



CFA NEWS

SUMMER 2019

VOL 37, No.3

A PUBLICATION OF THE CATSKILL FOREST ASSOCIATION, INC.



THE 10TH ANNUAL CATSKILL FOREST FESTIVAL

7.27.2019

MARGARETVILLE, NY

**65+ VENDORS / THE GREAT CATSKILL LUMBERJACK SHOW
TRUCK PARADES / GAME OF LOGGING COMPETITIONS
THE TENT OF KNOWLEDGE / LIVE MUSIC / LIVE
DEMONSTRATIONS / ARTS & CRAFTS / LOCAL FOODS
BREWERIES / DISTILLERIES / MAPLE PRODUCTS /
FORESTRY EQUIPMENT / EDUCATIONAL RESOURCES**

**FUN FOR THE FAMILY!
FREE ADMISSION ALL DAY**

LEARN MORE, BECOME A VENDOR OR SPONSOR, VIEW THE LINEUP, GET DIRECTIONS:

WWW.CATSKILLFORESTFESTIVAL.COM



CFA NEWS

SUMMER 2019

Vol 37, No. 3

EDITOR

Daria Chadwick

BOARD OF DIRECTORS

Mike Porter

President, Margaretville

Robert Bishop II

Vice Pres., DeLancey

Stephen Miller

Vice Pres., Margaretville

John Lynch

Secretary Treasurer, Delhi

Sue Doig, Andes

Paul Krickhahn, Roxbury

Mark Kugler, Halcott Center

Norm Maender, Margaretville

David Northcutt, Margaretville

Bonnie Seegmiller, Downsville

Frank Winkler, Andes

DECELIASON

Mike Callan, Region 3, New Paltz

STAFF RESOURCES

Ryan Trapani

Director of Forest Services

John MacNaught

Forest Program Manager

Patrick Dolan

Education Forester

Daria Chadwick

Marketing & Outreach Manager

Kathy Fox

Office Administrator

CONTACT

Catskill Forest Association, Inc.

43469 State Highway 28

PO Box 336, Arkville, NY 12406

Phone: (845) 586-3054

Fax: (845) 586-4071

cfa@catskillforest.org

www.catskillforest.org



From the Director of Forest Services

RYAN TRAPANI

The Practice of Forestry Requires No Expert

I remember when I first returned home from a semester of Dendrology (identification of trees) and I really thought I knew something. I pointed to each tree and whispered its common name, "yellow poplar." And then its Latin name *Magnoliaceae Liriodendron tulipifera*. And eastern hemlock (*Pinaceae Tsuga canadensis*) or red oak (*Fagaceae Quercus rubra*) or sugar maple (*Aceraceae Acer saccharum*). Hey, who knew I could speak Latin?

But, the more I delved into trees, the more I uncovered how much I needed to learn. When I tapped a maple tree for the first time, its running clear sap also poured out so many mysteries about its sweetness, quantity and the taste behind it all. Why were some trees sweeter than others? What made some run more than others?

When one season I decided to give bark tanning a shot and stripped a hemlock for making leather with. That

Welcome, New Members!

Russ Kauffman
Jack Dwosh
Scott Hill
Allan Davis
Joseph Weiss
Rosemary Zemanian
Robert Young
Harold Larity
Jonah Fuechsel
Nicholas Adamski
Frank Scalia
John Morreale
Gretchen Luchsinger
Jim Murray
Bethany Lyttle
Lydia Pyun
Sunnie Joh
Carly Baker-Rice
Robert Karchmar
Dan Plummer
Jessica Latorraca
Don Statham
Melissa Martin
Michael Rovnyak
Jason Butler
Mark Sisk
Leonard Cannella
Brian Ingle
Terence Scroope
Val Antonucci
Julie Marty
Vinny Merwin
Matthiew Frey
Daniel Stroehlein
Matthew Bliefernich
Ralph Schlossberg
Efy Tal
Elizabeth Stinson
Jennifer Barrows
Mustafa Ajlyakin

too begged many questions. How strong are the tannins in hemlock bark? How did people figure out that bark tannins – when made into a tea – will create leather from an animal hide?

When I first learned how to cut a tree and it fell to the ground, I knew too that I had a lot to learn about firewood. Which trees should be cut in the first place? Which species are best for burning? How long does each need to be stored?

When I felled my first deer, that too revealed an entirely new world. The inner biology and workings of a deer are a world unto itself and from there I began to wonder how that deer made its way through the forest and how one could improve its habitat and so forth.

Mushrooms? People who study mushrooms are most eccentric, probably because they are reflecting such an eccentric organism, fungi, which grows mysteriously through organic matter, soil and trees. I know a few, but so many are just LBMs or Little Brown Mushrooms.

When I first got into brook trout, I knew right there I would never see the stream in the same way. How much I needed to learn in order to catch these aquatic mountain-dwellers. Even learning to prune apple trees – or any tree – is never complete. Each tree is somewhat different and its intricacies must be learned and adapted to.

Albert Einstein's quote – "The more I learn, the more I realize how much I don't know" seems so true to me in forestry or arboriculture. Each canopy stratum of the forest reveals another world or dimension to learn about. Each layer of an individual tree would

take years or a life-time to know so well, forget about its mysterious roots. The point here is to underline that I'm no expert. An expert – to me – implies the mastering of something or being complete in knowledge.

I Need to Practice

Instead, I wish to respectively suggest a replacement for “expert” – as doctors and lawyers have – with practice. To “practice” is “to perform an activity or exercise (a skill) repeatedly or regularly in order to improve or maintain one’s proficiency.” In this end, one is never an expert, but is practicing their craft or field of study. At CFA, we’re here not to merely lecture, but instead to gather a group of members interested in continually learning about and improving their trees and forests via lots of practice. Maybe we don’t always get it perfect, but we learn and hopefully improve.

We hope that through our Programs & Events we can help each other learn through each other’s mistakes and successes of how best to improve trees and forests. Also, please let us know if there is anything more (or less) you would like to see from CFA. Our membership roots are continuing to grow throughout the 6 counties of the Catskill Mountains. And as I’ve realized, each town, county, valley, hollow or mountainside’s forest can vary so much as one travels throughout these mountains; We have so much to learn.

May The Forest Be With You,

Ryan Trapani
Director of Forest Services

David Graham
Kathleen Griswold
Scott Branch
Joel Gorinsky
Michael DePuy
Ron Canal
Albert Castiglia
Andrew Jacobs
Jed Tucker
Alyssa Adams
Rebekah Rice
Michelle Bonfils
Brian Robinson
Orin Zelenak
Tracy Simmons
John Nesel Sr.
Chris Gillon
Andrew Brody
Oscar Yong
Vanessa Hartmann
David McDonald
Diane Westerback
Elizabeth Miller
Michael Grossman
Tracey Hancock
Gail Sun
Michael Sherwood
Aaron Bonestell
Jezz Harkin
Jack Serra
Renee Hardenkamp
Stacy Lynde
Madelyn Ringold-Brown
Michael Antonelli
Susan Goodreds
Garrett Yankou
Susan Littin
Daniel Mintseris
Rose Santiago
Brian Riley
Daniel Brooks
Mark Flannery
Daryl Kovalich
Joyce Greenberg
Paul Margaritis
Gerald Hanley
Scott Jones

W E L C O M I N G T H E N E W E S T A D D I T I O N T O C F A ' S S T A F F : I S A A C U R F F E R

Isaac joined the Catskill Forest Association in June 2019 as an Intern and is taking on the role of Forest Program Technician. Isaac was born and raised on a family owned and operated turkey operation and small orchard in Coopersburg, Pennsylvania. His passion for the forest and wildlife was spurred on when he assisted a study of Northern saw-whet owls and their habit and migration movements. Isaac is currently in his last year at SUNY Cobleskill and will earn his Bachelor of Technology in Wildlife Management in the Spring. He is looking forward to serving the Catskill Forest Association this Summer.



From the President's Desk

MIKE PORTER

Recently, while digitally scanning old slides, I came across my old pictures taken at a Cooperative Extension field trip to a Delaware County farm where there was devastation caused by Forest Tent Caterpillars (FTC). This caterpillar infestation occurred over a three-year period in the early 1980's. There are similarities to the current invasion of Emerald Ash Borer (EAB) HOWEVER, there are glaring differences.

The obvious and most important difference is that EAB is invasive and FTC is native. EAB will almost completely wipe out the Ash species wherever it occurs. The Ash, most likely, will go the way of the American chestnut and the American elm and virtually disappear from our landscapes. FTC may kill or damage many sugar maples, its favorite food, but will not completely eradicate the species.

In the early '80's it was the FTC that ransacked our forests and street trees eating their way through our majestic

sugar maples. In its way, the FTC is always present in the environment but usually in very low numbers that don't do major damage to trees. Historically, the FTC population explodes about every 30 to 40 years. In this outbreak, areas rich in sugar maple, there was the appearance of early Spring or Winter over extensive areas with defoliation. In villages, along town roads lined with sugar maple and along ridge lines there was the same situation, it looked like Winter in May and into June. This defoliation was followed by a second event after the stricken trees re-leaved, sapping their strength to battle future defoliations, insects and disease.

Importantly, and in difference to EAB, the defoliation is not normally fatal to the affected trees. Given a repeated defoliation over a two or three-year period, though, an individual tree would succumb to the starvation caused by the lack of leaves to photosynthesize sugars for survival and growth. In the 80's infestation there were repeated defoliations with many trees being stripped of leaves twice a year over a three-year period. As a result of this



widespread die off, there were huge areas of dead sugar maple all through the Catskill region. Some trees were cut and salvaged for firewood while most rotted and fell the the forest floor.

All of those downed trees on the forest floor became a deep, decaying maze that allowed many new trees to germinate, sprout and grow in a protective shield away from the maple nemesis, the White-Tailed Deer. Though these destroyed forests set back succession over a great area of the Catskills, the new regeneration of sugar maple was unprecedented in these areas.

Today the areas affected by the FTC are barely discernable. New trees have grown to take their place and maple producers are now harvesting sap in these areas again. Catskill maple producers are expanding their syrup operations into more and more sugar maple groves. This is also happening all across the Northeast as maple producers take advantage of the expanded markets for maple products. An increasing number of producers are expanding operations to be large enough to



financially support their families. The outlook for maple production to be a success is very good.

Most landowners simply watched their maple groves die in their forest, unable to afford forest-wide treatment or unwilling to use chemicals on their land, these people saw quality and character of their forest land totally change. Some maple producers were in a position where loss of their trees would be financially devastating and used aerial spraying with SEVIN, a very effective pesticide. On a smaller scale, a biologic, BT, was used. This treatment must be ingested and allowed to infect



and kill the caterpillars. It is a slower process than using SEVIN and more difficult to get it to the caterpillars to be ingested. In a nutshell, there are ways to deal with the infestation and there will be recovery from the repeated defoliations.

Why spend so much time on a retrospective on the FTC? Check the math on occurrences. Infestations occur every 30 to 40 years and we are now 37 years out from the last occurrence. This might just be a quick look into the near future if averages hold. Now for



questions to be answered. Will the next infestation be as widespread and serious as the one in the '80's? Will natural controls, friendly flies and cuckoos be enough to keep small occurrences in check? Will forest owners take the expensive measures necessary to control infestation, spraying with SEVIN or smaller scale BT? Finally, will maple producers be able to "weather the storm" and survive their loss of maple trees (maybe tap red maple)?

Whatever happens, there will be impacts all across the forestry realm. Only time will tell when, not if, our next infestation will happen and how serious it will be. STAY TUNED TO YOUR WOODS.





< **FOREST TENT CATERPILLAR**

Malacosoma disstria

Mature (pre-pupating) larvae are 2 to 2.5 inches (50 to 64 mm) in length. The caterpillars are black, dark brown, or gray, with broad blue longitudinal stripes and thin yellow stripes extending along each side.

EMERALD ASH BORER >

Agrilus planipennis

E.A.B. is small, but destructive. Adult beetles are metallic green and about 1/2-inch long. Look for D-shaped exit hole in the bark when they emerge in the Spring.

Increased woodpecker activity is also a telling sign of an E.A.B infestation.



< **HEMLOCK WOOLLY ADELGID**

Adelges tsugae

H.W.A. are very small (1.5 mm) and often hard to see, but they can be easily identified by the copious "cottony" masses of white filaments they form on the underside of branches at the base of the needles. Tree mortality usually occurs within 4-10 years.

LOOK OUT FOR: SPOTTED LANTERNFLY >

Lycorma delicatula

Adults are approximately 1 inch long and half an inch wide at rest. They primarily feed on tree of heaven (*Ailanthus altissima*)

but feed on the sap of more than 70 plant species. New York's annual yield of apples and grapes (combined value: \$384M) could be impacted if S.L.F. enters New York.





2019 EVENTS

View all events & register online at catskillforest.org

Tree ID with Ryan Trapani

July 13, 10AM-12PM
541 Cemetery Road
Margaretville, NY 12455

2019 CATSKILL FOREST FESTIVAL

July 27, 10AM-4PM
Margaretville Pavilion
Margaretville, NY 12455

Chainsaw Sharpening & Maintenance Workshop

August 3, 10AM-12PM
43469 NY-28
Arkville, NY 12406

Portable Sawmill & Mule Logging Demonstration

August 17, 10AM-12PM
86 Davis Hollow Road
Andes, NY 13731

Game of Logging Level I

August 23, 7:30AM-5PM
306 Mitchell Pond Rd. E.
Cochecton, NY 12726

Game of Logging Level II

August 24, 7:30AM-5PM
306 Mitchell Pond Rd. E.
Cochecton, NY 12726

Ginseng Cultivation Workshop

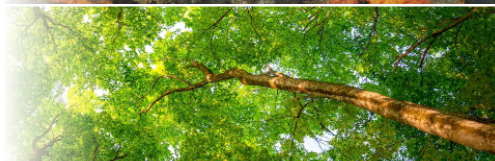
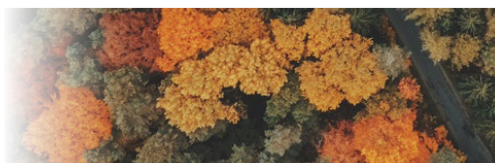
September 21, 10AM-1PM
Please Check
Website for Details

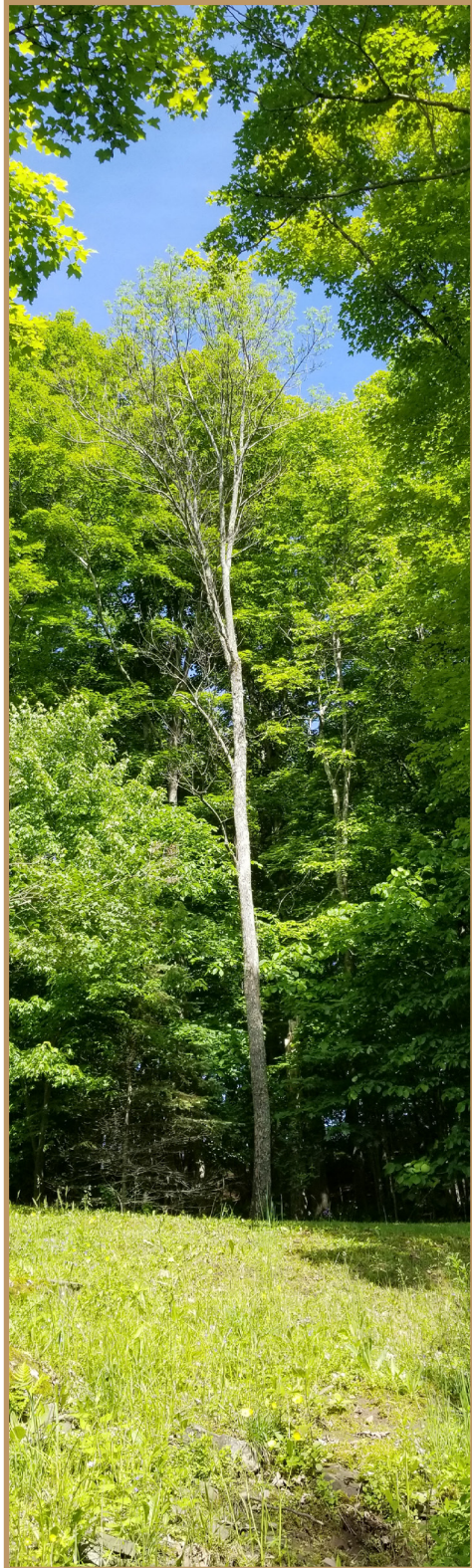
Mushroom Woods Walk w/ Catskill Fungi

September 28, 10AM-12PM
Rider Hollow Road Trailhead,
Rider Hollow Road, Arkville, NY 12406

CFA Annual Membership Meeting

October 12, 10:30AM-2PM
Pine Hill Community Center
287 Main St, Pine Hil, NY 12465





New Methods for CFA's Invasive Species 'Tree Saver' Program

DARIA CHADWICK

An 80+ degree day with a sky of strikingly rich blue - that's my favorite. That kind of blue always makes me stop and appreciate it for a moment, and I did exactly that as I stepped out of Ryan's truck and onto the jobsite for the day. But as a gentle breeze guided strands of hair out of my face, I sighed with annoyance - this glorious weather that I ordinarily craved was not the conditions I wanted right now.

"No wind," I said to Ryan, but he wasn't listening. He was already out of the truck and staring straight ahead at an ash tree. It was almost dead.

It's not the first time I've seen an ash tree at that stage, but it's not something that I'm numb to just yet. The stark white wood against lush green foliage is still kind of haunting to me.

I looked away. "No wind," I said again, but Ryan remarked that it made no difference. In fact all of the properties of this weather (some humidity, hot temperature, and no wind) were no longer the hinderence to our objective that it once was. Treating trees in these kind of conditions took several hours this time last year. Not today. This job was over and done in about 20 minutes.



True to his philosophy discussed in “The Practice of Forestry Requires No Expert”, Ryan has kept a close eye on emerging developments in the area of chemical treatments since establishing the Tree Saver Program three years ago. After attending multiple conferences and consistently researching different methods, Ryan implemented a new system this year that has fully replaced the old one, and it’s made a world of difference.

There was no saving that first ash tree we saw. It was too far gone. But there was another standing closer to the house that wasn’t showing signs of E.A.B. infection yet. That was the one we were here for, and that one still had a chance.

I chatted to Ryan while he got to work. With his safety glasses, neon-green latex gloves and armfuls of chemicals, he looked like some kind of mad scientist.

“No drilling with this new system?” I asked. “No drilling,” he responded. “Here.” He gestured, and I held out my palm. Into it he dropped a tiny piece of wood maybe 6mm in diameter.

“The difference between this system and others is the depth of which the chemical is placed,” Ryan explained. “You’re trying to inject right under the bark, because that’s where the sap is most active. If you go deeper into



the bark, like other systems do, the sapwood is not as active deeper in the tree.”

The holes made in the tree are so tiny that Ryan uses thumbtacks to keep track of them. The lack of drilling helps with the healing of the tree, as the less invasive the process, the better.



I had complaints about the weather at first, because to an extent, the efficacy of the previous system was dependent on the weather. Hotter temperatures and less wind make the stomata on tree leaves a little less active, which in turn slows absorption rates of the chemical. Stomata are any of the minute pores in the epidermis of the leaf (or stem) of a plant, and they form a slit that allows movement of gases in and out of the intercellular spaces.

Cooler temperatures and some wind encourages transpiration in the leaves. That was the weather we used to hope for on treatment days. Now weather is less of a factor, as the productiveness of the new system mostly negates it.

The new method also translates to less chemical usage. “I’m only using about 23 milliliters of chemical for this whole tree,” Ryan went on, “which is unreal.”

In forestry there is always something new to learn, always a practice that can be honed or altered, always something to consider that may change how we approach one property to the next. CFA applies this mentality to all of our programs and services, and we do it to find more effective methods for whatever practice we're implementing. At the same time, we aim to have that practice align with economic feasibility for our members. This latest update to the Tree Saver



Program is a reflection of that process.

By making it easier to prophylactically treat and protect individual trees, we can schedule more jobs, save more members' trees (and their pockets), and keep improving the overall health of the Catskill Mountains.

If you have ash trees on your property (especially ones near the home, like the one pictured on the left) call us to schedule an appointment. If you're just looking for some guidance and need some advice, call us to schedule a consultation. (845) 586-3054



Refuting A Catskills Myth: “Spruce-Fir Forests Will Disappear”

BY MIKE KUDISH

RED SPRUCE AND BALSAM FIR CAPS

In the spring 2019 issue of CFA News, I refuted how a warming climate alone cannot change Catskills northern hardwoods (sugar maple-beech-yellow birch-black cherry-red maple) forests into oak-hickory forests. In this issue, I need to refute another Catskill myth: that a warming climate alone will eliminate spruce-fir or fir caps on the highest eastern peaks, generally above 3000 to 3500 feet.

Red spruce (*Picea rubens*) and balsam fir (*Abies balsamea*) can tolerate a wide range of elevations in New York State, and therefore a wide range of temperatures and growing seasons. Folks who feel that warming alone will destroy the spruce-fir caps in the eastern Catskills, and the fir caps

in the central Catskills, must not be aware of the low-elevation spruce and fir stands in the region. Or, these folks have chosen to ignore them. At these lower elevations, the climate is, and has already been, warmer for millennia. Consider the following major lower-elevation spruce and fir populations described in the CFA News articles on the postglacial migration routes of these conifers in from the Poconos:

“How the Catskills Obtained a Fir Coat”.
Fall 2012-Winter 2013 issue, pages 12 to 14.

“How the Catskills Were Spruced Up”.
Spring 2013, 12 to 14.

Spruce-fir populations occur in several portions of the greater Catskills region at elevations as low as 1500 to 2000 feet. The major migration route of these conifers into the eastern High Peaks was through the Fir Brook Valley, Town of Rockland, Sullivan County at elevations of 1700 to 1800 feet. Farther southwest in Sullivan County, there are spruce-fir populations even below 1500 feet, with one near Monticello. Many spruce-fir groves are in the headwaters of the Schoharie and its major tributaries – the West Kill, East Kill, and Batavia Kill – at elevations between 1600 and 2300 feet. In the far northwestern Catskills - in the towns of Harpersfield, Jefferson, and Summit – these conifers are abundant at elevations of about 1800 to 2200 feet.

These lower elevations correspond to mean annual temperatures around 44 to 45 degrees F., mean winter temperatures around 22, mean summer temperatures around 68, and extreme

temperatures of about -20 to 99.

If the spruce-fir caps at high elevations in the eastern Catskills disappear from warming, what about the spruce-fir populations at lower elevations in the eastern, far northwestern, and Fir Brook-Sullivan County areas where the climate is already warmer than that of the High Peaks caps? Will the lower-elevation stands disappear first?

OTHER FACTORS COULD CAUSE SPRUCE-FIR CAP DISAPPEARANCE

What might happen is that, as the climate warms, OTHER ecological factors might arise as a result. These other factors could create, INDIRECTLY, a partial or total loss of our spruce-fir caps, but not DIRECTLY because of warming. Several of my colleagues, professional ecologists, have emphasized their beliefs that the spread of insect defoliators, fungal diseases, and competing invasives could reduce or eliminate the spruce-fir caps. Also, trends and events that we cannot conceive of now may happen.

If warming occurs along with future droughts, then perhaps spruce-fir caps could become dessicated, but it looks like the Catskills climate will not become drier; it will become wetter. Even if there are more droughts, spruce-fir forests can withstand them better than northern hardwood stands. Look where spruce-fir caps are today: summits with shallow, very stony soils and minimal water-holding capacity. These are sites where northern hardwoods have not been able to colonize over the 15000 years since deglaciation, leaving the spruce-fir

forests without competition.

WOULD RIDGE HARDWOODS REPLACE THE SPRUCE-FIR CAPS?

If spruce-fir caps disappear, ridge hardwoods might replace them. Ridge hardwood stands are northern hardwood stands lacking sugar maple, white ash, and basswood because the soils lack sufficient water to supply these three species. Ridge hardwoods are dominated by yellow birch, mountain paper birch, beech, black cherry, red maple, mountain ash, and red (pin, fire, bird) cherry. Ridge hardwoods could either move up the slopes from below and fill the gaps left by the spruce-fir. Or, where ridge hardwoods are already mixed in with the spruce-fir up to elevations of 3800 to 4000 feet, they could expand in place and fill the gaps created by declining spruce and fir populations.

WHAT ABOUT SHRUB THICKETS?

Another possibility is that shrub thickets could replace some of the spruce-fir. Shrub thickets are uncommon and very localized in the Catskills today. Where they do occur, some are found sandwiched between the ridge hardwoods below and the spruce-fir, or fir, caps above. Some of these thickets dominate bogs and fens. These thickets could easily move upslope and replace deteriorating spruce-fir stands. Dominant shrubs in the thickets are witchhobble (also known as hobblebush), wild raisin, two species of mountain holly, mountain maple, red elderberry, beaked hazelnut, pinkster azalea, and witch hazel. See CFA News Summer-Fall 2011 issue,

pages 8 and 9, and Winter-Spring 2012 issue, pages 8 to 10 for details on shrub thickets.

THE SPRUCE-LESS AND FIR-LESS WESTERN CATSKILLS PEAKS

In the western Catskills, many of the high peaks are dominated by ridge hardwoods today. Examples are Graham Mountain, Mill Brook Ridge, Dry Brook Ridge, Beaverkill Range, and Plattekill, Pisgah, Halcott, Vly, and Bearpen Mountains. Their summits range from 3300 to 3860 feet. There are no spruce or fir caps. One may wonder whether ridge hardwoods had replaced these conifers in the past because of warming or other factors. The answer is no. Fossil evidence from the bogs and fens shows that red spruce had never migrated through this portion of the Catskills at all (see CFA News, Spring 2013 issue). Balsam fir had, but in very limited numbers; fossil remains are very rare (see CFA News, Fall 2012-Winter 2013 issue).

BALSAM FIR HAS ALREADY BEEN DISAPPEARING ON SOME PEAKS

On pages 23 and 24 in *The Catskill Forest: A History* (Purple Mountain Press, 2000 and reprinted 2015), I wrote how balsam fir had been disappearing from sites on several peaks since I first mapped them during field work for a Ph.D. thesis in 1969-1970. This disappearance, probably going on for centuries, has little or nothing to do with warming climate but rather to competition from the longer-lived ridge hardwoods.

In contrast, and in as many places, balsam fir populations have been

expanding. In most cases, fir stands have been neither expanding nor shrinking over the last century or more.

Red spruce in many areas has been, on the contrary in the Greene County eastern Catskills, expanding – downslope into the northern hardwoods.

NEXT TIME YOU HEAR THAT NORTHERN HARDWOODS WILL BE REPLACED BY OAK-HICKORY AND THAT SPRUCE-FIR FORESTS WILL DISAPPEAR SOLELY BECAUSE OF A WARMING CLIMATE -

Corner that person and ask him or her whether he or she has some understanding of the 15000-year history of these forests, the relationships among these tree species, and the contemporary distribution of these species in the greater Catskills region. If he or she does, and still insists that warming alone will cause these major changes, then maybe he or she is not creating myths.

ANOTHER WORD ON NORTHERN HARDWOODS

Some additional thoughts were received from colleagues who read the Spring 2019 CFA News article refuting the myth that warming alone will cause the northern hardwoods to be replaced by oak-hickory forest. One thought was that if oaks and hickories are ALREADY PRESENT and mixed in, they can easily replace northern hardwoods if the latter die out from droughts, diseases, defoliators, invasives, and other threats. Yes, this might happen. But what would happen in the remote INTERIOR of the Catskills where there are no oaks

or hickories for ten to twenty miles in any direction? Examples are the Slide-Peekamoose and Big Indian-Beaverkill Wilderness areas. How would the oaks and hickories arrive? Would people plant them to replace the dying northern hardwoods? Or would enormous numbers of game birds (jays, crows, turkeys, grouse, etc.) and far-ranging mammals collaborate and organize a massive nut drop?

*** Editors Note:**

The last row of the northern hardwoods table was omitted in the article “Refuting A Catskills Myth: Northern Hardwoods Will Be Replaced By Oak-Hickory” found in the Spring 2019 Issue of CFA News. Corrections to the full table are below.

LOCATION	MEAN TEMPERATURES (°F)			EXTREME TEMPERATURES (°F)	
	ANNUAL	WINTER	SUMMER		
CATSKILLS UPPER ELEVATION LIMITS FOR ALL FIVE N. HARDWOODS, 3800 TO 3950 FEET	39	13	58	-23	89
CATSKILLS LOWER ELEVATION LIMITS FOR ALL FIVE, CA. 500 FEET	49	24	72	-22	104

SOUTHERN LIMITS:

NEW YORK CITY FOR YELLOW BIRCH	54	33	77	-15	106
HEAD OF CHESAPEAKE BAY FOR SUGAR MAPLE	57	37	78	-7	107
SOUTHERN SOUTH CAROLINA FOR BEECH	67	51	82	7	104
NORTHERN FLORIDA FOR BLACK CHERRY	70	60	81	18	102
SOUTHERN FLORIDA FOR RED MAPLE	75	68	82	27	98

Programs & Services

LEARN MORE AT CATSKILLFOREST.ORG/PROGRAMS

Program	Description	Cost
CONSULTATIONS ALL YEAR	One hour property visits for all private Catskill landowners with membership registration, and now with membership renewal. Get impartial and confidential advice about what your property holds, understand your management options, identify trees, and get an overall evaluation of forest health.	\$25
APPLE TREE PRUNING BEGINNING: WINTER	Pruning is key to establishing healthy fruit trees. Healthier trees yield better quality & quantity produce.	\$100/HOUR
APPLE TREE GRAFTING SPRING	Bring an old apple tree back to life, and even get multiple types of apple to grow on the same tree.	\$50/STEM (2-7 GRAFTS PER STEM)
INVASIVE SPECIES MANAGEMENT SPRING-FALL	<u>TREE SAVER</u> Works to save trees from invasive insects such as the Emerald Ash Borer (ash trees) Hemlock Woolly Adelgid (hemlock trees) and more, through the use of affordable chemical treatments. Use your consultation to figure out your options and receive an on-site quote. <u>FOREST SAVER</u> Works to save forests from invasive plants such as honeysuckle, multiflora rose, and japanese barberry that can overwhelm forest floors and replace native vegetation.	ON-SITE QUOTES AVAILABLE
TIMBER MANAGEMENT ALL YEAR	Comprehensive timber management for a healthy and resilient forest that works for you.	\$40/HOUR
WILDLIFE HABITAT MANAGEMENT ALL YEAR	Create fruitful forests for the wildlife on your property through cutting.	\$150/HOUR
MAPPING ALL YEAR	Custom, personalized maps of your property highlighting areas of interest such as log roads, water features, hiking trails, and more. Styles in physical or topographic. <i>Drone flights optional.</i>	BY QUOTE
FOREST BIRD PROGRAM ALL YEAR	<u>HIGH NESTING BIRD BOXES</u> We'll make a home and hang a box up high for owls, thestrals, ducks and more. <u>CANOPY BIRD FEEDERS</u> Squirrel-resistant and bear-resistant bird feeders. Hung way out on the tree canopy, installed on 1/16" steel wire. The simple pully-system makes refills easy.	\$200.00 \$100.00
TRAIL CAMERAS ALL YEAR	Ever wonder what kind of wildlife is around when you're not?	\$25.00

**CATSKILL FOREST
ASSOCIATION, INC.**
PO BOX 336
43469 State Highway 28
Arkville, NY 12406
catskillforest.org
845-586-3054



MEMBERSHIP APPLICATION

Become a member at www.catskillforest.org/membership or send a check/cash with this application to:
Catskill Forest Association, Inc. PO Box 336, Arkville, NY 12406. Dues & Donations are fully tax deductible.

NAME: _____

MAILING ADDRESS: _____

PROPERTY ADDRESS: _____

PHONE: _____ **EMAIL:** _____

TOTAL ACRES: _____ **FORESTED ACRES:** _____ **POND** [] **STREAM** [] **RIVER** []

CATEGORIES (PLEASE CIRCLE)

BASIC (\$65)	CONTRIBUTING (\$150)
Consultation; Access to CFA Services; Events free/discounted; CFA News Subscription; CFA Member Property Sign;	SAME AS BASIC + 20% Discount on Services; CFA Totebag
BUSINESS (\$200)	SUSTAINING (\$500)
SAME AS BASIC + 10% Discount on Services; CFA Website Listing; Referrals; Advertisements; Free Booth at Forest Festival	SAME AS BASIC + 30% Discount on Services; CFA Backpack

ADDITIONAL DONATIONS

GENERAL OPERATING FUND	\$
ENDOWMENT TRUST FUND	\$
SCHOLARSHIP FUND	\$

Total Amount: \$ _____