The Michigan Forester

Number 82 Fall 2015/Winter 2016

A Few Words from the Chair

Georgia Peterson, State Chair

Just the other day, an interesting headline caught my eye: " 'Hairy Panic' Overwhelms Rural Australian Town." Turns out this 'panic' is a variety of tumbleweed that has been especially prolific in some southeastern parts of the country, and videos show drifts of fluffy tan stuff overwhelming porches and back-yards of neighborhood homes. Residents spend hours each day trying to clear their properties with leaf blowers and trash bags, only to find they have to do it all over again the next day.

This 'Hairy Panic' sometimes feels like a good analogy for my forestry encounters this past year. For instance, I felt a bit of that panic while attending the national SAF conference in Baton Rouge. Several of the sessions I attended seemed to have a pan-icky edge to them, sometimes because of that continuing concern about professionals' declining involvement in SAF in particular, and our profession's (real or imagined) loss of respect and visi-bility among our society in general. We try to pursue market seg-mentation, creative advertising and various outreach efforts that center on why forestry is so critical to forest health. But just like the Australian tumbleweed drifts, it feels like a never-ending struggle with little overall progress.

On the bright side, there seemed to be less expression of that "bunker mentality"—where we need to hunker down and battle 'those people' who want to demonize foresters—and more about how we need to find creative ways to link up with nontraditional partners, such as the health industry or urban planning. There were well-attended sessions on how we can personally learn to tell our story, and how to expand our ideas on encouraging great-er diversity among members of our discipline.

Maybe we're not listening to our own advice as much as we should. There is a lot of "hairy panic" that we can't really con-trol, but I can at least make personal efforts to be more inclusive, to reach out to new partners, and to practice telling my story so that the forestry profession may be seen as a relevant, vital part of maintaining a healthy environment in the future.

Attendees at the Spring 2016 MSAF Conference: People in the Forest.

Inside This Issue

SAF
forests. resources. communities.

2016 SAF National Convention
Madison, Wisconsin
November 2-6, 2016

Have something to contribute or would you like printed copy of the *Michigan Forester* Please contact Tori Irving at irvingt@michigan.gov or at (906) 458-1210.

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Society of American Foresters
Growing better all the time

Book Review: The Sixth Extinction: An Unnatural History by Elizabeth Kolbert

Angela Michaels*, Adam Chandler*, and Erik Nordman, Ph.D.
Natural Resources Management Program, Grand Valley State University
*Undergraduate student authors

The Sixth Extinction: An Unnatural History was written by Elizabeth Kolbert, a staff writer at *The New Yorker*. With nothing more than an inquisitive mind, several writing awards, and two successful scientific books, such as *Field Notes from a Catastrophe: Man, Nature, and Climate Change*, Kolbert travels across the globe to tell the story of past mass extinctions of large mammoths and ammonites as well as current extinctions of tiny frogs and forests. Kolbert is able to guide readers into altering their view of climate change and anthropocentric influence on mass extinctions by placing a personality to the field of science, those that devote themselves to the practice, and the principles that anchor life.

In thirteen chapters, Kolbert takes us from the discovery of the first American mastodon bones in 1739 by French explorers on the Ohio River, to a modern day forestry study in eastern Peru, at the edge of the Andes on a twelve-thousand-foot-high mountain. Each chapter illustrates different facets of extinction, beginning with the history of the study of extinction and the important roles of scientists like Georges Cuvier, Charles Lyell, and Charles Darwin. From there, Kolbert travels extensively to meet on site with the scientists working today to further our understanding of extinction. Every chapter follows a species that is in some way emblematic, with the first half of the book discussing lost species of the past and the second half examining species currently under threat. Sometimes reading like a sort of travel journal, other times as more of a conversation or interview, the chapters lead to an overall recognition of *Homo sapiens* as causing the sixth mass extinction by altering the composition of the atmosphere, the climate, and the chemistry of the oceans.

Kolbert places personality within the field of science by allowing herself to have a colloquial, informal style of writing. From what would be considered non-scientific to some, Kolbert shows a new perspective to those that may not be constantly involved in practicing science. As Kolbert tells the stories of the work of Cuvier and Lyell, we are provided insight to the challenges they faced as they theorized and introduced the concept of extinction. At a time when scientists believed that biodiversity was static, these scientists sparked a paradigm shift by studying scientific anomalies like mastodon fossils and geologic stratification.

Kolbert creates a face to science by humanizing major principles, and the scientists behind them. Her extensive research takes us into the field; each chapter a fascinating new destination to experience the research first-hand and listen to the scientists discuss their work. Often this discussion takes the form of a conversation with Kolbert, and to lighten the load of the gloom and doom of discussing human-caused mass extinction, the reading benefits from the author's fun but appropriate sense of humor.

The Sixth Extinction also shows a new side to science by portraying scientists and volunteers not as stone-faced, fact-driven robots, but as caring, concerned people. The scientists Kolbert introduces us to are some
of the most passionate in the world. Specializing in their specific field,
some of these studies are their life's work. For example, we follow Kolbert on a hike through the Andes Mountains as part of a forestry study with Dr. Miles Silman, a forest ecologist from Wake Forest University and his team of graduate students. While gnawing on some coca leaves for energy, Dr. Silman walks the group down the mountain through each of the study's seventeen tree plots, illustrating his findings, concerns, and personal convictions. In another chapter we meet Dr. Terri Roth, director of the Cincinnati Zoo's Center for Conservation and Research of Endangered Wildlife. Dr. Roth introduces us to Suci, a Sumatran rhino. The sumatran rhino is one of the smallest rhinos, and one of the oldest; their lineage goes back relatively unchanged some twenty million years, making them what some consider a "living fossil". The discussions with these scientists illustrate the care and compassion driving their work.

Kolbert's *The Sixth Extinction: An Unnatural History* is a valuable contribution to the field of extinction science and a very enlightening read. The book personalizes the often cold face of scientific research and presents complex theories in a form that is thought provoking and engaging. The distances Kolbert travels to obtain on-site research is truly impressive. The journeys and interactions show us not only the brains that are making these discoveries, but the hearts that drive them. This book would be a great choice for anyone with an interest in science and environmental issues.

2015 - A Year in Review

By Mike Smalligan, MDNR Forest Stewardship Program Coordinator

The following is a short review of some of the things that happened in 2015 related to the private forest land in Michigan.

In January, the American Tree Farm System (www.TreeFarmSystem.org) updated its "2015 to 2020 Standards of Sustainability" that define good forest stewardship on family forest land. Michigan Tree Farmers can fill out a short addendum to keep their forest management plans current with the new standards, or request assistance including a free visit from one of 125 Tree Farm inspecting foresters. Tree Farm is celebrating its 75th anniversary in 2016!

In February, Bill and Alice Botti announced that they would retire at the end of 2015 after serving 10 years as the executive directors of the Michigan Forest Association (MFA). Bill and Alice have served in various leadership roles for MFA since 1973, just one year after the association was started. The 400 members of MFA thank Bill and Alice for their many years of service to Michigan's forest landowners! Over the summer, MFA rolled out its new website at www.MichiganForests.org.

In March, the Forest Stewardship Program and the Department of Natural Resources hosted five workshops around the state for 183 foresters, wildlife biologists and other natural resources professionals to discuss private forestry issues and programs.

April 1, 2015 was the deadline to apply for tax benefits in 2016 through the Commercial Forest Program. More than 2,000 landowners and 2.2 million acres of private forest land are enrolled in the program that was started in 1925. The DNR updated its Commercial Forest Program website in 2015 to make it easier for landowners to find information and forms at www.Michigan.gov/CommercialForest.

On May 1, the DNR Forest Resources Division entered into a new partnership with the Natural Resources Conservation Service to train foresters to help private forest landowners get financial assistance for conservation practices on their forest land. This $1 million project will span five years and help train more than 450 public and private sector foresters to assist private landowners.

In June, the Michigan Forest Association hosted its annual summer teacher workshops in Roscommon. About a dozen teachers attended the weeklong forestry workshop.

In July, 20 Conservation District foresters met with the DNR Forest Health team in Grayling for two days of training on how to identify and treat oak wilt on private forest land. More information about oak wilt and the annual Forest Health Highlights are at www.Michigan.gov/ForestHealth.

In August, the Michigan Sustainable Forestry Initiative (SFI) partnered with The Greening of Detroit to bring 120 Detroit high school students to Roscommon for a two-day overview of sustainable forest management (photo on the right). The students, part of The Greening's Green Corps employment program, had a great time out in the woods learning about forestry and the forest products industry. SFI intends to do this again in 2016 and is looking for financial partners.

By Sept. 1, more than 700 forest landowners had applied this year for a property tax break through the Qualified Forest Program. About 80,000 acres were enrolled in 2015, and the total program enrollment is now more than 300,000 acres statewide since it was started in 2006. More information is at www.Michigan.gov/QFP.

Arauco, a global forest products company based in Chile, announced on Sept. 14 their plans to build a $325 million plant in Grayling that will be the largest continuous particleboard press in North America. When the mill is finished in 2018, it will employ 250 direct jobs, produce 424 million ft^2 of panels, and provide a large market for certified wood, especially conifers. (*Cont'd on page 9)*

Statewide Wood Energy Team

Submitted by Bill Cook, Communications Chair

Wood-based energy in Michigan should benefit from increased outreach over the next few years with a large grant from the U.S. Forest Service Wood Energy and Resource Center. The project is intended to make available a number of important assessments, raise awareness, and support the deployment of wood energy systems. The team is particularly looking for an eligible site for building a district energy system. However, other systems would certainly be considered.

MFA members could help the team identify sites for building a wood energy system, report examples and case studies of working sites, provide contacts of interested decision-makers, and help inform others within their circles of contact. Wood energy has many benefits and almost no downsides. In this age of environmental awareness, climate change, and economic challenges . . . wood and wood energy can be part of the answer.

The use of modern wood energy systems have become essential elements of sustainable communities in areas of the USA, Sweden, Austria, the UK, and other places. The Lake States represent a region with great opportunity.

Michigan Wood Energy Team

Michigan has abundant wood resources that can sustainably contribute to a more secure and renewable energy future, improve our rural economies, and help save Michigan homeowners and business owners money. Increased use of these resources can be integrated with and actually enhance the existing agriculture and forestry sectors of our economy. MSU Extension, together with its partners, increases awareness, understanding, and adoption of sustainable wood energy systems through its educational offerings and informational online content.

This project should help individuals, communities, and stakeholders understand the benefits and possibilities of sustainable wood energy systems. The adoption of wood energy systems helps foster the development of small business, expand markets for low-value wood, and could put unused agricultural land back into production. This sustains rural economies, improves forest health, and reduces our dependence on fossil fuels. The grant seeks to identify and support systems that are environmentally, economically, and socially sustainable and beneficial.

For more information, visit the site below:
http://msue.anr.msu.edu/program/info/wood_energy?a=l

Michigan SAF has a Facebook page! Log on and "Like" our page to keep up to date on forestry events and connect with other MSAF Fans!
www.facebook.com/michigansaf

Upcoming Events

NCASI Regional Meeting
May 4 & 5
Jefferson Street Inn
Wausau, WI

Michigan Forest Association Board Meeting
May 13
Trout Lake, Michigan

Teacher Workshop - Michigan Forest Associatio
June 20-24
RAM Center
Roscommon, Michigan

Forest Steward's Guild National Conference
July 13-15
Duluth, Minnesota

Michigan Forest Association Board Meeting
August 18
Novi, Michigan

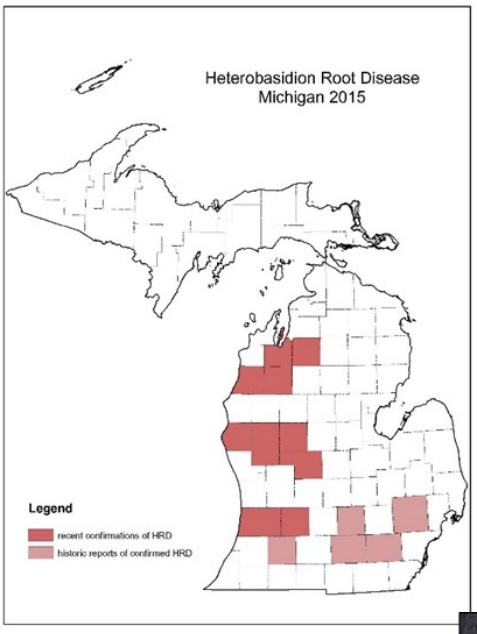
Heating the Midwest
October 11-13
Island Resort and Casino
Harris, Michigan

SAF National Conference
November 2-6
Madison, Wisconsin

For more upcoming events and additional information, visit:
http://michigansaf.org/Calendar/calendar.htm

Be on the lookout for HRD (Heterobasidion Root Disease) in Michigan!

By Tara Bal[a], Dana Richter[a], Bob Heyd[b], Roger Mech[b], and Scott Lint[b]
[a] School of Forest Resources and Environmental Science, Michigan Technological University
[b]Michigan Department of Natural Resources, Forest Health Specialists



With the recent confirmation of active decline pockets in Michigan, interest is growing in managing and protecting trees susceptible to this root disease. Heterobasidion Root Disease (HRD) is caused by the fungus *Heterobasidion irregular*, but you may also know it as Annosum root rot, or some of it previous scientific names, '*Fomes annosus'*, or *H. annosum* (which is the Eurasian species).

The current known distribution of HRD is outdated and incomplete for North America, but Wisconsin, Ontario, and Quebec have been detecting, monitoring, and managing HRD since the early 1990s. It was also found in southern Minnesota for the first time in 2014. The MI DNR and Michigan Tech have partnered with the U.S. Forest Service to determine the distribution of HRD in the Lake States, finding several infected stands in new counties in Michigan since 2014 (Figure 1). There are also infected stands in Wisconsin that are very close to Menominee Co. in the UP!

Trees susceptible to HRD include all pines (red, white, and jack) but can also be found in hemlock, cedars, balsam fir, larch, white spruce, and some hardwoods. In Michigan, we are focusing detection efforts in older pine plantations that have been thinned at least once, as windborne spores infect freshly cut stumps or wounds and the fungus spreads throughout grafted root systems. This is why infected stands are said to have "pockets" or circles of dead and dying trees (Figure 2). Red pine plantations that are regularly thinned every few years for utility poles are extremely susceptible!

Disease symptoms can appear anytime, usually after at least 3 years but sometimes decades after a thinning. Declining and dead trees appear in an expanding circular pattern, potentially causing serious economic loss. Once HRD is at a site, it will remain there for decades. HRD fruiting bodies grow at the base of trees and stumps (Figure 3), usually intermixed or sometimes buried in the duff. They tend to look like bits of dirty popcorn or a squashed shelf mushroom with a whitish edge. The conks do not form every year, though the disease is still spreading, so it can be hard to detect by just looking for the fruiting bodies.

Figure 2. Aerial imagery showing pockets in 2 different plantations, including larger pockets and some much smaller scattered around the site. Photos by S. Lint

A detection method we have been using involves setting out 'bait' discs (Figure 4) of clean red pine in suspect stands for 24 hours and checking them for the tiny hyphae and spores of HRD.

We are on the lookout for more HRD infected stands to determine its distribution and areas at risk in Michigan. There are 2 look-a-likes, causing disease pockets that look like HRD, which include *Armillaria* and Red Pine Pocket Mortality (*Letographium*), so it is very important to contact us to help diagnose the disease! Conks may be present, even under snow, or the fungus can be isolated from wood, or we can examine aerial imagery and plan an investigation over the winter.

HRD can cause serious loss to natural and planted stands but preventative and responsive management can help mitigate that. In other states with a history of the disease, it may be recommended to treat stumps after a thinning with specific fungicide, either with a backpack sprayer or attachments on harvesters, or stand conversion may be recommended, if it meets the landowner's objectives and the site is appropriate for another tree species.

Figure 3. *Heterobasidion irregular* fruiting bodies or conks (starting at top left, clockwise), on a stump, at the base of a tree, at the base of a tree with duff scraped away, and smaller popcorn sized. Photos by S. Lint

Figure 4. 'Bait' disc to trap HRD spores and detect its presence in suspect stands without visible conks. Photo by T. Bal

MiSAF Members Receiving Membership Pins in 2015

Submitted by Craig Kasmer, Awards Chair

Every Spring Conference and Fall Conference, Membership Recognition Pins are handed out at the evening banquet. Please take a moment to see if your name is on the list of pin recipients for this year. If it is, be sure to attend one (or why not both?) of the conferences this year; if you recognize a friend/colleague/neighbor etc. that is on the list, please let them know that they are on the pin recipient list.

10 Year Pin 20125 Recipients

(Member Since 2005)

20 Year Pin 2015 Recipients

(Member Since 1995)

Mr. Bryan Carlson
Mr. Paul Drysdale
Mr. Scott King
Mr. Keith Martell
Mr. James Scarlata
Mr. James Schmierer

30 Year Pin 2015 Recipients

(Member Since 1985)

Ms. Heather Butler
Mr. Anthony Fulich
Ms. Debra Huff
Mr. Joe Jarecki
Mr. Boyd Kahler
Dr. Deborah McCullough
Dr. James Pickens
Mr. Chad Radka
Ms. Barbara Van Alstine

40 Year Pin 2015 Recipients

(Member Since 1975)

Mr. Tim Baker
Dr. Donald Dickmann
Mr. Gregory Lusk
Mr. Richard Mergener
Mr. Gerald Tomandl

50 Year Pin 2015 Recipients

(Member Since 1965)

Dr. James Kielbaso

60 Year Pin 2015 Recipients

(Member Since 1955)

Dr. John Schultz
Mr. Joseph Zylinski

Michigan SAF Education Fund - 2015 Prepared by Chad Fate	**Budgeted Expenses**	**Budgeted Revenue**
Beginning Balance		$493.27
Income		
Raffle Tickets Spring		$800.00
Raffle Tickets Fall		$800.00
Donations Spring		$150.00
Donations Fall		$150.00
Expenses		
MSU Scholarship	$250.00	
MTU Scholarship	$250.00	
Raffle prizes/supplies spring	$150.00	
Raffle prizes/supplies fall	$150.00	
National SAF Education Fund (2/3 raffle ticket sales)	$1,066.67	
Balance		**$526.60**

Michigan Society of American Foresters

Year 2015 Budget and Report

Revenue	Expected for 2015	Revenue Received as of December 31, 2015
Membership Dues	$2,600.00	$3,184.00
Interest	$45.00	$34.69
Spring Conference Proceeds	$1,750.00	$5,228.72
Fall Conference Proceeds	$1,000.00	$-
Michigan Forester Ads	$1,200.00	$900.00
Donations, Sponsorships, etc.[1]	$250.00	$-
Total	**$6,845.00**	**$9,347.41**

Expenses	Budgeted for 2015	Funds Disbursed as of December 31, 2015
HSD Dues	$225.00	$259.00
Chapter Dues	$550.00	$-
Michigan Forester	$100.00	$-
Society Administration	$400.00	$329.74
Honorariums[2]	$800.00	$800.00
Chair directed funds for attendance at national mtg	$1,500.00	$950.00
Donations, sponsorships, etc.[3]	$1,100.00	$600.00
Leadership Academy[4]	$800.00	$800.00
Awards	$200.00	$37.10
Student Participation Support	$500.00	$-
Total	**$6,175.00**	**$3,775.84**

	January 1, 2015	December 31, 2015
Cash on Hand:	$9,696.56	$15,268.13

Michigan Society of American Foresters has cash assets only.

Prepared by: Lee Mueller, Treasurer

[1] Donations, contributions, or other sponsorships.

[2] Editor, Education Fund, Treasurer, and Secretary each receive $200.00 at year end.

[3] Sponsorships or donations to conferences, education, or other initiatives.

[4] Allocation paid to Education Fund for future leadership academies.

2015 - A Year in Review *(Cont'd from page 4)*

The Forest Stewardship Program celebrated its 25th anniversary in 2015. Since its start in the 1990 Farm Bill, more than 5,400 landowners in Michigan have worked with a forester or wildlife biologist to develop a custom Forest Stewardship Plan for their property. The program has helped landowners manage, protect and enjoy more than 875,000 acres of private forest land in Michigan. Wayne County was the only county in Michigan without a Forest Stewardship Plan, but in September the Frost Middle School in Livonia became the first landowner in Wayne County to develop a Forest Stewardship Plan for its 12-acre school forest. Landowners can find a forester at www.Michigan.gov/ForestStewardship. (center photo)

Gary and Charlene Fitch of Big Rapids were recognized as the 2015 Michigan Tree Farmers of the Year at the Michigan Association of Conservation Districts fall meeting in October. Gary and Charlene have an 80 acre Tree Farm in Mecosta County and a 49 acre Tree Farm in Grand Traverse County.

The DNR hosted the second Governor's Forest Products Summit on Oct. 28. The event brought together 150 representatives from industry, government, the financial sector and academia to continue actions started at the Governor's 2013 Forest Products Summit to encourage growth of wood-using industries in the state. The forest products industry contributes $17.8 billion per year to Michigan's economy. More than 87,000 people in Michigan work in forestry, logging, trucking, sawmills and as secondary manufacturers.

Weyerhaeuser and Plum Creek announced on Nov. 8 that they were merging into a single company that would be the largest private owner of timberland in the USA with more than 13 million acres. Plum Creek owns more than 500,000 acres in the Upper Peninsula.

Nov. 15 was the first opening day of the firearm deer hunting season in Michigan with Chronic Wasting Disease (CWD) present in the state. The DNR has tested 3,695 deer in Ingham, Clinton, and Shiawassee Counties. So far only 4 deer have tested positive for CWD. More information is available at www.Michigan.gov/EmergingDiseases.

In December, the Michigan Tree Farm Committee established a "Wheels to Woods" school forest bus fund to help pay for transportation costs for schools to go on field trips to nearby Tree Farms or other public or private forests. Teachers can find more information at www.TreeFarmSystem.org/Michigan.

Dec. 18, 2015 was the deadline to apply for Environmental Quality Incentives Program (EQIP) funding in 2016 from the Natural Resources Conservation Service (NRCS). Landowners interested in EQIP funding for 2017 can apply at their local NRCS Service Center anytime in 2016.

Information about programs for forest landowners is at www.Michigan.gov/PrivateForestLand. Any questions or comments about this article can be sent to Mike Smalligan at smalliganm@michigan.gov or 517-284-5884.

Audrey Mayer speaking about information and management goals of family forest owners in the Upper Peninsula at the spring MSAF meeting .

SAF Officers

State Chair: Georgia Peterson.

UP Chair: Tara Bal.

LP Chair: Tricia St. Pierre

MSU Student Chapter Chair:

MTU Student Chapter Chair: Mitchell Beach

Why aren't foresters following Arbogast's guidelines?

Submitted by Andy Van Dyke

A recent study by Michigan Technological University argues that much of the forestland in the Upper Peninsula (U.P.) of Michigan is being under-cut, or over cut according to Arbogast (1957) guidelines. Pond et al., (2013) looked at 96 recently harvested stands across state, corporate, and private non-industrial ownerships in the Great Lakes Region. In each stand, 10 randomly located plots were established, and both residual trees and stumps from the last harvest were measured. With this data, researchers were able to recreate the stocking and diameter distributions of the pre-harvest stands. By analyzing pre and post-harvest conditions, they were able to determine the silvicultural prescription applied to each stand. On corporate lands, 63% of the stands were cut heavily in sawtimber only, 11% were too lightly cut in poles, and 15% were cut as recommended according to Arbogast's guidelines. When I first read the article, I was surprised to learn that foresters were not managing in line with Arbogast. However, when I think about how most foresters practice northern hardwoods silviculture in modern times, it all makes sense. In my opinion, foresters use Arbogast's guidelines as just that, **GUIDELINES**. Foresters working in northern hardwoods use a variety of guidelines, and must consider economic factors.
Arbogast has been referred to as the "father" of northern hardwood silviculture, and his guidelines, the "bible". His marking guidelines recommend a stand level basal area of 92ft^2/ac post-harvest, with diameter distributions ranging from 2" to 24" DBH. Residual basal area for sawtimber stems is recommended to be 65-70ft^2/ac, with nearly half (31ft^2/ac) falling in diameter classes of 18" and greater. Arbogast recommends selection of stems for removal in the order of: **biological risk** (trees that will not live until next harvest), **cull** (defective trees that will not increase in value), **form** (trees that do not have desired form, crown, or branching habits), **species** (removal of less desirable species), **crown position**, and **size**. Arbogast guidelines dictate that in general, trees in the northern hardwoods type become economically mature when they reach 20-24" DBH.

I feel that many foresters working on industrial and non-industrial private forestlands also base prescriptions from other studies, including Erickson et al., (1990), and Adams & Ek (1984). Both studies essentially find that, depending on site conditions, long-term financial returns are greatest in northern hardwood stands when harvested to a residual basal area of 70-80ft^2/ac, with very few trees over 18"DBH remaining. It furnishes sustained sawlog production, improves stand conditions, and provides steady growth rates. When charted, diameter distributions of these systems often depict a "reverse-J" shape; showing high numbers of stems in pre-merchantable size classes and fewer stems in larger classes. Adams & Ek suggest that optimal diameter distributions should have a "bump" in the 10-12" size class. Stems that have reached this size class are often of good quality because they have made it past other selection harvests, and have a greater chance of becoming sawlog or veneer quality.

As a forester implementing silviculture through the tip of a paint gun, or an experienced logger following a harvest prescription, the selection of trees to reach the desired residual basal area is paramount. When comparing Arbogast's selection criteria to current industrial guidelines, they are essentially the same. He advocates the removal of poor quality trees across size classes and mature/overmature trees. Industrial foresters are doing the same thing except the economic maturity has decreased from 20-24" DBH to 16-20" DBH.

Perhaps the largest factor in this discussion are markets, and the products that they demand. When Arbogast published his study in 1957, forest products markets were much different. Many of the mills were designed to manufacture larger diameter logs compared to what is milled today. Across the country, these larger diameter mills have been replaced by highly efficient smaller diameter mills. In general, larger diameter hardwood logs have greater heart size, and are much less likely to be considered for veneer, which is a higher valued product. Veneer markets have evolved to include numerous grades of both slicer and rotary veneer. The distance of procurement and number of veneer grades have risen, and continue to rise with increased competition over decreased supply. The highest value veneer logs tend to be 14-16" in diameter, which means the standing tree would be in the 16-20" DBH class.

Forest managers have adapted silvicultural techniques to meet this demand, setting the new range of economic maturity to 16-18" DBH. This results in less basal area volume in trees 16" DBH and larger, and more volume in growing stock quality poles ranging from 8-10" DBH. By removing more sawlog grade trees that will never be veneer quality, more space is available for trees that could potentially be veneer, or growing stock that may someday reach log quality. Over time, and in the proper stands, this will increase veneer/log growing stock and veneer volume, while reducing sawlog volume proportionally. Stands will have the same basal area as prior recommendations suggest, but volumes will be distributed into smaller size classes and be of greater quality. This is a possible explanation as to why Pond et al., 2013 found that 63% of stands were cut too heavily in sawtimber and too lightly in pole timber, when compared to Arbogast's guidelines.

Another very important factor driving how most industrial forests are managed today is maximizing net revenue over the lifetime of ownership. Whether the land is sold in 10 years, or held for 150, the goal of maximizing value remains the same. To maximize value, managers must create optimal growing conditions for the highest valued products that will grow on the site. For landowners wishing to maximize value, it is impractical to retain the amount of stems per acre in diameter classes above 18" DBH, as Arbogast suggests. Research and field testing have proven that, aside from some very good sites, proportional yield and recovery from stems over the 18" DBH are less than trees of smaller size. Simply put, why keep growing a tree when it will only go down in value? What is a veneer log today at 18", will likely be a #1 or #2 sawlog in 10-15 years. Many landowners value long-term financial gains more than growing large trees in heavily stocked stands. This is not to say that there are not a measurable amount of trees over 18" DBH or residual basal areas over 80ft^2/acre. Every stand is different in species composition, site and tree quality, past management, and structure. Foresters must prescribe the appropriate silviculture to reach landowner goals. *(Cont'd on page 11)*

Michigan Forestry Hall of Fame
Request for Information

Submitted by Mike Moore, Michigan Forestry Hall of Fame

Last November I had the opportunity to visit the Manistee Waterworks Museum. This Museum is an adjunct to the major Manistee County Historical Museum located downtown. The facility in the Waterworks Building is only open to the public during July and August but a very accommodating employee allowed my group to visit the building during deer season. I was able to take photographs of the nine foresters honored with membership in the Michigan Forestry Hall of Fame.

Sometime during the 1970's the Forestry Hall of Fame was established. Members were usually inducted during the annual Manistee Forest Festival that dates to the 1930's. However some were inducted during SAF meetings around the state. The 80th Manistee Forest Festival will be held during the summer of 2016.

Foresters that were honored in the past include Carl Fenner, Samuel Dana, George Blair, Robert Harper, Norman Smith, Bruce Buell, Gene Hesterberg, Bert Noblet, and Fred Haskins. I do not know how they were selected nor the criteria used to make the selection. I am interested in learning more about the origin of this effort and whether there exists documentation on the process. Any old timers out there that can provide some information on the Michigan Forestry Hall of Fame please contact Mike Moore at mdmoore817@aol.com or 817 Pepperwood Dr., Lansing, MI 48917.

Conservation District Forester Concerns

Submitted by Tony Fox, State Registered Forester #984

Like most foresters, I'm not exactly Shakespeare and I do not often (never) write articles. However, this one needed to be put out there. With the short winter days, part of my daily routine is to file paperwork and send emails before sunrise. Upon opening up my email last week, I was saddened to once again see a job listing for a conservation district forester. Not for an additional forester mind you, but to replace yet another person moving on to greener pastures.

When Governor Snyder put his support into the FAP program a few years back, it was met with much skepticism. But the program is thriving and its' goal of increasing the management of Michigan's tremendous non-industrial private forests is ever increasing. Very few weeks, if days, go by without receiving a referral from a CD forester on behalf of local landowner. Unfortunately, it's no longer a surprise to also see a CD forester job being advertised. And you really can't blame these individuals for moving on. Why? The jobs are paid by an annually-renewed grant. With all we know about the whims of government, would you stake next year's groceries on an election?

The Forestry Assistance Program is an example of government actually creating work and jobs, seriously. I have purchased multiple timber sales via referrals generated by these foresters. These timber sales have not only resulted in healthy, managed wood lots, but food on the tables of my family and the families of the guys that I work for and with (not to mention the trickle down affect to local business or money in the landowner's pocket). The mountainous stumbling block I see ahead is continuity. We are on forester #3 in my home county and #4 is probably a reality in the near future. The key to long-term success for the FAP program is the stability that currently exists with the Mecosta Conservation District and their forester, Rick Lucas. Rick has been there for as long as I can remember and very few private forest owners in his area do not know his name. This needs to be the case statewide. These jobs need to be made permanent. Period. Put them in MDARD, put them in DNR, just make them a destination, not a stepping stone.

For those of you who haven't heard of or utilized the program, you can go to www.michigan.gov/mdard and search 'fap' to see if your county participates in the program. If they do, your forester will be well-educated, impartial source of information for helping you make sound decisions about managing your woodlot. And let the conservation district and local legislators know about the good things this program is doing.

A sincere thanks to those foresters hanging in there.

Arbogast *(cont'd from page 10)*

Forestland owners that aim to maximize value over time, will manage northern hardwood stands to meet market demands for higher value forest products. It is a forester's responsibility to balance northern hardwood silviculture with market fluctuations, seasonality, and logging costs. I would agree that many foresters are **not** following Arbogast's guidelines. His guidelines are not all-out wrong, rather a bit outdated for current markets. They still have value in providing the fundamental backbone for northern hardwoods silviculture.

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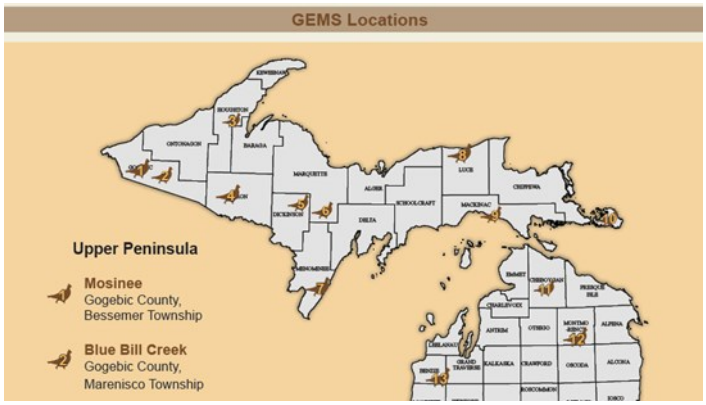
About the author: *Andy Van Dyke is the former MI SAF U.P. Chapter Chair, and Forester at J.M. Longyear in Marquette, MI. He would like to thank the foresters that gave guidance, and reviews to the article. He can be reached at 906-250-4832 or at andyvandyke@jmlongyear.com.*

Gogebic County GEMS

With the help of hunters and partners, the DNR is developing a series of intensively managed, walk-in access ruffed grouse hunting areas across the northern Lower and Upper Peninsulas. The areas are called GEMS - Grouse Enhanced Management Sites, and are managed for young forests, primarily aspen. The GEMS goals are as follows:

- Provide unique, walk-in hunting opportunities
- Promote hunter recruitment and retention
- Expand local economies
- Provide a destination point for the traveling wing-shooter
- Accelerate timber harvest opportunities



With a GEMS grant recently awarded by the MDNR, the Gogebic County Forestry and Parks Commission, in cooperation with the Gogebic Conservation District, the Ruffed Grouse Society and Mike Miskovich Logging, is in the process of creating 4.5 miles of hunter walk-in trails and 4 wildlife openings on a 1,136 acre tract of land in the Gogebic County Forest adjacent to the Mosinee Grade in Bessemer Township. This site will become the Mosinee GEM.
Gogebic County is unique that this will be the second GEMS location in the County (the first being the Blue Bill Creek GEM located in Marenisco Township).

The Gogebic County Forestry and Parks Commission has developed a comprehensive Forest Management Plan for the Mosinee GEM site that will manage habitat for sustainable wildlife populations by creating early successional habitat that will increase plant community diversity. Part of that plan is to manage and promote aspen regeneration and growth. Strategic management activities over the past 35 years has resulted in variable sized stands of aspen and continued management of the Aspen resource in small blocks will further enhance the age class diversity and proximity to one another. Aspen stands are utilized as an important wildlife food source throughout the year. In particular, Ruffed Grouse prefer young aspens stands (<25 years old) with high stem densities. Older trees that provide sites for roosting and budding are also important. Grouse feed on buds, catkins, and leaves as well as the flower buds of older aspen (>25Years). Thus, various age classes are important to Grouse. The GEM site also includes Upland Hardwoods with scattered Oak, Lowland Hardwoods and Cedar swamps that provide for deer wintering complexes along with a variety of other wildlife habitat. Director of Forestry and Parks, Greg Ryskey notes that in the Mosinee GEM area "Native shrubs will be planted along the edges of openings and trails to provide browse and cover in the transition habitat areas. In addition, the openings and trails will be seeded with native nutrient rich clover mixture. The openings and trails will provide a steady vegetative and insect food supply throughout the year not only for ruffed grouse, but a wide variety of other birds, white tailed deer, and other mammals." Ryskey predicts that within a few years the grouse population will respond significantly in this GEM site.
The 4.5 plus miles of hunter walk-in trails are designed to traverse in and out of the wildlife openings and aspen stands throughout the GEMS site, he said.
Cory Howes, Conservation District Forester for Gogebic and Ontonagon Counties said that "aspen, locally referred to as poplar, is an early successional species, meaning that after a disturbance such as fire or a clear-cut, it will be one of the first species to regenerate a stand. It will not tolerate any shade, and if there are any over story trees present, regeneration will not be successful. Despite the negativity associated with the term 'clear-cutting', this is the only way to successfully grow early successional species such as aspen and birch."
The GEMS sites are created within the context of promoting a destination for hunters in the hope to attract tourism to the area and support the local economy. Hunters and visitors can take their picture in front of the GEMS sign, show it to participating local businesses and receive a discount! Check out the GEMS partners and local businesses offering great discounts at www.michigan.gov/hunting. The site is currently under construction but is still open to hunters (*see photos on the right)*. Shrub plantings and seeding will take place this fall. Howes mentioned he saw multiple grouse on his last visit to the site.

Good Forest Management Helps Restore a Popular Pathway

By Bill Sterrett, Michigan Department of Natural Resources

The dramatic August 2015 wind storm that swept through the Northern Lower Peninsula left a wide path of downed trees and destruction. One area that was particularly hard hit was a premier trail, located on state forest land just outside of Traverse City. The Vasa Pathway is host to the National American Vasa ski race and sees many visitors year-round who come to enjoy recreation on the trail. Local Vasa trail sponsors and the Traverse Area Recreation and Transportation Trails (TART) worked with Michigan Department of Natural Resources staff to begin clearing storm debris. It was rapidly realized this was a task beyond the means of volunteers and the DNR.

"We needed equipment, professional specialized skills and a safe and efficient way to unbury the trail; we needed a logger," said Pat Ruppen, forester for the DNR Forest Resources Division.

Trees, particularly over-mature aspen, were jack-strawed in the trail.

A Treasured Trail

The Vasa Pathway has long been a treasured resource and a popular ski, hiking and mountain bike destination. It is also in the middle of a large block of state forest land that has a long history of active forest management. Not unlike many other trails, timber treatments here – guided by the professional forestry staff – have been designed and set up to promote species diversity, conifer component and longevity adjacent to the trail. DNR forest managers, through their inventory, had predicted that these stands would soon succumb to a disease or weather-related event but encountered stiff public pressure to keep this particular section of trail off-limits to management. The very stands that blew down in the August storm were scheduled for treatments, however these treatments were purposely held due to the sensitive nature of harvest in this area.

For years, trail maintenance has been an issue as the over-mature aspen fell across the trail. Those responsible for maintaining the area were beginning to see what DNR Foresters warned would happen by leaving an unmanaged forest adjacent to the trail. This area was ripe for Mother Nature to renew it and that is what happened. "Plain and simple, we had a huge mess on our hands," said Dave Lemmien, manager for the Traverse City Forest Management Unit.

After the initial clearing attempts fell short, local DNR Forest Resources and Parks and Recreation division staff held meetings with TART and Vasa officials to discuss what to do next.

"We received excellent support from these groups and jointly decided that the best course of action was to engage the services of a local logging company to restore the trail and treat the remaining high-risk stands of timber adjacent to it," Lemmien said.

In order to keep interested residents informed, the DNR issued a press release and held a public information meeting to present the plan, which was well-received.

Salvage and pre-salvage operations began in mid-October and the trail was temporarily closed to allow the logging contractor to harvest and haul valuable timber products from the area. In just a little over a month, the job was complete and the results speak for themselves.

A total of 520,000 board feet and 1,400 cords of primarily aspen were salvaged and went on to provide economic value in the form of building material like lumber and oriented strand board for homes and businesses. The revenue from the sale went largely into the Forest Development Fund and will be used for things like wildfire protection, tree planting and associated forest management. Extreme care was taken during the harvest to retain and promote longer lived species like white pine, hemlock and oak around.

A Successful Ending

The measure of success in this case comes from the words of the volunteers who placed their trust in the DNR's hands to cooperatively transform a disaster into an opportunity.

"TART Trails commends the DNR, Dan Bundy Logging Company, and partner groups including the Northern Michigan Mountain Biking Association, North American Vasa, and the Cherry Capital Cycling Club for working together on this project to make the most of a bad situation following the aftermath of this year's storm. The goal of this project is to create a more sustainable forest populated with longer-lived tree species with the focus on long-term recreation and public enjoyment. The DNR, recognizing the importance of the Vasa Pathway to the community, worked closely with trail users groups from the beginning of the project to the ensure trail user needs were being met in the short and long term."

As winter enfolds our northern Michigan forests, and people take to the woods to enjoy the season's offerings, this story speaks as a testament to the many foresters and forest managers who understand the forest is so much more than just trees.

When working cooperatively under the guidance of forest management professionals, Michigan's logging community, its stakeholders, and the general public keep our state's forest resources a perpetual, self-sustaining bounty of economic, social, recreational and environmental wealth. Michigan is blessed with natural resources and dedicated stewards of the land.

SAF Accreditation Site Visits

As most SAF members know SAF accredits forestry programs. For example MSU was first accredited in 1935 with the current accreditation ending in 2017. MTU was first accredited in 1968 with the current accreditation ending in 2016. Michigan SAF member Gerald Grossman recently participated in an accreditation site visit to the University of Georgia. This was the second time he participated in a site visit over the last 10 years. Usually there is a 3 person team representing academia, the SAF accreditation committee, and a practitioner. In order to avoid the appearance of a conflict of interest none of the site team can be an alumni. The team is confirming the institutions self evaluation and documenting conformance to the standard (Forestry Program Mission, Goals, and Objectives; Curriculum; Forestry Program Organization and Administration; Faculty; Students; parent Institution Support). A report is completed and the SAF Accreditation Committee makes decisions at its meeting during the national convention. According to Grossman the 3-day site visit is extremely busy, but also very rewarding.

Photographed above: Gerald Grossman (Michigan), Terry Baker (Oregon), Hank Steltzer (Missouri) at Warnell School of Forestry & Natural Resource, University of Georgia March 2015.

Michigan Society of American Foresters Forest Stewardship Award

Presented on September 24, 2015

Awarded to:

Chippewa-Luce-Mackinac Farm Service Agency
Ms. Kaye Hillock-Vining and Ms. Melissa Gabbard

The Forest Stewardship Award is given to an SAF or non-SAF group or individual for their forestry-related project's positive impact on communities or the general public.

Forest Stewardship Project: Emergency Forest Restoration Program after the Duck Lake Fire

In May of 2012 the Duck Lake Fire in northern Luce County burned 21,069 acres and destroyed 136 structures. Of the 21,069 acres that burned, 5,359 acres were privately owned, including 3,395 acres of non-industrial private forestland.

The Emergency Forest Restoration Program never before was used in Michigan, and the Farm Service Agency (FSA) had to develop this program from scratch.

The USDA Farm Service Agency, USDA Natural Resources Conservation Service, and the Michigan Department of Natural Resources collaborated to complete site assessments, develop conservation practices, and secure the federal funding necessary to assist landowners with restoration of their fire-damaged forested lands. The FSA took the leadership role in this effort. Kaye and Melissa organized this big project, spending uncounted hours contacting and re-contacting landowners to make sure that all interested landowners were given the opportunity to have their projects funded through the Emergency Forest Restoration Program. The FSA handled all of the contracts and made sure that all of the cost-share payments were made in a timely manner. By the time the program ended on December 1, 2014, the FSA paid out $72,654.00 for 13 completed projects, including 117 acres planted to trees. Landowners received an average of $619.60 per acre.

In recognition of their dedication to superb costumer service and to the effective restoration of fire-damaged forests, the Michigan Society of American Foresters is proud to present the Forest Stewardship Award to the Chippewa-Luce-Mackinac Farm Service Agency and to Kaye Hillock-Vining and Melissa Gabbard.

Society of American Foresters
Growing better all the time