

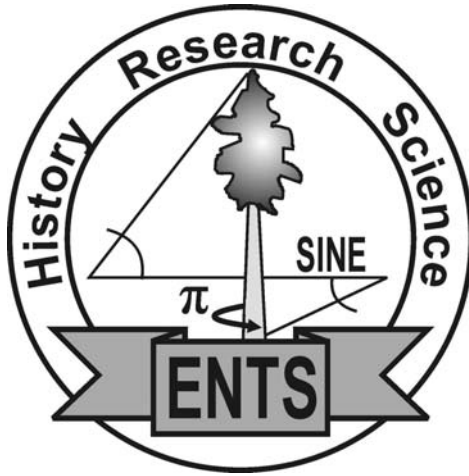
Bulletin of the Eastern Native Tree Society

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EASTERN NATIVE TREE SOCIETY



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Mission Statement:

The Eastern Native Tree Society (ENTS) is a cyberspace interest group devoted to the celebration of trees of eastern North America through art, poetry, music, mythology, science, medicine, and woodcrafts. ENTS is also intended as an archive for information on specific trees and stands of trees, and ENTS will store data on accurately measured trees for historical documentation, scientific research, and to resolve big tree disputes.

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Membership is free when you sign up for our discussion group, ENTSTrees, at: <http://groups.google.com/group/entstrees?hl=en>. Submissions to the ENTS website in terms of information, art, etc., should be made to Edward Frank at: ed_frank@hotmail.com

The *Bulletin of the Eastern Native Tree Society* is provided as a free download in Adobe™ PDF format (optimized for version 5 or newer) through the ENTS website. The Eastern Native Tree Society and the *Bulletin of the Eastern Native Tree Society* editorial staff are solely responsible for its content.

COVER: Gary Smith and Beth Koebel stand next to one of the giant baldcypress found at Sky Lake Wildlife Management Area near Belzoni in west-central Mississippi. Photo by Don C. Bragg.

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A PLEA FOR NEW CONTRIBUTIONS

While last issue was short due to editorial issues (primarily, a new baby), we are a little thin in this issue in part due to a lack of reader submissions. Short of another long piece on tree volume calculation by Bob Leverett (coming next issue), we really need the ENTS membership to step up to the plate and provide new, original contributions. Don't be intimidated by the scientific or technical articles that have appeared—this is but a part of what the *Bulletin* has to offer. To encourage further participation, we have included a number of essays by ENTS members on their personal experiences regarding special trees and forests. We also accept and publish pictures of interest to the readership—each issue requires a considerable amount of graphical material.

Fancy yourself a poet? Send us your tree or forest-related poetry, and we may be outlet for your creativity. Have some thoughts on an issue, or an interesting trip to report on? We take these contributions as well! Photo essays, book reviews (of pre-authorized titles only, please), and even humorous materials are also appropriate. If you'd like to contribute something, but aren't sure of the relevancy, please don't hesitate to contact me for feedback. And, of course, if you'd like to submit more technical or scientific papers, we will happily accept these for consideration!

To date, we have been very fortunate to have been able to support the *Bulletin* with a large number of high-quality submissions. I hope this trend continues into the future, but we need your support!

Don C. Bragg
Editor-in-Chief

Large cypress knees interspersed with a bumper crop of tupelo gum seedlings dominate the understory of Sky Lake Wildlife Management Area near Belzoni, Mississippi. This stand is dominated by second-growth tupelo gum and baldcypress, with ancient baldcypress scattered throughout. Photo by Don C. Bragg.



ANNOUNCEMENTS AND SOCIETY ACTIONS

Southern Appalachian ENTS Gathering Scheduled for April 18-20, 2008

After lengthy discussions, Bob Leverett and Will Blozan have arranged an “impromptu” ENTS gathering in the southern Appalachians. They have found a “lodge” in Black Mountain, North Carolina, that is both convenient and scenic at Camp Rockmont (<http://www.rockmont.com/rental.shtml>). Not only does Camp Rockmont have the seriously reasonable price of \$21 per night per person, Will has done a measuring trip at the camp and found tuliptrees over 140 ft and black oak over 130 ft, with much more to discover just in the camp’s 550 acres!

Will and Bob had some other ideas for this get-together, including slide presentations, measuring and modeling workshops, tree/shrub identification, tree climb introductions, and field trips, which may include the Smokies (of course), Cataloochee, Big Creek, a red spruce hunt, “Pine Flats,” a Mountain Mama climb (eastern white pine 12.3 ft CBH by 175 ft tall), Linville Gorge, Chimney Rock State Park, South Mountains State Park, the Biltmore Estate, and possibly some other sites.

So, if you can make it, put this event on your calendar, and come celebrate the southern Appalachians with your fellow Ents!

ENTS and the Vanishing Hemlock Documentary

ENTS president and arborist Will Blozan is serving as a consultant to a documentary currently being developed on the demise of the eastern and Carolina hemlocks in the eastern US. The hemlock woolly adelgid, an introduced pest, has been decimating hemlocks across the region over the last few decades, with many of the most significant and impressive trees and groves falling with shocking speed. This documentary, produced by Back 40 Films in association with Musk Entertainment, is intended to be a call to action, hopefully mobilizing more resources to fight this forest catastrophe. No release date has been announced, but more information on this effort (including a link to send donations to facilitate the movie’s completion) can be found at:

<http://southerndocumentaryfund.org/works-in-progress/the-vanishing-hemlock/>

Remember – the ENTS Online Discussion Group Has Moved to Google

After some years using Topica as the host for the ENTS online discussion group, a decision was made recently to migrate to Google. Some Ents had reported problems in getting posted messages, or posting to the list, so the change was made. Google Groups offers ENTS more functionality with fewer quirks and bugs, and to date seems to have served us well.

If you haven’t yet migrated, or are interested in joining ENTS, please register yourself with Google and sign-up for the list at:

<http://groups.google.com/group/entstrees?hl=en>

One of the new features that has been developed in recent months is the ability to post and distribute pictures and other electronic documents. Webmaster Edward Frank has also been working on video capabilities for ENTS, including the posting of a number of video channels on the ENTS website (http://www.nativetreesociety.org/video/index_videos.htm) and the posting of videos on YouTube (www.youtube.com).

In 1914, the former owner (C.I. Baker) of the land that is now part of the Big Walnut Natural Area in western Indiana carved the following epithet into a sandstone boulder along the trail leading through the parcel. As with many of the old-growth remnants found in the eastern US, this parcel was accidentally missed during the “big cut” of the late 19th and early 20th centuries, and has therefore earned the label “The Lost 40.”

Photo by Don C. Bragg.



SKY LAKE WILDLIFE MANAGEMENT AREA, BELZONI, MISSISSIPPI: DECEMBER 2007

Don C. Bragg

Research Forester, USDA Forest Service, Southern Research Station, Monticello, Arkansas

On Saturday, December 1, 2007, I met with Gary Smith and Beth Koebel in Belzoni, Mississippi. Belzoni is on the modern-day Mississippi River floodplain about a half-hour south of Indianola (hometown of blues great B.B. King). Sky Lake Wildlife Management Area (WMA) was our destination (Figure 1), and with pleasant temperatures and under a blue sky, we made our way to the site.

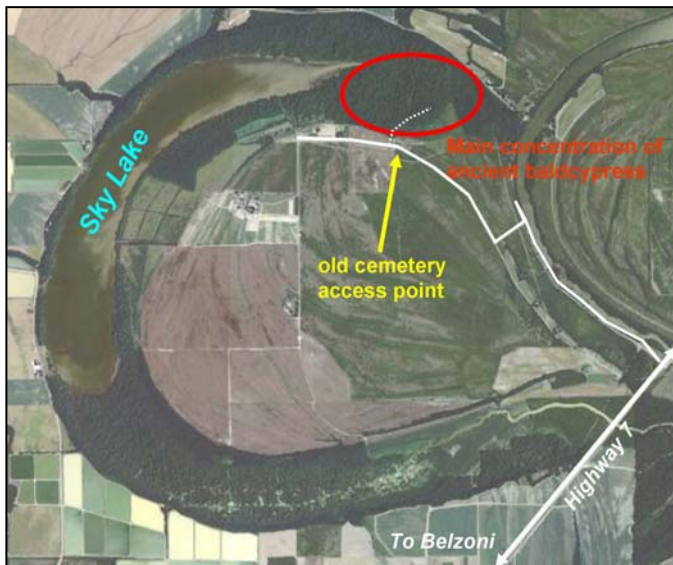


Figure 1. A map of the Sky Lake WMA in Humphreys County in west-central Mississippi, showing the main concentration of publicly owned ancient baldcypress. Image courtesy of Google Earth.

Sky Lake is an old “oxbow” left behind by an ancestral channel of the Ohio (yes, Ohio) River. It is thought that the Ohio once flowed parallel to the Mississippi for a long distance before they joined. Some thousands of years ago, the Ohio abandoned this channel, and the old oxbows and sloughs decreased greatly in their volume of flow, producing slow, stagnant waterways perfect for growing baldcypress, tupelo gum, and a number of other tree species. The Sky Lake WMA is in one part of this old oxbow that long since silted in and was once covered by a thick forest of ancient cypress and tupelo.

It appears that by the early twentieth century, this stand was cut (Figure 2) of its best cypress and gum timber, with some old remnant trees left as culls. It was the massive cypress culls that we traveled to see—and we were not disappointed! You may recall that Gary and I traveled here last July, only to be driven back by water, mosquitoes, and our lack of knowledge

of the area. By this trip, the water had dropped even further, the mosquitoes were mostly gone, and we knew a little more where to look. We drove northeast out of Belzoni on Highway 7 for a few miles before turning off on a paved side road and continuing on to an isolated cemetery, where we pulled off of the road and began our hike down the old terrace slope.



Figure 2. Old decayed stumps of cypress cut many decades before in the Sky Lake area. The young, green-leaved understory trees are water tupelo seedlings that were able to sprout during the extended drought of recent years. Photo by Don C. Bragg.

Unlike the previous August trip, we had no problem finding the biggest of the cypress—using the directions of the former landowner, we walked right to the following trees:

Species	CBH (ft)	Sine HT (ft)	Comments:
baldcypress	40.5	93.5	taller dead top
baldcypress	46.3	81.0	current state champ
baldcypress	29.5	99.0	large burl

Yes, Bob, you read that correctly—two trees over 40 ft in circumference at breast height (CBH)! From our cursory examination of the surroundings, there are others in the immediate area that go 25+ ft, and there are probably scores of cypress 15+ ft in CBH in the Sky Lake area (including parts outside of the WMA). Even though few of these trees will prove datable due to their hollowness, dendrochronology guru and fellow Ent Dr. David Stahle can attest to their great ages.



Figure 3. Gary Smith standing next to the 40.5 ft CBH baldcypress. Photo by Don C. Bragg.

But not obviously tall—the ancient cypress were obviously battered over the centuries by storms (Figure 4), tending to keep their heights low (under 100 ft). Most of the other species in the swamp were not particularly large, although the second-growth cypress and tupelo looked to be in good shape.



The current Mississippi state champion baldcypress had a large hollow in the middle of its highly buttressed base (Figure 5), large enough for at least a dozen people to climb into (and apparently they have).

Figure 4 (left). The tops of virtually all of the largest and oldest cypress were broken off by windstorms decades ago. Photo by Don C. Bragg.

Figure 5 (right). Gary Smith and Beth Koebel examine the current state champion (Beth is standing in one of the large cavities of this specimen). Photo by Don C. Bragg.





Figure 6 (above). Beth Koebel stands below a burl-like branch of an ancient cypress. Photo by Don C. Bragg.

Figure 7 (left). The charred and splintered remains of another giant, perhaps shattered and burned by a single lightning strike. Photo by Don C. Bragg.

On occasion we saw stranger sights, including a large burl-like branch on one giant (Figure 6), and the massive shell of a cypress broken by a storm and probably set afire by a lightning strike (Figure 7).

We only measured a couple of tupelo gums, and their size paled in comparison...

Species	CBH (ft)	Sine ht (ft)	Comments:
tupelo gum	10.3	77.5	second-growth tree
tupelo gum	17.2	84.0	cull old-growth stem?

Although not as impressively large as the cypress, the tupelos dominated the over- and understories. A bumper crop of seeds coupled with a favorable seedbed and persistent low water levels arising from the South's extended drought have almost

paradoxically allowed for the establishment of many new gum seedlings.

We also measured a stout planertree (*Planera aquatica*) that was dwarfed by the cypress and tupelo, but was large for its type in this swamp, coming in with a CBH of 6.6 ft and 37.5 ft tall.

All in all, we had a very good day, and are thinking of returning at some point down the road to investigate some of the other ancient cypress of the Sky Lake area, assuming we get permission from the landowners. For those interested in the Sky Lake WMA, you can find some more information online at:

<http://www.wildlifemiss.org/news/news/2001/05-16.html>

This article is in the public domain.

THOSE FABULOUSLY FASCINATING FOREST FRAGMENTS!

Ernie Ostuno

Eastern Native Tree Society

I'm not sure exactly when I was bitten by the bug for searching out far-flung patches of old-growth forest. What I do know is what continues to make me tromp through forested ridges, water gaps, and sand dunes to visit them. It is the soothing feeling of awe that I have in the presence of these ancient trees in all their majestic, gnarled grandeur. The thick, plated bark of *Pinus strobus* covers a massive trunk, limbless and straight for a hundred feet or more above the ground. The ragged, reddish bark of *Tsuga canadensis* protects a 540-yr-old organism that began life before Columbus sailed. No photo or painting can capture that combination of intricate beauty and powerful size. No words can do justice to these standing sentinels that are among nature's most eloquent testament to the passage of time. Time is what sculpts these giants in the myriad impressive forms they assume. It takes hundreds of years. For *Thuja occidentalis*, it can take a millennium. The land is transformed as they grow.

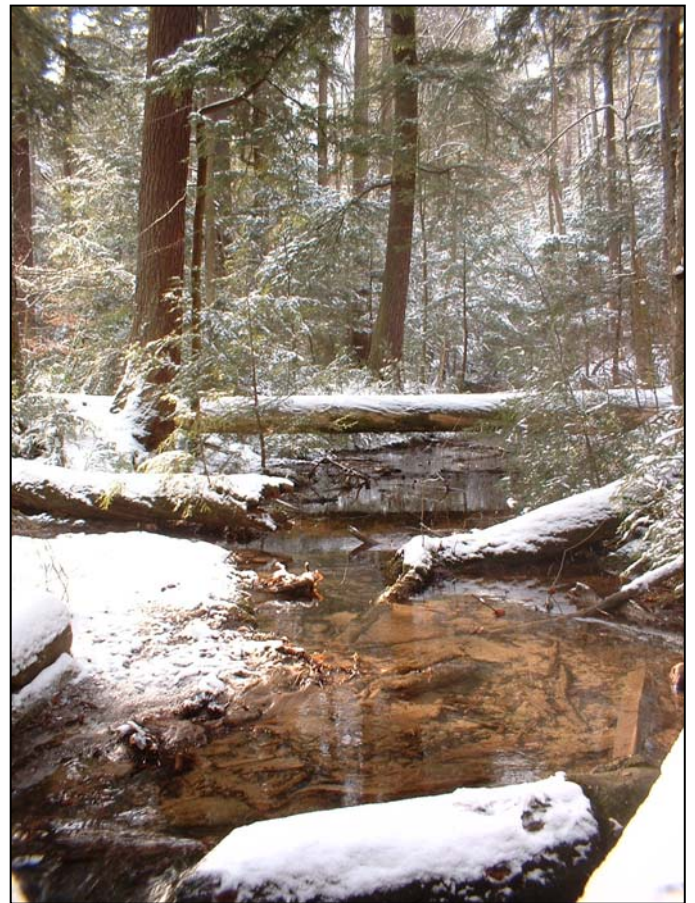
Even the weather changes around them. I remember standing at a road clearing in a Pennsylvania water gap on a warm April day and feeling the cold breeze cascading out of a patch of old hemlocks, where a foot of snow remained on the ground because of the shade they provided. There are stark boundaries of light, temperature, and even smell between the realm of the ancient trees and what was transformed in our wake. In Connecticut, Pennsylvania, and Michigan, the places where I have lived and sought out these original forest fragments, it is estimated that 99.9% of the original forest was cut down. One tenth of one percent survived intact. Perhaps it is also their incredible rarity that adds to the appeal of finding them.

In December of 1995, I hiked through a patch of old-growth forest in Pennsylvania for the first time. But I didn't recognize it as such—they just looked like trees to me, bigger and perhaps older than trees I had seen before. Even so, the place seemed different in a special kind of way, and I remembered it. Not until a few years later did I revisit this area and more fully appreciate what was there, taking stock of such things as species composition and size of the trees and estimating their ages after having become aware of these things while visiting a couple dozen old-growth remnants.

All of these "forest relics" had their own unique character, but all provoked a similar reaction in me; the feeling of being transported to a special place in time and being in tune with how the world evolves when we don't interfere. I felt it being as close to perfection or harmonious with life as we can experience on earth, because we cannot improve on what nature creates. These places are sacred in the sense that we need them to fully connect with the web of life. What follows is

a description of the memories I have of some of them, listed in no particular order.

Heart's Content Scenic Area, Pennsylvania: White pine are such majestic trees, and the ones at this place are probably the most regal I have seen anywhere. Although they are near the limit of their natural age and are in their twilight years, they are true forest monarchs, towering above their surroundings the way they have for hundreds of years. They must have been just as impressive a hundred years ago; even the lumber barons refused to put the saw to them.



A 2003 picture of the Heart's Content Scenic Area old-growth stand in the Allegheny National Forest. Photo by Kirk Johnson/Friends of Allegheny Wilderness.

Schall's Gap, Pennsylvania: Among the ridges of central Pennsylvania are water gaps, where small creeks rush down to the valleys and I surmise that patches of trees were left

standing when the surrounding forest was felled to keep the water from being filled with silt. Ancient hemlocks grow along the north and south fork of a creek at this site, and one of them was cored several years ago to reveal 540 growth rings. These trees exhibit all the impressive features that old-growth hemlocks are noted for; the reddish bark, huge limbless trunks, large, gnarled limbs and towering, conical crowns visible from miles away. The adelgid has arrived here, but I am hoping these trees can be saved because of their age and proximity to the Penn State agricultural site at Rock Springs. Perhaps they can be “ambassadors of old-growth” to the people that visit here during Ag Progress Days every August.



An oak-dominated hardwood stand in the proposed Cornplanter Wilderness Area of the Allegheny National Forest. Photo by Kirk Johnson/Friends of Allegheny Wilderness.

Hoffmaster State Park, Michigan: An old-growth forested sand dune, where forest quickly transitions to Lake Michigan beach; an extremely rare place in this part of Lower Michigan. This is what the forested dunes looked like hundreds of years ago, with hemlock and beech composing the forest canopy. To make it even more interesting, a section of the forest was blown down in a derecho in 1998 and is now regenerating naturally. On the down side, beech bark disease will probably decimate this area in the coming years.

East Branch Swamp Natural Area, Pennsylvania: Another place where a great windstorm sculpted a forest remnant. One

of the largest tornadoes on record, a two mile-wide F4, came roaring through here on May 31, 1985, and flattened about 90% of this stand of ancient hemlocks. Yet some of the hemlocks survived, even after having lost almost all of their limbs. At the edge of the natural area there is a section of ghost-like stumps, bleached white with the roots exposed, looking like tombstones marking their death in the logging era. Why were these cut and the other old hemlocks spared?

Bear Meadows National Natural Landmark, Pennsylvania: An elevated swamp with examples of bog species such as pitcher plant and some old-growth *Picea mariana* and *Abies balsamea*, extremely rare for this area. The occasional ancient hemlock and white pine also appear along the circuitous trail around the swamp.

Ricketts Glen State Park, Pennsylvania: A magical place. It is comprised of old-growth forest surrounding a series of waterfalls. There is something about flowing water and ancient forest that just goes together very naturally (no pun intended). There is a most beautiful stand of white pine/hemlock forest along the south side of Route 118 that appears to have been untouched by logging.

Spruce Run, Bald Eagle State Forest: It's only about two acres of old-growth white pine and hemlock, but what makes it special is I happened upon it serendipitously a few years ago after searching for the super-elusive Mount Logan Natural Area. As far as I know, this tiny fragment of unlogged forest is not listed as old-growth anywhere. Yet it is relatively easy to get to, only about a ten-minute drive from Interstate 80.

Wykoff Run Natural Area, Pennsylvania: There are no extensive old-growth areas here, but amidst a lot of 100-yr-old stumps and second growth trees are a few individual old trees. I found a group of three hemlocks and one white pine growing together along a small stream, surrounded by old stumps. They must have been large trees, even back in the logging era. Why were they not cut down? Was there an eagle's nest in one of them?

South Manitou Island, Michigan: *Thuja occidentalis* is a magnificent tree, and very rarely will you find more spectacular examples of them than in the “Valley of the Giants,” where 800-yr-old behemoths grow on the very slowly shifting sand dunes on the far edge of an island in northern Lake Michigan.

North Forty Tract, Connecticut: As unbelievable as it seems, even in the original United States colony of Connecticut not all the forest was razed. In some very isolated locations you can find small stands of ancient trees, and this is one of them. It occurs along the edge and in the bowl of an old glacial kettle, with the geography adding to the special flavor of this place.

Well, that was just a sample of some fabulous fragments. There are so many more that I could spend time describing and fail to do justice. Other areas I would suggest visiting in Pennsylvania include Cook Forest State Park, home to so many superlative record-holders; the Hemlocks Natural Area, a

magnificent stand of hemlocks and hardwoods (unfortunately, the hemlocks are falling victim to the adelgid); Snyder-Middleswarth State Park, a beautiful stream valley with a large tract of ancient hemlocks (also with adelgid problems) and even a good-sized area where the white pine was left standing; Johnson Run Natural Area, another stream valley with unlogged forest of white pine, hemlock, and sycamore. In Michigan, I would suggest visiting Hartwick Pines State Park,

which is one of the only remaining stands of unlogged white pine and red pine in all of Lower Michigan, and Leelanau State Park, with its old-growth cedar, beech, and hemlock along the spectacular coast of the Leelanau Peninsula.

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A small stream trickles through Big Walnut Natural Area in west-central Indiana. Photo by Don C. Bragg.



MY SEARCH FOR A STATE CHAMPION TREE

Beth Koebel

Eastern Native Tree Society

Bob Leverett sometimes asks the most basic questions, such as "How did you become interested in trees?" Well, my interest started about October of 2003 while visiting our farm in Washington County, Illinois. For those who don't know where that is, it is about 70 miles southeast of St. Louis, Missouri. Our farm house is 112 years old and was built by William Maxwell (so yes, my family owns "Maxwell House" ...ha ha!).

The old barn on the property was built "just in time for the boys to go and fight in the Great War [WW1]," according to the late Judge Joe Maxwell, son of William Maxwell. This horse barn sits in a little hollow with about a half-acre of open area north of the barn, and to the south and east of the barn is our yard. Traveling west from the barn there is about 15 ft of yard then about 40 ft of woods before you get to one of our ponds. In this narrow strip of woods the dominant trees are shingle, pin, and post oak, with a scattering of hackberries, honeylocust, and red and cockspur hawthorns. There are wild blackberries and roses growing along the eastern side of the woods.



Most of this growth is young, probably less than 70 years, as this finger of woods follows an old fence line that runs on the township line. The one exception is a post oak that has huge branches holding up an almost completely round crown.

Initially I was just interested in finding out what kind of oak it was, and in my search I found out about the Illinois Big Tree Program. It was on their web site that I first saw how to measure a tree (using, of course, the tangent method). So the next time I visited the site in November of 2003 I measured a height of 90.7 ft, a circumference at breast height (CBH) of 128 inches, and a crown radius of 66.5 ft.

I looked again at the Illinois Big Tree site and noticed that our post oak was bigger than the one listed. I submitted our post oak, only to get a letter telling me that the list wasn't up to date and that the current state champ was bigger. Only fellow big tree hunters can imagine how disappointed I was.

For a while, I moped around, but then resolved myself to find a state champ! The hunters in the family told me of a large oak out in the pasture, so I ventured forth and found our big black oak. Excited, I compared the measurements of this tree (which at the time was the biggest I had seen) to the updated big tree list. Alas, this tree, too, was not a state champ. I searched across three counties, but never found a champion. I did find some big trees, a few of which went on a "waiting list" because they come close the current state champ in size, but not close enough to be listed as a co-champion.

A year or two passed, and I happened to be browsing through the Illinois state champion oaks. When I reached the black oak champ, I couldn't help but think "Wait a minute! Wasn't our black oak bigger than the one currently listed?" I looked up the measurements, and sure enough, I was right! The old state champ must have died, so I submitted our black oak and it is now the current Illinois state champion!

I guess Dorothy Gale was right--"There's no place like home!"

© 2008 Beth Koebel

The large post oak on Beth Koebel's family farm that, while large for area, did not make the Illinois record books as that species' champion. A remeasurement using ENTS-based techniques produced a noticeably shorter height of 64.5 ft. Photo by Beth Koebel.

The current Illinois state champion black oak, located on the Koebel family farm. Perseverance and accurate measurements helped Beth find her champion tree. Photo by Beth Koebel.



THE PINCHOT SYCAMORE AND GRANBY OAK: NOVEMBER 2005

Monica Jakuc Leverett

Elsie Irwin Sweeney Professor of Music, Smith College, Northampton, Massachusetts



The Pinchot Sycamore in Simsbury, Connecticut. Photo by John Knuerr.

This morning Bob Leverett introduced me to the Pinchot Sycamore in Simsbury, Connecticut, and the Granby (also in Connecticut) Oak. As a resident of the Pioneer Valley, Massachusetts, for 36 years, I have been a longtime admirer of our Sunderland Sycamore, and was quite delighted to meet a new great sycamore with a totally different character.

The Sunderland Sycamore is a center-of-town tree that has been sheltering and observing humans for centuries. It feels strong and welcoming and friendly, overhanging road, sidewalk, and neighbor's yard. The Pinchot Sycamore lives in a wilder setting, next to the Farmington River, out in the country. It is striking in its beauty and power: on first sight, it packs a wallop. It is also a tree with attitude: knowing its worth, it has managed to get its human admirers to clear a circle of grass under its canopy, complete with picnic table and obligatory stone marker. People have even donated money to light it up at night.

One of its smaller limbs has especially enticing mottled bark, and its larger limbs can compete with some of our white pines in girth. I was amazed at the difference in energy I experienced

as I walked around the tree; one side seemed more embracing, another more evocative of what I imagined might be a tree spirit, another seemed to have a darker energy. Its leaves were variegated in color, from green to yellow to brown, and in all combinations. It exuded health, unlike the large sycamore nearby whose leaves were all brown, and who probably didn't have access to as much water.

The Granby Oak had a whole different character. It, too, is out in the country, and it certainly went wild with a tree imagination that produced twisted limbs that kiss the ground. Large as it is, it is an intimate tree, one which invites you to sit on it, lie on it, hug it. Its leaves were a monochrome brown, and delicate in feel, unlike the sycamore's more umbrella-like effect. I can see why the Druids had ceremonies under big old oaks; they embrace us humans.

Anyway, it was fun to sense the great differences in character and energy of the different trees. I'm sure all of you have had similar experiences.

© 2008 Monica Jakuc Leverett

SOME CELTIC FOLKLORE ON TREES AND FORESTS

James Parton

Eastern Native Tree Society

TREES AND CELTIC MYTHOLOGY

To the Celts, the tree was a source of basic sustenance—a bearer of food, a provider of shelter and fuel for cooking and warmth. Without trees, life would have been extraordinarily difficult. Wood from sacred trees had magical properties, which was reflected in the Celtic Ogham alphabet, wherein each letter represents a particular sacred tree (modern Ogham divination is based on the uses and importance of these sacred trees to the Celts). Some trees provided food, some wood for making hunting weapons; others were sacred to the fairy-folk or to the gods. In Celtic creation stories, trees were the ancestors of mankind, elder beings of wisdom who provided the alphabet, the calendar, and entrance to the realms of the gods.

Trees were also associated in the Shamanic beliefs of the Druids and other Celtic peoples with the supernatural world. Trees were a connection to the world of the spirits and the ancestors, living entities, and doorways into other worlds. Trees also separated the earth and sky. The most sacred tree of all was the oak, which represented the axis mundi, the center of the world. The Celtic name for oak, “daur” or “darach,” is the origin of the word door—the root of the oak was literally the doorway to the Otherworld, the realm of Fairy. The word “druid,” the name of the Celtic priestly class, is compounded from the words for oak and wise—a druid was one who was “Oak Wise,” meaning learned in tree magic and guardian of the doorway.

The hawthorn and rowan (mountain-ash) are often considered “faery” trees. Rowan branches were put at doorways to ward off bad spirits and appease the fairy folk. In Medieval England, hawthorn trees were believed to be favored by the Faer Folk, who could cause good or bad luck. If their hawthorn were cut down, the tree-murdering miscreant’s life would be forfeit for his misdeed; but whoever cared for such a tree would have good fortune bestowed upon them.

It was additionally believed that if one were to hang a sprig of hawthorn in the barn, this would cause cows to give better milk. A hawthorn sprig in the rafters of a home helped to keep bogarts, ghosts, and evil spirits at bay. However, in some legends the tree is not to be brought into the home living space itself, for not all Faer Folk were good. They could be quite sinister at times. Christianity also disfavored the hawthorn, since it was associated with Faer Folk and with paganism, but even that had limits. The Glastonbury Thorn was said to be brought to England by Joseph of Aramathea.

Long after the Druids of old had vanished into the mists of

time, the lore of trees continues as a vital part of Celtic myth and folklore. Countless Irish legends revolve around trees. One could fall asleep next to a particular tree and awake in the fairy realm, as was popularly believed with hawthorn and rowan. In Celtic legends of the gods, trees guard sacred wells and provide healing, shelter, and wisdom. Trees carried messages to the other realm, and conferred blessings—to this day, trees can be seen in the Irish countryside festooned with ribbons and pleas for favors, love, healing, and prosperity.

The interlaced figures known popularly as Celtic knots represent sacred trees and plants, and the sacred animals of the forest. The Green Man or foliate god is the animus of nature; the spirit of the forest and of the hunt, and is pictured as a spirit face in the form of gathered leaves and sprouting tendrils. In older legends he is known as Cernunnos, the horned god of the forest, and looks less tree-like with horns of a deer or goat. Medieval Christianity is believed to have adopted this horned image along with that of Greco-Roman Pan and made it an image of Satan.

THE BATTLE OF THE OAK AND HOLLY KINGS

I love this story—it is one of my favorites in Celtic lore. In Celtic mythology, the Oak King and the Holly King are rivals. Every year during winter and summer they fight for dominance. In winter, Holly wins. In summer, Oak wins. Some legends say it is for the affections of the mother goddess.

To the early Celts, trees, especially the oak, were considered sacred. Oaks are deciduous, meaning that they go dormant during the winter months. English holly (and many other holly species) are evergreen and maintain their foliage year round. As the cold weather approached and the oaks lost their foliage, the holly, which had been hidden amid the leafy oaks, now stands out in their full beauty in the barren landscape.

At midwinter, it seemed that the Holly King had won and his rival, the mighty Oak King, now stood naked in defeat. But, the Holly King did not really win the battle, because as the sun begins to return once again, the Oak King rallies and begins to re-establish his supremacy, even though it won’t be until midsummer when the oaks will once again be in full foliage.

The battle continues into mid-summer and the Oak King appears to win, overshadowing and pushing his opponent out of sight, but once again appearances are deceiving. As the Sun begins to leave once more, the Holly King rallies and begins to make his full return once again. Interestingly enough, it is at the time when each King is in his full strength and splendor that he is defeated by his opponent.

CHRISTMAS AND CELTIC LORE

Celtic lore also comes to play in our many of our Christmas traditions. Examples of the Holly King's image can be seen in our modern Santa Claus.

He dons a sprig of holly in his hat, wears red clothing, and drives a team of eight (total number of Solar Sabbats) reindeer, an animal (deer) sacred to the Celtic gods. Holly and mistletoe came into modern Christmas celebrations through the memorializing the battle of the Holly and Oak kings—holly with berries are hung in honor of the Holly King and mistletoe in honor of the Oak King.

Photo by Don C. Bragg

HAZEL AND SALMON

I love both salmon and hazel, though I have rarely seen this tree planted around here. The Celts equated hazelnuts with concentrated wisdom and poetic inspiration, as is suggested by the similarity between the Gaelic word for these nuts, "cno," and the word for wisdom, "cnocach." There are several variations on an ancient tale that nine hazel trees grew around a sacred pool, dropping nuts into the water to be eaten by some salmon (a fish revered by Druids) which thereby absorbed the wisdom. The number of bright spots on the salmon were said to indicate how many nuts they had eaten.

In an Irish variation of this legend, one salmon was the recipient of all these magical nuts. A Druid master, in his bid to become all-knowing, caught the salmon and instructed his pupil to cook the fish but not to eat any of it. However in the process, hot juice from the cooking fish spattered onto the apprentice's thumb, which he instinctively thrust into his mouth to cool, thereby imbibing the fish's wisdom. This lad was called Fionn Mac Cumhail and went on to become one of the most heroic leaders in Irish mythology.

The Gaelic word for hazel is "Coll." It appears frequently in place names in the west of Scotland, such as the Isle of Coll and Bar Calltuin in Appin, both in Argyll-shire where the tree and its eponymous place names are the most common. It also appears in the name of Clan Colquhoun whose clan badge is the hazel. The English name for the tree and its nut is derived from the Anglo-Saxon "haesel knut," "haesel" meaning a cap or

hat, thus referring to the cap of leaves on the nut on the tree.

Hazel trees frequently grow as a clump of slender trunks, and when they do adopt a one-trunk-and-canopy tree shape, they readily respond to coppicing, a practice which can actually extend and even double the lifespan of a hazel. Either way, people have put the young shoots or whips and the thin trunks to a variety of uses.

Hazel has long been a favorite wood from which to make staffs, whether for ritual Druidic use, for medieval self defense, as staffs favored by pilgrims, or to make shepherds crooks and everyday walking sticks. In the case of the latter two, the pliancy of the hazel's wood enabled the stems to be bent into the required shape, though it was also customary to curve the hazel shoots when still on the tree to 'grow' the bend into a crook or walking stick. The wood readily splits lengthways and bends easily, even right back on itself, which makes it ideal for weaving wattle hurdles for use as fencing or as medieval house walls when daubed with mud and lime. Hazel stakes bent to a U-shape were also used to hold down thatch on roofs. Like willow, young coppiced hazel shoots were used to weave a variety of baskets and other containers. Forked twigs of hazel were also favored by diviners, especially for finding water. Hazel leaves are usually the earliest native ones to appear in spring and often the last to fall in autumn, and were fed to cattle as fodder. There was also a belief that they could increase a cow's milk yield.



In days gone by, hazelnuts would have provided a plentiful and easily stored source of protein, and they were often ground up and mixed with flour to be made into nourishing breads. Cultivated hazelnuts called "filberts" take their name from St Philibert's Day (August 20), the date by which hazelnuts were supposed to start ripening. Holy Cross Day (September 14) was traditionally given as a school holiday for children to go nutting, a custom which persisted in England until the first World War. Various places celebrated Nutcrack Night sometime during November, when the stored nuts were opened, though apparently some parishioners were in the habit of taking hazelnuts to church on the following Sunday to be cracked noisily during the sermon. Today hazelnuts continue to be eaten, though more frequently in luxury foods such as chocolate and as hazelnut butter, and as a Christmas delicacy. Woodland crafts using hazel are also enjoying a resurgence, and hazel wattle hurdles have even been used as sound screens along motorways.

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The bright, waxy green leaves of American holly (Ilex opaca) stand in stark contrast to the dull browns and grays of most winter-time woods, exemplifying the legend of the Holly King. Photo by Don C. Bragg.

KISSING TREES

Will Blozan

Eastern Native Tree Society

Yesterday I went into Cataloochee to obtain some measurements of one of the Tsuga Search trees and explore two small coves on Winding Stair Branch that I had never seen before. I suspected the coves may harbor some tall hemlocks and they had not yet been searched. Growing in the vicinity were several superlative hemlocks; the Tsali (169.8 ft tall), Yonaguska (168.9 ft tall), and another one over 160 ft. I was accompanied by a writer from the local independent newspaper here in Asheville who was doing a story on the Tsuga Search and the hemlock crisis. He came along to see what the forests were like and visit some of the fantastic trees Jess and I have documented.

After some measurements of the Yonaguska Hemlock and adjacent trees, we headed south up a small tributary leading up to Half Acre Ridge. This cove contained very nice, ancient, and gnarly hemlocks but none over about 145 ft tall. An

exceptionally nice collection of large, tall tuliptrees dominated the richer upper reaches of the tributary with heights to at least 160.8 ft. It was one of the finest collections I have seen (Gary Beluzo may want to visit), with perhaps 2 ac of nearly pure, old tuliptrees 10 to 14 ft (or more) in girth. Hemlocks were trying to keep up but did not exceed 145 ft here, either. We went up to the ridge to access another small cove that led back down to the west prong of Winding Stair Branch. On the ridge we found a nice 2.2 ft CBH by 60 ft tall American chestnut with lots of burrs but no seeds to be found.

Really strange, though, was a fusion of a chestnut oak and a white oak. These adjacent trees were not just rubbing and callused but actually fused together. The top of the white oak (smaller stem in the photos) was dead but the grafted section was alive. Has anyone ever seen this before?



*A curiously fused ("kissing trees") example of two different oak species found recently.
Photos by Will Blozan.*





The small cove had large northern red oak and tuliptree, with ancient hemlock by the water. The stream was small but fairly rich and rocky with a thick moss and fern layer. It was very cathedral-like, and the tuliptrees were over 150 ft. One hemlock stood out among the others, and I roughed the height to the mid-150s without knowing where the base was. We zeroed the base and set up a target. The height was 160.5 ft, making this tree the 70th eastern hemlock documented over 160 ft tall. As you can see from the photo, it was not a small tree. Even though one bifurcation has broken off it still will be solidly over 1000 ft³, perhaps 1100. A nearby snag with a broken top may have been close to 160 ft as well.

But like all the other hemlocks we saw, it had but a fraction of heavily infested foliage left and will probably die within a year. In addition, all of the understory hemlocks with new growth were also being hit hard by maturing hemlock woolly adelgids.

© 2008 Will Blozan

A newly found (yet dying) large eastern hemlock in the Smokies. Photos by Will Blozan.



NEW YEAR'S RESOLUTIONS

Robert T. Leverett

Founder, Eastern Native Tree Society

As your esteemed list master and ENTs Executive Director, I consider it my role to provide a discussion framework for us to collectively explore some New Year resolutions. I don't give my advice, prognostications, and suggestions any special weight. All of you carry equal weight and are cordially invited to participate, but from a strictly historical perspective, I suppose I'm the one most logical to start the ball rolling.

If we're going to adopt resolutions on the eve of the new year, it behooves us to revisit some of our past thinking both in terms of individual ENTs missions and overall organizational direction. So, here goes. In my opinion, our permanent mission into tree measuring, i.e., dendromorphometry, represents our most successful ENTs achievement. Sine-based tree height measurements, Rucker indexing, and trunk-limb volume modeling have filled real needs, though largely unperceived by forest professionals. We have a far better grasp of eastern species dimensional maximums than any other individuals or groups anywhere and we're far from done. Our recent thrust into the world of the live oak promises to shine the spotlight on an underrepresented species in big tree annals.

Consequently, I think we should resolve to build on our measuring successes in 2008—without the measuring mission swamping all other endeavors, but also without our tree measuring gradually losing steam. We should strive to actively update all our big/tall tree lists. They provide a core of accurate data and provide us with illuminating tree and forest snapshots for which there are no alternatives. But, we can go well beyond list maintenance. In addition, this year promises properly designed academic studies under the overall leadership of Lee Frelich. With the quantitative mission for 2008 securely outlined, let's move on.

Are we the Eastern Native Tree Society or the broader Native Tree Society? Alas, our attempts at geographical growth have been abortive and disappointing. Expanding our geographical territory outside the East suggests, at this time, to be too much of an extension. Moving into a new geographical domain requires the rise of a local champion with plenty of fire in his/her belly. Attempts at expansion into new geographical

areas by those of us located from afar has yet to work—we need a local "hero." So, while I would personally like to see ENTs coverage extend into the Rocky Mountain domain, short of the rise of a new local champion, it isn't in the cards for 2008. Most of the giants of the west will have to wait.



In terms of cyberspace, 2008 will in all likelihood be exciting. Ed Frank's proven expertise and indefatigable drive to explore internet options for telling the ENTs story can be expected to continue. Ed is an unstoppable force with wellsprings of creativity that show no bounds. However, I will leave it to Ed to reveal his vision for 2008. Ed, the podium is yours in terms of what you want to see achieved!

I hope that in 2008 we can attract more new members by jointly exploring the mystical side of forests and trees where there is much ground to cover. Trees of the imagination are exciting territory. Trees in mythology, trees seen through a spiritual dimension, even trees in aesthetics all provide perspectives that thankfully exist apart from the bland approach that represents the commercial side of human activity, i.e., trees seen as pulp or lumber. A worthy mission of ENTs would be to explore ways of helping resource professionals cultivate alternative views of trees. When trees are reduced to the status of a resource to be exploited for the benefit of humans, the greater dimension of trees and their true power become invisible to the exploiter. Let us move forward in 2008 to help others explore this side of trees.

For 2008, we want to limit communications on controversial topics without curbing our freedom of speech. It is a matter of personal discipline. Obviously, I refer to discussions about forest practices and problems within the forestry profession and the wood products industry. We can spend time on occasion discussing forestry practices, but ENTs is not the vehicle or forum for debating forestry practices from a public policy standpoint. On the other hand, I doubt that some of us will be able to permanently resist taking potshots at activities that threaten great trees and forest sites. Naturally, the source of threats will draw our fire. But let's resolve not to trap ourselves, and I'm saying this primarily for my own benefit. Well, hopefully, this is a start!

INSTRUCTIONS FOR CONTRIBUTORS

SCOPE OF MATERIAL

The *Bulletin of the Eastern Native Tree Society* accepts solicited and unsolicited submissions of many different types, from quasi-technical field reports to poetry, from peer-reviewed scientific papers to digital photographs of trees and forests. This diverse set of offerings also necessitates that (1) contributors specifically identify what type of submission they are providing; (2) all submissions should follow the standards and guidelines for publication in the *Bulletin*; and (3) the submission must be new and original material or be accompanied by all appropriate permissions by the copyright holder. All authors also agree to bear the responsibility of securing any required permissions, and further certify that they have not engaged in any type of plagiarism or illegal activity regarding the material they are submitting.

SUBMITTING A MANUSCRIPT

As indicated earlier, manuscripts must either be new and original works, or be accompanied by specific written permission of the copyright holder. This includes any figures, tables, text, photographs, or other materials included within a given manuscript, even if most of the material is new and original.

Send all materials and related correspondence to:

Don C. Bragg
Editor-in-Chief, *Bulletin of the ENTs*
USDA Forest Service-SRS
P.O. Box 3516 UAM
Monticello, AR 71656

Depending on the nature of the submission, the material may be delegated to an associate editor for further consideration. The Editor-in-Chief reserves the right to accept or reject any material, regardless of the reason. Submission of material is no guarantee of publication.

All submissions must be made to the Editor-in-Chief in digital format. Manuscripts should be written in Word (*.doc), WordPerfect (*.wpd), rich-text format (*.rtf), or ASCII (*.txt) format.

Images can be submitted in any common format like *.jpg, *.bmp, *.tif, *.gif, or *.eps, but not PowerPoint (*.ppt). Images must be of sufficient resolution to be clear and not pixilated if somewhat reduced or enlarged. Make sure pictures are at least 300 dots per inch (dpi) resolution. Pictures can be color, grayscale, or black and white. Photographs or original line drawings must be accompanied by a credit line, and if copyrighted, must also be accompanied by a letter with express written permission to use the image. Likewise, graphs or tables duplicated from published materials must also have expressly written copyright holder permission.

PAPER CONTRIBUTIONS (ALL TYPES)

All manuscripts must follow editorial conventions and styling

when submitted. Given that the *Bulletin* is edited, assembled, and distributed by volunteers, the less work needed to get the final product delivered, the better the outcome. Therefore, papers egregiously differing from these formats may be returned for modification before they will be considered for publication.

Title Page

Each manuscript needs a separate title page with the title, author name(s), author affiliation(s), and corresponding author's postal address and e-mail address. Towards the bottom of the page, please include the type of submission (using the categories listed in the table of contents) and the date (including year).

Body of Manuscript

Use papers previously published in the *Bulletin of the Eastern Native Tree Society* as a guide to style formatting. The body of the manuscript will be on a new page. Do not use headers or footers for anything but the page number. Do not hyphenate text or use a multi-column format (this will be done in the final printing). Avoid using footnotes or endnotes in the text, and do not use text boxes. Rather, insert text-box material as a table.

All manuscript submissions should be double-spaced, left-justified, with one-inch margins, and with page and line numbers turned on. Page numbers should be centered on the bottom of each new page, and line numbers should be found in the left margin.

Paragraph Styles. Do not indent new paragraphs. Rather, insert a blank line and start the new paragraph. For feature articles (including peer-reviewed science papers), a brief abstract (100 to 200 words long) must be included at the top of the page. Section headings and subheadings can be used in any type of written submission, and do not have to follow any particular format, so long as they are relatively concise. The following example shows the standard design:

FIRST ORDER HEADING

Second Order Heading

Third Order Heading. The next sentence begins here, and any other levels should be folded into this format.

Science papers are an exception to this format, and must include sections entitled "Introduction," "Methods and Materials," "Results and Discussion," "Conclusions," "Literature Cited," and appendices (if needed) labeled alphabetically. See the ENTs website for a sample layout of a science paper.

Trip reports, descriptions of special big trees or forests, poetry, musings, or other non-technical materials can follow less rigid styling, but will be made by the production editor (if and when accepted for publication) to conform to conventions.

Table and figure formats. Tables can be difficult to insert into journals, so use either the table feature in your word processor, or use tab settings to align columns, but DO NOT use spaces. Each column should have a clear heading, and provide adequate spacing to clearly display information. Do not use extensive formatting within tables, as they will be modified to meet *Bulletin* standards and styles. All tables, figures, and appendices must be referenced in the text.

Numerical and measurement conventions. You can use either English (e.g., inches, feet, yards, acres, pounds) or metric units (e.g., centimeters, meters, kilometers, hectares, kilograms), so long as they are consistently applied throughout the paper. Dates should be provided in month day, year format (June 1, 2006). Abbreviations for units can and should be used under most circumstances.

For any report on sites, heights must be measured using the methodology developed by ENTS (typically the sine method). Tangent heights can be referenced, especially in terms of historical reports of big trees, but these cannot represent new information. Diameters or circumference should be measured at breast height (4.5 ft above the ground), unless some bole distortion (e.g., a burl, branch, fork, or buttress) interferes with measurement. If this is the case, conventional approaches should be used to ensure diameter is measured at a representative location.

Taxonomic conventions. Since common names are not necessarily universal, the use of scientific names is strongly encouraged, and may be required by the editor in some circumstances. For species with multiple common names, use the most specific and conventional reference. For instance, call *Acer saccharum* "sugar maple," not "hard maple" or "rock maple," unless a specific reason can be given (e.g., its use in historical context).

For science papers, scientific names MUST be provided at the first text reference, or a list of scientific names corresponding to the common names consistently used in the text can be provided in a table or appendix. For example, red pine (*Pinus resinosa*) is also known as Norway pine. Naming authorities can also be included, but are not required. Be consistent!

Abbreviations. Use standard abbreviations (with no periods) for units of measure throughout the manuscript. If there are questions about which abbreviation is most appropriate, the editor will determine the best one to use. Here are examples of standardized abbreviations:

inch = in	feet = ft
yard = yd	acre = ac
pound = lb	percent = %
centimeter = cm	meter = m
kilometer = km	hectare = ha
kilogram = kg	day = d

Commonly recognized federal agencies like the USDA (United States Department of Agriculture) can be abbreviated without definition, but spell out state names unless used in mailing

address form. Otherwise, spell out the noun first, then provide an abbreviation in parentheses. For example: The Levi Wilcoxon Demonstration Forest (LWDF) is an old-growth remnant in Ashley County, Arkansas.

Citation formats. Literature cited in the text must meet the following conventions: do not use footnotes or endnotes. When paraphrasing or referencing other works, use the standard name date protocol in parentheses. For example, if you cite this issue's Founder's Corner, it would be: "...and the ENTS founder welcomed new members (Leverett 2006)." If used specifically in a sentence, the style would be: "Leverett (2006) welcomed new members..." Finally, if there is a direct quotation, insert the page number into the citation: (Leverett 2006, p. 15) or Leverett (2006, p. 16-17). Longer quotations (those more than three lines long) should be set aside as a separate, double-indented paragraph. Papers by unknown authors should be cited as Anonymous (1950), unless attributable to a group (e.g., ENTS (2006)).

For citations with multiple authors, give both authors' names for two-author citations, and for citations with more than two, use "et al." after the first author's name. An example of a two-author citation would be "Kershner and Leverett (2004)," and an example of a three- (or more) author citation would be "Bragg et al. (2004)." Multiple citations of the same author and year should use letters to distinguish the exact citation: Leverett 2005a, Leverett 2005b, Leverett 2005c, Bragg et al. 2004a, Bragg et al. 2004b, etc.

Personal communication should be identified in the text, and dated as specifically as possible (not in the Literature Cited section). For example, "...the Great Smoky Mountains contain most of the tallest hardwoods in the United States (W. Blozan, personal communication, March 24, 2006)." Examples of personal communications can include statements directly quoted or paraphrased, e-mail content, or unpublished writings not generally available. Personal communications are not included in the Literature Cited section, but websites and unpublished but accessible manuscripts can be.

Literature Cited. The references used in your work must be included in a section titled "Literature Cited." All citations should be alphabetically organized by author and then sorted by date. The following examples illustrate the most common forms of citation expected in the *Bulletin*:

Journal:

- Anonymous. 1950. Crossett names giant pine to honor L.L. Morris. *Forest Echoes* 10(5):2-5.
- Bragg, D.C., M.G. Shelton, and B. Zeide. 2003. Impacts and management implications of ice storms on forests in the southern United States. *Forest Ecology and Management* 186:99-123.
- Bragg, D.C. 2004a. Composition, structure, and dynamics of a pine-hardwood old-growth remnant in southern Arkansas. *Journal of the Torrey Botanical Society* 131:320-336.

Proceedings:

Leverett, R. 1996. Definitions and history. Pages 3-17 in *Eastern old-growth forests: prospects for rediscovery and recovery*, M.B. Davis, editor. Island Press, Washington, DC.

Book:

Kershner, B. and R.T. Leverett. 2004. *The Sierra Club guide to the ancient forests of the Northeast*. University of California Press, Berkeley, CA. 276 p.

Website:

Blozan, W. 2002. Clingman's Dome, May 14, 2002. ENTS website http://www.uark.edu/misc/ents/fieldtrips/gsmnp/clingmans_dome.htm. Accessed June 13, 2006.

Use the hanging indent feature of your word processor (with a 0.5-in indent). Do not abbreviate any journal titles, book names, or publishers. Use standard abbreviations for states, countries, or federal agencies (e.g., USDA, USDI).

ACCEPTED SUBMISSIONS

Those who have had their submission accepted for publication with the *Bulletin of the Eastern Native Tree Society* will be mailed separate instructions to finalize the publication of their work. For those that have submitted papers, revisions must be addressed to the satisfaction of the editor. The editor reserves the right to accept or reject any paper for any reason deemed appropriate.

Accepted materials will also need to be accompanied by an author contract granting first serial publication rights to the *Bulletin of the Eastern Native Tree Society* and the Eastern Native Tree Society. In addition, if the submission contains copyrighted material, express written permission from the copyright holder must be provided to the editor before publication can proceed. Any delays in receiving these materials (especially the author contract) will delay publication. Failure to resubmit accepted materials with any and all appropriate accompanying permissions and/or forms in a timely fashion may result in the submission being rejected.



Tionesta Research Natural Area old-growth forest within the proposed Tionesta Wilderness Area in the Allegheny National Forest.
Photo by Kirk Johnson/Friends of Allegheny Wilderness.