



Amazing footage of the veneer processing.

<https://www.youtube.com/watch?v=yrisN16mJX0>



## [Re: West Coast Forest Products Production in WA - Schafer Br](#)

by **edfrank** » Tue Mar 19, 2013 1:05 am

Schafer Bros. Historic Film - Manufacture of  
Douglas Fir Doors

At the former Knox and Toombs plant in Hoquiam,  
Washington. Historic footage provided by Schafer  
Bros. of Montesano, WA. I'm unsure of the year, but  
believe it is 1926 when the many of the other films  
were made by the 4L Organization, such as this one.  
<https://www.youtube.com/watch?v=23hxbP5Ada8>



n WA - Schafer Bros historic film

Logging and lumbering operations of Schafer Bros.  
at Montesano, WA. Filmed by HH Damman of the  
4L Organization. Contains many factions of logging  
including tree topping, logging, choker setting, steam  
donkey, railroad carriers, loading lumber on a ship,  
scenes from Grays Harbor towns, and more. Very  
interesting! Courtesy of the Schafer family, films  
have been turned over to the WA State Archives.  
Probably around 1926.

<https://www.youtube.com/watch?v=4WHvofTZ6aM>



Harbor Plywood Historic Film from Schafer Bros  
I don't know the date of this film, but the other films  
in the Schafer Bros. collection were from 1926. This  
is at the Harbor Plywood Plant in Hoquiam, WA.

## **Dust storm at solar farm**

by **Joe** » Sun Mar 17, 2013 1:02 pm

I took several hours of video and several hundred photos of the construction of the solar "farm" in Orange, MA- including planning board meetings, cutting of the forest, grading of the 18 acres and all phases of the construction. My intent was to produce a substantial "expose" of this "green, renewable energy"- but, due to a lack of time, money and talent, I decided to not bother and instead, show what I felt needed to be shown in under a minute. The video is on Vimeo at: <https://vimeo.com/62009308>

Joe

## **Cooper Creek, GA**

by **Jess Riddle** » Mon Mar 18, 2013 10:45 pm

The Cooper Creek watershed lies in the heart of the north Georgia Mountains. Cut off from the rest of the state by an arc of high mountain ridges and the incised middle reaches of the Toccoa River, which Cooper Creek empties into at just under 2000' elevation. Despite that isolation, Cooper Creek is a popular recreation destination. Two Forest Service campgrounds attest to the area's popularity, and the stream's size and relatively high elevation make it one of the best trout fishing destinations in Georgia.

Forests also lure people out of their way to the Cooper Creek area. A three mile hiking trail winds along the higher elevations of the 1240 acre Cooper Creek Scenic Area, but an unmarked trail leads to the more impressive forests of the "Valley of the Giants", which Eli Dickerson reported on a few months ago (<http://www.ents-bbs.org/viewtopic.php?f=73&t=3875>). Outside of that refuge for large hardwoods, it is unclear how much of the scenic area is unlogged, though some groups have claimed nearly the entire scenic area is old-growth.

Dark corridors dominated by eastern hemlock and white pine line Cooper Creek and its largest tributaries, and they contain an abundance of conifers

that predate European settlement rarely encountered elsewhere in north Georgia. However, deciduous hardwood forests dominate the bulk of the area.

Oaks occupy the overstory in many of those forests, and as a whole the upland forests seem less productive than in many other areas of north Georgia; a list of dozens of botanically rich coves spread across the north Georgia mountains does not mention any from Cooper Creek or the adjacent Toccoa River watershed. Most of the oak forests are not gnarled with age, but they generally lack the old logging roads so common in most of the region's forests.

For Cooper Creek, like most watersheds in Georgia with abundant white pine, LiDAR data show many 160'+ hits on the steep slopes flanking the main stream. Those hits are scattered; individual tall trees project out of a much lower canopy. Unfortunately, distinguishing between very tall trees and trees of moderate height that lean downhill is difficult.

However, unlike most of the other Georgia white pine watersheds, LiDAR also shows a few areas with dense, closed canopy white pine forest on gentler slopes along Cooper Creek. The canopy in these areas does not quite reach the hits of the isolated LiDAR hits, but the canopy structure suggests unusual growing conditions. Just after New Years, I visited three of these sites in hopes that one of them would have impressively tall white pines and that they would all have hardwoods driven to great heights by competition with the tall pines.

The first site was a southwest facing bowl split in half by a low, rounded spur ridge. The bowl spanned from a low point on a major ridge around 2600' elevation down to Cooper Creek at 2300'. White pine dominated the overstory in most of the area, and formed a dense stand in the middle section of the bowl. Mixed in with them were scattered white oaks on the lower slopes, black oak on the upper slopes, and a few tuliptrees in the wettest areas. At the lower end, the pines gave way to a much shorter canopy of hemlock with a few scattered, emergent, pines.

Hemlock also formed the midstory at the lower end, but silverbell, red maple and to a lesser extent tuliptree were more common under the pines higher in the cove. Except for rhododendron near Cooper Creek, the understory was open with scattered



silverbells, American holly, and small patches of huckleberry and hazelnut. The forest appears well under 100 years old except for a few remnant white pines at the lower end and a few hardwoods.



*An unusual sourwood log*



The second site lies right behind one of the campgrounds. It resembles the first site in facing southwest and occupying a gentle slope, but it is much more exposed. An ephemeral stream trickles down into the stand from the high, steep slope to the northeast, but the tree tops project above the height of the ridges on either side of the stand. White pine again dominates the overstory, but they are slightly larger than the first stand and mixed with tulipree. Instead of hemlock or rhododendron, American holly and a few hornbeams make up the understory.



*Canopy of the second stand*

The final grove stands on an alluvial flat in a broad bend of Cooper Creek, the only alluvial flat on the lower reaches occupied by mature forest. White pines form a high closed canopy with the tallest tuliptrees reaching only intermediate canopy positions. A midstory of hemlocks await any canopy gaps, but the understory is open except for rhododendrons along the stream. The canopy in the flat is around 100 years old, but scattered older white pines grow on steep slopes and a small flat on the other side of the stream. One small part of the flat near the base of the slope has also been logged in the last couple of decades, and tuliptrees are the primary regeneration.



Species	Species	cbh (in)	height (ft)	site
<i>Carya alba</i>	Hickory, mockernut	86	132.5	first
<i>Pinus strobus</i>	Pine, eastern white	123	151.0	first
<i>Pinus strobus</i>	Pine, eastern white	102.5	151.3	third
<i>Pinus strobus</i>	Pine, eastern white	91	153.1	first
<i>Pinus strobus</i>	Pine, eastern white	80	155.2	first
<i>Pinus strobus</i>	Pine, eastern white		155.7	second
<i>Pinus strobus</i>	Pine, eastern white	106	158.7	second
<i>Pinus strobus</i>	Pine, eastern white	109	160.1	second
<i>Pinus strobus</i>	Pine, eastern white	133	160.3	third
<i>Pinus strobus</i>	Pine, eastern white	104	160.5	first
<i>Pinus strobus</i>	Pine, eastern white	139	165.5	third
<i>Pinus strobus</i>	Pine, eastern white	113	168.9	third
<i>Quercus alba</i>	Oak, white	84	124.0	first
<i>Quercus alba</i>	Oak, white	63	125.4	first
<i>Quercus falcata</i>	Oak, southern red	72	114.0	third
<i>Quercus velutina</i>	Oak, black	97	125.1	second
<i>Rhododendron maximum</i>	Rhododendron, rosebay	20	28.5	
<i>Stewartia ovata</i>	Stewartia, mountain	7	25.3	third

Ironically, the two shortest trees are state height records. The mockernut hickory and black oak are also top ten in the state, and the southern red oak is the second tallest I know of in the mountains.



*Crown of the tallest tree measured*

The white pines appear to have significant potential for continued height gains. Most of the trees in the

first stand are only five to seven feet cbh, and appear younger than most tall white pine stands in North Georgia. The third stand is more typically in age, but the crowns remain fairly pointed.

Jess Riddle

## [Chattooga River, SC](#)

by bbeduhn » Tue Mar 12, 2013 4:12 pm

I planned to do a good stretch of the Chattooga River and the East Fork as well but there was just too much quality in the two mile stretch I did measure from Burrell's Ford Campground to the East Fork of the Chattooga. This is the river where the movie "Deliverance" was filmed. It hasn't changed drastically since filming (other than most hemlocks dying). The part I measured is basically second growth with some old trees mixed in. There's a fair amount of old growth south of the campground (very tall and old white pines) that I'll try to get to some time this year.

The stars of the day were pitch pine and sourwood.

The tallest sourwood shatters the state record from the SCMaxlist version that I have, but there's a chance a taller one has been found. The tallest pitch still falls a bit shy of the state record but is nonetheless impressive.

*Oxydendrum arboreum* sourwood 88.1' 91.0'  
94.1' 95.2' 97.0' 97.3' 102.8' likely state record

*Pinus rigida* pitch pine 111.7' 115.1'  
115.3' 115.5' 115.9' 116.6' 117.0' 117.1' 117.2'  
117.3'

118.3' 120.0'  
120.8' 121.5' 124.8' 128.0' 128.6' 130.3' 131.8'

*Pinus strobus* white pine 136.6' 137.8'  
139.8' 140.8' 145.2' 145.5' 147.3' 146.2'  
147.4' 151.9'  
152.8' 153.7' 154.1' 154.1' 161.0'

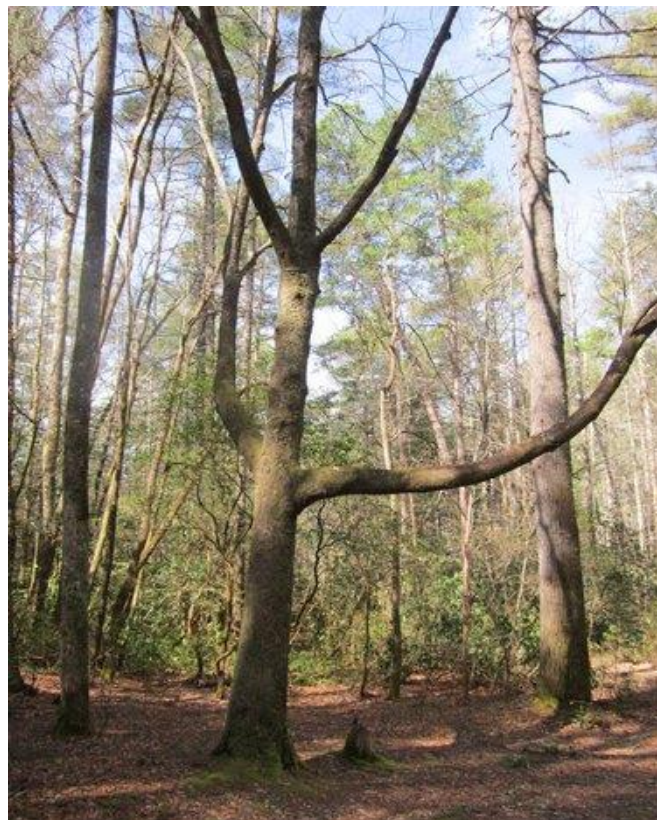
*Pinus strobus* in Georgia (the other side of the river)



	white pine	153.1'	165.9'
Liriodendron tulipifera	tuliptree	125.7'	129.6'
it was nice to see them outcompeted			
Tsuga canadensis	hemlock	122.8'	133.0'
Quercus rubra	red oak	127.2'	
Acer rubrum	red maple	105.1'	
Magnolia freseri	Fraser mag	89.0'	
Betula lenta	black birch	90.0'	



*124.8' pitch at the campground*



*Black birch with unusually large limbs*

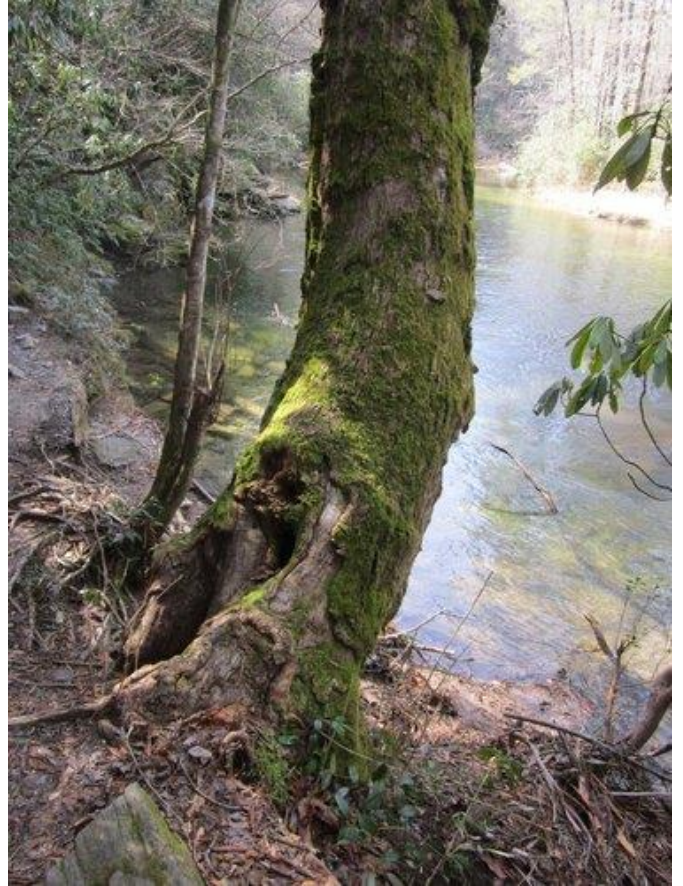


*7'5" cbh pitch*





*Pitch with quadruple crown ~100'*



*Old black gum along the river*



*102.8' sourwood 14"d*





*Big double sourwood 95.2'*  
*7' cbh @ 2' 4'3" & 3'8" cbh at 4.5'*



*Very old sourwood 94.1' 5'6" cbh*



*Very old sourwood crown 94.1' 30' spread*





*Another very old sourwood 97.3' 5'6.75" cbh*



*128.0' pitch 8'4" cbh*



*Jocassee Gorge view*





*Lake Jocassee*



*Bad Creek reservoir*





*Brand new Gorges St. Pk. Visitor Center  
(actually in NC)*

## [Re: Chattooga River](#)

by **bbeduhn** » Wed Mar 13, 2013 8:55 am

Larry, It took a year to find an 80' sourwood. I was ecstatic when after another year I finally broke 90'. 102' is phenomenal! I think the record is 108', in the Smokies. Most sourwoods in the mountains are 40'-60'.

## [Re: Chattooga River](#)

by **Jess Riddle** » Sat Mar 16, 2013 8:35 pm

Brian, That's a nice collection of pitch pines. Alluvial flats and gentle slopes in the Chattooga watershed seem to be the place to find tall pitch pines. I wonder what grew in some of the small valleys that are now open fields.

Unfortunately, the forests along the Chattooga have changed drastically in one way. The hemlocks are all

dead.

I'm not surprised that you found tall sourwoods in the area, but I didn't expect there to be quite that many or quite that tall. I believe you have the six tallest sourwoods measured in SC!

Jess Riddle

## [Re: Chattooga River, SC](#)

by **bbeduhn** » Tue Mar 19, 2013 4:14 pm

Jess,

Wow, I didn't expect the 6 tallest sourwoods in the state either. I plan to search the East Fork and further downstream on the Chattooga. The forests are a bit older there from what I've seen. I almost always find tall pitch pines in the alluvial flats. They seem to get



a 20-30' boost on the flats. One exception is the 124.8' in the campground. That one was a bit above the flats.

Second growth hemlocks are doing well at the mouth of the East Fork and at The Walhalla Fish Hatchery, including a few older hemlocks. Hopefully, the East Fork sports some healthy hemlocks as well.

Obviously, the super tall hemlocks above East Fork are long dead.

Brian

## **Introduction – John Mantague**

by **John Mantague** » Mon Mar 18, 2013 5:32 pm

Hello,

I am new to the board and thought I would introduce myself. I have been learning the ways of tree measuring over the past year, and I think this is a great forum for people like us.

My interest in tree measuring came as a result of wanting to find Hyperion. In my quest for the world's tallest tree, it became apparent that I needed to know how to measure a tree in order to find it. I located Hyperion in July, and over the course of the months I spent looking for it, I fell in love with looking for tall trees. I am now on a quest to find every tree over 350'. There are currently 220 confirmed redwoods over 350'. In the past year, I have located 80 of them. I am also in the process of verifying several possible new additions to the list. I work with laser tech rangefinders. I scout with a handheld tru pulse, and if I find something worth confirming or measuring properly, I return with my tripods, prisms, and my impulse.

I've included a picture of a recent find. This is UT-35. The tree was identified by LIDAR, but had never been located on the ground. Well, I found it on a recent outing in Humboldt Redwoods State Park. My handheld readings suggest this tree should top 350'. I will return soon with my tripods and confirm. It is a remarkable tree!



*here is a picture of UT-35*



### [Carolina hemlock genetics study](#)

by **Steve Galehouse** » Wed Mar 13, 2013 10:34 pm

ENTS- I received an e-mail from Robert Jetton of NCSU today, saying that a population genetics study of Carolina hemlock is planned for later this year, and that samples of the local Ohio populations will be taken. I'm hoping this will explain their existence in NE Ohio.

Steve Galehouse

### [Re: Carolina hemlock genetics study](#)

by **Doug Bidlack** » Wed Mar 13, 2013 11:29 pm

Steve, very cool! I hope you let us know how this goes. Hopefully the Ohio trees really are a disjunct population. Can't wait for the results!

Doug Bidlack

### [Re: Carolina hemlock genetics study](#)

by **Steve Galehouse** » Wed Mar 13, 2013 11:55 pm

Doug- I hope they are genetically distinct also, but if not, at least we'll probably know their provenance. At the very least these trees likely will be the last reproducing population exposed to HWA.

Steve Galehouse

### [Re: Carolina hemlock genetics study](#)

by **edfrank** » Mon Mar 18, 2013 4:44 pm

Maclura, that is what we are trying to figure out. Steve Galehouse found the first population a couple years ago. Some people at the park knew they were there, but assumed they were planted by the CCC. Looking at older photos it appears that they were well established at the time the CCC worked in the area. I believe they are a relict disjunct population, rather than a planted one.

[viewtopic.php?f=111&t=5065](http://viewtopic.php?f=111&t=5065)

[https://groups.google.com/forum/?hl=en& ... XVMHQc08PI](https://groups.google.com/forum/?hl=en&...XVMHQc08PI)

[https://groups.google.com/forum/?hl=en& ... EUG-hWhd-0](https://groups.google.com/forum/?hl=en&...EUG-hWhd-0)

[http://www.nativetreesociety.org/fieldt ... n\\_ohio.htm](http://www.nativetreesociety.org/fieldt...n_ohio.htm)

There has been quite a bit of research done and contacting different people outside of the posts on the BBS and website also.

Edward Frank

### [Re: Carolina hemlock genetics study](#)

by **Steve Galehouse** » Mon Mar 18, 2013 5:50 pm

Maclura(Tom?)-

Here is a link to a photo album of these trees, which are located in the Ritchie Ledges/Virginia Kendall area of the CVNP, about a mile south of the Ohio Turnpike in Peninsula, OH. As Ed mentioned, we've been discussing these trees for some time---I think I first posted about them about five years ago; I've been observing them for the past 40+ years.

[https://plus.google.com/u/0/photos/1075 ...](https://plus.google.com/u/0/photos/1075...)



[4963284833](#)

Ed and I certainly think they could be a disjunct native population, due to: the relatively large size of some individuals, the fact that they are a mixed age/size reproducing population, that there are the expected associated species growing along with them, the site conditions are right for the species, and the fact that there is an extensive obviously native population of eastern hemlock growing adjacent to them(which could readily been used by the CCC for stock). These factors combined with the relative obscurity of the species, especially in park plantings(we know of no other CCC park projects that used the species) leads us to consider the possibility that they are native.

I showed these trees to Dr. Robert Jetton of NCSU two summers ago, and recently got a message that they would be included in the upcoming genetics study. My attempts to get more information on them through local universities, museums, and park systems have produced no solid results. Hopefully the genetic study can determine if they are distinct from the other southern populations, or at least from which southern population they were derived from.

Steve

### [Re: Carolina hemlock genetics study](#)

by **Tom Kimmerer** » Tue Mar 19, 2013 6:31 pm

This is a fascinating discovery, and I would love to see those trees. We pretty much accept Little's range maps (which were derived from Sargent's) as gospel, but relict or disjunct populations are easy to overlook. I have to agree with the prior discussion that it seems unlikely that these are CCC trees. I doubt they would have had access to Carolina hemlock in Ohio. If they are relict, they have to date from the post-glacial resorting of eastern forests. I look forward to learning more.

### [White Pine Crowns, Cook Forest SP, PA](#)

by **edfrank** » Mon Mar 18, 2013 4:54 pm

Yesterday, March 17, 2013 I led a group on a hike through the Forest Cathedral Area of Cook Forest State Park. I paused before the hike to take a few shots of the old growth white pine crowns on the hillside above the Clarion River and above the Seneca Trail. The broken and gnarled nature of the crowns of these trees sticking up in the weather for hundreds of years is very impressive.







A final shot along the Ancient Forest Trail.



The park was beautiful with fresh snow hanging on the hemlock branches. It is sad to think how the park will change with the coming of the hemlock wooly adelgid over the next few years. I was leading a good sized group on a hike, and afterward was pressed for time afterward, so I did not get a chance to do the photography I would have liked. These really are color photos.

Edward Forrest Frank

### [Re: White Pine Crowns, Cook Forest SP, PA](#)

by **bbeduhn** » Tue Mar 19, 2013 5:00 pm

Ed,

Those pines look fantastic in the snow! You have some very nice reiteration shots against the pale sky.

The pictures look black and white...or green and white. Hopefully, the adelgid won't have as much success in colder climes. At least the big hemlocks can be treated immediately, so they'll have a fighting chance.

Brian

## Using a monocular to determine limb length

by dbhguru » Tue Mar 19, 2013 8:32 pm

NTS,

I've been exploring photo-Excel methods for measuring trunk and limb diameters. As seen in my latest posts, I've been enjoying a good bit of success. I often use a reticle monocular to check the photo-based measurements. The monocular has been a mainstay of our measuring arsenal for years, thanks to Jess Riddle's father for introducing us to the instrument.

I've begun to think about how the monocular could help us measure the lengths of limb segments. I've thought of this potential use in the past, but haven't pursued the matter. Basically, we use the monocular to measure the width of an object oriented at right angles to the line of sight. For trees, by shooting to the edge of a trunk (as opposed to the middle), we use the hypotenuse as a surrogate for the line from the monocular to the center of the trunk. So long as the object being measured isn't too close, this substitution works fine. And since the tree's trunk is basically round, the line of sight is at right angles to the diameter that creates the largest angle to the eye. However, measuring the length of a limb that is not at 90 degrees to the line of sight presents us with a real problem. I think I have the solution. The attached Excel spreadsheet shows the results of three tests I ran today. Tomorrow, I'll run several more. Hopefully, it will open the use of the monocular for determining the length of limb segments.

I'll have a clearer presentation of the mathematical model for computing the width of an object oriented at not 90 degrees to the line of sight. Basically, we treat the width as the diagonal of a regular trapezoid.

There is a limit to how much measuring equipment most Ents are willing to acquire in order to measure the dimensions of trees that interest us most. Here is my list in order of priority. I give each item a priority ranking. Priority #1 is essential. Priority #2 is highly desirable. Priority #3 is icing on the cake.

Item	Priority
Laser Rangefinder	#1
Inclinometer	#1
Scientific calculator	#1
Tape Measure	#1
Excel	#1
GPS Receiver	#2
DTape	#2
Monocular	#2
Compass	#2
Densitometer	#2
Tripod	#2
Digital camera	#2
Hypsometer	#3
Calipers	#3
Industrial laser (red beam)	#3
iPhone with apps	#3
CruzAll	#3
Transit	#3

I'm beginning to think that the monocular should be moved up to priority #1.

Robert T. Leverett

## Re: Using a monocular to determine limb length

by dbhguru » Wed Mar 20, 2013 12:17 pm

NTS,

Here are the results of the latest test.





I'll continue conducting tests of overall accuracy of the method, but at this point, it looks like it provides us with a viable alternative to measuring the lengths of limb segments at a distance without having to try to maneuver ourselves to be directly under the ends of the segment or to use the horizontal sweep angle method.

Robert T. Leveret

## [Re: Using a monocular to determine limb length](#)

by **Bart Bouricius** » Wed Mar 20, 2013 7:39 pm

I am thinking that the monocular should be #1 along with the camera which not only can provide regular photo documentation and diameters at various points, but some newer cameras provide a GPS reading as well for additional documentation without carrying a separate GPS unit. The Canon SX 260 Hs and SX 230 Hs Panasonic, Sony, Pentax Optio WG-1 GPS and several other medium range cameras have GPS capability. How accurate it is needs to be confirmed.

## [Re: Using a monocular to determine limb length](#)

by **edfrank** » Wed Mar 20, 2013 9:15 pm

Bob, Looking at your list I would do some rearrangement.

Item	Priority
Laser Rangefinder	#1
Inclinometer	#1
Scientific calculator	#1
Tape Measure	#1
Digital camera	#1
Compass	#2
Excel	#2
GPS Receiver	#2
Tripod	#2

Monocular	#3
Densitometer	#3

<i>DTape</i>	#3
<i>Hypsometer</i>	#3

Calipers	#4
Industrial laser (red beam)	#4
iPhone with apps	#4
CruzAll	#4
Transit	#4

My categories are as follows:

#1 are the minimal needed to measure trees, plus the camera is needed for documentation of individual trees.

#2 are what are needed once you become serious about the process.

#3 are all things I don't have. The one worth noting is the monocular. It is needed to do remote girth measurements and will likely be my next purchase.

Bob's forays into photo measurement may let me avoid this purchase. The densitometer is a useful tool and would be worthwhile for canopy density measurements. There is a hand card that can be printed out that will let you estimate densities based upon matching a series of examples. It is not as accurate, but can be experimented with prior to the purchase of an electronic densitometer.

I see the D-tape as mostly unneeded, but they are not expensive. The hypsometer is something convenient, but the lower end ones like the Forestry 550 is actually a downgrade in measurement quality from the Nikon 440 and clinometer.

#4 are things that are for special purposes, or with the industrial laser when there is a need for extreme accuracy. There are many other items that could be added to this listing.

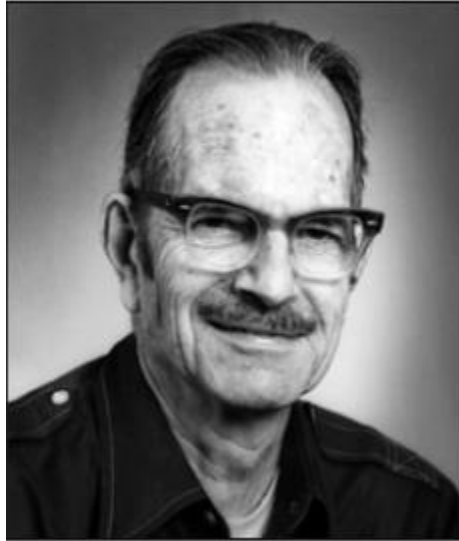
These are my thoughts on Bob's list.

Edward Frank

## **Moosewood Bill Harlow**

by **Tom Kimmerer** » Wed Mar 20, 2013 10:24 pm

Cross-posted at [Trees in the Anthropocene](#)



Many of us are familiar with the books by William Harlow, including the classic Textbook of Dendrology (Harlow and Harrar), Fruit Key and Twig Key and other forestry books. This reminiscence is sparked by several pictures from one of Harlow's books posted on Facebook by Chris Budesá.

When I was an undergrad at Syracuse (1972-1975), Harlow had already retired as Professor of Forestry. He was renowned as a dendrology teacher although by academic training he was a wood technologist. Ed Ketchledge studied dendrology with Harlow; I studied dendrology with Ketchledge, and I taught dendrology for 18 years at Kentucky. So Harlow is my academic grandfather.

Harlow was still very much a presence on the Syracuse campus, and I had many opportunities to talk with him. He knew my love of the Adirondacks, particularly of tramping around Five Ponds when I was at Cranberry Lake. He shared with me many stories of weekend adventures dating back to the late 1920s when he was a student. The great conservationist Bob Marshall was also one of those who tramped around Cranberry Lake on weekends while at summer camp.

Harlow was known throughout upstate New York and the Adirondacks as Moosewood Bill. He was widely admired for his woods lore and worked with boy scouts and other groups on getting around in the woods. Among his many books was "Ways of the Woods: A Guide to the Skills and Spirit of the Woodland Experience" and "Songs of the Forester."

One day, I was wearing my usual outfit - Pendleton shirt, khakis and hiking boots. He drew me aside and berated me for wearing Vibram-soled hiking boots.

"Do you have any idea what those damned things do to the soil and the roots?" he asked me. "You want to tear apart the soil, you wear those. You might as well go out with a bulldozer." Then he hiked up his pant leg and showed me his boots: 16" high Bean's Boots, the classic wetlands boot of the northeast. He extolled the virtues of Bean's boots with their soft rubber sole with chain tread, as he lectured me about proper care of the woods. Of course, I had a pair of Bean's boots, still have the same pair because they are immortal.



And that was the story Moosewood told me. You see, every time you wear out the bottoms of your Bean's boots, you just send them back to LL Bean.

They clean up the leather and stitch on new rubber bottoms. Moosewood had worn nothing but 16" Bean's boots his whole career, sending them back every year or two for new bottoms. One day, after he had sent off the boots for yet another repair, he got a



letter from Bean's. It seems that Moosewood's boots were the oldest Bean's boots still in service. Bean's very generously offered him a new pair so they could put the old ones in their museum. Moosewood very politely responded "please repair these boots as requested. You may have them when I'm dead."

Although he lived for many years after that, I have always assumed that Bean's eventually received Moosewood's boots when he no longer needed them.

And today, whenever I lace up my Bean's boots, which are a mere 12" high, I remember Moosewood. My boots are now about 43 years old, but I have a long way to go before mine retire.

Like many foresters, I keep Harlow and Harrar, Fruit Key and Twig Key and other books by Bill Harlow on my shelf and use them often.

### [Chile Trip Part 3: Parque Nacional Alerce Andino](#)

by **Josh Kelly** » Fri Mar 22, 2013 12:39 am

Chile Trip: Part 3 Parque Nacional Alerce Andino

After returning from Lago Todos Los Santos on March 3rd, I checked the weather. The prognosis was for one more day of sun, followed by a week of rain. Our plan had been to spend March 5-9 in the spectacular scenery of the Cochamo Valley. Becky and I made the decision to alter our plans, since backpacking for five days in heavy rain didn't seem that appealing, though I regret this because it really does look like a beautiful area, and there are two Alerce stands to check out (<http://www.cochamo.com>). I also fear that Cochamo will become an absolute tourist zoo in the next few years because of all the publicity its getting and the already heavy traffic of tourists.



*Alerce Andino*

Our alternate plan included renting a car for two days so that we could more easily visit Parque Nacional Alerce Andino, Chile's first park dedicated to the preservation of alerce (*Fitzroya cupressoides*), the largest and longest lived tree in the Valdivian

Rainforest. After the two day trip to Alerce Andino, we planned to take a bus north to Parque Nacional Huerquehue to experience *auracaria* forests first hand.



#### *Alerce Andino*

Alerce is a member of the cypress family and resembles bald cypress to some extent, though alerces are evergreen and grow on upland as well as wetland sites. Alerces are rumored to have once reached heights of 80 meters and diameters of five meters or more. These claims are hard to evaluate because alerce forests have been so decimated by logging of its valuable, rot resistant wood and even more so by repeated fires in the colonial era. Many older buildings in Southern Chile, some impressively large, are shingled and roofed with alerce wood. <http://www.flickr.com/photos/niallcorbet/451467781/>

but there is historical evidence for large trees at much lower elevation. I saw young trees as low as 80 meters in elevation, which leads me to believe that there were once lowland alerce forests and that these may have grown larger specimens than the sites where old-growth alerce still exist today. Alerce is probably most famous for being the second oldest documented tree species, with one cross-dated individual confirmed at over 3,600 years old.

After exploring southern Chile, I believe that the best Alerce sites were long ago logged and burned, and most of them were converted to agriculture. Most of the remaining Alerce stands are above 600 meters,





*Spiral grain on ancient alerce*



*spike topped alerce*

Parque Nacional Andino Alerce was created in 1975 out of the larger Reserva Nacional Llanquihue.

National Reserves in Chile are analogous to National Forests in the U.S. and do not afford full protection to forests, and because it was acknowledged in the 1970s that alerces were already quite rare, Andino Alerce National Park was formed. Today, Andino Alerce is one of the best known places to see old-growth forest and alerces in Chile. The area receives more than 2,000 mm of rain annually and is within 30 km of the Pacific Ocean. Elevations range from 600-1600 meters. Tree line occurs above 1400 meters.



*A chunky Podocarpus nubigena*

The hike to the most impressive grove of Alerces is 9 km, one way, and we had planned to backpack in 4 km to a campsite to lessen the roundtrip the next day.

We found out at the park entrance that camping was no longer allowed in the park due to fears of wildfire.

In 2010, thousands of hectares of forest had burned Torres del Paine National Park due to an untended



campfire. The ecosystems and rainfall in the two parks are totally different, but I can understand the concern and protective feelings for Chile's best public preserve of alerce. Luckily, there is an

affordable, rustic cabin that runs 5,000 pesos/person at the park entrance that is a reasonable option for visitors the park.



### *Laguna Saragosa*

We didn't have too much daylight on our first day so we went for a short walk to the Alerce Rodal trail, which exhibits a pure stand of straight, young looking, by alerce standards, trees. The CONAF (National Forestry Corporation) officials I had spoken with, and many sources on the internet, boast of Alerces over 60 meters. An otherwise quite knowledgeable CONAF forester told me that "nearly all" of the alerces at Andino Alerce were over 60 meters tall. I began to seriously doubt this when we entered the forest and every species there was much shorter than at Parque Nacional Vicente Perez Rosales. *Nothofagus dombeyi* didn't even exceed 40 meters. Sure enough, upon reaching the Alerce Rodal and measuring the tallest and largest trees I could find the biggest individual measured 1.53 meters (5') dbh and 36.9 (121') meters tall. The tallest tree was 39.3 meters (128.9') tall.



*1.53 meter dbh x 36.9 meter alerce - yes, that is midslope dbh*





*A thrifty young stand of alerces*

I wasn't that surprised by the small stature of these trees. First, the soils at Andino Alerce were noticeably less productive than other areas I had visited in Chile. The bedrock is granite with evidence of recent glacial activity, and the soil was very rocky – not deep volcanic soil. Other species were quite short, and the shrub layer was dense and ubiquitously covered by native bamboo. This led me to consider whether the dense shrub layer was an indicator of more acidic and nutrient poor soil, as it is in the Southern Appalachians. I don't know the answer to that, but I suspect a correlation.



*Bamboo in the Alerce Catedral*

The composition of the forest was distinctive. Manio (*Podocarpus nubigena*) was abundant. Alerce occurred in pure stands in places, but was more often part of a mixture including *Nothofagus dombeyi*, *P. nubigena*, *Weinmania trichosperma*, *Laureliopsis philipiana*, and *Eucryphia cordifolia*. As I mentioned, bamboo dominated the shrub layer, making off-trail exploration quite intimidating.

After an early night we woke at dawn to hike to the Alerce Catedral, the grove in Andino Alerce with the largest trees. Unfortunately, shortly after breakfast Becky's boot came apart and we spent valuable minutes on an impromptu glue job to put the boot back together. The weather was overcast and the forecast called for rain starting in the afternoon.

Luckily the glue job worked, and we were off on the 18 km (11.25 mile) round trip to the Alerce Catedral.





*"Alerce of approximately 2500 years"*

About 3 km in, we crossed a ridge with scattered, very impressive Alerce. These were old beasts, for sure, with signs by the park service boasting of their age. I measured the largest of these trees, which had a sign claiming more than 3,000 years of age. The size stats on this tree are as follows: dbh - 2.45 meters (8.04'); height to first branch – 22.7 m

(73.5'); height 34.1 meters (111.8'). The taper of the trunk was slow, and the diameter may actually have been larger at 22 meters than at breast height. The height was rather unremarkable and reinforced my notions of exaggeration of alerce heights in folk lore.





*2.45 meter dbh x 34.1 meter tall alerce*



*2.45 meter dbh x 34.1 meter tall alerce*

On the subject of age, it is a common theme in literature about alerce that it has a constant, slow growth rate and that age can be extrapolated by size.

I'm sure most of you reading this post are skeptical of that notion, and you should be. The trail cut alerces that I saw had slow, but highly variable growth rates. Notably, trail cut Podocarpus also had very tight rings and slow growth, and I believe Podocarpus nubigena could also reach great ages.

It's co-occurrence with longer lived Fitzroya probably makes it obsolete for dendrochronology purposes, though.



*A large snail*

After hiking through some beautiful scenery and seeing some interesting wildlife, we arrived at the Alerce Catedral. It is a very special place. A sense of quite pervades the place. Like many rainforests, all sounds seem muted. I found myself talking in hushed tones and feeling quite humble in the presence of larger and more ancient beings.



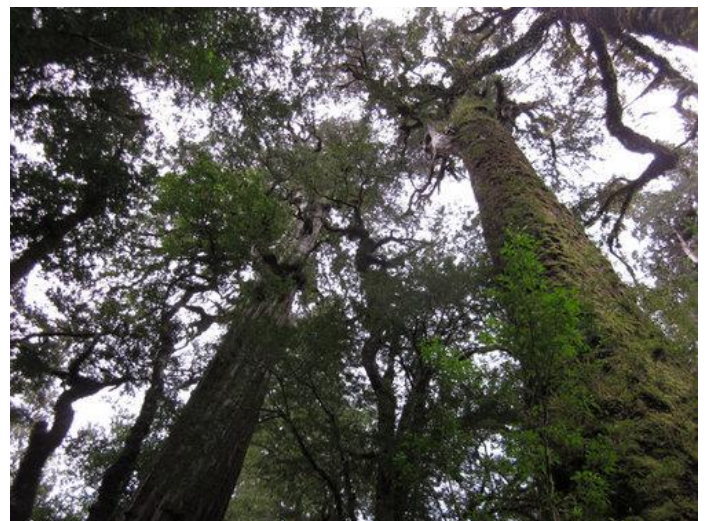


*The Alerce Cathedral*

The Cathedral consists of a grove of several dozen alerces over 1.5 meters in diameter, many over 2 meters in diameter. The grove extends from the terrace above a stream, up a gentle slope for more than 100 meters in elevation. I began prospecting for heights, and was disappointed not to find any trees exceeding 37 meters. I then focused on diameters. The largest diameter I found was 2.71 (8.8') meters, but this tree tapered quickly. What appeared to be the largest volume tree I found was 2.49 meters dbh and around 37 meters tall. Getting an accurate height measurement on trees in evergreen forests is pretty difficult, so I proceeded up slope to attempt a better measurement, but was quickly distracted by a quartet of tallish looking trees.



*2.49 meter dbh alerce*



*The roof of the Cathedral*



I began measuring this quartet and immediately the laser indicated that the nearest tree was significantly taller than any I had measured in Chile. It had both the longest distance and the highest angle of the three trees, and its base was well below my vantage point.

After working diligently on this tree from two different locations in order to have a view of the top and the base, which was obscured from most locations by bamboo, I came up with a height of 54.1 meters (177.4') tall. I declined to fight through the undergrowth and measure the diameter, which I estimate to be between 1.5 and 1.8 meters. Shortly after I measured this tree, the rain started, and we began our long, wet hike back to the trailhead.



*Quartet of alerces*



*The top of the 54.1 meter tall alerce*

Alerce Andino National Park was the only location, out of three on my itinerary, where I was able to see alerces. While this location is highly regarded in Chile, I doubt this is where remnant alerce trees reach their maximum size. My guess is that, like *Nothofagus dombeyi*, they reach their largest size on deep volcanic soils with high precipitation. Some areas that seem promising to me are Vicente Rosales National Park, Pumalin Park

(<http://www.parquepumalin.cl/content/index.htm>, Doug Tompkins' 600,000 ha private park), and Hornopirien National Park, near where there is what appears to be a legitimate four meter in diameter tree (see <http://andespatagonia.cl/> "alerce cathedral"), though I doubt it is very tall.

I think there is still very much to be learned about Alerce. One thing that is certain is that any tangent measured height or estimated height for alerce is in serious doubt. If any NTS or other tree lovers visit



southern Chile, bring a laser range finder and clinometer!



*Cauliflower top alerce*



*Alerce Catedral*

### [Re: Chile Trip Part 3: Parque Nacional Alerce Andino](#)

by **KoutaR** » Fri Mar 22, 2013 8:32 am

Josh,

The report was so exciting that I read the strategic places by scrolling text up line by line! I admit that I am a bit surprised that the trees were not taller.

I compared Chile's rainforests with Tasmania. One difference is that there are no bamboos in Tasmania's rainforests. (But there are other things that make off-trail hiking rather difficult.)

Is Cochamo Valley in a national park or is it otherwise protected?

### [Re: Chile Trip Part 3: Parque Nacional Alerce Andino](#)

by **Josh Kelly** » Fri Mar 22, 2013 10:21 am

Kouta,

As far as I know, the land in Cochamo Valley is not protected. The only real protection is that there are no roads into the valley. There are a number of dam proposals, including a 2000 km transmission line that threatens a large area of Patagonia and the Lakes District, including Rio Puelo and Rio Cochamo.

There would be massive road construction as part of these proposals that would add more threats to the forests of the region. As J.R. Smith is fond of saying: see it while you can.

Josh Kelly

### [Re: Chile Trip Part 3: Parque Nacional Alerce Andino](#)

by **Jess Riddle** » Fri Mar 22, 2013 2:54 pm

Josh, Another great report. Given their location in the mountain groves and on the east side of the Pacific, I had thought of alerce as something of a South American sequoia or redwood. However, the trees in your photos remind me kauri and western red cedar. The “spike topped alerce” in particular reminds me of the champion red cedar at Quinault Lake.

Podocarpus nubigena could still wind up being a valuable species for dendrochronology.

Dendrochronologists are increasingly realizing the valuable of using multiple species in their climate reconstructions, and of course, cores from P. nubigena would provide information on that species.

From a practical standpoint, P. nubigena might be easier too. If managers are very protective of the alerce, they might be more amenable to researchers coring the P. nubigena. It's also a lot easier to core a 1 m dbh tree than a 2 m dbh tree.

I'm glad Becky's boot held together.

Jess

### [Re: Chile Trip Part 3: Parque Nacional Alerce Andino](#)

by **Bart Bouricius** » Fri Mar 22, 2013 6:00 pm

Another fantastic report. It's nice to have someone provide a report that actually gives you an accurate sense of the environment that the trees grow in along with images of the trees that are comprehensive and show tops bottoms and the whole tree as well as people next to some trees for a feeling of the size, especially with a species that is steeped in mythology and hyperbole that has tended to cloud the reality.

### [Link Between Japanese Barberry and Lyme Disease](#)

by **edfrank** » Fri Mar 22, 2013 10:11 am

Ed: This is a recent research article about the relationship between Japanese barberry and Lyme disease. I wanted to pass this information along in hopes it might save someone in ENTS from getting Lyme.

Sincerely,

Russ Richardson

Subject: Native Plants and Wildlife Gardens - More Findings on the Link Between Japanese Barberry and Lyme Disease



*Japanese Barberry infestation. photo by Edward Forrest Frank*



### **More Findings on the Link Between Japanese Barberry and Lyme Disease**

by Debbie Roberts, Native Plants and Wildlife Gardens

March 20, 2013.

<http://nativeplantwildlifegarden.com/more-findings-on-the-link-between-japanese-barberry-and-lyme-disease/>

Recently, I attended a symposium where current research findings on the link between Japanese barberry (*Berberis thunbergii*) and Lyme disease <http://gardenofpossibilities.com/2009/1/20/japanese-barberry/> were presented. Over the past few years we've learned that this highly invasive non-native shrub is not only impacting our regional ecosystems, it's also indirectly affecting our public health. While Japanese barberry is considered invasive in at least 20 states and the District of Columbia <http://www.nps.gov/plants/alien/fact/beth1.htm>, it is also still available for sale in many nurseries across the US. According to recent studies by scientists Jeffrey Ward and Scott Williams at the Connecticut Agriculture and Experiment Station (CAES) eliminating stands of Japanese barberry from forested areas can reduce the number of Lyme disease-infected ticks on the property by 80%.

continued at:

<http://nativeplantwildlifegarden.com/more-findings-on-the-link-between-japanese-barberry-and-lyme-disease/>

### **Re: Link Between Japanese Barberry and Lyme Disease**

by **Doug Bidlack** » Fri Mar 22, 2013 10:38 pm

I'm always bothered by people that take a little information and apply it incorrectly to serve their own interests. Ticks don't care about Japanese barberry one way or the other. They care about the same things as other animals: Do I have enough food and water? Do I have a safe place to hang out?

Japanese barberry and lyme disease do well in disturbed habitats. Japanese barberry does not cause lyme disease, it simply likes the same environmental conditions and so it is more like a good indicator

species. Without a disturbed habitat, high rodent and deer populations and a large human population living within this ecosystem you are going to have plenty of lyme disease with or without the Japanese barberry.

It sounds like Japanese barberry is particularly good at keeping relative humidity high close to the ground, but if you rip it out something else will grow in its place and the ticks will adapt. I have no Japanese barberry in the forest behind my house but I have plenty of native shrubs, rodents and deer...oh, and tons of lyme disease in those little boogers!

I don't like Japanese barberry either but I think people do a great disservice by stretching a little bit of information way too far.

Doug Bidlack

### **Re: Measuring Odd Tree Forms**

by **edfrank** » Fri Mar 08, 2013 12:44 pm

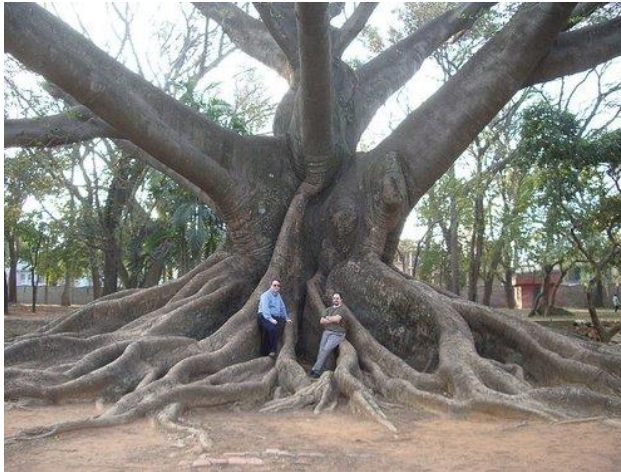
Bob, Bart,

I am contemplating the questions being asked by American Forests as part of their project to update or revise their measurement guidelines. These are some comments from their Measurement Guidelines Working Group:

- Determining when a tree with multiple trunks should be considered a single tree or multiple trees. This includes reviewing photos submitted by state programs as case studies.
- Determining where to measure the circumference of multiple-stemmed trees when the trunk forks at or below diameter breast height.
- Developing measuring guidelines for tropical tree species with unique form.

I have been thinking about how it would be possible to rank these forms and how they should be measured. Consider some of the tropical forms with

blade-like buttresses at their base. A cross section at breast height would yield a starfish-like plan.



Bart, you talked about measuring the girths above the basal flare. This would be above where these fins merged into the trunk? If not where exactly do you think they should be measured? How high would these fins extend? Would you say that measuring above these basal fins is the way to go? Is there any value to measuring at breast height, or is it so variable that it is useless? One of your fellows would climb and measure the girth, would it be amenable to measurement with a reticled monocular or perhaps one of Bob's photo methods? I suppose measuring the area occupied by the tree and fins at ground level could be measured, but does that gain you anything?

The second form is some of the strangler figs.





These figs grow around a support tree and eventually will kill it. What is unusual about their form is that they grow to form a latticework of trunks that fuse together multiple times. So in the early stages of the lattice you would not be really measuring the diameter of the fig vine, but the diameter of the tree it is growing upon. But then the individual vines of the fig fuse together so frequently that a girth for them is almost meaningless. They should not be dismissed as vines as they grow to tree size that are self supporting, and even form self supporting columns. So I guess the best way to measure would be to treat these lattices as if they are actually trees? measure the lattice girth at breast height? etc... How else could the situation be approached?





mangrove

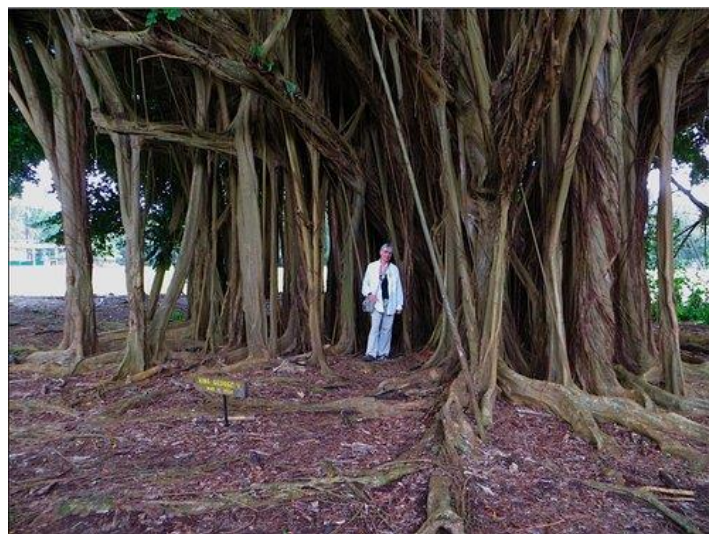
### Banyan Type Trees-----



"Upside down tree" *Urostigma* subgenus

I would guess the girth of these trees need to be measured above the aerial roots? They don't appear to actually even have a distinct trunk at ground level or at breast height. The area occupied by the aerial roots could also be measured?

Mangroves would have the same problem but in their patches which roots belong to which tree would be hard to sort out.



BanyanMonica-2 Banyan





Old strangler fig

We have talked about measurements of these banyan type forests where aerial roots form secondary trunks.

How would you rank these types of trees or tree groups as it relates to size? The only way I see that would be practical would be the area occupied by their canopy. I think canopy area would be better than area defined by taping around the trunks. Also canopy could be measured on air photos.

Jess and Kouta, I am not dismissing your ideas, just fishing for others and looking at the options available. I think that measuring stems over a certain diameter would work, but am concerned that not all would be accessible and the labor intensiveness of the process for it to be a standard feature of measurement for the tree form.

Similarly what about clonal colonies growing by root sprouting such as the Pando aspen? How would we rank them?



AspenOverview0172

The largest individual trunk/tree could be measured.

We could count or estimate the number of stems. The other option would again be area occupied by the clonal colony. I think the last is the best option for ranking, but both should be attempted. There are other species that form clonal colonies that could be considered also - sumac for one. It would be consistent with what I was saying about the banyans and these two types are similar concepts – one multiple stems growing down from branches and multiple stems growing up from roots.

That is how some of the old box huckleberry colonies are often described – in terms of acreage of the colony, plus the age extrapolations.

A relict species nearly exterminated by the last ice age, box huckleberry is self-sterile, and is found in isolated colonies which reproduce clonally by extending roots. One colony in Pennsylvania was once estimated to be as many as 13,000 years old; more recent estimates have an upper bound of about 8,000 years, which would make it the oldest woody plant east of the Rocky Mountains. Another colony in Pennsylvania, about 1,300 years old, has been protected by the Hoverter and Sholl Box Huckleberry Natural Area.



Actually part of the above statement doesn't say is that a big chunk of the oldest colony was destroyed by road building in the 1960's and is on private property and not protected at all.

Edward Frank

### [Re: Measuring Odd Tree Forms](#)

by Joe » Fri Mar 08, 2013 2:58 pm

wow, nice collection of photos, those tropical examples really excite me, artistically... nature really is the greatest artist...

Joe

### [Re: Measuring Odd Tree Forms](#)

by Larry Tucei » Fri Mar 08, 2013 4:26 pm

All- I have measured numerous Live Oaks with multiple trunks, piths, crowns etc. Some have been difficult to measure. One for example the E.O Hunt Live Oak in Long Beach Ms fits nicely into this category. I had to measure the circumference at 24" above ground. The Hunt Oak is multi-trunked, multi-crowned tree with a very wide spread. Cir- @24" 34.3", Height-45' and max Crown Spread-177'. The longest limb was 89' and it ran just above ground for about 25 feet or so then lay on the ground as did huge

limbs around the whole tree. I'll see if I can dig up some more photos showing the limbs and its wide crown. This is one of the most unusual forms of Live Oaks that I have measured out of 214 trees. Larry



*E. O. Hunt Oak*

### [Re: Measuring Odd Tree Forms](#)

by KoutaR » Sat Mar 09, 2013 3:17 am

Height is the only well-defined measure.

Kouta

### [Re: Measuring Odd Tree Forms](#)

by Don » Sat Mar 09, 2013 9:11 pm

Larry- While this Live Oak may be difficult to fit into the current American Forests mode, should the AF measurement guides change to:

- 1)single list, with any non-single stem champs getting an asterisk (or alternatively a footnote) explaining that it appeared to be a triple, and/or:
- 2)a standard DBH/CBH measurement, with any non-standard diameter/circumference height measurement getting an asterisk (or alternatively a footnote) explaining that it was taken at 24" (or ?), this leaves the list with the least amount of clutter, in my



opinion. What's your thinking here?

*Don Bertollette*

## **Re: Measuring Odd Tree Forms**

by **Bart Bouricius** » Sun Mar 10, 2013 10:27 am

Don,

My perspective on this is that, as the majority of NTS members are from North America, we tend to be both North America centric and temperatecentric. We think of the trees we see when we look out the window or drive along the highway as "normal", however, consider that our geographically constrained species may range somewhere between 700 and 1000 species, depending on where we think of drawing the line. In Panama for example there are over 2,300 identified species, and In South America we have in excess of 20,000 species and many of them are "odd forms" as a matter of fact, there may possibly be more species globally with "odd forms" than with "normal" (temperate) forms. This does not mean to say that in the diversity of tropical species there are not large numbers of "normal form" species as well, however buttresses are exceedingly common among flood plain trees, especially those that grow to notable dimensions that people might find worth measuring. Buttresses are also common on upland trees, though less so. Multiple stems are quite common among the figs in flood plain forests and the ficus genus makes up a disproportionately large percentage of large trees, virtually all of which would be classified as "odd forms". Anyway, the folks in South America would probably suggest that the magazine might be more appropriately called North American Forests as that is what is represented.

Considering the focus of the magazine, these odd forms are common in Florida and parts of Texas and scattered in the Southern part of the US, though they may not as rare as we may think, just rarely measured in a comprehensive way. Sorry for my digression, but I am trying to point out that these forms may be quite significant in the overall scheme of things. (See

Richard Condit, KKPerez and Daguerre Trees of Panama and Costa Rica for source of species numbers).

Bart Bouricius

## **Re: Measuring Odd Tree Forms**

by **Bart Bouricius** » Sun Mar 10, 2013 2:04 pm

Re-reading my last post it sounds unintentionally harsh which I really did not mean. Clearly many of these tropical forms are unusual and some, if you do not live in the rural tropics, would seem downright bizarre to most people. I am thinking we might classify these forms as "measurement challenged".

There is no question in my mind that we need to focus on something other than the DBH for one or more of these sub groups. I think it behooves us to, as Kouta suggests, have height as the universal comparison measurement while we should focus on crown spread or area with several species, and with a separate group that simply have large buttresses, we should simply measure the DAB (diameter above buttresses). In the case of multitemmed trees like banyans, the areas encompassed by 1. crown and 2. stems would provide an interesting comparative number within this group.

I do not think we have such a problem with aspens, as they present as individual trees regardless of their DNA, but I think mangrove species are perhaps the messiest and most unruly group, as they, in some ways resemble aspens, in that they can sprout from underwater or under mud roots but appear somewhat like the more unruly figs in their form. One other group which is easier to deal with is simple stilt trees such as several palm species (walking palms) and many others like Cecropia trees that also perch on stilts. This group, like buttressed trees can use the same DAB girth measurement or in this case DAS (diameter above stilts) along with height. The real question is how many groups should we have in order not to be comparing apples to oranges in our measurement criteria. There is one other problem represented by the first two Ceiba images that Ed

posted, which is that in the first image has no trunk, in that the buttresses actually reach down from the lowest branches. My view on this is that you can not measure a trunk where none exists, at least as it is normally defined. This situation, however is a peculiar anomaly resulting from growing a forest tree on a lawn and having it react in a most extreme way.

As it did not have to grow up to get sun, it simply spread out without really producing a trunk, just buttresses and branches. It certainly would not be fair to pretend that there is a trunk here that can be compared to other trunks in a competitive manner, in other words I contend that this is an apples to oranges situation.

Bart Bouricius

## **Re: Measuring Odd Tree Forms**

by **Joe** » Sun Mar 10, 2013 5:41 pm

*edfrank wrote: Larry, The AF is setting up a committee to review measurement guidelines. But what exactly to tell them? They want measurement specifications rather than an approach to the problem. How do you change a general approach to one that has specifics and at the same time get it accepted?*

me thinks that they fail to understand that the approach to the problem is the path to the measurement specifications and they simply must be given the message....

Joe

## **Re: Measuring Odd Tree Forms**

by **Bart Bouricius** » Wed Mar 13, 2013 12:40 pm

Regarding my mention of Mangroves sprouting from roots of adjacent tree, I seem to remember this from trips to the Mangrove swamp near Belize City, Belize, however the 3 species found in Florida reproduce by dispersing embryos called propagules rather than regular seeds, thus they seem not to be

clonal in nature, however I can find little immediately on reproduction of the many species outside of the US, some of which get quite large and have no stilt like roots. The following is a description of mangrove reproduction:

### **Reproductive Strategies of Mangroves**

Mangroves have one of the most unique reproductive strategies in the plant world. Like most mammals, mangroves are viviparous (bringing forth live young), rather than producing dormant resting seeds like most flowering plants. Mangroves disperse propagules via water with varying degrees of vivipary or embryonic development while the propagule is attached to the parent tree.

This description of only the 3 species found in the US is from this site:

<http://www.nhmi.org/mangroves/rep.htm>

Bart Bouricius

## **Re: Measuring Odd Tree Forms**

by **edfrank** » Sun Mar 24, 2013 10:02 am

*KoutaR wrote: Height is the only well-defined measure.*

I really like this comment. It is true and helps me (and all of us likely) keep our eye on the prize. You can always measure height and it can be the anchoring measurement in whatever measurement protocol or champion criteria that are determined. A tall tree list that includes nothing but height criteria is something I always find interesting and seems popular among the general public.

When looking at the idea of champion trees I find it intertwined with the idea of bigness. A champion tree should be one that best expresses the characteristics that we feel define bigness for that species. The American Forest champion formula is one attempt to express that feeling. Some people have suggested it tends to favor open grown trees over forest grown trees. Out own TDI (Tree



Dimension Index) formula is more neutral in terms of favoring one measurement over another, but still in an individual tree it is often just one characteristic that contributes the most to the feeling of "bigness."

In Larry Tucei's live oak documentation efforts it is clearly the crown spread and trunk girth that exemplify the feelings of size. In some of the western trees, like Douglas fir, the girth is important, the crown spread not so much, but the height jumps out the most as these tall specimens reach for the sky. So for these it is girth and height.

In these odd forms rather than rely on formulaic standard measurements, we should be looking at not only what characteristics we can measure, but what characteristics epitomize the feeling of bigness. How can we define that characteristic for comparison purposes? For some, like the banyon, the defining characteristic of bigness is really the area occupied by the crown or multiple trunks. For clonal colonies, it is the area occupied by the colonies. For these trees with the fin-like roots, or those with large aerial roots growing out from the trunk, or even for some of the giant buttressed bald cypress trees, maybe we need to look at some other measurement to characterize this feeling of bigness? Maybe one of the measurements should be area occupied by the roots, or the base of the tree, rather than just girth at breast height? This would be defined as the area occupied by the roots or base of the tree as measured by a tape wrapped around their extremities - not effective cross-sectional area established by mapping the shape of the root mass. All of the other standard measurements would be taken as they can, this would just be an additional measure taken for certain types of trees. Discuss...

Edward Forrest Frank

## [Site Index](#)

by **Joe** » Sun Mar 24, 2013 10:28 am

just a note- but foresters use the term "site index" which gives the height at 50 years of age (at least in the NE)- it's useful to compare different sites and is a good, general index of the site's forest productivity because the height growth is more related to the site than it is to how dense the forest is-- if you thin the

forest or not, the trees will grow about the same height each year, only if it remains dense, the diameter growth will be less

on some of the very best sites found by ENTs folks, I would find it interesting to see what local foresters are using for the site index on that land and, if ENTs folks could come up with a better site index, then the true special value of the site would be more exciting to the foresters who focus on growing wood- I suspect the foresters are underestimating the site index on the best sites

so, this is one of the plusses of doing this sort of work- to show that some forests are more "productive" than otherwise thought to be... not that those sites ought to be managed, but there may be many managed forests on such sites which aren't being managed as intelligently as they could be- if the true potential was understood, blah, blah....

nah, probably wouldn't make any difference, they'll just be hammered and clearcut like most forests.... with the usual stupid rationale...

Joe

## [Re: Site Index](#)

by **dbhguru** » Sun Mar 24, 2013 11:28 am

Joe, Outside of my fascination with big trees, one of my original objectives in measuring and documenting white pines throughout the Northeast was to find out exactly what the species is currently capable of doing in different habitats over a period of 100 to 200 years. I have lots of data, but I'm sad to say that the local forestry establishment has not shown interest in my information. I fear that the reason is not for a lack of raw curiosity, but simply that most timber managers have no interest in allowing the species to grow for longer than 50 or 60 years before harvesting. In 50 years, they can get a commercially sized tree that I presume will pay its way out of the woods and that is where the story ends. Alas, I'll keep trying.

Robert T. Leverett

## [Re: Site Index](#)

by **Joe** » Sun Mar 24, 2013 11:45 am

Bob, certainly the private sector forestry people have a much shorter time frame for "management". If a landowner calls them to discuss logging their land- if the timber is not fully mature by any definition of maturity- but if they can make a buck doing the harvest, they will- given the fact that it's difficult to survive in private sector forestry. The motivation to grow the trees to "financial security" is only in the interest of the owner- the industry has zero interest, but of course they'll give the owner what Karl Davies called "the 3-5% scam", implying that because the diameter is only growing that fast, that the value of the tree is only growing that fast, which is false since the volume and value may be growing much faster than the rate of the diameter growth. Many industry people tell landowners, "cut the timber and put your miney in the stock market".

Even on industry owned lands, they don't take the long view- not because they don't know any better but because of immediate financial needs preclude managing the trees for true financial maturity (when the rate of growth of value of the tree drops below the "alternative rate of return" available in other financial investments). Look at what's happening in the north country- the big timber guys clearcut most of it, now they're selling it off.

But.... government agencies have no excuse for this sort of "forestry"- they don't really have an "alternative rate of return" or, it's extremely low- so they should be managing timber to true financial maturity, which is NOT 50 years for good trees on good sites, though it may be true for poor quality trees, which can be harvested to keep the best trees growing much longer. And, of course, financial maturity of the timber isn't the only consideration government agencies should be thinking about- though the private sector thinks little of ecosystem services and values, government ought to be doing so- and documenting it and showing the private sector- while, finding ways to have ecosystem services turn into real money for the private sector--- if governments can offer tens of billions to energy firms to build wind and solar farms- they should be

able in a 16 trillion dollar economy, find ways to monetize those ecosystem services.

Getting back to measuring tree heights.... the more we know about this, and the more word gets around-- - it can help enlighten the rest of the world- to realize cutting trees at 50 years of age is really stupid- like mindlessly dumping pollutants into the air and water- bad management of forests is a form of pollution, so far, unrecognized by the nation- it will have to be eventually if society and the economy are ever to stabilize and remain sustainable.

Joe Zorzin

## [Evidence of very large Eastern White Cedars](#)

by **ronbertbean** » Sun Mar 17, 2013 9:20 pm

I'm new to this website and this is my first post.

While tracing a stream in the extreme south of Norfolk County, Ontario we came across an area with numerous nurse stumps of eastern white cedar that were in excess of 3 feet in diameter. The trees growing over the stumps looked to be at least 20 years old if not much more. We came across 2 trees that clearly had not been logged - one had uprooted, obviously long ago and was probably 3.5' at the base - another had died more recently and was broken off at about 20' up. So these two trees lead me to speculate on whether the large stumps had been logged or had died of natural causes. I found this NTS site looking while looking for information. I would estimate we saw in excess of 20 stumps of eastern white cedar >3' in diameter in an area of a few acres. I am hesitant to specify the exact location both because I'm not sure of the protocol on this site and because I am not 100% clear on the land ownership (my best guess is Long Point Conservation Authority). I am posting because I was thrilled to find this area and to see evidence of cedars much bigger than I have ever seen in this area and am wondering if anyone would care to comment.

Ron



## [Re: evidence of very large Eastern White Cedars](#)

by **bbeduhn** » Mon Mar 18, 2013 1:15 pm

Ron,

Do you have any photos of these stumps that you can share? Are these nurse stumps perhaps another species with white cedars growing from them or are they definitely white cedars? Check out the massive report on old growth in the Niagara Region. White cedars grow to an incredible age there.

If a site is on private land, you are right to divulge only a general location unless you have permission to give more info. We usually confine exact locations to private messages. On off trail public sites, exact locations are kept out of public records. General locations work well enough for the message board. Welcome to the site.

Brian

## [Re: evidence of very large Eastern White Cedars](#)

by **DougBidlack** » Mon Mar 18, 2013 8:53 pm

Ron, those are certainly very nice cedars. NTS have measured this species to 186" in girth at 4.5' on South Manitou Island in Lake Michigan...so that's 4.9' in diameter. I recently found a record of 220" in girth (5.8' in diameter) for Ontario on the internet and I believe this was probably measured at 1.5m. I'm sorry I don't recall the internet site or actual location within Ontario at the moment but I'm sure it would be relatively easy to find.

Is there any chance you might be able to find some live trees of this size or did you explore the entire area?

Doug

## [Re: evidence of very large Eastern White Cedars](#)

by **ronbertbean** » Mon Mar 18, 2013 11:05 pm

Hi,

I did not explore the whole area but did not observe any live white cedars greater than 1 ft in diameter.

There were a few significant live white pines at least 100 years old and 2 ft in diameter. Here is the dead cedar that was uprooted. I will return and get more photos if I can get there before the frost leaves the ground otherwise it may have to wait until summer as it looks like a very swampy location. I'll take a tape measure with me as well.

Ron



## [Re: evidence of very large Eastern White Cedars](#)

by **csadsamsrep** » Sun Mar 24, 2013 1:14 pm

That is a large cedar for sure. There is an old one called the fallen giant in the Upper Peninsula, near Copper Harbor that is dead now, but measures in the range of 5 feet in diameter or so...not at breast height, but at its girdle, just above the estimate of the former soil line. It was not a real tall tree, but very thick, and was next to a small river. We have several white

eastern cedar on our farm next to a large river in the 3 foot diameter range, but not at breast height. They are large like this closer to the ground, and some of them split into two sections, and are very irregular or gnarly. I will post some photos soon, so be on the lookout for these live ones.

### [Cedar photo- Stone Mountain, GA](#)

by **edfrank** » Sun Mar 24, 2013 11:19 am



Clayton Adams to Native Tree Society

An ancient split trunk Southern red cedar tree drinks rain water from a granite pool on Stone Mountain. *Juniperus Virginiana*.

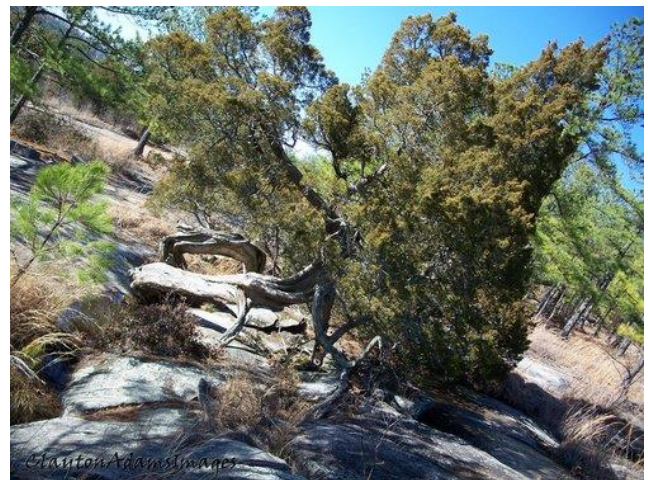
### [Re: Cedar photo- Stone Mountain, GA](#)

by **csadsamsrep** » Sun Mar 24, 2013 1:35 pm

This red cedar tree has such an irregular trunk shape that it is an interesting project to try to score it in some way for its size. Its widest or thickest aspect within the first few feet of its trunk is about 18 inches or so. This tree is growing out of basically granite rock substrate pockets of decomposed foliage where other plants and tree material are caught. The rainwater pool very rarely dries up to the point of having no reserve in it, but I have seen it happen once during prolonged southern drought in Georgia in the last 5-6 years. Even though it has the water resource,

the soil and nutrient resources here are quite nominal at best, and it is very amazing this tree grew to be this size, and it is amazing it is so gnarly in its form. It is very old, I believe.

I am adding another photo of the tree as shown from the side, and this perspective sort of projects the idea of the title, "Old Man Cedar". Now with the big head of *Juniperus* foliage, which could look like a full head of hair, it could be called, "Old Woman Cedar", but I must say that despite this head of hair the tree looks more masculine in its form with the gnarly and thick trunk etc. After all, men can have "big hair" too.



*Old Man Cedar, Juniperus Virginiana, Stone Mountain, GA*

### [New Member Introduction](#)

by **csadsamsrep** » Sun Mar 24, 2013 12:42 pm

Hello Ed, and other fellow NTS members. It is great to have a forum for people who are interested in trees, and native ones in particular. I will be posting some photos and stories about cedar trees of two different types in the future, both white and red cedars. If any of you have experience in "coring" trees, and or know of articles or sources of information on this subject, please comment in this regard. Thanks,

Clayton Adams



## Late Winter CONG Trip

by Tyler » Sun Mar 24, 2013 3:39 pm

NTS,

I recently made one more trip to Congaree before the measuring season comes to a close. Spring is not nearly as early as last year, but signs are here and there mainly in the elms and maples budding out first. The park has already experienced a couple of big floods this year and water levels were still receding on this trip. It was good to see that the water had gotten so high as some recent years have been dry.

For this trip, my main goal was to relocate a large sweetgum found a few years ago as a potential replacement for the national champion sweetgum whose crown had been blown out a year or two ago. After a couple of hours searching I found it, or what's left of it. Most of the crown had been blown out by a storm.



*Floodwaters receding*



*Broken Sweetgum*

Girth measured 16'5" and adding the broken section to the standing section gave a total height of 135'. Diameter of the broken section measured 3' 4" which would have been 56' above the ground.





*16' 5" Sweetgum*

After this I measured a few more trees including the national champion laurel oak. It now stands 130.5'.

Persimmon	6'10"	106.8'	
Loblolly Pine	12' 3.5"	159.7'	Another similar sized tree nearby
Laurel Oak		129.6'	
Water Oak		130.6'	Dead top

One last surprise. As I was walking I noticed a large bird flying low over the treetops. I saw it land and noticed it was a bald eagle. It then flew a short distance to a pine tree where I saw a large nest.

Park staff told me that this is a new nest to them. None were previously known in the area.

Tyler



*Eagle above nest*



*Eagle flying overhead*



## [Introducing myself - Kentucky](#)

by **Tom Kimmerer** » Mon Mar 18, 2013 11:51 am

Hello! I am a forest scientists (PhD in tree physiology and biochemistry) living in Kentucky. Formerly a forestry professor (teaching dendrology), I now make my living as a renewable energy consultant. I tell my friends that I used to study trees, now I just burn them! I am doing this work because I believe that a market for sustainably produce low-grade wood is the key to improving forest management, especially in hardwood forests.

## [Re: Introducing myself - Kentucky](#)

by **pitsandmounds** » Mon Mar 18, 2013 10:51 pm

Welcome aboard! This is definitely the place to be to talk trees.

I have great respect for the field of Dendrology and the hardwood forests of KY are the perfect place for that expertise. I work in Northern Kentucky and there are plenty of places I'd like to get out and measure.

-Matt

## [Re: Introducing myself - Kentucky](#)

by **Tom Kimmerer** » Tue Mar 19, 2013 6:09 pm

*Joe Zorzin wrote: Tom, do you include in that potential market for low grade wood- biomass for electricty and thermal? Are there any such biomass facilities in KY?*

Joe - Yes, most of my projects are biomass for electricity and thermal, although I expect the emphasis to move toward liquid fuels. I just completed the conversion of a coal-fired steam boiler in Louisville, KY to waste wood. The plant runs on 100,000 green tons of wood a year and provides

process and heating steam to three chemical plants.

The source of the wood is primarily urban, including street and yard trees, parks, and distribution-line clearance. Some wood also comes from primary sawmills. We are not only consuming a carbon-neutral fuel, but diverting wood from the landfills (where it makes methane).

This is my 12th biomass project, but my first to go to completion in Kentucky. I am now working on other biomass projects in Kentucky. There is an immense amount of waste wood, and we can have a significant positive impact on forest health by creating markets for low-grade wood.

As you know, Kentucky is a coal state, and there have been considerable headwinds against biomass projects, but as the coal industry declines, the biomass industry appears to be gaining steam.

## [Re: Introducing myself - Kentucky](#)

by **Joe** » Wed Mar 20, 2013 6:39 am

Tom, as you may know, we in Mass. had a war over biomass-- when some biomass plants were going to be built, opposition arose- then the state hired the Manomet Institute which produced the infamous Manomet Report, which proclaimed the world that burning wood is NOT carbon neutral- hence, the state killed off biomass- at least it decided it won't offer RECs, without which the biomass industry won't happen. At first, though I've been a forester for 40 years, I was skeptical of biomass, listening real hard to the opposition- but after I saw the nice work being done by biomass harvesters, I changed my mind. I still appreciate Manomet's suggestion that burning wood is not carbon neutral, at least in the short term- but the silviculture that can be done when the logger WANTS to cut all the "junk" wood- is really amazing. In Mass., like much of the country, we've had the problem of no market for low value wood- further north, there was a pulp market, but that's dying off. We do have a single small biomass power

plant in north central Mass. built 20 years ago.

The state instead is now pushing solar and wind- but it's being wrong-- most of the solar is solar "farms" which are hideous, but I won't get into that at this time.

Joe

## [Re: Introducing myself - Kentucky](#)

by **dbhguru** » Wed Mar 20, 2013 9:47 am

Tom,

Welcome to NTS. We are always very pleased to have professionals such as yourself join the ranks. We have people of every background on board and take pride in our inclusiveness. I'm particularly pleased that my friend Joe Zorzin has someone with experience to talk to about biomass, although as I'm sure you recognize that we're basically into non-economic tree interests. That said, there are plenty of foresters, forest ecologists, arborists, etc. who are members. We look forward to your participation. Again, welcome aboard.

Robert T. Leverett

## [Re: Introducing myself - Kentucky](#)

by **Tom Kimmerer** » Sun Mar 24, 2013 8:48 pm

Thanks, Bob and Joe. Joe, this is outside the scope of this site, but I will just quickly say that 1) the Manomet study was deeply flawed (I did a detailed analysis for a client); and 2) Biomass harvesting, by placing a price on low-grade logs, could be the best thing to happen to forest health here in Kentucky.

Right now, you can't sell a log smaller than about 14", and with rare exceptions, all the logging in this region is high-grading. I hope that we can use biomass harvests to greatly improve forest management.

## [Re: Introducing myself - Kentucky](#)

by **Joe** » Mon Mar 25, 2013 6:49 am

Tom, I agree that the Manomet Report was deeply flawed- unfortunately, here in Mass. it has become fundamentalist scripture for the state and the major enviro groups- and the forestry people have just given up the fight, with a few exceptions. I would be interested in seeing your comments on Manomet- either in this forum, or sent direct to me.

I'm not surprised to hear that most logging in KY is high grading- I've been ranting against high grading for decades, yet when I've tried to discuss with many forestry leaders in the state- and, years ago, in the SAF list serve, they pretty much denied the problem or tried to cover it up as the profession's "dirty laundry".

As for being outside the scope of this site- don't worry, there are countless threads here not directly related to old growth and specimen trees, the main themes- almost anything to do with forestry, wildlife and many sciences are discussed here when somebody thinks it may be a worthy offering to the group.

Joe

## [Nemophilist](#)

by **edfrank** » Sun Mar 24, 2013 10:44 am

### nemophilist

(n.) a haunter of the woods; one who loves the forest and its beauty and solitude

ENGLISH | ORIGIN: GREEK  
OTHER-WORDLY.TUMBLR.COM

Ne·moph'i·ly noun [ Greek ne`mos wooded pasture, glade + filei`n to love.] Fondness for forest scenery; love of the woods. [ R.]

Found on <http://www.encyclo.co.uk/webster/N/13>



## [Town Creek, GA](#)

by **Jess Riddle** » Sun Mar 24, 2013 1:10 am

Ents,

Hikers along the Appalachian Trail in north Georgia briefly walk along the edge of the Town Creek watershed. From rock outcrops on Cowrock Mountain, where they first encounter the watershed, they can look south down the watershed, out of the mountains, and into the Piedmont. Hikers can also veer off the Appalachian Trail, and walk down the watershed on the old Logan Turnpike Trail. The turnpike, a major toll route from the Piedmont into the mountains in the 1800's, ran up the Town Creek valley and through the deep gap at the head of the

valley that separates Cow Rock from Wildcat Mountain.

The watershed caught my attention, because the LiDAR data for the area showed a curious pattern; the forests on south facing slopes are taller than those on north facing slopes throughout the watershed. In the northern hemisphere, the greater shade on north facing slopes causes them to retain more moisture, so they typically support taller forest. Hence, the pattern in Town Creek seemed strange. I decided to investigate the two tallest stands in the watershed in hopes that they would support unusual herbs and uncommon trees.



*Appalachian Trail at gap between Cowrock and Wildcat Mountains*



*View from Cowrock looking across the Town Creek watershed*

To access the first stand, a southeast facing ravine, I went out over the rock outcrops on Cowrock and noted several nutrient demanding plants in the area along with some of the rare plants that make outcrops a botanical destination. After dropping a thousand feet in elevation and navigating around a trickling waterfall and associated cliffs, I found myself in a sheltered, nutrient rich forest. The thick layer of spicebush in the understory and abundance of green violet (uncommon in GA) in the sparse fall herb layer suggested the richness of the soil. Above them, tuliprees dominated with few individuals of other species, and they reached just over 150' tall. No other trees of note or rare herbs grew in the stand, at least not in the fall, but curiously, all of the tall tuliprees grew on the south facing side of the cove while oaks, hickories, and less mesophytic species dominated the east facing slope.



*Mountain dwarf dandelion (Krigia montana) on the rock outcrops*





*Coralberry (Symphoricarpos orbiculatus) among the rock outcrops*



*Wet weather waterfall*





*Spicebush understory of first stand*

I continued down to Town Creek, but when I first saw the damage from the previous year's tornado, I thought the trail had been abandoned. In fact,

maintenance crews had cut their way through about half a mile of flattened forest to reopen the trail.



*Tornado damage along trail*





*Tornado damage adjacent to trail*

The tornado also felled the tallest LiDAR hit in the second stand, but most of the stand was intact. In terms of composition and height, this stand in a narrow west facing cove resembled the first stand, though green violet was lacking. Where the productive forest extended out of the cove and onto a southwest facing slope below some steeply sloped rock outcrops, a few more oaks mixed in with the tuliptrees. Across the cove, the northwest facing slope was chestnut oak dominated with a mountain laurel understory indicating drier and poorer soil.

I'm still not sure how to explain the occurrence of tall forest on south and even southwest facing slopes without corresponding tall forest on north facing slopes. Most of the rock outcrops also occur on the south side of ridges, so perhaps water, soil, and nutrients are washing off of them and collecting below.



*Maple-leaved viburnum, a common shrub in the area*





*Maple-leaved viburnum*

12.69' girth  
130.16' tall

Jess

### [Hapgood Wright white pine remeasured 3/22/13](#)

by **Andrew Joslin** » Sat Mar 23, 2013 6:43 pm

I revisited the Hapgood Wright white pine on Friday 3/22/13. I made two measurements from roughly opposite sides and got the following:

1. 131.6'
2. 131.1'

I think the slightly taller measurement is good, maybe Doug Bidlack can revisit and see what he gets.

For CBH I got 12.8'.

Measurements from April 11, 2010:

After an excellent lunch of fish tacos in Concord center I returned to the tree and put a line in to go up and take a look around. What's impressive is there was no major crown damage from the series of severe storms that have hit the area in the last 3 years since Doug and I measured it. The tree is a beast! It stands alone above everything else on the site, takes what nature gives it and shrugs. There is a tree covered ridge just to the south which no doubt has helped this tree maintain its height. At the top of the tallest leader the trunk is quite substantial, not the graceful tapering spires you'll see in the tallest western Massachusetts white pine. It's clear the top has broken many times over the years, the topmost trunk changes to a 45 degree angle very similar to Thoreau in Monroe State Forest. I was happy NOT to be doing a tape drop measurement, the wind was up enough that there was quite a bit of movement, I did not want to explore the last 15-20' to the very top.



The impressive trunk flare is concealed by snow



Mighty trunk





Great crown spread near the top, the center leader is the tallest.





Tied in on the last 15' or so to the top





View from the top looking north over mostly red maple in a wetland





[All the photos from the visit](#)

Andrew Joslin  
Jamaica Plain, Massachusetts

### **Re: Concord Mass. 130' white pine 4/11/10**

by dbhguru » Sat Mar 23, 2013 6:52 pm

Andrew, Congratulations! That is a really big white pine. The 131.6-foot height is very respectable. I hope you can document more great whites in the eastern part of the state that exceed 130 feet.

Maybe one weekend you can come over here and you and Bart can climb the big double up Broad Brook. BTW, I'm up to 19 pines over 130 feet growing along the Broad Brook corridor.

Robert T. Leverett

## **Re: Concord Mass. 130' white pine 4/11/10**

by **Andrew Joslin** » Sun Mar 24, 2013 9:33 pm

*Joe Zorzin wrote: presumably that tree was the victim of the white pine weevil? Or is it old enough that the damage happened before the weevil? I have no idea when the weevil first arrived or has it always been here?*

Pissodes strobi (White Pine Weevil) was described in 1817 by William Dandridge Peck, professor of natural history and botany at Harvard University. It is found in Europe, Asia and North America, I can't find any information about whether it is introduced or native to North America.

White Pine Weevil is native. This paper addresses why WPW is successful in some white pine and not in others.  
[http://www.na.fs.fed.us/spfo/pubs/fidls/wp\\_weevil/weevil.htm](http://www.na.fs.fed.us/spfo/pubs/fidls/wp_weevil/weevil.htm)

White pine in mixed hardwood stands is much less susceptible to WPW. Open grown young white pine especially following clearcut or severe burn or other major clearing is very susceptible to WPW.

There's a large and youngish (maybe 35-40 year-old) stand of white pine on conservation land in Northborough, Mass. 100% of the pine in the stand are heavily multi-leader trees, most of the leader division is very close to the ground. I imagine the land was completely cleared, it is mono-culture white pine. In an adjacent dominant red oak mixed stand there are several very straight single stem white pine with no signs of weevil damage. It appears that mono-culture white pine stands have to be carefully managed from the ground up to prevent weevil attack. In more "natural" scenarios, ie: mixed stands weevil seems to be much less of a problem. The paper has more interesting info, for example white pine in any kind of shaded habitat are less susceptible to weevil attack, the WPW likes elevated temperatures at the terminal buds to lay eggs. Additionally the adult weevils are stimulated by UV light to fly to find new host trees, in a habitat shaded by hardwoods or large white pine the weevil breeding

flights are suppressed because they don't get that UV stimulation.

Based on the limited research I've done on the subject, it appears that WPW is a problem because of human land use and logging practices. In an "unmediated" landscape the weevil is just another cog in the ecological machine, not a problem.

The paper also mentions the unfortunate negative confluence of the introduced white pine blister rust with white pine weevil. If it was just the weevil attacking white pine it would be much less of a problem.

-AJ

## **More Troubling News about Neonicotinoid Insecticides**

by **Josh Kelly** » Mon Mar 25, 2013 1:48 pm

Check out this article by the American Bird Conservancy. Apparently, it's not enough to test chemical toxicity on bobwhite quail and mallard ducks, alone. Claims of toxicity to songbirds are supported by a 200 page report. I haven't had time to wade through this, but the evidence does seem to be mounting that agricultural use of neonicotinoids is a toxic practice. I continue to be troubled that the most effective tool for saving trees from non-native insect pests has so many downsides to it.

<http://www.abcbirds.org/newsandreports/releases/130319.html>



## [Re: More Troubling News about Neonicotinoid Insecticides](#)

by **jamesrobertsmith** » Mon Mar 25, 2013 3:02 pm

It's looking bad for that most effective of tools. Of course the best tool for many pests was DDT and society had to face the fact that it was dangerous and had horrid effects for the various ecosystems into which it was introduced. The same could be said for the Neonicotinoids.

## [Re: More Troubling News about Neonicotinoid Insecticides](#)

by **Will Blozan** » Mon Mar 25, 2013 6:39 pm

Josh,

I do hope that the "powers that be" who ultimately decide the restrictions for use of neonicotinoids will realize that the work to save hemlock and ash is an infinitesimal fraction of the worldwide and domestic US use of the products. Furthermore, the use of birds of those species is likely minimal and the benefits of a healthy hemlock forest would far outweigh any possible negligible impact on birds.

Will

## [Re: More Troubling News about Neonicotinoid Insecticides](#)

by **Andrew Joslin** » Mon Mar 25, 2013 9:01 pm

Yep, it's too bad that the stuff is so heavily overused in agriculture, doesn't help the highly targeted use on hemlock. Nobody in politics or public policy likes subtlety and gray areas.

With hemlocks going out of the ecosystem I worry

about the bird species that depend on them. In winter black-capped chickadee does a lot of foraging on hemlock cones. On the ground ruffed grouse takes shelter under hemlocks when snow cover is deep and they feed on cones/seed on the ground. In eastern Massachusetts black-throated warbler nests primarily in eastern hemlock. Last 5 years BT warbler is pretty much gone from my local woods as the hemlocks severely declined. Never mind all the other ways hemlocks help the local ecosystems, for one keeping small brooks and streams shaded and cool, makes the trout and other stream inhabitants happy.

There could be issues with any of these co-related birds and fish being effected by treatments for adelgids. It's a wash anyway since the hemlock as a viable ecosystem component is on the way out. Their "dependents" will suffer much more from the loss.  
-AJ

## [Giant Sequoias Face Looming Threat from Shifting Climate](#)

by **Joe** » Fri Mar 22, 2013 7:52 am

"Giant Sequoias Face Looming Threat from Shifting Climate"

[http://e360.yale.edu/feature/giant\\_sequoias\\_face\\_looming\\_threat\\_from\\_shifting\\_climate/2631/](http://e360.yale.edu/feature/giant_sequoias_face_looming_threat_from_shifting_climate/2631/)

## [Re: Giant Sequoias Face Looming Threat from Shifting Climate](#)

by **Don** » Sat Mar 23, 2013 4:37 pm

Joe-

Good article, with citations I'm familiar with and have used in the past (including one of our newest members, Craig Allen!). I think in general their comments are carefully crafted and solid. However, you'll notice that they refer to human observations,

naturally measured in hundreds of years, and the "tree observations" which are measured in thousands of years...a difficult concept for most of us to wrap our head around.

For me in studying the ponderosa pine forest ecosystems of the Southwest, an epiphany was that in the first decade after 1900, a series of climate changes occurred in what amounted to a "perfect storm". What I mean to say is that a sequence of ground warming, well-timed and burgeoning moisture events combined to provide excellent seed viability and growth, and was followed by optimum climatic conditions for growth for 7 or 8 decades. For foresters (and others!), that was a good thing

The bad spin on this was that the public, and their servants the USFS, BLM, NPS at the same time began a fire suppression policy (however right-hearted, it was wrong-minded at the time) that furthered the nursery-like conditions, eventually leading to a surge that led to "dog-haired forest regeneration", resulting in unnaturally high stand densities. Worse, the lower canopy of regeneration provided a fuel ladder which allowed the frequent lightning strikes to lead to crown fires, which in the presence of the monsoonal pattern of mid-summer lightning/precipitation (or not) events. This led to increasingly catastrophic fires, that are perhaps further influenced by the current change in climate.

All this to say, it's good to be thinking about what we might do to in some way mitigate changes that are inevitable, but we need to be able to step back and take the long view.

Or to encourage continued comments, hey the redwoods and the bristlecones are millennial specimens, and they HAVE seen the current changes and worse...they are likely (anybody want a take odds) to pursue another millennia. Or two...  
-Don



*Just one of many bristlecones exhibiting their own version of 'conservatism'...*

Don Bertollette

## **Ancient Giant Trees Found Petrified in Thailand**

by edfrank » Sun Mar 24, 2013 10:50 am

Ancient Giant Trees Found Petrified in Thailand  
Mar 20, 2013 06:26 AM ET // by Larry O'Hanlon  
<http://news.discovery.com/earth/plants/giant-trees-found-in-thailand-130320.htm>

Inside Wood

<https://www.facebook.com/pages/InsideWood/368062966397>

Narareet Boonchai just wrote that these incredible fossil trees in northern Thailand are still in need of protection - they are world's longest continuous fossil trunks ..... and they are legumes, not conifers.

Does anyone have any suggestions for how best to conserve this site -- does anyone have experience with establishing Geoparks? which conservation organizations might be appealed to?

Edward Frank



## [Re: Ancient Giant Trees Found Petrified in Thailand](#)

by **Jess Riddle** » Sun Mar 24, 2013 12:52 pm

Ed, Interesting article. It's always nice to have a little more information of where trees reach extreme heights. I'm curious about the climate of the area at the time the trees grew since it could be significantly different from today's.

If there were as much interest in tree height and preservation 100 years ago as there is today, we might still have *Koompassia*'s that tall. Roman Dial documented *Koompassia* nearly that tall in Borneo, and all the best lowland sites there have been converted to agriculture.

I believe *Koompassia excelsa* is the tallest deciduous species in the world (*Shorea fagutiana* is evergreen, right?), so it's always surprised me that *Koompassia* haven't received more attention for their height. "Deciduous tree" seems like a broad enough and important enough category to catch people's attention.

Thanks for posting.

Jess Riddle

## [Re: Ancient Giant Trees Found Petrified in Thailand](#)

by **edfrank** » Sun Mar 24, 2013 3:05 pm

The listing from Borneo  
from <http://www.landmarktrees.net/borneo.html> -  
Michael Taylor's website.

*In a series of expeditions begining in 2005, Brett Mifsud, Tom Greenwood, Roman Dial and local guides Roslizan and Suati collectively rewrote the record book for tallest tropical trees. Mifsud apparently was the first to find and point a laser at 88.32m (290 ft) "Poko gergasi", a Shorea fagueteana, which is a member of the diptocarp family.*

Tallest Known Tropical Trees From Borneo:

---Height---      ---Name, Location, Notes---

(feet) (meters)

289.8	88.32	Shorea fagueteana, Sabah, Borneo. Diptocarp family
289.2	88.16	Shorea fagueteana, Sabah, Borneo. Diptocarp family
281.0	85.76	Koompassia excelsa, Sabah, Legume family
278.3	84.84	Shorea argentifolia, Sabah, Dipterocarp family
277.0	84.40	Shorea superba, Sabah, Dipterocarp family
271.7	82.82	Hopeia nutans, Sabah, Dipterocarp family
269.9	82.27	Shorea smithiana, Sabah, Dipterocarp
269.0	81.90	Koompassia excelsa, Sabah, Legume family
266.0	81.11	Shorea gibbosa, Sabah, Dipterocarp

## [Re: Ancient Giant Trees Found Petrified in Thailand](#)

According to a book I have on Danum Valley, the record height for a *Koompassia excelsa* is stated as 89 meters tall (Richards, 1996). I don't know how true/accurate this record is, but this would make it the tallest tropical tree in the world, slightly surpassing the 88.32 record set by the *Shorea fagueteana*.

Directly quoting from the book:

*Giant trees recorded in Sabah include an 89-m-tall Koompassia excelsa (Bean family, Leguminosae; Richards, 1996), another huge specimen 88 m tall and 2.7 m in diameter, and a colossal specimen of Shorea superba (Dipterocarpaceae), with a total height of 75 m, a clear bole of 27 m, and a girth of 9.5 m at 4 m above ground (equivalent to 3 m diameter) (Ashton, 1982). It is because of surpassing*