

"This institution is an equal opportunity provider."



Partners News

JULY 2024

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.

A horribly warm and dry winter has turned into a rather normal and wet (at least in some places) period. Report from Stil Mill farm in central WI on July 2, 2024, 16.19 inches of rain since April 29, 2024.

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*Have you paid
your PIF dues?*

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Vote August 13, 202422

Celebrating a long time PIF member, love of the land and its resources, and the making of a Legacy Forest to benefit future generations

By Joe Hovel

For about a year now we have been working to achieve Forest Legacy designation on two great projects in the Town of Land O Lakes. These projects are described here, and at www.northwoodalliance.org as Border Lakes Forest Legacy and Upper Wisconsin River Bird Habitat. The great feeling in this is how a long time, from the very beginning, PIF member wishes to conserve his land. My friend Mike Uihlein asked for assistance in protecting the ~1200 Border Lakes project, and we immediately engaged. John Schwarzmann conducted on the ground recon to learn the true attributes of this great project.

Last fall the applications were submitted under the new category in the Forest Legacy Program, funded under the Inflation Reduction Act- 'Family Tracts with Greater Strategic Importance'. That strategic value being location-connectivity to other protected lands, watershed importance and public values. We are proud to present these projects in Partners News.

Here is a short press release from June 26, 2024:

Land O Lakes WI Conservation through the Forest Legacy Program June 2024

On June 25, on a voice vote with no objections, the Vilas County Board of Supervisors passed a resolution supporting two Forest Legacy Projects in the Town of Land O Lakes. Northwoods Alliance Inc. and Partners in Forestry Cooperative are working with two landowners in the Town of Land O Lakes to secure permanent public access and sustainable forest management on these two forested tracts which offer sustaining community values.

The landowners are seeking conservation easements with the Wisconsin Department of Natural Resources through the Forest Legacy Program to maintain nonmotorized public uses on the Border Lakes Forest project. This project will protect approximately 1200 acres including the Forest Lake segment of the Wilderness Lakes bike-hike trail, Emil Lake as headwaters of the Tamarack Creek, as well as a long scenic corridor along County Roads B, S and Forest Lake Road. The project also contains a wide range of biodiversity with diverse timber stands, flora and fauna.

Fronting on County Road E and US 45 is the Upper Wisconsin River Bird Habitat, which is an expansion opportunity to the ever-popular Upper Wisconsin River Legacy Forest. These 191 acres will connect the legacy forest to State and County Forest lands and offer easier access than now exists to the habitat of Haymeadow Creek and Spruce Grouse Swamp State Natural Areas, both birding hotspots. This project has a strong focus on wildlife, as it is 50% wetlands both forested and open grass meadow.

"At this time of extreme forest conversion threatening public access, we are pleased to present these two great projects to the Vilas County Board of Supervisors as well as residents and visitors alike", stated Joe Hovel of Northwoods Alliance, spokesperson for the landowners. Hovel also stated gratitude for project support which includes the Town of Land O Lakes as well as forestry, wildlife, conservation and trail groups.

The projects can be viewed at www.northwoodalliance.org, or reach Hovel at partnersinforestry@gmail.com or call 715-479-8528.

Here is our statement fact sheet used to achieve the Vilas County Resolution of support

FOREST LEGACY in VILAS COUNTY June 2024

Prepared in spirit of full transparency, to avoid any misinformation from developing. To Vilas County Land & Water Conservation Committee, Vilas County Board members and Vilas County Tax payers.

Border Lakes is ~1100 -~1200 acres Upper Wisconsin River Legacy Forest addition is 191 acres

Under Forest Legacy designation the land will assure public access for traditional forest uses. Forest Legacy is a partnership with USFS, State of Wisconsin and private landowners. The conservation easement will be perpetual, and protect the current recreation, sustainable timber production, and wildlife habitat from future fragmentation.

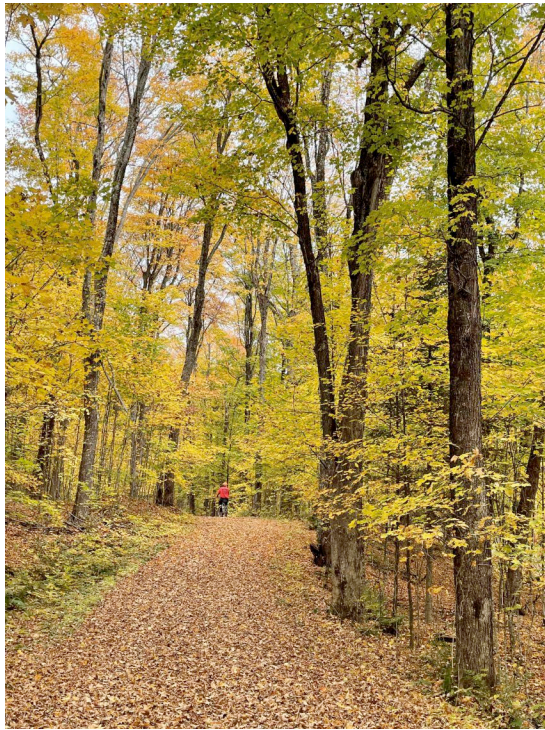
- Foot based public access required- Further access can be allowed by landowners wishes
- Land stays private and in the Managed Forest Law Program
- Continues to be managed as working forest, providing timber and other forest products
- The conservation easement will be held by WDNR Division of Forestry
- This project will use USFS funding, private donations (possibly Knowles Nelson Stewardship). No Vilas County funding

Between these two projects, Forest Legacy designation will protect and maintain:

- Diverse wildlife habitat with Threatened & Endangered species
- Scenic Corridors on North Forest Lake Road, County Roads B, S, E and US Highway 45
- Emil Lake as headwaters of Tamarack Creek (which flows through County campground)
- The scenic values of the Forest Lake segment of the Wilderness Lakes bike trail
- Two watersheds: Wisconsin River Headwaters Conservation Opportunity Area and Ontonagon River-Lake Superior
- Easy access to habitat of State Natural Areas & Upper Wisconsin Wetland Pines Important Bird Area
- Wide diversity of forested stands from long lived northern hardwoods and oak-pine, to short lived aspen, jack pine and swamp conifer
- the easement protects current land uses that are the backbone of the economy

Questions can be directed to Joe Hovel partnersinforesstry@gmail.com 715-479-8528

We would note that Iron County, WI recently passed a resolution supporting the ~1000 acre State Line Forest in the Town of Oma. That project is on the Black and Manitowish River watersheds and adjoins Iron County Forestland as well as close proximity to Gogebic County MI forest lands. We were pleased to send letters of support for that great project.



Border Lakes bike trail in fall



Border Lakes bike trail with leaf out

Here are some notes from a short Power Point I had prepared to answer any questions from board members. I am happy to share a link to this presentation if anyone would like.

8: Border Lakes -Bike trail, lake, stream, long view corridors on County roads S & B and Forest Lake Road. This is a critical conservation property. The watershed divide goes through the south unit. This project was submitted into the Forest Legacy funding category Family Tracts with Greater Strategic Importance. Some of you know the Forest Lake segment of the bike trail.

9: Here the Tamarack Creek flows under County Road S after exiting Emil Lake. The Tamarack flows through the Vilas County campground on the way to the WI River---so let's keep it clean. The hills behind Emil Lake showcase the next watershed—near Forest Lake which is in the Lake Superior basin.

10: When long time Partners in Forestry member Mike Uihlein called me last year and asked for assistance in achieving land conservation status with public access-----well ----I could not ignore an 88-year-old friend who was so generous years ago to see a bike trail cross his land. This project will assure future generations this experience!!

11: Addition to Upper Wisconsin River Legacy Forest- 191 acres, fronting on County Road E and on US Hwy. 45.

Will Offer Management Access to Vilas County and State of WI Forest Lands Public access connecting the Upper Wisconsin River Legacy Forest to County and State Forest Close to two State Natural Areas, providing

easier access than now exists to the ecosystem Spruce Grouse Swamp and Haymeadow Creek SNAs are both popular birding destinations.

12: Wildlife on the UWRLF. This is in WI River Headwaters Conservation Opportunity Area and the Upper WI River Wetland Pines Important bird area.

13: The Upper WI River Wetland Pines are a mosaic of dry conifer islands interfacing numerous surrounding wetlands with vibrant plant life.

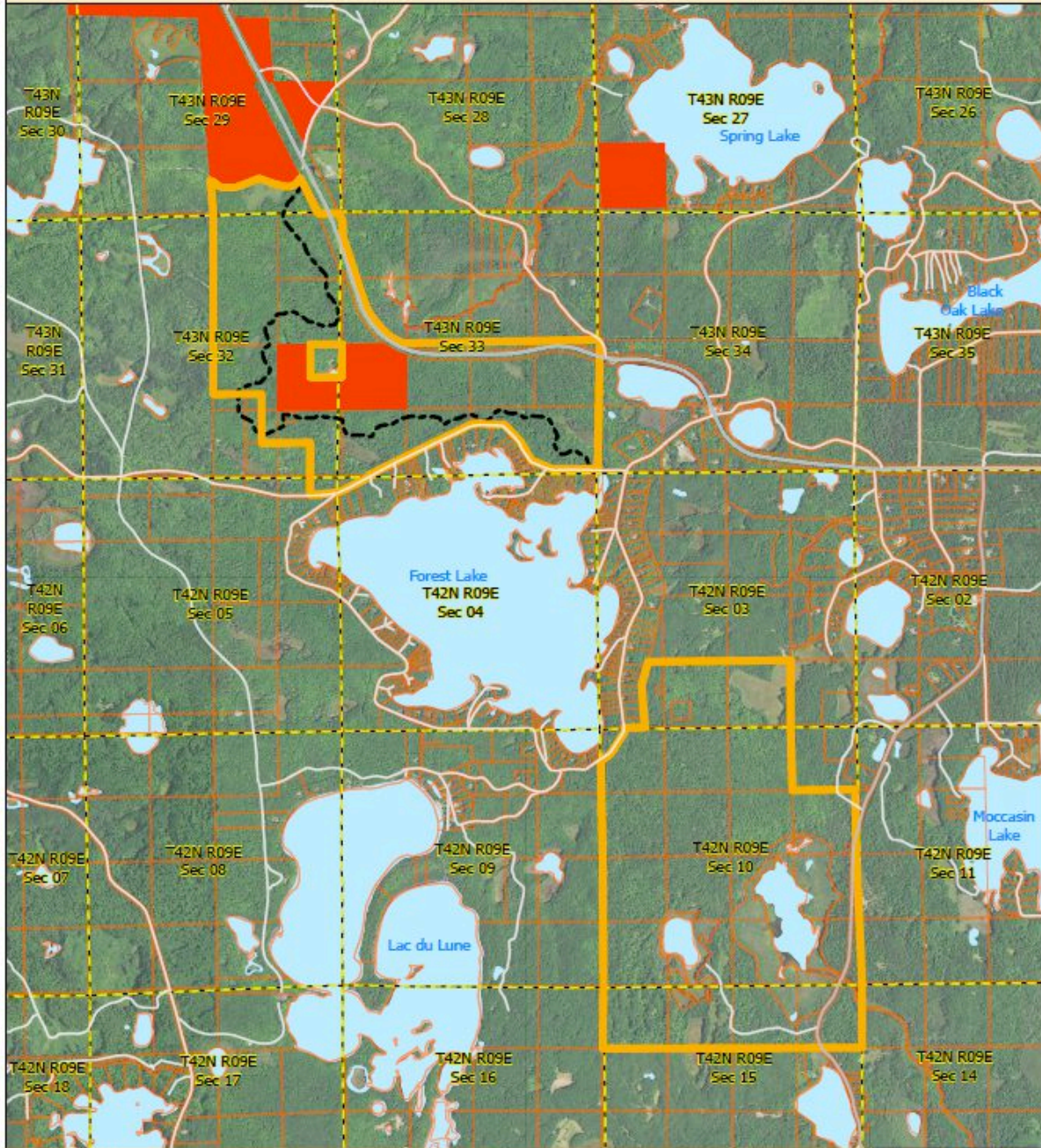
14: We must assure future generations the pleasures we have experienced on the landscape. The Forest Legacy Program helps us with that mission.

Widespread Community support for these projects includes Town of Land O Lakes, ABC Birds, Northwoods Land Trust, WI Green Fire, Vilas County Land and Water Conservation Dept., Vilas County Forest, full Vilas County Board resolution, Partners in Forestry, Northwoods Alliance and more. WE thank them all.

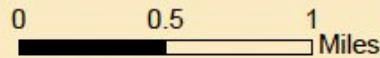
Joe, personal note: I could not say enough good about Mike Uihlein and his land ethics. It truly is a warm feeling to work with him on the Border Lakes project, he has been a loyal PIF member and friend.

IF anyone questions the need to protect these parcels, simply consider the level of unprecedented fragmentation in Vilas County. There has been a steady degradation of the forest resources here for decades, the past few years has seen this trend accelerated dramatically with many new driveways and buildings surfacing all over the county as private lands become further parceled. This process has harmed forest economics, closed areas to public access and laid ruin to wildlife habitat.

Forest Legacy Project - Border Lakes Tract



- Border Lakes Tract
- Land O' Lakes Bike/ Pedestrian Trail
- Sections
- Board of Commissioners of Public Lands
- Parcels



WISCONSIN DEPARTMENT OF NATURAL RESOURCES
Bureau of Facilities of Lands
Real Estate Section
Map Created: Nov 16, 2023 zs



And story from WXPB radio on the Vilas County projects

WXPB July 2, 2024 Two areas of land will be put into conservation easements in the Land O'Lakes area of Vilas County. One is 191-acres near the intersection of Hwy 45 and County Road E. It adds wildlife habitat to the Upper Wisconsin River Legacy Forest and connects the forest to County Forest lands. The other section is the Border Lakes tracts along County Roads B and County Road S near Forest Lake in Land O'Lakes.

Joe Hovel owns the Upper Wisconsin River Legacy Forest addition and is the Director of Partners in Forestry, an organization that works to support sustainable forest management. "These two projects, really, I mean, they're a tremendous asset to the community, and certainly will be used and embraced by future generations. There's no question about that," said Hovel.

The Border Lakes Tracts are owned by the Mike Uihlein family. Hovel says Mike's a friend of his and longtime Partners in Forestry member. "When we first started our co-op 25 or so years ago, he was right there with us. When he asked for help in protecting his land, and with the public values and so forth, I mean, how could I not embrace that? It is such a warm feeling, to work with a friend on conservation." said Hovel.

The land will all remain in private ownership. The conservation easements will mean no future owners can develop on them, leaving the land for public recreation, timber production, and wildlife habitat. Hovel says these sections of land hold a lot of environmental and public use value. They're home to diverse wildlife habitats. They'll protect scenic corridors along several county roads. They're each part of critical watersheds: the Wisconsin River and Ontonagon River-Lake Superior.

The Border Lakes tracts include the Forest Lake segment of the Wilderness Lakes Trail System. "The public opportunities here are numerous. They're diverse, and we truly felt the responsibility to see those protected for future generations," said Hovel.

The conservation easements are being purchased with federal funds and private donations and will be held by the Wisconsin DNR through the Forest Legacy Program.

Hovel says conservation easements make forestry work sustainable. "A landowner can follow the very best management practices possible. He can manage his timber stands to the very highest ethics. And if he passes away, and somebody else buys that land, it's suddenly up to them to destroy it or maintain it as they wish," said Hovel. "This Forest Legacy designation is going to respect past ethical management and love for the land and honor the landowners wishes going forward. In other words, you can practice sustainable forestry, and the next guy has to do the same."

The projects had support from local trail, forestry, and conservation groups as well as local governments. The Vilas County Board voted in support of the easements at its June board meeting with 19 in favor, one recused.

"I was very grateful. Knowing the qualities of these projects and the amount of effort that we put in to conveying these benefits to the board members, I shouldn't have been surprised because I knew they were very good projects," said Hovel.

Hovel hopes the conservation easements will be finalized by the end of the year. The land is currently open to the public through the Managed Forest Law program.

From PIF Friend John Bates



From National Geographic: A small pine tree grown in a glass box shows the intricate network of white, finely branched mycorrhizal threads or “mycelium” that attach to roots and feed the plant.

These mycorrhizal fungi form symbiotic relationships with plants, helping them absorb water and nutrients from the soil while receiving sugars and other compounds in return.

This incredible underground network supports plant health and growth, illustrating the vital connections within ecosystems.

FUTURE ARTICLES

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

Partners In Forestry
6063 Baker Lake Rd
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Wild & Scenic Rivers in the Western Upper Peninsula

The nation’s strongest river conservation program is showcased in the Ottawa National Forest, and several of these rivers have roots in Wisconsin. In the Ottawa alone, there are 330 miles designated as Wild & Scenic, and about half those miles are in the Ontonagon system, which has a strong presence in the Border Lakes conservation area between Land O Lakes and Presque Isle. Especially the Presque Isle and also the Black River watersheds transcend south of the Michigan Border. This very same water is in our wells, our lakes and wetlands.

Join local conservationist and river explorer Joe Hovel to dive into the complexities of Wild and Scenic designation, and to experience the vast array of benefits we receive from these rivers so close to us. From sightseeing with waterfalls, to fishing and gathering, and of course—paddling, everything from quiet segments to very challenging whitewater; these special rivers enrich our lives.

7PM, July 25, 2024 at the Ottawa National Forest Visitors Center in Watersmeet MI

There is no charge for these programs, the Ottawa National Forest and Northwoods Alliance are equal opportunity providers. All are welcome

www.northwoodalliance.org 715-479-8528



Wolverine Falls on the Wild & Scenic Cisco Branch Ontonagon River

Oneida County Comprehensive Plan Changes

Conservation under continuing attack.

- Discourage the conversion of existing privately owned lands to public lands using federal, state, and local tax dollars to purchase existing MFL lands or purchase easements over them.

As shown in April Partners News, we need to continually refute the misinformation campaign targeting forest conservation. This ASL (American Stewards of Liberty) propaganda has infiltrated communities with bold face lies. The below paragraphs expose such.

ASL describes itself as an organization dedicated to protecting “property rights,” but conservation groups say it espouses a twisted view of property rights — holding that landowners shouldn’t be allowed to put their property into conservation easements that protect that land from excessive logging or mining, and that local and county officials should be able to prevent those agreements.

“This is a group that wants to limit what property owners can do with their property, and they want the government to have control and to be able to tell property owners, you can or cannot do this with your private property,” Aaron Weiss, the deputy director of the Center for Western Priorities, who has studied the group, previously told the Wisconsin Examiner. “So that’s the biggest, the most important thing to realize is that when ASL claims they are about private property rights, that is an absolute lie. The policies they promote and as you see it playing out in Wisconsin, are all about limiting private property rights.”

Margaret Byfield with ASL has called conservationists “atheists”. What a stark contrast to Pope Francis, who has written encyclicals on our collective responsibility to care for the environment and recently said “we must end this senseless war against Creation”.

I think of the folks spreading misinformation and lies and consider something my old friend Fr Gus told me years ago; “the person who doesn’t know where they’re going can take any road—and its normally the wrong one”. These folks are on the wrong road.

WOLF POPULATION

June, 2024 Contact: [Brian Roell](#), 906-228-6561

Latest DNR survey shows stable wolf population in Michigan

The survey estimates 762 wolves in Michigan’s Upper Peninsula, showing a consistent population for the past 14 years.

The 2024 winter wolf population survey estimate from the Michigan Department of Natural Resources found a minimum of 762 wolves in Michigan’s Upper Peninsula. This year’s estimate showed an increase of 131 animals compared to the 2022 estimate of 631; however, the results demonstrate a continued trend of statistical stability in Michigan’s wolf population.

“This year’s survey findings are statistically consistent with our wolf population surveys for the past 14 years,” said Brian Roell, the DNR’s large carnivore specialist. “When a wild population reaches this stable point, it is typical to see slight variations from year to year, indicating that gray wolves may have reached their biological carrying capacity in the Upper Peninsula.”

In other words, Michigan’s U.P. wolf population has achieved an equilibrium between availability of habitat and the number of wolves that habitat can support over time.

The survey, completed last winter, found the population distributed among 158 packs in the Upper Peninsula, with an average of 4.8 wolves per pack. This year’s survey represents the highest population estimate since 2012, when the department began doing the semiannual survey. The survey is conducted during the winter because it relies in part on identifying wolf tracks in the snow.

Prior to the winter of 2007, the DNR sought to count wolves throughout the entire Upper Peninsula. However, as the wolf population increased, this peninsula wide survey method became more difficult and time-consuming, especially the process of distinguishing among adjacent packs.

As a result, the department developed and evaluated a different sampling method to reduce the search area and allow additional time to accurately count wolves in neighboring territories. The new approach uses a geographic stratification – essentially breaking up regions into small pieces and ensuring those regions have representative samples – and produces an unbiased, precise minimum estimate of wolf abundance in Michigan’s U.P. during midwinter when wolves are at their lowest point in their yearly population cycle.

The DNR is currently evaluating two other techniques for estimating wolf abundance in the U.P. One relies on a track survey similar to the department’s current method. The other uses trail cameras spread across the U.P.

If successful, these additional techniques may have advantages over the current methodology, mainly by decreasing staff time. The camera model would have the added benefit of producing estimates at times of the year other than winter.

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

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.

(PIF note) Paul was laid up for some time, thus his stories were fewer. This is his first new writing following his recovery.

Animal Self-Defense by Paul Hetzler

When Charles Darwin used the phrase “survival of the fittest,” he simply meant that an individual with traits best-suited to its surroundings is more likely to reproduce. The attributes that gave it a survival advantage would then be passed on to its offspring, thus driving evolutionary change over time. But in popular culture, “survival of the fittest” is often conflated with fitness – it was even the title of a British 2018 reality TV about physical endurance. In nature, however, the fittest is rarely the strongest.

Though survival entails finding enough food and water, it’s also about not becoming an entrée on someone else’s menu. Other than apex predators, most animals list their occupation as “professional prey” on their CVs. For them, fitness is dodging fangs and claws to live another day.

For a lot of species, fitness is blending in with the background. While I’m impressed by photos of seamless camouflage, a full-length film on it would be like watching paint dry. On the other hand, I’d buy tickets to watch an animal immobilize attackers with glue-like projectile vomit, spew jets of hot acid at predators, or use its internal organs as projectiles by firing them out its anus toward enemies.

Even faking death to avoid actual death is a theatrical affair. If I were faced with something that wanted me for supper, like a zombie or a mountain lion, my inclination would be to run. Dropping to the ground inert wouldn’t be top of mind. Yet for a few critters, it seems to work. A well-known example is the Virginia (a.k.a. American) opossum, whose dramatic death reenactments gave rise to the phrase “playing possum,” meaning to play dead, or to be a faker in general.

Found throughout most of the eastern US, southern Québec and Ontario, as well as parts of British Columbia, this native marsupial has been expanding its range northward for decades. If you haven’t yet seen opossums in your area yet, you very well might

in the future. Contrary to popular belief, it does not “play” dead. When threatened, an involuntary response called tonic immobility kicks in. Its muscles go rigid and its heart rate and respiration drop sharply for up to several hours. Males are said to get a full erection during this time – instant rigor mortis, I guess.

Opossums are deeply unconscious in such a state, and might be tempting morsels to a carnivore, except that they also salivate profusely, urinate, defecate, and release a foul-smelling fluid from their anal glands. Apparently, no self-respecting predator wants to deal with that mess.

Other animals that exhibit this behavior include reptiles such as our native eastern hognose snake, a number of rodent and bird species, as well as insects. Tonic immobility can even occur in humans during acute traumatic events.

Chemical defense is an ancient survival tool used by fungi, plants, and of course, animals. The exemplar of this may be the striped skunk, abundant in most of North America. In Canada, it’s found as far north as Nunavut and the Northwest Territories. Skunks’ weapon of choice is N-butyl mercaptan, related to the pungent stuff added to natural gas so that we can sniff out gas leaks. N-butyl mercaptan is very effective, and skunk encounters are memorable and unpleasant.

It’s a good thing the bombardier beetle is not the size of a skunk, or we’d all be in trouble. Distributed throughout North America, this 2.5-cm-long beetle shoots a boiling-hot (literally, 100 degrees C) corrosive cocktail to nail predators as far as 20 centimeters away. They have two special abdominal chambers, one for hydrogen peroxide, and the other for hydroquinone. When needed, these are combined, along with a catalyst, and a violent reaction ensues, jetting a defensive liquid at about 40 kilometers an hour.

The northern fulmar, a gull-like sea bird native to parts of Alaska and the eastern Canadian Arctic, launches a different sort of cocktail. When confronted by a bird of prey like an Arctic skua, it vomits a stream of putrid, oily goo that it keeps on hand in a stomach compartment for just such occasions. This

orange puke clogs the would-be assassin's flight feathers so it can't effectively fly for a time. More importantly, the oil strips the natural waterproofing from the predator's feathers, which means it can't float and could easily drown.

Found in six south-central US states, the Texas horned lizard can squirt up to half its blood supply through its eyes, which would be a creepy but very cool party trick. While you'd think dousing a hungry carnivore with blood would only whet its appetite, it turns out many animals find the blood of horned lizards noxious. Obviously, a lizard can't repeat this performance twice in the same day.

Sea cucumbers, common to all marine environments, have a deeply bizarre defense strategy. The size, shape, and color of a turd, these bottom-dwellers feed on plankton and, well, poop on the sea floor. They look defenseless, but harbor a secret weapon: their innards. When threatened, sea cucumbers self-eviscerate, firing parts of their digestive tract as well as toxic defensive fibers, and on occasion, internal

organs, out their butts. Luckily, they excel at regeneration.

I can't resist adding a species not found here. The pygmy slow loris is an adorable tree-dwelling primate from parts of Vietnam, Cambodia, and China. At just 20 cm long and weighing under 500 grams, these plush, big-eyed creatures look cuddly, but can kill you. The only venomous primate, their poison glands are hidden in their armpits, which seems an awkward place for them. But when attacked, they lick under their arms to gather poison, and deliver the venom with their razor-sharp teeth. Bites are excruciating, and cause the surrounding flesh to later rot. Anaphylactic shock and death have occurred in some people.

Fitness strategies range from modest to extreme, but when your profession is "prey," you do whatever it takes to be fit enough to survive.

© Paul Hetzler 2024

Looking big picture, or globally.

A Warm Story from South America reverberates here as well. From the COOL DOWN report.

Environmental activists have saved an untouched oasis known as the "Yosemite of South America" from development. Large news sources reported that the businessman who purchased the land is selling it at an incredible price to conservationists.

In 2007, Chilean businessman Roberto Hagemann started buying up the land in central Chile called the Hacienda Pucheguín. Over 200 families originally owned the land, and he bought it up piece by piece to develop it for tourism.

Hagemann received a lot of resistance when he tried to build a hydroelectric facility on the land. It would have required constructing roads through the untouched wilderness.

In 2013, wilderness guide Rodrigo Condeza founded a nonprofit called Puelo Patagonia dedicated to protecting the land. He rallied public support and even went to court to stop the facility from being built, saying it would disrupt important ecological land.

When Hagemann couldn't develop the land, he moved to sell it in 2018. Christie's International Real Estate listed the property for \$150 million. While no one brought an offer, it caught the eye of conservationists, including Condeza. Puelo Patagonia made a low-ball offer of \$50 million. This got the two adversaries talking. Hagemann countered at \$100 million, but it wasn't until Hagemann's son, a rock climber, encouraged his father to sell to the conservationists that he lowered the price to \$63 million.

Protecting this land is crucial because it contains over 325,000 acres, of forests that can store more carbon than the Amazon. It also has one of the oldest living species of trees: the endangered Alerce.

The Hacienda Pucheguín also has other endangered and endemic species, including Darwin's frog and the marsupial the Monito del monte. The land provides a habitat for these animals with a large amount of freshwater.

"This is an irreplaceable place," senior executive at the Nature Conservancy Jeff Parrish said. "We need to make sure that it stays the way nature intended it to be."

Protecting this land means safeguarding these animals, but it also keeps intact a carbon-absorbing resource that helps reduce the polluting gases in the air. Mistreating these forests would remove a carbon-absorbing resource while also releasing the carbon in the trees.

The UN Environment Program wildlife and biodiversity expert Max Gomera said: "The vast majority of people around the world care about wildlife and nature and many would like to have a say in the future of our planet."

Two more big picture stories

This story-from the Grist Journal- questions conventional wisdom on Forests and Climate

The world's healthiest forests are on Indigenous land. Here's why.

Joseph Lee

But what looks like a promising carbon sequestration effort can have unexpected consequences that undermine those benefits. For example, Finland's ministry of agriculture is trying to fertilize its forests to make them grow faster, in the hope that they will suck up carbon quickly and help the country meet its goal of going carbon-neutral by 2035. But according to the new report, the government didn't account for the energy-intensive process of producing and transporting fertilizer, a large source of carbon emissions. The report also points out that fertilizing forests can end up hurting reindeer herding, since it stifles the growth of lichen that reindeer eat; one study found that it could also reduce berry production in forests by 70 percent. "It seems that the ongoing climate crisis has, to some extent, legitimized excessive forest management techniques, such as fertilization," the report concludes.

Many forests offset projects don't work as intended. An investigation last year found that only eight out of 29 rainforest offset projects approved by Verra, the world's biggest certifier, had meaningfully reduced deforestation. The rest of the projects "had no climate benefit," according to The Guardian, partially because the threat of those forests getting cut down had been vastly overstated.

The narrative that forests can save the world from climate change is a tempting one for businesses and politicians — they can seemingly take care of their climate pledges if they're willing to fork over the money, without having to do the hard work of reducing emissions. It also allows people to skip the hard conversations about cutting down on consumption, Kleinschmit said. The market for voluntary carbon offsets — the ones companies choose to buy — is predicted to grow from around \$2 billion in 2021 to \$250 billion by 2030.

Another problem is that "carbon cowboys" — a term for those seeking to profit off carbon offset schemes — can end up evicting Indigenous peoples from their homes. In 2015, Cambodian officials set aside more than 1,900 square miles of rainforest in the country's Cardamom Mountains for a carbon offset project without consulting the Chong people that had lived there for centuries. Villagers were forced from their lands, and some were even arrested for collecting resin from trees, since carbon offset areas were monitored to stop locals from using the forest's resources. In the United Arab Emirates, the company Blue Carbon has negotiated deals for millions of acres so it can launch offset projects aimed at protecting forests across Liberia, Kenya, Tanzania, Zambia, and Zimbabwe. Much of that land has been held by Indigenous peoples. Since 1990, an estimated quarter-million people around the world have been pushed out of their homes in the name of carbon conservation.

Global climate goals, of course, don't have to come into conflict with local needs. Experts say it's possible to balance the two effectively. Prakash Kashwan, an environmental studies professor at Brandeis University, said that locals can use resources from trees, at least on a smaller scale, without hurting a forest's ability to sequester carbon, according

to his research. Studies have demonstrated that involving Indigenous peoples and local residents in the process of decision-making is key to better social and environmental outcomes — including carbon sequestration.

“Allowing communities a say in how forests are managed is absolutely vital to more effective, lasting, and just forest governance, and for tackling these big global challenges that we face,” Miller said.

This story was originally published by Grist with the headline ‘The world is obsessed with forests’ climate benefits. Here’s the problem’. May 10, 2024

From Phys.org

A key metric to countering biodiversity loss.

Businesses are keenly aware that consumers value ethical business practices, including the protection of biodiversity, and many have committed to biodiversity conservation. A road block, however, turns out to be the large variety of ways that have been suggested to measure biodiversity and so the positive and negative impacts of business practices.

The result is a Babylonian confusion of biodiversity commitments and claims by businesses, with little transparency for consumers, clients, or investors.

Complicating matters, species extinction is often a death by a thousand cuts, which makes it difficult to hold individual actors accountable. All this makes business engagement in biodiversity protection much harder than in climate protection, where at least the metric of impacts and credits is clear: the tons of carbon emitted to or sequestered from the atmosphere.

To overcome these barriers, a study led by Axel Rossberg of Queen Mary University of London, published in the Journal of Industrial Ecology, invoked advanced mathematical methods not usually seen in ecology.

The result is a simple formula that quantifies the impacts businesses have on species extinction risk in the form of so-called Biodiversity Impact Credits. The credits are negative when businesses overall increase species extinction risk through their activities and positive if they contribute instead to what has been called "bending the curve" of biodiversity decline.

Rossberg explains, "With our new systematic mathematical approach, we avoid having to rely on some kind of ecological intuition, which has often been a source of confusion in ecology."

The study further shows that, if more businesses start to use Biodiversity Impact Credits to find efficient ways to contribute positively to biodiversity conservation, the available resources are used more and more efficiently to save as many species as possible.

This may be through the protection or restoration of large areas of natural forest or by rebuilding the populations of species that are close to extinction. Rossberg explains, "The credits automatically guide you towards the most efficient approach."

But Rossberg wants to go beyond the use of Biodiversity Impact Credits by businesses alone. He says, "We hope that soon everybody will be able to buy Biodiversity Impact Credits from reputable conservation NGOs and so contribute to the conservation of species."

In their study, Rossberg and colleagues argue that while there are other aspects of biodiversity conservation that require attention, halting species loss is an area that is especially suitable for a credit system because many of us value species no matter where they are on the planet but find it difficult to contribute to reversing their decline.

MORE ON TREE SPECIES MIGRATION

Condensed-adapted from FUTURE CLIMATE-ADAPTED TREE SPECIES

From Northern Woodlands Magazine

By Alexandra Kosiba.

When we think about the impacts of climate change on our forests, it's crucial to understand that these changes will affect individual tree species differently. Some trees, in certain locations, will experience declines, while others will thrive. This variability stems from the unique physiology and ecology of each tree species, which determine the conditions in which the species grows and how it responds to environmental shifts. Consequently, as the climate changes, the composition of the forest community will also change.

To manage forests effectively in the face of climate change, we must grapple with several challenging questions. For instance, which species are most capable of adapting to changing conditions, and which ones may struggle? How might shifts in the forest community impact other objectives such as promoting wildlife habitat, carbon storage, flood prevention, and wood production? How rapidly can a forest change its tree species composition, and when is it appropriate to introduce new species? If we do choose to introduce new species, how far should we relocate these species within a forest to ensure their success? This article is part of a series that focuses on climate change impacts and adaptation in forests. Alexandra Kosiba, a forest ecologist and tree physiologist, is an assistant professor of forestry at University of Vermont Extension. She specializes in climate change impacts to trees and forests and ways that foresters and landowners can incorporate climate change considerations in their decision-making and planning.

Trees on the Move

A combination of soil types, site characteristics, temperature tolerances, and precipitation levels collectively define a tree species' habitat range—the geographic area where all individuals of that species reside. As climate and environmental conditions

change, the boundaries of this habitat range may contract or expand.

For instance, as temperatures rise, more of a tree species' seeds that disperse northward or to higher elevations may survive, allowing the species to establish in nearby areas. Conversely, at the southern edge or lower altitudinal limits of the habitat range, seeds may encounter less favorable conditions than in the past, leading to the decline and potential disappearance of the species from those areas. Scientists call these movements range migrations. More specifically, range expansion is when a species establishes in new habitats, and range contraction is when a species retreats from historical habitats.

Natural range expansion into new habitats is a process that spans multiple generations, primarily due to the slow maturation of trees. Migration rates vary among species, influenced by seed dispersal mechanisms (such as wind, water, or animals), reproductive age, seed production frequency and quantity, and adaptability to changing conditions. Species that produce numerous wind dispersed seeds and reach reproductive age quickly may be able to move to new locations more rapidly. However, successful migration entails more than just arriving in a new habitat; seeds must find suitable conditions for germination, growth, and survival, including sunlight, water, and nutrients.

In the Northeast, a notable example of range migration is the recolonization of the region by trees following the last ice age. Starting around 12,000 years ago, pine, spruce, birch, larch, fir, and aspen began moving north into the tundra. Then came oak and hemlock. Later arrivals included beech and maple. Over millennia, northern forests developed and rearranged as species gradually migrated into the

region, adapting to prevailing conditions along the way.

In contrast, range contraction can happen more quickly. Factors such as changes in temperature and precipitation, declines in snowpack, alterations in rainfall seasonality, soil drying, insects and diseases, competition from other plants, and heavy browsing by deer can all decrease seedling survival. When these stressors coincide with losses of older, seed-producing trees – such as mass infestations of invasive insects triggered by warming winters – a tree population may rapidly decline in part of its habitat range.

Over time, expansion at the leading edge and retreat at the opposite side can shift an entire tree species' habitat range across the landscape. These shifts, along with changes in other tree species' habitat ranges, shape forest communities.

Future-adapted Tree Species

In the Northeast, there are now more than 100 different native tree species, each with its own unique habitat range. While no two species have identical habitat ranges, we can categorize the region's trees into three broad groups to help us understand potential range shifts in response to climate change.

The first group comprises tree species with current habitat ranges that extend farther north, such that the Northern Forest sits along the southern end of their range. Species in this group include balsam fir, white spruce, quaking aspen, paper birch, northern white-cedar, pin cherry, black ash, and tamarack (larch). A warming climate poses challenges for this group because they are adapted to colder locations. Consequently, their ranges may contract northward or to higher elevations. We're already observing such shifts for species such as balsam fir, northern white-cedar, paper birch, and quaking aspen.

The second group includes species with the center of their habitat range in or near the Northern forest, such as sugar maple, white pine, eastern hemlock, American beech, red maple, and yellow birch. These species may exhibit varied responses to climate

change due to their wide distribution across the region.

The third group includes species with ranges extending south, with the Northeast being historically at the northern limit of their range. Examples include white oak, shagbark hickory, tulip poplar, eastern red-cedar, red oak, bitternut hickory, black cherry. These species, adapted to warmer and more southerly areas, may expand their ranges farther into the region due to climate change.

Tree species likely to thrive and expand their range in the Northeast under future climate conditions are considered future climate-adapted. However, there's significant variation in suitability for different growing conditions within this group. For instance, the suite of tree species best suited to the future conditions in southern Wisconsin differs from those for northern areas or the UP. Factors such as soil, site characteristics, management goals, and future temperature and precipitation are essential considerations.

The Climate Change Tree Atlas

To offer insights into potential future habitats for tree species in the eastern United States amid changing climate conditions, the USDA Forest Service has developed a freely accessible online tool called the Climate Change Tree Atlas. By analyzing data from 85,000 Forest Inventory and Analysis plots, scientists identified

the current distribution of each tree species based on factors such as elevation, soil, and climate. Using future climate projections and statistical models, they predict potential suitable habitats for each tree species by 2100.

A tree species' future success isn't solely determined by changes in temperature and precipitation patterns.

Individual tree species have certain traits that can contribute to their migration rates, as well as to their adaptability or vulnerability to disturbances and stressors. To provide insights to the potential of each species to reach new suitable habitats, the Tree Atlas uses a species' past migration rate to assess the

likelihood that the species will be able to migrate to these new locations. Understanding these traits can inform conservation strategies and management practices to promote resilient forest ecosystems.

Additionally, traits such as fire tolerance and resistance to windthrow could contribute to a species' adaptability, while susceptibility to pests and diseases and sensitivity to animal browsing, for example, could hinder a species' future success. The Tree Atlas rates the traits of each species based on their positive or negative effects on adaptability compared to other species. For instance, balsam fir receives a negative adaptability score due to its susceptibility to pests and wood rot fungi, while eastern cottonwood gets a positive rating for its ability to endure prolonged flooding. Among our native species, red maple has the highest adaptability score, while black ash ranks the lowest. *(PIF note: Is this why we see red maple taking over many forest sites?)* These adaptability scores can help us better understand how likely it is for a species to persist given a combination of stressors.

It's important to acknowledge that while the Tree Atlas aids decision-making, it doesn't encompass all aspects of tree physiology and ecology that influence species' responses to climate change. For example, there is considerable variability in traits within a species, leading to differences in growth, site tolerances, and adaptability among individuals. Natural selection can drive adaptations to new conditions, and some species can hybridize with related ones, producing offspring with beneficial traits for rapid adaptation.

For summarized lists of Tree Atlas species projections for different regions, see the Climate Change Response Framework. Keep in mind that the reliability of the Tree Atlas projections varies by species, indicated by a reliability score. Generally, widely distributed species have higher reliability, while rare ones have lower reliability. Despite lower reliability, the model still offers insights into future changes, albeit with less confidence. <https://www.fs.usda.gov/nrs/atlas/tree> [https://forestadaptation.org/learn/resource-finder/climate-](https://forestadaptation.org/learn/resource-finder/climate-change-projections-individual-tree-species-new-england-and-northern)

[change-projections-individual-tree-species-new-england-and-northern](https://forestadaptation.org/learn/resource-finder/climate-change-projections-individual-tree-species-new-england-and-northern) and <https://forestadaptation.org/learn/resource-finder/climate-change-projections-individual-tree-species-mid-atlantic-region>

Barriers to Tree Migration—There is always a 'but'

As noted above, numerous factors influence a tree species' ability to migrate, including land use changes, how quickly trees within that species attains reproductive age, seed viability, competition from other plants, weather patterns, herbivory, and insects and diseases. This means that even if a location offers suitable habitat for a tree species in the future, that species may not be able to become established there.

An unprecedented challenge trees face is that the climate is changing much faster than historical migration rates. Researchers estimate that following the last ice age, tree migration rates averaged less than 350 feet per year. To match projected rates of climate change, trees may need to migrate much faster – up to 5 miles per year. Compounding this difficulty is the fragmentation of the landscape due to roads, settled areas, and other intensive developments, which act as barriers to migration.

Given these obstacles, there is a substantial risk that certain tree species, particularly rare or uncommon ones, may fail to migrate to favorable locations quickly enough, and could experience population fragmentation and extirpation in parts of the North. Widely distributed species such as sugar maple are unlikely to face complete habitat loss, but rapid climate change could lead to shrinking habitat ranges and declines in areas where they were once abundant.

Beyond the risk to individual species, there is concern that change is happening so rapidly, accompanied by numerous other stressors, that currently abundant tree species could decline faster than new species are able to establish, jeopardizing the forest's ability to sustain habitat and ecosystem services, including carbon storage and sequestration.

Assisted Migration of Tree Species

To address the impacts of rapid climate change on forests and individual tree species, some conservation groups, forest managers, and scientists are experimenting with assisted migration—planting tree species at new growing sites in anticipation of changing climate conditions. There are three general approaches.

Assisted population migration involves planting trees in new locations within a species' existing habitat range. This strategy is primarily used to enhance the resilience and adaptation of a forest to expected future conditions. An example of assisted population migration is collecting red oak acorns from a low elevation site and planting them at a higher elevation. In this scenario, red oaks growing at the lower elevation are adapted to a slightly warmer climate than currently exists at the planting elevation. Therefore, they may be better suited to the future conditions of the planting site.

Assisted range expansion involves planting trees in suitable areas just north of the species' current range in order to accelerate natural migration. This strategy may help to transition the species' composition of a forest to include a greater proportion of future climate-adapted species. An example is planting tulip poplar in a northern Massachusetts forest, just north of its current range.

Assisted species migration involves moving species far beyond their current range and what natural dispersal would allow over many decades. This strategy can help to conserve species with narrow habitat ranges or low migration potential. An example is planting Virginia pine in southeastern New York. Although the Tree Atlas projects some areas with future suitable habitat for Virginia pine in southeastern New York by the end of this century, there is a very low likelihood that the species will be able to migrate to this area without human intervention. Compared to other forms of assisted migration, this strategy has the highest risk of failure and potential for unintended consequences, such as inadvertently moving tree-infesting insects and diseases to new areas.

There are several challenges to assisted migration. Monitoring has revealed that although locally adapted trees may not always be well positioned for the future, they often outcompete transplanted young trees. Planting trees is also labor-intensive and costly, and these trees may require significant upkeep before they become established. Some evidence suggests that planting seeds, rather than nursery-grown seedlings, may be more effective in balancing costs and success.

One key obstacle to assisted migration lies in the collection of the seed source, whether for direct planting or to grow seedlings. Given the trait variability within a species, it is crucial to select seeds originating from a variety of locations to enhance resilience to future conditions. Ideally, seeds should be sourced from locations that match the expected future climate of the planting site so that the seedling can both tolerate the current conditions as well as thrive in the future. However, implementing this approach can be difficult. Currently, most plant nurseries do not specify seed origin, and the overall availability of planting stock for many tree species is limited.

One of the biggest challenges with assisted migration is that the planted tree needs both to survive current conditions as well as future conditions that may be significantly different. Trees are unlikely to grow well if planted too far north from their origin, primarily due to their intolerance of cold temperatures. For example, U.S. Forest Service climate models indicate that by 2100, northern New Hampshire will have suitable habitat for pignut hickory, a species with high wildlife food value. However, northern New Hampshire is currently classified as belonging to a hardiness zone 3 (minimum winter temperature of -35 degrees Fahrenheit), and pignut hickory is only hardy to zone 5 (minimum winter temperature of -20 degrees F). As a result, planted pignut hickory in northern New Hampshire would likely suffer from cold injury in winter and may not survive long enough to experience more favorable climate conditions.

Managing Forests for the Future Climate

Understanding the effects of climate change on forest communities is essential for informed decision-making in forest management. By combining traditional forestry knowledge and practices with emerging climate science, we can enhance the resilience of forest ecosystems. One

strategy is to identify and promote future climate-adapted tree species.

PIF note: Our 2021 publication under the Northwoods Forest Conservation series, Managing Forestlands for the Future can help with this as well. If anyone wants more copies of this booklet, please ask.

Press Release from Gathering Waters, July 5 2024 offers new hope for Knowles Nelson Stewardship Program

Today, the Wisconsin Supreme Court ruled 6-1 in favor of balanced government.

The majority opinion held that the Legislature's Joint Finance Committee can no longer obstruct conservation projects through anonymous objections and indefinite delays, deeming such actions unconstitutional.

This is a resounding victory that puts the Knowles-Nelson Stewardship Program back on track!

By reaffirming the constitutional separation of powers, the Court decisively eliminated the legislative obstruction that had nearly halted conservation efforts in recent years.

Notably, the Court's near-unanimous decision transcends ideological lines. Conservative Justice Rebecca Bradley authored the majority opinion. She was joined by all liberal justices and all but one of her conservative colleagues. This broad consensus underscores that the ruling is about good governance and constitutional integrity, not partisan politics.

PIF note: The Stewardship Program has been a tremendous asset to Wisconsin citizens and visitors for years. The recent hijacking of the program by partisan anti-conservation politicians has been unacceptable, and is finally exposed as such. Knowles Nelson has been very important for forest conservation and we welcome this commonsense decision.

Caution Pilgrim River hikers.

At the popular high overlook viewing the Pilgrim River, a serious undercut has occurred and likely causes weak ground at the outer edge of the viewing area. Boundary Road trail group has noted this with signage. Please take special care when visiting this spot. This likely is an after effect of the serious flooding in the Pilgrim Valley on Father's Day 2018.

Joseph (Joe) and Mary Hovel – Land Legacy Award

Each year, Gathering Waters, Wisconsin's Alliance for Land Trusts, recognizes individuals and organizations that have invested their time and talents to protect Wisconsin's land, water, and wildlife through our Land Conservation Leadership Awards. The awards are our way of honoring and thanking conservation leaders for their dedication to land conservation in Wisconsin.

This year, Gathering Waters has chosen to honor our own Joe and Mary Hovel as recipients for their Land Legacy award.

As stated on their website:



Photo credit: Dan Dumas of Kim Swisher Communications

Joe and Mary Hovel have worked for decades to conserve and protect land in the Border Lakes region of Wisconsin, as well as in Michigan's Upper Peninsula and in Wisconsin's Central Sands region. They have raised public awareness of the importance of land conservation and served as watchdogs for land use. They have negotiated and facilitated the purchase and sale of land and conservation easements, working with conservation groups and government agencies such as the Wisconsin Department of Natural Resources and U.S. Forest Service.

The Hovels' selfless, tireless, and savvy efforts have brought numerous conservation projects across the finish line, sometimes when funding and support were scarce. Notable projects that created or protected public access while conserving valuable ecosystems include the Headwater Cedars Community Forest, the Wildcat Falls Community Forest, the Pilgrim River Watershed Project, and the Upper Wisconsin River Legacy Forest, among others. They also advocated for the Pelican River Forest, the largest land conservation project in state history. In total, the Hovels have directly implemented, or supported through advocacy, the conservation of tens of thousands of acres across the region. Their actions have led many others to recognize the value of land conservation and join forces to achieve lasting results.

Congratulations, Joe and Mary. This honor is well deserved.

VOTE August 13, 2024

by Rod Sharka

"When we go to the polls on August 13-- (yes, in August), Wisconsin risks losing billions of dollars in funding for conservation, emergency disaster relief, infrastructure projects, and more."

WHAT'S ON THE BALLOT

The Wisconsin Legislature passed a resolution to place two questions on the August 13, 2024 ballot. The questions ask voters to amend the Wisconsin Constitution to limit the governor's ability to spend federal funding by requiring that the legislature approve spending plans for any funds the governor receives from the federal government.

State Question 1 (as stated on the ballot): "Delegation of appropriation power; Shall section 35 (1) of article IV of the constitution be created to provide that the legislature man not delegate its sole power to determine how moneys shall be appropriated?" **(In other words: Would amend the state constitution to prohibit the legislature from delegating ANY appropriations authority. It would require the full legislature to deliberate and approve the allocation of all funds — even in emergencies.)**

State Question 2 (as stated on the ballot): "Allocation of federal moneys. Shall section 35 (2) of article IV of the constitution be created to prohibit the governor from allocation any federal moneys the governor accepts on behalf of the state without the approval of the legislature by joint resolution or as provided by legislative rule?" **(In other words: Would amend the constitution to bar the governor from spending ANY federal funds without explicit legislative approval, blocking rapid disbursement during crises.)**

Here's some quick background: As we've seen with the Knowles Nelson Stewardship program, when the Legislature intervenes in conservation funding, conservation work suffers. (Think Pelican River Project).

Federal funding for other important priorities is also at risk - like emergency relief and fixing failing infrastructure like our roads and bridges. Emergency funds are intended to be used immediately in emergencies. If they require approval by a state legislature that is in session for only a short time each year, these emergency funds could be tied up for months.

OUR CONSTITUTION SHOULDN'T BE A PLAYGROUND FOR POLITICS.

VOTE NO ON STATE QUESTIONS 1 & 2.

ON OR BEFORE AUGUST 13TH, YOU ARE URGED TO VOTE NO ON STATE REFERENDUM QUESTIONS 1 AND 2 TO PRESERVE WISCONSIN'S FOUNDING DOCUMENT, PROTECT DISASTER RESPONSE WHEN LIVES ARE ON THE LINE, AND SAFEGUARD THE FUTURE OF OUR STATE.

In Short, OUR CONSTITUTION DESERVES RESPECT, NOT REVISIONS

Amending our state's founding document should be reserved for society's most pressing issues— not for giving politicians more power. Our constitution should serve to protect the rights of citizens, not increase bureaucracy and red tape. **Remember to vote, and pass the word.**
