Partners News

November/December 2019

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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Have you paid your PIF dues?

The beginning of the Wisconsin River

Inside this issue:

MARK YOUR CALENDARS

Narrative of Wildcat Falls Conservation Project

Saturday, Dec. 14, 2019; 1 PM

Olson Memorial Library

Wildcat Falls, near Watersmeet, MI, has been long-known as a special place by area naturalists, and was once protected as part of the Ottawa National Forest. This parcel was lost as a National Forest holding, and today Wildcat Falls and surrounding old growth forest is in the process of becoming a 160-acre community forest. The effort to maintain public access and protection for this unique feature has been led for years by Northwoods Alliance, a decades-old nonprofit conservation organization. As a major step toward project completion, the USFS Community Forest and Open Space Conservation Program has awarded 50% of the needed funding to establish a Wildcat Falls Community Forest, and we now need help from the community to reach the goal.

This inspiring ten- year conservation effort will be the subject of a program titled *Tenacity Creates Opportunity* at the Olson Memorial Library in Eagle River on Saturday, December 14 at 1 PM. This informative program will describe the efforts to keep Wildcat Falls open to the public, and highlight the history and current status of this important work while showcasing the features and quality of the project. We will also describe the current project status, including timeline to completion and fundraising goals. To date, over eighty donors, including individuals, conservation groups and foundations, have contributed to the project, and we are just over halfway raising necessary funds to match the community forest grant.

All are invited to join Northwoods Alliance and conservation partners for this program, to learn of efforts to build community and advance the Wildcat Falls Community Forest and other projects.

For more information, visit www.northwoodalliance.org, email nwa@nnex.net, or contact Joe Hovel at 715-479-8528. We hope to see you there.

When we received the following folksy tale from Caterwaul, we were happy with its accuracy. See the full story in photos by attending the program Tenacity Creates Opportunity.

WE NEED NATURE

The Importance of Wildcat Falls Community Forest

A story of perseverance to conserve a Special Place, By Lynx Caterwaul

In one of the least populated counties east of the Mississippi River, way up toward Lake Superior in Michigan's Upper Peninsula, a small but tenacious group has been working for over a decade to protect a special place; its wildlife, trees and water as well as our common access to enjoy it. The land in question is a modest 160 acres, but encompasses all the natural features one could look for on a much larger scale. There is a waterfall, a twenty five foot cascade on a trout stream gaining momentum as it flows to Lake Superior. There are stands of old growth forest, with all the unruly disorder these dynamic ancestors create in their ecological marvel. There are Precambrian rock bluffs and outcrops, creating a canyon over the creek, providing bat hibernacula as well as habitat for bob cats and assorted reptiles. There are vernal pools which house tiny fairy shrimp, as well as ponds created from feeder streams backed up by beaver activity. There are giant white pines, which are inhabited by over 40 species of song birds. But most importantly, there are two legged types who care enough to maintain these special features for the next generation.

Once a somewhat isolated part of the one million-acre Ottawa National Forest, this ecological gem was nearly sacrificed through a bureaucratic process called a land trade, intended to benefit the greater good of the overall forest. In this case the good was an increase in acreage; but the increased acreage was cut over, mundane lands. (To be fair, the swap likely helped consolidate some boundary issues.)

To explore this history, there's a public process to wade through, guided by the *National Environmental policy Act (NEPA)*. In 2007 a private individual, we call him R.D., proposed a land swap to the *Ottawa National Forest (ONF).* In January '09, R.D. signed an exchange agreement with then ONF supervisor Susan. Shortly after, in the NEPA process, the ONF sent preliminary scoping documents to interested parties. An opposing group came forward, at least early on, four people at most, representing two small, grassroots groups titled Partners in Forestry (PIF) and *Northwoods Alliance (NWA*). The groups (let's just refer to them as NWA) objected to the trade. They at least had made a careful visit to the land in question. By 2010, things were getting serious as the ONF was conducting an *Environmental Assessment (EA*), which alarmed NWA. Also, in 2010 the ONF conducted appraisals in preparation for the trade.

In early 2011 the ONF Supervisor Keith (the second supervisor so far) signed a *Decision Notice & Finding of No Significant Impact (DNFONSI)* affirming the trade. NWA went to work on behalf of the land, you and I, and wrote an appeal under the *NEPA* process. In May, the USFS appeal official reversed the *DNFONSI* because, as NWA had stated in their appeal, the *Old Growth Cedar & Hemlock* was being dismissed as insignificant! As elated as NWA was, the joy would be short lived. By October 2011 the ONF had revised the *EA*, admitting to the loss of old growth and other issues, which seemingly would pass the NEPA muster test. (The waterfall was not important because, "there are other waterfalls on the ONF"). The trade was once again revived. But resistance was growing however. Now there were three dozen comments in opposition, not one or two as during the last round. Just after Christmas 2011, the third ONF supervisor involved, Tony, had signed a new *DNFONSI*. Turning back to early 2011, two trade opponents had met with the ONF over the appeal (the ONF asked for the meeting.) Following the second appeal written by NWA a group of about eight met with Tony and staff in March 2012. Not much was accomplished at the meeting; but, according to notes reviewed by the author, Tony said "I could

approve a bombing range on the ONF and as long as I disclose it, it's legal under *NEPA;* it's all about disclosure".

April 2012 was a busy month for NWA. On the first day they guided over 100 people on a hike, possible in the U.P. at that date only because March had ushered in an unusually early spring. The event was billed *Last Chance to Visit Wildcat Falls.* On Good Friday NWA delivered a petition to the USFS regional office where the appeals are decided. There were 1200 online signatures opposing the trade. Shockingly, all appeals were denied on April 13, and it was not even a Friday.

Give up, it's done, we lost? Not this group. They located and retained a *NEPA* attorney from the west coast. She filed a lawsuit in federal court representing NWA and eight associated plaintiffs. This was a big step; the process was kept on hold for four years with legal proceeding. Some strange things occurred; for example, the plaintiff's attorney entered the land appraisals into the court record. The US attorney objected in a motion, stating that the appraisals "are irrelevant because the deciding official *had not read the documents*". Tony had admitted as much in the 2012 meeting, saying he had not visited either parcel. Quite the decision to make with no visit, and not reading the appraisals. Shame on you, Tony!

By September 2014, the lawsuit decision was out and affirmed the trade. Immediately the NWA attorney filed an appeal in federal court. With a decision in Nov. 2015, the appeal was denied stating 'The plaintiff's objections were satisfied because the ONF reduced the acreage given up in the trade to satisfy the plaintiffs.' This statement was erroneous. The acreage was dropped to bring the values in line with the law around federal land trades, and the adjusted acreage was used in the original *DNFONSI*. The acreage adjustment had nothing to do with the objections to the trade. However, a motion for rehearing based on erroneous facts was denied in January 2016, and by late 2016 the trade was completed. R.D., the private individual, owned the land.

NWA had no regrets about filing its objections, perhaps anticipating the next step. Throughout this ten year process a lot had changed for R.D.; turning former ONF lands into real estate developments no longer interested him. He approached NWA, asking if there was interest in a purchase. After months of topsy-turvy negotiations through 2017, a conservation minded partnership in the NWA network assembled, gathered some retirement funds for a short-term land purchase, and bought out R.D. by the beginning of 2018. The partners then went to NWA with a letter of intent, requesting a conservation solution within three years. An opportunity had arisen, more truthfully was created by continuing perseverance from this small group.

NWA was familiar with the USFS Community Forest Program. This federal program helps non-profits protect forests with important conservation features benefitting communities. NWA looked to them as a possible 50% source of funding. Community building and fundraising began in early 2018. The project may have looked speculative but some good things happened and some funds were raised. NWA wrote the application to the USFS Community Forest Program (CF) with the hope that the remaining funds could be obtained by reaching out to more people who care! The CF grant award was announced by mid-summer 2019, and this project, titled Wildcat Falls Community Forest, was ranked number four in the nation, out of fifteen funded projects!

If you agree we need nature, and if you care, perhaps you want to help these folks at NWA who have spent ten years in this struggle. Ten years is not much in the life of an old growth forest, Precambrian bedrock, a waterfall and all this splendor surrounding it.

Joe's Comments

In this issue we are happy to share large scale items from way outside our region. These things affect us all, public land management is in our collective hands, if we stay involved.

We, of course, have not ignored our focus on local issues as well. We thank everyone who has been a part of these newsletters. While we have skipped past the date for a 2019 annual meeting, be aware we have been deeply involved on very important and time consuming issues as an organization. Here are a few of those.

Oak Wilt:

PIF has circulated and gathered signatures for a letter to be sent to county and town road maintenance decision makers, making known the concerns about oak wilt, with the hope of educating and realigning cutting times along road ways. We will display the letter at the PIF website as well. The letter will also be shared with forest owners, public and private land managers and so forth. We must remain proactive and vigilant about this disease as oak is a critical species to our economy as well as social fabric. If you want more information on oak wilt we have the USDA FS **How To** guides to share.

Vilas County Forest 15 year plan in the works:

We have been hearing concerns for several years about certain cutting-management practices on the Vilas County Forest. We are passionate friends of the county forests, and we feel it is our duty to be involved in their management. See Partners News in February 2016. This past summer we registered complaints with the Vilas managers about a certain sale in particular. Recently, PIF hosted a small meeting and site visits of several sales on the forest providing a great dialogue with the new county forest administrator. In attendance were representatives from Wisconsin Green Fire, Wisconsin Wildlife Federation, Northwoods Alliance, PIF and Al Murray, the new Vilas County Forest Administrator. One of Mr. Murray's first big tasks is writing a new 15 year plan for Vilas County Forest Management, and he needs our input. In the coming months the draft plan will be out for review and comment. In the mean time, feel free to contact Al Murray almurr@vilascountywi.gov with your concerns. Do you hope to see more large trees for aesthetics and wildlife? More oak? Smaller clear cuts? What are your objectives in the Vilas County Forest Plan. Let Al know or lean on us to include your concerns or thoughts in the PIF comments. Fortunately, with a new administrator and a new 15 year plan, our chance to be involved is excellent. Let us not be NIMBY about these issues, but let's be involved for the betterment of the forest and future generations.

One of the issues we discussed was leaving enough large crown legacy trees for wildlife. I did some reading on the importance of legacy trees and found this definition called *Biological Legacy* in a USFS technical report. *Individual trees or a variety of species retained from harvest in order to maintain their presence on the landscape, provide a seed source for both the species and genotypes that may be better adapted to uncertain future conditions, and serve as nurse logs for the regeneration of other species.*

Wildcat Falls:

We are nearing closing in on a true conservation treasure at Wildcat Falls. See the story by Lynx Caterwaul which is a folksy synopsis of the project to date as well as the progress report. Please attend our presentation scheduled for the Eagle River library on December 14. We welcome everyone to be part of this great accomplishment in creating a Wildcat Falls Community Forest. I think there is yet another community in Community Forest that we often ignore. In the same publication as above on legacy tree I find the definition of community as*; an assemblage of*

plants and animals living together and occupying a given area. Yet another community will benefit from this great effort.

Victoria Reservoir:

Our older long- time members will recall our activism with preventing the piece meal fragmenting and destruction of the Upper Peninsula Power Co. non project lands at the Bond, Victoria and Prickett flowages in the UP.

In yet another conservation success; the Ottawa National Forest is poised to purchase a 220 acre segment where the Wild and Scenic West Branch Ontonagon River feeds the Victoria flowage. Rapids, rock bluffs, feeder streams falling over cliffs and close proximity to the North Country Trail are all important scenic attributes of this public land purchase. There is even Birds Eye sugar maple present. And this time it is not LWCF funding being used, but a very positive federal land process called Tri-Partite exchange, where timber sale revenue will be used to open this land to the public in perpetuity. We hope to see this success completed in the first half of 2020. We applaud the Ottawa and the land owners for their everlasting vision to protect this very scenic corridor and its habitat.

The Wild and Scenic West Branch Ontonagon River feeds the Victoria Reservoir, with its steep topography offering many scenic vistas. The Ottawa National Forest is poised to acquire this scenic spot for all to enjoy in perpetuity. Under FERC Project 1864, both the Cisco Chain of Lakes, Lake Gogebic as well as the flow at Wildcat Falls feeds this flowage.

Long stretch of rapids feeding the Victoria Flowage.

Following the Bobcat tracks to the base of an old yellow birch at Wildcat Falls.

Progress Report on Wildcat Falls Community Forest Project: Northwoods Alliance Inc.
2019 was a year of steady progress.

On the ground: A trail network was started for viewing the falls and rock outcrops. The Forest Management Plan was written with maps. A draft recreation & management plan was included in the USFS Community Forest application. Yellow Book appraisal is being completed. Work is being done to better define boundary placements. There is interest in keeping a winter trail open for skiing and snowshoe.

Community Building: We have conducted well attended hikes, with education such as the mushroom foray in September and several smaller hikes. We have hosted public sessions with our story in power point at Iron River MI in August, Land O Lakes in October and scheduled for December 14 in Eagle River. We have continued community outreach as a positive gesture to interested organizations. We have conducted numerous one on one efforts as well.

Foundation and Conservation group support: In recognizing our support from grant writing and requests to partner groups and conservation foundations we are very grateful to these funding sources. UPEC ($10,000 in 2018), Friends of Sylvania $6,000, James E Dutton Foundation $10,000 supporting wildlife habitat (half to be used for Wildcat Falls, half for Wisconsin projects), The John C Bock Foundation for protecting old growth $15,000, The Johnson Foundation at Wingspread (guided by Mike Dombeck) $2,000, The Community Foundation of the Upper Peninsula $2500, The Weyerhaeuser Community fund $1000.

USFS: A Community Forest and Open Space Conservation Program grant of $147,500 was awarded for 50% of our acquisition budget. Wildcat Falls ranked number 4 in the nation.

Community support: Most importantly we are very grateful to over 100 individual donors of between $5 and $5000. Without the community support there could be no community forest.
We look forward to acknowledging all donors closer to completion of the project.

To date: As a match to the USFS grant we now have surpassed the half way point and are holding about $80,000 for Wildcat Falls. About $67,500 is still needed to be raised of the $295,000 total budget. We hope to close on this project in the third quarter of 2020 and we much appreciate your continuing support. Northwoods Alliance is a 501c3 non- profit and 509a2 Public Charity. Our staff is strictly volunteer, no one takes a salary, our compensation is an accomplishment such as a Wildcat Falls Community Forest.

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

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Michigan DNR said it killed wolves to protect humans. Then we got its emails.

While PIF believes it may be time to have a dialogue about the management of predators, we would rather the truth be in the equation, not the lies and deception exposed in this story!

https://www.bridgemi.com/michigan-environment-watch/michigan-dnr-said-it-killed-wolves-protect-humans-then-we-got-its-emails

The story is also at www.partnersinforestry.com

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Note from Joe:
*Could you please tell me what **"sustainable forestry"** really means? Does it mean one thing to one entity and another thing to someone else? Is this an industry standard with regulation or "buzz words" to put everyone at ease? Or yes, cut all of our forests down but it's ok because you are doing it sustainably!*

This question, or series of questions, recently came into our inbox. This is of course the BIG question we are dealing with. The very reason this coop exists is centered around this question. We work on this constantly, by exposing the wide variety of management practices used in the term sustainable. This is a great forum for this discussion, let us hear from you. Read in depth the great content we display in these pages to help answer this question. I recall former Congressman Dan Benishek asking me at the Pilgrim River meeting in 2014. "*Are you into sustainable forestry or conservation?"* Not wanting to be labeled as one or the other, I responded "*Sustainable forestry without conservation is not long sustainable".* Thus the topic is even a larger forum. We have dedicated years to this subject, with Partners News, workshops, meetings and so forth. We welcome your input into answering these complex questions.

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.

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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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In the Midwest we revere the Porcupine Mountain State Park for its wilderness scenery, including waterfalls, Lake of the Clouds, old growth forest, Lake Superior shoreline and all the recreational and social opportunities around the park. But, is this not the only Porcupine Mountain State Park? At 60,000 acres we are impressed with its size. Anyway, read on and send us your favorite photo from the Porkies to share!

PORCUPINES

Paul Hetzler, ISA Certified Arborist

What fearless animal has an adorable face, plows snow all winter and has a six-million acre park named after it?

One of 29 species worldwide, the North American porcupine (Erethizon dorsatum) is the largest New World species, growing to 91 centimetres or 36 inches long and weighing as much as 16 kilogrammes or 35 pounds. That makes it the second-largest North American rodent behind the beaver, but still puny compared to an African crested porcupine which can exceed 27 kg or 60 lbs. It is also the only cold- hardy porcupine, and one of the few that regularly climb trees.

Its name derives from the Latin for "quill pig," but the Kanien'kehá:ka (Mohawks) call it anêntaks, literally, "bark eater." This is a less-than-endearing term they once applied to the Algonquins living in, well, the Adirondacks (anêntaks). Unlike Mohawks who even back then were expert agronomists with stores of grain and legumes on hand, Algonquins were hunter-gatherers who, by choice or need, would eat the inner bark of pine, maple, elm and other trees. Eventually the Algonquins moved from the area to points north and east, but the place name remained.

Porkies are active all winter, which is a great time to track them. More or less bullet-shaped, they make effective plows, carving channels through the snow. Since they tend to use the same paths, you can go out after a new snowfall to see which troughs have been cleared in the night. In contrast to most species, our porcupines are not strictly nocturnal, but they do tend to be more active at night.

Porcupine feet are pebbly textured and have no fur, and in deep snow you may also see marks where its tail drags side to side as it waddles. In cases where the claws do not register, its footprint can look (I think) unnervingly like that of a small child. Especially if you're not really awake yet and have stumbled out to the snow-dusted porch for firewood.

Like all porcupines, ours is covered in hair interspersed with up to 30,000 hollow barbed quills. This accounts for their cavalier attitude toward scary stuff like humans, dogs and, unfortunately, cars. Quills are not missiles—they aren't launched at a predator, but they will come off at the drop of a hat, provided you drop it on a porcupine. The barbed ends are amazingly good at sticking to skin and other things. If not removed, quills work their way through flesh, and can be fatal depending on their trajectory.

Quills were and are used the world over by indigenous peoples for embroidering. Usually white at the base and fading to brown and then black at the tips, quills have an innate beauty but are often dyed and worked into leather or textiles. In North America, native peoples reportedly threw a blanket over a porcupine and harvested quills that stuck to it. I have taken quills in a similar way from road-killed porkies but with a leather glove.

Most of the time quills lie flat. When confronted by a predator a porcupine raises them, and keeps its back end to the threat. A porky can lash its eight to ten-inch long tail side to side, creating a protective radius around itself. Fishers, fierce predators and one of the largest members of the weasel family, are quick enough to outflank a porcupine and kill it by attacking the quill-free head.

Having a cute face only gets you so far in life, and porcupines are despised by many people because bark-eating damages, or even kills, trees. They are attracted to salt, and will chew on tool handles, canoe paddles or other items handled by people, which doesn't thrill the owners of said objects. One year they found a way under my house and chewed on the sub-floor beneath the kitchen. Who knows, maybe decades ago there was a spill of pickle brine that soaked through.

In addition to eating bark of all kinds, they love herbaceous plants, and are in clover in a field of alfalfa or clover. They have a particular weakness for apples. It is impressive how far out on a branch a porcupine will go to get one, seeming to defy gravity.

Porkies usually den in rock crevices and caves, or sometimes in hollow trees. Breeding is in October and December. In May and June, females may birth up to four young, but generally just one. Not only do they have a low birth rate, it takes more than two years for them to fully mature. In the wild, a porcupine may live 17 or 18 years, with the oldest on record being an ancient 28 years.

A former neighbour of mine, long since passed, had as a young man been given an orphan porcupine. He said it made a great pet, and showed off pictures of a full-size porky in his arms. Kids and adults love to watch porcupines, as they are one of the few wild animals that will stand for such ogling. If there aren't any where you live, maybe you can plan a trip this summer to that northern New York State Park. You know, the "Porcupine" Mountains.

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Mohawk spellings courtesy of Salmon River Mohawk Language Program.

Paul Hetzler has been an ISA-Certified Arborist since 1996, and is a member of ISA-Ontario, the Canadian Institute of Forestry, and the Society of American Foresters. His book "Shady Characters: Plant Vampires, Caterpillar Soup, Leprechaun Trees and Other Hilarities of the Natural World," is available on amazon.com

Photos taken in Porcupine Mountain State Park in the UP.

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Pileated checking out the inside of a white pine in the Conover area. Photo: Mark Hovel

In studying the importance of legacy trees for wildlife, ironically a persistent ***Pileated Woodpecker*** *keeps appearing outside my window. Thus, we are inspired to share a few facts on this magnificent crow sized woodpecker!*

Adults are 16 to 19 in long, 26 to 30 in across the wings, with an average weight of 11 oz. Each wing measures 8.4 to 10 in, the tail measures 5.5 to 6.9 in, the bill is 1.6 to 2.4 in and the tarsus measures 1.2 to 1.5 in. They are mainly black with a red crest, and have a white line down the sides of the throat. They show white on the wings in flight. The flight of these birds is strong and direct, but undulates in the way characteristic of woodpeckers. Adult males have a red line from the bill to the throat, in adult females these are black. Up to four subspecies of pileated woodpeckers have been recognized historically. However, most authorities only recognize two subspecies, the southernly *D. p. pileatus* and our northerly *D. p. abieticola*.

Their breeding habitat is forested areas across Canada, the eastern United States, and parts of the Pacific Coast. This bird favors mature forests. They specifically prefer mature hardwood trees, often being found in large tracts of forest. They also inhabit smaller woodlots as long as they have a scattering of tall trees. From 1966 - 2015 the population of pileated woodpecker has, on average, increased by greater than 1% per year throughout the northeastern US and around the Great Lakes. These birds mainly eat insects, especially carpenter ants and wood-boring beetle larvae. They also eat fruits, nuts, and berries, including poison ivy berries. Pileated woodpeckers often chip out large and roughly rectangular holes in trees while searching out insects, especially ant colonies. They also feed on forest floors in course woody debris.

They excavate such large nests in the cavities of trees that the holes can cause a tree to break off. The roost of a pileated woodpecker usually has multiple entrance holes. Pileated woodpeckers raise their young every year in a hole in a tree. In April, the hole made by the male attracts a female for mating and raising their young. Once the brood is raised, the pileated woodpeckers abandon the hole and do not use it the next year. When abandoned, these holes, also made by other woodpeckers, provide homes in future years for many forest songbirds and a wide variety of animals. Ecologically, the entire woodpecker family is important to many other bird species. A pileated woodpecker pair stays together on its territory all year round and is not migratory. They defend the territory in all seasons, but tolerate strangers during the winter. When clashing with competitors, they engage in much chasing, calling, striking with the wings, and jabbing with the bill. Drumming is most commonly to proclaim a territory, and hollow trees are often used to make the most resonant sound possible. The drum consists of a burst of 11 to 30 taps delivered in less than a second.

Pileated woodpeckers have been observed to move to another site if any eggs have fallen out of the nest—a rare habit in birds. The cavity is unlined except for wood chips. Both parents incubate three to five eggs for 12 to 16 days. The oldest known pileated woodpecker was 12 years and 11 months old. Adults can be predated by hawks and owls with young in the nest vulnerable to a host of other critters.

The pileated woodpecker occupies a large range and is quite adaptable. Its ability to survive in many wooded habitat types has allowed the species to survive. Pileated woodpeckers have a large population size, and despite being nonmigratory, are protected under the U.S. Migratory Bird Act. While the large birds control many insect populations, especially tree beetles, they can also damage a house. Lets think of pileated woodpeckers when considering the value of remaining trees after a timber harvest.

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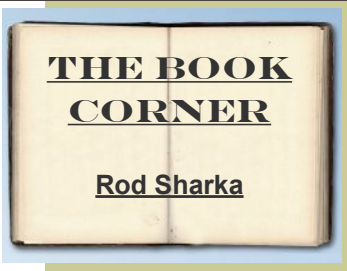

IN SEARCH OF THE CANARY TREE

The Story of a Scientist, a Cypress, and a Changing World
by Lauren E. Oakes

In Search of the Canary Tree is a beautifully written biographical narrative of then PhD candidate Lauren Oakes' field research into why Alaska's yellow-cedar trees are dying and how people dependent on it are coping with a changing environment.

In her debut, Oakes, a conservation scientist at the Wildlife Conservation Society, presents a “blend of ecology and social science,” looking for answers to scientific questions through meticulous, rigorous research on the Alexander Archipelago off the southeastern coast of Alaska. She also spent hours interviewing Alaskans coping with a rapidly shifting environment. Hardy, diligent, and empathetic, the author makes vividly clear the difficulties of conducting multiyear field research on a remote archipelago. The book, she writes, “chronicles my effort to answer what happens in the wake of yellow-cedar death, not only to uncover the future of these old-growth forests, but to share lessons that apply to people on other parts of the planet….If we start looking at the local picture and the ways in which we all depend on nature in various ways every day, solutions emerge. I witnessed this in Alaska.” For armchair readers, this provides an unforgettable picture of just how scientists work in the field. Readers looking for a thorough understanding of the decline of the yellow-cedar tree will not be disappointed. The data are here, collected and painstakingly recorded by intrepid young people living rough, sometimes in tents and sleeping bags, eating dehydrated food, and slogging through chilly bogs in rain and fog. In between, there are the author’s trips back to Stanford, where she was a graduate student and is now an adjunct professor. It’s clear that Oakes is deeply concerned about what climate change—of which the decline of the yellow-cedar is but one marker—will mean in her lifetime and in the more distant future. How will we continue to adapt in the face of frightening changes?

The canary-in-the-coal-mine image is a powerful one, and this book carries a potent message sure to resonate with conservationists, and hopefully, everyone else as well.

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Compassion is the new radicalism ~
The Dalai Lama~

Ring the bells that still can ring, Forget your perfect offering, There's a crack in everything, That's how the light gets in.
~Leonard Cohen~

Thankful for Strong Forks

Paul Hetzler

Growing up, our family's Thanksgiving traditions were well balanced. First we ate a lot, but after dinner my two brothers and I engaged in vigorous exercise for thirty minutes or so. That's usually how long it took to tussle over which two boys would get to break the turkey's wishbone. Of course sometimes it backfired if the loser cried loudly enough that they got promoted to the wishbone-pulling team. Following the event, further "exercise" might ensue if there were strong feelings about the fairness of said match. Luckily, bone breakage was restricted to cooked poultry, and we brothers remain on good terms.

The Y-shaped furcula, or wishbone as normal folks call it, is unique to birds, and breaking it to determine who gets the larger of the two halves – and thus the wish or good luck – goes back a few thousand years. Reportedly there are subtle ways to influence who gets the better half, but these were unknown to us as kids.

Even if your Thanksgiving customs do not include breaking a wishbone, we have all seen trees which fork in a similar way. Unlike an actual wishbone, however, there is no lucky outcome for anyone in such situations, because trees which divide into two stems or trunks like an upper-case Y are doomed to split. The narrower the angle at which the two trunks divide, the weaker the union is, but the chances splitting always increase with age.

To some extent, a propensity for multiple trunks is genetic. In a forest environment, trees with poor structure split during wind or ice-load events. It is nature's way of picking trees with better genetics (or luck, sometimes) to live longer and seed future forests. This selection process is great for woodlands, but not for trees growing in our yards, streets and parks.

We are the "unnatural selection" force responsible for choosing which trees get planted, and where. It takes a lot of effort, expense and time to have a shade tree reach maturity, and we want to keep them around as long as possible.

All trees have imperfections, the vast majority of which are benign. But some can be dangerous. To avoid breakage of large limbs, and associated flying lawsuits and debris, trees with obvious defects are often removed as a matter of course. Since many tree problems are a result of our activities, it hardly seems fair to send a mature shade tree to that great arboretum in the sky if we can find an alternative.

Somewhere there must be a cute little town called Narrow Forks. Where trees are concerned, this is the name of a problem that occurs when the angle of attachment between two competing (codominant) trunks is acute, rather than cute. The strongest attachments are open and closer to U-shaped. Narrow forks or unions get weaker with age and eventually fail. Major, often catastrophic, splits occur during ice storms, microbursts and other violent weather.

When you have a priceless target such as a Fabergé egg or a children's play area that is within striking distance of a "wishbone" tree, corrective action is needed. Thanksgiving to Easter is the best period in which to have your landscape trees professionally evaluated, because tree architecture is easier to see when the leaves are off. A tree in very bad shape may need to be removed, but oftentimes, judicious pruning along with an appropriate cable system can save it.

Cabling must be done right, because a poorly designed system is more dangerous than none. The American National Standards Institute (ANSI) A300 Support System Standards for tree cabling are not an example of big-government overreach. Quite the opposite; they are industry-written, and based on decades of research. The ANSI A300 lays out specs for things like cable, bolt and eye size, construction, and load-rating. It's critical that a cable system be installed by a Certified Arborist who is familiar with these standards.

Lest you fear your maple or oak will look like a Frankentree, don't worry: a proper cable system is inconspicuous. For a fraction of the cost of a removal, and a tiny fraction of the cost of emergency removal plus damage repair, most trees can get an extended lease on life through cabling. While under extreme conditions even a perfect system may fail, I've never seen a properly installed cable system fail. I have, on the other hand, seen many homemade or substandard ones crash.

For information on cabling, contact your local International Society of Arboriculture (ISA) Certified Arborist (treesaregood.org has a search-by-ZIP function). When you get a quote from a professional, ask them to show you their copy of the ANSI A300 cabling standards, and insist on proof of insurance directly from their carrier.

It's an appropriate time to give thanks for strong forks, both at the table and out in the landscape.

Paul Hetzler has been an ISA-Certified Arborist since 1996, and is a member of ISA-Ontario, the Canadian Institute of Forestry, and the Society of American Foresters. His book "Shady Characters: Plant Vampires, Caterpillar Soup, Leprechaun Trees and Other Hilarities of the Natural World," is available on amazon.com.

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The next story in the series, The Forest Ethicist, in cooperation with the Northern Logger and the author from SUNY College of Environmental Science and Forestry.

THE FOREST ETHICIST

By Marianne Patinelli-Dubay

I was recently contacted by a landowner whose property is enrolled the state tax savings program for forest management. He wants to do a very heavy cut to make as much money as possible, but this is not what is called for in his forest management plan. The consulting forester he normally works with, who I have worked with before, will not be a part of going against the plan. Amending the plan for a harvest like this would probably not be approved by the state forester either. Normally I would walk away from a situation like this to protect my reputation and not be a part of something that could have a landowner removed from the tax program. I don't like to turn down work though, and I mudded out on the lot I just moved to that I had planned to stay on through fall until freeze up. I have nothing else lined up right now that is workable until winter. If I do walk away from this job it would probably be at least a few weeks until I find another woodlot I could work, which would mean no money coming in. With payments to make on my equipment and two employees I need to keep, do I really have a choice?

The easy answer to your question is that taking this job might mean financial benefit for you and security for your employees in the short term, but this same decision is likely to erode your reputation further on and cancel out those gains in the future. Because you say that you'd usually walk away from a situation

like this to protect your reputation and the landowner's standing in his tax abatement program, it is clear that you've already made this simple calculation. The challenge here isn't in seeing the correct path, the challenge is in taking it. While the forest industry measures outcomes over a generous time horizon, business often works against that model, making it hard to hold both to your principles and to use best practices when they are in conflict. This is especially true when the advantageous business/financial move is marked by urgency.

One basic difficulty that is written into the logging profession is the need to fit a trade that requires ecological and sustainable thinking into a model that often doesn't provide much reward for taking the patient approach that this type of thinking demands. Despite what some may think, logging isn't a purely extractive industry. Logging, like forestry, depends on the long-term health of the overall system to recover and flourish. Whether you care about ecological resiliency for its own sake or because strong regeneration guarantees that you'll have trees to harvest in years to come, your decision still comes down to negotiating between immediate financial pressures and a responsibility to cover your employees' next paycheck. Unlike other natural resource industries however, logging and forestry depend on a renewable. The correct application of your trade contributes to or weakens the degree to which the resource will flourish in order to support you and your business in the future.

Sometimes we can get some insights by going back to the beginning and in the forest industry, our beginning is with America's first forester, Gifford Pinchot. Pinchot's interest in forestry was established in response to forest devastation across the northeastern United States by logging, or what he called lumbering. Lumbering was a practice absent the first principles of forest management, the same ideals that Pinchot would set out to codify. In a small way, the situation that you describe illustrates his worry. In early attempts to define conservation for the newly established forest industry, Gifford Pinchot would have been unfamiliar with the practical difficulties that you describe, importantly your obligation to your employees, to your reputation and as a businessman, your duty towards your product which includes harvesting responsibly so your product continues to remain available to cultivate in the future. Yet as America's first forester and one whom many foresters refer to as their guiding practitioner, Pinchot has much to say about the risks of going ahead with a job like this.

Set on a slightly larger scale in an 1893 essay dedicated to the "sound forest management" of a 40,000 acre tract in the Adirondack's Hamilton County, he describes "reckless cutting" (29) as particularly destructive to Adirondack forests. He goes on to talk of proper handling and the "productive power" of a woodlot properly managed and harvested over time. He concedes that a lot lumbered without management practices, of the kind written into the management plan you mention, will yield more revenue than if we were to follow (in your case) the parameters of the management plan. However, he argues that revenues following this more lucrative first cut will diminish over time if proper care isn't taken to allow regeneration. He refers to New York's northern forests particularly when he writes that "timberland as productive as this, as safe from fire, and as accessible from the centers of consumption by rail and water, is, in my judgement, one of the best long investments". He argues that "the ordinary methods of lumbering are exceedingly careless of the life of all the young growth which may happen to stand under the old trees".

While it's true that Pinchot was not a logger, he was a businessman who understood the industry as an accord between sound business practices and the time horizon that professionals must keep in mind in order not to deplete the resource. He wrote that good forest management "stands for the same kind of practical common-sense management of this country by the people that every businessman stands for in the handling of his own business. It believes in prudence and foresight instead of reckless blindness." He goes on to say that forestry "works for good and aims to overcome evil. It promotes wise use and operates against needless waste and destruction. It brings benefits to those who promote it and blessings to future

generations" (108). Here again Pinchot is working to establish what will become guiding principles for the natural resource industry and while he is speaking here to foresters and governments directly, his message is no less applicable to loggers operating today on small private lands. Today's logger stands in contrast to "The lumberman [who] did not consider the land. All he wanted was the wood and he took only the best. If he could not get it at one place, he moved to another, and as a result of this blundering and pillaging we today have areas of desolation where we should have promising and orderly forests of thrifty trees."

You are part of a long tradition of woodsmen and women with a specialized understanding of the ways that forest health and sound business practices must go hand in hand. Your daily task is to remain true to the history of your profession alongside the promise of its future.

Please send your questions and comments for upcoming columns 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. With thanks to Mike Federice, Forester at SUNY-ESF's Northern Properties, for lending his professional expertise to this column.

Quotes are drawn from *Gifford Pinchot: Selected Writings*, edited by Char Miller, Pennsylvania State University Press, 2017.

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In Partners News we often talk about our focus on forest conservation locally, but in the context of the overall landscape. In other words Think Globally, Act Locally. With the help of former USFS Chief, PIF advisor and friend, Mike Dombeck, we have compiled a expose of the recent actions to overturn parts of one of the great scale, common sense public land conservation initiatives in our recent history. First we will begin with an editorial written by Mike and Chris Wood and follow up with Mike's comments to the congressional committee overseeing the proposal. Why should we, as land owners in Wisconsin or the UP care about this action primarily affecting Alaska? We invite you to read this content and answer: Why should we not care? This land is our land!

PIF has has a long history on the Alaska Roadless Rules if anyone is interested. The preamble to the Alaska Roadless Rules will be displayed on PIF's website following Mike's comments.

Originally printed in Los Angeles Times
Opinion: The Amazon forest isn't the only one in peril. Trump has his eye on Alaska

The Tongass National Forest in southeast Alaska is studded with 1,000-year-old trees.

(Michael Penn / Juneau Empire)

By MIKE DOMBECK AND CHRIS WOOD

In the faraway Amazon, politics and commercial exploitation are fueling fires that threaten the world's largest tropical rainforest. Closer to home, in Alaska, the Tongass National Forest, which represents the largest intact temperate rainforest, is facing a serious threat of its own: President Trump's determined rollback of environmental protections. In both cases, land belonging to all citizens is at risk because of the financial ambitions of a few.

According to a report (https://www.washingtonpost.com/climate-environment/trump-pushes-to-allow-new-logging-in-alaskas-tongass-national-forest/2019/08/27/b4ca78d6-c832-11e9-be05-f76ac4ec618c_story.html) in the Washington Post, Trump has ordered Agriculture Secretary Sonny Perdue to change Forest Service policy and open more than half of the Tongass — 9.5 million acres — to the

construction of new roads, effectively encouraging development such as large-scale commercial logging of old growth trees.
The Tongass covers a huge area of the Alaskan panhandle. It is largely undeveloped, it's a carbon storehouse and it's a fish factory. The Forest Service reports that the Tongass produces 25% of the West Coast's commercial salmon catch. Fishing and tourism, which depend on a healthy forest, bring in more than $2 billion to Alaska annually by one estimate. They account for 26% of local jobs; logging accounts for less than 1%.

The president's directive would undo 20 years of relative stability on the Tongass that was created by the enactment of the Roadless Area Conservation Rule in 2001. As former Forest Service employees, we helped to develop the roadless rule. Understanding its context is important to understanding the threat to the Tongass today.

In the late 1990s, before the roadless rule went into effect, the Tongass and other remote forests were the subject of constant controversy and litigation over timber sales and road construction. As is still the case, timber sales on the Tongass lost money and were heavily subsidized by U.S. taxpayers. Adding insult to injury, much of the wood that was harvested was shipped across the ocean to Asia.
By 1998, the Forest Service had constructed more than 380,000 miles of roads in the national forests, largely to aid timber production. The agency also carried an $8.5-billion maintenance backlog on management of those roads. When forest roads are not maintained, they erode and slide into streams, muddying drinking water sources and ruining fish habitat.

Many inside the Forest Service and in Congress rightly began to question why the agency would build more roads into relatively pristine areas when it could not take care of the roads already in place. Lawmakers rebelled. As a surrogate to protect roadless areas, in 1997, the House of Representatives came within a single vote of cutting the Forest Service's road budget by 80%. This would have crippled the agency and jeopardized public access and use of the national forests. President Clinton stepped in, directing the agency to develop a new policy for managing untouched forests.

The result was stronger protection of roadless areas. More than a million people commented on the proposal, and more than 90% favored keeping new roads to a minimum in pristine forests. The final rule allowed for new road construction on a case-by-case basis, for firefighting, forest health, energy development and access to private holdings, but it seriously restricted new timber sales. Since the rule was enacted, the Forest Service has approved all 58 project requests it has received for roads in Alaska's national forests.

Nevertheless, Alaska's congressional delegation and its governor, pushed primarily by logging interests, wan an exemption from the roadless rule. But decisions that affect our shared land shouldn't be made at the behest of special interests. They should be made by professional land managers and informed by science — not politics.

The roadless rule has served our national forests well. It affirms a basic truth. Most Americans value their public lands for the clean water, healthy habitat and recreational opportunities they provide. Over a century ago, President Theodore Roosevelt's secretary of Agriculture, James Wilson, wrote that national forests should be managed for "the greatest good for the greatest number for the long run." We urge the president and Secretary Perdue to follow this sage advice and do what is best for the long-term health of the land and future generations of Americans.

Mike Dombeck was chief of the U.S. Forest Service from 1997 to 2001. Chris Wood is the president and chief executive of Trout Unlimited.

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Testimony of Mike Dombeck
House Natural Resources Committee Oversight Hearing on the Alaska Roadless Rule November 13, 2019

Thank you for inviting me to testify on the Alaska Roadless Rule. I'm very familiar with this Committee's work, having testified many times as acting-Director of the Bureau of Land Management and as Chief of the Forest Service, including several times on the very topic of this hearing—the future of Roadless Areas on the National Forests. I greatly appreciate this Committee's important role in the oversight and management of our nation's precious natural resources and public lands. I am very grateful to have spent a career in public service and have witnessed a very wide variety of public land management debates.

I appreciate this Committee's interest and oversight in the need for proper multiple-use management on our public forests. Rolling back the protection provided by the Forest Service 2001 Roadless Rule in Alaska or anywhere else is bad public policy. Opening up backcountry areas to road construction will cost taxpayers far more than the economic benefits will yield. It will compromise long- term watershed health, and it will take us back to the unproductive controversies of the past.

I believe it important to review a bit of history to put the current proposal into a broader historical context. I have included the preamble to the 2001 Roadless Rule as an appendix. The preamble provides more detail regarding the rationale for the Rule and associated resource values.

No other nation in the World has this bounty of public land belonging to all citizens. Some of our public land was acquired through conquest or treaty; other land including Alaska was purchased, paid for by taxpayers from every state.

Translating multiple-use land management on the ground is no easy task. Every constituency—forest products, grazing, mining, recreation, wilderness, and so on—pushes to maximize its interest. Couple this with constantly changing economic needs and social values, and the realities and the challenge get even messier. In the last half of the last century few issues elicited as much interest and controversary as the disposition and management of this nation's last remaining wild and unfragmented land, including 58 million acres of National Forest roadless lands.

As this nation grew, by the early 1900's the great forests of the eastern U.S. had been clear cut, but millions of acres of large old growth forest remained in the West. Prior to World War II the timber industry did not want a lot of National Forest timber on the market because it would depress prices of private land timber. However, World War II changed all that with the tremendous demand for wood for the war effort followed by the post-war housing boom. With most of the privately-owned old growth timber harvested, this left the western national forests with a bounty of big trees---old growth forest. The U.S. Forest Service at the request of Congress did its part by ramping up harvest to meet the demand.

Roads are needed for timber harvest. In the 46 years between 1950 and 1996, the National Forest road system more than doubled, from 165,000 miles to 373,000 miles. The construction and maintenance of this extensive road system was financed in large part by timber sales.

The easily accessible timber was harvested first and as years went by the Agency had to put up timber sales in increasingly remote forests. With the easily accessible high value timber already cut, the agency was forced to move into more mountainous, rugged and remote lands, locations with steep slopes and fragile soils. To maintain its high level of timber harvest, the agency had to construct roads into these increasingly remote areas. Many of these timber sales lost money and the Agency was roundly criticized for "below cost timber sales," i.e., timber sales that cost taxpayers more money to design, access and sell than they generate in revenue. The impact on Agency budgets was profound. By 1979, only 38% of existing roads were maintained to the safety and environmental standards to which they were designed. Even with the record high level of timber production in

1989, only 47% of forest roads were maintained to standard. The timber harvest levels were unsustainable as was the ability to maintain the extensive road system.

Yet some forest roads are important to local communities. They can provide access for development, tourism and recreation and many other needs. However, when forest roads are not maintained, particularly in rugged mountainous terrain, they erode and slide into streams, muddying drinking water and ruining fish habitat. Roads fragment wildlife habitat, negatively impact rare species, and serve as vectors for invasive species. Additionally, public support for protecting remote wild lands was increasing.

When I became Forest Service Chief in 1997, everyone was upset about roads and roadless areas. County commissioners complained about the poor condition of roads on the National Forests. Wilderness advocates and many hunters and anglers strongly opposed punching roads into remote places, wanting the remaining large tracts of wild places kept wild. The controversary was at a fever pitch. There was constant controversy and litigation over timber sales and road construction into wild remote places on the National Forests. Many forest management decisions were made in the courtroom.

By 1998, the Forest Service had a 380,000-mile road system with an $8.5-billion maintenance backlog. Many inside and outside the Forest Service and Congress rightly began to question why the agency would build more roads into relatively pristine areas when it could not take care of the roads already in place.

Members of Congress and this Committee were very concerned as well. As a surrogate to protect roadless areas, in 1997 the House of Representatives came within a single vote of cutting the Forest Service's road budget by 80 percent. This would have crippled the agency and jeopardized public access and use of the National Forests.

When you find yourself in a hole, put the shovel down and stop digging. Why in the world would the Forest Service continue to build roads in remote forests such as the Tongass National Forest when they couldn't take care of the roads they already had *for timber sales that lost the taxpayers money!*

As a result of broad consultation and deliberation, the Forest Service developed a protective strategy for roadless areas over a three-year period that involved more than 600 local public meetings and a record-breaking 1.6 million public comments. More than 90% of the public comments favored protection of the entire 58 million acres of inventoried roadless areas on National Forest lands. The result was stronger protection of roadless areas.

The Roadless Rule, finalized in 2001, ended the most damaging and expensive threats to those roadless areas. But carefully designed exceptions allow for some new road construction on a case-by-case basis, where that is in the public interest. Roads are permitted for firefighting, forest health, energy development and access to private inholdings, for instance, as well as public thoroughfares between communities. For example, on the Tongass National Forest alone, all 58 requests for entry into roadless areas since the Rule has been in place have been granted. These include roads for mining projects, hydropower and intertie projects, a geothermal lease, a road realignment, road reconstruction, and U.S. Coast Guard and Alaska Army National Guard projects, among others. Most projects are approved within a month, and that time is expected to become even shorter since authority to approve requests was delegated to the regional foresters in October 2018.

The Roadless Rule was controversial on many fronts and some controversy remains so today, as is evidenced by the need for this hearing. However, the Rule has gone a long way to reducing conflict over national forests, focusing Forest Service management on what the land needs and the American people want, and better prioritizing and utilizing budget dollars. It has:

- Saved taxpayers millions of dollars from below cost timber sales and by not adding to the road maintenance financial burden.
- Saved millions of dollars in downstream water filtration costs.
- Reduced litigation over forest management.

- Calmed the waters over timber harvest, which has restored at least some level of trust and enabled collaboration among opposing interests.
- Allowed for more effort and restoration of roaded and previously harvested National Forest lands.
- Provided more certainty to both the timber industry and other forest interests.
- Allowed for more resources and work to be directed toward reducing risk and severity of wildfires, focusing on areas naturally prone to wildfire, especially near human communities.

During my tenure as 14th Chief of the Forest Service, the management of the Tongass was among the most politically charged and controversial issues I dealt with. A key question that should be considered is what does this nation want the Alaska National Forests to look like in the coming decades? What resource values should be considered?

The Tongass is not only the largest of our National Forests, but it is also one of the most valuable and important. It has unique and irreplaceable cultural value to vibrant local Alaska Native communities. It produces more salmon than all other National Forests combined, with 50 million salmon commercially harvested annually at a value of $60 million. The region's beautiful scenery, abundant fish and wildlife, and expansive tracts of undeveloped lands attract visitors and recreationists in increasingly large numbers, with current estimates projecting 2 million out-of-state visitors in the coming years. Seafood and tourism now support 26% of local jobs and $2 billion in economic contribution.

The Tongass is also one of the last remaining intact temperate rainforests in the world and a globally significant storehouse of carbon. According to Forest Service estimates, Tongass trees contain 650 million tons of carbon, which is equivalent to 2.4 billion tons of CO2. This is nearly half (45%) of the total carbon emissions for the entire U.S. in 2017.

Recent analysis by Conservation Science Partners, a nonprofit science think- tank using advanced satellite data and geospatial analyses, shows that the continental U.S. is losing natural lands at the rate of two football fields per minute, due to factors that include road building. This along with increasing urbanization of the U.S. makes the remaining wild places more valuable each year.

The key recommendation I have for this Committee, the Congress and the Executive Branch is to focus on how to maintain the long-term health, diversity, and productivity of the land. The challenge as defined by Gifford Pinchot is to manage for the "greatest good for the greatest number for the longest time." Watershed protection and restoration were the basic concerns that led to the establishment of the National Forests. The critical role forests play in the carbon cycle and moderating climate change is perhaps the most recent value we must take seriously. The intense forest fires in parts of the West and other extreme weather patterns are reminders that maintaining and protecting forests and their sound management is of the utmost importance.

The Forest Service should be protecting the best remaining undeveloped lands and restoring the rest. It should invest in new scientific research to improve our understanding of how to reduce risk from wildfire and climate change. The Forest Service should focus its efforts where it is most needed: on addressing climate change, promoting wildfire resiliency, restoring damaged habitat for important and rare fish and wildlife species, and creating new opportunity for recreation, hunting and fishing.

For the Tongass, where two-thirds of the high-volume timber stands have already been logged at an immense social and economic cost, the Forest Service should focus on addressing the $100 million backlog of watershed restoration needs and the $68 million road maintenance backlog. And above all else, the Forest Service should stop the bleeding by keeping the Roadless Rule in place.

The 2001 Roadless Rule in my view is conservative public policy. It maintains the status quo, keeps options open for the future, and saves taxpayer money. The time and money spent attempting to roll back roadless area protections on the Tongass or any of the National Forests is a big step backwards to the era of gridlock and costly litigation.

Thank you for the opportunity to share my views with the Committee.

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Selecting your timber trees for harvest

By John Schwarzmann, Forest Supervisor BCPL and PIF VP

In forests dominated by shade tolerant trees with a wide variety of tree ages, (uneven-aged), single trees or small groups are cut to create small and medium sized holes in the canopy to encourage regeneration. These small holes are called "gaps" and usually vary from 30 to 60 feet in width. When individual trees are selected for harvest, gaps tend to be close to 30 feet wide and the harvest is called a "select cut". When groups of trees are harvested, gaps are closer to sixty feet in width and those harvests are called "group selection" cuts.

Choosing the best trees to cut, and concurrently, ones to retain is critical to the future of your forest. Residual trees should be good seed producers and be able to jump in economic value. Trees that can jump in value as they grow into larger sizes are called "crop" trees. As a tree grows, the value the timber market places on that tree generally increases as the tree grows in diameter. Small trees under 10 inches in diameter may only be worth several dollars as pulp-wood for paper. As the tree grows to 12-15 inches in diameter, the same tree may value $20 to $30 dollars for boards in flooring or framing. As trees approach 18 -26 inches in diameter, they may reach their maximum value and be used for veneer; if they are straight with few knots. The select crop trees are said to have reached their highest "economic" value and may be worth $100 to $400 per tree. In order for a tree to jump in value, it must be straight with few large knots. Crooked, limby trees never grow beyond pulpwood (or fuel) value no matter their size.

Crop trees are usually not common and normally comprise 15 to 35% of the trees in a given hardwood or oak stand. They reach their highest economic value based upon their number and location of defects so that there is no set rule when value is maximized. Each crop tree must be individually evaluated which is why marking timber can be a laborious process. The rare hardwood tree with absolutely no knots for a length of 9 feet or more can reach the highest possible value as prime veneer. These trees can be as small as 18 to 19 inches in diameter. For trees with some knots, the larger the diameter, the higher the grade in most instances.

Sugar maple can pose an even greater challenge to estimate maximum value because it can degrade in value from internal discoloration not visible to the forester. The center, or heartwood of sugar maple trees is dark brown, as compared to the outside of the radius which is a bright white color. Maples are valued for their white wood and not for their dark heartwood. If somebody wants dark wood they will usually buy cherry, oak or walnut that are valuable for the rich, dark colors. In sugar maple, newly grown wood is white so that a fast-growing tree will lay down proportionally more white wood than the moderately expanding heartwood. If the tree slows in growth due to injury or competition, the heartwood will expand faster than the white wood and the crop tree may degrade in value even though it may appear to be knot free. Therefore, it is imperative that foresters also judge the growth potential of sugar maple crop trees to determine if they are in jeopardy of losing value due to big hearts, caused by slow growth.

Trees that should be marked for harvest should therefore be ones that will not jump in value because they are knotty or crooked or have reached their economic maximum value. Those trees are generally rare so most trees that get marked for harvest are selected due to low vigor, disease, or knots. Residual trees should also be the ones with healthy, full crowns. Not only are they capable of producing more seed, they will grow faster than their small-crowned neighbors. Cutting the biggest trees and leaving the suppressed, small-crowned ones will cause significant decline in forest growth and long term value.

The cutting cycle or reentry period in marking select or group selection harvests is commonly 10 to 20 years. Commonly about 1/4 to 1/3 of the trees are marked each time. These harvests expose the benefit of providing periodic income to the landowner as well as maintaining an aesthetically pleasing woods that rarely appears cutover and can be enjoyed by all.