The bark was quite corky and I've noticed that black ash bark is usually described as corky while green ash is sometimes described as corky and I have yet to see blue ash described as corky. I don't know if this matters.

Re: Lower Huron Metroparks

by **DougBidlack** » Sun Mar 18, 2012 11:37 am

eNTS, since were kinda on the topic of shagbark vs shellbark hickories I thought I'd post an image of a couple nuts that I collected from a hickory in Willow Metropark last weekend. The bark looked like a fairly typical shagbark to me. One nut was 3.7cm long (the one that isn't broken apart) and the other measured 4.2cm in length. According to the Virginia Tech site the nuts of shagbark hickory are 3.8-5.1cm and the nuts of shellbark hickory are 5.1-6.35cm. This would put the nuts clearly with shagbark hickory. However, since I knew that acorns are typically smaller on oaks growing in the North rather than the South I figured the same was likely true for hickories. Barnes and Wagner in "Michigan Trees" say that shagbark hickories have nuts that are 2-4cm (rarely 4.5cm) and shellbark hickory have nuts that are 4.5-7cm. This again indicates that the nuts I collected were from shagbark hickory. However one other source, the online Michigan Flora from the University of Michigan Herbarium by Reznicek, Voss and Walters, says that shagbark hickory nuts are 2.1-4.1 (-4.5)cm long while shellbark hickory nuts are (3.5-) 4-6cm long. This means that the nuts I collected fall right in between the two species. Looks like I need to collect more information...maybe after leafout. Here is the image of the nuts. I got this by using my scanner.

The hickories that I've seen have all been right at the edge or actually within vernal pools that are quite close to the river. The pools in one region are too high to ever be flooded by the river but in another area some are low enough that they might flood during fairly high flooding. The associated tree species in these two areas are quite different. The second site is dominated by typical floodplain species like cottonwood, sycamore and silver maple especially closer to the river but a little higher is where the cluster of dead blue ash was located. Also plenty of dead green ash and hackberries (live). The higher site that never gets river flooding has really high diversity. Everything from black oak and bigtooth aspen on slightly higher areas to pin oak, swamp white oak and red maple in the lower areas where the hickories were located.

Doug Bidlack

Pinus strobus in Meshomasic State Forest

by **michael gatonska** » Sat Mar 17, 2012 5:21 pm

The catching of this white pine soundscape was a bit frustrating due to the amount of airplane noise/traffic consistent overhead all morning. Out of the 45 audio takes I captured (approximately 40'), only 6' - give or take - was usable material. I was really shocked when I went through the audio takes...

http://www.youtube.com/watch?v=nN2mt5vKu5o

Still, the horizontal whorls of the large limbs of this native eastern U.S. conifer reveal its distinguishable sonic presence in this recording; a complex spectra of sound and changes in velocity with time. This audio was captured on a warm afternoon in the Meshomasic State Forest, Connecticut.

Michael Gatonska

Re: Pinus strobus in Meshomasic State Forest

by **Will Blozan** » Sat Mar 17, 2012 9:39 pm

Michael, Very soothing! White pine is one of my most favorite singing trees in the wind.

I assume these were done at ground level? Have you thought of or performed canopy recordings? As a climber I have experienced a much more intense and powerful sound aloft than on the ground. Lobloly pine and giant sequoia have amazing sounds. Of course, swaying with the tree adds alot, too... Thanks for sharing!

Will Blozan

Re: Pinus strobus in Meshomasic State Forest

by **michael gatonska** » Sun Mar 18, 2012 9:05 am

Hi Will and Rand-
Thank you both for listening, and I appreciate your comments. I have gone back into the audio, and removed some of the 'bumps' or periodic distortions in sound due to wind. I have re-posted the video, which now has less pops and other distractions from the white pine's song.
I have also made two other soundscape recordings, and plan on doing many more for my woody plants soundscape project. Today, I am heading out to capture a red pine soundscape - according to the National Weather Bureau the winds will be calm 6-9 mph -- perfect.

Will, unfortunately I have not done any canopy recordings; I have never been to the heights at which you do much of your work, although some day would love to try. In the hemlock soundscape I recorded, I noted that all the sonic action was all taking in the upper canopy - a shame I could not be up there - and I am absolutely sure the sounds must be amazing, as you can attest with your experience. So, all of my soundscape recording is being done at ground level.

Michael Gatonska

The Sap Man

by **edfrank** » Sun Mar 18, 2012 2:27 pm

From the newspaper: **Jefferson County Neighbors, Saturday March 17, 2012**

The 'Sap' Man: Ed Skarbek says spring has arrived. He knows spring is here when he can't make maple syrup any longer. And it is just about that time..

(Continued)

Indian Well/Paugussett Trail TTs

by **RyanLeClair** » Sun Mar 18, 2012 5:23 pm

Bart and I just scouted the banks of the Housatonic River looking for tall tulips. We were not disappointed. We both agreed we'd let Bob do more detailed measurements at a later time, so we only got accurate heights on three trees. They are:

--A hemlock at 126.3 feet tall. It was growing above the "well" for which the park is named, this "well" being a waterfall. There were a lot of other hemlocks ~100 ft.

--A tulip tree at 140' x 11'1". Growing up on a hillside. In a grove of tall tulips.

--And another tulip at 138.3 ft. A storm had knocked over a lot of trees, leaving this TT completely in the open. It was quite neat to see a very tall tree standing all by itself. It was growing right along the trail.

In addition, we got some straight-ups on a bunch of other trees. The numbers are:

TT -- 47.5 yds x 9'1". Has a badly rotted base with some mushrooms.

TT -- 45 yds x 10'4".

TT -- 48.5 yds x 8'7".

TT -- 47.5 yds x 10'3".

TT -- 47.5 yds x 10'4".

the largest tulip, at 46 yds x 14'4"

White Ash -- 40 yds x 12'6". Hollow and badly storm damaged.

Ryan LeClair

Shellbark vs Shagbark Hickory
(Re: Lower Huron Metroparks)

by **Jess Riddle** » Sun Mar 18, 2012 10:32 pm

I've only seen a couple of populations of shellbark hickory, both near the edge of their range in NY, but I did pay a good bit of attention to how they differed from shagbarks in the same area. The bark was tight on the lower trunk of some individuals, but I was not able to use bark to readily distinguish them from shagbarks. One population had fruits that overlapped with the size range of shagbarks while the other had clearly larger fruits. I noticed the husk sections tended to be less rounded than those of shagbarks, with the shagbarks being fairly "C" shaped. The twig and branch arrangement was fairly recognizable, even on mature trees during winter. Shellbark twigs and buds are noticeable thicker, and the crowns appear much more open than shagbark crowns. They simply have fewer twigs for a given size tree. The shellbark habitat also seemed fairly specific. They grew either immediately adjacent to a wetland, or on slightly elevated land within a floodplain.

Jess Riddle


shellbark husk sections


shellbark crown


Young shellbark crown center


Bark on approximately 15" dbh shell bark


Bark on approximately 8" dbh shellbark

Bang for Your Buck Instruments (Re: VORTEX SOLO R/T 8 x36)

by **dbhguru** » Thu Mar 15, 2012 8:21 am

It is a real pleasure to get an instrument that delivers great performance for a low price. The Nikon Prostaff 440 would be at the head of my list among the instruments I own. The Bosch GLR825 is a solid performer. I would now add the Vortex Solo R/T 8 x 36 to the list. My LTI products are all great performers, but they are not inexpensive. So, in terms of bang for the buck, it's the Nikon, the Bosch, and the Vortex. I suppose that if one needs a product in each major category of use, the Suunto clinometer would fit in.

Robert T. Leverett

Re: Bang for your Buck Instruments (Re: VORTEX SOLO R/T 8 x36)

by **M.W.Taylor** » Mon Mar 19, 2012 1:06 pm

Bob, Here is my ranking for best "bang for buck" instruments I am using for tree measurement:

1) 50' tape-line
2) TI Solar Calculator
3) Vortex SoloRT
4) Trupulse200 - A little pricey but worth every penny
5)Impulse200LR - Expensive but accuracy is second to none.
6) Macroscope25 - Still use it due to tiny size-fits tripod clamp perfectly
7) Bosch GLR825 "Bosch Girl"
8) LTI Mapstar Angle Encoder - useful but expensive behemoth instrument. Perhaps even obsolete.

I Also use the TP360 and MapSmart with Archer Field PC, but they are on long term loan from LTI so I can't really compare since I paid nothing for them.

Michael Taylor

ISSN Number for "*e*NTS: The Magazine of the NTS"

by **edfrank** » Mon Mar 19, 2012 10:25 am

NTS, I applied for an ISSN Number for our monthly magazine eNTS: The Magazine of the Native Tree Society. We officially have a number today!!

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Edward Frank

Trees SC's License Plate Design Contest

by **Marcas** » Mon Mar 19, 2012 3:15 pm

The Trees SC License Plate Design Contest is open to all residents of South Carolina and all submissions must be of original design. You got intill April the 5th to turn in your drawing who know you might win 500 dollars. Most of all anyone who live in SC can buy them a tree license tag to pump there ride!
Here's the link below
http://www.treessc.org/wp-content/uploads/2012/02/TREES-SC-LICENSE-PLATE-DESIGN-CONTEST-GUIDELINES.pdf

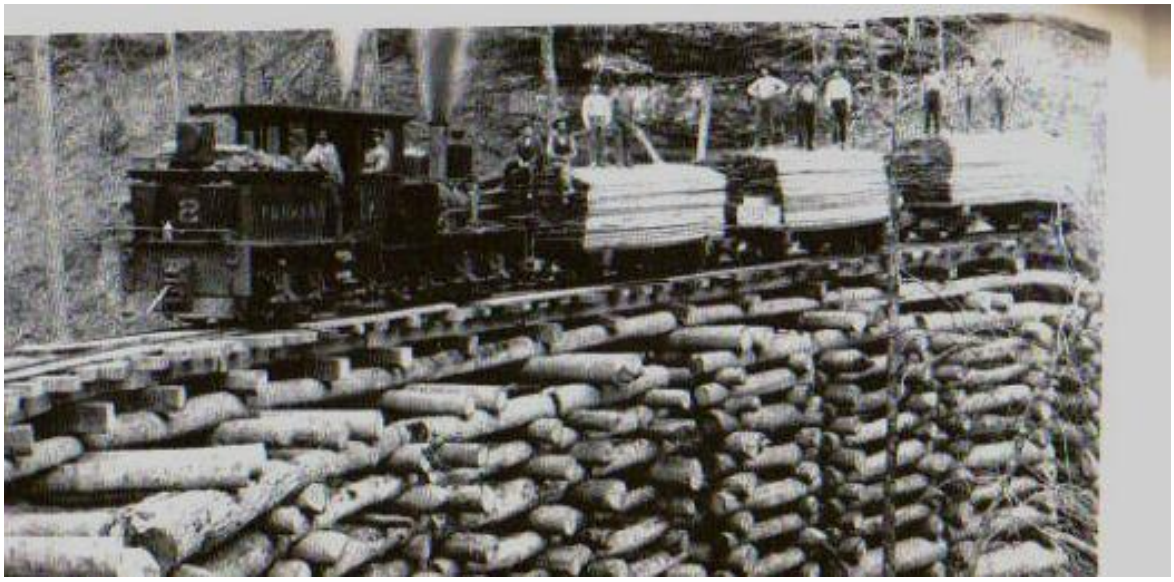
Macas Houtchings

Some Old WV Timber photos

by **jamesrobertsmith** » Mon Mar 19, 2012 7:30 pm

Whenever I go to West Virginia, I'm always amazed at the logging trucks that my wife and I see on the roads hauling raw timber to the mills. Mainly it's hardwood timber, and the size of the trees always floors me. No sooner has the state recovered from the rape of the mountains from the past century than they start all over again. It never ends!

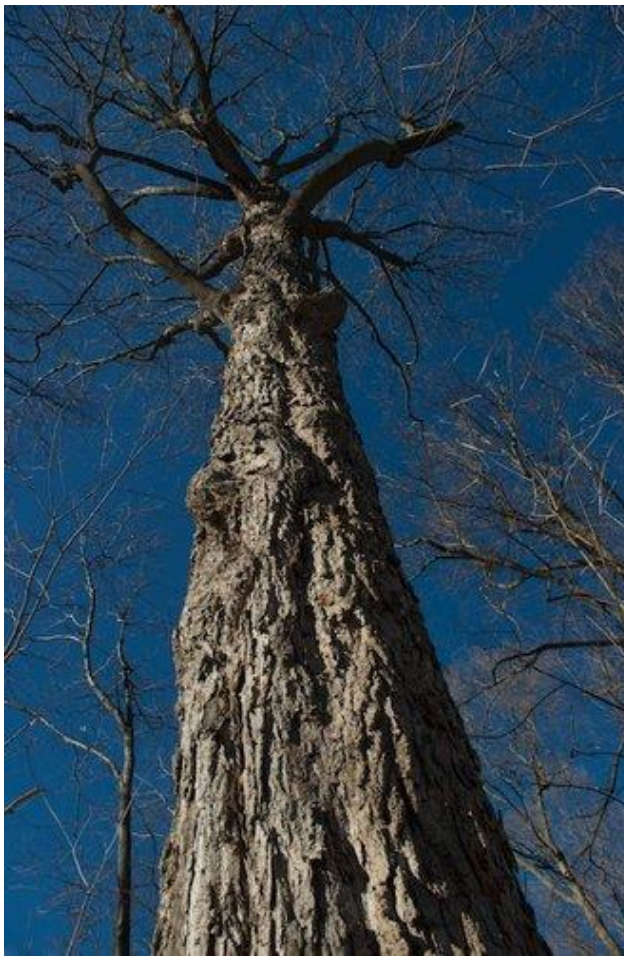
I recently located these two photos online of timber operations in Pickens, WV. What amazes me in one of the shots is the railroad bridge composed of raw timber. I reckon they disassembled it after the operation was over and sent those big logs to the mills.

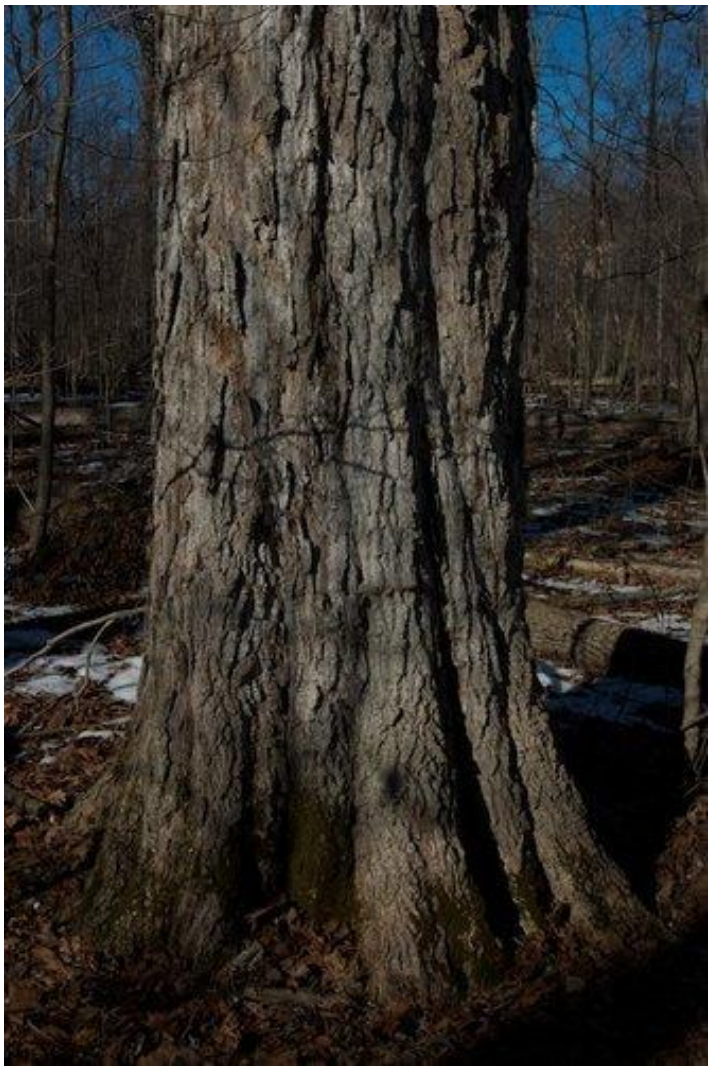


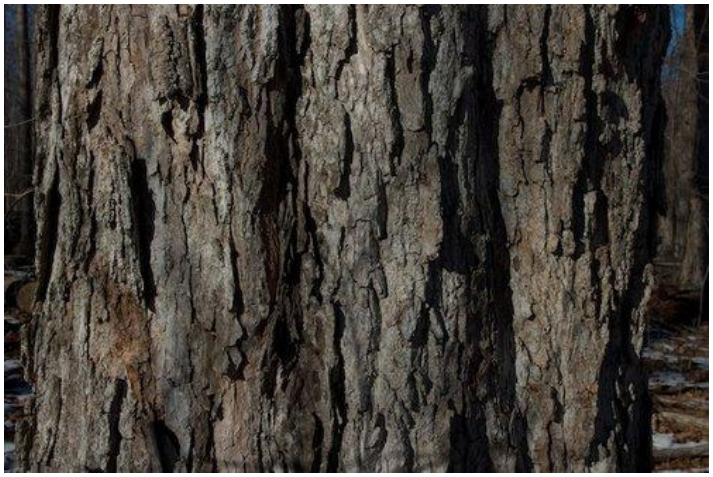
Black Maple vs. Sugar Maple
(Re: Lower Huron Metroparks)

by **DougBidlack** » Mon Mar 19, 2012 11:28 pm

eNTS, OK, so here's my last ID question before I start throwing out some preliminary numbers. This is regarding black versus sugar maple. I'm fairly certain that the two trees in the following images are black maple but I still would love some of you with more experience to say "yup, that's black maple alright". When I first visited this site in the northwestern portion of Lower Huron Metropark I thought these large trees were sugar maples. Here are some pictures of one of these trees. It was 9.76' x 105' shooting straight up.







I later saw many more of these maples at this site. They were, in fact, the dominant species in this particular bend of the river. I wondered if they were actually black maples since I knew they were supposed to be at this park and they were supposed to grow in river floodplain forests. Anyway, I just happened upon this tree with a large broken branch with a bunch of dead leaves on it. The leaves had stipules at the base of petioles and the so I was sure that it was indeed a black maple. It was a younger tree so the bark looked different than the larger, older trees but I still figured the trees were all the same species. Here are some images of the younger tree with the broken branch.

So, do these both look like black maples? I'm especially wondering about the first tree...the bigger, older one.

Doug Bidlack

Re: Black Maple vs. Sugar Maple (Re: Lower Huron Metroparks)

by **edfrank** » Mon Mar 19, 2012 11:46 pm

Black Maple versus Sugar Maple

I am working on a series of documents written by Bruce Kershner concerning a number of old growth sites in the Niagara Falls area. For one of the reports he prepared a table comparing and contrasting the differences between Black Maple and Sugar Maple:

Table: Observable Physical Differences Between Black Maple and Sugar Maple

	Black Maple	Sugar Maple
Leaf	blackish-green upper surface (one of the 2 reasons for its name)	medium green upper surface
	thicker	thinner
	3-lobed or sometimes 5-lobed	always has 5 lobes
	lobes are shallow	lobes are more deeply indented
	typically has 5 - 8 points	typically has 12 - 15 points
	edges bend down (drooping), causing leaf to have a "wilted" appearance	leaf is flat, not drooping
	leaf stem is pendant	leaf stem is not pendant
	finely hairy or wooly undersurface	finely hairy only on veins of undersurface
	yellow-green beneath	medium green beneath
	autumn leaf turns color earlier	autumn leaf turns color later
	autumn leaf drops (shed) earlier	autumn leaf drops (shed) later
	autumn leaf mostly turns yellow	autumn leaf mostly turns orange and red
	leafstalk is enlarged abruptly at base and usually bears stipules large enough to enclose the bud	leafstalk is not much enlarged and have no stipules or small stipules that do not cover the bud
Twig	stouter	more slender
	conspicuous warty lenticels	smooth, without conspicuous lenticels
	orange-green and hairy when first appears	light brown when first appears
	orange-brown and smooth during 1st year	
	pale gray-brown at second year	
Bud	pointed	conical
	covered with fine white hairs on outer surface	has sparsely hairy scales
Flower	yellow-green	yellow
	opens a few days later than Sugar Maple	opens a few days earlier than Black Maple
Fruit	wings of fruit (samaras) slightly more divergent or spread apart	wings of fruit (samaras) less spread apart
Bark	typically does not form plates	typically forms plates
	on older trees, deeply furrowed and ridged, often with protruding flanges	on older trees, usually scaly or knobby- ridged
	on older trees, sometimes almost black (one of the 2 reasons for its name)	on older trees, brown-gray to gray
Branch	young trees show less forking of branches	young trees show more forking of branches
Tree Size	generally smaller and shorter in size;	generally somewhat larger and taller in size;
	typically up to 75 feet tall, 3 feet diam.	typically up to 90 feet tall, 4 feet diam.;
	maximum height recorded: 118 feet; maximum diameter recorded: 5.8 feet	maximum height recorded: 151 feet; maximum diameter recorded: 7.3 feet
Geographic Range	extends further west than Sugar Maple, into central and western Iowa, South Dakota, Arkansas	doesn't extend as far west, but ranges much further north and east
Habitat	a) tolerant of floodplain soils	a) doesn't tolerate flooding
	b) closely associated with limestone-related basic soils in southern Ontario	b) grows on any soil but does well on acid soils
	c) rarely attains dominant status in forests	c) frequently is the dominant forest species
	d) sources do not mention pure sand as its habitat	d) grows well on pure dune sand in moist climates
Hybridization	In the eastern part of its range, Black Maple hybridizes easily with Sugar Maple. However, in the western part of its range (US Great Plains states), Black Maple is genetically distinct enough that it shows little tendency to cross with Sugar Maple.	

kershner_blackmaple.xls

Edward Frank

Yoshino cherries in bloom in the Cleveland area

by **Steve Galehouse** » Fri Mar 16, 2012 6:05 pm

NTS- Yoshino cherries are in bloom here locally, which is by far the earliest I've ever seen this happen;---they are a full month ahead of schedule.

Magnolia kobus and *stellata* are showing color, and will be in full bloom by the end of the week. Cornelian cherry is in full bloom also. This is a very strange season.

Steve Galehouse

Devils Playground, Mojave National Preserve

by **Chris** » Tue Mar 20, 2012 12:28 am

The Mojave River starts in the San Bernardino Mountains of southern California and flows east into the Mojave desert, eventually "disappearing" in the sands of its dry channel. However, during wetter times in the Pleistocene, in flowed into several pluvial lakes, eventually reaching its terminus in Lake Manley in present day Death Valley. It also deposited larges amounts of sand. As the climate dried, winds blow this sand into dunes systems.

One of the largest, is the Devils Playground in the Mojave National Preserve. The sand complex covers some 50 square miles and culminates in the 600 ft tall Kelso Dunes. On the north end, the playground takes on the form of a mostly flat sand sheet.

And yes, there are trees. The Honey Mesquite (*Prosopis glandulosa* var. *torreyana*).

Honey Mesquite is wide ranging, from Texas west to California, and south into Mexico. A phreatophyte, it requires large amounts of water that it draws from partially from groundwater and it, like other mesquites, is famous for its long roots, often extending many tens of feet to tap this underground water source. In rare instances mesquite roots have been been found nearly 200 ft in length! If that isn't enough, they also have extensive networks of shallow roots to capture water from those infrequent rain events.

Its seeds are an important food source for many native animals, including historically Native Americans. It is also a host for the parasitic Mesquite Mistletoe (*Phoradendron californicum*), itself an important food source.

In the Devils Playground, I observed two forms. First, was a multi-trunk form tree, with the largest having individual trunks ~1.5 ft in diameter and ~ 30 ft in height. Most were ~15 ft tall, but spread 30 ft across, with rooting branches. These were found in an open, flat, savanna type community.

Open, mesquite woodland

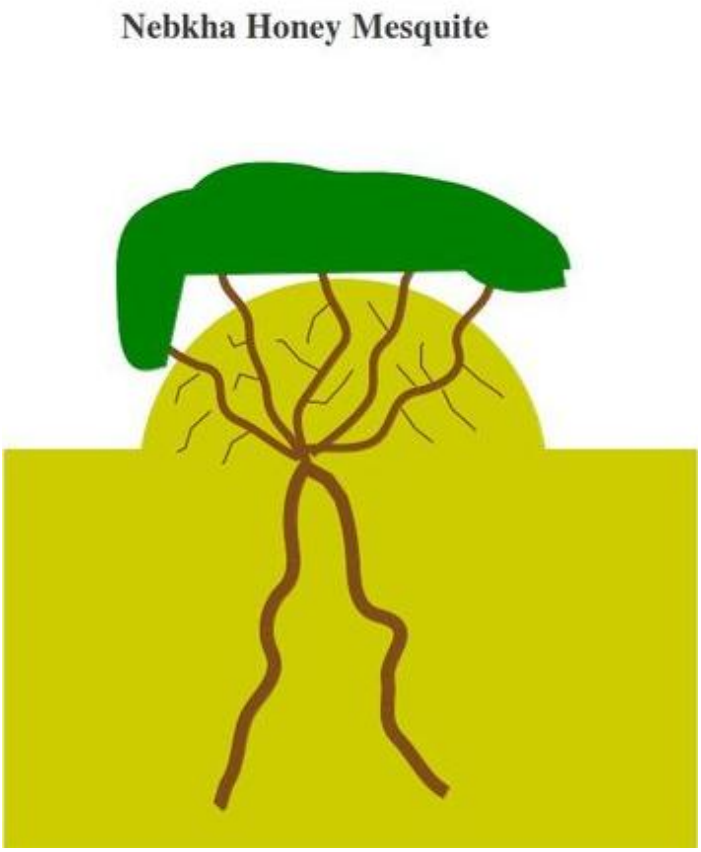

Large Honey Mesquite


Large Honey Mesquite Multi-trunk

shorter, but very wide spreading Honey Mesquite. Note numerous mistletoe

The more interesting form was associated with nebkha. Nebkha (or nabkha), also known as coppice dunes, are formed where sand movement slows down and stops around existing vegetation. As sand gathers into a dune and increases in height, the plant also grows upward, becoming taller compared to the original land surface, but static compared to the dune.

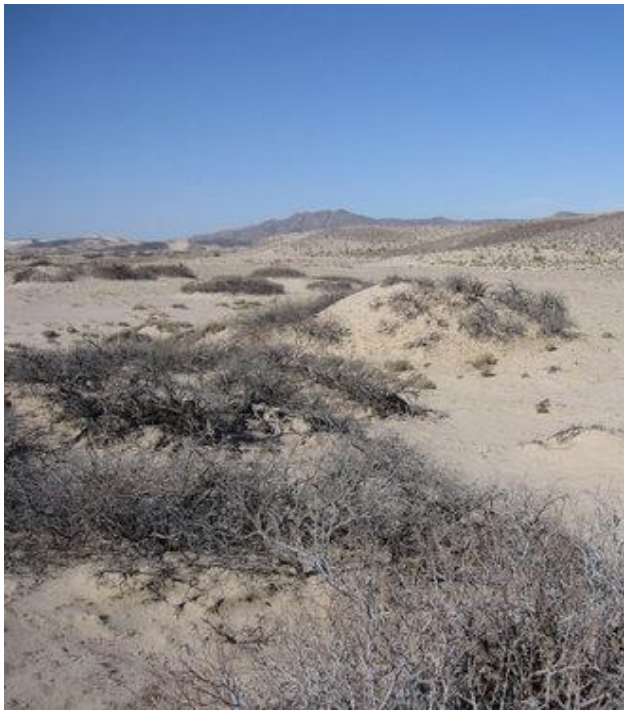
So on the surface, these were short stature shrubs, mostly less than 3 ft tall. But when combined with the 20 ft dune at the bases, they start to give their "true" dimensions.



"Cartoon" of Mesquite as a nebkha, showing root structure. Notice deep roots and fine, shallow roots to collected precipitation in the sand

nebkha mesquite

Honey Mesquite nebkha



group of nebkha Honey Mesquite

Re: Devils Playground, Mojave National Preserve

by **edfrank** » Tue Mar 20, 2012 9:40 am

Mesquite Trees Displacing Southwestern Grasslands
http://uanews.org/node/45545

By Daniel Stolte, University Communications, March 19, 2012
Mesquite trees and woody shrubs are better adapted than grasslands to a Southwestern climate predicted to shift toward higher temperatures and greater variability in rainfall, UA ecologists have discovered.

As the desert Southwest becomes hotter and drier, semi-arid grasslands are slowly being replaced by a landscape dominated by mesquite trees, such as Prosopis velutina, and other woody shrubs, a team of University of Arizona researchers has found.

Th Sierra Club posted about this a couple days ago:
http://sierraactivist.org/2012/03/18/mesquite-trees-displacing-southwestern-grasslands/

A nice blog here:
http://www.constantinealexander.net/2012/03/mesquite-trees-displacing-southwestern-grasslands.html

Edward Frank

Todd and Thumper Mtn Old Growth, MTSF, MA

by **dbhguru** » Tue Mar 20, 2012 2:11 pm

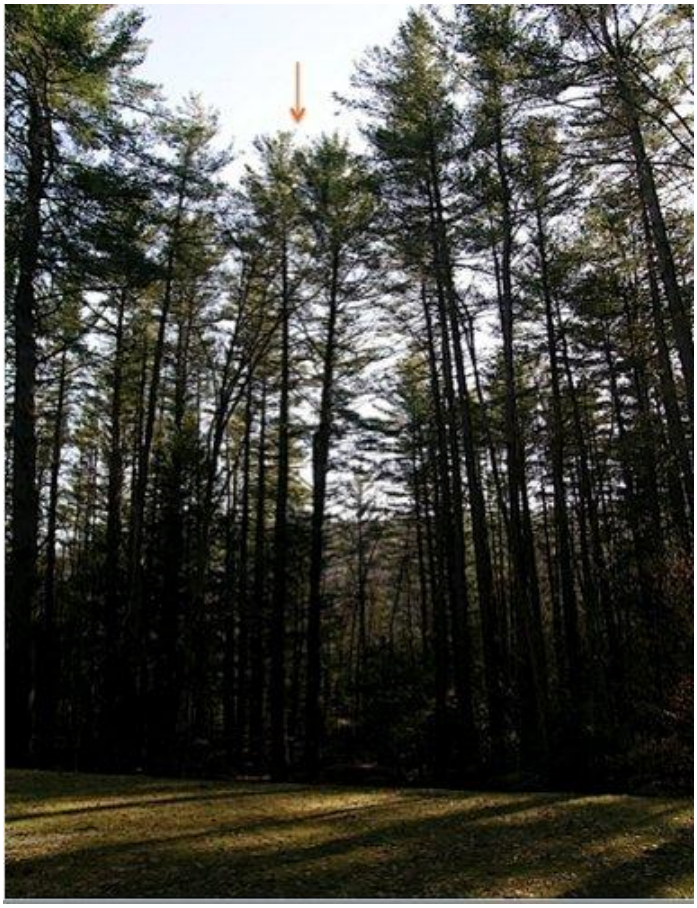
NTS,

On Sunday and Monday, Monica and I stayed at Cabin 6 in MTSF. During this visit, we had several objectives to accomplish. One was to get better pictures of Thumper Mountain's old trees for the nature guide. A second objective was to climb Todd Mountain and descend off trail through the old growth and check on it. Thirdly, I planned to look for more 150s and remeasure existing one, and lastly, we planned to just soak up the pine, rock, and river energy. We were the only ones in the campground and the weather was idyllic.

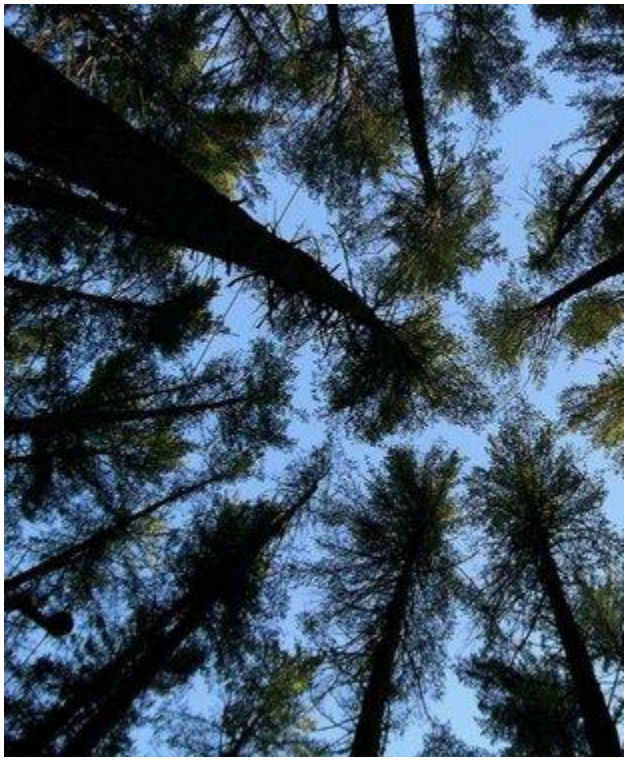
The first image is from Thumper. An old white pine is perched on a rock. This photo is part of the tree-rock art that I enjoy so much and reflects so much of the magic of Mohawk's forests.

A short distance from the cabin, there is a small leach field. One of the pines below the field is a 150. Naturally, I had to remeasure it. The Boulder Pine is on the left in the next image.

The next image has an arrow pointing to the absolute highest sprig of the Boulder Pine. Interestingly, the tangent method yields 146.4 feet for this pine instead of its true height of just 151 feet.



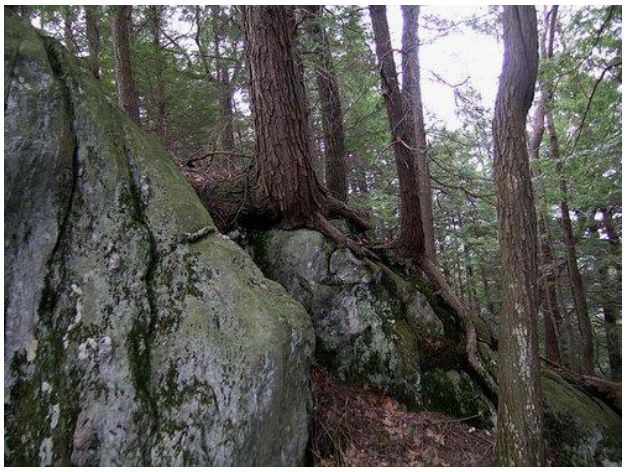
On the other side of the cabin, the high canopy part of the Pocumtuck Grove awaits a stroll of a few yards. Take that stroll, look up, and this is what you see. One of these canopy trees is a new 150. That's number 123!



Our big trek of the period was to the top of Todd Mtn and onto the old Indian Trail out to Indian Lookout, and then, down through the old growth in a rugged off-trail excursion. Our friend Ed Ritz joined us on the trek. The first image looks out over the Cold River Gorge from Indian Lookout. The gorge is roughly 1,000 feet deep. The English probably called it the Cold River Valley. The English were natural feature challenged when it came to naming landforms. Every land feature had to be named for a person or selected from a paltry number of descriptive choices.

The next image show Monica and Ed on the summit of Todd. The elevation is a modest 1,702 feet, but Todd rises 1,100 feet above the Deerfield River, and 1,000 feet above the Cold River. It is rugged terrain.

The next series of 5 images show the old growth on Todd. Hemlocks to 400 years in age, but more commonly 250 to 300. Black birch to 334 years, bit more commonly 200 to 275. Northern red oaks to 300, but more commonly 180 to 250. Great trees, great rocks, great views, and the old Indian trail at the top. Who could ask for more.



Robert T. Leverett

Re: Charismatic Megaflora: What do Old Trees Look Like?

by **Larry Tucei** » Tue Mar 20, 2012 12:20 pm

Hi Neil, Great article! I have changed the way I look at trees. NTS has taught me much and I have learned over the years that big doesn't necessarily mean old. Live Oaks for example can be really large in a short period of time say 100 years. In tree years that's very young even though they can be 16' CBH. The bark on really older Live Oaks gets really rough looking, tends to rot and limbs fall off. I read an article similar to what you describe about a Longleaf that was very small but very old due to shading, competition etc. In the Forest I've have noticed bark on older trees has different characteristics. Can you post a photo of the balding you describe? I would like to know what to look for. One example of an older Live Oak.

Larry Tucei

Lagarde Oak

Lagarde Oak

After the Wings of Migratory Birds Recording Release

by **michael gatonska** » Tue Mar 20, 2012 3:36 pm

Hello ENTS:
A few days ago Ed Frank graciously posted a video of me discussing my composition ***After the Wings of Migratory Birds***, commissioned by the American Composers Orchestra and scored for chamber orchestra.

The orchestra has recently released a recording of my piece, and this week it was voted Q2 Music Album of the Week for March 17, 2012 by Q2 Music / WQXR Radio in New York. It hasn't been nominated for a Grammy, but you can listen online or safely download for $2.99.

Q2 Music Article:
http://www.wqxr.org/#!/articles/q2-album-week/2012/mar/17/while-sounding-home-american-composers-orchestra-nevertheless-goes-big/

Listen/download at Instant Encore:
http://www.instantencore.com/music/details.aspx?PId=5090450

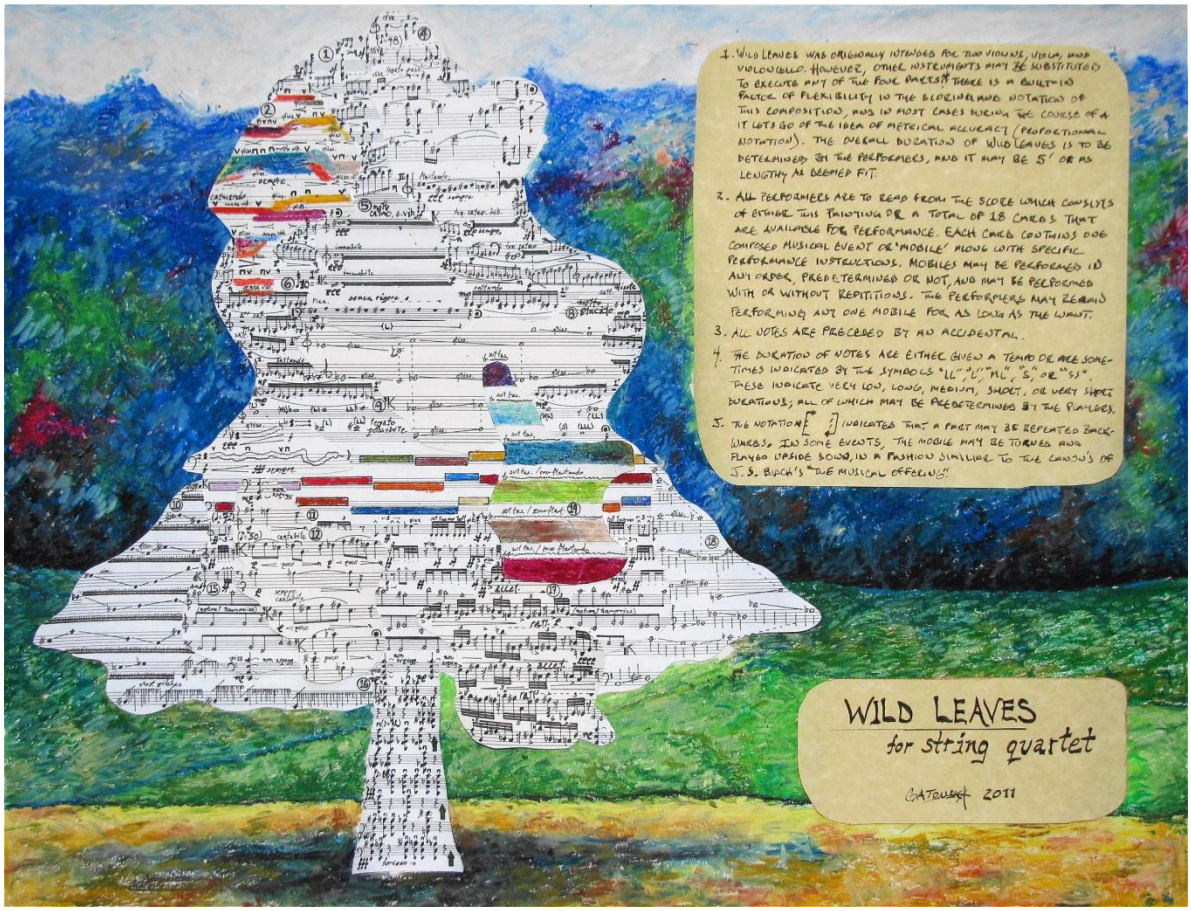
The video/interview of the ACO composition project made by Jeremy Robins:

http://www.youtube.com/watch?v=ShK-WY9VBOo

Michael Gatonska

Music Score "Wild Leaves" for string quartet 2011

by **michael gatonska** » Tue Mar 20, 2012 3:42 pm



Michael Gatonska

Re: Project Budburst for 2012

by **Steve Galehouse** » Wed Mar 21, 2012 4:58 pm

On March 21 in NE Ohio native *Amelanchier* in full bloom; flower buds beginning to open on sugar maples, pin oaks, and cottonwoods; sassafras breaking buds; black cherry in foliage growth; Asian species/varieties of *Magnolia*, *Prunus*, and *Pyrus* in full bloom.

Magnolia x soulangeana, Lake Erie in distance:

White weeping cherry:

Steve Galehouse

Magnolias in full bloom in Minneapolis

by **Lee Frelich** » Wed Mar 21, 2012 7:22 pm

ENTS:

The earliest known arrival of spring has occurred in Minnesota this March. Snow is gone throughout northern MN and Upper Michigan. Ice out is occurring fast on Minnesota Lakes. The season's first tornado occurred Monday. In the last week, temperatures have been as much as 40 degrees above average. International Falls (on the border with Canada) has had several days with temperatures in the mid to upper 70s (mean high 36, previous record highs in the 50s), and had one night where the overnight low of 60 was equal to the record high for the date. Day after day, record high temperatures are being blown away at weather stations with >100 years of record, by 10-20 degrees. However, it is supposed to cool down soon, so that temperatures will only be 10-15 degrees above average.

In Minneapolis, almost all wind pollinated tree species are in full bloom, including elms and maples (average date first week of May), and oaks look like they are about to open up. I have never seen so many species give off their pollen at once. Spring ephemerals and magnolias are in full bloom! I never thought I would live long enough to see Magnolias bloom in March in Minnesota.

Historically, this was the time of year that we had the biggest snow storms, but March is not even the snowiest month any more in the newly released climate 'normals' with data from 1981-2010.

Lee Frelich

Re: Magnolias in full bloom in Minneapolis

by **Chris** » Wed Mar 21, 2012 11:59 pm

Below is a satellite loop from March 11th-19th (1 image each afternoon) showing the removal of the snowpack over just one week.

http://www.crh.noaa.gov/news/display_cmsstory.php?wfo=mqt&storyid=80804&source=0

2012 spring yellow poplar bud burst

by **russ richardson** » Wed Mar 21, 2012

ENTS: Today it was just over 90 degrees in parts of central West Virginia and it has been ridiculously hot for several days. It looks like the winterless spring is breaking all sorts of records and the trees and flowers are at least two weeks ahead of what has been established as typical.

Between 1:00 this afternoon and 7:00 tonight the leaves of yellow poplar trees started to open.

I drove down into a remote valley to conduct a forest inventory shortly before 1:00 this afternoon and took time to pause at a vista to look at the blossoming red buds in the valley. The only other noticable color at that time was the flowering red maple trees. During the afternoon black oak leaves started to open. By 6:00 when I climbed back towards the top of the ridge I was noticing a faint green color in the distance. At 7:00 I left the valley by the same road and stopped at the same spot to look at the vista one last time and it was then that I realized the faint green I had noticed an hour earlier was yellow poplar buds and leaves opening.

I have never seen the poplar leaves open so early and I have never actually been in a position where I could actually narrow the event down to such a specific time frame.

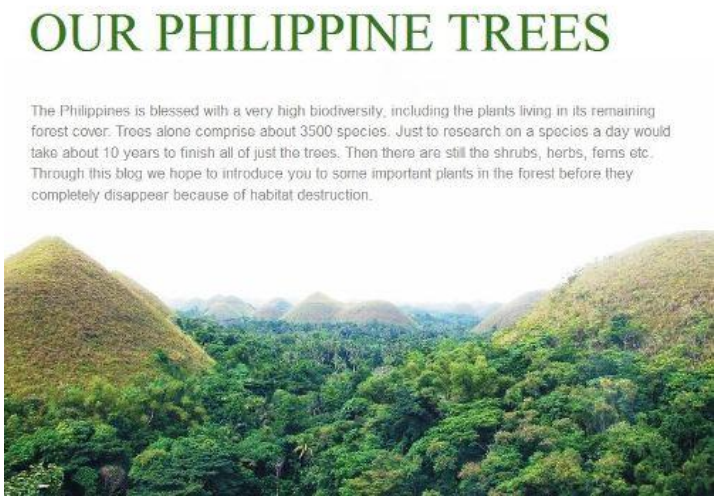
Russ Richardson

Re: Sanyo Seiki

by **SanyoSeiki** » Wed Mar 21, 2012 10:17 pm

Hello buddy! Thanks for the warm welcome... You can check about our Philippine trees on this site!

Here's the link
http://pinoytrees.blogspot.com/2010/08/flowering-dipterocarp.html



Sanyo Seiki

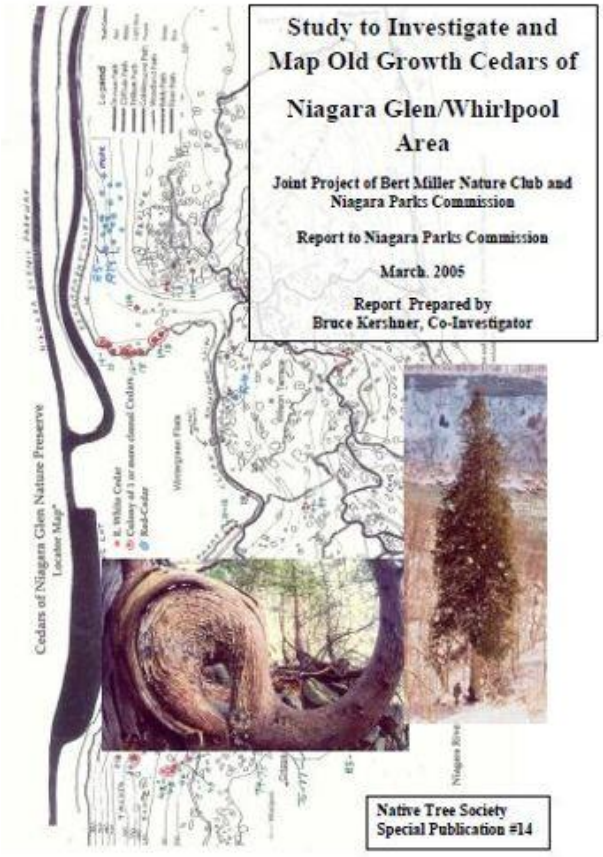
Old Growth Cedars of Niagara Glen/Whirlpool Area, ONT

by **edfrank** » Wed Mar 21, 2012 5:59 pm

Study to Investigate and Map Old Growth Cedars of Niagara Glen/Whirlpool Area, Report Prepared by Bruce Kershner, Co-Investigator

Joint Project of Bert Miller Nature Club and Niagara Parks Commission, Report to Niagara Parks Commission, March. 2005

Native Tree Society Special Publication #14, March 2012, edited by Edward Frank



http://www.nativetreesociety.org/specialreports/cedars/Niagara_Glen_Cedars.pdf

The goal of this project is to assess the extent of the population, and map the location of, the Eastern White Cedars that grow in the Niagara Glen/ Whirlpool area, as well as to get an idea of their age, physical size, and other notable features. This is the first formal, funded study of old-growth cedars of the Niagara Gorge (Canada or U.S.), to the best of this investigator's knowledge. In particular, it is the first time that increment bore samples have been obtained to accurately measure ages of old growth cedars anywhere in Niagara Gorge – Bruce Kerhsner

Full Document 8.3 MB

Edward Frank

Re: Some Old WV Timber photos

by **dbhguru** » Thu Mar 22, 2012 9:35 am

Robert, Thanks for the old photos. Those and others tell a story of the forest past that we won't see again. To reinforce the point, I'm seeing an increase the the flow of logging trucks around here in western Mass. So, it isn't just WV and other areas of the country that we associate with wholesale land rape. Once the timber value builds in the forest, the drumbeat always starts to cut that old "diseased and decadent" timber before the whole forest collapses. Same old, same old. Except on some private estates, in some public forests, and on some of the lands of conservation organizations, the practice of good timber management continues largely as a myth. Good forest management can be done, but it requires a different value system, one that we don't have in our country, except as the exception. What passes for good management is often plantation forestry, which usually implies a monoculture, clear-cutting on a large scale, and biological simplification.

WV once had magnificent forests, probably equal to those of the original forests of western North Carolina and eastern Tennessee. I don't know what the original forests of New England looked like, but I'm sure a damn sight better than the crap we see today. That is why I sink most of my time into trying to insure the preservation of the best of we have left. I post a lot on MTSF - probably more than most NTS members are interested in reading, but it is part of a strategy to keep that great forest up front and visible to a wide enough segment of the public that value builds in the minds of an ever greater number of potential supporters.

Perhaps we should create an NTS gallery of old photos of the forests of bygone days. One image after another. Then we could compile a modern day equivalent, covering the best of what we have left, plus a gallery of the commonplace woodland scenes. Might be revealing in ways that our scattered efforts don't fulfill. Ed, what do you think?

Robert T. Leverett

Re: 2012 spring yellow poplar bud burst

by **russ richardson** » Thu Mar 22, 2012 10:54 am

Bob: It has been a very challenging time and much more so than I could have ever expected. Since the beginning of the great recession I have seen my income drop by about 85% and I am now one of the last remaining private foresters in central West Virginia. It took me until late 2008 to sell trees I marked for sale in 2005 and 2006. I stopped marking timber in January 2007 and did not mark a single tree in 2008 and 2009. I sold two patches of timber in 2010 and one in 2011. The lack of sales of timber is because of the absence of loggers and sawmills....I turn down two to five opportunities a week to sell timber for property owners and for the time being will only consider timber sales for established clients, with current forestry plans! By the end of last year most of the sawmills I have dealt with in the past were closed and all but one logger I have worked with since 1991 has gone out of business. I have started to jokingly refer to the area where I live as the "triangle of death". Calhoun County where I live is in the center of a triangle, 100 miles on a side (300+ mile perimeter) that is nearly 100% rural, privately owned and mostly forested without a single operating sawmill. In much of the state there are people willing to "cut" your timber but there is a severe shortage of people wanting to pay for the timber. Since 2009 I have seen more timber theft than anytime since I started in the private sector in 1975 and the chances of property owners collecting for damages are lodged firmly between slim and none.

The best loggers have gone to the gas fields and will likely never return to timber. Theives, crooks and drug addicts that no rational person would ever knowingly invite to their property represent an majority of the available logging force in many parts of the state.

I have been very busy working with mechanical control of the highly invasive Japanese stiltgrass, Microstegium vimineum, and I have been given scientific credit for discovering a fungus (Bipolaris) sickening and killing stiltgrass in West Virginia that

has spread through the region.

The area where I live is in the middle of an invasion by emerald ash borer and I just completed an ash eradication sale for one of my clients but markets for all wood products are so weak and loggers are so scarce that I expect nearly 100% of the ash killed by EAB in this area will end up as worm food....the lucky ones will get burned for firewood.

I've been a lurker on a lot of the biomass debates in New England and I am appalled at the race to ruin so many vistas in that part of the world with windmills and have to say that when I read of the proposed windmill farm on Mount Massamet in Shelburne the only way I can describe my reaction is incredulous.

I have also been very much involved with the NAPPC (North American Pollinator Protection Campaign) and improvement of pollinator habitat.

My mother sent me a copy of the article on your work at MTSF....excellent.

Russ

Unknown tree/shrub in n. OH

by **swamp_rattler** » Thu Mar 22, 2012 9:19 pm

Shot this Cedar Waxwing a couple years back...and now am wondering what this berry-producing tree is? Any thoughts? CVNP of northern Ohio.

Great Pines Trail, MTSF, MA - Trail Guide Draft

Robert T. Leverett

by dbhguru » Fri Mar 23, 2012 11:21 am

Tom, Ryan, et al.

Monica and I are waist deep in trail guides, or I should say master guides from which DCR will extract material and format into usable guides. It is a partnership that has an extremely bright future. There will be a separate guide for each trail or trail segment. We recently completed a draft on a segment of the old Nature Trail. DCR suggested the trail name. Naturally, I obliged. Monica and I will continually refine this guide, but here is what the draft looks like at this point.

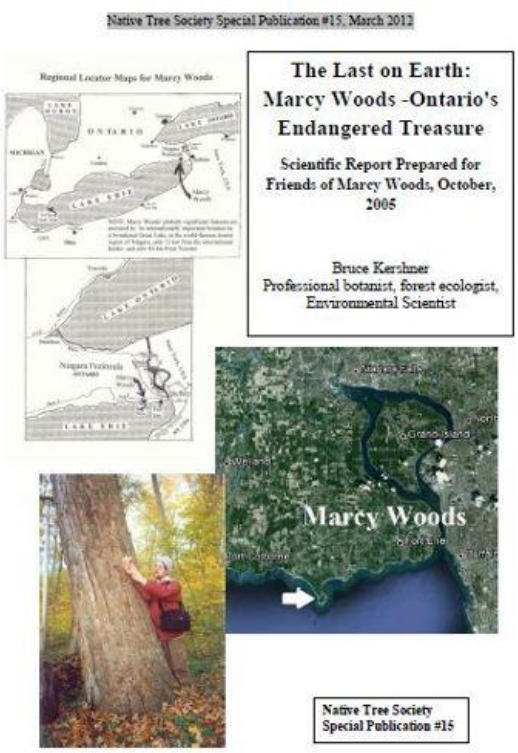
MTSF-GreatPinesTrailDraft.docx

The Last on Earth: Marcy Woods by Bruce Kershner

by **edfrank** » Fri Mar 23, 2012 3:17 pm

The Last on Earth: Marcy Woods -Ontario's Endangered Treasure: Scientific Report Prepared for Friends of Marcy Woods, October, 2005 by Bruce Kershner

NTS Special Publication #15, March 2012



Marcy Woods, the last known Old Growth Black Maple forest on Earth, is a globally-significant natural heritage site. Its need for protection is made even more compelling by the fact that it is also the refuge for the greatest concentration of rare and threatened plant and animal species in the Province of Ontario. This biodiversity record even surpasses the famed Point Pelee National Park, located at the opposite end of Lake Erie.

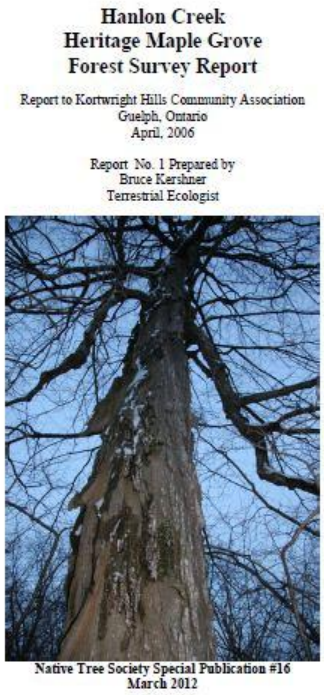
Full Document 6.7 MB
http://www.nativetreesociety.org/specialreports/marcywoods/marcy_woods_final.pdf

Hanlon Creek Heritage Maple Grove - NTS SP #16

by **edfrank** » Fri Mar 23, 2012 10:40 pm

Hanlon Creek Heritage Maple Grove Forest Survey Report, Report to Kortwright Hills Community Association, Guelph, Ontario, April, 2006, Report No. 1 Prepared by Bruce Kershner,

NTS Special Publication #16, March 2012



The woodland site referred to in this report as the Hanlon Creek Heritage Maple Grove in Guelph, Ontario, is one of the sites documented as part of the ecological field work conducted during winter 2006 for the Kortwright Hills Community Association. The Association arranged for the author of this study, a terrestrial and forest ecologist and old-growth forest authority, to survey and analyze the woodlands of a 670-acre area which the City of Guelph plans to develop into the Hanlon Creek Business Park.

Full Document 6.5 MB
http://www.nativetreesociety.org/specialreports/hanlon/hanlon_heritage_maple_grove.pdf

Andrew Jackson Live Oak Daphne Alabama

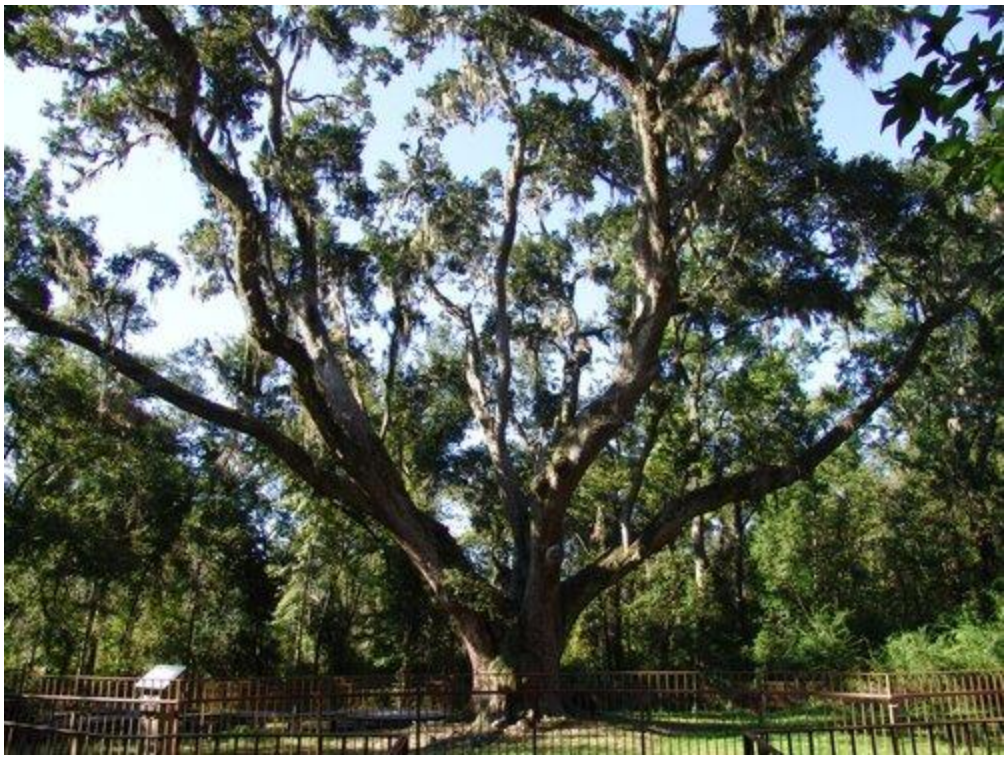
by **Larry Tucei** » Fri Mar 23, 2012 10:12 pm

NTS, I've been doing some research lately and came across an old photo from 1905 of the Andrew Jackson Live Oak that I first measured back in 06. This was the first Live Oak I ever measured. The great trees measurements in 2006 were CBH-29' 6", Height-81' and Spread-148'. It still is one of the tallest Live Oaks I've ever measured and ranks #15 of 201 Live Oaks. Its quite an impressive Oak. I thought the comparison of the photos from the two time periods was interesting. I wish I new the measurements in 1905. I have found many old photos of several of the Live Oaks I've measured over the years and will post on those later. Photos of the Andrew Jackson Oak from 2009, 2006 and last but not least 1905. Larry

Andrew Jackson 2009

2006

Andrew Jackson Oak 2006



Andrew Jackson Oak 2006

Andrew Jackson Oak 1905

Re: Pinus strobus in Meshomasic State Forest

by **MonicaJakucLeverett** » Sat Mar 24, 2012 5:40 pm

Dear Michael, I also enjoyed your posted recording. I could listen forever. May be we can meet when you come up to be aloft with Andrew.

Meanwhile, I'm wondering if you've ever heard anything about listening to the trees sing, as in the Irish poetic tradition. I don't think that that tradition means the same thing as what you have recorded - it's a more mystical thing. But I've always been fascinated by the idea - you have to go in the woods and sit very quietly. Supposedly the trees don't always sing - just sometimes. And different species have different songs.

Also, I am always looking for solo piano music related to nature. Do you have any?

I just discovered "Sous Bois" ("In the Woods") from Chabrier's "Pieces Pittoresques." It's the best rendition of the forest of anyone, with the exception of Amy Beach's "Hermit Thrush at Eve" Op. 92.

I hope we'll get to meet one of these days.

Monica

Re: Pinus strobus in Meshomasic State Forest

by **AndrewJoslin** » Sat Mar 24, 2012 9:44 pm

MonicaJakucLeverett wrote:...It's the best rendition of the forest of anyone, with the exception of Amy Beach's "Hermit Thrush at Eve" Op. 92.

A little bit of the source material, my favorite forest performing artist:

Hermit Thrush singing

http://www.youtube.com/watch?v=o0mATRdzZSc

My second favorite forest soloist, more of a show-off. Such a tiny bird, it sings magnitudes above its size:

Winter Wren

http://www.youtube.com/watch?v=qw-NqhxwGWQ

Re: Pinus strobus in Meshomasic State Forest

by **jamesrobertsmith** » Sun Mar 18, 2012 11:47 am

In case you ever think about traveling for your projects, one of the best spots I ever visited for such sounds was the forests on and around the summit ridge of Big Cataloochee Mountain deep in the Great Smoky Mountains National Park. I sat up there for about an hour in total peace and solitude listening to nothing but the wind through the trees. The sound of creaking wood was powerful. Nearby were two large

spruce trees that had grown in such proximity to one another that they occasionally ground together when gusts of wind were powerful enough. Scared me the first time I heard it and couldn't figure out what it was.

If you go at the right time you won't hear human noise at all. There's always the threat of jets and airplanes, but there are long stretches of time where even that isn't around.

Re: Pinus strobus in Meshomasic State Forest

by **michael gatonska** » Tue Mar 20, 2012 4:06 pm

Hi Robert! I have not been to the Great Smoky Mountains National Park in a few years - I have camped and hiked there, an amazing place. Thank you for your post, and I have made a note in my journal of your 5-star recommendation to visit the summit ridge of Big Cataloochee Mountain...and you are absolutely right, that timing is everything. Early mornings have been best, but I still have yet to try late at night; I am just waiting for the weather to warm up a bit first.

Michael Gatonska

Re: Pinus strobus in Meshomasic State Forest

by **AndrewJoslin** » Mon Mar 19, 2012 9:32 pm

Michael Gatonska wrote: *Will, unfortunately I have not done any canopy recordings; I have never been to the heights at which you do much of your work, although some day would love to try. In the hemlock soundscape I recorded, I noted that all the sonic action was all taking in the upper canopy - a shame I could not be up there - and I am absolutely sure the sounds must be amazing, as you can attest with your experience. So, all of my soundscape recording is being done at ground level.*

I'm sure we can make that happen for you, let's make a plan to get you up into the canopy, we have some very good tree climbers in New England to help support the effort. I think it would be a worthy NTS project to get you up into the white pine canopy to record. Some of the sites with magnificent trees are isolated enough that we can keep human generated sound to a minimum.

Andrew Joslin

Re: Pinus strobus in Meshomasic State Forest

by **michael gatonska** » Tue Mar 20, 2012 4:23 pm

Andrew - I would not miss an NTS opportunity like this one!- I cant even imagine what it must be like up there... I can make it up to MA at any time - whatever can work best for you or the other climbers. Which is the best way for us to coordinate?
Also, maybe I can try and reach out to one or two of my videographer friends to ask if they might be interested in video-documenting the day(s)? What do you think - it might be interesting?

Michael Gatonska

Re: Pinus strobus in Meshomasic State Forest

by **dbhguru** » Wed Mar 21, 2012 8:08 am

Michael, Andrew,

Very exciting. This could be a significant leap forward in terms of promoting the artistic appreciation of trees, but not just any trees - great trees. Might I suggest the William Cullen Bryant Homestead as a possible site? We would need to get permission from the Trustees of Reservations and climbers would need to sign responsibility releases, but I'm sure that is understood. The reason I suggest Bryant is that it would jointly emphasize the poetic and musical dimensions. Bryant loved his woods and

was inspired by them to write much of his nature poetry. We have trees dedicated to poets one the Pike Loop now and the Trustees are supportive of the role this exceptional forest can play in public awareness of the "forest that were". If this might be a possibility, please let me know, and I'll commence coordination with the Trustees.

The pines on Pine Loop are great trees as I hope my past inadequate photography has communicated. There are plenty of huge trees and a continuous white pine canopy. The Bryant stand has fifteen 150-footers. Take your pick.

Robert T. Leverett

Michigan area - Treeguy (Bob)

by **Treeguy** » Sat Mar 24, 2012 7:54 am

Hi All, I am new to NTS, but I have been an arborist all my life. I received my forestry degree from Michigan in 86 and have been a city forester ever since. I would love to get together with anyone to search for trees. When I travel, I like to look for large or significant trees. When I was in New Orleans after Katrina helping communities identify hazardous trees, we went and visited the Seven Sister Live Oak National Champion. I go orienteering a lot in the recreation areas in SE MI and see a lot of large trees but do not have the time to stop and admire them. One of these days I will get a GPS and tag these so I can come back to them. I read the cottonwood thread and just to mention the state or former state champion is in the City of Wayne not far from city hall. I measured it for Global Releaf of Michigan's big tree hunt years ago. It is a triple stem with the middle one missing. I believe I have been told that all 3 stems had the same DNA. but it has been years and I could be mistaken. I rambled enough for now.

Bob Tarabula

Re: Charismatic Megaflora: What do Old Trees Look Like?

by **Neil** » Sun Mar 25, 2012 11:12 am

Larry Tucei wrote: Can you post a photo of the balding you describe? I would like to know what to look for. One example of an older Live Oak. Larry

Hi Larry, Thanks for your kind words.

Here is an example of a balding tulip poplar (500+ yrs)

Here is an example of a balding chestnut oak (330+ yrs)

Here is a bald Nyssa sylvatica. Not sure of this tree's age, but it is likely 350 yrs and could be 500 or so yrs.

Speaking of pollards, here is a balding Quercus griffithii in western Bhutan. Its young bark looks like chestnut oak:

Here is a 'soft-barked' white oak (250-300+ yrs). Many of the white oak looked like this:

Neil Pederson

Pine Tree Atop Inferno Cone, Craters of the Moon, ID

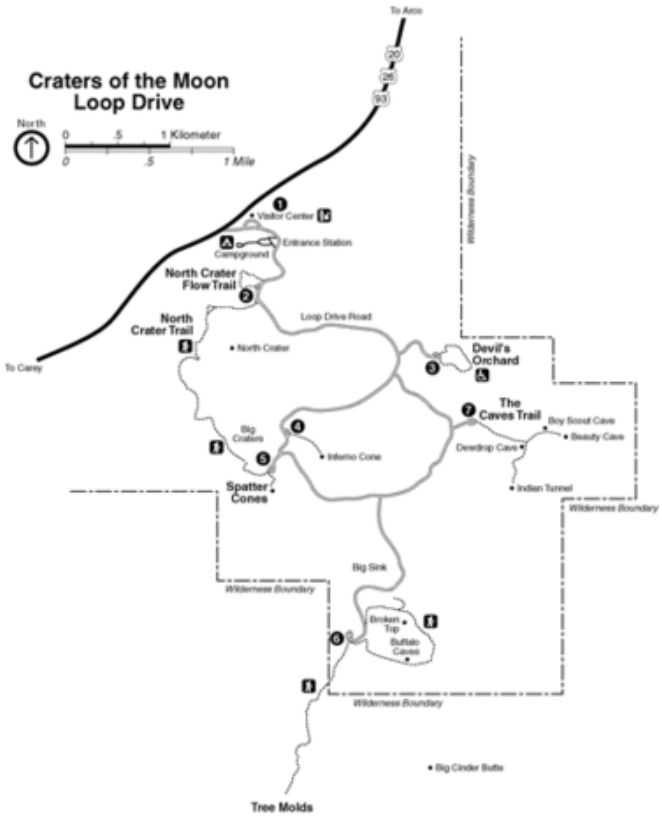
by **edfrank** » Sun Mar 25, 2012 3:13 pm

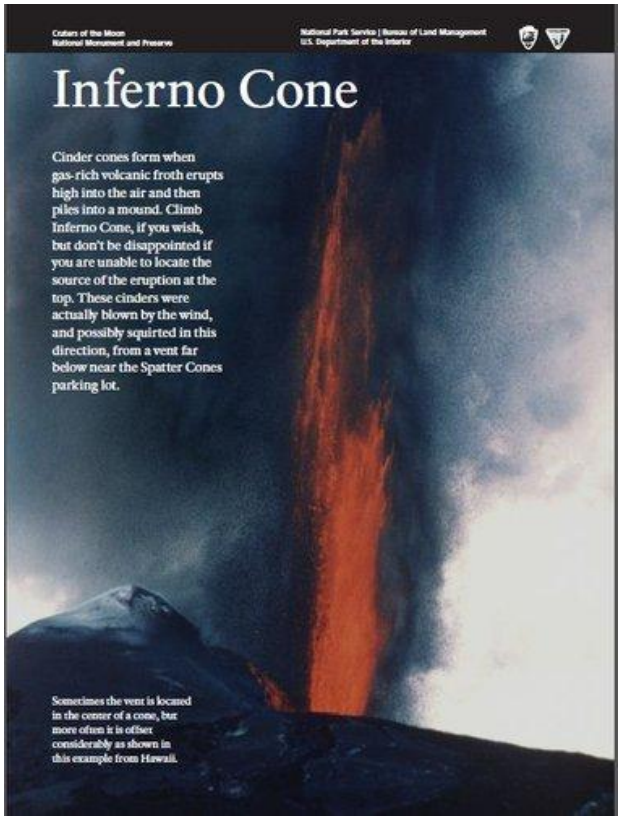
Sitting atop Inferno Cone in Craters of the Moon National Monument and Preserve in Idaho is a single limber pine tree. I wanted to do a more detailed history of this particular scenic tree after some comments about it posted on my Facebook page.

Pine Tree Atop Inferno Cone, Craters of the Moon National Monument, Idaho

photo by Edward Frank (2005)

Inferno Cone is a cinder cone made from ash blown skyward from a volcanic vent. "Inferno Cone Trail is a short but steep path up the cinder cone at the center of the scenic loop drive in Crater of the Moon National Monument. This 6,181-foot summit provides a panoramic view of the surrounding volcanic landscape. Inferno Cone Trail is just half a mile round trip with 160 feet of elevation gain. The killer overview of Craters of the Moon is well worth the effort." http://www.hikespeak.com/trails/craters-of-the-moon-inferno-cone-trail/

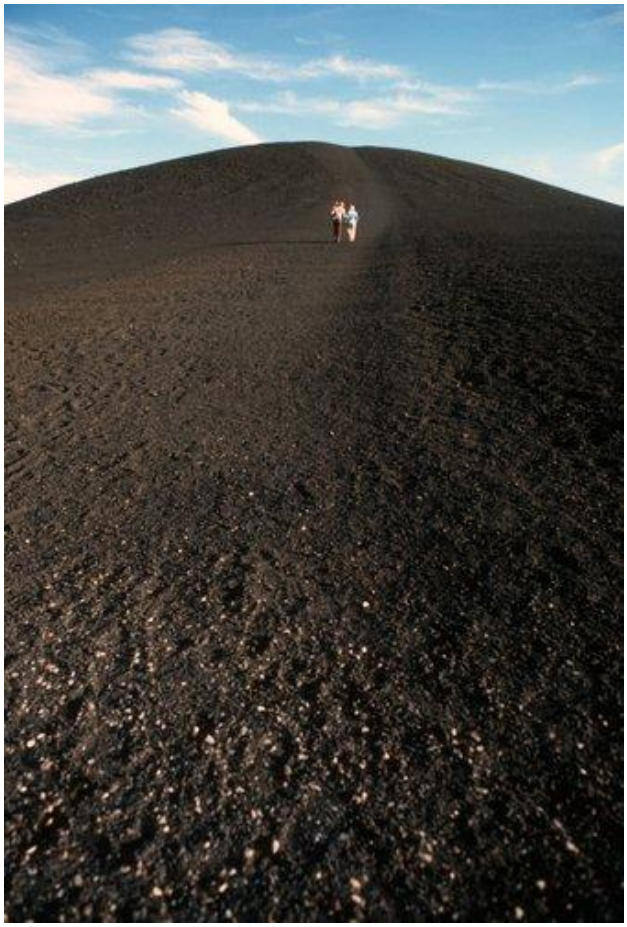




Inferno Cone and Trail 2011

Tree atop Inferno Cone, 2011

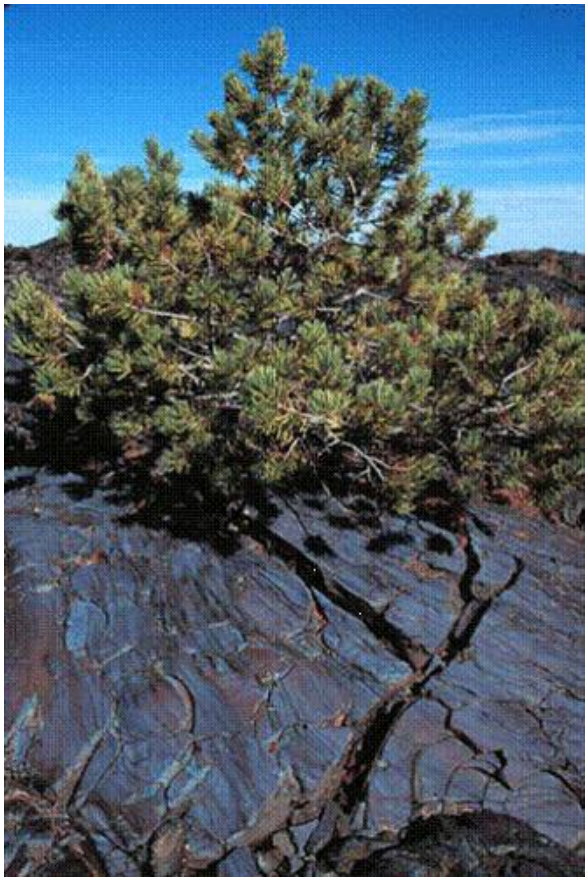
There is very little soil atop the cone and the ash itself is very porous. I am sure very lttle water is available for vegetation on the cone. There are scrub grasses and this single limber pine tree. A variety of pioneering plants that can grow in these tiny pockets of fine ash, and perhaps some windblown sediment. Eventually larger grasses became established. Grasses and similar vegetation slowly established a thin soil layer with the ability to hold some water. This single limber pine likely established and grew in soil formed by the grasses. This is the only living tree presently growing atop the cone, but nearby is a stump from another dead tree specimen.



"Limber pine (Pinus flexilis) is the dominant tree on lava flows in the northern third of the Monument. Limber pines are long-lived,slow-growing trees of small to medium size. They grow at elevations between 3,000 ft. and 12,500 ft., but do not typically occur at elevations below 6,000 ft. except where barren rocky conditions exist (Steele 1990). Limber pines grow best on certain types of soils and in the central Idaho mountains they are found largely on rocky ground with soils derived from sedimentary rocks (Steele 1990). However, at Craters of the Moon limber pines can be found growing with roots deep in the cracks on the lava and alongside windswept cinder cones. Within portions of the Monument, such as the north side of Inferno Cone, limber pines are well adapted and almost grow dense enough to form a closed canopy forest. In most areas, however, they grow in open stands or just as scattered solitary trees.

Young limber pines are often found growing in places where as a sapling they were protected somewhat from high winds; as adults they can survive and grow in these harsh elements with a well established root system. Limber pines account for a large percentage of the tree cover within the Monument (CRMO 2007c).

Limber pine branches are very flexible (hence the scientific name Pinus flexilis). The flexibility in the branches allows for easy movement in strong winds and effortless snow shed in heavy snow without doing damage to the tree itself. Though they are adapted to harsh conditions, high winds often cause branch flagging. Frequent strong winds pick up soil and cinders in the summer, and ice and snow in the winter act as abrasives. These wind blown materials abrade the terminal buds on the windward side of the tree leaving more successful limbs on the leeward side of the tree; making the trees appear like a flag blowing in the wind. Limber pines are monoecious: male and



An example of a healthy limber pine (Pinus flexilis).

female cones are born separately on the same tree. As with most pines, the male cones that contain the pollen dominate the lower part of the tree and the female cones develop at the end of the main branches in the upper part of the tree. The female cones have scales and are shaped like a pine cone but they are the larger of the two. The male cones are more budlike in their structure in the spring, and then turn into small clusters of spirals that may be green or yellow in the summer and fall (Steele 1990). On a healthy limber pine this is the ideal structure of cone distribution. The arrangement of cones helps eliminate self-pollination but allows the pollen from the male cones to pollinate female cones of other limber pines in the area."

Interpreting Biological Diversity at Craters of the Moon National Monument and Preserve, Natural Resource Report NPS/UCBN/NRR—2007/019http://www.nps.gov/crmo/forteachers/upload/CRMO_Interpreting-Biological-Diversity_Low-Resolution-Version_20080115.pdf

Pine tree in 2005 - photo by Edward Frank

I a sure that everybody who climbs to the top of Inferno Cone Takes photographs of the tree. It is a fantastic subject. The tree itself has not been cored as far as I can find out. I found a few photos of the tree to supplement the ones I took in 2005.

This photo was taken in 2008 by Becki Peterson http://www.facebook.com/media/set/?set=a.2754445979672.2114081.1213366672&type=3

Most of the photos I found were recent ones by professional photographers. I will not include these here because of copyright concerns, and basically they added little to the discussion anyway.

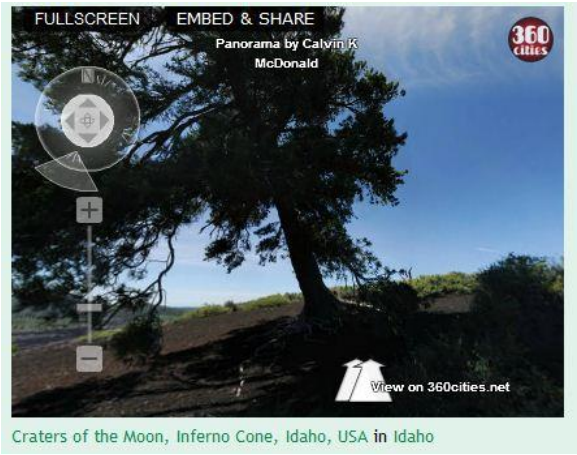
\

Sometime between 1988-1995

2005

2008

I put together these three snippets from larger images to show a range of images of the base of the tree. Looking at these photos there is a noticeable change in the amount or absence of ground cover in the vicinity of the tree. They are not all taken from the same angle, but still that is obvious. The loss of the cover will affect the ground temperature in the vicinity of the tree enormously, and loss of the cover and thin soils will adversely affect the limited water retention that exist within the cinder substrate. Currently the tree has exposed roots from foot traffic around its base. Compaction may or may not be a problem, but loss of ground cover, soil, and physical damage to the tree roots themselves should be a concern as this tree is being loved to death.



Craters of the Moon, Inferno Cone, Idaho, USA in Idaho

http://www.360cities.net/image/craters-of-the-moon-inferno-cone-idaho-usa?utm_medium=all_images&utm_source=google_earth#79.10,-10.44,110.0 here is a nice 360 degree interactive panorama of Inferno Cone.

I contact the National park Service to ask if they had any older photographs of the tree. Ted Stout, Chief of Interpretation and Education for the Monument replied, "The tree on top of Inferno Cone may have many images taken by visitors but we don't appear to have many park images of that particular tree."

Steve Bekedam, Vegetation Ecologist for the Monument also replied to my request:

"Unfortunately in my cursory review of our files it appears we do not have any historic photos of the "limber" pine in question. Sorry...I haven't given up though and will make an inquiry with our museum curator to query the archives. It's quite a specimen for sure but no, surprisingly the tree has never been measured or aged to my knowledge. As Ted passed along the Triple Twist tree has gotten far more attention and acclaim.

You are astute to notice that it is clearly being impacted by the constant foot traffic. Unfortunately again, as you mentioned, I'm not sure how we might reinforce its footing without adversely impacting the visual scenery of the area. With its remote and wind-swept location, transporting cinders to the area also seems out of the question at least as a long term fix. As small sign might be the best we can do and it would be difficult to enforce...but a possibility none the less."

So, fellow NTS members, at this point I am at stand still. I will continue to search for older photos of the tree. I will measure it when I get back to the park. Contributions of old photos to the effort are welcome and appreciated. I will do a separate post on the Triple-Twist Pine.

I would like to see more portraits/histories of individual tree done by NTS members about trees that inspire them, trees that have an interesting history, and trees that have personal meaning or memories for them. Larry Tucei did a nice report on the Andrew Jackson Oak. Here is one of this unnamed pine tree. Who will be next with a special tree?

Ed Frank

Triple Twist Pine, Craters of the Moon, ID

by **edfrank** » Sun Mar 25, 2012 5:31 pm

Triple Twist Pine, Craters of the Moon National Monument and Preserve, Idaho

Photo of the Triple Twist Pine (Pinus flexus) along the North Crater Flow Trail in Craters of the Moon National Monument and preserve by Edward Frank (2005).

I had been corresponding with Ted Stoudt, Chief of Interpretation and Education, Craters of the Moon National Monument and Preserve concerning another tree at the park. He suggested, "One thought that occurs to me is that you might have better luck focusing your article on what is known as the "Triple Twist" tree located on the North Crater Flow Trail. There are several historic photos of this particular tree and we have some pretty good age estimates for it as well. I have attached a photo from 1956 when it still had a sprig of green. It is also a very popular tree for photography."

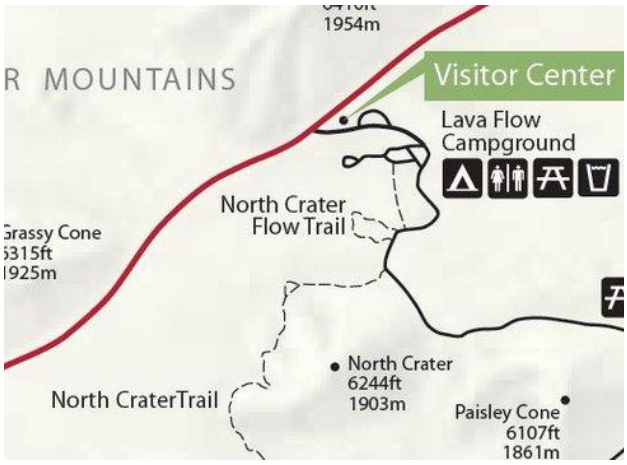
The Triple Twist Pine tree was cored in 1967 and found to have 1350 rings. This helped to determine the age of the lava flow upon which it grows. The lava must be older than the trees growing upon it. The tree died around 1968.

This photo from the NPS Archives shows the same tree in 1956 when there was still green foliage on the pine tree. The tree is located along the North Crater Flow Trail

The Monument website http://www.nps.gov/crmo/naturescience/geologicactivity.htm and http://www.nps.gov/crmo/forteachers/site-tour-1.htm provides an overview of the geology of the area and the North Crater Flow Areas: "Between 15,000 and 2,000 years ago, the Craters of the Moon Lava Field formed during eight major eruptive periods. During this time the Craters of the Moon lava field grew to cover 618 square miles. The Wapi and Kings Bowl lava fields formed contemporaneously about 2,200 years ago."

"Each period lasted from a few years to a few hundred years. The quiet time between periods of volcanic activity could be as short as several hundred years or as long as 3,000 years. The average time between periods of volcanic activity has been about 2,000 years. North Crater and the North Crater Lava Flow formed during the most recent eruptive period that ended approximately 2,000 years ago. Big Craters, the Spatter Cones, and the Blue Dragon Flow (Indian Tunnel, Boy Scout Cave, and the other lava tubes in the Caves Area) all formed during this same eruptive period. The following stops describe features that are encountered when following the trail in a clockwise direction."

View of the North Crater Flow Trail by Edward Frank (2005)



Section from Hiking Trails Guide
http://www.nps.gov/crmo/planyourvisit/hiking-trails.htm

NORTH CRATER FLOW TRAIL, 0.3 mi/.5 km, easy

This loop trail takes you onto the North Crater Flow, a pahoehoe flow that spilled from the North Crater vent about 2,200 years ago. Signs along the trail introduce other typical features: pressure ridges, squeeze ups, aa lava, and rafted blocks.

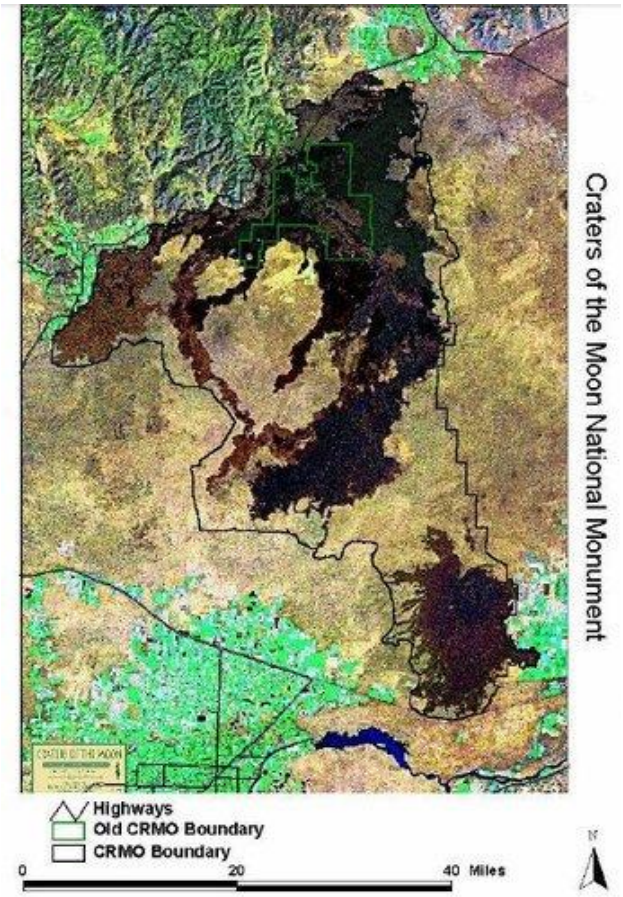
"The North Crater Flow Trail is one of most heavily visited trails in the park. The trail is fairly narrow making it difficult for a large group to gather in any one spot. It is important that you stay on the paved trail at all times. Walking on the lava in this area can easily break its fragile surface. Evidence of this damage can be seen along the trail as exposed red colored lava. Because of the wide range of volcanic features found on the North Crater Flow Trail, it is an excellent first stop."
http://www.nps.gov/crmo/planyourvisit/hiking-trails.htm

About the Triple Twist Pine:
http://www.nps.gov/crmo/forteachers/site-tour-1.htm
"If you were to look at a cross section of a tree or the top of a stump, you would see the tree trunk is made up of a series of concentric rings. Since a living tree adds one growth ring each year, you can determine the age of the tree by counting the number of growth rings. A core sample taken from the triple twist tree, showed it to be at least 1,350 years old.

A molten lava flow destroys all plant life in its path. After the flow cools, new plant life slowly begins to return. This returning plant life provides scientists with one way to date lava flows. By comparing the amount of vegetation on one flow with the amount of vegetation on an adjoining flow, geologists can determine which of the two flows is older. To get an actual date on a lava flow, geologists can date a tree growing on the flow. In the case of the triple twist

tree we know that the tree began growing after the last eruption, so the lava flow must be at least 1,350 years old.

Geologists can also use a method known as "radio-carbon dating." Samples of charred vegetation such as sagebrush, limber pine, or even pine cones can be dated using this method. Another method scientists can use to obtain dates far older than living vegetation can provide is called "paleomagnetic measurements." As the lava cools, tiny magnetic crystals align themselves in the direction of the earth's current magnetic field. Each lava flow at Craters of the Moon reflects the direction of the magnetic field when the lava erupted and cooled. Scientists can correlate this information to the earth's changing pattern of magnetism and arrive at a date when the lava was deposited."



From Owen (2008)

A more detailed account of the geology of the region is found in this document: "Geology of Craters of the Moon," compiled by Douglass E. Owen, Park Geologist, revised January 2008 http://www.nps.gov/crmo/naturescience/upload/2008%20Geo-Long.pdf

Another document worth reading if you want a broader geology overview is: "Interpreting a Weird and Scenic Landscape to Park Visitors: Tectonic and Volcanic Processes of Craters of the Moon National Monument and Preserve, Idaho" by Kimberly E. Truitt and Robert J. Lillie, Oregon State University. http://ir.library.oregonstate.edu/xmlui/handle/1957/2586

Young Limber Pine growing among the lava blocks at Craters of the Moon – photo by Edward Frank (2005)

The triple twist pine is a limber pine (Pinus flexus). Limber pine (Pinus flexilis) is the dominant tree on

lava flows in the northern third of the Monument. Limber pines are long-lived, slow-growing trees of small to medium size. They grow at elevations between 3,000 ft. and 12,500 ft., but do not typically occur at elevations below 6,000 ft. except where barren rocky conditions exist (Steele 1990). Limber pines grow best on certain types of soils and in the central Idaho mountains they are found largely on rocky ground with soils derived from sedimentary rocks (Steele 1990). However, at Craters of the Moon limber pines can be found growing with roots deep in the cracks on the lava and alongside windswept cinder cones. Within portions of the Monument, such as the north side of Inferno Cone, limber pines are well adapted and almost grow dense enough to form a closed canopy forest. In most areas, however, they grow in open stands or just as scattered solitary trees.

Young limber pines are often found growing in places where as a sapling they were protected somewhat from high winds; as adults they can survive and grow in these harsh elements with a well established root system. Limber pines account for a large percentage of the tree cover within the Monument. Interpreting Biological Diversity at Craters of the Moon National Monument and Preserve, Natural Resource Report NPS/UCBN/NRR—2007/019
http://www.nps.gov/crmo/forteachers/upload/CRMO_Interpreting-Biological-Diversity_Low-Resolution-Version_20080115.pdf

The age of this particular pine, with a ring count of 1350 years, is exceptional but there are other examples from the species that are even older. The Gymnosperm Database http://www.conifers.org/pi/Pinus_flexilis.php lists the oldest specimen of the species as one from Arizona but one nearly as old was found elsewhere at Craters of the Moon NM:
"Crossdated ages of 1,670 years from site ERE in New Mexico, collected by Swetnam and Harlan; and 1659 years for specimen KET3996 from Ketchum, Idaho collected by Schulman in 1956 (Brown 1996). Given the fact that crossdated tree ages are always underestimates because of the near-impossibility of sampling the tree's seedling growth years, either of these trees could have been the older, particularly since KET3996 was sampled about 30 years before the ERE tree. During a 1994 visit to Craters of the Moon National Monument, I believe I located KET3996; it was dead, and had been for many years. (page edited by Christopher J. Earle)

Brown, Peter M. 1996. OLDLIST: A database of maximum tree ages. P. 727-731 in Dean, J.S., D.M. Meko and T.W. Swetnam, eds., "Tree rings, environment, and humanity." Radiocarbon 1996, Department of Geosciences, The University of Arizona, Tucson."

Here is a final photograph of the pine from the National Park Service:

NPS photo
http://www.nps.gov/crmo//images/20070517132007.jpg

Rest in Peace, Triple Twist Pine.

Edward Frank