The Forest's Future Is Our Legacy

Jerry Michael

Over one year ago, I offered a $50 bill to the first member of my hunting club who could find five maple, cherry or oak seedlings or saplings **anywhere** on the 1600 forested acres we hunt. Unfortunately, the $50 is still in my pocket. How could such an unnatural and foreboding circumstance occur, and how unique is the situation among New York's forests?

My hunting club's property was clear-cut 90 years ago, along with most of the Catskills, for saw logs, charcoal, and by-products for the wood chemical industry. By the beginning of the twentieth century, New York's forest cover had been reduced to about 15% of the land area as a result of agriculture, logging, industrial development and human habitation. When the founders of my club began purchasing contiguous parcels in 1939, the land was a very early succession forest on which they hunted rabbits. They went to the Adirondacks every fall to hunt deer as there were none to speak of in the Southern Tier of New York or the state of Pennsylvania.

With all the browse available from regrowing forests, and with no natural predators, the deer population exploded in the 1950's and 1960's. In many areas, densities exceeded 50 deer per square mile, while the normal carrying capacity of forested land is around 10 to 20 per square mile. The ecological impact on the forest and the deer themselves was not understood at the time, and the New York Conservation Department, a forerunner to the DEC, catered to hunters who were happy to see a lot of deer in the woods. My club routinely harvested an average of twenty bucks a year from our land in the 1970's and shooting a doe, even if you could get a permit, was considered "counterproductive" if you wanted to have lots of bucks to hunt. We did wonder why antler size was shrinking, and why the average body weight had dropped by about a third.

What we didn't focus on at the time was that the deer had consumed the entire understory of the forest and, by the 1990's, the understory had been replaced with shade-tolerant species unpalatable to the deer — mainly hay scented fern, striped maple and beech brush. This "interfering vegetation," as it is now called, has been so well-established for so many years that it now prevents almost all germination of seeds from desirable hardwood species. Any seedlings that do sprout soon die under the dense shade from interfering vegetation, or are heavily browsed by deer. And unfortunately, the total absence of hardwood regeneration is not unique to my hunting club's forest.

A study conducted by Cornell University obtained survey responses from nearly 200 practicing foresters in 2009. Their responses indicated that desirable tree regeneration was occurring on an average of only 30% of the stands where foresters expected regeneration to take place. The Nature Conservancy also published an alarming study in 2010, based on 1,647 USDA forest inventory data plots in the state. It concluded that regeneration was adequate on only 43% of the data plots measured. The worst areas included almost all of the Catskills, the lower Hudson valley, and the southern half of the Adirondacks. Furthermore, where there was regeneration, the predominant species was American Beech, at 23%.

Nor is the regeneration problem unique to NY State. Pennsylvania and the rest of the northeastern hardwood

"A maple/cherry stand with the forest floor covered 100% by hay-scented fern and no hardwood regeneration"

continued on page 12

"Useful Internet Resources"

Penn State Webinars:
http://extension.psu.edu/private-forests/tools-resources/webinars
Click on "Previous webinars", then on "Forest stewardship series". Select the 3/13/2012 webinar "Regenerating a High-Graded Stand" with Dr. Jim Finley. This is a fairly technical presentation, but it emphasizes the criteria for the critical timing of operations leading to successful regeneration. If you have not viewed webinars in the past, you may have to register the first time. They are free.

Cornell Webinars:
http://www2.dnr.cornell.edu/ext/forestconnect.
Click on "Webinars", then on "Scheduled and Saved Past Webinars". There are many valuable webinars listed. The two of particular interest are:
2/15/2012: "Forest Vegetation Management Using Herbicides", with Dave Jackson, Penn State

4/15/2009: "Rehabilitating a Cutover Stand", with Dr. Ralph Nyland, SUNY ESF (Ret.)

Publications:
Northeastern Forest Regeneration Handbook: A Guide for Forest Owners, Harvesting Practitioners, and Public Officials. 2006. USDA Forest Service Northeastern Area State and Private Forest. NA-TP-03-06. ***http://www2.dnr.cornell.edu/ext/info/pubs/management/forest_regn_hndbk06.pdf***

Forest Regeneration in New York State. 2010 Study: The Nature Conservancy. ***http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/newyork/placesweprotect/easternnewyork/final_nys_regen_091410_2.pdf*** See especially the Executive Summary and maps on pages 5 & 12.

Regenerating Hardwood Forests: Managing Competing Plants, Deer & Light. *Forest Stewardship Bulletin #15. 2009*. Penn State. Excellent seven-page overview.
http://pubs.cas.psu.edu/freepubs/pdfs/uh181.pdf

Tools to Manage Interfering Plants. Dr. Peter Smallidge, *The New York Forest Owner* magazine, Volume 50, No. 2, March/April 2012 issue.

Foresters' perception of forest regeneration and possible barriers to regeneration in New York State. 2010. HDRU Series No. 10-2. Dept. Nat. Res., Cornell Univ., Ithaca, NY. 30pp. ***http://www2.dnr.cornell.edu/hdru/pubs/HDRUReport10-2.pdf***

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forests are in the same boat. Dr. Gary Alt, retired Game Commissioner for Pennsylvania has been quoted: "Attempting to raise more deer than the land can support has been the greatest mistake in the history of wildlife management in the state of Pennsylvania" (Forest Stewardship Bulletin #15, Penn State University, 2009).

So what does this situation portend for our forests, already threatened by a multitude of invasive and native insects, climate change and, in some cases, the effects of past high-grade logging practices? Most of our second-growth forests range in age from 75 to 125 years. If we consider the average life span of a native canopy tree species to be about 150 – 200 years (less in the shallow, rocky Catskill soils), what will our forests look like in another half century when most of the current trees are gone? While leading a chapter woods walk at Cuyler Hill State Forest (Cortland County) in 2010, Dr. Ralph Nyland, Professor Emeritus from SUNY College of Environmental Science & Forestry (ESF) in Syracuse, described his "worst nightmare" as a forest landscape dominated by diseased beech, beech brush, hay-scented fern and invasive vegetation, populated by woodpeckers and not much else. Are we prepared to accept the economic and environmental impact of such a disaster? Will our successors be able to pay taxes on the land without income from forest products other than firewood? Will tourists still drive up the Thruway or Route 17 in September and October to look at the forests if the reds, oranges and yellows have been replaced by brown? Will we be willing to pay $100 plus per gallon for maple syrup imported from Canada? Are we ready to accept the impact on wildlife and recreation?

The good, or at least hopeful, news is that researchers at the US Forest Service, Penn State, Cornell, SUNY ESF and other universities have been aware of, studying, and developing solutions for the regeneration problem for almost thirty years (see table on page 11). Guidance on dealing with the problem has been refined and is now available from Webinars on Cornell's Forest-Connect and Penn State University's websites. Since the regeneration issue was not on the front burner when many practicing foresters went to college, they are being trained on new methods and technologies through the auspices of The Society of American Foresters.

Restoring our forests to a sustainable condition will require combinations of deer management, specialized silvicultural treatments and the judicious use of herbicides. The sequence and timing of these treatments is critical for success and to minimize the cost over a stand's growth cycle. Forest owners wishing to undertake the restoration of their woodlots can get started by familiarizing themselves with the material available online (see box). When ready to retain a consulting forester, make sure they are "up to speed" on the development of stand-specific prescriptions for promoting regeneration.

As discussed in Jim Minor's "President's Column," the NYFOA Board of Directors is implementing several long-term initiatives to address the restoration of New York's forests and the subject will be featured regularly in future issues of *The New York Forest Owner*. Stay tuned.

Jerry Michael is a Master Forest Owner Volunteer and a former NYFOA Board member.

Welcome New Members

We welcome the following new members (who joined in July and August) to NYFOA and thank them for their interest in, and support of, the organization:

Name	Chapter
Serger Bartishevich	WFL
David M. Bloom	SOT
ECO Program	WFL
Ed Haag	AFC
Howard Harris	WFL
Irena M. Holiat	CNY
Michael Jabot	AFC
Ken & Melissa Kuczka	AFC
Hans & Leslie Kunze	WFL
Malcolm MacKenzie	WFL
Devon Newkirk	AFC
Clyde Rodgers	AFC
Walter Root	NAC
Elizabeth & Andrew Simkin	WFL
Joseph Snyder	AFC
Don Stalica	WFL
Leo Starowitz Jr.	WFL
Jimmy Stopinski	WFL
Richard A. Stratton	CNY
Ken Wildenstein	SOT

Are you interested in a particular topic and would like to see an article about it?

Please send your suggestions to:
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