eNTS: The Magazine of the Native Tree Society

The Native Tree Society and the Eastern Native Tree Society
http://www.nativetreesociety.org
http://www.ents-bbs.org

Volume 3, Number 07, July 2013
ISSN 2166-4579

Mission Statement:

The Native Tree Society (NTS) is a cyberspace interest groups devoted to the documentation and celebration of trees and forests of the eastern North America and around the world, through art, poetry, music, mythology, science, medicine, wood crafts, and collecting research data for a variety of purposes. This is a discussion forum for people who view trees and forests not just as a crop to be harvested, but also as something of value in their own right. Membership in the Native Tree Society and its regional chapters is free and open to anyone with an interest in trees living anywhere in the world.

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COVER: Ponderosa Pines, Hermosa Creek Trail, CO by Robert T. Leverett

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I want to remind the readers of this magazine that the articles presented here are only a part, usually just the beginning, of the discussions being held on our BBS at [http://www.ents-bbs.org](http://www.ents-bbs.org). The full discussion can be read by clicking on the link embedded in the title of each individual article. - Edward Frank

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Editor’s Corner
By Edward Frank

Webmaster, BBS Administrator, eNTS Magazine Editor-in-Chief
edfrank@nativetreesociety.org

NTS, Friends,

Welcome to the July issue of eNTS: The magazine of Native Tree Society. I have not been as active in the BBS message boards this past month or few months as I have been in the past. I also am not getting out much into the field. This is simply because of some personal issues here at home. My interest in the Native Tree Society has not waned on the recent months. I am still reading all the posts as they are made via RSS feed and log into the BBS itself at least daily or not multiple times per day. I still and maintaining and posting interesting links to our Facebook Page and newer Facebook Group. I would encourage any NTS members who are on Facebook to join this group and page. The posts there contain links to events and tree info from around the world and are more cosmopolitan that what are posted to the BBS.

The conversation threads in which I have been particularly active are those dealing with the efforts of American Forests to update their tree measurement guidelines. I am hoping that changes will be made to better the quality and utility of the AF Big Tree Listing. I am not optimistic that much progress will be made, but am trying to help and encourage NTS members Robert Leverett and Don Bertolette in their efforts to bring the rest of the measurement committee around to the NTS way of thinking on several measurement fronts. This is an issue near and dear to my heart.

The other area I want to try to pursue is to encourage NTS members to enter their tree measurements into our Trees Database: http://www.treesdb.org/

It is a wonderful resource developed by Mitch Galehouse and Steve Galehouse that can serve our organization well, now and into the future.

The efforts of Michael Taylor to use remote drones to study trees is blowing me away. In particular his recent implementation of Structure from Motion to locate exceptional trees in remote locations. It is a privilege to have him in the organization.

This fall is a joint get-together with NTS and Tree Climbers International on October 9-14 in Norcross, Georgia http://www.ents-bbs.org/viewtopic.php?f=390&t=4856#p24469 I doubt I will be able to attend myself, but want to encourage everyone who can do so, to attend the event. Registration information can be found at the link above.

The final thing I want to see the organization work toward is to become a tax-exempt non-profit scientific organization in its own right instead of just being considered for tax purposes a subset of the Friends of Mohawk Trail State Forest group.

Edward Forrest Frank

A scene from June 2013 – mountain laurel, PA
A tree grows in Brooklyn

by Joe  » Tue Jul 02, 2013 8:15 am

no, it's not Brooklyn, it's at the W.J. Graves gravel pit in East Templeton - an amazing enterprise where they have mountains of sand, gravel, crushed stone of all kinds and large and small rocks for contraction purposes. I've been going there to purchase crushed stone for drainage behind a retaining wall I'm rebuilding next to my driveway. I love driving around the place as it's like being on the moon - if it wasn't for this lone tree, it would look as sterile as a.... solar or wind farm, you know, those "green energy" facilities. The reality is if you want "green energy"- grow trees. This lone tree is growing, miraculously, on a mountain of finely crushed stone.

Joe

Re: Do we have wildlife?

by Wit'sEnd  » Mon Jul 01, 2013 1:36 pm

"...the core of the problem is our nature as a species."

I have come to appreciate the verity of that statement, Bob. Now reading this: "Denial: Self-Deception, False Beliefs, and the Origins of the Human Mind" which goes a long way towards explaining why we are so stupidly ruining our planet. I stopped by here because I happened across your essay about Michael Perlman http://enviroshow.wordpress.com/climate-crisis/

and I was wondering how you all, being tree-huggers, think they are faring since my last visit and questions about ozone. In the interim I wrote a book (free download) http://www.deadtrees-dyingforests.com/pillage-plunder-pollute-llc/

with a shorter update as a guest post http://scienceblogs.com/gregladen/2013/01/29/wisps-from-the-ghosting-trees/

How is his tree in the Algonquin Grove? His book is next on my list - The Power of Trees. I can't believe I never heard of it before.

Thanks,

Gail
http://witsendnj.blogspot.com/
Re: Eastern OLDLIST

by Neil » Tue Jul 02, 2013 10:03 am

Dear NTS,

Apologies for little activity. Life has sped up recently. I am trying to slow it a bit so I can participate more here.

I write with good news:

First, I got to meet Russ Carlson in person at the North American Dendroecological Fieldweek at Black Rock Forest last week. I learned a lot about wood anatomy and other tree attributes from Russ. It was great.

Second, the advanced dendroclimatology and intro groups re-located and sampled the oldest-documented pitch pine [in the known universe]. Because of efforts by the advanced dendroclimatology group, we now know that this tree is currently 398 years old! Guess we'll have to have a 400 yr celebration in 2015. Here is a picture of that tree:

Finally, the intro group cross-dated the oldest documented white oak in Kentucky and the 7th oldest known white oak. Russ actually cross-dated this wonderful tree. It resides in Mammoth Cave National Park. We missed the oldest pith date for a white oak in KY by 3 years. This tree is a little hollow and likely predates 1650.

These ages are now posted on Eastern OLDLIST: http://www.ldeo.columbia.edu/~adk/oldlisteast/#spp

Neil

Virgin rainforest near Singapore

by Shorea » Tue Jul 02, 2013 12:17 pm

Hi all,

Who would have thought that a patch of virgin rainforest exists near Singapore, in Johor Bahru, Malaysia, just an hour or so drive away? But Mount Pulai is such a place. A hill almost 700 meters high just 20 km from the city of Johor Bahru, I visited there last month, and I am very impressed with the forest there. Size-wise about 2000-3000 hectares at least. You don't need to go all the way to Taman Negara (Malaysia's National Park) when you can visit Mount Pulai, whose forests are far more accessible.

This accessibility also increases the threats to the forest, and my earnest hope is that the entire forest is gazetted as a park of some sort in the near future. Awareness about the forest itself is surprisingly low, and I don't think it's a place people go to, to study rainforest ecology or other subjects. Very strange indeed.

The dipterocarp trees there are impressive, the standing ones still seem healthy with good crown structure. Many of the trees are 1 to 1.5m DBH, and are 40-45 (even above 50 meters) tall. Although disturbingly, many dead trees can be seen along fringes of exposed areas (but this is a global phenomenon apparently).

The constantly increasing rubbish is a major downer,
but IF this place is recognized and accorded protection, the litter problem will probably diminish, as is the placement of rubbish bins and periodic collection. It's very popular with locals and also Singaporeans due to its waterfall.

Here's sharing some photos (I am not sure if there is a way to upload directly into this forum without having to use a third party image hosting service).

I snapped this just before the rain came down in the nick of time. A good view overlooking the canopy of the forest, with the stream down there. The waterfall is further up.

The view across the waterfall/stream, from the road up the hill. It runs parallel alongside the stream for some distance. A lot of big trees can be seen from across that side of the stream.

Looking up the trees from walking along the road below. These are 35-45 meter tall trees on average. A very rich diversity. Note the secondary undergrowth along the forest fringe, many of these bushes are young saplings of *Macaranga*.

The crown of a dipterocarp tree, most likely *Shorea curtisii*. You can see how the beautiful cauliflower crowns are formed.
A fallen tree by the road. I measured it roughly, and it was around 50 meters to the top branches. It even still has its name plaque attached to its trunk. Dipterocarpus verrucosus, a species common in hills.

Giant Anisoptera spp inside the forest. Anisoptera is one of the dipterocarp genera.

A view of the one of the foothills in the evening light. Of course, the forest is an island surrounded by oil palm and housing estates.

Edit: Forgot to mention one thing. I think the unlogged portion of this forest reserve may not encompass the entire reserve, perhaps one third of it. Still, it would be great if the Johor State Government (within Malaysia) can get this patch of forest protected and managed better. I can only hope....

You can read more about this forest on my site:

---

Re: Videos of Old-Growth Oak Forest on Holston Mountain, TN

by Josh Kelly » Wed Jul 03, 2013 10:52 am

http://www.youtube.com/watch?v=dHMHDYEhfuI
http://www.youtube.com/watch?v=XpnLz1bMf4
http://www.youtube.com/watch?v=VDUh5hR_FV0
http://www.youtube.com/watch?v=AyJUl3ZNYJk
http://www.youtube.com/watch?v=rbloVtUKCsQ
http://www.youtube.com/watch?v=E2Gzdc4JbJU
http://www.youtube.com/watch?v=3X58ixac8p4
http://www.youtube.com/watch?v=jYTvgMnuv94

Neil wrote: nice find, Josh - looking to hear how old those trees are!
I didn’t end up doing much age work there, but finding trees in the 250 age range is easy in that area. If looking for a dendro site for oaks or mesophytic species like birch, maple, ash, or poplar, Holston Mountain is an incredible site. About 400 acres of old-growth has been documented on Holston Mountain to date, and I’m positive that is just the beginning of a significant area of primary forest. The work done by the early Forest Service to acquire these last vestiges of primary forest in the Appalachians is truly incredible. Equally incredible is that society at large is basically unaware of the amazing legacy we have been given in our public lands.

Josh

**Re: Metasequoia Glyptostroboides (Dawn Redwood)**

» by **bbeduhn** » Mon Jul 01, 2013 3:55 pm

I got the chance to measure some more redwoods on the way back from Greensboro. When I figure out my new ipho, I’ll get pics posted. A few are from Asheville.

**ASHEVILLE**

Beverly & Hawthorne 98.9’ 91.5’ ~75’
Periwinkle 51.4’

**WINSTON-SALEM**

Salem College 87.1’ 86.3’ 89.7’ 88.1’ 93.7’
77.4’ 88.8’ 88.9’ 88.2’
Gorgeous row! L to R
Tanglewood Park Manor House 97.5’ 9’11.5” cbh

**HICKORY**

Quality Suites 66.9’ 60.5’ 58.5’ 64.8’ 61.6’
61.4’ 66.1’ 70.8’ 65.6’ 63.0’
R to L

**MORGANTON**

Riddle Developmental Center 80.5’ 79.2’ 91.4’

**MARION**

McDowell Comm. Coll 65.7’

▲ by **bbeduhn** » Wed Jul 03, 2013 3:54 pm

Row of 9 at Salem College
87.1’ 86.3’ 89.7’ 88.1’ 93.7’
77.4’ 88.8’ 88.9’ 88.2’
Gorgeous row! L to R

Brian Beduhn
How others describe height measuring

by dbhguru » Mon Jul 08, 2013 11:29 am

NTS. The AF project, testing new laser rangefinders, and our on-going efforts to do a better job of measuring the dimensions of trees has led me to look at lots of descriptions on the Internet on how to measure tree height. Here is a quote from a state champion tree site.

Tree Height
The total height of the tree is considered to be the distance between the base of the tree trunk and the topmost twig. The most reliable measuring tools are the Abney hand level, clinometer, or transit. If these tools are not available, one can measure the tree’s height with a straight stick.

The majority of state coordinators seem locked into a self-defeating pattern. They need to keep things simple for the public. Understood! But then they mislead readers on what is actually involved to get heights accurate enough to be published. The simple solution to me would be to describe two measurement processes: (1) simple in the ballpark processes for the nominators, and (2) more rigorous processes for the certifiers. Lots of sympathy for the first group and no mercy for the second. This is the route I’ll be recommending to AF. We’ll see how far I get, but I think there are sympathetic ears for tightening down the rules for the certifiers.

On one website, the coordinator acknowledged the difficulty in measuring height and stated that the certifiers would often take multiple measurements and average them. This illustrates the lack of understanding on what the numbers represent and why the differences between measurements that exceed a couple or three feet (equipment-based errors). Why they believe averaging a set of incorrect numbers somehow magically cancels out the errors and allows them to arrive at a valid figure is mystifying to me, but there are plenty of examples of people thinking along those lines.

Robert T. Leverett

Re: How others describe height measuring

by Will Blozan » Mon Jul 08, 2013 6:21 pm

Bob, And don't forget about the "shadow" method...

I would like to see every state coordinator equipped with a laser, clinometer, and basic tree measuring guidelines. Make it so captain!

Will

Re: How others describe height measuring

by Larry Tucei » Mon Jul 08, 2013 8:41 pm

Bob- Great stuff, the future looks good with you and company at the AF. Will I believe has the right idea every State Coordinator get a laser, clinometer, or trupulse. It would be cool if NTS members could help our regional State Coordinators verify the champion’s true measurements with our experience in accurate measurement. Show them if they really wanted to learn the right way to measure tree height. Thoughts? Larry

Re: How others describe height measuring

by dbhguru » Mon Jul 08, 2013 10:18 pm

Larry,

This may be a possibility. LTI has tentatively expressed some interest in donating TruPulses to AF for use possibly by state coordinators. It would create a stronger partnership between AF and the coordinators. The subject has been broached. No decisions yet, but it is well within the realm of
possibility. Also, big Don Bertollette, a co-member of the measuring group has an extension to the two-level process. I like Don's idea even more, but I'll let him explain it.

Bob

Re: How others describe height measuring

by tsharp » Tue Jul 09, 2013 6:21 am

Bob, NTS:
I can not resist pointing out that West Virginia has seven state foresters supplied with laser rangefinders and clinometers. These are the people that verify nominations for the state Big Tree Register. The State Coordinator, Bob Hannah is one of them. The goal was to get the big tree register up to date and all heights measured by laser using the sine method. Although we did not get to 100 percent I believe the latest register (May 2013) has 95 percent of its entries with height measured by laser and most done since 2009. So it can be done -all it takes is to get started -that's the hard part. The WV state big tree register has a has a column indicating how the height was determined. See it here:

http://www.wvcommerce.org/resources/forestry/big_tree/registered_trees/default.aspx

Re: How others describe height measuring

by Joe » Tue Jul 09, 2013 10:26 am

Turner, Your point is well taken. It can be done, and obviously in WV has been done. I have a suspicion that you played a not insignificant role in WV's ascendency, but that the others were receptive is a credit to them. I plan to use your example in discussions with the AF Group. And let's not forget Alaska and Don Bertollette. Since Don is a member of the Group, Alaska's state champion tree coordinator, and the president of WNNTS, we are mightily well represented in AF to make real, long-lasting changes. Sometimes, it is difficult for me to get out of the past. Change comes much more slowly than we think it should. I fear that I have a habit of concentrating on the problem areas instead of enjoying our successes. However, I acknowledge that we are making progress on many fronts thanks to all concerned.

Robert T. Leverett

Re: How others describe height measuring

by dbh guru » Wed Jul 10, 2013 9:58 am

dbh guru wrote: Change comes much more slowly than we think it should. Bob

all the more reason to write a definitive "Why Accurate Tree Measuring is Extremely Important"

Joe

Re: How others describe height measuring

by dbh guru » Wed Jul 10, 2013 3:53 pm

With AF getting serious about tightening the rules, and the flood of information available via the web, young minds are challenged to up the anti. I'm more optimistic than ever that we'll get the job done. The problem heretofore has been that the tools were not available to accurately measure trees to the accuracies we want and the forestry profession did not require externally accurate heights and crown
spreads. We’ve discussed the reasons before. But here is another, nature writers and newspaper reporters seldom get it right when reporting. Lots of sources of wrong information out there.

Robert T. Leverett

Re: How others describe height measuring

by tsharp » Sat Jul 13, 2013 11:17 am

Bob, NTS:
I recently looked at Maryland’s Big Tree list and found out that it appears it has changed structure and is now funded by the “Maryland Association of Forest Conservancy District Boards” instead of the Maryland Department of Natural Resources. They have a nice web page at:

http://www.mdbigtrees.com/view_tree.aspx

There is over a thousand trees on their register and as I was looking down through the list I noticed that they listed “ENTS” as a method of measurement and have links to Will’s ”Tree Measuring Guidelines” on the NTS web page.
The first ten biggest trees listed had seven identified as Ents method of measurement and the other three as tape and clinometers. It looks like they changed over about 2009. I am curious about how that came about. They list the measuring crews and I do not recognize any names that have been active on the BBS board. Does any NTS member have any knowledge of who or what precipitated their changeover?
There doesn't appear to be any any reservations about accepting multi-stem trees in their register although most of the pictures are good enough to identify them.
It also appears there may be some in the measuring group are not convinced that lasers are the way to go. See the comments about a Silver Maple here:

TS

Re: How others describe height measuring

by eliahd24 » Sat Jul 13, 2013 12:36 pm

For what it's worth, the state coordinator here in Georgia (Scott Griffin with Georgia Forestry Commission) has been very receptive to my input for our state list. He drove down to Atlanta a few years back and we spent the day visiting trees, taking measurement and photo's, etc. I used the SIN method with laser and clinometer for all trees that day. Now I can submit nominations and updated measurements to him and he'll post them without hesitation. Just a little bit of time invested early on has led to a great working relationship for years now.

Re: How others describe height measuring

by dbhguru » Sat Jul 13, 2013 12:58 pm

Turner,

I looked at the link. Measurers who use a laser-based hypsometer and can't find an opening to the center area of a crown (where they assume the top will be) are often at a loss as what to do thereafter. In truth, if you can't identify the sprig that you are calling the top and be able to locate it relative to other contenders and to the base of the trunk, then you are fooling yourself about what you are doing. This is a lesson that appears a long time in the coming, and it is made all the more difficult when the measurer is stumped by the underlying trigonometry and instead relies on a set measurement protocol. There is no substitute for experience and the use of a little commonsense. That said, from what you are seeing as well as others, including myself, huge strides have been made, and I expect as others take up the challenge, some of them will be teaching us a thing or two.

I expect that there have always been experienced
tree measurers out there who recognized that standard measurement protocols were flawed and continued to be used in lieu of more exacting methods for a variety of reasons, not the least of which was acceptability to others, i.e. the old guard.

Robert T. Leverett

Re: How others describe height measuring

by Matt Markworth » Sat Jul 13, 2013 7:43 pm

tsharp wrote: I noticed that they listed “ENTS” as a method of measurement and have links to Will’s "Tree Measuring Guidelines” on the NTS web page.

It appears that the MD Big Tree site was modeled after the PA Big Tree site, and that may have been how the various NTS references made their way into the MD site. However they got there, it's great to see!

Here's an example of what I'm referring to. The MD page even references the PA Big Tree Program at the bottom of the page . . .

http://www.mdbigtrees.com/Measure.aspx

http://www.pabigtrees.com/Measure.aspx

- Matt

Re: How others describe height measuring

by dbhguru » Sat Jul 13, 2013 8:58 pm

Mark,

These are relatively new changes and I think we will likely see a steady march toward tightening the reins by other state level coordinators. I expect that as they discover Ed's excellent guides on Wikipedia, even the most entrenched will want to improve their sites. Maybe we're seeing the beginning of a revolution in improving recreational tree measuring.

If we consider the level of expertise that exists in the mountaineering community, we can imagine some of it spilling over into tree measuring from unexpected directions. When the word circulates that American Forests is strengthening their guidelines, that will likely have a ripple effect.

The AF working group which has Don Bertolette, Scott Wade, and me as members will meet again in conference on the 19th. Please feel free to give us your opinion on measuring multi-stem trees, tree definition, etc. We welcome input.

Robert T. Leverett

Re: How others describe height measuring

by Don » Mon Jul 15, 2013 5:22 pm

Mark, Turner, Will/NTS at large-

Yes, please do weigh in on accuracy measuring issues with multi-stem trees, tree definitions, etc., as they would be timely with our July 19th group meeting.

Don Bertolette
**Good spot in NE Michigan? (Lower peninsula)**

by Matt Markworth » Thu Jul 04, 2013 6:45 pm

Hi All, Anyone know of a good spot that needs measured in NE Michigan (lower peninsula)? I'm camping up here and checked out Besser Natural Area today. The trees weren't tall, but had plenty of character. Granted it's not the best time of the year to measure. The understory of Striped Maples kept me from getting a good view of the tops, although I did shoot straight up for "not less than" measurements and got some CBH's.

Let me know if you know of any other places. I'll be up here all day tomorrow and heading home Saturday.

Thanks, Matt

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**Re: Good spot in NE Michigan? (Lower peninsula)**

by Matt Markworth » Thu Jul 04, 2013 8:14 pm

Thanks Doug! I think you're onto something. I'll focus on the little guys. Enjoy the fireworks, I'll be strolling out to the beach and watching them across Thunder Bay this evening.

-Matt

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**Re: Tanglewood Park, NC revisited**

by bbeduhn » Tue Jul 02, 2013 9:01 am

I finally got the chance to stop by Tanglewood. There wasn't enough time to traverse the trails and doing so would have been an exercise in frustration anyway, since the leaves are so thick. I stopped at the Manor House, which had a number of fine specimens and an arboretum as well. The state champ walnut looked a bit weary, wearing three belts to hold the trunk together and a cable or two. A couple of others were ready to mount a challenge to the title.

**Blk. Walnut Juglans nigra**

<table>
<thead>
<tr>
<th>H</th>
<th>CBH</th>
<th>Spr</th>
<th>Pts</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>76.2’</td>
<td>161”</td>
<td>99.2’</td>
<td>262</td>
<td>no#</td>
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<tr>
<td>94.2’</td>
<td>146”</td>
<td>92.4’</td>
<td>263</td>
<td>529</td>
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<tr>
<td>88.2’</td>
<td>156”</td>
<td>102.0’</td>
<td>268</td>
<td>no#</td>
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<tr>
<td>95.1’</td>
<td>113”</td>
<td>111.6’</td>
<td>236</td>
<td>480</td>
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<td>--</td>
<td>138”</td>
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<td>--</td>
<td>536</td>
</tr>
</tbody>
</table>

**South. shagbark hick**

<table>
<thead>
<tr>
<th>H</th>
<th>CBH</th>
<th>Spr</th>
<th>Pts</th>
<th>#</th>
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</thead>
<tbody>
<tr>
<td>98.4’</td>
<td>110”</td>
<td>96’</td>
<td>232</td>
<td>491</td>
</tr>
<tr>
<td>125.6’</td>
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<td>512</td>
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<tr>
<td>Tree Type</td>
<td>H (ft)</td>
<td>CBH (in)</td>
<td>Spr (in)</td>
<td>Pts (in)</td>
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<td>-------------------</td>
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</tr>
<tr>
<td>South. Magnolia</td>
<td>162&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White oak</td>
<td>174&quot;</td>
<td>124.6'</td>
<td></td>
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<tr>
<td>Tuliptree</td>
<td>131.0'</td>
<td></td>
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<tr>
<td></td>
<td>132.0'</td>
<td>200.5&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dawn redwood</td>
<td>97.5'</td>
<td>119.5&quot;</td>
<td></td>
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</tr>
</tbody>
</table>

The new state champ, barring other challengers, is just 60 yards from the old champ. All three big ones are in close proximity. The Manor House was built in 1859, and I suspect these walnuts were planted in that year or shortly thereafter, making them likely 140-154 years old.
NTS: Sometime after the Derecho of June 29th, 2012 an acquaintance was bemoaning how many trees had been destroyed on their property. Since I had measured a few trees on their property in the past I was curious to take a look. The property is about eight acres in the city limits of Parkersburg and has two personal residences. About 6 acres is mowed. A previous owner was fixated on daffodils and allegedly planted over 100,000 bulbs in the 1920’s and 30's. They put on a impressive display in the Spring. A total of 19 trees were destroyed by the storm of which two I had measured 2008. They were interested that they at least had a partial record of what was lost and for their future reference I agreed to measure at least two of the biggest of each species on the property after leaf drop. I spent a couple of partial days in November and December of 2012 on the property measuring trees.

The largest of species encountered were a mix on native and planted and are listed below in order of descending height.

**Yellow-poplar** (*Liriodendron tulipifera*) 121.8' x 12.7', 112.7' x 13.2'

**Pin Oak** (*Quercus palustris*) 102.5' x 8.0', 91.2' x 8.6'

**Black Oak** (*Quercus velutina*) 101.7' x 13.5' - CBH taken @ 5 1/2'

**Blackgum** (*Nyssa sylvatica*) 100.3' x 10.5', 84.5' x 11.0'

**Northern Red Oak** (*Quercus rubra*) 98.0' x 9.3', 92.0' x 12.2'

**Norway Spruce** (*Picea abies*) 91.2' x 5.4', 86.3' x 6.7'

**Eastern Hemlock** (*Tsuga canadensis*) 90.3' x 6.9' has HWA

**Shagbark Hickory** (*Carya ovata*) 86.3' x 5.4', 78.5' x 6.8'

**Eastern White Pine** (*Pinus strobus*) 84.1' x 7.0

**Black Walnut** (*Juglans nigra*) 73.2' x 9.4'

**Norway Maple** (*Acer platanoides*) 72.3' x 7.5'

**Red Pine** (*Pinus resinosa*) 70.4' x 3.9'

**Chinese Chestnut** (*Castanea molissima*) 70.2' x 5.0'

**American Beech** (*Fagus grandifolia*) 68.2' x 9.8'

**Shingle Oak** (*Quercus imbricaria*) 61.3' x 4.2'

**American Holly** (*Ilex opaca*) 60.4' x 4.7'

**Sassafras** (*Sassafras albidum*) 56.6' x 2.4', 51.5' x 2.6'

**Ohio Buckeye** (*Aesculus glabra*) 52.6' x 6.0' x 61' (maximum crown spread)

**Umbrella-tree** (*Magnolia tripetala*) 41.8' x 5.6' x 53' (maximum crown spread)

**English Yew** (*taxus baccata*) 41.5' x 5.2' @ 3' x 38.5' (maximum crown spread)

**American Witch Hazel** (*Hamamelis virginiana*) **** x 1.1'

The Witch Hazel was wind thrown but still a rooted and healthy tree. Main stem length is 29.2' and maximum height from ground level was 6'

Below is a picture of the tallest Blackgum guarding one of the residences:

Photo by Turner Sharp
A complete list of trees measured can be found on the Trees database at:

http://www.treesdb.org/Browse/Sites/1559/Details

The Rucker indices for the site are:
RH10 = 94.9’
RG10 = 9.9’

There are a couple of species of note which I registered with the state of WV.
They include the Ohio Buckeye, Umbrella-tree and English Yew.
The two destroyed trees that I had measured in 2008 were a Black Oak at 103.8’ x 13.9’ and a Northern Red Oak at 100.2’ x 9.6’

Of interest is an early deed for the property that specifies that for every Oak tree removed two had to be planted.

TS

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Re: Nice American chestnut in Montreat, NC

by Will Blozan » Sat Jul 06, 2013 8:21 am

NTS,

I saw this tree this week and it still looks good. I will get updated measurements this fall (and some nuts perhaps).

(Original post August 5, 2012)

Will
Re: Say Good Bye to the White Ash Tree (WV)

by Ranger Dan » Mon Jul 01, 2013 5:15 pm

For posterity, we should document the ash trees, as we wish could have been done for the American chestnut. Take lots of pictures, movies, measurements, notes on aspects of the site conditions and biological communities they live in. Take detailed pictures of the ones with unique and special character, especially.

Last fall I made a return trip to Prettyland Mountain, in the Smokies, because I recalled a lot of stately, tall ash trees there in never-logged forest. I have images and movie-ettes to share. some of the trees are quite tall. No exceptional trunk diameters, but many in the 30-40” diameter range, and very beautiful, open forest, in company with yellow buckeye, other northern hardwoods, and spruce. It’s very tough to get to. I can give directions and descriptions to anyone interested.

At the Claytor Nature Study Center near Bedford, VA, where I work, we have an exceptional white ash. It was measured by our big tree coordinator and author of Remarkable Trees of Virginia, who says it may be Virginia’s 5th largest. We would like to be able to save it, but since the trunk diameter is 5 ft., I understand that may not be practical or even possible. We will be heartbroken to see it go, along with the other stately ash trees that are so common here.

Dan Miles

Re: Say Good Bye to the White Ash Tree (WV)

by Will Blozan » Mon Jul 01, 2013 6:47 pm

Dan, The removal costs of that 5’ diameter ash would surely equate to several- if not many years of EAB treatments. Money has to be spent one way or another- that is unavoidable. If imidacloprid can be used it is super cheap. Dinotefuran is the second least costly and emamectin the most costly. Choose wisely.

Will

Re: Say Good Bye to the White Ash Tree (WV)

by Joe » Tue Jul 02, 2013 10:06 am

Speaking of WV, the attached photo was just sent to me by Peter Church, current Forest Stewardship Director for Mass- it’s a “patch reserve”.

Re: Say Good Bye to the White Ash Tree (WV)

by Ranger Dan » Sat Jul 06, 2013 9:54 am

Regarding treatment for emerald ash borer, accounts of failure of treatments have led me to believe that it
may be a waste of time and resources to attempt treating a 5-ft. diameter white ash, or even a modest sized one, for that matter. But I'm not giving up that easily. Can anyone give a recommendation on exactly how much imidacloprid (preferably) or other insecticide it would take to treat a white ash with a 16 ft. circumference? Some research I've read online suggests using twice the recommended rate of imidacloprid (Xytect in this case) on "larger" trees in the 15-22" range. Is injection with Emamectin Benzoate necessary?

**The "Tree" Without Roots**

by Matt Markworth » Sat Jul 06, 2013 10:31 pm

Hi All, I present The "Tree" Without Roots . . .
the underside

This living tree trunk (branch?) definitely found a fortunate spot on this Lake Huron beach. My theory is that after being cut down by a beaver, it drifted ashore and is being supplied with water through sheer saturation.

- Matt

Re: The "Tree" Without Roots

by edfrank » Sat Jul 06, 2013 11:13 pm

There are a number of species that will eventually sprout roots from the trunk if the conditions are right. It is pretty common for black willow, and I assume other willow species. I have seen it happen with sycamore. I wonder in how many species this takes place. Usually it requires at least some of the roots on the existing fallen trunk to remain active and feeding the branches until they develop roots of their own. This is a really neat specimen.

Edward Forrest Frank

Mt. Olivet Cemetery woodland, WV

by tsharp » Sat Jul 06, 2013 6:41 am

Mt. Olivet cemetery occupies about 75 acres in the city limits of Parkersburg, WV. About 20 acres is forested and not used as a cemetery and looks like it has been relatively undisturbed for the past 50-60 years. Even though it is only a short walk from where I live for some reason I never got around to measuring very many trees on this site. I corrected this oversight with a couple of measuring visits in November of 2012 and was pleasantly surprised as to the species diversity.

The largest trees of each species are listed below in descending order of height.

- Yellow-poplar (*Liriodendron tulipifera*) 127.5' x 11.7'
- American Sycamore (*Platanus occidentalis*) 120.2' x 8.7'
- Pignut Hickory (*Carya glabra*) 117.2' x 5.7'
- Northern Red Oak (*Quercus rubra*) 112.3' x 9.6', 90.8' x 12.0'
- Black Cherry (*Prunus serotina*) 112.3' x 9.6', 93.4' x 9.9'
- Bitternut Hickory (*Carya cordiformis*) 111.7' x 7.2'
- Red Maple (*Acer rubrum*) 109.9' x 8.2', 90.8' x 12.0'
- American Beech (*Fagus grandifolia*) 109.2' x 8.8', 107.7' x 9.8'
- Eastern Cottonwood (*Populus deltoides*) 109.1' x 6.0'
- White Oak (*Quercus alba*) 105.1' x 9.9'
- Tree-of-Heaven (*Ailanthus altissima*) 102.1' x 5.5'
- Sassafras (*Sassafras albidum*) 101.6' x 4.1', 93.2' x 4.6'
- Black Oak (*Quercus velutina*) 97.7' x 11.4'
- Red Elm (*Ulmus rubra*) 93.0' x 6.7'
- Shagbark Hickory (*Carya ovata*) 92.1' x 3.9'
- Yellow Buckeye (*Aesculus flava*) 91.7' x 7.8'
- Shingle Oak (*Quercus imbricaria*) 90.1' x 4.0'
- Blackgum (*Nyssa sylvatica*) 85.7' x 5.3'
- Sourwood (*Oxydendron arboreum*) 81.9' x 6.2'
- Sugar Maple (*Acer saccharum*) 76.1' x 7.4'
- Black Walnut (*Juglans nigra*) 73.4' x 7.2'
- Common Hackberry (*Celtis occidentalis*) 67.4' x 4.8'
- American Hornbeam (*Carpinus caroliniana*) 41.4' x 1.3'
Common Persimmon (*Diospyros virginiana*) **** x 1.2'

For a complete listing of trees measured see the Trees database at:

http://www.treesdb.org/Browse/Sites/1587/Details

The Rucker indices for the site are RH10=114.0', RG10=10.0'

The site has a north facing aspect and a drop of elevation of 150 feet down from the high spot near the fence enclosing the cemetery to a small unnamed tributary of Worthington Creek at 600 feet elevation. The site is heavily browsed by deer and most of the understory is Pawpaw and a bush honeysuckle species (*Lonicera spp.*). For some reason I did not measure a single Pawpaw.

The most notable tree was the tallest Sassafras which was in a small grove of six all of which beat the record height for West Virginia. The tallest at 101.6 feet bumped up the maximum height for West Virginia from 91.8'. However I was able to best this height just two weeks later on another site.

TS

**Re: Mt. Olivet Cemetery woodland, WV**

» by [dbh guru](#) » Sat Jul 06, 2013 11:44 pm

Turner,

That's a heck of a cemetery forest. I never see them with so much variety, i.e. the unused portions.

Robert T. Leverett

**Stunted Trees on Lake Huron Coast**

» by [Matt Markworth](#) » Sat Jul 06, 2013 11:47 pm

Hi All,

I found these little trees fascinating. They inhabit the rocky Lake Huron coast at Besser Natural Area in NE Michigan (lower peninsula).

**Re: Mt. Olivet Cemetery woodland, WV**

» by [Will Blozan](#) » Sat Jul 06, 2013 8:00 am

Nice work Turner! I also was impressed with the sassafras for height and girth. The Ailanthus is quite impressive as well.

Will
I have always been fascinated by these types of stunted trees. The stunted forests like are atop Mt. Greylock, MA are another example. The country is rife with patches of unusual forests. Those stunted by circumstances. Unusual assemblages related to soil chemistry or climatic conditions. Disjunct pockets of species found outside their normal range. Assemblages a result of unusual natural history processes. I have taken some stabs at trying to define what we need to look at for these types of forests, but my ideas need to be fleshed out more. If anyone has suggestions, please weigh on how to document the aesthetics, the uniqueness, and value of these types of forests.

Edward Forrest Frank

**Tree Maximums - Genus of the Week: Castanea (Chestnut)**

by Matt Markworth » Sun Jul 07, 2013 9:15 pm

Hi All,

Genus of the Week: Castanea

"Measured a chestnut stump on Asa White's land, twenty-three and nine twelfths feet in circumference, eight and one half feet one way, seven feet the other, at one foot from ground." – Henry David Thoreau, 6/2/1852

"Measured the great chestnut. At about seven feet from ground, the smallest place I could find, it is 14 3/4 feet in circumference; at six feet from ground, 15 1/12 feet in circumference; at five feet, 15 4/12; at one foot from ground not including some bulgings, 22 feet in circumference. It branches first at about nine feet from ground. The top has some dead limbs and is not large in proportion to trunk." – Henry David Thoreau, 8/14/1854

Shall we accept Thoreau’s measurements? :)

An excerpt from Jess's MaxList:
Please reply with these measurement details if you think you've measured a specimen displaying the growth potential (Height, Girth, Spread, or Volume) of the species. Please include photos when possible.

Species (Scientific):
Species (Common):
Height (ft):
CBH (ft):
Maximum Spread (ft):
Average Spread (ft):
Volume (ft^3):
Site Name:
Subsite Name:
Country:
State or Province:
Property Owner:
Date of Measurement:
Measurer(s):
Method of Height Measurement:
Tree Name:
Habitat:
Notes:


USDA Plants Database: [http://plants.usda.gov/java/profile?symbol=CASTA](http://plants.usda.gov/java/profile?symbol=CASTA)

Don Leopold video . . .

[http://www.youtube.com/watch?v=yLKe1YbLLYo](http://www.youtube.com/watch?v=yLKe1YbLLYo)

- Matt Markworth

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**Re: Tree Maximums - Genus of the Week: Castanea (Chestnut)**

by edfrank » Sun Jul 07, 2013 9:48 pm

For people interested in Chestnuts, there is this photo contest from The American Chestnut Foundation:

Don't forget about our 2013 Photo Contest! This is your chance to see your image in print (plus other wonderful prizes)!

Re: Tree Maximums - Genus of the Week: Castanea (Chestnut)

by edfrank » Sat Jul 27, 2013 5:16 pm

Not a champion, but I have photos!!

Castanea dentata

Species (Scientific): Castanea
Species (Common): dentata
Height (ft): 72
CBH (ft): 4.33
Maximum Spread (ft): 33
Average Spread (ft): 33
Volume (ft³):
Site Name: Clear Creek SF
Subsite Name: Lyle Summit #1, Clarion
Country: Jefferson
State or Province: PA
Property Owner: PA Dept of Forestry
Date of Measurement: June 22, 2009
Measurer(s): Edward Forrest Frank
Method of Height Measurement: NTS
Tree Name:
Habitat: Forested
Notes: Healthy and producing nuts when last visited
http://www.nativetreesociety.org/fieldt ... eek_sf.htm

http://www.youtube.com/watch?v=iTT6FHUuaJc&fe ature=share&list=PLB786A1F385F1FE8C

Note there is a dead trunk from another tree in the photo behind the chestnut
Hi Folks,

The attachment is the first of several reports on the canyon country of southeastern Utah. I am creating these reports for a particular group of people, most of whom are not NTS members. The writing style and inclusion of information in this first report is targeted for the specialized audience. There is no focus on trees. If I see that this first post is popular with BBS members, I’ll create expanded versions of the future reports that will contain more tree-related information.

Edward Forrest Frank

Canyonlands National Park, UT

Hi Friends,

On July 5th, Monica and I just returned from a 5-day stay in Monticello, Utah, with frequent visits to Canyonlands NP and one visit to Natural Bridges National Monument. We’d like to share our experiences with you in this first of several essays. We want to share lots of images with you, but to keep the size of the files manageable, we’ll present no more than seven or eight photos per submission. By the way, if these posts become too much, please just let us know.

Canyonlands National Park

The Southwest, and the Four Corners area in particular, is Monica’s favorite part of the West, but she had not visited Canyonlands near Moab and Monticello, Utah before, nor had I. We had read about the park and seen many photographs, but had not set our feet firmly on its soil. That has changed, and I can say that as a consequence of our treks, this national park has been elevated to be on par with the best that either of us have visited.

Edward Abbey describes this remote region best in his classic Desert Solitaire. We can never hope to match Abbey’s descriptions so we must let images do most of the talking for us. Our commentaries will be relatively brief. Here is a quote from Abbey about the Canyonlands: “the most weird, wonderful, magical place on earth—there is nothing else like it anywhere."

Canyonlands cover nearly 338,000 acres of Utah’s high desert/canyon country and is a creation largely of the Green and Colorado Rivers and their tributaries. In fact, the Green and the Colorado come together there. The river network creates four separate areas of the Park: Island in the Sky, Needles, Maze, and the rivers themselves. Island in the Sky receives the most visitation, followed by the Needles. To put the visits into context, of the roughly 450,000 annual visitors, Island in the Sky gets 35% of this total and that number is spread over about 7 months of the year. This equates to about 750 visitors per day. The bulk of these visitors come in half of March,
April, May, September and October. June, July, and August see reduced visitation due to the heat. So, we might see 450 visitors per day during July and they are spread over 12 hours and many miles of roads and trails. Basically, one gets to experience this region free from crowds – if one can handle the heat.

As our first image, we present a shot from the Slickrock Foot Trail in the Needles section of the Park, one of four named areas, and so far, my favorite. The layers of weathered rock sculpted into forms that challenge the imagination tell a story of the Earth’s transformation from a sea bottom many millions of years ago.

I took this photo in the Needles area. What are the Needles? Let’s have a look.
The geological explanation of the Needles and most Canyonlands formations can be mind-bending. Simple patterns of erosion can be recognized, but beyond them, I’m often left straining to understand the complex processes at work. Here is a closer look at the Needles.
What is especially striking is the impact on the imagination. However, the name given to the next formation puzzles me. It is North Sharpshooters Butte. What could have given rise to that colorful name?
One can describe the Canyonlands from many perspectives. I like to alternate between macro and micro perspectives. At the macro scale, the geological formations seem endless and their contorted surfaces appear impenetrable. The heat bears down and one cannot imagine lasting very long trekking through such a hostile environment. I think a lot of casual visitors hold this opinion. But Edward Abbey would disagree. From Desert Solitaire:

The wind will not stop. Gusts of sand swirl before me, stinging my face. But there is still too much to see and marvel at, the world very much alive in the bright light and wind, exultant with the fever of spring, the delight of the morning. Strolling on, it seems to me that this strangeness and wonder of existence are emphasized here, in the desert, by the comparative sparsity of the flora and fauna: life not crowded upon life as in other places but scattered abroad in spareness and simplicity, with a generous gift of space for each herb and bush and tree, each stem of grass, so that the living organism stands out bold and brave and vivid against the lifeless sand and barren rock. The extreme clarity of the desert light is equaled by the extreme individuation of desert life forms. Love flowers best in openness and freedom.

Starting out, one worries about being swallowed in a trackless wilderness, but once in the maze, an intimacy can be established in a more human-scaled environment. There are even friendly places. The next photo shows a spot used by both the Anasazi, and later, cowboys. There was a single pool of water that didn’t look very drinkable to me, but evidently it was the only potable water in miles.
There were a couple of petroglyphs on the walls. They aroused our curiosity. Here is a look at one of them.
Archeologists spend long hours attempting to decipher their meanings. The forms of people and animals tell stories. Other forms are less understandable unless you know the cultural contexts.

Later we got more tangible confirmation of an enduring occupation. We hiked to the location of an ancient Anasazi granary used to store seeds of various types. As we observed the ruins, we reminded ourselves that every structure was created with hand labor. No advanced tools were used to build the structures, yet surfaces were smooth and angles exact.
We will close with an image presented to capture a tiny bit of what makes the Canyonlands NP land so appealing. Its timelessness is presented in space and contorted formations at all scales.
Wildfire control in the American Southwest

by Rand » Sat Jul 06, 2013 10:35 pm

This article is probably old hat to a lot of you around here, but thought it was a nice overview of the challenges presented by decades of wildfire suppression in the American Southwest. Might be a good reference when talking to non-tree people about the issues.
rain, sometimes without. Huge stacking cumulus clouds build up, and all firefighters eyes are peeled. And the public as well, as the lightning and thunder is quite an experience. This pattern has been long a feature of the Southwest and the frequency of lightning downstrikes is exceeded only by a few locations, and not by much. For much of the ponderosa pine forest here (largest in the world), such a frequency leads to many small fires. This for many centuries kept wildfire burn intensity low and prevented large catastrophic wildfires.

The monsoon season has changed significantly. The USFS practice of putting out every wildfire from 1920's to 1990's left the region with abundant regeneration, freed of the once frequent ground fires. Much of the Southwest is now trying to return to previous more natural fire regimes. Forests around Flagstaff AZ have a bit of a head start, and much research to help pave the way.

Hopefully sequestered funds and a stumbling economy will soon resolve. Lest we burn. The Yarnell Fire that recently took nineteen lives of the Granite Station hotshot crew is an unfortunate example...

**Congaree Champion Tree Survey news**

by Will Blozan » Sun Jul 07, 2013 1:37 pm

NTS, I have been fortunate to be an informal behind-the-scenes consultant on an upcoming Champion tree survey soon to commence at Congaree National Park. It is with great excitement that I can announce that they will be implementing NTS SINE methodology for the height measurements, and the staff have conducted a training workshop already. Furthermore, they are seeking "teams" to survey the park based on sectors. I have not seen the sector map yet but it will give the opportunity for a thorough assessment of the tree resources park-wide. Also, there is the possibility that some funds will be available for the survey teams to cover travel expenses. I have volunteered my time for this upcoming project in addition to the many hours spent "selling" our methods and reviewing research documents. I feel this is a huge "win" given the past efforts by researchers who did not understand tree form and as a result- mis-measured trees significantly. In fact, my main mission was to dispense of the old methods (chain distance and tangent clinometer averaged from three measurements...) and illustrate that the value of NTS SINE was the way to go. Success!

Will

Re: Congaree Champion Tree Survey news

by dbhguru » Sun Jul 07, 2013 8:02 pm

Will,

Congratulations with a capital C. Somebody in Congaree was listening! He/she/they deserve lots of kudos. Now if we can have comparable success in AF, we will have finally turned the corner on recreational tree measuring as a serious endeavor. I know that for you, this success is especially sweet. I wonder who was advising them on using the clinometer and chain method to average 3 bad measurements. My bad.

Robert T. Leverett
Re: American Forest's Measurement Group

by tsharp » Mon Jul 01, 2013 6:19 am

Ed, Bob:
I am happy with a 13 foot threshold for a tree. I think that is the present AF threshold for a tree. AF has or used to have a 3 inch diameter requirement to be considered for inclusion in their champion tree list. I do not think they intended to redefine what a tree is but just set a criteria as to what they would accept. Three inches seemed to work. 

TS

Re: American Forest's Measurement Group

by Will Blozan » Mon Jul 01, 2013 5:55 pm

Bob, I agree with Ed and Turner on the dead portion to be included. This is consistent with all other measurements. I seem to recall a minimum POINT threshold in the past. Seems like it was 25 points? This makes sense as it does not limit one dimension but it does bow to the ridiculous formula currently in place... I tried unsuccessfully to nominate a 25 or 26 point buffalo-nut (Pyrularia puberula) many years back as it was a superlative! I challenge anyone to find a bigger one. Alas, it was not on A. Little's list of acceptable species so it was rejected.

Turner,

Blackhaw (V. prunifolium) commonly achieves "tree" dimensions down here in NC. The largest I have seen were at "Poplar Forest" in VA:

One of the finest collections of black-haw viburnum I have ever seen grew in the understory of the tuliptrees and associated exotics. Diameters over 8 inches were encountered and one measured 35.3 feet tall which may be a new height record for the species. The largest black-haw could be a single stem state champion- the current champ is a fused mass as pictured on the VA Big Trees website.

As for the ten year rule- I am not sure. For trees super remote a return interval is unreasonable. For city/urban trees yes. Some species under severe pest threat (hemlock, ash) should be checked regularly and of course treated. I know BVP is adamantly against the 10 year rule as some trees are so remote they are unlikely to be visited again. However, you could possibly draw upon aerial photographs to verify- and this should be a legit method.

Will

Re: American Forest's Measurement Group

by dbhguru » Thu Jul 04, 2013 9:48 pm

Will, Ed, et. Al.,

I get it when most of the tree is alive. Measuring to a dead top for height or outstretched dead limbs for spread, but what if the tree is mostly dead? Suppose there is only a small area of live crown. Would we think of the rule the same way?

Bob

Re: American Forest's Measurement Group

by Will Blozan » Fri Jul 05, 2013 10:53 am

Bob, Great question. A huge dead tree with a basal sprout would not qualify for me. I see the point for the bristlecone and similar strip-bark species. However, most of our eastern trees don't normally do this except some conifers (Juniperus, Thuja for example), and as such cannot be considered "normal" to me. A tree with a small strip of bark with a mostly
dead crown is not going to be a good representative of a champion nor be a long lasting example.

Will

Re: American Forest's Measurement Group

Don wrote:
On another topic, have you checked out a recent conceptualization called "Structure for Motion"? And if so, whattaya think?

Hey Don, Structure From Motion theory is the crux of my point cloud mapping. Instead of paying $10,000 for a ground based flash LiDAR, I can just use my digital camera and photo-bundling to create dense and accurate point clouds of tree trunks and forest canopy. This is also the method I use to make point cloud maps from UAVs... I do a photo burst at various points above targets or forests of interest. I then use the "structure from motion" theory and free software to create a digital elevation model.

The one deficiency of the structure from motion point cloud is that it is not scaled, but every point in the cloud is proportional to each other. To find scale I use my secret weapon :)

Michael Taylor

WNTS VP
California Big Trees Coordinator
www.landmarktrees.net

Re: American Forest's Measurement Group

Will,

Yes, this is exactly what I was visualizing. I remember when the Bradford Pine in NH began breaking apart. A long dead projection hardly seemed what we would have wanted to include had the tree been in the running for the championship. I think we would have all wanted the pine to announce retirement and just fade away. So where does that leave us? In a recent conference call Pete Smith from Texas began raising points and questions such as this and I thought to myself, "Oh Boy, there are lots of ways to look at these issues when you start considering trees at the margin."

Ed, Will, Michael, Turner, et. al.,

Now back to the definition of a tree. Here is what the Utah State forestry website says.

So trees, shrubs, and woody vines all have woody, perennial stems. What makes them different from one another? The distinction between trees and shrubs is not always clear. We all know that a large cottonwood is a tree and a creeping juniper is a shrub, but there are many shrub-like trees and tree-like shrubs. Though no scientific definition exists to separate trees and shrubs, a useful definition for a tree is a woody plant having one erect perennial stem (trunk) at least three inches in diameter at a point 4-1/2 feet above the ground, a definitely formed crown of foliage, and a mature height of at least 13 feet. This definition works fine, though some trees may have more than one stem and young trees obviously don't meet the size criteria. A shrub can then be defined as a woody plant with several perennial stems that may be erect or may lay close to the ground. It will usually have a height less than 13 feet and stems no more than about three inches in diameter.

There is much more on the website and it seems that they have done a lot of serious thinking about the topic of definitions. Does this definition change anyone's thinking?

Robert T. Leverett
Re: American Forest's Measurement Group

by edfrank » Fri Jul 05, 2013 8:03 pm

Bob,

The USDA definition doesn't have a girth requirement, and I really don't think a girth requirement is advisable. If there is one, I don't think it should be a 3 inch diameter value. One example is the 53 foot high witch hazel along the Seneca Trail at Cook Forest. I don't believe it would meet the three inch diameter requirement although it would otherwise out point many of the fatter and much shorter examples from the park. Along the same line I disagree with Will's idea that there should be a minimum point value. He used an example in his own post where a specimen he tried to submit was short of points by only a couple. If the goal of the big tree list is to engender public participation, then any obstacles that would weed out marginal specimens is just that many more people who will not be able to have a specimen on the list. It doesn't cost them anything to have these marginal specimens on the website, and at most it would only add a page to the printed list. Let more people participate, and include these marginal trees - even if you personally would consider them shrubs.

Edward Forrest Frank

Re: American Forest’s Measurement Group

by dbhguru » Fri Jul 05, 2013 11:28 pm

Ed,

Duly noted. I do understand where you are coming from. I wonder who else out there in Entland has thoughts on the topic?

Bob

Re: American Forest's Measurement Group

by Will Blozan » Sat Jul 06, 2013 8:18 am

Ed, I see your point with regard to a minimum point limitation. However, since it is the register of big TREES- a tree minimum has to be defined, albeit in a less restrictive way. In some areas what some would call and define as a shrub can be a definitive tree elsewhere.

This is a hard one!

Will

Re: American Forest’s Measurement Group

by edfrank » Sat Jul 06, 2013 3:53 pm

Will, Bob, Turner, NTS,

There should be a minimum requirement, and I am suggesting that this conform to the definition used by the USDA: "Perennial, woody plant with a single stem (trunk), normally greater than 4 to 5 meters (13 to 16 feet) in height" without a minimum girth or point value. Currently the definition being used from the American Forest website is:

Q. What is the difference between a tree and a shrub?

A. Trees are woody plants that have one erect perennial stem or trunk at least 9 ½ inches in circumference at 4 ½ feet above the ground. They also have a definitively formed crown of foliage and a height of at least 13 feet. In contrast, shrubs are small woody plants, usually with several perennial stems branching at the base.

This is essentially the same as Utah's definition as noted by Bob, 3 inch diameter and 13 feet high. If there is going to be a definition of a tree used, why
should it vary from the USDA definition? There are many examples of specimens that are certainly tall enough that a reasonable person would call them a tree, but are not fat enough to meet the 3 inch diameter requirement. AF can use whatever definition they want. It is their list and so they can certainly set whatever criteria they want.

The wiggle room in the USDA definition is the word "normally." The list is not a list of the biggest trees or all it would have are sequoias and redwoods. It is a list of the biggest examples of each species. It just doesn't make any sense for me to have additional requirements beyond the minimal height. To do so simply eliminates species that are to my mind perfectly good trees. I really don't have anything more to add at this point, so whatever the rest of you decide is the NTS position on this issue - Fine.

Edward Frank

**Re: American Forest's Measurement Group**

by dbhguru » Sat Jul 06, 2013 5:43 pm

Ed, Will, Turner, et. al.,

This is exactly what I'm looking for - a thorough airing of the possibilities, a discussion of the fine points. In the end, 3 of us will vote on each topic after input from the ex-officio members. If there is a consensus among the three, the guideline/ rule passes. If one descents, no change occurs. So, while we're considering an issue, the more input, the better.

From my perspective, the AF criteria makes sense. A plant that at best never exceeds say an inch and a half in diameter at 4.5 feet really pushes the idea of a tree. However, we can certainly adjust our perspective. For example, suppose we have two species. One never exceeds an inch and a half in diameter at 4.5 feet and the other can reach 3 inches in diameter at 4.5 feet, but never exceeds say 12 feet in height. I would be more inclined to accept the latter over the former as a tree if only one could be selected. Here, I'm talking about what each species can achieve in dimensions, not what a particular specimen has achieved.

All Ents,

Many of you may not have strong opinions on some of these tree issues, but please don't hesitate to voice your opinions or ask questions. We especially need to hear from arborists, foresters, and forest ecologists.

Robert T. Leverett

**Re: American Forest's Measurement Group**

by edfrank » Sun Jul 07, 2013 2:25 pm

Bob, NTS,

I think the distinction between trees and shrubs is pretty much arbitrary - the are both a perennial plants with a self-supporting, erect, wooden stem. Shrubs often have multiple stems, trees often have multiple stems. Shrubs may have a single stem, trees often have a single stem. There isn't any real difference except for an arbitrary height, or in some definitions both a height and girth requirement. In Bob's example above, if these were the largest specimens for the species, I would accept them both for on a champion tree list. If there is to be an arbitrary boundary between trees and shrubs, as I have stated above, it should be based upon height alone. The best option would be to not make a distinction between the two.

Edward Frank

As for your unposted question, it doesn't really matter if one place calls a feature a bole or a trunk, or if they are branches or boughs, we just need to be consistent. Not every variation of every term need to be dealt
with or defined in a basic structure for use by American Forests. They just need to define a sequence and use it consistently. (Will is right in the post below.)

Edward Forrest Frank

Re: American Forest's Measurement Group

by Will Blozan » Sun Jul 07, 2013 2:44 pm

FYI- For crown mapping definitions the sequence is trunk, limb, branch. There are bifurcations (trunks only) and reiterations (secondary trunks originating from trunks or limbs). Branches can be supported by any trunk structure or limb. Branches are the only leaf supporting structures. Trunks, bifurcations and reiterations support branches or other trunks.

Will

Re: American Forest's Measurement Group

by Don » Mon Jul 08, 2013 1:59 am

Ed-
I've been out of town/cell for the last ten days and am just now getting back to the NTS BBS.

I see that you're citing a USDA definition/minimum girth criteria for a tree. I'm not familiar with that one...

For my own state, we use Leslie Viereck's "Alaska Trees and Shrubs" as a standard on Tree ID/Classification. It has since 1972 used Elbert Little's 1953 definition in the US Department of Ag. Agriculture Handbook 41, with 472 pages. who wrote "...woody plants having one erect perennial stem or trunk at least 3 inches (7.5cm) in diameter at breast height (4 1/2'..., 1.4 m), a more or less definitely formed crown of foliage, and a height of at least 12 ft. (4 m.)...." As far as I know, the USFS, the NPS, and the BLM all use Little's standard tree definition.

I was the contracting officer's representative (COR) for several arborist contracts, and my read on arborists is that they see tree's differently than we foresters, but I don't know that they consider the tree's girth inconsequential in their urban forest measurement/management.

I am willing to listen to your logic. I have seen your facility for data mining, I'm wondering where your USDA citation comes from? Could it be the Soil and Conservation Service?

On other topics, again you've raised the bar, your BBS periodical continues to amaze! Also the recent addition of NTS to Facebook has been a great addition!

-Don

Re: American Forest's Measurement Group

by Don » Mon Jul 08, 2013 3:34 am

Just another quick note...a little history on the definition of a tree. This from George B. Sudworth's "Forest Trees of the Pacific Slope" (1908).

It seems that George B. Sudworth wrote a manual that first appeared in 1908, as a publication of the united States Forest Service. Sudworth became the Chief Dendrologist of the Forest Service in 1904.

Since his graduation at the University of Michigan in 1885 until his selection as Chief Dendrologist (a title later held by Elbert Little, Jr), Sudworth performed and recorded extensive field studies. He did this field
travel at a time when much of the West could only be reached by pack train or on foot, and the accuracy, extent, and completeness of his notes and drawings still amaze and fascinate foresters today. As an aside, Sudworth’s own notes were supplemented by those of Dr. C.Hart Merriam who made available extensive notes on tree distribution in California.

But back to the tree definition...Sudworth’s definition was a "...woody plant having one well-defined stem and a more or less definitely formed crown (but not excluding unbranched cactuses, yuccas, and palms, and attaining somewhere in their natural or planted range a height of at least 8 feet and a diameter of not less than 2 inches. It has been difficult to apply this definition in all cases, for there is no sharp line between some shrub-like tree and some tree-like shrubs. However, though wholly arbitrary, it has been serviceable"

Don Bertolette

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**Re: American Forest's Measurement Group**

*Don* by *edfrank* » Mon Jul 08, 2013 11:44 am

Don, You asked about the source of the definition. It is from the Natural Resource Conservation Service - The Plants Database people.

http://plants.usda.gov/growth_habits_def.html

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**Re: American Forest's Measurement Group**

*Don* by *edfrank* » Mon Jul 08, 2013 11:44 am

Don, You asked about the source of the definition. It is from the Natural Resource Conservation Service - The Plants Database people.

http://plants.usda.gov/growth_habits_def.html

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**Re: American Forest's Measurement Group**

*Don* by *edfrank* » Mon Jul 08, 2013 11:44 am

Don, You asked about the source of the definition. It is from the Natural Resource Conservation Service - The Plants Database people.

http://plants.usda.gov/growth_habits_def.html

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**Re: American Forest's Measurement Group**

*Ed-*, *I like inclusive!* -Don

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Someone back in the earlier days of ENTS found in a quick search 98 definitions for old growth:
**Henderson Hall, WV**

by **tsharp** » Tue Jul 09, 2013 6:40 am

On the old river road between Williamstown and Parkersburg, WV is a large three story house know as Henderson Hall. This well know landmark is perched on an old river terrace about one hundred feet above the present day level of the Ohio River.

The history of this house and its occupants offer a glimpse back into the early days of this country.

Three Henderson brothers were early settlers in the area and came from eastern Virginia in the early 1800’s to settle on lands claimed by their father Alexander Henderson Sr. of Dumfries, VA. A grandson (George Washington Henderson) developed the property, married well, and soon controlled over 2,000 acres of land. A log structure built on the site was replaced by a brick structure in 1836 which was later replaced by an architect designed home built between 1856-1859. It was done in the Italinate style and incorporated the original brick building as a kitchen area. The family were slave holders and supported the Union while their eastern Virginia cousins supported the confederacy. The family continuously occupied the property until the last family member died in the 2000’s and the remaining property (65 acres) was donated to a local museum and is now open to the public.

A nice video about this family and property can be found at:

http://vimeo.com/53969361

What caught my eye was a tract of mature woods of about seven acres next to Henderson Hall. There was no problem getting permission to measure trees. Here is a list of the largest trees found:

Yellow-poplar (*Liriodendron tulipifera*) 134.5’ x 11.5’
American Sycamore (*Platanus occidentalis*) 121.5’ x 10.3’, 99.2’ x 12.7’
Black Walnut (*Juglans nigra*) 118.2’ x 7.7. x 51’ (maximum crown spread), **** x 12.8’ (dead but standing)
White Ash (*Fraxinus americana*) 106.5’ x 6.9’, **** x 7.2’
Northern Red Oak (*Quercus rubra*) 104.3’ x 10.4’

Trees of note included two species which set new height records for West Virginia. Black Walnut at 118.2’ from the previous record of 111.3’ Hackberry at 93.3’ which upped the previous record of 85.6’

Rucker indices for the site are: RH10= 106.4, RG10=11.0’

Most of the trees measured were in the seven acre tract except a few planted species near Henderson Hall and some Bitternut Hickories across the road in the next lower river terrace which would be the horse pasture in the old picture.

A complete list of trees measured is at Trees database at:

http://www.treesdb.org/Browse/Sites/1599/Details
Re: It's football vs. forest at Va. Tech

by Joe » Tue Jul 02, 2013 7:11 am

Ashe County wrote: the trees may have won this time. alternate sites are being considered!

it's always amazing to me that when any project is proposed- such considerations are not given right from the beginning- is it stupidity or insensitivity?

personally, I have an extremely negative view of professional and college sports- it just feeds the Neanderthal love of violence in so many people- no insult to Neanderthals intended.... at least their violence was to remain alive in a world of wooly mamouths, wooly rhinos and cave bears....

hey, somewhat related--- just read that in California, one school is finally going to be allowed to teach yoga to students who are interested.... imagine--- sports are worshiped in every school in the nation but it took years of court battles in California to teach yoga!

Joe

Re: It's football vs. forest at Va. Tech

by jamesrobertsmith » Mon Jul 08, 2013 10:38 pm

Ashe County wrote: the students mobilized against it James. people were holding signs, talking thru megaphones, you get the picture. the faculty voted against it. the university board announced that the woods would not be cut. with enough citizen protest, policies can change.

WOO HOO! Great to hear!

Re: Tribute to Larry Tucei

by dbhguru » Thu Jul 04, 2013 10:21 pm

NTS

I'd like to say a few words about our Mississippi buddy, Larry Tucei. We usually think of Larry and live oaks. But Larry was worth his weight in gold on this past WNTS rendezvous. He quickly got the measure of tall ponderosas, Colorado blue spruces, Englemann spruces, and Douglas firs. As a consequence we were very productive in our tall tree searches. It just recently occurred to me that for NTS, I think he now holds the point record for a Rocky Mountain ponderosa. The big 13.75-ft girth, 146.5-foot tall pondy beats my best. If any Ent has a Rocky Mountain variety ponderosa that tops 323 points, which is what I think Larry Tucei's pondy earns, please let us know. Regardless, I propose we name his pine the Larry Tucei Ponderosa. Do I hear seconds?

Robert T. Leverett

Re: Tribute to Larry Tucei

by Matt Markworth » Fri Jul 05, 2013 10:30 pm

I'll second that!

Thank you both for sharing your experiences of that majestic forest and I look forward to future reports. It sounds like there is a lot left to explore!

-Matt
**Re: Tribute to Larry Tucei**

by Iowa Big Tree Guy » Sat Jul 06, 2013 10:39 pm

Bob,

I think it is very cool to name the big ponderosa after Larry. You wanted to know if any members of the NTS had measured any Rocky Mtn. Ponderosas with more than 323 points.

Years ago, I used to go to Colorado for a week every summer to look for big trees. In 1995 Stuart Sarnow, a forester from the San Juan National Forest showed me a very large ponderosa.

Even though I measured the tree using cross triangulation, I'm fairly confident that the dimensions I found are reasonably accurate. I was always a stickler for determining the point on the ground directly below the highest twig. I also took great pains to make sure I was looking at the actual highest twig when I took my readings.

The tree stands, or stood, near Pagosa Springs. In 1995 I found it to have these dimensions:

- circumference 14'8"
- height 144'
- crown spread 52'
- total points 334

Bob, when I come to Colorado in a couple of weeks one of my priorities is to show you this pine. If it is still standing, it will be interesting to measure it to see how our figures compare to my previous measurements. This tree was a national champion for a time but it was dethroned by a much larger tree in western montana.

I knew there were larger ponderosas in Montana but I always thought they were a different tree. Does anyone know if they are the same as the Rocky Mtn ponderosa?

Mark

---

**Re: Tribute to Larry Tucei**

by dbhguru » Sat Jul 06, 2013 10:45 pm

Mark,

I absolutely trust your measurements. I'm hoping the fires out here won't prevent us from visiting the huge pine. Looking forward to your visit.

In terms of the sub-species of pine in Montana, I just don't know. The person to ask is Bob Van Pelt. He knows that species throughout its range. I'll send him an email and ask the question.

Robert T. Leverett

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**Re: Tribute to Larry Tucei**

by tsharp » Sun Jul 07, 2013 8:55 am

Mark, Bob, NTS:

The Montana Ponderosa is likely *P. ponderosa ssp. ponderosa* and the one in Pagosa Springs is likely *P.ponderosa ssp. scopulorum.*

A good reference is Chris Earle's Gymnosperm database. His listings for Ponderosa Pine can be found here:

[http://www.conifers.org/pi/Pinus_ponderosa.php](http://www.conifers.org/pi/Pinus_ponderosa.php)

When I was in southern Arizona a while back I found his site to be very helpful and enlightening. I had no idea that how contentious the taxonomy of this and related species has been and continues to be. Bob: This is a subject that American Forest's measuring group will have to deal with. I notice that American Forests only recognizes three varieties of Ponderosa while Chris Earle's page recognizes four (subs.) and the USDA plants recognizes five varieties. Have fun sorting that out.

TS
Oak ID, MI

by Matt Markworth » Thu Jul 11, 2013 8:36 pm

Hi All,

This species of Oak is very prevalent in the sandy soil forests that I visited in NE Michigan (lower peninsula) near Lake Huron. It was the only Oak species that I encountered.

The leaf says Black Oak, but the blocks on the bark seem way too big.

Thoughts?
Re: Oak ID

by lucager1483 » Fri Jul 12, 2013 6:36 am

Matt,

From the leaves and acorn, it's a pretty clearly northern red oak, or *quercus rubra*. The blocky bark resembles chestnut oak, though northern reds can sometimes have deep furrows, especially on poor sites, at least from my experience. I've never seen bark with blocks that pronounced on a northern red oak before, but, assuming the photos are all from the same tree, that would be my ID. It's definitely not black oak, though I suppose the two could hybridize. Cool tree from a cool place.

Elijah

Re: Oak ID

by Matt Markworth » Fri Jul 12, 2013 7:59 am

Thanks Elijah!

Photos 1 and 4 are the same tree and the rest are different trees. I looked at dozens of these trees and they all have the same blocky bark and the same leaves with shallow sinuses.

The blocky bark just completely threw me off, here's a photo of a downed tree . . .

Thanks,

Matt
Re: Oak ID

by tsharp » Fri Jul 12, 2013 10:05 am

Elijah, NTS: I agree with Northern Red Oak on a poor site. Since you have an acorn picture can you tell which variety of Northern Red Oak it is?

TS

Re: Oak ID

by Steve Galehouse » Fri Jul 12, 2013 11:13 pm

Looks like Quercus rubra v. borealis

Re: Oak ID

by tsharp » Sat Jul 13, 2013 10:45 am

Steve, NTS:
I do not have a good grasp on the older nomenclature for Northern Red Oak but at present USDA plants recognizes two varieties. Q. rubra var. rubra and Q. rubra var. ambigua. Apparently both of these varieties have in the past been tagged with borealis either as a species or variety.
If the acorn cup pictured looks like a beret and covers no more then 1/4 of the acorn then it should be Q. rubra var. rubra. The leaves pictured are also consistent with variety rubra.
TS

Re: Oak ID

by Steve Galehouse » Sun Jul 14, 2013 11:35 am

Turner, NTS-

The acorn pic and especially the bark pics, still look like Quercus rubra var. borealis (now var. ambigua) to me. Quercus rubra var. maxima (now var. rubra) has much larger acorns, and is by far the commoner variety in my area. Here is a photo comparing the acorns of red oaks found in my area, left to right: Northern red var. rubra(maxima), scarlet, black, pin. The other form of northern red, as I have seen it, has acorns about the size of scarlet oak.
Coal Run - WV

by tsharp » Fri Jul 12, 2013 10:00 am

Coal Run is a small tributary of the New River that tumbles off the plateau near Cunard on the south side of the New River Gorge. The road from Cunard to the river drops about 750 feet of elevation and can be an exciting drive during the whitewater season because of the bus traffic going to the river access point. One can drive about a mile downstream of the river access and park near a footbridge crossing Coal Run. This road along the river and the foundation for the foot bridge were formerly a railroad bed. I had previously spotted a few trees in this area I wanted to measure. Therefore I invested two half day visits to the site in December of 2012.

The property is owned by the National Park Service as part of the New River Gorge National River. All trees measured where within 100 yards of Coal Run and all but one were between the footbridge spanning Coal Run down to the bank of the New River.

The largest trees measured are listed by descending order of height as follows.

- **Yellow-poplar** (*Liriodendron tulipifera*) 125.1' x 6.75'
- **American Sycamore** (*Platanus occidentalis*) 116.1' x ****
- **Northern Red Oak** (*Quercus rubra*) 114.9' x 7.4'
- **Red Maple** (*Acer rubrum*) 112.8' x 7.0'
- **Eastern Hemlock** (*Tsuga canadensis*) 110.6' x **** (Has HWA)
- **Black Cherry** (*Prunus serotina[|i]*) 105.6' x 3.2'
- **Sassafras** (*Sassafras albidum*) 103.6' x 4.5' x 27' (maximum spread)
- **Green Ash** (*Fraxinus pennsylvanica*) 100.5' x 3.2'
- **Black Locust** (*Robinia pseudoacacia*) 97.0' x ****
- **American Beech** (*Fagus grandifolia*) 94.0' (nlt) x 14.0' x 92' (maximum spread)
- **Chestnut Oak** (*Quercus prinus*) 86.9' x 9.0'
- **Black Birch** (*Betula lenta*) 79.7' x 3.2'
- **Umbrella-tree** (*Magnolia tripetala*) 69.9' (nlt) x 2.7' x 20.25' (maximum spread)
- **Mountain Maple** (*Acer spiatum*) **** x 2.2'

The Rucker Indices are: RH!0 = 109.2', RG10 = 6.5'
Two height measurements are listed as Not Less Then (NLT) because of daylight constraints on a cloudy/misty December day.

Trees of note include record heights in West Virginia for Sassafras at 103.6' (previously 101.6' just two weeks ago) and Umbrella Magnolia at 69.9' (previously 41.8'). It was this species that attracted me to the site and I still did not get a maximum reading. The Beech has the largest AF point total for any known in WV. The Mountain Maple at 1,000' elevation seems out of place but it is on a site with a north facing aspect and I can vouch for cold air draining down Coal Run.

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

http://www.treesdb.org/Browse/Sites/1608/Details

Turner Sharp

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**Re: Coal Run - WV**

**by Jess Riddle** » Fri Jul 12, 2013 5:55 pm

Hi Turner,

Sounds like the site has an interesting mix of species. I've only been to a couple of sites with both mountain maple and umbrella magnolia, and the mountain maples were shrubby at both of them. I believe you umbrella is the second tallest NTS has measured with a 77' tree in Atlanta holding the record. I'm impressed they can get that tall at that latitude.

---

**Re: Coal Run - WV**

**by tsharp** » Sat Jul 13, 2013 12:25 pm

Will:

I ID'd the Green Ash because the bark was not White Ash plus the site, although not bottom land, was a wet site near the river.

Do you consider Biltmore Ash a species or a variety of White Ash? There is some controversy over Ash especially concerning the genetic evidence.

Jess Thee was also a Umbrella Magnolia measured by George Fieo in Philadelphia park at 72.1'. The site is interesting and has young vigorous trees and is recovering from man’s past activity. Basically it is at the bottom of a steep sided gorge that levels off as it gets close to the river and in places gets 300 yards wide with a moderate slope. Just as interesting it is probable that there is another 30 miles along the river very similar. I plan to hit a few more of those miles.

---

Will
**Re: Coal Run - WV**

by Will Blozan » Sun Jul 14, 2013 7:55 pm

Turner,

I am fairly certain Biltmore ash is its own species now... Incidentally, it does not look much at all like white ash in most respects, and looks much more like green ash but still not quite. The bark and habitat allows for fairly easy differentiation although I have seen both white and Biltmore on the same site. However, they look different enough to distinguish. Biltmore ash bark is much more blocky and often lacks the diamond fissures so prevalent on white ash.

Will

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**Geology question for Ed Frank**

by dbhguru » Sun Jul 14, 2013 11:53 pm

Ed,

I need some help with geology. Today Monica and I went into the Jemez Mountains of northern New Mexico. As I suren you know, they are of recent volcanic origin. One description of them I read states that they and the Sangre de Cristo Mountains of New Mexico are the southern terminus of the Rocky Mountains. I had understood that the Sangres were, but not the Jemez mountains. What criteria is used to judge where the Rockies end? The Jemez apparently date back only about 1.5 million years and I think I read that the last volcanic activity was between 50,000 and 60,000 years ago. What defines the Rocky Mountains? How has the thinking changed from when the Rockies were defined as the result of the Laramide Orogeny?

Robert T. Leverett

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**Re: Geology question for Ed Frank**

by edfrank » Mon Jul 15, 2013 12:27 am

Bob,

Basically, yes. The Sangre de Cristo Mountains of New Mexico are the southernmost range of the Rocky Mountains. They were uplifted as part of the Laramide orogeny occurring from between 80 to 55 Ma. The Jemez Mountains were formed by inner continental volcanism with major activity dating from 1.4 million years ago and continuing until the present. They are not part of the Laramide orogeny, therefore they are a separate mountain range even though they but up against the southern end of the Rockies. The thinking on the origin of the Rockies as the result of the Laramide orogeny hasn't really changed. There has been some arguments about the time range of the orogeny, but most agree with the standard dates and none are argued as being any younger than 35 million years in any part of the range, so it is quite distinct from the volcanism that formed the Jemez Mountains.

Ed

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**Tribute to Georgia O'Keefe**

by dbhguru » Tue Jul 16, 2013 5:59 pm

NTS,

The attachment is presented as a tribute to the late artist. She once said that if people were trees, she'd like them better. That deserves a tribute.

Bob

[Georgia O'Keefe.docx](Georgia O'Keefe.docx)

Robert T. Leverett
Tribute to Georgia O'Keefe

Hello Friends,

This submission is presented to honor Georgia O'Keeffe. A couple of years ago, I barely knew who she was - I'd only seen a painting or two. Then last year Monica wanted to visit her home country as part of our trip to Santa Fe, where we took in two operas and visited a friend in Villanueva. On the trip from Durango, we stopped at the Abiquiu Inn and I got a sample of O'Keeffe’s depiction of the landforms around her two homes in northern New Mexico. I recognized then her sensitivity to the landscape, but still had not immersed myself in her art, and wasn’t sure of how well I related to the modernist style. But the seeds had been sown.

This year Monica was insistent about our visiting Ghost Ranch, which had been the location of one of O’Keeffe’s homes, and perhaps seeing her other home at Abiquiu. These home visits were not to be, since you have to sign up for guided tours months in advance. However, there are other sights to see at Ghost Ranch, including two museums, one on paleontology and the other on archeology. The ranch is a prime site for excavations in both fields. Of course, the other reason to visit the ranch is to see and enjoy the landscapes that O’Keeffe knew and loved at that place. Here is a scene from near an old dwelling at the beginning of the ranch, one that she would have witnessed often.

Then we drove into the little town of Abiquiu. The village looked very historic and authentically Spanish or Spanish influenced. The streets were dusty and the
community was obviously poor and religious. Monica spotted a small dwelling with a sign that said Visitor Information, and she rang the doorbell. An old gentleman made his way to the door and invited her in. She signaled for me. The gent’s name is Napoleon Suazo-Garcia, and he is a Genizaro (part Spanish, part Indian), and it turns out that he had worked for Georgia O’Keeffe for over 40 years. What a story he had to tell! We bought his book (“The Genizaro and the Artist” by Napoleon Garcia and Analinda Dunn). Since my photo of him in his chair was not a good one, here is a photograph of a photo of Napoleon taken in his house with his permission.

Both Monica and I immediately sensed that there was something very special about this man. He spoke slowly and precisely. He was humble and it was obvious that he had a sense of mission about getting a little-told story about Georgia O’Keeffe out to the public. Napoleon explained to us how Georgia O’Keeffe had helped the people of Abiquiu over the decades, never interfering with their ways of life, and always being supportive. He talked of her deep devotion to the land and its people. O’Keeffe’s paintings tell the story of her connections to the many varied and colorful landforms. She loved her isolation (her paintings never included people), and was driven to capture the essence of what she observed in nature. Suddenly, I had a whole new perspective on Georgia O’Keeffe. She wasn’t just a rich woman who gained recognition as an avant-garde artist. She was part of the land she loved.

When Monica and I visited her museum in Santa Fe, I connected to her art as I never imagined I could. I understood, at least I thought I did, what she was
attempting to portray on canvas. She loved the landforms, and sought to connect with their essence. She never tired of looking at them, and watching them change in the changing light. She learned to mix paints to capture the range of hues she saw, amplifying them, but never compromising their distinctive identities.

One landform that she particularly liked was a butte or mesa or mountain named Cerro Pedernal, which translates to Flint Hill. The Pedernal, as it is usually called for short, owes its existence and its top to the Jemez Mountains, and their origin in fire. They are a young, volcanic range dating back only 1.4 million years, with volcanic activity as late as only 60,000 years ago. A second bit of information about Pedernal is that it was a sacred site of the Galena people and a place where they mined flint and made stone tools. At 9,862 feet above sea level, and because of its shape, the Pedernal draws one’s attention, as it did O’Keeffe’s. If you Google Pedernal and Georgia O’Keeffe, you’ll see many of her paintings featuring the mountain.

Beyond its distinctive shape and the moods that it imprinted on the landscape, features that cannot be missed, what was the pull of Pedernal for her? I don’t know, but both Monica and I felt its power.

Here is a series of images giving views from afar and close. First, Pedernal in a full landscape context.

Now, two views from perspectives that O’Keeffe often painted.
Last, a closer look that portrays Pedernal’s commanding presence and duel with the clouds for dominance.

Next, we see the mountain from a different angle. Pedernal would have surprised us with its narrowed profile, had we not been forewarned by a friend.
It is hard to overstate the importance of Pedernal to Georgia O’Keeffe. Here are two quotations of hers:

“I’ve traveled all over the world and I don’t think there’s anything as good as this.”

“It is my private mountain. God told me if I painted it enough, I could have it.”

Today, admirers come from around the world to visit Georgia O’Keeffe’s Ghost Ranch and Abiquiu homes, and her museum in Santa Fe. Many drive U.S. 84 and pass Pedernal, which is prominent to the west, and unmistakable. People say that they feel like they are driving through a Georgia O’Keeffe painting, and indeed they are, for she has portrayed these land forms many times over.

She traveled widely, but found no place that pleased her so much as this land she called home, with her favorite mountain to watch over her.

Georgia O’Keeffe’s ashes were strewn over the summit of Pedernal. I hope that her spirit approves of my small tribute to her and her beloved mountain.

O’Keeffe spent the last years of her life in Santa Fe, where proximity to medical attention was necessary. We conclude with an image taken from the upper deck of the Santa Fe opera house on July 13th. The dramatic image presents storm clouds, streaks of rain, a fading sunset, and the distant Jemez mountains – Nature’s opera as the background to Rossini’s La Donna Del Lago performed in Georgia O’Keeffe country. In a very real sense, her life was the region’s finest opera.
Bob

Georgia O'Keeffe, *Ram's Head White Hollyhock and Little Hills*, 1935, The Brooklyn Museum

http://en.wikipedia.org/wiki/Georgia_O%27Keeffe
Hi All,

The forecast was calling for rain during the holiday weekend and the South and the East had gloomy predictions as well. I can think of no better way to celebrate the 4th of July than exercising the freedom of choosing a direction and hitting the open road. North it was and seven hours later I pulled into Ossineke campground with breezy blue skies.

Heading north from Ossineke, I crossed over the 45th parallel and was reminded that I’d be seeing species unknown to my southwestern Ohio stomping grounds. As it turned out, I also encountered a species that I thought I knew well, yet one that presented itself with very different characteristics.

The mix of species at Besser Natural Area proved to be very different than my usual haunts and the mature pines and cedars made quite an impression as I walked down the trail. Here’s a brief description of Besser: [http://www.michigan.gov/dnr/0,4570,7-153-31154_31260-54000--,00.html](http://www.michigan.gov/dnr/0,4570,7-153-31154_31260-54000--,00.html)

The White Pine is clearly the monarch of this forest exhibiting approximate heights up to 107 ft (shooting the laser straight up) and a maximum girth of 9.35 ft.
Eastern White Pine, CBH: 9.35ft

I documented the Red Pine up to 93.5 ft shooting straight up with girths up to 6 ft. A cut Red Pine with a girth of 4.5 ft at 5 ft high had approximately 120 rings.

Red Pine Bark

Northern White-Cedar had the most character by far. A cut Northern White-Cedar with a girth of 3.3 ft at 8 ft high had approximately 125 rings.

Fallen Eastern White Pine showing the sandy soil
The trail continues on and reaches the shore of Lake Huron. The stunted trees (http://www.ents-bbs.org/viewtopic.php?f=90&t=5551) and the "Tree Without Roots" (http://www.ents-bbs.org/viewtopic.php?f=90&t=5549) kept my attention for quite awhile.

And now to the tree exhibiting characteristics I hadn't seen before. The extremely blocky bark and the trunk without "ski tracks" threw me off the scent of Northern Red Oak. Here's the original post: http://www.ents-bbs.org/viewtopic.php?f=38&t=5562

I was able to do the Sine Method on a Striped Maple and got 44ft.
Striped Maple Bark

Balsam Fir, Paper Birch, and Red Maple are also prevalent at the site. Many other species were present, but to a lesser extent.

On the way home I visited Lower Huron Metropark near Detroit. (http://www.ents-bbs.org/viewtopic.php?f=90&t=3822&start=30#p24402) As I crossed the Ohio line the rains came down and I appreciated my northerly excursion that much more.


- Matt
Re: Besser Natural Area (MI)

by Matt Markworth » Mon Jul 15, 2013 7:49 pm

bbeduhn wrote: Nice burl on the whitecedar!

Brian,

These old cedars were pretty interesting. Here's a different angle, along with two other cedars . . .

- Matt

Re: Besser Natural Area (MI)

by dbhguru » Wed Jul 17, 2013 12:04 am

Matt

I am very impressed by the measuring output of you and Brian. Both of you have amassed quite a lot of measurements. Do either of you have thoughts about the treatment of single versus multi-stemmed trees in the big tree contests?

Bob

Re: Besser Natural Area (MI)

by bbeduhn » Wed Jul 17, 2013 3:01 pm

Bob,

I am fully in support of having two listings. I much prefer single stemmed as I feel true trees are single stemmed in most circumstances. However, I have nothing against multi-stemmed trees. They are simply another kind of beast. I get very annoyed
when there is a true single that has no chance of competing with a multi; case in point, the Ohio sycamore. It's up to the individual states to confirm single vs. multi and fortunately, NTS has made headway in that regard. Hopefully, in five years' time we'll see all states separating trees into categories and have all trees accompanied with a photo, and have someone who knows how to measure properly to confirm the findings.

I just found a potential National champion hickory but there's a bigger one in Florida without as much as a photo, so there's no way of telling that it's a multi, which I presume but do not know for certain.

Brian

**Virginia Pine Sites with 110 Footers**

*by bbeduhn* » Wed Jul 17, 2013 12:02 pm

I'm keeping track of sites with Virginia pine topping 110'. If anyone has additional sites or additional trees at these sites, please add them.

Greensboro, NC
Guilford Courthouse
along paved road  111.0'
115.9'
along paved trail  potential 120'

Asheville, NC
Mountains-to-Sea Trail
between BRP HQ and Swannanoa River  112.1'

Gorges State Park, NC
near Frozen Creek access  114.0'
Rock Creek/Foothills Trail  110.3'
120.6(Blozan)
Toxaway River/Foothills Trail
111.9'  112.1'  118.6'  119.2'  120.5'

Chattooga River, SC
picnic area, ~2 mi from river  110'  114'

Jocassee Gorges, SC
Laurel Fork Heritage and just west of  110.9'
113.6'  113.7'  113.9'  124.6'

Whitewater River, SC
just south of NC border  110.4'
118.1'

Clayton, GA
Warwoman Road  122.3'
(Blozan, Riddle)

Unicoi Turnpike, GA
Spoilcane Creek tributary  111.2'
(Riddle)

The Warwoman VA pine still holds the official record. Looking back at my notes, I'm confident that the Laurel Fork was measured accurately but haven't been back to make certain and get photos.

Brian

**Re: Virginia Pine Sites with 110 Footers**

*by Will Blozan* » Wed Jul 17, 2013 2:52 pm

Brian,

There is a 114+ at the WNC Nature Center and 111+ at the NC Arboretum. I measured four over 114' in GA this past weekend but am not sure of the creek name. I'll look it up and let you know.

There was a 114' tree near Sylva but it was cut down...

Will
Re: Virginia Pine Sites with 110 Footers

by bbeduhn » Wed Jul 17, 2013 3:12 pm

Will,
I remember you pointing out the Sylva location. I got a lower figure at the Arboretum...I think about 107', and remeasured a little lower so it may no longer top 110' We'll check out the Nature Center at leaf off. You also found a few at the Kellogg Center which I missed due to the dazzling effects of the superlative pitch pines there. Georgia likely has quite a few more superlative VA sites (4 over 114', excellent!). 110' is becoming more common (or at least more noticed) for the species.
Brian

Re: Big MN Cottonwood

by AAnsorge » Thu Jul 18, 2013 10:20 am

Thanks...

I also measured a very nice cottonwood at Decorah on the Luther campus. It was only 78 feet tall but 24 foot circumference at BH. A true single stem beauty.

Re: Tree Maximums - Genus of the Week: Catalpa

by tsharp » Thu Jul 18, 2013 10:11 am

Matt: Sorry - no picture
Scientific name: Catalpa speciosa
Common name: Northern Catalpa
Height: 80.6’
CBH: 173.4’ taken at 3’
Crown Spread: Max. = 67.5’, Average = 60.25’
Volume:
Site name: Huttonsville
Subsite:
Country: USA
State: West Virginia
County: Randolph
Property owner: Private property
Date of measurement: 4/10/2010 by Turner Sharp
Method of measurement: Sine method using...
handheld Nikon 440 laser rangefinder and Suunto clinometer
Tree name:
Habitat: Yard tree
Notes:

Turner Sharp

Re: Tree Maximums - Genus of the Week: Catalpa

by Will Blozan » Thu Jul 18, 2013 8:56 pm


Not sure if this post with Catalpa made it on any max lists yet- if it even qualifies...

Will

Re: Aerial Drones

by M.W.Taylor » Mon Jul 01, 2013 10:18 pm

edfrank wrote: Michael, I saw this article and was wondering on your take on the issue.

Right now laws and ordinances are being enacted in many states to prohibit UAVs. There is a brief window to fly these for tree finding without breaking laws. As long as you stay under 400 feet, keep in eye sight if in NAS (national air space--above 500ft) and your UAV weighs under 66 lbs. I believe the article is misleading. It's when you fly in commercial airspace 500 feet and above with a UAV you need a COA license. ALso in this domain you are not allowed to fly UAVs for commercial purposes.

A lot of private enterprises appear to mislead the public. Perhaps so that others don't attempt to make their own UAV companies. They want to promote their own products yet discourage others from trying.. too many regs. etc.. I heard this one before.. There are 1000's upon 1000's of RC plane and helicopter videos for sale. These are low altitude fly-overs. They are not illegal to produce. To put a video camera in an RC plane and sell it is not illegal if being used as a model airplane...i.e. flown under 400 feet, under 66 lbs. >5 miles from airport or military base etc... When going into civilian airspace then I think it is illegal to use video for commercial purposes.

This is how I interpret the FAA website. I have seen a few articles on the newspapers that says it is illegal to fly UAVs in the form of RC planes with an autopilot system. They are mistaken. Clearly they want to hinder others from duplicating.
The attached FAA document actually does say using model UAV for commercial purposes to be illegal without a COA license. So yes, it is not legal to use these commercially without a COA license. See attached. You can fly out of sight if under 400 feet if I interpret the document correctly. For recreational purposes I would consider tree hunting applicable.

Michael T.

[frnotice_uas.pdf]

**Re: Aerial Drones**

*by M.W.Taylor » Thu Jul 04, 2013 3:30 am*

Joe wrote: Aside from spying on us from the air- my biggest concern is that they could crash- into our properties! Under 400’? I don’t want any *&^%$ plane, however small, flying just a few hundred feet up over my house- it’s enough to make me go out and buy a &^%$$# gun and shoot it down- for one thing, they’ll be noisy.

Joe, They sound like giant mosquitos. And the get louder and louder. They could also cause property damage, injury or even death to people if they crashed in a populated area. That is why I don’t fly over private property or populated areas. If I flew one over your house and your shot it down I guess I could say I would not blame you. I am using these out in the wilderness to search areas too remote to reach by foot. If they were accessible, I would be there on foot most likely.

Michael
Re: Aerial Drones

by Don » Thu Jul 18, 2013 9:02 pm

Mike/Ed/Joe-
In the years 1998 through 2003, I was a GIS Technician at Grand Canyon NP. My boss, and later my nearest co-worker did the GIS work for the Park in the extensive collaboration with FAA folks. I can tell you there was considerable high-level interest in Congress, and the airspace issues over Grand Canyon were hotly debated then, and I suspect still.

I wish I could grab one of the 3D 'maps' that Tracey put together to display the 3D nature of the airspace over Grand Canyon, to demonstrate the effects of various decisions. These discussions controlled what rather large commercial entities could, and couldn't do (and they had 'influence' in spades).
I'm not surprised that folks flying their UAV's were stopped. For the reasons above. But at a more personal level, for the visitors, the wildlife, and the silence that Grand Canyon NP fights really, really hard for, I would want them stopped too.

Or, if I were mean, at least force them to go through the same environmental assessment processes I had to as an employee trying to accomplish assigned tasks (like hazard tree treatments down in Phantom Ranch, or wildfire hazard reduction research).

-Don Bertolette

Re: Mountains-to-Sea Trail

by bbeduhn » Wed Jul 17, 2013 9:59 am

Bob,
The current Rucker index for the Mountains-to-Sea Trail:

R10= 133.13'
R20= 124.83'

pinus strobus 154.7'
lirio tulip 142.1'
pinus taeda 134.0'
quercus montana 133.5'
quercus alba 130.9'
carya glabra 129.4'
carya cordiformis 129.3'
quercus rubra 127.2'
quercus coccinea 125.4'

pinus rigida 124.8'
carya ovalis 122.6'
pinus echinata 122.3'
fraxinus Americana 121.6'

Re: Mountains-to-Sea Trail

by bbeduhn » Mon Jul 15, 2013 9:10 am

The rain just doesn't want to stop. I ventured out despite the endless downpours and checked out some shortleaf I'd been itching to measure. These are associated with some previous measurements.

new

pinus echinata shortleaf pine 99.1' 103.4'

previously measured

pinus echinata shortleaf pine 106.5' 117.5'
118.1' 122.3' 124.6' now dead

I did some recon further up the trail as well. I noticed tulips and hickories and took a few measurements this time. The fog limited me as well as a steady downpour. This area looks promising as it is a steep slope dominated by tulip with a strong presence of hickory.

Liriodendron tulipfera tuliptree 128.9' 135.4'
141.0'
Carya cordiformis bitternut hickory 117.6' 129.3'

Brian
quercus velotina 121.3’
metaseq glypto 119.7’
prunus serotina 114.7’
acer rubrum 113.8’
pinus virginiana 112.1’
robinia pseudo 110.2’
carya alba 107.0’

The dawn redwood sounds funny. I included trees within 100 yards so loblolly and redwood at the entrance to the WNC Arboretum are included. Tulip should go higher and hickory may as well. Sycamore should make the list and red spruce has a chance. I hope to get some spruce this weekend but the Parkway closure will make that difficult.

Brian

Re: Mountains-to-Sea Trail

by dbhguru » Wed Jul 17, 2013 11:38 pm

Brian,

Totally cool! I really like the idea of profiling big/tall trees along an important hiking trail. It really is a new way to focus the attention of others on the features offered by a trail. Lots to do along those lines. Featuring trees along a trail is what we are doing with the Hermosa Creek Trail in the La Platas. The Mountains-to-Sea Trail sounds like it offers endless possibilities.

Robert T. Leverett

Re: Mountains-to-Sea Trail

by edfrank » Sat Jul 27, 2013 7:25 pm

Brian, Guys, Girls,

For something like a trail or other linear feature I would think it would be important to only include trees within a certain distance of the path of the trail. What do you think? If you disagree, why? If you agree, what is a good distance from the trail to include?

Ed
Larry Tucei's Pine and More

by dbhguru » Wed Jul 17, 2013 7:45 pm

Hi Folks,

With my sinus infection and allergies under control, Monica and I went up the Hermosa Creek Trail in the La Platas to visit the Larry Tucei Pine and look for other fine trees. When we got to Larry’s tree, I set up and shot it from several locations and found a higher top. I got 149.0 feet, which includes a half foot to mid-slope. At mid-slope, I got 13.9 feet in girth. Here is a look at the tree with Monica in for scale.

Here is a look at the crown with an arrow pointing to the highest sprig.
I estimate that this big pine has very close to 1,000 cubes in its trunk and with the limbs will certainly exceed 1,000. I may return with the monocular and model it for volume. My calculation is 

\[(13.9^2/(4\pi))*0.44 = 1007.\] The 0.44 figure is realistic for this tree - I think. Hopefully, I can model it with the monocular.

Everywhere one looks the ponderosas excel. Here is a taste of pondy power.
And now for a vista shot.

On this trek, I confirmed three new 150+ foot Colorado blues: (156.0, 152.0, and 151.5. This bring the total 150-foot Colorado blues along Hermosa Creek to 6. In addition, we have 7 ponderosas that reach 150, and 2 Doug firs. There are quite a few trees in the 140s. This is a very significant big tree site.

Robert T. Leverett

**Re: Larry Tucei's Pine and More**

**by dbhguru »** Thu Jul 18, 2013 9:41 am

Larry, We went about a quarter of a mile farther. No let up in the possibilities. Rains have helped with the fires, but the West Fork fire is still burning. Yes, next year can be a banner one, but this year isn't over. Next week I'll continue the hunt with Mark Rouw, the Iowa Big Tree Guy. We'll keep you posted.

On next Tuesday, Laurie Swisher of the San Juan National Forest and I will model the Larry Tucei pine for volume. I'm guessing somewhere between 900 and 1,000 cubes for the trunk. I plan to use the Vortex Solo RT 8 x 36 monocular and the LTI TruPulse 360. I also plan to use some photographic analysis for limbs. I should have results by Wednesday or Thursday. I appreciate the Forest Service backing this effort. We really do have a partnership with the San Juan NF.

Bob
Structure From Motion to create high resolution point clouds

by M.W.Taylor » Fri Jul 05, 2013 6:34 pm

The attached is an example of a point cloud generated using "Structure From Motion" theory and software from University of Washington. The C++ code is open source. I've posted this example on ENTS before.

In this project a plane orbited around the Fetzer Giant, world's tallest and largest known valley oak. Inside plane was pilot Ben Fetzer and photographer Mike Hanuschik. Mike put his camera in photo burst mode so he created a 100+ panoramic series of images of the Fetzer Oak from 360 degrees in an "orbit" pattern around the big oak as the central focal point.

But this could be a UAV doing this. My auto pilot UAVs can be programmed to orbit around a 3D waypoint at point a camera at the waypoint in a locked position. Then do photo-bursting. I'll post results of this test soon.

The attached pictures show the orbit "photo burst" use to create the digital elevation model (also known as a point cloud). You can load the point cloud into AutoCad or a free program such as MeshLab and use the ruler tool to measure every tree, object and structure for size/height.

This is the future of tree measurement. This should be in the measurent group workshop in my opinion.

Michael Taylor
WNTS VP
California Big Trees Coordinator
http://www.landmarktrees.net
resultant point cloud of orbit pattern photo-burst for the giant Fetzer Oak. You can see the grand oak being measured at 150’+ using the Meshlab ruler tool orbit photo-burst of Fetzer Oak to create lawyered 3 dimensional point cloud
Re: Structure From Motion to create high resolution point cloud

by mdavie » Sat Jul 06, 2013 7:35 pm

Absolutely. This is great stuff!

Re: Structure From Motion to create high resolution point cloud

by dbhguru » Sat Jul 06, 2013 10:40 pm

Michael,

It will be exciting if American Forests makes room for advanced methods of tree measurement. I’ll do my best to create some space for methods such as you are developing, but I think you know the inertia that I will encounter. Adopting such advanced methods would represent more than simply pushing the envelope. It would represent sending the envelope on a journey around the world. We have a good team though. One of the members of the group is an associate professor of forest biometrics, and he does know his stuff. There is stuff brewing with the group that I think you would approve of.

However, I’m not going to win on every issue. I will have to compromise at points along in some of the processes.

Bob

Re: Structure From Motion to create high resolution point cloud

by Jess Riddle » Sun Jul 07, 2013 5:33 pm

Wow! I never thought techniques like this would be available so soon. I had assumed technology like this was at least a decade off.

Re: Structure From Motion to create high resolution point cloud

by Don » Sun Jul 07, 2013 10:05 pm

Jess-
One of my fellow Alaskans, a friend, and a lurker (Ken Winterberger) on our forum here has been investigating use of SfM for future natural resource inventories in Alaska. He believes is has a lot of potential and could be a natural pairing with LiDAR. Much like LiDar and satellite imagery can be paired. And certainly Michael Taylor has gotten with the program!.

Don Bertolette

Re: Structure From Motion to create high resolution point cloud

by M.W.Taylor » Fri Jul 19, 2013 12:30 pm

Here is another example of a point cloud taken of a forest generated by one of my UAVs using photo-bursting. This particular redwood forest is too remote for me to reach on foot (it would take 3 full days to get there and back). But with the UAV it only took 25 minutes to explore the remote basin. The photo-burst is programmed to activate at specific waypoints in the flight path. The duration, number of pictures and coverage distance of the photo-burst is completely programmable. Once scaled, every object in the point cloud can be measured. The attached is the raw point cloud, unprocessed. You can manipulate in Meshlab as a 3D graphic.
resultant point cloud of the photo-burst

overhead photo burst of remote redwood forest to measure canopy height above ground
Drone Explores & Measures Trees In A Very Remote Forest

by M.W.Taylor » Fri Jul 19, 2013 1:21 pm

I recently explored the remote redwood forest of by UAV. No tree over 350’ were found there but the area was completely unexplored so it was a new frontier and it needed to be surveyed. It would take 3 full days to just reach the upper part of this basin on foot. Now I can explore it in 30 minutes.

The attached represents the Mission Planner Software I use to program the drone to access a remote, unexplored redwood forest. The flight path in 3D overlay on Google Earth and Terrain maps + front mounted GoPro pictures. The mission must be carefully planned otherwise the drone will crash.

This mission had the UAV flying 400 feet over the surface features. After locating all the tallest tops on HD video I later returned with a point cloud mapping drone/UAV for targeted height measurement. This UAV/drone uses a downward pointed digital camera in photo burst mode. The triggering is accomplished through the AutoPilot software at each waypoint arrival.

Michael Taylor

WNTS VP
http://www.landmarktrees.net
California Big Trees Coordinator

I intentially place the flight path over the juciest looking crowns on Google Earth
planning the mission close up view

planning the mission - this is free, open source software!
planning the mission

point cloud of tall crown area. This is unscaled at the moment. After re-orienting Z-axis to gravity and rescaling, I’ll be able to measure every tree in the point cloud from Meshalb using the ruler tool. Tallest tree in this point cloud is about 330’, way up on the side of the hill.
photoburst of well protected region with emergent crowns and deep shadows, suggestive of tallness

returning home after long journey
Crossing the Gorge

climbing over ridge-line and returning to launch point
The footage is reviewed later from SD card, not in real time which would require extra heavy transmitter equipment. This saves weight on the UAV and dramatically increases its range.
terrain view2

terrain view
USGS topo view

**Re: Mission to Bridge Creek**

» by dbhguru » Fri Jul 19, 2013 1:28 pm

Michael,

Your accomplishments leave us speechless. You are so far ahead that companies that work in this area nuts not to grab you.

Robert T. Leverett

**Re: Mission to Bridge Creek**

» by M.W.Taylor » Fri Jul 19, 2013 1:41 pm

Hey Bob, I greatly appreciate your comments. Thanks !

I have been getting some inquiries lately. But those companies just don't know me. To date I've been secretive about my gadget building.
Re: Testing TruPulse 200 X

by Karlheinz » Mon Jul 15, 2013 10:37 am

Bob, I have questions:

As you know, I want to buy an instrument with a sharply focusing laser beam. My main application will be: Mounted on tripod to point and measure precisely a small target at tree top. (Measurements in cluttered environments along the forest floor to the base of a trunk is not so significant for me because I already can do this very precisely with Leica DISTO D8 or by tape measure).

- The major technical modification to TP200X is the new laser with visible red light. You have tested it against the Bosch GLR825. You will have seen the footprints of the two laser beams when hitting the target and you will be able to compare. Did both footprints look the same? Were both beams equally narrowly focused?

- When you measured the tree top of champion Colorado blue spruce and others, was it in bright daylight or towards evening in fading light?

- In the TruPulse 200X Specifications <http://www.lasertech.com/TruPulse-Laser...nder.aspx> I find no statement about the power of the new laser, but several dealers complement the specification as follows: “Eye safety: FDA Class 1 (CFR 21)”. This means strongly restricted laser power, in any case no more than 1 mW. Other rangefinders with Red Laser already introduced on the market are Leica Disto D8 and Trimble LaserAce 1000. For reasons of eye protection they also are limited to Class 1 devices. With these devices it is almost impossible to capture returns from the tree top, especially in bright daylight. They can not be recommended for tree height measurements. Therefore I am skeptical: How wants the TP200X to solve the job so much better than the competing models with the same laser power? Is there a statement of LTI?

Announced release date was postponed by months.

Stakemill.com now says: Early 4th Quarter. I am unsure if it makes sense for me to continue waiting and trust the promises of LTI. They have published up to now only insufficient information about technical data and abilities. When the unit is on sale in Germany and at what price, remains open.

Karl

Re: Testing TruPulse 200 X

by Will Blozan » Mon Jul 15, 2013 5:18 pm

Karl,

Am I mistaken to think that the visible red laser is NOT the impulse used for the length measurement? I was under the impression that the red beam was for positioning/sighting, not measuring.

Will
Re: 2013 Tree Climbers International/NTS Event October 9-14

by edfrank » Sat Jul 13, 2013 9:22 pm

October 9-14, 2013

TCI is very excited to invite you to the 2013 Tree Climbers' Rendezvous. This five-day event is going to be fantastic. We have BIG TREES to climb and GREAT THINGS planned for when you're on the ground.

The 2013 Rendezvous celebrates the 30th year of recreational tree climbing. There are plenty of stories to be shared by some of the first members of TCI and lots of others who have been climbing throughout the years.

You don't have to be a tree climber to attend, though you may have more fun if you are! This gathering is for anyone who is interested in trees and/or the research being done in and about them.

Come Climb With Us!

The trees at Simpsonwood are exceptional. There are specimen trees of many types. There are also very large trees of species common to the Southeast of the United States: oaks, pines, poplars, and other hardwoods. The grove of huge white oaks is perfect for "villages" of people sleeping in treetop hammocks. Opportunities abound for tree climbing adventures with old friends and new friends.

Educational Program: "Citizen Science for Tree Climbers"

During any Tree Climbers' Rendezvous, there is usually a variety of excellent programs taught by...
climbers with special skills. The 2013 Rendezvous will be no different; and many of the classes which are always enjoyed by Rendezvous participants, including Basic Doubled- and Single-Rope Technique Climbing Classes (these held before the Rendezvous starts), will be offered this year, too. However, TCI has also put together an extraordinary educational program which goes well beyond the traditional Rendezvous format.

The 2013 Tree Climbers Rendezvous has been organized with a distinct focus: "Citizen Science for Tree Climbers". "Citizen Science" is what it's called when non-scientists contribute data to scientific research. For example, the Cornell Laboratory of Ornithology [http://www.allaboutbirds.org/Page.aspx?pid=1189](http://www.allaboutbirds.org/Page.aspx?pid=1189) has an extensive data collection system to which amateur and professional bird watchers from all over the world can report their sightings. People in the Community Collaborative Rain, Hail and Snow Network [http://www.cocorahs.org](http://www.cocorahs.org) measure local precipitation and report to a national database daily. We want tree climbers to be "citizen scientists." We're up there climbing around anyway, so why not? All it takes is inspiration, know-how, and a place where data can be stored.

**Keynote Presentations**

During the Rendezvous "featured presentations," participants will hear talks from professionals whose work centers around their love and fascination with trees and nature in a variety of ways. Check out our program and amazing line-up of speakers. This is a unique "first" for any Tree Climbing Rendezvous. TCI is honored and thrilled to be your host.

**Measuring Big Trees and Forest Preservation**

This year's Rendezvous has been combined with the annual Rendezvous held by members of the Native Tree Society. These are the "big tree hunters" who discover, measure, and document the tallest and biggest trees in the United States and many other countries. These three NTS people (in alphabetical order) will be giving featured presentations at the Rendezvous:

**Will Blozan**: Co-founder and President of the Eastern Native Tree Society (forerunner of the NTS) and of Appalachian Arborists; author of “Tree Measuring Guidelines of the Eastern Native Tree Society”. Will was the director of the Tsuga Search Project aimed at documenting the greatest of the eastern hemlocks before they succumbed to the hemlock wooly adelgid. He is currently part of the research team mapping the canopy structures of the giant sequoias, including the "President Tree" featured in the December 2012 National Geographic Magazine.

**Robert ("Bob") Leverett**: Co-founder and Executive Director of the Eastern Native Tree Society (forerunner of the NTS). Bob has been called an "Evangelist for Old Growth." He is the Co-founder and President of the Friends of Mohawk Trail State Forest, a non-profit environmental organization; principal architect of the Ancient Eastern Forest Conference Series; and co-founder of the Forest Summit Lecture Series at Holyoke College, MA. Bob is also co-author of The Sierra Club Guide to the Ancient Forests of the Northeast and Eastern Old-growth Forests - Prospects for Rediscovery and Recovery.

**Joan Maloof**: Founder and Director of the Old Growth Forest Network (OGFN); author of Among the Ancients: Adventures in the Eastern Old-Growth Forests and Teaching the Trees: Lessons from the Forest. Dr. Maloof is raising money for the OGFN with a special Rendezvous offer. See details.

Bob and Will and other NTS members will be teaching three graduated daytime workshops on tree measurement. See below and upcoming publicity for more information.

In addition, **Monica Jakuc Leverett**, a concert pianist, will be performing a new "nature" composition by NTS member and composer Michael Gatonska. TCI is honored by and looking forward to hearing Michael and Monica's contributions.
Canopy Research and Tree Biology

Most of the world's forest canopies have not yet been explored. Opportunities for study and collaboration are unlimited! The following people are all experts with long experience in tree climbing, canopy research and/or the study of tree biology.

**Kim Coder**: Professor of Tree Biology and Health Care at the Warnell School of Forestry and Natural Resources, University of Georgia. Dr. Coder was elected President of the International Society of Arboriculture (ISA) by fellow professionals, has served as an appointed member of the USDA Secretary's National Advisory Committee on Urban and Community Forestry, and was President of the international Arboriculture Research and Education Association. For his dedication to trees and tree health care providers, he was awarded the top world-wide, peer selected professional awards (“Shigo Award for Excellence in Arboricultural Education,” “Harris Author Citation Award,” and the "Award of Achievement,")) by the ISA. Dr. Coder is author of over 500 technical publications and articles. He is an international lecturer and consultant on tree health and structure, community forests, and urban ecology.

**Margaret ("Meg") Lowman**: Director of the North Carolina Nature Research Center (NRC) [http://naturesearch.org/](http://naturesearch.org/); Executive Director of the Tree Foundation [http://www.treefoundation.org/](http://www.treefoundation.org/); author of Forest Canopy Methods, "CanopyMeg" pioneered the science of canopy ecology. For over 30 years, she has designed hot-air balloons and walkways for treetop exploration to solve mysteries in the world’s forests, especially insect pests and ecosystem health. Recent activities have included documenting and working to preserve the unique church forest of Ethiopia.

**Richard Preston**: Author of The Wild Trees, The Hot Zone, and other books and New Yorker magazine articles too numerous to name. Was a member of the four-person climbing team which made first ascent into "Hyperion," the world's tallest tree; also climbed with Steve Sillett and Marie Antoine into some of the tallest redwoods in the United States and eucalyptus trees in Australia.

**Cameron Williams**: Graduate student in Integrative Biology at the University of California, Berkeley. Cameron researches water use and transport in California redwoods. Since 1999 he has climbed trees in pursuit of a deeper understanding of how trees work, a quest that has carried him aloft into trees of all shapes and sizes. Cameron also teaches research climbing to scientists. He also installs rigging for film crews and photographers to capture images from “birds-eye points-of-view” in old-growth forests.

**Tropical Tree Climbing**

No discussion of measuring tall trees or canopy research would be complete without someone talking about the tropical rainforests of South America. The following two people will describe their experiences and work.

**Bart Bouricius**: Arborist and Adjunct Professor of Biology at Hampshire College, Massachusetts, cofounder of Canopy Construction Associates, established to provide access to the forest canopy for biologists and for eco-tourism. Bart has designed and participated in the construction of 23 forest canopy walkways in Belize, Indonesia, Ecuador, Peru, Gabon, Madagascar and many locations in the United States. Bart has published articles ranging from canopy access techniques to the life history of amblypygids (tailless whip scorpions). In the last few years, Bart has been focusing on the documentation and measurement of tropical emergent trees (giant trees whose umbrella-shaped canopies grow above the forest).

**Katherine Holden**: Katherine Holden's life's purpose arrived, surprising her, on a warm desert breeze in Joshua Tree, California. "Climbing Trees at Seventy: One Woman's Quest to Save Wild Trees," she is known as "Wild TreeWalker". Katherine learned tree climbing from Tim Kovar ("Tengu") and this July will climb old growth mahogany trees with indigenous seed collectors in a remote portion of the
Peruvian Amazon. She'll share her project and Peruvian experience at the Rendezvous.

"Treehab"

Our speaker has taken tree climbing to new "heights" with the use of tree climbing to help children with physical challenges.

**John Gathright**: Founder of Tree Climbing Japan and a founding member of the Japan Chapter of the International Society of Arboriculture. John's passion for helping physically-challenged children led him to write his own doctoral program in "Treehab" and then to become a Professor of "Treehab" at a local university. John has worked with thousands of children, written several peer-reviewed articles proving the therapeutic effects of recreational tree climbing, and now is beginning to show how tree climbing can help emotionally challenged children as well.

Now available! Pdf SCHEDULE OF FEATURED SPEAKERS (downloadable .pdf file)

**Daytime Workshops**

Daytime workshops on a variety of subjects will also be presented. Here are some that are on the Rendezvous schedule: http://www.treeclimbing.com/images/stories/Rendezvous/Featured_Speakers_Schedule.pdf

Learn tree measuring techniques and gear in Beginner's, Intermediate and Advanced "Measuring Giant Trees" workshops, all taught by NTS experts Bob Leverett and Will Blozan. You'll also get to try out some very fancy equipment.

What do you know about tree biology -- how a tree grows, how it feeds itself, how it heals itself from wounds, and other questions? Learn the basics of tree biology, as well as what kinds of cutting-edge research tree scientists are conducting now, in a series of workshops by ISA-certified arborist **Dave Tukey**.

Have you heard of the "Rope Wrench"? Its inventor, **Kevin Bingham**, an ISA-certified arborist, is coming to demonstrate this tool. He will also show another ascending/descending tool he's designed, the "Rope Runner".

"Water Bear" whotaughtyouscience.com

Do you know what a tardigrade is? It's a "water bear," a very tiny organism that can survive more extreme living conditions than just about any other creature on the planet. Professor **William ("Randy") Miller** will talk about these amazing animals. Then he'll teach participants how to collect them in the treetops and examine them with microscopes. It's possible that hundreds of water bears could be collected during the Rendezvous — even some new species never seen before!

Do you know how to inspect a tree to see if it's safe for climbing? **Eric Folmer**, an ISA-certified arborist, will teach you how to inspect a tree for risks and hazards.

What about your gear? Have you selected the right equipment for your climb? Do you know how to inspect it properly? **Tony Tresselt**, another ISA-certified arborist, will review gear selection and inspection.

**Tim Kovar** will be your guide to "Tree Time" as you experience your love of trees and your connection with nature in a whole new way.
Rendezvous Location:
Simpsonwood

Simpsonwood Conference and Retreat Center,
Simpsonwood http://www.simpsonwood.org/

This is the main lodge at Simpsonwood, where we'll eat and meet.

in Norcross, Georgia (just outside Atlanta), is a perfect place for a Rendezvous. The property is bordered on one side by the Chattahoochee River. Its trees are typical of a mature forest in the Southeast: big and tall red oaks, white oaks, poplars, hickories, loblolly pines … all these and more are plentiful. It's only about 45 minutes from the Atlanta Airport and easy to get to from major freeways. But when you're there, you'll feel like you're far away from a big city.

Simpsonwood's dining room is huge, and the buffet-style meals offer choices for any type of diet. There is a big conference room for evening presentations; small meetings and indoor workshops can be held in break-out rooms. Participants can camp in or under trees, or stay in motel-style rooms onsite. We couldn't ask for a better venue.

Essential Information and Registration Details

We expect this Rendezvous to attract a very large number of participants. Register early to hold your place!

Dates

The Rendezvous starts on Wednesday, October 9 at noon with lunch, and ends on Monday, October 14 after breakfast.

Participants

The 2013 Rendezvous is open to anyone who wants to attend. We expect and look forward to hosting many international participants in addition to those from the States. We also hope to have a mix of recreational climbers, arborists, and research climbers. Non-climbers might be scientists and/or tree lovers of any sort.

If you are going to climb, you must be able to climb on your own safely and supply your own climbing gear. There are trees suitable for doubled- and single-rope technique climbing (DRT and SRT, respectively), so bring a 150- to 200-foot rope. (People who are taking a Basic DRT Tree Climbing Course immediately before the Rendezvous [see below] will be able to borrow gear from TCI during the Rendezvous.) All climbers will be required to wear a helmet and to use branch protection at all times. For safety purposes, climbers will be encouraged to use TCI's "Climber Above" banners on the tree that they are climbing. All participants will be required to sign a Waiver of Liability form.

Children are welcome if they are able to climb on their own. Children under the age of 13 must be accompanied by an adult at all times throughout the Rendezvous. There is special pricing for adults with children; please choose your registration options carefully.

Pets are not welcome! We'd love to meet your doggie or kittycat, but another time, please!

Food and Lodging

All meals are included in the cost of rooms and camping accommodations. There is a place on the Registration form for you to let us know if you are a...
vegetarian or vegan. Since there will be a wide variety of food from which to choose at all meals, we ask that you manage food allergies on your own.

Camping: Participants at the 2008 Tree Climbing Rendezvous will remember the big campground with a firepit. This year we will also be using the large athletic field meadow for camping. If you want to camp in the treetops, the grove of white oaks behind the campground is perfect for numerous "tree villages" which can easily accommodate dozens of hammocks. Showers and restroom facilities for campers are available, but limited. Camping cost is $55 per night per person, which includes all meals and taxes.

Rooms: For people who want to stay indoors, there are lovely rooms for one ($150/night), two ($110/night/person), or three people ($95/night/person). Adults who are bringing children can stay in a room for $155/night (one adult plus one child) or $200/night (one adult plus two children). Again, room costs include all meals and taxes. Each room has its own bathroom. Wi-fi is available onsite, but rooms do not have a phone or TV. There is a place on the registration form for you to enter the name(s) of people you will be rooming or camping with. If you don't know anyone else who is coming, and want to stay in a double or triple room, we will assign you a roommate (of the same sex) in mid-September.

Transportation

Simpsonwood Conference and Retreat Center is located in Norcross, Georgia, northeast of Atlanta and outside the I-285 Atlanta Perimeter highway. If you're driving, pay close attention to the directions once you get off the freeway, as you'll pass through a residential neighborhood on your way into Simpsonwood. We suggest you print out GoogleMaps directions https://maps.google.com/maps?oe=utf-8&client=firefox-a&ie=UTF-8&q=simpsonwood&fbclid=IwAR0d8tW9GjGgrh0wGR0oHoDA&ved=0CIEBEpWSM to find it easily. Parking at Simpsonwood is limited, and we ask that you help minimize the number of vehicles onsite by traveling with others.

If you are flying in, your destination is the Atlanta Hartsfield-Jackson International Airport. TCI will be arranging shuttles from the airport. You can also use our Rendezvous Forums thread to arrange with others to rent a car or van.

Weather

Atlanta weather in October is usually ideal for tree climbing. Average temperatures are in the '70's during the day and in the '60's at night. But just to make sure you're prepared, we suggest that you check the weather before you come.

What to Bring

TCI will send out a suggested list of items to bring as we get closer to the event. However, be prepared to bring your musical instrument! Late evening jam sessions and sing-alongs around a campfire are common at Rendezvous events!

Pre-Rendezvous Classes

The following classes will be offered prior to the start of the Rendezvous:

Basic (Doubled-Rope Technique) Tree Climbing Course
http://www.treeclimbing.com/index.php/climb-on-your-own/basic-tree-climbing onsite for participants with no climbing experience. Two days, tuition $450.

Single-Rope Technique Climbing Course

Both courses will start at 1 p.m. on Monday, October 7 and run through noon on Wednesday, October 9. Multi-pitch Rescue Course, http://www.treeclimbing.com/index.php/climb-on-your-own/treetop-rescue 1/2 day class starting
at 1 p.m. on Tuesday afternoon. Tuition $100. Prerequisite: single-pitch rescue training.

All three courses will be taught by TCI-trained instructors. If you want to take one, you will need to stay for one or two additional two nights (Monday and/or Tuesday). Please call us if you have questions or to register. We will send you course registration forms separately. Course tuition also includes membership in Tree Climbers International.

Pre-Rendezvous Course Cancellation Policy: Registrants must cancel no later than September 8th in order to receive a refund on your tuition deposit. If you have to cancel after that, we will refund your deposit if we are able to fill your slot.

CPR/First Aid Class

A class in Adult/Child CPR and First Aid will be taught at Simpsonwood by a trainer from the American Heart Association (AHA) on Thursday, Oct. 10 from 8 a.m. - noon. The cost is $50, which includes AHA certification good for two years. Sign-up is on page 2 of the Registration Form.

Continuing Education Units (CEUs)

TCI will be applying for continuing education units (CEUs) for members of the International Society of Arboriculture and the Society of American Foresters as soon as we have all the details of our educational program. Watch this page for more information.

Price

The price of this year's Rendezvous includes a fixed registration fee of $100 plus a combined per day fee for meals and camping/lodging (pro-rated for local participants). The fees for accommodations also include the hefty 13% sales tax we are required to pay.

We are trying to keep the price of the Rendezvous as reasonable as possible for everyone who attends. We will also be supporting some participants who cannot afford the cost on their own. For these reasons, we will not be able to offer an early-bird registration discount.

Deposit: We require each participant to pay at least half of their total Rendezvous fee by August 4 unless you make different arrangements with us. We prefer payment by check or money order (in U.S. dollars equivalent, please!) made payable to Tree Climbers International, Inc. and sent to PO Box 5588, Atlanta, GA 31107, USA. If you must pay by credit card, you can call us with a card number or pay via Paypal (an account is not required for use of Paypal.) The balance of your payment (again, preferably by check) will be due at Rendezvous check-in.

Room Cancellation Policy: Simpsonwood has a strict room guarantee policy. After August 7, we will be charged for any rooms that we reserved ahead of time. Therefore, if you must cancel, please let us know as far in advance as possible. The following applies:

If you cancel prior to August 4, we will refund your entire deposit minus a $25 administrative fee. From August 5 to September 22, we will have to deduct an additional $50 per night from your deposit. Cancellations received on or after September 23rd will forfeit your entire deposit. However, we will refund as much of your deposit as we can if we are able to fill your slot from a waiting list.

Camping Cancellation Policy: Campers who cancel as of September 22 will be refunded your entire deposit minus a $25 administrative fee. Cancellations received on or after September 23rd will forfeit your entire deposit.

REGISTER NOW
Re: 2013 Tree Climbers International/NTS Event October 9-14

by pattyjenkins1 » Sun Jul 14, 2013 9:02 am

Thanks for re-posting this updated information, Ed.

TO NTS:

We are already getting registrations from Japan, Britain, Malaysia, Canada, and lots from the USA. Among these are the Malaysian Minister of Youth Sports and Recreation. I'm told the top man of the new ISA-Japan Chapter is coming along with ten other very enthusiastic Japanese climbers as well. Comments show how excited our community is about the educational program. So much so that I've had complete unknowns to TCI but very experienced and knowledgeable arborists call up volunteering to teach workshops. I've taken up every offer I've gotten.

What an extraordinary opportunity to spread NTS methods internationally! Come on down! Some of you may be called on to help Bob and Will in the three workshops they're teaching. If you know you're coming, please register! If you think you're not, please reconsider. From when I began organizing the Rendezvous 'til now, it has grown in size and scope, and promises to be an extraordinary five days.

For those of you who are not tree climbers, we do have as many two-day basic tree climbing courses available before the event as there are students wanting to learn. Then you'll have several days to climb and advance your skills with some of the best climbers around (including Will!). I'll tell you about tree climbers ... there's nothing they like more than to share techniques, gear, and other information with "newbies". Generosity is their middle names.

Truly, we hope to see many of you in October.

All the best,
patty

Kudos to NTS

by pattyjenkins1 » Wed Jul 17, 2013 3:29 pm

NTS:

Read this all the way through. Hopefully you'll get as excited about it as Bob was when he called to tell me about it.

Yesterday, Bob got an email out of the blue from a man named D'Arcy Trask, President and Founder of Gauge Point Calibration, Inc. (http://www.gaugepoint.com) The email said, "Bob, Please call me when you have time. I have been HD scanning Redwood trees with Professor Steve Sillett and Bob Van Pelt at HSU and would like to participate in your research and organization." Of course Bob called him immediately, and learned that D'Arcy, who was instrumental in mapping the President Tree, now has permission from the National Park Service to map the General Sherman Tree [for newbies: the biggest tree in the world]. After some conversation, Bob suggested that D'Arcy consider coming to the Tree Climbers Rendezvous to talk about it; then he called me, and I called D'Arcy.

The bottom line here is that D'Arcy will be measuring the General Sherman tree in September and then will be coming to our October event with preliminary data. He will be speaking on Sunday morning. D'Arcy said he knows nothing about trees, but found himself standing in a forest one day wondering what he was doing there; he decided that among all the things he could use his equipment for, he wanted to use it on trees. So he then asked around and found his way to NTS. I encouraged D'Arcy to come to the entire Rendezvous so he can attend the tree biology lectures (among other things), but also so he can talk to the NTS members who will be there.
This is a BIG DEAL, for which I think all of you can be proud and take credit. Some of you have been working with NTS for years and years, and the much-deserved publicity will be a huge step forward for your organization. It's certainly a big deal for TCI, too. To have D'Arcy want to work with NTS, and bring this information to NTS and TCI, will give both organizations a huge boost in legitimacy, which can only benefit us big time in lots of ways.

So this is another GREAT REASON to attend the Rendezvous. How can you NOT come, when this is on the agenda?!

(Link to Registration Page at the bottom of the Rendezvous page: http://www.treeclimbing.com/Rendezvous)

patty

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**Oak Openings Metropark (OH)**

*by Matt Markworth » Sat Jul 20, 2013 9:21 pm*

Hi All, There's nothing quite like an open grown Oak and this park doesn't disappoint. I'll have more words and photos when I can get on my laptop at home.

Black Oak
82.4' ht 13.7' CBH 110'x105' spread
75.1' ht 12.2' CBH 97'x88' spread
63.1' ht 10' CBH 82'x77' spread

White Oak
59.1' ht 11.3' CBH 87'x75' spread
12.8' CBH (A majestic white oak, just ran out of steam to get photos and full measurements)

Biggest Black Oak . . .

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**Re: 2013 Tree Climbers International/NTS Event October 9-14**

*by dbhguru » Fri Jul 19, 2013 8:51 pm*

Ents

How can one resist the rendezvous? It is a guaranteed good time. Correction, a guaranteed great time! It will be a first for this type of event. We will break new ground. We hope more of our fellow and lady Ents will attend. As Patty has requested, please read completely through her last post. The big surprise comes near the end.

Robert T. Leverett
Bernie Krause: The voice of the natural world

by edfrank » Sat Jul 20, 2013 8:24 pm

Bernie Krause: The voice of the natural world

Bernie Krause has been recording wild soundscapes - the wind in the trees, the chirping of birds, the subtle sounds of insect larvae -- for 45 years. In that time, he has seen many environments radically altered by humans, sometimes even by practices thought to be environmentally safe. A surprising look at what we can learn through nature's symphonies, from the grunting of a sea anemone to the sad calls of a beaver in mourning.

http://www.ted.com/talks/bernie_krause_the_voice_of_the_natural_world.html

https://www.youtube.com/watch?v=uTbAmx0858

Re: Bernie Krause: The voice of the natural world

by michael gatonska » Sun Jul 21, 2013 6:51 am

Ed - You beat me to posting this!

Why we should listen to him:
With a stellar electronic music resumé including work with The Byrds, Stevie Wonder and many others, Bernie Krause is assured a place in the pop culture canon. But Krause continues to make history by capturing the fading voices of nature: studying sonic interplay between species as they attract mates, hunt prey, and sound out their roles in the ecosystem.

Krause’s recordings are not merely travelogues or relaxation tools -- they are critical barometers of global environmental health. His documents of vanishing aural habitats are a chilling reminder of shrinking biodiversity. As he tells the Guardian: "The fragile weave of natural sound is being torn apart by our seemingly boundless need to conquer the environment rather than to find a way to abide in consonance with it."

Michael Gatonska

Re: Emerald Ash Borer

by PAwildernessadvocate » Wed Jul 10, 2013 11:34 pm

Emerald ash borer has recently been confirmed in the southern part of the Allegheny National Forest (to no one's surprise).

I took the attached photo of an ash with dead and dying branches in its crown the other day on a farm in Scandia, Warren County, just west of the northern part of the ANF. The tree is in a wooded area of the farm close to the edge of an open field. Anyone want to venture an educated guess as to whether or not this tree is infested with EAB? I've also sent this photo to one of the ANF's scientists.

(I found a similarly declining ash tree in another person's back yard in Scandia maybe two miles northeast from this one, no photo though.)
Re: Emerald Ash Borer

by PAwildernessadvocate » Sun Jul 21, 2013 9:58 am

Here's the message I got back from the USFS about that ash photo:

*Yes, that could be decline due to EAB. EAB was just confirmed in Warren County. I am trying to determine exactly where that specimen was found. I've been noticing a number of smaller diameter ash, 4-8” diameter in the Warren and Youngsville area that are dying off - looks like the EAB caused mortality that I observed along I-79 in the Cranberry area.*

http://www.aphis.usda.gov/plant_health/plant_pest_info/emerald_ash_b/


Fort Ontario, NY Cottonwoods July 2013

by tomhoward » Sun Jul 21, 2013 11:03 am

NTS,

On warm humid but breezy July 10, 2013 (especially by the Lake Ontario shore), Jack Howard and I returned to the grounds of Fort Ontario to measure the large Cottonwoods. We went to Fort Ontario Cemetery, which was an enchanted place with a steady breeze off the lake, rustling through the leaves of the huge Cottonwoods with a sound like the waves of the sea. I used the equipment Ed Frank of NTS loaned me (Nikon 440 Laser Rangefinder, clinometer) and my scientific calculator to get accurate heights using the Sine Method.
Cottonwood westernmost of group of 3 in southeast corner of Cemetery, measured from hill to south:
119.6 ft. (118 ft. in 2010) – this is the tallest tree at Fort Ontario, possibly tallest tree in Oswego County, possibly tallest tree on the Lake Ontario shore in USA and Canada. This tree may be even taller; I very likely did not measure the highest point of this tree’s vast crown. Dbh 55.8 in. This great tree, like all other Cottonwoods in Fort Ontario Cemetery, was planted in 1904 when the Cemetery was moved to this location. Under the Cottonwoods are several much smaller Sugar Maples.

Cottonwood biggest tree northeast corner of Cemetery:
100.7 ft. possibly not highest point

Cottonwood across fence from northeast part of Cemetery, big tree:
105.64 ft.

The 2 impressive rows of Cottonwoods extending south from the stone walls of Fort Ontario, which were planted between about 1884 and 1915, have been thinned considerably since 2010, but at least 2 tall ones remain:

Cottonwood just south of fort and Lighthouse Keeper’s house (built 1822, oldest documented house in Oswego):
105.85 ft.

Cottonwood south of above:
106.5 ft.

Tom Howard

Cazenovia, NY July 2013

by tomhoward » Sun Jul 21, 2013 11:07 am

NTS,

On sunny hot July 14, 2013 Jack Howard and I visited the idyllic community of Cazenovia in the western part of Madison County just east of the Onondaga County line. This is one of the nicest areas in central NY on beautiful Cazenovia Lake. There are many large trees there, especially large numbers of tall (seem to be about 100 ft.) Norway Spruces. Large White Pines are also common, and before windstorms blew down many trees in 1995-96, there were many big White Pines in the village of Cazenovia. Norway Spruce is now the dominant tree in the village.

We spent most of our tree exploration time at Lorenzo State Historic Site, a lovely spot on a low hill overlooking the south shore of Cazenovia Lake. The spacious tree-filled grounds are centered on the Lorenzo mansion built in 1807 by John Lincklaen, the land speculator who founded Cazenovia in 1793. Some of the trees on the grounds date back to his time. There are some large open-grown White Pines there, and, also, bug Red Oaks, Basswoods, Black Locusts, at least one large double-trunked Yellowwood, and other trees. The greatest tree area at Lorenzo is in the back of the mansion, where rows of conifers tower behind a formal garden that was laid out in the 19th century. Before the 1995-96 windstorms the view of massed ranks of tall White Pines behind the garden was one of central NY’s most impressive tree views. It still is impressive, but the remaining White Pines and smaller Norway Spruces (and Douglas-firs that I believe were planted about 1930) create a more broken aspect. The White Pines behind the garden were planted from 1854-1860 by Ledyard Lincklaen, the owner of the property at that time (and one of central NY’s leading naturalists) and his associate Eliphalet Remington – a stone in the midst of the Pine grove says “PINES PLANTED 1854-60”. These White Pines are magnificent trees, rough-barked, fragrant, their windswept crowns illuminated by golden sunlight,
which filters down to the lower soft green boughs. They are not as tall as I thought, no more than at most 110 ft. tall, but that takes nothing away from their beauty, from the special beauty that is particular to stands of large White Pines. These White Pines are about the same age as the much larger and taller (and more densely-ranked) White Pines of the Bryant Grove in Cummington, MA, but central NY does not seem to be prime habitat for really tall White Pines. I have looked all over this area, and have seen only 2 White Pines above 120 ft. tall (Green Lakes State Park 123.2 ft., Holland Patent Cemetery 120.7 ft.).

Other trees seen among the White Pines at Lorenzo are Scots Pine (some fairly large), Hemlock, Norway Spruce, Douglas-fir, Sugar Maple, Red Maple, Norway Maple, Black Cherry, Pin Cherry, Hawthorn, Red Oak (biggest trunks but low open-grown trees), Ash. There are some large open-grown Tuliptrees on the mansion grounds. In the front lawn of the mansion is a large open-grown Norway Spruce that was planted in 1845 to commemorate the birth of a child – it is a very big tree but does not seem to be very tall. Just to the west of the Pine grove behind the garden is the Dark Aisle, a very impressive path between 2 closely-planted rows of Hemlocks planted by Ledyard Lincklaen in the 1850s – the Hemlocks are not very large, but the long vista down this aisle is an impressive sight. Among the Hemlocks are some much larger Norway Spruces planted about 1858. Heat and time constraints (and a focus on White Pines) made it impossible for us to measure any of the Norway Spruces this time, but there will be other visits.

Height measurements were done by the NTS method, using laser rangefinder, clinometer, scientific calculator with sine method.

Big White Pine by Carriage House – one of tallest trees on open lawn:
100.8

Black Locust planted 1819 at back of mansion to commemorate a family wedding (tree has trunk that seems to be over 3 ft. dbh, but we did not measure it as we did not want to trample a flower bed, tree is robust, healthy):
64

White Pine in grove behind garden, 31.2” dbh, by trail, typical of larger trees in group planted 1854-1860:
98.6

White Pine near edge of grove behind garden:
99.7 not seeing top

White Pine with 2 leaders in grove behind garden, left leader (from garden) measured:
101.6

White Pine southwestern part of grove behind garden:
108.7 tallest tree measured in Cazenovia

White Pine beginning of grove behind garden, at end of Dark Aisle:
101.54

The tallest White Pines here could be about 110 ft. tall, but should be not much more than that.

Other trees measured at Lorenzo (dbh not height):

White Pine in densest part of grove behind garden 28.7” dbh

Basswood in lawn to west of mansion, old-looking tree with balding bark, broken gnarled crown 36” dbh – seemed larger, one of bigger trees on property

After our visit to Lorenzo, Jack and I had excellent dinner at the Brae Loch Inn at the western edge of the village of Cazenovia, near Lakeland Park. Tall Norway Spruces are everywhere, and across US Rt. 20 (the main road there) from we sat was a large open-grown Black Walnut. In nearby Lakeland Park was a large Gingko among other trees. The Norway Spruces here seem to be about 100 ft. tall, and some may be taller. The Norway Spruce that looked tallest was a tree in a private backyard right next to the Brae Loch. I measured this tree to 107.61 ft.. This tree has a towering thin crown, but big healthy lower branches – it is a big tree.

Tom Howard
MN Champion American Elm

by Jimmy McDonald » Wed Mar 06, 2013 12:01 am

This past summer I took a visit to check out Minnesota's Champion American Elm. Measurements listed on MN DNR Website: CBH 228” Height 80' Crown Spread 87'

Here are some additional photos.

Re: MN Champion American Elm

by Will Blozan » Wed Mar 06, 2013 6:16 pm

Nice but that is so not a single tree...
Re: MN Champion American Elm

by AAnsorge » Thu Jul 18, 2013 8:51 am

Jimmy,

How do you find an exact location for a champion tree in Minnesota? They list county and city, but that is it. Iowa does a much nicer job with there spreadsheet....http://www.iowadnr.gov/Portals/idnr/uploads/forestry/Big%20Trees%20of%20Iowa%20Web-ready.pdf

Re: MN Champion American Elm

by Jimmy McDonald » Sun Jul 21, 2013 9:32 pm

I found this one because it was in Minneapolis. The city of Minneapolis has a heritage tree program linked to google maps that is very nice. I wish the state had the same but you can email the state coordinator and they should be able to give you directions to most trees.

Minneapolis site http://www.minneapolisparks.org/default.asp?PageID =1252

Re: Ohio tree hunt July 20 or 21st?

by dbhguru » Sat Jul 20, 2013 10:19 am

Matt,

Your appreciation for understanding site potential is giant leap forward. I am constantly surprised at how many tree people fail to put the numbers into context. If tuliptrees on a site can't make it to over 125 or 130 feet, we're very unlikely to see a 150-foot tuliptree in someone's yard, and so on?

It is plain to see that you, Brian, Eli, George, Turner, Tom, etc. have joined the ranks of the superstars of NTS. Once you get bitten by the bug, the condition appears to be permanent. But what is really gratifying is to work to take the analysis to a higher level, which is what you are doing.

We look forward to what you, Steve, etc. along with old eagle-eye Will can pull out of that site you will be visiting.

Robert T. Leverett

Re: Ohio tree hunt July 20 or 21st?

by Matt Markworth » Sun Jul 21, 2013 8:09 pm

Will, Steve, Rand,

I enjoyed the site visit today and have many takesaways. Some of them will take a little while to sink in, but I can think of some that are immediate and tangible. I have insights from Will on how to measure in a cluttered environment. I have ideas from Steve that will allow me to tweak my equipment a bit and Rand gave me a couple techniques on getting good spread numbers.

Thanks guys, we'll have to do it again!

- Matt
Hi all,

Genus of the Week: Celtis

"And they have cut down two or three of the very rare celtis trees, not found anywhere else in town. The Lord deliver us from these vandalic proprietors!"
- Henry David Thoreau, 9/28/1857

Excerpt from Jess's MaxList:

Former Tree of the Week - Common Hackberry:
http://www.ents-bbs.org/viewtopic.php?f=393&t=5315

Please reply with these measurement details if you think you've measured a specimen displaying the growth potential (Height, Girth, Spread, or Volume) of the species. Please include photos when possible.

Tree Maximums List and Guidelines:
http://www.ents-bbs.org/viewtopic.php?f=393&t=5221


USDA Plants Database:
http://plants.usda.gov/core/profile?symbol=CELTI

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Don Leopold video:
http://www.youtube.com/watch?v=940CAG3DQpc

EAB plot study

GSMNP in cooperation with Arborjet has started a plot study of 40 ash trees in the roaring fork area of the park to determine the most effective systemic chemical towards managing EAB.

Three chemicals being tested:
- Tree-age- active ingredient
  - Emamectin Benzoate
  - Azadirachtin (water soluble neem-oil)
  - TreeAzin-active ingredient

Azadirachtin A + Azadirachtin B

The application of TreeAzin was only approved through the use of the Eco-jet system, and application rates proved to be impracticable, taking about 5 hours to treat 4 trees. Transpiration rates and formula viscosity may have something to do with the very slow up-take. The other two chemicals were used with the Arborjet injection system and application was successful. Untreated control trees were implemented as well and holes were drilled into the bole without applying chemical.

It looks like EAB has been in the park for quite some time; many trees around the greenbrier area, roaring fork area (behind Bales cabin), and along route 321 have been infested for many years. Beetles have been collected from trees in the roaring fork area. Many of these trees have dwarfed chlorotic leaves, major dieback, and epicormic sprouts; some are already dead. Unfortunately the cost to treat these trees via these chemicals is extremely expensive, about 500 dollars a liter! Back country ash trees and notable specimens may be soil drenched with imidacloprid as a more practical measure. The park cannot afford to lose another tree species, hopefully
we can get these beautiful specimens treated before their demise!

This baby is gonna be just fine...

TreeAzin treatment

**Re: EAB plot study**

by Will Blozan » Sat Jul 20, 2013 10:50 am

Devin,

Thanks for the update. I am in northern Ohio now and the ash are obliterated. There are some seriously significant specimens in the Big Creek and Cataloochee area that we alerted Jesse, Tom, and Kris to. Do you have any idea what the plans are for the superlative specimens? Also, the 160’+ Biltmore ash in Tremont comes to mind.

Will
Re: EAB plot study

by Rand » Sat Jul 20, 2013 1:20 pm

You know you have ecological carnage on your hands when your 'Elm-Ash Swamp Forests' contain neither...

Re: EAB plot study

by DougBidlack » Mon Jul 22, 2013 9:05 am

Rand,

exactly! Michigan has the very same problem, particularly in the Lake Erie (like Ohio) and Lake Huron lake plains. Also in most river floodplain areas where green ash is the main victim...at least in the southern part of the state. I'm much less familiar with black ash in the northern part of the state but I understand that they are killed very quickly by EAB.

Doug

Bitternut Hickories, Fletcher Park

by bbeduhn » Mon Jul 22, 2013 9:26 am

I hadn't been to this park in some time. It's mostly open with few trees but I recalled some bitternut hickories along Cane Creek, which borders the park.

Carya cordiformis  bitternut hickory
87.4’  9’1” cbh
87.4’  13’10” cbh  triple trunked

I'm a novice with the IPhone so I accidentally took a video instead of a picture.
**Amazing Old Growth photos of the Eastern US (Video)**

*by JohnnyDJersey » Mon Jul 22, 2013 9:10 pm*

I came across this video someone suggested. It documents, in photos, past old growth trees of the Eastern US. I still can't get over the SIZE of the Eastern Red Cedar here. WOW! Not to mention the Hemlock and Chestnut. Enjoy. The second link is my "Worlds 40 Greatest Trees" video, in case you haven't seen it.

https://www.youtube.com/watch?v=IZYmN76QBf8
http://www.youtube.com/watch?v=BhFXkJM0bXM

John D Harvey

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**Good day with Iowa Big Tree Guy**

*by dbhguru » Tue Jul 23, 2013 11:26 pm*

Hi Ents,

Today two Forest Service representatives, Mark Rouw (Iowa Big Tree Guy), Monica, and I went up Hermosa Creek drainage in Colorado’s La Platas to model the Larry Tucei Pine. By the end of the day, our tall tree tally for the drainage stood as follows.

<table>
<thead>
<tr>
<th>Species</th>
<th>Height</th>
<th>Girth</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ponderosa pine</td>
<td>160.3</td>
<td>9.3</td>
<td>Tallest we know of for the subspecies</td>
</tr>
<tr>
<td>Douglas fir</td>
<td>160.3</td>
<td>10.8</td>
<td>Tallest known in Colorado</td>
</tr>
<tr>
<td>Colorado blue spruce</td>
<td>160.2</td>
<td></td>
<td>Tallest known in Rocky Mtn region</td>
</tr>
<tr>
<td>White fir</td>
<td>136.0</td>
<td>8+</td>
<td>Tallest we’ve measured in Colorado- Mark discovered it</td>
</tr>
<tr>
<td>Southwestern white pine</td>
<td>127.0</td>
<td>6+</td>
<td>Tallest we know of in Colorado</td>
</tr>
<tr>
<td>Narrowleaf cottonwood</td>
<td>111.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

So far we have measured 50 ponderosas over 12 feet in girth and quite a few over 10.

Tomorrow Mark is going even farther up the watershed in search of a huge Doug fir.

The data we are collecting will be used to support the move to designate part of the area as wilderness.

Robert T. Leverett

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**Northernmost Redwoods Discovered**

*by yofoghorn » Wed Jul 24, 2013 12:45 am*

The northernmost known naturally occurring redwoods (*Sequoia sempervirens*) have been discovered increasing the range more than 2 miles north than previously thought. They occur on a tributary of the Chetco River in Curry County. This grove of redwoods has a lot of young seedlings and is spreading fairly rapidly to the north as well as other directions. The health of the young redwoods is good, however the old growth redwoods were cut likely over 50 years ago. The northernmost old growth redwood stump is 10.69 miles north of the Oregon border and the northernmost redwood (a young tree) in the grove is 10.84 miles north of the Oregon border. If anyone knows of any redwoods north of here that we might have missed, please let me know. Otherwise, this is it!

Zane J. Moore
Undergraduate Student
Colorado State University
Re: Chattooga River, SC

by bbeduhn » Mon Jul 22, 2013 10:01 am

I finally got back to the Chattooga. This river is so serene and plenty wild. I got to witness an enormous great blue heron take off on three occasions. It looked like a pterydactal flying low over the river.

It was tougher than I’d expected to hit the pines on the South Carolina side but was able to get a fair number on the Georgia side. The tallest are right by Burrells Ford and I didn’t fight the vegetation to get all of them and a storm was brewing at that point.

Chattooga River, SC

Pinus strobus white pine NLT 135.5’ NLT 136’ 134.2’ 162.4’ 166.1’
Pinus rigida pitch pine 103.6’ 110.2’
Oxydendrum arboreum sourwood 87.4’

It’s amazing how the pitch pines drop off just south of Burrells Ford. 120’s and 130’s are present north but drop to just a handful of 100’s and then become uncommon. The natural range extends just a few miles south of Burrells Ford but some of the tallest examples grow there.

The 166.1’ is one of several very tall crowns that I spotted but couldn’t see the bottoms. I’ll need to wade in the river or approach from the Georgia side to get the rest. I believe there are a few 170’s that Will measured there in about 2006 or 2007.

Chattoga River, GA

Pinus strobus white pine 130.8’ 131.0’ 131.1’ 136.3’ 139.5’
145.4’ 147.8’ 148.1’
151.8’ 156.2’
Juniperus Virginiana VA pine 92.4’

This is the only VA pine I saw on the river. It’s scarce away from the river but nearly nonexistent on the river.

Kings Creek Falls Trail, SC

Re: Chattooga River, SC

by dbhguru » Mon Jul 22, 2013 2:46 pm

Brian,

The degree to which the Chattooga is a tall tree haven was not appreciated by anyone I am aware of until Will and Jess got in there. Now you are adding handsomely to the numbers. Do we know the Rucker of the area? Ot must be over 140.

Robert T. Leverett
**Re: Chattooga River, SC**

by bbeduhn » Wed Jul 24, 2013 11:41 am

Tyler,
Thanks. My bad, I didn't check the SCMax list...silly me.

Chattooga River & East Fork

<table>
<thead>
<tr>
<th>Species</th>
<th>Diameter (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pinus strobus</td>
<td>174.2</td>
</tr>
<tr>
<td>Tsuga canadiensis</td>
<td>168.9</td>
</tr>
<tr>
<td>Fraxinus Americana</td>
<td>148.6</td>
</tr>
<tr>
<td>Fagus grandifolia</td>
<td>136.1</td>
</tr>
<tr>
<td>Liriodendron tulipfera</td>
<td>134.5</td>
</tr>
<tr>
<td>Pinus rigida</td>
<td>131.8</td>
</tr>
<tr>
<td>Quercus rubra</td>
<td>127.2</td>
</tr>
<tr>
<td>Carya cordiformis</td>
<td>121.0</td>
</tr>
<tr>
<td>Quercus alba</td>
<td>116.0</td>
</tr>
<tr>
<td>Pinus virginiana</td>
<td>114.0</td>
</tr>
</tbody>
</table>

R10 = 137.23’ R10 with live hemlock = 133.87’

Chattooga Watershed

<table>
<thead>
<tr>
<th>Species</th>
<th>Diameter (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pinus strobus</td>
<td>184.8</td>
</tr>
<tr>
<td>Tsuga canadiensis</td>
<td>168.9</td>
</tr>
<tr>
<td>Carya glabra</td>
<td>149.3</td>
</tr>
<tr>
<td>Fraxinus americana</td>
<td>148.6</td>
</tr>
<tr>
<td>Pinus rigida</td>
<td>142.3</td>
</tr>
<tr>
<td>Pinus echinata</td>
<td>141.2</td>
</tr>
<tr>
<td>Liriodendron tulipfera</td>
<td>141.7</td>
</tr>
<tr>
<td>Quercus rubra</td>
<td>136.4</td>
</tr>
<tr>
<td>Fagus grandifolia</td>
<td>136.1</td>
</tr>
<tr>
<td>Carya cordiformis</td>
<td>131.5</td>
</tr>
</tbody>
</table>

R10 = 148.08’ R10 with live hemlock = 144.72’

That changes the Rucker indices dramatically. 150’ is likely for the watershed and is unlikely, but not out of the question, for the river.

**Who out there is pithed off?**

by dbhguru » Wed Jul 24, 2013 4:05 pm

NTS,

May I humbly request a vote with explanatory comments included as you would care to provide?

Question on the ballot.

Can the pith method be simply and reasonably consistently applied to distinguish single trees from multi-trees?

Note that the single tree can be multi-stemmed, but not what we would consider to be one tree. I would like to package your votes and explanatory comments and provide them to members of the MGWG. So please, be at your most eloquent. Thanks in advance for your participation.

Robert T. Leverett

**Re: Who out there is pithed off?**

by bbeduhn » Wed Jul 24, 2013 4:14 pm

The pith method may not be infallible but it is extremely consistent. Inclusions can be used to solidify results from the pith test. Simply put, it works and is an easy test to perform. Pardon me for being pithy.

Brian

**Re: Who out there is pithed off?**

by Matt Markworth » Wed Jul 24, 2013 6:03 pm

Yes. Speaking from the standpoint of someone who has been measuring trees for less than 8 months, I easily understood the pith test after reading a one paragraph description and seeing a simple diagram. I
have used it in the field and have notated when a tree has multiple piths at ground level.

- Matt

Re: Who out there is pithed off?

by Joe » Wed Jul 24, 2013 6:11 pm

I should think that to be technically correct, any multi-stemmed tree is a single tree - unless it can be shown that it was actually 2 separate trees grown together. When you say ENTS "would not consider it to be one tree"- I would think that a better wording is the obvious, that for purposes of measuring trees, ENTs is interested in the size of the stems - and that gets you out of the debate over multi stemmed trees. But, this debate is not one I want to be voting on as I don't measure trees the way ENTs people do, for comparison and to find the biggest or tallest. It's just that I consider calling a multi stemmed tree to not be a single tree just ain't right, in my opinion- which now may be ignored.

Joe

Re: Who out there is pithed off?

by Will Blozan » Wed Jul 24, 2013 6:50 pm

Bob,

With photographs a decision can often be made easily. Perhaps several photos of submitted trees should be provided as they can look different from different angles. So should have never even been accepted in the first place; paw-paw, sycamore, silver maple in MD, etc... Tree-age should have weeded them out as the envelope came in.

As Matt so appropriately said- it is easy to understand and implement. This also gets around the super-silly rule (maybe in years past) of a fusion above 4.5 feet. This has allowed numerous multi-trees to make it onto lists. I have often joked that I could plant some trees in a tight circle and when they fused above 4.5 feet- call it a champ. At the time it would have been legit. How can a multiple tree suddenly become one as the stems enlarge? They can't. Period.

There is a video on the internet about the largest girthed "some kind of tree" in Europe (I think). I watched with anticipation of a massive tree and was totally disappointed to see someone wrap a tape around a coppice forest (mostly air) from an older stump. It was ridiculous and the narrator called it the largest, most massive tree he had ever seen. I'm sorry if this person is on the NTS list but... really! Where's the wood?

Will Blozan

Re: Who out there is pithed off?

by dbhguru » Wed Jul 24, 2013 7:47 pm

Will,

Thanks. Succinctly stated. I like your example of planting several trees in a circle and waiting for them to grow together and submitting them as a champ.

Joe,

We're not saying that all multi-stemmed trees are not single trees. I'm asking if the pith test can distinguish a single tree coppice from two or more single trees that have grown together?

We are seeking to accomplish two things here:

1. Discourage multi-stem single trees from being compared to single-stem trees for purposes of crowning champions. Maybe we can have a champion in each category. At the least, we identify multi-stem champions as such, i.e. asterisk them. Two separate lists is the ideal.
2. Eliminate those trees that have fused as contenders for championship status. Should two separate trees that eventually fill in the space between them to present a fused mass of trunks at some arbitrarily specified height be eligible to the the champion of a species. At the least, that seems strange to me, at the worst, ridiculous.

With respect to the last point, imagine that we've spawned a contest for the purpose with the greatest girth as measured at navel height. Some one enters a pair of hefties by tying them together at waist height. I don't think that entry would get very far. No competent judge is going to be fooled. In fact, no halfway intelligent bystander is going to be fooled. And if the fraud succeeds, there would be an outcry. Even conjoined twins would not be accepted as a valid entry. Well, the analogy to trees might not be perfect, but it is something to think about.

One argument that has been put forth to allow doubles to be accepted as legitimate contenders is the difficulty of separating the pair and measuring each trunk separately. We can do it geometrically - to a degree, but the process is not perfect. Wanting to keep things simple, the solution proposed by these advocates is to just go ahead and measure the pair as a single. Initially, they may feel sheepish about the process of parading a double as a single, but then they get accustomed to doing it and eventually accept it without feeling any guilt.

Robert T. Leverett

better wording is the obvious, that for purposes of measuring trees, ENTs is interested in the size of the stems- and that gets you out of the debate over multi stemmed trees. But, this debate is not one I want to be voting on as I don't measure trees the way ENTs people do, for comparison and to find the biggest or tallest. It's just that I consider a multi stemmed tree to not be a single tree just ain't right, in my opinion- which now may be ignored. - Joe

There are arguments each way about whether or not a multitrunk tree is a single tree or not that have to do with function as well as genetics. But as you say, NTS is interested in largest single trunks. I would like to see the issue of whether it is a single tree or not ignored by the AF process and simply define the champion tree as the one having the largest trunk and save that can of worms for another forum. I keep going back and forth about whether I agree with you or not Joe. Sometimes I do, sometimes I don't. But your opinion isn't being ignored.

Edward Forrest Frank

Joe, Ed,

The purpose of the my questions isn't directed toward how we in NTS will measure trees, but how AF should and also what that organization should accept as a legitimate candidate. So long as utterly ridiculous submissions are made (as judged by many) and accepted by AF, the controversy will continue. At the extreme we have shrub-like forms branching from ground level competing with more conventional tree forms that exhibit discernable trunks. However, The trees turned shrubs are not necessarily illegitimate. They may result from repeated damage such as from deer or moose browse. To further complicate the picture, separate seeds may fall near the base and of a coppice and sprout. The New separate seelding grows and eventually coalesces

Re: Who out there is pithed off?

Re: Who out there is pithed off?

Joe wrote: I should think that to be technically correct, any multi-stemmed tree is a single tree- unless it can be shown that it was actually 2 separate trees grown together. When you say ENTS "would not consider it to be one tree"- I would think that a
with the already coppiced form creating a tree structure. Can we ever know for sure how the structure developed? And if we can't, do we give the structure the benefit of the doubt? Well, if we do, we stay right where we are now.

My hope is to present AF with a sufficient number of examples with images that they will seriously entertain two lists, one for singles and one for multiples. Even then, we will have to agree on what is a multiple, which gets us back to the pith test. It may not be perfect, but it seems to be the best tool we have. Arborists and foresters deal with these structures all the time, but I don't yet have a sense of how much agreement or disagreement there is among members of those professions on what should constitute a legitimate candidate. So, the discussion continues.

I get the growing impression that most people (not just members of NTS) think the champion baldcypress is two trees and should never have been accepted as a legitimate candidate. The acceptance of the baldcypress seems to result from the application of measuring rules that didn't envision bizarre forms. I imagine that the original idea was of a tree form that clearly exhibits a single trunk at ground level. The split into limbs might be low, but the base develops from a single root structure that supports a single trunk. I doubt that there was an attempt to assemble descriptions of all the variant forms trees/tree structures might take and ask the fundamental question, will our simple compromise formula handle all these forms fairly and adequately? As a consequence of not distinguishing between single and multi-trunk forms early on, AF allowed a colossal mess to develop. They know that and are trying to do something about it. The MGWG is a direct consequence of their efforts. However, AF officials do not hear everyone in the field speaking with a single voice. They can read our debates as to what is a legitimate champion tree candidate and what clearly isn't, but there are intermediate forms where reasonable people can disagree.

In terms of current progress, I believe at least that we have a consensus in NTS that two lists are needed: one for single stems and one for multiple stems. I think most are content with the pith test to determine what is single versus multi-stem. If that is not the case, Don and I would much appreciate hearing from dissenters.

Robert T. Leverett

**Fallen national champion shortleaf pine**

by DonCBragg » Thu Jul 18, 2013 7:49 am

It is with some sadness that I must report the national champion shortleaf pine from Ashley County, Arkansas, has been broken off in a recent windstorm at about 40 feet in a recent windstorm. It has one very small live branch remaining green, but I do not expect this tree to survive long in this condition. I have attached a few pictures of this fallen giant--it is clear from the final photo that the combination of redheart (a fungal disease of the heartwood) and a strong wind were too much for this champion. The same windstorm felled a number of other large loblolly and shortleaf pine in the Levi Wilcoxon Demonstration Forest, a small remnant old-growth pine stand.

Though the sign says only state champ, this was the national champion from 2006 on, and had a sine height of 136 feet and circumference of 113 inches.
You can see the one small green branch still remaining...

I believe the landowner is looking to salvage the wood from this and the other trees that fell over, but seems willing to work with my research unit to get the scientific value we can from these trees. So, I'll try to get a number of wood samples and make sure to get ring counts. If they cannot find some mill to buy these very large logs (a distinct possibility), I'm going to encourage them to make them into a display or donate them as a display for a local museum (or just see if they won't leave them on site as coarse woody debris).

I will probably start searching this stand later this fall to see if I can't find a new champion shortleaf!

Don C. Bragg

The ultimate cause: redheart plus wind
Group progress of AF measuring group

by dbhguru » Fri Jul 19, 2013 10:31 pm

NTS,

We had our third meeting today and spent most of the session on two topics: how we are going to handle multi-stemmed trees and where do we measure height from: mid-slope or the upper side of the tree. I think the majority favors the uphill side. I still prefer mid-slope, but will be flexible. The thinking is that the rules should foster repeatability. People can agree on where the highest point of the ground is around the trunk better than where mid-slope is. Still, I favor capturing a tree's full height. Nonetheless, I won't be a barrier to consensus on this one.

Agreeing on what is to be treated as a single tree versus multiple trees is going to be a real challenge. Then establishing how to measure multi-stemmed trees is going to be an equal challenge.

One area that bothers me is that I'm getting the impression that some (at least one) member may be reluctant to rock the boat. The position of that member is that if we force too much change on participants, we'll lose support. There could be a backlash. I don't have a firm grip on the magnitude of this as a potential problem, but don't trivialize it. On the other hand, what are we trying to accomplish? I could see us developing strong guidelines for how to measure, but have little in the way of apparatus to enforce measuring discipline. If we can at least spell out how to measure correctly, that would be a big step in the right direction. One point I will stand firm on is that if the tangent method is used to measure tree height, the baseline must be from the eye to a point vertically below the top if the tree at eye level. No more shooting directly to the trunk and treating that as a legitimate baseline. Clear guidelines on how to best cross-triangulate the top becomes the operative challenge.

By far the best approach on how to lay out the goals and the problems comes from Don Bertolette who began conceiving of a matrix that lays out equipment, methods, and type of champion (local, state, national) and if the measurement is by a nominator or a certifier. I think Don is spot on. His matrix would allow for nominators to use the stick method, for example, but not certifiers. I think Don goes even further. He imagines three levels of measurers: nominators, state-level certifiers, and AF certifiers - the ultimate arbiters. Members of NTS fully trained on all techniques could volunteer as AF certifiers. Don, would you care to elaborate?

Ed, Will, Michael, me thinks all of you might become frustrated with the challenges that Don and I have taken on in our assignments. It is going to take the patience of Job. Will, I know how much you favor single-stemmed trees as the legitimate heirs to championship status. What would be your thought if possibly some members of your group were okay with the vast majority of the champions being multi-stemmed? I'm not saying that isn't the case, nor am I saying that it isn't. But, the idea does take us ever closer to the idea of tree structures and their acceptability as champions. I don't think that is really what AF has ever intended, but it has largely come to pass with many tree species.

The Groups next step is to immerse ourselves in the multi-stem debate in all its facets. Don and I would love to hear members of the tree-measuring corps of NTS weigh in and give us your opinions. What do you think of the pith rule? What does it really establish? How easy is it to apply? How else would we go about establishing whether a multi-stem structure is one tree or more than one? Should all species be treated by the same rules? For example, I don't observe white pines coppicing. When two trunks emerge from what many people would think of as a single trunk, we know that we really have two trees that just appear to be one. With other species such as silver maples, we really have a challenge. We can get shoots coming up from the root collar, which in time grow against the main stem and create a mass of trunks that have no space between them at breast height. We can also have some stems that are separated from the main trunk at below 4.5 feet. And we can have a coppice that fuses with a second tree,
creating a tree structure.

One school of thought is to treat single trees as one class and multi-stemmed structures as a different class and not mix them. AF is not receptive to that approach. We're stuck with one list. No wiggle room there. So, we have lots of challenges. What initially seemed manageable has suddenly turned into a multi-stemmed, twisted mess. Ed, you wouldn't have survived it.

Bob

Re: Group progress of AF measuring group

by edfrank » Sat Jul 20, 2013 1:24 am

Bob,

I would have rocked the boat concerning the mid-point versus highest side, but there are arguments in favor of highest side. It is shortchanging the trees total height to use the upper side, but I can live with it.

As for multitrunk trees being accepted as champions. This is what bothers me far more with the AF listing than the height problems. Tree can be defined as single trunk for champion purposes, or a better approach would be to have separate listings for each if a multitrunk tree out-points a single trunk tree. This is where I would have put my foot down. This is the take no prisoners never surrender line for me. Don't massage these people. Don't accept the crumbs that are thrown your way. The multitrunk problem is one that is easy to fix and doesn't require any high powered or expensive instruments from anybody. If you don't establish a distinction between the two, then the entire effort is wasted. How much work would it require to have separate listings. Not much at all. Don't give in on this point. This is the biggest flaw in the listings and one they can fix. If they want to have standards, then they need to mean something.

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I would have survived, or maybe I would have been kicked out of the group. There are three things to fix in the measurement guidelines:

1) Measured from mid-point on a slope,
2) Multitrunk versus single trunk THE MOST IMPORTANT FIX IN MY MIND. Separate listings for each form. At a minimum they need to at least note if the tree is multitrunk or single trunk.
3) Height measurement protocols: sine/ENTS method/climbing/pole measurements for all champion trees. At the very minimum they need to list the height measurement method.

You have conceded on the #1, you apparently want to abandon #2 because AF isn't receptive to that approach, and I seriously doubt if you will get any of #3.

So if you don't get #3, and have given up on #2, then nothing has been accomplished by this exercise. If they want to improve their standards, they need to do something to improve them. If they are not going to listen to NTS people, then why go through the farce of inviting participation? If they are not going to accept the input from outside the core of AF and do what they already have decided to do anyway, what is the point? You have tried and tried to make slow incremental changes. You have been doing that for years and the newer measurement standards appear to be worse than what they had on their website a few years ago. The AF committee people do not need to be massaged any more, it doesn't work. They need to be hit upside of the head with a cast iron skillet. Either they are serious about the standards and want to do the right thing or they are not. If they are not, abandon the effort. If they cannot accept the minimum concept that multitrunk trees need to be listed separately from single trunk trees, then I would not want to see NTS name appear in any way connected with their new "guidelines."

Edward Forrest Frank
Re: Group progress of AF measuring group

by Will Blozan » Sat Jul 20, 2013 10:38 am

Bob,

Of all the metrics associated with the AF formula, the position of the base of the trunk should not - and can not change. EVERY subsequent and future measurement of girth and height will be referenced to this stable point. Thus, it HAS to be midslope- as the upslope side of the tree will change as the tree grows. Why on earth would anyone choose a non-stable point of reference?!? Ask BVP or Sillett about that one!

I agree with Ed on all his points. If the boat was not to be rocked there would not be committee at all. Loss of support? Do champion trees give donations? If anything, tightening the rules should enhance the competition. If those folks who nominate bogus and multiple stemmed trees just to get on the list object-screw 'em. It's about time they get in the game in a useful way or stop muddying the waters.

If you are the voice of NTS as you have so clearly stated, then let our voice be heard. Be the stick in the mud. The squeaky wheel. The Lorax.

Will

Re: Group progress of AF measuring group

by edfrank » Sat Jul 20, 2013 11:19 am

Bob and Don, and other ENTS involved

I was having trouble sleeping after my post last night. It wasn't because of regret about comments about multitrunck and height, but because of the mid-slope question. If you measure on the upper side that means the base position of the tree is changing over time. It is walking up hill. The argument made was for consistency sake it would be better. How would it be better to have measurements that can be consistently taken that are wrong versus measurements that are correct with some possible minor variations in terms of inches between different measurers. As time passes the tree using the upper side is "walking up the hill." I don't think so. A branch in its youth at 50 feet up the trunk is now at 48 because the base of the tree has changed? Using two different reference points for the base of the tree for height and girth? That is certainly not better. How do you measure the girth on a tilted tree? from the upper side? The answer is clear when you are using the mid-point rule. Will is right above in his comments. I was going to post essentially the same comments concerning mid-slope when I logged on even before I read his note.

It is odd that American Forest wants to abandon the mid-slope center point concept when other big tree groups are moving toward it after my article in the Wikipedia. I will forward comments made by Brett Mifsud in an email. Measurements need to be made from the same point on all trees for every measurements and that point is where the pith intersects the supporting ground below as approximated by the midslope rule. If that would cause problems because the girth would be below ground level on the upper side, or be too low on the trunk, a girth can be taken at a different height with the height above that point noted.

You can't make them accept the NTS procedures. They are going to do what they want to do. What you can do is champion our measurement methods without compromise on all points, even if you are out voted in the final decision.

Edward Frank
Re: Group progress of AF measuring group

by tsharp » Sat Jul 20, 2013 12:36 pm

Bob, NTS:
To answer or comment on some of your questions. 
"What do I think of the pith rule... what does it establish...how easy is it to apply?"
I think the "pith rule" is a logical way to establish whether a tree has a single stem or fused multistem trunk. It is easy to apply and for about 90% of such trees under consideration it only takes a cursory glance and/or a walk around the base of the tree to make that determination. The other 10% will take a little longer period of consideration and probably prior experience with the species under consideration will be important.
"How would we go about establishing whether a multistem structure is one tree or more than one?"
As Ed has pointed out many times It is not necessary to determine whether it is one tree or more than one. It is only necessary to apply the "pith rule" in a consistent manner to determine if the trunk is one stem or a fused mult1-stem.
"Should all species be treated by the same rules?"
Yes
Should girth be taken on uphill side. No! mid-slope is the only way to go as Will pointed out. It also discriminates against nominations from hill country.
My dearest wife, Susan, weighed in with an opinion.
To her it was a no brainer. Two lists = equals double the interest and potential participation. I agree. but if two lists are a no- go and if multistem trees are allowed they should be identified as such.
The present AF big tree listing is a mess. I believe it was mostly caused by AF not enforcing their own rules and letting 50 state coordinators submit trees with inadequate information.

Turner Sharp

Re: Group progress of AF measuring group

by dbhguru » Sat Jul 20, 2013 1:02 pm

Ed, Will, Turner,

Thanks so much for your inputs. Ed and Will, fear not, I have no intention of rolling over and abandoning our philosophy and methodology. I am presently trying to get inside the heads of the other members to fully understand where they are coming from and why - Don Bertolette excepted because he and I are in constant communication, and we are usually in close agreement. As the discussions continue, maybe we can assemble the different inputs of NTS members and I can present them as part of the proceedings. One challenge I have is to not appear (or be) so dogmatic and unsympathetic to the concerns and positions of the non-NTS members that they simply rule out anything I say because they sense no team spirit on my part. However, I need to think these issues through with the rest of you, leaving no stone unturned. Innovative thinking is needed.

I do sense that there is a fear in the Group of rocking the boat too much, but I also recognize a real difference of opinion on what constitutes the best methods. Repeatability is an issue that arose yesterday, and I acknowledged its importance. I think one group member has considerable experience with the mid-slope rule and find that a lot of judgement is brought to bear, often leading to what that member believes are compromised measurements. I don't know if this is one of those strain at a gnat and swallow a camel situations or not. Fret over inches on one part of the measuring process and accept errors in the tens of feet on another. I just don't know.

More thoughts tonight. On my birthday, I get to choose the trail to hike today. Pictures later today.

Bob
Re: Group progress of AF measuring group

by edfrank » Sat Jul 20, 2013 1:30 pm

If they don’t want to rock the boat, and are adamant
about not changing anything, at least get them to
follow their old guidelines and enforce them rather
than weakening them further,

Ed

Re: Group progress of AF measuring group

by Jess Riddle » Sat Jul 20, 2013 2:16 pm

Bob,

I believe if multi-stem plants are mixed with single
stem trees, the list will be worthless. American
Forests wants participation. I stopped participating
because the list was a joke, and multi-stem
champions are what made it a joke.

Sincerely,
Some guy who nominated over a dozen champions
and would have nominated dozens more

Re: Group progress of AF measuring group

by dbhguru » Sat Jul 20, 2013 11:20 pm

Jess,

From a scientific perspective, I totally agree. From a
sporting, recreational perspective, the list can be as
mixed as AF wants to make it, or allows it to
degenerate into. They have not come to grips with
issues like serious purposes to be served by the
register. It is not going to be an easy sell to get AF to
accept higher purposes for the list, but I’ll do my best
to get them pointed in that direction.

All,

I’ve been thinking how to address the concern to get
standardization in measuring height from mid-slope.
What about running a tape round the base at ground
level, then starting at the uphill point, go a quarter of
the way around the tape and measure the vertical
distance from the tape to the point of contact with the
ground. Then do the same at three-quarters of the
distance around (or one quarter from the other
direction from the uphill point). The next step wold
be to average the two off-sets. This would be the
vertical distance to mid-slope from the uphill side of
the tree. Full height would be to measure the height
above the uphill side plus the offset to mid-slope.
This process would be for trees for which a tape
could be stretched around the trunk at base level.

My thinking here is that I need to propose a
measuring protocol to the Group to counter any
arguments that might be put forward to focus on the
judgement factor for identifying mid-slope.
Thoughts?

Bob

Re: Group progress of AF measuring group

by edfrank » Sun Jul 21, 2013 12:04 am

Bob,

You can hold the measurement protocol in reserve if
someone asks for it. I am thinking that it is better to
just say to use the measurer’s judgement about where
the midslope point might be. Anytime you add
another measurement protocol, it is just another
complication that can be make people less receptive
to your overall idea, especially if they are looking to simplify the process. You could say that determining the midslope point could be numerically determined as you specified, if needed, but the measurers judgement should be adequate. Adding another measurement or throwing more equations into the mix does not brighten the day of anyone who does not have a passion for math. So my opinion is NO, don't go down this path at all if you can possibly help it.

Perhaps a more down to Earth assessment of the problem with mixing multitrunk and single trunk trees would be more appropriate. Tell them that people who are serious about measurement and many of those are just casually interested who have found a large tree don't participate in the process or submit data because the mixing of single trunk trees and multitrunk trees indiscriminately on the list. This make the list a joke rather than a worthwhile effort. Even recreational tree measurers want their contributions to be worthwhile and feel their submissions are being treated fairly. They most certainly are not being treated fairly when two trees barely touching are measured as one tree for girth, while a more massive single trunk tree is left out because it was measured correctly. Mixing the two distinctly different growth forms together is fundamentally unfair and people feel cheated when their submissions are not being treated fairly. You can counter this perception by pointing out the value of the list if they were not intermixed, and the height data was better. Developing a better quality list with stricter rules will increase participation in the effort as well as providing all that higher calling stuff.

Ed

**Re: Group progress of AF measuring group**

by dbhguru » Sun Jul 21, 2013 10:45 am

Ed, There are two groups to consider, the nominators and the certifiers. In proposing a methodology for determining mid-slope, I'm referring only to the certifiers. With them, I don't think the process is too labor intensive and definitely needs to be done on really large trees on steep slopes. Misplaced mid-points can be substantial for trees that are say 10 feet or more in diameter.

However, with nominators, I'm in complete agreement with you. We need to keep the process simple. But even here, there is room for discussion. There is one class of nominators that I'm less sympathetic to and that is the group that makes lots of submissions - the ones whose names appear multiple times in the Registry and who are known as big tree hunters. Some of these folks are a big part of the problem. At this point, I'm not sure how to handle the repeat nominator as opposed to the casual one, but I can make a pretty good argument for distinguishing between the two.

Now to the point on who is or is not turned off by the current inclusion of many multi-stemmed trees. I have heard forestry academics dismiss the registry for largely this reason. Most forest measurement-savvy folks are likely to be disinclined to see much value in the registry, if they pay attention to the submissions. As for the public as a whole, I'm not so sure. My guess is that lots of novices are content with the multi-stemmed structures because trees that landowners, proud of a tree, often bring to my attention are of this form. I've never seen any data on what the "public" prefers. I don't even know what state certifiers, as a group, think about the tree forms that commonly make it into the registry. I'm sure there is a diversity of opinion, but don't know the percentages. I wonder what arborists, as a group, think. Of course, I know what the vocal ones on our BBS think, but in general, not a clue.

My opinion over the years has been that the National Registry has been far too loosely managed and that the managers at AF were stuck with certifiers at state level who were little better than the nominators. I don't have a take on how seriously certifiers took their assignments, but can make some good guesses there. Some probably don't have the time to take the certification process seriously. Some of them are reluctant to say so or turn the responsibility over to third parties. Others consider
themselves tree-measuring experts because of a timber background. A few I have known in the past took their responsibilities very seriously and tried to clean up their state registers. Will Fell from Georgia is an example of this group. Of course, state coordinators who are also in NTS are other examples.

I've been a behind-the-scenes certifier for a long time here in Massachusetts. In addition, the Coordinator for New York State's program has requested that I submit any trees for that state directly. They trust my measurements and consider them certified. Don Bertolette is doing a lot of research on the state programs and I think is developing a good mental profile of what is out there on the playing field.

When considering the trees that are receiving the attention, i.e. multi-stemmed monstrosities, I do recognize that if we don't get this problem under control, the National Register will continue to be irrelevant. Lots of work, lots of persuading needed.

Robert T. Leverett

Re: Group progress of AF measuring group

by Will Blozan » Sun Jul 21, 2013 3:42 pm

Bob, Presumably, the person measuring the tree would have a clinometer on hand or a laser capable of measuring vertical offsets, as well as a tape. The method I use is super-quick and simple and could be suggested as a method if such care was warranted.

1) Find high side of ground and get in position that you are level with it based on a "0" clinometer reading.
2) Transfer this elevation to an area of the trunk above low side of ground. Mark this point with a thumbtack or simply remember where it is.
3) Go back to the trunk and measure the distance between the low side at ground and the mark on the tree (it need not be vertical BTW).
4) Split the distance in half and mark the midslope position.
5) Measure the girth 4.5 feet above the mark perpendicular to the stem.

Quick, accurate and does not involve any more gear or math.

Will

Re: Group progress of AF measuring group

by Don » Sun Jul 21, 2013 3:54 pm

Bob/Ed/Will/Jess/Turner/NTS-
I've read and reread your posts. Each of you have strong opinions, with varying degrees of flexibility (little to none :-) and I'm not surprised. I wasn't always in agreement with all of you in the beginning, mostly because we came from different backgrounds/experiential bases. I was used to measuring hundreds of trees in a day, and the accuracy was appropriate for the task. And controlled, and replicable, and statistically valid. But the Champion Tree Registry is not about statistical validity, and that's okay. We're dealing species-wise with a WAY-out-in-the-tails, very small sample of trees that I'll refer to as National Registry candidates.
Those candidates are going to be hard to 'corner' with a one-size-fits-all set of rules. Somewhere, some trees are going to be unfairly excluded (of course I agree that there are some, probably too many, that aren't getting left out, and should be).
All that said, I've come a long way since then. My current strategy is go back to the basics...what is a tree? It may sound Clintonian, but it's turned out to be a fairly slippery slope.

First, a convention...when I say 'at the ground line" what I am really envisioning is the cross-section of the tree base that would appear IF the tree were severed by a VIRTUAL chainsaw. At a minimum,
the definition should include at least these two physiological characteristics...has to have a pith, and at one set of concentric annual ring(s) at the ground line. (This is consistent with NTS precept that a tree starts at the seed, with roots going down and shoot going up). If that pith line and it's single set of concentric continues up to 4.5' from it's 'ground line/seed source/base' without forking, it gets it's girth measured there. If the pith line/concentric ringset forks before it gets to 4.5' then it is a single stem that forked and it gets it's girth taken at its narrowest dimension below the forking. I'm willing to concede to estimates of these points being determined by beginning and ending of 'fork swelling'...

If by proximity or reproductive strategy a fusion between two same species trees occurs (defined as a pair or more of pithline/concentric ringsets), it gets measured as two trees. If the fusion disperses below breast height, each tree gets its girth measured separately and if each or any of them INDIVIDUALLY are of sufficient dimension to merit candidacy, then each or any of them are INDIVIDUALLY eligible as candidates. If the fusion disperses above breast height and continues beyond reach, it remains two trees and it is incumbent on the nominator to define and use the strategy to measure their separate volumes. If each or any of them...etc.

I recognize and share wonder with those that are gobsmacked by multi-stemmed giants (more than one pithline/concentric ring set), and recognize that they should be measured differently than single-stemmed giants. How fair is it to get to measure air, the large voids included by a tape when measuring multiple stems at once? As to how they get recorded (same list with asterisks?, separate but equal otherwise list?) is probably not an easy issue to resolve, and probably should get resolved administratively. But defining A tree is.

Refining my definitions is necessary. I am initially guided along the lines of a physiological tree definition and hope to keep it that way. Some will ask about exceptions. Palms come to mind, are they an exception? My current, off the top of my head thought is that a palm is a tree with one large pith that is described by one concentric ring. I could go either way, depending on input.

There is a whole world out there, of trees with strange, wonderful, unusual and unique forms. Typically they are tropical. My suggestion is that if their form is such that they can't be measured by AF rules, then they need to find a place on another list.

I hope I have achieved my goal to speak to these issues specifically, but not stridently. These are at some level with each of us, passionate issues, and I mean to not inflame passions, but to find consensus.

While it's usually smart to avoid hot button issues when striving for consensus, I think I've tried to find a 'fabric' that is inclusive and organic (in the sense it's natural, physiologically based).

How about where we measure height from? For forty years I have measured diameter at breast height. I was reluctant to change, as for somebody who measured hundreds of trees a day, and many thousands over my career, it is so natural and intuitive to measure trees from the uphill side. For the level of accuracy that I was expected to achieve, measuring height and girth from there was fine. Quick, easy, clean...a motto I stuck with for years.

I see reasons for both sides of this issue. I see AF and NTS trying to use the mid-slope concept (the sprouting seed model) for cbh and height. I agree with height starting at the seed/mid-slope point.
When the Registry of the Future arrives intact with high technology, VOLUME will be the measure of a tree's bigness, and the the 2D dimension of height definition will need to change.

But there is a logic issue involved when we accept that a tree's girth is measured 4.5' from the base, long a traditional solution to two problems: 1)ease of measurement when using arms which outstretched define breast height; and 2) for trees prone butressing or on a slope (or both), a large percentage of most trees complete their buttressing before that height when measured at the traditional dbh from top of tree's base on a slope.
To lower that "breast height" to a point at mid-slope...
diminishes the number of trees whose buttressing gets completed before girth gets taken. Functionally, the girth should be taken after buttressing quits and it's 'columnar' shape begins. This begs a larger issue, that of how to measure giants. I'm not ready to suggest solutions, but am happy to listen to everyone's ideas here...I don't thing there's any better brainstorming that can go on, than here at NTS and hope to have as many weigh in as want to.

Thanks for your ear, please do comment further! -Don

Re: Group progress of AF measuring group

by edfrank » Sun Jul 21, 2013 4:55 pm

Don,

The questions you pose are fair. I think it is important conceptually as well as practically to have the height of the tree and the girth of the tree to be measured in relation to the same reference point. I think this reference point should be the same location over time and over the life of the tree. The only point that meets both of these goals is where the pith of the tree intersects the ground, the place where the tree first sprouted. To me this enables all of the measurements to be tied together in a meaningful way. This is simply not the case for measuring on the upslope side of the tree. It is important to me that things make sense, that I understand how pieces are related to each other. Maybe it is an obsessive compulsion, but that also is to large part of why I am interested in science and consider myself a scientist. I want to understand how the pieces fit together. This is how the measurements fit together.

You commented about using the mid-slope point would result in the inclusion of more of the basal buttress in the measure and perhaps inflate the girths. True. But on the lower side less of the buttress will be included as it is more than 4.5 feet above the base of the tree. These will not directly offset the other, but the sum of the two does mitigate the problem to some degree. The exact parallel argument might be made that measuring the girth from the upper side would give a low value when compared to a tree of a similar diameter growing on level ground. I do not think that measuring at one point or the other is intrinsically more fair or more pejorative than another. Therefore with all else being equal the question boils down to the ease of measurement versus the conceptual underpinnings of the measurement process. I think the latter is far more important.

For the really giant trees measuring at breast height is going to be well within the basal flare of the trunk no matter what method is chosen. Measurements based upon mid-slope point may even have the upper edge of the projected girth loop be below the surface. In this case the girth could be measured at the upper side of the tree and the height above the mid-slope point noted to keep everything tied together in the same way.

As for what are trees and how they should be defined, I am leaning toward inclusionism for the NTS measurements. If it is a plant that sticks well up into the air we should measure it. For the American Forests Champion Tree listings, I would favor as broadly inclusive definition as possible and as I suggested above, one just based upon height.

Some of the tropical tree forms are too exotic to be incorporated into AF formula and should be listed separately or listed as a special subsection based upon different criteria suitable for that form. The big banyans for example would appear to be best defined by height and area of occupation.

Edward Forrest Frank
Re: Group progress of AF measuring group

by dbhguru » Sun Jul 21, 2013 6:00 pm

Ed, Will, Jess, Turner, et. Al.,

Thanks. These are the discussions that Don and I need to here.

Will, Of course, I had a brain misfire. I have understood the method you have been using to sight mid-slope. Simple and quick.

All. How strong is each if you on the pith test? Any exceptions?

Robert T. Leverett

Re: Group progress of AF measuring group

by Larry Tucei » Mon Jul 22, 2013 8:24 am

All - I read all your postings and many great points have been noted. I agree with many of you on the Mid-Slope reference point. AF can do what they will with the Single Multi-Trunk listing. I however will always call a tree a Single Trunk or a Multi-Trunk. The Live Oak listing notes Single or Multi. It's not rocket science. Live Oaks are Single, Multi or Coppice. Several other tree species do the same some do not. The trees that do should have different categories. I feel as many others do on this subject it is not fair for a huge single trunk tree to be out pointed by a tree that has two, three or seven trunks. For State Champion trees there must be a difference or what is the point of even having a listing?

Larry

Re: Group progress of AF measuring group

by Matt Markworth » Mon Jul 22, 2013 8:12 pm

Hi Bob,

Your recent post got me thinking. After reviewing the AF website, here are the goals of the program that I was able to find:

- For more than 70 years, the goal of the National Big Tree Program has remained: to preserve and promote the iconic stature of these living monarchs and to educate people about the key role that these remarkable trees and forests play in sustaining a healthy environment.

- Recognize the biggest trees in the US in an effort to locate and protect them.

- Bring awareness to the biggest trees in the country.

- Advocate for these species.

I'm curious if other goals have been expressed. I have full faith and confidence that if clear goals have been expressed, you are fully prepared to provide them with solutions to meet their goals. On the other hand, if they are unsure why they are seeking change, then you are in the very unenviable position of trying to provide a solution without any knowledge that it will meet the needs of what they are trying to accomplish with this list.

Here are some questions/requests that may help them contemplate/decide what they want to accomplish with the future direction of the list:

- Tell me more about what precipitated this recent effort to upgrade the Big Tree Program.

- What issues have you encountered with how this list has been managed thus far?

- Going forward, will the primary purpose of the
list be recreational, scientific, or a combination of both? For what purposes do you envision these various groups utilizing the list?

- What level of accuracy do you feel is required to serve the interests of the groups that will be utilizing the list?

- Is there a willingness to accept significant changes to the list, as long as those changes will result in the long-term success of the list and lead to participation by everyday citizens and serious tree measurers?

If some direction can be uncovered on these major underlying issues, then the other members of the group will be willing to accept change. This opportunity may not present itself again for years to come and I hope that the current decision makers have the foresight to ensure that the list can serve both educational and scientific purposes that will benefit all involved.

- Matt

Hi Bob,

Your recent post got me thinking. After reviewing the AF website, here are the goals of the program that I was able to find:

- For more than 70 years, the goal of the National Big Tree Program has remained: to preserve and promote the iconic stature of these living monarchs and to educate people about the key role that these remarkable trees and forests play in sustaining a healthy environment.

NO CHANGE HERE, THESE ARE LAUDABLE GOALS AND I THINK NTS FULLY SUPPORTS THEM

- Recognize the biggest trees in the US in an effort to locate and protect them.

YOU'VE IDENTIFIED ONE OF THE CRUX ISSUES, NOT YET DEALT WITH ANY DEPTH. HOW DO WE DEFINE BIG? IS IT A 2D HEIGHT/WIDTH PERCEPTION OF A BIG TREE FROM A DISTANCE? IS IT THE 3D WORLD WHERE IT TAKES 27 KIDS TO ENCIRCLE THE BIG TREE'S UNQUESTIONABLY BIG CIRCUMFERENCE?

- Bring awareness to the biggest trees in the country.

I THINK WE ALL SUPPORT THIS GOAL, ONCE "BIG" IS DEFINED IN A FAIR, WELL-DEFINED, REPLICABLE WAY.

- Advocate for these species.

AGAIN A FULLY SUPPORTED LAUDABLE GOAL

I'm curious if other goals have been expressed. I have full faith and confidence that if clear goals have been expressed, you are fully prepared to provide them with solutions to meet their goals. On the other hand, if they are unsure why they are seeking change, then you are in the very unenviable position of trying to provide a solution without any knowledge that it will meet the needs of what they are trying to accomplish with this list.

I PERSONALLY THINK YOU ARE CLOSER TO THE MARK HERE THAN YOU MIGHT REALIZE, BUT WE SEE THIS AS A CHALLENGE AND AN OPPORTUNITY, AND ARE TRYING TO “DO THE
RIGHT THING".
Here are some questions/requests that may help them contemplate/decide what they want to accomplish with the future direction of the list:

- Tell me more about what precipitated this recent effort to upgrade the Big Tree Program.

IT'S ALL NTS's FAULT! JOKE, SORT OF...AF REALIZES THAT MANY OF THE REGISTRY CHAMPIONS HAVE BEEN MEASURED BY WHAT NTS REFERS TO AS THE 'TANGENT' METHOD, WHICH IN THE CASE OF MOST DECIDUOUS TREES AND SOME CONIFERS, MISMEASURES TREE HEIGHTS SIGNIFICANTLY. AF REALIZES THAT THE SINE/SINE METHOD CAN ACHIEVE SUPERIOR ACCURACY. AF WOULD LIKE TO RESOLVE THE CONTINUING CONFLICT OVER HOW TO FAIRLY SCORE AF FORMULA POINTS FOR BOTH SINGLE- AND MULTIPLE-STEMMED REGISTRY CANDIDATES.

- What issues have you encountered with how this list has been managed thus far?

I THINK AF IS WANTING TO RESOLVE ABOVE ISSUES AND ARE CAREFULLY RECEPTIVE TO CONSIDERING IMPLICATIONS OF TECHNOLOGIES THAT WEREN'T AVAILABLE TO EARLIER AF GENERATIONS, AND HOW THEY MIGHT IMPROVE ACCURACY.

- Going forward, will the primary purpose of the list be recreational, scientific, or a combination of both? For what purposes do you envision these various groups utilizing the list?

I'M GOING TO AVOID THE PHRASING 'PRIMARY' AND SUGGEST THAT ALL THE PURPOSES THAT AF PURSUES ARE ACHIEVED WITH MORE ACCURATE MEASUREMENTS OF WHATEVER DEFINITION OF BIG GETS SELECTED AND SUPPORTED.

- What level of accuracy do you feel is required to serve the interests of the groups that will be utilizing the list?

A QUESTION THAT I HAVE GRAPPLIED WITH FOR MORE THAN A YEAR, IN MY OWN ROLE AS THE AF BIG TREE COORDINATOR FOR ALASKA. WHILE MY STATE IS MUCH MORE REMOTE AND UNDERSERVED BY ALL TRANSPORTATION SYSTEMS, I BELIEVE A SYSTEM THAT THE MEDICAL FIELD EMPLOYS, TRIAGE, WOULD SERVE THE INTERESTS OF THESE GROUPS. MORE SPECIFICALLY, I SEE A TRIAGE (PRONOUNCED "TREE AJ"...: > ) IN A MATRIX WHERE THE COLUMNS ARE:

<table>
<thead>
<tr>
<th>CERT. LEVEL</th>
<th>SKILL LEVEL</th>
<th>EQUIP. USED</th>
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<tbody>
<tr>
<td>LOCAL/REG.</td>
<td>LAY PERSON</td>
<td>AVAILABLE</td>
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<tr>
<td>SIM. TRIANGLES</td>
<td>CLINO, TAPE+</td>
<td>TANGENT</td>
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<td>STATE COORD</td>
<td>TECHNICIAN</td>
<td>CLINO, TAPE+</td>
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<td>NAT'L CADRE</td>
<td>EXPERT</td>
<td>HYPSOMETER+</td>
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- Is there a willingness to accept significant changes to the list, as long as those changes will result in the long-term success of the list and lead to participation by everyday citizens and serious tree measurers?

THE USE OF THE ABOVE TRIAGE MATRIX HELPS ACHIEVE THAT IN THIS WAY...THE GENERAL PUBLIC (LAY) ARE ABLE TO USE AVAILABLE EQUIPMENT TO ALERT THE STATE COORDINATOR TO A POSSIBLE NOMINATION. STATE COORDINATOR USES THE TECHNOLOGY HE(SHE) HAS AVAILABLE PERSONALLY OR BY EMPLOYER TO MORE ACCURATELY JUDGE THE TREE FOR STATE LEVEL REGISTRY, AND IF REASONABLY CLOSE, SUBMIT THE CANDIDATE FURTHER TO THE NATIONAL REGISTRY LEVEL WHERE THE NATIONAL CHAMPION CANDIDATES ARE MORE CAREFULLY/ACCURATELY MEASURED. THIS ACHIEVES ALL AF GOALS LISTED EARLIER, USES APPROPRIATE TECHNOLOGY AND SKILL LEVELS TO OBTAIN ACCURACY APPROPRIATE TO THE CERTIFICATION LEVEL.

If some direction can be uncovered on these major underlying issues, then the other members of the group will be willing to accept change. This opportunity may not present itself again for years to come and I hope that the current decision makers have the foresight to ensure that the list can serve both educational and scientific purposes that will...
benefit all involved.

**AF HAS TWO WORKING GROUPS ONGOING...BOB LEVERETT AND I ARE IN THE MEASURING GUIDELINES WORKING GROUP. THERE'S ALSO AN ANALOGOUS ELIGIBLE SPECIES WORKING GROUP. AF RECOGNIZES THE SIGNIFICANCE OF THIS OPPORTUNITY, AND BOB AND I ARE PRIORITIZING OUR EFFORTS TO SUPPORT THIS.**

TO PARAPHRASE WHAT ROSS PEROT STATED SOME TIME AGO, 'WE ARE ALL EARS'. PLEASE CONTINUE TO PROVIDE US WITH YOUR SUGGESTIONS AND CONCERNS. THEY ARE HELPFUL!

Don Bertolette

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**Re: Group progress of AF measuring group**

by Larry Tucei » Tue Jul 23, 2013 7:59 am

Matt you really hit the nail on the head with all those questions. Don- I really liked your answers and if they do this-" THE USE OF THE ABOVE TRIAGE MATRIX HELPS ACHIEVE THAT IN THIS WAY...THE GENERAL PUBLIC (LAY) ARE ABLE TO USE AVAILABLE EQUIPMENT TO ALERT THE STATE COORDINATOR TO A POSSIBLE NOMINATION. STATE COORDINATOR USES THE TECHNOLOGY HE(SHE) HAS AVAILABLE PERSONALLY OR BY EMPLOYER TO MORE ACCURATELY JUDGE THE TREE FOR STATE LEVEL REGISTRY, AND IF REASONABLY CLOSE, SUBMIT THE CANDIDATE FURTHER TO THE NATIONAL REGISTRY LEVEL WHERE THE NATIONAL CHAMPION CANDIDATES ARE MORE CAREFULLY/ACCURATELY MEASURED. THIS ACHIEVES ALL AF GOALS LISTED EARLIER, USES APPROPRIATE TECHNOLOGY AND SKILL LEVELS TO OBTAIN ACCURACY APPROPOS TO THE CERTIFICATION LEVEL".

It will be fantastic. Don you Bob and others are really helping get the AF to rethink how to correct the State, National Listings.

Larry

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**Re: Group progress of AF measuring group**

by Will Blozan » Tue Jul 23, 2013 11:16 am

Bob, The pith trace test works and should be used to weed the current list. I have no interest in multi-trunked trees out pointing the legitimate champions.

Don, The Tree-age system is a good idea provided the SINE based/pith trace determination is the final word, and is reflected back to the state level. This will really piss some state coordinators off but may in time inspire them to see the light.

How about the national champion paw-paw?

Really???

--- Will Blozan
Re: Group progress of AF measuring group

by bbeduhn » Tue Jul 23, 2013 12:12 pm

Wow, that paw paw shouldn't have even been nominated. How do they list something like that? Truly unbelievable.

I have a little comment on measuring certain spreading trees such as live oaks. It seems to me that this species in particular should be given full points for spread as opposed to height (or a different formula which takes into account excessively spreading, huge crowns). There are certainly other exceptions as well. Live oaks grown in open or semi-open areas are almost always larger by spread compared to height. Sorry to throw another wrench into things but they get short shrift in points, and as we know, there is tremendous volume in live oaks that doesn't get due credit from the AF formula. Some other oaks are in the same category when open grown.

Brian Beduhn

Re: Group progress of AF measuring group

by Will Blozan » Tue Jul 23, 2013 4:10 pm

Brian,

TDI SYSTEM!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

Bob, Don,

Any thought being given to the AF formula itself? Also, I like the lists that have multiple trees listed; largest, tallest, widest, and highest point total. This gives more opportunity for listings and would include the superlatives for height that we in NTS are so good at finding! This of course would be the perfect basis for implementing the TDI system...

Will

Re: Group progress of AF measuring group

by Matt Markworth » Tue Jul 23, 2013 9:27 pm

Don,

Thank you for your replies, that information is extremely insightful and very much appreciated.

As these additional goals are uncovered, the next step is to drill down with more specific questions to begin to determine the best possible solutions to meet the stated goals. In this example dialogue that we have going, it's still too early to present recommendations. If there are answers to these more specific questions, then a proposal can be created with the confidence that it accomplishes the needs of AF and matches up with their stated objectives. At that point, there will likely be objections by some, however that is to be expected and provides another opportunity to explain how the proposal solves the issues that they are facing.

Here are some of the more specific questions I had in mind:

- Documenting these exceptional examples of big trees has served many purposes throughout the years and the program should be applauded for the various educational and conservation efforts that it has promoted. To ensure that the program continues this legacy and maintains support from tree lovers of all experience levels, are you open to requiring stricter standards of both technique and measuring equipment for the individuals that certify the measurements of the tree?

- Here are 10 examples of National Champions that
clearly have multiple stems at ground level (provide 10 of the most egregious examples) and their inclusion has been the biggest reason why more and more individuals have lost faith in the list and have stopped participating. This is also a major reason why the list cannot be relied upon by professionals for species comparisons. Are you open to tightening the standards so that these multi-stem specimens can be replaced by single-stem specimens, as long as a way can be found to recognize these impressive multi-stem specimens?

- In addition to the state coordinators, what are your thoughts on allowing properly trained individuals be involved with the certification process?

- Are any of the current guidelines completely set in stone and off the table entirely for discussion?

I believe that if answers can be obtained on the first set of questions and this second set of questions, then a proposal can be created that will be very agreeable to AF. If their answers are extremely rigid, then it's going to be an uphill battle to solve the major problems that everyone has been discussing.

- Matt

Re: Group progress of AF measuring group

by Don » Wed Jul 24, 2013 1:47 am

Thanks Matt for your time to comment! I'll respond further below, in the body of your text:

Matt Markworth wrote:Don,

Thank you for your replies, that information is extremely insightful and very much appreciated.

As these additional goals are uncovered, the next step is to drill down with more specific questions to begin to determine the best possible solutions to meet the stated goals. In this example dialogue that we have going, it's still too early to present recommendations. If there are answers to these more specific questions, then a proposal can be created with the confidence that it accomplishes the needs of AF and matches up with their stated objectives. At that point, there will likely be objections by some, however that is to be expected and provides another opportunity to explain how the proposal solves the issues that they are facing. Exactly Mark, we’re now in the middle of the process trying to encourage forum members input, gathering the breadth of opinions, suggestions, ideas.

Here are some of the more specific questions I had in mind:

- Documenting these exceptional examples of big trees has served many purposes throughout the years and the program should be applauded for the various educational and conservation efforts that it has promoted. To ensure that the program continues this legacy and maintains support from tree lovers of all experience levels, are you open to requiring stricter standards of both technique and measuring equipment for the individuals that certify the measurements of the tree? Currently, simultaneously, AF has established two working groups to upgrade the Big Tree Program, one the MGWG (Measuring Guidelines Working Group) and the ESWG (Eligible Species Working Group). I'm an ex officio member of the MGWG, and as AF’s Alaska Big Tree Coordinator, I have organizational insight to offer to the process. Bob and I are actively encouraging higher standards of ‘technique and measuring equipment’ and promoting national level expertise for national level champion tree candidacy. A similar team is working with the ever changing botanical scene in the ESWG.

- Here are 10 examples of National Champions that clearly have multiple stems at ground level (provide 10 of the most egregious examples) and their inclusion has been the biggest reason why more and more individuals have lost faith in the list and have stopped participating. This is also a major reason why the list cannot be relied upon by professionals for species comparisons. Are you open to tightening the standards so that these multi-stem specimens can be replaced by single-stem specimens, as long as a way...
can be found to recognize these impressive multi-stem specimens? In a way, yes, although my suggestion will be to provide a logical progression that resolves the single- versus multi-stemmed issue. I will likely advocate for some means of lauding both the single-stem champs and the multi-stemmed champs, but I'm no where near knowing how that will take place.

- In addition to the state coordinators, what are your thoughts on allowing properly trained individuals be involved with the certification process? That's a pretty loaded question, eh? Whoever is involved at the national registry level, needs to have national level expertise, skills, equipment and methodology, to do the job proper. I'll be advocating that.

- Are any of the current guidelines completely set in stone and off the table entirely for discussion? In general, little is 'set in stone', although I think that AF will continue valuing the participation of the general public in the process, as much as possible, much as they have in the past.

I believe that if answers can be obtained on the first set of questions and this second set of questions, then a proposal can be created that will be very agreeable to AF. If their answers are extremely rigid, then it's going to be an uphill battle to solve the major problems that everyone has been discussing. There are members of this forum that have been involved in these issues longer than I, but very few longer than Bob Leverett. The fact that NTS has a small role in the MGWG speaks well for AF's willingness to address some of the issues we've identified over the years. I think you should feel optimistic. I do.

Don Bertolette

Re: Group progress of AF measuring group

by Don » Wed Jul 24, 2013 2:11 am

Will

I'm like Ross Perot, I'm all ears! I wasn't a part of earlier Dendromorphology efforts (which is where I'm guessing TDI system is from?). Would you mind fleshing it out for us?

Re AF formula, we have given thought to the AF Formula, along with a list of bigger and smaller issues. What are your thoughts (like Brian's thoughts that Live Oaks should have full evenly weighted crown spread points?)? My current thinking that KISS probably rules (whatever we end up with, needs to be simple and equally applied across the board, I'd think).

Re how do we list the champs, single and multi-stemmed, that is a dog that don't easily get off the porch. We're working on how to properly deal with it.

Largest, tallest, widest and highest point total?

Hmm, define large (2D, diameter and height; 3D volume based on circumference and height)? Or?

For those with computer skills, having a interactive database that allowed you to sort, based on height, circumference, crown spread would provide that. But not everybody is, as they say in Alaska, skookum on database manipulation, that would be the con there...

TDI, huh? You've captured my interest, brag on it some, will ya?

Thanks!

-Don
Re: Group progress of AF measuring group

by Will Blozan » Wed Jul 24, 2013 8:13 am

Don,

Several older posts are on the archived on the ENTS website. Any criterion could be used but for AF the standard three would be appropriate. The TDI does not weight any single attribute (like CBH), is independent of units (why does AF mix feet and inches?), and allows ALL trees to score on the same board. Here is the gist:

Tree Dimension Index
The Eastern Native Tree Society has proposed the use of an index with which to compare relative sizes of trees, both within the same species and against others. The index, named the Tree Dimension Index (TDI) is highly adaptable and can be tailored to reflect the attributes of an individual tree and how they compare relative to the largest known specimen. The premise is that the specific dimensions of the tree are given a value (percentage) that reflects its relative rank against the maximum known for the same dimension. For example, the tallest known eastern hemlock would get a value of 100 for height since it represents 100% of the maximum value known for the species. A shorter tree that was 75% of the maximum known height would get a value of 75 for its height. Likewise, the values of diameter and volume would be determined by the relative value when ranked against the known maxima. With three ranked attributes the maximum TDI value would theoretically be 300. However, this would represent one tree exhibiting all three maxima- an unlikely possibility. However, the apparent size of a tree can be realized by ranking the cumulative values against the theoretical maximum. A tree scaling close to 300 would suggest that it was nearly the largest specimen theoretically possible based on currently known maxima.

Will

Re: Group progress of AF measuring group

by Don » Wed Jul 24, 2013 10:27 pm

Will-

Thanks! I like it. To make it REALLY valuable, having a compendium of all species with their ACCURATELY measured maxima would be great. Currently I know of no known single listing that has accurately measured maxima, for all 772 eligible species. I'm not sure that even a collection of different list sources could do this. (OLD list not complete, AF's list is most complete, but has too many inaccurately measured maxima to be acceptable currently (but could get there within 9 years, if MGWG is successful!)).

If I read your post correctly, three fields would be tree height, girth, and crown spread, but there could be more fields in a TDI list, for example 'volume', one that I very much like, but recognize it's a challenge to accurately measure? Volume might be a way to find parity between single- and multi-stemmed trees, at least at the registry champ level?

Any ideas? It would be a list that would have to be constantly updated, perhaps workably on an annual basis?

I gather you're an advocate of no 'unweighting' of crown spread? There's a little bias both ways when you have both open grown and forest grown trees in the list?

Just brainstorming, I'd be interested in your comments!
Don Bertolette
Re: Group progress of AF measuring group

by edfrank  » Wed Jul 24, 2013 11:27 pm

Don, I am a big supporter of the TDI concept. It is how I think the trees should be measured. However it is too drastic of a change and perhaps too conceptual for the AF to consider at this time. If you are going to rank trees by summing the physical measurements of three main parameters, then the current system is reasonable. No matter what you do there will be some trees helped and some trees hurt by the application of those particular criteria. Remember as it stands it isn't just crown spread that is weighted. All three parameters are measured using different scales: Height = feet, Girth = inches, and CS = four foot segments. All of the parameters are weighted with respect to the others.

The problem I am most concerned with is the mixing of multitrunk and single trunk trees indiscriminately on the list. They are different growth forms and can't fairly be mixed. The pith test is easy to apply and straightforward. Sure there will be the exceptional cases where it is hard to tell if a tree has one or multiple piths at ground level, but these can be left to the judgement of the measurer and the discretion of the coordinator based upon photographs. An occasional mistake will not invalidate the entire list as does the present lack of any multi or single trunk distinction at all.

Bob, you should not deal with the question, nor even bring up the argument about whether a multitrunk tree is a single tree or not. That is a rabbit hole (Go ask Alice) that you don't want to fall down. Skip that completely. Make the argument that a champion tree is the one with the largest single trunk. Don't talk about shared root masses, genetic clones, functional single tree or separate trees. Those have nothing to do with the main proposition. Run away from these arguments and bring the discussion back to the primary point. A champion tree is the largest tree with a single trunk as defined by the pith test. No more no less.

Edward Forrest Frank

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Re: Group progress of AF measuring group

by DougBidlack  » Thu Jul 25, 2013 8:50 am

Will, all,

I've often wondered about the origin of the AF point system. I have no knowledge of who developed this system or how they did it but I'm going to provide my best guess. I've been growing quite a few trees in Michigan over the years and I try, unsuccessfully, to measure them every year. If I compare a tuliptree growing in the open to one growing in a woodland type of situation, the open grown one was putting on 2.5' of height growth per year and 3.5" of girth growth per year while the woodland grown one was putting on 3.5' of height growth per year and 2.5" of girth growth per year. In other words they are averaging 3' of height growth per year and 3" of girth growth per year. I doubt that this 12:1 ratio and the AF 12:1 ratio is a coincidence. The problem, of course, comes with the changing ratio as the trees age. Tree height growth slows fairly quickly and then reaches a plateau while the tree is still relatively young, but girth growth continues to power on, sometimes even picking up speed, and even after 100 or 200 years many trees can have a girth growth as high or higher than when they were young. This especially applies to open grown trees under good to excellent growing conditions and much less so for forest grown specimens. So it seems to me that somebody tried to apply a formula that appears to indicate that 1" of girth growth is about equal to 1' of height growth on young, fast growing trees to fairly old trees where the formula broke down many years earlier. I'm wondering what others think.

Doug
Re: Group progress of AF measuring group

by dbhguru » Thu Jul 25, 2013 10:59 am

Doug,

The 12 to 1 ratio is in the ballpark for some some trees that we monitor in MTSF, but not others. For example, the Jake tree grew at an average rate of .5 inches per year in girth over the last 21 years. Its height growth has averaged 0.8 feet per year over the last 21 years.

I expect we would get very different ratios for a wide range of big/old trees if we were conducting lots of independent tests.

Robert T. Leverett

Re: Group progress of AF measuring group

by tsharp » Thu Jul 25, 2013 11:43 am

Doug, NTS:
The first Maryland State Forester, Fred Besley (06-42), instituted a big tree contest in 1925. I believe he came up with the point system as it stands today. He was a protege of Gifford Pinchot and always looked for ways to engage the public. I believe the big tree point system as he designed it was a conscious decision to favor open grown trees because they generally were more accessible and the general public would better relate to them. In other words he was a good PR forester. The predecessor to American Forests took his idea over and went national with it in 1940 and kept his point system. Besley's grandson is a WV state legislator from the Eastern Panhandle of WV and finances a big tree contest in his district every year for the past five. He gives a cash prize and one year I had to help settle a dispute over a single stem vrs multistem tree. Of course I came down on the side of a single stem tree. Their is a lot of info about Besley on the internet.

Michael Taylor

Re: Group progress of AF measuring group

by Don » Thu Jul 25, 2013 6:30 pm

Michael-
I couldn't find a single flaw in your reply, although the manner in which the single- or multi-stemmed tree gets listed is currently up in the air...I personally believe that both forms deserve recognition, but
because they "are apples and oranges", they should be some how differentiated/credited/asterisked...this won't get settled overnight I'm thinking, but I'm optimistic that some solution will emerge that will pith off both side equally....: > }

-Don

PS: Knowing my age, its not surprising that my background in forestry goes back far enough that I've measured many, many, many trees standing on the top side, convenient twice because swinging a weighted D-tape or Loggers tape around a tall tree it just works better, and by the time you've left the tree, the duff/etc. has been smushed enough that you can better see the location for measuring height from. In earlier years, you allowed a foot from that, for stump height...then measured to a 4-6" commercial top. The stump was always left, and nobody worried about including a part of it in the measuring. Not saying it's right, just saying...

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Re: Group progress of AF measuring group

by Matt Markworth » Sun Jul 28, 2013 6:06 pm

Hi All,

I reread my two posts on this thread and just want to add some clarifications that are displayed in **BOLD ITALICS**. My purpose for posing these sample questions is to draw a comparison between the proposal that will be made to AF and a "sales proposal", if you will. My thinking is that a "sales proposal" starts with getting to know the goals/needs of your "customer" in depth. When the proposal is presented, the solutions can be tied back to the answers that were given and the "customer" will be much more receptive. I'm sure that these types of discussions have been going on, but I thought that some of these hypothetical open-ended questions may also help.

I believe that NTS measuring methods are far superior to anything else. The real challenge is coming up with creative ways to convince others, in hopes that they will see the value in accurately measuring single stems.

Here are some questions/requests that may help them (**AF**) contemplate/decide what they want to accomplish with the future direction of the list:

If some direction (**FROM AF**) can be uncovered on these major underlying issues, then the other members of the group (**THE PRINCIPAL MEMBERS AND ADVISORS IN THE MEASURING GUIDELINE WORKING GROUP**) will be willing to accept change. This opportunity may not present itself again for years to come and I hope that the current decision makers (**AF**) have the foresight to ensure that the list can serve both educational and scientific purposes that will benefit all involved.

(continued)
Lin Hall grounds - Ohio University, OH

by tsharp » Thu Jul 25, 2013 11:50 am

NTS: On a previous visit to the area I spied some interesting trees surrounding an interesting building on the Ohio University campus in Athens, Ohio. I had a chance to return on 12/28/2012 to measure some trees. After a circumnavigation of the building and measuring along the way the results are listed below with the heights arrayed in descending order.

Sweet Gum (*Liquidambar styraciflua*) 108.0' x 13.6' x 100.5' (maximum spread)
Eastern Hemlock (*Tsuga canadensis*) 106.6' x 11.3'
Pacific Silver Fir (*Abies amabilis*) 103.3' x 8.6' x 27' (maximum spread)
Yellow-poplar (*Liriodendron tulipifera*) 97.6' x 8.8'
Norway Spruce (*Picea abies*) 96.5' x 10.5'
Maidenhair Tree (*Ginkgo biloba*) 94.5' x 13.4'
Green Ash (*Fraxinus pennsylvanica*) 92.8' x 13.2'
White Pine (*Pinus strobus*) 85.4' x 10.4'
Shellbark Hickory (*Carya lacinosa*) 81.3' x 9.5'
London Plane (*Platanus hybrid*) 69.8' x 13.0'
Arborvitae (*Thuja occidentalis*) 50.8' x 5.2', 46.7' x 5.3'
Chinese Chestnut (*Castanea mollissima*) 36.9' x 6.5'

In its earlier incarnation it was known as the Athens Lunatic Asylum and operated as such under more benign names until 1992.
The building was under construction from 1867-1874 and the 18 million bricks required were fired on site. It is 853 feet long. A landscape architect, Herman Haelin of Cincinnati, Ohio was hired to design the grounds. He was a student of Frederick Law Olmsted of Central Park fame. Groundsman George Link carried out the original plan over a period of thirty years and it is likely some of the trees I measured were his efforts. Judging from older pictures it appears that much of the landscaping effort was along the river bottom and has disappeared because of highway construction and a major channelization of the Hocking River.

Below is a picture of the "interesting" building. It is presently known as Lin Hall in the Ridges section of the campus. The building is at 700' elevation and overlooks the Hocking River and other parts of the campus and the city of Athens.
13.6’ x 108.0’

Pacific Silver fir. It appears the tree on the left lost one of its iterations and the one to the right had its top blown out probably as a result of the 6/29/12 derecho.

Shellbark Hickory

8.6’ x 103.3’ on left, 7.9’ x ######

All pictures by Turner Sharp 12/28/2012 with occasional appearance of Tee Sharp- son.

Turner Sharp

9.5’ x 81.3’

Re: Doodling in Math: Spirals, Fibonacci, and Being a Plant

by EMorgan » Fri Jul 26, 2013 12:27 pm

You might also check out Design in Nature by Adrian Bejan. He’s a giant in thermodynamics (Duke University) and has some interesting things to say: http://www.amazon.com/Design-Nature-Constructal-Technology-Organization/dp/0385534612
Iowa Big Tree Guy Conquers Colorado

by dbhguru » Fri Jul 26, 2013 3:18 pm

Hi Folks,

I a write this, Mark Rouw is heading back in the direction of Iowa. He will check out a few more sites today, but then it is just sit back and enjoy his success. Mark has been an incredible asset to big tree hunting in Colorado. He's been coming out here since in the 1970s and knows a heck of a lot.

After I broke the white fir height record with a 132.5-footer, he found another at 136.0 feet. And there may be still another that he measured over 15 years ago that will beat 136.0 feet. He got 138.0 then. Monica and I ill check it out when we leave on Aug 2nd.

On Wednesday an outfitter took Mark up Hermosa Creek to rendezvous with a big Doug fir. On the way he confirmed another big pond at G = 12’ 4” and H = 146.0 feet, roughly. The number of 12-footers grows. However, once at the Doug fir, his fear of disappointment disappeared.

Folks, it is huge. Girth = 17.0 feet, Height = 163.0 feet. It is one tree. Mark will have the full report when he gets back to Iowa. I expect that its volume will prove to be between 1400 and 1600 cubes.

Southwestern Colorado is big tree country, and tall tree country too. Here's an up-to-date list.

<table>
<thead>
<tr>
<th>Species</th>
<th>Height</th>
<th>Confirmer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doug fir</td>
<td>163.0</td>
<td>Mark Rouw</td>
</tr>
<tr>
<td>Ponderosa</td>
<td>160.3</td>
<td>Bob Leverett</td>
</tr>
<tr>
<td>Colorado blue</td>
<td>160.2</td>
<td>Bob Leverett</td>
</tr>
<tr>
<td>Englemann spruce</td>
<td>142.5</td>
<td>Bob Leverett</td>
</tr>
<tr>
<td>White fir</td>
<td>138.0</td>
<td>Mark Rouw</td>
</tr>
<tr>
<td>Southwestern white p.</td>
<td>127.0</td>
<td>Bob Leverett</td>
</tr>
<tr>
<td>Narrowleaf cottonwood</td>
<td>114.0</td>
<td>Bob Leverett</td>
</tr>
</tbody>
</table>

There is no doubt that there are taller Englemann spruce out there. I expect we'll eventually break 120 on cottonwoods of two and possibly 3 species. Next year. we'll have another rendezvous out here and maybe we can push the above numbers even higher.

Robert T. Leverett

Re: Iowa Big Tree Guy Conquers Colorado

by Larry Tucei » Fri Jul 26, 2013 4:18 pm

Bob- Wow 17’ what a monster. Maybe next year I could see that one. I have no doubt that every trip at and around Hermosa Creek will bring in some new records. What a great place for large and tall trees! That's one heck of a list you have. Congrats.

Larry

Re: Iowa Big Tree Guy Conquers Colorado

by dbhguru » Fri Jul 26, 2013 5:06 pm

Will Blozan wrote: WOW! Can't wait to see the photos. I do hope to make it next year and break ALL the records ;)

Here is hoping. A WNNTS rendezvous in Durango with Don, Larry, Mark, you, me, LTI representative, FS representatives, Great Old Broads Rep, etc., etc., etc. I would hope other NTS could make it. The possibilities are endless out here. Endless. Mark learned from a San Juan NF forester of a dead Doug fir that measures 18 feet around. No details on it.

Robert T. Leverett
**UPdate please**

by pattyjenkins1 » Fri Jul 26, 2013 9:03 am

NTS:
In preparation for the Tree Climbing Rendezvous, it would be very helpful if this list were culled out for projects that are no longer active. Maybe everything is active, I don't know, but I'd like NTS to be able to present a current list of projects to which Rendezvous participants may be able to contribute. Also, if your project isn't here, please add it! Thank you.

Patty Jenkins

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**Re: UPdate please**

by Matt Markworth » Fri Jul 26, 2013 6:30 pm

Hi Patty!

Here's the link to the Tree of the Week Forum, which contains the Tree Maximums List that I've been updating: [http://www.ents-bbs.org/viewforum.php?f=393](http://www.ents-bbs.org/viewforum.php?f=393) The spreadsheet and guidelines are included in the first post.

The goal of the list is to document maximums (height, girth, spread, volume) of tree species and builds upon the hard work that Jess and others have done in the past. I would be absolutely thrilled if a TCI member submitted a tree for inclusion on the Tree Maximums List! Tape drop, pole measurement, and the NTS Sine Method are all acceptable methods for height measurement.

Looking forward to October!
Matt
Hello NTS,
About a month ago I finalized and submitted the updated 2013 Atlanta Champion Tree List to Trees Atlanta. You can find the list attached to this post. I am the volunteer manager of the program and all submissions come to me (most come from me) and I then venture out verify species ID and take measurements. This year's list is a whopping 260 trees! Keep in mind that many species on the list go 3 or 4 deep (or more as with tuliptrees). This is sometimes because of their total points being so close, but also to have a deep pool of trees to choose from as champions die over the years... and we lost quite a few biggies in the last year along including the STATE champion Sweetgum and Northern Red Oak- both that were in metro-Atlanta.

A little backstory... When I first found this city champion tree list about 6 years ago I noticed many of the champions weren't all that big. Also many of the champ's were short, fat trees... tall trees were strangely absent. Finally, after learning tree measuring techniques from NTS, I realized that many of the trees on the list were mismeasured. The listing of a 176 FOOT TALL WHITE ASH was my first clue that these trees needed a second look (that tree is a state champion and is still on the list at 14' x 131', but no way it was ever near 176' tall). So... I approached Trees Atlanta with dozens of new nominations and they were so impressed that they asked me to take over the list! 6 years later, the list is about 5 times bigger than before with many more state champions than ever before.

Highlights of new trees added on this year's list include:
9' x 74' Eastern Redcedar- this is at an old homestead on Mercer University's campus
9' x 120' Pignut Hickory
14'9" x 77' Hackberry (this tree is taller, but I was not able to measure until after leaf out... didn't hit the top)
4'1" x 99' Persimmon
8'5" x 120' Shortleaf Pine (double trunk, but splits 6' up... probably not single pith, but not entirely sure)
10'6" x 125' Loblolly Pine (BIG bole that tapers little)
14' x 110' Swamp Chestnut Oak (old growth flooplain forest hidden behind a wealthy n'hood)
7' x 78' Coastal Redwood (Will Blozan spotted this near the Tree Climber's International clubhouse while visiting this year)
6'8" x 122.6' Winged Elm

~Eli

Re: 2013 Atlanta Champion Tree List

by DougBidlack » Sun Jul 21, 2013 11:14 pm
Eli, I believe your hackberry is an NTS girth record.
Doug

Re: 2013 Atlanta Champion Tree List

by eliahd24 » Mon Jul 22, 2013 8:25 pm
Doug- I hadn't even thought about that possibility! I'm sure Jess or Will knows of a fatter one somewhere... maybe down in the Congaree, but I'd be curious to see how it stacks up regardless. This tree is in someone's front yard in the middle of Atlanta. The trunk jams up so tightly against their front eaves that they've had to remodel!
Re: 2013 Atlanta Champion Tree List

by Jess Riddle » Wed Jul 24, 2013 6:16 pm

Eli, Great job with the list. That’s a lot of concentrated measuring effort.

Without seeing the tree, my guess is that the Celtis is sugarberry (C. leavigata). Hackberry (C. occidentalis) is rare in Georgia. I believe the tree would still be a NTS girth record, though several years ago I did measure a Celtis in Kentucky (now mulch) at 15.5’ cbh that was probably a sugarberry. The southern sugar maple (Acer floridum) looks like a height record.

Jess

Re: 2013 Atlanta Champion Tree List

by eliahd24 » Fri Jul 26, 2013 8:04 pm

I've always wondered about C. occidentalis vs. C. leavigata. I suspect all the ones I've found around town are the same species, but even with my field guides it's very difficult to nail down which species. I'll go with Sugarberry if that's what you're thinking Jess.

I'll try to look at the maple again to confirm that it's A. floridum as well.

Re: Tree Maximums - Genus of the Week: Carva (Hickory)

by bbeduhn » Mon Jul 01, 2013 9:39 am

I'll try to get an update on the circumference of carya laciniosa at Biltmore and an exact figure for the really big mockernut I found there this weekend.

The shellbark was 93” c and 111.7’ in 2004. It is 117.6’ as of last year. The big mockernut is 119.6’ and about 12’ c (forgot my tape), much larger than the 121” on the maxlist.

Re: Tree Maximums - Genus of the Week: Carva (Hickory)

by Larry Tucei » Mon Jul 01, 2013 3:59 pm

Matt-
Species (Scientific): Carya illinoiensis
Species (Common): Pecan
Height (ft): 105’
CBH (ft): 18’ 1”
Maximum Spread (ft): 150’
Average Spread (ft): 123.75’
Volume (ft3):
Site Name: Private
Subsite Name: Near Congaree National Park
County: Richland
State or Province: Ga
Property Owner: Rawls Family
Date of Measurement: Feb 2009
Measurer(s): Larry Tucei, Marcus Houtchings, James Parton and Randy Brown
Method of Height Measurement: Ents
Tree Name: Rawls Pecan
Habitat: Open Field
Notes: **South Carolina Co-State Champion**
Marcus Houtchings brought us to this Pecan after the Congaree gathering back in 2009. Larry
Are trunks in a multitrunk tree separate trees?

by edfrank » Mon Jul 22, 2013 11:34 pm

Are trunks in a multitrunk tree separate trees? How do different trunks in a multitrunk tree relate to each other?

This may seem a strange question, but it is an important one to answer especially when we are trying to determine how to measure and represent multitrunk trees in our tree listings. Multitrunk trees typically grow from a single root mass after the previously existing tree was damaged or downed. As such they are genetic clones of each other.

If you look at relationships between organisms, both plants and animals, in nature these can be broken down into a number of broad categories: mutualistic, parasitic, commensal, predator/prey, competitive, and a handful of other special cases. Are the separate trunks just different parts of one whole, or are they acting as independent trees growing in close proximity, or something in between?

I have brought up the question previously if trees growing from a pre-existing root mass is simply growing to the size it would have been if the original tree had not been lost. This idea was based upon the ideas of the Leonardo Da Vinci “The Da Vinci sequence viewtopic.php?f=143&t=3271 “Expressed mathematically, Leonardo’s rule says that if a branch with diameter (D) splits into an arbitrary number (n) of secondary branches of diameters (d1, d2, et cetera), the sum of the secondary branches’ diameters squared equals the square of the original branch’s diameter. Or, in formula terms: D2 = ∑di2, where i = 1, 2, … n. For real trees, the exponent in the equation that describes Leonardo’s hypothesis is not always equal to 2 but rather varies between 1.8 and 2.3.”

The question was does it work the same for trunks directly growing from the roots? I don’t thinks this is the case. The sum of the branches above ground is limited by the size of the water/sap flowing through the trunk farther down. There would be some initial burst of growth because of the preexisting root stock would not need to be regrown and all of the energy of the growth could be put into growing height and girth. This is the same thing that happens when grafting trees. There is not any evidence that would support the concept, and evidence indicates that the large multitrunk trees are often much larger than any single trunk trees for the species in a similar setting.

So I must conclude at this stage that the size of the trunks are not directly related to the size of the initial root mass, nor of the original tree which was lost.

What do we know about multitrunk trees? 1) Often the primary trunks are of similar size, 2) they are both growing from the same root mass, 3) they are genetic clones with identical growth potential.

This is all mixed up with the idea of competition between trees. You can view all of these relationships as one of competition. You can even consider the relationship between branches to be competitive as branches are lost on the lower portions of the tree as light is being sucked up by higher level branches. It can countered that they are cooperating as well because the upper leaves are more transparent than lower leaves and smaller. If it was all out war the upper leaves would be completely opaque and suck up all of the light they could. This is a degree of cooperation for the greater good of the whole tree. Trees send out chemical weapons to prevent the growth of nearby trees or sprouting of other trees in close proximity. But they also send out warning chemical signals to warn other trees of insect infestations so the other trees can build up their leaf poisons.

So how do trees fight among themselves? By limiting resources. Trees are primarily made up of air, which is unlimited. In many or most situations there is sufficient water that one tree is not stealing it all from other trees, soil nutrients are the luck of the draw of position and besides they are not a tool in tree warfare. That leaves light and chemical warfare between trees – allelopathy isn’t just for insects anymore. Presumably the chemicals being produced by the roots are not affecting the tree producing it, so the genetic clones would be equally unaffected by the chemicals used in the battle.
Light – if you look at trees we all know they have a distinct form associated with open growth where there is no competition for light. There are trees that are growing in the understory that are suppressed by the lack of light. Then look at a typical mature forest. These are generally fairly open and often the group of trees of one species of similar ages are similar in size. There were hundreds of seedling and saplings that died off before growing to much size. These are lost from competition with other trees for light, maybe water when they are tightly packed, and perhaps alleopathy. In addition many are lost through simple attrition from other processes like browsing and insects independent of the competition with other trees.

Over time this more open arrangement is reached where the trees are fairly evenly spaced, but most notably often similar in size. Since they have had different individual histories, different positions in the forest, grew next to different trees, and so forth, why are they similar in size? The basic idea I would suggest is that outside of the extremes of suppression and open growth there is a range of light levels that all produce similar amounts of growth.

How does any of this apply to multitrunk trees? They have a preexisting root system so maybe they avoided some of the early stand thinning processes. So you have two or more trunks grown to a certain size. They continue to grow. They do shade each other to some degree, but they each get enough light to maintain approximately the same growth rate. Each has essentially claimed a part of the original root system for themselves. Their growth parallels each other as they grow bigger. When trunks are lost at this stage, I don’t think it is competition from the other trunk or trunks but generally other factors such as damage from wind, insects, and rot.

To sum up I am proposing that the multitrunk trees bypass the early thinning stages because they are growing from a preexisting root set. Each trunk claims a portions of that root system for itself and continues to grow. They are immune from the chemical alleopathy from the other trunks in the group. They by this time are large enough they can hold their own in terms of canopy and light gathering for a fairly long term and will continue to grow. The loss of trunks at this stage I suggest is typically a result of other factors than direct competition from the other trunks. Each trunk is essentially a separate tree growing in close proximity or even pushing or impinging against each other. It becomes more complex if the trees fuse together in a way that allows sap to be transferred between trunks, but overall they are still separate trees growing in close proximity. The proposal is that they are genetic clones, but separate individuals even when they are juxtaposed into a massive clump.

Now everyone can pick this idea apart, but I wanted to suggest it and see if it leads anywhere.

Edward Forrest Frank

Re: Are trunks in a multitrunk tree separate trees?

by Larry Tucei » Tue Jul 23, 2013 4:33 pm

Ed- In some cases the trunks are separate trees and in other cases they are not. It depends on many factors as you have pointed out. Live Oak for example splits at ground level in some cases and forms one, two, three or more trunks butt have the same root mass. In other cases they form trunks from 1’ to as much as 10’ above ground with the same root mass. They also can grow from clumps of trees and form trunks that have different root mass. They can fuse together over time and look like one trunk. It sometimes can be difficult to decide just exactly what type of example they are. Several tree species seem to fall into this category and these types of examples should be counted as such. We are all at NTS in agreement on this subject and glad you brought it up again.

Larry
**Re: Are trunks in a multitrunk tree separate trees?**

posted by **edfrank** » Tue Jul 23, 2013 4:49 pm

Larry,

I think that while these trees growing from preexisting root masses are nominatively sharing a root mass, that in actual practice the preexisting root is partitioned into sections that serve only one of the trunks. So effectively they are separate trees. They should be treated as separate trees for measurement purposes. When they are fused into a giant mass they need to be treated as a multitrunk tree.

Ed

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**Re: Are trunks in a multitrunk tree separate trees?**

posted by **DougBidlack** » Wed Jul 24, 2013 8:17 am

Ed,

what evidence is there that root masses are partitioned into sections to serve individual trunks? And how good is this evidence? I feel that an organism resulting from one seed that happens to have several trunks and one, physically intact, root mass is a tree...a single tree with multiple trunks. I'm not even sure I would change my opinion if it is actually true that the root mass is partitioned. I guess I would always have the sneaking suspicion that the root mass may be partitioned in some ways but not others and that some species almost certainly have stronger partitioning than others. Identical twins in humans and other animals are, almost always, physically separate individuals. Naturally, this brings up 'Siamese Twins' and that wonderfully complicates things.

Doug

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**Re: Are trunks in a multitrunk tree separate trees?**

posted by **dbhguru** » Wed Jul 24, 2013 12:15 pm

Will, Ed, Don, Doug, et. Al.,

Understanding the nature of trees above and below ground across species will continue to challenge us. Measuring the diversity if forms by an artificially simple process was always bound to present problems. When we try to dumb everything down to one size fits all, we should expect exactly what we have now. Dumbing down is what we do through the AF measuring procedure.

I give full recognition to the nobility of purpose for the register. It isn't the purpose or concept, but the execution. I don't think I could have done better job if crafting a single formula, had I been around then, but we do now have the benefit of 20-20 hindsight. To stubbornly hang on the the original design so that we keep everything artificially simple will, I fear, be our downfall. If AF will not entertain some form of official distinction between single and multi-stem trees and adopt a method (pith rule) to purge doubles, triples, etc.. I fear we will be left with a charter to produce some cosmetic changes, but nothing substantive. I am not saying that this is what will happen, but it very well could. This is why Don and I need every ounce of wisdom the rest of you can send our way.

Will,

I am not optimistic about AF throwing out the current point system in favor of TDI. However, the issue can be broached as a concept. My approach would be to ask others for their take on TDI and see what kind of responses we get. Then, take it from there.

Robert T. Leverett
Re: Are trunks in a multitrunk tree separate trees?

by edfrank » Thu Jul 25, 2013 3:47 pm

Doug,

Excellent questions. I have no specific evidence of the partitioning of the root masses except some anecdotal accounts and some personal observations. That is why I tried to express this as speculative in nature, but I apparently did not make that point well enough in the post. it was not meant as a statement of incontrovertible fact. I was hoping somebody would post some specific citations of root function in multitrunk trees or more personal observations.

Yes there is both some degree of competition and some degree of cooperation in these trees. What I am trying to see is if it is possible to characterize the individual trunk in a multitrunk tree as growing more like it is a separate individual tree or more like it is a fork in a single organism. To what degree are resources being shared between the trunks? To what degree are the resources being hoarded by each individual trunk?

The section on the thinning process and loss of nearby trees through competition between trees was really trying to consider why multitrunk trees retain multiple trunks instead of them being lost early in the process. Essentially I was arguing that even if they could be considered to be separate trees growing close together, many of the mechanisms for forest thinning might not be applicable to these trunks within the multitrunk specimen. Even if they were acting as separate trees, the presence of an already developed root mass during the early growth stage and their not being subject to their own allelopathic chemical battles might allow them to persist to large size. The same likely would be true if they were acting more cooperatively as forks in a single tree.

I am trying to open up this discussion to more wild speculations on the nature of multitrunk trees and see if it leads anywhere. So everyone consider this an invitation to brainstorm with whatever ideas, strange or not, you might have.

The Key to Science

http://www.youtube.com/watch?v=qt7gPCioqTg

This is a brilliant 60-second segment from one of Feynman's lectures where he talks about the key to science.

Re: Are trunks in a multitrunk tree separate trees?

by Will Blozan » Sat Jul 27, 2013 10:12 am

Ed,

Separate- as regardless of biological or mechanical origin, the end result is a collective effort, not the result of a single individual.

I think you are right on in that the multi-trunked clumps are not subject to the same competitive pressures as closely spaced trees. Natural thinning of these clumps does occur but at a much slower rate (my take as an arborist observing trees for nearly 3 decades). All the more reason to never compare to single trunked trees.

Will

Re: Are trunks in a multitrunk tree separate trees?

by DougBidlack » Wed Jul 24, 2013 8:59 am

Will,

every multicellular organism is the result of a collective effort.

Doug
Re: Tree Maximums - Genus of the Week: Carya (Hickory)

by tsharp » Wed Jul 03, 2013 11:32 am

Matt:
Here is a Shellbark Hickory nomination.

Scientific name: Carya lacinosa
Common name: Shellbark Hickory
Height: 90.4’
CBH: 146.1” or 12.2’ taken at 4’
Crown Spread: Max. = 86.5’, Average = 80.2’
Volume:
Site name: Sheppard Farm
Subsite:
Country: USA
State: West Virginia
County: Jackson

Property owner: Sheppard family heirs
Date of measurement: 11/20/2012 by Turner Sharp and Craig Minton
Method of measurement: Sine method using handheld Nikon 440 laser rangefinder and Suunto clinometer
Tree name:
Habitat: Tree located on bottom land in an open hay field
Notes: Tree was nominated to the West Virginia Big Tree register by John Fichtner in 2007

Re: Tree Maximums - Genus of the Week: Carya (Hickory)

by bbeduhn » Mon Jul 08, 2013 4:52 pm

Species (Scientific): Carya alba
Species (Common): Mockernut hickory
Height (ft): 119.6’ in winter, but I just got 120.4’ above eye level ~123’
CBH (ft): 119.5”
Maximum Spread (ft): ~75’
Average Spread (ft):~70’
Volume (ft3):
Site Name: Biltmore Estate
Subsite Name: Arbor Trace Trail
Country: US
State or Province: North Carolina
Property Owner: Biltmore Estate (Cecil family)
Date of Measurement: 12/20/2012 for height , 7/6/2013 for cbh
Measurer(s): Brian Beduhn
Method of Height Measurement:
sine/laser/clinometer
Tree Name: Old Hickory or Andrew Jackson
Habitat: next to small stream below small hill 50 yards from I-40
Notes: Still vibrant and putting on height but is being choked out by invasives, making spread measurement particularly difficult.
Re: Tree Maximums - Genus of the Week: Carya (Hickory)

by bbeduhn » Tue Jul 09, 2013 8:44 am

Will Blozan wrote: Are you sure that is not a bitternut?

Will,

The fruits are enormous. They certainly look like mockernut. I didn't pay attention to the leaves however as I was certain from the fruit.

Brian Beduhn
Re: Tree Maximums - Genus of the Week: Carya (Hickory)

by Josh Kelly » Tue Jul 09, 2013 10:29 am

Species (Scientific): Carya ovata
Species (Common): Shagbark Hickory
Height (ft): 146.6
CBH (ft): 10.6
Maximum Spread (ft): N/A
Average Spread (ft): N/A
Volume (ft³):
Site Name: Beaverdam Creek, Shady Valley TN
Subsite Name: Tributary of Fagal Branch
Country: USA
State or Province: TN
Property Owner: Cherokee National Forest
Date of Measurement: April, 2008
Measurer(s): Josh Kelly
Method of Height Measurement: Laser and Sine
Tree Name:
Habitat: Mixed Mesophytic Forest (Southern Blue Ridge Rich Cove & Slope Forest)
Notes: Localities around Holston and Iron Mountain have been explored very little by big tree hunters. There is good potential for other large specimens in the area.

Re: Tree Maximums - Genus of the Week: Carya (Hickory)

by Matt Markworth » Sun Jul 14, 2013 3:09 pm

Hi All,

Looks like this is the tallest confirmed Pignut Hickory. Here's Jess's original post . . .
http://www.nativetreesociety.org/fieldtrips/south_carolina/brevard/brevard_fault_zone.htm

However, an enormous pignut hickory growing on the edge of the bench in the southernmost cove is by far the most impressive tree in the area . . . The lower trunk tapers from 13'6" at grade on the uphill side to 11'5" at bh, and remains just over 11" at six feet above mid-slope! Above that height, the tree extends another 74.0' to where the trunk forks and spreads into a crown spanning 63'. I took a total of five measurements to four different twigs from three different positions spanning about 120 degrees. The one twig measured from two positions yielded 167.8' and 168.2'! The other tops measured 167.1', 168.2', and 168.53'! Using 168.2' for the height, the tree has 321 big tree points!

This post has photos . . .
http://www.nativetreesociety.org/fieldtrips/south_carolina/brevard/brevard_fault_zone.htm

Species (Scientific): Carya glabra
Species (Common): Pignut Hickory
Height (ft): 168.2
CBH (ft): 11.41
Maximum Spread (ft): 68.6
Average Spread (ft): 63
Site Name: Sumter National Forest
Subsite Name: Lee Branch
Country: USA
State or Province: SC
Property Owner: USFS
Date of Measurement: 3/20/2004
Measurer(s): J Riddle
Method of Height Measurement: NTS Sine
Habitat: Forest, grows on the edge of a bench

- Matt

Re: Tree Maximums - Genus of the Week: Carya (Hickory)

by Matt Markworth » Sun Jul 14, 2013 4:54 pm

Hi All,

I'm especially pleased to put a tree measured by Colby Rucker on the Tree Maximums List. It's the 137.4' Sand Hickory in Belt Woods.
Brian – Thanks for going back and measuring that great Mockernut! I put down 119.6’ as the height, but it sounds like it may even be taller. Let me know if you visit the tree again in winter and I’ll update the height and spread.

Larry – That Pecan is amazing! I entered it for Max Girth and Max Spread.

Turner – Nice Shellbark! I entered it for Max Girth and Max Spread. I bet there are some unknown tall Shellbarks out there as well.

Josh – That is one sweet Shagbark, I listed it under “Other Superlative Trees” on the Maximums List, which I think will be a good place to show the depth of impressive specimens that are out there.

James – I agree, Don Leopold’s videos are the best I’ve seen.

Here are the Maximums Heights. I’ll update the chart as additional Hickories are submitted over time.

The hickories have a Rucker of 147.2’! I doubt any other family could beat that, with the exception of the pines.
Method of Height Measurement:
sine/laser/clinometer
Tree Name: Triple Bitter Stout
Habitat: next to stream
Notes: triple trunk. Resides with other bitternuts, walnuts, sycamores, cherries and river birch

Re: Tree Maximums - Genus of the Week: Carva (Hickory)

by Matt Markworth » Mon Jul 22, 2013 6:22 pm

bbeduhn wrote: The hickories have a Rucker of 147.2'! I doubt any other family could beat that, with the exception of the pines.

I have a late entry for girth, but it is clearly a multi-trunk individual.

Brian,

That's an awesome idea! I hadn't thought of doing a Rucker Index for a Genus and the possibilities that exist for comparisons.

That is a sweet hickory, I haven't seen anything like it. This particular list is adhering to "Tree Measuring Guidelines of the Eastern Native Tree Society," which discusses the pith test and measuring the attributes of the target stem, but that is still an awesome specimen. Thanks for posting it and I love the idea of doing a Rucker Index for Genera!

- Matt

Re: Tree Maximums - Genus of the Week: Carva (Hickory)

by KoutaR » Sat Jul 27, 2013 2:09 pm

Is there perhaps a mistake either in the old maxlist or in the post Matt linked in the message # 10? The tallest C. ovalis in the maxlist is 168.5 ft, which is exactly the same height as the tallest twig of the C. glabra in the 2004 post. The spreads are identical as also the site (Lee Branch). Which one is correct?

Kouta
So-called Champion Baldcypress - Please Vote

by dbhguru » Mon Jul 22, 2013 12:35 pm

Hi Folks,

Can I get your feedback? Here is an image of the National Champion bald cypress. How do you vote? What are your thoughts?

What rules would you advocate to exclude forms such as this from being treated as legitimate contenders. Please I need to hear from the many, not just the few. There is a strategy at play.

Robert T. Leverett

trees joined at their respective bases, which don't even flare out on similar planes; coppiced, low-branching, and even many hard-to-classify multi-trunked trees will appear as one specimen at or near ground level. This one can't make that claim. As far as good rules to follow in these types of situations, I really like Ed's approach and this recent thread on the multi-trunk subject http://www.ents-bbs.org/viewtopic.php?f=235&t=5319.

In my personal experience, I've been disappointed several times when visiting so-called "champion" trees. I don't remember ever being let down by an NTS-championed tree, and I think this is one proof of the group's value both to science and the general public.

Elijah

Re: So-called Champion Baldcypress - Please Vote

by Larry Tucei » Mon Jul 22, 2013 4:14 pm

Bob- Maybe this Baldcypress would be the Multi-Trunk champion. The tree has two large trunks that over time have fused together. I can't say for sure from the photo but it appears to have had the top blown out and has new limb growth. Not a Single Trunk tree but a fused two into one tree. Where is this tree?

Larry

Re: So-called Champion Baldcypress - Please Vote

by lucager1483 » Mon Jul 22, 2013 1:28 pm

Bob, That's an interesting tree, but probably not one I'd bother to go out of my way to visit. From this angle at least, this thing is obviously two individual
conjoined better, but if they were regular, straight trunked trees, they might not even be touching each other. This and the National Champs sycamore are ludicrous as champion trees. Someone could bring up the example of the Tule tree, but at least that Montezuma cypress is fully conjoined, however it wasn't always so. That tree has skirted multiple definitions over the centuries. The baldcypress is clearly not in that league. It is a curiosity...but not a champion.

Brian

**Re: So-called Champion Baldcypress - Please Vote**

_by tsharp_ » Mon Jul 22, 2013 5:02 pm

Bob

It is a legitimate contender for a multi-stem tree. Don't exclude it -just call it what it is.

By any chance is that the tree that was evaluated with DNA samples from both trunks to prove it was genetically one tree and displaced the "Senator" on big tree lists? It is beside the point if it is genetically one tree- the Pith Rule works!

**Re: So-called Champion Baldcypress - Please Vote**

_by dbhguru_ » Mon Jul 22, 2013 5:42 pm

Ed, Indeed, I know you position, but what I'm thinking of is collecting all the individual opinions and presenting them to the group without identifying the sources. So, any fresh thoughts you have need to be heard. They may be just you commenting on the inputs of others, but that's find too. I hope we can keep this discussion going and perhaps we will figure out how to thread the needle on the more difficult calls. The cypress seems to be an easy one.

But if there is doubt, should the benefit of doubt go to the tree? I am thinking of some of the cottowoods that appear to have coppiced near the base, but are legitimately one tree.

Turner,

The problem that we presently face is that AF is reluctant to have two lists or even put asterisks by trees like the baldcypress. This position may change. I'm going to lobby hard to get AF to have a change of heart. I think that is the tree that was DNA tested, which raises interesting questions about clones. I'm thinking of aspens that are clonal and have separate, but touching trunks above ground.

Elijah, Larry, and Brian,

Thanks. Now here is a question. Suppose AF will only list one champion, and furthermore, will not specially identify multi-stemmed trees as a special class - no asterisks. If so, how would you treat the tree: try to infer what is the trunk of the larger and measure it by some process? Ignore it altogether? Etc. Ed, here is a place I hope you'll weigh in. I need to have a plan for every contingency. This is going to be a thorough vetting of the possibilities.

Bob

**Re: So-called Champion Baldcypress - Please Vote**

_by edfrank_ » Mon Jul 22, 2013 6:53 pm

Bob, I have a contingency plan. It is to ignore everything on the American Forest Registry and do my best to eviscerate their lack of standards at every opportunity. I have been among the most supportive of the American Forests efforts, and have countered arguments about the problems with height measurements by pointing out the purpose was to get people involved with tree measurement. But any meaningful activity, even if the meaning is just
recreation, has to have at least some minimal standards, and lumping multitrunk trees with single trunk trees would result in an activity without any standards at all. I could not be an apologist for the program any more.

As for measuring the larger of the two trunks, you could measure the diameter of the root flare using a reticle or photo method and infer a girth based upon that diameter. It is pretty clear where the extent of the roots for the trunk on the left extend.

Ed

Re: So-called Champion Baldcypress - Please Vote

by DougBidlack » Mon Jul 22, 2013 7:32 pm

Bob,

Ed just perfectly summed up why I have not weighed in up to this point. I don't care. They are simply irrelevant and I much prefer thinking about trees and moving things forward rather than constantly going back to points that are simply a non issue for us. Most people are reasonably intelligent and if they look at our ideas, arguments and evidence then they will side with us. AF can join us or wither and die. I am not saying that you and Don and others are wasting your time for trying to get AF to see the error of their ways, I'm just saying that I don't have the type of patience that you guys have for dealing with people that are unwilling to change even when they are clearly wrong.

Doug

Re: So-called Champion Baldcypress - Please Vote

by Will Blozan » Mon Jul 22, 2013 10:17 pm

Great comments folks!

The consensus is clear- two trees and a farce champion like the OH sycamore and many others. AF asked me to visit and measure this tree as well as the now dead Senator Cypress to see which was "bigger". I refuse to waste their money on the trip and did not go for the reasons stated so well in the above posts. The Senator (may it rest in peace) was by far, and I mean by FAR!, the legitimate champion in every conceivable way than that fused turnip.

AF listed that tree based on a genetic test. Yet they won't list the Sag Branch Tuliptree as a champion based on volume (as they do with western species).

Will

Re: So-called Champion Baldcypress - Please Vote

by bbeduhn » Tue Jul 23, 2013 9:12 am

Bob,

As far as what I would recommend on such a tree, simply do the best measuring possible, guesstimating girth, taking pictures and have a professional hit the field and do it right. I know that's beyond my ability to do solo but I could certainly get a fairly good estimate. Most people do not have reticles and do not carry tripods either.

With enormous tapers, the numbers are skewed for girth. A baldcypress growing on land that almost never sees flooding couldn't compete with one that grows in a natural floodplain. A truer girth would be above the taper, but that presents other problems and also gives the tree short shrift because it may be 15 feet up the trunk. I guess that's a different discussion.
At what point would we make the call on a tree that appears to be fused but has little evidence of the fusion? If it is well rounded, like a recent cottonwood discussion, with apparent seams in the bark, but not an obvious fusion, how high up would the fusion need to be? If it were at a great height, say 30 feet or so, I would be more inclined to accept it as a single.

The bottom line is we do need certain standards. There will be trees that do not fit those standards. There must be some degree of flexibility with any standards and some cases will come down to a judgment call involving AF judges.

Brian

As for the question, any big multi stemmed tree should always be listed with an * by it. If fused trees and multi stemmed trunks are considered champions then why not the "Screaming Titans" or the "Boy Scout Tree" being the champion Redwood? That being said, isn't the "Lost Monarch", the current Redwood champ also some form of a multi stemmed tree?

John D Harvey

Re: So-called Champion Baldcypress
- Please Vote

by Jess Riddle » Wed Jul 24, 2013 11:32 pm

Bob,

Clearly two trees, and therefore not a valid entry for a list that also contains single stem trees. The pith test would clearly identify this nomination as multi-stem.

Trees like this are what kill the recreational value of the big tree list.

Jess

Re: So-called Champion Baldcypress
- Please Vote

by JohnnyDJersey » Thu Jul 25, 2013 10:01 pm

Will, I couldn't agree more. I have a problem with "turnip" trees being champions at all or considered among the biggest. The Senator was far larger than anything out there today.

I am unimpressed with trees that are considered especially large because of some special individual growth form. Some kinds of trees typically, or commonly have "swollen bases," or exaggerated trunk/root flares, so I would think that could be considered in the measurement and ranking of such trees. But with some other kinds of trees, these exceptionally large bases are not typical--are the result of some injury, infection, or special growing environment, and therefore should not be considered.

To put it as simply as I can, I would like, for each species of tree, to have some "normal" or "typical" form established, and then measurements taken at points that reflect that typical form. Often a guideline used is that the circumference of a tree should be measured at 4.5 feet above the ground. Well, that doesn't work for giant sequoias, where often at 4.5
feet you are simply measuring around a large basal "flare" or whatever it should be called, or maybe even a root itself. I believe there is a point with such trees where the flaring of the trunk into the root collar begins, and measurements should be taken at that point.

With the baldcypress tree pictured, the "flare" extends upward very high. Higher than I think is typical for the species. Measured where I think this tree "should" be measured, I would not consider it especially large.

Another special problem with baldcypress is they often grow in water. So, with a water level which can rise and fall, where--or when--do we measure? At a low water level, more of the basal flare may be exposed above the water line.

But, implementing my idea here for some more "fair" or "true" way to measure, and deciding what to measure and what not to measure, would not be easy. First, it would have to include an analysis to determine what is typical, and not simply some "freak" aspect of growth. Then, It could also be difficult to determine exactly at what point a trunk should be measured, based on where a "flare" begins. Perhaps some mathematical formula could be used, but then the same formula might not be equally appropriate for all species. And I can imagine that there would be other complications.

Ultimately, it may not be possible to have any "regularized" or universally applicable "fair" system of measurement for things as fundamentally irregular and diverse as trees are.

But, obviously, considering this baldcypress as a candidate for the largest of its species makes absolutely no sense to me. Not only because it is two trees, but also because of the unusually large basal flare.

--Gaines

**Re: So-called Champion Baldcypress - Please Vote**

ён by edfrank » Sat Jul 27, 2013 3:40 pm

Gaines,

I would say that the girth and height should be referenced to the ground surface or swamp bottom in which the tree is growing. The water may go up and down, but the supporting surface upon which the tree is growing is constant. The species like bald cypress will have unusually large girths because of the buttressing at their base. The buttressing extends up the tree to different heights in different trees and has a different amount of flare in trees of comparable diameters above the flare. It would be an improvement if the girth were to be measured above the flare, but even that will not yield a uniform comparison. Such measurements would be an improvement, but would not be perfect. Rather than reinvent the process for each different species at the AF public participation level, I personally would be satisfied with a measurement 4.5 feet above ground/bottom level and just be aware that these girths are inflated.

Edward Forrest Frank

**New 108.5 meter redwood in HRSP**

ён by John Montague » Fri Jul 26, 2013 5:10 pm

I recently discovered a new tall redwood in HRSP, which I have named "Eclipse". I performed a tripod survey with an Impulse 200LR and prism pole. The survey revealed this tree to be 355.98 feet or 108.5 meters. The tree is located in Humboldt Redwoods State Park, and it was mysteriously absent from LIDAR's hit list. Note the attached picture. Eclipse has the unique feature of a neighboring trunk that leans into Eclipse and then wraps itself around the upper trunk.
Michael Taylor is credited as co-discoverer of this tree. While he was not present for locating and measuring the tree, it was Michael's LiDAR research that directed me to this particular patch of forest in HRSP.

consistent with the LiDAR return + a few years of growth. I need to update my tall trees list with Eclipse included. Amazing this tree was not noticed before.

Michael Taylor

Re: Tasmania's 10,500-year-old stand of Huon Pine

by JustinBrown » Thu Jul 25, 2013 3:57 am

Wow! What a beautiful tree. It is such a miracle!

Re: Tasmania's 10,500-year-old stand of Huon Pine

by Don » Thu Jul 25, 2013 7:50 pm

I guess beauty is in the eye of the beholder! In my read and viewing of the video, I felt like I needed more than the claims made there, and hope to contact "the scientists..." that the narrator referred to.

For one thing, they mentioned a 3500 year dendrochronological match which is a fairly solid way of proving continuous occupation, but in fact, not one had all those years intact. There was reported to be another kind of pine that was a 1000 years old, presumably based on increment boring evidence.

I think the recent (in the big picture, less than 50 years I'd say have folks been talking of aging clones, which at best are estimates/extrapolations) spate of clones need to compete with each other, and separately from living trees. You know, like apples and rutabagas...

Don Bertolette

Re: New 108.5 meter redwood in HRSP

by M.W.Taylor » Sat Jul 27, 2013 3:41 pm

John, you are the Tree Detective. Thanks for finding this unknown 350' class redwood and measuring it accurately with the Impulse200. Your height figure is
**Rucker Index for a Trail - How wide?**

» by **edfrank**  » Sun Jul 28, 2013 1:19 pm

NTS, Recently Brian Beduhn has been posting on the Rucker Index for the Mountains-to-Sea Trail viewtopic.php?f=106&t=5040 The Mountains-to-Sea Trail (MST) is a long-distance trail, for hiking and backpacking, that runs across North Carolina from the Great Smoky Mountains to the Outer Banks. The trail’s western endpoint is at Clingman’s Dome. 530 miles of trail has been designated as a part of the MST by NCDPR.

This is a great project. It caused me to wonder when defining a Rucker Index for a trail, what should it include? Should it include only those trees within a certain distance of the trail? Or should it be defined differently? If it were to be trees within a certain distance, what should that distance be?

Robert Leverett wrote:

"I agree that to be included in the Rucker for a trail, we need a limiting distance. I propose a distance of 200 feet either side. I would even go 250, but not more."

viewtopic.php?f=106&t=5040&start=10#p24710


I have also been thinking about how we talk about other linear features. For our Clarion River RI and for our Allegheny River RI we are generally just including the river and its floodplain within the index. For smaller scale streams a good basis for RI purposes might be a drainage basin. For something like the Blue Ridge Parkway the corridor would include the federally designated parkway area and facilities, the adjacent state parks, and perhaps the broader idea of the forests on the ridgetop where the parkway runs.

What do you think about what should be included in a trail?

Edward Forrest Frank

---

**Re: Rucker Index for a Trail - How wide?**

» by **edfrank**  » Sun Jul 28, 2013 1:30 pm

Bob,

I am somewhat surprised you have taken such a conservative approach to distance from the trail. Out of curiosity I took my Laser rangefinder out into the brushy second growth forests behind my home. In general I found the farthest trees for which I could clearly see the basal portion of the trunk were about 60 yards away, with occasional ones as far away as 80 yards. This would represent the distance away from the trail where a large truncked tree could easily be seen. This does not include the views from overlooks or unusual open areas, or a canopy far off into the distance, but those trees where you could see the lower portion of the trunk (not necessarily the base) from the trail. In areas of older growth forest, or of bigger trees, the sight distance would be longer.

For something like the Mountains-to-Sea Trail, I could see arguments for distance of say a quarter mile being considered, or perhaps practical line of sight through the forest from the trail. The latter would be variable, but in general would be in the range of 200 to 500 feet.

Brian, this is your project, what are your thoughts on the matter? Will Blozan?

Edward Forrest Frank

---

**Re: Rucker Index for a Trail - How wide?**

» by **dbhguru**  » Sun Jul 28, 2013 1:55 pm

Ed, my distance was motivated by a consideration of accessibility to hikers. Too far away and even though the tree might be visible, it would not be very
accessible to most hikers. If we're talking about an ecological corridor, then the longer distance would make sense, and that is the more valuable consideration. I hereby abandon my earlier number.

Robert T. Leverett

**Re: Rucker Index for a Trail - How wide?**

by dbhguru » Sun Jul 28, 2013 5:21 pm

Ed,

Lots of named trails have big trees easy visible to travelers. In some cases, it makes sense to bring attention to those trees. The Hermosa Creek Trail here in western Colorado is an example. The Mahican-Mohawk Recreational Trail in Massachusetts is another. The Rivulet Trail in the Bryant homestead is a third. The trees visible within 200 to 300 hundred feet either side of these trails are worthy attributes, but unless it weren't for NTS, they would not receive much attention or importance. Since we specialize in height measurements, it occurred to me that we could sponsor trail competitions. Just a thought.

Robert T. Leverett

**Dakota Dunes, SD**

by Jess Riddle » Sun Jul 28, 2013 3:06 pm

Alternative title: yes, there are trees in South Dakota

Separated from Iowa by the Big Sioux River and from Nebraska by the Missouri River, Dakota Dunes, a residential development, occupies the extreme southeastern corner of South Dakota. The smaller houses have manicured yards with recently planted trees, the larger homes are nestled in a mature cottonwood forest, and the end of the peninsula formed by the two rivers has been left as a public park. Among the dozen floodplain sites I have visited in southeastern SD, the park stood out as unusually productive.

Main path through forest with tallest tree measured in center

The roughly 40 acre forest also supports unusually high tree diversity for the region, though the dense canopy limits herb diversity over most of the site. Mature cottonwoods form most of the overstory, but boxelder and green ash dominate some areas close to the Big Sioux. Boxelders and green ash also combine with white mulberry to form the midstory while the understory varies from sparse to dense rough-leaf dogwood. Much of the herb layer has been taken over by the invasive lion’s tail, but white
snakeroot and Pennsylvania pellitory are also common.

Rough-leaf dogwood is one of the most abundant species in riparian forests along the middle Missouri River, and commonly forms a continuous shrub layer. Individuals over a foot in circumference are rare, half that size being the norm, and the tree at Dakota Dunes is by far the largest I’ve seen.

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<td>Salix amygdaloides</td>
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<td>56</td>
<td>60.5</td>
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</table>

Dakota Dunes measurements.

Canada thistle at edge of forest

8'5" x 69.6' box-elder

1'8" x 26.1' rough-leaf dogwood

These cottonwoods are likely among the tallest trees in South Dakota, unless conifers in the Black Hills grow taller. These trees experience longer growing
seasons and more rainfall than cottonwood elsewhere in the state. The only stand with trees I've seen with trees of comparable height is on the Missouri River about 30 miles to the northwest.

Cluster of cottonwoods with 11’6” x 117.5’ tree on the right

Has anyone else measured rough-leaf dogwood or peachleaf willow? These are the only ones I know of measured by NTS.

Unmeasured species at the site include European buckthorn, northern catalpa, bur oak, black walnut, white mulberry, and silver maple; catalpa, walnut, and bur oak are all represented by only one or two individuals. Mulberry reaches at least 60’, walnut around 70’, and silver maple about 75’.

Jess Riddle

Re: Dakota Dunes, SD

by edfrank » Sun Jul 28, 2013 3:23 pm

Jess, NTS,

Here is a listing of the current state champions in South Dakota:


The list is dominated by street trees and yard trees with fat girths. There are photos for most of the champions. I bet you could get state records for many species. There also is only a limited number of species on the list, including many exotics, so for some species any decent sized tree would be the new champion because it is the only one on the list.

Edward Forrest Frank

Re: Dakota Dunes, SD

by DougBidlack » Sun Jul 28, 2013 5:32 pm

Jess,

I haven't yet measured any rough-leaf dogwood but it is very common in the metroparks along the lower Huron River in Michigan. The largest there are probably slightly taller than the one you measured but I'm not sure that I've seen any that were fatter. I was planning to measure this species this Winter so we'll see. There are also peachleaf willows of good size in southeastern Michigan but the measurements, as you know, are highly suspect. One is supposedly 112' tall and has a girth of 61". The girth seems reasonable and if we use the 3/4 rule for the height this would put the tree at around 84' which may actually be in the ballpark. I'll have to check out this tree and measure it.

Doug
How Fire Can Restore a Forest (TIME LAPSE VIDEO)

by edfrank » Thu Jul 25, 2013 5:25 pm

How Fire Can Restore a Forest (TIME LAPSE VIDEO)
Written by Rich Reid
Published on July 24th, 2013
http://blog.nature.org/conservancy/2013/07/24/how-fire-can-restore-a-forest-time-lapse-video/

“I found myself in this beautiful old-growth forest on a unique mission: document the changes of a controlled burn using time-lapse photography. The Conservancy has been using controlled burns as a method to restore native habitats and control invasive plants for over 50 years on their lands. My assignment sounded simple enough... what could go wrong?”

http://www.youtube.com/watch?v=cMUnFyz_8mM
http://www.youtube.com/watch?v=SoQA6gGEyLg

Re: How Fire Can Restore a Forest (TIME LAPSE VIDEO)

by Don » Thu Jul 25, 2013 6:16 pm

Ed-
This is a good introductory approach to educating the public. I'm all for it! Good find!
-Don

Re: Big Oaks in New York

by lucager1483 » Sun Jul 28, 2013 10:25 pm

Hey Tom,

I must have missed this post when you first wrote it. I enjoy seeing the giant white oaks in North Syracuse and the surrounding area. Route 11 has a number of impressive lawn trees, as do Buckley Rd. and Old Liverpool Rd. If you're including Wayne and Cayuga counties in your listing, I'd like to add the 20'3" northern red oak on Howland's Island. The tree is growing in a forest setting, but probably was relatively open-grown before the 1930s. Like your white oak, it's likely less than 200 years old and has put on mass at a rapid clip. The best height I've measured is a bit over 99’. Take it easy.

Elijah

Re: How Fire Can Restore a Forest (TIME LAPSE VIDEO)

by Joe » Fri Jul 26, 2013 8:23 am

I love time lapse videos- they're VERY trippy. By coincidence, I watched several this morning before reading this thread- the first 2 are of constructing wind turbines, the 3rd is construction of a solar "farm" on a commercial roof in Boston. It's now my mission in life of producing time lapse videos of silvicultural work!

http://www.youtube.com/watch?v=f6quIrHjEbg
http://www.youtube.com/watch?v=BhwSkSO1Yz8
http://www.youtube.com/watch?v=e-RD18U3-OE

I also intend to do some videos of Bob Leverett measuring trees- I've done a little of that already.
Joe
Re: Howland's Island

by lucager1483 » Sun Jul 28, 2013 11:35 pm

NTS,

Just an update on Howland’s Island. I’ve been making trips out there over the last couple of years, trying to get as complete a picture as I can of the superlative trees calling this chunk of soil their home. I’ve not yet explored every inch, but that is my long-term goal. So far, I’ve documented measurements for 41 tree species, 35 naturally occurring and 6 planted. Of the 6 clearly planted species, two (Scots pine and Norway spruce) are not native.

The tallest species measured is (what else?) tuliptree, a straight-up laser shot at 129’. This tree is likely in the mid-130s, and several nearby specimens are in the 120-130’ range. The shortest species on my list right now is hophornbeam, at 42.1’. 17 species at least 100’ in height have been documented, and 21 over 90’. Between Jess Riddle’s and my measurements, the Rucker Index for the Island now stands at 118.26’.

As far as girth goes, the fattest (and my personal favorite) tree is a northern red, at 20’3”. The fattest of the skinny trees is a chinkapin oak, at 28”. Ten species come in at 10’+, and another seven are over 100”. The Rucker10 girth index now stands at 12.79’.

As Howland’s Island is a favorite spot for mosquitoes and flies during the warm months, I’ll probably not be out there again until fall. Looking forward, my main goals are:
1. Confirming a tree over 130’
2. Finding a 100’ and/or 10’ cbh yellow birch

Hopefully I’ll have more to share in a few months.

Elijah

Re: Howland's Island

by dbhguru » Mon Jul 29, 2013 12:48 am

Elijah

Really great stuff! I love to see us get a solid handle on sites and your and Jess’s measurements have done that for Howland Island. I’ve passed through the general area a dozen and a half times, but never knew what was lurking in the wetlands. Now I know.

Robert T. Leverett

Rucker Index for a Trail - How wide?

by edfrank » Sun Jul 28, 2013 1:19 pm

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viewtopic.php?f=106&t=5040&start=10#p24710

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by edfrank » Sun Jul 28, 2013 1:30 pm

Bob, I am somewhat surprised you have taken such a conservative approach to distance from the trail. Out of curiosity I took my Laser rangefinder out into the brushy second growth forests behind my home. In general I found the farthest trees for which I could clearly see the basal portion of the trunk were about 60 yards away, with occasional ones as far away as 80 yards. This would represent the distance away from the trail where a large trunked tree could easily be seen. This does not include the views from overlooks or unusual open areas, or a canopy far off into the distance, but those trees where you could see the lower portion of the trunk (not necessarily the base) from the trail. In areas of older growth forest, or of bigger trees, the sight distance would be longer.

For something like the Mountains-to-Sea Trail, I could see arguments for distance of say a quarter mile being considered, or perhaps practical line of sight through the forest from the trail. The latter would be variable, but in general would be in the range of 200 to 500 feet.

Brian, this is your project, what are your thoughts on the matter? Will Blozan?

Edward Forrest Frank

Re: Rucker Index for a Trail - How wide?

by dbhguru » Sun Jul 28, 2013 1:55 pm

Ed, My distance was motivated by a consideration of accessibility to hikers. Too far away and even though the tree might be visible, it would not be very accessible to most hikers. If we're talking about an ecological corridor, then the longer distance would make sense, and that is the more valuable consideration. I hereby abandon my earlier number.

Robert T. Leverett

Re: Rucker Index for a Trail - How wide?

by edfrank » Sun Jul 28, 2013 2:05 pm

Bob,

I am not sure what we are talking about or what we mean by a trail Rucker Index. That is what I am trying to figure out.

Ed
Re: Rucker Index for a Trail - How wide?

by dbhguru » Sun Jul 28, 2013 5:21 pm

Ed,

Lots of named trails have big trees easy visible to travelers. In some cases, it makes sense to bring attention to those trees. The Hermosa Creek Trail here in western Colorado is an example. The Mahican-Mohawk Recreational Trail in Massachusetts is another. The Rivulet Trail in the Bryant homestead is a third. The trees visible within 200 to 300 hundred feet either side of these trails are worthy attributes, but unless it weren't for NTS, they would not receive much attention or importance. Since we specialize in height measurements, it occurred to me that we could sponsor trail competitions. Just a thought.

Robert T. Leverett

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Re: Mountains-to-Sea Trail

by bbeduhn » Mon Jul 29, 2013 9:08 am

Josh, Will,

Chasteen Creek is on the Benton Mackaye Trail. Mingus Creek is on the Mountains-to-Sea, which will boost the R10 significantly. I could add the old figures from Mingus into the current Rucker. The Mountains-to-Sea Trail and the Benton Mackaye Trail share the same trail for a stretch.

Brian

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Re: Rucker Index for a Trail - How wide?

by bbeduhn » Mon Jul 29, 2013 8:47 am

Ed, Bob,

I have used the figure of 100 yards as the limit, unless there is a significant geologic obstacle. Trees are almost always visible from the trail in winter and generally visible in summer. I can't say I haven't measured a handful beyond 100 yards but that's certainly a good approximation.

Brian

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Re: Mountains-to-Sea Trail

by Josh Kelly » Tue Jul 30, 2013 10:33 am

Hey Brian,

Thanks for the clarification. I had forgotten that the MST had decided on a fairly ridiculous route through Cherokee and the Tuckasegee River valley rather than the more realistic route along the Parkway in Jackson County.

You could add the Mingus Creek numbers Jess has put up, but I guarantee that most of those trees would be far outside the 100 yard threshold you propose.

Looking at the map at http://www.ncmst.org/the-trail/interactive-map/, there is one tree I know you should add, the huge 21' cbh x 179' tall poplar at Poke Patch on the Fork Ridge trail.

You could probably find some tall stuff on Deep Creek trail and the tallest spruce on the MST is definitely on the Fork Ridge Trail - somewhere in the 140's, I think?

Josh
Re: Mountains-to-Sea Trail

by Will Blozan » Tue Jul 30, 2013 6:33 pm

Josh, Brian

There is a 153’ red spruce visible from the Fork Ridge Trail. Three over 150’ actually. And the 104’ serviceberry on the trail as well...

Will

Re: Tree Maximums - Genus of the Week: Carva (Hickory)

by Matt Markworth » Mon Jul 29, 2013 7:09 pm

Kouta,

Wow, you have a keen eye! That’s definitely the same tree based on identical measurements, date, and location. For now, I deleted the tall Red Hickory from the list and left it as Pignut Hickory based on all the original references that I found referring to it as a Pignut.

Also, this Field Report in the Bulletin of the Eastern Native Tree Society (http://www.nativetreesociety.org/bulletin/b1_1/B_ENTS_v1_01_sec5_FR01.pdf) refers to the Max Spread Red Hickory as a Pignut. Maybe at some point in time there was a change in thought as to whether this group of large Hickories in the Central Brevard Fault Zone are actually Red, and not Pignut.

Can anyone shed any light on this?

- Matt

Re: Tree Maximums - Genus of the Week: Carva (Hickory)

by Will Blozan » Mon Jul 29, 2013 9:12 pm

Red hickory..............................

Re: Tree Maximums - Genus of the Week: Carva (Hickory)

by Jess Riddle » Tue Jul 30, 2013 9:03 pm

Many hickories in the Southern Appalachians do not key out clearly as either ovalis or glabra, and the tallest hickory is one such tree. Based on the sub-globose fruits, I currently lean towards ovalis for that tree. It would be great if someone could visit it in the fall and collect leaf and fruit samples.

I now think the x brownii is actually just a illinoinensis, though a bit of an odd one.

Jess
Trees database- use it

by tsharp » Tue Jul 30, 2013 8:45 am

NTS:
I recently posted five trip reports on the NTS BBS board. Prior to that I entered the trees measured at those five sites on the Trees database. I notice no one has been using that site recently. That is a shame. It is a nice tool that could give a lot of meaning to what the NTS obsessive tree measurers do. I probably entered about 200 trees plus basic information about the five sites and it only took about 3-4 hours including reviewing what was entered and correcting mistakes.

There are a couple of features of the Trees database that make entering data less time consuming. When entering species names (I enter scientific names first) and after the first two or three letters are typed into the system tries to identify what your intentions are. For instance when entering Tuliptree I just have to type three letters (Lir) in the scientific name box and the system automatically completes the scientific name plus automatically fills out the common name box. Another potential time saver occurs once the GPS coordinates of a site is entered. For individual trees one can just copy the initial GPS reading for the site and change at most the last two or three digits for each coordinate of the individual tree readings.

The system calculates Rucker Indices for height, girth, and spread for 5, 10, and 20 species. It automatically ranks each species in alphabetical order but with the click of a button will rank species or sites in descending or ascending order by height, girth or spread. Once enough data has been entered it is easy and fun to compare species, states and individual sites for the three attributes measured.

The system is pretty flexible and I also use it to maintain a municipal and state maximum dimension list. I am sure that Steve or Mitch Galehouse will answer any questions of how to get started or any problems that arise.

Turner Sharp

http://www.treesdb.org/

Re: Trees database- use it

by lucager1483 » Tue Jul 30, 2013 11:31 pm

Turner, NTS,
I heartily agree on the usefulness of the trees database. I view it regularly and enter pretty much every tree I measure. I believe that I've written this before, but much thanks goes to the efforts of the Galehouses. You've done a great job. For my part, I've not had any problems with the site, logging on to it or otherwise.

Elijah

Re: Trees database- use it

by dbh guru » Tue Jul 30, 2013 11:46 pm

NTS,

While I've made some use of the database in the past, when I return to MA, I plan to enter new important trees. I have far too many trees in old databases to enter. I'm talking thousands. However, I plan to use the database for later measurements of significant trees.

Robert T. Leverett
Re: Group progress of AF measuring group

by Don » Mon Jul 29, 2013 7:29 pm

Matt-
If you don't mind, I'll try to respond, in the body of your post below in colored font:

Matt Markworth wrote:Hi All,

I reread my two posts on this thread and just want to add some clarifications that are displayed in **(BOLD ITALICS)**. My purpose for posing these sample questions is to draw a comparison between the proposal that will be made to AF and a "sales proposal", if you will. My thinking is that a "sales proposal" starts with getting to know the goals/needs of your "customer" in depth. When the proposal is presented, the solutions can be tied back to the answers that were given and the "customer" will be much more receptive. I'm sure that these types of discussions have been going on, but I thought that some of these hypothetical open-ended questions may also help. Matt, we appreciate all responses, in whatever format they're delivered in...WE LOVE INPUT!

I believe that NTS measuring methods are far superior to anything else. The real challenge is coming up with creative ways to convince others, in hopes that they will see the value in accurately measuring single stems. First, you're right! Second, AF has already embraced establishing new guidelines, more accurate height determinations, and wants a solution to single-stemmed tree versus multiple stemmed trees [note singular and plural forms]. The devil is in the details, with years of back and forth...if we come up with a rule, it has gotta work and stand the test of time...the last one didn't, but even so, this will not be an easy to resolve issue.

Here are some questions/requests that may help them (AF) contemplate/decide what they want to accomplish with the future direction of the list:

If some direction (**FROM AF**) can be uncovered on these major underlying issues, then the other members of the group (**THE PRINCIPAL MEMBERS AND ADVISORS IN THE MEASURING GUIDELINE WORKING GROUP**) will be willing to accept change. This opportunity may not present itself again for years to come and I hope that the current decision makers (AF) have the foresight to ensure that the list can serve both educational and scientific purposes that will benefit all involved. We in the MGWG are giving it our best!

- Tell me more about what precipitated this recent effort to upgrade the Big Tree Program. Honestly? I think it is the singular fault of this guy that used to take on the role of Colonel Compone, aka Burlbelly, who has over years, no, make that decades striven to assist AF in improving height measurement accuracy in the national registry. Consistent, continuous, courteous, Bob Leverett I think is the cause of all this. Along with the minions of NTS, ENTS, WNTS, EuNTS out there embracing measurement accuracy, and the love of all things trees...I'm just saying!

- What issues have you encountered with how this list has been managed thus far? Bob can speak to this better than I, but I think I can say that everyone involved is pure of heart and mind, and of no malicious intent. They are all kind people and don't deserve sarcasm, sneering or such. It's my view that we're all in this together, and have common goals...NTS hasn't been around since the 1940's and hasn't the organizational complexity that AF has evolved with.

- Going forward, will the primary purpose of the list be recreational, scientific, or a combination of both? For what purposes do you envision these various groups utilizing the list? Yes...and I see in in a 'vertical' way, ie, recreational at the lay person, nominating level, and scientific at the national registry level.

- What level of accuracy do you feel is required to serve the interests of the groups that will be utilizing the list? Same answer, at local and state levels, accuracy is as accuracy does (to borrow a Forrest Gump-ism), whatever they are able to achieve with the equipment and skill levels available. At the
National level, bring everything we've got to bear...laser rangefinders, digital hypsometers, LTI stuff, Total Stations, etc., all to properly, accurately measure the pride of American Forest registry champions.

- Is there a willingness to accept significant changes to the list, as long as those changes will result in the long-term success of the list and lead to participation by everyday citizens and serious tree measurers? Yes, you're reading our mail!

- Documenting these exceptional examples of big trees has served many purposes throughout the years and the program should be applauded for the various educational and conservation efforts that it has promoted. To ensure that the program continues this legacy and maintains support from tree lovers of all experience levels, are you open to requiring stricter standards of both technique and measuring equipment for the individuals that certify the measurements of the tree? Yes, but only at the national level, below that, only as the skills and equipment are available...if you've unlimited financial resources and could underwrite all training and equipment costs, etc., I'm sure that within ten years we could make a lot of headway towards bringing more measurement accuracy to state and local levels. By now, there should be a rudimentary matrix forming in your mind, something like this:

<table>
<thead>
<tr>
<th>Certification Level</th>
<th>Skill Level</th>
<th>Equipment Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local/Regional</td>
<td>Lay public</td>
<td>Available</td>
</tr>
<tr>
<td>Similar triangles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>State Coordinator</td>
<td>Technician</td>
<td>Clinometer/Tape</td>
</tr>
<tr>
<td>Tangent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>National Cadre</td>
<td>Expert</td>
<td>Hypsometer</td>
</tr>
<tr>
<td>Sine/Sine</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Here are 10 examples of National Champions that clearly have multiple stems at ground level (provide 10 of the most egregious examples) and their inclusion has been the biggest reason why more and more individuals have lost faith in the list and have stopped participating. This is also a major reason why the list cannot be relied upon by professionals for species comparisons. Are you open to tightening to the standards so that these multi-stem specimens can be replaced by single-stem specimens, as long as a way can be found to recognize these impressive multi-stem specimens? Yes, and no. We haven't resolved yet the issue of single versus multi. We are working toward a way to be 'separate but equal', to recognize "BIGNESS" whether as a single or a multi, but also specify which one is which. It would not be scientific to do otherwise. I have long advocated asterisked exceptions to the single-stem rule, but am happy to consider other ways that are inclusive AND distinguishing. And optimistic that we will find resolve.

- In addition to the state coordinators, what are your thoughts on allowing properly trained individuals be involved with the certification process? Much as the MGWG consists of AF, University, NTS individuals, I think that a national registry level cadre should be formed consisting of properly trained AF, University, NTS individuals, and others should be involved in the certification process. But that's just me...

- Are any of the current guidelines completely set in stone and off the table entirely for discussion? I think AF has pretty well bought into a Ten Year rule...ie, either a tree gets measurements/existence verified every ten years, or it's replace with the next biggest tree. Here's a challenge for you Matt...in the context of measuring national level champion tree registry trees, how would you define "big"?

If their answers are extremely rigid, then it's going to be an uphill battle to solve the major problems that everyone has been discussing. Matt, they are very reasonable people, it will not be an easy undertaking, but I and Bob, I think, are optimistic that major problems will find solution.

- Matt

Don Bertolette
Re: Group progress of AF measuring group

by Matt Markworth » Mon Jul 29, 2013 8:49 pm

Thanks Don! After reading your responses, I have a much better understanding of the underlying issues at hand and that leads me to be much more optimistic. The tireless efforts made over a long period of time by you, Bob and others can't be overstated. And all for the trees! Awesome!

This cracked me up, too funny! . . .

I think it is the singular fault of this guy that used to take on the role of Colonel Cornpone, aka Burlbelly, who has over years, no, make that decades striven to assist AF in improving height measurement accuracy in the national registry. Consistent, continuous, courteous, Bob Leverett I think is the cause of all this. Along with the minions of NTS, ENTS, WNTS, EuNTS out there embracing measurement accuracy, and the love of all things trees...I'm just saying!

When asking about any issues with managing the list, I'm referring to any challenges or obstacles, as a way to draw out problems that need to be solved. I 100% agree with you on this statement . . .

Bob can speak to this better than I, but I think I can say that everyone involved is pure of heart and mind, and of no malicious intent. They are all kind people and don't deserve sarcasm, sneering or such. It's my view that we're all in this together, and have common goals...NTS hasn't been around since the 1940's and hasn't the organizational complexity that AF has evolved with.

How do I define big? Single-Stem Volume. But, of course, that's not practical and would be nearly impossible to implement! In the context of measuring national level champion trees, I favor keeping the point system for single stems.

Thanks again,
Matt

Re: Group progress of AF measuring group

by Don » Mon Jul 29, 2013 11:29 pm

Matt

Single-stem volume, root collar to tip top? Volume based on modeling, or volume based formulaically from our given measurements (circumference, height and some standard shape)? What about multi-stem volume? Stay with us for the exercise, if you would, on this. Why do I ask? One of the scenarios that could emerge would be a rule that allowed multi-stems, but only the largest stem would get measured.

I like your response, I came into this with pretty much a 2D orientation (diameter (or what space the bole took up in a 2D world, and height; essentially h x w)). My early stance was, what impressed me with a big tree as I approached it. If the forest permitted, perhaps the height of the emergent crown. But that really doesn't always happen. By the time you get close to the tree, it's either the width/height of the crown, or the breadth of the base (which is on approach, a 2D view we call diameter).

Since then, and in the context of measuring big trees, it's circumference that opens up the 3D world, and is best exemplified by the awestruck children, hand in hand, circling the tree in amazement as they look up and try to comprehend what they've encircled, spatially.

Circumference at base and height? Almost looking 'volume' in the eye...get's complicated after that, probably most so with the likely accuracy king of volume measurements, Michael Taylor's cloud mapping process. But yeah, most elegantly stated..."Single Stem Volume"
Re: Group progress of AF measuring group

by edfrank » Tue Jul 30, 2013 1:54 pm

nts, Bob, Don, AF,

What do I want to see come out of the American Forests measurement Group process? There are both ideal goals, and goals that are more likely to be achievable. I have been pretty strident on some issues, partially as a motivational message to emphasize what I think is important. I really do appreciate the comments by Matt Markworth and find his approach to be constructive. I thought I would try to specify what I think the goals should be. These are not casual ideas, but ones I have thought about for years since first reading the original measurement guidelines by Will Blozan all the way through publishing the series of tree measurement articles on Wikipedia. These are the conceptual and practical underpinnings of what needs to be done to improve the American Forest Big Tree Program.

As a very minimum:
1. Enforce the previously existing guidelines that allowed only single trunks to be accepted as a champion tree.
2. Require that photographs, hopefully from two different angles, that show the tree so that there is visual evidence that the tree is indeed a single trunk.
3. List the height measurement method, hopefully with the long term goal of eventually requiring the champion trees to be measured by an accurate method, i.e. NTS method (Sine Method), tree climb and tape drop, pole method, or formal survey method.

The ten year rule:
1. It is often impractical to get back to measure champion trees on a ten year rotation when those trees are in a remote location. This comment has been made by Dr. Robert Van Pelt with regard to some of the big western trees. I agree.
2. If a tree has not been measured for a period of ten years it should still be kept on the list but with an asterisk, and a second listing should be included for the largest tree measured within the ten year time frame. In this way a champion tree will not be dropped from the list while it is still the largest known of its kind.

Measurement point:
1. The tree should be measured from the point at which the pith of the trunk intersects the supporting surface below. One a slope this would be at the approximate midslope point.
2. This point should be the basis for both height and girth measurements.
3. If this point would place a portion of the girth measurement at or below ground level on one side, then the girth should be measured at an appropriate height to achieve a representative girth value and that height above the base point noted.
4. If the tree has low branching below 4.5 feet, the girth should be measured at the narrowest point below the lowest branch and that height noted. Epicormic sprouts and suckers at the base of the tree can be ignored.
5. If there is a burl, bump, or other anomaly at 4.5 feet that would falsely inflate the girth value, the girth should be taken at the narrowest point on the trunk below this anomaly and that height noted, or just above the anomaly if it would give a better approximation of the actual girth of the tree.

Multitrunk trees versus single trunk trees:
1. This is the most important distinction in my mind. Multiple trunk trees should not be intermixed with single trunk trees on the champion tree list.
   a. The list should have separate listings for multitrunk trees and single trunk trees
   b. If there is to be only one listing, it should contain only single trunk trees. A single trunk from a multitrunk tree would be eligible for inclusion on a single trunk champion list, if all the measurements submitted are for that single trunk alone, and the girth is measured above the trunk fusion. If the fusion is below 4.5 feet, then the girth of that trunk should be measured at 4.5 feet. If the fusion extends above 4.5 feet, the girth should be measured at the height where that particular trunk becomes separate from the fused mass.
2. Whether the tree is a single trunk or a multitrunk tree is to be determined using the pith trace method. If a tree would have more than one
pith at ground level it is considered to be a multitrunk tree.

3. If there is any question about whether a particular tree is a single trunk or a multitrunk tree that is to be left to the best judgment of the measurer, and of the state coordinator based upon a site visit or inspection of the photographs of the basal portion of the tree trunk taken from multiple angles.

**Tree Height:**

1. The champion trees included on the champion tree list should be measured by an accurate method, i.e. NTS method (Sine Method), tree climb and tape drop, pole method, or formal survey method. This may be done by the state coordinator, or by a person qualified to use these methods.

2. Use of the stick method, or the tape and clinometer method will not be allowed for the national champion tree list.

3. The height measurement method for all trees submitted to the state or national champion lists should be listed on both the submission form and on the champion list itself.

Edward Forrest Frank

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**Re: Group progress of AF measuring group**

‖by Will Blozan » Tue Jul 30, 2013 6:43 pm

Ed,

Dude, you totally nailed it. Get AF signatures and implement now. Done. End of story.

The only thing I would add is in the event that accurate volume can be used to determine the most massive tree that is out pointed by a smaller (volume) tree- it too should be listed as western conifers are now. Case in point- the Sag Branch Tuliptree is way larger than the current national champion, yet is out pointed due to an excessively large base on the current champ. I would reticle the VA champion to determine its volume if I knew the Sag would be listed. Same would go for yellow buckeye, northern red oak, red maple...

Will

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**Re: Group progress of AF measuring group**

‖by Matt Markworth » Tue Jul 30, 2013 9:01 pm

Don wrote:

Matt

*Single-stem volume, root collar to tip top?*

*Volume based on modeling, or volume based formulaically from our given measurements (circumference, height and some standard shape)?*

*What about multi-stem volume? Stay with us for the exercise, if you would, on this. Why do I ask? One of the scenarios that could emerge would be a rule that allowed multi-stems, but only the largest stem would get measured.*

Hi Don,

Thanks so much for the encouragement to bring forth new ideas, it's very much appreciated and it means a lot! I'll first address my pie in the sky ideal for measuring bigness. After that, I'll propose something from a more practical standpoint.

If technology knew no bounds, then I think the ideal measure of bigness would be a volume measurement that equals the result of shrink wrapping the entire stem, including the roots associated with that stem, and finding the volume that would result from water displacement. It could even be taken to the extreme and measured right before, for example, the fruits were ready to fall. In the fantasy measurement that I'm describing, I would consider it to be one stem if one central pith existed at any point in the structure.

Reading through the last few posts, I find myself in agreement with everything that you, Ed and Will stated. Here is a secondary plan that may help if the
objections to these proposed changes are too strong to overcome. Here is the basic concept . . .

- Allow current trees that have multiple piths at ground level to maintain "Legacy Tree" status. This should overcome the fear of deleting trees off of the list and the backlash that could result. By not setting up a completely separate list for trees that may have multiple piths at ground level, we avoid the problem of unnecessarily crowning new champions for that list, when the current champion already has one pith at ground level.

- All species, including the ones that currently have champions with multiple piths at ground level would be opened up for “Single Stem” champions. This will serve the needs of serious tree measurers. If a tree with multiple piths at ground level just happens to have a stem that would qualify as a Single Stem champion, then it could certainly be submitted.

- New tree height measuring standards will need to be implemented and a timetable set for existing Single Stem champions to be verified.

- Legacy Trees and Single Stem champions reside next to each other on the same list.

- Definition of big stays the same – point system

- 3 levels of triage as you've explained

Just some thoughts from a guy that has been measuring trees for less than 8 months.

Thanks,
Matt

Re: Group progress of AF measuring group

by dbhguru » Wed Jul 31, 2013 10:58 am

Matt,

As Don says, we greatly appreciate your input as well as Ed's, Will's, Doug's, Larry's, et. al. We are working to change the direction of the thinking and decades of tradition. At this point we are building our case for change. The communications among members of the Group must obviously remain private, but rest assured we are firming up our position.

The willingness of AF to set a new course is going to be influenced by not going to stop with the input of the Group. AF will likely test the plan by getting input from the field. I don't know how concepts like the pith rule, which Don champions and I support would be received by current program participants. I guess the old saying that Rome wasn't built in a day applies.

Robert T. Leverett
Re: So-called Champion Baldcypress - Please Vote

by edfrank » Tue Jul 30, 2013 2:10 pm

Genetically the same:

You can't use genetic DNA as a criterion for establishing what is a single tree. For example the Pando aspen in Utah could therefore be considered a single tree - genetically identical sharing the same root system that include 47,000 trunk and occupies an area of 106 acres. Wrap the tape around that tree and you would get an enormous girth. Since it is on a sloping surface, would you consider the height of the tree to be the base of the lowest trunk to the top of the highest trunk on the uphill portion of the site? It therefore might be taller than Hyperion. Present the ludicrousness of extending the definition of a tree to be genetic identity rather than a single tree. I understand there are examples of clonal colonies of redwoods and huon pines that cover an enormous area. They would be one tree if you accept the genetic criterion.

Edward Forrest Frank

Re: So-called Champion Baldcypress - Please Vote

by edfrank » Wed Jul 31, 2013 1:23 pm

Doug,

As you say this is a separate issue. There is the question of clones. Often clones of a tree is really an entirely separate organism with a separate root system and separate trunks. These are genetically the same, but are physically different trees. Consider conjoined or to be politically incorrect "Siamese" twins in humans. They are connected physically and often share some organs, but for other aspects can be considered separate individuals. There are all the HWA bugs. They are all reproduced parthenogenetically and are all female clone with identical DNA, but they are all individuals. I have seen where portions of a trees roots in a multitrunck tree have been damaged. One trunk will die, fall over, and those roots connected to it are uprooted with the fall. The rest of the tree seems to be unaffected suggesting that that trunk was fed by those roots while the rest of the tree was fed by other roots. Does this mean that trunk is an individual as far as overall function and physiology? Or is it just an extra limb or tail shed by the larger organism because of stress? This is something that may in the long run may just be a philosophical question. On a practical basis, look at the three trunked paw paw shown earlier, or the bald cypress pictured. Where do you draw the line for a champion tree measurement between these examples and the Pando aspen?

As for your point about the tropical figs, I agree. I would be interested in seeing a listing of clonal colonies of sumac, aspens, figs etc. based upon the area of occupation of the colony. I don't want to see a colony considered to be a champion tree when compared to single trunk specimens. This is comparing two different growth forms. Perhaps another way to look at the question would be, instead
of when do you consider a multitrunk tree to be two separate trees rather than one individual, but when do you consider a coppice or colony of trees to be a single tree for championship tree purposes? I think there can be clonal specimens that are individual trees, and clonal colonies that can be considered to be one giant organism. The latter depends on context. In the context of determining a championship tree, I don't think the fact that two trunks are genetically the same means they should be considered one tree for championship purposes. Context.

Edward Forrest Frank

**Re: So-called Champion Baldcypress - Please Vote**

by Matt Markworth » Wed Jul 31, 2013 6:52 pm

Hi Bob, Hi All,

Here's a view of the other side of the tree from monumentaltrees.com: [http://www.monumentaltrees.com/im/baldcypress/baldcypress01.jpg](http://www.monumentaltrees.com/im/baldcypress/baldcypress01.jpg)

I vote that it should only be a National Champion if it outpoints all others based on the largest stem. That being said, I think that the vast majority of Americans identify with diameter and this specimen certainly has that. I met a family that was walking out of the Forest Cathedral at Cook Forest State Park and they said they couldn't find the big trees. In reality, they had walked right by them. They didn't identify with height. Cook Forest certainly has big diameters, but they were looking around expecting to be awestruck by humongous trunks.

As I mentioned in a different post, a tree like this could be designated as a “Legacy Tree” and given a place on the list. However, room should be made on the list for a “Single Stem” Champion.

- Matt

**Re: So-called Champion Baldcypress - Please Vote**

by dbhguru » Wed Jul 31, 2013 11:06 pm

Matt,

Good photo. It also shows the need to have photos taken from four directions to reveal the complete structure of the trunk. The objective of the measurer should be to reveal as much detail as possible. The measurer should seek to justify the measurements by providing as much information as he/she can. I am certainly going to push for that in the MGWG.

Robert T. Leverett
How wildfires can do more good than harm

by edfrank » Wed Jul 31, 2013 3:24 pm

How wildfires can do more good than harm
July 29, 2013
by Lori Daniels

http://news.ubc.ca/2013/07/29/lori-daniels-on-forest-fires/

Re: How wildfires can do more good than harm

by Don » Wed Jul 31, 2013 3:37 pm

From Facebook

I'll direct my comments to Lori's explanation. In general I agree with her almost entirely, but specifically I think that the article was so short that she wasn't able to 'get it all out there'. I like the photo that she starts off with. I won't support it with the thousand words it deserves, but...what she is doing is 'stringing fire' from the top of the controlled burn across the sidehill, then stringing another line a short distance below it...this essentially makes for a low burn severity fire, as each strip runs up against the one above and burns itself out. [Note my use of Burn Severity, to be mentioned later.] Controlling the distance between the strips controls the burn severity. This is a tried and proven tactic.

Where I'd like to rephrase Lori's wording on "high severity fires", has to do with the array of burn severity level classifications that typically emerge from an uncontrolled wildfire. Unlike those inexperienced with fires, such fires aren't a wall of fire that consumes every living piece in it's way (very seldom anyway). What commonly emerges is what fire scientists refer to as a fire mosaic, with a wide array of burn severities...from just consuming fine fuels, to burning all organic material to ash, down to bedrock. Wildfires mapped in terms of burn severity appear to be a random fire mosaic, with seemingly random shapes. With consideration to the primary wind direction, topographic features such as aspect, slope, and elevation, and climatic conditions such as ground and vegetative moisture contents have much to do with Burn Severity Classification.

In my last couple of years before retiring from Grand Canyon NP's Science Center, we began mapping burn severity from satellite imagery taken just before and just after the fire, and capturing the difference, much of which was due to the burn severity of the fire. Our first was the Outlet Fire, I think it was in 2001 or 2002. She's absolutely right, though, wildfires can be used for resource benefit (in Fire Science lingo, a WFURB, employed in Grand Canyon's re-introduction of a more historical and natural fire regime. It's not likely, or even possible to return to the pre-settlement fire regime, but certainly returning the current vector towards those that preceded it can be achieved.

Don Bertolette

Re: Trees database- use it

by Steve Galehouse » Wed Jul 31, 2013 11:22 pm

NTS--

My son Mitch, a software designer, not a tree geek like me, designed and built this site taking into consideration the requests of some of the long-time ENTS members. It's free to use if you want, it calculates much of the data entered, but it does require some time/effort to input data(as any database would). The site is free to users(on a server in my cellar, so some service outages are to be expected), and I encourage NTS members to post their finds to the database.

Steve
ID this tree – Black Cherry

by JohnnyDJersey » Wed Jul 31, 2013 7:48 pm

Not often I run into a tree that stumps me in my native land (New Jersey)...maybe black cherry? Tree has a single stem CBH of 16’3’’.

John D Harvey
Re: ID this tree

by Will Blozan » Wed Jul 31, 2013 8:52 pm

Looks like black cherry.......... 

Re: ID this tree

by JohnnyDJersey » Wed Jul 31, 2013 9:09 pm

Ok that's what I was thinking. If so it may be the new state champ. The current champ is 15'11" at 2.5'. So its a split trunk. 79' spread and 76' high. (Here we go again with split trunks) The current champ also seems much younger. This new tree is not a split and is 4 to 5 inches wider. Ill have to go back and get the average spread and attempt to calculate the height. Below is a pic of the current champ from NJ big tree website.

http://www.state.nj.us/dep/parksandforests/forest/community/images/36-BlackCherryx23.jpg

Of course getting a new champ recognized in NJ is hard as hell. I have two southern red oaks that I KNOW are bigger than the current champ, a black locust that blows away the current title holder, also an American basswood and a swamp white oak that also are new champs if not co-champs. Ive submitted but never hear back. I wish NJ had a site like PABigtrees.com.

John D Harvey

Re: ID this tree

by Matt Markworth » Wed Jul 31, 2013 9:41 pm

Johnny, 

Nice find! I love the bark of Black Cherry.

JohnnyDJersey wrote: I'll have to go back and get the ave apread and attempt to calculate the height.

Sounds like it's time to get a rangefinder! I got the Nikon 440 last December along with the Suunto Clinometer and can't imagine being without them.

- Matt
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About:  *eNTS: The Magazine of the Native Tree Society*

This magazine is published monthly and contains material that is compiled from posts made to the NTS BBS. [http://www.ents-bbs.org](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 is 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