New Forest Health Issues with American Beech in New England

*News Quarterly Science Theme - Dr. Anthony D’Amato, Theme Editor*

The dynamics and abundance of American beech have been greatly altered throughout much of New England due by the beech bark disease complex. Recently, an additional novel stressor for this species, beech leaf disease, was detected in southern New England, further threatening to impact the health and condition of beech in our region’s forests. This theme highlights monitoring and research efforts to document the causes and distribution of beech leaf disease, as well as potential mechanisms for its spread.

(Article begins on page 4)

A dense beech stand in Hopkinton, RI, heavily defoliated by BLD, Note the amount of light reaching the forest floor. (September 2020). (Photo: Heather Faubert).
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Happy Fall NESAF! I am writing today as the leaves change here in northern New England reflecting on what has been a surreal year for us. From cancelled Annual Meetings to a Virtual SAF Convention - our networking and continuing education calendar has been thrown upside down. The loss of the Convention in Providence was especially painful because there are NESAF members that have been planning for years to have this opportunity to showcase what New England forestry is all about. However, I am happy to note that I and others have been advocating for a return to New England for the Convention as soon as possible. We are hopeful!

This 100th year of NESAF has not been what we consider “normal” by any stretch of the imagination. However, it is not the first time our members have faced adversity - and while these are trying times we will adapt our processes in our jobs and life. We may all hate Zoom meetings but there’s no getting around that it opens up access to information sharing that we might not have had in the past. Adversity breeds innovation and I for one am looking forward to what innovations will make our jobs different and possibly better moving forward.

When I volunteered for the role of Chair-Elect, I did not anticipate this would be how the year would go - I truthfully thought I would be presiding over several celebrations - first the 100th anniversary at our winter meeting and the 25th anniversary since the last time the National Convention was in New England. Instead, I have been chairing Zoom meetings and participating in calls to convert the Convention from in-person to a virtual event! I am proud to have been representing New England in those discussions and I know that we are not “out of the woods” yet but am confident that we as a State Society will weather this and continue to adapt just as we have over the last 100 years. Be well everyone and I can’t wait until we can celebrate “normalcy” again.

Greetings from northern New York, where schools are in full swing, both at the college and primary levels. We are all experiencing some combination of in-person and remote education, and learning a lot of new technologies along the way.

The Board of Directors has met virtually on several occasions. We continue to conduct business and address issues as they arise within our profession, but it’s not nearly as fun via computer screen as it is in-person. Nonetheless, there are some good things to report.

At the National level, SAF has finalized a lease for a new office space at 2121 K ST NW, Washington, DC. The lease was signed in August, and the plan is to move into the space by early October. This space is in a good location that allows for improved networking with other natural resource organizations, as well as better access to legislative and policy happenings.

SAF also continues to plan for the virtual National Convention, to be held October 29-31, 2020. Online registration is available and encouraged. This is a great opportunity to earn Continuing Education credits. Further to this, additional opportunities continue to be added to the ForestEd platform. Members who are CFs or CCFs are encouraged to go to the SAF website and check on the COVID-19 FAQs for information on how the pandemic has impacted certification.

As SAF units continue to work with members in their local area, there is also a set of resources available online to assist SAF unit leaders with planning virtual meetings. These resources include: Practical meeting planning steps to consider; engaging members during the pandemic; and an FAQ on considerations when resuming in-person meetings.

I don’t have a great deal more to report. It’s certainly been an interesting summer as we reduce our travel and personal interactions. I look forward to participating in Executive Committee meetings with both New England and New York SAF units moving into the fall. I will also be looking for folks interested in filling the Board of Directors role for District 6, as I will already be starting my third and final year come January. We’ll be looking for candidates over the next few months, who are willing to run next fall. Please keep this in mind as you are looking for ways to engage and serve within SAF.
An Overview of Beech Leaf Disease

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The American beech, _Fagus grandifolia_, is an important hardwood of eastern North American forests, occurring from Nova Scotia and southern Ontario to northern Florida and eastern Texas. As a foundational tree species, American beech plays an important role in forest ecosystems, its cavities and canopies supporting nesting sites and shelter, and its nuts constituting a hard mast food source essential to the survival of a variety of vertebrates, from birds to black bears (Faison and Houston, 2004; Forrest-er et al., 2003). Dense beech foliage also plays an important role in the forest ecosystem, both in the canopy by modulating light levels in the understory, and as leaf litter, contributing to nutrient cycling on the forest floor (Lovett et al., 2010).

Beech leaf disease (BLD), first discovered in 2012 in Lake County, OH, is characterized by dark interveinal banding of leaves (Figure 1) of American, European, and oriental beech (_F. grandifolia_, _F. sylvatica_, and _F. orientalis_). By 2018, BLD had spread to stands of American beech across much of northern Ohio, northwestern Pennsylvania, western New York, and southern Ontario, Canada (Ewing et al., 2018). In 2019, BLD was found in Fairfield County, CT (Marra and LaMondia, 2020) and in NY’s Westchester and Rockland Counties (just north of New York City), and Suffolk and Nassau Counties on Long Island. In 2020, more thorough surveys revealed BLD occurrences in seven of Connecticut’s eight counties, and further east in central and eastern counties of PA and NY. BLD was also identified in a beech stand in Hopkinton, RI, and on European beeches in Plymouth and Lexington, MA.

The diagnostic symptom of dark interveinal banding appears in spring upon bud-break, on newly emerged leaves. These symptoms are most easily seen when viewed from below - i.e. at the lower, abaxial, surface - with light from behind (Figure 2); viewed from above - i.e., at the upper, or adaxial, surface -- these interveinal bands exhibit noticeable hypertrophy, and this cupping increases through the season (Figure 3), occasionally turning yellow or brown later in the season (Figure 4).

In those areas where the disease has been present the longest, BLD has been observed to reappear and advance in subsequent years, with a reduction in buds and therefore foliage. Severe infestations have also been observed, affecting both understory and overstory beeches, characterized by increased canopy thinning, twig and branch dieback, followed by mortality within seven years, and sooner for saplings. In some areas, mortality rates as high as 90% have been observed among dense clusters of saplings.

In Connecticut, the distribution of the disease is sporadic and variable; at some sites, BLD is prevalent in nearly every tree (Figure 5), while at other sites the occurrence may be as rare as one or a few leaves on a single tree among a dense stand of BLD-free trees. Whether this is due to variation in resistance to the...
nematode, or a byproduct of the random process by which the nematode is vectored to new sites, has yet to be determined. It may also be noteworthy that most of the 2020 infestations in CT are within 10-15 miles from the shoreline, with a few exceptions. The only know infestation in Rhode Island is in the town of Hopkinton, with extensive symptoms of interveinal banding and defoliation distributed in beech stands along numerous roads in the area.

In 2019, nematodes, less than 0.1 mm in length, were extracted from symptomatic leaves of American and European beech in North America were confirmed to be most similar to *Litylenchus crenatae*, a nematode associated with leaf gall symptoms on Japanese beech (*Fagus crenata*) (Kanzaki et al., 2019). However, because North American populations differ in morphology, host-range, and DNA sequence from those in Japan, the North American nematode associated with BLD on American, European, and oriental beech has been designated subspecies *L. crenatae mccannii* (Carta et al., 2020) (*Lcm*), with the Japanese beech gall nematode designated *L. crenatae crenatae* (Carta et al., 2020), (*Lcc*). To date, there are no reports of *Lcc* in North America, nor reports of *Lcm* in Japan. However, Kanzaki et al. report finding *Lcc* only on *F. crenata* in Japanese arboreta, and not on nearby plantings of *F. grandifolia* or *F. sylvatica* (Kanzaki et al., 2019). Similarly, Carta et al. reported no symptomatic or *Lcm*-infested foliage on Japanese beech planted near symptomatic American and European beech in the Holden Arboretum (Carta et al., 2020). These observations strongly suggest host specificity, supporting the subspecies designation.

Plant parasitic nematodes belong to an animal phylum - Nematoda - whose highly diverse species, both free-living and parasitic (of both plants and animals), are found in nearly every ecosystem, from marine to terrestrial, and are considered among the most abundant animals on the planet. Most are microscopic, but there are exceptions: a nematode parasite of whales can exceed 8 meters in length (https://nematode.unl.edu/bignema.htm).

In order to determine if *Lcm* is the cause of BLD, and not just associated with it, Carta et al. inoculated beech seedlings with freshly isolated *Lcm* nematodes, which resulted in BLD symptoms (Carta et al., 2020). While there is ongoing microbiome research investigating the role that bacteria or other symbionts of the nematode might play in disease (Burke et al., 2020), the nematode is clearly playing a primary and pivotal role in BLD, either causing it directly, or possibly vectoring an as-yet unidentified pathogen.

Beech leaves emerge fully symptomatic upon bud-break; this is consistent with the observation that the *Lcm* nematode overwinters in buds (Reed et al., 2020). Infected buds collected through winter contained juveniles, adult females, and eggs, but by the time of bud-break, there is scant evidence of juveniles or adults in the newly emerged symptomatic spring leaves (Reed et al., 2020). However, evidence for the presence of the nematode, presumably only eggs, in newly emerged leaves has been confirmed using an *Lcm*-specific molecular marker (Marra, unpublished results). From that point forward, the lifecycle is completed entirely in the leaf tissue, with populations in these interveinal bands increasing through mid-autumn (Reed et al., 2020). Whereas Reed et al. found only rare instances of nematodes in dead symptomatic leaves retained on trees, they were able to find nematodes on detached dead symptomatic leaves. Figure 3. Upper (adaxial) surface symptoms of BLD on *F. grandifolia* in New Haven, CT. (photo: R. Marra)

Figure 4. Late season infestations result in further darkening and increased thickening of symptomatic interveinal bands. Browning, as seen in the upper right corner, is also seen, although this may also be due to anthracnose. (Photo: Robert Marra).

(Article continues on next page)
leaves on the ground (Reed et al., 2020), albeit at lower frequencies than observed in buds. Perhaps the higher nematode frequency in detached leaves on the ground is due to the protection from weather extremes afforded by snow and leaf litter.

The means and timing by which nematodes transit from leaves to buds is not entirely clear. Like other foliar nematodes, Lcm requires water films to move, and as populations inside the leaves increase, nematodes are increasingly likely to emerge through stomates into water films created by dew or rain, from whence they can relocate to other parts of leaves and to buds. Intriguingly, Carta et al. report laboratory observations of adult female Lcm nematodes swarming onto beech bud tips (Carta et al., 2020).

The ability to move through water may also explain how these nematodes move within and among trees, and may underlie the perplexing evidence for long-distance dispersal, all topics of current investigation. Once they emerge from stomates into water on the surface of the leaf, current thinking is that nematodes may be carried passively in rain-splash or wind-driven rain, or picked up by mammals, birds, and/or arthropods, to as-yet uninfected leaves either on the same tree, nearby trees, or distant trees. Carta et al. (Carta et al., 2020) found Lcm on spider mites -- known to travel for miles on wind currents -- collected from BLD-infested trees in Ohio. Additionally, beech buds are a food source for numerous bird species, especially members of the rose finch family; whether the Lcm nematode survives passage through the bird gut is currently under investigation. Another area of research underway in my laboratory is the development and deployment of molecular forensic markers to elucidate origins of new infestations and pathways of dispersal.

Beech leaf disease is not the first major threat to the American beech. At some point in the late 1800s, an invasive exotic scale insect, Cryptococcus fagisuga, was inadvertently introduced into Nova Scotia from Europe, presumably on nursery stock of European beech. The scale insect feeds through the bark on the tree’s phloem, and in the absence of any natural checks undergoes rapid population growth. The resulting holes and fissures in the bark render trees susceptible to entry by two native fungal species, Neonectria ditissima and N. fagisuga. This progression gives rise to the disease complex known as beech bark disease (BBD), characterized by fungal cankers that manifest in damage to both bark and vascular system, resulting in dieback and, ultimately, mortality. BBD has moved its way southward and westward, leaving behind forests dramatically impacted and altered, comprising dense clumps of clonally propagated root-sprouted saplings. It remains unclear whether a correlation exists between BLD incidence and BBD, a topic currently under study. Systematic and uniformly undertaken surveys, such as that currently underway in multiple eastern states, which involve collecting tree and site metrics (e.g., BBD, dbh, slope, aspect, host-tree density, to name a few), will shed new light on predisposing factors that may be involved in future occurrences and outbreaks of BLD.

Injections of emamectin benzoate, which translocates through a tree’s vascular system, is the subject of research in Ohio exploring treatment options for BLD. Emamectin benzoate is currently labeled for use against the pine wilt nematode (Bursaphelenchus xylophilus), and is effective as a preventative, not a curative, treatment. The research on BLD is ongoing, and while results so far are not promising, these efforts continue, exploring modifications to application protocols. Needless to say, this approach, while potentially efficacious on ornamental trees, would not be suitable in forests.

Given this past summer’s record heat and extended drought conditions, we will have the opportunity to study the impact weather extremes such as these might have on the development and spread of BLD. For example, will the extended dry periods that have persisted in the northeast all summer and into fall curtail or minimize the nematode’s ability to transit from leaf to bud, which presumably would result in an attenuation of symptoms next spring? Time will tell. Meanwhile, with funding from the USDA Forest Service, and under the supervision of USDA Forest Pathologist Danielle Martin, long-term BLD monitoring plots are being installed in CT, MI, NJ, NY, OH, PA, and WV. Multi-year data from these long-term monitoring plots will facilitate a clearer understanding of how the development and spread of BLD are impacted by weather patterns and site characteristics.
References Cited:


CALL FOR AWARD NOMINATIONS

It is NESAF Awards time again! Who do you know that is deserving of a NESAF Award – someone who was your mentor or someone you are mentoring? Do you know of a peer in forestry who comes to mind immediately when you think of character and integrity or someone who really is the sharpest tool in the shed when it comes to silviculture or technology?

Here is your chance to provide kudos to those often unnoticed individuals in our field. The New England SAF gives you the opportunity to recognize one of these persons with one of our annual awards. Check out the awards on the awards webpage or on the nomination form, give it some thought and nominate a peer or colleague this year. The seven awards NESAF offers annually are:

- Integrity in Conservation Award
- Distinguished Service Award
- James W. Toumey Award
- Austin Cary Practicing Professional Award
- Ernest M. Gould, Jr. Technology Transfer Award
- Mollie Beattie Young Forester Leadership Award
- David M. Smith Award

The nomination process requires a nomination cover letter, biographical sketch of the nominee, and two letters of endorsement along with the Nomination Form. The nomination deadline for awards is December 1, 2020. For further information or submission of nomination forms, contact Ken Laustsen (207-873-2642) or email: KALaustsen@twc.com
New England Forestry Foundation Featured in Prince Charles’ New Showcase of Sustainability Innovation

Bob Perschel, Executive Director, New England Forestry Foundation

I have to admit that when I got a call saying Prince Charles was interested in what the New England Forestry Foundation (NEFF) was doing on Exemplary Forestry, I thought it might be a marketing hoax. I passed the message along to NEFF’s communications team, and they quickly assured me it was the real deal. That’s when I began to get excited.

It turned out Prince Charles was planning to launch a new web video platform called RE:TV at re-tv.org on September 21, the opening day of the 2020 NYC Climate Week; the platform would showcase inspiring stories of sustainability innovation and ingenuity that point the way to a more sustainable future, all in support of Prince Charles’ RE:TV platform and global Sustainable Markets Initiative. His team’s researchers had discovered NEFF’s success at setting Exemplary Forestry standards that maximize forests’ ability to mitigate climate change, and they wanted to devote a RE:TV featured video to NEFF.

We sprang into action and set up two socially distant video shoots at our Prouty Woods headquarters in Massachusetts and at our Chamberlain Reynolds Memorial Forest on Squam Lake in New Hampshire. We filmed for two days, and the final version of the video sugared off to about five minutes in length and was ready to go in time for the launch. Here it is for your viewing enjoyment: https://www.re-tv.org/rebalance/restoring-woodlands

We are really happy with the way this beautiful video turned out. With support and assistance from our community and partner organizations across New England, NEFF has blazed the trail on finding ways for forests to help battle climate change. We are beginning to receive some global attention and that’s perfect, because now is the time for little New England to set some global examples for the world to follow.

While our Exemplary Forestry practices are specific to certain New England forest types, their underlying framework—high-standards sustainable forestry that prioritizes ecosystem health while also maximizing forests’ ability to mitigate climate change and produce wood products—can be used worldwide as starting point that is then tailored to local forest types. We hope to someday see this concept adopted around the world, and Prince Charles’ RE:TV platform and global Sustainable Markets Initiative are a great first step in spreading the word.

The Sustainable Markets Initiative, a collaboration between the World Economic Forum and Prince Charles, calls for a new kind of market: sustainable markets that are “designed with the intent to ensure the economy operates in favour of people and planet while contributing to growth and prosperity” (www.sustainable-markets.org). That’s something foresters in New England can all understand because we work at it every day.

The next six months will be critical to the forestry profession. As the general public and policy makers decide if forestry can be helpful in mitigating climate change, their conclusions will dictate the next 30 years of forestry. Policy is being developed in many New England states right now. If you want to lend a hand and be counted, please join our Forest-to-Cities Climate campaign: https://www.foresttocities.org/
Forest Owners as Carbon Growers: Where do Northeasterners Stand in the Voluntary Carbon Markets?

Lloyd C. Irland and Maggie Baker

Lloyd Irland is a semi-retired consultant in Wayne, Maine; Maggie Baker is a Senior at Colby College, who interned with the Irland Group on carbon issue this past summer.

An escalating sense of urgency on the part of climate scientists and the popular press has bubbled over from the ivory tower into the political arena. All of these seven states have announced ambitious goals for reducing carbon emissions by 2050. All involve big numbers, 80 or 85%; and they are stated in various ways. Whether they are achievable or not does not concern us here. What counts is that these goals are motivating accelerating interest in seeing how managed forests can contribute. The prominence of carbon issues in NESAF and national SAF meetings in recent years reflects this.

Here, we summarize voluntary forest carbon projects from the seven northeastern states where such projects now exist. So far, Connecticut and Rhode Island show no registered projects. The data comes from the 3 most prominent carbon offset registries, which keep track of such things: the Climate Action Reserve, the American Carbon Registry, and the Verified Carbon Standard. Unfortunately, most of the tantalizing details such as acres and practices involved, must be obtained by digging into the individual project documents, also available on the registry websites. But we thought a quick summary might answer some initial questions we have heard.

We often hear of “carbon credits” -- these are the same thing as offsets; they are somewhat of a misnomer, as they refer to a metric ton of carbon dioxide, not carbon.

Our listings show 65 voluntary forest carbon projects nationwide. For all the publicity this seems a very small number. The registries also list numerous projects that are shown as “proposed”; many more in the works have not yet reached the registry stage. The Northeast accounts for ¼ of the projects nationally but only 1/10 of the registered offsets. Maine has 6 projects, followed by Pennsylvania and New York. Only in Maine and Massachusetts are average project sizes large enough for formal carbon offset sales, as viewed by national project developers.

Maine, with several large projects, rules the region in terms of offsets issued, with Massachusetts and New York in second place. The small number of projects in the northeast suggests there ought to be significant room for growth in forest owners as carbon sellers. Strikingly, even with just one project, Massachusetts is out ahead win numbers of offsets registered per million acres of private timberland (Go Pats!).

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Chart 1: Total Voluntary Forest Carbon Offsets Registered, By State, July 2020

In Maine, most of the registered carbon projects are on lands owned by native American tribes or nonprofits groups. It would be of great interest to mine the registries to fully understand the landowners involved regionwide.

Several different kinds of forest carbon credits exist, all with their own rules and definitions (see Table). To fully understand what is accepted for offset sales one would need to dig into the detailed documents to understand all of the practical factors.
Around the region, smoke-filled rooms are brainstorming and negotiating the details of potential programs aimed at boosting these meager numbers, to the joint benefit of the global CO2 balance, the local economy, landowner finances, and quality forest management. A few interesting new initiatives are in their early stages, and will be worth watching. But we are a long ways from understanding how the requirements of carbon offsets will mesh with the attitudes, views, and needs of small forest owners. Even less, what specific practices and program designs may prove cost-effective ways to convert forest owners into carbon growers and sellers.

This brief summary leaves many questions unanswered. Hopefully, it will also prompt new ones. We hope someone might collect these questions as a guide to program for future NESAF meetings.

The following individuals have been recognized by SAF with a Golden Member Certificate, presenting their 50 years of membership:

- Harold W. Cook, Granite State Division
- Dr. Steven E. Dennison, Green Mountain Division
- Dr. Lloyd C. Irland, Maine Division
- Robert A. Hart, Yankee Division (CT)
- Samuel Stoddard, Granite State Division

Thank you all for you have done to represent the forestry profession throughout New England!

Chart 2: Voluntary Market: Offsets per Million Acres of Private Timberland, July 2020

Thanks to the Buck Lab for Climate and Environment at Colby College for their support
Maine Division Honors Well Over A Half-Century of Service

Maine SAF has been truly fortunate over the past two decades to have had numerous members who have generously given of their time, intelligence, and energy to serve our profession through creating educational and outreach opportunities and strengthening forestry connections throughout the state. Three individuals in particular have gone above and beyond in their commitment, having given sixty-four years collectively to the success of the Division. We are sad to see these long-serving members step down from our executive committee, yet nevertheless are most appreciative of their service, and therefore wanted to dedicate the Maine news to them in this fall edition of the News Quarterly.

When the Maine Division of the New England Society of American Foresters (MESAF) considered hiring its second Division Manager, Laura Audibert was an obvious choice. She was a founder, coordinator, and presenter for the highly successful ‘What’s Green and Growing and Covering Maine’ poster contest, had served on the executive committee as member-at-large, and was known throughout the forestry community for her strong commitment to both the profession and community service. To say that Laura’s capable management of the details of the Division and long service as our institutional memory will be missed, is an understatement. In addition to her service to SAF, Laura has been a tireless advocate for connecting youth with the forest, regularly offering her time and expertise over three decades to be a speaker at local schools, scout groups, and community organizations. She serves on the Forest Technology Advisory Board at the SAF-accredited Applied Forest Management program at UMaine Fort Kent, as Director of the Fort Kent Outdoor Center, and frequently as a judge for the Aroostook County Envirothon. Additionally, she has generously given her time to numerous community organizations and received the Greater Fort Kent Area Chamber of Commerce Citizen of the Year Award in 2015. A 1983 graduate of the University of Maine, Laura began her career at Great Northern Paper, worked for Irving Woodlands, LLC, and has run her own consulting business since 2000.

In addition to serving Maine SAF as its treasurer for almost two decades, Bill Livingston is Associate Director for Undergraduate Education and Associate Professor of Forest Resources in the School of Forest Resources (SFR) at the University of Maine. For over 30 years, his passion has been the health of our forests in research, teaching, and outreach. He is continually captivated by the surprises and discoveries that are part of being a forestry educator. From investigations on how land use history affects the health of today’s forests to the evaluations of impacts of invasive species, the Maine forests always provide Bill a fascinating source of new learning and knowledge. Bill is equally passionate about the success of SFR students, both undergraduate and graduate. He has received awards for teaching excellence four times, as well as the NESAF Ernest. M. Gould, Jr. Technology Transfer Award. His commitment to making sure SFR students have opportunities to connect with MESAF members and to participate in both local and regional meetings has been a hallmark of his service to the organization. In his own words, Bill believes Maine SAF is a very important part of the student experience at UMaine and that there is no better way to ensure the future health of our forests than to help our graduate and undergraduate students be successful during and after their studies.

Many of you know Tony Filauro as our News Quarterly correspondent since 2007, during which time he has diligently collected and written about forestry related news of interest and relevance to share with NESAF members. He has also served in several other MESAF positions over four decades - Secretary/Treasurer, Chair-Elect, Chair, and Communications Committee Chair. He was Secretary for the national SAF Soils Working Group. His long career at Great Northern Paper encompassed positions as Area Forester, District Forester, Resource Planner, and Research Forester. Tony’s professional commitment extends well beyond SAF, having been a representative and officer to the University of Maine Cooperative Forestry Research Unit and a member of the Environmental Risk Assessment Committee for the Maine Board of Pesticides Control, the Maine State Commission to Study the Use of Herbicides, and the University of Maine Ad Hoc Committee to review the Maine Cooperative Extension Service and the Maine Agricultural Experiment Station. He is also an active volunteer in his community, giving his time and expertise to numerous endeavors. Tony is an SAF Fellow and has received the national SAF Presidential Field Forester Award and the NESAF Austin Cary Practicing Professional Forestry Award. His presence on the MESAF executive committee is already missed.

Please join us in thanking Laura, Bill, and Tony for all they do for our profession. And, look for an introduction to our new executive committee members in January.
Granite State Division News ~ Stephen Eisenhaure

New New Hampshire State Forester
Patrick Hackley has been confirmed by our governor to serve as the next Director of the New Hampshire Division of Forests and Lands. Although most recently employed by the Nature Conservancy, Patrick formerly worked as Timberland Marketing Manager for Fountains Land, Northeastern Technical Division Forester for Forest Resources Association and as Communications Director for the NHTOA. He has forestry degrees from Paul Smith’s and SUNY ESF. His nomination was confirmed on August 26, 2020. Patrick will begin his new role as NH State Forester on September 28, 2020. From Patrick, “I’m honored to be chosen for the position and truly grateful for all of the support received during the nomination process. There are considerable challenges facing the Division and the forestry community at large today. Fortunately, we have an experienced and talented staff and host of committed forestry and conservation leaders in New Hampshire who are eager to help us address these issues head-on. I look forward to the work ahead.”

Patrick has been a SAF member since 1987. He was awarded the Young Forester Leadership Award in 1997 and served as Chair on the Executive Committee of the GSD SAF from 2006-2008.

NH Licensed Foresters and CEUs
Provisions have been made to allow for online learning to satisfy the CEU requirement for Forestry licensure until December 31, 2020. The details can be found here. A number of resources are available to satisfy these requirements; each provides 1.0 SAF Category 1 CFE.

Forest Carbon Webinar series presentations:
- Forest Carbon Dynamics
- Carbon Accounting and Markets
- Managing for Wildlife Habitat and Forest Carbon

Forest Health Webinar Series Presentations:
- Emerald Ash Borer
- Softwood Pests
- Defoliators and Other Hardwood Pests
- Stem and Root Rot
- “What is This?”
- Emerging Forest Pests
- Spruce / Fir Issues of the North

Other Presentations:
- NH Forest Products Market Update (1.5 CFE SAF Category 1)
- Modelling Rehabilitative Silviculture in Northern New England’s Poor-Quality Stands - Online, September 29, 2020 (1.5 CFE SAF Category 1)
Green Mountain Division News ~ Ginger Anderson

Up Coming Election
Watch for information on the election of officers this fall! Candidates are welcomed to run for Secretary, Treasurer, NESAF rep. and Vice Chair. The Division is also looking for a member to assist the Executive Committee on Forest Policy issues in 2021.

Dry Summer May have Silver Lining
Through August, over 50% of Vermont was in a moderate drought, with the remainder of the State considered abnormally dry as measured by the U.S. Drought Monitor. If there is an “up side” to the drought, it is hoped the dry spring and early summer will lead to a 2021 reduction needle damage to white pines.

Vermont Climate Change Forester
VT Forests, Parks and Recreation hired its first Climate Change Forester, Alexandra “Ali” Kosiba who completed her PhD at UVM. She will work on projects ranging from carbon storage to forest management practices that mitigate climate impacts with forest stakeholders on public and private lands. An August article authored by Christine McGowan of the VT Forest Industry Network featured Kosiba (as well as Green Mtn Division’s in-coming chair Dr. Anthony D’Amato and SAF member Charlie Hancock) on the Cold Hollow Carbon Project. This innovative private lands project was headlined in August on-line at VermontBiz news site.

Forest Economy Stabilization Grant Program
This summer VT Forests, Parks and Recreation announced $5 million of COVID Relief Funds will be available to Vermont forest products business experiencing harm resulting from the Corona virus pandemic. The Forest Economy Stabilization Grant Program (FESG) have made grants to eligible businesses on a first-come, first-serve basis, and is open to impacted maple sap producers, but not to maple processors.

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- Conservation Easements
- Forest Certification
- Tax Abatement Plans
- Purchase & Sale Due Diligence
- Wildlife Habitat Plans & Invasives Control

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There will be an Annual Meeting virtually on Saturday, October 24 from 10am to noon.

Dave Celino, DCR’s Chief Fire Warden, will be our keynote speaker. Registration will open soon (the event will be free, but registration will be required).

More information will be posted at https://www.massforestalliance.net/event/forest-alliance-annual-meeting-3/?instance_id=761 as it becomes available.

Governor’s Council on Climate Change (GC3) ~ Connecticut

The Governor’s Council on climate change Forest sub-group draft report has been released. It is available at https://www.ctwoodlands.org/sites/default/files/DRAFT%20Report%20from%20Forests%20Sub-Group%207.21.20.pdf

The 30 day comment period opens September 22 at DEEP.climatechange@ct.gov. It has been recommended to also send comments to the coordinator of the sub-group, Eric Hammerling at ehammerling@ctwoodlands.org and State Forester, Chris Martin at Christopher.martin@ct.gov.

Yankee SAF Members are urged to read the report and submit comments.

Yankee SAF Fall Meeting

The Yankee Division will hold a Fall Field Meeting on Tuesday, October 27, 2020 at the Myer’s Pond Tract at Hull Forestand, LP in Union, CT.

The theme of the meeting will be “Carbon and Multiple-use Forest Management in Southern New England” and will feature the following speakers, Robert Perchel (NEFF), Mason Trumble (CT DEEP), Christopher Martin (CT DEEP), Andrea Urbano (CT DEEP), Joseph Orefice (Yale University), and Mike Ferrucci (R.S. Berg & Associates, Inc.).

To adhere to State of Connecticut regulations, the meeting will be held outdoors, will be limited to 100 participants. The cost of the meeting is $15, which includes coffee, donuts, and lunch. Please bring your own chair. For more information, please contact Jeff Ward at Jeffrey.ward@ct.gov.

The meeting is being co-hosted by Hull Forestlands, UCONN Cooperative Extension, The Connecticut Agricultural Experiment Station, and CT-DEEP Forestry Division.
RISAF and RIFCO Summer Meeting on the use of Slash Walls

Courtesy of Marc Tremblay

On August 6th, 2020 RIFCO conducted its Summer Twilight Walk at the site, and the RI Chapter of the Society of American Foresters (RI SAF) held a workshop for foresters and Woods Operators. Dr Jeff Ward from the CT Agricultural Experiment Station (CAES) and Dr. Peter Smallidge of Cornell University were on-hand to provide an overview of the future of our oak forests and how these slash walls can help with its regeneration.

The RI Forest Conservator’s Organization (RIFCO), an NWOA state affiliate, recently installed southern New England’s first slash wall at the Merriman Demonstration Woodlot on Howard Hill Road in Foster, RI. It may be the first slash wall installed outside of Cornell University’s Arnot Forest in upstate New York.

The slash wall was installed within a 3-acre habitat clearing. The habitat clearing retained several oaks and hickory trees, as well as a couple of standing dead snags. The habitat clearing project was cost-shared through a contract with the USDA-NRCS and its EQIP program. Our development of a slash wall is a small project, covering less than half of our 3-acre clearing area.

The wall is built with an opening at one end of the slash wall, with an 8’ tall wire fence “gate” across the opening to allow us to observe the effectiveness of the slash wall over time.

In order to build the slash wall, all of the cut material from the 3-acre clearing, minus any merchantable sawlogs and some straightest sticks of firewood material, was utilized to construct the slash wall. This left a debris-free site throughout the 3 acres, with all the slash now in the wall, which measures about 8 feet in height and 10 to 15 feet in width. That means our habitat clearing is much cleaner than it typically would be. Leaving woody debris and tree-tops (slash) scattered on site would have its own habitat and environmental benefits.

The habitat clearing and slash wall construction was done by certified Master Logger Bob Thurber and Jonathan Ponte of Jerimoth Forestry. Equipment utilized included a CAT 320 excavator machine with a processing head on the arm that allows him to pick up whole trees and cut them to desired lengths, stacking logs at the landing and, as in this case, building a slash wall. A grapple skidder was utilized to pull all of the felled trees from the 3-acre clearing to the processor, with the wall encircling about half of the clearing area.

According to Bob and the experiences at Cornell University’s Arnot Forest, a feller-buncher machine that directly cuts and drops trees into the slash wall is a more efficient method of building these slash walls. It saves the extra effort of having a skidder bring wood to the edges of the clearing for its incorporation into the slash wall.

Why build a slash wall? Will the protection of the emerging vegetation within the area of the slash wall from deer browse have a greater environmental benefit than the removal of all that woody debris from the rest of the area? Does the slash wall itself provide any unique habitat benefits, being a linear brush pile? Would building and then maintaining an 8’ tall fence cost more or less, factoring in those environmental costs and benefits?

Did we build the slash wall wide enough to dissuade adult deer from jumping in? What sort of tree regeneration will be come established with no or minimized deer browse? How will other plants respond, such as the wildflowers, forbs, and shrubs, and the wildlife that nest in them as part of a healthy understory? Future monitoring will compare the walled-in area to the exterior clearing to contribute to the regional effort on this topic.

Dr. Ward and staffers at the CAES established some regeneration survey plots throughout the 3-acre site, and the RIFCO Demonstration Woodlot will be part of a regional study on deer browse impacts and the effectiveness of various methods to minimize those impacts on the long-term health of our oak forests.

Slash walls here in the northeast are being established on an experimental basis, led by Dr. Peter Smallidge at Cornell University’s Arnot Forest in Ithaca, New York. They’ve established several slash wall operations, with the largest at about 75 acres in size. Peter has information available on those slash walls at www.slashwall.info. There’s a great Youtube video here: https://www.youtube.com/watch?v=k3_aDNURj_8&feature=youtu.be
Arthur Gibbs Dodge, Jr. passed away on June 28, 2020 at the age of 91 at Market Square Memory Care in South Paris, Maine. Born in 1929 in Charlton, Massachusetts, Gibb received an associates degree from Boston University (1949), a BS in Forestry from the University of Massachusetts (1953) and a Masters in Forest Science from Harvard University (1961). Gibb served in the Army at Fort Riley, Kansas from 1953-55 and U.S. Army Intelligence Center in photo interpretation and mapping until 1957.

Gibb’s forestry career began as a Service Forester in Rhode Island. In 1960, he moved his young family to Conway, New Hampshire and established firm roots serving as County Forester with the University of New Hampshire Extension Service until 1969. He was appointed as the RC & D Forester, and later served as UNH Extension Forestry Program Leader in 1979 until his semi-retirement in 1987. He was successful in bringing forestry to the New Hampshire citizens through the development of the NH Public Television series, “Talking About Trees.” He was a prolific writer with “Northern Logger” bringing regional recognition to forestry in NH. Gibb received many commendations and awards, most notably, the New England Society of Foresters’ Distinguished Service Award and he was elected Society of American Foresters Fellow in 1991. In his retirement, he served as an adjunct professor at UNH College of Lifelong Learning and Berlin Technical College.

Gibb devoted himself thoroughly to his work, but did not fail to serve the communities in which he lived, the churches in which he worshiped, the people he met along the way, nor to enjoy the fun things in life. He served two terms in the NH State Legislature. He served as town moderator in Conway and Columbia, NH. He became a certified ski instructor and taught in the Junior Ski Programs in North Conway and Colebrook, NH. He was the church moderator, deacon, trustee and Sunday school teacher at the Second Congregational Church in Conway. He was a 50+ year member of the Masonic Lodge.

An opportunity to celebrate his wonderful life with friends and loved ones will be announced at a later date.

Jeffrey E. Meserve, 52, Of Dayton, ME, passed away on July 8, 2020 at Maine Medical Center. He was born in Sanford on Dec. 17, 1967, graduated from Thornton Academy and earned two bachelor’s degrees from the University of Maine in Orono.

Through his life, Jeffrey worked as a forester. He owned and operated Oversett Forest Management. He worked with numerous landowners in the states of Maine and New Hampshire, including the Passamaquoddy tribal lands across the state of Maine. The relationships with his clients were highly cherished and he thought of many of them as great friends. Jeff often shared his fond memories of his younger years growing up in Dayton with his cousins and friends as well. Online condolence messages can be submitted at the Chad E. Poitras Cremation and Funeral Service website, www.mainefuneral.com.

John E. Hibbard, 84, of Hebron, CT, passed away on Sunday, July 12, 2020, at Marlborough Health and Rehabilitation Center after a life well lived. Born in Woodstock on March 27, 1936, John had a lifetime love for the outdoors.

A 1958 graduate of UConn with a degree in silviculture, John became known as a passionate advocate and steward of the Connecticut landscape. After his compulsory military service and several years working in Florida for the USDA, John became executive director (secretary) of the Connecticut Forest and Park Association, where he lobbied the state legislature for passage of the Landowner Liability Law, served on state task forces for farmland preservation and dairy industry preservation, and was involved in creating Connecticut’s Forest Practices Act, as well as Connecticut’s Environment 2000 plan. For his lifetime of service, John was presented with an Environmental Merit Award of Lifetime Achievement by the EPA, and recognized with proclamations by both the town of Hebron and State of Connecticut.

Upon moving to Hebron in 1966, John expanded his life of public service, becoming active in Hebron politics, serving on a number of boards and committees, including stints as town moderator, as a member of the Charter Commission, and as chair of both the Boards of Selectmen and Finance.

In his private life, John was devoted to his family in Woodstock. He spent many weekends of his adult life doing chores like chopping wood and maintaining Christmas tree fields for his father and his father’s siblings. He loved riding his tractor and tending to his vegetable garden, sharing its bounty far and wide.

A memorial service will be held at a later date. In lieu of flowers, memorial donations may be made to the CT Forest and Park Association www.ctwoodlands.org/donate or the Gilead Congregational Church, 672 Gilead St. Hebron, CT 06248.

(Section continues on next page)
Frank Spear Beal, 94, of Wilton, ME, passed peacefully on Sept. 5, 2020. He was born in Avon, Maine on July 6, 1926, and served in the U.S. Army from June 1945-November 1946.

Frank enrolled at Bowdoin College, but soon had to return home to help with the family farm. He later transferred to the University of Maine at Orono to study forestry, where he undertook officer training in the ROTC program, and joined Alpha Gamma Rho Fraternity. In 1956 he joined International Paper Company as a forester and surveyor. He also partnered with brother Bob Beal, an attorney, and friend Elwood Allen, a school teacher and superintendent, to form Beal & Allen and invest in local woodlands and abandoned farms. At I.P. Co., Frank was promoted and in 1962 transferred to Ashland to manage International Paper’s vast northern Maine woodlands.

During his 15 year tenure in ‘The County,’ Frank pioneered innovations in wood fiber supply and transportation for I.P. Co’s hungry paper mills, laying out and building roads to access vast holdings of forests, introducing modern equipment and machinery, guiding the company’s transition to rail and truck transport, fought forest fires, initiated forest management practices to assure sustainability, and combatted the state’s Spruce Budworm infestation. Frank went on to retire from I.P. Co.’s Livermore Falls Woodland Management office in 1985.

Frank was also civic minded. He was an active member of the Ashland Rotarians, Congregational Church, Boy Scouts, and the Odd Fellows.

A graveside service with military honors will be held at the convenience of the family at the Mile Square Cemetery in Avon. Arrangements are under the care and direction of Dan & Scott’s Cremation & Funeral Service, 488 Farmington Falls Rd., Farmington, MR 04938.

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**Grant$**

**ANOTHER FUNDING SEASON IS JUST AROUND THE CORNER!**

Have an idea for a project or program that is in need of financial support?

The NESAF Grants Program will fund approved projects developed for the following purposes:

- To educate NESAF’s many publics about professional forestry, and,
- To advance the role of the profession in society by promoting the role of foresters in forest resource management

Interested? Contact Mel Harder or any EC member on page 2 with questions!
NEW ENGLAND SOCIETY OF AMERICAN FORESTERS AWARD NOMINATION FORM

Please check the box next to the award for which you are submitting a nomination

- INTEGRITY IN CONSERVATION AWARD: Presented to an individual or organization working with natural resources for adherence to principles and demonstration of high standards in the face of adversity. The work may be in process and the effort need not have “won” or “lost” - only that it was conducted in an outstanding manner in an adverse operating environment. Nominations need not be limited to members of NESAF.

- DISTINGUISHED SERVICE: The purpose is to give official recognition to professional achievement in forestry; to make known to the general public outstanding contributions of individual foresters to their profession and to enhance the public image of the forestry profession. The criteria include: professional achievement in the field of Forestry or closely allied fields (i.e. working group of the parent society); participation in SAF; and service to the local or regional community.


- AUSTIN CARY PRACTICING PROFESSIONAL AWARD: Presented to a member who has shown outstanding achievement recently or over a period of years as a practicing forest manager or consultant forester.

- ERNEST M. GOULD, JR. TECHNOLOGY TRANSFER AWARD: Presented to a member who has made outstanding contribution to natural resource science and management through education, extension, or youth service.

- MOLLIE BEATTIE YOUNG FORESTER LEADERSHIP AWARD: Presented to a member who is less than 40 years old at the time of nomination and has shown leadership in a program or project benefiting the practice of forestry.

- DAVID M. SMITH AWARD: Presented annually to a member engaged in research, teaching, or the field application of silviculture whose work reflects Dave’s advice that, “we should observe and analyze the patterns of stand development first and devise silvicultural treatments to fit or modify them afterwards.”

Nominee (Name, address, phone number, email of the individual or group you wish to nominate):

A complete nomination package must include these four elements

1. NESAF AWARDS NOMINATION FORM
2. NOMINATION LETTER: The Nominator’s description of how the nominee meets the stated award criteria. Please limit your comments to a maximum of two pages.
3. BIOGRAPHICAL SKETCH: A one-page (maximum) biographical sketch of the nominee’s education and professional experience.
4. TWO LETTERS OF ENDORSEMENT: Please supply 2 letters of endorsement, which provide additional descriptions of how the nominee meets the stated award criteria.

Mail/email entire package to:
Kenneth Laustsen, NESAF Awards Committee Chair
17 Perennial Way
Oakland, ME 04963
KALaustsen@twc.com

Award nomination packages must be received by December 1st

Deficient and incomplete nomination packages will be returned to the nominator, with allowance of a resubmission prior to the above deadline.
Our mission as foresters is to be responsible stewards of the earth’s forests while meeting society’s vital needs. The challenge of our mission lies in keeping forest ecosystems healthy and intact while concurrently drawing on their resources. We will meet this challenge by carefully monitoring and managing the effects of natural and human forces on the forest. Our decisions will be guided by our professional knowledge, our compassion for all living things, our desire to improve citizens’ lives, and our respect and concern for the entire forest ecosystem. By advancing forestry science, education, technology, and the practice of forestry, NE SAF will provide the leadership to achieve its mission.