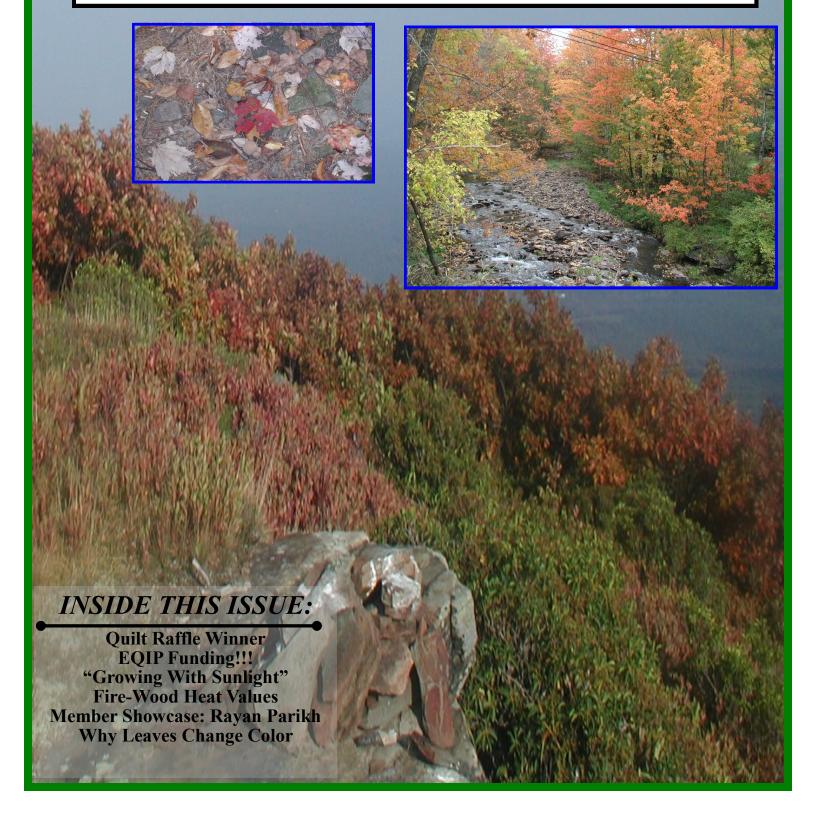
CFA News

The Newsletter of the Catskill Forest Association, Inc. Volume 25, Number 4 - Fall 2007







CFA News Volume 25, Number 4 Fall 2007

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Subscriptions: *CFA News* is mailed quarterly to members of the Catskill Forest Association. If you are interested in joining CFA, give us a call or visit our office. Contact information is located above. Please submit address changes to Michele at the address above.

Cover Photos:

Top Left - Fall Leaves on the Forest Floor - *Ryan Trapani*

Top Right - A Catskill stream in Delaware County - *Jim Waters*

Bottom Center - View from atop one of the many majestic south-eastern Catskill Mountains -- *Ryan Trapani*

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WELCOME NEW MEMBERS!

July

John & Jeanne Trapani – New Paltz O'Beirne Associates, Inc. – Margaretville Halina & Ed Ludde – Andes Keith & Dilys Purdy – New Kingston Gale Kabat – Andes

Constance Trapani - Highland

August

Rob Cruickshank - Shokan
Rayan Parikh - Delhi
Nolan Baer - Andes
Stuart Slutzman - Margaretville
Marbletown Landowners Association – Stone
Ridge
Tony Emmerich – Gilboa
David Rainbird – Margaretville
Chantal & Dan Forger – Big Indian
Rob Messenger – Kerhonkson

September

Chatral A'dze & Art Steinhauer - Willowemoc Robert & Gail Storm – Halcott Center Ulster Heights Owners Corporation – Ellenville

October

Michael & Robin Tanner – Arkville George & Rita Herbst – Margaretville Patrice Schuster – Ellenville Timothy Etienne & Allan Taylor – Lexington Bernard Sommer – Andes John Maczko – Roxbury



EXECUTIVE DIRECTOR'S MESSAGE

Good fall to everyone! I certainly hope that you have been able to take advantage of this beautiful autumn weather to get out into the forest. Ryan & I have been able to spend quite a bit of our time out & about thanks to the many requests for on-site visits. Thank you.

The first thing that you should read in this newsletter is on the following page. <u>\$Money\$ for Forestry work!!!</u> How often does this happen? -- Not often with the current legislative budgets. There is a very quickly approaching deadline and some administrative hurdles to make. This will require very quick actions by those hoping to take advantage of this opportunity.

I think you will also find the firewood ratings and tips included in this newsletter timely and especially helpful. With the escalating fuel costs, woodstoves can be a welcome addition to anyone's energy portfolio. Of course, with rising diesel and gasoline costs, the costs for loggers to get you that firewood has gone up. I've heard of prices anywhere from \$150 to \$220 per cord for seasoned, split wood delivered to your home. If you can do it yourself, from your own property the savings can be very good. I just like to have that extra boost of heat that my woodstove gives me on the really damp & cool nights - especially if I've been outside.

We are going to be redesigning CFA's web site this coming winter. I think you will find it much nicer. Some of the things we're going to be adding is a better calendar, online membership, registration and order forms, and the capability to automatically send a short email out when there is

an important change or addition posted on it. Anyone not wanting to receive these emails will be able to remove themselves from the list, but I don't anticipate very many of these notices going out anyways. Examples would be if an insect alert needs to be made aware of or there is funding available such as EOIP.

CFA is also looking into setting up charitable remainder trusts. We will explain these when all of the details are worked out. These will enable a person to set up a trust fund, where their beneficiary will receive a guaranteed payment after their death. Upon the beneficiary's death, the remainder goes to CFA. One of the benefits to the person setting this up is that the initial amount placed into the trust can be claimed as a charitable donation.

As you can see, now that we are in our new home, we are looking forward to making some changes and improvements in our programs. Any ideas are welcomed. No idea is stupid! And we like those that can think outside of the box.

Have a wonderful Thanksgiving and safe and happy holidays!

Naturally,

Jim Waters



Don Liddle of Andes, NY is pictured here with the quilt that he won in CFA's Anniversary Quilt Raffle. The quilt was hand-crafted and generously donated by the Sunbonnett Quilters of Denver-Vega, NY. (Picture taken in CFA's new headquarters.)

Thanks goes to all who bought tickets!!!





5-foot TREE TUBES available for only \$2.00 each --

While Inventory Lasts! Provide shelter from deer and lawn-









<u>E.Q.I.P. FUNDS FOR FORESTRY PRACTICES !!!</u>

The DEC has been working with the NY Natural Resource Conservation Service (NRCS) to make \$500,000 of Environmental Quality Incentives Program (EQIP) funds available to private forest owners to implement forestry practices during the federal fiscal year of October 2007 - September 2008. This effort is ready to be implemented. DEC staff will provide technical assistance to landowners, will rank applications and perform compliance inspections after the installation of any practice. Guidelines will be narrow. The DEC is discussing with NRCS the possibility of continuous sign ups with periodic ranking and approvals of applications, something we consider vital to the success of the initiative.

The practices that are eligible for cost share assistance are:

Forest Stand Improvement - Non-commercial and commercial

Forest Trails and Landings - BMP installation

Upland Wildlife Habitat Mgt. - Wildlife tree/shrub Release; Forest Opening Creation; Pruning for wildlife; Wildlife tree/shrub planting.

1. The landowner will be required to have a completed Forest Stewardship Plan (FSP) identifying the intended practice. -- Not all 480a forest tax law plans meet the same guidelines as the "stewardship plans" do. But, if your 480a was done recently, your forester may have been savy enough to include the additional information required to meet the stewardship level. What is usually lacking is the "narrative description and discussion of interrelationship of resources" such as soil and water, wildlife and fisheries, recreation and aesthetics, etc. Also, WAC forest management plans may hold all of the necessary elements. You will need to send or bring a copy of your plan to the DEC office in your region to see if it meets the requirements and have it approved. Of course, DEC man-power and time will be a large hurdle to get plans not already approved as "stewardship plans" to be approved in time for this deadline!

Otsego, Schoharie, Greene & Delaware Counties: DEC Region 4, Route 10, Jefferson Road, Stamford, NY 12167-9503, (607) 652-7365

Sullivan & Ulster Counties: DEC Region 3, 21 South Putt Corners Rd., New Paltz, NY 12561-1696, (845) 256-3000

- **2. HURRY! The deadline to apply for funding is December 14, 2007!** -- That means that if you do not already have a currently approved DEC "Stewardship Plan", it is unlikely you can make the deadline.
- 3. Apply directly to the local NRCS Service Center that serves your county, who will route applications to DEC for rating and processing.

Otsego & Schoharie -- Cooperstown Service Center, 967 CO HWY 33, Cooperstown, NY 13326-9222 -- (607) 547-8131

Greene -- Johnstown Service Center, 113 Hales Mills Rd., Johnstown, NY 12095-9742 -- (518) 762-0077 or Ghent Service Center, 1024 RT 66, Ghent, NY 12075-3200 -- (518) 828-4385

Delaware -- Walton Service Center, 44 West St., Walton, NY 13856-1041 -- (607) 865-4005

Sullivan -- Liberty Service Center, 64 Ferndale-Loomis Rd., Liberty, NY 12754-2902 -- (845) 292-6471

Ulster -- 652 State Route 299, Highland, NY 12528-2926 -- (845) 883-7162





Growing with Sunlight by Ryan Trapani, Education Forester

The forest we see today is the result of the historic and continuing interactions between humans, wildlife and the forested environment they live in.

The forests of the Catskills are more abundant now than they were 100 years ago. When Europeans first began moving into the region, cleared sites consisting of grasses and shrubs were used for pasturage. These sites were found in abandoned beaver meadows, along water courses, and both burned and cultivated sites from the Lenape Native Americans. After those areas had been exhausted, settlers spread into the forest and cleared land through girdling (making deep cuts through the sap-flowing regions all the way around the tree), felling, and burning. According to Dr. Michael Kudish, the average elevation to which pasture climbed in the Catskills was over 2,200 feet. Pasture climbed higher in areas with gentler slopes, and better soils where superior growing conditions existed for grass. As more and more fences and buildings were put up, additional forests were cleared.

After farm abandonment began occurring around the Great Depression, the forests of the Catskills have regrown. Fields were abandoned one-at-a-time, resulting in a large patch-work of even-aged forests. That is, as each area was left un-grazed and unmanaged, the trees all naturally established themselves at about the same time. That is why most of the forest stands we now have consist of trees that are within 10 years age of each other, regardless of their diameter or height. The time of abandonment for a given area can be calculated by determining the average age of the trees and adding about 5 years.

With the abandonment of the fields, an abundance of early successional vegetation consisting of shrubs, saplings, and grasses grew. This is because of the plentiful

sunlight provided by removing the overstory. Abundance of herbaceous growth provided more than enough food and cover for deer, turkey, grouse, rabbits, and an array of small mammals and songbirds. In addition, tree species usually consisted of those species that relish the sunlight such as white pine, red cedar, white ash, oak, cherry, birch, hickory, aspen, and poplar. Farm abandonment carries on today offering many changing wildlife benefits.

Many woodland habitats in the Catskills were abandoned more than 60 years ago and have now become more mature in nature, containing late successional or heavily shaded conditions. Shade tolerant trees that occupy these older forests include beech, birch, maple and hemlock. Only the wildlife species adapted to these more shady conditions can tolerate a mature woodland habitat. Some of the species that rely upon these mature habitats are bear, squirrels, amphibians, and woodpeckers. However, most species we are familiar with depend upon and thrive in a setting that offers more than one woodland habitat -- one which includes early-successional forest as well.

The understory is important in providing food and cover for many forms of wildlife. The Catskill forest floor is rapidly becoming a bare environment as plants and young trees are shaded out by the maturing forest.

What little vegetation that does survive is quickly consumed by hungry deer, rabbits, mice, and porcupines. A bare understory not only provides few trees for the forests' future and its sustainability, but also a habitat devoid of food and cover for a majority of our wildlife species. In other words, the understory in the Catskills needs more sunlight for growing trees and wildlife!

(continued on pg. 9 - Sunlight)

(continued from pg. 5 - Sunlight)

So... what can a Forester or wildlife manager do in seeking more diversity? Agricultural methods used in remedying this condition include fertilizing (usually with manure), chemicals and other organic substances that aid in plant growth. However, in a forested environment, sun-



Low bush blueberry growing in the understory after a recent burn. Blueberry is one *Fruit of Fire* along with American chestnuts, huckleberry, oak acorns, sweet fern nuts, wintergreen berries, red raspberries, and blackberries.



Events For The Remainder Of 2007 (as of 11/15/07)

Saturday Dec. 8th - What's going on With the Catskill Forest? -- Join CFA for an informative, easy walk through the forest with professional foresters. Meet in the Onteora School parking lot 4166 Route 28 Boiceville, NY. We will be departing from the school parking lot, caravan style, at 1:15 pm and returning approximately at 3:30 pm. You MUST pre-register by calling 845-586-3054 between 9am & 4pm M-F.

Friday Dec. 14th - Foresters' Training For Invasive Species -- CFA and C.R.I.S.P. (Catskill Region Species Partnership) will be hosting a workshop designed for practicing foresters that will update them with current information dealing with invasive species and their associated threats to the Catskill forest and show them how we can all help each other combat this growing problem. The workshop will be held in a location in Arkville from 9am 'til Noon. (Location depends on number of preregistrants.) There are 3 CAT 1 CFEs available to foresters. Foresters <u>MUST</u> preregister by calling Michele at 845-586-3054 between 9am & 4pm M-F.

Saturday Dec. 29th - Arkville Holiday Celebration -- The Greater Margaretville Chamber of Common pholding an event from 4pm - 8pm to celebrate the Holidays. Events include a parade, bar-b-que at the firestation,, Santa arriving on the RR Tracks and Fireworks. Various businesses will have their doors open and will be offering all sorts of activities and food. Watch the newspapers, etc. for the announcements. CFA will have hot cider available.

Watch for the Winter Newsletter and check out our website at www.catskillforest.org for a listing of the 2008 Events!

Backyard Sugaring

On October 14th, CFA took part in the Northeast Small Farm and Rural Living Expo and Trade Show located at the Ulster County Fairgrounds in New Paltz. The focus of the Expo was education. It featured over 50 educational workshops including an array of hands-on demonstrations; a variety of children's learning activities, and a large exhibit hall with businesses and agencies who work with farms and rural communities to answer a wide range of questions.

At the Expo, CFA demonstrated Backyard Sugaring. Spring will be here before we know it, and for many, Backyard Sugaring can be a great way for many small forest landowners to produce maple syrup who are on a limited budget. Backyard Sugaring involves techniques that utilize minimal operational costs and time while providing a delicious home-grown, local Catskill product. CFA displayed three styles of evaporators that could be used by Backyard Sugarmakers, along with the tools, materials, and techniques that are used in the entire process in producing one of our greatest heritage products. The demonstration keyed in on 6 points:

Identify and Planning trees to tap
Tapping your trees
Collecting your sap
Boiling your sap
Packaging your syrup
Savoring the flavor

CFA will be holding an indoor Backyard Sugaring workshop early this winter before the season goes into full swing. For more information on Backyard Sugaring, contact CFA. Don't wait until the sap starts to run. Plan now!



Above - Ryan giving a backyard sugaring demonstration.

Below - Jim giving advice to forest owner, Jerome Dally at the farm expo in New Paltz.





CFA's Silver Anniversary Annual Meeting



The annual live auction, which is always very entertaining, brought CFA about \$1,200 in donations. Above, the Executive Director, Jim Waters, is carrying off one of the many items auctioned. To the right of the screen is the quilt that was raffled off and won by Don Liddle of Andes.

eth Laurier welcomed everyone, a brief business meeting was held and the staff made a short presentation. Above, Bruce Williamson, Bureau Chief for Private Land Services with NYS's DEC gave a very informative presentation on Private Land Stewardship. He talked about many of the opportunities for land-owners as well as the forest threats that we all should be aware of.



FIREWOOD RATINGS & INFO Based on data from the U.S. Forest Products Laboratory

Species	Rela- tive Heat	Easy to Burn?	Easy to Split?	Heavy Smoke ?	Throw Sparks?	General Rating	Aroma	Weight of Seasoned Cord (lbs)	Heat Produced Per Cord (M Btu)
White Ash	High	Yes/Fair	Yes	No	No/Few	Excellent	Minimum	3,689	23.6
Red Oak	High	Yes/Poor	No	No	No/Few	Excellent	Fair	3,757	24.0
White Oak	High	Yes	No	No	No	Excellent		4,012	25.7
Beech	High	Yes/Poor	Yes	No	No/Few	Excellent	Minimum	3,757	24.0
Blue Beech	High	Yes/Poor	Yes	No	No/Few	Excellent	Minimum	3,890	26.8
White Birch	Med	Yes/Good	Yes	No	No/Moderate	Excellent	Minimum	3,179	20.3
Yellow Birch	High	Yes/Good	Yes	No	No/Moderate	Excellent	Minimum	3,689	23.6
Black Birch	High	Yes/Good	Yes	No	No/Moderate	Excellent	Minimum	3,890	26.8
Hickory	High	Yes/Fair	Bad	No	No/Moderate	Excellent	Good	4,327	27.7
Sugar (Hard) Maple	High	Yes	Bad	No	No	Excellent			
Red (Soft) Maple	Medium	Yes	No	No	No	Good		2,924	18.7
Black Cherry	Medium	Yes/Poor	Yes	No	No/Few	Good	Excellent	2,880	19.9
Walnut	Medium	Yes	Yes	No	No	Good			
Elm	Medium	Medium/Fair	No	Medium	No/None	Fair	Fair	3,052	19.5
Sycamore	Medium	Medium	No	Medium	No	Fair			
Gum	Medium	Medium	No	Medium	No	Fair			
Aspen	Low	Yes	Yes	Medium	No	Fair		2,295	14.7
Basswood	Low	Yes	Yes	Medium	No	Fair		2,108	13.5
Chestnut	Low	Yes	Yes	Medium	Yes	Poor			
Apple	High	Poor			Few	Medium	Excellent	4,140	26.5
Black Locust	High	Poor			None	Good	Minimum	3,890	26.8
Hop Hornbeam	High					Excellent		4,267	27.3
Hackberry	Medium							3,247	20.8
Boxelder	Low							2,797	17.9
Butternut	Low					Poor		2,100	14.5
Yellow Poplar	Low	Yes	Yes	Medium	Yes	poor			

[©] Weight & Heat content figures are based on seasoned wood at 20% moisture content, & 85 Cu. Ft. of wood per cord. A "cord" of wood is defined as a stack 4 ft. high, 4 ft. deep and 8 ft. long. (A cord has about 85 Cu. Ft. of wood and not 128 because of the air spaces between the pieces.)

- There is no advantage in splitting wood from the top down or the bottom up.
- Wood pieces should be split along "check lines", cracks that have already formed in the piece during drying.
- It is easier to split the wood when it is NOT frozen if it has knots in it -- otherwise it makes no difference.
 12" pieces of wood usually dry within 2 to 3 months, not a full year 2 foot pieces take from 6 to 7 months and 4 foot pieces do take a year.
- Splitting the wood first only slightly increases the drying process.



[©] Freshly cut wood has a very high moisture content. As much as 60% or more of the weight of a tree is water. Effective available heat is MUCH less, not just because there is less wood fibers in each pound of wood, but that a good percentage of that heat must be used to evaporate all that water. Burning green wood creates more air pollution and creosote buildup in the chimney, which can lead to chimney fires!

[©] Cut the wood to length and pile it so that wind can get to the sides of the piles and cover them so that rain does not get to it. Most water is evaporated from the ends of the wood, not the sides.



thick understory has grown in after a fire in 2001 and 2006 resulting in a Two Aged Stand. Some residual red and white oaks and tulip poplars survived and are acting as seed trees for future regeneration. Also regenerating are chestnut oak, sassafras, gray birch, and American chestnut. Notice that a deer browse line is not discernible in this photograph compared to other areas where sunlight is limited.

seedlings, plants, shrubs, and grasses grow. The sunlight provides more habitats for early successional species of trees as well as for wildlife.

tablishing abundant plant growth. Too little exposure to the thinning and patch clear-cuts for wildlife are sound silvicultursun will result in inadequate plant development that will quick- al prescriptions that may be implemented in manipulating light ly be foraged and browsed by animals - especially deer. Thin- for the creation of a sustainable forest and diversity in wildlife. ning must be performed in order to overwhelm the appetites of The advantages today are that we can more easily discriminate the hungry deer. One landowner performing a thinning may which trees we wish to cut in order to not only produce wildlife not provide enough light to overwhelm the deer if their neigh- and forage benefits, but also quality wood products. Another bors don't.

Native Americans burning the land quite frequently for the bohydrate production. Carbohydrate surplus will leave the tree aforementioned benefits. We know this from core samples less susceptible to abiotic, insect, and disease damage. Lastly, taken from bogs, as well as current tree species growing in an allowing more light into the understory may provide adequate area. Some of the trees that indicate repeated burns include: light conditions for more shade-intolerant plant species, while pitch pine, sassafras, tulip poplar, red oak, white oak, chestnut creating early-succession woodland habitat that is necessary for oak, blueberry, American chestnut, huckleberry, wintergreen, many types of wildlife to survive in. A byproduct of getting and sweet fern. Humans did this, whether deliberately or pas- sunlight to the forest floor may be to provide more growth than sively, in order to provide themselves with local food and ma- the deer can eat! terials.

The author witnessed this phenomenon first hand on a site that had been burned in May of 2001 and again in 2006. In fact, it had been burned some time years ago as well. This was confirmed by the presence of mature chestnut oaks and preexisting ground vegetation. On our way in to the burn site, the understory was typical. There was nothing growing under the thick forest canopy of hemlock, sugar maple, and birch as a result of little sunlight, and excessive deer browse. However, up ahead we could see light shining through where the fire, a year ago, had burned hot enough to kill the trees. The regeneration was thick, and heavy. It was a refreshing change from the typical barren understory that we walk through. Rare and unique shade-intolerant species were abundant in the understo-

light is the most effective tool. For many, including Native ry such as tulip poplar, red oak, American chestnut, sassafras, Americans, sunlight was used as a valuable tool in increasing blueberry, and huckleberry. Many of these are preferred by plant growth. The understory was managed by manipulating deer. We observed several deer browsing, an abundance of how much light reached the forest floor. This brought in cer- black bear scat, many ground-nesting birds, ravens, grouse, and tain kinds of vegetation abundantly, some of which provided hawks. More exciting was the presence of American chestnut fruit and nuts for both humans and animals to feed upon. Hu- which is considered rare since it succumbs to an exotic blight mans could then hunt and procure meat and hides from animals brought over from Asia. There were even nuts growing on feeding upon the newly established vegetative growth. There- many of the small chestnut trees. One tree had been ripped fore, by creating more sunlight to the understory, more tree down by a bear for its prized meaty nut. There was plenty of food for me, and thousands of other species!

Obviously, we can no longer burn the forest behind our houses as the Natives once did in order to perpetuate deer, Providing sunlight to the understory is the key in es- fruit and nuts. However, crop-tree management techniques, reason to thin is to let more sunlight onto the crowns of the In the past the light requirements were provided by desirable trees, which will increase their vigor for greater car-



Member Showcase: Rayan Parikh



On Friday August 24th, CFA performed an on-site visit at the property of Mr. Rayan Parikh in the town of Delhi. Mr. Parikh had recently purchased the property and was in the process of building his own home and putting in a driveway. Trees would need to be cleared permanently in order to create space for the new homesite that would be built from red pine logs located on the property. Mr. Parikh along with the land developer noticed that many of the trees had been marked with blue paint, signifying the former landowner's intention of a harvest. The developer told Mr. Parikh that he would be willing to split the profits from the timber harvested if he were allowed to conduct the logging operation.



Mr. Parikh thought he should first consult the Catskill Forest Association for some advice in this matter. He set up an appointment with one of CFA's Foresters to come over and take a look at the property and some of the trees that had been marked with blue paint. On arrival at the property, CFA's Forester immediately noticed that there were some healthy growing black cherry and sugar maple trees. As they walked around and scanned the various trees, it became apparent what the intentions of the previous landowner and Forester were. Trees that were marked were either black cherry, or sugar maple, at least 12-14" in circumference at diameter breast height, healthy, and straight-growing. The Forester had scheduled a *Diameter-Limit Cut*, sometimes mistakenly called a *Selective Cut* and better known as a *High Grade*.

A *Diameter-Limit Cut* is a tree harvest operation where only the largest, best growing trees are removed leaving the poorest growing trees as a seed source for perpetuating the forest of the future. If you were a farmer wanting to raise healthy work horses, you would never selectively kill your best horses, so that what

you're left with is a poorer residual stock for perpetuating the herd. Some landowners, foresters, and loggers perform this type of operation in order to realize the immediate income generated from a harvest in order to help pay their taxes, salaries, sawmill, or other costs of home-ownership. Often, this operation is performed immediately before a property is sold in order to convert timber assets into quick cash. A *Diameter-Limit Cut* leads one down a quick path to unsustainable forestry. Immediate benefits are higher at first.

According to SUNY College of Environmental Science and Forestry and many other schools' research, more money is generated in the long run from Sustainable Forest Management since the best trees are not harvested prematurely and are allowed to become far more valuable as they grow in diameter. In other words, a good Forest Manager/Farmer/Steward tends the forest by selecting poorer trees to be harvested and trees removed that are too close to each other for any of them to grow well. They leave behind the best trees to reach their full maturity at which time they should be harvested with a plan for regeneration. Leaving the best trees throughout the rotation will help ensure that there is good seed for the future crops.

In turn, this creates healthy regeneration that will continue the process of helping to pay the taxes and costs of ownership and provide all of the associated environmental as well as economic benefits for future generations.

By being a good steward of his land, Rayan hopes to be able to keep the land for his children and their children to live on. Sustainable Forest Management perpetuates a healthy community!



A properly managed forest should help pay for itself and defer property subdivision and change of use.

Mr. Parikh had taken the initiative to call CFA first, and prevent his property from being high-graded. The trees on his property, if left to mature, will drastically increase in value and he will receive much higher bids if he ever decides to harvest the timber and use a qualified Forester. In this case, CFA was able to arrive at a site and give advice before the long-term damage was done. Usually this is not the case. Many landowners believe they are receiving a good bargain when offered 50% for their timber. They even do this in the absence of a Logging Contract or any professional guidance or monitoring as well. The opportunity costs are the many environmental, social and economic benefits foregone in the future. Sacrificing the future for immediate gain is not only a forestry problem, but a bane to most environmental progress.

Please call CFA for help!



WHY LEAVES CHANGE COLOR

Contrary to ABC's report on the Nightly News some time towards the end of October, 2007 scientists <u>do</u> have a pretty good idea of why trees' leaves turn various colors in autumn prior to dropping them:

As the days grow shorter and temperatures are reduced, a chemical called chlorophyll is reabsorbed back from the leaves into the branches, trunk and finally the roots. Chlorophyll is used in photosynthesis so that the plant's food factories or leaves are able to combine carbon dioxide, water, and sunlight making sugars or glucose. As autumn progresses, chlorophyll is reduced and the presences of other chemicals are unveiled, such as xanthophyl (yellow), anthocyanin (red), and carotene (orange).

The fiery reds we see are from warm days and cool nights that are below 45°F. The warm days allow the leaf to produce more sugars that, during a cold night, cannot easily pass from the leaf back into the branches. The result is a red color. In fact, a single tree can display one side of its crown that was facing the sun as red, while the opposite side as yellow!

Notice the color in this sugar maple leaf beginning to turn vellow, while the veins are still mostly green. As cork cells develop at the base of the leaf, the passage of minerals and water are hindered. This hindrance is what begins the reduction in chlorophyll and the resulting fall colors. The veins are still mostly green because the passage of minerals and water is greatest there.



YELLOW: American ash, basswood, birch, beech, butternut, elm, hickory,

mountain ash, poplar, redbud, serviceberry, willow, boxelder, mountain maple, silver maple, striped maple, and sugar maple.

RED: Some oaks, some maples, sumac, and tupelos.

ORANGE: Some oaks and maples.

RED OR YELLOW: Sugar maple, dogwood, sweet gum, pepperidge, and sourwood.





PO Box 336 Arkville, NY 12406

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I believe in enhancing the quality of the forest land in the Catskill Region through proper forest management. To that end, I am interested in joining the Catskill Forest Association and supporting its efforts.

Mailing Addres	S					
	#:E-mail:					
	Membership Categories	You select the level & a	imount):			
	Membership	\$45 - \$74 \$75 - \$149				
	d in the Catskill Region? s:)			
Telephone #:		County:				
Total acres:	Forested acres:ed \$	Pond Y / N Stream	Y/N River Y/N			