

The On-line Newsletter for NJ WOODLAND STEWARDS PROGRAM

woodland Stewards Reaching Out

Issue #17 January - 2015

Reaching out by Volunteering

Woodland Stewards Volunteer on the Longest Trail at FREC

By Rick Dutko, New Jersey State Forestry Services

Karen Lesto and Bob Friedland of the Woodland Stewards Class 2014

have spent several days at the Forest Resource Education Center (FREC) in Jackson on trail maintenance, clean-up, and painting trail blazes on portions of the FREC's Yellow Trail, or Pine Acres Trail.

The trail is approximately 4.5 miles long and was in dire need of having the trail blazes painted or re-painted. We greatly appreciate their efforts and thank the Woodland Stewards program for sending them our way.





The Troop Came Marching In

By Michelle Christie, Woodland Stewards Class of 2014

On Saturday, October 25, 2014, several boys, a few siblings and a parent (either a father or mother) of each boy descended on **Laurelwood Arboretum in Wayne**, **N**J. The Cub Scouts from Den #5 came to fulfill their Forester badge requirements. Laurelwood Arboretum was the perfect place for this activity. Trees from all over the world, as well as native trees grow here. The week before, I had participated in the Woodland Stewardship Program, so I had a lot of information to share with them. (For further information on Cub Scout Forestry Badge requirements: Google: Webelos Activity Badges: Forester)

As part of the badge requirements, the boys examined three different wood samples used in building houses. Tree cookies and sliced tree branches told the trees' life history. We talked about Smokey Bear, and prescribed and wild fires. Before we started our hike, each boy made a tree booklet to hold leaf rubbings to help them identify trees. After the booklets were finished, evergreen and deciduous terms and tree characteristics discussed, everyone was ready to hit the trail.

We started under the pavilion even though the day was a sunny fall afternoon. The parking lot sported several specimen deciduous and evergreen trees and shrubs. As we hiked up the trail into the woods, we stopped to look at the forest layers. The side of a chubby crayon with the paper wrapping removed was used to make leaf rubbings as we stopped to pick up leaves from the ground along the trail. When we arrived at the pond, everyone sat quietly and looked and listened for other creatures. We ended back at the pavilion.

In completing the Forestry Badge, the boys learned how to identify trees by their leaves, deciduous/evergreen, conifer, and fruit; different types of wood used in building houses; about beneficial and harmful fires; the layers of the forest and enjoyed the forest.

Reaching out with Extension Forestery

Woodland Stewards Update

By Dr. Mark C. Vodak CF, Extension Specialist, Forestry NJAES, Rutgers Cooperative Extension, Rutgers University

NJWS Annual Update. The New Jersey Woodland Stewards (NJWS) Annual Update was conducted last month – Saturday, 17 January, to be exact—at Duke Farms in Hillsborough Township, Somerset County. The Update is an important part of the Woodland Stewards Program, as it is intended to promote communication and networking; touch on some of the latest forestry topics and issues; provide Stewards the forum to discuss their volunteer efforts; and provide Stewards the opportunity to ask questions and discuss the overall Stewards Program.

A dozen hardy Stewards braved the bright, sunny, but seasonably cold January Saturday to participate in the Update. The hot coffee and continental breakfast that greeted their arrival was a good precursor to the day's program. Lynn Fleming, Director and State Forester, State Forestry Services, started the morning with a lively and informative presentation of current issues as well as activities and accomplishments of her agency. She answered questions on those as well as other topics, including volunteer opportunities with State Forestry Services.

Susan Brookman, Executive Director, NJ Invasive Species Strike Team, was no stranger to the Class of '14 Stewards, as she participated in last October's NJWS Program. For the Update, she briefly reviewed the Strike Team's mission and goals, then focused on the role of volunteers, and how Stewards could assist the Strike Team's efforts. Several of the Stewards expressed interest.

The Update's host, Nora Wagner, Director, Strategic Planning & Programs, Duke Farms, gave a brief history of the Duke family and Duke Farms; described the vision and mission of Duke Farms; discussed Duke Farms land stewardship goals and activities; and described the wide array of volunteer opportunities available at Duke Farms.

Discussion of volunteer activities wrapped up the morning and Update program. Several Stewards briefly described their activities to date, including plans for future efforts. Lori Jensen, Business Manager, NJ Forestry Association, listed and briefly described volunteer opportunities available with the Forestry Association. The luncheon that followed formally completed this year's Update program. Several Stewards, however, opted to finish their day with a self-guided tour of the Duke Farms Orchid Range.

The Woodland Stewards Annual Update is scheduled for the third Saturday of January each year. So even though it may only be February, please make a note on your calendar now and plan to attend next year!

Woodland Steward Class of '14 Recognition. The NJ Forestry Association's annual meeting is scheduled 21 March, 2015 in New Brunswick at the Cook Student Center on the Cook Campus of Rutgers University. All Stewards in the Class of '14 that have completed at least one-third – or more – of their volunteer commitment are encouraged to attend and be recognized for their effort and progress. If you are a Class of '14 Woodland Steward and have completed 10 or more hours of your volunteer commitment, please contact Lori Jensen, NJFA (njfalorij@aol.com) to attend and be recognized! See you there!

Volunteering Opportunity for Stewards. The New Jersey Division of the Society of American Foresters (NJDSAF) is looking for help populating a database of contact information for NJ/NYC/Philly/Allentown media outlets. The information is out there on the internet. The NJDSAF just needs help distilling it down for our use to get the good word out! Interested? Contact Steve Kallesser: steve@gracieharrigan. Steve is the vice chairman of the NJDSAF.

Reaching out by Volunteering

Out of Thin Air: Snow crystals and paper flakes

By Michelle Christie, Woodland Stewards Class of 2014

As the snow continued to fall, I kept thinking children enjoy the snow because they may get off from school and they can participate in many activities: sledding, snowball fights, building a snowman, snowboarding, cross country skiing, ice skating, and the list goes on. As adults we have sometimes lost the enthusiasm, pleasure, or joy that snow once brought to us as children. We are always in a rush to be going somewhere. We need to get the car cleared off and the driveway cleared off to go to work or....

Whether a teacher, parent, scout leader, or friend, you can share some of the following activities with a child. You may just be curious too! Snowflakes are fascinating. When it is cold enough they seem to come out of thin air. You may have stopped to look at a six pointed snowflake on your coat sleeve at some point in your life. No matter how long you looked, you would never find any two snowflakes that are alike. To replicate a real snow flake the following site has pictures, and written directions to help you be successful in making a six pointed paper snowflake:

http://www.instructables.com/id/How-to-Make-6-Pointed-Paper-Snowflakes/?ALLSTEPS

Snowflakes are snow crystals that come in a variety of shapes. They are remarkably complex and beautiful structures. In 1931 Wilson Alwyn Bentley published an atlas, called *Snow Crystals*, of thousands of crystals he photographed through a microscope. The publication can still be found. Several elementary school teachers told me about a biography of Bentley, *Snowflake Bentley*, by Jacqueline Briggs Martin. It is a children's book, but it gave me an appreciation of his work. He spent his life time figuring out how to photograph snowflakes. Bentley never became rich and famous though his passion for wonders of nature and a scientist's vision drove him.

Kenneth Libbrecht, a physics professor from Caltech, has a whole website devoted to snowflakes which is an excellent primer on various snowflake shapes. http://www.its.caltech.edu/~atomic/snowcrystals/earlyobs/earlyobs.htm There is information on the history of snowflakes further back than Bentley to the present, growing your own snow crystals, and other snowflake books among other things. If you are at all curious about snowflakes, check out this site. Hopefully some of your curiosity will be quenched. The following are two items from the website:

1931 -- Wilson A. Bentley

Wilson Bentley (1865-1931) was an American farmer and snow crystal photomicrographer, who during his lifetime captured some 5000 snow crystal images. More than 2000 were published in 1931 in his famous book, *Snow Crystals*, which remains in print to this day. Some images from Bentley's collection can be seen at the W.A.Bentley web site.



1665 -- Robert Hooke



In 1665 Robert Hooke published a large volume entitled <u>Micrographia</u>, containing sketches of practically everything Hooke could <u>view</u> with the latest invention of the day, the microscope. Included in this volume are many snow crystal drawings, which for the first time revealed the complexity and intricate symmetry of snow crystal structure. (Note that an excellent, yet inexpensive, digital version of Micrographia can be purchased from <u>Octavo</u>.)

Sweet and Savory Recipes from the Woods

This is a series by Lori Hayes, Woodland Stewards Class of 2012

Photos by Lori Hayes

Maple sugaring is upon us, so I have added some interesting information along with the featured recipe using maple syrup.

Maple sugaring was discovered and crudely perfected by the Native Americans before the Europeans came to North America. There is a legend that the wife of one the chiefs discovered the sap after he removed his hatchet from a tree to go hunting for the day. She recovered the sap and cooked his meal in the liquid, thinking it was water. After the settlers came, the Native Americans taught them how to prepare the tree, collect the sap in a trough, and add hot stones to boil off the water portion. Through the years new approaches and equipment have replaced the original methods, but the basic process is the same. Today maple sugaring is a popular demonstration at environmental education centers. There are at least a half-dozen commercial operations on forest lands in New Jersey.

- Around the end of February to mid-March, a sugar or red maple tree between 10" and 12" in diameter is tapped on the south side when the nights go below freezing and the days hover around 40 degrees. In New Jersey, sugar maples are tapped, but red maples are also used, depending on the geographical location.
- The tap, or spile, is inserted at a slight upward angle into the sapwood of the tree to catch the sap and is drained into a bucket or bag.
- ◆ It takes about 4by Lori Hayes 0 gallons of 2% sap to make a gallon of 66% maple syrup. The sap is boiled in an evaporator at 7 degrees above the boiling point of water, is monitored for viscosity and sugar density, then filtered, graded and hot-packed into jars. These values are dependent upon the species of maple used, the size and age of the tree, and the current weather conditions.
- Newer methods that are used today include attaching plastic tubing to the openings and vacuum pumps to collect the sap, and reverse-osmosis filters to reduce the water content before starting the evaporation process.
- Maple syrup contains a good amount of potassium, calcium, small amounts of iron, phosphorous and magnesium, and trace amounts of B-vitamins, while supplying the same calories per tablespoon of white sugar. Years ago it was formed into "bricks" which made it easier to transport and lessened our dependency on the import of white sugar from Barbados.

The Maple Apple Upside Down Cake recipe is on the following page.

I made it and it is absolutely delicious!



Sweet and Savory Recipes from the Woods

This is a series by Lori Hayes, Woodland Stewards Class of 2012

Maple Apple Upside Down Cake

Serves 8-10

- 1 cup pure maple syrup
- 3 firm, tart apples, peeled, cored and cut into about ½ inch thick slices
- 2 cups all-purpose flour
- 1 teaspoon baking powder
- ½ teaspoon baking soda
- 3 large eggs
- 3/4 cup buttermilk
- 1 tablespoon vanilla extract (I used 2 teaspoons of my strong tasting vanilla)
- 1 ½ sticks softened butter
- 1 1/3 cups sugar or pure maple syrup

(If you use maple syrup you will need to reduce the buttermilk by 3 tablespoons per cup). I used white sugar.

Preheat the oven to 350°.

Butter and flour a deep 10-inch round pan.

In a large saucepan, bring the maple syrup to a boil over high heat, and simmer over low heat for about 20 minutes to reduce to 3/4 cup.

Pour the thickened syrup into the cake pan.

Layer the apples in 2 concentric circles, overlapping them slightly.

In a bowl, whisk the flour, baking powder and baking soda.

In a 2-cup glass measuring cup, whisk the eggs with the buttermilk and vanilla. In another bowl, beat the butter and sugar at medium speed about 3 minutes, until fluffy. Beat in the dry and wet ingredients in 3 alternating batches until the batter is smooth; scrape down the sides of the bowl to incorporate.

Spread the batter over the apples, using an angled spatula.

Bake the cake for about 1 1/4 hours until top is golden brown and a toothpick in the center comes out clean. Don't hit the apples. Let the cake cool on a rack for 45 minutes, and then invert onto a serving platter, tapping the bottom of the pan to remove the cake.



Serve warm with whipped cream or ice cream.

Enjoy!





The American Chestnut in New Jersey — Past, Present, and Future

By Clark Beebe Woodland Stewards Class of 2012 **VP of the NJ PA chapter of The American Chestnut Foundation (TACF)**

Outside of the Pine Barrens and coastal plain, the hills and especially the mountains of northern and western New Jersey were not that long ago dominated by the American chestnut. It is estimated that one out of four to one out of five trees in the forest was an American chestnut.

And, not only was it a dominant species in numbers, it was dominant in stature and impact as well. Whereas the oak, maple and beech canopy might reach 100 feet, the chestnut would be 110' and taller. Where a large oak would give crops of maybe 1,000 acorns every two or three years, a large chestnut would drop 5,000 nuts every year. And where a large oak might be three or, at most four feet in diameter, the chestnut would be five to eight feet in NJ and up to 10 to 15' farther south in its range where it had a longer growing season and more sunlight. In full sun and with proper soil conditions the chestnut can add an inch in diameter per year!



American Chestnut trees in 1910—before the blight. Source: the American Chestnut Foundation

Then it all changed—one of the largest ecological disasters to hit the US ever! In the late 1800s some Asian chestnuts were brought to New York City for a botanical exhibition. What was not known was that there was an airborne fungal blight endemic to Asia that attacked chestnuts. The American chestnut has no resistance. The windblown spores reached the entire native range of the American chestnut from Maine to Georgia. By 1950 the American chestnut was essentially gone. There are maps showing its progress decade by decade.



that were standing dead in the forest.

In northern and western New Jersey, most of the log cabins built in the 1930s and 1940s used chestnut logs

Many cabins were built in the 1930s with dead standing American Chestnut logs. Source: Clark Beebe



The blight kills chestnut trees by feeding on the living layer, the cambium and essentially girdled the tree killing the top. Beneath the infection, however the tree stays alive, leaving the root system alive and able to send up new shoots. You can find American chestnut in our woods today but they are growing out of root stock well over 100 years old. And when they get big enough, around 15' in height, they catch the blight and die back.

Very few American Chestnuts growing from stump sprouts survive the blight. This one has survived so far in Tindall Park, Middletown, NJ.

Source: Jane Parks Collection

In contrast, the Asian chestnuts have co-evolved with the blight over millennia and developed a resistance to the blight. While the blight can and will infect these resistant trees, most are able to fight it off and contain the infection. Efforts were therefore undertaken to introduce Asian resistance into the American tree through traditional breeding methods. They wanted the American traits of a tall timber tree with its first branch often 50' above the ground, not the typical Asian 40' to 60' branchy orchard-like-tree.

The American Chestnut in New Jersey — Past, Present, and Future (continued)

One of the first efforts along that line was a planting of Chinese chestnuts in what is now Stokes Forest. In the past decade, volunteers have cleaned out what remains of that 1930s planting and added a new planting next to it enclosed by deer fencing.

Unfortunately those early efforts at breeding a blight resistant American chestnut failed. In 1983 a group of scientists got together and formed The American Chestnut Foundation (TACF) to try a new approach called back-cross breeding. This approach requires a minimum of six generations, each of which will take between five and ten years. Tree breeding is not for the impatient! The resulting sixth generation population will have on average 94% American chestnut characteristics and resistance equal to that of its Asian parent from the first generation. TACF "citizen scientists" from across the eastern United States help to create, plant, and test each of those generations. With almost 6000 members and over 500 locations, these volunteers have planted 100s of 1000s of trees toward the production of a blight-resistant American chestnut.

The good news is that we are at the sixth generation now!

We did a planting of 280 nuts at the Somerset County Lord Stirling Park in Basking Ridge (adjacent to the Great Swamp wildlife preserve) in May, 2014



Chestnut nuts just before May planting Source: Jane Parks

Volunteer chestnut planting crew in May 2014 in Stirling Park. Source NJ Chapter TCAF



Are we done? Far from it!

The goal is restoration of the American chestnut to its original range—restoring it to its original dominant position in our upland forests. To achieve that end, decades of work remain. If you want to help, we need you. Are you willing to join and pay yearly dues? If so—Great! Are you willing to make one or two phone calls a month or a week to members to determine their capabilities and willingness to help the cause? Would you like to serve on a committee—fund raising, membership, web building, accounting, or get hands-on involved in the field planting, inoculating, pollenating or becoming a grower? We need help for maintenance at Lord Stirling.

Call Jane Parks @908.766.2489 Ext 336 to learn how you can help at Lord Stirling Park. Whatever your talents or availability, you can be part of this amazing restoration.

Jane Parks shows chestnut seedling at Stirling Park to attendees at Fall Forest Stewardship Field Tour in Sept. 2014.

Join our efforts today!

Contact me at beebeinni@gmail.com or www.patacf.org.



Why Bother?

By treesa'joy, Woodland Stewards Class of 2014

I'm crazy about trees! I stare at them, sing to them, hug them, climb them, plant them and prune them. I recognize that I may be a little over the top in my feelings about them, but there is nothing more vital to the welfare of humanity than the health of trees and forests. Without them, we'd shrivel up and starve. Can you imagine our entire planet stripped down like the Sahara? Even to think of such things I shudder and yet when I look at our collective negligence regarding our forest preservation priorities (or lack thereof), it's disheartening. I recognize **that** there are many ways to be part of the solution of these environmental issues. We can vote, volunteer in forestry programs, educate others, but I decided that for me, the first thing I needed to do was change my personal habits.

A few years ago I went deeper in my level of commitment regarding sustainability and conservation practices in things like recycling, composting, using cloth napkins, not using paper towels, discontinuing use of paper plates, bringing my own reusable mugs, sporks and the like. I know that making these small daily changes are really quite basic. I started to recognize how dependent I'd become on the convenience of take-home packaging, plastic-ware and paper products from restaurants and coffee shops thus enabling my addiction to disposable items. Changing my habits changed the way I looked at the forest but were my actions making any difference? Who cares? Why bother?

Regarding cloth napkins, I learned that if every U.S. household replaced just one 500-count package of virgin fiber napkins with 100% recycled napkins, we'd save over 3,000,000 trees and 1.1 billion gallons of water¹. Just one package!?! Wow, that's a pretty easy action step. Discontinuing the use of paper plates was also a simple change for me. If every U.S. household replaced just one 40-count package of virgin fiber paper plates with 100% recycled ones, we could avoid 29,900 pounds of pollution and save:

- ♦ 487,700 trees;
- 1.2 million cubic feet of landfill space, which equals 1800 full garbage trucks;
- ◆ 176 million gallons of water, a year's supply of 1300 families of four².

By far, my hardest addiction to break was to the cherished paper-towel. Well, if every household in the U.S. used just one less 70-sheet roll of paper towels, that would save 544,000 trees each year and if every household in the U.S. used three less rolls per year, it would save 120,000 tons of waste and \$4.1 million in landfill dumping fees³.

Perhaps just me standing alone in changes like these may seem insignificant, but if those of us who are reading this article changed a few habits, maybe together we would make a difference. If we don't make the changes on behalf of the forest, who will? So, in the end, the answer to "why bother" is because as each of us do our part, the tide turns, one person becomes a small group which becomes a large group which changes the societal current. It matters if we care. All of life depends on us caring. In the words of Margaret Mead, "Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever has."



Why Bother? Because we need trees and we need their many attributes and their many products.

Steward them wisely!

- 1. Just the Tips, Man. 2006. Wendy Richardson. www.nerdybooks.com
- ibid
- 3. www.thepaperlessproject.com

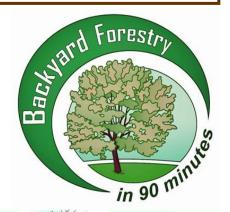
Backyard Forestry in 90 minutes

FREE Programs for NJ Homeowners

7:00 p.m. - 8:30 p.m. Monthly, 2nd Thursday

Each month will feature a different topic

at the Forest Resources Education Center (FREC)
495 Don Connor Blvd. Jackson, NJ



2/12 Pruning Trees for Health and Beauty



3/13 Wildlife in, on, and Around Your Trees



4/9 What's Bugging Your Trees



5/14 Under the Microscope: Tree Diseases



6/11 Heat Your Home With Firewood



7/9 Meet NJ's Native Trees



Register and view full schedule: njforestry.org/mybackyard



Be on the lookout for Japanese Angelica Listed as a Strike Team Target Species

NEW JERSEY INVASIVE SPECIES STRIKE TEAM

www.njisst.org

Japanese angelica tree (Aralia elata)

Also called: Japanese aralia

Family name: Aralia (Araliaceae)

Native range: Asia

NJ Status: Emerging Stage 3 – Common (may be regionally abundant). It is *highly threatening* to natural communities. Eradicate newly emerging occurrences only.

General description:

- Deciduous tree or shrub, to 40' tall
- Colonial, thicket forming
- Irregular form spreading,multi- or single-stemmed
- Bark covered in sharp prickles

Leaves:

- Alternate, 2 or 3 times pinnately compound
- Toothed or nearly toothless with downy hairs below
- Leaflets variable, 2"-4.75" long
- Large, entire leaf 2'-4' feet long
- Leaves turn yellow to reddish purple in fall
- Spines at leaf axils
- Main leaf veins <u>extend</u> to leaf edge
- Leaflet typically with sessile or with very short petiole (stem)







Japanese angelica flowers overtopped by foliage



Fruit:

- Small purple to <u>black berries in circular formations</u>
- Appearing August-September; ripening from September -October



Habitat:

· Forest, shrubland, meadow, and landscaping

Commercial availability: Yes

Look-alikes:

Devil's Walking Stick (Aralia spinosa)

- Small <u>native</u> tree or shrub
- Inflorescence <u>longer</u>, 3'-3.5' with a <u>distinct central</u> stalk
- Typically taller than wide, usually above foliage
- Main leaf veins <u>branch</u> and <u>diminish at leaf margin</u>
- Leaflets variable, <u>2"-2.75"</u> <u>long</u>
- Typically with short, but distinct petiole
- Typically southern, extends into PA, DE

Devil's walking stick flowers overtopping foliage



Flowers:

- · Whitish to cream colored
- Borne in large, inflorescence <u>12"-24" long</u>
- Clusters multi-stemmed, <u>lacking a central axis</u>
- Often wider than tall, with flower base surrounded or overtopped by foliage
- Blooms late July-August

Toothache tree, common prickly ash (Zanthoxylum americanum)

- Small native tree or shrub
- Prickles paired along stem
- Compound leaves
- Blooms in spring, before leaf out

Toothache tree fruit and <u>once-compound</u> leaves





Reaching out with Events

Backyard Forestry in 90 Minutes — For all interested in forest related topics on smaller properties February 12, 2015 —Thursday evening 7:00 p.m. to 8:30 p.m.

Pruning Trees for Health and Beauty

Forest Resource Education Center 495 Don Connor Blvd Jackson, NJ 08527 Reservation: njforestry.org/my backyard



Lusscroft Maple Sugar Open House

March 1 & 14, 2015 — Saturdays

Wantage, NJ

Contact: Frank Hennion, MandFHen@aol.com

<u>Backyard Forestry in 90 Minutes</u> — For all interested in forest related topics on smaller properties March 12, 2015 —Thursday evening 7:00 p.m. to 8:30 p.m.

Wildlife in, on, and Around Your Trees

Forest Resource Education Center 495 Don Connor Blvd Jackson, NJ 08527 Reservation: njforestry.org/my backyard



Private Land Owners Conference

March 20-21, 2015 — Friday and Saturday

Blair County Convention Center

Altoona, PA

Contact: Allyson Muth, abm173@psu.edu

NJ Forestry Association Annual Meeting

March 21, 2015 — Saturday

Practical Forest Stewardship for NJ's Woodlands

Rutgers, Cook College Conference Center

New Brunswick, NJ

Reservation: Lori Jenssen, njfalorij@aol.com

NJ State Arbor Day Celebration

April 24, 2015 — Friday

Moorestown, NJ

Contact: Alec McCartney, ajmcforester@yahoo.com

NJ Envirothon

May 2, 2015 — Saturday

Cape May County Fairgrounds

Cape May Courthouse, NJ

Contact Richard Belcher, richard.belcher@ag.state.nj.us

Spring Forest Stewardship Tour

May 15 or 16, 2015 — Saturday

Meet at Silas Little Experimental Forest

New Lisbon, NJ

Reservation: Lori Jenssen, njfalorij@aol.com

An On-line Newsletter for the Rutgers Cooperative Extension Woodland Stewards Program in cooperation with the New Jersey State Forestry Services, and the New Jersey Forestry Association. Edited by Charlie and Barbara Newlon. Submit information for future issues to: cbnewlon@optonline.net Deadline for the March Issue #18 is March 15, 2015