

# Pennsylvania Forest Stewards News



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## Chairman's Column

By Bob Slagter, PA Forest Stewards Steering Committee Chair, '08

### End Game

**ONE:** We hopped in an Uber at our hotel on 46<sup>th</sup> Street and asked the driver to drop us at the end of the "El" line down around 13<sup>th</sup> Street. When we got there, we found the end of the old railroad trestle (that's what El is, an old elevated train line) that we heard about from some people who used to live in New York City. But we also found a bigger surprise. It's called Little Island in the Hudson River. It's been open less than a year and was built with philanthropist money to replace Pier 55 that was trashed in a hurricane. This is the same pier that welcomed the survivors of the Titanic disaster. Now there's a man-

made island with grand views of lower Manhattan and Lady Liberty. It is filled with native plants and birds and sits on piers in the Hudson. What a wonderful way to spend some peaceful hours in a very busy town. I highly recommend it on your next trip to NYC. Where else can you find real estate that is free to enter that cost \$250 million to build?

**TWO:** There's a new boss in tree town. It's in Brazil and it's called *Dinizia excelsa*. It towers above the previous record at a height of 88.5 meters (290 feet—almost the length of a football field!) and a circumference of nearly 10 meters (32 feet). It was discovered in a very remote area of the Amazon by satellite imagery and it took five expeditions and lots of shoes to get to it. It is thought to be between 2000 and 4000 years old. So in terms of adapting to its environment and talking

to other trees, this is the king of communicators. After surviving this long, you'd think the tree would have it made, huh? Well, I'm afraid not. It seems the only thing that has saved the tree is its remote location. That area of the country is controlled by poachers and gold miners, both of which are sure to topple the king if they aren't stopped. So far, nothing has happened, but will the 2000 years come to an end without a 24-hour guard on the tree?

**THREE:** I spent my summer vacation doing something very interesting and quite rewarding. I'm putting in a hike and bike trail in the valley where my Creek-house is. It's just four miles long, and much of it is the original railroad base with many repairs from damage done by beavers over the years. Here's how

*Chair, continued on page 4*

## Pennsylvania Forest Stewards: Supporting the James C. Finley Center for Private Forests at Penn State

For 32 years, a key resource for education and messages around good forest stewardship has been you, Pennsylvania's forest stewardship peer volunteer network, the Pennsylvania Forest Stewards volunteers.

Begun in 1991 with support from the Farm Bill and in partnership with Penn State Extension, the USDA Forest Service, the Ruffed Grouse Society, and the PA DCNR Bureau of Forestry, you as the collective have been the hallmark of the Pennsylvania Forest Stewardship program. Now, under the umbrella of the James C. Finley Center for Private

Forests, almost 800 volunteers have been trained, and oh, what a difference you make!

Your time sharing the message of good forest stewardship more than equals the amount of paid employees of Penn State sharing a similar message. Collectively, you reach hundreds of thousands of other landowners and members of the public, helping them to understand the importance of the decisions they're making in caring for their woods and how to move to better care.

We are grateful to each and every one of you for your investment of time, energy, and passion to making Penn's Woods a more sustainable forest.

As we near the end of a calendar year, we recognize that another means of support comes from our volunteers. As many of you think about charitable giving, perhaps you would consider supporting the Finley Center in other ways too.

For those interested in supporting the Finley Center financially, the Center has a well-established endowment and gratefully accepts financial contributions. You can visit the Center's donation website at <https://raise.psu.edu/FinleyCenterNews> or scan the QR code below to take you there.

We thank you for your support, in all the ways you give it.



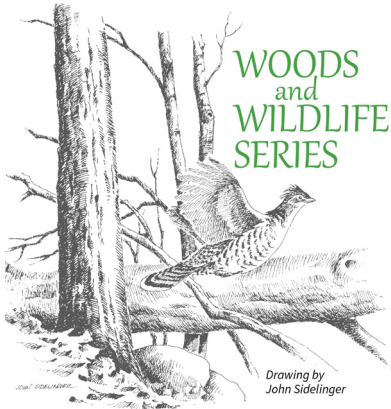
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# Let's Go on a Snake Hunt: Venomous Snakes in Pennsylvania

Article and Photos by Mike and Laura Jackson, PA Forest Stewards, Class of '00



This article is part of a series exploring animals and their dependency on forests. Each article blends personal experiences with factual information and will challenge you to look closely in your woodlot for evidence that you are a habitat provider for the species.

There are just three venomous snake species in our state, but that's three too many for most people. That's unfortunate, since snakes play important roles in forest ecology. We see two of the three species on our forested property in Bedford County, Pennsylvania: the timber rattlesnake (*Crotalus horridus*) and the northern copperhead (*Agkistrodon contortrix*).

The state-endangered eastern massasauga (*Sistrurus catenatus*), the only other venomous snake in Pennsylvania, is limited to just four populations in Butler and Venango Counties. It's also listed as threatened nationwide under the Endangered Species Act because prairie habitat fragmentation and loss have pushed this snake closer to extinction.<sup>1</sup>

Jennings Environmental Center near Slippery Rock in Butler County plays an important role in protecting the prairie habitat where these small rattlesnakes are still found in Pennsylvania. We've visited the 20-acre prairie ecosystem several times, but never saw the shy and secretive eastern massasauga. Jennings is also remarkable for its glorious prairie wildflowers when they are in full bloom in mid-summer. One of the most spectacular prairie flowers is the rose-purple blazing star (*Liatrix spicata*). There are over 200 other prairie plants found at Jennings, which was actually the first reserve in the state to protect an endangered plant, the blazing star. Not many



The blazing star is known to attract the endangered eastern massasauga.

flowers are associated with snakes, but protecting the blazing star resulted in protecting the massasauga.

We've planted *Liatrix spicata* seeds on our property since the beautiful flowers sustain a lot of pollinators, but the chances of attracting a massasauga are slim to none. While the blazing star is no longer listed as endangered in our state, the massasauga is critically imperiled. If you live in western Pennsylvania and have wet, poorly drained open areas with drier, upland fields nearby, you could help through habitat protection. For more information, search "massasauga landowners guide"<sup>2</sup> online.

The most common venomous snake that we see on our property is the timber rattlesnake, a species of special concern in Pennsylvania. Mike gets a rattlesnake permit every year, which allows him to capture one if we want a closer look. The first rattlesnake was a yellow phase seen on May 25, 1991—three years after we built our house and moved onto our property. We think the same snake showed up over the next 10 years. How do we know? We took photos and counted the subcaudal scales on the underside of the tail. We also clipped some of those scales, being careful not to injure the snake. Most of the rattlesnakes we see are

about 45 inches—close to the average length of males in Pennsylvania.

The photo below shows a black phase rattlesnake that Mike is holding in a clear plastic tube so Seth, our great-nephew, can safely count the rattles and segments on the underside of its tail. This handling technique, called "tubing," is the safest way to handle a venomous snake. The number of subcaudal scales on the underside of the tail indicate, with 95% accuracy, the sex of the snake. If there are 21 or more subcaudals, the snake is most likely a male. If there are 20 or fewer, it's most likely a female.<sup>3</sup>

Mike includes that data in his report to the PA Fish and Boat Commission, and to the Pennsylvania Amphibian and Reptile Survey, as part of a citizen science project to document these species in the state.<sup>4</sup> We never keep a snake or kill it, but it's fascinating to study them at close range.

The number of rattles is highly variable, since they break off when snakes crawl among rocks. Each time a rattlesnake sheds, it forms a new rattle, so it's impossible to age a snake based on the number of rattles. Regardless, it's exciting to find a snake with eight or more rattles since most have far fewer.

We've seen over 30 different rattlesnakes on our property in the 30 years we've lived here and 99% have been males. The most exciting encounter happened on July 3, 2017. It was a hot morning as we removed a damaged branch from a tree in our side yard. Laura was the first one to notice something

**Snakes**, continued on page 3



Mike safely holds a rattlesnake in a clear plastic tube while his great-nephew Seth counts its rattles and segments.





*The Jacksons had the extraordinary experience of watching and photographing a rattlesnake's eight-hour feeding marathon on a gray squirrel.*

odd—a gray squirrel came crawling toward her in slow motion. Then the squirrel collapsed at her feet. Looking around, she saw a large rattlesnake following the squirrel's scent trail. The snake must have bitten the squirrel a few minutes earlier, injecting venom into it. Rattlesnake venom is hemolytic, which means it destroys red blood cells and quickly destroys the central nervous system, causing rapid death. After getting Mike's attention, we stood back and watched the snake nuzzle the dead squirrel. Mike ran to the house for the camera, so we were able to document this jaw-dropping encounter that turned into an eight-hour feeding marathon. We used long lenses and stayed well away from the snake, since we didn't want to stress it.

We were shocked that the rattlesnake was attempting to eat such a large squirrel! Although all snakes are carnivores, they can't chew their food, so they have to swallow it whole. We watched the snake's jaws expand to surround the head of the squirrel and then it used its fangs to grip the fur as its jaws moved forward. Because it was a hot summer day, the green bottle flies were attracted to the squirrel's dead body almost immediately while the snake venom was digesting the protein inside the squirrel.

The snake started eating around 10 a.m. and by 6 p.m. it had finally "walked its way" to the base of the squirrel's tail.

Then all progress stopped, so we left to eat supper. When we looked again, we were dismayed to find that the snake had thrown up the squirrel and was resting under a shrub. All of that work for eight hours on a very hot day and its belly was now empty! Our hypothesis is that the snake couldn't swallow the tail, so it regurgitated the squirrel.

Most of the rattlesnakes that we see on our property are black phase, referring to the black head with black eyes. The yellow phase has a yellow head with yellow eyes, but the body often darkens to black closer to the tail, as shown in the photo below.



*Comparing the coloration of a black phase rattlesnake and a yellow phase rattlesnake.*

In 2021, we saw five different rattlesnakes, all black phase and all around 44 inches in length. We saw one snake coiled at the base of a large rock in our yard, the classic pose of the ambush predator. No doubt it smelled a trail of chipmunks or squirrels. It waited at the rock for hours, until it got too dark for us to see. Rattlesnakes use their pit organs as thermal sensors, so they are able to locate their prey at night. The snake was gone by morning, so we don't know if it was successful or not.



*Coiled rattlesnake waiting for prey.*

Although we see rattlesnakes almost every year, we've only seen two copperheads on our property, even though it's the most common venomous snake in Pennsylvania. Mike found the first one in June 2016 under our fake rock at the water garden in our front yard, coiled among the electric cords for the pump. Needless to say, we are very careful now when we lift the rock! The second one was crawling along our plant shed in July 2018. Like rattlesnakes, they are ambush predators, but eat smaller prey like mice.

**Snakes, continued on page 5**



## Allyson Muth, Linda Finley Receive 2022 PA Forestry Association (PFA) Awards

### Allyson Muth, Joseph Trimble Rothrock Conservationist of the Year

The Rothrock award recognizes an individual, organization, or group's significant contributions to the public recognition of the importance of Pennsylvania's forest resources in the same tradition and spirit of Dr. Joseph T. Rothrock, the "Father of Forestry in Pennsylvania."

Allyson started her career at Penn State as forest stewardship associate in 2004 and currently serves as director of the Finley Center and assistant research professor in private forests management. She oversees the PA Forest Stewards volunteer program and is part of a statewide collaborative effort that is bringing the whole of the forestry community together to set a vision for how to more effectively practice forestry on privately held lands.

### Linda Finley, Mira Lloyd Dock Outstanding Woman Conservationist

The Mira Lloyd Dock award honors the valuable contributions women make through their professional and/or personal commitment to Pennsylvania's natural resources. Mira Lloyd Dock is recognized as the first Pennsylvania woman to lead the way in forest conservation.

Linda is a forest landowner, a PA Forest Steward (Class of 1993), a PFA member for more than 30 years, and the only woman to serve as PFA Board President. She also serves on the Finley Center Council.

Founded in 1886, the Pennsylvania Forestry Association is the oldest grassroots forest conservation organization in North America.



PFA award recipients Allyson Muth (left) and Linda Finley.

## Paul Solomon Receives Penn State Alumni Lifetime Achievement Award

Congratulations to Class of 1993 PA Forest Stewards volunteer Paul J. Solomon of New Freedom (York County), PA, who was recently awarded a Lifetime Achievement Award from the Penn State Graduate School Alumni Society. This award recognizes individuals who have achieved exceptional success in their chosen profession and who have demonstrated loyalty to the University and the Penn State Alumni Association.

Paul is a graduate of Penn State with a Bachelor of Science degree from the College of Agricultural Sciences and a Master's degree in Regional Planning. He spent his career in public service as a professional land use planner, serving with the York County Planning Commission and later with the Baltimore County (MD) Office of Planning and Zoning. Following his retirement, he served his community for nearly two decades as an elected Shrewsbury Township Supervisor (2001-2019) and for two terms as a volunteer member of the Shrewsbury Township Planning Commission (Chair, 2020-2021). Paul also is an active participant in both the PA Forest Stewards program of the Finley Center and the Master Watershed Steward program of Penn State Extension. Throughout his career and volunteerism, Paul has dedicated himself to the stewardship of agricultural and forested land and natural resources.

As his avocation, Paul has put his extensive background to use restoring agricultural properties. He has been

active in this work since 1957, restoring eight properties, encompassing 1,126 acres and multiple historic buildings. Paul is a frequent contributor to the PA Forest Stewards newsletter, the forest stewardship newsletter *Forest Leaves*, and Penn State Extension's *Watershed Winds*, sharing his lessons learned in property restoration and encouraging others to engage in stewardship practices on their properties. He routinely hosts individuals and groups on his property, promoting sound stewardship of agricultural land, forests, and water. Some of you in the southeastern region may remember visiting Paul's current agricultural property for a PA Forest Stewards regional meeting in 2018, where he shared his experience in adopting forest and stormwater management practices.

Paul has made effective use of his Penn State education, career, personal interests, elected position, and volunteer work to better both his own community and the region. All of us at the Finley Center congratulate Paul on receiving this important award and achieving recognition of his lifelong commitment to public service and agricultural stewardship.



Paul Solomon

### Chair, continued from page 1

this went down...First I got a grant from NRCS to use on whatever I wanted on my property. Then I dedeed the grade to the Foundation for Sustainable Forests so they could use the grade for educational purposes. Then I found a resource with the right heavy equipment and mindset to do the job. Then came about three months of work, with another several weeks to go. What a great feeling! It's not fancy, but it's a cornucopia of wetland life. On my last walk, I saw a blue heron, six wood ducks, two geese, a deer, three eagles, and two ravens. It seems the perfect legacy to me.

Those are the three final pieces to my Chair Column, and I hope you have enjoyed reading them over the years...I loved writing them. Stay well, have a

great holiday, and I'll catch you next year on the back page.



Bob Slagter (standing) and Jim Finley spent long hours working together for betterment of the PA Forest Stewards program. Thank you, Bob, for your many years of service as the Steering Committee Chair!

# Finley Center and the PA Forest Stewards Program Welcome Jeff Osborne as Our New Forest Stewardship Program Associate

We are excited to announce that Jeff Osborne joined the Finley Center staff on November 22! Jeff will play an integral role in the PA Forest Stewards program, and we look forward to you getting to know him over the coming months. Below Jeff shares a bit about himself and his background in forestry.

Hello, I am Jeff Osborne, the new Forest Stewardship Program Associate at the Finley Center. I grew up along the Ohio and Pennsylvania border trying to spend every fair-weather day outside playing, hunting, fishing, or just wandering along the Shenango River, at Buhl Park, state game lands, and my grandfather's property. In high school I decided to join the U.S. Army for six years and then pursue a natural resource management degree. Upon leaving the Army, after living in two other states and two other countries, I

decided to return to Pennsylvania and attend the Pennsylvania State University. I graduated with a B.S. in Forest Science in 2014 and started working for the Commonwealth shortly after. I spent four years conducting forest inventories and the last three years as the DCNR Bureau of Forestry service forester in Mifflin, Snyder, and Union Counties. Last year I moved to southern Clearfield County with my wife, our four children, and our dog.

I look forward to engaging and learning with current and future Pennsylvania Forest Stewards, woodland owner groups, other private forest landowners, and anyone else trying to make a positive influence on Pennsylvania's forests. Please feel free to reach out to share any questions, concerns, or interesting stories with me through phone: (814) 867-5982 or email: jao5194@psu.edu.



Jeff Osborne

## Snakes, continued from page 3



Copperheads (left) are often mistaken for milk snakes (right), but the large coppery head and color pattern are distinctive for copperheads. The hourglass pattern on the copperhead is much different than the thick bands on milk snakes.

Using a zoom lens, Laura was able to safely capture a closeup photo (bottom right) of the coppery head, complete with forked tongue. Copperheads are pit vipers like rattlesnakes; there's a hole between the mouth and the eye. The heat sensitive pit allows them to detect prey at night when snakes are most active. The eyes have elliptical pupils characteristic of Pennsylvania venomous snakes. All the non-venomous snakes in Pennsylvania have round pupils. Don't want to get that close to a snake? Just walk away. Save your energy for combating invasive plants that don't belong in your woods.

Why do we like snakes so much? There are many reasons, but for us, they represent the wild part of nature that many



Note the coppery head and forked tongue.

don't appreciate. We also value their important ecological role since they eat so many small mammals. By eating a lot of rodents, snakes are swallowing a lot of ticks and plant seeds.

One study showed that snakes are significant tick-eaters in our forests. They also swallow significant numbers of seeds that cling to rodent fur. Researchers at Cornell consider snakes to be "ecosystem engineers" in seed dispersal, thus impacting plant distribution.<sup>5</sup> As forest landowners, we have to thank snakes for destroying ticks and spreading seeds.

### References:

- <https://waterlandlife.org/wildlife-pnhp/species-at-risk-in-pennsylvania/eastern-massasauga-rattlesnake/>
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- <https://paherpsurvey.org>
- <https://news.cornell.edu/stories/2018/02/snakes-act-ecosystem-engineers-seed-dispersal>



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SAVE THE DATE!

5<sup>th</sup> Biennial  
Forest Landowners Conference



March 24-25, 2023

at the Penn Stater Hotel  
and Conference Center  
State College, PA

Join hundreds of woodland  
owners and the professionals  
who serve them.

Early Bird registration opens soon!  
Find out more at [ecosystems.psu.edu/forest-conference](https://ecosystems.psu.edu/forest-conference)

*We are working closely with Penn State Extension's Cvent team to open up registration for the 5<sup>th</sup> BIENNIAL FOREST LANDOWNERS CONFERENCE! We'll send you an email and a postcard to notify you when registration is open. Be sure to take advantage of the Early Bird discount. And make plans to attend the FREE Saturday morning breakfast buffet and meeting for PA Forest Stewards and their guests—be sure to email us at [PrivateForests@psu.edu](mailto:PrivateForests@psu.edu) or call 1-800-235-9473 to sign up for the special breakfast meeting!*

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