New York

Forest Owner

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THE NEW YORK FOREST OWNERS ASSOCIATION

In This Issue

Front Cover

A Winter Wonderland

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NEW YORK FOREST OWNERS Association

Dear **Forest Owner** Reader:

I recently received a letter from Mr. Collis P.H. Jordan, Box 72, Kernville, CA 93238 and a copy of "The Foresters Creed" which is reproduced below. Mr. Jordan was given the "Creed" while attending the Forestry School at Ohio State University between 1911 and 1915. He was also a student representative to the dedication of Cornell's **new** forestry building, Fernow Hall, on May 15, 1914.

As Mr. Jordan noted in his letter to me, life certainly has changed for a forester. He would be interested in knowing the author and origin of "The Foresters Creed" should any reader know this information.

Jim Lassoie
Fernow Hall
Cornell University

THE FORESTERS CREED

I bid farewell to the city; and am given in exchange for its stone temples the silent mountains.

For its rivers of humanity, the streams that flow through green valleys.

For its lamp-posts, the hemlock, the spruce, and the pine.

For the dusty lindens on the boulevards, the shimmering, zephyr swept maples.

For the man made monuments, the rough hewn boulders on every hillside.

For its voices, the whispering echoes of the forest.

For its avenues, the open road, winding over the hills into the deep of the woodland.

For its greetings, I exchange the song of the birds;

For its churches, the cathedral of the trees;

*For its **fame** and **applause**, —*
Solitude!

—Author unknown

ON THE CALENDAR

January 7
NYFO Directors meeting in the DEC office in Cortland.

January 19-20
Symposium: New York's New Forest Resources Survey-Expanding Opportunities for Industry, at Syracuse Marriott Inn

April
Spring Meeting of the New York Forest Owners Association in Albany. The theme is "Your DEC"

July 6-8
Forestry Congress; in Syracuse. The purpose is to provide a forum for organizations interested in forest land management to jointly discuss priority issues

September 12-13
Fall Meeting at the Pack Forest at Warrensburg

September 16-17-18
Live Forestry Equipment Exhibition and Demonstration at South Glens Falls

Tongue Twister

If your memory goes back as far as Prohibition, this snatch from a tongue-twisting verse by Newman Levy may strike a nostalgic chord:

If you stick a stock of liquor in your locker,
It is slick to stick a lock upon your stock,
Or some joker who is slicker's going to
Trick you of your liquor . . .
If you fail to lock your liquor with a lock.

Inflation

America is the only country where it takes more brains to make out the income tax return than it does to make the income.

Telling Hearth from Earth Is Tough Stuff, Suzy

The verse below was devised by a group of Britishers to help multination personnel of NATO to pronounce English properly.

* * *

Dearest creature in creation,
Spelling's not pronunciation.
Hear, my Suzy, how diverse
Corpse from corps sounds,
horse from worse!
Trip among my songs, young dear;
Tear your hair, and shed a tear.
As I keep you, Suzy, busy —
Till your heated head grows dizzy
Saying heart, and beard, and heard;
Dies and diet; Lord and word.
Rounded like to wounded's written;
Sword to sward; retain to Britain.
What? Do early, dearly plague you?
They're no worse than vague
and ague,
Lose, ooze, use. Since you must speak,
Say break and steak, but bleak
and streak.
. . . Suzy though you've studied so,
You must take one final blow,
Is the proper rhyme for tough
Though, through, plough, cough,
or enough?
Hiccough has the sound of cup.
Suzy, better give it up.

FORESTRY CONGRESS

Dear Members:

The purpose of this letter is to keep the New York Forest Owners informed of the progress we at the SUNY — **CESF School of Forestry are making in planning for the New York State Forestry Congress to be held July 6-8, 1982.** As you will recall, the Congress is being organized to bring together all organizations, groups, and individuals in New York interested in the issues that affect management of forest land. We expect that all Congress participants will become involved in an active exchange of ideas, and will leave the Congress having learned a good deal about what others in the State are thinking about forest land management.

Our first letter, sent out in July, 1981, resulted in many favorable replies. Several replies included suggestions for speakers, topics to be discussed, and additional organizations to be contacted. We appreciate those suggestions and still welcome any thoughts you may have on the topics to be discussed and/or additional organizations to contact.

We are very fortunate to have already obtained a distinguished group of speakers. I am pleased to say that **Max Peterson, Chief of the U.S. Forest Service, will present the keynote address at the opening session on July 6.** He will be followed by several speakers including **Robert Flacke, Commissioner of the NYS Department of Environmental Conservation.** Our banquet speaker is **Robert Buckman, Deputy Chief for Research, U.S. Forest Service.** The speakers will set the stage of the entire Congress, as it is the issues that they present that will be the topics of discussion and debate during the second and third day.

The program for the second day is taking shape under the direction of the Congress steering committee. The first part of the day will consist of clinics and workshops to be put on by faculty members and other professionals. These clinics and workshops will be devoted to selected topics, such as forest taxation and local cutting ordinances, that relate to the issues presented by the speakers at the opening session. The middle part of the second day will be set aside for meetings of pre-arranged working groups to discuss specific aspects of the issues. Members of the working groups will be chosen from a variety of professional backgrounds so as to mix the groups and encourage discussion.

These working groups are not intended to take the place of organizations that wish to caucus during the Congress. The mid-afternoon and early evening will be reserved for meetings of such organizations to prepare position papers if they so choose.

The closing session will take place on the final half-day, July 8. Reports, resolutions, and position papers may be brought before the Congress by both individuals and groups. This part of the Congress will be published in a proceedings later in the year. We plan to hire a court reporter to assist in as accurate and timely a publication as possible. The Congress will end at noon on July 8.

We are now at a point in our planning that we need to have an idea of the number of people we can expect to participate in the Congress. You will want to know that we will be charging a registration fee, although we are unable to say at this time what that fee will be. If we are successful at getting foundation or outside support, the registration fee will be nominal. If we are not successful, the fee could be as high as $60 for the three days. We will be able to offer to all Congress participants a range of housing options that will include staying in a university dormitory for as little as $40/night for room and board. Based on this information, I would like to ask you to please let us know how many people from your organization you will be able to send to the Congress. Your estimate will greatly assist us in planning the numbers and types of clinics or workshops, as well as the banquet, space arrangements, and other more rudimentary aspects of the Congress.

We will continue to keep you informed of developments in the planning of the Congress over the next 8 months. We appreciate your interest, and we sincerely hope that you and members of your organization or agency will take advantage of this opportunity to come together and discuss issues affecting the management of forest land in New York.

Sincerely,

John V. Berglund, Dean
School of Forestry

FOR A SLOWER BURN BUY GREENER FIREWOOD

By Dave Peyton

When it comes to choosing firewood, it's important to know the best woods available for burning in your part of the country. But it's equally important to know whether the wood you're purchasing is green or dry.

It's hard to believe that green wood can be as much as 65 percent water. But it's true. Much of the water in the wood evaporates quickly.

For example, in about three months after the wood is cut, the "seasoning" of the wood is about half complete and the fuel value is about 90 percent of what it will be when the wood is dry. After six to nine months of reasonably warm, dry conditions, the wood is considered dry enough for very efficient burning in a stove or fireplace. After two years, the wood will be dry as it will ever get.

There is a great difference between the BTU ratings of green wood and dried wood. A completely dry hardwood with a rating of 7,850 BTUs per pound would have about 1,200 BTUs per pound less if burned green. That's because it takes 1,200 BTUs per pound to turn the water into steam and cause its evaporation from the wood.

The best way to identify green wood is to split a piece and look inside. If it's green, the core will look wet and shiny. Dry wood looks dull inside and saw marks are less pronounced.

Green wood is almost twice as heavy as seasoned wood, so if you have a stick of dried hickory, for example, you can weigh the piece of known dried hickory against a similar piece of green wood and feel the difference instantly.

Green wood is hard to light and burns more slowly than dried wood. That may be just what you want if you have a fireplace where you burn wood for effect rather than heat. Green wood can even have a purpose in a heating stove.

Sometimes you can find green wood bargains.

If this is the case, you ought to know how to dry it as quickly as possible. Split wood dries much faster than whole logs or limbs because more surface is exposed. After splitting, the wood should be stored in a covered but airy shed. Leave plenty of room between the splits of wood for the first few months at least. If it's possible, the wood should be in a location where the sun shines on it part of the day since the sun will warm the wood and speed evaporation.

New York's New Forest Resources Survey — Expanding Opportunities for Industry

New York's forest resources, and the opportunities it holds for expanding industry in the state, **will be highlighted in a two-day symposium sponsored by the State University College of Environmental Science and Forestry (ESF),** the **New York State Department of Environmental Conservation,** and the **State Department of Commerce.**

The symposium, titled **"New York's New Forest Resources Survey—Expanding Opportunities for Industry,"** is scheduled for January 19-20 at the Syracuse Marriott Inn. During the meeting, Joseph Barnard, project leader of the resources evaluation team for the USDA's Forest Service, will present the first public announcement of the Forest Service's recently completed inventory of New York's forest resources.

The symposium seeks to inform the general public of the background and results of the survey, and to present to forest landowners and members of the forest industry the opportunities these resources offer for the continuing operation, improvement and expansion of forest-based operations in the state.

In addition to announcing the results of the forest resources survey, U.S. Forest Service personnel from the Northeastern Forest Experiment Station in Broomall, PA will detail background information on how the survey was accomplished, and will present information on forest resources throughout the Northeast. The two-day workshop also will include presentations by Department of Environmental Conservation and Department of Commerce personnel on services available to industry by the state, and representatives of the major sectors of forest-industries in New York will present analyses of the area's most important timber products, the state of the industry at present, and how it may develop.

Industry representatives scheduled to speak at the symposium include **Robert G. Potter, president of Potter Lumber Company, Inc.; Robert K. Curtis, president of Curtis Lumber Company, Inc.;** and **George Russell, general manager of land and timber for International Paper Company.** The three men will speak on **"New York's Major Timber Products — Trends and Prospects." Donald L. Meyer, president of Baillie Lumber Company, Inc.,** will address the gathering on the topic **"Foreign Markets for New York Timber Products."**

Other topics to be covered during the two-day meeting are "Implications for Forestry and Forest Industries in New York," "Economic Development of New York's Forest Industry," "Industry Incentive Programs," "Developing an Export Program," and "New York Timber for Energy."

John Muench, Jr., assistant vice president and director of economics for the National Forest Products Association, will deliver the banquet address. The banquet is scheduled for Tuesday, January 19.

Further information on the symposium may be received from, or arrangements on attending may be made through, ESF's School of Continuing Education by writing: School of Continuing Education, 231 Baker Laboratory, SUNY College of Environmental Science and Forestry, Syracuse, New York 13210; or by phoning: (315) 470-6891.

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Memo to:
Education Committee,
Forest Owners Assoc.

From:
Bob Morrow, Chairman

Lloyd and I met at 1 PM on August 27 in Cortland, and attended the following Director's meeting at 2 PM. The results:

1. In a housekeeping matter, I designated Lloyd Strombeck to act as liaison between our Education Committee and the Editorial Committee, of which he is also a member. One of our functions is to seek and help disseminate information regarding owning and managing forest land. All Committee members should be alert for opportunities to do this. For my part, I shall soon submit a copy of a new paper "Tree Value as a Basis of Forest Management" for publication in the *Forest Owner*.

2. In a similar vein, I designated Jim Lassoie to act as liaison with the Publicity Committee. I'm not certain what this might involve beyond seeing that educational functions such as annual meetings and woods walks are actively publicized.

3. Of more interest to the Directors was our planning for Annual Meetings.

a. Jim Lassoie, with some help from me, has whipped things into shape for the Oct. 9-10 fall meeting. He will make an early September mailing to each forest owner (including how to get to the Arnot Forest). It looks like a good meeting.

b. The Board of Directors approved our plans for the next spring meeting. We are grateful that Bob Demaree has volunteered and been approved to plan and implement the meeting. Albany; April 10 (or possibly a week earlier or later); theme — Your D.E.C.; in addition to the Awards luncheon, there should be a chance to visit the Mall complex.

c. We now need to plan for the fall 1982 meeting at the Pack Forest. In discussion with the Board, the following points came up: (1) need a good "back to the woods" meeting. The Pack Forest has plenty to show in the areas of silviculture and forest organization (use of compartments). (2) A meeting during the first two weeks of October would include fall colors. (3) Will it be a 1 or 2-day meeting? I am asking Dick Lea to spearhead the thinking on this meeting since he already has a working relationship with both the Forest and its Director. In addition to selecting a theme and making arrangements, who should be asked to plan and implement the meeting?

d. 1983 — spring. Suggested place is Onondaga Nature Centers, Inc. (Beaver Lake), Baldwinsville. Wildlife theme. Do they have a large enough room? Can the Awards luncheon be catered? Where and how? Probable morning speakers and afternoon walking tour. Emiel Palmer has kindly offered to make an initial investigation, with possible help from Dick Lea.

1983 — fall. Follow-up wildlife theme. Possibly at Cummings Nature Center at Naples. Their new building should be complete by then. Montezuma Wildlife Refuge was also mentioned.

1984 — spring. Possible Rochester (following the idea of using different parts of State for spring meetings in order to better serve membership).

TREE VALUE:
A Basis for Woodland Management

Most people see trees as being valuable — to look at, for shade, as homes for songbirds, as habitat for other wildlife, for soil or watershed protection. Some people recognize that trees are also the source of building materials, fine furniture, and a host of other useful things.

But very few people know the dollar value of a tree. In a recent quiz, 65 college students were asked the standing (stumpage) value of a 20-inch diameter, 80-foot tall white ash tree for (a) lumber and (b) fuelwood. Only four students gave reasonable answers. Six students thought the tree was worth more for fuel than for lumber. A later quiz of several members of the faculty showed little improvement.[1] Is it any wonder that there is a history of exploitation of both woodlands and their owners by some (not all) timber buyers?

Even those who plan no cutting may be exploited. Most of the better mature trees are eventually harvested, often when the ownership changes. Many harvests occur prior to a property sale or after death of an owner. Such harvests may be rushed, preceded by little planning, with proceeds used to settle debts, taxes, or estates.

Stumpage Value

Woodland trees have two kinds of value. The most commonly used is stumpage value, which is associated with sales of timber or other products. In theory the stumpage value of a timber tree equals the value of lumber that can be sawed out, minus the costs of harvest, transport, and conversion to lumber (including a margin of profit). Since these values and costs vary for each tree, and change with time and location, the **actual** stumpage value is simply the price paid. The person who has high quality timber, who knows how much it is worth, and who knows how to sell it can obtain a fair stumpage price. Others may obtain much less than their timber is worth.[2]

Tree Value Conversion Standards

While stumpage values reflect activities of the marketplace, a value that is constant over time is needed to help make woodland management decisions. Is it worthwhile to thin my young stand? Should I harvest to a 14-inch diameter limit? When is my stand mature? Answering these questions requires the forest landowner/manager to know how values of his/her trees change as they increase in size — values that exclude the complications caused by inflation or special market prices that reflect current demand trends or location of timber in respect to the mill.[3] Such values remain relatively constant for a particular kind of tree of specific size and quality; thus they are called **standards.**

Joseph Mendel and his co-workers recently published tables of **tree value conversion standards** for hardwood sawtimber.[4] Many northeastern tree species are classified by diameter, merchantable height, and butt log grade. Table 1, adapted from Mendel's work, shows some common examples and contains a brief explanation of the basis of the standards.

Table 1 shows at a glance the great variation in tree value according to size and quality. It also shows that 12-inch or smaller trees are worth little or nothing for timber. Thus most of the value is concentrated in a few of the larger trees — perhaps 50 to 100 per acre in managed stands on good sites, as compared with perhaps 20 or 30 in uncared-for stands on the same site. On a poor site, there might be a half dozen or fewer valuable trees per acre.

Value as a Basis for Management

Table 2 was developed to help show management needs for the **better** trees in a stand. It is based on changes in diameter at breast height (DBH), which is 4½ feet above the ground, and typical corresponding changes in merchantable height, volume, grade, and value as the tree continues growth. **Table 3** shows that, barring serious defect, grade is largely a function of size of the butt log (i.e., the first 16-foot log above the stump). Based on known relationships between the diameter inside the bark (dib) at the top (16 feet) of the butt log and DBH, the better trees may change from grade 3 to 2 at about 14 inches DBH and to grade 1 at about 17+ inches DBH.

Most tree measurements are made at DBH simply because it is convenient to do so. But DBH alone tells us little about a tree. While DBH doubled (from 12 to 24 inches), the board-foot (b.f.) volume increased **8 times** (from 80 to 630 b.f.) and the value increased about **60 times** (from less than $1 to $58).

Also given in Table 2 are fuelwood values, based on the common 1980 stumpage price of $10 per cord. Care must be exercised in comparing the value of trees for timber and fuel because of the different dates. In 1972 there was no fuelwood market and trees were worth nothing for this purpose. On the other hand, sugar maple timber prices in 1980 were over twice those in 1972 for southern New York.

These data permit a general analysis of management considerations based on the following size classes of hardwoods:

a. **4-10 inches.** Hardwood trees of this size are worth nothing, except for fuelwood, but this size class is most in need of thinning. Valuable, 20-inch trees do not just occur; they are the result of thinning young stands, good sites, or a combination of both. Thus this growth period is one of investment for the future — selection of the best stands and sites, and thinning them. The demand for fuelwood is a most welcome stimulus for thinning potentially valuable stands.

b. **10-14 inches.** Hardwoods in this size class have **marginal** value for timber; i.e., they are changing from negative (costs of harvest and milling exceed timber value) to positive values. The rate of value increase is high, especially for thinned trees on good sites.

c. **14-20 inches.** Hardwoods of this class may double in value for each 2 inches of diameter growth because (1) grade improves with size and (2) volume increases as growth in diameter, height, and sometimes form class continues. At a growth rate of 10 rings per inch, it takes only 10 years to increase two inches in diameter and double in value. This is a **real** growth rate of 7 percent a year, since inflation is excluded.[5] Although 14- to 20-inch trees are **merchantable** (have positive values), they usually are not **financially mature.**[6] Except for crowded or unhealthy trees, they should **not** be harvested during this prime growth period.

d. **20-24 inches.** Although there is little change in height or butt log grade, the entire tree grows greatly in volume and quality. Dollar growth continues to accelerate, but rate of value growth may decline to half or less. If growth slows to 15 or 20 rings per inch, as is common, the trees may be financially mature and ready for harvest.

e. **24-28 inches.** Tree value growth is reversed from the situation at 12-14 inches. Instead of little value and high

Continued on next page

growth rates, there are high values with small growth rates. Even though dollar values continue upward, the value growth rate is too slow to justify keeping the trees as an investment.

Thus, a knowledge of tree value at various size classes is not only critical for selling timber, it is imperative as a guideline for sound management of woodlands. The wise woodland owner will consider tree value in his/her woodland management decisions.

Robert R. Morrow
Professor of Forestry

Managed Forests Provide More: Beauty — Energy — Jobs — Recreation — Income — Water — Wildlife — Wood.

Answer to quiz:

A tall, 20-inch white ash likely would have a grade 1 butt log and a merchantable height of at least 3 logs. Thus its stumpage value for lumber was $54 in 1972 (from table 1). The 1980 equivalent was about $125.

The tree would contain about a cord of wood. Although fuelwood may cost $100 a cord (cut, split, and delivered), the stumpage value is commonly only $10 a cord. Thus the tree currently would be worth about $10 as fuelwood, or only 8 percent of its value as lumber.

* * * * * * * *

[1]You may want to test yourself. Write down your two estimates of lumber and fuelwood value; turn to page 5 for the answers.

[2]There are numerous cases where estimates of volume and value by foresters have resulted in doubling of sales prices over original offers.

[3]These are important considerations in the short term, when planning timber sales, as opposed to long-term management considerations.

[4]Mendel, J.J., DeBald, P.S., Dale, M.E. 1976. Tree value conversion standards for hardwood sawtimber. USDA For. Serv. Res. Paper NE-337. Broomall, PA 19008.

[5]A money market certificate of 16 percent is not necessarily a better investment. If the inflation rate is 11 percent, the real growth rate of the certificate is only 5 percent. In addition, current Federal tax laws favor timber investments.

[6]A tree is financially mature when its rate of value growth falls below an acceptable rate of return. The acceptable rate of return is usually determined by alternative investment opportunities.

TABLE 1. TREE VALUE CONVERSION STANDARDS[a]

		W. Ash			B. Cherry			R. Oak			S. Maple			R. Maple			T. Poplar		
		Butt Log Grade																	
DBH	No. logs	3	2	1	3	2	1	3	2	1	3	2	1	3	2	1	3	2	1
12"	1	1	—	—	0	—	—	1	—	—	0	—	—	1	—	—	0	—	—
14"	1	2	6	—	1	4	—	1	3	—	1	3	—	1	4	—	1	4	—
	2	6	10	—	2	6	—	2	4	—	1	4	—	2	6	—	2	5	—
16"	1	4	10	11	3	6	10	2	5	8	2	5	9	2	6	8	2	6	6
	2	10	16	19	5	10	16	3	7	11	3	7	12	3	8	11	4	8	10
18"	1	6	15	17	6	10	15	4	7	11	4	7	13	3	9	12	4	8	9
	2	15	25	29	9	16	23	6	11	17	5	12	19	5	12	18	7	12	15
	3	27	32	38	12	19	29	6	13	20	5	15	20	7	13	19	8	13	20
20"	2	22	35	40	16	23	33	9	16	25	9	18	27	8	17	26	10	17	22
	3	38	46	54	20	29	41	10	20	29	10	22	30	10	18	28	13	19	29
	4	58	60	66	24	33	47	10	22	31	10	25	31	13	19	29	15	20	35
24"	2	40	64	70	33	44	58	18	30	44	19	36	50	15	29	47	21	31	40
	3	68	86	96	44	57	76	22	38	55	23	44	58	20	32	56	28	37	54
	4	100	103	118	53	66	87	23	43	61	25	51	59	25	32	58	32	39	65
28"	2	63	102	110	56	71	91	27	47	69	32	53	80	21	41	76	34	47	62
	3	103	136	148	75	92	117	34	59	86	39	69	94	29	47	90	44	57	83
	4	151	166	185	92	109	139	37	68	97	43	82	99	36	47	97	53	62	102

[a]Adapted from Mendel, DeBald, and Dale. 1976.

A TVCS is a measure of a tree's worth. It is based on the comparative value of the quantity and quality of expected yield of one-inch lumber, less conversion costs (harvest, transport, mill). It is a standard by which trees of different sizes can be compared, excluding most price effects of inflation and the marketplace. TVCS's can be adjusted to account for price changes between species and grades and for changes in utilization standards, region, and time.

These standards are based on 1972 prices; many timber prices have more than doubled since then, and red oak has increased relatively more than other species.

TABLE 2. TYPICAL CHANGE IN SIZE AND VALUE WITH GROWTH OF A SUGAR MAPLE

DBH	No. 16-ft. Logs	Vol.-board feet International Rule	Grade	Timber Value (TVCS)[a]	Fuel Value[b]
10"	1.4	45	3	0	1
12"	1.7	80	3	1-	2
14"	2.0	135	2-3	3	3
16"	2.3	200	2	8	5
18"	2.6	290	1-2	17	7
20"	2.8	390	1	29	9
24"	3.0	630	1	58	13
28"	3.0	880	1	94	17

[a]From Mendel, DeBald, and Dale. 1976. (1972 prices)
[b]Based on stumpage price of $10 per standard cord (1980 price)

TABLE 3. HARDWOOD GRADES FOR 16-FOOT BUTT LOGS[a]

	Grade 1			Grade 2	Grade 3
Top dib[b] - inches	20+	16-19	13-15	11+	8+
Clear cuttings[c]					
Length, min., ft.	3	5	7	3	2
Number, max.		2		3	-
Yield, % of length		80		65	50
Sweep cull, max., %		15		30	50
Total cull, max., %		40		50	50

[a]Adapted from Gilbert. Northeastern FES Stat. Paper 114. 1959; and Ostrander's guide to hardwood log grading. Northeastern FES. 1965.

[b]Diameter inside bark at top of butt log (16' above stump).

[c]Clear cuttings are based on the poorest of the best 3 faces (sides) of the log (or the second poorest face). A clear cutting is a portion of a face free of defects, extending the width of the face.

Owning Woodlands in New York: A Personal Account

As you all know, my staff and I have been conducting a membership survey in order to help the Association's Board of Directors plan for future educational events that better meet the needs and desires of its members. The survey is progressing very well and I will be reporting the results in the *Forest Owner* sometime this winter. I thank all those who participated in this important survey.

One NYFOA member, Mr. Everett Case from Van Hornesville, did not complete the questionnaire. Instead, he wrote to me and provided a detailed personal account of his years as the owner of 400 acres of New York woodlands. I found Mr. Case's letter to be far more informative and interesting than any survey results. Fortunately, he granted permission to print his letter in the *Forest Owner* which appears below. I am sure that you will find Mr. Case's letter to be as informative as I did.

Jim Lassoie

Mr. & Mrs. Everett Case

Dear Mr. Lassoie;

The proximate reason for my failure to complete and return your questionnaire is that my wife and I have been correcting proofs of the full-length biography of her father, the late Owen D. Young, on which we have been at work for the last decade. Published by David R. Godine of Boston, it is scheduled to appear in November, under the title **Owen D. Young and American Enterprise: a Biography.**

The controlling fact, however, is that we have done nothing with the four hundred acres on which we pay taxes that can possibly be made to fit your questionnaire. While we have done fairly well in maintaining and improving the residential property of some twenty acres belonging to my wife, which contains some valuable shade trees, the condition of the rest invites a classic case study in absentee landlordism and the inapplicability of laissez-faire to the care of land and trees.

This land, consisting mostly of abandoned farms cum woodlots, I acquired in the thirties chiefly from banks offering it for sale for payment of overdue taxes, (though certain adjoining acres came as a gift from my father-in-law). My principal investment took the form of extensive renovation of the 1840's farmhouse in Brown's Hollow on Route #80 about 1½ mi. N of our home. Having installed a bathroom, we had to drill a well; at some 370 feet we struck abundant water **and** gas, using the latter to float a well. With a view to Christmas trees I planted out some 7 acres between the road and the Otsquago Creek to 3 year old balsam (an experiment that didn't work) plus white and Norway spruce, and another 5 acres up the hill in back of the house to red pine. We also dismantled a decrepit old barn and used the rafters, poles and siding to build ourselves a cabin next to a small stream way up and across from the farmhouse, commanding a view of the Adirondacks on clear days. Beyond the (seasonal) brook and cabin there were no trees and no tillable soil; we debated planting these barren acres to white pine but decided that such hazards as rust and weevil were more than we could cope with — especially as war seemed more and more inevitable and in '39 a teaching and administrative post at Harvard meant moving our family to Cambridge. But our extensive land did include, mostly in its upper reaches, wooded areas, some on land that had never been cleared, which — oak, maple and ash as well as soft-wood — promised a good selective yield even though hard to get at. And so before leaving we had installed a farmer and his family in the remodeled house, who could work on ODY's well-known dairy farms until we could develop and finance a program of our own — perhaps combining some beef cattle and forestry.

Then came our entry into the war and, for me in 1942, the beginning of a twenty year stint as president of Colgate. Since the college is less than 50 miles from Van Hornesville, we expected to spend considerable time at home each year; in any event, we could not have been more wrong. Even after gas rationing ended, the pressures of our commitment to Colgate seemed never-ending, and our visits if more frequent, were usually brief. Meanwhile our Christmas tree planting was a wartime casualty: labor was scarce and people found more important things to do than harvesting and marketing that crop, which soon outgrew its designated market. (Aside from cutting our own trees for family use, the one significant dividend this venture yielded was the satisfaction of delivering upwards of 100 trees to Colgate's married veterans who, in 1946, celebrated Christmas in their temporary campus homes.)

Meanwhile, for want of capital and available manpower, our hopes of launching a constructive development program had to be deferred year after year. Succeeding in replacing our tenants of the farmhouse, when our farmer retired and his family scattered (his two sons to enter Colgate) with a stalwart refugee couple from the Ukraine, we had to settle for the effort to maintain such advance as we had made. Then in 1951 that effort sustained a body blow from which it never recovered: early in the morning of May 19, there was an explosion of gas (from the well) that left the house almost completely shattered so that the remains had to be taken down. By great good fortune, and for the first time, our tenants were away that night, having gone to NY to meet the wife's parents. But insurance was grossly inadequate for anything more than demolition expense, and all hopes of finding more than a small pocket of gas found no support from Colgate geologists, whose negative findings were later confirmed by experts from Columbia Gas. (What was it that Robert Frost wrote of New Hampshire: a specimen of everything but nothing in commercial quantities?) Also, the longer we waited, the more prohibitive the cost of rebuilding became. And such minor logging operations as we authorized during the 50's brought in no more than $1200 to $1500.

When I resigned from Colgate in 1962 to head the Sloan Foundation in NYC, we hoped to spend more time in Van Hornesville, but both of us became involved in a host of extra-curricular activities that left us little freedom. It was not until my retirement in 1968 that we were able to move back home and take stock; shortly thereafter I joined the NY Foresters Association and also found a dependable professional logger whose operations brought us the first substantial returns ever from my property: some $7000 over the next three years. But by this time we found that white pine had seeded itself and completely taken over the barren acreage adjoining our cabin — a stand that revealed all too clearly the ravages of rust and weevil. Also the red pine I had planted on the assumption that it was immune had been virtually wiped out by some virus or other. And, of course, our forested acres showed evidence of neglect and needed expert attention — which the devastating inflation that ensued made it impossible for us to provide. Finally **our** time and energy had to be devoted to going through the thousand or so boxes of papers which Owen Young had deposited here in his home town, in order to get on with the biography we felt to be long overdue.

All of which brings this letter full circle. As an absentee landowner whose return came too late to repair the years of involuntary neglect, I write it as a warning to others — including my three sons who will inherit this land of mine — about the kinds of problems they must face and find better ways to solve than I did. Perhaps too, it may inspire a visit of inspection from our county supervisor (Herkimer Co.) or someone else who is qualified to advise on how best to salvage or conserve our considerable assets of uncut timber. Such a visitor will at least get something of the lift that we do as he comes upon one historic treasure which we have spared no pains to preserve and care for: namely, the two magnificent white oaks, more than three centuries old, which are to be found, fortunately enough, on a relatively inaccessible wooded hillside and are **not** for timbering. We can at least take pride in **their** preservation and continued health — and so we do.

Faithfully yours,
Everett Case

Forest Industries Committee Asks Help

Dear Mrs. Stock:

This year the most far-reaching tax reform and reduction bill in history was enacted.

During the year the FOREST INDUSTRIES COMMITTEE ON TIMBER VALUATION AND TAXATION was active in working with the Administration and the Congress to achieve the deepest cut in capital gains taxes for individuals that has occurred for years and the most sweeping changes in the estate tax rules which have been adopted since 1946.

And now there is evidence that critics of timber capital gains will again attack timber capital gains taxation and try to undo some of the advances made in estate taxation as well. Thus, a strong voice in favor of fair tax treatment of timber continues to be essential.

Timber owner interests in these respects have in the past been coordinated by the FOREST INDUSTRIES COMMITTEE ON TIMBER VALUATION AND TAXATION. Continued support of the Committee's work is vitally important.

As you know, the Committee is a non-profit, tax-exempt organization and its officers participate without compensation. To finance its work, it relies on voluntary contributions from firms and people like you and me. While the amount is a matter for you to decide, the following guide has been suggested:

50,000 to 99,999 acres	— $900
20,000 to 49,999 acres	— $600
10,000 to 24,999 acres	— $360
5,000 to 9,999 acres	— $240
2,500 to 4,999 acres	— $140
1,000 to 2,499 acres	— $110
500 to 999 acres	— $ 75
100 to 499 acres	— $ 50
Up to 99 acres	— $ 40
Supporting non-owners	— $ 25

I hope you will join us by making a contribution corresponding with the importance to you of fair income and estate taxation of timber. Please make your check payable to the FOREST INDUSTRIES COMMITTEE and mail it to me or to the Committee in the enclosed envelope.

Sincerely,
John Stock
Tupper Lake, NY 12986

The Cause of Maple Sap Flow

After a century of research, the cause of maple sap flow remains at least partially a mystery.

Two factors can be eliminated as major causes of sap flow — transpiration and root pressure. Sap flow occurs when there are no leaves. Trees severed from their roots have continued to exude sap when water was available to the cut stem.

Sap flow has long been associated with warming temperatures above 32°F. following a freeze. Rising temperatures often are accompanied by increasing sap pressure which can reach as much as 30 pounds per square inch. The amount of sap flow is usually related to neither the amount of temperature increase nor sap pressure. But **rising** temperatures seem to trigger sap flow. Conversely, decreasing temperatures slow sap flow.

As temperatures drop below freezing, the flow stops. Sap pressure changes from positive to negative (vacuum). More sap is drawn from the roots through still-unfrozen inner vessels. Although declining temperatures that do not reach the freezing point, followed by rising temperatures, may renew sap flow, freezing is apparently necessary for a **good** sap flow. One statistical study showed that the amount of sap flow was related to the length of freezing time during the 24-hour period prior to flow as well as the temperature rise during the sap flow day.

Several interacting factors may influence sap movement into or out of the vessel tubes in the tree's sapwood. Some of these include presence of living cells, osmosis, swelling and shrinking of water-holding colloids, hydrolysis of starch to sugars, and changes in membrane permeability. All of these factors and processes are influenced by temperature.

Sap flow can occur from stems, twigs, and roots. The vessel tubes join the various tree parts and form an interconnected hydraulic system. The best flow occurs when all parts of the tree are being warmed simultaneously, a situation that occurs only seldomly. Stem flow is sluggish when branches are removed. Stems and branches without roots also yield little sap, and roots alone even less.

Most evidence points toward a need for living cells and dependence on a physical system. A recent theory (Sauter 1973) connects these. Carbon dioxide is generated by the respiration of living cells and becomes dissolved in water of the fiber walls. Since the solubility of carbon dioxide is temperature-dependent (almost twice as soluble in water at 0°C. than at 20°C.), a pressure mechanism can be explained. As the temperature rises, more respiratory activity creates more carbon dioxide while less is dissolved. The excess gas raises tree pressure and causes sap to flow out of any wound or tap hole. As temperatures drop more carbon dioxide is dissolved, causing pressure drops (vacuum) and re-filling of vessels with sap from roots and other tissues. Experiments showed that enough carbon dioxide was produced in the small vessels to account for changing tree pressure and many flow rates.

Furthermore, the amount of sucrose released into the vessel sap appears to be dependent on both temperature and activity of respiratory enzymes (Sauter et al 1973). "Contact cells" in the ray and axial parenchyma are considered to be the site of metabolically-controlled sucrose release.

Regardless of the cause of sap flow, maple producers look forward to bright, sunny days with temperatures in the 40°'s and 50°'s, and little or no wind, following a freezing night, for their best yields. In late season, wet snows that stick to twigs and branches may partially replace freezing nights and stimulate good flows.

Straight Talk on Tapping Techniques

The yield and quality of sap from a sugar maple depend on climate and local weather, tree size and openness, age and vigor, as well as heredity. For your trees, you want the maximum amount of sugar per tap hole so that you can make more sirup.

The best insurance is to tap early enough to catch the first real run of sap. The best sugar-making months in southern New York are usually late February, March, and early April, before the buds begin to swell. In the Adirondacks, the season may start one to four weeks later. The best quality sap flows early, and produces more high-grade sirup. The sugar content tends to be higher than in late season, microbial action is very low, there is less sugar sand, and sirup flavor and quality are at their peak.

The number of tap holes greatly influence the amount of sap. But the amount of sap is not proportional to the number of taps. Four taps may yield only twice as much as one. Too many taps will kill too much wood and reduce future yields. The following tapping rates are suggested for forest stands and older trees. Heavier tapping is appropriate for fast-growing trees in the open:

Tree Diameter at Breast Height (in inches)	No. Tap Holes
10 - 17	1
17 - 24	2
24 - 30	3
30 - and over	4

Some people favor tapping the south or east sides of a tree, but studies have shown over a period of years that tapping direction makes little difference. Taps on the north side start later but usually run later in the season. It is more important to tap where there is no dead wood from previous tap holes (5" away is a good rule).

Drill tap holes 2 to 3 inches deep. The deeper holes may yield some 10 percent more sap but are difficult to drill by hand. Avoid drilling into heartwood or dead wood. The tap hole width has little effect on flow. Spiles are designed for 7/16" diameter holes. Tap spiles in snugly to get a good seal, but avoid hammering that splits the bark or seals the outer wood pores.

Tap location with regard to major roots or large branches is unimportant. Neither is tapping height. It's much better to concentrate on finding new wood away from old tap holes or injuries.

Tapping speed does not greatly affect sap flow. Tapping can be done with high speed (up to 6,000 RPM) chainsaws with tapping adapters. Care must be taken to maintain a firm, balanced stance; otherwise there is a danger of oval-shaped, leaky holes made with high-speed tappers.

The use of sanitizing pellets or compounds in the tap hole to reduce microbial activity is discussed elsewhere.

FOREST Bookshelf

MAPLE SIRUP
Some Sources of Information

For commercial production — "Production of maple sirup and other maple products," F.E. Winch and R.R. Morrow. 1975. Information Bulletin 95. Mailing Room, Building 7, Research Park, Cornell University, Ithaca, New York 14853. Price per copy $.50.

For managing the sugar bush — "Sugar bush management." R.R. Morrow. 1976. Information Bulletin 110. Mailing Room, Building 7, Research Park, Cornell University, Ithaca, New York 14853. Price per copy $.60.

For technical aspects of sirup-making, including quality control — **"Maple sirup producers manual,"** C.O. Willits and C.H. Hills. Revised 1976. Agriculture Handbook No. 134. Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Price $2.50.

For learning how others do it — See your County Extension Agent (nearest Farm and Home Center) for dates of maple schools and tours. In New York State, about a dozen maple schools are held in important maple regions, usually in January. A maple tour is held in mid-summer, often about August 1.

For seeing Cornell Maple operations — A 4,000 tap operation at Heaven Hill (Lake Placid, New York), featuring tubing and pipelines in a cold region, modern evaporation equipment, quality control, etc. Call Lewis Staats for appointment. Best time is 6 p.m. (518-523-2076) or noon (518-523-9337). Open all year.

Also a 1,500 tap operation at Arnot Forest (Van Etten, New York). Call Fred Fontana for appointment. Best time is noon (607-589-6095). Sirup season only.

For home maple sirup — "Home maple sirup production." J. Yager and R.R. Morrow. 1976 mimeo. For this and other pamphlets listed below, write to Dr. James P. Lassoie, Department of Natural Resources, Cornell University, Fernow Hall, Ithaca, New York 14853.

Other pamphlets available at Cornell: **Vacuum and maple sap flow; Adjusting and testing a sap preheater; Arches and burners for oil-fired evaporators; Scale in maple sap evaporators — how to remove it; Measuring the sugar in maple sap and sirup; NYS grading and labelling requirements for pure maple products; A consumer's guide for NYS maple products.**

Other pamphlets, usually of less widespread interest, include information on cause of maple sap flow, tubing vs. buckets, advantages and disadvantages of paraformaldehyde, microbial control in sap collection, fall tapping, density of sap and sirup, packaging sirup, and maple sirup recipes.

For specific questions regarding commercial operations, write your Extension Forester. In New York, **write Lewis Staats, Regional Extension Specialist,** John Brown Rd., Lake Placid, New York 12946.

For information about development of sweet trees, planting sugar bushes, costs and marketing, new kinds of evaporating equipment (for large scale production), and other research, **write Northeastern Forest Experiment Station, Forest Service, U.S.D.A.,** Aiken Lab, P.O. Box 968, 705 Spear Street, Burlington, Vermont 05401. (Also your State Experiment Station).

A Maple Check List

I. Preseason

a. Purchase seasonal supplies.

b. Install tubing.

c. Clean sugar house and equipment.

d. Install collection and storage tanks.

e. Check weather forecasts.

II. Tapping

a. Tap in advance of expected sap weather.

b. Sanitize tap holes and insert spiles.

c. Hang buckets with covers and/or hook up tubing.

d. Install vacuum equipment; run prior to sap flow to locate leaks in tube system.

e. Inspect tube system for leaks and rodent damage (periodically through season).

III. Collection

a. Collect sap prior to serious growth of microorganisms; daily collection may be required in warm weather.

b. Store in cool tank for short periods.

c. Clean collection and storage tanks following warm periods.

d. Clean buckets at midseason, if needed.

e. Clean tapholes at midseason (chlorine rinse) if not previously sanitized.

IV. Evaporation

a. Evaporate sap soon after collection.

b. Evaporate overtime, if needed, during heavy flows in warm weather.

c. Dump sap with high microorganism content. It could contaminate good sap and degrade sirup.

d. Make certain that sap can flow freely from storage tank to sirup pan in order to maintain proper sap depth.

e. Draw-off sirup at desired density.

f. Filter sirup immediately (when hot). Keep filters clean.

g. Clean sap and sirup pans, equipment, and building as needed.

V. Packaging and Storage

a. Package hot from filter after draw-off, or

b. Store in bulk in cool place and package throughout the year (finishing pan, followed by another filtering, and packaging).

c. Packages should be **filled** with sirup at 180°F or hotter.

d. Grade, label, and store in cool, dark room until needed for sale.

VI. Postseason

a. Remove and clean all sap collection, storage, and evaporation equipment as soon as possible, for an easier and more effective job.

b. Store equipment in clean room.

c. Store tubing in dark, rodent-proof area (storage tanks).

VII. Sales

a. Throughout the year, with suitable promotion and attractive displays. Especially during sap season when evaporator is in operation, during fall foliage and winter holiday seasons.

VIII. Off-season

a. Sugar bush management, especially thinning to develop high producing trees in accessible locations.

b. Arrange for fuel oil deliveries, or

c. Cut wood for fuel, preferably in fall or winter (at least a year prior to use).

d. Repair and/or maintenance of buildings, equipment, roads, or pipelines.

e. Plan for improvements or other changes in operation.

f. Purchase or build needed capital improvements well in advance of sirup season.

g. Make, package, and sell maple cream, sugar, or candy.

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I LIKE LOGGERS

By Al Roberts

Why do I like loggers? It has something to do with the fact that I like stumps. (See Forest Owner issue of). You can't very well have one without the other. A forest owner can grow a magnificent stand of timber, but very few can get the crop to market himself. So loggers provide an essential service in the process of changing standing trees into a useful product.

What is a logger? My conception is that he's a person who accomplishes the process of moving a tree from its place in the forest to a wood using plant such as a sawmill, pulp mill or even your back yard (for fuelwood). I'm sorry if that sounds a bit professorial, but I want to distinguish between the logger as an entrepreneur and the man who does just one part of the job, such as a feller, bucker, skidder operator, truck driver, etc. Usually the logger does any or all of those things, but he's responsible for the whole job.

He's an independent sort of character, and to survive successfully he has to be smart and resourceful. He has to be a business manager, money manager, mechanic, laborer, and he has to be shrewd, honest and know timber, literally inside and out.

And yet, unfortunately, this great guy as often as not, seems to be a villain in peoples' eyes. And, O.K. some are. There are some villains in every business. But some of their supposed villainy is a misconception. **Villainy number one** is, "they rape the woods." Well, one day I was checking a logging job on a sale I had made and was congratulating myself on a much better than average job when along came a hiker and in anguished tones complained that some loggers had "raped the woods." (His exact words). Well, they hadn't. Even if some woods are raped, I would place more of the blame on the owner than the logger. A lot of owners, through ignorance or lack of concern sell on "loggers choice" to whoever offers the most money. In order to compete, the logger must cut heavily.

Villainy number two is that the logger cheats the owner on price. I believe it is the owner's obligation to inform himself of the value of what he's selling. The logger makes his living by buying as low as possible and selling as high as possible. As it has been told to me, "I pay what I have to to get the timber." Cheating on scale is another matter. If a logger buys at say, $100 per thousand board feet, and then only scales every other log, that's not cheating, it's grand larceny.

Villainy number three is that the logger works in mud and cuts up the woods. Sure he sometimes does, if the owner lets him. The logger may very well have on any particular job a quarter of a million dollars worth of equipment that he and the bank own. The payments are due every month and the payments come from logs delivered to the mill.

What I'm really saying is that a logger will do whatever the owner wants to put into their contract. An owner can require many things of a logger as long as he realizes that some things cost the owner money in the form of reduced stumpage price. It also helps for the owner to show some interest by showing up on the job once in awhile.

Another thing the owner can do for himself is check on the reputation of the logger. Some are better than others, as to their skill, type of equipment and willingness to accommodate. How can you locate the better ones? Check with a consulting forester or your local D.E.C. forester. Also there is an organization called the New York State Timber Producers Association, Inc. Their membership is made up of independent loggers, and while there are many good loggers who do not belong to this organization, a land owner would have a degree of assurance of a logger's reliability if he did belong to the N.Y.S.T.P.A. All their members must abide by a code of ethics which protects land owners. They have 75 members throughout the State and are actively recruiting more. A list of members may be obtained by writing to N.Y.S. Timber Producers Assn., P.O. Box 134, Booneville, N.Y. 13309.

Luv those loggers.