Minnesota

Minnesota Forestry Associatio

www.MinnesotaForestry.org

MFA: an organization of, by and for Minnesota's private woodland owners and friends.

Minnesota Forestry Association (MFA) <u>info@minnesota</u> <u>forestry.org</u> PO Box 6060 Grand Rapids, MN 55744 218-879-5100

MFA Newsletter Vol. 24 No. 4 Fall/Winter 2022 The Minnesota Woodlands newsletter is published by the Minnesota Forestry Association.

MFA Board Meetings Conference Calls 8 – 9 a.m.

• December 13, 2022

• January 10, 2023

• February 14, 2023

• March 14, 2023

• April 11, 2023

Greetings from the President

As the trees go into dormancy this fall, I am reminded how important tree health is, especially the role we landowners play in creating the best opportunity for trees to survive and flourish. We can't control environmental factors, like how much precipitation the forest gets in a season. For example, parts of Minnesota had normal precipitation this year and other parts of the state are in severe drought. Also, natural disturbances like wind events, fire or how insects and disease move around the landscape is something we have little or no control over. However, we as landowners play a very important role in the health of our forest by taking action to create the best opportunity. From selecting tree species to nurturing the forest with different Timber Stand Improvement (TSI) practices and then harvesting at intervals that create the best opportunity to meet whatever objective you have for your forest.



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Dave Roerick

No matter what stage of life your forest is in, there is always some tinkering or action you can take to give an individual tree or your entire forest a better chance to flourish into the best it can be.

On another note, I would like to inform you that MFA and Minnesota Tree Farm are sharing some thoughts about possibly combining our newsletters. My thought at this time of consideration is that each entity would still have a designated space in the newsletter that would image the format that has been in place for years. In addition, we each would get news from the other entity. If you would like to weigh in with your opinion, feel free to shoot me an email at <u>president@ minnesotaforestry.org</u> or give me a call at 218-879-5100.

In closing, my hope is for you to enjoy time in the great outdoors with your loved ones. Also, I wish you a joyous Christmas season.

Your president,

Dave

As snow begins to fly, the temperatures dip into the single digits (or below) and yet another year comes to a close, I want to again extend gratitude to you, our loyal members. Without you, this wouldn't be possible. I, and MFA, look forward to continuing to work on behalf of family forest landowners and, through education and advocacy, promote wise stewardship of forest lands.

As always, I want to encourage you all to reach out to me with ideas, thoughts, suggestions, concerns and more, to <u>editor@minnesotaforestry.org</u>.

May your holiday season be joyous, safe and prosperous.

Kassandra Tuten

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Minnesota Forestry Association

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Away from home for a time? Please contact the MFA office if you'll be away from home for an extended time and let us know when you'll be back. We'll hold onto the newsletter until you return so you won't miss a single issue! Email info@ minnesotaforestry.org or call 218-879-5100.

Our Shared Bookshelf



Each issue, we'll be selecting a favorite book to share with our readers to help build community and encourage the sharing of resources. If you'd like to submit a recommendation for Our Shared Bookshelf, please email <u>Editor@MinnesotaForestry.org</u>. We look forward to hearing about what everyone is reading and enjoying!

This edition, we're highlighting "The Hidden Life of Trees: What They Feel, How They Communicate—Discoveries from A Secret World," by Peter Wohlleben. Thank you, Jim

Hunder, for the recommendation of this very interesting book.

In "The Hidden Life of Trees," forester and author Peter Wohlleben argues that, yes, the forest is a social network. He draws on scientific discoveries to describe how trees are like human families: tree parents live together with their children, communicate with them, support them as they grow, share nutrients with those who are sick or struggling and even warn each other of impending dangers. Wohlleben also shares his deep love of woods and forests, explaining the amazing processes of life, death and regeneration that he has observed in his woodland.



Get Ready for Spring Planting: Minnesota State Forest Nursery Seedling Sales Are Open

We're only halfway through autumn, but now is the time to plan for spring planting! The Minnesota State Forest Nursery seedling sales recently opened online.

Since 1931, Minnesota's State Forest Nursery has provided more than 1 billion healthy, native tree and shrub seedlings for Minnesota plantings. Seedlings are kept in the ground long enough to develop robust root systems and healthy stems. Depending on species, coniferous seedlings are between 2-4 years of age, and deciduous seedlings are between 1-3 years of age when sold. They also sell transplants, which are seedlings that are moved at 2 years of age to a larger bed to promote growth. These seedlings develop strong fibrous roots and thicker stems, making them ideal for challenging sites. Every seedling is inspected to meet high standards for height, diameter, root development and health.

Orders from the State Forest Nursery require a minimum purchase of 500 seedlings, perfect for landowners looking to complete larger regeneration projects. Interested in a smaller seedling order? Many of Minnesota's Soil and Water Conservation Districts (SWCD), as well as local nurseries, sell seedlings in smaller volumes. Contact your SWCD to find out more about their annual seedling sale.

A lot of good information is available on the State Forest Nursery site to help you choose the right trees and plant them the right way. University of Minnesota Extension also offers great

information on choosing, planting and caring for trees. If additional guidance would be helpful, or you would like help developing a management plan for your woodland, contact a DNR Stewardship forester.

Learn more: <u>https://www.dnr.state.mn.us/forestry/</u> <u>nursery/index.html</u>.



Creature Feature By Kelly Martinson, Program and Policy Coordinator, Wisconsin DNR

Greater Prairie-Chicken

The greater prairie-chicken (*Tympanuchus cupido*) is a large bird in the grouse family which measures around 17 inches and weighs around 34 ounces. They are primarily found on the west side of the state in small populations and do not migrate. During everyday activities, prairie-chickens don't look like anything special; they have barred brown and white feathers and spend most of their time foraging for insects, seeds and fruits. During the breeding season, however, everything changes.

Greater prairie-chickens are known for their unique mating displays. In the springtime, prairie-chickens gather to mate on leks which are typically in short grass or agricultural fields. The male prairie-chickens arrive just before sunrise to fight for the best spot and begin their display to attract females. This mating display consists of the male chicken puffing out the bright orange air sacs on its neck, lowering its head, rapidly stomping its feet and vocalizing high pitched "gobble" and low pitched "booming" sounds, which is why leks are also referred to as the "booming grounds." These calls can be heard from two miles away and sound unlike any other bird in the area.

Once the female has bred with the best boomer on the lek, she takes on the responsibility of incubating, brooding and rearing the chicks without assistance from the male. Greater prairie-chickens create nests in tall grass patches on the ground and can lay up to 17 eggs per clutch. The chicks hatch after about 25 days and follow their mom away from the nest. Chicks can live on their own at 10-12 weeks old and are able to reproduce by the age of 1. Prairie-chickens and their chicks can sometimes make for easy prey, so they must always be on high alert for predators like hawks, owls and coyotes.

Greater prairie-chickens live primarily in tallgrass prairies and need large, connected areas of this habitat to maintain an entire population. Lack of proper habitat is the primary reason prairie-chicken numbers have declined after settlement in the Midwest. Greater prairie-chickens were formerly common throughout the northern great plains, but populations have declined and now only exist in certain spots. Many areas of prairie were converted into cropland because the soil in prairies was nutrient rich. Natural fire and grazing on the landscape were also altered, which allowed woody plants like shrubs and trees to move into the prairie and alter the habitat.

Currently, Minnesota has small huntable populations, but the species has been listed as a special concern in the state since 1984. In other areas of the country, like Kansas and Nebraska, greater prairie-chickens still have large populations and make for a popular game bird.





Top: Prairie-chickens gather on leks where the males "boom" to compete for mates.

Middle: Male greater prairie-chickens have orange air sacs on their neck that inflate during their unique mating displays.

Bottom: Fire is one tool used for managing prairie-chicken habitat. Prescribed burning removes old vegetation, increases nutrients in the soil, and fights shrubs or invasive species from taking over.

What can you do to help greater prairie-chickens in Minnesota?

- Maintain or restore the tallgrass prairie on your land. Resources on proper management and potential funding can be found through the MN DNR, USFWS, NRCS and more.
- Donate your time or financial contributions to conservation organizations that manage and restore habitat.
- Purchase a hunting license. Funds from licenses, as well as all the taxes derived from the sale of sporting equipment, support wildlife habitat conservation and research.

The Air We Breathe: Community Forests, Air Quality and Environmental Justice

By Molly Codding, MPH, Community Environmental Justice Coordinator | DNR - Urban and Community Forestry Program

While air quality in the United States has steadily improved since the Clean Air Act of 1990, air pollution is still a significant public health concern for environmental justice communities in Minnesota. In 2019, air pollution contributed to 4,000 deaths, 500 hospitalizations and 800 emergency room visits (MDH, MPCA, 2020). Poor air quality results in an increased risk of lung cancer, asthma, ischemic heart disease and adverse pregnancy outcomes, as well as exacerbates circulatory and respiratory symptoms.

Our urban forest canopy removes many air pollutants, reducing some health risks related to poor air quality. U.S. urban park trees remove 75,000 tons of air pollution per year (worth \$500 million). Studies have shown a lower prevalence of lung cancer and reduced rates of asthma and asthma hospitalizations in children during high pollution periods when the amount of air pollution removed or intercepted by trees is high compared to established air quality or health standards.

While overall air quality has improved, there are significant environmental justice concerns related to the relative disparities of many pollutant exposures by race-ethnicity.



Inequities in Canopy Cover for St. Paul

Several tools are available for assessing tree canopy equity for neighborhoods. American Forest's Tree Equity Score highlights the canopy inequity trends experienced across urban areas nationwide. This tool takes into account percentage of tree coverage and demographics including age, race, income and community health indices to deliver a practical score for equitable community forestry planning.

These concerns exist because of systemic land use and planning decisions surrounding transportation, the location of polluting facilities, the density of housing and neighborhood segregation. For example, redlining policies (the discriminatory practice of denying home loans to



Air pollution in Minneapolis

Minneapolis, and the Twin Cities metropolitan region, experience the greatest number of poor air quality days. The impacts of this pollution are felt by environmental justice communities, which also have poorer urban canopy coverage. Canopy equity initiatives can help mediate some of the disproportionate effects of poor air quality, in addition to providing shade, decreasing traffic and industrial noise pollution, and delivering of health ecosystem service benefits.

persons of color in geographic areas) resulted in highly segregated communities across the U.S. These segregated communities were often affected by industrial pollution permit sites, highway expansion projects and historic disinvestment in public and private dollars.

In Minnesota, residents of the Twin Cities experience the lowest number of good air quality days, although recent smoke events have exposed Northern Minnesota to increased numbers of unhealthy air quality days (MPCA, 2022). Air permits in the Twin Cities are concentrated in the eastern, central and northern neighborhoods in Minneapolis and eastern St. Paul, which are historically segregated and low-income neighborhoods. The impact of inequitable pollution exposure has caused negative multigenerational impacts for Black and Indigenous Persons of Color (BIPOC).

- In cities across the country, previously redlined neighborhoods have fewer trees. Low-income communities and BIPOC communities have less access to canopy benefits, including improved air quality.
- BIPOC and low-income communities experience greater rates of air pollution, including nitrogen dioxide (NO₂). Between 2000 and 2010, BIPOC were more likely than white people to live in block groups with NO₂ concentrations above World Health Organization health-based guidelines.
- BIPOC communities experience higher rates of asthma, and Black men have a much higher prevalence of lung

cancer than white populations. This is due to complex and interacting causes, including the proximity of historically segregated neighborhoods to pollution from industrial facilities and high traffic patterns. Reducing air pollution will both reduce harmful exposures to environmental justice communities and prevent environmental conditions that trigger asthma attacks, or increased breathing difficulty.

There are many ambitious tree planting initiatives, but the equitable distribution of tree canopy continues to be a challenge. Limited urban space to plant trees, barriers to planting on private property, lack of sustainable funding sources and increased threats to existing canopy challenge the ability of cities to deliver equitable planting outcomes. Meanwhile, environmental justice communities are fighting for healthier neighborhoods, and their input on canopy priorities needs to be valued. More work needs to be done to support and elevate their efforts. The Department of Natural Resources is working with the U.S. Forest Service to coordinate Urban and Community Forestry resources with community groups, coalitions and nonprofits that are more closely connected to community-centered canopy priorities. Through stronger engagement with EJ communities, we can rewrite some of the harms caused by decades of systemic injustice so that our communities can realize the full health benefits of community forests, including cleaner air to breathe.

This article appeared in the October newsletter of the Minnesota Women's Woodland Network.

University of Minnesota EXTENSION

For MFA members, the two best online sources of woodland information are the MFA website at <u>minnesotaforestry.</u> <u>org</u>, and the University of Minnesota Extension Forestry website at <u>myminnesotawoods.umn.edu</u>.



Thinking of harvesting timber from your land? You will be sent a packet of information and receive a visit to your wood lot with no cost or obligation to you. 218-879-5100

Hemlock Hunters Wanted

Drs. Andrew David and Marcella Windmuller-Campione are looking for eastern hemlock (*Tsuga canadensis*) populations in Minnesota (funded project through LCCMR).

Please share locations of eastern hemlock within the land you own or manage. Trees could be wild or planted, and researchers can use data on failed plantings, too. Location data, combined with soil and climate data, will inform future planting trials. This survey will collect both quantitative and qualitative data, and should take 15-25 minutes to complete.

Please complete surveys by Thursday, Dec. 1. Contact Kira Pollack at <u>polla275@umn.edu</u> with any questions.

Complete the survey: <u>https://umn.</u> <u>qualtrics.com/jfe/form/SV_etgPeS9zhzYuxH8</u>.

Eastern Hemlock Location Survey

We can use your help locating known individuals or populations of eastern hemlock (Tsuga canadensis) in Minnesota. Any tree, sapling, or seedling, whether wild or planted, is eligible for the survey. Your data represent successful growing conditions for the species and will be used to help select sites for a future planting study related to eastern hemlock survival and growth.



Dr. Andy David: david046@umn.edu Dr. Marcella Windmuller-Campione: mwind@umn.edu Kira Pollack: polla275@umn.edu



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Forestry Organizations Offer Tips for Removing Buckthorn

Fall and Winter Treatments Differ From Those of Spring

By Forest Data Network Staff

Forest landowners in the Lake States should prepare to recheck their forest property for common and glossy buckthorn, according to state forestry organizations.

While cutting back these destructive, invasive species early in the year can prevent seed production and limit reproduction and spreading, fall and winter provide opportunities to use different tactics to eradicate some of the population.

Common buckthorn invades the understory of oak, beech, maple and riparian woods, while glossy buckthorn is more commonly found among alder, wetlands, heath oak, pine woods and spruce woods, according to the Wisconsin Department of Natural Resources.

Smaller seedlings (fewer than three feet tall) generally can be pulled by hand, but larger saplings may require a tool or will need to be cut. Trunks generally need to be treated with herbicide or removed.

The Pennsylvania Department of Conservation and Natural Resources suggests that herbicide applications after cutting or girdling "appear to be most effective," and it recommends a "systemic herbicide, such as a glyphosate, in order to destroy the root system."

Buckthorn in tree or shrub form grows to 10-25 feet tall. Cutting a stem will reveal yellow sapwood and orange heartwood. Common buckthorn produces small black fruit in the fall and displays yellow green flowers in the spring.





Top: Glossy buckthorn. Photo by Gil Wojciech Kearns courtesy of www.forestryimages.org.

Bottom: Common buckthorn. Photo by Jan Samanek courtesy of www.forestryimages.org.

SPOTTED! Monotropa Uniflora

Monotropa uniflora, also known as ghost plant, ghost pipe or Indian pipe, is an herbaceous perennial plant native to temperate regions. It flowers from early summer to early autumn, often a few days after rainfall.

Unlike most plants, it is white and does not contain chlorophyll. Instead of generating food using the energy from sunlight, it is parasitic, and more specifically a mycoheterotroph. Its hosts are certain fungi that are mycorrhizal with trees. Since it is not dependent on sunlight to grow, it can grow in very dark environments like the understory of dense forest. It is often associated with beech trees.

In addition to various reported medical uses, the plant (which may be toxic to humans) has been used as an anxiolytic in herbal medicine since the late 19th Century.

"This is the first time I can recall encountering this neat looking plant," said Stanley Musielewicz, who submitted the photo.

Musielewicz spotted the plant in a customer's woods in Central Minnesota, Stearns County.

If you find something you'd like to share, submit it to <u>Editor@MinnesotaForestry.org</u>.





Bigtooth Aspen

By Kassandra Tuten, Editor

Bigtooth aspen (*Populus grandidentata*) is a mediumsized deciduous tree native to North America which is found mostly in the northeastern United States and southeastern Canada.

Bigtooth aspen have straight trunks and gently ascending branches. Heights at maturity are around 60-80 feet with diameters of 8-10 inches. They are fast growing and relatively short-lived. Stands will begin to deteriorate after 60-70 years, while individuals can live up to 100 years.

The bark of bigtooth aspen is smooth, gray or yellowishgreen, and is furrowed and dark brown at the base of old trees. Leaves are simple, alternate on the stem and are coarse-toothed. They are dark green on the upper surface, turning yellow in autumn. Buds are light gray and downy. Seeds are small, cotton-like capsules grouped in 3-6 inch catkins which are easily carried by the wind for long distances. They mature in late spring.

Bigtooth aspen can adapt to a wide range of soils, though they are most abundant on sands, loamy sands and light sandy loams. The species is very shade intolerant. Rapid height growth of suckers allows bigtooth aspen to outcompete other sprouting species such as red oak (*Quercus rubra*) and red maple (*Acer rubrum*) on many sites. In the absence of disturbance, it is soon replaced by conifers and hardwoods. In the Great Lakes Region at the turn of the 20th Century, many mature pine forests were logged and burned. Bigtooth and quaking aspens (*Populus tremuloides*) frequently dominated the postdisturbance forests. Without fire or other disturbance, these forests are being replaced by later successional, shade-tolerant species. Bigtooth aspen is considered a pioneer species and is often a primary invader of sites which have been cleared or burned. Like most aspens, it reproduces rapidly from root suckers, forming dense stands when cut or harvested. Often what appears to be a large group of individual trees are root sprouts from a single seedling or tree.

Bigtooth aspen are more disease resistant than quaking aspen, with the most serious disease affecting the species being hypoxylon canker. A preferred host of spongy moth, death of the tree occurs when nearly complete defoliation by spongy moths is followed by a fungal infection. The ambrosia beetle also attacks fire-damaged bigtooth aspens. Commonly, this occurs in areas that frequently burn, such as large upland areas distant from water and upwind of natural fire breaks, such as lakes.

Bigtooth aspen plays a significant role in the lives of many other organisms. Throughout its range, more than 500 species of animals and plants utilize the aspens, which are important browse for a variety of animals. The seed, buds and catkins are utilized by many birds including quail and grouse, and the inner bark is a favorite food of beaver.

The wood of bigtooth aspen is used as a primary raw material source for pulp and paper and oriented strand board. It's also used in the production of lumber, matchsticks, lath and shavings. The residue generated with these products is used in the production of densified wood fuels (pellets) or burned directly as green fuel.

Did You Know: The roots of bigtooth aspen are shallow and wide spreading, and lateral root growth in a forest can be as far as 60 feet.



Left: The bigtooth aspen can grow to a height of 60 to 80 feet with a diameter of 10 to 20 inches; slender rather rigid branches create narrow round-topped crown.

Center: The bark is smooth, gray or yellowish-green; furrowed and dark brown at base of old trees.

Right: Leaves alternate on stem and are 2 to 4 inches long; coarse-toothed; dark green upper surface turning yellow in autumn; appears one to two weeks later than that of quaking aspen, and at first is silvery white. Buds are light gray, downy, and larger than those of quaking aspen.

Upcoming Events

Find more events, and more information on these events, at the MFA website, <u>www.MinnesotaForestry.org</u>, or by calling MFA at 218-879-5100.

DECEMBER

Aitkin County Woodland Owner Workshop

8 a.m. to 4:30 p.m. Friday, Dec. 2, 2022

Long Lake Conservation Center 28952 438th Ln., Palisade, MN 56469

The Aitkin Area Private Woodlands Group is hosting a workshop for private landowners to learn more about their forests, and ways they can manage them to help achieve their goals. Learn more: <u>https://www.</u> minnesotaforestry.org/events/aitkin-county-woodland-<u>owner-workshop</u>.

Minnesota Million: An Ambitious Vision for Reforesting One Million Acres of Minnesota

9-10 a.m. Tuesday, Dec. 20, 2022

Speaker: Mary Hammes, The Nature Conservancy Reforesting one million acres across the state has the potential to enhance the resilience of communities, watersheds and working lands – providing benefits including carbon sequestration, flood reduction, economic opportunity and wildlife habitat. A growing coalition of partners is focused on priority opportunity areas where reforestation is ecologically appropriate, logistically feasible and beneficial to communities that have been most impacted by historical forest loss. Learn more: <u>https://sfec.cfans.umn.edu/2022-forestry-webinarseries</u>.

MARCH

International Day of Forests 2023

Tuesday, March 21, 2023

The United Nations General Assembly proclaimed March 21 as the International Day of Forests in 2012 to celebrate and raise awareness of the importance of all types of forests. Countries are encouraged to undertake local, national and international efforts to organize activities involving forests and trees, such as tree planting campaigns.



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Change Service Requested

Terry J. Helbig, 75, of Lake City, passed away Nov. 15, 2022

Following graduation, he began a career with the Minnesota DNR, ending his career in Lake City where he had been stationed since 1970. Over his career, he acquired over 10,000



cares of land for inclusion in the Richard J. Dorer Memorial Hardwood State Forest, developed the Easy Wheeling Nature Trail (the first wheelchair accessible nature trail in the state), developed campgrounds in the Zumbro Bottoms Unit, initiated the Wabasha 5th Grade Conservation Day (one of the first in the state), among many other accomplishments. He was a member and officer of the Minnesota Forestry Employees Association, past member and officer of the Society of American Foresters, founding member and secretary of the Wabasha County Forestry Committee, board member of the Minnesota Forestry Association, regional chair of the Minnesota Tree Farm Committee, life member and past officer of the Minnesota Forestry Employees Association, and a member of the Wabasha Soil and Water Conservation Board and the Wabasha County Fair Board. He also spent many years as a volunteer for the Wabasha County Historical Society.

Following his wishes, no public services will be held. Memorials are preferred to the Wabasha County Historical Society or any organization of your choice. Online condolences can be sent to <u>http://www.</u> <u>mahnfamilyfuneralhome.com</u>.