

The same ones plus one additional as of June 17, 2013. I am not sure how to measure girth on them, but they likely would not be a record anyway.



Edward Forrest Frank

Re: Tree Maximums - Genus of the Week: Asimina (Pawpaw)

by **Will Blozan** » Sat Jun 22, 2013 7:55 am

Matt,

I drove to the site yesterday and the 40' tree was gone...
Looks like Turner's spread nomination is also a girth record.

Will

North Syracuse Update June 2013

by **tomhoward** » Sat Jun 22, 2013 3:51 pm

NTS, I have some more information about the 2 old growth Oak Groves in North Syracuse.

I reported about the Gypsy Moth infestation that I discovered in the Wizard of Oz Grove Sun. June 16. That infestation has worsened dramatically in the past few days. On June 16 I didn't see much defoliation, but that changed in only 2 days. Robert Henry and I visited the Grove June 18, and there were many more caterpillars than only 2 days before, with the trunks of Oaks and Beeches crawling with them. The Oaks are being rapidly defoliated. It's possible that some of the Oaks will die – they should all be bare in another week or so. These caterpillars don't seem to be bothering the Red Maples too much. I can find no evidence of a Gypsy Moth outbreak in the media around here, but there is a huge outbreak in Toronto that is making a lot of news there, and they are using helicopters to spray the infested trees.

In the beautiful golden evening of Mon. June 17 Robert Henry and I went to Watson Rd., North Syracuse to look at a big White Oak owned by a friend and neighbor of his. The tree is in a small 2nd growth wooded area at the back of his friend's lot, and it is huge! It is a partly open-grown White Oak with 2 big leaders rising into a vast lofty crown. It is a single-trunked tree, and, well below where the trunk forks, we measured a dbh of 61". The branch spread is easily 100-110 ft. The tree is growing on a slight rise that has been said by some to be an ancient Indian burial mound. The tree is possibly about 200 years old, and it does not have the balding bark, gnarled branches, stem sinuosity that are typical of older White Oaks. We got our best height measurement from Robert Henry's nearby backyard, from which the huge crown of this White Oak seems to fill the sky:

(D1, H1, D2, H2 are in yards; full height of tree is in feet)

A1	33	A2	3
D1	60	D2	47
H1	32.68	H2	2.46
Height	105.42		

The tree may be even taller than this – we will have to come back when the leaves are down to get better laser rangefinder shots into the crown, and through the thick brush by the tree’s base.

In total volume, this White Oak is the largest tree in North Syracuse, and largest Oak in Onondaga County (at least as of this time).

After we left Watson Rd., Robert Henry and I had a magical and spiritual visit to the North Syracuse Cemetery Oak Grove. The Grove was illuminated by golden sunlight slanting through the densely packed old trees.

Soon after Bob and I entered the Cemetery Grove, a man approached us. He is a member of the Board of the North Syracuse Cemetery Association, which owns the Grove. He saw us go in there, talking about trees, and he wondered what was going on. He is a steward of the Grove, watching over it. He does not want any harm to come to the trees. He wants to see the Grove preserved for posterity. This is the best news we’ve heard about this precious little Oak Grove in many years. We reassured him that we love the Grove, and that we have been studying it for years. He takes his children into the Grove, and they play in there, just like I did as a child – I told him I’ve been going to the Grove since I was 5 years old, back in 1957.

Then Bob and I went further into the Cemetery Grove. We did not find a single Gypsy Moth caterpillar on any tree – the Cemetery Grove Oaks are totally free of Gypsy Moth, and are magnificently green and healthy. This seems miraculous since the Wizard of Oz Oak Grove White Oaks are so infested with Gypsy Moth.

Thanks to the recent heavy rains, the vernal pool in the center of the Grove was full of water; it is an

irregularly shaped ancient natural pool, with tree-filled peninsulas and islands. I showed Bob some of the trees near the vernal pool, including an ancient sinuous Red Oak (12.9” dbh, 100.8 ft. tall) that has its growth slowed by waterlogged roots, and a double-trunked slender Red Maple that amazingly reaches a height of 100 ft. The golden light through the trees was beautiful, like an Impressionist painting.

The spiritual power of the Grove was palpable, as we passed through 3 concentric circles to the vernal pool (or natural ancient sacred pool), through a broken circle of tall (and young) White Pines, through a circle of Red Oaks (seeming to be mostly 100-150 years old), and at last through the inner circle of ancient White Oaks. We visited the center of this power, in the extremely dense stand of old White Oaks southeast of the vernal pool, and Bob marveled at the extraordinary density of this Grove, amazed at how 2 ancient (possibly 300 years old) White Oaks like #23 and #25 could be only 6 ft. apart from each other. The Grove seems to be filled with a positive spiritual energy.

Red Oak #13 in the Cemetery Grove is the gnarliest, oldest-looking Red Oak we’ve seen here in Central NY. It could be about 270 years old, oldest Red Oak in Onondaga County. This 1-acre Grove contains what could be the oldest White Oak (300 or more years old), Red Oak, Black Oak (biggest tree in Grove, 45.8” dbh, 104.9 ft. tall, about 190 years old, the monarch of the Grove), Red Maple (about 200 years old), Black Gum (awesomely gnarly Tree #34 with ancient balding bark, possibly over 300 years old) in Onondaga County.

The Cemetery Oak Grove is this area’s ultimate forest, ultimate old growth sacred site. The North Syracuse Cemetery Oak Grove is a true wonder of Creation, the most significant natural wonder in North Syracuse.

Tom Howard

Arches National Park

by **dbhguru** » Sun Jun 23, 2013 7:19 pm

NTS,

Yesterday evening Monica and I drove to a lookout for Delicate Arch in Utah's Arches NP. It is small as NPs go, just under 77,000 acres, but its purpose is to protect exquisite rock sculptures. In this regard, it succeeds handsomely, because even the shortest drives are eye-popping. Here is a look at Delicate Arch.



Odd shapes are the rule. Here is one example of hundreds.



The moon had risen and I caught it over this sculpted rock form.



For me the real treat was the moon over the LaSal Mountains to the east. The LaSals are one of three laccolith structures in Utah. The others are the Abajo and Henry Mtns. Ed could give a good explanation on how laccoliths form. Mount Peale, at 12,721 feet is the high point in the LaSals. They are serious mountains.



Robert T. Leverett

[Moab Mama](#)

by **dbhguru** » Sun Jun 23, 2013 10:30 am

NTS

So far, i haven't had many encounters with notable trees. Lots of magnificent scenery, but the big trees have largely alluded me. However, I struck pay dirt in Moab. In a field along a fence line, I saw some large trunks of Fremont cottonwoods. Unfortunately, they were on the other side of a barbed wire fence, with an electric strand at the top and no trespassing signs. But I had a monocular and made use of it. The big sucker below measures 7.35 feet in width, which likely translates to between 22 and 24 feet in girth. I have no idea how far out of round the trunk is. The height is only 62.5 feet, but this is a desert, so trees will be short.

Here is the best I could do for a photograph. I used an iPad app to increase brightness. The result is a little grainy.



Just beyond this cottonwood grows another large one, just at 20 feet in girth. A third one that I could get to measures approximately 18 feet around. A large mass of tumbleweed surrounded much of the trunk and there were thorny shrubs all around as well. Nonetheless, it was gratifying to know that large,

short cottonwoods can grow even in a desert environment. I'm reminded of the Villanueva, NM.

Well, it is off to Durango and the old growth dedication with Joan Maloof tomorrow and tree hunting with Larry Tucei. Way cool.

Robert T. Leverett

[Re: Moab Mama](#)

by **Larry Tucei** » Sun Jun 23, 2013 8:19 pm

Bob, NTS, Wow! 20 footers! You don't see them often. I just got in Durango and right away noticed some nice city trees, nothing that big though! Flew over the fires north and east of Durango- got a good look at that one. Windy here and that's not helping much. Another big fire is near East Spanish Peak threatening ranches, also the big one taking over 250 homes at Colorado Springs. Talked to one guy on the flight that was on his way to assist them here.

<http://durangoherald.com/article/201306...South-Fork>

Larry

[Re: General Discussions](#)

by **Matt Markworth** » Mon Jun 24, 2013 7:28 pm

Ed,

I linked through your bookstore post to buy BVP's [Champion Trees of Washington State](#), which must have brought me good karma because I got a very cool copy.

BVP signed it with the following message, "SHIRLEY, THANKS FOR EVERYTHING."

Throughout the book are trees nominated by Shirley Muse and they have been highlighted with a marker. Many of the highlighted trees have handwritten notes next to them, such as “new,” “topped,” “diseased,” “cut down,” and “gone.” Many of the trees she nominated are in Walla Walla, WA, which is also where this book shipped from. The book includes a paragraph about her on the Acknowledgements page.

It's very clear that this book belonged to Shirley Muse, "The Tree Lady" of Walla Walla, WA.

- Matt

Tree Maximums - Genus of the Week: Betula (Birch)

Gray Birch

<http://www.youtube.com/watch?v=AMnfGWft3DU>

Here is Josh's original post about the two massive Yellow Birches on Rocky Bald. Check out the difference in character of these two trees . . .

http://www.nativetreesociety.org/fieldtrips/north_carolina/rockybald/rocky_bald_macon_county_nc.htm

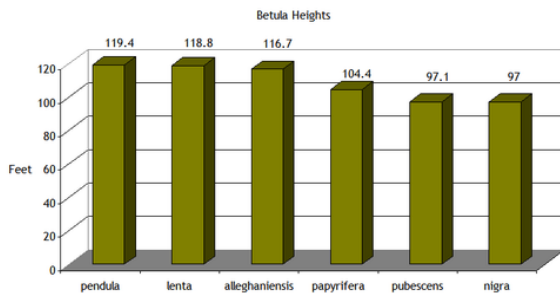
- Matt

[Re: Tree Maximums - Genus of the Week: Betula \(Birch\)](#)

by **Matt Markworth** » Sat Jun 22, 2013 10:19 pm

Hi All,

Here are the Maximum Heights for Betula . . .



- Matt

[Re: Tree Maximums - Genus of the Week: Betula \(Birch\)](#)

by **dbhguru** » Mon Jun 24, 2013 6:28 pm

Matt, The listing of the 110-foot white birch in Mohawk Trail State forest can be deleted. I was

never able to confirm that measurement, and it is an improbable maximum for the species.

Bob

Robert T. Leverett

[Re: Tree Maximums - Genus of the Week: Betula \(Birch\)](#)

by **Matt Markworth** » Mon Jun 24, 2013 8:26 pm

Thanks Bob. I replaced it with the 104.4 footer in MTSF and updated the chart.

My very first memory of a tree was a Paper Birch in my Grandmother's backyard. That paper bark sure was interesting to a 5-year-old.

- Matt

[Re: Tree Maximums - Genus of the Week: Abies \(fir\)](#)

by **tsharp** » Tue May 21, 2013 6:49 am

Matt: Another Abies submission. This is a species of limited distribution and probably not well documented as to size.

Scientific name: *Abies lasiocarpa* var. *arizonica*

Common name: Corkbark Fir

Height: 90.0

CBH: 5.8

Crown Spread: none taken

Volume:

Site name: San Francisco Peaks

Subsite: Snow Bowl

Country: USA

State: Arizona
County: Coconino
Property owner: Federal, Coconino National Forest
Date of measurement: 3/2012
Method of measurement: Sine method using
handheld Nikon 440 laser rangefinder and Suunto
clinometer
Tree name:
Habitat: Mountain slope at 9,200' elevation

Re: Tree Maximums - Genus of the Week: Abies (fir)

by **Matt Markworth** » Wed May 22,
2013 10:07 pm

Turner,

Thanks for submitting the additional species. It gave me a chance to do a little research and learn about the Corkbark Fir. Hopefully we'll get more Abies submissions in the future too.

I agree that the species doesn't appear to be well documented as to size. I found some references to a 111 footer near Ruidoso, NM, but of course who knows how reliable that is. I set up a separate tab on the spreadsheet called "Other Notable Trees" and entered the tree here based on the limited documentation of this species. I think this tab will also be a good place to document trees when there are multiple impressive tree submissions for the same species.

Maximums List: <http://www.ents-bbs.org/viewtopic.php?f=393&t=5221&p=22764#p22764>

- Matt

Re: Tree Maximums - Genus of the Week: Abies (fir)

by **Matt Markworth** » Sun Jun 09, 2013
9:58 pm

Hi All,

For the BVP Grand Fir measurements, the Gymnosperm Database has information from 1996, but BVP's book from 2001 has a specimen with bigger volume.

Species (Scientific): *Abies grandis*

Species (Common): Grand Fir

Height (ft): 246

CBH (ft): 22.25

Volume (ft³): 2770

Site Name: Ecological Reserve 98

Subsite Name: Chilliwack River Trail

Country: Canada

State or Province: BC

Measurer: Bob Van Pelt

Tree Name: Chilliwack Giant

Notes: Discovered by R Stoltmann, Reference: Van Pelt, R. Forest Giants of the Pacific Coast, Seattle, WA: University of Washington Press, 2001.

Tree Maximums List: <http://www.ents-bbs.org/viewtopic.php?f=393&t=5221&p=22764#p22764>

- Matt

Re: Tree Maximums - Genus of the Week: Abies (fir)

by **Matt Markworth** » Mon Jun 24, 2013
10:45 pm

Hi All,

Largest *Abies magnifica* by volume, per BVP's Forest Giants of the Pacific Coast . . .

Species (Scientific): *Abies magnifica*
Species (Common): California Red Fir
Height (ft): 172
CBH (ft): 30.41
Volume (ft³): 3,880
Site Name: Yosemite National Park
Subsite Name: near White Wolf Road
Country: USA
State or Province: CA
Property Owner: NPS
Measurer(s): Bob Van Pelt
Tree Name: Leaning Tower
Reference: Van Pelt, R. *Forest Giants of the Pacific Coast*. Seattle, WA: University of Washington Press, 2001.

Re: Tree Maximums - Genus of the Week: Abies (fir)

by **Matt Markworth** » Tue Jun 25, 2013
9:08 pm

Hi All,

Largest *Abies procera* by volume, per BVP's [Forest Giants of the Pacific Coast](#) . . .

Species (Scientific): *Abies procera*
Species (Common): Noble Fir
Height (ft): 227
CBH (ft): 29.91
Volume (ft³): 5,700
Site Name: Gifford Pinchot National Forest
Subsite Name: Yellowjacket Creek
Country: USA
State or Province: WA
Property Owner: USFS
Measurer: Bob Van Pelt
Tree Name: Yellowjacket Creek Champion
Notes: Tree originally reported as having a height of 278' (84.7m) before the top was blown out.
Reference: Van Pelt, R. [Forest Giants of the Pacific Coast](#). Seattle, WA: University of Washington Press, 2001.

- Matt

Re: Tree Maximums - Genus of the Week: Abies (fir)

by **Matt Markworth** » Wed Jun 26, 2013
8:19 pm

Hi All,

This link has a photo of the Cabin Lake Tree, the huge *Abies amabilis* found by the late Randy Stoltmann. It's listed on the Tree Maximums List for Max Volume.

<http://www.cypresspark.ca/pdf/CypressOldGrowthForests.pdf>

- Matt

Re: Tree Maximums - Genus of the Week: Abies (fir)

by **Matt Markworth** » Wed Jun 26, 2013
8:41 pm

Hi All,

Here is Howard's original post on the 95.6' Balsam Fir, it's listed on the Tree Maximums List as Max Height along with Bob's 94.5 footer . . .

http://www.nativetreesociety.org/fieldtrips/new_york/elders_grove06.htm

- Matt

Re: Tree Maximums - Genus of the Week: Abies (fir)

by **Matt Markworth** » Wed Jun 26, 2013 8:55 pm

Hi All,

Here's is Bob's original post on the 94.5' Balsam Fir that is on the Tree Maximums List . . .

http://www.nativetreesociety.org/fieldtrips/new_hampshire/old_growth_new_hampshire_style.htm

- Matt

Part 1 - Going to the river

by **tsharp** » Mon Jun 24, 2013 12:17 am

JNTS:

In July of 2012 wife Susan and friend John Fichtner took off for points far north. By far north I mean to Dalton Post, Yukon Territory for a put in on the Tatshenshini River. There we were to meet four other friends arriving via Haines, AK. The driving part from Parkersburg, WV was to be 3400 miles. We spent long days on the road and tried to make camp before dark. At most of our stops I had enough time to measure a few trees. Our itinerary took us up through North Dakota into Canada and picked up the Alaska Highway near Beaver Lodge, Alberta. Then north and west through northern British Columbia and the southern section of the Yukon Territory until a turnoff heading south at Haines Junction which is about 100 miles west of Whitehorse, YK

Stops along the way included:

Alberta: Banff National Park

This stop included tenting with the mosquitoes in the Two Jack Campground plus traffic jams in the downtown area.

Largest trees measured were:

Lodgepole Pine (*Pinus contorta* var. *latifolia*) 3.7' x 74.6', 3.8' x 70.6'

Quaking Aspen (*Populus tremuloides*) 2.4' x 52.5'

Turner and Susan Sharp at Bow River Falls near downtown Banff. Really a cascade instead of falls but is a scenic attraction handy to view by the multitudes of tourists.



Photo by John Fichtner

Typical dramatic scenery in the park



Photo by Susan Sharp

Alberta: Another stop was at a roadside park near the town of Demmitt.

Largest trees measured included:

Quaking Aspen (*Populus tremuloides*) 4.0' x 72.5', 4.5' x 61.0'

A complete list of trees measured in Alberta can be

found on the Trees database at:

<http://www.treesdb.org/Browse/Sites/1502/Details>
<http://www.treesdb.org/Browse/Sites/1542/Details>

British Columbia: Fort Nelson

This was a pleasant lunch stop at town park on the edge of town

Species measured included:

Balsam Poplar (*Populus balsamifera* ssp. *balsamifera*) 3.9' x 67.9', 5.9' x 67.2'

Quaking Aspen (*Populus tremuloides*) 3.0' x 89.5'

British Columbia: Liard River Hot Springs Provincial Park:

This was a nice stop. For five dollars one got to enjoy an outdoor hot spring that was developed by the US Army while building the Alaska Highway during WW 11. Large and lush examples of Ostrich Ferns (*Matteuccia struthiopteris*) and Cow Parsnip (*Heracleum lanatum*) gave the surrounding area an almost tropical jungle feel.

Surprisingly the park stays open in the winter but another patron warned me the when it gets down to minus`15 to 20 F it is advisable to take off any clothing before walking the short distance to a changing room. The clothing is subject to freezing on sensitive body parts.

To get to the hot spring one must walk about 1/3 mile over a board walk through a muskeg swamp which features some Eastern Larch and Black Spruce. It also features mosquitoes which I was told at the gate are no extra charge but one has two choices -Run the distance at full speed or cover up including head netting.

The largest of six species measured are listed below:

Thinleaf Alder (*Alnus incana* ssp. *tenuifolia*) 1.25' x 26.1'

Eastern Larch (*Larix laricina*) 3.0' x 70.2'

White Spruce (*Picea glauca*) 6.1' x 87.3'

Black Spruce. (*Picea mariana*) 2.4' x 53.0'

Balsam Poplar (*Populus balsamifera* ssp. *balsamifera*) 5.0' x 91.1'

Black Cottonwood (*Populus balsamifera* ssp. *trichocarpa*) 6.8' x 91.4'

I had trouble separating many examples of Balsam Poplar and Black Cottonwood at this site and suspect hybrids of the two are common in this area.

A complete listing of trees measured in British Columbia can be found on the Trees database at:

<http://www.treesdb.org/Browse/Sites/1477/Details>
<http://www.treesdb.org/Browse/Sites/1462/Details>

For more information about this park use the following link:

http://www.env.gov.bc.ca/bcparks/explore/parkpgs/liard_rv_hs/

This stretch of the Alaska Highway from Fort Nelson to the Stone Mountains was rich in wildlife viewing. Moose, Caribou, Deer, many black Bears, Coyotes Golden Eagles, Bobcat, Bison (including two road kills), and Red Fox were observed from the road. The picture below is of some Stone Sheep which is one of four species of Sheep native to North America.



Photo by Susan Sharp

Yukon Territory: Teslin Lake campground

Tree species measured included:

White Spruce (*Picea glauca*) 3.6' x 59.5', 4.0' x 53.1'

Quaking Aspen (*Populus tremuloides*) 2.2' x 50.2', 2.7' x 40.7'

We camped at a public campsite not far off the highway near the lake. The camping area appeared to flat top ridge composed of sand and gravel. This was

poor and dry site and the tree growth reflected it.

Yukon territory: Watson Lake:

We camped at a public camp ground several miles north of town near a lake which we never saw. The site was much better for tree growth and mosquito activity.

Tree species measured included:

Subalpine fir (*Abies lasiocarpa* var. *lasiocarpa*) 3.4' x 94.3'

Paper Birch (*Betula papyrifera*) 3.2' x 57.8'

White Spruce (*Picea glauca*) 4.4' x 92.7'

Lodgepole Pine (*Pinus contorta* var. *latifolia*) 4.7' x 77.5'

Quaking Aspen (*Populus tremuloides*) 4.8' x 65.0'

Scouler's Willow (*Salix scouleriana*) 1.8' x 32.1'

A complete listing of trees measured in the Yukon Territory can be found on the Trees database at:

<http://www.treesdb.org/Browse/Sites/1479/Details>

<http://www.treesdb.org/Browse/Sites/1482/Details>

There is another rather unique forest in Watson Lake, but I did not measure any trees there.



Photo by Susan Sharp

Could that be a wayward Massachusetts sign?
The Sign Forest which apparently was started by soldiers building the Alaska Highway during the 1940's and has continued as a tradition ever since.

We did stop and camp at Whitehorse in a Lodgepole Pine forest. It was too dark to measure any trees and

we left early the next morning after discovering Walmart had penetrated this far north and was open all night for last minute supplies.

Our original plan was to meet the others at the put-in at Dalton Post, but new Homeland Security requirements insist that we must present ourselves at the border post just north of Haines, Alaska beforehand to notify them of our intentions of reentering the country by river. So it cost us 4 extra hours and a tank full of gas and an overnight stay in Haines. However Haines is a pleasant town and reminiscent of Cicely, Alaska of the TV show Northern Exposure. They also do not allow the large cruise ships to stop.

Part 2- Going down the river will follow in a couple of days.

Part 2 - Going Down the River

by tsharp » Wed Jun 26, 2013 10:44 pm

We left Haines early in the morning and had to go through the same routine at the border crossing because yesterday's staff did not communicate with the today staff. After an hour delay we were soon ascending the Haines Highway to the Chilkat Summit and alpine tundra at 3500 feet. In a 10 mile stretch of this highway and near the turn off for Dalton Post we saw three female Grizzly Bears with 5 cubs. What a welcome to the area and time to verify we had packed bear spray. The vegetation seemed to be lush near the road and the mama bears seem to be teaching the cubs what grasses/roots to eat.

Mama with two ? cubs twenty feet off the road.



Photo by Susan Sharp

Once at the put-in of Dalton Post or Shaw'ashee (Southern Tutchone name) we rigged our boats for a 135 mile river trip on the Tatshenshini and Alsek rivers to Dry Bay, Alaska with 1,950 feet of elevation drop to sea level. Our party of seven would be in a raft and two Cataracts. We were to be floating through Kluane National Park and Preserve and Wildlife Sanctuary in the Yukon Territory, the Tatshenshini- Alsek Park in British Columbia and once passing into Alaska the Glacial Bay National Park and Preserve which occupies both sides of the river until approaching the coast where the Tongass National forest is on river right.

From the put-in at Dalton Post we made camp near the confluence of Silver Creek at mile 12. This first day through a five mile canyon had the only significant whitewater on the trip. It was continuous Class 3+ with the ice cold river running bank full at 10 mph. The banks had a lot of trees in the water so it was not advisable to swim to shore if you were out of your boat. Everyone made it with the only the loss of one oar. The British Columbia border is reached at mile 14.

Next camp was at the confluence of Sediments Creek at mile 34. This was a layover day so we could do hike up to a ridge for the view and wildflower display.

Bridget among the wildflowers



Photo by Amy Thornton

During dinner at this camp we were treated to two pairs of Trumpeter Swans winging away down river. We could hear them before they arrived and long after they passed.

It should be noted that most of our camps were on out wash plains from side tributaries and new ground. I did not expect to find any large or old trees and most camp sites had sparse vegetation. Several good reasons for picking camp locations like this. No bush means less mosquitoes and good visibility means bears and humans are less likely to have a surprise encounter. It also makes it easier to unload and load rafts. I was not one to wander in the bush alone and the occasional companion that was game soon tired of the mosquitoes and definitely showed less interest when large unseen creatures were heard in the bush. Trees measured included:

White Spruce (*Picea glauca*) 4.6' x 68.0'
Balsam poplar (*Populus balsamifera* ssp. *balsamifera*) 4.5' x 54.5'
Scouler's Willow (*Salix scouleriana*) 1.7' x 31.6', 2.0' x 24.5'

Next camp was at the confluence of Alkie Creek at mile 43

Trees measured included:
Thinleaf Alder (*Alnus incana* ssp. *tenuifolia*) 1.25' x 22.8', 1.3' x 22.7'

White Spruce (*Picea glauca*) 2.5' x 47.9'
Scouler's Willow (*Salix scouleriana*) 2.1' x 35.2'
There were long stretches of braided channels below

this camp which kept the boatman on high alert the following day.

Next camp was at the confluence Towagh Creek at mile 63

The river has almost doubled in size and the scenery is going off the charts

Cottongrass (*Erioporum* spp.) on the outwash plain below Towagh Creek with a small portion of the Alsek Range in the background.



Photo by Amy Thornton

Next camp was about a mile below the confluence of at Melt Creek at mile 75

The scenery has gone off the charts. This camp is only three miles above the confluence of the Alsek River. This is immense, raw, wild country. Well worn paths made by bears were very evident. A big four legged creature walked through our tent area at night. Tracks observed in the morning shows it was a Moose and calf. Apparently no one stuck their head out of their tent to make a species identification. Melt Creek was running bank full and cobbles the size of bowling balls make lots of noise as they tumbled along the creek bed.

A list of trees measured during the British Columbia part of the River trip is in the Trees Database at:

<http://www.treesdb.org/Browse/Sites/1491/Details>
<http://www.treesdb.org/Browse/Sites/1492/Details>

Just three miles below Melt Creek the Alsek river

joins on river right. The river is now about a mile wide and the flow creates swells of 2-3 feet giving a sense of being at sea. It is also the area know for its unpredictable weather. It seems that the coastal and continental air masses quite often meet here and hang around for several days. July through September are usually the most benign months. We got by with 1 1/2 day of drizzle. The vegetation changes in this section also. Disappearing are Quaking Aspen, White Spruce, and Balsam Poplar replaced by Black Cottonwood, Sitka Spruce and extensive stands of Sitka Alder covering newly exposed slopes caused by retreating glaciers.

Alsek River heading into the weather section and the Fairweather Range



Photo by Tom Connelly

The Alaska border is reached at mile 88

We are now within the borders of Glacier Bay National Park and Preserve

We camped at Walker Glacier mile 95. This was another layover day so we could hike to the glacier. The name Walker Glacier is unofficial and appears on no map. It is called that because it is the easiest one to "walk" to from the river. The "walk" was maybe two miles one way and fairly easy but did include some crawling and wading. Portions of the trail were underwater and we had to bushwack a mile through an Alder stand. If you like hiking/crawling through the Rhododendron slicks in the Appalachians you

will feel right at home in an Alaska Alder thicket.

Ed Gertler standing on a lateral moraine after emerging from the Alder thicket.



Photo by Amy Thornton

On the toe of Walker Glacier



Photo by Tom Connelly

We camped at Gateway Knob in Alsek Lake at mile 118.

Getting into Alsek Lake has to be done with care. One must pull over on river right and climb about 200 feet above the river on a scree slope and with your binoculars glass the three different entrances known as doors to see which ones are passable. Door number 1 was open, door number 2 was blocked by icebergs, and door number 3 was probably open

because it is only closed in low water. So door number 1 was it

Entering Door number one. Notice how the current sweeps into the icebergs.



Photo by Tom Connelly

Everything went well into the lake and there was plenty of time and distance to avoid the iceberg by pulling left. However it soon became apparent that even though the beach at Gateway Knob was only one mile away we would have to row about 3 miles up and around the lake to get past the rows of icebergs blocking the beach access. Even then the last 100 yards we had to manhandle the smaller bergs to get the rafts to shore. Time elapsed from our scout position to the beach was 4 1/2 hours in a lite rain or heavy drizzle and several of us had to wade in waist deep water during the last one hundred yards. A roaring fire and some food soon made us forget the misery and we soon had the tents up and most everyone soon drifted off to sleep to the sound of icebergs calving from the two big glaciers feeding into Alsek Lake. The next day weather was perfect and we were treated to a great view of Mount Fairweather about 40 miles to the east.

Mount Fairweather 15,325'



Photo by Amy Thornton

The picture above was taken at 5:30 AM the next morning from camp and the clear visibility only lasted for about 45 minutes. Mount Fairweather also known as Boundary Mountain marks the boundary between the USA and Canada. It was first climbed in 1931.

Fireweed(*Chamerion augustifolium*) between the beach and the slope of Gateway knob



Photo by Bridget Tinch

Susan touring the bergs in her cataraft. She apparently did not get enough berg time the previous day.



Photo by Bridget Tinch

Trees measured included

Feltleaf Willow (*Salix alexensis*) 1.6' x 20.7' x 27.0' (average crown spread)

The list of the Willows measured is in the Trees database at:

<http://www.treesdb.org/Browse/Sites/1484/Details>

The last fifteen miles to Dry bay was uneventful although we did share it with some icebergs that exited Alsek Lake about the same time. They traveled a lightly slower speed than we did and caused no problems

Alsek Lake is a recessional feature formed when the glaciers retreated. Likewise I believe Gateway Knob is the remains of a terminal moraine. Early explorers made no mention of a lake at this location, only a wall of ice and scree slope on the other side.

The take out at Dry Bay Mile is at mile 135 and is still about 3 miles from the ocean although harbor seals were evident on the river sand bars. We were to meet our bush pilot at a landing strip for the flight back to Haines The good weather allowed the flight back to Haines to cross the mountains instead of taking the coastal route. It gave us a good opportunity to see Alsek Lake and the Grand Plateau Glacier feeding the lake.



Photo by Amy Thornton

Not shown in the above picture is Alsek Glacial to the left. As late as 1980 the fronts of the Alsek and Grand Plateau Glaciers had a united front and extended into the lake at least 400 yards.

This was John Fichtner first ever plane ride so he got to be co-pilot.

Back in Haines I did manage to measure a few trees while shuttling people to the airport and making ferry arrangements.

A quick visit to Portage Cove State Park on the outskirts of Haines yielded the following measurements.

Sitka Alder (*Alnus viridis* ssp. *sinuta*) 1.9' x 25.4'

Sitka Spruce (*Picea sitchensis*) 9.8' x 106.5'

Black Cottonwood (*Populus balsamifera* var. *trichocarpa*) 6.2' x 92.8'

Western Hemlock (*Tsuga heterophylla*) 3.6' x 81.4'

<http://www.treesdb.org/Browse/Sites/1485/Details>

Susan and I took the ferry over to Juneau for a two day visit with friends. One of the requirements of our visit was I had to be able to spend some quality time in some mature Sitka Spruce/Western Hemlock stands. Our friends delivered me to a hiking trail on Douglas Island in the Tongass National Forest. Douglas Island is just across the channel from downtown Juneau and is connected by bridge. I got to spend several hours there and have to admit much of was just spent sitting and enjoying(forest bathing?)

Trees measured along the Douglas Island Old Growth Trail included the:largest of the following species:
Sitka Spruce (*Picea sitchensis*) 12.2' x 138.8', 16.2' x 133.5'

Western Hemlock (*Tsuga heterophylla*) 5.9' x 128.8', 8.5' x 114.0'

Red Alder (*Alnus rubra*) 4.1' x 53.0'

The Red Alder was close to the water's edge and it was obvious for about 20 feet of elevation the trees were much younger. My first experience with isostatic rebound- This was how much the land has risen since the glaciers have retreated and it is still an ongoing process.

<http://www.treesdb.org/Browse/Sites/1487/Details>

On the drive back to Juneau I spied some small knarly pines near the road in a wet area. Even though I had never seen them before I knew they should be Beach Pine (*Pinus contorta* var. *contorta*) I got to the most convenient one and measured it at: 2.4' x 47.2'

I also learned later that Mountain Hemlock (*Tsuga mertensiana*) grows down to sea level in this area.

The only ones I saw were young.

TS

Personal Best Heights

by **bbeduhn** » Wed Jun 26, 2013 4:01 pm

It's the slow season so I'll list my personal bests. Feel free to add a similar list.



[Personal Bests.docx](#)

[Re: Personal Best Heights](#)

by **dbhguru** » Wed Jun 26, 2013 5:06 pm

Brian,

That is an impressive list to say the least. You've accumulated a wealth of data. I am especially interested in the species that also occur in New England, New York, and PA and will watch as you find taller members of those species. As a general rule species that grow well in both northern and southern latitudes have a 20 to 30-foot height advantage in the South. For example, pitch pine in the South beats its northern equivalent by around 25 feet. Lots of other examples could be given. I'm especially interested in what you find for red maple. The differential north to south may be only 10. To 15 feet. Tuliptree appears to be between 25 and 30 feet. White pine is probably under 25 feet. And so on.

Robert T. Leverett

[Re: Personal Best Heights](#)

by **pdbbrandt** » Wed Jun 26, 2013 5:47 pm

Nice list indeed! Do you consider these the tallest trees that you have located and measured personally?

If so that is even more impressive. I imagine it would not be hard for you to measure a taller tulip tree during a day trip to Baxter Creek in the smokies.

I noticed there was no pecan on your list. Do they grow in the western half of NC?

Patrick

[Re: Personal Best Heights](#)

by **bbeduhn** » Thu Jun 27, 2013 10:18 am

Patrick,

Tuliptree will easily be bettered on a trip to one of several Smokies locations. I've tried to focus on Smokies trails that haven't been measured by ENTS, thus the low number there. Pecan is not native and I've only identified one tree so far, in the 50' range, so I didn't bother to get an accurate measurement.

These are personal bests that I've discovered on my own, except for the tulip which was pointed out by Will, and a number of trees at Biltmore, which he also guided me to. A fair number of the Biltmore trees had been measured in the past by ENTS and others. The Bur oak is listed as a state champ at 140'.

I spent nearly ten minutes checking out the enormous crown. There's no way it ever topped 120'.

Bob,

I have a tough time finding red maples above 120'.

They seem to occur is just a handful of locations.

That's definitely one species that holds its own in the Northeast, along with silver maple and sugar maple.

Brian

Hermosa Creek Goodies

by **dbhguru** » Thu Jun 27, 2013 10:32 pm

NTS

Today Larry Tucei, Steve Colburn, myself, Monica, and Bea Colburn went up Hermosa Creek. The objective was to put the TruPulse 200 X through its paces. We succeeded handsomely. Here are tall trees measured with the new TruPulse or the TruPulse 360 from two trips.

Species.	Height.	Status
Ponderosa	160.3.	Update
Doug fir	160.3.	Update
Colorado blue spruce.	160.2.	Update
Ponderosa.	152.5.	New
Colorado blue spruce.	150.75.	New
Colorado blue spruce.	150.5.	Update
Ponderosa.	145.0.	Update
Ponderosa.	143.0.	New
Southwestern white pine	114.0.	New

Steve loaned Larry a TruPulse and he went much farther up the trail and made some amazing discoveries. He'll report on them after he returns to Mississippi. Larry has one more crack at the trail tomorrow, so he may add to the discoveries. At any rate the Hermosa Creek watershed in the La Platas is a very, very significant place. Part of it is under consideration for a federal wilderness designation. A biker told Larry that the big trees go on for 20 miles. Lots left to explore.

Robert T. Leverett

Coal Bank Pass Engineer Mountain

by **Larry Tucei** » Thu Jun 27, 2013 12:23 am

NTS- On Tuesday June 24 Bob and I drove to Coal Bank Pass which is about 35 miles north of Durango. We hiked Coal Creek Hiking Trail up Engineer Mountain just north of Hwy 550. He has been on the trail several times and has measured Engelmann Spruce to 142.5' and 135'. This would be my first hike of an elevation above 10,000'. The Trailhead starts off at about 10,640' and tops out at 12,973'. We did not hike to the Summit but did make it in to about a 1 ½ miles to 11,562'.

[http://www.fs.usda.gov/Internet/FSE_DOC ...203830.pdf](http://www.fs.usda.gov/Internet/FSE_DOC...203830.pdf)

The Forest here is dominated by immense stands of Engelmann Spruce. At the lower trail the tree heights are in the 115-125' class with an exception over by the parking area across Hwy 550 where Bob had measured a Spruce to 142.5' on a previous visit. We measured a few younger trees to 120' and one Old Growth in a photo later at the trailhead. Most of the trees throughout the trail were not Old Growth and had heights to 120' with some exceptions and CBH to 12". The higher we hiked the taller the Spruce became and we started seeing more OG trees. Bob and I spied trees that were exceptional and he measured over 60 trees on our hike and documented around 30. It was amazing how many trees were at the 120' mark. Most of the Old Growth trees had Circumference's of between 10' and 12'. The scenery was spectacular and we spent most of a day on our hike up and back. The tallest trees were located at mid climb with an exceptional stand that we named the John Davis Grove. The elevation at the Grove was 11,097'. Lat N 37 42.256 and Long W 107 46.569. The tallest trees here that Bob measured were 135', 134', and 130'. We named the 134' tree the Matt Markworth Spruce with a CBH of 7' 10".

The 135' Spruce unfortunately had died. These three trees were on the upslope which surprised me. The area may have more surprises and warrants further exploration. One other note we measured a Spruce of 109' at over 11,500 maybe a new elevation record. Some photos- Larry



Bob measuring the 142.5' Engelmann Spruce at the Pass



The Needles and Pigeon Peak



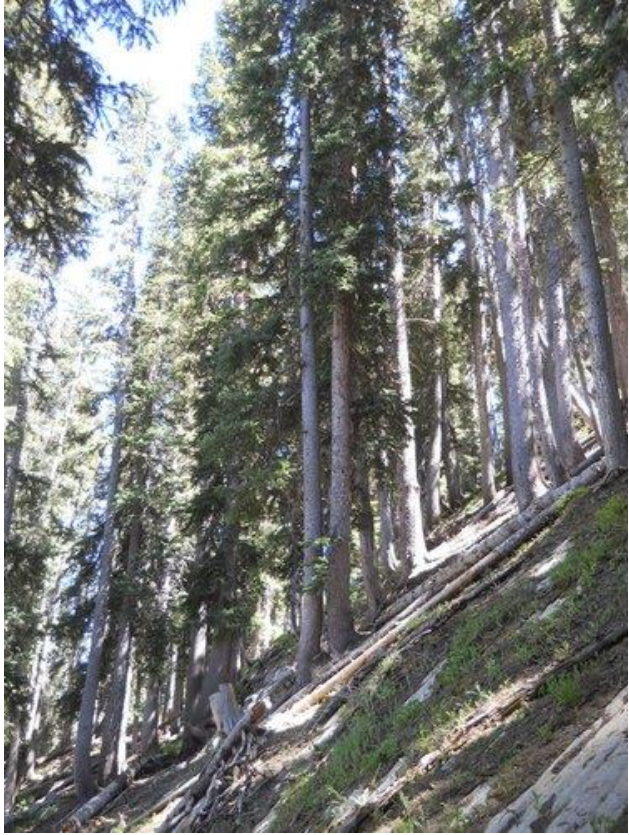
Engineer Mountain



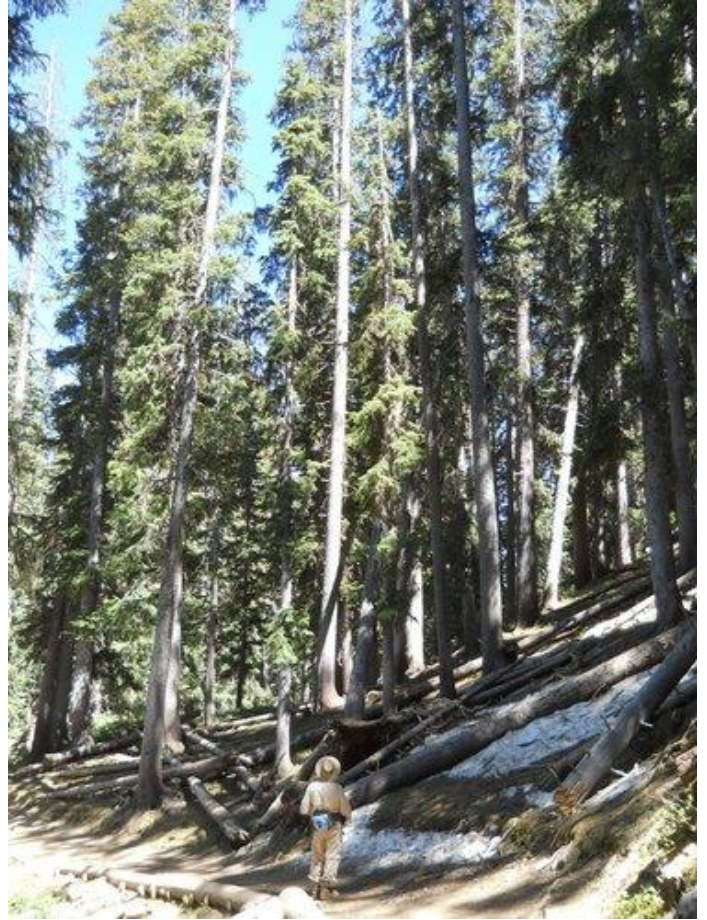
Matt Markworth Spruce



Old Growth Spruce at Trailhead



John Davis Grove Upslope



Bob at the John Davis Grove



The Rock Spruce 120+



Growth Rates



Pond at 11,200



Looking North



Moss in the Trees



Wildflowers at over 11,500'

Postings

by **dbhguru** » Wed Jun 26, 2013 5:22 pm

NTS

Larry Tucei is to be congratulated. He has reached his 1,000th posting. Joe Zorzin is closing in with 990. Robert Smith has 808. Of course, the most talkative of the group include a fellow from PA and a fellow from MA. Our buddy James Parton has dropped off.

There is no expectation on posting frequency. Just thought the numbers were interesting.

Robert T. Leverett

Re: Postings

by **edfrank** » Thu Jun 27, 2013 12:40 pm

A fair number of posts made by myself were structural ones where I set up the various forums and links to the website. But still I am likely the most prolific even taking out maybe 500 for those activities. I am not able to get out much for various reasons, so I comment on the posts made by others.

Testing TruPulse 200 X

by **dbhguru** » Wed Jun 26, 2013 10:09 am

Karlheinz and Kouta,

Tomorrow, Steve Colburn, Director of Sales, North America, will bring a TruPulse 200 X over from Denver and will allow me to test it. I have the red beam lasers here and will set up targets. A full report will be presented so that you can judge for yourselves.

Larry, We should probably plan to return to Hermosa Creek to do the testing on the champion trees. I'm interested to see how well the gate works to ignore returns from objects closer than the target. If the 200 X performs as advertised, it would be the instrument of choice. I think the advertised accuracy is +/- 2 centimeters. I'll take it. I'm unsure of what the advertised accuracy of the tilt sensor is, but it should be +/- 0.1 degree or the improved accuracy of the laser will be compromised.

Robert T. Leverett

[Re: Testing TruPulse 200 X](#)

by **dbhguru** » Thu Jun 27, 2013 10:08 pm

Karlheinz and Kouta,

My initial experience with the TruPulse 200 X was very positive. Accuracy of the laser is about an inch and a half. Accuracy of the tilt sensor is 0.1 degree. The gate function has been improved to work in units of one foot. That is very useful. With this model, we were able to confirm the height of the champion Colorado blue spruce to 160.2 feet. We also were able to confirm the champion ponderosa to 160.3 feet. The nearby Doug fir is also 160.3 feet. The TruPulse 200 X will get another test tomorrow, but as of this point, I am impressed.

Robert T. Leverett

[Re: Testing TruPulse 200 X](#)

by **dbhguru** » Fri Jun 28, 2013 7:38 pm

Kouta

I was able to test the laser accuracy this morning against the Bosch GLR825. Over 12 trials, the average difference between the two instruments was 1.5 centimeters. The gate function works, but my test was very limited. I saw enough to want a 200 X. I'll likely get it in August at which time the testing will continue. It will be too late for me if I find the purchase a mistake. However, I could save you all from a similar fate.

Oh yes, the firmware is going to be upgradable by the Internet.

Robert T. Leverett

[Big \(and healthy\) Hemlock in Salem, NJ](#)

by **Barry Caselli** » Fri Jun 28, 2013 5:08 pm

A few weeks ago I was exploring the Baptist cemetery in Salem with a friend and found a beautiful Eastern Hemlock with no adelgid on it at all. It's one of the biggest Hemlocks I've ever seen that I can remember, and it's not going to be dying any time soon. Yeah! I'll see if I can attach pictures to this post.



Hemlock closeup





Hemlock at left.

Re: Tree Maximums - Genus of the Week: Acer (Maple)

by **Matt Markworth** » Fri Jun 28, 2013
9:26 pm

Hi All,

Here is Jess's original post on the Max Girth Red Maple along with photos . . .

http://www.nativetreesociety.org/fieldtrips/gsmnp/jonesbranch/jones_branch.htm

- Matt

Re: Tree Maximums - Genus of the Week: Acer (Maple)

by **Matt Markworth** » Fri Jun 28, 2013
10:01 pm

Hi All,

Here is Dale's original post on the Max Girth Sugar Maple along with photos . . .

http://www.nativetreesociety.org/fieldtrips/penna/nagy/nagy_sugar_maple.htm

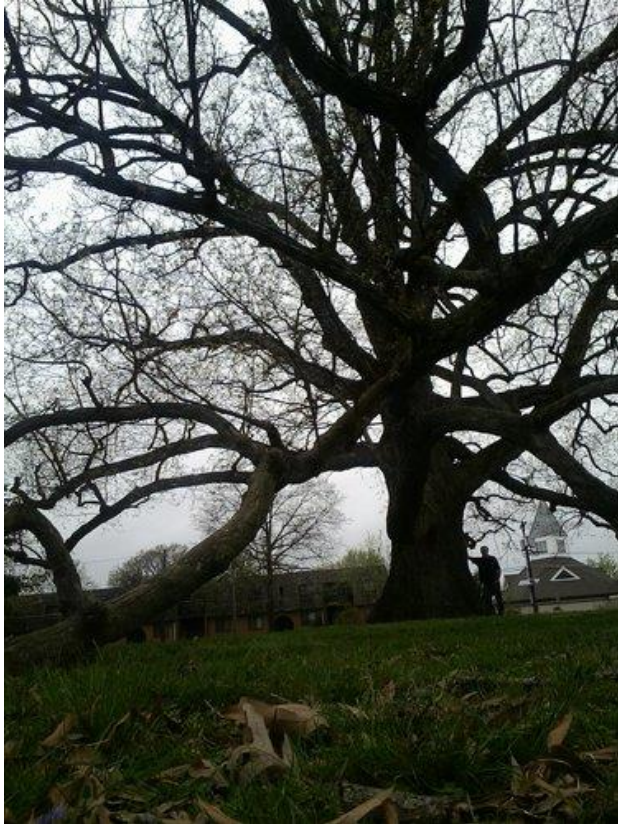
- Matt

Re: 20+ CBH Oaks in Southern New Jersey

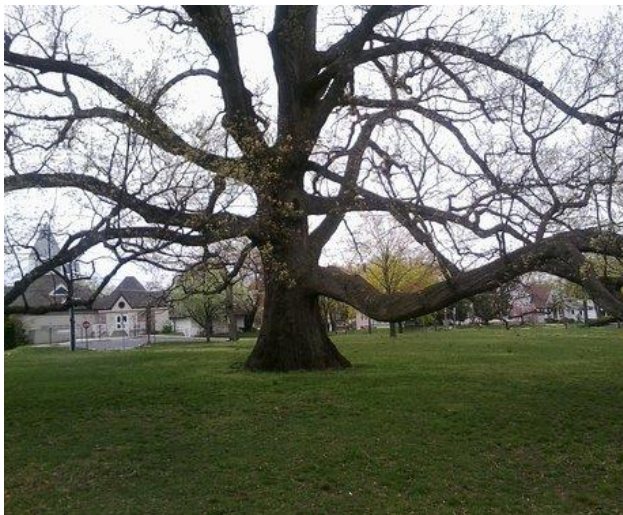
by **JohnnyDJersey** » Sat Jun 29, 2013
8:43 am

Barry,

Thank you. I wasn't aware of the oak in Estell Manor. There is a 20+ CBH oak in Collingswood on rt 30 that I have pictured above that I didn't know about until about year ago and there was virtually no information online. It sits right in front of the Scottish Theater there. In my opinion, the 5 greatest oaks now in New Jersey are, The Salem Oak, The Keller Oak, The Basking Ridge Oak, The Clement Oak, and the one in Collingswood. All white oaks. To add a sixth I would say the state champ white oak as well, not much history to it but the largest by points.



Collingswood Oak 2



Collingswood Oak 1

John D Harvey
East Coast Big Tree Hunter

[Updates on Colorado blue spruce and southwestern WP](#)

by **dbhguru** » Sat Jun 29, 2013 10:48 am

Mark,

Please change the dimensions of the tallest *Picea pungens* in the tall tree list. Height = 160.2 feet. Larry Tucei will give the girth when he posts once he is back in Mississippi. It will be named the Laurie Swisher tree for the Forest Service representative who accompanied. The co-measurer was Steve Colburn. The method was sine-sine using a TruPulse 200 X. The location data are the same.

The second height to change is southwestern white pine. The new champ is 114.0 feet, measured by me using a TruPulse 360 and sine-sine. The location data of the tree are the same as the present one. All these trees are in the same mixed grove of trees. The name of the southwestern white pine is the Veronica Egan tree. She is past Executive Director of the Great Old Broads.

Robert T. Leverett

[Tree Maximums - Genus of the Week: *Alnus* \(Alder\)](#)

by **Matt Markworth** » Sun Jun 02, 2013 10:35 pm

Hi All, Genus of the Week: *Alnus*

<http://plants.usda.gov/java/profile?symbol=ALNUS>

Here's a sampling of *Alnus* that can be submitted:

<i>Alnus glutinosa</i> ,	European Alder
<i>Alnus incana</i> ,	Gray Alder
<i>Alnus maritima</i> ,	Seaside Alder
<i>Alnus oblongifolia</i> ,	Arizona Alder

the 3-point-routine, others understand but they say it is accurate enough for their purposes. Some have even said it is totally impossible to measure with the 2-point-routine (=sine method). We accepted the *A. glutinosa* tree to our list before we realized all the laser-measurements are not sine-measurements.

The tallest German *A. glutinosa* I have measured is 36.4 m:

<http://www.monumentaltrees.com/en/deu/s...hengarten/>

Kouta

Re: Tree Maximums - Genus of the Week: *Alnus* (Alder)

by **Matt Markworth** » Sat Jun 08, 2013 12:55 am

Turner,

That's an impressive Alder! Here's the original post if anyone missed it: <http://www.ents-bbs.org/viewtopic.php?f=175&t=4955>

Kouta,

Thanks for finding Jess's post with that tall Speckled Alder.

It looks like Will would have been using a laser by 1997. Here an excerpt from this post: <http://www.ents-bbs.org/viewtopic.php?f=235&t=4637&p=19766&highlight=beginnings#p19766>

I toyed around with some Smokies trees but my first major survey with the laser was in CONG, December 1996.

Let me know if you'd like to add any additional details for your impressive Gray Alder find.

Also, I greatly appreciate having access to the European Height Records List that you and Jeroen created. It has helped me expand my horizons.

Jeroen,

Let me know if you'd like to add any additional details for your impressive European Alder find.

Jess,

Do you have any other details on your impressive Speckled Alder find? Here's the original post:

<http://www.ents-bbs.org/viewtopic.php?f=144&t=4861&start=24>

Will or Michael,

Do you know if the 47' Hazel Alder at Riverside Business Park is still standing? If so, it might be interesting to see the height difference since 1997.

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

Thanks,
Matt

Re: Tree Maximums - Genus of the Week: *Alnus* (Alder)

by **KoutaR** » Sat Jun 08, 2013 6:18 pm

Matt,

Species (Scientific): *Alnus incana*
Species (Common): grey alder
Height (ft): 89.2
CBH (ft): 3.28
Maximum Spread (ft):
Average Spread (ft):
Volume (ft³):
Site Name: Tuusula
Subsite Name: Ruotsinkylä
Country: Finland

State or Province:

Property Owner: Finnish Forest Research Institute

Date of Measurement: Aug 16, 2011

Measurer(s): K Räsänen, J Lehtonen

Method of Height Measurement: Nikon Laser 550A
S, sine + sine

Tree Name:

Habitat: Managed Norway spruce dominated forest

Notes:

Kouta

Re: Tree Maximums - Genus of the Week: Alnus (Alder)

by **Matt Markworth** » Sat Jun 29, 2013
1:49 pm

Hi All,

Here is Jeroen's original post that includes the Max Height Alnus glutinosa . . .

<http://www.ents-bbs.org/viewtopic.php?f=197&t=2531>

Also, here's a photo from the Monumental Trees site .

..

http://www.monumentaltrees.com/en/pol/podlaskie/bialystok/2435_nationalparkofbialowieza/3907/

- Matt

Re: Tree Maximums - Genus of the Week: Alnus (Alder)

by **Matt Markworth** » Sat Jun 29, 2013
1:59 pm

Hi All, Here is Kouta's original post on the Max Height Alnus Incana along with a photo showing the top of the tree . . .

<http://www.ents-bbs.org/viewtopic.php?f=396&t=3272>

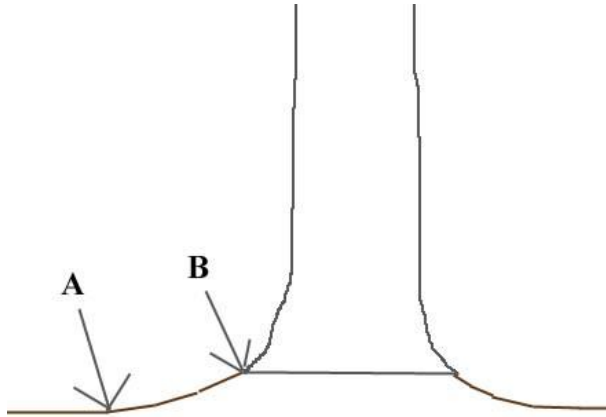
Grey Alder (*Alnus incana*)

*This species also has a very wide distribution in Europe, Asia and North America. It is divided to several subspecies. Like in common juniper, the European subspecies (subsp. incana) becomes taller than the North American one. In boreal Europe, grey alder is very common as a pioneer tree and on lake shores. In central Europe the species is largely restricted to mountains. Jukka's record grey alder had fallen, but there were equally tall individuals next to it. The height of the new record grey alder is 27.2 m (89.2 ft) and CBH 100 cm. It grows in Ruotsinkylä, Tuusula, in 90-year-old forest dominated by +30 m tall Norway spruces. The forest type is the most fertile in Finland. Other trees in the grove are black alder, aspen, silver and downy birch, and bird cherry (*Prunus padus*). The understory is dominated by lady fern (*Athyrium filix-femina*).*

- Matt

Defining tree base

by **KoutaR** » Sun Jun 30, 2013 2:28 am



NTS,

A tree is growing on level ground but its roots have pushed the soil higher around its base. Do you measure the tree to the point A or B? Below B, no tree bark is visible, only soil. There was no mound before the tree germinated.

Kouta

Re: Defining tree base

by **Karlheinz** » Sun Jun 30, 2013 3:53 am

Particularly I can think of the earth plinth around the trunk of large tulip trees.

Also in hillside situations with all thick trunks it is the rule that on high-slope-point the soil is raised.

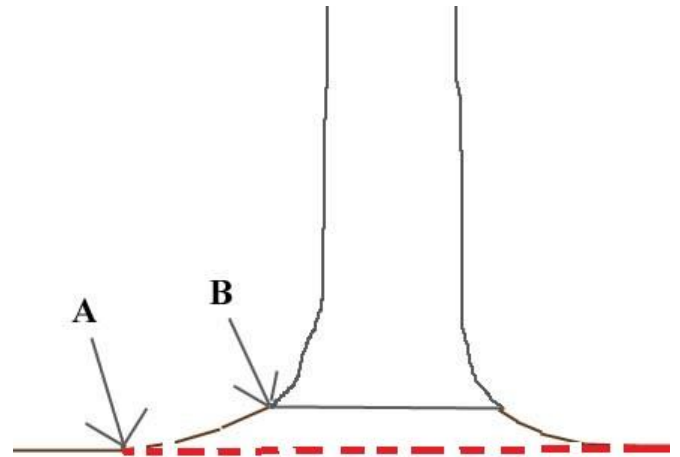
Karl

Re: Defining tree base

by **edfrank** » Sun Jun 30, 2013 10:27 am

Kouta and Karl,

The concept that should be used is to old "From where the acorn sprouted." In principle the height should be measured from the height of the original ground surface rather than from the raised area pushed up around the roots. This is not always easy and may lead to some variations between different measurers, but this is what should be considered the base of the tree. In your diagram, it would be from height A.



Edward Forrest Frank

Re: Defining tree base

by **Karlheinz** » Sun Jun 30, 2013 12:47 pm

And this point "from where the acorn sprouted" is also the base for the girth measurement, if otherwise no special?

Karl

Re: Defining tree base

by [tsharp](#) » Sun Jun 30, 2013 2:33 pm

Kouta: I am glad you brought this subject up. While I readily accept "where the acorn sprouted" concept it does make an assumption that many times is not true. The assumption being that the ground level has stayed constant since the acorn sprouted. I have come across many examples where this is not true. With increasingly accurate height measurements this determination of the base elevation becomes more important. I believe on significant trees the base level should be documented/benchmarked for later measurements to be comparable.
TS

Re: Defining tree base

by [edfrank](#) » Sun Jun 30, 2013 3:11 pm

Karlheinz wrote: And this point "from where the acorn sprouted" is also the base for the girth measurement, if otherwise no special?

Karl

Yes this is what I think should be done. Yes this is a simplistic interpretation, but it works for most cases. Here is the text of my best shot at defining the base from ""The Really, Really Basics of Laser Rangefinder/Clinometer Tree Height Measurements" January 2010.

Colby Rucker stated this simply (Aug 11, 2002), "All height measurements start from the same place - "where the acorn sprouted." The application of the principle is where the trouble begins, but I do believe that any interpretations of the tree base should be true to this concept. Trees will sprout virtually anywhere and the physical landscape changes over periods of time. In many cases with trees on level or slightly sloping ground where little alteration of the ground surface has taken place, the base of the tree

can be determined fairly easily. In cases where trees are on sloping surface with debris accumulation and soil erosion, where the trees are sprouting from the side of a rock outcrop, where trees are growing on nurse logs, where trees are growing in a swamp or marsh, and where trees are growing as epiphytes on other trees, the determination is more complex.

Where is the base of the tree? The definition used here is "the base of the tree is where the projection of the pith (center) of the tree intersects the existing supporting surface upon which the tree is growing. (Frank 2005a). Trees often sprout and begin their life on nurse logs. These logs eventually decay and the initial sprouting point may be a foot, or in the case of some of the giant western trees 10's of feet above the existing ground surface. Over time these exposed tap roots grow bark and become virtually indistinguishable from other portions of the trunk. This definition avoids the necessity to make those distinctions. In cases where the ground has been eroded to a lower elevation by this definition any exposed root above the ground surface directly beneath the center of the tree would be included in the tree height. Trees growing on the side of a cliff would still have their base at the cliff side as that position would be the intersection of the pith of the tree with the supporting growth surface. Roots that extend down the side of the rock face would not be considered toward the total tree height, just as exposed roots extending down a hillside are not considered toward tree height. Trees growing as epiphytes on other trees would have their base defined as where their pith intersected the supporting surface, in this case the branch or trunk, upon which it is growing. In Olympic National Park, WA in the summer of 2005 I saw a large red cedar upon which two tree sized western hemlocks were growing. The largest epiphytic hemlock was likely 50 feet high and a foot or more in diameter and was perched on a notch of the cedar 20 feet above the ground - so this is a real-life consideration. There are trees that grow from spreading roots or from branches that have touched the ground and sprouted. The base of these trees would be the point at which their new trunk emerges from the supporting surface. Trees growing in swamps or marshes would have their base

measured from the bottom of the water pool in which they were growing.

It is not perfect but it is an approach to the problem.


Benchmarking would require leaving a mark or something embedded nearby or in the tree itself, which may not be practical or acceptable.

Consistent girth measurements require that the girth be measured at exactly the same point every time and really a tack or nail marker needs to be placed in the tree to endure repeatability.

Edward Forrest Frank

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Re: American Forest's Measurement Group

 by **dbhguru** » Sun Jun 30, 2013 11:27 am

Ed, et. al.,

Another lightweight topic is the rounding rule to be applied to girth, height, and crown-spread measurements. I think lots of states round down to the nearest whole number. I haven't no problem with this as a general rule. In tight competitions where the highest accuracy instruments are being used, I would not automatically round down. However, coming up with viable rules for treating situations as exceptions would get tricky. Thoughts?

Robert T. Leverett

Re: American Forest's Measurement Group

 by **tsharp** » Sun Jun 30, 2013 2:17 pm

Bob:

I believe dead wood should be counted for height and crown spread. This would be consistent with

counting it for girth and/or volume.

I believe a 10 year rule between measurements is reasonable.

For rounding measurement numbers I believe consistency is the way to go. Is there an AF policy on that issue at present?

TS

Hermosa Creek Trail Part 2

by **Larry Tucei** » Sun Jun 30, 2013 10:38 am

NYS-Bob, Monica, Steve Colburn, B Colburn and I hiked back into Hermosa Creek on Thursday June 27 to check out the new TruPluse 200X. At the .92 mile marker Bob and Steve measured the State Champion Ponderosa Pine to 160.3'. This is also the same location of the State Champion Colorado Blue Spruce, State Champion Douglas Fir and State Champion Southwestern White Pine. There is a beautiful stand of 130' class Ponderosa all around the north upside of this site.

Steve was kind enough to let me use a TruPluse 300 on the hike and boy was I loving that instrument. I'm going to purchase one soon and triple my measuring trees in the Forest. After using this instrument I don't care to even take my Nikon 440 out of its case.

After testing the new TruPluse we then proceeded farther on the trail to a distance of 1 ½ miles for a stop and lunch. I then went up the ridge a bit to locate and measure the Randy Brown Pine that was discovered last year. The Ponderosa Pine was about 200 yards on the upslope from a turn in the trail. What a whopper it measured 139.5' tall and had a CBH of 13'!

The gang had got back on the trail after lunch and I was headed to meet up with them. When I did they had decided to head back to town. I would meet up with them later for the evening meal. I walked on trail another 2 miles and found much more Old Growth. When we separated the Ponderosa was in the 120' class but as I walked in the trees began to reach heights of 130' and eventually heights to over 145' as did the Fir! I went through about 2 more stands of Pure Ponderosa, 2 stands of Aspen and 2 mixed stands of Ponderosa and Fir to a point 3.5 miles from Trailhead. The Aspen was tall also between 90'-100' and some of the largest CBH that I'd ever seen.

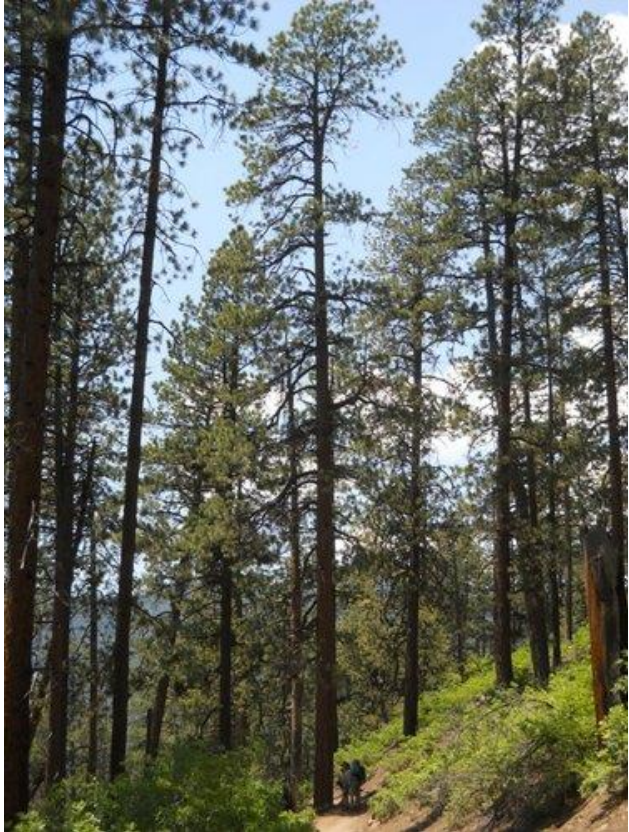
I talked with a Mountain Biker and he told me there were many big trees and tall trees the length of the trail. This is a fantastic site for mixed Old Growth species. As I reached near the end my hike I measured one

Monster of a Ponderosa Pine right next to the trail with a CBH of 13' 8 1/2" and a height of 146.5'! This is the tallest Ponderosa I've measured and largest CBH. N 37 28.794 W 107 52.108 The last surprise I got was at the end of my hike I spied a tall Doug Fir and measured it to 153.5' which Bob has told me is the 2nd tallest Douglas Fir measured in the State. I did not measure the CBH but it would be around 10-12'. N 37 28.865 W 107 52.084

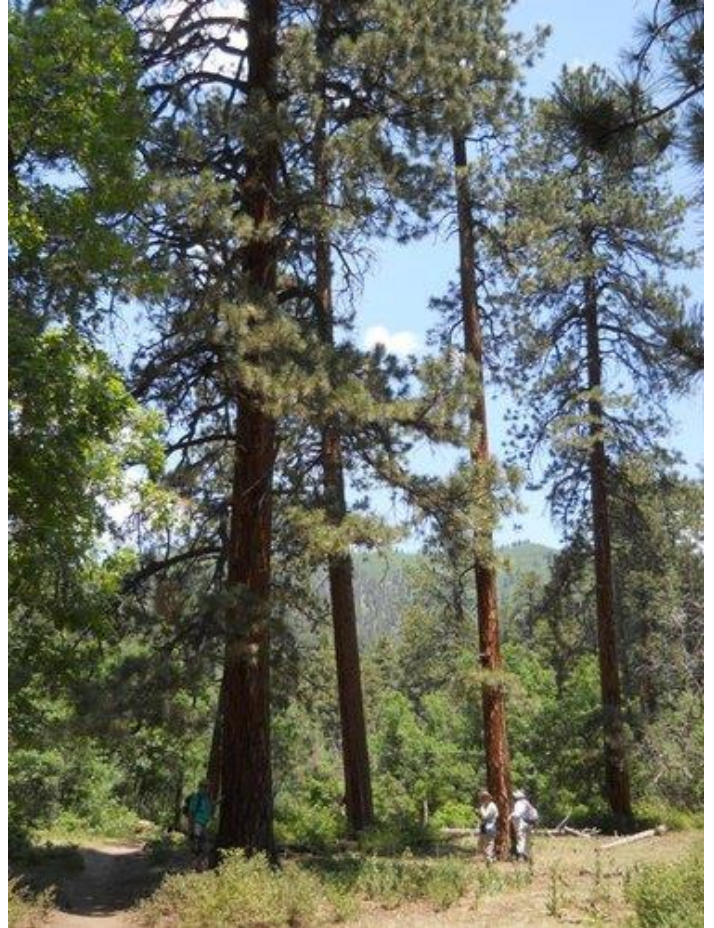
The Ponderosa Pine, Douglas Fir are reaching record heights throughout this trail and the Aspen as well. This is really just touching the tip of the Iceberg as I only walked in 3.5 miles of the 20 mile trail. Records are most likely to be broken here and it will soon become the newest Wilderness in the State. This 1000 acre proposed Wilderness Area has the tallest trees in Colorado and it has been a real pleasure to come here to help document this special place. I will hope to come back next year for a longer stay and more big tree hunting.



Bob and Steve testing the TruPulse on the State Champion Ponderosa Pine



Some strange Hikers something about they were measuring trees



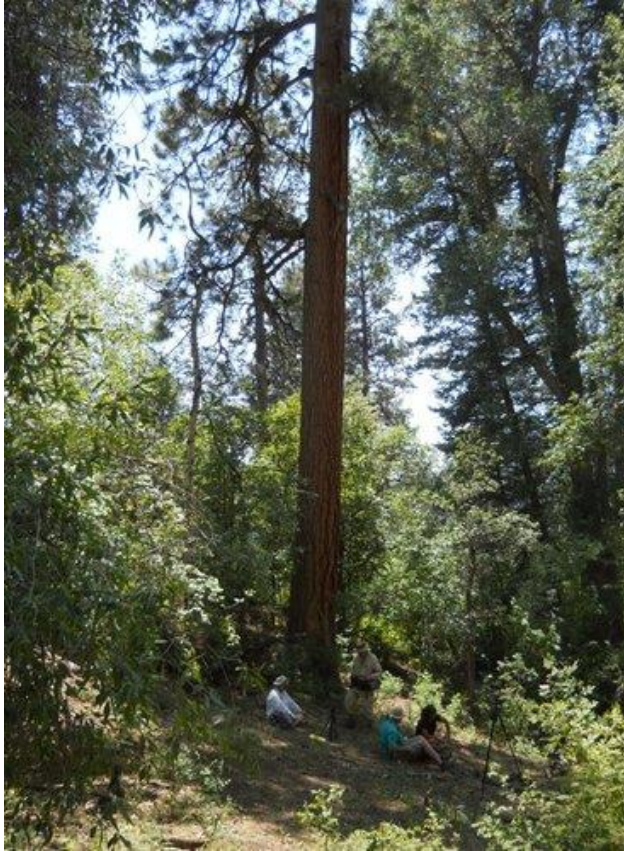
Steve at nice Ponderosa Pine



State Champ Ponderosa Pine .92 mile mark



Critters on the Trail



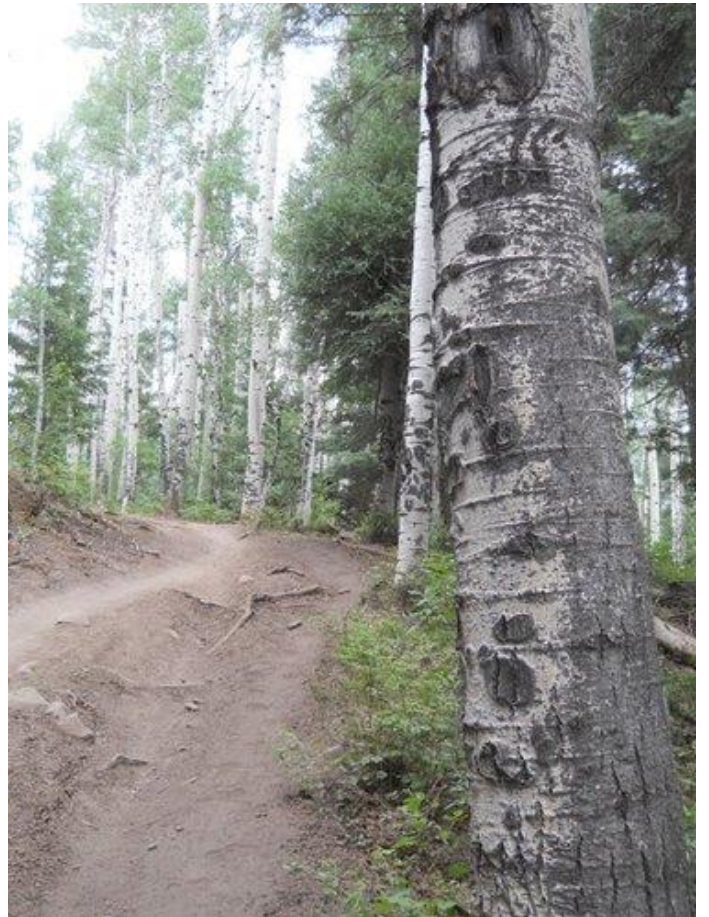
Lunch



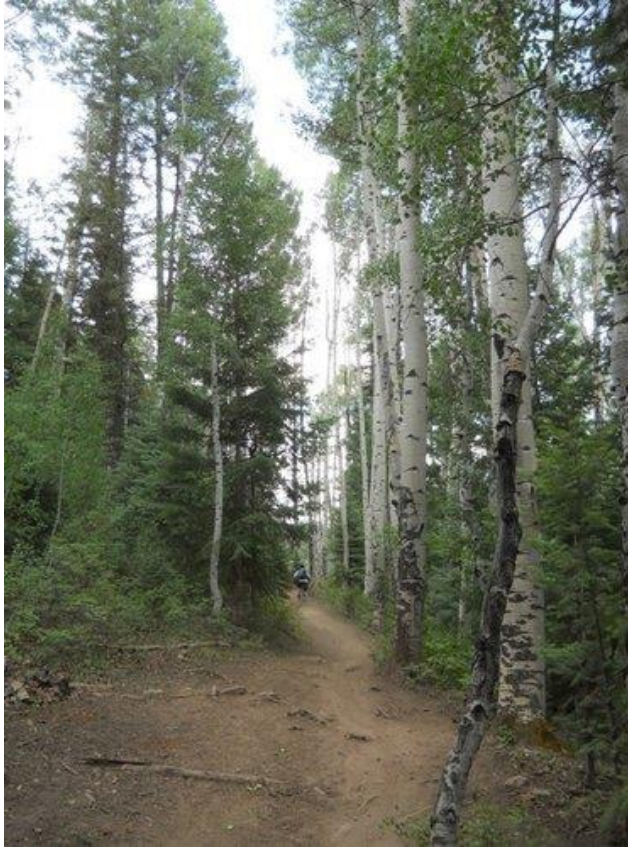
Randy Brown Pine 139.5' 13' CBH



Another Stand of Ponderosa Pine 2 mile mark



1st Aspen Stand



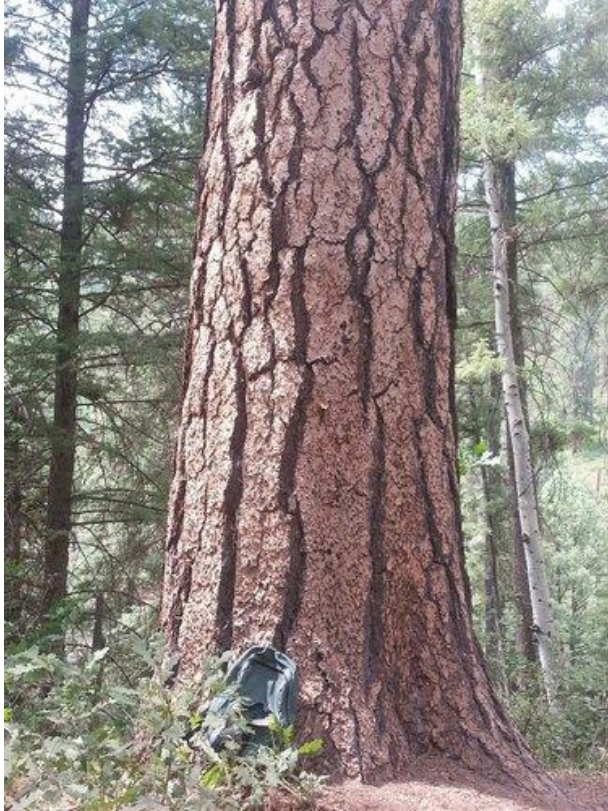
Mountain Biker



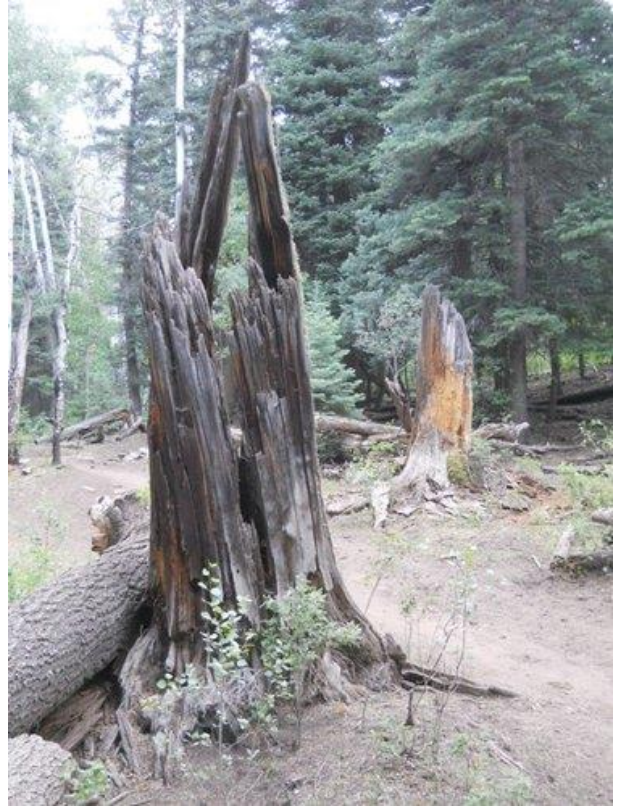
Ponderosa Pine 146.5' CBH 13' 8 1/2"



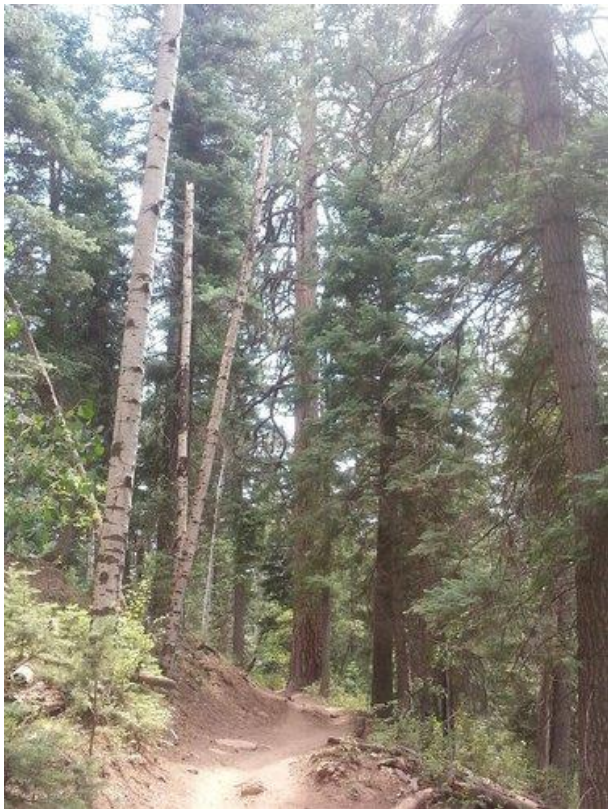
Ponderosa Stand



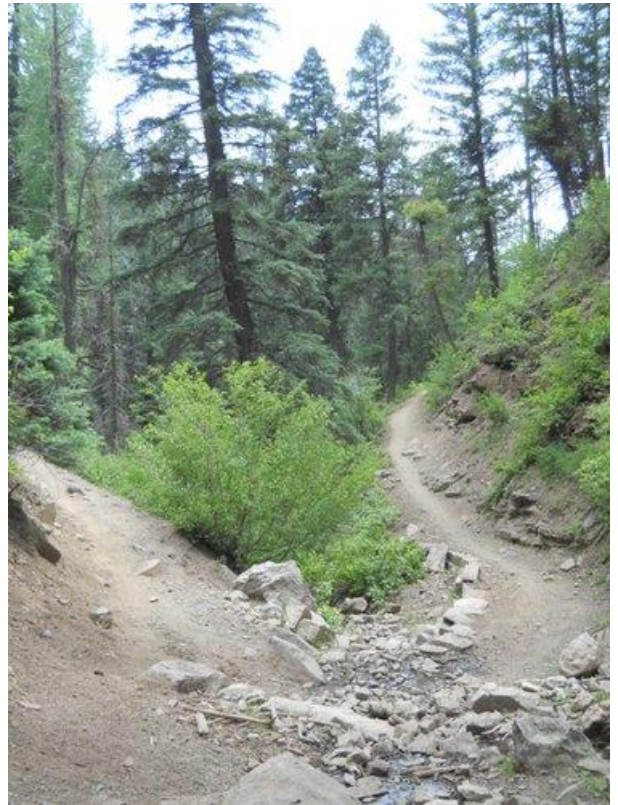
Ponderosa Pine



Ancients



Ponderosa Pine



Douglas Fir



Douglas Fir 153.5' at 3.5 mile mark



Largest Albino



Largest Albino

Zane J. Moore
Undergraduate Student
Colorado State University

[Re: Albino Redwoods](#)

by **yofoghorn** » Sun Jun 30, 2013 11:55 am

Here is the largest albino redwood known. It is 100 feet in circumference, over 31 feet average diameter, and has an area of approximately 795 square feet.

[Re: Say Good Bye to the White Ash Tree \(WV\)](#)

by **Matt Markworth** » Sun Jun 30, 2013 5:52 pm

Ash on a hillside in Northern Kentucky . . .



- Matt

[Re: American Forest's Measurement Group](#)

by **dbhguru** » Sun Jun 30, 2013 7:26 pm

Turner,

Thanks. I've been bouncing around on the dead versus live wood issue like a ping pong ball. So your input is very valuable. The work of the group is starting to heat up so input at this time from all with ideas on any of the relevant topics will be mightily appreciated.

Ed, Will, Turner, et. al.,

One of the resolutions we must make is what is the definition of a tree for AF purposes. We've all seen examples of a species that can grow into a tree, but encounter a specimen that is a coppice at almost ground level. I presume that the particular specimen would need to have at least on stem with a diameter of 4 inches or more at some specified height for us to consider it eligible for measuring. Thoughts?

Robert T. Leverett

[Re: American Forest's Measurement Group](#)

by **edfrank** » Sun Jun 30, 2013 8:39 pm

Bob, you wrote:

One of the resolutions we must make is what is the definition of a tree for AF purposes. We've all seen examples of a species that can grow into a tree, but encounter a specimen that is a coppice at almost ground level. I presume that the particular specimen would need to have at least on stem with a diameter of 4 inches or more at some specified height for us to consider it eligible for measuring. Thoughts?

Really I think you are off base on this one. The definition of a tree should have a height component,

but not a girth component. These are the definitions from the USDA:

*USDA Natural Resources Conservation Service
Growth Habits Codes and Definitions
http://plants.usda.gov/growth_habits_def.html*

Shrub (SH)

Perennial, multi-stemmed woody plant that is usually less than 4 to 5 meters (13 to 16 feet) in height. Shrubs typically have several stems arising from or near the ground, but may be taller than 5 meters or single-stemmed under certain environmental conditions. Applies to vascular plants only.

Subshrub (SS)

Low-growing shrub usually under 0.5 m (1.5 feet) tall, never exceeding 1 meter (3 feet) tall at maturity. Applies to vascular plants only. A dwarf-shrub in the FGDC classification.

Tree (TR)

Perennial, woody plant with a single stem (trunk), normally greater than 4 to 5 meters (13 to 16 feet) in height; under certain environmental conditions, some tree species may develop a multi-stemmed or short growth form (less than 4 meters or 13 feet in height). Applies to vascular plants only.

I think a minimum of 4 meters/13 feet is a fine criterion for marking the boundary between shrubs and trees for submission purposes. In each case if it is a coppice with separate trunks the girth should be measured at 4.5 feet for the same stem that was the tallest. The other stems in the coppice should not be a consideration. If multiple trunks have grown together they could be treated as a multitrunk specimen measuring the girth at the narrowest point below 4.5 feet that incorporates the fused trunks, or if the tallest trunk is separate at 4.5 feet, it's girth could be measured there and the submission be treated as the largest single trunk specimen, or both. I really would like to see there be separate lists for multitrunk and single trunk trees. This would also help promote the goals of public outreach and participation by doubling the number of people who could have champion trees.

A key point to remember is that they are looking for criteria for champion trees and only champion trees, so many of these marginal forms will not really be a consideration for any but an exceptional situation.

Edward Forrest Frank

Tree Maximums - Genus of the Week: *Carya* (Hickory)

by [Matt Markworth](#) » Sun Jun 30, 2013 8:53 pm

Genus of the Week: *Carya*

"Was struck by the appearance of a small hickory near the wall, in the rocky ravine just above the trough. Its trunk was covered with loose scales unlike the hickories near it and as much as the shagbark; but probably it is a shaggy or scaly-barked variety of Carya glabra. It may be well to observe it next fall. The husk is not thick, like that of the shagbark, but quite thin, and splits into four only part way down. The shell is not white nor sharply four-angled like the other, but it is rather like a, pignut." – Henry David Thoreau, 11/27/1857

Anyone care to help Thoreau with his identification? :)

Here's a sampling of *Carya* that can be submitted:

Carya alba, Mockernut Hickory
Carya aquatica, Water Hickory
Carya caroliniana-septentrionalis, Southern Shagbark Hickory
Carya cordiformis, Bitternut Hickory
Carya floridana, Scrub Hickory
Carya glabra, Pignut Hickory
Carya illinoensis, Pecan
Carya laciniosa, Shellbark Hickory
Carya myristiciformis, Nutmeg Hickory
Carya ovalis, Red Hickory

Carya ovata, Shagbark Hickory
Carya pallida, Sand Hickory
Carya texana, Black Hickory
Carya x brownii, Bitternut Pecan

An excerpt from Jess's MaxList:

Species (Latin)	Species (Common)	Record	Chn	Height (m)	Form	Site	Area	State	Date	Measurer		
<i>Carya alba</i>	Hickory, Mockernut	Circumference	118	114.9	Forest	Green River Road	Green River Camerons	NC	4/12/2005	J. Riddle		
<i>Carya alba</i>	Hickory, Mockernut	Circumference	121	112.6	Forest	Johnson Creek	Tangipahoa Park	NC	12/16/2005	W. Brown, J. Riddle		
<i>Carya alba</i>	Hickory, Mockernut	Height	78.5	147.5	Forest	Jumping Waters Br	Savanna Gulf State Natural Area	TX	6/25/2005	M. Davis, J. Riddle		
<i>Carya alba</i>	Hickory, Mockernut	Spread (max)	102		58	Highway 50	Chattahoochee National Forest	GA	7/20/2005	J. Riddle, D. Riddle		
<i>Carya aquatica</i>	Hickory, Water	Circumference	155	137.2	Forest	Congaree River	Congaree National Park	SC	2/19/2005	W. Brown, J. Riddle, J. E.		
<i>Carya aquatica</i>	Hickory, Water	Circumference	203		117	Open	Osage	GA	11/29/2005	J. Riddle, D. Riddle		
<i>Carya aquatica</i>	Hickory, Water	Height	155	137.2	Forest	Congaree River	Congaree National Park	SC	2/19/2005	W. Brown, J. Riddle, J. E.		
<i>Carya caroliniana-septentrionalis</i>	Hickory, Southern Shagbark	Circumference	145	130.9	Forest	Long Cane Creek	Long Cane Creek	AL	5/19/2005	J. Riddle, W. Brown		
<i>Carya caroliniana-septentrionalis</i>	Hickory, Southern Shagbark	Height	138.4		Forest	Branches Shoals	Branches Shoals	AL	5/19/2005	J. Riddle, W. Brown		
<i>Carya cordiformis</i>	Hickory, Bitternut	Circumference	150	124.7	Forest	Forbes Road	Greenbrier, GSNHP	TX	10/23/2004	J. Riddle		
<i>Carya cordiformis</i>	Hickory, Bitternut	Height	84	154.3	Forest	Blount Creek	Big Creek, GSNHP	NC	5/24/2005	W. Brown, J. Riddle		
<i>Carya cordiformis</i>	Hickory, Bitternut	Height	84	154.3	Forest	Blount Creek	Big Creek, GSNHP	NC	5/24/2005	W. Brown, J. Riddle		
<i>Carya cordiformis</i>	Hickory, Bitternut	Spread (max)	114	117.3	80	Forest	Dal Ridge Trail	Congaree National Park	SC	1/15/2005	W. Brown, J. Riddle, J. E.	
<i>Carya cordiformis</i>	Hickory, Bitternut	Spread (max)	138	111.8	80	Open	Private Residence	Highway 76	GA	3/4/2005	J. Riddle, D. Riddle	
<i>Carya glabra</i>	Hickory, Pignut	Height	90	140.3	Forest	Hurricane Creek	Corolla Wilderness Area	GA	12/7/2004	J. Riddle, D. Riddle		
<i>Carya illinoensis</i>	Pecan	Circumference	161		Open	Clarks Chamber of	Clarks	GA	1/17/2005	J. Riddle, D. Riddle		
<i>Carya illinoensis</i>	Pecan	Height	141.1		Open	Newport	Newport	TX	10/23/2004	M. Davis		
<i>Carya illinoensis</i>	Pecan	Spread (max)	114	111.8	132	Open	Blue Falls Grove	Blue Falls Grove	PA	8/25/2005	S. Wade	
<i>Carya laciniosa</i>	Hickory, Shellbark	Circumference	95	105.5	Forest	Our Lady of Angels	Our Lady of Angels Convent	PA	10/23/2004	S. Wade		
<i>Carya laciniosa</i>	Hickory, Shellbark	Circumference	83	111.7	Forest	Beltmore Estate	Ashville	NC	6/14/2005	W. Brown, W. Hatcher		
<i>Carya laciniosa</i>	Hickory, Shellbark	Height	66	108.1	Forest	Town Arboretum	Medals	PA	4/17/2005	S. Wade		
<i>Carya myristiciformis</i>	Hickory, Nutmeg	Circumference	76	109.2	Forest	Highway 27	Rome	GA	12/27/05	J. Riddle, D. Riddle		
<i>Carya myristiciformis</i>	Hickory, Nutmeg	Height	76	109.2	Forest	Highway 27	Rome	GA	12/27/05	J. Riddle, D. Riddle		
<i>Carya ovalis</i>	Hickory, Red	Circumference	107	110.3	Forest	Horse Cove	Rock Mountains	GA	5/26/2005	J. Riddle, D. Riddle		
<i>Carya ovalis</i>	Hickory, Red	Circumference	150.5		Forest	Alexander Creek	Central Broadband Fault Zone	SC	1/15/2005	J. Riddle		
<i>Carya ovalis</i>	Hickory, Red	Height	137	148.5	83	Forest	Lee Branch	Central Broadband Fault Zone	SC	3/20/2005	J. Riddle	
<i>Carya ovalis</i>	Hickory, Red	Spread (max)	115.5	149.0	86	Forest	Tamasssee Knob	Central Broadband Fault Zone	SC	12/30/05	J. Riddle	
<i>Carya ovalis</i>	Hickory, Shagbark	Circumference	131	143.2	Forest	Clarks Cove	Catawchee, GSNHP	NC	5/20/05	J. Riddle, W. Brown		
<i>Carya ovalis</i>	Hickory, Shagbark	Circumference	158	104.7	95	Open	Cave Springs	Cave Springs	GA	12/27/2005	J. Riddle, D. Riddle	
<i>Carya ovalis</i>	Hickory, Shagbark	Height	153.6		Forest	Fish Fork Branch	Fish Fork Branch State Park	TX	5/26/2005	J. Riddle, D. Riddle		
<i>Carya ovalis</i>	Hickory, Shagbark	Height	84.5	152.6	Forest	Savanna Creek	Savanna Gulf State Natural Area	TX	3/5/2005	M. Davis, J. Riddle		
<i>Carya ovalis</i>	Hickory, Shagbark	Spread (max)	156	148.7	101	95	Open	Savanna Creek	Savanna Gulf State Natural Area	TX	12/27/2005	J. Riddle, D. Riddle
<i>Carya pallida</i>	Hickory, Pale	Circumference	110	95.1	Forest	Nationalist Trail	Carriacou Head State Park	SC	10/23/2004	J. Riddle		
<i>Carya pallida</i>	Hickory, Pale	Height	115	171.4	Forest	Red Sheds National	Red Sheds National Natural Area	MD	10/23/2004	C. H. C. Rucker		
<i>Carya x brownii</i>	Hickory, hybrid bitternut-pecan	Circumference	210	102.9	101	83	Open	Cocosa River	Rome	GA	12/27/2005	J. Riddle, D. Riddle
<i>Carya x brownii</i>	Hickory, hybrid bitternut-pecan	Height	210	102.9	101	83	Open	Cocosa River	Rome	GA	12/27/2005	J. Riddle, D. Riddle
<i>Carya x brownii</i>	Hickory, hybrid bitternut-pecan	Spread (max)	210	102.9	101	83	Open	Cocosa River	Rome	GA	12/27/2005	J. Riddle, D. Riddle

An excerpt from the TALLEST EXAMPLES OF EASTERN NATIVE TREE SPECIES List, February 2004:

http://www.nativetreesociety.org/bigtree/webpage_tal_1_tree_list.htm

1. Pignut hickory *Carya glabra*
 163.3' c 11' 2.0" N.C. Small cove (private property) near Swannanoa River, near Asheville (161.6' Davis 10/6/03) Davis & Parmenter 1/17/04
 152.6' c 6' 4.0" S.C. Wadkoe Mountain, Andrew Pickens Ranger District, Sumter NF, Pickens Co. J. Riddle 12/7/02
 151.8' c 9' 0.5" S.C. Wadkoe Mountain, Andrew Pickens Ranger District, Sumter NF, Pickens Co. J. Riddle 12/7/02
 149.4' c 10' 10.0" S.C. Alexander Creek, Sumter NF, Oconee Co. J. Riddle 11/15/03
 146.8' c 12' 0" S.C. Alexander Creek, Sumter NF, Oconee Co. J. Riddle 11/15/03

USDA Plants Database:

<http://plants.usda.gov/java/profile?symbol=CARYA>

Don Leopold videos . . .

Mockernut Hickory

<http://www.youtube.com/watch?v=3gWhx-XJy1c>

Bitternut Hickory

<http://www.youtube.com/watch?v=qgEg7XCpSGE>

Pignut Hickory

<http://www.youtube.com/watch?v=OhDZXbaSWvY>

Shagbark Hickory

<http://www.youtube.com/watch?v=Uh1mzMiCreY>

Shellbark Hickory

http://www.youtube.com/watch?v=29tga_zjjao

- Matt Markworth

[Re: American Forest's Measurement Group](#)

by **dbhguru** » Sun Jun 30, 2013 9:56 pm

Ed,

Oops, yes, a height criteria is needed. I was assuming that, just didn't say so. Thirteen feet seems a tad short, but I don't have a better number. But should we also have a stem diameter criteria. And I presume that it is understood that the criteria would be applied to the species as: "capable of achieving the stated dimension". In other words, if a particular species is known to achieve the threshold dimensions somewhere, we declare it a tree. Since I tend to limit myself to the species that everyone accepts as trees, I've not thought about species at the margin. I don't have an example in mind. Maybe someone can come up with one.

Bob

Robert T. Leverett

[Re: American Forest's Measurement Group](#)

by **edfrank** » Sun Jun 30, 2013 10:24 pm

Bob,

I just want to reiterate my opinion that there should NOT be a girth criteria. These values I presented - 4 meters/13 feet are the height demarcation values as defined by the USDA, so what benefit would there be in creating yet another arbitrary height criterion, when we already have a perfectly workable arbitrary height criterion already in widespread use? What would it gain us? Oh and the USDA does not have a girth criterion in their definition.

Ed

[Re: American Forest's Measurement Group](#)

by **tsharp** » Sun Jun 30, 2013 11:01 pm

Bob:

Species at the margin. Blackhaw (*Viburnum prunifolium*). I just saw a field with maybe 50 specimens and not a one over ten feet although they do get taller.

Actually there are a number of species that only occasionally break the threshold of 13 feet/4 meters.
TS

[Re: American Forest's Measurement Group](#)

by **tsharp** » Mon Jul 01, 2013 6:19 am

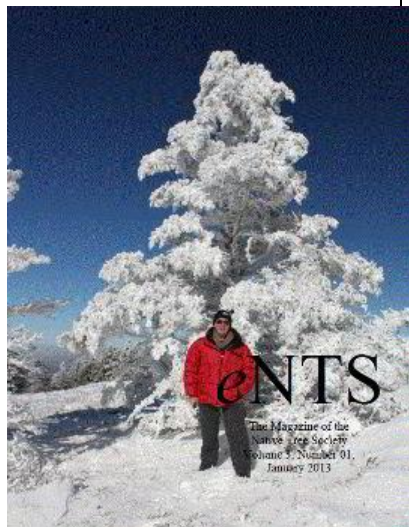
Ed, Bob:

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

Back Issues of eNTS: The Magazine of the Native Tree Society - 2013



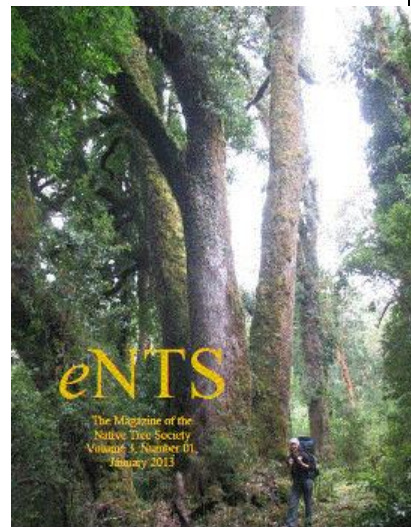
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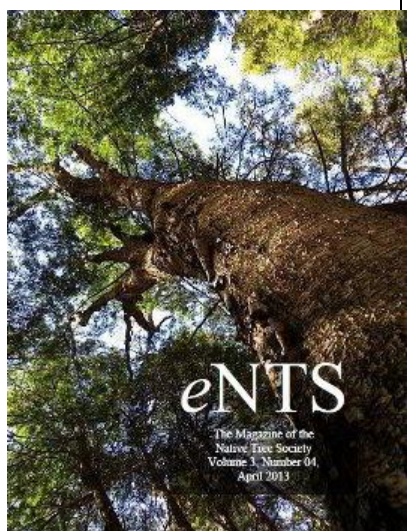
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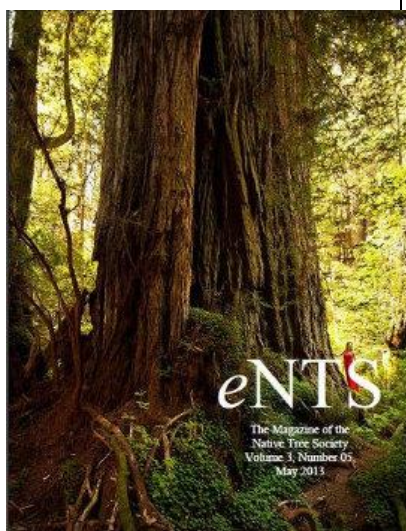
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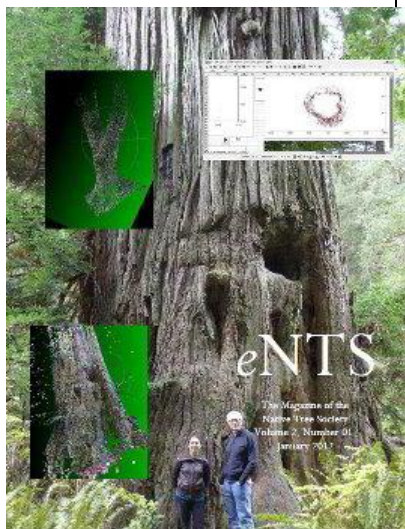
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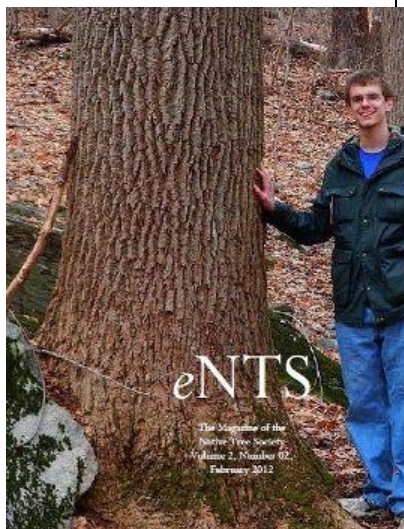


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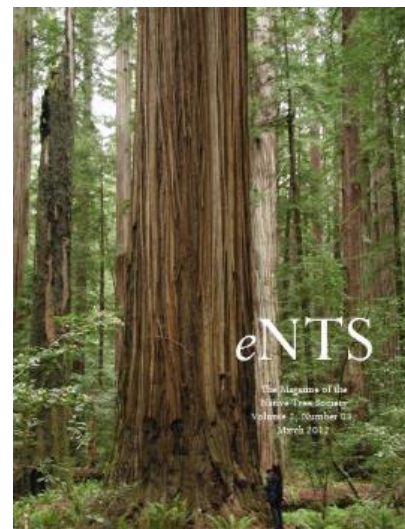
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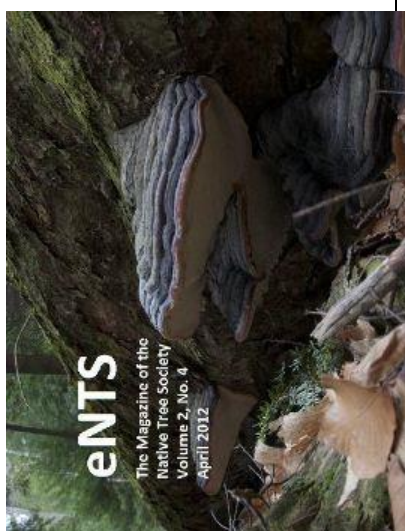
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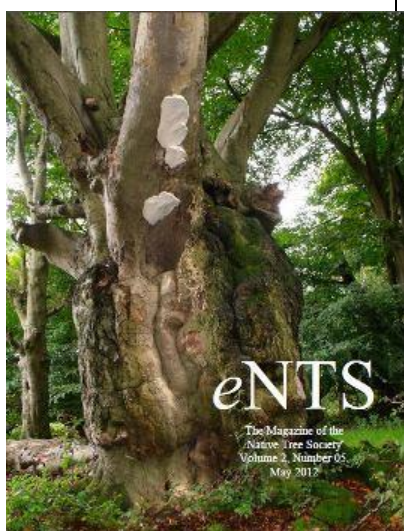
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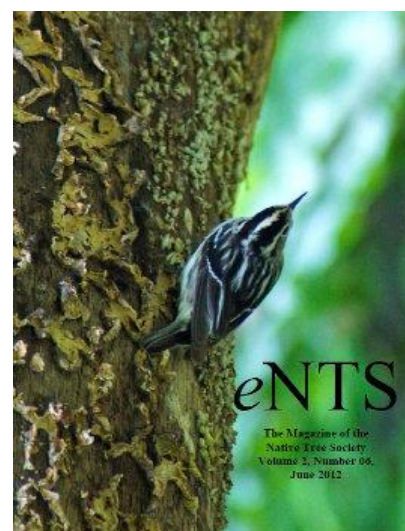
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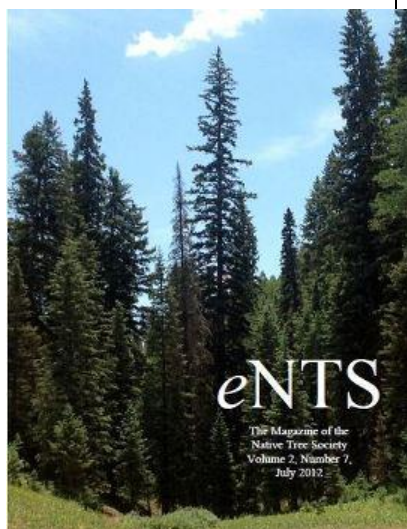
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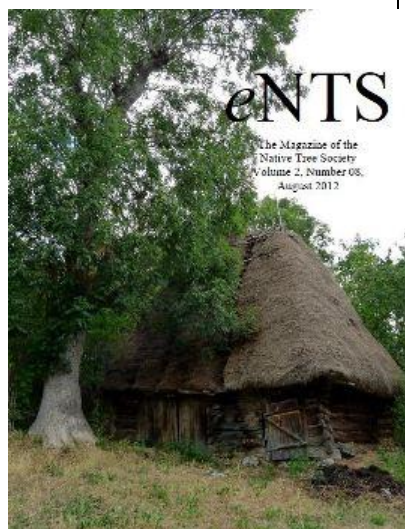
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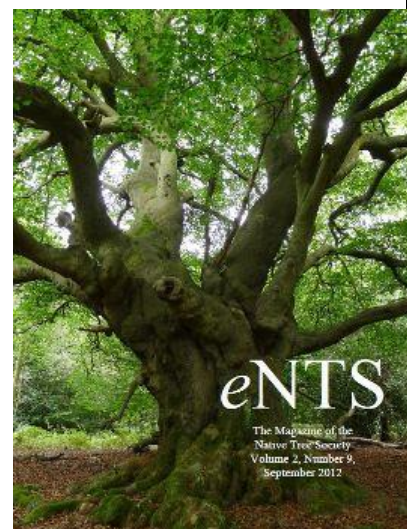
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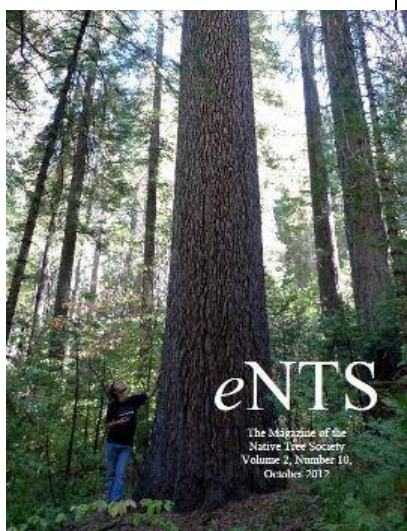
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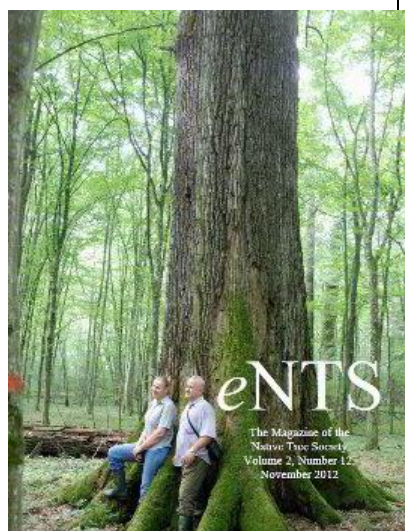
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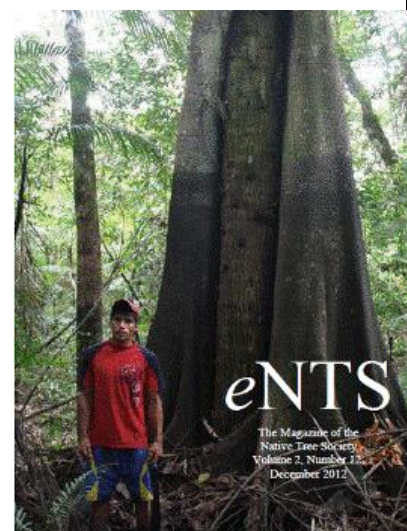
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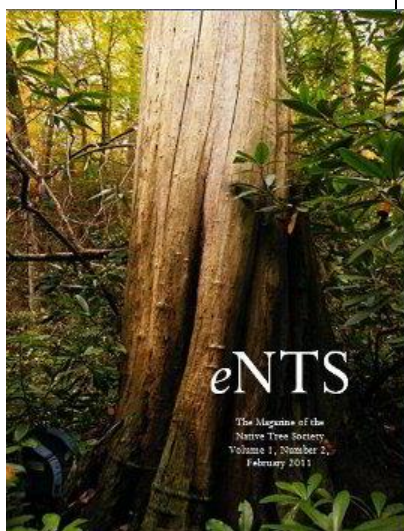


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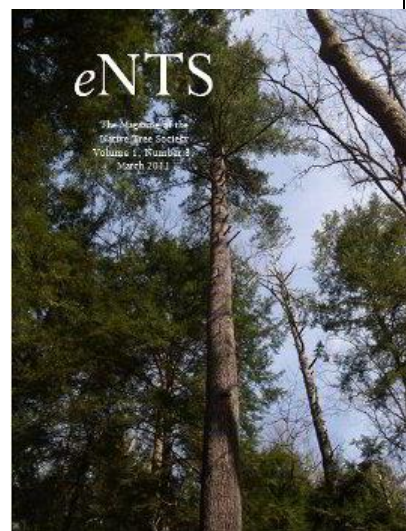
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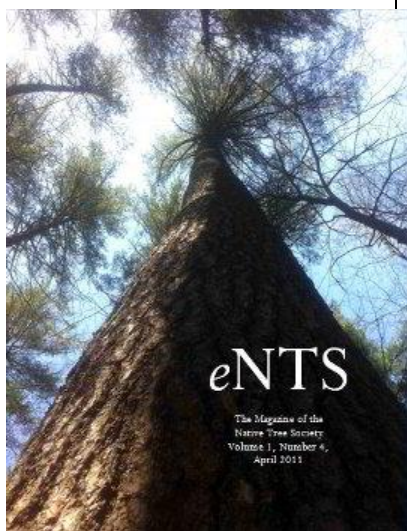
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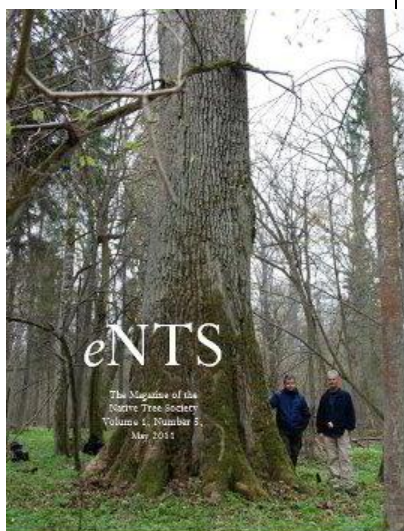
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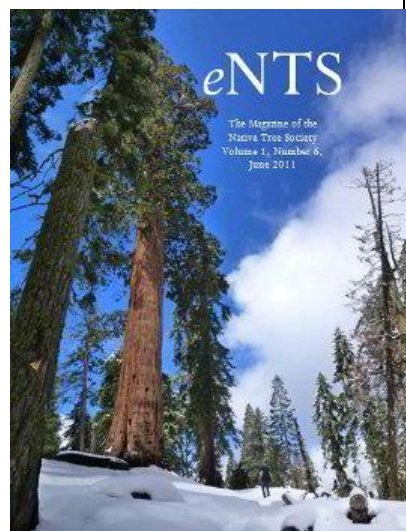
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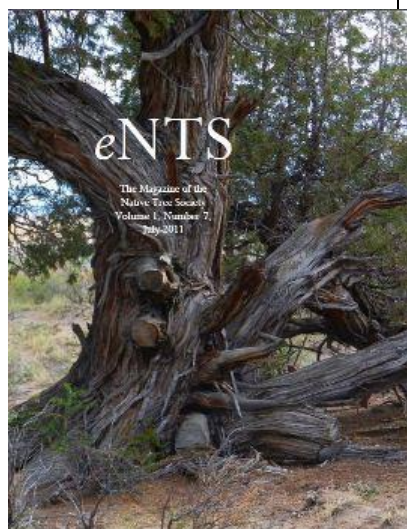
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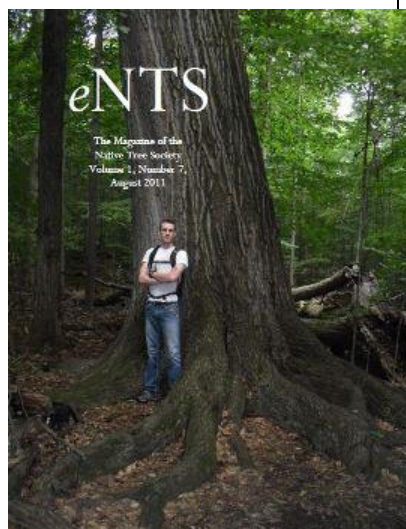
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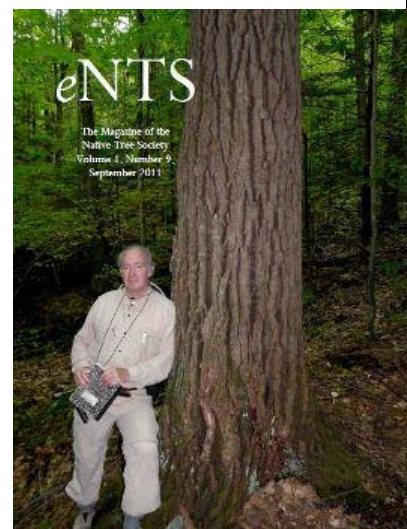
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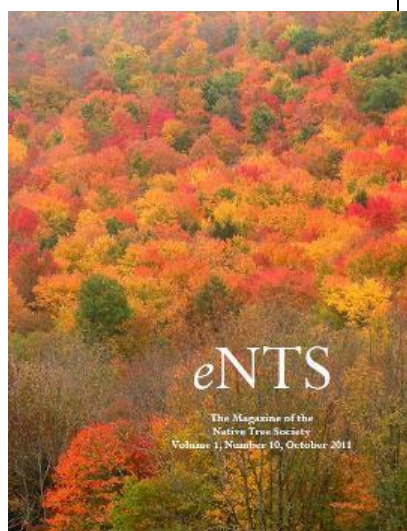
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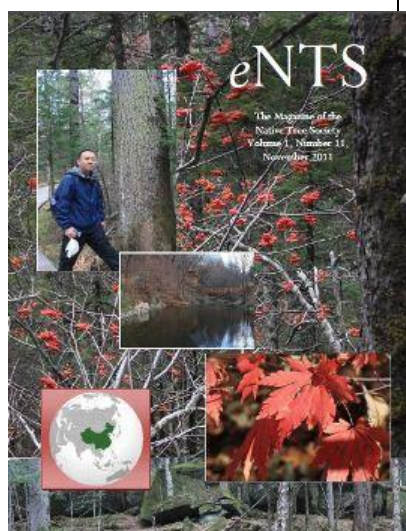
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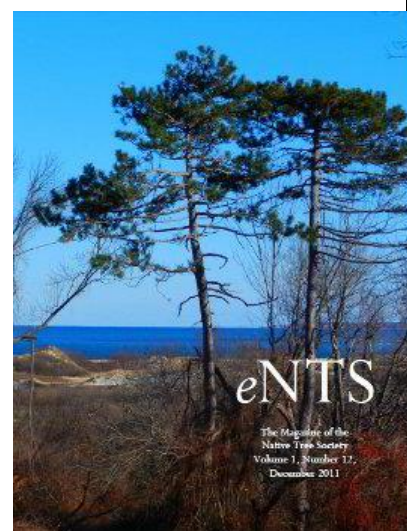
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About: eNTS: The Magazine of the Native Tree Society

This magazine is published monthly and contains material that is compiled from posts made to the NTS BBS. <http://www.ents-bbs.org> 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