

# eNTS

The Magazine of the  
Native Tree Society  
Volume 2, Number 01,  
January 2012







## **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 2, Number 01, January 2012

### **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 parent organization the Eastern Native Tree Society is free and open to anyone with an interest in trees living anywhere in the world.

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*COVER: Drury Redwood, CA and cloud mapping set by Michael W. Taylor, 2012.*

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## TABLE OF CONTENTS

Editor's Corner by Edward Frank	6
Bhutan by Neil Pederson	7
Louisiana Live Oaks Ormond Plantation by Larry Tucei	10
Ormond Live Oak South Louisiana by Larry Tucei	12
Southport CT. tuliptree by Robert Leverett	14
Texas Bur Oaks by Doug Bidlack	14
Re: Oak Opening Project by Doug Bidlack	17
Re: Texas Bur Oaks by Michael Davie	21
Re: Texas Bur Oaks by Steve Galehouse	21
Ecology Live Oak Destrehan Louisiana by Larry Tucei	22
Da Vinci, Math, and Tree Branches by Michael Gatonska	22
Re: Leonardo's Formula Explains Why Trees Don't Splinter by Robert Leverett	22
Re: Leonardo's Formula Explains Why Trees Don't Splinter by Steve Galehouse	23
Georgia Max Height List January 2012 by Eli Dickerson	24
Maryland Trees in Trees Database by Turner Sharp	24
Lagarde Live Oak Luling Louisiana by Larry Tucei	24
Barker's Creek Middle Branch, NC by Brian Beduhn	25
Re: Barker's Creek Middle Branch, NC by Jess Riddle	26
Re: Barker's Creek Middle Branch, NC – Revised Listings by Brian Beduhn	25
Re: Leonardo's Formula Explains Why Trees Don't Splinter by Rand Brown	27
Longleaf Pine-Tree 249-3 by Larry Tucei	27
Crown Area - Spreadsheet for Larry Tucei by Robert Leverett	27
Moss Has Cloned Itself for 50,000 Years by Ed Frank	28
Re: Moss Has Cloned Itself for 50,000 Years by Lee Frelich	28
Spoilcane Creek, GA by Jess Riddle	29
Re: Arboreally Speaking, the Good Old Growth Curve Is a Delusion by Lee Frelich	31
Hatfield Cottonwood, MA by Robert Leverett	32
What qualifies as an Autopoietic Forest? by Gary Beluzo	32
Re: What qualifies as an Autopoietic Forest by Lee Frelich	33
EarthTide <a href="http://earthtide.net/">http://earthtide.net/</a> by Gary Beluzo	33
Middle Fork of Salmon River, ID by Turner Sharp	34
Re: Middle Fork of Salmon River, ID by Turner Sharp	37
Re: Leonardo's Formula Explains Why Trees Don't Splinter by Lee Frelich	38
Re: Arboreally Speaking, the Good Old Growth Curve Is a Delusion by Kouta Räsänen	39
Re: Arboreally Speaking, the Good Old Growth Curve Is a Delusion by Lee Frelich	39
Re: Arboreally Speaking, the Good Old Growth Curve Is a Delusion by Kouta Räsänen	40
Re: Arboreally Speaking, the Good Old Growth Curve Is a Delusion by Lee Frelich	40
Re: Eastern OLDLIST (Cashiers, NC) by Michael Davie	40
Arborists and Recreational Tree Climbers by Ed Frank	41
Re: Arborists and Recreational Tree Climbers by Andrew Joslin	41
Re: Arborists and Recreational Tree Climbers by Bart Bouricius	41
Re: Arborists and Recreational Tree Climbers by Patrick Brandt	42
Re: Arborists and Recreational Tree Climbers by Andrew Joslin	42

Can not ID this tree!! by Jeremy Tausch	44
Re: [Video] Fstoppers: Tree Spirit Project, Nudes In Nature by M. D. Vaden	44
Re: [Video] Fstoppers: Tree Spirit Project, Nudes In Nature by M. D. Vaden	45
Re: [Video] Fstoppers: Tree Spirit Project, Nudes In Nature by M. D. Vaden	46
Old Deerfield Elm, MA by Robert Leverett	47
Next Trail Guide for MTSF by Robert Leverett	48
King Creek, NC by Jess Riddle	49
Re: Bhutan by Neil Pederson	51
Dunwoody Nature Center, GA by samson'sseed	55
Re: NPR-Radio Times -1 Million New Trees in Philadelphia by Neil Pederson	55
Donner Summit, CA by Elijah Whitcomb	56
Re: 3D surface modeling of a giant redwood trunk by M.W.Taylor	57
Re: 3D surface modeling of a giant redwood trunk by M.W.Taylor	60
Re: Tree Haiku by Karl Cronin	61
Re: Tree Haiku by Steve Galehouse	61
Metal Sculpture Gate by Don Bertollette	61
First winter storm of the season today... by Steve Galehouse	61
Oak ID help - Atlanta, GA by Eli Dickerson	62
Re: Is This A Red Hickory? by Doug Bidlack	64
Outdoor Activity Center forest, Atlanta by Eli Dickerson	66
Cook Forest, PA Tree Measuring Workshop April 18-19	67
Re: Cook Forest April 18-19 by Ed Frank	68
North Georgia beech and arboglyphs by Brent Bergherm	68
Atlanta GA Area Georgia Beech Arboglyphs by Eli Dickerson	69
Re: North Georgia beech and arboglyphs by Brent Bergherm	70
Belle Isle, Michigan by Doug Bidlack	70
Re: Belle Isle, Michigan by Doug Bidlack	74
Warm winter in Minnesota by Lee Frelich	75
Re: Warm winter in Minnesota by Lee Frelich	75
Re: Warm winter in Minnesota by Lee Frelich	75
Local Vegetative Degradation of the Canadian Shield by Don Bertollette	76
Re: Local Vegetative Degradation of the Canadian Shield by Steve Galehouse	81
Bear Creek Trail, Gannett Poplar and a nice hemlock! by Eli Dickerson	82
Sand Branch, GA by Jess Riddle	85
Neola White Pine botanical area, WV by Turner Sharp	87
Re: Tree Haiku by Jenny Dudley	88
Re: Tree Haiku by Jenny Dudley	88
Devil's Den Preserve, Redding, CT by Andrew Joslin	88
Historic tree "The Senator" catches fire and collapses	89
Re: Historic tree "The Senator" catches fire and collapses	89
Re: Historic tree "The Senator" catches fire and collapses by Larry Tucei	89
Re: Historic tree "The Senator" catches fire and collapses by Will Blozan	91
Re: Historic tree "The Senator" catches fire and collapses by aniftychic	91
Re: 3D surface modeling of a giant redwood trunk by M.W.Taylor	92
Re: 3D surface modeling of a giant redwood trunk by M.W.Taylor	92
Re: 3D surface modeling of a giant redwood trunk by Matt Smillie	94

Tyler State Park, PA by George Fieo	94
Re: Tyler State Park, Pa. by George Fieo	97
Cookie Extractor by M.W.Taylor	97
Can anyone recommend a book on woodland eco-restoration? by Chuck White	98
Re: World Rucker Index by Ed Frank	99
NTS RHI Dashboard by Robert Leverett	100
Re: 3D surface modeling of a giant redwood trunk by M.W.Taylor	101
Picayune Oak, MS by Larry Tucei	103
New Member – Maria Mihok	103
Re: Leonardo's Formula Explains Why Trees Don't Splinter by Michael Gatonska	103
Mount Tom State Reservation by Robert Leverett	104
Re: Mount Tom State Reservation by Robert Leverett	104
Three Bryant Images, MA by Robert Leverett	105
Re: NJ Forest Harvest Issue by Larry Baum	106
Re: Small Sugar Maple rich NJ forest patch by Larry Baum	106
North American Tree sin Europe - Questions for Kouta... by Kouta Räsänen	107
Free public lecture by Canopy Meg 4/14/2012 by Patrick Brandt	108
Sine method paper just released as a USFS research note by DonCBragg	108
European Tree Quiz by Kouta Räsänen	109
Smedley Park, Delaware Co., PA by George Fieo	109
Re: 3D surface modeling of a giant redwood trunk by M.W.Taylor	116
Re: European Tree Quiz - Answers	117
European Tree Quiz – Set #2 by Steve Galehouse	117
Viet Nam by James Robert Smith	120
Herbert Taylor/Daniel Johnson Nature Preserve, Atlanta, GA by Eli Dickerson	120
Hemlock crown sampling for UT study, GSMNP by Will Blozan	128
Re: European Tree Quiz – Set #2 - Answers	133
"Oxbow" at Emory University, Atlanta, GA by Eli Dickerson	133
Re: Smedley Park, Delaware Co., PA by George Fieo	137
In This State: Charlie Cogbill indeed sees ...	137
Re: In This State: Charlie Cogbill indeed sees ... by Don Bertollette	138
Re: 3D surface modeling of a giant redwood trunk by Matt Smillie	138
Number 118, MTSF, MA by Robert Leverett	139
Re: Atlanta city Rucker Height Index - January 2012 by Eli Dickerson	141
Devil's Den Preserve, Redding, CT by Andrew Joslin	141
Re: Devil's Den Preserve, Redding, CT by Sam Goodwin	142
Re: Devil's Den Preserve, Redding, CT by Andrew Joslin	142
External Links:	143
About: eNTS: The Magazine of the Native Tree Society	145

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## Editor's Corner

By Edward Frank

Webmaster , BBS Administrator,  
eNTS Magazine Editor-in-Chief  
[edfrank@nativetreesociety.org](mailto:edfrank@nativetreesociety.org)

Welcome to the January issue of the eNTS Magazine. Members have contributed reports on a wide variety of subjects and trip reports from around the world. The issue starts off with a two part report on exploration in the isolated nation of Bhutan. There are reports on the flora of the Canadian Shield. We have numerous reports from around the United States from the Live Oaks of the Gulf Coast, to the redwoods of California, to the trees of Atlanta, to forests of Pennsylvania and New England, and many points in between.



Another focus of this issue is to highlight the work being done by Michael Taylor experimenting with “cloud mapping” the trunks of several giant redwoods in the western US. Images of some of these cloud maps are presented on the cover of this issue.

A tree measuring workshop has been officially scheduled to be held at Cook Forest State Park, PA on April 18-19 and will involve some ongoing research with Laser Technologies, Inc. including an

equipment demonstration with hopefully a glimpse at what is in the planning stages. LTI is the Cadillac of the infrared laser products industry. They make the Impulse 200LR laser, the TruPulse series, RD1000, etc. Forestry is a prime market for their equipment.

A sad note for this month is the demise of the Senator Cypress in Florida as result of a fire. The tree was the largest bald cypress documented in the country and had been the subject of previous reports by members of ENTs.



Will Blozan reports on hemlock crown research being done by his company for the University of Tennessee by his company, Appalachian Arborists, in Great Smoky Mountains National Park. Don Bragg and others published an important report on the NTS Sine Method for measuring tree heights as a USFS Research Note SRS22 [http://treearch.fs.fed.us/pubs/39981\\_dated December 2011](http://treearch.fs.fed.us/pubs/39981_dated_December_2011). With the first month of 2012 already passed we can continue to look forward to more great things from the NTS in the coming months.

Edward Forrest Frank



## Bhutan

by Neil » Sun Jan 01, 2012 10:55 am

Dear NTS,

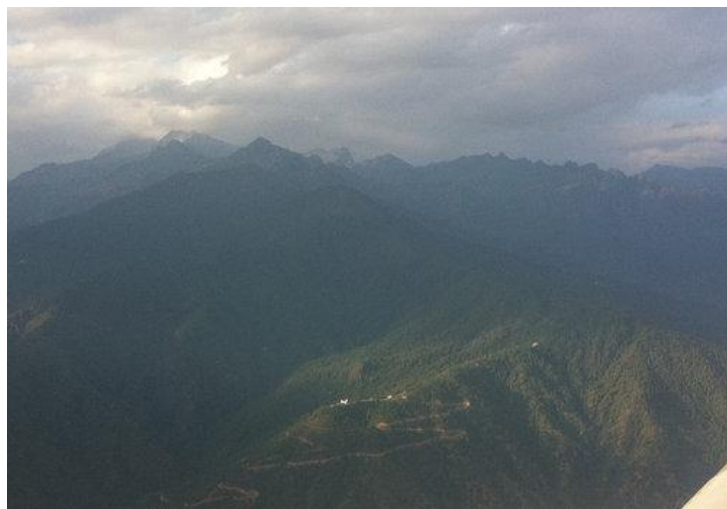
Happy New Yr - I wish you all a tree-filled 2012; I know that will be fulfilled.

I also want to take you through my trip to Bhutan in October 2011. The discussion on the big *Ostrya* in the tropics triggered this series of postings. Wait until you see the *Symplocos* from southern Bhutan! I will start this series with the travel into Bhutan. It is a long, exciting trip. I started my journey from the city of Shenyang in northeast China. Despite starting on that side of the world, it still took a bit over 9 hours of flying from Shenyang to Paro, Bhutan: Shenyang -> Shanghai --> Bangkok, Thailand --> Paro. Of course, the most exciting portion was on the last leg into Bhutan. As Bhutan is still a hard to reach, but often dreamed of destination, my fellow passengers acted like I recall my first plane ride - total giddiness! Cliched, but the excitement was truly palpable.

The only way they allow planes to fly into Paro during daylight hours and visual meteorological conditions [http://en.wikipedia.org/wiki/Paro\\_Airport](http://en.wikipedia.org/wiki/Paro_Airport). Unfortunately for us, it was cloudy at our cruising height, so it was hard to get an overview of the Himalayas.



Peaks of the Himalayas emerging from the clouds.



As we started our descent, of course, we could see into the Kingdom of Bhutan.



Our final approach included a sharp bend into the narrow valley holding the landing strip (a strip that is from two directions depending on the direction of the wind), a short hop over one final ridge line into the valley, nearly clipping houses and Buddhist structures and then a final hard turn to the left just before touching down.

Want to get a sense of what it is like to land at Paro? Check out this clip:

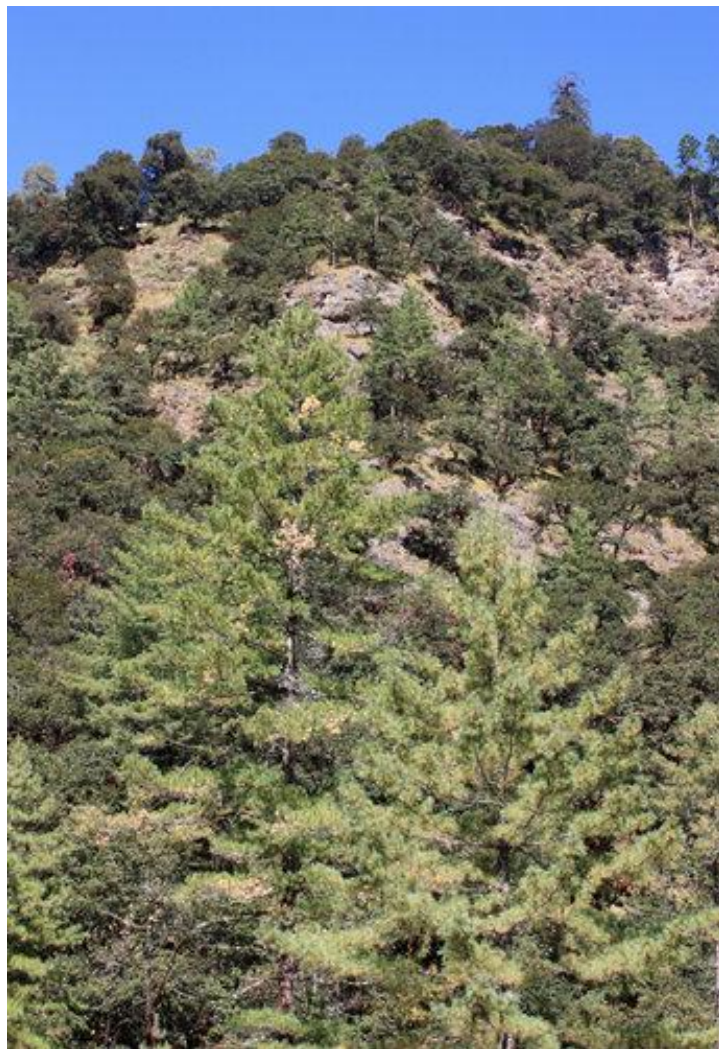
<http://www.youtube.com/embed/nlKApjc9T2U>



Obviously we made it. But, this view shows how closed in the valley is.

The drive from Paro to Thimphu, Bhutan's capital, is a little over 50 km, but roughly an hour to drive. I do not generally get car sick, but Bhutan's roads are a real test: <http://g.co/maps/vh8e9>

We were delayed coming from Bangkok, so our trip to Thimphu was a race against the setting sun. I did get some glimpses of the two main pine in Bhutan, blue pine and chir pine. The pictures below are from other days and other parts of the trip. First, blue pine.



Like the Korean pine of northeast China, I was blown away by blue pine's resemblance to eastern white



pine [or, likely more correct evolutionarily-speaking, vice-versa]. See how the fluffiness of the blue pine's crown resembles other white pines? For some reason, I didn't purposefully take more pictures of blue pine. I was obsessed with seeing the broadleaf species. I did get some other trees in the background of other pictures. The best one is above.



Chir pine bark

Most of the blue pine we saw were young and seeding in following fire. They apparently planted thousands of blue pine outside of microsite requirements along the road from Paro to Thimphu. During some severe autumn droughts over the last 10 years the blue pine have been dying back. A Bhutanese scientist has connected severe autumn drought to the dieback of blue pine.

What captured most of my attention on the drive in, however, were the chir pine.



Chir pine twig



The stout branches of chir pine





needle arrangement of Chir pine



If there were not steep ridgelines in the background, I would have thought I was in the southeastern US [ignoring the cool, dryish October air].

Next stop: Dochula.

Neil Pederson

## Louisiana Live Oaks Ormond Plantation

by **Larry Tucei** » Sun Jan 01, 2012 9:37 pm

NTS, On Sunday Dec 31 after I left the St Charles Borromeo Church in Destrehan La. and I continued west on River rd to Ormond Plantation built in the late 1700's. Ormond was closed but I called the day before and had permission to enter the 16 acre property. The property has several Live Oak trees and I measured the three largest. The first tree grows behind the old place in the courtyard. The Oak is hollow and showed signs of a fire perhaps from a lightning strike. Several large limbs on the tree were also missing. A short Oak for its age with a small spread due to the limb loss and fire. The Oak measured Cir at 2' from ground- 20', Height-42' and Spread-90' x 75'. I measured under a buttress from a more accurate measurement. The second Oak in the very back of the property was a little larger and measured CBH-21'2", Height-54' and Spread-94.5' x 93'. The third and final tree I measured is growing in the front right beside the fence on River rd. This tree had a smaller Cir but is taller and had a greater spread than the others. It measured CBH-19' 5", Height-57' and Spread-120' x 100'. One of these Oaks is named the Trepagnier the other two I'm not sure. I will contact the Plantation and make sure I get the names correct.

<http://www.plantation.com/history.html> To be continued. Larry



Oak 1





Oak 1



Oak 2





Oak 3



Ormand House

Larry Tucie

## Ormond Live Oak South Louisiana

by **Larry Tucie** » Sun Jan 01, 2012 11:22 pm

NTS, The next Live Oak I measured on Dec 31 is growing in the middle of a roadway at the entrance to Ormond Estates Subdivision in Destrehan La. Great care was taken when the roadway was constructed to make sure this tree had lots of room. Thanks to the Ormond Garden Club and all who provided such care for this great tree. Once on the property of Ormond Plantation the Ormond Oak is located about a mile west of the Plantation House. The Oak is a really big tree with a fabulous crown spreading out in every direction with lots of limbs on the ground.

The tree has been slightly pruned on the east and western sides due to the roadway. The tree measured CBH-22' 4", Height-54' and Spread-131.5' x 105'. Of the 8 trees I measured on this trip I enjoyed this beauty the most. I couldn't get the full crown in the photos due to private property and the but I was right up to the fence. The Ormond Oak is number 737 on the Louisiana Live Oak Society listing. To be continued



Larry Tucie







## Southport Ct. tuliptree

by dbhguru » Sun Jan 01, 2012 10:15 pm

NTS, Today Monica and I visited relatives in Southport Ct. I used the opportunity to check up on the big tuliptree growing on the grounds of the library. It is a big tree. Its girth is 16.5 feet, height is 119.5 feet, and its crown spread averages 90 feet. Here are some images.



Robert T. Leverett

## Texas Bur Oaks

by DougBidlack » Mon Jan 02, 2012 12:19 am

*mikekowalski wrote: I've always been fascinated by Quercus macrocarpa: <http://esp.cr.usgs.gov/data/atlas/little/quermacr.pdf> I'm from an area around the extreme northern limit of the species in New Brunswick - the lower St. John river valley, on the shores of the largest lake in the province. There's some space between the small area where it's present in New Brunswick and the closest region in Maine. I believe the relatively warm microclimate of the lower river valley presents the conditions it needs. I love finding them in unexpected places in the northern parts of the Grand Lake watershed. It would be cool to see some as far south as Texas!*

Mike,  
I was in Texas in November of 2010 collecting acorns from bur oaks with my wife. Here are some pictures for you.

The first five pictures are all from a campground at the southeastern end of Benbrook Lake which lies just to the southwest of Fort Worth. Some leaves and acorns.





An average sized tree in the campground.



Yet more leaves of another tree. I just love how different the leaves of each individual look!



More leaves of a different tree. Quite attractive foliage.



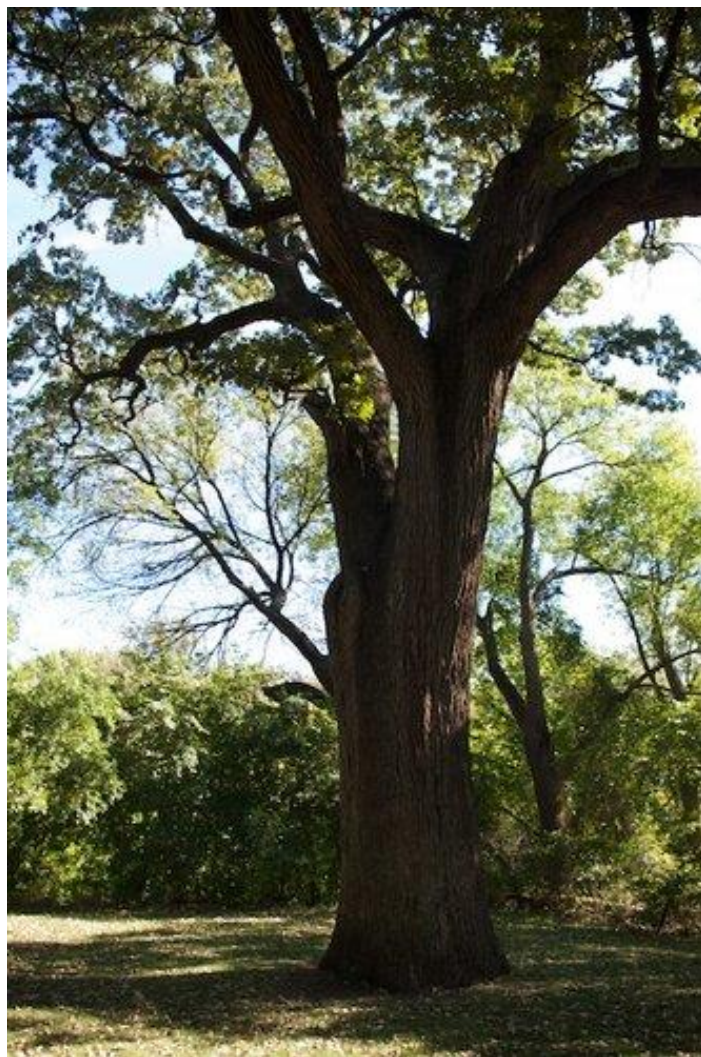
This was probably the nicest tree at this campground. The bur oak is the largest, leaning tree on the left of the picture.





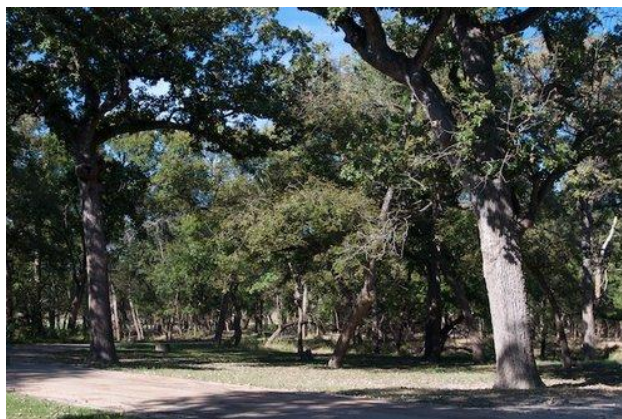
The current Texas champion bur oak based on AF points is located in a park just to the northeast of Benbrook Lake. It was measured in 2006 at 218" in girth x 81' in height x 105' in average crown spread for 325 points. I think we found this tree and my quick measurements were 18.70' (224.4") in girth x 73.5' in height (shooting straight up) x 87' in crown spread for 320 points. The height is probably a bit taller and I think I only made a single measurement of crown spread so this measurement is very inadequate...however I do not buy the 105' average crown spread.

The following four pictures are of this very nice bur oak. The first is a close-up with my wife, Ellen.



The last picture that I have is from Mother Neff State Park that is southwest of Waco and northeast of Fort Hood. There are two nice-sized bur oaks in this picture.





Hope you enjoy the pictures!

Doug Bidlack

## [Re: Oak Opening Project](#)

by **DougBidlack** » Mon Jan 02, 2012 2:03 am

NTS, here are some more measurements on the growth of the white oaks and swamp white oaks that I planted.

**WHITE OAKS** (18 sources, eventually 17 trees)

### **Two years of growth**

Dardanelle, Arkansas  
Cave City, Kentucky  
Milford, Michigan  
Gladstone, Missouri  
Wyalusing, Wisconsin

### **Three years of growth**

Springfield, Illinois  
Nerstrand, Minnesota  
Mt. Nebo, West Virginia

### **Four years of growth**

Pittston, Maine  
Chatham Center, New York  
Canfield, Ohio  
Oconomowoc, Wisconsin

### **Five years of growth**

West Hartford, Connecticut

McNabb, Illinois

### **Six years of growth**

Seymour, Indiana  
Cream Ridge, New Jersey  
McClellandtown, Pennsylvania

### **12 years of growth**

Macoupin County, Illinois

Average and maximum heights after x number of years follows.

### **One year**

4.28"  
9"

### **Two years**

6.78"  
13"

### **Three years**

8.77"  
18"

### **Four years**

13.00"  
27"

### **Five years**

21.00"  
45"

### **Six years**

34.75"  
59"

Only one tree has been growing for more than six years so I stopped here. All of the maximums were set by the Seymour, Indiana trees.

I planted a few more white oaks last fall so they have yet to have any growing seasons. They are from southwestern Michigan, southern Ontario, Nashville, TN, Portland, ME and Metropolis, IL. In the future I might still like to plant some acorns from the clone of the former National Champion at Wye Mills, Maryland.

Here are some pictures of the Macoupin County,  
Illinois tree.

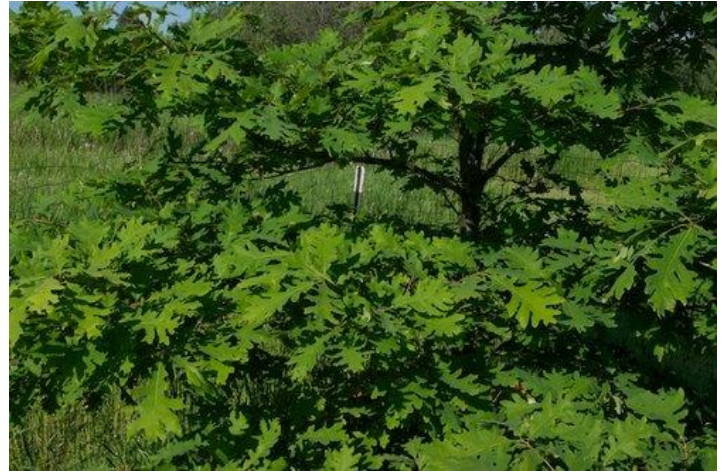
Full tree.



Close-up of leaves early in the season.



Not quite as close.



Close-up of leaves late in the season.





Even closer.



**SWAMP WHITE OAKS** (14 sources)

**One year of growth**

Milford, Michigan

**Two years of growth**

Conesville, Iowa  
Westphalia, Michigan  
Wurtsboro, New York  
Clarksville, Ohio  
Blue River, Wisconsin

**Three years of growth**

Knob Noster, Missouri

**Five years of growth**

Shelbyville, Indiana  
Boston, Kentucky  
Blanchard, Pennsylvania

**Seven years of growth**

East Granby, Connecticut

**Eight years of growth**

Carterville, Illinois

**Nine years of growth**

Taunton, Massachusetts

**Eleven years of growth**

Illinois (exact location unknown)

Average and maximum heights after x number of years follows.

**One year**

8.07"

13" Knob Noster, MO

**Two years**

12.54"

24" Knob Noster, MO

**Three years**

21.50"

35" Knob Noster, MO

**Four years**

32.43"

45" Illinois (unknown town)

**Five years**

47.71"

64" Illinois (unknown town)

**Six years**

56.75"

83" Illinois (unknown town)

**Seven years**

78.25"

108" Carterville, Illinois

Only three trees have been growing for more than seven years so I stopped here.

Some pictures of swamp white oaks. All of these are from the Illinois tree that lacks precise provenance data...somewhere in the center of the state is all I know.

Almost full tree early in the season.



Close-up of leaves.



Not quite as close.



Full tree later in the season. Lots of dogbane all around the tree.



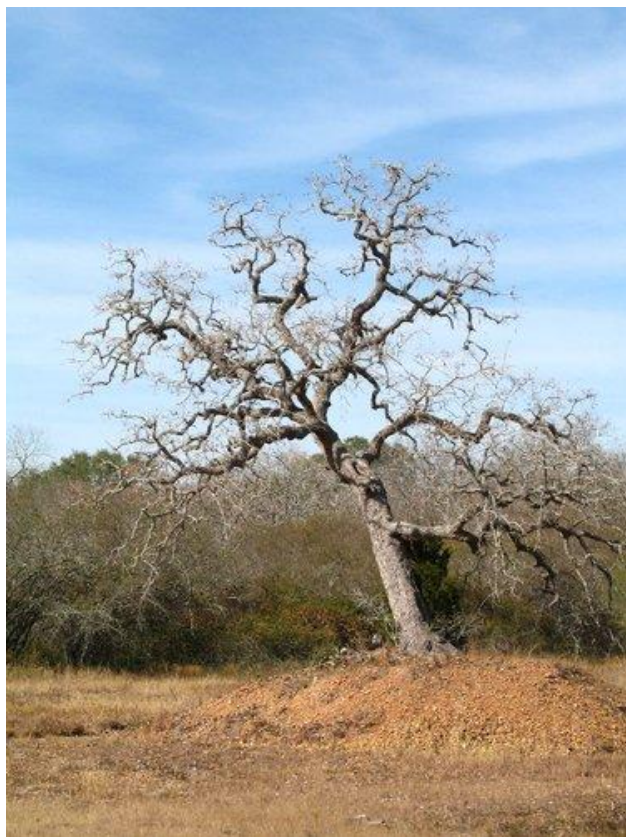
Doug Bidlack



## Re: Texas Bur Oaks

by **mdavie** » Mon Jan 02, 2012 11:54 am

Here's a typical bur oak from Texas hill country, somewhat near Austin. I think I've posted some other bur oak photos before.



Michael Davie

## Re: Texas Bur Oaks

by **Steve Galehouse** » Tue Jan 03, 2012 3:38 pm

Those Texas trees are really neat, with all that cragginess in the branching. It looks like these woods in Texas would be considered a "savannah", right? In N Ohio open grown park trees of the species resemble the ones from Texas, but forest grown trees in a moist environment have an entirely different look. Here are a couple of pics of a bur oak in a floodplain forest, 119.5' x 10' 4".



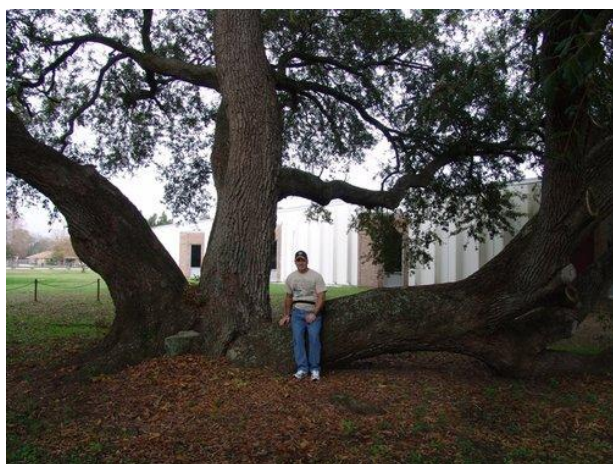
Steve Galehouse



## [Ecology Live Oak Destrehan Louisiana](#)

by **Larry Tucei** » Tue Jan 03, 2012 9:05 pm

NTS, The seventh Live Oak I measured on my recent trip to south Louisiana named the Ecology Oak is growing at the Destrehan High School. Although the tree won't be added to the Live Oak Project Listing I still thought it was impressive. The Oak is a triple trunked tree with the trunks measuring, CBH-13' 6", 12' 9" and 9' 5". The trees height was 57' and the spread was 12' x 100'. The oak is a really cool tree with one trunk growing along the ground like almost crawling. A storm in the past most likely shoved the trunk over when it was young and it grew in this unusual form. This Live Oak is 100-150 years young.



Larry Tucei

## [Da Vinci, Math, and Tree Branches](#)

by **michael gatonska** » Tue Jan 03, 2012 7:48 pm

Apparently, Leonardo DaVinci noted that when trees branch, smaller branches have a precise, mathematical relationship to the branch they sprang from. I thought this was interesting, and so I wanted to share:

<http://www.npr.org/2011/12/26/144127874/the-wisdom-of-trees-leonardo-da-vinci-knew-it?sc=emaf>

Michael Gatonska

## [Re: Leonardo's Formula Explains Why Trees Don't Splinter](#)

by **dbhguru** » Tue Jan 03, 2012 8:52 pm

Ed, Michael,

Great discovery! The sum of the limb/branch cross-sectional areas equaling the trunk area translates to the result shown through algebraic simplification as follows.

$$\pi \left( \frac{D^2}{4} \right) = \pi \left( \frac{D_1^2}{4} + \frac{D_2^2}{4} + \frac{D_3^2}{4} \right)$$

$$\left( \frac{D^2}{4} \right) = \left( \frac{D_1^2}{4} + \frac{D_2^2}{4} + \frac{D_3^2}{4} \right)$$

$$(D^2) = (D_1^2 + D_2^2 + D_3^2)$$

Robert T. Leverett



## Re: Leonardo's Formula Explains Why Trees Don't Splinter

by **Steve Galehouse** » Tue Jan 03, 2012 9:02 pm

Ed, Michael, Bob- I have an online friend (we share the interest of fishing on the Canadian Shield) who is a physicist and retired physics professor. I asked him to give a challenging exercise to my middle son David, who is a physics/math major at Rensselaer. Wojtek knows about my interest in trees, and this is what he came up with:

*Oh, c'mon. He is more advanced than I am now. Of course, I've been a star prof but this was a quarter century ago.*

*The true problems, even the simple ones, take years to solve. Even if he is very advanced the problems he is solving now are just the standard student's exercises. Or some partial solutions for a group effort.*

=====

*OK, give him a following problem - growing a tree Modelling a growth of a digital tree. ©® wm.*

*You have a growing number of finite elements called cells, say. You need photons from the sun, moving relatively around your tree. You have nutrients in a solution being transported by osmosis. You have the gravity given by God. You have some CO<sub>2</sub> concentration delivered by diffusion from the air. Let him adjust the parameters in such way, that the tree will look like a real tree and will grow - more - or less vertically. (this a hint, hint) Add some randomness too it - say a Deus ex machina damage to some leafs and branches. (Call it a worm parameter).*

*You see - the startup point for this job is that even the best painters couldn't really paint a tree. We also know that nobody wrote a poem better than a tree. Impressionists were the first ones who got a glimpse of a real tree - because they were the first ones really painting outdoors. Impressionists were able to paint an impression of a tree, though, not the real thing.*

*Generating a three dimensional image of a really beautiful tree is the serious job for a physicist. Assuming he is going to spend four months on the project he needs to figure out the basic physics of a tree and simplify it immensely. This is called the modelling. (Whatever Monte Carlo method or any other method at hand he is going to use is less important).*

*He should start his project with the museums on Google. If he only checks painters spanning the 500 years, from Giotto to Monet, he will get hooked up, if he has the guts of a true scientist, because after a week of studying the paintings he will see how those geniuses, including the Leonardo, couldn't paint a bleeping tree!*

*If he is any good, he can "grow" the tree. Just the smallest seedling, a few thousands of cells. He must forget the Fibonacci, the fractals, etc, the commonly known rules of branching. All those laws ARE SECONDARY and come from the parameters of diffusion, from the osmotic forces and from the geometrical optics (the illumination part). If he catches what is primary and what is secondary, what is the causality of "branching laws" - only then he will grow the digital tree. I am afraid, however, that his adviser will tell him about the Fibonacci, and the e and Pi numbers, about the golden ratio, and how trivial it is. It is bloody not. He needs advisers from the biophysics and from the art school at the same time. I am not sure if the Rensselaer is the true university, though, whatever is the fame. If he is any good he must be able to grow a computer tree, isn't he? It is a good test, eh? You can simplify it as much as you want.*

*There are "physics engines" to be used in such modelling and the final result will have an instant commercial value for the film and computer game industry. Probably they do grow the digital trees already. I think the problem is real, though. Those guys will always cheat with simple fractals (plus added randomness) and those trees look like a shit.*

*You see, I belong to the XIX century.  
He can take it to his adviser. Copyright is mine.*

wm



*PS. By the way - did you notice how the high resolution picture of a branch, naked or full of leaves, whatever, looks crappy when fully magnified? This crappiness is the physics, too. If a low resolution pic makes your wrinkles diffused it is not the same as the very camera distorts the image of a branch on a background of the sky. The image of our face still resembles the same ugly face but the branch does not look like the same branch, somehow.*

W

I think this applies to the theme of this thread.

Steve Galehouse

## Georgia Max Height List January 2012

by **eliahd24** » Tue Jan 03, 2012 4:32 pm

I've updated the Georgia Max Height List and have attached it here. There are now 29 species over the 130' threshold.



[ENTS submission Jan 2012.pdf](#)

Species	Height	Subsite	Measurer	Date
<i>Pinus strobus</i>	184.8	Cliff Creek	W. Blozan	01/07/11
<i>Liriodendron tulipifera</i>	169.1	Williamson Cove		
<i>Tsuga canadensis</i>	162.3	Ammons Creek Falls	W. Blozan	02/01/06
<i>Quercus pagoda</i>	149.9	Rock Creek	J. Riddle	
<i>Carya glabra</i>	149.3	Cliff Creek	J. Riddle, W. Blozan	01/07/11
<i>Liquidambar styraciflua</i>	145.9	Cedar Creek	J. Riddle	07/10/10
<i>Quercus phellos</i>	144.9	Ocmulgee Flats	J. Riddle, D. Riddle	12/26/05
<i>Carya ovalis</i>	144.7	Stroud Creek	J. Riddle	12/17/02
<i>Aesculus flava</i>	144.0	Ramp Cove	J. Riddle	12/17/02
<i>Pinus rigida</i>	142.3	Warwoman Road	J. Riddle, W. Blozan	01/07/11
<b>Georgia Rucker Index = 153.7</b>				
<i>Quercus rubra</i>	142.3	Panther Creek	J. Riddle, D. Riddle	12/31/11
<i>Pinus taeda</i>	142.2	Fernbank Forest	E. Dickerson	02/19/10
<i>Quercus alba</i>	141.9	Fernbank Forest	E. Dickerson/J. Riddle	01/10/10
<i>Platanus occidentalis</i>	141.0	Andrews Cove	J. Riddle	
<i>Robinia pseudoacacia</i>	141.0	Milksick Cove	J. Riddle	
<i>Fraxinus americana</i> var. <i>americana</i>	139.7	Flat Top Mountain Cove		
<i>Prunus serotina</i>	139.2	South Fork Jack's River	J. Riddle	
<i>Pinus echinata</i>	138.7	Warwoman Road	J. Riddle, W. Blozan	01/07/11
<i>Fraxinus americana</i> var. <i>biltmoreana</i>	138.3	Panther Creek	J. Riddle	12/30/11
<i>Tilia heterophylla</i>	137.2	Flat Top Mountain Cove	J. Riddle	
<b>Georgia R20 index = 146.9</b>				
<i>Carya alba</i>	136.7	Glade Fern Ravine	J. Riddle	
<i>Quercus shumardii</i>	136.2	Ocmulgee Flats	J. Riddle	
<i>Populus deltoides</i>	135.3	Murder Creek RNA	J. Riddle	
<i>Carya cordiformis</i>	133.1	Ocmulgee Flats	J. Riddle	12/26/05
<i>Quercus coccinea</i>	133.1	Emory University	E. Dickerson	03/31/11
<i>Ulmus americana</i>	133.0	Panther Creek	J. Riddle	03/06/05
<i>Fraxinus americana</i>	131.6	471 Collier Drive, city park	Dickerson/Riddle	
<i>Fagus grandifolia</i>	131.1	Panther Creek	J. Riddle, D. Riddle	12/30/11
<i>Juglans nigra</i>	130.7	Panther Creek	J. Riddle	03/06/05
<i>Magnolia acuminata</i>	129.1	Rough Creek	J. Riddle	07/21/09
<i>Carya aquatica</i>	128.1	Ocmulgee Flats	J. Riddle	
<i>Quercus falcata</i>	127.5	Fernbank Forest	E. Dickerson	04/06/11
<i>Quercus velutina</i>	127.4	Glade Fern Ravine		

The tallest 33 species in Georgia

Eli Dickerson

## Maryland Trees in Trees Database

by **tsharp** » Mon Jan 02, 2012 8:58 pm

NTS: I just recently entered the data from accumulated trip reports about Maryland Trees into the database that Mitch Galehouse is developing. It did not take as long as I thought. That makes three states with a pretty good accumulation of tree info in the database. There should be a lot more. I encourage NTS people with data filed away to take some inclement weather days this winter to enter what you can. This little project also gave me a chance to reread the reports that Colby Rucker posted. That was worthwhile.

Turner Sharp

## Lagarde Live Oak Luling Louisiana

by **Larry Tucei** » Tue Jan 03, 2012 9:54 pm

NTS, The Lagarde Oak the 8th tree I measured the 31st of Dec. and is growing right next to River road in Luling Louisiana. It is number 12 on the original 1934 listing of 45 trees and was then named the Luling Oak. In 2002 it was changed to the Lagarde Oak and is now number 2120. The Lagarde is the 3rd Vice President in the Live Oak Society. A much older tree and much larger than any I measured on this latest visit to south Louisiana. The tree is in its twilight years and would have been a fantastic specimen a hundred years ago. Most of the largest limbs have collapsed or been cut off over the years. I would estimate based on my experience documenting Live Oaks tree that the crown spread would have been 130-150' in its prime and the height at near 70-75'. It would have been a fantastic tree in that period. The tree measured CBH-30' 2", Height-60' and Spread-82.5' x 64.5'. <http://ultoday.com/node/48>

Larry Tucei





## [Barker's Creek Middle Branch, NC](#)

by **bbeduhn** » Wed Jan 04, 2012 10:56 am

East barker's Creek contains a slew of tall tulips and other trees. check out the post from a year ago.

[viewtopic.php?f=106&t=1882](#)

Will, Jess and I headed out to check out some LiDAR hits in a few coves on Barker's Creek, in western North Carolina. The coves are adjacent to private land but are in the National Forest. A bushwhack up through laurel thickets and green briers led us to the rich coves. I took the lower section and got some good measurements. These trees are not as old or as tall as on East Barker's Creek. Will and Jess will share their findings as well and we'll soon have a Rucker index for the area.

### Tuliptrees

144.5' 145.5' 145.5' 148' 150' 151.5' 152' 152'  
152.4' 152.5' 153' 153.5' 156' 157' 157' 161'  
161.5' 164.5'

### White Ash

125.5'

### Mock Hick

126.5'

### Yellow Buckeye

119' (Will got 122.3')

### Black locust

120'

### Red maple

109'

### Basswood

139' 122.5'

### Red oak

120'

### Blk oak

113'

### Chestnut oak

105.5'

### Fraser Mag

85'

### White pine

142' 144.7'

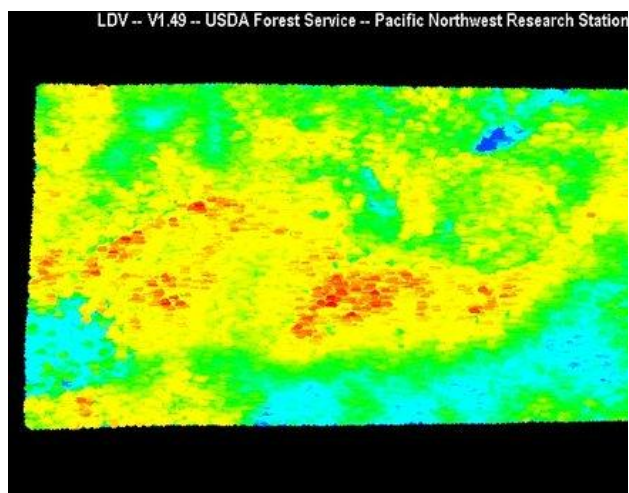
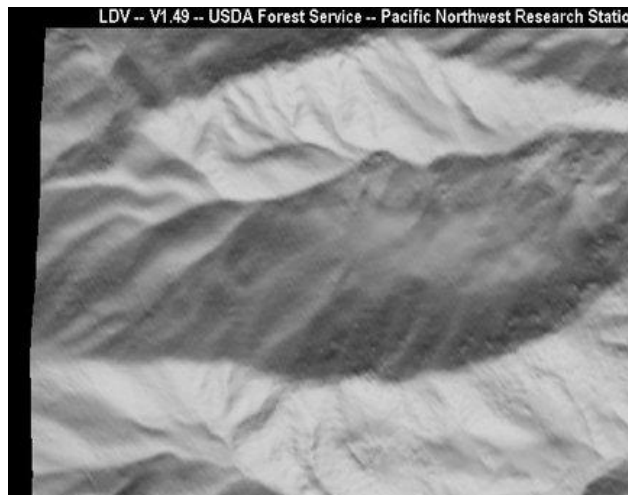
Preliminary R10--126.67', but it will easily top 130' and hopefully up the entire Barker's Creek area a bit.

Brian Beduhn



## Re: Barker's Creek Middle Branch, NC

by **Jess Riddle** » Thu Jan 05, 2012 8:12 pm



## Re: Barker's Creek Middle Branch, NC – Revised Listings

by **bbeduhn** » Fri Jan 06, 2012 1:43 pm

 [Middle Branch.doc](#)

### **Middle Branch**

Magnolia acuminata	cucumbertree	133.5'
Pinus strobus	white pine	147.1'
Quercus coccinea	scarlet oak	122.2'
Quercus Montana	chestnut oak	134.4'
Robinia pseudoacacia	black locust	137.7'
Tilia heterophylla	white basswood	142.3'
Liriodendron tulipifera	tuliptree	169.4'
Aesculus flava	yellow buckeye	122.3'
Fraxinus Americana	white ash	137.6'
Carya tomentosa	mockernut hickory	126.5'

RI10 137.30'

RI5 146.82'

RI10 SS (single species) tuliptree 159.33'

RI5 SS tuliptree 163.36'

### **Barkers Creek**

Quercus Rubra	red oak	139.9'
Prunus serotina	black cherry	132.6'
Magnolia acuminata	cucumbertree	143.3'
Pinus strobus	white pine	147.1'
Quercus Montana	chestnut oak	134.4'
Robinia pseudoacacia	black locust	137.7'
Tilia heterophylla	white basswood	146.4'
Liriodendron tulipifera	tuliptree	184.5'
Fraxinus Americana	white ash	139.8'
Carya tomentosa	mockernut hickory	126.5'

RI10 143.22'

RI5 152.24'

RI10 SS tuliptree 178.66'

RI5 SS tuliptree 181.54'

I don't know if there's such a thing as Rucker single species. If not, then I've added it to our data possibilities. It makes sense when one or two species dominate an area.

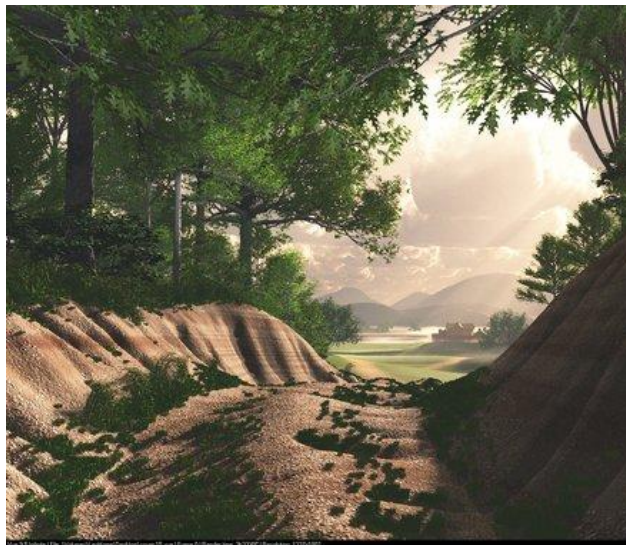
Brian Beduhn

## [Re: Leonardo's Formula Explains Why Trees Don't Splinter](#)

by **Rand** » Wed Jan 04, 2012 11:42 am

Steve, I suppose that's an interesting take on the problem, but there is always room for useful approximations. There is an old joke they tell in college physics that all the math you need to model anything is the Schrödinger equation. Or put more directly, given the time, talent and computational resources at your disposal, what are the best trade-offs that give the best results?

For reference here's what you can do with a commercial tree generating package on a modern desktop computer:



(1.3 Billion polygons, 10 GB file, Trees generate by OnyxTree, Rendered in Vue-9.5)

Oh, and the color fringing 'crappiness' you see around twigs in high resolution camera images is chromatic aberration. Different wavelengths of light have slightly different indices of refraction, so an image spreads out according to its color components. It's the reason all big telescopes are reflecting telescopes, which eliminate this problems.

## [Longleaf Pine-Tree 249-3](#)

by **Larry Tucei** » Thu Jan 05, 2012 4:56 pm

NTS, A really old yet small Longleaf Pine. An amazing story about this one tree.

[http://www.longleafalliance.org/pdfs/ne ... 201998.pdf](http://www.longleafalliance.org/pdfs/ne...201998.pdf) More reading on the amazing LL Pine Trees. [http://www.southfloridamuseum.org/LinkC ... &tabid=154](http://www.southfloridamuseum.org/LinkC...&tabid=154) Maybe I should do a new Project the Long Leaf Pine Project. I have talked about this in the past. So many projects so little time.

Larry Tucei

## [Crown Area - Spreadsheet for Larry Tucei](#)

by **dbhguru** » Thu Jan 05, 2012 3:17 pm

Larry, I've been thinking about the live oaks you've been measuring. It seems to me that a logical measurement of interest to people is the area on the ground shaded by the crown of a large live oak. I've seen statistics for crown area listed for some of the live oaks. I've created a spreadsheet for you that will make computing the projected crown area easier - I think.

Basically, you create a polygon on the ground that roughly corresponds to the drip line around the tree. The more sides the better the approximation. The attached spreadsheet allows you to walk the perimeter, taking distance and vertical angle measurements as you go. You then feed the numbers to the attached spreadsheet to get the calculated result.

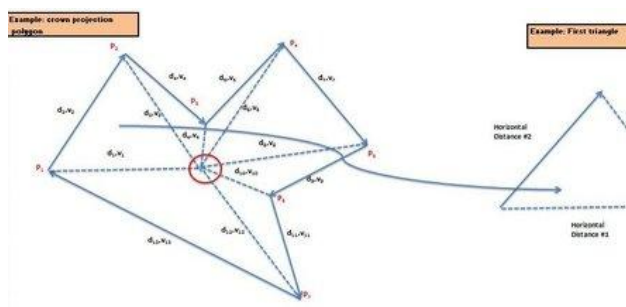
From the first polygon vertex, you shoot the distance and angle to the center of the tree at whatever height you chose, preferably at the narrowest point of the trunk between say the ground and 6 feet. A colored ribbon at the chosen height can keep things simple. You then shoot the second vertex of the polygon (distance and angle, and move to the second vertex. From the second vertex, you shoot the distance and angle to the center of the tree. These entries are to be



entered on the first row. From the second vertex, you shoot the distance and angle to the third vertex, and then move to the third vertex. At #3, you shoot the distance and angle to the center of the tree. These entries are for row two of the spreadsheet. From #3, you shoot the 4th vertex, move to it and shoot the trunk to get the figures for row 3, etc. Continue until the polygon is closed.

I realize that there are other ways to make the calculation. One involves Google Earth, but those of us who have gone that route often encounter insurmountable problems. Also, don't count on getting an accurate result with a GPS that has an area function. Been there done that. The errors can be frighteningly large.

Anyway, here is a ground-based solution that requires nothing more than a tape, clinometer, laser rangefinder, a colored ribbon, and perseverance.



You'll notice, I allow for feet or meters. Actually, you can use any units, except that the last column works only for feet (for acres) or meters (for hectares). Please, let me know if this process isn't clear. To get the area of the first triangle, you need to shoot 3 points. Thereafter, only two per triangle since adjacent triangles share a common side.

To my thinking, the projected crown area is a logical for the big live oaks. If your version of Excel doesn't allow VBA macros, no problem. I've only included one for convenience. The spreadsheet will explain.

 [AreaCrownLaserClinometer.xlsxm](#)

Robert T. Leverett

## [Moss Has Cloned Itself for 50,000 Years](#)

by **edfrank** » Sun Jan 01, 2012 7:17 pm

Moss Has Cloned Itself for 50,000 Years, Study Says  
Hawaiian plant may be one of oldest multicellular organisms.

[http://news.nationalgeographic.com/news/2011/12/111230-cloning-sex-moss-hawaii-oldest-science/?source=link\\_fb20120101news-hawaiianmoss](http://news.nationalgeographic.com/news/2011/12/111230-cloning-sex-moss-hawaii-oldest-science/?source=link_fb20120101news-hawaiianmoss)

## [Re: Moss Has Cloned Itself for 50,000 Years](#)

by **Lee Frelich** » Fri Jan 06, 2012 3:22 pm

I am always doubtful about peoples claims that a given organism is a clone that hasn't reproduced for thousands of years. Such claims have been made for aspen, various fungi, mosses, etc., over the years.

What I find more interesting is that Sphagnum can grow in Hawaii--this lends support to the hypothesis that Sphagnum moss is the ultimate climax vegetation for the terrestrial earth. According to this hypothesis that I heard about in a lecture in Minneapolis in 1989 (I never seem to forget these sorts of things), without disturbance, the entire landscape of the earth would be covered by sphagnum, like northern Scotland. Of course, that would suck a lot of CO2 out of the atmosphere, and make the whole earth very cool, which would make the moss happier, I suppose, than a tropical climate, and reinforce the moss dominance.

I wonder if anyone has studied the evolution of these mosses by epigenetic processes and somatic mutations?

Lee Frelich

## Spoilcane Creek, GA

by **Jess Riddle** » Fri Jan 06, 2012 8:22 pm

Multiple unusual topographic features make Spoilcane Creek one of the most visually striking watersheds in north Georgia. The stream starts at a deep gap on a major watershed divide, and flows due south along an unusually straight path to meet the upper Chattahoochee River, Atlanta's water supply. Spoilcane Creek also lies at the western end of the Warwoman Cleft, a major fault cutting across multiple mountain watersheds. Perhaps more strikingly, the watershed is one sided; on the west side, a few small tributaries extend only a fraction of a mile to a low ridge.



The Spoilcane Creek watershed

A few previously known trees hinted that the watershed might have potential to grow significantly tall trees; the state height record sycamore grows there, surprisingly in a small south facing cove, and a cursory survey of a smaller adjacent stream revealed both tuliptree and white pine to around 150'. However, LiDAR data indicated the area deserved a more thorough investigation since most of the lower watershed appears to support tall white pines. Of particular interest was one small, unnamed tributary with hits to 185' and, upslope, the only concentration of tall hardwoods in the watershed.



*Regardless of any errors associated with the LiDAR data, carnage from a spring tornado, visible from the road, cast doubt on whether any tall trees would be found.*

The target tributary had cut deeply into the landscape with little flat land along the stream, none along the smaller forks, and slopes exceeding 40 degrees in places. Unusually, that ravine like quality even extended into one of the upper coves. Throughout the lower reaches, rosebay rhododendron flanks the stream and covers the slopes under a mixed canopy that includes hemlock, northern red oak, fraser magnolia, tuliptree, black birch and other hardwoods.

White pines are concentrated on the west facing slopes, and the ends of the ridges that separate the smaller forks. A lack of conifers or evergreen understory gives the upper, northeast facing coves a very different feel. Tuliptree dominates a narrow corridor along the middle of the coves rather than being widespread and abundant all across the north facing slopes as they commonly are on rich sites slightly farther north. Instead, a mix of northern red



oak, chestnut oak, and lesser numbers of other hardwoods form the overstory. Silverbell dominates the understory, but rarely obtains tree size.

Species	Common name	Cbh (in)	Height (ft)	
<i>Betula lenta</i>	Birch, black	48.5	113.4	Tallest known in i
<i>Betula lenta</i>	Birch, black		103.6	
<i>Carya alba</i>	Hickory, mockernut	91	136.2	2nd tallest known
<i>Carya glabra</i> *	Hickory, pignut	87.5	134.6	Might be <i>C. ovalis</i>
<i>Fraxinus americana</i> var. <i>biltmoreana</i>	Ash, biltmore	86	130.2	
<i>Liriodendron tulipifera</i>	Tuliptree	88	146.5	
<i>Liriodendron tulipifera</i>	Tuliptree	91	150.5	
<i>Magnolia fraseri</i>	Magnolia, fraser		111.0	Tallest known in i
<i>Nyssa sylvatica</i>	Black gum	66.5	108.8	
<i>Pinus strobus</i>	Pine, eastern white	110	171.2	
<i>Pinus strobus</i>	Pine, eastern white	96	169.9	
<i>Pinus strobus</i>	Pine, eastern white		164.5	On nearby stream
<i>Pinus strobus</i>	Pine, eastern white	109.5	162.8	On nearby stream
<i>Pinus strobus</i>	Pine, eastern white		154.4	On nearby stream
<i>Pinus virginiana</i>	Pine, virginia		111.2	Different tributary
<i>Platanus occidentalis</i>	Sycamore		144.0	Was 141.1' in 201
<i>Quercus alba</i>	Oak, white	105	123.3	
<i>Quercus montana</i>	Oak, chestnut	91	132.9	Tallest known in i
<i>Quercus montana</i>	Oak, chestnut	63.5	129.4	State record was
<i>Quercus rubra</i>	Oak, northern red	91.5	133.4	
<i>Quercus rubra</i>	Oak, northern red		132.3	
<i>Quercus velutina</i>	Oak, black	59.5	122.3	
<i>Robinia pseudoacacia</i>	Locust, black	64	132.9	
<i>Tsuga canadensis</i>	Hemlock, eastern		137.1	
<i>Tsuga canadensis</i>	Hemlock, eastern		139.4	



New Georgia height record chestnut oak

Those measurements yield a Rucker index of 138.5' for the unnamed tributary, the third highest for a site in Georgia.

The high proportion of oaks and relatively low abundance of tuliptrees in the upper coves surprised me. LiDAR showed a generally high canopy in the coves, and that canopy structure combined with the topographic setting suggested a moist, tuliptree dominated cove. Given that white pine often grows in sandy soil, I wonder if the soils were fairly nutrient rich but slightly too coarse for optimal tuliptree growth. Conversely, the white pines look quite young and appear to still be growing rapidly.



tallest measured white pine in the Spoilcane Creek watershed. Note that the crown few signs of storm damage, and is still relatively pointed. The tree is likely relatively young and still gaining height

Jess Riddle

## **Re: Arboreally Speaking, the Good Old Growth Curve Is a Delusion**

by **Lee Frelich** » Sat Jan 07, 2012 12:39 pm

*With regard to: 'Arboreally Speaking, the 'Good Old Growth Curve Is a Delusion'*

*by Neil Pederson | 12.27.2011 at 6:32pm*

<http://blogs.ei.columbia.edu/2011/12/27/arboreally-speaking-the-good-old-growth-curve-is-a-delusion/>

Neil et al.: Here is a trip through the universe of temporal and spatial scales in forest ecology, which gives some perspective to the above discussion.

Its true that many old trees continue to grow at a high rate (especially if you calculate basal area or volume increment, which one of Craig Lorimer's graduate students did for sugar maple in the Porcupine Mountains and discovered that they just kept going up as trees go to 150, 200, 250 years old). Some of this has to do with stand dynamics, and the fact that certain old trees get better and better canopy growing space as they age, and its also partly CO<sub>2</sub> fertilization, and partly longer growing seasons, and in certain areas, more rainfall or more positive rainfall/evaporation balance, although these latter effects may abruptly reverse in the near future as the climate continues to change and evaporation overtakes the effect of additional rainfall, and the CO<sub>2</sub> fertilization begins to reach its asymptote.

Returning to the issue of increasing carbon storage in older forests, inevitably, if old forests continue to accumulate C, especially in the soil, it will lead to a high C:N ratio and other effects that will stall increased production, and without rejuvenating disturbance, in many cases to ecosystem retrogression. This might take hundreds of years (especially in northern hardwoods), so for now, many forests will continue to increase carbon, an important 'transient' dynamic (I put transient in quotes because in this case transient is a few centuries, rather than the few years usually referred to), since the increasing carbon storage is very important over the next couple of centuries for the future of the climate.

In other forest types, this increasing C storage will lead to retrogression in a relatively short time. For

example, boreal forest in northern Minnesota, in the absence of fire, becomes a half dead pile of crap (i.e. balsam fir with budworm) on top of a moss blanket in just two hundred years (that's a quote of myself from the news media this past September). Productivity in the tree layer goes backwards at this stage, and the moss carpet increases very, very slowly, on its way to the world-wide retrogressed climax by Sphagnum mentioned in my other post yesterday. Some forest types have to have a major high severity disturbance to maintain productivity. Most ENTs are used to and biased by northern hardwoods where that is not the case, at least on time scales of several centuries.

On a longer time scale 1000s of years, all ecosystems regress to less productive states (See Peltzer et al 2010, Understanding Ecosystem Retrogression, Ecological Monographs 80: 509-529, which I reviewed last year for Faculty of 1000). This is due to loss of P over time in areas that are not either heavily burned or glaciated periodically. This occurs in ecosystems across the world in many different climates.

Most ENTs are lucky to live in a forest ecosystem where, at least on the scale of a few centuries, carbon would tend to keep accumulating, due to the young age of the soils and/or the mineral content of the underlying weathering bedrock. However, at this point its unlikely that this carbon accumulation will continue, because in a few decades this will all reverse due to a warming climate, and the initial increased productivity from a warmer climate will turn to forest dieback, with a time-lag of several centuries before the ecosystem processes and species composition catches up to the new climate (assuming the climate stops changing in a few centuries). That's not a problem for the ecosystem. For example, a white pine tree does not care if it lives in NY or in Canada, nor whether it lives in a stable ecosystem, nor whether it lives in a productive ecosystem, nor an ecosystem that is increasing its carbon storage. Its only a problem for people who are wedded to the idea of a stable, productive old growth white pine forest existing in a certain location.

Lee Frelich



## Hatfield Cottonwood, MA

by dbhguru » Sat Jan 07, 2012 4:28 pm

NTS, today Monica and I visited a large cottonwood in the Connecticut River Valley floodplain. It grows on a bank above the river. It is the devil to measure. Moving back, here is what the tree looks like for as much as you can see from a field.



In the second image Allison Bell is seen at the base of the tree. The spot we put the tape around was the narrowest point and corresponded to uphill ground level. Higher up the trunk, stretching the tape around puts you into the limb spread.



The tree measures 21.0 feet around, is 98.2 feet tall, and has a maximum crown spread of 75 feet. It is a very old tree.

Robert T. Leverett

## What qualifies as an Autopoietic Forest?

by Gary Beluzo » Sun Jan 08, 2012 11:26 am

What forests are good candidates for "The Autopoietic Forest"? To review, an Autopoietic Forest differs from a MANaged forest in the following ways:

### Autopoietic versus Artificial Forests

- |   |  |
|---|--|
| <ul style="list-style-type: none"><li>• <b>Autopoietic Forest</b></li><li>– <b>Natural Selection</b></li><li>– <b>Self Producing</b></li><li>– Structural and Functional Complexity</li><li>– <b>Trees as part of the Forest</b></li><li>– Result is Natural System</li><li>– Ecologically-based Forest Type</li><li>– Most Nutrients recycled</li><li>– <b>Includes Old Growth Forests</b></li><li>– <b>Ecologics*</b></li></ul> | <ul style="list-style-type: none"><li>• <b>Artificial Forest</b></li><li>– <b>Artificial Selection</b></li><li>– <b>Technology Producing</b></li><li>– Structural and Functional Simplicity</li><li>– "Lumber covered with Bark"</li><li>– Intention is to maximize timber</li><li>– Economically-based Forest Type</li><li>– Nutrients exported</li><li>– <b>Mostly Second Growth Forests</b></li><li>– Silvics</li></ul> |
|---|--|



\*Beluzo (3/2009)



A key question is whether or not a forest that has been MANaged in the past can be designated an "Autopoietic Forest" if the forest is put into preservation and the INTENT is to leave it alone and allow autopoietic processes to return? Perhaps there should be at least one "Autopoietic Forest" in every city/town... What think you, ents?

Gary Beluzo

## **Re: What qualifies as an Autopoietic Forest**

by **Lee Frelich** » Sun Jan 08, 2012 11:47 am

Gary: Yes, I think they can meet the criteria listed in your slide after being logged. If you look at the second-growth forests inside the Boundary Waters Canoe Area Wilderness, Voyageurs National Park, and Isle Royale National Park, and many other places in the Midwest, that were logged once, or logged and burned once, with no settlement or agriculture afterwards, there is no difference that these forests are any different than younger early successional stands that originated after natural disturbance, especially if the forests were logged by horse and roads were not built. The difference is at the landscape level, where there is a larger proportion of young or early successional stands than would have been without human intervention. The Pagami Creek Fire (93,000 acres) burned mostly in second growth that was logged in the early 1900s, but now the fire should help push these second growth forests back to a totally natural condition, wiping out the small remnants of direct human intrusion. Indirect intrusion due to global warming seems like a separate issue.

These types of sites are quite different than sites that were logged and settled or farmed and then abandoned, which may take 100s of years to get back to an autopoietic state.

Lee Frelich

## **EarthTide**

<http://earthtide.net/>



Earthtide- a website devoted to a gathering of events, ideas, and discussion related to natural systems, ecology, and environmental science.

### **The Autopoietic Forest**

"An autopoietic forest is a natural, forested ecosystem that is "self making", that is, the forest is an emergent property of the entire living community interacting with its environment to produce a dynamically adaptive system with homeorrhetic tendencies. Conversely, most forests are now MANaged in which the forest is the result of one species interacting with the environment and directing the future trajectory of that ecosystem through artificial selection..." Gary Beluzo, 2011

### **Earth is an Autopoietic Planet.**

Our planet is a self-creating, self-regulating, complex system; replete with over 300 millions species of Life. Just how small can a self-sustaining ecosystem be? Visit the EcoPorium and find out about EcoWorlds..

Gary Beluzo



## Middle Fork of Salmon River, ID

by tsharp » Sat Jan 07, 2012 8:25 pm

NTS: Friend Tom Connelly scored a boating permit in the 4-rivers lottery for the Middle Fork of the Salmon River in Central Idaho. Other than Colorado River through the Grand Canyon this is the hardest permit to get. There was less than a 4% success rate for the 10,000 applicants in 2011.

So Susan and I headed to Idaho with seven other boaters for a put-in during the last week of July 2011.

Our starting point will be in the Salmon-Challis National Forest at Boundary Creek with an elevation of 5800 feet. We will take-out at Cache Bar on the Main Salmon River 100 miles downstream and at an elevation of 3000. All but a one mile section at the putin is a federally designated Wild River flowing through the Franck Church River of No Return Wilderness.

En-route we stopped at Craters of the Moon National Monument and took in the stark beauty of this surreal landscape. After leaving Craters of the Moon



Photo by Susan Sharp

we made camp at the Sheep Trail Campground in the Sawtooth National forest about 20 miles east of Stanley, ID at 6500 feet elevation. Two Lodgepole Pines (*P. contorta* var *latifolia*) were measured before dark: Girth 3.2' x 65.9'; and 3.6' x 65.1'. Stanley lived up to its icebox reputation as we awoke next morning to a frost and frozen water bottles.

After crossing the divide between main stem of the Salmon River and its Middle Fork we camped at the Boundary Creek Campground where we would rig our boats and get checked in by the ranger. We had two kayaks, two inflatable kayaks (IKS), two rafts, and two catarafts. The campground was on river left at 5,800' elevation. A short distance upstream was Dagger Falls where we watched some salmonid species trying to attain its birthplace.



Photo by Tom Connelly

Measured two Rocky Mountain Douglas-firs (*Pseudotsuga menziesii* var *glauca* near the falls. 7.5' x 93.0', 8.4' x 119.5'

**Day 1:** Stayed at Sheepeater Camp at mile 13.3 on river left. Elevation 5,200. This site also featured a much appreciated hot spring. Measured a Lodgepole Pine at 5.6' x 79.2', two Ponderosa Pines (*P. ponderosa* var *scopulorum*) at: 7.5' x 107.5', 8.4' x 119.5', and a Black Cottonwood (*Populus balsamifera* spp *trichocarpa*) at a 6.3' x 65.8'

**Day 2:** Our next Camp was to be at Marble Creek - right at mile 32.7. Elevation 4,500. Up to now we had already run the steepest part of the trip with most of the harder rapids but there is a rapid that must be negotiated immediately upstream of our camp spot.



Marble Creek Rapid, aka Chipmunk) Class 3-  
Photo by Susan Sharp

This benign looking rapid was anything but and the results were not pretty. We tallied four swimmers, both IKS and one captain each from a Cat and Raft. John Fichtner, as a passenger on a captainless raft, somehow stayed aboard. As we crawled ashore our humiliation was complete as we saw a group of mostly teenagers on a guided trip wave to us as they cleanly ran the correct line.

Measured 3 Ponderosa Pines at: 7.4' x 89.6', 6.5' x 95.0', 10.4' x 84.1' and a Doug-fir at: 5.4' x 104.3'. Many of the camp sites we used had evidence of the original inhabitants occupation. On the benches above the river it was not unusual to see multiple depressions in the ground which are commonly called pit houses. One is pictured below.



Photo by John Fichtner

**Day 3:** Next overnight stop was Cow Camp at mile 50.7 on river right. 4,000 elevation. Measured three nice Ponderosa pines at: 10.8' x 106.7', 12.1' x 121.1', 12.9' x 88.0' (top out)



Susan Sharp, 12.1' x 121.1' Photo by Turner Sharp

**Day 4 & 5.** The camp was at the confluence of Camas Creek at mile 60.3 on river right. Elevation 3,800'. We have a layover day at this very nice camp with good shade, nice smelling Ponderosa Pines and good hiking. I hiked up Camas Creek about 2 miles checking out the vegetation along the creek. I measured two Water Birches (*B. occidentalis*) at: 2.1' x 28.4', 1.6' x 33.1'; Black Hawthorne (*Crateagus douglasii*) at 1.7' x 32.3'. Other species noted along the creek were: Saskatoon Serviceberry (*Amelanchier alnifolia*), Rocky Mountain Maple (*Acer glabrum*), Blue Elderberry (*Sambucus nigra* spp. *cerulea*). Also measured along the creek was Ponderosa Pine at 10.6' x 127.7', Doug-fir at 14.1' x 139.7'. It was while measuring this last tree that a bear came skedaddling down the mountain after some hikers from our group above me spooked it. They never saw it and the bear never saw me even though it came within 75'. Pictured below is the large Ponderosa Pine that



provided our campsite with much appreciated shade on our layover day.



12.4' x 109.0', Susan Sharp Photo by Turner Sharp

The two shrubs on either side of the tree are Water Birch Clumps were typical of others observed. These are not the two I measured.

This trip was unique in that we had quite a collection of very competent boat women. Here they are posing near the mouth of Camas Creek.



Pictured are Bridget Tincher, Kathleen Simpson, Marilyn Polan, Susan Sharp. Photo by Turner Sharp

The following picture gives an idea of scale. Pointing almost due west to the confluence of the Middle Fork and Camas Creek at an elevation of 3800 feet the elevation to the first knob is 6,700 feet and the far ridge in the far background is 8600 feet. Our wonderful Ponderosa Pine at the campsite is barely visible right of center in the photo.



Photo by Susan Sharp

I am sure that Camas Creek got its name from the plant (*Camassia quamash*) whose bulb was edible and was/is an important part of Native American culture.

**Day 6:** Next overnite stop was Survey Camp on river left at mile 74.4 on river left. Elevation of 3500 Measured 3 Ponderosa Pines at : 9.8' x 100.8', 9.8' x 90.6', 8.7' x 85.1'. These three trees were ax scared from knee to head high - to collect pitch? Other trees measured were a Rocky Mountain Juniper (*Juniperus scopulorum*) at : 1.6' x 23.7' and some Curlleaf Mountain-mahogany (*Cercocarpus ledifolius*) at: 1.4' x 18.6', 1.8' x 24.1', 1.8' x 13.9'

**Day 7:** Our last overnite stop on the river was at Solitude Camp on river left at mile 92.8. Elevation of 3200. Very small camp with no hiking opportunities and only one accessible tree to measure. Doug-fir 11.7' x 103.8' This end of the Canyon is called the Impassable Canyon for a reason. We were only about 6 miles to our takeout at Cache Bar. However once we hit the main Salmon there is one more rapid of concern – Cramer Creek Rapid which was formed after heavy thunderstorms blew out the creek in 2003 Several of our party did not have pristine lines and Bridget had her first ever flip and Mike in his Cat



was violently cartwheeled through the rapid and ejected but his passenger, John Fichtner, earned the name of Velcro britches because once again he was still in his seat after the boat landed upright. After righting the raft we derigged at Cache Bar, made a stop at the groover cleaner, and made it to the Scout Mountain Campground in the Caribou National Forest just outside Pocatello where I managed to measure one Doug- fir before dark at 6.2' x 95.3'

Turner Sharp

## [Re: Middle Fork of Salmon River, ID](#)

by tsharp » Mon Jan 09, 2012 1:02 am

Here are a couple more pictures from Craters of the Moon.

Partially collapsed lava tubes with a couple of hikers



Life does return



Limber Pine?



Photos by Susan Sharp



## Re: Leonardo's Formula Explains Why Trees Don't Splinter

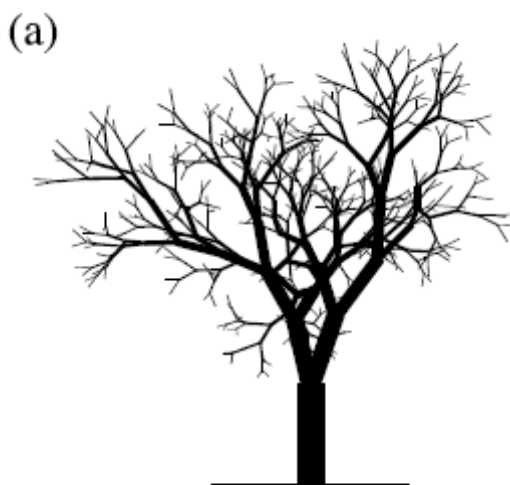
by **Lee Frelich** » Mon Jan 09, 2012 1:17 pm

ENTS: I read the paper:

Eloy, C. 2011. Leonardo's Rule, self similarity, and wind induced stress in trees. *Physical Review Letters*. 107, 258101.

Also analyzed, was a tree with random branch angles, which looks a lot more like a real tree.

With this stochastic tree, Leonardo's exponent ranges from 1-4 (as opposed to the much narrower range with the fractal tree), although the mean is still close to Leonardo's prediction. This is not surprising, haven't we always known that trees have to resist wind as well as conduct the necessary amount of water to the leaves? Trees are impacted by wind every moment of their lives.



*Stochastic tree with random branch angles chosen from a normal distribution, Figure 4a from the paper*

The reason this looks more like a real tree, is that many branches die quickly from self shading, wind, hail, squirrel chewing, etc. Even though these reasons for loss of branches are random, a real tree has to look more like the random model in order to display

leaves to collect sunlight. The fractal tree shown in the opening posting would only be able to have a single layer of leaves around the outer edge of the crown, so that leaves would overlap with each other unless they were tiny. The random model clearly give trees the ability to have leaves arranged in a more complex pattern, with more depth to the crown, allowing for shade leaves and sun leaves (and all in between), without leaves touching each other.

What this analysis also does not cover, is the occasional extreme winds that trees endure. A successful trees has to get through episodes of extreme wind to be successful (which means having a large crown and occupying space that its competitors could have had for a long period of time). Trees get through extreme winds by streamlining--they leaves turn, the twigs and branches bend so that the surface area exposed to the wind gets steadily smaller until winds reach speeds anywhere from 50-110 miles per hour (according to case studies published in the literature). If the wind keeps increasing after maximum streamlining has occurred, then force on the tree increases at a more rapid rate, and several additional strategies potentially kick in--leaves could begin to break off, or brittle branches could be shed, reducing the crown area and allowing the tree to survive and grow new leaves of a new crown later. Yellow birch is particularly good at shedding its crown during high winds and growing a new crown later. White pine is moderately good at it as well. If these strategies fail, then either the trunk will snap (likely if the trunk is very thick and the tree is firmly anchored in the soil) or the tree will uproot, if the trunk wood is extremely strong.

Lee Frelich

## [Re: Arboreally Speaking, the Good Old Growth Curve Is a Delusion](#)

by **Kouta Räsänen** » Sun Jan 08, 2012 12:43 pm

... boreal forest in northern Minnesota, in the absence of fire, becomes a half dead pile of crap (i.e. balsam fir with budworm) on top of a moss blanket in just two hundred years (that's a quote of myself from the news media this past September). Productivity in the tree layer goes backwards at this stage, and the moss carpet increases very, very slowly, on its way to the world-wide retrogressed climax by Sphagnum...

That's interesting as in Finland this is not the case. Actually, this was an old belief in Finland, too, influenced by forestry sponsored research of 50's. Natural spruce forest was called "suicide spruce forest", because it collapses/deteriorates without fires or clearcutting. This was then extensively used by forest industry as the ecological basis for clearcutting ("clearcutting mimics forest fires"). However, newer research has shown, in north Finland there are spruce stands thousands of years old which have not collapsed/deteriorated and are able to regenerate without fires. Of course, the productivity of a pioneer stand is still higher. (The spruces there are *Picea abies*, *Picea obovata* and their hybrids.) Reference: Keto-Tokoi, P. & Kuuluvainen, T. (2010): Suomalainen aarniometsä. Maahenki.

Kouta Räsänen

## [Re: Arboreally Speaking, the Good Old Growth Curve Is a Delusion](#)

by **Lee Frelich** » Mon Jan 09, 2012 10:37 am

Kouta and Neil: I think the forests in Finland are quite different--they don't have balsam fir which is susceptible to the native (and poorly named, since it mainly infests fir and not spruce) insect spruce budworm. So, the time for retrogression is uniquely short in boreal forests of central North America, on the order of 200-300 years. Central North America has an extraordinary frequency of severe disturbance,

even in the absence of humans--the droughts and fires, the tornadoes, and the derechos, that are often followed by fire. The forests never had a chance to develop some sort of non-disturbance dependent ecosystem where productivity was maximized, so it has this half dead balsam fir.

In other places, as Neil suggests, rejuvenating disturbance is necessary at much longer intervals to prevent retrogression. However, I am not sure that logging would be a good agent to prevent retrogression. Fire is much better at preventing retrogression, because it releases cations bound up in organic materials, which on sites with some P in the bedrock, could prevent retrogression essentially forever (I know I should not use the word forever, I used it once in a manuscript and a reviewer informed me that only diamonds are forever). Even better at preventing retrogression, is a round of glaciation, being covered with volcanic ash, or some other such geological disturbance, every million years, with fires every 1000 years or so in between.

Most ENTS live in a recently glaciated landscape with young soils that still have a lot of P in them (and therefore N is the limiting nutrient in most cases). Additional N can come from atmospheric deposition, N fixation by various microbes, and sometimes by weathering of bedrock. Its not as hard to replace over long time scales as P. Also, a lot of ENTS live in areas, especially New England, where a lot of the landscape supported uneven-aged northern hardwoods and hemlock prior to European settlement, and this forest type does not need rejuvenation from logging or other disturbance on time scales relevant to the people living there at this time.

Regarding pine beetle and other insects, I don't think they play a very important role in long-term rejuvenation of ecosystems, unless they have a relationship with fire whereby they increase the chance of fire. If they aren't related to fire, I don't think they reset succession, but rather they are important in regulating the fluctuations among dominant tree species over time (I am not talking about exotic insects and diseases that wipe out tree species).

Lee Frelich



## **Re: Arboreally Speaking, the Good Old Growth Curve Is a Delusion**

by **Kouta Räsänen** » Mon Jan 09, 2012 6:55 pm

Lee, the difference between Finnish and north Minnesota forests you suggested makes sense. Indeed, there is no such a short insect related disturbance cycle in Finland, and the fire return interval in Finland's "semi oceanic" climate before intensive human influence (slash-and-burn agriculture etc.) has been 200–500 years. Also, not so violent storms.

How about tropical rainforests on old highly weathered bedrock, which occur extensively in the Amazon Basin, for example? Those forests are very old, don't burn naturally but are still luxuriant forests. According to Peltzer et al., they are probably "retrogressed systems"; at least, they write so about a tropical forest in north Queensland (page 523). Now, will they retrogress further? Figure 5 of Peltzer et al. seems to indicate that (I didn't read the whole paper, perhaps I missed something important). What these forests will become eventually? It is hard to believe so old forests would not have reached a stable state. Or did I miss some disturbance agent?

How about the temperate rainforests of the Pacific Northwest? In higher elevations there are stands which have not seen fire since thousands of years but still have high biomass. As the forests are only thousands of years old (after the last glaciation), are they still on their way towards their collapse? What will they become eventually?

Kouta Räsänen

## **Re: Arboreally Speaking, the Good Old Growth Curve Is a Delusion**

by **Lee Frelich** » Tue Jan 10, 2012 3:49 pm

Kouta: Old tropical rainforests can have mechanisms and plant species adaptations that allow them to retain and very tightly recycle nutrients, and losses to

the ecosystem may be so small that atmospheric inputs can replace them, even for P (see page 512 of the article). This would allow retrogressed tropical rainforests such as in the Amazon and Australia to maintain high biomass, possibly for millions of years. However, as the paper states, clearing might push them past the maximal biomass state.

In the Pacific Northwest soils are still quite young, and ecosystem acidification, (a type of retrogression that occurs in colder climates where Sphagnum moss takes over, and over thousands of years acidifies the soil, water and entire ecosystem, forming peatlands, moors, and bogs) has not affected the vast majority of the landscape yet. It probably won't retrogress for many thousands more years, if ever, because there is substantial input of nutrients from windborn cations from the ocean, and from volcanic ash (the latter affects most areas every several hundred to a few thousand years).

Lee Frelich

## **Re: Eastern OLDLIST (Cashiers, NC)**

by **mdavie** » Wed Jan 11, 2012 10:53 am

I cut a piece of sassafras yesterday that may end up being fairly old (150+). This is from the same place that I saw a chunk of wood that I'm fairly certain was sassafras that was over 300 years by ring count. I went back to collect it but it had been hauled away. I did get a chunk of hemlock from there that's around 440 years. I'm going to go back at some point to check one other area for the stump that chunk of wood had come from.

Also, at a development in Cashiers they cut down a beautiful pitch pine that ended up being over 350 years. I got permission to go cut a cookie from that and two hemlock stumps nearby that were around 450. I don't know what the hell I'll do with all these cookies I've been collecting over the years!

Michael Davie

## Arborists and Recreational Tree Climbers

by **edfrank** » Sun Jan 08, 2012 8:28 pm

NTS, some of you are professional arborists, others are recreational tree climbers. What can we do as a group to attract more arborists and tree climbers to the Native Tree Society? What can we offer them via the Native Tree Society that they would find worthwhile? There is enormous potential from our perspective in terms of getting more tree age data, more volume modeling, more canopy studies from these groups. One Arborist group on Facebook has 1,365 members. There are many groups for recreational tree climbers. What projects can we devise, or actions we can take to attract these people to the NTS?

Edward Frank

As many of you are aware there is some natural tension between forest scientists/tree measurers and rec climbers. Scientists and dedicated tree measurers generally are not happy to have rec climbers mine their tree lists and locations for the opportunity to climb the tallest or most exceptional/incredible trees. I think most of this kind of friction can be avoided/reduced with discussion and consciousness raising. Reality is most rec climbers that I know who actually like to climb in real forest conditions are very sensitive to impact issues. Speaking for myself as a rec climber and tree measurer, I'm absolutely uninterested in climbing the tallest or most notable tree/species in this or that state, country or the world. I'm happy to assist the NTS on whatever tree they would like to do manual measuring, if it happens to be the "tallest", whatever, so be it. More discussion is needed on this issue, it can get polarized fast but I don't think it needs to be.

Andrew Joslin

## Re: Arborists and Recreational Tree Climbers

by **Andrew Joslin** » Mon Jan 09, 2012 6:08 pm

Beyond the shared appreciation for trees and the forest I think what the NTS are offering to technical tree climbers rec or pro, (and non-climbing tree care professionals) is an awareness that accurate measuring/modeling of trees is an important and useful skill, and much more precise than they may have previously thought. Tree climbers are people too (joke) and there's a huge variation within that group as to interest or lack of interest in the primary concerns of the NTS as an organization. However within that group there's going to be a much higher percentage of folks than the general population who might find the NTS mission worthwhile.

So... to follow up that barely intelligible paragraph, I think on a very basic level, organizing tree measuring workshops for tree care professionals and their organizations would make a lot of sense. And the same for rec climbers and their organizations.

## Re: Arborists and Recreational Tree Climbers

by **Bart Bouricius** » Tue Jan 31, 2012 9:24 am

I would agree with Andrew that hosting workshops that are advertised through the trade association and certification organizations would be a good way to reach out to arborists. Making presentations to classes at Universities, Colleges and vocational schools that have arborist programs would, I think, be helpful as well.

For recreational tree climbers I think it would be effective to go straight to the organizations and ask them to sponsor a climbing event where tree measuring methods could be learned. I also think the tallest tree of greatest dimensions is not always the tree that is the most beautiful and appealing from a fun climbing perspective. That said, I suspect there will always be some tension in the few cases where some random person decides they have to climb the tallest tree because it is the tallest. I think one way to avoid such problems is to not make precise locations to easily available and thus require people to contact



ENTS folks who will try to educate them about the issues involved before considering such a climb.

Many of the tallest trees are not exactly easy to get to nor fun to climb as it requires a large amount of time and planning to get to these locations with appropriate gear. Not something one does on the spur of the moment after too many beers.

Bart Bouricius

## **Re: Arborists and Recreational Tree Climbers**

by **pdbrandt** » Tue Jan 31, 2012 11:20 pm

*AndrewJoslin wrote:... I'm happy to assist the ENTS on whatever tree they would like to do manual measuring, if it happens to be the "tallest", whatever, so be it. More discussion is needed on this issue, it can get polarized fast but I don't think it needs to be.*

I'm a relatively new (4 months old) rec tree climber and even newer to NTS, but I am happy to say that I haven't ever sensed any animosity between arborists/NTS and recreational tree climbers. Of course, I'm an isolated climber and only interact with other tree aficionados on forums like this so my experience is limited. I couldn't agree more with Andrew's comment above. Curiosity and appreciation for trees is what first got me into the canopy, but from the moment of my first climb, I wanted to find answers about the physical limitations on tree size, how other animals, insects, and plants utilize forest trees, when the trees foliate, defoliate, species identification and range, etc. I first found the American Forest Big Tree Database and Point Notation System. That gave me another "excuse" to visit prominent trees in my town and along my commute to record their point value. Then a friend on the Big Tree Hunters Facebook group (Tom Robinson) pointed me to NTS. I feel right at home here. I don't have a clinometer and rangefinder, but I love reading the posts from tree lovers of all stripes. My current self-imposed tree project is learning about the hemiparasitic relationship between mistletoe and eastern hardwoods. I hope to climb a couple of mistletoe

infested trees and report back with some pictures and my observations.

Patrick Brandt

## **Re: Arborists and Recreational Tree Climbers**

by **AndrewJoslin** » Wed Feb 01, 2012 3:38 pm

Patrick there is not serious animosity, but it goes with the territory that some forest biologists may not think too highly of people who "just climb for fun", likewise between pro arborists and rec climbers. This is a broad generalization, there are many good relationships between members of these various groups. Main challenge for tall tree researchers is they don't want climbers of any stripe mining (no pun intended) their tall tree lists for rec climb locations. This is very reasonable, especially for the tallest trees on the planet or per state in the U.S. There is significant demand to visit or climb these trees, with that comes high potential for damage (ground cover destruction, soil compression, canopy epiphyte disruption, damage to a tree, etc.) from multiple ground or climber visits per year to the most notable tall trees.

I think it's important for rec climbers to recognize that there are good reasons to question whether or not a given tree should be climbed, and that there are "stakeholders" concerned about it.

Andrew Joslin

## Can not ID this tree!!

by **Habilis13** » Mon Jan 09, 2012 9:33 pm

Hello all,

Been banging my head against the wall trying to ID this tree!

Images taken near southwest edge of 'The Lake' in Central Park, NYC.

Realize only using the bark is not the best method but its winter....

Possibly a red oak hybrid???

If have to wait until spring gonna drive me crazy : )

Also, any ideas to account for the strange growth pattern at the base?

Thanks so much for any help!







Jeremy Tausch

*George Fieo wrote: Looks like a Norway maple to me.*

*Steve Galehouse wrote: This is a classic case of graft incompatibility, with the grafted scion growing at a faster pace than the understock (causing the obvious constriction of the trunk). I can't say what the scion is, but it looks like an elm from the bark, possibly also a linden. Thoroughly examining the leaf litter beneath the tree should get you close to species/cultivar.*

*Michael Davie wrote: Trees will occasionally fail at the graft junction, popping out like a socket because there is a weird curve of grain. I think Norway maple, also; the silhouette looks opposite.*

## [Re: \[Video\] Fstoppers: Tree Spirit Project, Nudes In Nature](#)

by **mdvaden** » Mon Jan 09, 2012 11:42 pm

*[Video] Fstoppers Original: The Tree Spirit Project, Nudes In Nature*

<http://fstoppers.com/video-fstoppers-original-the-tree-spirit-project-nudes-in-nature>

The photographer could use a reality check. He says a reason the people are nude is something like to show presence or being present. Making them nude makes them no more present than wearing clothes. I've got photos of people by trees and their presence is never in question. What the nude people convey to me is discomfort. When I climb on trees which is weekly, I enjoy clothes on to cushion my skin. So if anything, the guy's photos look awkward and uncomfortable. They are unique and interesting though, and I wouldn't say it's bad art. As for the trees, it does not really improve the look of nature more so than could be done with the tree alone, or just a sole person.

I find the subject amusing, because lately, I started some TFP shooting with a few models to learn portraiture. And I'm photographing mostly outdoors. And clothed stuff. Even if my wife didn't care about nudes, I probably would not go that route.

Here are two examples. One with a tree, and one with ferns. Is there any question that people are present - lol. Need I ask them to disrobe because the ENTS missed their presence?

M. D. Vaden of Oregon



## [Re: \[Video\] Fstoppers: Tree Spirit Project, Nudes In Nature](#)

by **mdvaden** » Tue Jan 10, 2012 12:59 pm

*nice! got any other photos? web site? gallery presentations?*  
*Joe Zorzin*

Hi Joe. No galleries yet so to speak, because I never really photographed people before (with effort) until like last October. But I did start a small website and blog that I hope to develop more later.

<http://www.wideanglesite.com>

It's interesting comparing the Tree Spirit Nudes to clothed portraits though. Because although I think he missed a point about presence, it seems evident that nudes may **allow groups of people to be incorporated into images easier**. Had all his models been clothed, his poses would not have worked the same Especially if the clothing were different styles and colors. The advantage of nude means everybody has skin, which is similar.

My trials right now are single models. And **outdoors, not specifically trees**. Could be railroad tracks, old buildings, etc.. I can't see myself trying tree photos with groups of people, but I think the Tree Spirit project nudes still offer a clue on how to do clothed. The models would need to wear the **same outfit or color**. I suspect that gowns of the same fabric would be one of the best choices. If I tried more than one person, I think I know 3 models who might be interested next year. Would probably just ask them to all go with black or green clothing.

The gal below, Alley, is the first model I ever photographed, beginning of last autumn. I paid her for a few hours. After a couple of shoots, several models were willing to trade their time for use of photos. So for most of autumn and winter, its not been a need to pay out of pocket to practice.







M. D. Vaden of Oregon

## [Re: \[Video\] Fstoppers: Tree Spirit Project, Nudes In Nature](#)

by **mdvaden** » Tue Jan 10, 2012 8:36 pm

*Joe Zorzin wrote: I think your work is very, very good- actually sexier than the nudes. Bare skin isn't always so great- but nice clothing is decorative and if done right, very artistic- as yours are, in my opinion.*

Just added a small gallery to my website I linked to earlier, with about 20 photos.

<http://www.wideanglesite.com>

One photo is one of the first two I posted in this topic - the model with a tattoo, in the midst of the twisted maple trunk. She seems more geared toward full nudes and Suicide Girl stuff, but she was game for some clothed outdoors photography. She has a very nice body, but her clothed photos are every bit as good as the nudes.

*Don wrote: I think to be sensuous and perhaps more amenable with 'pressing the flesh', one common across much of the US (American Sycamores) and the other in Mario's back yard (Pacific Madrones).*

Just have a small photo of one at our last home in Medford. We just closed on that property last December. It had several Madrone with diameters upwards of 40 inches, which is not huge, but rather appreciable. Wish I had got a sunny day photo of the smooth bark upper limbs that reached about 40 feet. There's also a lot of very nice ones I enjoy along the Smith River east of Crescent City, California, on the way to the redwood forests.





## Old Deerfield Elm, MA

by dbhguru » Tue Jan 10, 2012 12:47 pm

NTS, yesterday Gary Beluzo and I went to Old Deerfield to check on a couple of trees there. The first was the Old Deerfield Elm, a drop dead gorgeous tree. I think it is the best looking elm in all Massachusetts, if not New England. Here are three images.



Naturally, we remeasured the tree. It is 19.3 feet in girth and 106.8 feet in height. Its crown spread just about matches its height, but spread is a much more difficult measurement to take. I'll wait for warmer weather. Yesterday was too cold.



We then went to the famous Pocumtuck Buttonwood and I remeasured its height and girth. It is now 22.0 feet around. Its height is 120.0 feet. I used my TP 360. Its crown spread is about 105 feet. That gives it 410 big tree points. I like going to remeasure the sycamore when Deerfield Academy is in recess. Gawking students really get on my nerves.



The 120-foot height absolutely confirmed, make the Pocumtuck Buttonwood the tallest of the large sycamores that I track. It is also the most historic. It is one heck of a tree, but not as pretty has the elm.

Robert T. Leverett

### [Next Trail Guide for MTSF](#)

by **dbhguru** » Sun Jan 08, 2012 9:04 pm

NTS, Today Monica and I went to MTSF to begin putting together a trail guide for the park's nature trail. We discussed the project with Park supervisor Dave Miller who needs the guide. People come and ask where they can walk with relative ease for a couple of hours. The answer is the Nature Trail. However, the route isn't as exciting as other areas. Still there is a lot of interpretation that can be done. Below are some images from along the path.







I hope my fellow and lady Ents will pitch in and offer suggestions on interpretation. I'll start the ball rolling with images and provide some preliminary information to set the stage. Maybe some of you all can suggest interpretive material/ideas. It would be really something if we could make this an NTS project. I'm not trying to get out of work, but combining the talents of NTS members could lead to a spectacular product.

BTW, the last image is of a black locust with a black birch growing up through a decayed area. The black locust is 14.0 feet around and 83 feet tall.

What I'm looking for is help in matching the comments to the photo. Are there other items of interest that the photo suggests? Also, are my interpretive comments sufficient? For example, the 4th image I presented showed black oak bark from one of the very few black oaks in Mohawk. I'm sure many Ents have contributions to make in describing black oak bark, habitat, etc. Even though you all weren't physically present when the photo was taken, you all are imminently qualified to pass judgment on my interpretive comments and suggest improvements/additions. That's what I meant to convey.

I'll provide plenty of photos and an orientation to each. It will be an interesting experiment. I believe this can be made the Cadillac of interpretive guides and a model for other guides.

Robert T. Leverett

## [King Creek, NC](#)

by **Jess Riddle** » Tue Jan 10, 2012 4:42 pm

King Creek is a moderate sized stream with unremarkable topography that does little to suggest the area as a tree hunting destination. However, 2005 LiDAR data shows hits up 169' in somewhat surprising spots. The highest hits are in a northeast facing cove, but one so small that it registers on the topo maps as only a slight swerve of the contours. The largest concentration of tall trees grows in a small tributary that drains due south into King Creek.

The setting of the watershed makes the heights less surprising. King Creek lies just outside of Brevard, NC, which averages about 72" of precipitation annually, and just over a ridge from Horse Cove and its 140' Rucker Index. Additionally, much of the watershed resides between 2500' and 3500' elevation, the same range as most of the known 170' tuliptrees.



King Creek



Productive forests dominated by tall, slim tuliptrees and smaller numbers of black birch and other hardwoods line sheltered reaches of the stream. An understory of rhododendron and dog-hobble help create an impression of abundant moisture, but those shrubs generally do not extend far up the north facing slopes. The small, south facing tributary is also lined with tuliptree dominated forests, but oaks are the most abundant species on the surrounding slopes.

Unfortunately, the little cove with the tallest trees has been hit by an ice storm since the LiDAR data was flown. The crowns of several of the straightest and most symmetrical trees growing in the center of the cove now end in four inch diameter broken off stubs. However, many adjacent trees passed through the storm with little damage.

Species	Common name	Cbh (in)	Height (ft)
<i>Betula lenta</i>	Birch, black		111.2
<i>Liriodendron tulipifera</i>	Tuliptree	98	170.8
<i>Liriodendron tulipifera</i>	Tuliptree		166.7
<i>Liriodendron tulipifera</i>	Tuliptree		164.1
<i>Liriodendron tulipifera</i>	Tuliptree	89	163.7
<i>Liriodendron tulipifera</i>	Tuliptree		160.8
<i>Liriodendron tulipifera</i>	Tuliptree		156.8
<i>Magnolia fraseri</i>	Magnolia, fraser	71	114.8
<i>Platanus occidentalis</i>	Sycamore		138.7
<i>Quercus montana</i>	Oak, chestnut		132.4
<i>Quercus rubra</i>	Oak, northern red		143.7
<i>Quercus rubra</i>	Oak, northern red		135.1
<i>Quercus rubra</i>	Oak, northern red		134.4
<i>Quercus rubra</i>	Oak, northern red		131.8
<i>Quercus rubra</i>	Oak, northern red	140	122.9
<i>Tilia heterophylla</i>	Basswood, white		142.2

#### King Creek Measurements



The top of the tallest tree. The tree appears to have sustained damage in one recent ice storm and during another storm several years ago. The highest point, on the left, only sustained minor damage.

Jess Riddle & Michael Davie