trees, history and ecology that tie nature to the characters and their lives. The author creates a sort of mystic atmosphere about old growth forests and ecosystems. But some readers may find this element of the story somewhat forced, as I did. Thus the book may not please everyone, but is a fresh idea in story telling. I stand behind my recommendation though as this story teller will be read for generations to come due to sheer talent.

The nine main characters, introduced in the eight chapters, become inspired by events in their youth to truly love and respect nature and old growth forests. The forests are threatened by overharvest, betrayal of protected areas and other man-related destruction. Redwood giants and national forests play large roles in the story. There are interesting depictions of the creatures that live in the remote corners of old growth forests and in specific large trees. These depictions help the reader deal with some possibly over the top behaviors of the nine characters turned activists for forest preservation.

The last three chapters are better described as sections due to size and construction. There are personal successes as well as sudden tragedies. These events among the characters reflect, in a way, the transitions we all see in the natural world. While the setbacks are abrupt and devastating, the strong preservation principles of the characters endure.

One of the side stories in the book illustrates the multi-generational nature of the book, both for human and tree. Nicholas Hoel ends the book doing artistic depictions to show reverence by nature. The book starts with Jorgen Hoel, Nick's ancestor, newly arrived from Norway. Jorgen inadvertently finds chestnuts in a coat pocket when he arrives at his Iowa homestead. Jorgen's grandson, later running the farm, starts a practice of photographing the tree Jorgen planted each month on the 21st, from the same spot. The tree survives, due to its remote location far from other chestnut trees, for many years before succumbing to the blight. The descendants continue the photo taking, which results in a unique photo collection. The collection inspires the young artist to his activism.

The book does not conclude with an overall success of promoting better human stewardship of nature. Rather, it concludes that environmental activists will soldier on and that mankind will gradually learn to live in harmony with nature.

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Trees in the Tub

By Paul Hetzler

Now that the “most wonderful time of the year” is behind us, we are faced with paying for all our holiday purchases, something which typically adds to our stress load. A hot soothing bath is a tried-and-true remedy for calming our nerves, but science has now shown that a better tonic for anxiety and stress is bathing in the forest, fully dressed. True story. Of course, a few details would be helpful.

In a blinding flash of the obvious, research has proven that being in the woods makes us feel better. To be fair, the scientific process requires measurable evidence, so in this case, real-time brain imaging with fMRI and PET scans, as well as blood-cortisol levels, heart rate and blood pressure, were used in a host of studies which showed that being immersed in nature does us a lot of good, even if we’re skeptical.

In the northland we are blessed with an abundance of natural beauty, so we’re ahead of the curve in a new fad headed our way called “forest bathing.” In Japan this has been going on for decades, but it has recently arrived in trend central, California. Apparently in Los Angeles, forest bathing is an organized activity led by trained, certified forest-bathing guides. I’m not saying that’s wrong, but really, all you have to do is step into a forest for 20 minutes or more. That’s it. No fees, no equipment to buy, and even if you just sit there inert, you’ll reap the benefits.

If you think this is much ado about nothing, consider that a 1994 EPA-sponsored study revealed that the average American spends 93% of their time indoors. And that was before the Internet and smart phones. In light of this, and the mounting evidence of how important nature is to our health, around 500 mainstream medical doctors in the US now actually prescribe walks in the woods (though since most of our population resides in urban areas, a park has to suffice). One early adopter is David Sabgir, a MD Columbus, Ohio-based cardiologist. He founded Park Rx America, a “non-profit organization whose mission is to decrease the burden of chronic disease and increase health and happiness by virtue of prescribing Nature during the routine delivery of healthcare.”

Early in the history of public zoos, keepers noticed that animals deprived of a naturalistic environment tended to get violent, and became ill more often. The same holds true for the human animal. Dr. Frances Kuo from the University of Illinois at Champaign-Urbana says humans living in landscapes that lack trees or other natural features undergo patterns of social, psychological and physical breakdown that are strikingly similar to those observed in other animals that have been deprived of their natural habitat. It turns out that just looking at and hearing nature has health benefits. The types of patterns found in nature can profoundly affect our brain waves in a positive way. Think of how a pine cone, acorn cap, or nautilus shell is arranged. Snowflakes, tree branches, and sand dunes are other examples. Even bird songs and the sound of waves breaking are natural patterns which will lower our stress levels.

The advantages of experiencing nature are amazing. In a Feb. 2014 article in the guardian.com, Richard Louv, author of *Last Child in the Woods*, tells how patients in rooms with tree views had shorter hospital stays and needed less pain medication compared to patients without a natural vista. College students do better on cognitive tests when their dorm windows view natural settings, and after just an hour in the woods, memory performance and attention span improves 20%. Dr. Kuo’s research finds that elderly adults tend to live longer if their homes are near a park or other green space, regardless of social or economic status, and researchers at the University of Rochester report that exposure to the natural world improves one’s capacity to nurture healthy relationships.

Not only are our minds and bodies soothed by nature, our unconscious is informed by it. Burdock inspired the creation of Velcro. Aeronautics got its start by contemplating bird flight. Studying woodpecker anatomy led to safer helmets.

Scandinavian countries quietly adopted this idea long ago. In Norway there's a movement called *Friluftsliv*, "open-air life," which kind of boils down to forest bathing. They even have a law, *Allemannsrett*, or "all humankind's right," ***which allows anyone to walk on rural land not under cultivation*.*** We need to think of nature as an essential part of our health, and treat it accordingly. I encourage everyone to start forest-bathing as soon as possible. For that over-the-top stressful day, however, you might consider moving the tub into the woods to get the best of all worlds.

For further information, go to https://www.mayoclinic.org/healthy-lifestyle/stress-management/in-depth/stress/art-20047544

An ISA-Certified Arborist since 1996, ***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. His book* "Shady Characters: Plant Vampires, Caterpillar Soup, Leprechaun Trees and Other Hilarities of the Natural World," *is available on amazon.*

****PIF note: While this is common in Europe, we have along way to go in this country to consider this.***

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Winter Fruit Provides Bounty for Wildlife

(condensed from Northern Woodland magazine, by Susan Shea)

Although the North is not known for winter fruit, according to Bernd Heinrich's book *Winter World*, there are twenty-nine species of berries which ripen in fall and persist on the branch through the winter. Trees and shrubs laden with refrigerated fruit are an important food source for wildlife, especially birds, and can produce some unusual sightings. The only time I've ever seen pine grosbeaks was on a cold winter day; the big, olive-green females and rose-colored males were feeding on crabapples in a small tree next to a health clinic. These birds live in Canada's coniferous forests, but visit our region in years when seeds and wild fruit are scarce there. Another time I witnessed a chattering flock of Bohemian waxwings descend on the staghorn sumac trees to feed on the fuzzy, reddish fruits. Bohemian waxwings, named for their nomadic behavior, are larger than their more familiar cousins, the cedar waxwings, and more colorful, with white and yellow wing marks. Like pine grosbeaks, they reside in boreal forests, but flocks periodically invade the U.S., where they roam about in search of wild fruit.

Bohemian and cedar waxwings are the most frugivorous (fruit-eating) birds in North America. Their stomachs have less musculature and their intestines are shorter than those of birds with a more varied diet. Food passes through the gut quickly, so they can feed rapidly when fruit is available. Flocks of waxwings can make short work of fruit on a tree. You might almost feel sorry for the plant. But plants and birds evolved together, and plants have designed fruit — delicious little packages of pulp — to attract birds and other wildlife, in order to disperse their seeds. Many seeds can survive passage through an animal's digestive tract and are transported to new places that way. This of course is a concern with invasive plants, some of which were originally marketed as wildlife food sources.

Fruit pulp is typically rich in carbohydrates and vitamins and the seeds inside are concentrated sources of fat and proteins. However, specific nutritional content depends on the season of dispersal, writes Heinrich. Fruits with a long branch life such as staghorn sumac are more acidic and lower in fat, sugar, and water to prevent spoilage. Apples, both wild and cultivated, are another fruit popular with wildlife in winter. Check beneath an apple tree and you're likely to find tracks, droppings, and pawings in the snow where animals have dug up

frozen fruit. Deer, coyotes, foxes, fishers, snowshoe hares, red and gray squirrels, grouse, and turkeys will all eat apples in winter. Squirrels will store apples in the crooks of tree branches for future consumption.

This past fall, there was an abundant crop of apples and other fruit and as a consequence, some bears continued feeding and delayed hibernation. While cross-country skiing in early December, I saw bear tracks coming out of the woods and leading to a group of wild apple trees in the back corner of a pasture. The small trees were not strong enough to support the bear, so it had pulled down several branches to reach the apples. The following day, I skied by a porcupine feeding in one of the apple trees.

Planting native fruit-bearing trees and shrubs is a great way to provide food for birds and other wildlife in winter. Some good choices are mountain ash and the three viburnums: nannyberry, high-bush "cranberry", and maple-leaved arrowood. Staghorn sumac often sprouts naturally, and is considered a "weed tree" by many. But it is valuable for birds as its fruits last up to eight months and provide food in late winter and early spring when few other berries are available. Sumac fruits are consumed by returning migrants such as flickers and catbirds. Flocks of birds feeding on winter fruit in your yard are sure to brighten up a cold, gray day.

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Wild and Scenic Rivers

PIF: Following the photos in the last issue of Partners News, of Victoria and the Ontonagon River feeding the flowage, the following question came to our in box:

> *You mentioned Wild & Scenic (capitalized) as a designation for the river at Victoria. Is there official recognition of these rivers? Is there more of them in this area?*

Yes, it is an official designation, see below. The Wild and Scenic Rivers act was signed into law by President Lyndon Johnson in 1968 in a time of bi-partisan conservation awareness. Ironically the very first designation of only 8 rivers nationally, included two in Wisconsin, the Wolf and the St. Croix. In a future report we will concentrate on Wisconsin rivers, where here we will list the Wild & Scenic Rivers (including the recreational designations) in the western UP, primarily the Ottawa National Forest. These six were designated in 1992!

A National Wild and Scenic River is an official, federal designation that was created by Congress in 1968. It began as a response to the damming, diverting and degrading that had been happening to many of our country's great waterways. In Michigan 625 miles of rivers are designated "Wild and Scenic." These rivers possess remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values. They and their immediate environments are protected for the benefit and enjoyment of present and future generations. A Wild and Scenic River is not a national park or wilderness area. The idea is not to halt development and use of a river; instead, the goal is to preserve the character of a river. To learn more about our National Wild and Scenic Rivers, visit the official National Park Service web site, the Michigan DNR page about these rivers, and a map of Michigan's Natural and Wild & Scenic Rivers.

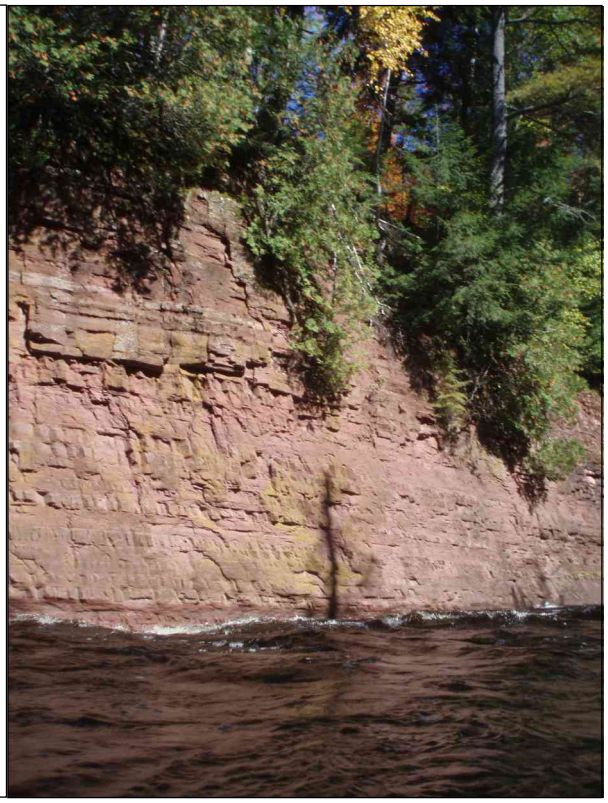
Area Rivers designated include: Western Upper Peninsula Wild & Scenic Rivers

Black River, USFS Designation/Reach: March 3, 1992.
From the Ottawa National Forest Boundary to Lake Superior.
Classification/Mileage: Scenic — 14.0 miles; Total — 14.0 miles.
The Black River provides visitors with outstanding scenery, unique geographical features, superb fisheries, cultural history, and abundant recreation opportunities. The many waterfalls, rapids, and gorge-like landscapes

along this river, combined with a mix of large hemlock and eastern white pine, has long been recognized as a must- see resource.

Ontonagon River, USFS (also Blue Ribbon Trout Stream) **Designation/Reach:** March 3, 1992.
The East Branch from its origin to the Ottawa National Forest boundary. The Middle Branch from its origin to the northern boundary of the Ottawa National Forest. The Cisco Branch from its origin at Cisco Lake Dam to its confluence with Ten-Mile Creek south of Ewen. The West Branch from its confluence with Cascade Falls to Victoria Reservoir.
Classification/Mileage: Wild — 42.9 miles; Scenic — 41.0 miles; Recreational — 73.5 miles; Total — 157.4 miles.
In this true backcountry setting, the gorge-like landscape, exposed sandstone cliffs, and waterfalls provide a unique recreational area for the mid-western United States. The river also has excellent fishing for resident brown trout, Lake Superior run salmon, and steelhead.

A rock wall of sandstone creates canyon features in the Wild and Scenic Cisco branch of the Ontonagon River. The Cisco is fed by the Cisco chain of lakes and the Tenderfoot Creek and picks up more flow from the Sucker (including Scott & Howe at Wildcat Falls) as it becomes the South Branch of the Ontonagon. Flowing north, the south fork merges with the West Branch (starting at Lake Gogebic) and is again a Wild and Scenic designation to the Victoria Flowage!



Paint River, USFS (also Blue Ribbon Trout Stream) **Designation/Reach:** March 3, 1992.
The main stem from the confluence of the North and South Branches to the Ottawa National Forest boundary. The North Branch from its origin to its confluence with the South Branch. The South Branch from its origin to its confluence with the North Branch.
Classification/Mileage: Recreational — 51.0 miles; Total — 51.0 miles.
The main stem of the Paint River is an excellent year-long canoe route. The brook and rainbow trout fishing is outstanding. The historical use of this river for log drives provides many historical interpretive opportunities.

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Presque Isle River, USFS Designation/Reach: March 3, 1992.
The main stem from the confluence of the East and West Branches to Minnewawa Falls. The East Branch within the Ottawa National Forest. The South Branch within the Ottawa National Forest. The West Branch within the Ottawa National Forest.
Classification/Mileage: Scenic — 19.0 miles; Recreational — 38.0 miles; Total — 57.0 miles.
Portions of this river are considered by some as the most challenging whitewater river in Michigan, if not in the Midwest. This river is listed as one of the ten North American rivers that "defines the outer edge of contemporary whitewater paddling" (Canoe Magazine). **Note from Joe: A raft trip on the Presque Isle on March 31, 1998 was probably the most hair-raising experience of my life. An experience I shall never forget but never wished to repeat!*

Sturgeon River, USFS (also Blue Ribbon Trout Stream) **Designation/Reach:** March 3, 1992.
From its entry into the Ottawa National Forest to the northern boundary of the Ottawa National Forest.
Classification/Mileage: Wild — 16.5 miles; Scenic — 8.5 miles; Total — 25.0 miles.
This river flows through a narrow, dissected, gorge-like valley with an average depth of 200-300 feet. Valley walls have slopes of 50-90%, and the river flows through the Sturgeon River Gorge Wilderness. Do visit the Sturgeon River Gorge!

Yellow Dog River, USFS Designation/Reach: March 3, 1992.
From its origin at the outlet of Bulldog Lake Dam to the boundary of the Ottawa National Forest
Classification/Mileage: Wild — 4.0; Total — 4.0 miles.
The Yellow Dog River drops 240 feet through numerous outcrops and cascades within the McCormick Wilderness. Surrounding vegetation consists of large eastern white pine, eastern hemlock, sugar maple, northern red oak, and other old-growth northern hardwood species.

Thanks to **trails to trout** for assisting in this report. For a full list of Michigan designated Wild and Scenic Rivers see https://www.trailstotrout.com/resources/wild-and-scenic-rivers/ or https://www.nps.gov/subjects/rivers/michigan.htm. Watch for Wisconsin Rivers coming up in a future issue. The other day we received mail using a forever stamp featuring the Ontonagon River, specifically the Cisco Branch and Kakabika Falls. Ask for the Wild & Scenic River stamps at your post office and celebrate a special feature of our conservation treasures. And get out and enjoy these rivers.

Back in the falls of 2007-2010, a small group of PIF and NWA members paddled the Wild and Scenic rivers in the Ottawa National Forest. Common destinations were the West branch from Lake Gogebic through the Trap Hills, and the Cisco branch below the inlet with the Tenderfoot Creek and through and including Wolverine Falls. At high water these are exciting trips with miles of rapids, and beautiful scenery in the Ottawa National Forest. Paddlers included the late Tom Church, Mike Szurek, Al Warren, Mark Hovel, Steve Garske and John Schwarzmann. Outings like this instill a deep appreciation of our public lands.
For more Wild and Scenic River trip photos in the western UP please see https://www.northwoodalliance.org/wild-scenic-rivers.

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American Bird Conservancy has a personalized message for readers of Partners News.

3 BILLION BIRDS

In September of 2019, scientists revealed that bird populations in the United States have declined by 29 percent since 1970. That's 1 in 4 birds or 3 billion birds! What's more startling is that, according to a press release by American Bird Conservancy (ABC), 90 percent of the decline belongs to 12 bird families that play vital roles in ecosystem functions like seed dispersal of native plants and pest control. Like me, you may wonder, how do scientists know? What does this mean for me? What can I do?

Did you know that bird migration shows up on radar? Weather reporters have known for many years that birds and bird migrations show up on NEXRAD images. Ornithologists and the common birder can now follow NEXRAD to "forecast" the density, location, direction and speed of birds during migration. This information, along with years of Breeding Bird Surveys and Audubon Christmas Bird Counts were the data analyzed to determine that bird populations are in decline. On a side note, the Wisconsin Breeding Bird Survey just concluded their 2nd annual, 5-year long count and are finding some interesting results. Birds that were breeding/nesting in Southern states are now breeding in Wisconsin and birds that were common breeders/nesters in Northern Wisconsin, no longer breed here and have moved farther North into Canada. Citizen science is important and matters!

You are reading this article because you are a member of PIF and likely own land in Northern Wisconsin or the western UP. What does this bird decline information mean for you? According to Mike Parr, President of American Bird Conservancy, "*It is clear that among the major drivers are habitat loss for grassland birds and inadequate habitat management, which has allowed fire-dependent systems to get out of balance in the West, and eastern forests to become less structurally diverse*." When you read inadequate habitat management, think inadequate forest management. Parr is further quoted as saying, "*On the wintering grounds, outright habitat loss, as we are currently seeing with Amazonian fires, is surely an important factor. Central America, where many of our birds concentrate in winter, has also lost around 50 percent of its historical forest cover."* We have little control over habitat management where most of our Wisconsin bird species over-winter.

If you are interested in helping to save populations of warblers, finches, sparrows, and swallows as well as sustainable forest management there are many things you can do from a forest management standpoint. Young Forest or early successional habitat can be created where Aspen and marginal/upland tag alder are growing to benefit birds like Golden-winged Warblers, American Woodcock, Indigo buntings, and Eastern Towhees. Group selection harvests will benefit Yellow-billed cuckoos, Hooded warblers, and Indigo buntings again. Single tree harvests will benefit black and white warblers and Yellow-billed cuckoos, again. As you can see, some species of birds are habitat specialists and others are habitat generalists. Management in general is beneficial to birds. Snags and standing trees will help woodpeckers and prescribed fire will benefit a wide range of species from grassland to early successional species.

If you want to learn more about what you can do, visit www.3billionsbirds.org to learn about how pesticides, cats, and collisions with wind turbines and windows add to bird mortality and can be mitigated. You can also visit www.abcbirds.org for more information on the topic. Lastly, you can email or call me or your local DNR or private land forester to learn about what you can do on your property regarding forest management to help birds. Lastly, visit https://rochesterbirding.com/local-birding/nexrad/ and http://www.aos.wisc.edu/weather/wx_obs/Nexrad.html to follow bird migration on NEXRAD.

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AMERICAN BIRD CONSERVANCY

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LOOKING AT THE BIGGER PICTURE

WASPS TO THE RESCUE!

A study conducted by researchers in Europe and South America demonstrates the importance of Wasps in controlling pests on agricultural and horticultural crops. The study was sponsored by the University College of London and involved collaboration from several countries found that common wasps can be used on a host of annual and perennial crops to control a wide range of pests.

“There is a global need for more sustainable methods to control crop pests, to reduce over-reliance of pesticides or imported pest controllers. Wasps are very common, but understudied, so here we are providing the data of their economic value as pest controllers,” said the lead author, Dr. Robin Southan.

However, wasps themselves are also in decline and under threat, as is the beloved honey bee.
In summary the researchers suggested that growers, from woodland owners to large and small agricultural operation and down to the small back yard gardener, treat wasps as the benefit they are. They suggest we adopt more wasp friendly attitudes and create more wasp friendly environments on our property.

BUILDING LANDSCAPES FOR BENEFICIAL BUGS!

How we configure our forests, farmlands and grasslands can have a significant impact on the population of spiders, lady bugs and many other beneficial arthropods according to researcher from Michigan State University. Scientists summarized research into ways landscape configuration affects natural enemies and pest suppression in a recent story in the journal Trends in Ecology and Evolution.

“One of the take homes from our review is that natural enemies are more abundant when landscapes are intermixed with tillable fields, woodlands, grasslands and other native complexities” wrote the studies authors. “Some natural enemies need resources found in other habitats or in crop field edges, displaying that smaller patches of habitat are beneficial for natural pest control”.

They summarize that this study will help scientists predict how future changes to farming landscapes will affect insect diversity and help with pest suppression.

A BIG LAKE IN CRISIS!

Sometimes referred to as an additional great lake (it did hold the title for eighteen days), Lake Champlain is situated between the Adirondack Park and northern Vermont and partly crosses into Quebec Canada. With 497 square miles of surface and almost 600 miles of shoreline the recent years outbreaks of cyano-toxin or cyanobacteria more commonly called blue-green harmful algae has alarmed political leaders and residents alike. Called the perfect storm, recent reporting in the Adirondack Explorer states that “Pollution and a warming climate team up on Lake Champlain”. Over a quarter of a million people get their drinking water from the lake, which does drain to the St. Lawrence sea way.

Phosphorus pollution in warmer water is termed the direct cause of cyano- bacteria, and many blame the dairy farms in the Vermont hills for the cause. However, we think the reasons are much more complex as we have seen this in Vilas County Wis. lakes in recent years, with no dairy farms in sight.

TICKS AND THEIR DISEASES CONTINUE MOVING NORTH!

According to an infectious disease specialist, the range of ticks is expanding and more diseases spread by ticks are being identified, and new species are being introduced to the US by global trade and travel.
What’s a person to do? Learn about the new threats, and then increase your personal protection is all we can do. There are no accurate diagnostic tests, no vaccines, and whatever treatment is provided is often inadequate. More than 300,000 new cases of Lyme disease alone occur each year. Why is this happening. The expansion of Lyme and other tick-borne diseases appear related to two major factors.

The first and more significant is climate change. As it has gotten hotter and at times wetter in the US, ticks have moved farther north and west, and now Lyme is found in all states. Think you are safe in winter? Not so much. If they are insulated by leaves, more than 90% of ticks will survive the winter.

The other major factor is thought to be fragmentation of forests. Also contributing are changes in bird migration, an increase in the hosts for the disease (deer, mice, chipmunks, squirrels), and a decrease in the predators of the hosts (foxes, wolves, bobcats, etc.). Increased distribution of non-native plant species through landscaping, with plants escaping to the wild, also contributes to the increase. Plants like Japanese barberry, in particular, make a favorable home for deer mice and ticks.

And accidental introduction of ticks to the US through livestock, pets, or people is a growing problem. Tick species ranges are expanding and just in the past twenty years, seven new pathogens (germs) that can cause disease have been discovered here.

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READERS' COMMENTS

From Dean, a reader:
Great feature by Mike Dombeck and Chris Woods about the assault on the Tongass National Forest. The give away of timber and other resources has been going on a long time, as most of these were first 'claimed' from Indigenous peoples and often transferred to commercial interests at very low value. This practice, in the developing and developed world, has been tragic, because at full value the previous holders and current citizens could have been fairly compensated, at least fiscally. The market would have gobbled up the resources at full value, however the local and indigenous folks would have still lost control of their land against their wishes. The low resource prices have had a more serious and long lasting effect on potential funding for infrastructure, public health, education and other financial stresses of the developing (and developed) world. And humanity is harmed in the long run.

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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 partnersinforestry@gmail.com or by mail:

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