



FOREST OWNER

the VOICE of 255,000 forest owners in New York
 — representing an ownership of 11 million acres

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The opinions stated in this periodical are expressly the views of the writer, but not necessarily the opinions or policies of the New York Forest Owners Assoc. or of the FOREST OWNER.

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PRESIDENT'S COLUMN

Our 1974 Cornell Forest Owners' School was a success thanks to our Chairman and 3rd Vice President, Robert Sand. We are indebted to Dr. Alex Dickson, Fred Winch and Cornell University for providing their excellent facilities for our use.

The NYFOA Fall Meeting was fairly successful. We owe our thanks to two directors who served as Co-chairmen, they were Henry S. Kernan and Allen W. Bratton. Also serving on the program committee was William C. Craig of Sherburne. Many thanks to District Forester Frank Bulsiewicz and his staff who so ably assisted with their expertise and facilities.

We were honored in our morning session to have Mr. J. S. McKnight, Director Cooperative Forestry, U. S. Forest Service, Washington, D. C. speak to us on the National outlook of the Forest Incentives Program.

Leon S. Menkler, Adjunct Professor, State University of New York, College of Environmental Science and Forestry, Syracuse, N. Y. gave us an excellent dissertation on "Northern Hardwood Silviculture".

An excellent lunch was served us at Sherburne Inn.

We learned from our afternoon field trip that there is more than one way to make money from our wood lots other than wood. In this case Frank Bulsiewicz showed us how to find Ginseng (aphrodisiac) used by the Chinese in root form and is currently selling for \$60 per lb. in its dry form.

In lieu of not having received any minutes of our last board of directors meeting, several important decisions were made. Director Allen W. Bratton was named Chairman pro tem of our Trustee Committee to hopefully get this project off the ground.

Our newest Director, Francis H. Ross from Hamburg, N. Y. who has attended every directors meeting since his appointment was named Chairman of our By-laws and Constitution Committee.

Your board of directors have approved to have 3 short excellent tapes provided by Ed Stana from American Forest Institute reproduced and sent out to approximately 24 radio stations throughout New York State. This is an important step in the right direction to get our good name and message across to the people of New York State. Dr. Alex Dickson agreed to have this done at nominal cost through the facilities of Cornell University.

I might add that Miss Jane Barton has done a yeomans job in getting this program organized. She is a tremendous gal.

Take care of your woods now, and later they will take care of you.

ADVANTAGES AND DISADVANTAGES OF LAND USE PLANNING

from This Land Use Planning by Robert W. McDermid and Ed Kerr in the July 1974 The Consultant, the Journal of the Association of Consulting Foresters.

ADVANTAGES

1. Meeting future resource and environmental needs of (Louisiana)**by fitting uses to the land's capacities.
2. Careful inventorying and classification of the state's existing resources by teams of unbiased professional experts.
3. Thoughtful evaluation of the highest and best uses of these resources as indicated by projected needs for them in the foreseeable future. This would permit - indeed require - consultation with counterpart teams from neighboring states and the nation to blend their recommendations with others from other states, thus promoting optimal use of these resources.
4. Development of long-range plans incorporating these recommendations only after the widest possible opportunity for participation by landowners and the general public, to insure the adoption of only the most useful and acceptable principles of wise land use.
5. Possible recommendations of trade-off tax incentives or other inducements which would provide the necessary impetus required to promote specific land use by property owners.

DISADVANTAGES might include:

1. Abridgement of some traditional landowner freedoms by public decisions made in the public interest.
2. Curtailment of certain land use practices in areas deemed unsuitable for such uses by public boards. This might affect land transfers by owners for stipulated purposes.

3. Forest industries, whose raw materials must come from nearly half the state's land area, will be affected particularly by land use planning, as they have been by any land use decision in the past. How well forest uses emerge in the final land use plan will depend, to a great degree, on the forestry leadership assumed by forest land owners in becoming an organic part of the land use planning process.

** This is Land Use Planning was written by Prof. Robert W. McDermid of the LSU School of Forestry and Ed Kerr of the U. S. Forest Service for the Southeastern United States and is based on land use planning in Louisiana. Parts of this summary could be applied in New York State. (Material provided by Lloyd G. Strombeck, 1st Vice Pres., NYFOA.

The address of the Consultant Editorial Office is Box 6, Wake, Virginia 23176, Edward Stuart, Jr., Editor

AMERICAN FOREST INSTITUTE

From Robert E. Jones
Vice President - Forest Resources

Dear Mr. Wilson:

The item in your August 1 edition of FOREST OWNER concerning "Skywindows Forest" about to become a Tree Farm has just come to my attention.

As national sponsor of the American Tree Farm System, we are pleased to hear that the property is about to be certified and we look forward to welcoming the owners of the property as new Tree Farmers. I also agree with you that if it took a decade to complete the process something is terribly wrong with the procedures, and I'm going to look into it.

Your next two sentences leave me a bit confused, however. You say, "Somehow, there seems to have arisen a feeling, that unless a private landowner plants conifer seedling trees in a straight line on barren acres the result should not have the designation of a tree farm." This statement leads me to believe that you are aware that well managed natural forestlands most certainly have a place in the Tree Farm program. Your next sentence, however, seems to contradict the first one: "Now that the bars have been let down on natural growth ..." (emphasis added). There never have been any "bars" on natural growth and of the more than 75 million acres of land in the program, by far, the vast majority of them are natural woodlands.

So that your readers will not be confused, a Tree Farm is defined as, "an area of privately owned forestland that is dedicated by its owner to the growing and harvesting of repeated forest crops."

One of the purposes of the tree Farm program is to provide better public understanding of the role of private forestland owners in meeting our needs for wood, water, wildlife and recreation and we invite all your readers to write to us for further information.

Sincerely,
Robert E. Jones, Vice Pres. Forest Resources

Dear Mr. Wilson:

Thank you for your response to my letter of August 9. You most certainly do have my permission to print any or all of my comments in your publication, "The Forest Owner."

We feel that your organization and the publication are playing an important role in passing along information to private landowners, and if we can be of any assistance, please let me know.

Very truly yours,
Robert E. Jones

PILE 'O' CHIPS - Ed Moot

Dear brethren of the DEEP forest, will some one please elucidate on the NEW TAX LAW for

forest land. Is this another bureaucratic gimick to get more tax dollars out of all of us? It looks like it. We would need to hire a secretary to keep records even if we cut one ash and sold it to a wooden tool handle maker. I do not mean the tool maker is WOODEN but you know what I mean.

Our school taxes were a little over \$10.00 in 1964. This year they are over \$115.00. Anyone beat that record? I am just philosophizing but if I had left PINEWALD stay "back with the Indians" as I retrieved it in 1964 I would have saved myself a LOT of money. I could have started trimming and thinning, far back from the road, where the assessors, who SIT in their cars and assess, could not have seen the TLC I was giving the forest. We are a rather sick society, are we not? The big motto for this state, and every state is I guess, DO NOT IMPROVE your property-leave it go back to the Indians. Our virgin forest timber from Alaska is going to Japan. Our kids, newly married, can not afford to buy lumber or even get a mortgage with the high interest rates, so what. We are so interested in seeing all other countries live off the fat of the land that our own situation gets more and more untenable.

It is time every single new demand, for some silly new method to TRY to get our kids educated, is dropped like a HOT potato. The NEW MATH is a good example. Most sensible educators admit NOW that that whole new effort benefits only a marginal percentage of the population who enter engineering fields which deal with space travel. Other engineers can use modern small computers to figure their problems in OLD STYLE math. Any arguments on that? The efforts to entice our kids to lead a soft, easy flow, glamorous route to final educated sensibility, is one of the crimes of the century. How can you stop it - just go outside your house, blow your nose in a strong northwest wind. Hold your right nostril with your right hand while you blow out the affluvia in your left nostril, then reverse the process on the left side. Keep the affluvia off your vest. Efforts to buck the tide in a return turn around on tax collection is like yelling up a dry road drain in a very dry summer. All you get is a loud reverberation.

Do you realize how residential expansion, via mobile homes, is changing the population trends in all villages and cities of this nation? Take a look as you go here and there. The large families in most of those units get away with murder on tax collection while we, with real estate, pay through the nose. Oh, well might as well yell as sit and take it. WHO cares?

Many of you may have known Dr. William "Cap'n Bill" Vinal. He appears to be one of the few GREAT naturalists still alive in the whole USA. I had been corresponding with him for several years since that excellent article, with colored photo of him and his good wife, appeared in Yankee magazine. Mrs. Vinal died a short time ago. "Cap'n Bill" lives with his son, a Dr. Vinal (medical) at 67 Bridge St., in Norwell, Mass. He is now 93 years young and rather deaf but most alert and with a smile which would melt the anger of the cruelest person.

Mrs. M. and I visited the younger two thirds of our three generation family at their camp at North Truro-Cape Cod this week. I was determined to make the acquaintance of "Cap'n Bill" on my return yesterday, September 19. We started early from the Cod. Traffic was far from the peak of summer travel. The weather was "PERFECT". All over the COD we could see evidence of the care of our national government for the survival of natural conditions where the PILGRIMS first landed. There seemed to be a sense of appreciation of this policy by visitors. The beaches were not laden by junk refuse left by tourists. The villages had a NEW-CLEAN look. Maybe it pays to get tough on ecology. Basically the people respect a firmness in the care of our natural resources.

The warmth of the Vinal home, where I found "Cap'n Bill" was one which did my whole soul much needed therapy. His daughter-in-law was feeding a great grandson of this top naturalist. The family resemblance was unusual, even as genetics skipped two generations. Quality breeds quality is an adage as old as TIME itself. Even the sleeping mongrel dog on the door step added to the warmth of the welcome of an unknown. Dr. Vinal's secretary, in the good doctor's down town office had suggested I better pound "good and loud" on the front door which was partially open. Soon a smiling face greeted this stranger.

There was NO need for false type introductions. He caught my name, and pronounced it correctly immediately after I made myself known. We needed no preliminaries. No special conversation pieces were essential. The need for a "WHOLE WORLD VIEW" on ecology was uppermost.

As all of you know I feel that GERIATRICS should not allow themselves to be isolated in a corral type of life, after "65". This elderly statesman of, The Naturalist World, still had his "finger deep inside affairs of his interest". The South Shore Natural Science group of Norwell had inveigled "Cap'n Bill" to provide a Norwell Atlas for the entire geography of the Norwell region. The 150 page mimeo booklet, which he gave me, "autographed with warm penned words" will have a prominent position in my many books from many friends all over.

There are a few quotes in this Norwell Atlas which all of you will appreciate. 1. Geography is a point of view. 2. TOWN lands, for the enjoyment of people, have a LONG story. 3. What is an easement? 4. Why is pond water the color of swamp tea? 5. Insects (HEXAPODA) the largest animal phylum, fall into four main groups: A. Annoyers B. Conspicuous C. Beneficial and last D. Injurious. You members of NYFOA know most of these groups but to have this famous naturalist draw his own free hand version of many of the groups is worth one's entire time, in a winter evening.

What if we, as members of NYFOA began such studies of our own towns, would we stir up immediate interest in tree planting, culture and even care of the volunteer forest which has been so neglected in our EMPIRE STATE. There is more than membership solicitation and woods walks in our program if we look for things to do to bring attention to our business which is now not even recognized as a "FARM OCCUPATION" by our leading agricultural journal.

Perhaps we can chage all that!

Many of our NYFOA members are avid book discoverers. GOOD. A new one by the granddaughter of the famous poet, naturalist John Burroughs is one you will want to add to your library. It is titled "John Burroughs' Slabsides". Many of you have visited Slabsides at West Park, N. Y. Mrs. Kelly, born in West Park, remembers the days of her famous grandfather with much clarity. John Burroughs, one of the most famous men of letters to emerge from the Catskill Mountain region, was a pal of great men like President T. R. Roosevelt, Henry Ford, Thomas Edison and Henry Firestone. Those who have original copies of ALL of his works will feel their library selection of Burroughs memorabilia is incomplete without this new book. The emergence of the Catskill Planning Commission would do well to suggest all parties interested in the new schemes for planning and zoning this favorite vacation area to review the Burroughs life and writings for all new residents of the famous southern New York State Mountain region.

Ed Moot, The Penner of Pinewald

LETTERS FROM AND TO STEPHANIE RICHARDS

October 21, 1974

Dear Sir,

I am a fourth grade A. T. P. student (Academically Talented Program) helping in an Environmental Inventory. My topic is the common trees of Pennsylvania, West Virginia, Ohio, New York and Maryland. I would appreciate your sending me any literature you might have that would assist me in this project.

Thank you.

Yours sincerely,
Stephanie Richards
2201 Cypress
McKeesport, Pa. 15131

October 31, 1974

Dear Stephanie,

Here is an excellent illustrated booklet, "Important Trees of Eastern Forests" that I'm sure will help you in your project.

Keep up your good work.

Sincerely yours,
William Lubinec, President

RECOMMENDATIONS OF THE PRESIDENT'S
ADVISORY PANEL ON TIMBER AND THE ENVIRONMENT

The Advisory Panel on Timber and the Environment recommends to the President that:

1. The President issue a statement or proclamation to the Nation, emphasizing the unique renewability of the timber resource, and the opportunities to improve substantially the productivity and the value of the Nation's forest resources to meet the multiple demands now being made and likely to be made in the future on these forests; and emphasizing that forest resources are to be cherished, nurtured, and used.

2. The President require the Federal agencies concerned with forests to prepare a comprehensive nationwide program of forest development and timber supply covering the periods 1973-85, 1986-2000, and 2001-20, which will convert into specific programmatic terms the general proposals of this report. Such comprehensive programs should include: Expansion of recreation and wilderness areas where appropriate; protection of water supplies; protection of fragile soils and erodable steep slopes by their withdrawal from timber harvest; protection of wildlife including rare and endangered species of plants, animals and birds; improved utilization of wood fiber for all its varied uses; assistance to owners of private forest lands in the management of their forests for increased output; and harvesting of timber from the national forests on a schedule commensurate with their productive capacity and sufficient to make their proportionate contributions to national timber needs. This comprehensive program should be carefully monitored by the Forest Policy Board, proposed later.

3. The Federal land-administering agencies and the Congress accelerate their efforts to complete the National Wilderness Preservation System as rapidly as possible. The Federal land-managing agencies and the Congress should develop a system of quasi-wilderness areas in the Eastern United States, in which low-intensity out-door recreation will be possible under natural forest conditions.

4. The commercial forest lands not withdrawn for wilderness or other specific uses should be designated for commercial timber production and other compatible uses and be managed in accordance with appropriate national policies.

5. The Federal agencies continue to reserve from timber cutting all lands under their jurisdictions where sites cannot now be logged without causing unacceptable environmental damage; such reservation to continue until the means of timber management and harvest have improved so that such lands can be safely harvested.

6. The Forest Service, the Bureau of Land Management, and all other pertinent Federal agencies, improve the environment on forest lands under their jurisdictions by establishing road building standards and logging practices that minimize site disturbances, while at the same time retaining all proven and efficient methods of timber harvest, including clearcutting, under appropriate conditions. These agencies should skillfully apply the best silvicultural and conservation measures in forest management, particularly in timber harvest and forest regeneration. The need to economically and intensively manage the new forest crop as well as manage the existing timber crop shall receive due consideration.

7. In order to help dampen short-term fluctuations in softwood lumber and plywood supply, interested public agencies and private industry representatives should make periodic (perhaps monthly) reviews or analyses of the prospective demand and supply situation for the various wood products, in order to discover possible imbalances and warn against them. Such reviews would be similar to those now made in the Department of Agriculture for agricultural commodities, but should involve both suppliers and users of wood products to a major degree for the knowledge such groups can contribute and also as a means of making the projections more effectively used.

8. The annual harvest on lands available for commercial timber production on western national forests can be increased substantially. Analyses based upon nationwide forest inventory data indicate possibilities for increasing the old growth cutting rate in the range of 50 to 100 percent. The Panel's consultant believes that on four forests analyzed in his report, the annual harvest rate should average 39 percent more, than is now proposed in recently prepared Forest Service plans. The Panel recommends that the Forest Service promptly review and revise policies for allowable cut determinations including rotation period determinations, stocking objectives, and old growth management policies for the western national

forests. The precise revised level of harvest must be worked out for appropriate geographical areas and must consider, for each area, condition of existing timber stands, road accessibility, market demands, impact on non-Federal forests, and future timber supplies and do so within the limits of sustained yield. The Panel recognizes that on accelerated harvest of old growth timber in national forests should be undertaken only provided that adequate provision is made for financing whatever intensified timber management is needed to support the new level of harvest. If harvest on national forests during the 1970's accelerated, it will tend to reduce pressure for harvest of timber from private forests, thereby tending to increase their growth of timber in this and later decades.

9. The Forest Service carry out an accelerated program of timber growing, stressing immediate regeneration, on national forests, in accordance with the foregoing recommendations and with the funds proposed in later recommendations. The objective of this accelerated program is to increase the growth of wood on national forests for harvest in later decades.

10. The Federal Government maintain incentive programs to encourage private landowners to follow forest management programs which protect the environment and to increase future timber supplies from their forests. Such programs should maintain Federal income tax incentives; should include advice and services to forest owners and their associations; and should include costsharing for intensive forest management practices, including provision of seedlings. New programs should be developed on a trial basis by providing financial assistance to lessees of land whose forests are combined by lessors of appropriate types into efficient forest management units.

11. Government and industry should conduct and support research to promote technological innovation in forest management and in wood utilization and help develop less destructive logging equipment. Particular attention should be given to methods of timber harvest on fragile sites and to commercial thinnings.

12. The President require all the Federal agencies having responsibility for management of wilderness areas to develop, in cooperation with wilderness users, democratic and equitable systems of managing use of wilderness areas within their carrying capacities, considering the nature of the wilderness experiences as well as the wilderness ecosystem.

13. The President require Federal land managing agencies, especially the Forest Service, to undertake management practices to direct and control all nontimber uses made of the lands; to recognize that the day of unlimited public use of Federal recreation areas is over, and that recreation and other nontimber uses will have to be controlled and managed just as management has been applied over many years to timber growing and harvest and to grazing use.

14. The President require the Federal agencies concerned with the administration of outdoor recreation on Federal lands to devise and apply systems of charges or fees for recreation activity which are administratively feasible, equitable to users, reflect the value of the recreation opportunity, and reflect the costs of providing the recreation area and its facilities.

15. The United States continue to import and export forest products of all kinds when it is in the best longterm interests of the Nation to do so; but that, until some of the recommendations herein for increasing timber supplies can be implemented, the executive branch negotiate with Japan to reduce the disruptive log buying activities in the Northwest.

16. The President consider, as one solution, the creation of a permanent national board or council on forest policy to report to the President or other appropriate offices in the White House, with a small group of citizen (not Federal employee) members appointed by the President. The council should examine all aspects of forest policy, on lands of all ownerships, and annually or more frequently recommend action to the President, the Congress, and the Nation, as appropriate.

17. A better method of more adequate and more timely financing of forest management programs on all Federal forest lands is essential. Such a method must recognize the long-term nature of forestry and be based upon sound economic concepts of intensive forest management; programmed expenditures and investments must be related to anticipated returns. It is recommended that the President direct the Office of Management and Budget, with solicited help of the General Accounting Office and independent consultants to devise a management and financial plan that will best meet the special needs of good resource management and at the same time conform to the established requirements of good government.

18. An amendment to the fiscal year 1974 budget be processed to provide sufficient funds for the offering of the full allowable cut on every national forest where there is that volume of market demand.

19. The President propose an increased annual Federal expenditure for forest development of the general order of \$200 million. This is desirable and necessary inasmuch as implementation of the preceding recommendations will, at best, take some time and the forestry programs, especially the accelerated harvest of mature timber from national forests, proposed by the Panel merit such critical support. The President should make it clear that this is an investment, not merely an outlay, which should return to the Treasury more than it costs; and he should find ways of establishing an investment account for public forestry programs.

20. Finally, the President provide a suitable forum or means of enlisting review and discussion of this report, especially the policy recommendations, by responsible and informed persons inside and outside of government. The Panel members are prepared to participate.

TIMBER PRODUCTION IS LANDOWNER OPPORTUNITY

From CNS for August, 1974

Timber is a unique commodity, requiring decades for growth. If we look at the production for the United States as a whole, most timber now being harvested comes from growth which originated as natural trees before settlement, with some from naturally regenerated trees coming in after clearing. Most of these supplies have grown with no care or cultivation.

In the Northeast and South, a continually increasing amount of timber comes from forests grown for these purposes. Canada supplies 20 percent of the timber needed in the United States and nearly all Canadian timber now in trade channels comes from trees which established themselves on wild lands before settlement. By contrast, European timber is nearly all purposely produced and cultured.

In the United States we are in the transition between "wild land" forestry and purposeful forestry as practiced in Europe. This has created some problems of supply for the United States and is likely to cause more.

TIMBER PRODUCTION SLOW

This problem results from increased requirements for lumber and paper products and the fact that forest production under natural growth conditions is so low on our forest lands that current needs and future needs will not be met. This has generally been reflected in the increased stumpage prices paid and the increased cost of lumber for building purposes.

In New York nearly all the potentially productive forest lands are in private ownership. Only a handful of ownerships exceed 20,000 acres, and these are dedicated to timber production. The balance, over 255,000 ownerships, are in small holdings of 10 acres or more. It is on these small holdings that management must be started at this time to produce more to meet severe projected shortages in 25 to 30 years.

To meet these supply problems, programs have been developed by the USDA for assistance to landowners. One of these is the continuing ASCS (Agricultural Stabilization and Conservation Service) program of woods improvement cost sharing. This program is available in every forested county in the state. The other is a new program by ASCS called the Forestry Incentive Program for 25 selected critical forest counties in the state. In these 25 counties this added incentive program will emphasize woodland management and tree planting on forest lands of less than 500 acres in size, payments for practices cannot exceed \$2500 for each person and the programs must follow the plan prepared by a forester.

To take advantage of either of these programs, contact your local ASCS office or your local forester for further details.

by F. E. Winch, Jr.

N.Y.S. College of Agriculture and Life Sciences

PREPARATION AND MARKETING OF FIREWOOD

Conservation Circular from Department of Natural Resources, N. Y. S. College of Agriculture and Life Sciences, Cornell University - Winter, 1974

Rural residents of New York State have depended on wood to heat their homes since the first settlers arrived. It was a way of life for agrarian families to provide their own fuel for cooking and warmth so the farm woodlot was essential. Annually trees were harvested, cut into firewood, and stored in a woodshed attached to the kitchen. Forty to eighty face cords or ten to twenty standard cords were prepared each year depending on the needs of a family during cold winter months.

In recent years there has been a decline in the use of wood for fuel and fewer people have the skills required or are unaware of the safe procedures for cutting and handling firewood. However, with the energy crisis and the need for auxiliary heating systems, wood, a naturally renewable resource from New York's forests, has gained recognition as a source of heat. Preparation and Marketing of Firewood is provided to assist the neophyte firewood producer who may be endeavoring either to obtain firewood for personal use or to market it for income.

SOURCES OF WOOD

Since all of the trees growing in New York are owned by somebody (there is no unowned wilderness), the first requirement is to obtain permission to cut trees whether they be lying on the ground or standing straight and tall. The forests of New York are an abundant source of wood. They naturally restock themselves as trees are harvested. They have a nearly unlimited potential for providing wood.

Recently the U.S.D.A. Forest Service has made wood available for firewood from the National Forests by selling stumpage (standing trees) in small quantities, by the cord, to people wishing to buy firewood. Also, the New York State Department of Environmental Conservation, Division of Lands and Forests with its 14 District Offices sells both marked standing trees and the tops left after logging operations on State forest land for a stumpage price by the cord for firewood. In 1973 and 1974 typical stumpage prices in New York averaged from \$1 to \$5 per standard cord for firewood.

Basically, all wood burns and is safe to burn unless it has been treated with a preservative, paint, or stain for some special use. Therefore, sources of wood include shade trees that have been removed in the city or suburbs and left at the roadside for trash collectors or delivered to a dump. In addition, branches which have been pruned from shade trees may be useful as firewood or because the bottom sections were rotten can be used for firewood. However, tramp metal which may have been attached to or driven into trees is a major concern when sawing wood as it will dull or ruin a saw. In living trees such metal may become completely overgrown as a tree matures so that it cannot be seen. When a cut is made through the bark and into the wood, the metal may come in contact with the saw blade and damage it. This is one reason why professional timber harvesters are quite concerned about buying and cutting trees which people may have "filled" with metal.

From a conservation standpoint, special forest land thinnings of trees designated by a forester in the process of timber stand improvement (TSI) will not only provide firewood but will improve the growing condition of the woods.

Firewood can also be obtained from the tops of trees left in the woods after a logging operation. The advantages of this is that access roads will be already available, no tree felling will be necessary, and the wood will have partially seasoned.

FELLING EQUIPMENT

A variety of tools is available for cutting wood including axes, twoman crosscut saws, bow saws, and electric - or gasoline powered chain saws. Axes may have a single blade or may be double-bitted. One advantage of the single-bladed axe is that it can be used for driving aluminum or plastic wedges needed for felling trees. A double-bitted axe provides

one blade for clean cuts (this blade can be kept sharp) and the other for limbing, brush cutting and bucking -- which are more likely to result in chipping or dulling the blade. It is important to have a grindstone to keep any axe blade sharp.

A two-man cross cut saw seldom is used nowadays except in the sport of sawing competition. It is a good tool but requires two people to work it and must be filed to keep it sharp.

The bow saw or Scandinavian Bow saw as it is sometimes called, has a blade that ranges in size from about 16 to 40 inches. It, too, needs to be filed periodically to keep it sawing smoothly and efficiently. This should be done by a professional.

Chain saws may be powered by either an electric motor or a gasoline engine. The electric chain saw can only be used where there is a source of electricity available. The cord may present a problem in moving around with the saw and must be properly grounded.

A gasoline-powered chain saw is the most common type of saw used by woodsmen. It is very portable since it has a self-contained power source. However, refueling requires a supply of gas and oil. The horsepower, weight, and the length of the cutting chain are available in a wide variety of combinations from many chain saw manufacturers. Light weight chain saws are less fatiguing to use, but when their cutting chains become dull, all cutting ability is lost. A heavy-duty, high-horsepower saw will continue to cut even with a dull chain but weighs more and can become tiring to operate. The length of the bar determines what size of tree can be cut. A short 12-inch bar will only efficiently cut through a log of about 20 inches maximum diameter. A 15 to 18 inch bar is normally appropriate for most trees since it will cut through a log about 26 to 34 inches in diameter. The chain saw is used for felling, limbing and bucking. Companion hand tools for the chain saw are a requirement. A screw driver and box-end wrench is needed to adjust the chain tension or remove the bar and chain, should they get pinched in a saw cut. A chain file and a file guide are mandatory for sharpening the chain.

CHAIN SAW SAFETY

A chain saw is a powerful, fast-cutting, potentially dangerous tool which must be controlled at all times. Therefore, the following rules for safe chain saw use are extremely important.

1. Keep the chain sharp so it will cut easily rather than drag and catch.
2. Keep the chain tight on the bar so it won't break and fly off.
3. Start the chain saw on the ground holding it in place with one hand while pulling the starter cord with the other.
4. Always control the chain saw with both hands while making a cut.
5. Turn off the engine when not in use and when moving to a new location.
6. Be alert for "kickbacks" - the saw flying out of the cut and back toward the operator.

TIMBER HARVESTING

Tree-Felling Technigues. 1) Size up the trees by inspecting it for nails, fencing or screw hooks, and "widow makers". 2) Determine-by the lean of the tree, position of the crown, and the prevailing wind-which way the tree will most easily fall. 3) Clear a working area around the base of the tree. 4) Determine your escape route. Decide how you will move away from the falling tree and ensure the route is clear of brush for five to ten feet. The escape route should be approximately 130 degrees from the direction of the tree fall. 5) After determing where the tree will be felled, make the undercut by removing a notch one-third of the diameter of the tree on the side where the tree will fall. Complete the felling of the tree by making a horizontal backcut or felling cut from the opposite side of the tree about one inch above the base of the undercut. 6) Retreat from the tree as it starts to fall. 7) Be alert for falling branches during the period of tree fall so that you can protect yourself if necessary. Note, it is wise to be wearing a hard hat.

Limbing Technigues. Starting from the stump of the tree move up the length of the tree, working beside it, and cut off the branches flush with the tree trunk. Saw branches on the opposite side of the tree from which you are standing by sliding the saw over the top of the

tree trunk. Branches or small trees bent under stress should be cut carefully to relieve the tension so the bent limb won't snap straight or pinch the saw.

Bucking Technigues. 1) Measure the lengths to be cut. 2) Position yourself so that when a section is cut off neither part of the tree rolls onto you. 3) Avoid getting the chain saw pinched in the cut as the tree settles. A rock or bolt of wood placed under the tree on either side of the cut will help insure a free cut. Sometimes a cut from the bottom side is preferable. As the tree settles the saw kerf or cut from the bottom will enlarge so the bar isn't pinched. 4) Care must be taken to prevent the saw from cutting through the tree and into the ground or a rock which will dull the cutting chain.

Skidding or Transporting Wood in the Woods. Once a tree has been felled, limbed, and bucked up it must be transported to the edge of the woods. This can be done by one of three basic methods. 1) Drag or skid the long logs behind a horse, crawler tractor, or farm tractor. 2) Place the logs on a sled or cart and pull them with a horse, crawler tractor, or farm tractor. 3) Buck the logs to short lengths and carry them by hand or in the back of a pickup truck.

PREPARING FIREWOOD

Cutting Wood to Length. A buzz saw with a moveable feed tray may be used to cut long pieces of wood to length. A chain saw may be used.

Splitting Wood. Firewood may be prepared for furnaces, stoves or fireplaces, as well as campfires. The desired length of wood can vary from 12 inches for stoves to 16- 18 inches which is common for fireplaces to 48 inches which is burned in some furnaces. Large diameter chunks of wood burn for a longer time than small diameter pieces. Splitting large pieces of wood make them easier to handle and allows them to be used for firewood. Split wood dries faster and will not roll when placed in a fireplace. Green, freshly cut wood splits more easily than dried seasoned wood; as wood dries it becomes more difficult to split. Two basic types of mechanized wood splitters are available: the hydraulic wedge splitter and the screw wedge type. The hydraulic wedge type limits the length of the piece of wood to the piston length which forces a wedge down the length of the stick. The screw wedge type passes a flared screw through the side or end of a bolt of wood forcing it to split lengthwise. Steel wedges and a splitting maul are hand tools which are commonly used to split wood. Some wood species split more easily than others. Red oak and ash split easily while elm, locust, and sycamore are very difficult to split. Most species can be split without too much difficulty unless a particular piece of wood is excessively knotty or crooked.

MARKETING FIREWOOD

Marketing firewood requires more than just preparing a pile of wood and labeling it with a sign, "for sale". Marketing firewood means that you get the right product to the right person in the right way, at the right time and at the right price. The product may vary by length, species, appearance, and moisture content. The prospective customer is a person motivated to buy what you have for sale. The size of the package of wood must be appropriate whether it be 100 cords or one small bundle. The price must be acceptable to the customer relative to his alternatives. The customer may or may not demand dry, seasoned wood and nice uniform wood well piled at the time of delivery. He may want the wood delivered or may be willing to pick it up himself. The customer may want wood only in a particular month of the year. A discount price offered for delivery of green wood in the spring could extend the selling season and provide a market for green wood which would be suitable for use the following winter.

MEASURING FIREWOOD TO SELL

Firewood may be sold by the piece; in a bundle of about five pieces; by the pile; by the standard cord, or by a face cord. All of these marketing units are used. Cord, standard cord, and face cord are terms frequently used in the marketing of firewood. Often these terms are misused and misunderstood. It is common practice in upstate New York to sell

firewood by the "cord" at a price of \$18 to \$30 delivered to a city residence. In the New York City area prices are considerably higher, from \$75 to over \$100. This so called "cord" is often erroneously understood to be an abbreviation for the cord or standard cord. Often the so called "cord" though is a face cord measuring 4 feet high by 8 feet long with the length of the sticks being about 16 inches. In contrast a cord of wood is a pile of well stacked sticks measuring 4 feet high by 8 feet long by 4 feet deep. Commonly in the past the sticks of wood were 4 feet long. The volume contained in a 4 ft. x 8 ft. x 4 ft. pile is 128 cubic feet. Therefore, if the sticks of wood were only 12 inches or 1/4 of a 4 feet stick, the face cord would contain 32 cubic feet and it would be 1/4 of a cord of wood. Sticks of wood 16 inches in length would make up a face cord containing 42-2/3 cubic feet or 1/3 of a cord. A face cord of 18 inch sticks contains 48 cubic feet or 3/8 of a cord. Note: Although a cord contains 128 cubic feet of space, the actual volume of wood contained within the 128 cubic feet is about 80 to 90 cubic feet. According to one fireplace wood seller a face cord contains 140 sticks of wood and a half "cord" (face cord) contains 70 pieces. Probably the number of sticks in a face cord varies between 125 and 155. Numbers of sticks, however, should never be used to determine the volume.

NEW YORK STATE LAW ON METHOD OF SALE OF FUEL WOOD

Article 16 of the Agriculture and Markets Law of New York states under Section 193-b:

All wood for fuel purposes shall be sold or offered for sale by the cord or fractional part thereof, unless some other unit of measure is specifically agreed upon. A cord of wood shall measure and contain one hundred and twenty-eight cubic feet, well stacked. With the exception of kindling, when such fuel wood is sold, it shall be accompanied by a bill of sale bearing the name and address of the seller, the name and address of the purchaser, and the quantity of wood contained in the delivery in terms of cords or fractional parts thereof or the unit of measurement specifically agreed upon. At the time of delivery, such bill of sale, signed by the seller, shall be given to the purchaser specified thereon.

Another unit which could be used to measure firewood is weight. A package of seasoned wood weighing 5 lbs. or 10 lbs. could be marketed so customers would know exactly how much weight they would have to carry.

The weight of a cord of wood varies with species and amount of seasoning or drying of the wood. A cord of green, freshly cut wood weights between 2 and 3 tons. When air-dry a cord weights 1-1/2 to 2 tons. For example, a cord of white ash, beech, yellow birch, sugar maple, or red oak weighs about 3,400 pounds when air dry.

SEASONING WOOD

Green wood contains about 48 percent moisture by weight, based on the dry weight of wood. When seasoned for 6 months to a year the moisture content will be reduced to about 16 to 20 percent. Moisture content is very important because the drier the wood the better it will burn and the more useful heat it will provide; green wood requires heat to evaporate its moisture before it can sustain combustion. Dry wood is much lighter to carry and therefore easier to handle, cleaner to handle than green wood which is exuding sap, and less likely to harbor insects and decay-producing organisms. For these reasons, dry or seasoned wood is the best.

"WOULD WOOD BE GOOD?" FACTS

1. How much wood is there? The vast forest resource is estimated to cover 9 billion acres or 28 percent of the world's land area. In North America alone there are 1.7 billion acres of forest -- 37 percent of the land area. New York State contains some 16.5 million acres of forest land accounting for 55 percent of the state's land area.

2. What kinds of trees are there? There are all kinds of trees. It has been estimated that 125,000 kinds of trees exist in the world. About 1000 kinds of trees live in

the United States. The world's forests are 2/3 hardwood forest types and 1/3 softwood.

3. Who uses wood fuel? Nearly all of the rural people in Maine used wood for fuel according to the 1939 U. S. Census. And it has been estimated that from 1600 to 1930 about two-thirds of all wood consumed was for fuel. Only ten years ago it was estimated that three-quarters of the homes costing over \$20,000 contain fireplaces.

4. How hot is a wood fire? Wood ignites at about 527 degrees Fahrenheit and it can produce temperatures while burning of over 2,000 degrees Fahrenheit. Wood is really hot when burning.

COMPANION REFERENCES

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2. Fireplaces by Karen Ball, Consumer Close-Ups, Department of Consumer Economics and Public Policy, Cornell University, Ithaca, N. Y., October/November 1973.
3. Enjoy Your Fireplace, Especially During the Energy Crisis, U.S.D.A. Forest Service, Upper Darby, Penna.

David W. Taber

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GLOSSARY

Stumpage - Purchase price paid to a landowner for timber to be removed from his land. Usually it is used when referring to standing trees which will be harvested from the stump, hence the term stumpage. In upstate New York typical stumpage prices for firewood recently have been \$1 to \$5 per cord (standard cord).

Cord - A pile of wood made up of sticks 4 feet long in a pile 4 feet high and 8 feet long; the 4 ft. x 4 ft. x 8 ft. pile contains 128 cubic feet. Much of such a cord is air space between the sticks. The actual wood in the pile varies from 80 to 90 cubic feet.

Tramp Metal - Unwanted metal such as nails or barbed wire, which is imbedded in bark or wood. When a saw blade hits tramp metal the blade becomes dull and possibly ruined.

Timber Stand Improvement (TSI) - The silvicultural forest management practice of improving a forest stand by removing certain inferior or defective trees. This provides more growing space and less competition for the residual trees.

Felling - To cut down trees. To harvest a particular tree. To use an axe, bow saw, or chain saw to cut a tree off at the stump, about a foot above the ground.

Double-bitted - Two edged, an axe with two sharp cutting edges instead of one.

Limbing - Removing the limbs from a tree after it has been felled and is lying on the ground. This is done with a saw or an axe.

Bucking - Dividing a felled tree into segments or logs. This is done with a saw or an axe.

Two-Man Cross Cut Saw - A saw designed for two men to use by alternately pulling it from opposite ends and used for cutting cross-grain or perpendicular to the length of a tree trunk or branch.

Bow Saw - Sometimes referred to as Scandinavian Bow Saw, a saw which contains a straight blade mounted in a curved metal frame, attached at each end of the blade to the "half circle" metal frame. This saw is used for felling small trees and bucking small logs.

Chain or Cutting Chain - The toothed flexible saw which moves around a bar (for support) on a chain saw. The chain does the cutting of wood. It is powered by an engine and driven by a sprocket mounted on a drive shaft.

Chain File - For sharpening a cutting chain on a chain saw. The file is round and must fit the size of the chain. There are different sizes of chain classified by pitch of chain and each one requires a different file size.

File Guide - The file guide is an instrument to hold a file so that when the chain is filed, the proper angle will be maintained for sharpening. There are different styles of file guides.

Kickback - Dangerous loss of control of chainsaw due to chain catching in cut resulting in

the quick ejection of the saw back toward the operator.

Widow Maker - A dead branch lodged in the top of a tree which can become dislodged and pum-
mel downward during felling.

Undercut - The first saw cut made when felling a tree 10 inches or larger in diameter.

The undercut consists of first a horizontal cut about 1/3 of the diameter of the tree,
normally as close to the ground as practical. Completion of the undercut is made by
making a second cut above the horizontal base cut at a 30 to 40 degree angle so the two
cuts meet 1/3 of the way through the tree.

Bolt - Short section of wood usually 3 to 6 feet in length cross-cut or bucked from a log.

Bolts can be relatively easily handled by manual labor.

Saw Kerf - Slit or saw cut made by the cutting chain or saw blade as it cuts through wood.

Buzz Saw - Circular or rotary saw used for cross cutting bolts of wood to shorter lengths.

sometimes a feed tray is used to move the bolts into position for each successive cut.

Hardwood - Trees in New York State which are primarily deciduous and broadleaved such as

ash, oak, beech, maple, and birch.

Softwood - Trees in New York State which are primarily evergreen and bear cones such as pine,

hemlock, spruce, and fir. One notable exception to the evergreen category is the larch
tree which loses its needles each year although it is a softwood.

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Sincerely yours,

David W. Taber

Cooperative Extension Specialist

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