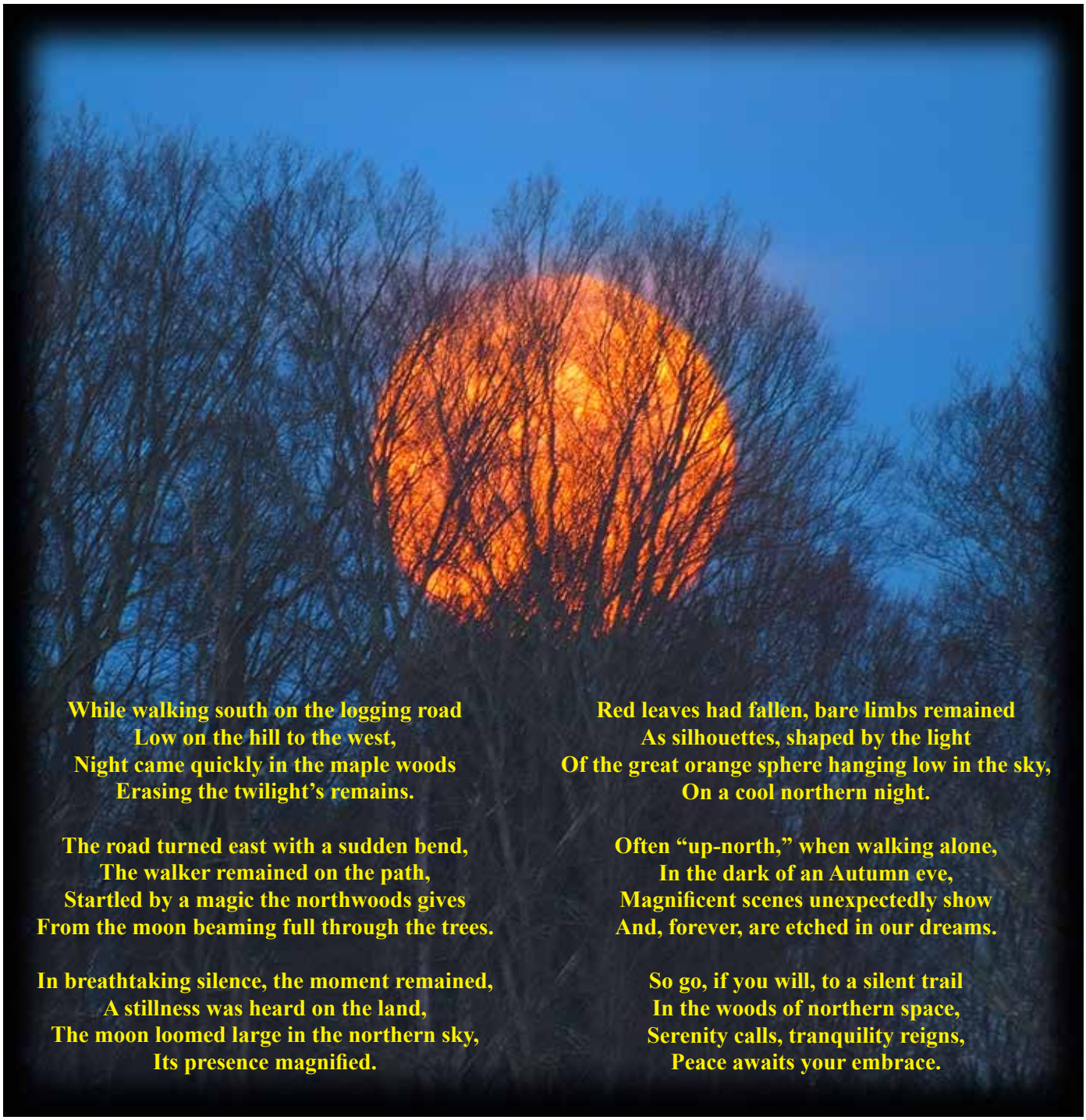
MICHIGAN FORESTS

FALL 2019 PUBLISHED QUARTERLY BY THE MICHIGAN FOREST ASSOCIATION VOL. 41, NO. 4

A Silent Trail

Late one afternoon, near the end of October, I found myself at our 40 acres at the end of the road. With shotgun in-hand, hoping to find a ruffed grouse before day's end, I walked in a northwesterly direction on one of the logging roads. By the time I reached the northwest corner, darkness had descended. Does a more special place exist than a deep northern woodland in the early moments of a late Autumn eve? "A Silent Trail" describes one such evening as it occurred.



While walking south on the logging road
Low on the hill to the west,
Night came quickly in the maple woods
Erasing the twilight's remains.

The road turned east with a sudden bend,
The walker remained on the path,
Startled by a magic the northwoods gives
From the moon beaming full through the trees.

In breathtaking silence, the moment remained,
A stillness was heard on the land,
The moon loomed large in the northern sky,
Its presence magnified.

Red leaves had fallen, bare limbs remained
As silhouettes, shaped by the light
Of the great orange sphere hanging low in the sky,
On a cool northern night.

Often "up-north," when walking alone,
In the dark of an Autumn eve,
Magnificent scenes unexpectedly show
And, forever, are etched in our dreams.

So go, if you will, to a silent trail
In the woods of northern space,
Serenity calls, tranquility reigns,
Peace awaits your embrace.

Jack Larsen was a veteran forestowner, outdoorsman, and poet who has penned many reflections of the great north-woods, the people who inhabit them, and how we spend our lives.

Michigan Forests Magazine
Michigan Forest Association, © 2019
FALL 2019 VOL. 41, NO. 4

IN THIS ISSUE

ABOUT THE COVER:

A merge of two images, October is the month where the forest colors fade into the portent of winter. The tree silhouette was a grand American elm, that has since succumbed to the exotic Dutch elm disease.

Editor's Notebook

by Bill Cook

Well, here we are, at the end of another magazine year. Issue numero quatro is out in the wild world to wend its own way. I feel like an empty-nester. Again. Sort of.

At any rate, Fall is upon us. The forest canopy has undressed itself in the usual blazes of glory. Gotta just love the Fall colors. I'm waiting for the symphonic final call of tamarack gold. The best of Halloween, perhaps.

The leafpeepers are getting their Winnebagos drained and prepped for winter storage, or lumbering them down to Arizona. The big buck hunters have rising levels of jittery hormones as they anticipate deer camp, friends, and family. What new pranks might be perpetrated this year? Should the menu be "gas free" or should we just go for broke?

The landscape has been busy getting ready for the quiescence of the dormant season. Winter is far from static, but the frenetic activity of our fairly short growing season has relaxed. And, so have I. That fine peated whisky is particularly enhanced by the crackle of the fire in my wood stove. Maybe, I'll pick-up and read this magazine!

There's more than the customary amount of material in this issue. I hope you'll enjoy some of it and, perhaps, find something useful for your own woodland, if you have some. I'm encouraged by the research articulated in the chestnut article. The species has been largely absent from our forests for a century. It was the first of many to be laid-low by exotic pests. Never much chestnut in Michigan, but who knows . . .

My wingman, Mike Smalligan, has been busy over the past few months propagating MFA memberships. You can see the nearly 200 names listed! I hope most these folks see enough value in the MFA to remain a member. Maybe the content of this magazine will be an encouragement. Jeepers, I guess the opposite could be true, too?

The forestland owned by the MFA is now generating some income, as well as more potential for education. You can read about the Gogebic sale. And by now, the Emmet sale should be about wrapped-up.

You may have noticed some huge gaps in the MFA leadership. The Association has come a long way, yet has much further to trod. This will only happen as members ante-up and help us all along. Our limits are addled only by the bounds of our collective imagination. Now, is a very opportune time to pitch-in and kick this can down the road. It's a fun game, for the most part. So, lace up those caulked boots and let's roll some logs together. Or pull some garlic mustard. Or keep our glassies peeled for Asian long-horned beetles.

As Aldo Leopold wrote; *"I have purposely presented the land ethic as a product of social evolution because nothing so important as an ethic is ever 'written' . . . It evolves in the minds of a thinking community."* Come help the MFA "think". ♣

Michigan Forests Magazine
Michigan Forest Association, © 2019
ISSN 1088-7814
FALL 2019 VOL. 41, NO. 4

Published by the
Michigan Forest Association
15851 S US 27 Suite 16
Lansing, MI 48906-1987
Phone: 517 816 7879
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The Michigan Forest Foundation pays approximately 1/2 the cost of publication and distribution of Michigan Forests magazine partly in memory of Stanley R. Day.

Upcoming Deadlines
13 December, 2019
20 March 2020

Next Board Meeting
8 November, Hartwick Pines

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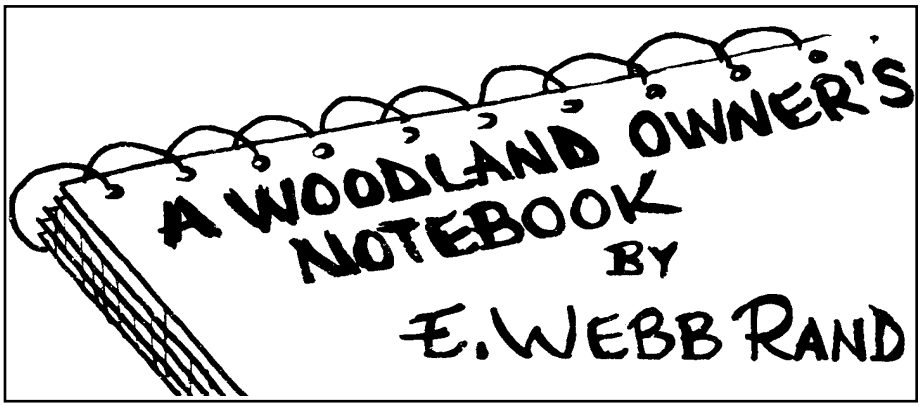


Having a Taste for Woodland Assessments

Every woodland owner should take at least one annual assessment of their woodland. I am not thinking that timber theft or trespass is of great concern but tree growth and mortality are. Forest insects and disease are a factor in this, and invasive species could represent the greatest threat and should be watched for on a regular basis. Timely treatment of these is required if elimination or control is to be achieved. Please be especially on the lookout for the Asian long-horned beetle. Our best hope with this insect is that we keep it from becoming established, so it must be detected early. Now is a good time to do that detailed woodland assessment.

I personally take frequent assessments of my woods. I discover so many changes seasonally, and often daily, as all the plants grow, flower, and fruit. My frequent woodland assessments, or walks, help me get the exercise recommended by all the health experts. Therefore, both forest health and human health experts agree that we should spend more time in our woods. How can one possibly beat that advice?

The most important, enjoyable, and telling of my seasonal assessments is this late summer or early fall assessment. The results of this last growing season are evaluated. Not all growing seasons are equal. For many, this was a tough growing season. The news media informed even the most high-rise entrapped individuals about what a difficult and challenging growing season this has been for farmers across much of our nation. The late spring, along with heavy flooding rains, made planting late if not impossible. The late spring and frequent rains here kept me off my woodland roads delaying the cutting and gathering of next winter's firewood but otherwise it was a normal growing season in my woods.

However, normal really means – mixed, which is also average. Things never really seem to be average. They rotate around average often reaching new extremes. We often hear that the only constant is "change." This "change" can be hard to observe seasonally or annually. The more one knows about their woods, the better they can assess or observe the change.

It seems at times that the vast majority of people think a forest does not

change therefore it does not grow. They fail to notice trees that die and fall in the woods but they do seem to notice quite readily when trees are cut. Cut trees are thought by too many folks to be bad for the woods. Change in the woods is constant and we hope that it is mostly new growth. The rate of change varies greatly across the landscape. For example, the bristlecone forest of the high west has very slow growth and change, compared to our rapidly changing Michigan forest.

Specifically, the growth of my regenerating aspen was not good this year. The terminal growth shriveled up, hooked, and turned black, ultimately killing the terminal. This has continued all summer over much of the acreage of regenerating aspen in its third growing season. This condition affected both trembling and bigtooth aspen. Balsam poplar was observed to not be affected. One could wish that was the other way around. I might even have considered that to be a plus as timber markets and wildlife both prefer bigtooth and trembling aspen. I believe what caused this is a fungus called Venturia blight which favors aspen. The very wet spring and early summer probably played a role in making this fungus a problem. It affects sprouts less than 15 feet tall and, of course, aspen sprouts entering the third growing are generally at a height made to order for infection by this fungus. I knew that there was nothing that I could do about it. I just had to take the loss of this year's growth as for some of the area there appeared to be no growth and even sprout mortality where regeneration was a little sparse and most desired. I hope that next year's growth will push this regenerating aspen to more than 15 feet where damage becomes negligible.

I can report that this fall's red oak acorn crop in my woods is the best that I have ever seen! This comes after three years of few, if any, red oak acorns. Many of these trees are pole size bearing their first observed crop of acorns. Some young trees are surprisingly heavily laden. It is a big bonus year for acorn-loving wildlife. White oak, on the other hand, is barren of acorns this year. The few white oak in my woodland had a good crop last year.

As already pointed out, the above average rain this summer made it a year favoring one particular woodland fungus in a negative way for my woods. Fungi overall are positive, especially the edible woodland mushrooms. Last spring was not great for morel mushrooms, I'm sorry to say. However, timely rain brought on a crop of oyster mushrooms. These mushrooms grew on aspen snags that had died in the natural, normally-thinning way that thick aspen stands go through as they grow and crowd-out stems that lose the light fight. These mushrooms were picked fresh for more than a week. Oyster mushrooms are one of the most widely eaten mushrooms. This mushroom is saprotrophic, meaning it grows on dead wood. They can most likely be found growing in your woodland when conditions are right. However, it is readily cultivated and sold commercially. Those that have bought this mushroom were probably not purchasing a wild woodland product.

Just as I picked the last of the oyster mushrooms, another mushroom started appearing in surprising quantity in my woods. I had found and picked this mushroom before in my woods, but now it grew in quantities I had not seen before. It was the chanterelle mushroom. For over six weeks I picked fresh chanterelle mushrooms that grew in various places throughout my woods. Unlike oyster mushrooms, chanterelles only come from the wild.

Chanterelles are a mycorrhizal fungus, this means they form a symbiotic and beneficial relationship with tree roots, and specifically tree roots of live, growing trees. This is a mushroom good for the trees in your woods. They cannot be cultivated for commercial sale. This makes them an expensive mushroom - a luxury mushroom. Many chefs consider chanterelles to be on the short list of gourmet fungi along with truffles and morels. Therefore, chanterelles command a high price. I have been consuming this luxury product with wild abandon. Enjoying chanterelles daily, often a $20 sautéed serving as an appetizer with a glass of wine before dinner. I commented to my wife how wonderful it was to be able to afford to live this way – you know-- wealthy enough to be able to afford gourmet mushrooms on the order of truffles almost every evening.

"Oh, how fine it is to be wealthy country estate folks," I said.

"Don't kid yourself," she replied, flatly, "we wouldn't be eating these if I had to buy them."

Oh well, here is to we woodland owners - rich enough to enjoy gourmet mushrooms from our woods. I guess that concludes this tasty woodland assessment. Cheers. ♣

Making the Cut

By Bill Cook

The MFA had its first timber sale on Association land this summer. One of six parcels, an 80-acre tract was selectively-harvested. The timber sale was set-up by a professional forester and the contract bid winner was a long-time logger out of Wakefield.

You might think it's a little scary when that heavy equipment rolls into your forest on a flatbed truck. You would be right! We were a bit anxious about visiting the Gogebic property. One of the MFA goals was to have this sale serve as an example of good forestry and good harvesting. It would be embarrassing and disappointing if the sale didn't work out as planned!

Last Fall, MFA members visited the orange-marked sale, set-up by a young Dave Pogareski. Dave had been working with Byron Sailor and bought Byron's consulting business. As we walked through the woods, we tried to imagine what it would look like when all the marked trees were gone. Some people have a good mind for this, but not everyone.

As we swatted-back mosquitoes, and a few black flies, we talked about leaving hemlock standing, and noticed much of the ash was marked. Better to get the ash out before the emerald ash borer hits. The hemlock will continue to be good habitat for a range of bird species and provide a bit of shelter from the angry winter winds exploding from Lake Superior.

Many of the crooked, diseased, dying, or stunted trees were also marked for removal. We were reasonably satisfied that the harvest held promise of a better quality and healthier forest. If the logger did a good job.

Miljevich Logging had won the bid, out of two interested companies, although the sale was sent to ten contractors. Mike's crews had a long history and good reputation in the western U.P. This was a good sign. And, Byron knew the contractor to be good. Still, a year ago, as we drove across some of the most beautiful country on the planet, would this timber sale be a good one? Hmmmm.

I met Bill and Alice Botti in the woods on a splendid August morning. They had spent the night at a nearby lodge, having arrived the day prior. Me, I just left my house in Escanaba that morning, driving along familiar roads with a gorgeous sunrise behind me. I love the western U.P.

As I entered the woods and crunched down the gravel road, I noticed that Bill had already struck-up a conversation with a neighbor. Never fear, if there's anyone who can find another soul in the forest, it's Bill Botti. Alice remained in the minivan, armed with plenty of work, including some music notation. She knew that if Bill said this would take only an hour, she had better plan for three.

The neighbor liked the look of the timber sale. He was happy that we weren't clearcutting it. He let us know the long-time residents at the end of the woods road, along Lake Shore Drive, were also pleased with how things were turning out. Always good to know your neighbors, better yet when they're on your side.

I interrupted Bill's conversation with the neighbor in order to shake hands, then exchange smiles and g'mornings. Bill resumed the woods-talk, and I started meandering through the harvested forest.

The stand densities looked good. There were many good quality trees made happy by more crown space. The business of photosynthesis will be brisker in 2020. There remained quite a few white ash, a handful of other species, and lots of sugar maple. I could find no ruts. However, the summer sale prompted considerable scuffing-up of the soil surface, but that would serve as a perfect seed bed for many trees, as well as other flora. The future looked good.

On the down-side, there were quite a few machine-damaged trees. The whole-tree skidding is risky in this way. And, much of the pit and mount topography had been somewhat leveled. I pondered on how important that might be. That would need to be evaluated just after the next winter snow melt.

All the while, I was listening to the sounds of machinery at work. Time to go look at the big toys. For this operation, Miljevich had moved-in a feller-buncher, a large grapple skidder, and a hot saw. There was also a wood chipper on-site.

The feller-buncher would reach to a tree, hug it tightly, then saw it from its roots. I would hang onto that tree, then a grab another. The operator would repeat this process until he

Left side of road, harvested. Right side of road, pre-harvest.

Top: Pre-harvest harvest stand density.
Below: Post-harvest stand density.
Bottom Right: Canopy conditions pre-harvest (left) and post-harvest (right).

held a full "bunch" of trees. He would then lay them down on the ground, with the butts pointed towards the landing and the hot saw.

The skidder would scissor-up a half-dozen trees, or so, then drag them along established routes to the landing. This is where some of the standing trees get damaged, as the whole trees rub against them as they're hauled out of the woods. The landing is a small clearing in the woods, next to a decent road, where equipment and log decks are located. Here, the monster hot saw manufactured sawlogs and bolts, as the operator fed trees to the saw with a grapple. The rest of the tree was fed into the chipper, where the chips were blown into a waiting semi-truck.

I suppose the chips were headed to PCA, in Wisconsin, but I didn't know for certain. I should have asked, but just didn't think to do so.

Dave Pogoreski posted some harvest photos on the MFA Facebook page. That was a good idea, I thought.

For a while, Bill and I visited with Scott Carstensen as he took a break from the feller-buncher. He lives south, down in Tomahawk, and commutes to the U.P. for work on some of the Miljevich jobs. He also works closer to home, too. We gabbed about quality trees, solid dry ground, and the state of the industry. Meanwhile, a couple of other fellows were working the bugs out of a bearing on the chipper that was just a big out of line. The operator could "feel" a small shimmy that shouldn't have been there.

These guys really know their equipment. The endorsement from Byron was well-deserved.

While all this was happening, a big rig with a white trailer pulled-in, backing up to the chipper blower. Radowski Trucking, also out of Wakefield, was poised for another van load of chips. So, the logging crew let 'er rip and began filling the van. While this was fun to watch, which I did for longer than I should have, the day was getting by and I needed to hit the road home.

The forest going to be left in pretty darn good shape, save a few knicked-up trees. Nearly $50,000 in the MFA bank account won't hurt either, as well as all the downstream activity in the supply chain that brings so many great things to our doorstep. But it all starts in the woods.

Before Bill and I parted, I left Alice with a baggie of home-made oatmeal cookies. She generously provides scrumptious baked goods at our board meeting. It was only fair to return the favor, for a change. It was going to be twelve-hour drive for them before they would see home. A few cookies couldn't hurt.

As long as I was this far west, I could stop in Watersmeet to touch base with my old buddy Joe at the Ottawa National Forest District Office. On my itinerary, I also penciled-in a stop the MFA property just south of Iron River, where my favorite pasty place just happened to be, too.

Some days are just better than others. Although, in the U.P., all days are above average.

The MFA owns six forested parcels to use for education and demonstration. If you know a group that would like to visit one of these woodlands, or you would like to yourself, then contact the MFA office. ♣

At Your Service

Preventing Trespassers

By Rick Lucas,
CF FAP Forester

If you're a landowner or lessee, chances are good that you'll have to deal with trespassers at some point in time. Prior to the purchase of our Osceola County property in 1993, I had never dealt with a trespasser first-hand. That all changed when we became the new owners of a parcel that hadn't been visited by its sellers for more than seven years. With no regular activity or visible signs posted by the owners, locals treated the 120 acres as public land.

My first encounter with an uninvited visitor to the property, came innocently enough, when an elderly gentleman showed up during early spring. He stated he had likely mushroom hunted on the property for nearly as many years as I was old at the time. A very lengthy, pleasant conversation ensued after which I told him he was more than welcome to continue his annual search but under one condition, that he let me know in advance when he was going to be there. I never saw him again. I think I was likely more disappointed than he.

Future encounters with uninvited visitors wouldn't be as pleasant. Because parts of the property were located at the end of a dead-end road, it became both a popular party site and dump site. On one occasion, several garbage bags were left behind. After a bit of CSI work, I was able to find a prescription bottle with full name and address. A call to our county sheriff (a friend of mine) resulted in a full confession by the offender. I preferred not to press charges but welcomed his apology. Other encounters included two guys getting high while watching the moon rise (I'm being serious here), stolen tree stands, quad traffic, firewood cutting, and turkey and deer hunters all without prior permission.

According to FindLaw.com, trespassing is a legal term that can refer to a wide variety of offenses against a person or against property. Trespassing, as it relates to real estate law, means entering onto land without consent of the landowner. There are both criminal and civil trespass laws. Criminal trespass law is enforced by police, sheriffs, or park rangers. Civil trespass requires that the landowner initiate a private enforcement action in court to collect any damages for which the trespasser may be responsible (regardless of whether a crime has been committed).

The Michigan Legislature has defined, through Michigan Penal Code Act 328 of 1931 Section 750.552, language specific to trespass upon lands or premises of another; exception; violation; penalty; "process server" defined. The full excerpt can be found at www.legislature.mi.gov Chapter 750, Act 328 of 1931, Section 750.552.

In my neck of the woods, trespassing activity is more likely to occur in the fall immediately before or during the deer seasons. Unfortunately, the trespasser is probably going to be a fellow deer hunter and likely someone you know. Much to the chagrin of many landowners, most states deem trespassing to be a relatively minor misdemeanor offense. It's a far more serious crime to try to catch and hold a trespasser who's trying to leave. It's also not safe.

So, as a private landowner, what are some things you can do to keep trespassers off your property? A good start is placement of the classic "No Trespassing" or "No Trespassers – Private Property" signs along property lines. A sign of this type is effective in serving a warning to potential trespassers that the area beyond the sign is private property and that you are serious about trespassing and won't tolerate offenders.

Learn of ways to keep trespassers off your property.

In my case, this was very effective in announcing a change in ownership. Prior to placing signs, I went around and visited with the adjacent landowners to review boundary lines and stated I was putting up signs. I told them I wasn't looking to offend anyone, I was just wanted to keep trespassers out. Local laws define the size and frequency at which signs should be placed to be most effective. Be sure to check with proper authorities.

Another option to consider is fencing. According to a famous Robert Frost poem, "Good fences make good neighbors". But that's only if the neighbors agree. Fences can be a tricky subject – especially if one neighbor wants a fence and the other doesn't. At a minimum, before you construct a fence, visit your neighbor and discuss your intentions. A fence doesn't have to cause a neighborhood argument. If you're looking to build a fence, first check local fence ordinances that often dictate the height, location and appearance of a fence. Once you know the law, talk to your neighbor about constructing the fence. If both property owners agree to the fence, then it might be a good idea to split the costs.

Installing security cameras is yet another option. Video camera options are one means to consider and, more frequently, individuals are using trail cameras to capture still photos. When strategically placed and concealed, enough information can be gathered to identify individuals and/or the vehicles they drive. These cameras can be programmed to capture the date and time the individual appeared on the property.

All landowners should refrain from the placement of any types of traps. As frustrating as it can get at times when dealing with trespassers, traps set to intentionally harm an unsuspecting trespasser will land you into more trouble than the personal satisfaction you may gain from a sense of getting even. Any type of device intended to ensnare, harm, or potentially kill trespassers are at best a legal liability and at worst, the basis for criminal charges.

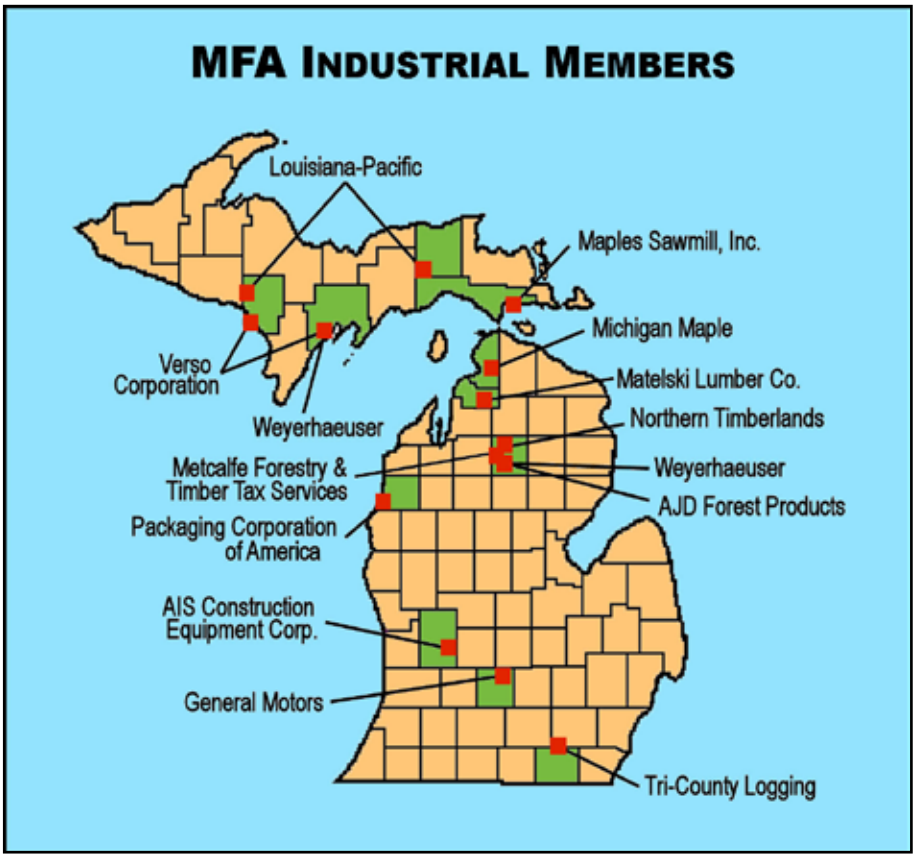
Lastly, one of the simplest ways to get some sense of security, if you're worried about potential trespassers, is to call the local police or the DNR RAP hotline. Although it might be more difficult to get a quick response in more rural areas, having local authorities investigate relieves the landowner of many of the risks and liabilities of taking matters into their own hands. Plus, as a landowner, you pay plenty in taxes. Put your tax money to good use and be smart about keeping trespassers off your property.

Rick Lucas is a long-time forester with the Mecosta-Osceola-Lake Conservation District. He has penned about 85 articles for the Michigan Forests magazine. ♣

Michigan Women Owning Woodlands

At the recent Annual Celebration, Susan English talked about succession planning and her experiences with the Cok Family Tree Farm. She, her three siblings and their families have been very active in the management of the forest. Her father is Stu Cok, and was the recipient of this year's Woodland Merit Award. Susan also lead a discussion about the challenges of being a woman owning woodland.

Women Owning Woodlands strives to bring topical, accessible, and current forestry information to women landowners and forest practitioners through news articles, blogs, events, workshops, resources, and personal stories. We support women in forest leadership, women who manage their own woodlands, and all who facilitate the stewardship of forests. Sue did a great job of describing how she and her siblings are planning for the future of their family owned forest. ♣



Michigan Big Tree Program

By Ted Reuschel

It seems that nearly everyone is fascinated with BIG trees. Perhaps it is not surprising then, that every state has a government agency, association, organization, or institution which tracks and registers their biggest specimens of each species. In Michigan, it is the Michigan Botanical Club (MBC), which explains that the register stands as a record of grand examples of historically, spiritually, and personally important trees.

All of Michigan's registered trees and shrubs are listed on the MBC website: www.michbotclub.org. There are presently nearly 800 of them, representing about 230 species, both native and introduced (100+). Trees which make the big tree list are the biggest known representatives of each species. Scoring is done by adding girth (inches), height (feet), and one quarter of the average crown spread (feet).

Right now the tallest tree on record is a blue ash in Lenawee County at 155 feet. The largest girth is a white willow in Ingham county at 389 inches. The highest total point score is held by that same white willow. Michigan has ten trees which also rank as national champions. While some champion trees are found in forested environments, even more of the bigger trees are found along streets, in yards, in fencerows, in cemeteries, and on college campuses. The many readers of the Michigan Forests magazine are lovers of trees and forests, and are frequent walkers in the woods or admirers of individual trees in other settings. So, do you have a big tree to nominate? Check the MBC website. If your tree would tentatively fall within the top 10 or so of its species, use the online form to make a nomination. It will be forwarded to me as current state coordinator for initial review and assignment to one of our statewide volunteer certifiers for measurement.

Would you be interested in being an official certifier of nominated trees? We are particularly short of help in southwest and southeast Michigan, as well as the central UP. Let me know if you would be interested in these locations or any others. You simply need to be familiar with, or able to key, most Michigan species, and have the field tools to accurately complete the measurements. I can be reached at tbreusch@comcast.net.

Ted graduated MTU and retired from the DNR in 2001. He currently serves as state coordinator for the Michigan Botanical Club's Big Tree Program and lives in Lansing. ♣

Restoring a Forest Icon

Could returning the American Chestnut remodel our wildlife landscape?

By Stacy L. Clark,
Scott E. Schlarbaum, and Joseph D. Clark

This article was originally published in The Wildlife Professional, Vol. 13.4. Reprinted with permission from the original authors and The Wildlife Society, Bethesda, Md. 20814. Learn more about The Wildlife Society at wildlife.org.

Mother Nature was not making it easy. It was Feb. 18, 2009, and winds were gusting, sleet was falling and temperatures were hovering around 40 degrees Fahrenheit. Our nine-person crew, made up of personnel from the U.S. Forest Service Southern Research Station, the Cherokee National Forest and The University of Tennessee's Tree Improvement Program, was attempting to establish the first test planting of American chestnuts (Castanea dentata) bred for resistance to the chestnut blight (Cryphonectria parasitica), an exotic fungal pathogen that had nearly eliminated the native tree from the North American landscape.

With each hole dug and seedling tamped into the ground, our hope was that we were one step closer to restoring an important wildlife food to eastern hardwood forests.

After a century of research, we are closer than ever to restoring this iconic tree to the forests of eastern North America, but there is still a long way to go. Evaluation of blight resistance and growth of seed- lings in our research plantings continue. Seedlings are not yet available for general reforestation. Once established, trees will have to live long enough to flower, bear fruit and regenerate in the face of a changing climate and the progressively increasing presence of invasive pests in American forests.

Given the challenges, is chestnut restoration really worth the time and effort? When we understand the effects of its demise on humans and wildlife and the investments already made towards restoration, the choice seems clear.

Chestnut blight was accidently introduced into New England in the late 19th or early 20th century, probably on imported Japanese chestnut (Castanea crenata) nursery stock. The Asian species was origi- nally imported to breed with the native American chestnut and chinquapin (C. pumila, C. ozarkensis) species to improve nut production. The American chestnut had little natural resistance. Once infected, trees began to die off rapidly. By the 1940s, they were virtually eliminated.

Ironically, the hybrids — created by breeding American chestnuts with the Asian trees that likely brought the blight — would become a starting point for a breeding solution to this disease.

Breeding a solution

The early decades of breeding for blight resistance resulted in trees that were either too much like the Asian chestnut species in appearance (e.g., poor growth habit, poor adaptability) or had insufficient blight resistance. Not until the 1980s did a crop breeder propose the 'backcross' method to trans- fer resistance. Hybrid trees commonly referred to as the BC3F3 (the third generation of the third backcross) were available for the first time for field testing in 2007 and were predicted to have relatively high levels of blight resistance

Unlike food crops, hardwood trees take years to sexually mature. A breeding approach would take decades. Luckily, the Connecticut Agricultural Experiment Station had first-generation backcross trees from early breeding efforts. The American Chestnut Foundation (TACF), founded in 1983, was able to use the Connecticut trees to spearhead its breeding program, which received sustained sup- port from

Stacy Clark, USDA Forest Service . A chestnut sapling (left) planted on the Nantahala National Forest in western North Carolina shows little resistance to chestnut blight infection, as indicated by lack of swelling and callous formation and abundant fruiting bodies (orange stroma protruding from the bark). A chestnut sapling (right) shows some resistance to chestnut blight infection, as indicated by slight swelling and callous formation and lack of fruiting bodies.

Scott Schlarbaum, University of Tennesee. University of Tennessee Senior Research Technician David Griffin, left, and U.S. Forest Service Research Forester Stacy Clark process bare-root nursery seedlings for planting in research plots on national forests in the southern Appalachians. Each tree is tagged and genetic identity as well as tree attributes such as root count and stem height are maintained throughout the study.

partnerships and donations from public and private entities. By 2007, the first BC3F3 nuts were produced in numbers sufficient to field test them in research plots.

While TACF continued to evaluate blight resistance in orchard plantings at Meadowview, Virginia, we tested the BC3F3 seedlings in real-world forest test plantings in the Blue Ridge Mountains. Cooperating with the oldest hardwood tree improvement program in the country at the University of Tennessee, three national forests and TACF, we embarked on a collaborative journey now in its 11th year.

A keystone species?

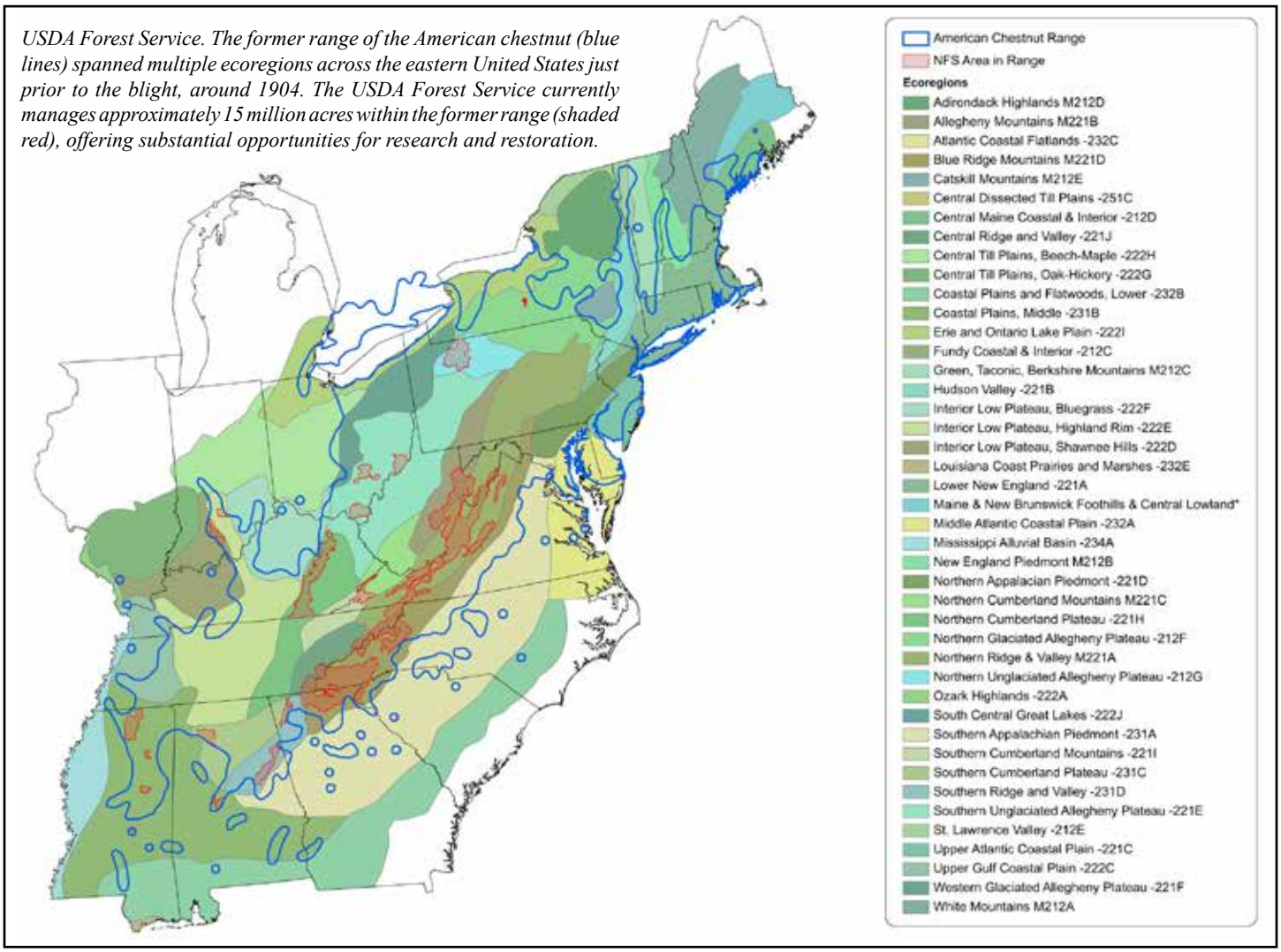
Until recent decades, discussions involving the chestnut concentrated on resistance breeding results. Little discussion took place on the effects that chestnut restoration would have on ecosystem processes and functions, including wildlife population dynamics. The initial motivation for breeding programs was largely to recover an important economic resource. It was not until the 1990s and early 2000s that the conversation shifted to include potential impacts on the ecosystem.

The American chestnut is often referred to as a keystone or foundation species in eastern North America. Early forestry records suggest the tree was a prolific mast producer, and its nuts were used by an array of wildlife species, as well as humans.

Chestnuts ranked as one of the most important plants in the eastern U.S. to support wildlife food habitat (Martin et al. 1951). The nut itself has relatively low fat content but is high in protein and carbohydrates with a low tannin content, making it more palatable to wildlife than acorns (Minser et al. 1995; Blythe et al. 2015).

American chestnuts had an extensive range and comprised 20 percent or more of tree density in certain upland forests, growing most rapidly in the southern Blue Ridge Mountains. After the blight, oaks (Quercus spp.) and hickories (Carya spp.) replaced the chestnut in many landscape positions across the Blue Ridge (Elliott and Swank 2008). Acorn and hickory nut production varies annually over a widespread area, which may be a mechanism to thwart predation (Clark 2004). Replacement by oak and hickory did not make up for the loss of American chestnut, which can produce around 230 pounds per acre annually (Gilland et al. 2012), resulting in an overall reduction in carrying capacity for many wildlife species, particularly in the south- ern Appalachians (Diamond et al. 2000). Moreover, chestnuts are not as episodic in mast production as oaks and hickories, resulting in a more stable

Continued on page 14.



USDA Forest Service. The former range of the American chestnut (blue lines) spanned multiple ecoregions across the eastern United States just prior to the blight, around 1904. The USDA Forest Service currently manages approximately 15 million acres within the former range (shaded red), offering substantial opportunities for research and restoration.

RESTORING A FOREST ICON

Continued from page 13.

annual food resource. Such annual fluctuations in acorn production results in reduced fecundity and increased mortality in white-tailed deer (Odocoileus virginianus), black bear (Ursus americanus) and gray squirrel (Sciurus carolinensis), among others.

Chestnut flowers are very attractive to pollinators because of their fragrant white flowers, but it is not clear if insect pollination is a requirement for chest- nut reproduction. Over 60 species of moths have been recorded feeding on chestnuts, some of which may now be extinct due to the chestnut's disappearance. Loss of chestnut-obligate species may even have negatively impacted other tree species whose defoliators are now more prevalent because their insect competitors disappeared. In addition to moths, defoliating insects — like the appropriately named chestnut sawfly (Craesus castaneae) — may have also largely disappeared; although we recently recorded this rare insect at multiple chestnut planting sites. The function of these obligate insects as a food source for birds or other wildlife is virtually unknown.

American chestnuts grow quickly, with good timber form, producing attractive, light and strong lumber with good rot resistance. The demand for the nuts was also high. Chestnuts from mountain communities ended up in national and global market places, ultimately "roasting on an open fire," as the popular Christmas carol goes. An entire economy was built around trading chestnuts for goods and services in rural Appalachia. Chest- nuts also provided sustenance farmers with free feed for their cattle and pigs, and they attracted bears, deer and turkey for their dinner table.

Challenges to restoration

Challenges to chestnut restoration are real and measurable. The crux of chestnut restoration is to produce hybrid seedlings with growth rates similar to the American chestnut while maintaining high levels of blight resistance from the Chinese chestnut over time. Four-year height and diameter growth of BC3F3 hybrid seedlings in our plantings was slightly less than the American chestnut (Clark et al. 2016), and blight resistance after eight growing seasons was not as high as the Chinese chestnut (Clark et al., 2019). Additional breeding work coupled with genotyping is underway to improve outcomes and efficiency of the breeding program (Steiner et al. 2017).

Stacy Clark, USDA Forest Service. University of Tennessee Research Technician John Johnson observes the appropriately named chestnut sawfly at a chestnut planting on the Jefferson National Forest in southwestern Virginia. This rare native insect species is a late-season defoliator that mimics the teeth of the chestnut leaf, perhaps to avoid predation."

One of the most important challenges to restoration, once blight-resistant seedlings are available, is identifying the appropriate forest management prescriptions for restoration, but this is difficult when experimental material is so limited. Our early research using pure American chestnut and early hybrids shows that seedlings do best in silvicultural treatments that opened the forest canopy through partial thinning or commercial harvests like clearcutting (Clark et al. 2012). There is a balance between providing sunlight to newly planted chestnut seedlings and restricting light to their competitors, and we are only just now beginning to study these relationships.

Fortunately, the rapid growth rate of chestnut seed- lings facilitates restoration. We have documented seedlings averaging two feet in height growth a year, with some seedlings growing more than six feet in a single season. This gives chestnuts a leg up on oak seedlings, which become easily suppressed by faster growing species. Vegetation competition from fast-growing trees like yellow poplar (Liriodendron tulipifera) will be a problem on productive sites, but with proper management and site selection, chestnuts can keep up with the poplars. This is important because poplars create deep shade. Chestnuts may be able to live under this shade for a while, but they will not grow sufficiently to become a part of the next stand.

For trees to even have the chance to compete for sunlight, they must first escape browsing by white- tailed deer, which can keep trees near ground level for years, as first noted by Henry Thoreau. The largest seedlings at the time of planting had a much lower probability of browse, but planting only large seedlings would mean discarding the small seed- lings,

Far Left: C. Turnage, The University of Tennessee. Black bears, like this sow and cubs perched in a white oak (Quercus alba) tree, historically fed on the American chestnut, which were high in protein and carbohydrates and a relatively stable annual food source.
Left: Stacy Clark, USDA Forest Service. Scratch marks, suspected to be from a black bear, were found on several hybrid American chestnut trees planted on the Jefferson National Forest in southwestern Virginia.

Stacy Clark, USDA Forest Service. An American green tree frog (Hyla cinerea) sits on a leaf of an American chestnut hybrid planted on the Cherokee National Forest. The relationship between chestnut, insects and insectivores like the tree frog are not well understood.

Stacy Clark, USDA Forest Service. A newly planted American chestnut seedling was browsed by deer. Repeated browsing will stunt tree growth and may eventually lead to mortality.

which is difficult to justify given the resources that have gone into producing these trees. Erecting deer shelters or deer repellent sprays are also options, but they can be expensive and labor intensive.

A challenge to restoration will be the ability of chestnuts to naturally spread. The relatively large size of the nut prohibits dissemination by wind or by attachment to animal fur or bird feathers. Small mammals like tree squirrels can assist by caching seed away from planting areas. Hybrid nuts were cached at farther distances than pure American chestnut (Blythe et al. 2015), which might actually assist in restoration efforts.

The continuing parade of invasive exotic species into the United States will impede restoration. The chestnut is negatively impacted by a host of other exotic species, most notably root rot, caused by Phytophthora cinnamomi, which arrived in the early 19th century. This organism has been the most detrimental deterrent to chestnut restoration in the southern United States, causing die-off in a number of new test plantings (Clark et al. 2014), and a breeding program for its resistance has only just begun. In our plantings, we have also noted impacts from the Asiatic oak weevil (Cyrtepistomus castaneus), which defoliates leaves and feeds on roots, and the Asian gall wasp (Dryocosmus kuriphilus), which hinders growth and flowering for nut production. The European gypsy moth (Lymantria dispar) is within sight of our most northern planting in Virginia, and chestnut is a preferred host. Exotic plant species such as tree-of-heaven (Ailanthus altissima) and Japanese honeysuckle (Lonicera japonica) will outcompete seedlings for sunlight and water.

One of the most difficult challenges to restoration will not be biological but is related to the lack of existing resources, knowledge and infrastructure to implement large-scale restoration in a successful manner (Clark et al. 2014). The current effort relies on public and private partnerships and collaboration, but a large portion of the planned restoration effort has not been formalized.

Potential impacts of restoration on wildlife species

Will wildlife response to chestnut recovery be the same as during its heyday? Probably not.

Many species that historically fed on chestnut such as the Carolina parakeet (Conuropsis carolinensis) and the passenger pigeon (Ectopistes migratorius) are long gone (Schorger 1955). Nevertheless, the species that remain stand to benefit tremendously. This is especially true given the alternative consequences of our aging oak forests and widespread problems with oak recruitment.

Our expectation is that carrying capacity for many wildlife species that depend on hard mast (e.g., deer, bears, turkeys (Meleagris gallopavo), small mammals and their predators) would be raised and the annual booms and busts due to sporadic acorn production would be lessened if chestnut restoration is successful. As diets and resulting fecundity improve, however, bear- and deer-human conflicts may increase, necessitating additional resources be devoted to already strained systems (Clark 2016).

Given the over 100 years of effort, the importance of the species, and potential positive impacts, chestnut restoration efforts should proceed optimistically but with caution. Since that cold and rainy day in February 2009, we have planted an additional 4,000 trees in research test plots on three national forests. Some of the BC3F3 chestnuts in our first test plantings are now over 30 feet tall and survival rates are relatively high (70 percent), but nearly 20 percent were succumbing to blight after eight growing seasons.

We remain optimistic, however, that trees with high levels of blight resistance will be forthcoming. After just over a decade of research, we realize a lot more remains for us to learn, but we anticipate that a restored American chestnut will be a boon to many wildlife species in the East.

Stacy L. Clark, PhD, is a research forester with the Southern Research Station, U.S. Forest Service. Scott E. Schlarbaum, PhD, is a professor in the University of Tennessee's Department of Forestry, Wildlife and Fisheries. Joseph D. Clark, PhD, CWB®, is a research ecologist with the U.S. Geological Survey, Northern Rocky Mountain Science Center in Knoxville, Tennessee. ♣

Joe Clark, USGS. White-tailed deer would benefit from chestnut restoration, but they also represent a challenge to restoration as they browse on newly planted seedlings. The use of large seedlings, tree shelters or deer repellant spray have all been tested to mitigate browse.

Congratulations to Stephen Begin

2019 Michigan Tree Farm Inspector of the Year!

By Josh Shields, Manistee and Mason-Lake Conservation Districts

Congratulations to Stephen Begin, who has been awarded the 2019 Michigan Tree Farm Inspector of the Year! Stephen is a consulting forester based in Manistee, and is an exceptional forester and supporter of the Michigan Tree Farm program! Stephen has been a Certified Tree Farm inspector for more than 26 years. His involvement began when he was employed as the forester for the Manistee and Benzie Conservation Districts. As their forester, Stephen promoted Tree Farm through conservation district newsletters and annual reports, conservation district sponsored forestry workshops and field tours, and through meetings with landowners. Stephen continues to promote Tree Farm as a consulting forester working with landowners and by partnering with conservation districts during outreach events. For example, Stephen wrote the forest management plan for a 40-acre parcel owned by the Manistee Conservation District, and assisted with an outreach event celebrating a long-time conservation district board member and the parcel's certification in Tree Farm and verification in Michigan Agriculture Environmental Assurance Program Forest, Wetlands, Habitat A*Syst.

As a Tree Farm Inspector, Stephen has done more than 50 Tree Farm inspections throughout his career. This includes enrolling more than 20 new landowners in the program. One year, Stephen had the second most Tree Farm inspections in the state and received a cash award. Stephen mentions the Tree Farm program when he prepares and reviews forest management plans for new clients, and as appropriate to new timber sale clients. Stephen has also been working hard on getting many of his old Tree Farm clients re-certified.

Partnership and participation in other programs that benefit landowners is also important to Stephen. Stephen mentions Tree Farm when he meets with partners at other events. Stephen has been a certified DNR Forest Stewardship Plan (FSP) writer for more than 26 years and was part of the first cohort of foresters to receive this certification. Stephen is one of the most prolific FSP writers and during one year he accounted for one in seven FSPs written in the Lower Peninsula. Stephen has also written FSPs for two large school forests. Stephen was among the first to become a certified Technical Service Provider (TSP) through the Natural Resources Conservation Service. Stephen's status as an FSP and TSP plan writer provides a cost-effective way for landowners to get management plans, which then allows them to get certified in Tree Farm. Previously, Stephen was a member of Society of American Foresters (for more than 30 years). For several decades Stephen was also a member

of Audubon Society and The Nature Conservancy. Finally, Stephen serves on the forestry advisory committee for Forestry Assistance Program forester Josh Shields.

Congratulations to Stephen for his commitment to woodland stewardship and outstanding service to forest landowners!

What is Michigan Tree Farm? The Michigan Tree Farm program provides a way for you, the landowner, to examine and improve your current forest management practices. By getting your forested property certified in Tree Farm, you are playing a positive role in the protection and sustainable management of our natural resources. Furthermore, any wood products that are extracted from your property are considered certified as originating from a forest that is being managed using sustainable practices per the requirements of Tree Farm. It is also an outstanding educational opportunity for you to learn about proper forest management and forestry laws and best management practices that guide such practices in Michigan. And, by joining the Tree Farm community, you are able to network and share your experiences and learn from other Tree Farmers who also value sustainable forest management! For more information, visit https://www.treefarmsystem.org/michigan.

Josh Shields is a Forestry Assistance Program forester with the Manistee and Mason-Lake Conservation Districts.

♣

Confessions of A Consulting Forester

By Denny Worst

When I was a boy, my folks used to take us camping. One of my chores in the campsite was to cut weenie sticks. I remember the first time my Dad sent me with a jackknife to a sprouting stump to cut off suitable sticks to roast weenies over a fire. I can still remember the acrid odor the twigs gave off after I stripped the bark with my trusty jackknife. I also remember getting sick to my stomach that night as if somebody had gut punched me. I remember my Mom, Dad, and sister got sick too. No vomiting, just real belly pain. We thought the hotdogs were spoiled, and didn't have them for the rest of the trip.

Next year, the scenario repeated itself, from cutting the sticks to getting sick to the stomach. But this time, my Mom was smart and only used frozen hotdogs. So we were pretty sure it wasn't the hotdogs. We never did find out why we got sick.

Flash forward about fifteen years, and I am in college. My father got this bright idea of running cattle through our forty-five-acre woodlot near Coldwater. He erected fencing around the forty-five acres, thinking all you had to do was stick the cattle in the woods, come back in a year, load them up on a truck, and sell them. That was his introduction to ranching.

This was about the time I started becoming interested in forestry. Somehow, I had heard that if cattle are in a woods and they eat black cherry it could kill them.

My dad didn't believe this and he and I battled for weeks. We decided to get a third knowledgeable person involved, calling upon Bill Hoppe where he was a DNR Service Forester.

It was one of maybe only two arguments I had with my Dad where I was proven right.

Bill said it was a terrible idea not only for overgrazing the woodlot, but for the cattle themselves. Keeping cattle in the woods is bad not only because of soil compaction and desirable species annihilation, such as oak and sugar maple. Bill explained that a poison cyanide in the black cherry was highly poisonous to cattle.

At the time, we had a lot of black cherry coming up in the woods. Browsing on the black cherry could kill the cattle. So my Dad abandoned his dream of a ranching empire.

Flash forward another five years, and I am teaching classes at Muskegon Community College in forestry, and how to landscape your own home. I remember telling the stories about toxic black cherry to my students, several of whom had horses. I remember cautioning them about putting cattle or horses in a new pasture that had black cherry and the trouble it could cause.

One student said a friend of hers had just put her two Belgium draft horses into a new pasture and that both had died in one day.

My interest was piqued. The next day I drove to the site to check it out. As I drove up into the driveway, I could see a cherry bush/tree that I could tell from a distance had been gnawed on recently.

Further examination revealed that this tree was gnawed on by the two Belgian draft horses in the new pasture. Both horses were dead. Suspecting cherry poisoning, I questioned the landowner. She said that a veterinarian had done a necropsy on the two dead horses and he found that the horse's lips and tongue were blue, the blood was extremely blue, and their hearts had exploded.

These symptoms are classic cyanosis. What happens is the blood becomes thick like putty and the heart explodes trying to pump it through the veins. The blood becomes depleted of oxygen and death comes within about half an hour.

The veterinarian told her that it was just a coincidence both horses died on the same day of the same symptoms. It was obvious the veterinarian's education was incomplete.

Flash forward again thirty years, with many similar circumstances, and I was working for a client in the Fruit Ridge region of Kent County. This farmer was raising approximately 100 black angus cattle in his pasture and adjoining woodlot. As I was marking the trees for a sale, I started noticing cattle skeletons in one particular area of the woodlot.

I found it very suspicious that seven cows and their calves were all dead in an area of about 100 feet right next to a wind thrown cherry tree with evidence of gnawing on it. I asked the farmer about it thinking this was just an area where he threw his dead cattle, but he knew nothing of the loss.

Not a very good farmer.

Conclusion: it takes a very small amount of bark and branch chewing to make little boys sick and kill 1200- pound cattle and horses. I do not know if the effects are the same for sheep or goats, but black cherry is definitely a problem that many people ignore to their detriment.

It seems that cherry is most toxic right after the leaves turn brown from desiccation. At that time, the cyanide seems to concentrate in the dying branches. Death can come quickly, within half an hour with the classic signs on blue tongue, blue lips, thick blood, and a cardiac aneurism.

Lesson: Keep your cattle out of the woods. They are grazers not browsers. Keeping cattle in the woods is bad not only for the woods, but the cattle and the livestock as well. Use metal hotdog sticks.

This is not just black cherry, but pin cherry, chokecherry, ornamental cherry, and other cherry trees as well.

Let me know your stories. ♣

Black cherry, chokecherry, pin cherry.

Expanding the Gaps

By Bill Cook

High quality sites usually have many management options for forestowners. For Northern Hardwoods, one such choice is an "expanding gap" harvest and reproduction system.

Northern Hardwoods is the most common forest type in Michigan. A forest type is an association of a particular group of tree species, usually named for those that dominate the association. Sugar maple leads the pack in Northern Hardwoods, with variable mixes of red maple, basswood, yellow birch, hemlock, and many others.

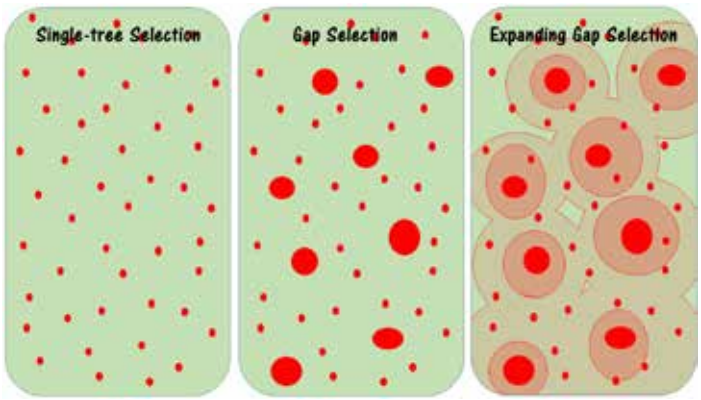
High quality sites are described by certain soil properties, particularly soils that are nutrient-rich and well-drained. The retreating glaciers left us with a generous mix of landforms and young soil compositions. Blue cohosh, leatherwood, maidenhair fern, and Canada lily are a few of the plants that hint at these higher quality sites.

The owner of a quality Northern Hardwood stand on good soils is, indeed, a wealthy person. I define wealth not merely by stacks of coin hoarded in the local bank, but more by the appreciation of a wide range of management alternatives and complex ecologies. Knowing what you have is sometimes better than wanting what you don't.

To better understand "expanding gap" management, it's valuable to understand how it fits within forest science. So, let's take a whirlwind tour.

The traditional management system to promote high quality sugar maple has been single-tree selection. Research on this began almost a hundred years ago in the Lake States, by a bunch of really smart guys. That legacy remains with us and it works.

This should not be confused with the crude "select cuts" where owners "cut the best and leave the rest". Rather, single-tree selection gradually and artfully improves the quality of the stand of trees by removing the poorest trees first and balancing size classes. The forest responses are immensely rewarding.



Not all forest types do well with selection management. It has been specifically designed around Northern Hardwoods and trees tolerant of certain levels of shade. Alternatively, it's a really good way to ruin a perfectly good aspen stand. Differences among forest types should not come as a surprise.

In recent decades, there have been some monkey wrenches thrown at single-tree selection.

Foresters have noticed an increasing domination by sugar maple, at the expense of other tree species that "ought" to be growing amid the palmate-leaved jungle. Single-tree selection intentionally promotes this "maple-ization". Might single-tree selection work too well, at the expense of diversity?

Second, deer populations have increased across large regions of the Lake States to the point where deer prevent sugar maple (and other tree species) from becoming a new forest. This concerns foresters deeply. Yet, the love of deer has ingrained socio-cultural roots among many people with deep pockets.

Third, the changing climate and ever-more number of exotic species are changing the ecological rules of the Northern Hardwoods game. American beech is a poster-child example. Once a mainstay of many Northern Hardwood stands, exotic pathogens are driving beech into forest obscurity, as with so many other native North American tree species. These losses are disheartening.

So, foresters began scratching their heads and re-evaluating how to re-direct the natural processes that drive Northern Hardwood ecology.

Single-tree selection was actually pretty close to how Mother Nature applied her hand. However, some foresters figured that some of those holes in the forest canopy, that shone more light to the forest floor, that allowed knee-high trees to vigorously compete for that space, could be a bit larger.

Could the addition of larger gaps better enhance natural processes? What would happen if those larger gaps were built around species other than sugar maple? Would species like yellow birch and white pine have a competitive edge over the sugar maple? Or, would these richly regenerating gaps simply be garden salads for the voracious deer? Maybe the outcome would be nothing but brambles and Pennsylvania sedge?

The results, so far, have been mixed. No surprise there, either.

A twist on this "gap selection" scenario is "expanding gap" management. Larger gaps, maybe a half-acre, or as much as an acre or two, in size were scattered throughout the Northern Hardwoods. In another decade, or so, return to these gaps and harvest rings around them, kinda like a donut, maybe as wide as a hundred feet. Keep doing this until the gaps merge and the entire forest has been regenerated to conditions with different ages and physical structures.

Will the larger, more open, areas be able to move enough

Expanding gap management on the U.P. Land Conservancy's Debelak Reserve. Left side-thinned forest, Middle-recent "donut" cut where the group stands, Right side-initial gap cut with saplings.

trees beyond deer browse heights to grow a new forest? What if lots of cut tops were left on-site as a physical barrier to deer? Will the tops last long enough for new trees to out-grow the deer?

Again, mixed results and with the jury still duking-out the verdict. The U.P. Land Conservancy has been watching progress on one of their working forests since 2008.

To better address this deer and forest regeneration quagmire, the Michigan DNR and MSU have recently emplaced a monster study in the northern Lower Peninsula and across the entire Upper Peninsula. There are 140 30-acres sites (over 4000 acres) with a mix of treatments to help figure-out how Northern Hardwoods might be managed in the face of high deer densities. It's an aggressive ten-year research project that might easily last longer. There are some very clever people guiding this huge freighter, and the holds are filling with volumes of data.

One might ask, why not simply use the do-nothin-and-let-nature-take-its-course scenario? We know that's not working across much of the Lake States. These forests are not regenerating. Tree diversity is decreasing. Neither the current forest compositions nor the high deer populations are "natural". Both are human-caused after a 150 years of landscape occupation. Management can reset this compass, to a certain degree.

There are two species that can affect the long-term trajectories of forest ecology; human beings and white-tailed deer. Only humans can make a choice for a better future. Deer can only eat their way into oblivion.

The exploitive logging and rampant wildfires of a hundred years ago have left us with the forests that we have today, in which foresters have worked to manage in order to provide as many products and services as possible. Forest management can restore some of the forest characteristics lost during the Paul Bunyan years and, maybe, compensate for the damage that deer impart.

Our grandchildren, or great-grandchildren, will be the heirs of our decisions, or lack of decision. ♣

Great Time in Grand Rapids at Annual MFA/TF Forest Celebration

By Deb Huff

A huge thanks go to the annual meeting committee that pulled-together a first-rate meeting and tour. It was a packed two days of fun and learning in Grand Rapids and on the Stu Cok property in September. The annual meeting was unique, since we rarely get an opportunity to visit urban settings to see how forests are doing there. Thanks to Nick Sanchez, Lisa Parker, Susan English, and Karen Potter-Witter for their excellent work.

We started out on Thursday, 12 September, with our MFA board meeting. It was held at Grand Valley State University and we had no trouble conducting an efficient meeting. We are very pleased to welcome new board members: Michelle Beloskar, Russ Williams, and Haley Dukes! I am sure they will add a lot of ideas to our board!

Items of interest discussed include looking into an annual auditing requirement for ourselves, questions on properties, the approval of the finance committee charter, Nia Becker joining the 2020 annual meeting committee, and an emphasis on the results of the August strategic planning meeting!

On Friday we started out with a very informative session presented by Dr. Georgia Peterson and Julie Crick on several invasive species and the "Eyes on the Forest" program through MSU and MISIN. https://www.canr.msu.edu/eyes_on_the_forest/

Following that, we had our business meeting and informed the membership that President John MacInnis needs to step down by the end of October. During lunch, Georgia Peterson showed some excellent videos that she and our editor, Bill Cook, have developed for schools. They were very entertaining and well-received by the members. You can view them at: https://www.youtube.com/channel/UC9X-lg9034e27aWm77vL-6Fg

After a fine lunch, the group headed to Grand Rapids museum across the street to hear about the forestry collection there and to browse. Following that, some members went on a walk along the Grand River to hear about the River Rapids Restoration Project, while others went to the Downtown Market to hear a "Women Owning Woodlands" discussion led by Susan English on the various paths to family involvement regarding owning woodlands.

The dinner banquet was a lot of fun. We got to see old friends, eat good food, and present some meaningful awards! Evening speakers were fantastic. We heard from Mayor Rosalynn Bliss about the importance of trees and forests in Grand Rapids and all the activities they do to support them. Following her talk was another excellent speaker from the

Continued on page 20.

ANNUAL MEETING

Continued from page 19.

Urban Forest Project and what they are doing to reforest and create green spaces in Grand Rapids. We gave a Woodland Merit Award to Stu Cok to recognize his outstanding contributions of time and treasure to the Michigan Forest Association, the Walnut Council, and Michigan Tree Farm Program. Michigan Tree Farm also gave an award for Tree Farmer of the Year and the family with the oldest Tree Farm in Michigan.

After the awards, our annual auction and raffle were held.

Thanks also go to Lisa Parker and Jen Cronkhite for all their work on managing the auction and coordinating registrations. There are so many more to thank, but a general thank you to all who helped make this meeting fun and successful, as well as to all the people who made the effort to attend and be part of this event. It was unforgettable. The proceeds from these will help us continue the work of the MFA.

Saturday, we started early at the Stu Cok property. The Cok family has deep ties to this land and is rightfully proud of their stewardship. Everyone enjoyed seeing their quality hardwood thinning, the oak regeneration, the screen house that the family built by hand, and the tools of the trade that Stu showed us. The whole Cok family was present to answer questions and guide us along the many woodland paths. It is a truly beautiful and well cared for property.

Finally, we concluded the day the Highlands Golf Course restoration, a project managed by the West Michigan Land Conservancy, in partnership with the Blandford Nature center. The West Michigan Conservancy provided a couple of golf carts for those of us with difficulty walking and we got to see the progress they are making on converting this back to a natural system. They need to demolish some of the buildings that were left (as they sustained a great deal of water damage and could not be salvaged), as well as remove invasive pants. They are working in partnership with the U.S. Fish and Wildlife service to create a series of wetlands on the property, too It was a great meeting led by President John MacInnis and the hard-working team that helped him.

Don't forget to mark your calendars for next year's extravaganza on 18-19 September! It will be headquartered in the Petoskey area. So far, the planning committee is Russ LaBeau, Bill Botti, Lisa Parker, Deb Huff, and Nia Becker. If you would like to help, just let us know. It already sounds like a wonderful time. ♣

PHOTOS:

Upper – John MacInnis presents Stu Cok with the "Woodland Merit" award.

Middle – The Michigan Tree Farm "Outstanding Tree Farmer of the Year" award went to the Tank Creek Ranch.

Lower – The Dilley family was honored with an award for the oldest family-owned Tree Farm in Michigan.

NEW MEMBERS

Syd'D Hunt Club	Sylvan Lake
Thomas Allard	Holt
Sue Amos	Ceresco
Wayne Andersen	Ludington
Dennis & Betty Anderson	
Duane Anderson	Manistee
John Andler	Rochester Hills
Robert Andrews	Ludington
Robin Asher	Orchard Lake
Tom Barnwell	Stanton
Mark Baumann	Zeeland
Heath Baxter	Rockford
Benny Beachy	BAY PORT
Calvin Becksvoort	Flushing
Les Beldo	Kaleva
Stan Bell	Eaton Rapids
Mark Bishop	Hastings
Dewey Bonnewell	Clarksville (TN)
Dave Borgeson	Grand Ledge
Jack Boss	Lowell
Alexis Bradow	Scottville
Brian Brady	Linwood
Thomas Brennan	Grass Lake
Jeff Burns	Bear Lake
John Bush	Zeeland
Greg Busse	Kent City
Gene Carignan	Rothbury
Sy Caryl	Davidson
Terry Charles	Green Bay (WI)
Clarence Chase	New Era
Calvin & Melissa Chu	New York City
Ron Cochell	Ypsilanti
Robert Collins	Oxford
Anne Collins	Caro
Thomas Conine	Whitelaw (WI)
Al Cramblett	Sioux Falls (SD)
Steve Cybulski	Bark River
Judith Danford	Traverse City
Ray Delmont	Wells
Justin & Megan Delorit	Evansville (WI)
Gene & Sally Demick	Gibraltar
Steve Dice	Hinckley (OH)
Dave Dillon	Spruce
Marlin Dorr	Alpena
Barb & Duane Durflinger	Hillman
Mark Eichorn	Norway
Dave Engbers	Grand Rapids
Robert Fairman	Grand Rapids
Daniel Finstad	Rochester
Bill Fix	Comstock Park
Bert Fodor	Mt. Pleasant
Cory Franceus	Canton
John and Beth Freeby	Free Soil
Phyllis Freese	Hastings
Aubrey Gale	Muskegon
Michael Garrett	Grand Rapids
Scott Gelzer	Lake Geneva (WI)
Jack Giacomini	Rancho Santa Fe (CA)
Gary Gianunnzio	Caledonia
Josh Greer	Grand Rapids
Art Guzowski	Chelsea
Lee Hammerstrom	Macclenny (FL)
Cheryl Hanna	Eaton Rapids
Lee Hasho	Madison Heights
Jerry Hassevoort	Zeeland
William Hatfield	Greenville
Bill Hatfield	Nunica
Steve & Allison Hein	Laurium
Steve Henderson	Lake Linden
Lynise Hensel	Manistee
Brad Hopwood	Arcadia
Randy and Colleen Howes	Irons
Mike Hradel	Free Soil
Todd & Melanie Jastremski	Iron Mountain
John Johansen	Greenville
Nick & Abby Johnson	Rogers City
Tim Joseph	Brethren
Anne Kaminski	Copemish
Bryan Kidd	Bear Lake
Paul Kline	Three Rivers
Thomasina Kopach	Hancock
Ken Kossal	Barton City
Mike Koteskey	Nunica
Ian Kraemer	Dubuque (IA)
Melissa Krug	Rockford
Mark Laguire	Onekama
John Paul LaLonde	Bucksport (ME)
Carl Lamar	Holland
Richard Lamarche	Escanaba
David Lamy	Alpena
Davian & Catherine Larente	Shelby Township
Edmund Laue	Midland
Bruce Law	Perronville
Herb and Mary Jane Lenon	Manistee
Dale Lininger	Dansville
Aras Lintakas	Brookfield IL)
Jessica Lipiec	Iron Mountain
Joel Lipps	Scottville
Art & Joan Lovetere	Atlanta
David Lyon	Mason
Tim Markham	Jackson
Kerry Mase	Alpena
Thomas Mason	Big Rapids
Gerald Matchinski	Manistique
Ed Matelski	Boyne Falls
Robert Matouka	Oakland Twp
Klaus & Lois Mattes	Bay City
Mary Maxey	Eaton Rapids
Patrick May	Lake Orion
Jim Megel Shelby	Township
Robert Mellon	Fountain
Sherine Miller	Kalamazoo
Cam Morford	Appleton (WI)
John Mularoni	Bloomfield
Robert Myrvall	Charlevoix
David Neal	Ann Arbor
Donna Nelson	Cornell
Don Noble	Bay City
Tim Olson	Contoocook (NH)
Allen Orban	Vestaburg
Jim O'Rourke	Traverse City
Joel Otto	Atlanta
Larry & Candy Parker	Okemos
Adam & Mike Pawlowski	Howell
Patrick Pearson	Sparta
Bill Peterson	Alpena
Tom Pierce	Grosse Point Park
Richard & Leslie Platte	Ann Arbor
Dave Pogoreski	Negaunee
George Punches	Manistee
Rodger Ransom	Newaygo
Jim Rewa	Gladwin
Paul Rice	Leslie
Andrew Riemer	Ludington
Joel and Tina Robinson	Manistee
Michael Rubino	White Lake
Blair Schadler	Saint Joseph
Robert Schilling	Okemos
Dorothy Scollon	Cass City
Kim and Fay Sebaly	Kent (OH)
Mark & Diane Sevald	Grand Haven
Trent Sherman	Alpena
Kurt Shindler	Wellston
Dirk Shorter	Levering
Brent Somsel	Manistee
Kurt Somsel	Big Rapids
Armas Soorus	Irons
Graham Spence	Bear Lake
Jame Sprague	Charlotte
Debbie Stawasz	Westland
Andrew Storer	Houghton
Ivan Sumerix	Alpena
Mike Svihra	Ludington
Myron Swanson	Shelby Twp
Josh Tait	Royal Oak
Jennifer Teller	Bruce Township
Marty Thomson	Lachine
Brian Troupe	Rockford
Tennis Trucks	Baldwin
Andy Trudeau	Goodrich
John & Phyllis Trudeau	Sparta
Karl Tucker	Grand Haven
Mark Tuttle	Grandville
Jim, Mathew, Anthony Ursitti	Stanton
Matt Vanhoef	Scottville
Tom VanMassenhove	Alpena
Ken VanPatten	Williamston
Billy Vogt	Hillman
Jeff & Tara Vondeu	Battle Creek
Daniel & Jessica Waite	Kent City
David Wallace	Freeland
Troy Wallace	Mt Morris
Chuck Ward	Caledonia
Chad Wardie	Hazel Park
Gary & Gloria Warren	Rockford
Diane Watson-Stone	New Whiteland (IN)
William Webber	
Judith Weiner	West Bloomfield
Mark Welch	Rockford
Mark Willis	Ludington
Mike Windemuller	Dorr
William Wininger	
Allan & Sally Wong	Posen
Robert Wood	Manistee
Donald and Dianne Yax	Fowlerville
Bernie Zandstra	Rockford
Carter Family Assoc. LLC	Midland
Courser Group LLC	Kalamazoo
Crawford-Roscommon CD	Niles
D&B Rockafellow LLC	Riverdale
Dunrovin Conference Center	Baldwin
JK Land Investments LLC	Woodhaven
Nancy Fodor Trust	Mt Pleasant
Northern Land & Timber Inc	Kawkawlin
Tippy Canoe Club	Grass Lake

MFA REPORT

by Deb Huff
Executive Director

Our Annual Meeting/Forest Celebration has just come to a close and I hope that you were there, but if not, you missed another good one! It was held in Grand Rapids on Friday with field tours on Saturday. A full report is also in this magazine. I want to thank everyone who took a chance on coming to the city and learning about forests there. It is indeed a grand city and we even heard from Mayor Bliss, who talked about the role of trees in her administration. It was uplifting to say the least.

The MFA continues to be very busy! We have completed the application for the MFA to become a 501c3 organization and are now mailing it to the IRS. Just to recap, we are already a 501c5 organization, which means we are recognized as an agricultural non-profit organization. In order to allow for tax deductibility of donations to the MFA, we are seeking to receive approval as a 501c3 organization.

When the MFA was established in 1972, it was stated in the articles of incorporation that we would be a 501c3. However, the IRS denied that status back then, stating we were a forestry business. We did not fight that and later created the Michigan Forest Foundation to handle donations for educational purposes. While that has worked, the MFA believes that we can accomplish our educational and outreach goals more efficiently if we become a 501c3 organization and merge with MFF. Progress will continue to be reported to the members as it occurs.

We held a fantastic strategic planning session and want to start implementing many of the goals we have for ourselves. We found a few items that were important to focus on at that meeting, and will be sending-out a questionnaire, via email, regarding how to prioritize these goals. Watch your email for more ways to get involved. Thank you to Georgia Peterson who led this session and helped us organize our work.

Our partnership with Tree Farm and the Cok family on the annual meeting and celebration just demonstrates how well things can go when we work together. We look forward to future partnership opportunities with Tree farm and with the Cok family. Our sincere appreciation goes out to Nick Sanchez, Lisa Parker, Karen Potter-Witter, and Susan English for all the work they put in on this! Markyourcalendars for another great Forest Celebration in the Petoskey area next September. Thanks go to Russ LaBeau for doing the heavy lifting on this one. If you want to help with this meeting, let us know!

Bill Botti has been working hard on managing our properties, since we have a few timber sales ongoing and a deer blind trespass that is nearly resolved! Look for photos and more information on the website this Fall. Owning property involves regular attention to the stewardship that we want to showcase.

How do you like our new all color magazine? The MFA magazine, Michigan Forests, has received a monetary gift to help publish it in color. Our editor, Bill Cook, has done a great job in bringing our magazine to life with a color option. Remember there is a member photo selected for publishing in most issues (see the back cover). So, get out to your woods and send us some of your great photos.

Finally, I again want to ask that members consider volunteering for the opportunities that we have. Being a volunteer brings its own rewards. You can help mold the direction that MFA moves in educational workshops, partnerships, and managing our demonstration properties. You can develop deeper connections to other board members and officers; all of whom love forests as much as you do. And we will be bringing the option of paying travel expenses for officers up to the board, if that is of interest to you.

- **President:** Our current president will retire at the end of October. If you are interested in serving in this positon, please contact us or any board member. We owe a great debt to all who have served as president, but especially to our current one, John MacInnis, who has stepped up when needed and stayed on even though he has been ready to retire. This job requires attendance at four board meetings and four executive Committee meetings per year. Attendance can by via phone, if needed. John is willing to mentor the new president for a while.

- **Board.** We have several vacancies on the board. There are four board meetings a year with call-in capability.

- **Workshops and Outreach.** We offer a teacher workshop annually, if you are interested in that. We need help in developing our displays and working on our website, Facebook page, and other media. Please contact Lisa Parker if you are interested.

- **Committees.** To efficiently accomplish our work, we have several committees you can help with! annual meeting, property, finance, teacher workshop, and membership are all welcoming! We do have fun and do important things!

Join us on our great adventure of growing our organization. ♣

MICHIGAN FOREST FOUNDATION

BY BEN SCHRAM, PRESIDENT

I was excited to represent the Michigan Forest Foundation at the Association's strategic planning session in Midland. The Whiting Forest at Dow Gardens is beautiful, especially the newly installed canopy walk. It's worth the trip. Thank you to Dan Keane and Georgia Peterson for undertaking this effort.

The Foundation's hard work to focus engagement and giving outwardly have yielded some interesting results. We are now receiving grant applications from entities that we have not historically heard from. The breadth of the projects has also expanded. One example is the Tahquamenon Area Schools.

The Tahquamenon Area Schools own and practice active forest management on several pieces of property. After a recent timber harvest, their forester prescribed tree planting on the parcel located in Curtis. The Foundation provided $2,000 to the school district to purchase the seedlings to ensure adequate regeneration per their stated goals. While Tahquamenon Area Schools will not retain ownership of this parcel, we are confident that the Curtis School District will continue their legacy of sustainable forest management.

The "Understanding Sustainable Forestry" teacher workshop was a success this year. I was able to participate for a day when the educators were learning about forest measurements. I was thrilled to see that the eleven participants all represented different groups of educators. Specifically, I remember chatting with a few traditional classroom educators, conservation district employees, and one representing the Arbor Day Foundation. Michigan Forest Foundation gave $5,000 to the Association to put on this workshop. The Foundation encourages the Association to think outwardly and engage new partners already operating in this space.

Your participation at the annual celebration was appreciated. It was great to see so many familiar faces and meet some new ones. The Michigan Forest Association is the only organization that hosts an annual gathering for family forest owners. The novelty of this effort has been recognized by groups like the Michigan Tree Farm Committee as valuable and worthwhile. I think there is ample room to leverage the success of this meeting to really showcase family forests in Michigan. Because the Foundation thinks so highly of the fellowship and learning that happens at the annual meeting, we again offered a "first-timer" discount to folks that have never been to one of these events. The discount was quite high. Last year the effort was tremendously successful in bringing new participants to our event. I'm excited to see the results from this go-around.

Michigan Forest Foundation is a 501(c)(3) non-profit organization passionate about supporting educational opportunities focused on the stewardship of Michigan's forest resources. To make a tax-deductible donation to the Foundation, please send a check payable to "Michigan Forest Foundation" to 15851 South US 27, Suite 16, Lansing, MI 48906. ♣

PRESIDENT'S CORNER

BY JOHN MACINNIS

The Annual Meeting in Grand Rapids is now history. We thank the committee for their hard work organizing this meeting.

We anticipated a normal attendance in the cool city of Grand Rapids. Do we like to have meetings in our big cities or do we prefer our rural meetings?

In mid-August, about 20 members and friends of the MFA met in Midland to consider strategic planning for the future of the MFA. We met at the Dow Whiting Gardens Forestry Center. This great location was suggested and organized by Dan Keane, who made us aware of this site. The Dow Foundation has invested approximately $20 million in building a canopy walk, enabling visitors to get an idea of what is going on among mature trees. We thank the Whiting Forest folks for their welcome and instruction and effort to make our day so interesting.

There were a lot of ideas discussed for the improvement of the Association. The details are summarized and available from the office.

I would like to see us add a part-time administrator to our team, who can do the majority of the administration. Ultimately, I would like to see us have a full-time administrator. This would free our staff to focus on marketing our services. We need to reach out to potential members and we need to reach out to our donors. This is all going to cost money. Where do we get the money? We are working to merge the Foundation into the Association, which could help us with donations. We have money coming from our timber harvests and we can ask for donations.

Our strategic planning meeting was quite successful in Midland. Thank you to Georgia Peterson for her leadership in this effort. It is something we need to redo every few years. The previous process was approximately three years ago. ♣

Oh to be presidential . . .

By Georgia Peterson

Hi! I've been honored to serve as one of the MFA's vice-presidents for a few years now. It's a great way to keep in touch with what's happening with both the association and forest landownership, in general. But hey! The MFA is looking for a new president! The Association's bylaws state that the president simply presides over all board meetings and executive team meetings over the course of the year, and serves as the association's official representative for the MFA's business operations. That's four quarterly board meetings and four executive team meetings - just eight meetings in all for the entire year.

Ah, but wait! There's more! The MFA is in a very special time in its 47-year existence. We're going through the process of becoming a 501(c)3, getting more attention from financial donors, and managing six fantastic forest properties. We are enjoying a productive relationship with Michigan Tree Farm, which expands our message to a very engaged audience. Of course, the president does not have direct authority over any of these efforts, but the president does need to keep up to date on them, and help to guide their direction based on the benefits to the MFA's overall membership.

What's the upside? Personally speaking, I consider the association and its members to be a very special family of forest-loving people. Everyone is caring and supportive of not only the privately-owned forests of this state, but also the people who own them. The family is important here – regardless of how you define that family. The MFA's president has the unique opportunity to facilitate its direction as a 21st Century organization - meeting the needs of forestowners as our state, regional, and global situations influence the future of this treasured resource.

My Mom always had a saying: If you want something done, ask a busy person. Regardless of whether you consider yourself to be a busy person or not, you can make a vital difference in this special organization's future by offering to be the MFA's next president. Deb Huff and Lisa Parker, Executive Director and Associate Assistant Director, respectively, will be your guides every step of the way. And our current president, John MacInnis, will be on-hand as a mentor to get you on your feet. Please contact any member of the Executive Team for more information, or to share your interest in this special opportunity! ♣

American Tree Farm System

The MFA and the Michigan Tree Farm Program are natural partners in providing services and recognition to forestowners and to forestry, in general.

By Josh Shields, Manistee Conservation District

Tank Creek Ranch LLC is a beautiful 150-acre forest with four thousand feet of frontage along the Pere Marquette River in Lake County. Tank Creek runs through the woods just before it empties into the Pere Marquette River. Six generations of the Bigford family have lived on this land. The woods are now co-owned by Paul Bigford, his brother Doug, and his son Kyle in a limited liability company.

The Pere Marquette is famous for its beauty and world class trout fishery. It is a designated state "Natural River," federal "Wild and Scenic River", and a blue-ribbon trout stream. Paul and his wife Maude take special care to protect the Pere Marquette River as it flows through their woods. They comply with the requirements in the 400-foot "Natural River District" and they manage the riparian zone to protect soil and water quality. Paul plants cedars along the streambank to replace the ash trees that were killed by the emerald ash borer. They retain large trees near the river and Tank Creek during timber harvests to limit soil erosion and keep the water shaded and cool.

As thoughtful stewards of their land, the Bigfords treat their woods as its own ecosystem with inherent value. Paul and Maude have a balanced approach to forest management using conservation practices that create revenue from timber sales while also enhancing wildlife habitat, recreation, and water quality. Their forest management activities promote a diverse range of tree species including hardwoods, aspen, and red pine. Their forest has a diverse range of tree ages from young seedlings to old sawlog trees. The Bigford family gets professional help when they conduct commercial timber harvests and when they monitor for forest health issues and invasive species.

The family uses the trees for firewood, maple syrup production, and even building projects on their property. Paul remodeled portions of their house with lumber sawn from their own Tree Farm. The floor and ceiling beams in their kitchen are made of pegged red pine milled from trees planted by Paul's grandfather. The Bigfords are proud of their family legacy of woodland stewardship. An entire room in the house displays the history of the property and family stories are recorded in a self-published 116-page book.

In 2015, the Bigfords enrolled their forest in the American Tree Farm System (Tree Farm) to document their exemplary stewardship. Tree Farm asks its members to protect important ecosystems, which it calls "Forests of Recognized Importance." Riparian forests along legally protected rivers are considered Forests of Recognized Importance in Michigan. The Bigfords do a great job protecting the streambanks and water quality of the Pere Marquette River passing through their woods.

The Bigford family participates in several other programs for woodland owners. The management is verified as environmentally-friendly through the Michigan Agriculture Environmental Assurance Program (MAEAP). They lowered their property taxes by enrolling in the Qualified Forest Program. Paul and Maude have permanently protected 140 acres of their land from development with a conservation easement with the Land Conservancy of West Michigan and an Open Space Preservation agreement with the Michigan Department of Agriculture.

The Bigfords are passionate advocates in their community for stewardship of natural resources. Paul serves on numerous local boards including the Pere Marquette Watershed Council and Mason-Lake Conservation District. He is the Supervisor of Sweetwater Township and often writes about forests and water quality in the township newsletter. Paul and Maude hosted a Tree Farm field day in 2017. They write letters to local papers in support of the US Forest Service and aspen clearcuts. Paul built the forestry exhibit in the Lake County History Museum. The Bigfords testify before the Michigan legislature about protecting Natural Rivers.

In recognition of their exemplary woodland stewardship and advocacy for other family forest owners, the Bigfords have been awarded the 2019 Michigan Outstanding Tree Farmers of the Year. Congratulations Bigford family! ♣

Josh Shields, Paul Bigford, and Rick Lucas

Member Photos Wanted! Let's have a little fun.

Members who take great forest or forestry photos are encouraged to have them printed in the Michigan Forests magazine! Each issue will feature a photo on the **back cover** and a photo of a **special place** (or odd thing) in Michigan that might be of interest to readers.

Photos must be digital and of a higher resolution in order to display well in print media (at least two megabytes). Email submissions to the magazine editor Bill Cook at *cookwi@msu.edu*. Include your name and a brief description of the photo.

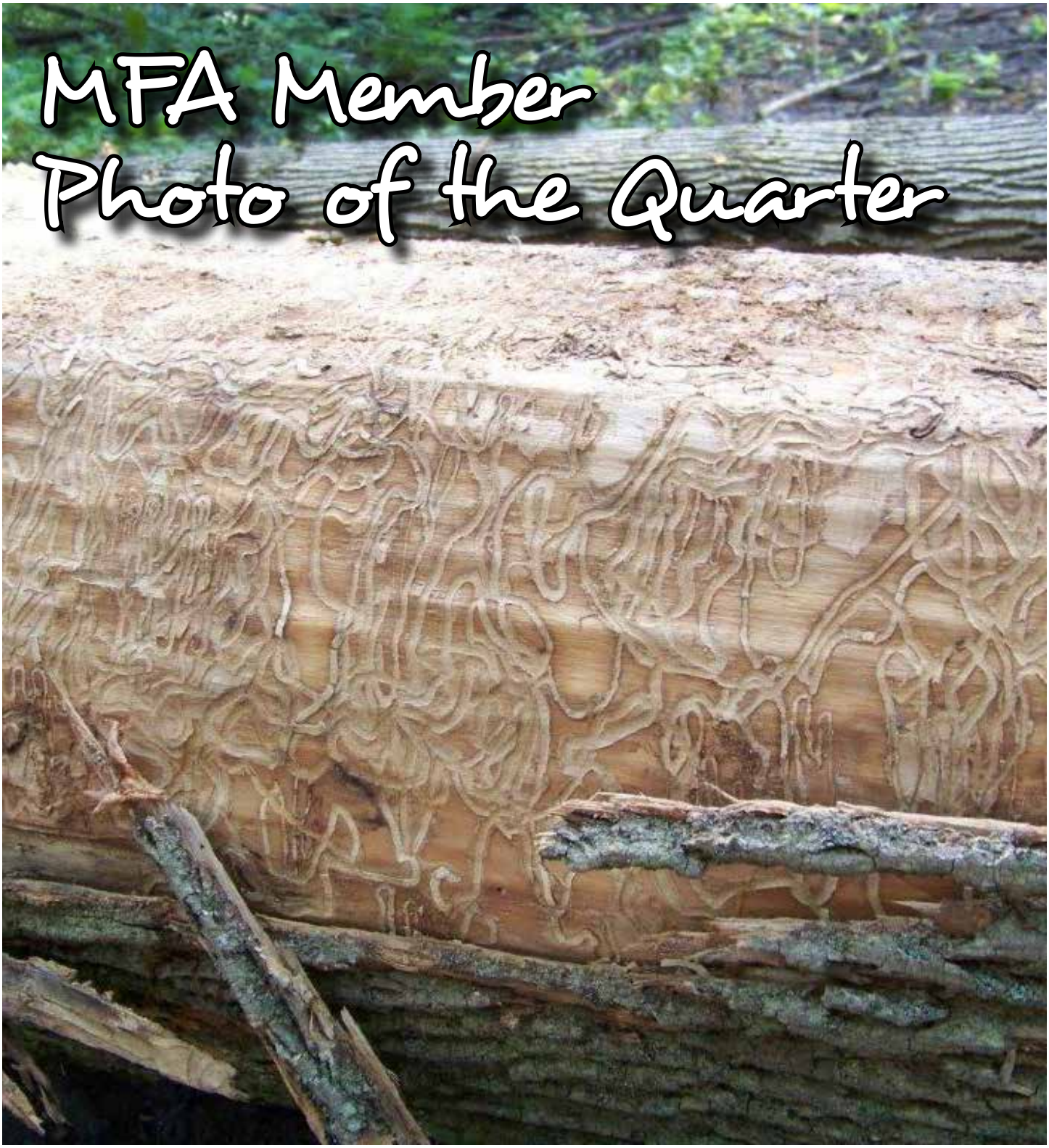
Special Place Photo (below)

Dan Keane has been busy getting ready for this winter, and the next. Firewood duty is common for many MFA members. A chore, yes, but for many it's great recreation and quite satisfying.

Back Cover

Taken by Peter R. Buehler, Missaukee County, Michigan. "*I still have some "green" white ash, but I suspect that they will go this year. The photo was from my continuing ash harvest and the damage from straight line winds on 28 August 2018*."

MFA Member Photo of the Quarter



MICHIGAN FORESTS MAGAZINE
Published by
Michigan Forest Association
15851 US 27 South, Suite 16
Lansing, MI 48906
RETURN SERVICE REQUESTED