



## CHAIR REPORT

Jake Peer ACF

Peer Family Forestry LLC

As I write this, I am in my last month as Chair of the Ohio SAF Executive Committee. It has been a year of professional growth and learning for me. Reflecting on the beginning of the year, I can definitively say that I was not prepared for this position. However, I have learned a lot and feel much better prepared for the future in my professional and leadership capacities. It was a year of challenges, most of them unexpected. I did not complete everything that I hoped I would, but I intend to continue working towards those goals next year, as Past Chair.

I feel proud of the Winter Meeting that I planned earlier this year, and I hope our membership found the program useful. I used it as an opportunity to invite speakers that would address issues or questions that I have had over the last few years. It was successful in addressing those issues and it generated some good discussion. It is also worth mentioning that we have completed the incorporation process that we discussed at length during the business meeting at the Winter Meeting. This process was lengthy, and I am grateful that we had plenty of guidance and assistance from National SAF. It was a necessary process to be compliant with our state laws and provide protection for our State Society.

*Continued on Page 3*

## ARCHITECTS OF THE FOREST

Maxwell Schrimpf

Ohio Division of Forestry

For those of us who work in the woods, we are constantly thinking about the stand, past management, and what we would do in the future. But have you ever thought about stand density? When we plant trees, either to supplement existing stands or to create new ones, we plant at different densities to achieve certain characteristics and objectives. Planting at higher densities allows us to account for natural mortality and gives us the opportunity to thin the stand later on, plus higher densities keep fewer lateral branches from growing on the main stem if we are mostly concerned with timber quality<sup>5</sup>. Stand density is also proportional to the timing of crown closure where trees compete for available growing space, which can decrease desirable diameter growth<sup>5</sup>.

We know that the many has an effect on the one, but does the one have an effect on the many? In short, yes. Research into tree architecture over the years has provided us with some answers, but also many, many more questions<sup>1,4,5,6</sup>. Trees were once thought to be like giant straws, made up of several smaller straws each of which connected to a different bud and leaf. This is part of the Pipe-Model Theory (PMT), and while it does seem to be a large oversimplification of a tree's internal structure, it provided a simple, yet elegant way to think about vessels and tracheids<sup>3,8,9</sup>. In essence, PMT proposed that a "pipe" with a certain area of leaf material had to have a cross-sectional area that was proportional to the leaf material. When the leaf area was multiplied across the whole tree system of "pipes", then the amount of basal area required to support that leaf area was given<sup>3,8,9</sup>.

*Continued on Page 5*

## IN THIS EDITION

Chair Report— Page 1

Architects of the Forest—Page 1

About Your Chair Elect—Page 2

2023 Award Nominations—Page 4

Woodlands for Timber and Wildlife —Page 6

Member photos—Page 8

## ABOUT YOUR CHAIR ELECT

Tom Rooney

I'm a midwest transplant, originally from Philadelphia. While I grew up in an urban region, I developed a love of nature during my time in the Boy Scouts, hiking the Appalachian Trail and spending summers in the mountains at scout camp. I discovered the science of ecology while an undergraduate biology major at the University of Delaware. Soon after, I was at the University of Wisconsin, pursuing a PhD in botany and a minor in forest ecology & management. My research focused on how deer browsing shapes forest composition. After spending a summer examining regeneration patterns of shade-tolerant eastern hemlock and northern white cedar in unmanaged forests that varied in deer densities and browsing impacts, I focused my dissertation work on deer and the large white flowered trillium in the forests just south of Lake Superior.

When I was finishing my dissertation, I got a call from the chair of the forestry department. He asked if I might be interested in some consulting work, that there was a landowner in northern Wisconsin with 6000 acres of forest who wanted to know if they had a deer problem. I jumped at the chance, and what started as a one-off consulting project developed into a 25 year relationship. I'll return to this.

After completing my degree, I worked a number of short-term contracts teaching ecology, writing grants, leading research projects, and traveling the US, Canada, and Europe to give presentations on how deer browsing affects forests. I moved to Ohio in 2006, when I was offered a permanent position as a professor at Wright State University in Dayton. Over 15 years, I supervised 20 graduate students, led 5 tropical ecology field courses in the Amazon, and opted to publish when given the choice between that and perishing. I continued my consulting work in Wisconsin,

which included a natural areas inventory and a land stewardship plan. It included stand inventories, prescriptions, and schedules, but emphasized forestry as just one piece of a broader stewardship plan, reflecting the landowner's values and goals. Many of my graduate students conducted research on the property, developing inventories of frogs, birds, bats, mammalian carnivores, spiders, and probably a few more things I'm forgetting.

Despite a successful career at Wright State, I left in 2021. I often describe the decision as both a push and a pull. My spouse was working in Columbus for the DNR Division of Natural Areas and Preserves, I saw this opportunity with The Nature Conservancy to incentivize woodland owners to practice sustainable forestry using funding from emerging forest carbon markets.

I've been the sustainable forestry director for The Nature Conservancy since January 2021. In my role, I promote sustainable forestry and climate smart forestry practices. I supervise forest management at our 20,000 acre Edge of Appalachia preserve in southern Ohio, and several preserves in northeast Ohio.

I am new to the Society of American Foresters, but not to professional societies. Over the years, I've been a member of The Wildlife Society, Ecological Society of America, Society for Conservation Biology, and the Natural Areas Association. I also spent 5 years as the working group coordinator for the silviculture and ungulates unit with the International Union of Forest Research Organizations.

I live in Columbus with Kendra, my wife of 21 years, and two cats. I enjoy reading, birdwatching, fishing, and trying to identify every organism I find in the woods.

**CHAIR 2023**

**Jake Peer**

[Jake@peerfamilyforestry.com](mailto:Jake@peerfamilyforestry.com)

**SECRETARY**

Maxwell Schrimpf

[maxwell.schrimpf@dnr.ohio.gov](mailto:maxwell.schrimpf@dnr.ohio.gov)

**SAF DISTRICT 9 REPRESENTATIVE**

Victor Ford

[vford@uada.edu](mailto:vford@uada.edu)

**CHAIR ELECT 2024**

**Vacant**

**PAST CHAIR 2022**

Brad Wireman

[Brad.wireman@dnr.ohio.gov](mailto:Brad.wireman@dnr.ohio.gov)

**TREASURER**

Colton Frink

[birddogforestry@gmail.com](mailto:birddogforestry@gmail.com)

**HETUCH NEWSLETTER EDITOR**

Elliot Smith

[bigdarbyforestry@gmail.com](mailto:bigdarbyforestry@gmail.com)

*My Year as Ohio SAF Chair Continued*

I represented Ohio SAF at the National Convention this year in Sacramento, California. I had never experienced an SAF National Convention before, and I found it to be an excellent and worthwhile event. It is always comforting to find that other State Societies are facing the same challenges that we are facing. Additionally, I have found that National SAF is paying attention to the issues that State Societies encounter and are working towards solving those issues. It was a great opportunity for me to see what other states are doing to improve their outreach and communications, and what we can do to improve those here in Ohio. I feel that I was able to bring some good information back to our Executive Committee.

I am looking forward to the year ahead as Past Chair. I am very confident that the professionals serving on our Executive Committee are capable and excited for the future. We are working to put together another successful Winter Meeting under the leadership of Tom Rooney. The meeting will be held on March 18<sup>th</sup> and 19<sup>th</sup> at the ODOT Headquarters again this year. There are plans to improve our outreach to the Student SAF Chapters here in Ohio, also. I failed to provide the oak management technical training that I had hoped to provide in 2023. So, I am working to be able to put that together for 2024 as a low-cost option to get some continuing education for our foresters in Ohio.

Thank you all for the opportunity to serve as your Ohio SAF Chair in 2023 and thank you for the opportunity to learn and grow as a leader.

**SAVE THE DATE**

2024 OSAF Winter Meeting

March 18<sup>th</sup> and 19<sup>th</sup> at the ODOT Headquarters

## OHIO SAF AWARDS

Josh Kocher

Wayne National Forest

Each year, we recognize individuals who are making significant contributions to our profession through Chapter awards. For the Ohio Chapter, we present the following annual awards:

- Outstanding Member – member making outstanding contributions to the forestry profession based on the following factors: technical competence, service to chapter, professional service outside the chapter, moral character, and social contributions
  - Communicator of the Year – award more specific to communication efforts, recognizing a member with demonstrated success and contributions in a communication initiative, program, etc.
- We have three additional awards that may be given annually or less frequently (e.g., these won't necessarily be given every year).
- Contribution to Forestry outside of the Profession - intended for individuals who aren't foresters by education or training
  - Young Forester Award - award for the Ohio Chapter that follows the criteria of the national Young Forester Leadership Award; must be <40 years old)
  - Student Leadership Award - award for the Ohio Chapter that follows the criteria of the national Student leadership award

These awards will be presented at our winter meeting (March at ODOT-Columbus). If you would like to nominate someone for one of these awards, please submit your nomination to me at [joshua.kocher@usda.gov](mailto:joshua.kocher@usda.gov) by **January 12, 2024**. For the Ohio chapter awards, we do not have a formal nomination form. You just need to include the following in an email:

- Your name and contact info (nominator)
- Nominee name and contact info
- The award for which you are nominating them
- Brief description of their background and contributions that make them deserving of receiving the award

NOTE: there is a rule that members cannot receive a given award more than once. You can find past winners online at: <http://www.safohio.org/osafhistory/osafawards/>. The most recent winners were:

2020 – Kathryn Downie (Outstanding Member) & John Kehn (Communicator)

2021 - Brad Perkins (Outstanding Member), Adam Beichler (Communicator), Connie Hausman (Contribution to Forestry from Outside of the Profession), Dan Castellucci (Young Forester), and James Kelling (Student Leadership Award)

2022 – Henry Lieberman (Outstanding Member), Elliot Smith (Communicator), Jessica Miller (Contribution to Forestry from Outside the Profession), & Cameron Uptmor (Student Leadership Award)

Finally, there are also national SAF awards each year. The deadline for national awards nominations are **March 1, 2024**. If you are interested in nominating someone for a national award but might need assistance pulling the nomination packet together, please let me know and I can either assist or link you up with someone to assist. You can find more information about those awards and nomination requirements online at: [https://www.eforester.org/Main/Community/Awards\\_Fellows/Awards.aspx](https://www.eforester.org/Main/Community/Awards_Fellows/Awards.aspx)

If you have any questions, please feel free to contact me. As previously, a committee of the past three winners will review the member nominations and decide the next recipient. The additional awards for Contribution to Forestry outside of profession, Young Forester, and Student Leadership are reviewed by the Executive committee. I am just helping coordinate this as the Awards Chair for OSAF. Thanks!



Brad Perkins (right) being Presented with the 2021 Outstanding Member of the Year Award

Now that by itself doesn't answer the question we posed above, but if we start to look at the mechanics of the tree this provides some clarity. It's easiest to think of trees as giant levers, the stem must be able to hold the weight of the crown, or the stem will fail<sup>4</sup>. This is especially apparent in large wind events where the force of the wind on the crown overcomes the bending strength of the stem<sup>2,4,5</sup>. So, if the wood must be strong enough, and the tree must be big enough to support its crown, what effect does that have on stand density?

Larger trees tend to have bigger crowns and thus take up more growing space. In a single species stand, even-aged stand we would expect our stand density to go down over time<sup>1,5,6</sup>. What would happen if we added more of the same species, but in a different age class? We would have a higher stand density initially, but the crown architecture would eventually limit density like before. However, depending on species, the younger trees may be unable to reach the canopy because the growing space is occupied by the bigger crowns<sup>5</sup>. This can be seen in pine plantations where in-growth is usually relegated to the understory until a canopy tree dies and there is suddenly more growing space available. It is the stem mechanics that are scaled across the stand of a monoculture that allows us to predict maximum stand densities and use density management diagrams to guide cutting cycles<sup>5,9</sup>.

But what happens when we have a stand, much like we would find in Ohio with three or sometimes more canopy species? Things get substantially more complicated and trying to determine the maximum potential stand density isn't so simple. Lucky for us, there are some very smart people who have taken on this challenge with encouraging results<sup>5,6</sup>. While this has not to my knowledge been studied specifically here in Ohio, it has been done in forests in Germany with major species such as European beech, English oak, and Sessile oak (sound familiar?). Overall, they found that mixed-species stands did have higher maximum potential stand densities, which is great, especially if carbon storage is our objective. Mixed-species stands also tend to have higher rates of biodiversity in both flora and fauna<sup>5,6,7,10</sup>.

Wrapping up, did we answer our question? Can the one effect the behavior of many? Yes, it can. The differences in individual form and shape due to genetics and the environment, change how the trees around it must grow and develop<sup>2,5,6,7</sup>. Or at least that's how we currently understand it. Here's to the trees!

INTERESTED IN WRITING FOR THE HETUCH?

Email Elliot Smith at [bigdarbyforestry@gmail.com](mailto:bigdarbyforestry@gmail.com)

We're always looking for more forestry related content like pictures or written content.

## Woodlands for Timber and Wildlife

John Morton, Wildlife Management Consultant

Ohio Department of Natural Resources, Division of Wildlife

Since settlement times, Ohio woodlands have been altered by cropland conversion, overgrazing, surface mining, residential and industrial development, and commercial timber harvesting. Today only 30 % of Ohio's natural resource base is classified as woodland. The largest ownership group of forest land in Ohio is the family forest group, which owns 70% of the state's forests. Based on forest inventory data, the total area of forest land in Ohio is 7,996,702 acres of land cover. (Albright et al. 2018) Two-thirds of the state's forestland is in the hill country of eastern and southern Ohio. Hill country forestlands are continuous tracts that are occasionally broken by small crop fields and pastureland. Each year more of this forest land is becoming sub divided. Forest land parcels are getting smaller with over half, 57.7 percent, owning less than 10 acres while 35.5 percent own between 10 and 50 acres.

Even though Ohio's woodlands are getting smaller, they are still connected. They are home to a multitude of wildlife. Species from every animal class can be found. Some of these species are in peril and are classified as endangered, threatened, species of concern, special interest, extirpated, or extinct. Many endangered species rely heavily on woodland habitat for survival. Birds are one of the largest animal groups that use woodland habitat. Game birds such as the wild turkey and ruffed grouse, and a host of songbirds inhabit Ohio's forests. All of Ohio's 22 species of salamanders require woodland habitat at some time during their life cycle. Almost half of Ohio's wildlife species require woodland habitat.

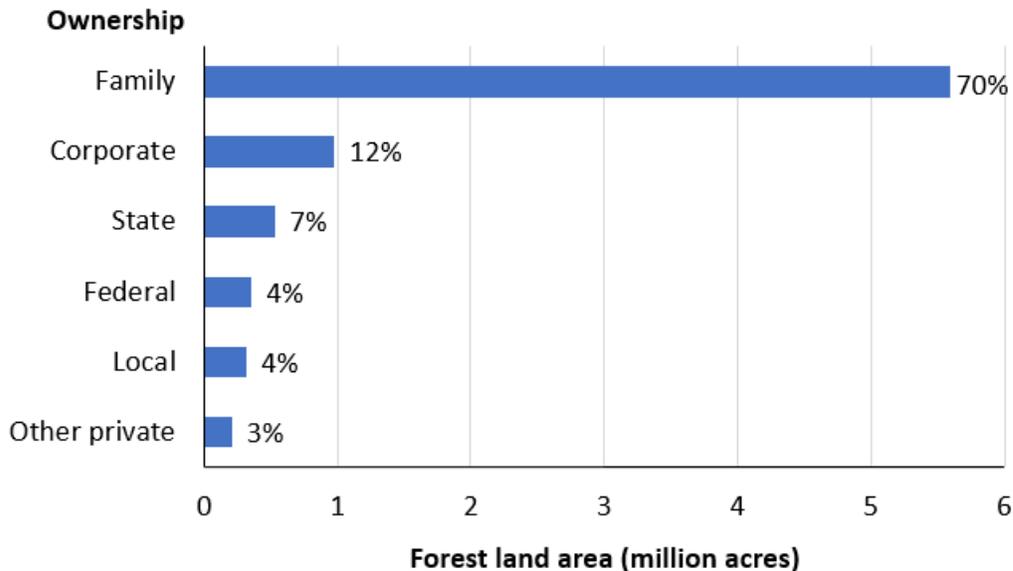


Figure 1. Area of forest land by ownership class (Albright et al. 2018).

The following practices can be useful for managing forest habitats:

### **Protecting and Creating Nesting Cavities:**

Cavity dwellers make up nearly 30% of all wildlife using woodland habitat. Scarcity of suitable nesting cavities can be a major factor limiting woodland wildlife. Maintain at least two snags of 6-14-inches diameter at breast high (dbh) per acre, four snags of 14-18-inches dbh per acre, and six snags of over 18 inches dbh per acre.

### **Edge Feathering:**

Woodland edge is a transition zone between the woodland border and adjacent habitat, such as cropland or meadow. This habitat can be improved by cutting a few larger trees along the woodland edge. This will open the tree canopy and permit sunlight to reach the ground and stimulate the growth of brambles, shrubs, and young saplings. Maintain a brushy edge approximately 15-30 feet wide by selectively cutting undesirable tree species (e.g., elm, ash, maple) every 5-10 years. Brush piles can be constructed with the cut trees. Brush piles spaced out along the margin of edge feathered fields is attractive to birds, rabbits, and other small mammals.

### **Open the Canopy:**

Patch clear-cutting to create temporary wildlife openings within a woodland will diversify the plant community by encouraging development of herbaceous and shrubby growth. Create openings that are irregularly shaped and range in size from ½ to 10 acres. For best results cut all trees larger than one inch. You can retain some oak trees within these cuts as seed trees. Locate openings near the outer perimeter of a forest tract to make it more accessible to edge wildlife and to minimize any negative impact on the interior forest wildlife community. Clear-cutting may not be an appropriate practice for small, isolated woodland patches.

### **Mid-Story Removal:**

There are many ways to manipulate woodlands to produce high value timber and while doing that, create good wildlife habitat. Without employing a full-scale timber harvest, you can create conditions of good browse and bedding for deer. The removal of many competing trees in the mid story allows more sunlight to penetrate the forest floor. This sunlight encourages lush growth of forbs, stump sprouting, releases crop trees to produce more mast and many more benefits. This is all done in the name of forest stand improvement. Most research on this topic suggests the more intense the removal; the more light that is allowed in. It is also a technique used to encourage oak regeneration on mesic sites. Shade tolerant trees like red maple are removed to reduce or remove competition for shade intolerant, slower growing oak species.

### **Controlling Non-Native Invasive Plants:**

Invasives out-compete more desirable native woodland species, and can form pure, dense thickets that limit growth of other vegetation. That means you should spend some time identifying areas where invasives are likely to show up. Usually, any recent disturbance such as right of way clearing, logging operations, or locations along county roads and rail roads is ripe for invasive introduction. It is better to identify the problem areas early, treat and re-treat, monitor, and treat again. You may never get rid of all of it, but you can at least control it.

### **Plan:**

Consult with a professional forester or a wildlife management consultant and explain your goals clearly and include wildlife habitat in your goals. Most forest management techniques will benefit wildlife as well, but you may have to get more aggressive in your management for some species of wildlife for them to respond.

## MEMBER PHOTOS



Keystone Fire Tower relocated from Jackson county to Scioto Grove Metro Park in southern Columbus, Franklin County.

<https://www.nbc4i.com/news/local-news/grove-city/facelifted-fire-tower-moves-to-columbus-metro-park/>



Two foresters, Elliot Smith (Left) and Maxwell Schrimpf (Right), visit the silviculture lab at University of Edmonton in Alberta, Canada.

- Cline, M. (1991). Apical dominance. *Botanical Review*, 57(4), 318-358. doi:<https://doi.org/10.1007/BF02858771>
- Larson, P. (1969). *Wood formation and the concept of wood quality*. Yale University.
- Lehnebach, R., Beyer, R., Letort, V., & Heuret, P. (2018). The pipe model theory half a century on: a review. *Annals of Botany*, 773-795.
- Loehle, C. (2016). Biomechanical constraints on tree architecture. *Trees*, 30, 2061-2070. doi:<https://doi.org/10.1007/s00468-016-1433-2>
- Oliver, C., & Larson, B. (1996). *Forest Stand Dynamics: Update Edition*. New York: John Wiley & Sons, Inc.
- Pretzsch, H. (2014). Canopy space filling and tree crown morphology in mixed-species stands compared with monocultures. *Forest Ecology and Management*, 327, 251-264. doi:<https://doi.org/10.1016/j.foreco.2014.04.027>
- Pretzsch, H., & Schütze, G. (2008). Transgressive overyielding in mixed compared with pure stands of Norway spruce and European beech in Central Europe: evidence on stand level and explanation on individual tree level. *European Journal of Forest Research*, 183-204.
- Shinozaki, K., Yoda, K., Hozumi, K., & Kira, T. (1964a). A quantitative analysis of plant form - the pipe model theory: I. basic analyses. *Japanese Journal of Ecology*, 97-105.
- Shinozaki, K., Yoda, K., Hozumi, K., & Kira, T. (1964b). A quantitative analysis of plant form – the pipe model theory. II. Further evidence of the theory and its application in forest ecology. *Japanese Journal of Ecology*, 133-139.
- Felton, A., Lindbladh, M., Brunet, J., & Fritz, Ö. (2010). Replacing coniferous monocultures with mixed-species production stands: An assessment of the potential benefits for forest biodiversity in northern Europe. *Forest Ecology and Management*, 260(6), 939–947. <https://doi.org/10.1016/j.foreco.2010.06.011>