Re: Oakwoods Metropark, MI (Part of the Huron – Clinton Metorparks System, Wayne Co., MI)

by **DougBidlack** » Sun Apr 22, 2012 12:47 am

NTS, last weekend I was able to spend a full day in Oakwoods Metropark exploring and measuring. Here is a picture of floodplain that was dominated by green ash (now dead) and silver maple but also with some sycamores and cottonwoods among other species.

I found a honeylocust that appears to be native. A new species for me in this area. It measured 4.53' x 81' shooting straight up. Here is a picture.

I crossed the Huron River at the train tracks and took this shot looking downstream at rather short trees with lots of redbud along the river.

I had to bushwack quite a ways through that mess to get to some nice floodplain forest completely dominated by cottonwoods. They were decent-sized but mostly not gigantic. I don't know if this is because they are younger than the other nice floodplain forests I've seen or if the flood frequency is greater and/or of longer duration as this site appeared to be a little lower and wetter. Farther along still the floodplain forest turned into mostly small, crooked boxelders and decent-sized small trees like roughleaf dogwood, nannyberry and bladdernut. In this region was one nice-sized cottonwood towering over the boxelders and other little trees. A bald eagle nest was located in this tree and mamma was not happy to see me. I twisted my ankle trying to get out of there without disturbing her too badly...I shouldn't have been looking up while departing! Still, it was a nice site to see. I had seen bald eagles on several trips to the area in the past but I had no idea that they actually were nesting here. Very cool! Naturally I forgot to take pictures.

I thought I'd give some info on the tallest and fattest trees that I've found so far. I'll order them from tallest to shortest and I'll list the tallest tree for each species first then the fattest. I've also been adding the height in feet to the girth in inches to get a number that is close to the AF score. In some instances the highest scoring tree is not the tallest or fattest so I'll list it third. I'll call these three metrics height, girth and H+G. In some cases I also list the fattest multi-trunk trees for species that have fatter multi-trunked specimens than single-trunked specimens. For tree species that exceed 120 feet in height or 12 feet in

girth I have indicated the total number that I have so far measured that exceed these criteria. Will Blozan measured several trees in Lower Huron Metropark in 2003 and 2004 and some of these are taller or fatter than ones that I've measured. The number of trees that I have so far measured for each species is indicated by a number in parentheses directly after the species name. Heights are all shot straight up for now. Once I survey all the parks I'll go back and do a sine up sine down measurement for all the tallest ones (or I'll use a telescoping pole for the smaller species).

1. Tuliptree (10) Height and H+G: 9.32' x 133.5' = 238.5 pts.
Girth: 9.75' x 121.5'
7 120' trees
2. Sycamore (34) Height: 11.94' x 132'
Girth and H+G: 15.23' x 120' = 302.8 pts.
17 120' trees
13 12' single-trunked trees
3 12' double-trunked trees
3. Cottonwood (68) Height: 10.18' x 132'
Girth and H+G: 20.58' x 120.2' = 367.2 pts. (measured by Will Blozan)
Girth: 19.58' x 117.7' (measured by Will Blozan; girth later remeasured by me to 20.75')
Girth: 21.26' x 109.5' (double-trunked)
35 120' trees
33 12' single-trunked trees
10 12' multi-trunked trees
4. Northern Red Oak (5) Height: 9.23' x 124.5'
Girth and H+G: 14.16' x 90' = 259.9 pts.
1 120' tree
3 12' trees
5. Black Walnut (28) Height: 6.17' x 123'
Girth and H+G: 11.73' x 111' = 251.8 pts.
Girth: 11.84' x 87' (double-trunked)
1 120' tree
6. Silver Maple (28) Height: 9.78' x 120'
Girth and H+G: 11.89' x 112.5' = 255.2 pts.
Girth: 15.13' x 94.5' (double-trunked)
H+G: 14.09' x 115.5' = 284.6 pts. (double-trunked)
Girth and H+G: 23.44' x 112.5' = 393.8 pts. (more than two trunks)
1 120' tree
7 12' multi-trunked trees
7. Bur Oak (14) Height and H+G: 11.92' x 117' = 260.0 pts. (measured by Will Blozan)
Girth: 12.93' x 99'
5 12' trees
8. Slippery Elm (20) Height and H+G: 8.82' x 114' = 219.8 pts. (originally measured by Will Blozan to 9.08' but I measured under all the poison ivy vines)
Girth: 9.53' x 91.5'
9. Black Maple (36) Height: 10.42' x 111'
Girth and H+G: 11.70'@4'2" x 99' = 239.4 pts.
10. Green Ash (9) Height, Girth and H+G: 11.92' x 110' = 253.0 pts. (measured by Will Blozan)

RI 10 = 121.65'

11. White Oak (3) Height and H+G: 11.39' x 109.5' = 246.2 pts.
Girth: 12.48' x 90'
1 12' tree
12. Shagbark Hickory (11) Height: 6.93' x 109.5'
Girth: 8.60' x 91.5'
H+G: 7.89' x 108' = 202.7 pts.
13. Basswood (16) Height and H+G: 7.95' x 108' = 203.4 pts.
Girth: 8.79 x 96'
14. Hackberry (26) Height: 8.26' x 106.5'
Girth and H+G: 11.83' x 97.5' = 239.5 pts.
15. Bitternut Hickory (17) Height: 5.72' x 106.5'
Girth: 8.35' x 94.5'
H+G: 7.93' x 105' = 200.2 pts.
16. American Elm (6) Height: 5.58' x 102'
Girth and H+G: 8.67' x 84' = 188.0 pts.
17. Chinkapin Oak (1) Height, Girth and H+G: 13.05' x 96' = 252.6 pts.
1 12' tree
18. Swamp White Oak (2) Height, Girth and H+G: 9.38' x 96' = 208.6 pts.

19. Kentucky Coffeetree (8) Height and H+G: 7.18' x 96' = 182.2 pts.
Girth: 7.34' x 88.5'
20. Bigtooth Aspen (1) Height, Girth and H+G: 6.11' x 96' = 169.3 pts.
21. Red Maple (1) Height, Girth and H+G: 7.64' x 93' = 184.7 pts.
22. Blue Ash (8) Height and H+G: 4.96' x 90' = 149.5 pts.
Girth: 6.33' x ?
23. Black Oak (1) Height, Girth and H+G: 8.92' x 85.5' = 192.5 pts.
24. Pin Oak (2) Height: 8.61' x 85.5'
Girth and H+G: 13.28' x 78' = 237.4 pts.
1 12' tree
25. Honeylocust (1) Height, Girth and H+G: 4.53' x 81' = 135.4 pts.
26. Sweet Cherry (2) Height: 4.15' x 81'
Girth and H+G: 5.78'@3'7" x 75' = 144.4 pts.
27. Boxelder (1) Height, Girth and H+G: 8.06' x 70.5' = 167.2 pts.
28. Eastern Hophornbeam (17) Height: 2.99' x 69'
Girth and H+G: 3.39' x 67.5' = 108.2 pts.
29. Redbud (25) Height and H+G: 4.09' (largest of two stems) x 54' = 103.1 pts.
Girth: 4.80' x ?
30. Flowering Dogwood (1) Height, Girth and H+G: 2.35' x 45' = 73.2 pts.
31. American Bladdernut (4) Height and H+G: 0.775' x 32.9' = 42.2 pts. (measured by Will Blozan)
Girth: 1.16' x ?
32. American Hornbeam (3) Girth: 1.66' x ?
33. Buttonbush (1) Girth: 1.39' x ?

This is what I have so far. Some trees that I've noticed but not yet measured include:
Eastern Redcedar
Northern White-cedar
Pawpaw
Sassafras
Witch-hazel
Willow (Black and/or Crack and likely others)
Black Locust
Downy Hawthorn (likely other species as well)
Apple
Black Cherry
Buckthorn (sp.?)
Siberian Elm
White Mulberry (possibly also Red Mulberry)
Pignut Hickory (possibly also Shellbark Hickory)
Staghorn Sumac
Sugar Maple
Alternateleaf Dogwood
Roughleaf Dogwood
Black Tupelo
Catalpa (sp.?)
Nannyberry
Spicebush

I'm sure there are others as well.

Doug Bidlack

Lower Huron Metroparks, MI

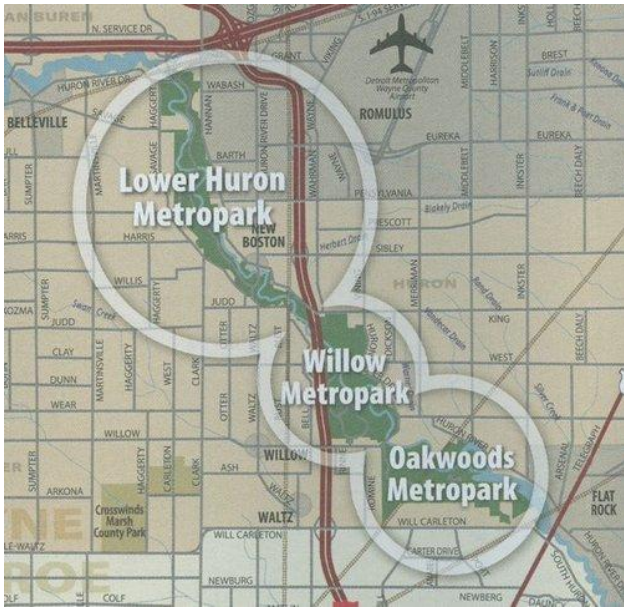
Bamyers99 – map released under a Creative Commons license.
http://en.wikipedia.org/wiki/File:Map_US_MI_Huron-Clinton_Metroparks.svg

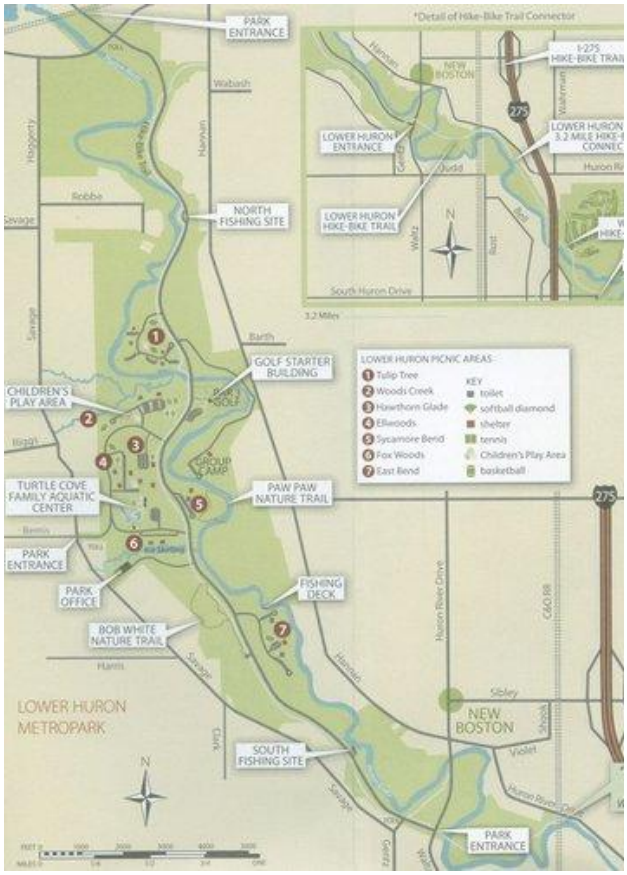
Oakwoods Metropark is a park in the Huron-Clinton system of metro parks. The park has wooded nature trails, a nature center, and a view of the Huron River
http://en.wikipedia.org/wiki/Oakwoods_Metropark

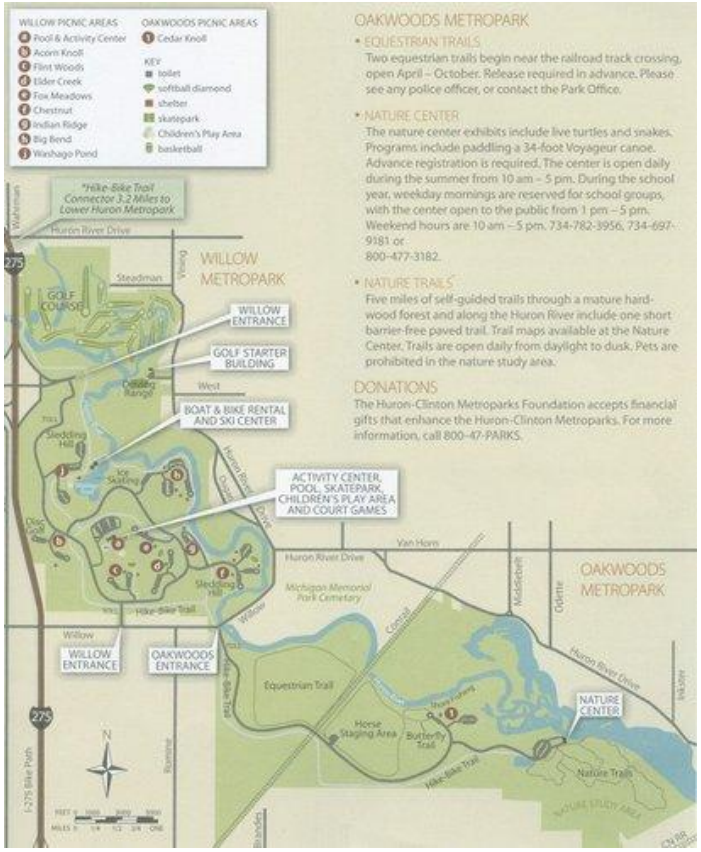
Re: Lower Huron Metroparks, MI

by **DougBidlack** » Sun Apr 22, 2012 11:23 am

Here are three more maps for a closer look.







Doug Bidlack

Re: Cook Forest, PA April 18-19

by **djluthringer** » Sun Apr 22, 2012 3:01 pm

Folks, Can't thank everyone enough for participating in the Advanced Tree Measuring Workshop at Cook Forest. We had around 28 in attendance over the two-day workshop with folks from a variety of backgrounds. We had representative Ents from PA, OH, WV, MA, and MD. Steve Colburn, North American Sales Mgr from Laser Technology, Inc. got our long distance travel award, coming all the way in from Colorado. One of my counterparts from Jennings Environmental Education Center came in, along with representatives from two different tree service companies. A Longwood Gardens rep and Penn State's main tree surgeon & arborist were able to make it both days as well. A handful of Pennsylvania teachers were with us, as well as both Pennsylvania and West Virginia's big tree coordinators, Scott Wade & Turner Sharp. We were also glad to have Sheri Shannon come in from D.C. to represent American Forests.

It was a great opportunity for all NTS members to brush up on their tree measuring skills, as well as learn some new ones. I'm very glad we were able to utilize Steve Colburn's RD 1000 to volume model the Cook Pine. What a time saver! Sure beats my usual 2hrs of field time & computation with the Macroscope 25/45. I am glad though that everyone got the opportunity to see the RD1000 and macroscopes in action, as well as learn the extended baseline technique. Surely, there was something here for everyone to learn, from the more seasoned mensurationists to the first time users.

Great stuff. The biggest hats off definitely goes to Bob Leverett though for bringing everyone together. Also, the event wouldn't have been a success without all the behind the scenes help from several others. I certainly can't list them all without inadvertently forgetting some by accident, but many thanks goes out to everyone for making the workshop a success!

See everyone again at the Advanced Tree Measuring Worksop at MTSF in October!

Dale Luthringer

Re: Cook Forest, PA April 18-19

by **Rand** » Sun Apr 22, 2012 4:36 pm

Some close up shots that are easy to miss when your neck is craned at the heavens

Small Flower (smaller than a penny

Lots of sprouting beech nuts:

Leafing out Red Maple Seedling

Bracket Fungi

Rand Brown

Re: Cook Forest, PA April 18-19

by **Rand** » Sun Apr 22, 2012 6:21 pm

The group blithely walked under this widow maker, though to be fair it was hung up pretty securely in a neighboring tree.

A big beech in the same neighborhood as the big hemlock

High Res Cook Pine stitch (click for big version)

~80 year old Red Pine Plantation

Dale Challenging the group to a King of the Mountain Match

Rand Brown

Dorsey Branch, near Glenwood, Maryland

by **tsharp** » Sun Apr 22, 2012 10:29 pm

NTS: While visiting relatives in central Maryland in November of 2011, I measured some tree along a small stream called Dorsey Branch. I was quite familiar with the since I grew up on an adjacent dairy farm. The area does not have too many dairy farms anymore but is instead studded with McMansions. Dorsey Branch goes into Cattail Creek which goes into the Triadelphia reservoir on the Patuxent River.

The reservoir is part of the water supply system for the northern suburbs of Washington, DC area. For about one half mile downstream of the Shady Lane Bridge over Dorsey branch the area proved too rocky for the plough and as a result has some nice trees. Cattle did have access to part of the area but from looks of what I could see of the understory they must have been excluded for the past 30 or more years.

It is entirely private property with at least 6 different owners. Unfortunately I did not have time to get prior approval and was limited in what I could measure. I did get to measure some Yellow-poplars (L. tulipifera) and one White Oak (Q. alba). The two largest Tuliptrees were 10.8’ CBH X 132.5’ height and 12.7’ X 107.5’ The rest of the measurements may be found at:

http://alpha.treesdb.org/Browse/Sites/1220/Details

I was able to get some additional height shots at a distance of 200 yards that indicated there would be some 140-150’ class trees further downstream but will have to get landowner permission before I will be able to verify them.

Turner Sharp

Big and tall wax-myrtles, NJ

by **Barry Caselli** » Sun Apr 22, 2012 6:03 pm

On Friday I explored and hiked in the Glades Wildlife Refuge (a National Lands Trust preserve) in Downe Township, Cumberland County, NJ. I had been there before, but only for a few minutes. On one of the hiking trails there were big and tall wax-myrtles all over the place. It's hard for me to accurately estimate height, but I'd say they were in the 10 to 15 foot range. Maybe at least some were taller than 15 feet. I don't really know. But I did find one that was bigger and taller than the rest. The trunk was easily 6 inches in diameter.

I see wax-myrtles all the time from the Swamp Trail Boardwalk in the Atlantic County Park at Estell Manor. But these I was walking on the ground right next to, on their level.

I'm not sure if shrubs are measured and the heights recorded, but this thing I considered huge. See the photo.

Oh, I almost forgot. For tree species, the forested areas of this preserve contain mostly Willow Oak. Other oaks present were Spanish (Southern Red) Oak and White Oak. I also saw some with leaves that looked like Northern Red Oak to me. I also saw either Scarlet Oak or Black Oak, or both. Other trees were Sweet Gum, American Holly, Loblolly Pine, Virginia Pine, Eastern Red Cedar, Swamp Maple and I think Sasafrass. I know there were other species as well. But these are what I noticed and remember. There was also a lot of High-bush Blueberry. I think there was a lot of Mountain Laurel, but for some reason I can't remember.

I noticed a distinct absence of Atlantic White Cedar and Pitch Pine, which I thought was odd. When you go back to Dividing Creek or Newport you start getting right into the Pine Barrens.

Anyway, the picture shows the trunk, near the ground, of the largest and tallest wax-myrtle I saw there.

Barry

Re: Elwha River Dam Removals begins

by **PAwildernessadvocate** » Mon Apr 23, 2012 11:31 pm

Program: KCTS 9 Documentaries
Episode: Undamming the Elwha

The journey of the Elwha river from the day it was dammed to the day it was set free. KCTS 9 and EarthFix chronicle the historic removal of two dams from the Elwha River, and show how it will impact people, salmon and the environment for years to come.

Watch online here (26:46):

http://video.kcts9.org/video/2223977275

Kirk Johnson

Re: Lower Huron Metroparks, MI

by **dham81793** » Mon Apr 23, 2012 6:27 pm

Doug B./All, Doug B. mentioned the sizable Black Walnut that we measured earlier in this post. So here it is. The walnut measured 11.84' x 111' shooting from base to highest point, straight up. It was a cold day, but man did we some some good trees!

Black Walnut in Lower Huron Metro Park

Doug Ham III

In search of the Boogerman Pine and the Sag Branch Tulip

by **pdbrandt** » Mon Apr 23, 2012 10:18 pm

Dear NTS,

Last week my 9-year-old daughter, Sarah, accompanied me on a kid-friendly business trip to the Asheville, NC area just minutes from some of the tallest and most massive trees in North America. Will Blozan and Brian Beduhn were nice enough to give us detailed instructions on how to find the Boogerman Pine and the Sag Branch Tulip Poplar in the Cataloochee sector of the Smokies. The Boogerman Pine, or simply the "Boog" as Will affectionately refers to it, is 186' – twenty one feet less than when it had its full top in 1995. See http://www.nativetreesociety.org/fieldtrips/gsmnp/boogerman/boogerman.htm for Boog pictures and more details. The Sag Branch Tulip (http://www.nativetreesociety.org/fieldtrips/gsmnp/sag_branch/sag_branch_tulip.htm) is the most massive living tulip poplar known to man.

My daughter Sarah and I parked at the unmarked trail head at GPS coordinates N 35' 37.8939; W 83' 05.3155, crossed the swollen Palmer Creek (see picture below), and set out on the Caldwell Fork Trail. At a moist spot in the trail we saw what I think were Pipevine Swallowtails (Battus philenor).

We took the first left onto the Boogerman Trail after 0.8 miles and headed up the hill. Brian and Will both warned me that the Boogerman Pine was easy to overlook and they were right. I'm sure I set eyes on it many times, but I couldn't tell you which one of the many towering white pines it was. I did locate an 8 foot 1" CBH pine at GPS coords N 35' 37.3324; W 83' 05.1120, but I believe that was too far up the trail from the Caldwell/Boogerman intersection. (Not to mention that I was reminded once back at the hotel that the Boog has a CBH of 11', 5".)

Closer to where I believe the real Boog resides there was a 14', 0" tulip on the right side of the trail at coords N 35' 37.2313; W 83' 05.2811 just before a hairpin turn to the left. Almost directly across the trail from the 14 footer, on the hillside enclosed by the hairpin, there is an 11', 9" CBH poplar. Sadly, there are at least a dozen dead hemlocks in that area as well. Piecing together comments from Will and Brian, I believe the Boog was probably on the hillside enclosed by the hairpin near that poplar.

A little disappointed that we couldn't positively ID the Boog, but undaunted in our determination to find the Sag Branch Tulip Poplar, we forged ahead on the Boogerman trail. We passed a group of hikers from the "Friends of the Smokies" who had never heard of the Boogerman Pine or the Sag Branch Tulip Poplar, but did tell us to check out the hollow poplar along the trail a couple of miles ahead. We found the hollow tulip at coords N 35' 36.8033; W 83' 05.0185. It has a CBH of 18', 4" by my measurement. The tree is completely hollowed out all the way to where it splits into a compact canopy. In one of the pictures below you can see a pin prick of light nearly 90 feet high when looking up inside the tree.

Soon after crossing the main prong of the Sag Branch Creek, we began our ascent into what Brian aptly called the "cathedral". Early on in the ascent there is an 11', 0" CBH oak near a sharp left bend in the trail (N 35' 36.3661; W 83' 04.9266). A few hundred feet later as the trail levels out there is a huge 16', 6" CBH dead red oak. A few more feet down on the right is a 14', 4" poplar with tree tag "2581" nailed to the face opposite the trail. At about this point I realized that I could stay in the cathedral measuring trees until the sun went down, so I put away the tape and just basked in the late afternoon sunshine streaming through all the monstrous trunks.

Out of respect for Will and others who know and love the Sag Branch Tulip, I will let them be the ones to share the exact location of the monster tree with those who choose to contact them, but suffice it to say that as we followed Will and Brian's directions to find the Sag Branch Tulip we encountered many tulips including at least three 13'+ footers and one massive 17', 1" CBHer. At last, near the fountain of the west tributary of the Sag Branch Creek, we saw a huge tulip crown rising above a small knoll to the left. In Will's directions he said "the immensity will draw you in", and he was right. There was no doubt that we had found the crown of a tulip in a league of its own. We stumbled over the underbrush keeping our eyes on the crown until at last we could make out the huge 22 foot girth trunk. It is a truly amazing tree surpassing any other tulips in the cathedral by 5 feet or more in circumference. We took pictures, had a snack, and admired the healthy trunk and robust, symmetrical crown. Sarah wondered if she was the youngest person, at 9 years old, to ever to visit the Sag Branch Tulip Poplar.

We made our way back to the car – a 7.5 mile round trip hike – just as the sun was beginning to set. As we left the Smokies we stopped to get a photo of a couple of wild turkeys along the roadside and then continued on our way to the Asheville Cracker Barrel for a late and well-deserved dinner. It was a day that neither of us will soon forget!

Patrick Brandt

Stilted trees and evidence of Carolina Bay Formation

by **samson'sseed** » Wed Apr 25, 2012 9:45 am

During drought conditions the peat in Carolina bays burns off and this actually reduces elevation by as much as 1.5 meters.

I was excited to read a newly published article about this in one of my favorite journals--Quaternary Research.

Apparently, the reduction in elevation along with wind and water erosion is what creates those mysterious formations.

After a fire in a Carolina Bay, the tree root systems become visible and it makes for a stilted tree.

http://www.fws.gov/pocosinlakes/news/ERF/news-erf-out.html

I'm going to write a blog entry about Carolina bay formations next week. The subject of my blog this week is "The Curious Disjunct Range of the Miccosukee gooseberry.
http://www.markgelbart.wordpress.com

samson'sseed

Re: Cook Forest, PA April 18-19

by **dbhguru** » Sun Apr 22, 2012 8:32 pm

NTS, the impending article on Cook State Park and Mohawk Trail State Forest by American Forests offers us exciting possibilities to highlight the kinds of statistics gathered and comparisons we make in NTS. However, Dale and I must be careful that we don't concentrate on numbers to the exclusion of qualitative features that make each site superlative in its own way. I'm open to suggestions. I'd really like to have group participation in this event. The final write-up would draw from the discussions we have here and data that Dale, Ed, Carl, etc. and I present. Does this sound like something that can be a group effort?

Robert T. Leverett

Re: Cook Forest, PA April 18-19

by **dbhguru** » Tue Apr 24, 2012 1:22 pm

NTS, looking back over the Cook Forest Advanced Tree Measuring Workshop, did I learn any lessons? I can think of a big one. There are people out there who are genuinely interested in measuring trees the right way and who respond positively to a well-planned tree measuring program. I had begun to wonder.

I have come to accept that NTS is in an undeclared competition with non-NTS timber professionals and big tree hunters (using the tangent method) on how to acceptably measure trees. In a sense, it is no competition. We're right and that was amply demonstrated at the workshop. On April 16th, Dale and I chose a white pine to use in comparing sine versus tangent measuring techniques. Our pine has a fairly broad crown and leans a little. By repeatedly measuring every twig, we determined its highest point is between 120.5 and 121.5 feet above its base. We decided that any one getting a height in this range

would pass the sine method test. We also tested the range of results to be expected of the tangent method. Attendees were in line for an eye opener.

On the 18th, after the Dendromorphometry presentation, we took attendees out to measure the pine. We established a circle at 66 feet away from the trunk and let people measure what they thought was the top using both the tangent and sine methods. Of course, at that distance, they weren't measuring the top, but side limbs, and the results showed it. The tangent method produced results ranging up to 156 feet. The sine method produced numbers between 100 and about 108 feet, depending on the spot chosen. These results were predictable to us. Sixty-six feet is much too short of a baseline, but keep in mind that hypsometers have been designed to include the chain as a baseline, suggesting that a short baseline is acceptable.

At a distance of 100 feet out, the tangent method gave values from about 126 to 138 feet. This is the common baseline distance for lots of professional and amateur tree measurers. The 126 to 138-foot height range was better because shorter limbs higher up were being chosen as the top. The shorter limbs have tips that are closer to the real top. From 130 feet out, we could see the true top and the sine method produced values of 120 to 122 feet for the measurers. The tangent method produced numbers in the range of 124 to 132 feet. From around 180 feet away, the sine produced numbers from 120 to about 121.5 feet. The tangent method was around 124 to 126. We were around 70 degree to the lean.

All the above results are perfectly understandable when one considers where the top projected vertically downward lies relative to the base and where one's position is relative to both. When these variables were explained, attendees got it. Most gratifying.

The good news continued. When we went to measure the Longfellow Pine, most of the attendees were in the ball park with their measurements, and the same was true for the Cook Pine. A lady there actually found the top of the Cook Pine for us. Hooray for her! My actual measurement of the point was between 163.8 and 164.0 feet. We gave Cook the full 164.0. Dale eventually got a cross-checking confirmation of 164.2 from another location.

There was other positive feedback. One attendee, an instructor at Penn State, was most gracious in his praise of the workshop. He got it. So, why did the workshop work so well? Well, for one thing, the group was open-minded. There were no vested interests. Egos and prides weren't involved, just desire to learn and attention to details. Refreshing.

So the lesson for me was to keep the faith. There are folks in all professions and occupations with an interest in tree measuring who instinctively want to do it right. Those are the folks we should seek out. Forget the rest. With high profile scientists like Don Bragg and Lee Frelich speaking internally to members of their professions, with more tree measuring workshops, and with the steady drumbeat on the BBS, I am guardedly optimistic that the NTS methods will eventually be adopted by professionals and amateurs with a genuine interest in obtaining accurate results.

In October we'll do it again at MTSF. Here is hoping that we will get another super group of attendees.

Robert T. Leverett

Re: Taking stock and making wishes

by **dbhguru** » Mon Apr 23, 2012 3:52 pm

Ryan Leclaire wrote: It might be worth it for you to post a template list of requisites on the BBS. Like RI 10, RI 5, etc. It could be like a rubric; every ENT completes one on their own site. Without this sort of standardization things might get cluttered.

Ryan, the minimum inclusions might be:

1. Property location
2. Ownership
3. Trail network
4. Species composition
5. RH5 at least as a starter. RH10 and beyond when determined.
6. Champion trees by whatever criteria
7. Old growth status (how much, age classes)
8. Any superlative features not covered in 1 - 7
9. Some images of outstanding features
10. Historical and cultural features of interest
11. Threats to property
12. Summary comments

Building the above 12 items would be progressive. The site description would be ever evolving. So access to the description by the author would be essential.

Robert T. Leverett

Re: Taking stock and making wishes

by **edfrank** » Mon Apr 23, 2012 6:24 pm

NTS, Bob, Ryan,

What Bob proposes is a workable idea. But we need to ask ourselves what we can do better or can contribute to these descriptions that is avialable books or webpages already out there? We have Mary Davis's "Old Growth in the East - A Survey," Kershner and Leverett's "A Sierra Club Guide to Ancient Forests of the Northeast," and more personal accounts such as Joan Maloof's "Among the Ancients." We are in competition with various regional guides, websites, and hiking guides. This material unique to NTS is what we need to provide.

What we can contribute are our numbers - the accurate heights, the Rucker Indexes, and more detailed overviews of the ecology of the site. The numbers are the skeleton of the description, but we need to expound upon the features of the site beyond just numbers, we need to address whatever forest or forest related features on the site need to be emphasized rather than just sticking to a one size fits all structure. What Bob has outlined as the minimum is essentially a header or site at a glance, if NTS is to make a meaningful contribution we need the detailed descriptions and discussions of site features to accompany these headings. These can be available for download as a pdf file attached to each individual site heading.

We should write a couple line standard saying: 1) Height measurements included in the descriptions were measured via a sine-top/sine-bottom methodology using a laser rangefinder and clinometer, or measured via climb and tape drop and are generally accurate to within 1foot. 2) The Rucker index (RI10) is an average of the heights of the tallest individual of each of the tallest ten species on a site. Other variations include a five species index (RI5) or a twenty species index (RI20). This value represents a shorthand summary of the canopy height useful for comparison purposes between different sites. This statement should be included in every individual description, as the visitor might only read the description from one particular site and should not need to search for the information.

I think this information should be organized on a state-by-state basis. I can create a new sub-forum under each state where such a document is produced. Forums appear at the top of a page as a separate item above the trip reports themselves. People who adopt a site can post about it to this new sub-forum. Individuals can edit their own posts, so someone can go back and update the information in the site heading as it changes, the big tree information as it changes, and replace the more detailed pdf with

answer version as needed. I can change ownership of any post, so the process can be handed off to someone new at a future time.

The basic post with the header/summary information should include at a minimum in addition to what Bob suggested, a location map showing where in the state the site is located (usually available from Wikipedia under a free creative commons license), and a map of the site itself where available (and not proprietary) and some spectacular photo of a feature for the site. However some of what Bob lists as minimal information, such as more photos should be incorporated into the pdf site description instead of the summary page itself. I also would like to see a bibliography of links to individual trip reports on that site included in the description document. The link addresses should be stable and remain unchanged even if a post is moved from one point on the BBS to another.

Ed Frank

Re: Taking stock and making wishes

by **pattyjenkins1** » Tue Apr 24, 2012 11:03 am

Hello all,

Bob's "wish list" provokes me to write about the potential contribution that Tree Climbers International can make to furthering the work of NTS and tree/canopy research.

First-- As some of you know, I have begun to take TCI in the direction of "citizen science" with an eye toward getting the growing recreational tree climbing community and professional arborists involved in monitoring and measuring champion and big trees. Our friend in Charlotte, Paul Giers, has built a spreadsheet incorporating virtually all the public information there is about state, national, and big trees. How we make use of that information has yet to be decided. We do not want to reinvent the wheel, so I hope that any and all of you with ideas about how we can collaborate will help us figure it out. For example, should there be a separate TCI database at all? (I think so, as our not-yet-launched "Adopt a Tree Program" is already attracting interest.) If so, how can we build links to other websites with the information that people enter there? How else can we help to accomplish the "data" stuff that Bob speaks of? The TCI website will soon be upgraded, and the newer version software will allow various levels of access to the database as we define them. As I told Ed many weeks ago, we are not interested in publishing the data to encourage "bagging big trees." Anyone who knows our policies understands how deeply we care about trees and their care and preservation. However, our website gets almost 10,000 visits a month (7-8,000 unique visits), which can increase the visibility of "tree research" in any way we want to do that. I am pretty much clueless here, so I absolutely WELCOME guidance and input.

Second-- I am also building a program to connect people who are studying anything about trees. It will also be housed in a database on our website whose entry will be a form which will include: the nature of the study, age level and organizational affiliation (if any) of researcher(s) (including school children), what kind of help they need (observational, data, samples, site locations) and from where, secure contact information, study findings, and other fields. The database will be searchable by any keywords; access will be given to people who are registered (free) on the TCI website. My goal is to build a world-wide community of people who will help each other via our "Learning About Trees Directory." I expect to launch this project by the end of the summer.

Third, I spoke with Andrew last week and Will over the weekend about the Annual Tree Climbers Gathering that TCI will be hosting the second week of October 2013. Unlike previous recreational tree climbing events, I am planning for this one to have much more educational, content centered around the theme "Bridging the Gap between Tree Climbing and Science" (or something like that). The fabulous climbing trees and facilities at the site (www.simpsonwood.org) just outside Atlanta can accommodate hundreds of participants.

One of our aims for the conference is to have Will et al. teach rec and professional arborists how to do

complete volume measurements. Will has already agreed to come to our conference, as has Cameron Williams, Meg Lowman, Michael Spraggon (UK) and Richard Preston, so far. I have yet to contact Bob "DHBGURU" and Bart, but I hope you both will be among the people to give talks (I hear you're both amazing and dynamic speakers). It is Andrew's belief that recreational tree climbers will be enthusiastic about getting involved, as volume measurements and other data collection represent a challenge and purpose for climbing beyond their own pleasure in it.

Finally, for added interest, on June 30th Eli will be teaching the Atlanta Tree Climbing Club how to measure trees from the ground. The ATCC is a group of (mostly) local TCI-trained climbers who meet monthly. Others will be coming in from Florida, St. Louis, and Nashville. Any of you is welcome to attend and contribute, and of course we'd love to have you!

Have a tree-mendous day,
patty jenkins

Re: White pine climb with Michael Gatonska

by **Bart Bouricius** » Wed Apr 18, 2012 5:20 pm

Michael and Andrew

I think this is great stuff. You know sometimes you actually do not really hear things because the context is too familiar (at least as a professional arborist) and has you focusing on something else, but interestingly when you take the sound out of its normal context, it can be almost like hearing it for the first time. I noticed that some of the most amazing natural sounds I have heard are unavailable on the internet when I try to search for them. I would like to talk to you some about this Michael. Andrew has my contact info, or shoot me a message.

Bart Bouricious

Re: White pine climb with Michael Gatonska

by **michael gatonska** » Tue Apr 24, 2012 6:12 pm

Hi Andrew & Bart,
I really like the idea of being able to provide a 3-d soundscape - one that would clearly provide a 'real-time' audio overview of the natural sound-occurances at a particular site. Although I currently have only one mic, with my WebLab software I can certainly pan in-and-out multiple tracks into a final stereo mix to create that effect. It is definately possible, but at this time I would need to record each of those phenomena individually (i.e. tree, bird, bee). Then, I could create the mix of tracks in the soundscape - the only caveat being that it will not be in real time. But the idea has terrific Andrew, and I think with a lot of expressive potential!

At first, I began recording with the idea that by isolating the sounds of each individual tree and keeping within certain wind conditions, that each type may reveal individual sonic characteristics. So far, in the soundscape recordings I have made of individual needle trees, that has certainly been the case. The hemlocks, white and red pines, eastern red cedar and norway spruce are all distinct from each other. But, I think I am at the beginning of a lot of work, recording/experimentation, and sometimes disappointement still ahead.

Secondly, I want to combine these sounds with my other passion, which is composing music. By pairing the pre-recorded soundscapes with, for example, a string quartet, a piano, or a chamber orchestra, I am in a sorta-kinda-way bringing the life of trees into the concert hall. Besides the aesthetic purpose and my desire to stretch my musical language as a composer, I also want to create opportunities that will raise awareness, educate, and celebrate the sound & spirit of trees with concertgoers.

Lastly, I would totally understand if anyone feels I need to check into Belview at this stage? :)

Michael Gatonska

Wax-myrtle, Hickory Point Woodlands, MD

by **tsharp** » Sun Apr 22, 2012 7:40 pm

An NTS member just recently posted a 0.5' x 29' x13' Wax Myrtle (Morella cerifera) from Hickory Point Woodlands in Worcester County, MD. So Yes we do measure shrubs and the more the better. American Forests do require them to be at least 13' tall to be considered for championship status.

Turner Sharp

Re: Wax-myrtle, Hickory Point Woodlands, MD

by **bountreehunter** » Tue Apr 24, 2012 8:12 am

Here is a pic of the tree in Hickory point swamp.

Sorry the picture was not better but the swamp was dence and crowded.

Dan Wilson

Entering Trees Into Our Database

by **edfrank** » Wed Apr 25, 2012 1:55 pm

NTS, There are more and more people participating in the Native Tree Society and who are out there measuring trees. For those people measuring trees I strongly encourage you to submit your measurements not only to the BBS, but to post them to our Database as well. http://www.treesdb.org/ Mitch Galehouse has done an excellent job of creating the database (some of it is still under construction.) Please read our tree measuring guidelines before submitting tree measurement data http://www.nativetreesociety.org/measure/Tree_Measuring_Guidelines-revised1.pdf

I want to offer two items of caution for people submitting their measurements to the database. The heights must be measured using one of three methods: 1) NTS laser rangefinder/clinometer sine-top/sine-bottom methods outlined in our tree measuring guidelines, 2) climb and tape drop measuring the top of the tree also as outlined in our tree measuring guidelines, or 3) by a pole measurement where the height is directl measured using a pole. If you have measured the tree in some other fashion, then the data does not meet our standards and should not be posted to our database. If you ave entered trees whoseheight has been measured by other than the methods listed above, please go back and delete these entries.

The second item of caution is the inclusion of multitrunk trees. We have discussed this subject many times. http://www.ents-bbs.org/viewtopic.php?f=235&t=3948 http://www.nativetreesociety.org/multi/index_multi.htm For measurement purposes the girths of trees with more than one trunk must not be intermixed with those for trees with single trunks. A single trunk tree is one that would have a single pith at ground level. If the tree would have more than one pith at ground level it is a multitrunk tree. It doesn't matter if it is genetically the same, or growing from the same root stock, by definition used in our guidelines, if it would have more than one pith at ground level it is a multitrunk tree and must be differentiated from

single trunk trees. Presently there is no place in the database structure to enter data for multitrunk trees. If you have measured one, and want to enter it into the database, please note that it is a multitrunk tree in the comments field, and we can fix it later when the database is complete.

Trees have been entered in the database that clearly appear in the photograph to be multitrunk trees, yet there is not indication in the comments that they are anything but single trunk trees. Yes it is up to the measurer to make the final determination in the case where there is a debate about whether something is single trunk or multitrunk, but in some of these cases there is no doubt the trees are multitrunk trees. (Yes a Nikon Forestry 550 combines both the rangefinder and clinometer and is acceptable). If you have entered a tree that is multitrunked, but failed to indicate that it is multitrunked in the comments section, please go back and edit the submission to reflect this fact. As an organization we need to maintain and protect the integrity of our data set.

Edward Frank

Suggestions For Database Features

by **edfrank** » Wed Apr 25, 2012 2:38 pm

Suggestions For Database Features

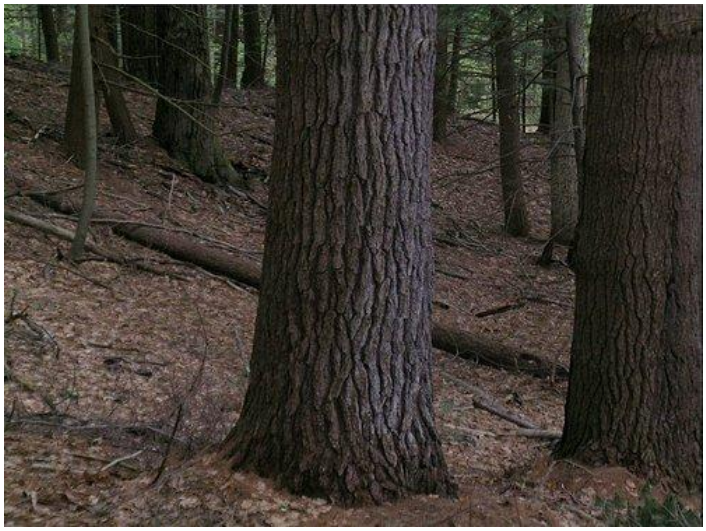
On the home page of the Trees Database http://alpha.treesdb.org/Main, Mitch has set up a link to a survey where people can suggest or vote on features and changes for an upcoming release. I would urge people to participate in the development and evolution of the database by participating in the survey.

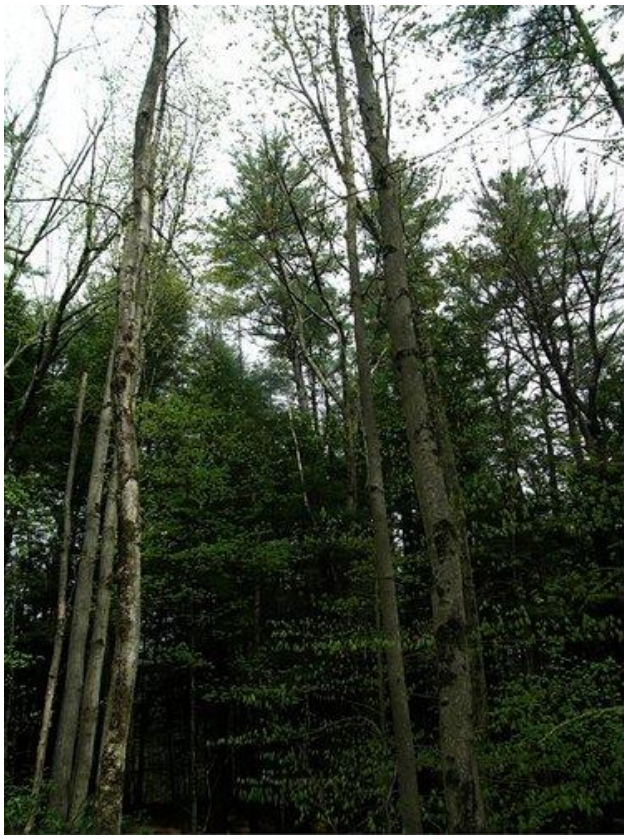
Ed Frank

#124 - Honest, MTSF, MA

by **dbhguru** » Wed Apr 25, 2012 6:20 pm

NTS, I continue my quest of 150-foot pines in MTSF. Today, I found another. First, let's take a look.





This pine grows in the Rachel Carson area, and only 50 feet from the old Cold River Road. How could I have missed, you ask. Darn good question. I've walked by it a thousand times. Its current dimensions are girth = 9.0 feet, height = 154.6 feet. I've seen the pine since the late 1970s. It has been growing 10 to 12 inches per year. Assuming an average growth rate of 11 inches per year, in 1997 after I got my first Bushnell laser, the pine would have been 140.9 feet tall. I would not have found the top of this pine in those years. I would have likely measured it to around 135 feet. Somewhere I got it hardwired into my brain that the pines along the road corridor in the area weren't that tall.

Eventually, John Eichholz and I tagged one of the pines in the Rachel Carson area to 148+ feet. I begin paying attention. This year I remeasured that pine and it had reached the magic 150. Then I started hunting for the crowns of adjacent pines and found two more of over 150. That brought Rachel's total up to three. But last night, the Rachel Carson pines flashed in my mind. I felt the need to go back there. So, this morning off I went, and within five minutes of getting into the stand had another 150.

The Mohawk pines are considerably younger than Cook Forest's pines. They have lost of limbs and the hardwoods are often fairly dense in the vicinity. The visual cues are confusing. But they are confusing to all of us. Will Blozan has walked by that pine as has John Eichholz, Gary Beluzo, and others. I'm still trying to sort out why some pines show their heights very well and others don't. I would not be surprised if there isn't another 150 in that area.

Mohawk has between 2000 and 3000 mature white pines. I once thought I'd found every significant tree in the various named areas. I'm a humbler fellow now. There is still looking to be done, which brings me to the topic of search images. That will be the subject of a future post.

Robert T. Leverett

Wildlands and Woodlands- video

by **Joe** » Thu Apr 26, 2012 8:24 am

I have just uploaded a video I recorded 2 years ago of David Foster presenting the Wildlands and Woodlands vision at the annual Native Tree Society Forest Summit at Mt. Holyoke Community College (http://www.nativetreesociety.org/). The video is 52 minutes, considerably longer than most online videos, but the presentation is so thorough and the subject so important that I didn't want to edit it.

I have it on 2 sites: for those with very fast internet connections (the video is high def.),
try the Vimeo site:
http://vimeo.com/user845702/videos.

If you have slow connection, try the YouTube site:
http://www.youtube.com/watch?v=XCDqVtm7hrI

David gave permission for this upload.

Joe Zorzin
Licesned Forester #261

Theodolite Question

by **KoutaR** » Sun Apr 22, 2012 6:59 am

NTS measuring gurus, is a theodolite with an infrared based distance measuring device a reliable instrument to measure tall trees?

Kouta Rasanen

Re: Theodolite Question

by **Don** » Wed Apr 25, 2012 4:41 am

Kouta, reliable? Yes, and quite accurate WHEN you have set up the unit with views to base and top.

Convenient? When tree is near roads or otherwise easily accessible, yes. Otherwise, through dense woods with shin barking underbrush, hmmm, I've been there, and it's not at all convenient.

Worth it? If the tree you're measuring is in a competitive species group and accuracy is of the essence, I'd take a theodolite over a tape drop, where top and base were visible. The potential accuracy and the high resolution optics are excellent. I don't have great facility for trig anymore, but I'm sure that Bob could work out how far away you could be and still be within a prescribed level of accuracy.

Pricey? Yep, no getting around it. Fairly pricey here in states just to rent one.

Don Bertolette

Re: Theodolite Question

by **KoutaR** » Thu Apr 26, 2012 9:02 am

…It's about a Douglas-fir in France, perhaps the tallest tree of the country. It was 60.3 m (198 ft) tall in 2001, measured with theodolite. I knew theodolite is a precision instrument for measuring angles, but I did not know modern theodolites have a laser rangefinder before I read about the measurement. I was still not sure if the height measuring method is acceptable, and just to make sure, decided to ask you.

As the measurement is 11 years old and coast Douglas-fir has beyond 60 m still great growth potential, the tree may now be meters taller. Our European "Nikon community" has recently got a new member from France, and he will re-measure the tree soon.

Kouta Rasanen

Re: Theodolite Question

by dbhguru **» Thu Apr 26, 2012 11:29 am**

A theodolite is a high precision instrument for measuring angles in both the vertical and horizontal planes. That capability coupled with an infrared laser distance measurer is an upscale version of our laser and clinometer combination. When you have both instruments (Theodolite and laser rangefinder), you have the means to get a really good measurement. With these two instruments, the limiting factor will be the accuracy of the rangefinder, as opposed to the angle measurer, or the combination of both. The Theodolite gives a much higher degree of accuracy on the angle measurement than clinometers and the tilt-sensors built into hypsometers.

If the measurer of the Doug Fir used the Theodolite to get the angle and then took a tape measured distance to the trunk, he/she was just using the tangent method subject to the same kinds of measurement errors that we commonly describe in our posts. Unfortunately, the simple model of a tree as the equivalent of a vertical telephone pole in a level field lives on and the ghosts of measurements past will continue to haunt us literally for decades. Example. Mark (Iowa Big Tree Guy) received word from a local forester who had measured a huge cottonwood. The forester measured the tree to a circumference of 36 feet and a height of 138. When Mark visited the tree, he found it to be a double, although he had been assured that it was a single, and Mark measured the cottonwood's height to 105 feet. So we have a 33-foot error in height given to us from a supposedly reliable source.

Now I digress for a moment. In the early 1990s, Jack Sobon, a friend of mine, and I did a lot of measuring with a transit. We did the transit equivalent to the manual crown-point cross-triangulation method worked out by Will and me. So we identified the point on the ground vertically below the high point of the crown. In those days, we measured lots of trees to a very high degree of accuracy before the advent of the laser rangefinder that we learned about from BVP. As a consequence, I got a taste of how far off many of the measurements were quoted in champion tree listings. Mis-measurements seemed to be the rule rather than the exception. Some errors were spectacular.

With Bushnell Litespeed 400 in hand, it was immediately obvious to me what we needed to do to solve the crown-point triangulation problem, and the sine method as we describe it in NTS was born. BVP had been using the method with the Impulse Laser independently, but had not described his method to us. I imagine that the considered it obvious. However, the problem had not been actually solved. The three-point measurement process built into laser-based hypsometers (distance shot to the trunk, angle to the top, and angle to the bottom) was billed as the tree height measuring routine, but it carried the baggage of the simple tape and clinometer method. So, even with the advent of the laser rangefinder built directly into hypsometer, errors still occurred. Users of expensive instruments like LTI's Impulse Laser banked on the quoted accuracy of the laser as assurance that whatever they measured was accurate to within the accuracy range of the laser part of the hypsometer. Big mistake!

In my tree measuring presentation at Cook Forest, I emphasized that there are two sets of tools we need in order to accurately measure the dimensions of trees: (1) physical tools, and (2) mental tools. I plan to hammer this point across in future presentations. Lots of people believe the physical tools, e.g. the Impulse laser, incorporate the correct mathematical models, so that all one need do is point, shoot, and read an answer off of an LED, content that the advertised accuracy of the laser assures that the height is correct. Big mistake!

My advice is don't trust a single one of the old measurements. Some may be okay because the tree stands vertical with its top visible and directly over its base, or the measurer actually knew what he/she was doing, and compensated for crown-point offset. Just don't make any bets on that being the case. So in a long, circuitous path, we get back to the theodolite. Did the measurer use the right mental tool, the right mathematical model? I hope you all can confirm the Douglas Fir independently.

Robert T. Leverett

Re: Theodolite Question

by **KoutaR** » Thu Apr 26, 2012 4:59 pm

Bob, A report of the 2001 measurement is here:

http://documents.irevues.inist.fr/bitst ... sequence=1

About the gadgets, see the first page, the second last paragraph:

"Depuis 1988, Jacques Guénégo a gardé la même passion et le même appareil de mesure : un théodolite avec télémètre infrarouge et affichage

électronique."

"Theodolite with infrared rangefinder and electronic display." But if he had the same instrument from 1988, is it possible that it has a laser?

Wikipedia's article Theodolite says "Also, many modern theodolites, costing up to $10,000 apiece, are equipped with integrated electro-optical distance measuring devices, generally infrared based, allowing the measurement in one go of complete three-dimensional vectors..." What do you think?

Kouta

Re: Theodolite Question

by **Don** » Fri Apr 27, 2012 5:59 pm

Kouta/Bob-

Having been a surveyor in my youth and college years, I was familiar with a theodolite through using it to perform survey tasks such as subdivision of land ownerships, original corner restoration and such. In those days (up to mid-1980s), we'd turn our angles with the theodolite, remove the theodolite and replace it on the tripod with an electronic distance meter (EDM). With horizontal and vertical angles to accuracy within seconds, and a Hewlett Packard electronic distance meter (the size of a small Samsonite suitcase, then) we were in business. Using three Triple Reflectors arrayed in a larger triangle, we could accurately obtain distances to a little over a mile and a half (in hundredths of a foot).

My career vector changed about then and I haven't kept up with surveying/engineering, but I suspect it didn't take long for folks to make smaller EDMs and incorporate them into theodolites. In my world, the first of those was a Total Station (now there are Sokkia, Topcon, Leica, and Nikon Total Stations). In their role as survey/engineering instruments, their accuracy was obtained in part by their use of parabolic reflectors which provided a constant reflectivity. I haven't kept up with modern Total Stations, but note in the relatively thin coverage that Wiki-pedia has for them, that "Reflectorless total stations can measure distances to any object that is reasonably light in color, to a few hundred meters".

I would think more research in this area would be warranted. The ability to scan across topmost twigs and obtain accurate distances with the Total Station might need to undergo scrutiny.

One of the things that has been niggling me, in a Leverett-ian way has been the impact of a vigorous tree climber on the highest five to fifteen feet of the tree. I don't know if there is a way of getting around the bending of those topmost limbs with the addition of a 150 to 180 pound climber around any portion of that limb.

As a surveyor, one of the techniques we'd employee when running a level circuit to a point beyond an obstruction (visually), was to use a 25' telescoping fiberglass rod. When fully extended and placed on level ground, with both feet planted, it was often difficult to hold the fiberglass rod steady. Should there be wind of much velocity, it **was** difficult. To correct this, the rodman would first try to wave the rod slowly, in a left-right plane, then in a fore-aft plane. Through the lens (VERY fine optics, usually displaying an inverted image, the result of one less lens for light to pass through), the instrument man would see the graduations on the rod increase and decrease. The lowest numbered readings would be the elevation to record.

I don't know if our tape drops approach this accuracy. It wasn't unreasonable to note five or more hundredths of a foot variation, as the fiberglass rod was waved to and fro. On solid ground.

Don Bertolette

Big trees of yesteryear

by **dbhguru** » Thu Apr 26, 2012 9:12 pm

NTS,

Here is what grew in 1838. I'll refrain from making comments about what we've done to our forests and trees.

LARGE TREES.—Prompted by an article which appeared in the Boston Transcript—published in our last—the editor of the Springfield Republican has procured the admeasurement of a number of trees in Springfield, which entirely throw the Deerfield trees into the shade. One tree in Springfield measures 28 feet in circumference; and another 26 feet 3 inches. But Northampton bears away the palm. We applied the tape to a venerable fellow in Middle Meadow, seven feet from the ground, where the branches begin to shoot out, and the circumference was *twenty-eight feet and three inches!* A little below it measured 24 feet. Two button-balls, in the same meadow, measure respectively 20, and 19 1-2 feet. Three trees in Old Rainbow measure 22 feet 2 inches, 21 feet 1 inch, 20 feet 5 inches, and one maple 17 1-2 feet. An elm tree in the door yard of Mr. J. D. Whitney, which was planted by the memorable President Edwards, measures 21 feet. Another elm in the yard of Mr. Wm. E. Mather, in Pleasant street, measures 23 feet. We have a number of trees which measure 14 and 15 feet, but they are hardly worth mentioning.

Robert T. Leverett

Willowbrook Ravine, Parkersburg, WV

by **tsharp** » Fri Apr 27, 2012 10:20 pm

NTS: I am always on the lookout for notable size trees within the city limits of Parkersburg, WV. One day while driving on a suburban side street I spied a massive crown arising from a ravine next to Willowbrook Drive. Not surprisingly it turned out to be a Tuliptree and from the road it looked like the ravine was filled with mature Tuliptrees and Beech. The ravine was formed by an unnamed run going into Pond Creek which is a small tributary of the Ohio River. The site is pinched in by a Home Depot store, a housing development and a Masonic Home for elderly Masons. The ravine features a pond right above the Home Depot store and a driveway leading to a former home site overlooking the pond. Above the pond the ravine split into three small steep sided prongs. All three prongs showed evidence of filling at their very head from road and homebuilding construction activity.

The site totaled 6-7 acres and ranges in elevation from 640-720 feet. I was able to get permission from three different landowners to wander about and measure trees. All measurements were made during December 2011, January and March of 2012.
The Tuliptree (Lirodendron tulipifera) originally spotted is pictured below with about 30' of the trunk down in the hollow and not visible in the picture. It measured 12.8' x 126.3' x 125' (maximum crown spread).

Another Tuliptree turned out almost as big at 12.8' x 120.7'. Another was 8.7' x 133.2' and is the tallest tree I have measured within the city limits of Parkersburg. Two of the prongs were dominated by the Tuliptrees and Beech with a few Blackgum scattered as co-dominants in the canopy. The other prong had a much richer mix of species and was probably more representative of the original forest. Toward the top of the ravines and on small flat areas were some Oaks and Hickorys.

Photo by Turner Sharp 12/10/2011

A number of planted specimens (native and exotic) persist on the site and were measured near the former house site and on the margins of the wooded areas. Two of these plantings I have not identified.

Other notable trees include: Black Oak (Quercus velutina) at 14.6’ x 96.8’ x 95’ (maximum crown spread), American Beech (Fagus grandifolia) at 9.7’ x 114.1’, 10.7’ x 113.6’ and the namesake tree for the site found at the head of the pond: Black Willow (Salix nigra) 3.7’ x 53.1’

A full list of trees measured can be found on the Trees database at:

http://alpha.treesdb.org/Browse/Sites/1233/Details

Turner Sharp

#6) Re: NPS Survey of High Allegheny National Park

by **tsharp** » Fri Apr 27, 2012 11:06 pm

James, NTS: Our "beloved" Senator Manchin has apparently called a halt to the NPS study for a High Allegheny National Park. It is almost impossible to get legislation passed unless the state senators are on board. This has not received a lot of coverage in WV. Read this article at:
http://www.statejournal.com/story/17190167/plan-to-establish-national-park-in-wvs-allegheny-highlands-comes-to-end

Turner Sharp

Gods Valley Spruce, OR

by **RyanLeClair** » Sat Apr 28, 2012 3:41 pm

Hey everyone, I just wanted to post this story. It's a favorite of mine, a very haunting tale. Go to the link and then scroll down until you reach the picture of the men in front of the massive, bell-bottomed spruce (the men are holding hands, only a "small" portion of the trunk is shown). Click on the PDF file authored by Brian O'Brian.

http://ascendingthegiants.com/oregon-big-tree-registry/champion-trees-of-the-past.html

At one point in the PDF story O'Brian is in a clear-cut full of 10"+ sitka spruce stumps. Can you imagine!

That part of Oregon--the Clatsop County area--might have once held some of the world's largest trees. Much of that area is now part of Clatsop State Forest, but it really deserves National Park status. The SF designation doesn't protect the trees from logging. The area has really been butchered. If you look at a precipitation map you'll see that some areas in that part of Oregon are getting 150"+ of rain a year. Holy smokes!

Ryan leClair

Plans for a webinar

by **dbhguru** » Sat Apr 28, 2012 11:58 am

NTS,

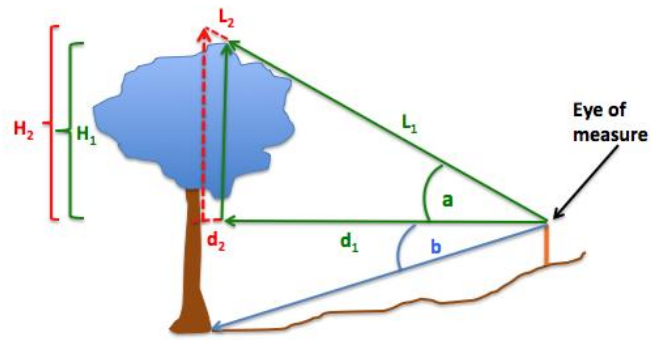
I've converted a prior communication to Steve Colburn of LTI and Dale Luthringer at Cook Forest for all NTS members. It is attached.

NTS,

I've been thinking about the upcoming webinar project between American Forests, NTS, and LTI, and wondering what materials might work best to further the shared mission. In experimenting with one kind of information on tree measuring we could provide, I went to Look Park in Northampton a couple mornings ago to conduct an experiment, comparing two tree height measurement techniques: the sine and tangent methods. As most of you know, I've done this many times before, but I wanted to experiment with a new approach, and then run it by you all.

But before getting into the test, a few observations. I like comparing tree measuring to a three-legged stool. One leg represents the equipment we use, instruments that we can describe and compare. The second leg represents the measurement methods we employ. At their core, all our methods are based on mathematical models, albeit hidden from the rank and file measurer. We may characterize our measuring processes to others as a combination of techniques, methods, and protocols. We use different descriptors, but at its roots, the process relies on underlying mathematical models that are based in plane geometry and trigonometry. The third leg represents the impact or errors incurred from misapplied measurement models. This leg is the key to reducing tree height measurement errors. But communicating this has been no simple task. Heretofore, occupations, organizations, and individuals involved in tree measuring have largely ignored this leg. Presumably the limits of equipment accuracy delineated the boundaries of measurement accuracy. The topic of errors resulting from misapplied models seems to have been verboten. This is what we hope to turn around in the webinar.

I'll frame the test I did after a quick review of the sine and tangent-based measurements for height above eye level as presented in the following diagram. I've included both methods in the diagram for comparative purposes to illustrate what often goes wrong with the tangent method.



$$H_1 = L_1 \sin(a)$$

$$H_2 = (d_1 + d_2)\tan(a)$$

As all will, of course, understand, H_1 is the sine-based calculation for height above eye level and H_2 is the analogous calculation for the tangent. I've constructed the diagram to show that the sine method (green triangle) properly measures the point identified as the top.

Our diagrammatic explanations convey that the best results are obtained when we measure the distance from the eye to the target with a laser rangefinder, and the angle to the target with a clinometer – or the combination with a hypsometer designed for the purpose. Any errors from this method can be attributed to the accuracy limits of instruments, equipment calibration problems, or simply misreading the instruments. My experience is that with the LTI TruPulse, distance and angle errors are small, allowing errors in height to be contained to within +/- 0.5 feet, for targets that can be seen clearly. In highly controlled experiments I can

commonly get within +/- 0.2 feet of independently measured height.

As NTS members know, with the tangent method (red triangle extension), the convention is to shoot to the trunk to get a horizontal (eye level) distance, or use a tape to accomplish the same. This becomes the customary baseline. Then the next step is to take the angle to the top and bottom targets with a clinometer. Some tape and clinometer users recognize that they are using the baseline to the trunk as a surrogate for the baseline to the crown and base points. But many do not.

In the diagram, the red extensions show the results of the tangent calculation. It obviously overshoots the top in the diagram. It measures to a projected top. As we see, the baseline used, i.e. d_1 + d_2, is the problem. The actual baseline should be d_1, but many tape and clinometer measurers simply do not understand this. Since the angle is the same for both sine and tangent methods, the problem being illustrated in the diagram is a baseline issue. The baseline is either too long or short for the position of the target. If a SUUNTO clinometer with degree and percent slope scales is used and the measurer positions himself/herself exactly 100 feet away from the trunk, then the tree height can presumably be read directly from the percent slope scale. This is an attractive method – no fuss, no bother, no mathematics. The problem is that the baseline is often wrong, usually from the crown, and this leads to height errors, some of them eye-poppingly large. This is a point that we have to handle carefully in the webinar, but cannot afford to ignore.

The formulas show the calculations that are made for both methods or are made automatically by an instrument. In the case of automatically made calculations, so many hypsometer users take it as an article of faith that the instrument they are using some how compensates for tree shape. I wonder how many owners of the TruPulse understand that the VD return is a sine-based calculation and that the HT routine is the tangent-based equivalent, and the implications of each?

In the diagram, I didn't carry through with the measurement from eye level to the base. If the lower trunk is straight, the measurer can use either the sine or tangent method. This is a point we need to explain to measurers who tend to lock themselves into a procedure, never to vary from it. In the case of eye level to base, it is the same triangle, because there is no horizontal offset from eye level to the base. Also, in the diagram, I don't show the case of a tree on sloping ground, in which case, the point taken as the base of the tree must be at a mid-slope position. Obviously, as we cover all bases , the number of diagrams and scenarios grow.

Now to the experiment. There is a big white pine in Look Park, Northampton, MA growing out in the open and accessible from all directions. My objective was to measure the height of the pine from different locations using the tangent and sine methods and present a comparison, as suggestive of material we might include in the webinar. Let's first take a look at the pine from a horizontal distance of 276.5 feet.

As you can see, the pine has a flat crown. From this distance, where might you guess the highest point to be located? Many measurers assume the high point is centered over the trunk. Others try to line up eye, trunk and apparent crown high point in the same vertical plane. A few position themselves perpendicular to the vertical plane that contains the apparent crown high point and the base of the trunk. But in difficult terrain, most of us are forced to choose a location where top of crown and base are simultaneously visible. We may have only one window to look through. Viewing options are often limited in forest settings.

In the next image, I've identified the highest point of the crown with a red arrow. Note where it is positioned relative to the base. Obviously the high point is not positioned vertically over the base, but offset from it. The horizontal distance between the crown's high point and the base is called the horizontal crown-point offset distance, or sometimes, just crown offset for short.

Before getting to the measurement results, let's look at the tree from a different location. Is it obvious where the top of the tree is located? It isn't the spike on the right side of the crown. That is an upturned limb near the top of the tree, but positioned well out in the direction of the measurer from the chosen spot.

Now to the measurement strategy. The highest sprig is between 96.5 and 97.0 feet above the base. I got an occasional bounce at 97.5, but most were 96.5 or 97.0. I shot the sprig many times with both my TruPulse 360 and 200 and from many directions, circling the tree, but always at sufficient distances to be confident that I was shooting the same point. NTS measurers recognize that this is absolutely critical, but seldom easy to do except for narrow crowned spruce trees and the like. I settled on 97.0 feet as the best determination of true height.

As one moves closer to the target tree, a point is reached where sight of the crown high point is lost. For our pine, there were only a couple of places where I could retain visibility of the top from a relatively close distance. For most of the path around the tree, the top cannot be see from 100 feet out, which brings me to a point.

As a general rule, we know that close locations are risky. Couple this with the fact that at the outset, a measurer with tape and clinometer has no easy way of knowing where the high point of a tree is unless dealing with a simple form like spruces. This renders the most common measurement protocol with tape and clinometer or hypsometer equivalent exceedingly error-prone. No surprises there.

With our Look Park pine, it isn't likely that a tape and clinometer user would recognize its true top regardless of how long he/she studied the tree. Measurers will shoot what looks like the top from the chosen vantage point. Different measurers will choose different spots to measure from. This is the actual nature of things. So, what might their results look like?

The table below gives an idea. The sine-based measurement is always included for comparison. Two scenarios are presented: (1) the top visible and chosen as the spot to measure (black lines), and (2) the top not visible and what appears to be the top from the vantage point is measured (red lines).

Note that the average measurement error from the true top is 9.6 feet, and from the target chosen as the top, 13.6 feet. The largest error in the 13 trials is 29.8 feet; i.e. 29.8 feet more than the true top, but 41.8 feet higher than the spot being measured as the top (126.8-85.0). The measurer is shooting to what he/she thinks is the top at the chosen location, and from only 75 feet away, the true top is not seen. The measurement producing the big error was to the top of an upturned limb that looked like the top from the vantage point.

White Pine in Look Park, Northhampton, MA					Height = 97.0 ft	
Orientation degrees from starting point	Trunk's Horizontal Distance	Top Visible	HT Hgt to target	VD Hgt to target	HT Hgt - VD Hgt	HT Hgt - Actual Hgt
0.0	276.5	Yes	97.0	96.5	0.5	0.0
0.0	100.0	No	113.4	92.0	21.4	16.4
0.0	75.0	No	126.8	85.0	41.8	29.8
85.0	133.5	Yes	102.7	96.5	6.2	5.7
85.0	216.5	Yes	98.8	96.0	2.8	1.8
100.0	210.5	Yes	102.9	97.0	5.9	5.9
100.0	100.0	No	116.8	87.0	29.8	19.8
170.0	200.0	Yes	102.2	97.5	4.7	5.2
170.0	109.0	Yes	108.7	97.5	11.2	11.7
170.0	170.0	Yes	114.6	96.5	18.1	17.6
270.0	130.0	No	99.5	95.5	4.0	2.5
270.0	100.0	No	100.1	93.5	6.6	3.1
240.0	66.0	No	102.7	78.5	24.2	5.7
			106.6	93.0	13.6	9.6

1. All measurements made with LTI TruPulse 200 and 360.
2. Top confirmed from a distance over 276.5 feet horizontal distance and 17 vertical distance above base. True height was determined using VD mode for heights above and below eye level.
3. The top can't be seen from very close distances.
4. Orientation is degrees taken in a clockwise direction, circling the trunk.
5. True height used in table = 97.0 feet.

Note that the first of the shots using the HT routine is accurate for the sine-determined height. I was perpendicular to the plane containing the high point and base from one side of the pine.

If all measurement locations are considered equally likely for a random collection of measurers, and the 13 trials are representative of what would occur from many measurements by different people over time, then the tangent method has an 85% chance of producing an error of more than 2 feet, and a 69% chance of producing an error over 5 feet from the actual top. The range of errors is 29.8 feet for all locations. But this isn't the full story. Looking at just the trials where the top was visible, the average error with the tangent method was 6.8 feet and with the sine method just 0.2 feet (assuming 97.0 feet is the exact height). In those cases where the top wasn't visible, the average error made to the target using the tangent method was 21.3 feet. The error for the sine method would be in the range of +/- 0.5 feet. If a measurer has an instrument like a TruPulse, use of the HT routine for trees, such as the pine, carries sizable risks. This is a little tidbit that I don't think LTI was happy to hear, but they will try to educate their users.

There is a minimum level of mathematics required to overcome the problem of crown offset unless a hypsometer with a built-in sine method is used. But obviously many measurers don't have the money to buy a precision instrument. Consequently, I

realize that American Forests must present them with a technique to make estimates with minimal equipment. The stick method (similar triangles) is the common way described in literature and on the Internet to enable them to produce estimates without specialized equipment and much mathematics. But in the webinar, we need to explain the limitations of these simple methods. I've seen examples on websites that imply that even giant redwoods can be measured with the simple stick method. We need to explain what can and cannot be done with minimal methods.

Now to the people with the big instruments. For those with good equipment, we need to impress upon them the need to use the right mathematical model. Good equipment alone won't do the job.

Right equipment + wrong mathematical model = unrecognized measurement errors.

Below, I've constructed a table to illustrate a key point. Suppose a measurer positions himself/herself 100 feet from the trunk of a tree. Further suppose the highest point of the tree is 100 feet above the base, but positioned 13 feet horizontally in front of the trunk from the location of the measurer. If the measurer doesn't realize this offset exists and treats the baseline as the distance all the way to the trunk (tangent method), the following table shows the error made in the height from different distances from the trunk.

Horizontal Dist to Trunk	Horizontal Dist to crown	Hgt of tree	Angle to crown	Crown Offset	Height Error
200	187	100	28.14	13	6.95
160	147	100	34.23	13	8.84
120	107	100	43.06	13	12.15
100	87	100	48.98	13	14.94
80	67	100	56.18	13	19.40
70	57	100	60.32	13	22.81
66	53	100	62.08	13	24.53

As can be seen in the table, for the same crown offset distance, moving closer increases the measurement error. I don't think a lot of measurers understand this effect. Some clinometers build in a distance scale of 66 feet. Hard to believe, but true.

I do realize that we need to provide the above kind of information to measurers in a user friendly way. In particular, people who certify measurements need to know how to avoid significant errors, and this may be our biggest challenge, i.e. reaching the certifiers. This point came home recently when "Iowa Big Tree Guy" contacted me, relating the following.

Mark came across the measurements of a giant cottonwood and contacted the forester who had submitted them. The numbers were: circumference = 36 feet. Height = 138 feet. The forester assured Iowa Big Tree Guy that the cottonwood was a single-stemmed specimen. Mark wanted to find some really huge trees for me to visit this summer, but wanted to first insure they were legitimate. When he got to the cottonwood, he found that, in fact, it was a fusion of two trunks, not single-stemmed. And the height was 105 feet, not 138. Now, I'm sure the person did what he thought was right, but a 33-foot height error is not insignificant. So, our challenge is to reach the champion tree certifiers who usually assume they know how to measure tree heights accurately.

Well, I've rambled enough. American Forests is giving us perhaps a unique opportunity to reach lots of tree measurers. How to be most effective is the challenge we face.

Robert Leverett

Re: Plans for a webinar

by **dbhguru** » Sat Apr 28, 2012 5:04 pm

NTS,

Here is a little test I ran today to develop fresh material for the webinar. It is a simple comparison of sine versus tangent on 26 trees. I used my TruPulse 200 on all trees. I would select a tree and settle on what was a reasonable sprig to consider the top if I didn't have a laser. I then measured the tree from sprig to base using the TruPulse's HT routine (tangent-based). The routing calls for shooting the distance to the trunk. The TruPulse returns the

horizontal distance from the shot. The angle to the top is called for, followed by the angle to the base. The vertical distance between the top and bottom, using the level baseline to the trunk is returned. I then shot the top and got the VD return (vertical distance), followed by a shot to the bottom in VD mode. I combined the two returns to get the height of the tree. I measured the same points for each tree. I wasn't searching for the actual high point of the crown. I was measuring what the eye suggested was the high point of the crown, suggestive of what tape and clinometer users do. Here are the results.

The numbers speak for themselves. Obviously, both the HT and VD modes can't both be right. Either one is right and the other wrong, or both are wrong. However, the TruPulse 200 is accurate to +/- 0.5 feet on clear targets. I only selected clearly visible targets, and insured that the laser returns from the crown point were repeatable.

Here is LTI's unfolding dilemma. The tree-measuring routine is the HT routine. The instructions for it are clear. The VD return measures the vertical distance above or below eye level of the target. So, which return does the measurer accept has the height of a tree. If both aren't done, then the question does not arise, but if both routines are performed for the same target, the problem immediately surfaces. The HT routine exists primarily because foresters want it. They will likely continue to demand that routine. But any carefully performed test will show its weaknesses. The only solution in my mind is to provide extensive instructions on the sources of error that arise through the use of the two methods, and how can those sources be minimized.

#	Species	HT	VD	Diff
1	WO	79.8	62.0	17.8
2	WO	116.0	95.5	20.5
3	TT	78.9	80.5	1.6
4	WP	116.8	106.0	10.8
5	NRO	79.7	67.5	12.2
6	SM	92.7	88.0	4.7
7	NRO	95.5	92.5	3.0
8	CBS	54.4	55.5	1.1
9	SM	61.1	61.5	0.4
10	CW	89.7	86.0	3.7
11	CW	74.3	69.0	5.3
12	WP	91.0	89.0	2.0
13	PNH	124.4	100.5	23.9
14	SO	105.7	91.0	14.7
15	NRO	102.5	79.5	23.0
16	BO	92.9	69.5	23.4
17	WP	98.4	97.5	0.9
18	WP	105.1	108.0	2.9
19	WP	128.1	121.0	7.1
20	SO	83.5	79.0	4.5
21	WP	107.4	103.0	4.4
22	WO	110.8	98.0	12.8
23	NRO	101.4	84.0	17.4
24	WO	96.6	74.5	22.1
25	BO	89.6	81.5	8.1
26	WB	77.3	59.0	18.3
			Average	10.3
			Min	0.4
			Max	23.9

WO = white oak
BO = black oak
SO = scarlet oak
NRO = northern red oak
TT = tuliptree
WP = white pine
PNH = pignut hickory
CBS = Colorado blue spruce
SM = sugar maple
CW = cottonwood
WB = white birch

Ht = Height Routine
VD = Vertical Distance

Comparison of HT and VD routines of TruPulse 200.

The art and science of measuring champion trees needs to be divorced from the widely practiced forestry methods. As we all know, big trees often have big crowns, and big crowns spell trouble for the HT routine.

These are some of the things I'm now thinking about as Dale, Steve, and I, and probably others think in terms of material for the webinar.

Robert Leverett

Re: More Pequonnock Trees, CT

by **RyanLeClair** » Sat Apr 28, 2012 5:46 pm

Here are some photos of the Pequonnock Valley girth champ (15'11"). Sorry, no one for scale.

Ryan LeClair

New Member-Mark Collins

by **Mark Collins** » Sat Apr 28, 2012 11:32 pm

Hello! My name is Mark Collins and I am currently living in Mendocino County in Northern California. Last fall I was bitten by the tree hunting bug and have been having an incredible time exploring the forests and learning about the local logging history. I've been spending a lot of time in the redwoods and I am currently trying to learn as much as possible about the various California conifers. I used to brake for wildlife, wildflowers, and mountain views, but now I brake for trees!

Re: New Member-Mark Collins

by **Mark Collins** » Sun Apr 29, 2012 9:54 pm

Thanks for the warm welcome. It's great to be surrounded by such a wealth of information and such interesting people. Bob, I do take a lot of photos, and have currently been looking for the large giants since I don't have any height measuring equipment. I kind of feel like a middle school student again, when I first began my musical journey, after listening to my brother's tapes many years ago. The tree journey has just begun. Just wondering where it will lead to. I was honored to bump into Michael Taylor by chance a few months ago in Humboldt Redwoods State Park. I felt like I had met Jimi Hendrix! (Sorry Michael, if you happen to read this ;))

Ryan, there are a lot of cypress in the area. I've seem most of them on the coast, but I don't know too much about them. There is one rather large cypress growing off the 1 that I pass every Friday on the way to work that I'd like to get a picture of one of these days. James, thanks for the welcome, you won't be disappointed by the redwoods.

Mark Collins

Hi - New Member - Mick Ricereto

by **MickR** » Sun Apr 29, 2012 9:50 pm

Hello NTS,

After searching for information on big trees, I stumbled upon the ENTS. I decided to join the forums as it looks like "amateur tree enthusiasts" like me are welcome. I live in Baltimore City, which is centrally located to many great places in the eastern US. A few weeks ago, after being introduced to the park through this website, my girlfriend and I visited Cook Forest for some early-spring hiking and tree hunting. It was more incredible than I even imagined. We laughed about finding the actual Longfellow Pine (sure... they all look so huge) and felt an incredible inner peace as we marveled at the ancient trees. I find myself very drawn to conifers, perhaps because I grew up near the NJ Pine Barrens, and have a special affinity for Japanese-style gardens.

Above is a picture of me in front of that historic chestnut snag at Cook State Forest.

I have been measuring trees in the parks and local forests around here, to get a hang of the process. I don't understand the height measurement techniques yet... still working on that. I'm also interested in city planning and urban tree canopy, looking to get involved with some local organizations and learning more about selecting proper street trees.

I hope to visit many more important North American forests, and contribute whatever I can to the site. Thanks for having me.

Michael Ricereto

Re: NPR-Radio Times -1 Million New Trees in Philadelphia

by **MickR** » Sun Apr 29, 2012 10:06 pm

Great news for Philly. I lived in town for many years, and although Philly has great parks like Wissahickon Creek and Rittenhouse Square, I always felt the street could have a better canopy. I live in Baltimore now - we have an organization, Tree Baltimore, promoting the proliferation of our urban canopy. Some fun facts: Baltimore has about 27% tree canopy, about 2.8 million trees. We also have 43% hard surfaces, and 19% grassland. American forests suggests a canopy coverage of 40%, so rough math suggests we need to plant about 1.4 million trees to reach that target.

http://treebaltimore.org/baltimores-trees/

Michael Ricereto

#14) Re: White pine climb with Michael Gatonska

by **michael gatonska** » Mon Apr 30, 2012 6:51 pm

Andrew- so glad you mentioned that about the quartet - pileated and all! What is great about the quartet is that it is so portable. But the sound just may not carry that well outdoors.

Actually, I think that the human voice would sound best in the woods. In fact, just awhile back, I had submitted a project to work with the Cantus vocal ensemble in Minneapolis and the Minnesota Landscape Arbretum...the idea was that the concert would be a kind of processional, with people following (including handicap access) moving from historic tree to historic tree with singing, etc., possibly in the early evening with candles, a real mystical experience. Unfortunately, the project never got off the ground. But maybe it will one day!

Michael Gatonska

Re: eNTS eBook Idea

by **michael gatonska** » Mon Apr 30, 2012 6:37 pm

Hi all;
I will venture out to make some soundscape recordings here: "In Connecticut Indian Well SP would make it in the first tier", which is the wonderfull location that Bob has mentioned. Perhape the recordings can be of use to 'accent' the adopt a site initiative?

Also, I like the idea that Chris had, which is to include bird area descriptions and - for example, some recordings that might really accentuate a specific place, and might make both the adopt a site and e-book concepts more attractive and interactive!, really taking advantange of the medium. Just a thought...

Michael Gatonska

Windy white pine climb

by **AndrewJoslin** » Mon Apr 30, 2012 4:34 pm

I recently videotaped a climb on a white pine in eastern Massachusetts. Purpose of the climb beyond the enjoyment of going into the woods and getting some time aloft was to document my technical processes climbing a white pine. As it turned out it was quite a windy day and the video captured some of what it's like high in a conifer with strong gusts. Tree is a single trunk that divides approximately at 35' into three leaders, each of which reaches up into the 105-110' range. This is typical height range for mature white pine in a grove within 5-7 miles of the coast. A few that close to the ocean get over 120' but not many.

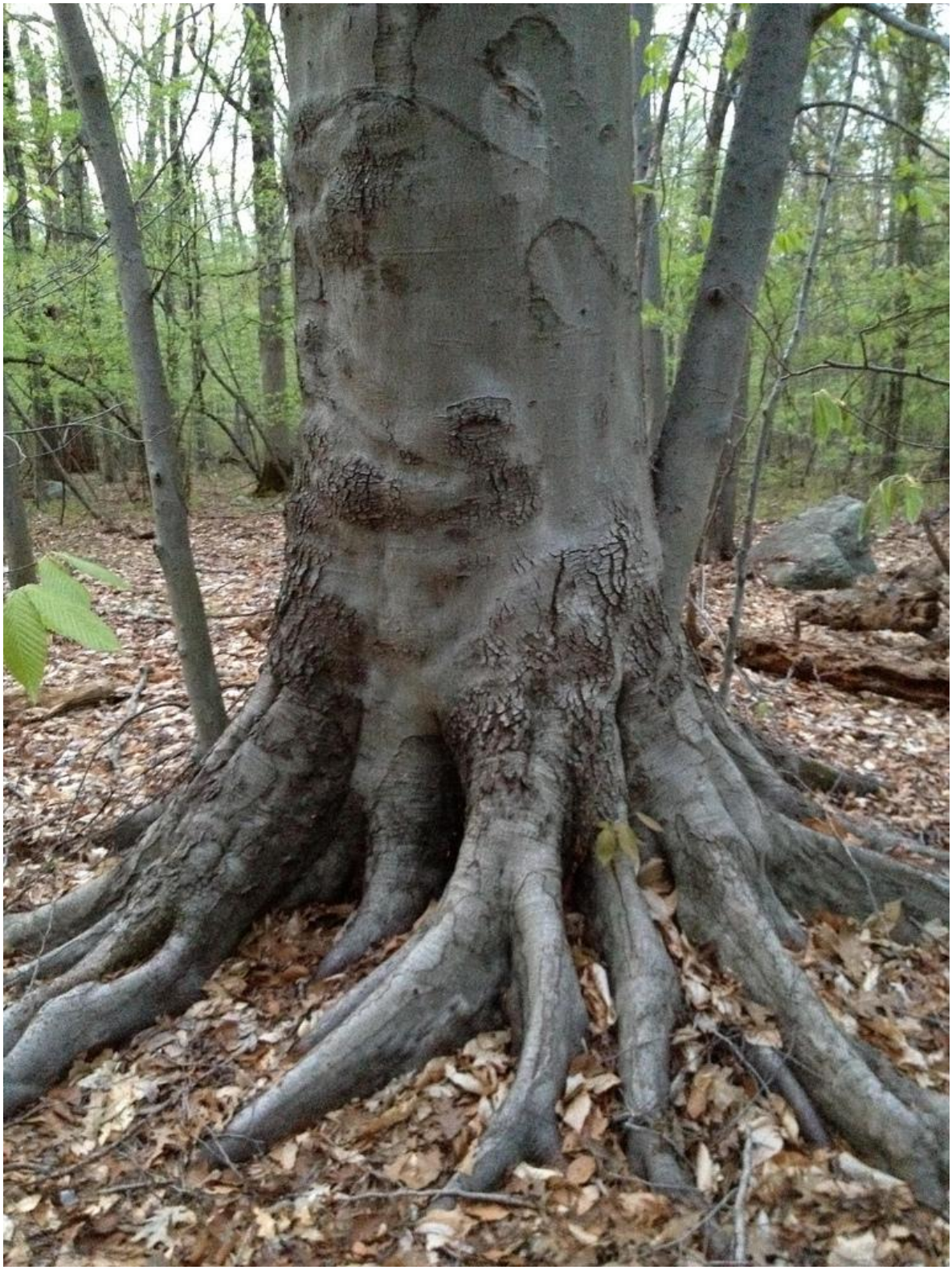
https://vimeo.com/41220504
(pardon the poor sound quality)

Interesting dead limb structure, looks like a witches broom, it's at the end of a long down curving limb. There's another limb sprouting out the witches broom which arcs up and is quite long. Looking at it in the tree it took me a little bit to figure out what was what, at first it didn't look like it was connected to the tree. I wish I could've seen the witches broom while it was still alive.

Base of the trunk (believe it's in the 11' CBH range, have temporarily misplaced my measuring record book)

Crown view

Nice old American beech nearby



Andrew Joslin

External Links:

Scientists Clone 'Survivor' Elm Trees
http://www.sciencedaily.com/articles/t/transgenic_plants.htm

Scientists Clone the Survivors of Dutch Elm Disease
http://www.enn.com/top_stories/article/44213

The Hunt for the Westernmost Saguaro by Chris Clarke
http://www.kcet.org/updaily/the_back_forty/botany/the-hunt-for-the-westernmost-saguaro.html

Dan Chiasson's "Tree" http://poem-a-day.knopfdoubleday.com/2012/04/03/dan-chiasson/

Templer's Sense of Snow CAS biologist probes impact of snow-challenged winters 03.29.2012 By Susan Seligson. Video by Nicolae Ciorogan
http://www.bu.edu/today/2012/sense-of-snow/

Virginia Tech sports facility plan in Stadium Woods draws opposition
http://www.washingtonpost.com/national/health-science/virginia-tech-sports-facility-plan-in-stadium-woods-draws-opposition/2012/04/08/gIQAvW6S4S_story.html

Honor The Giants - 1080p video
http://www.youtube.com/watch?v=vycnMZ2uf3w

Indian Man Single-Handedly Plants a 1,360 Acre Forest http://www.treehugger.com/natural-sciences/man-single-handedly-plants-entire-forest.html

World's Best Hikes: 15 Classic Trails
http://adventure.nationalgeographic.com/adventure/trips/best-trails/world-hikes/#/tonquin-valley-canadian-rockies_35795_600x450.jpg

a tree grows in brookline and a teacher blogs about it "The Tree Book for Kids and Their Grown Ups" "My Favorite Tree: Terrific Trees of North America" http://treeblog.hansels.net/2011/04/the-tree-book.html

Redwood Lumber Industry, Northern California - 1947
http://www.youtube.com/watch?v=PcEto_Q8MlY

Where Is the Hottest Place on Earth? It Lies Somewhere Between Folklore and Science, the Desert and the City by Michael Carlowicz, Design by Robert Simmon April 5, 2012.
http://earthobservatory.nasa.gov/Features/HottestSpot/page1.php

Around the Broadleaf World in 180 Days
by Neil Pederson | 4.10.2012 at 7:49pm
http://blogs.ei.columbia.edu/2012/04/10/around-the-broadleaf-world-in-180-days/

The Ankerwycke Yew – video
http://www.youtube.com/watch?v=tBmWym1vAnU

Zhara Church Forest Wall Tour
http://www.youtube.com/watch?v=6wOIlxlyiIU&feature=autoshare

Wall Protecting the Zhara Church Forest in Ethiopia
http://www.youtube.com/watch?v=-U6FPhcDAS8&feature=relmfu

The Guardians - winner of the Films for the Forest 2012 Professional Category
http://www.youtube.com/watch?v=wYfwqACJFFc

Build and Use a Tree Leaf and Plant Press by Steve Nix, About.com GuideApril 16, 2012 Here is How I Make a Leaf Collection
http://forestry.about.com/od/treeidentification/a/leaf_collection.htm How to Build a Tree Leaf Press
http://forestry.about.com/od/treeidentification/ht/build_leaf_pres.htm

Tree of Life ~3,000 species, based on rRNA sequences
http://www.zo.utexas.edu/faculty/antisense/DownloadfilesToL.html Our discussions: http://www.ents-bbs.org/viewtopic.php?f=8&t=3997#p16797

Palaeo forest in Iceland, Betula pubescens. Olafur Eggertsson (wrote on Facebook) Dendro studies unveiled that the forest was killed by the same event, most likely by Jökulhlaup triggered by a volcanic subglacial eruption from the Katla volcano. Carbon

14 dating gave c. 780-820 AD c. one century before Iceland was colonised. The video is in Icelandic but nice pictures. The Katla volcano is one of Iceland's most active volcanoes and is a frequent producer of jokulhlaups. An eruption at Katla is likely to be explosive and produce damaging floods. A major eruption could have global climatic effects. Sources: USGS, BBC, Smithsonian Global Volcanism Program.
http://www.ruv.is/sarpurinn/landinn/22042012/drumbabot http://www.ruv.is/frett/kotlugos-grandadi-skoginum

10 Weirdest Trees On Earth
http://enpundit.com/2012/10-weirdest-trees-on-earth

Environmental Colective Declares War On Trees
http://www.treehugger.com/renewable-energy/Environmental-Collective-Declares-War-on-Trees.html

About: *e*NTS: The Magazine of the Native Tree Society

This magazine is published monthly and contain materials that are compiled from posts made to the NTS BBS http://www.ents-bbs.org It features notable trip reports, site descriptions and essays posted to the BBS by NTS members. The purpose of the magazine to have an easily readable and distributable magazine of posts available for download for those interested in the Native Tree Society and in the work that is being conducted by its members.

This magazine serves as a companion to the more formal science-oriented *Bulletin of the Eastern Native Tree Society* and will help the group reach potential new members. To submit materials for inclusion in the next issue, post to the BBS. Members are welcome to suggest specific articles that you might want to see included in future issues of the magazine, or point out materials that were left from a particular month's compilation that should have been included. Older articles can always be added as necessary to the magazine. The magazine will focus on the first post on a subject and provide a link to the discussion on the website. Where warranted later posts in a thread may also be selected for inclusion.

Edward Frank – Editor-in-Chief