# the Forest Steward

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*"Fire is an essential part of forests. We follow nature's model and use fire where it is needed - to make communities more fire-adapted, restore ecosystems, encourage the next generation of forest stewards, and reduce the threat of unnaturally severe wildfire."*

*- Dave Lasky, Director of Fire Management, Forest Stewards Guild*

*Prescribed fire in northern New Mexico to restore ecosystem function in ponderosa pine, a fire-adapted forest. Photo: Sam Berry.*

Forest Stewards Guild

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INSIDE



*Nature's design - fire effect on a leaf, in the gloved hand of a fire specialist. Photo: Esmé Cadiente.*

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# To our Members and Supporters

## Fire on the landscape
## Managed fire as a tool for stewardship and resilience

**2018** is another record-breaking wildfire year. Millions of Americans are experiencing health effects from continental-scale smoke impacts. Tens of thousands of wildland firefighters have been mobilized across the United States and Canada for grueling assignments. Tragic deaths are being recorded.

As forest stewards, we are simultaneously students of trees, insects, wildlife, water, soils, and wildfire. Some of you may consider wildfire daily in your work, while for others it's a distant consideration due to your landscape characteristics.

Here in the Guild's Southwest office, I think of wildfire regularly and it is a driving force behind our work. Wildfire connects forests, water, wildlife, and communities.

Noted fire historian Stephen Pyne eloquently stated that, "as flora and fauna have sculpted biomass into new forms, so fire has evolved, morphing into new species" and, "the Anthropocene might equally be called the Pyrocene." The Anthropocene is both a concept and framework for management. The concept of the Pyrocene will especially resonate with residents of the West. As we learn to live in the Pyrocene, the work of forest stewards will increasingly involve wildfire.

*Eytan (left) works a prescribed fire line alongside Matt Piccerello, both from the Guild's Southwest program office.*

The Guild's Southwest program dates to the work of the Forest Trust in the 1980s. Over time, the influence of wildland fire has been steadily increasing. Significant moments that moved the Southwest program to being active fire practitioners include:

- supporting the inauguration of New Mexico's Collaborative Forest Restoration Program (CFRP) in 2001,
- developing fire plans for Hispanic Land Grants in New Mexico from 1999 – 2003,
- writing the Greater Cuba Community Wildfire Protection Plan in 2006,
- our 2008 analysis of fire's role in CFRP work,
- publishing *A Comprehensive Guide to Fuels Treatment Practices for Mixed Conifer Forests*,
- co-founding the Fire Adapted Communities Learning Network in 2013 and implementing a prescribed burn near Black Lake, NM,
- in 2013, being a founding member of the Fire Adapted Communities Learning Network,
- continued participation in Prescribed Fire Training Exchanges and sending Matt Piccarello on wildfire assignment in Utah in 2016, and
- launching the Forest Stewards Youth Corps Fire and Fuels crew, hiring Dave Lasky as Director of Fire Management, and other initiatives in 2018.

The Guild has a long-standing tradition of caring for the forest and cultivating the businesses and jobs needed to do so. Sometimes referred to as the restoration economy, this applies to wildfire as well. Guild staff and projects train firefighters and managers, support fire focused businesses, enable the two-way flow of information between scientists and practitioners, and reduce barriers to prescribed fire. The All Hands All Lands Burn Team described in this issue is a great example of what this looks like in practice.

Our increased engagement is growing nationwide. Read about Amanda Mahaffey's recent New York and New Jersey fire adapted communities learning exchange. Nick Biemiller shares his ongoing work for short-leaf pine conservation, including working with landowners on prescribed burning.

Forested ecosystems and communities are at increased wildfire risk. This is a "wicked" problem that is both a social and technical challenge. It is a challenge for forest planning and management, community preparedness and resilience, human health, safety and science communication, insurance, and it's a professional and personal challenge.

The Forest Stewards Guild staff, members, supporters, and partners are uniquely positioned to provide meaningful contributions to meet these challenges at a variety of scales.

Eytan Krasilovsky, Southwest Region Director

# Shortleaf Pine Ecosystem Restoration in the Cumberland Plateau

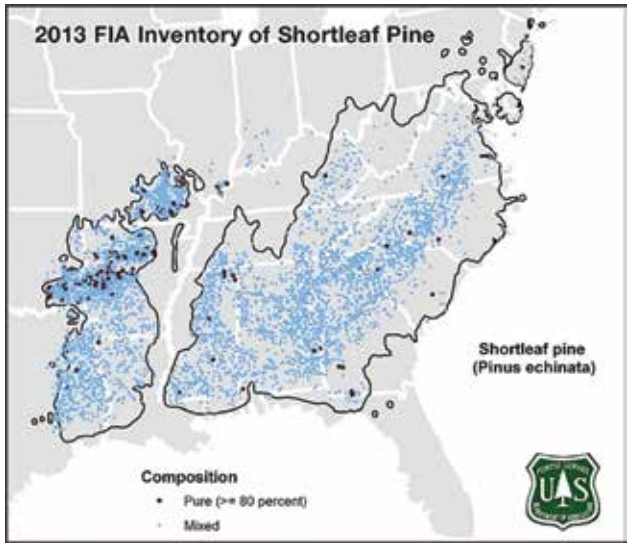
By Nick Biemiller, Southeast Regional Coordinator



*Shortleaf pine (Pinus echinata) was once a common tree from the interior highlands of Arkansas to the pine barrens of New Jersey, but now occupies less than 10% of its historic range.*

Shortleaf pine is drought tolerant, cold tolerant, can provide valuable timber, and is fire-adapted. Historically shortleaf pine ecosystems were maintained by frequent, low-intensity fires, which sustained open structural conditions and rich herbaceous understories. These open forests provide critical habitat for game and non-game bird species, increase streamflow, have a unique aesthetic appeal, and are more resilient to catastrophic wildfires, drought, and other natural disturbances. To delve into more detail about shortleaf pine and to see the full citation list, visit: http://forestguild.org/node/670.

Climate change projections for the southern and mid-Atlantic regions suggest more variable precipitation, increased drought frequency, and increased wildfire threat. Biological and physiological characteristics of shortleaf pine trees, and the resiliency of their ecosystems, make them an ideal species for meeting diverse societal demands and promoting ecosystem health. Approximately 62 percent of shortleaf pine forests are on privately owned forestland, a large portion of which is family forests. Most family forest landowners in the South have a strong conservation ethic but are underserved by conventional educational and outreach efforts. Very few take advantage of cost-share or tax-incentive programs for forest management activities. Most do not have a written forest management plan.




*Historic range of shortleaf pine and its current distribution. (Source: shortleafpine.net)*

A collaborative partnership is underway in the Cumberland Plateau between the Forest Stewards Guild, Tennessee Wildlife Federation, Sewanee: The University of the South in Tennessee, and Berea College in Kentucky to restore shortleaf pine ecosystems. This project is increasing capacity for shortleaf ecosystem restoration at Berea and the University of the South and using their demonstration forests to exemplify best practices to private forest landowners and natural resource professionals. The project is primarily funded by the National Fish and Wildlife Foundation and the Lyndhurst Foundation. We are hosting educational events and technical trainings, including learn-and-burn events to increase forest landowners' familiarity with prescribed burning. We are also working with landowners to develop shortleaf management plans that qualify for cost-share funding.

A crucial part of the project is to provide family forest landowners management options that resonate with their values and their reasons for owning forestland. Given that shortleaf pine ecosystems are fire-dependent, a primary next step is to increase capacity for prescribed burning with private forest landowners in Kentucky and Tennessee. We are seeking support to incorporate the Guild's Wildland Fire Module into burning with private landowners in the Cumberland Plateau, and lay the groundwork to form a prescribed burn association among landowners.

*Above left: Engaging family forest landowners and natural resource professionals in ecological forestry and shortleaf pine ecosystem restoration. Above right: Privately owned shortleaf pine forest. Photos: Nick Biemiller.*

# Restoring fire's natural role



*Prescribed burn in northern New Mexico. Don't let the smoke or high flames fool you...this fire was managed to be hotter and create some tree mortality to achieve forest management objectives.*

The Guild has reached a milestone in 2018 toward the work of responsible and sustainable forest management by re-introducing good fire to landscapes that were created and maintained by fire and depend on it to thrive (in other words, fire-adapted forests). We have expanded the Guild's Forest Stewards Youth Corps to include beneficial fire, partnered on the All Hands All Lands Burn Team, and begun building a new Wildland Fire Module.

The practice of prescribed burning promotes ecological health in frequent fire forests, reduces hazardous fuels, and reduces the intensity and size of future wildfires. Ecological use of fire aligns with the Guild's principle that responsible forest management imitates nature's dynamic processes and minimizes negative impacts. For many years, the Guild has supported the ecological use of fire in New Mexico, but as the warming climate has magnified the threat of high-severity wildfire, we have redoubled our efforts to facilitate the re-introduction of good fire to fire-adapted forests.

One of the key constraints on the use of prescribed fire to restore ecosystems is availability of personnel and equipment. The large, high-severity wildfires that need to be suppressed to protect lives, homes, and communities divert resources from prescribed fire. Fire managers can get inundated dealing with the latest catastrophic wildfire, leaving prescribed fire largely ignored and backlogged. Without prescribed fire or managed wildfires in fire-adapted forests, catastrophic wildfires become more common, setting in motion a viscous cycle.

*"The field needs to decouple prescribed fire and suppression fire. When all the same people work both missions, they often aren't on prescribed fire programs to get the work done because they are sent to pre-position for extreme fire situations elsewhere." Dave Lasky, Director of Fire Management, Forest Stewards Guild.*

The All Hands All Lands (AHAL) Burn Team is designed to respond to that need. The AHAL Burn Team is a collaborative effort between The Nature Conservancy of New Mexico, the Rio Grande Water Fund, the Forest Stewards Guild, and many others to accelerate the return of good fire in northern New Mexico. The name 'All Hands, All Lands' comes from the US Forest Service's goal to restore forests with a wide array of partners, across all ownerships.

The goal of the AHAL Burn Team is to get ahead of prescribed fire backlogs on federal, state, and tribal lands and support private landowner's use of prescribed fire. The Burn Team is fully qualified to lead prescribed burns or support others in burning across a variety of jurisdictions. As this article goes to print, the team is burning over 2,800 acres in the Taos Ski Valley and assisting the El Rito Ranger District of the Carson National Forest on the Alamosa prescribed burn. Both of these projects required significant investments in building the agreements and partnerships that permit work across different jurisdictions, long before the first match was lit.

The second crucial piece of increasing the beneficial use of fire is to train and support the next generation of forest stewards. For decades the Guild has trained New Mexican youth ages 16- to 19-years-olds in our Forest Stewards Youth Corps (FSYC). Our new fall FSYC Fire and Fuels Crew program targets an older age group, 18- to 25-year-olds, and emphasizes wildland firefighting training and prescribed fire implementation.

For many natural resource professionals in the West, experience in wildland firefighting is a rite of passage and a bridge to other employment opportunities. Fire management experience is tightly linked to natural

*2018 FSYC Fire and Fuels Crew participants create a fire break during their hands-on training sessions.*


*Fire unit for prescribed burn support at Rio Trampas burn April 14, 2017.*

*These helmets, from a fire training in Chile, represent the group effort fire management always requires, no matter where it is being implemented. See October's Across The Landscape newsletter article for more on this story in Chile at: http://forestguild.org/node/667. Photo: Leonora Pepper.*

*All other photos in this article: Esmé Cadiente.*

resource management disciplines because fire is the primary disturbance in western forests. Working in fire management opens a window not only to an ecosystem process that will dictate much of our management decisions, but also into environmental policy, land management, and collaboration. For FSYC participants, many of whom just graduated high school or college and are looking for that next step towards a career, the FSYC Fire and Fuels crew provides a unique opportunity to gain experience and open doors.

The FSYC Fire and Fuels Crew is unique and a challenge to administer because it's both a youth training program and functional fire crew. Our long-term goal is to graduate FSYC participants into careers and/or education in natural resource professions. A less obvious benefit to FSYC is that we are training people local to the forests and communities that become their classroom. This offers them new opportunities and skills, accomplishes forest management, and creates a profound, supportive connection between people and their local environmental landscape.

In the long term, we hope members of the FYSC Fire and Fuels Crew will continue as part of the Guild's Gravitas Peak Wildland Fire Module. As described in the June 2018 issue of our Across The Landscape newsletter, (http://forestguild.org/node/629), the Guild's Wildland Fire Module will provide additional training, certification, and experience for apprentices while implementing restoration projects. The Module will work much like the current All Hands All Land Burn Team does: connecting with partners to return fire to forests across jurisdictions. The Module is starting in New Mexico and Colorado, but there will be opportunities to use it to restore other ecosystems such as shortleaf pine in the Southeast (see page 2).

Prescribed fire is part of the restoration economy. In addition to forest restoration, the Module will contribute to the social and economic elements of the Guild's mission. Providing training, salaries, and career opportunities for young adults from underserved, rural communities is socially responsible. Demonstrating that restoration and good fire are financially viable is economically responsible. There are many private landowners who know their forest needs fire, but they need help to implement a prescribed burn. National Forests are already in discussions about opportunities to engage the Module during the early fall prescribed fire window in the Southwest while their fire crews are still fighting wildfires in the Northwest.

It's an incredibly exciting and challenging time. And it's an incredible honor to be part of it all and to be leading the charge with our partners. It's all toward the Guild mission of economical, ecological, and socially responsible forest management for the good of all.

To learn more about the Forest Stewards Youth Corps, All Hands All Lands Burn Team, or Gravitas Peak Wildland Fire Module visit the websites below, and stay tuned early next year when we will have dedicated pages on our new website for our prescribed fire programs:

1. http://forestguild.org/FSYC and http://forestguild.org/FSYCfall
2. https://facnm/our-projects/all-hands-all-lands-burn-team
3. http://forestguild.org/gravitaspeak

We welcome your support to keep these enormous efforts a success and expand them across our Guild regions.

# Fire in the Northeast

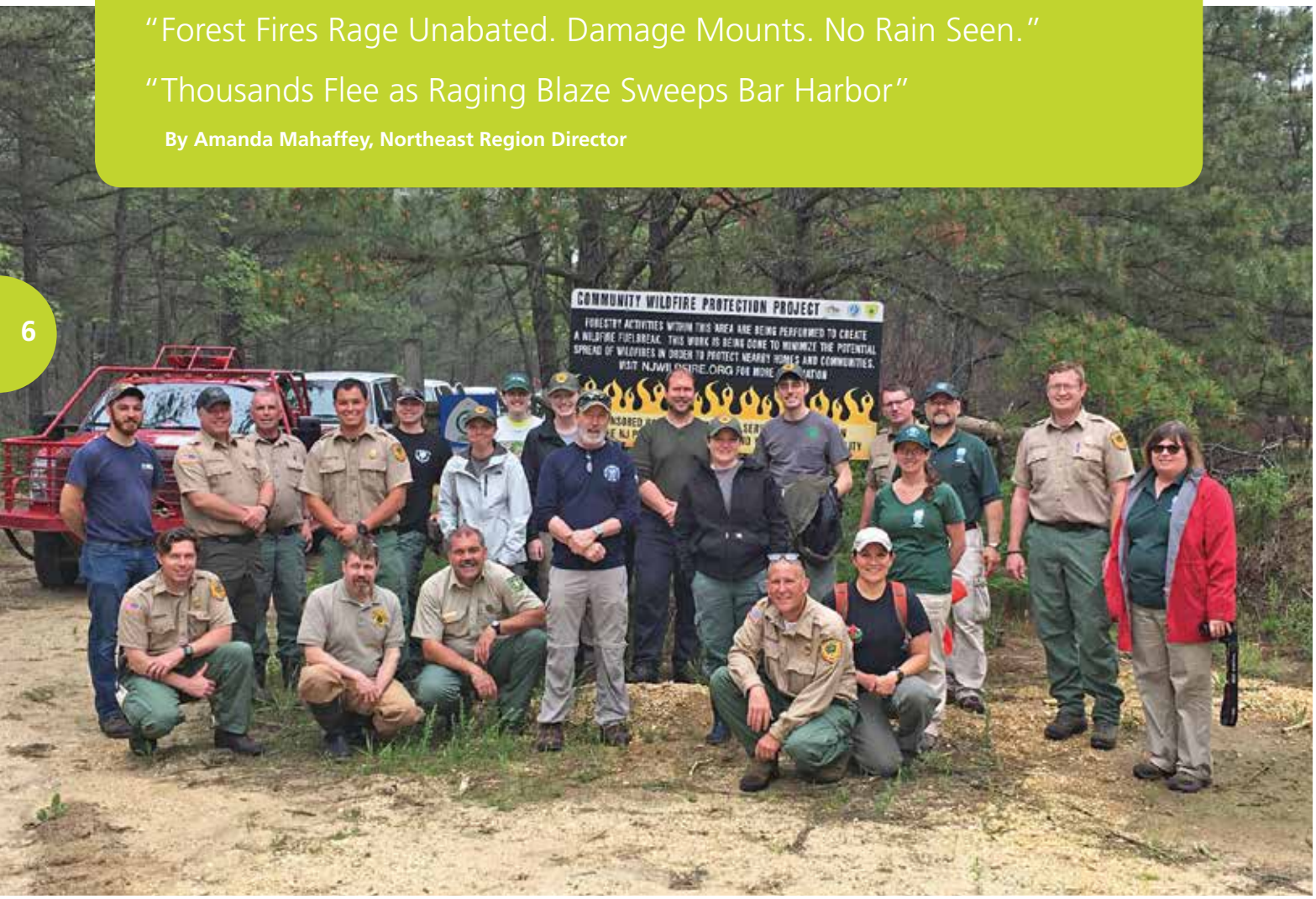
"Millions in Damage as Fires Rage through Maine Forests"

"Forest Fires Rage Unabated. Damage Mounts. No Rain Seen."

"Thousands Flee as Raging Blaze Sweeps Bar Harbor"

**By Amanda Mahaffey, Northeast Region Director**






*Participants in a Fire Adapted Communities workshop in New Jersey host their counterparts from Long Island, New York to share learning about managing people and fire together in the Pinelands. Photos in this article: Amanda Mahaffey.*

The Bangor Daily News headlines blared the unthinkable for days in October 1947. Wildfires ignited during drought conditions across Acadia National Park, Maine, and the Northeast, taking New Englanders by surprise and causing unprecedented damage to forests, villages, and homes. In response, the Northeastern Forest Fire Protection Compact was formed, which today unites the northeastern United States and neighboring Canadian provinces in sharing information and mutual aid resources across boundaries.

Ten years after the great fire, the newspaper ran a feature on page eight. Thirty years later, a thin column appeared on page 13A. Seventy years later, the Compact teamed up with the North Atlantic Fire Science Exchange and numerous local partners to hold three days of events commemorating the 1947 fires and reflecting on how we have progressed as a fire-adapted community since.

As foresters and forest stewards, it is our responsibility to know the history of the forest. We make adaptive management decisions informed by the past and guided by desired future conditions. Despite generations of forestry schools teaching that fire is bad and that New England is an "asbestos forest," Guild foresters know that our knowledge of forest ecosystems is limited and that responsible management that truly sustains the forest requires humility and continuous learning. If we acknowledge that fire is one of nature's dynamic processes, we might consider fire as another tool in the silvicultural toolbasket toward sustaining the ecological integrity of our forests.

Since 2014, the Guild has been a partner in the North Atlantic Fire Science Exchange (NAFSE), a collaboration that facilitates communication between fire scientists and land managers to promote a safe and resilient fire-adapted landscape. This vibrant community turns out in force for field trips, workshops, and


*Water pumps have long been used to fight fire in the Northeast.*


*A Bar Harbor resident points out the features of a historic fire truck to his children.*



webinars with a passion that echoes Guild members' own desire for community and in-the-woods learning. The NAFSE website, www.firesciencenorthatlantic.org, houses numerous resources that can help foresters connect with the fire science community and learn about the influence of fire in the northeastern forest landscape.

At the 70th anniversary events, Dr. Bill Patterson, professor emeritus from the University of Massachusetts-Amherst, shared calculations of the drought indexes in 1947 and 2017 that showed an eerie similarity between the two years. Only the dregs of a hurricane in early September 2017 kept the fuels moistened and the fire danger slightly below what it had been in the fateful 1947 fire season. Climate change is doing more than strengthening hurricanes. In the summer of 2018, unsettled thunderstorm patterns caused unpredictable lightning strikes across Quebec and Ontario, putting these provinces at Preparedness Level 5. The Guild's northeast region director, Amanda Mahaffey, joined the Maine Fire Crew on a two-week wildfire assignment in Quebec and got a close look at the results of decades of successful fire suppression and consequent fuel loading. She describes her experience in our Forest Stewards publication extra online, and it's a worthy read: http://forestguild.org/node/671.


*Smokey Bear points out today's fire danger rating and keeps watch over equipment used by today's wildland firefighters outside the Bar Harbor Fire Station.*

Fire is also a very real part of the human communities that co-exist with pitch pine-scrub oak ecosystems in southern New Jersey; Long Island and Albany, New York; Cape Cod; and interior portions of Massachusetts, New Hampshire, and Maine. In May and June of 2018, the Guild facilitated two Pinelands Learning Exchanges sponsored by the FLN Fire Adapted Communities. These events highlighted the challenges and opportunities for shared learning between the Pinelands communities in New Jersey and on Long Island, two of the most densely populated areas of the Northeast. The following recollection is a snap shot from the events, showing how much learning and discovery there is to do, and how these learning exchanges help us do it together: At every stop, the group mixed and mingled. Ecologists talked with foresters. Fire wardens talked with residents. Long Islanders talked with New Jerseyans. The group discussion helped each participant put the sites in a personal context. What resources did New Jersey have to manage its pinelands? What challenges did the state agencies face in balancing human safety and wildlife objectives? What barriers were similar or different on Long Island? What communication tools seemed to work well in engaging residents in wildfire preparedness? The lessons, questions, and discussion carried over into a social dinner.

Where do we go from here? Fire has played a role in oak forest ecosystems, and practitioners in Pennsylvania, Massachusetts, and Connecticut are revisiting this concept in their management approaches. As we look to an uncertain future rife with gypsy moth, invasives, and deer browse in the Northeast, we might want to consider the potential for fire to help maintain and enhance our oak-dominated forests.

The great silviculturalist D. M. Smith visited with foresters in Maine on two occasions and shared some fresh perspectives with his colleagues. "That would never happen here," he was told in response to his ideas. In one place, it took five years for the idea to come to fruition; in the other, it took ten. Therefore, D. M. Smith concluded sagely, "never" in Maine happens on average every 7.5 years. Before "never" happens again, let us hope that the Northeast's forestry and fire communities can grow together in our shared knowledge of landscape stewardship.

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# GUILD GATHERINGS and other events

**This year was the richest year for Guild Gatherings so far. Every region had at least two gatherings and hundreds of people attended and shared ideas. Check out the list online at: http://forestguild.org/GuildGatherings. Join us again, and suggest one in your area to help us host more! Contact Colleen at colleen@forestguild.org or your Guild Regional Coordinator.**

## Bogs and Outwash - Growing Uneven Aged Douglas Fir near Puget Sound

**Date:** October 27, 2018
**Location:** Cranberry Lake Forest Education and Research Center, Shelton, WA
Come see Douglas Fir management across a chronological series of thinnings. Its like a forestry walk through time on this unique property of wetlands, bogs, lakes, streams and upland forests.

## Bottomland hardwoods learning exchange

**Date:** November 7-9, 2018
**Location:** College of Coastal Georgia, Brunswick, GA
This field-based learning exchange brings together experts from the Atlantic Coastal Plain and the lower Mississippi Alluvial Valley to compare these two geographies based on social, ecological and economic factors, with an emphasis on the connection between forestry and hydrology.

## Bottomlands and Birds

**Date:** February 2019 - stay tuned!
Forestry for water quality, restoration and habitat in Southwestern Wisconsin