



Association, Inc. 11 University Way, Suite 4, Brattleboro, VT 05301
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WOODLOT TIPS



Photo: FreeDigitalPhotos.net

WINTER 2014

Saturday, March 22, at 10:00 a.m.

Annual Windham County Woodland Owners Association Sugarhouse Tour

Please join the Woodland Owner's Association for a tour of John and Debe Plummer's sugaring operation in Grafton.

Plummer's Sugar House is a third generation, family-owned business. John and Debe Plummer have been running it for 30 years. They put out roughly 6,000 taps. Sap runs from main lines directly into holding tanks inside the sugarhouse. A vacuum pump is connected to the main lines, which helps the sap to flow as there are many miles of tubing in the woods. Besides boiling their own sap, they also buy and boil sap from local sugar makers who truck their sap to the Plummer's sugarhouse.

The Plummerts use two reverse osmosis (RO) machines to reduce the amount of water in the sap before it is boiled. When the sap comes

out of the trees, it is only about 2 percent sugar content. It takes a lot of boiling to bring it up to about 68 percent sugar content to make it maple syrup. The RO machines take out 75 percent of the water, which cuts down on the amount of fuel they use and also cuts down on their labor.

They begin tapping the trees from the beginning to middle of February. Weather depending, the sap will run from the end of February to middle of March. When the temperatures during the day are above freezing, the sap runs but it still freezes up at night. The sap they get during the morning is processed right away and will be made into syrup before the sap flow freezes up at night. Sap will continue to run and be boiled until the buds come out on the maple tree, sometime during the middle of April, again depending on the weather. The warmer the weather, the earlier sugaring ends. When it is time, all the trees once again get visited and each tap gets pulled out. The lines stay up in the woods. The tap holes in the trees will now have time to heal.

The Plummers have a shop on their farm where they sell all grades and all size jugs of their maple syrup. They also make a Maple Cream Spread and Pure Maple Candy that melts in your mouth. Granulated Maple Sugar and Pancake Mix is also sold at their shop. A free tour is given with any purchase. They ship on a daily basis and have a website: www.plummerssugarhouse.com

Directions:

FROM ROUTE 30 coming into Townshend: Take Route 35 N. in Townshend at the intersection of Rt 30 & Rt 35 (follow the Hospital Sign) Go for 3.2 miles to a fork in the road. Take the LEFT fork. Go for 3.8 miles. They're on the left. You will see a field and then red barns and a white farmhouse.

FROM THE CHESTER AREA: Take Route 35 towards Grafton. Go 6 miles until stop sign. Take a RIGHT into Grafton. Take your 2nd LEFT at the Old Tavern (Townshend Road). They are 3 miles down this road on the right. There's a white picket fence in front of the white farmhouse. You'll see red barns and the sugarhouse.

From Debe and John — Sugar season is here!!! We are almost done with our tapping — only about 2000 more taps left ... It's a little harder moving around in the woods with all the snow. We don't move so fast with snowshoes on! ... We boiled on the 24th of this month for the first time, but now the weather is turning colder. It looks like it will be at least a week before the sap will run again.... There is no telling how the season will be; we can only have faith in nature and our trees that they will give us the sap we need.... There are a lot of tracks in the woods now. Today we saw a couple of fox dens with active tracks coming and going around them. Also we saw lots of rabbit tracks.... Think spring!

SAVE THE DATE!

Saturday, June 7, is the Strolling of the Heifers. It may seem early, but mark your calendars. WOA again will have an exhibit.

President's Column

By Margaret MacDonald

Polar Vortices and Global Warming

In the fall 2012 issue of *Woodlot Tips*, County Forester Bill Guenther described 2012 as “the year of weird weather” – and that trend has certainly continued into early 2014. Consider the headline in *USA Today* on January 23: “Sick of the cold? Head for Alaska.” The article, by Doyle Rice, points out that the temperature in some Alaskan towns was higher than that in Florida. You may be as tired of the global warming debate as you are of the brutal cold we’ve been experiencing in the Northeast, but the recent deep freeze does have two benefits: it has prompted the mainstream media to present clear descriptions and explanations of what’s going on and it has made enough people miserable that they may actually pay attention.

Mind you, I’m biased: I fully believe that global warming is occurring, and that it increases the likelihood of extreme cold as well as extreme heat (Australia, for example, is undergoing a record-breaking heat wave while we confront those –20 degree temperatures). My views reflect those of my late husband, Gordon, who spent much of his life studying the environmental effects of climate change. He, of course, understood the underlying mechanisms and could explain them convincingly to his scientific peers using complex equations that I couldn’t decipher, let alone understand. But when you come right down to it, Skeptical Science.com, “a website that gets skeptical about global warming skepticism,” neatly summarizes the situation when it notes that “Global warming amplifies the risk factors for extreme weather events – and that is all that Climate Science claims.” (Incidentally, the website is worth visiting just for its banner, which shows two startled penguins contemplating a green shoot emerging through the Antarctic ice.)

In an article published on January 9

(<http://www.weather.com/news/science/environment/climate-change-skeptics-winter-cold-global-warming-still-real-20140107>), Terrell Johnson of the Weather Channel emphasizes that: “No scientist argues that long-term global warming means that we won’t still experience winter, even bitterly cold winters like this year’s has become. The changes to the climate that scientists who are concerned about global warming point out are exactly that: long-term. Individual weather events don’t mean that the trend isn’t taking place.”

Specifically with regard to the polar vortex, physicist John Holdren, currently President Obama’s science advisor, illustrates its relationship to global warming in a short video released on January 7 (see <http://www.whitehouse.gov/photos-and-video/video/2014/01/08/polar-vortex-explained-2-minutes>). Holden’s longer term prognosis isn’t exactly optimistic (unless, like Bill Guenther, you love very cold weather); he notes that “A growing body of evidence suggests that the kind of extreme cold being experienced by much of the United States as we speak is a pattern that we can expect to see with increasing frequency as global warming continues.” However, like any responsible scientist, Holdren also acknowledges that the debate about exactly what is happening and why will continue.

Those of us who loathe these bitter temperatures may take some consolation from remembering that:

Winter Trees

by William Carlos Williams (1883–1963)

All the complicated details
of the attiring and
the disattiring are completed!
A liquid moon
moves gently among
the long branches.
Thus having prepared their buds
against a sure winter
the wise trees

(1) Very cold winters help to kill off some of the pests that damage our forests (or our persons), including hemlock woolly adelgids, gypsy moths, and ticks. Unfortunately, however, the temperatures would have to reach –30 (and stay there for a while) to have an effect on the emerald ash borer. (2) Sugarmakers could see improved yields if February and March bring enough sunny days to

alternate with these frigid nights. (3) The frozen ground can extend winter timber harvests, since heavy equipment won't get bogged down (literally) on logging trails. (4) Any winter snows will remain on the ground longer, which benefits Vermont's winter sports industry and our economy overall. (5) Finally, according to a 2013 analysis by Climate Central, Vermont is one of the five states in which winters have warmed most rapidly since 1970 (the others are Minnesota, North Dakota, South Dakota, and Wisconsin). So if global warming is

responsible for the bitter cold, it has also given us a bit of a cushion (about 4°F, which doesn't sound like much, but the average mean temperature in Arizona is only 7.5°F warmer than that in New Jersey). In other words, without the overall warming trend things would be even worse. But that may just be cold comfort.

I still wish I could hibernate until, say, April. Or this year, to be on the safe side, perhaps May.

For membership information or email notices of upcoming programs, contact Carol Morrison, WOA Clerk, at woodlandownersassociation@gmail.com

Big Tree Tour: Twentieth Anniversary Edition

By Margaret MacDonald, WOA president

Last October, Windham County Forester Bill Guenther led the 2013 edition of the biannual Big Tree Tour. The size of the group varied over the course of the day, but always consisted of about 14 people. Along the way Bill shared the history of the various trees, and discussed general information about tree growth and health. He also acknowledged the rivalry among county foresters, all of whom want to beat out the others by having more state champion trees.

Determining a Tree's Score

Total score = circumference in inches at 4.5 feet above ground level + height in feet + ¼ average crown spread in feet

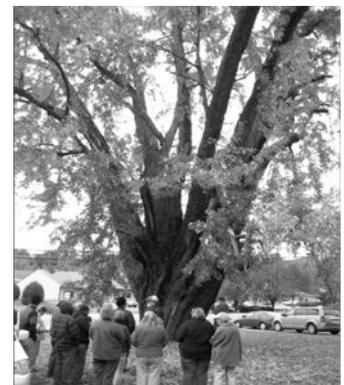
We started at Peggy and Ken Farabaugh's champion **sassafras** in Vernon – a tree that, as Bill pointed out, is not remarkable in size per se, but is huge for its species. The tree is probably 60–65 years old, and in fair health. It has grown 5 inches in circumference since the last measurement (15 years ago). The Farabaughs recently took out some white pine surrounding the tree to give it more light. The sassafras is the only tree in New

Peggy and Ken Farabaugh run Vermont Woods Studios, which last year received a \$100,000 Working Lands Enterprise Grant from the state. For more information, see http://www.reformer.com/ci_23488660/windham-county-rakes-big-grants

England with polymorphologic leaves: it can produce leaves with three different numbers of lobes, but in the 1980s and 1990s this tree only produced one kind of leaf. For some odd reason, the tree now sports all three types of leaves! The range of sassafras in Vermont stops at Windham/Windsor county line.

Our next stop was the runner-up **black walnut** in front of Belleville Realty on Western Avenue in Brattleboro. The species is not quite native to New England; walnuts are happiest in the Ohio River valley. This tree is about 100–125 years old, and grew 9 inches in circumference in the last 14 years. Honey mushrooms around its base indicate the tree may be suffering from some root rot, and the tree also has a tar spot and many broken branch tips that could become entry points for diseases. An arborist could prune them to reduce the risk. A rod has been inserted in the tree's V crotch (a weak spot in any tree) to hold the two main sections of the tree together; it probably should have a triple cable.

We then moved on to the champion **silver maple** on Route 5 in Brattleboro: at 353 points, this is the



Silver Maple

fifth largest tree in the state, and the second largest in Windham county, surpassed only by the champion white pine we visited in the afternoon. The tree exhibits no root rot, but at 120 years old is probably close to the end of its biological life. The Tyler property, where the tree is located, is zoned for commercial development, which led to a scare two years ago, when it was misreported that a car dealership planned to buy the site and cut the tree down. Still, the potential remains that the next owner of the property will decide that this beautiful, impressive tree takes up too much space on a commercial site. Bill has contacted the Brattleboro Tree Advisory Committee, but unfortunately there is no legal protection for the tree.

Our next visit had a melancholy character, because Dick Virkstis's champion **sugar maple** may not be with us for much longer. The tree was weakened by a pear thrips attack 6 years ago, and was hit with anthracnose last year. It also exhibits signs of leaf spotting fungus, and cuts on surface roots have let in armillaria fungus. Although the bark texture on the upper limbs is good and the tree is still growing, the V-shaped crotch that separates the two main portions of the tree is essentially letting the two halves peel apart. The center of the tree is practically rotted out, to the point where the rods that had been inserted to hold the sections of the tree together now move. The remaining holding shell may not be strong enough to keep the two main sections of the tree together against strong winds, and if either major section of the maple were to come down it would destroy the Virkstis house.

This leaves Dick with a heartbreaking choice. One option would be to invest thousands of dollars to have an arborist perform an aerial assessment and determine how sound the upper wood is and whether cabling could help in this situation.



Sugar Maple

The cabling itself would cost thousands more – and even then might not prove effective. Alternatively, he could decide to have the tree cut down for preventive purposes; the power company would pick up part of the cost. If the tree does have to come down, Bill hopes that the state will commemorate it in official photographs, hold a ceremony before the tree is cut, and then preserve a cross-section of the trunk with a plaque that identifies the source as a former state champion.

Our mood lightened when we visited the runner-up **butternut**, owned by the indomitable and delightful Esther Falk. The tree is about 64 years old (some 30 years younger than Esther!), and may owe its impressive stature to its location on the Waits River geologic formation, whose soils are very high in calcium. While the tree does have the butternut canker that has attacked the entire species, it is in generally good health. Ideally, the tree will be part of a University of Vermont study of why some butternuts can resist the canker. An arborist has inserted six cables to support the tree – thanks to a gift for Esther's 89th birthday. During the Big Tree Tour several years ago, some of Esther's friends on the tour asked about how the tree's structural deficiencies could be corrected. Bill replied that an extensive cabling system could be installed to keep the multi-stemmed tree from splitting into many smaller sections. For Esther's birthday, her friends gave her a certificate for \$1,000 to cable the tree. The theme of the party was "keeping it all together"!

After we had admired the tree, Esther welcomed us to her home, and while we ate our lunches in her living room she entertained us with stories about the history of her house and her property, and her affection for the tree. In previous years she has baked a butternut cake or cookies for the tour participants, but because the tree produced no nuts this year she gave each of us a longer-lasting souvenir: a card with a lovely photograph of the tree in full leaf.

The champion **red mulberry**, located in Putney, looks like two trees joined at the base (each of them in turn with two main leaders). Bill noted that according to the rules of the Big Tree Registry a tree would be treated as two trees if the trunks forked below breast height (4.5' above ground level). Mulberries are unusual in the



Red Mulberry

Connecticut River Valley (they are far more common in the Great Valley), so the tree may have been planted by a former property owner. Like the sassafras, mulberries produce different types of leaves. A key consideration in assessing the hazard level of an ornamental tree is the Target Concept: what it might hit? In this case the tree would likely cause minimal damage to the house due to its limited height.

From Putney we traveled to Wardsboro to visit the new champion **apple** tree (the former champion, in Newfane, was in poor health and was cut down four years ago). This handsome tree is probably 125–150 years old, and even though the bark has an open seam, the tree has a healthy crown. It has been carefully pruned and produces exceptionally large and quite tasty apples (although none of us knew what variety they are). The tree also exhibits many recent peck marks made by yellow-bellied sapsuckers; Bill noted that birds return to “sweet” trees.



Apple

The fourth largest tree in the state and the largest in Windham County – the champion **white pine** in Londonderry – lacks beauty, but with its four enormous leaders is remarkably impressive. Normally white pines have only one leader, but in this case the white pine weevil must have killed off the main leader, and four horizontal branches that had started growing upwards became co-leaders. Each of them would be a respectable-sized pine. Luckily, the crotches between the leaders are U-shaped rather than the fragile V shapes that pose a risk of fracturing. The tree is probably about 150–175 years old, and is still growing. The tree boasts abundant needles, which allow it to accumulate a great deal of energy. Bill reminded us that trees make use of energy in the following order: (1) food, (2) primary cell division – growing taller and longer, (3) reproduction, and (4) secondary cell division – growing in girth. Clearly this tree has done well in all these categories!

Four years ago, when we last visited this tree, its 358 points brought it within 7 points of the national champion in Maine – the White Pine State. Naturally, all loyal Windham County residents hoped that in the meantime this Londonderry tree would have grown enough – and its competitor declined enough – to take over the national championship. But Bill informed us that in the meantime a “beast of a tree” in New Hampshire has accumulated **414 points** so both the Vermont and Maine trees would have to do a lot of growing to catch up! . (Bill’s note: Sigh... they found a bigger beast over in Cheshire County. I HAVE to go over and look at that sometime.)

We ended the tour at the **sycamore** next to the Harmonyville Store. This tree is right at the edge of its zone: the northernmost sycamore known in the Connecticut River Valley is in Cornish, NH. The species grows rapidly and this specimen is probably about 100–125 years old. Bill pointed out the distinctive mottled bark, which makes pretty lumber; the higher the limb, the lighter the color of the bark. The tree has a large amount of sprout tissue and many branch stubs; fortunately these are self healing. Bill also described how repairs to the nearby bridge following Tropical Storm Irene could have had a catastrophic effect on the tree, largely because the Agency of Transportation (AOT) planned to park its heavy

equipment in an area that would have crushed the tree's roots. Fortunately, after Bill protested, the AOT agreed to keep the equipment on the other side of the brook.

All of the tour participants thanked Bill enthusiastically for such an enjoyable day, and several of the non-members expressed interest in joining

WOA. While Bill considers this tour a labor of love, he deserves our gratitude for planning the itinerary, obtaining permission from all of the landowners, and providing us with so much useful and entertaining information about these particular trees, about big trees in general, and about the broad range of tasks that county foresters must perform.

Yet Another Emerald Ash Borer (EAB) Outbreak

By Bill Guenther, County Forester

Several weeks before the end of 2013 we got some more sobering news on the EAB front — a new infestation has been found in North Andover, Massachusetts, a suburb just north of Boston. This is an outlier infestation that has our colleagues in Mass. very worried. It is not known as yet how the infestation was established. Delimiting surveys are under way to try to assess how extensive the outbreak is. As of this writing, I do not know how many infested trees have been found. As I've written in the last couple of newsletters, we are now completely surrounded with EAB as it is now found in all neighboring states and provinces. We need to be very diligent in watching carefully for this insect.

In most all cases of invasive exotic insects, they are found by a concerned citizen and not by a

natural resources professional. In the North Andover case, it was someone dining at a Chinese restaurant who noticed outside that some trees did not quite look right. They were all ash trees that were exhibiting the "blonding" appearance. This is caused when woodpeckers going after the insects will incessantly peck at the ash bark, which is thick and corky. After numerous attacks by the bird, the much lighter inner bark is exposed giving it a "blond" look.

This spring the week of April 27–May 4 is designated as "Ash Awareness Week." There will be media information and some walks scheduled around the state to make folks more aware of the importance of ash both in the forest and as an ornamental, as well as to raise more awareness about EAB. Stay tuned.

Eating the Enemy

The September 2013 issue of *Scientific American* includes an article by chef Bun Lai titled "How (and Why) to Eat Invasive Species." Among the recipes is "Knot Your Mother's Lemonade," based on Japanese knotweed shoots, which, according to the chef, are "crunchy, juicy, and tart," and taste something like a Granny Smith apple. While lemonade hardly sounds appealing as we suffer through sub-zero temperatures, we mention it now because the season for gathering the shoots will only be a couple of months away by the time you read this newsletter.

The *Scientific American* article also contains a link to the website of Eat the Invaders (whose motto is: "Fighting Invasive Species, One Bite at a Time"): <http://eattheinvaders.org/> The website presents many additional recipes involving knotweed and other invasives (both animals and plants), including one for "Dandy Knotweed Muffins" (putting two nuisances to good use).

WOODLAND SECRET #13 — Ascent of Sap

By Arthur H. Westing, Former WOA Trustee

Many of our local woodland trees achieve heights of over 50 feet [15 meters] and a few of them can even get to be twice that tall, for example, Eastern white pine (*Pinus strobus*) and White oak (*Quercus alba*). And, even more amazing, a number of species elsewhere can achieve heights in excess of 300 feet [91 meters], including Douglas-fir (*Pseudotsuga menziesii*), Coast redwood (*Sequoia sempervirens*), and Blue gum (*Eucalyptus globulus*). So the question arises of how trees can manage to take in water from the soil and get it to reach the top of their crowns.

To begin with, trees are equipped with two plumbing (vascular) systems, only one of which is of concern to us in the present context, namely the one found in the annual rings of the wood of the tree trunk (in its "sapwood" region) and consisting largely of dead so-called **xylem** cells. In the conifers (the "softwoods"), the tiny vertically-aligned, cigar-shaped xylem cells (known as "tracheids," perhaps 5 mm long and only 30 mm in diameter) each connect to the next one above it via small pores, whereas in the dicotyledons (the "hardwoods") the equivalent, now tube-shaped, xylem cells (known as "vessels," each several times wider than the tracheids) lose their end walls to form a continuous pipe. In both cases, the many adjacent exceedingly small-bore pipes go up the trunk (either vertically or, more often, especially in the conifers, in a gentle spiral) all the way from the roots to the leaves. The pipes that do this in any one year are located in only the single or very few outermost annual rings of the dead wood (and almost entirely in the early "spring" wood).

Movement of water (with its dissolved minerals) up through the tree — referred to as the ascent of sap — must be considered within the framework of an entire "soil-root-stem-leaf-atmosphere" continuum. Thus, the water within each pipe forms a continuous column from bottom to top. It turns out

that each molecule of water when confined in a very narrow tube attaches to the next molecule above it with enormous tenacity, the resulting tensile strength of the water column actually exceeding that of a steel wire of the same diameter.

So it is (in simple terms) that when a water molecule evaporates ("transpires") out through a leaf pore (a "stoma") it pulls up the water molecule below it, which does likewise to the water molecule below it, thence all the way down the stem and into the roots. Thus, the root system (always greatly enhanced by symbiotic fungi [cf. "Water Uptake" in the Autumn 2010 *Woodlot Tips*]) pulls in water *passively* during those times when evaporation ("transpiration") from the leaves occurs, resulting in mass flow up the stem. It is true that modest amounts of water are drawn in *actively* via osmosis when transpiration slows down or ceases (e.g., at night when the leaf pores [the "stomata"] close up), thereby producing some so-called root pressure in the hardwoods, but none in the conifers — and thus in neither case of any consequence to the ascent of sap. All told, one of our trees might well transpire 50 gallons [200 liters] or so on a warm and sunny summer day.

Finally, there are two more points of interest: *First*, the several so-called wilt diseases of trees are generally caused by fungal infection leading to the plugging up the xylem plumbing system, for example, including Dutch elm disease and Oak wilt. Some pines, in turn, succumb to a wilt disease in which infection by nematodes leads to the plugging up. *Second*, it should be noted that those lower land plants without plumbing, such as mosses, are never more than 2 inches [5 centimeters] or so tall because they depend largely on upward water movement via capillary diffusion (equivalent to water movement up a blotter that is standing in water).

Library Corner

The WOA library has just acquired two books:

The Tree Identification Book: A New Method for the Practical Identification and Recognition of

Trees, and The Shrub Identification Book: The Visual Method for the Practical Identification and Recognition of Shrubs

Both books were authored in 1973 by George W. Symonds, with photography by Stephen V. Chelminski.

Although published in 1973, these books remain highly practical guides for identifying trees and shrubs. Each book has two major sections: pictorial keys and master pages. The keys let you compare a single feature (leaf, bark, seed, and fruit for trees; flower, leaf, and fruit for shrubs and vines)

of a plant you don't recognize to photographs of similar-looking features, allowing you to narrow the identification to the plant family or genus. Most of the photographs show the feature at either full or half scale, with all photos on a page at the same scale, or show a ruler so that you can compare the size of your sample to the picture. The master pages at the back of the book then put it all together, showing the entire tree or shrub, and highlighting differences among the plant families.

Legislative Update on the Use Value Appraisal (UVA) Program

By Bill Guenther, County Forester

Last year we reported that House Bill 329 (H.329) passed the House and was sent over to the Senate. During last year's session, the Senate did not do much with the bill and this fall held a series of public meetings to get input on the proposed bill and any other changes that folks felt would be helpful for the program. In short the Senate decided to scrap the entire House version and wrote its own proposal.

Here's a snapshot of some of the Senate's proposals:

- Allows for a "floating" two-acre exclusion. Currently the program requires that you delineate the exact location of land you wish to exclude for future development.
- Limits the financial benefit that UVA provides by applying a cap to the per acre tax savings. Currently there is a very wide variety of savings per acre, which is generally related to parcel size and the individual town's real estate values. Folks enrolled in UVA generally save from between \$5 and \$100/acre/year on their property taxes. The Senate bill would apply an as yet unnamed figure into the mix. For example, let's say that you are in a high appraisal area of Brattleboro and are currently saving \$100/acre/year. Then assume that the Senate bill caps savings at \$50/acre. You would then have to make up that additional \$50/acre that you had previously saved

and also pay your use value portion which only comes out to about \$3/acre in Brattleboro. This proposal could greatly impact the tax savings of smaller parcels with high per acre appraisals as well as other high value parcels such as waterfront or those with exceptional views

- Requires the Tax Dep't. to choose ten towns to audit each year to see if enrolled parcels were being valued the same as un-enrolled parcels. There have been concerns expressed that some towns may be artificially raising the appraised value of UVA parcels so that they can reap a higher benefit in the Municipal Reimbursement portion of the UVA program.
- Directs the Dep't. of FP&R to study whether or not there is sufficient staffing in the County Forester ranks to properly oversee the UVA program. It also recommends an inquiry be made as to whether or not consulting foresters should be licensed.

Currently the bill is in the Senate Agriculture committee and if approved, it would then go through the additional Senate committees of Natural Resources and Finance, then be approved by the full Senate, and THEN go into a House/Senate Conference Committee to reconcile differences with the House version. Given that we are up to Town Meeting week, it could be difficult for any new UVA legislation to pass this year.

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CHANGE SERVICE REQUESTED

Upcoming Programs

(See inside for details.)

Saturday, March 22, 2013 at 10 a.m.

Annual Sugarhouse Tour:

A tour of John and Debe Plummer's sugaring operation in Grafton, a third generation, family-owned business.

Save This Date! Saturday, June 7

Strolling of the Heifers

WOA again will have an exhibit at the Stroll all day!

Mission of Woodland Owners Association

WOA is a non-profit association of woodland owners and managers, members of the wood products industry, and other interested parties in the Windham County Region who advocate both sustainable management practices and the enjoyment of forests and their ecosystems. In support of these ends, WOA offers educational opportunities for all age groups. Areas of interest include: biodiversity; clean air and water; cultural and historic resources; fair and equitable taxation of woodland; forest products; recreation; scenic beauty; and wildlife habitat. We recognize that these concepts are continually evolving and therefore will strive to consider the most current thinking and values regarding them.