

A NEW YORK STATE FOREST TAX POLICY PROPOSAL



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DIVISION OF EQUALIZATION AND ASSESSMENT

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FOREWORD

This report is a general review of New York State's forest taxation policy and a proposal to revise its current shortcomings. The suggested policy revisions to section 480a of the Real Property Tax Law contained herein do not represent an ultimate solution to the State's forest taxation problem, but can be accomplished with current assessment practices and information resources.

This preliminary proposal is being distributed to interested and informed parties in order to solicit observations, comments and other suggestions for improvement. Those wishing to contact the Division concerning the subject of forest taxation should correspond with the report's two principal authors at the Office of Program Analysis and Development:

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A NEW YORK STATE FOREST TAX POLICY PROPOSAL:

EXECUTIVE SUMMARY

The dilemma of forest taxation policy in New York State includes the competition among three major incentives:

1. Maintenance of the real property tax base is required to insure the adequate funding of local general purpose governments, school districts and special districts.
2. The economic vitality of the State's timber industry and the rapid increase in wood consumption for home heating requires a taxation policy which does not discourage maximum productivity of forest land.
3. A sound forest taxation policy must be capable of comprehensive and efficient administration.

Maintenance of the Real Property Tax Base

New York's current forest tax law, section 480a of the Real Property Tax Law, consists of the following provisions:

- i. Fifty contiguous acre minimum tract.
- ii. Forest management plan certification (D.E.C.) required.
- iii. Usual exemption of 80% of combined land/timber value.
- iv. Stumpage tax of 6% upon harvest.
- v. Ten year moving commitment of land to forestry required.
- vi. Penalty provisions upon violation of management plan or conversion.

Since 1978, when section 480a was implemented, only 92,000 acres have been certified for participation in this program. Yet the effects on the tax base have been substantial in those localities — particularly in Sullivan, Orange, Ulster, Delaware and Dutchess Counties — where the provisions of the law have exempted large tracts of forest land. Seventy-eight percent of the certified acreage under §480a (through May, 1981) are in in these five Lower Hudson counties, thereby affecting their tax bases to a substantial degree.

Almost every aspect of the current forest tax law has been heavily criticized. Fifty contiguous acres is viewed as too restrictive, eliminating a priori almost twenty percent of New York's forest land from participation. Forest management plans are seen as both expensive and too restrictive by some forest owners. The 80% exemption removes too much of the property tax base in those areas where land is valuable for other purposes, such as the Lower Hudson, and the stumpage tax, with its voluntary notification provision, is administratively impossible, according to assessors and real property tax directors. In sum, most of the parties affected by this section of the Real Property Tax Law object to at least some of its provisions.

Economic Vitality of the Timber Industry

As shown in part I of this report, the State's timber industry appears quite healthy and has been growing over the past 30 years. There has been a substantial increase in the acreage of commercial forest land, timber volume is substantial and has increased steadily over the same period, and the harvesting and processing methods have become more productive over the recent past. Viewing only the sawtimber and pulpwood harvests, annual growth has exceeded timber production for these purposes on New York's 15.4 million acres of forests. However, once fuelwood harvests since 1978 have been taken into account, the picture changes substantially. An estimated 3.4 million cords of firewood were consumed in the 1980-81 woodburning season. The combined industrial and fuelwood harvest of hardwood may be exceeding annual growth by as much as 80%.

Demand exceeding supply of a valued resource combines to portray an exceptionally vibrant timber industry in the State. With this picture of economic wellbeing, maximum productivity should be encouraged by the market. Consequently, a substantial exemption from the real property tax may not be necessary.

Administration of the Forest Tax

To date, the major administrative problems associated with the forest tax involve the burdens imposed on other real property taxpayers when an 80% exemption is applied to forested land in areas where the land value is substantial. This is due to the absolute amount of the tax burden shift. Another weakness in the administration of the forest tax law is the reliance on a management plan prescribing harvesting procedures, with no practical mechanism to insure compliance. In part this is a problem of separating the certification process from the responsibility for tax collection. In this case we find the assessor at the mercy of the voluntary participation of the (exempted) landowner for the collection of the yield tax of 6% of the value of the timber harvested. Some New York State counties claim to have collected no yield taxes over the course of §480 and §480a implementation.

In principle, the incentives listed above might best be addressed by a site productivity tax, as argued by some tax economists. This method would tax forests in terms of their production capability, including such factors as soil type, slope, and access considerations, thereby providing an incentive to maximize productivity. However, the data requirements of a site productivity tax are considerable. Soil type classifications would be necessary statewide, along with their timber production capabilities. Other production factors would also have to be incorporated, necessitating a complex administrative scheme beyond the capabilities of most real property tax administrators in the State. Yet another consideration precluding the implementation of a site productivity taxation plan in New York State at the moment is the substantial cost of producing the necessary data base from which to generate such production assessments. Consequently, the proposal contained in this report is more of a temporizing notion, designed to obviate some of the more glaring problems encountered in the administration of §480a.

Recommendations for a Forest Taxation Policy

We propose to replace §480 and §480a with the following forest tax program:

1. Apply the local real property tax rate only to the assessed value of the land, with the value of the standing timber not taxed.
2. Eliminate the stumpage tax.
3. Reduce the qualifying parcel minimum to 25 contiguous acres.
4. Allow localities the option to adopt the new law for parcels currently under §480 or §480a.
5. Management plan provisions remain the same as §480a.
6. Penalty of three percent of market value of entire parcel assessed for each year's participation (up to 10 years) at the time of conversion or management plan violation.
7. Permit farmers under the Agriculture Use Value Program to commit acreage to this program.

In part, this represents a return to some of the provisions of the Fisher Law, the predecessor of §480a. Separating timber from land value will cause an additional problem for the assessor in the first instance (upon applying the exemption), but reduce the workload over time: only increases in land value will be taken into account annually, while growth in the value of the standing timber will not be taxed.

The main effect of the first provision of the policy listed above will be to increase the viability of the new forest tax policy in those counties where land values are substantially lower than found in the Lower Hudson area. Additionally, the amount of value removed from the tax rolls in the Lower Hudson counties will be reduced if properties with high land values are currently being given 80% exemptions.

The second provision, the elimination of the stumpage tax, represents the de facto case in many assessing jurisdictions already. No viable enforcement mechanism exists to insure the collection of this yield tax at present, and the existence of the management plan does not insure harvests being made known to the taxing authorities.

Reducing the minimum acreage to 25 acres allows more landowners to participate in the program, with the restriction of certified management plans remaining constant. Conversion penalties for land under the new program have been revised to three percent of the market value of the parcel at the time of conversion or violation of the management plan for each year of program participation up to ten years.

The taxation of land values alone will encourage maximum timber production by removing the disincentive of taxing standing timber and its annual growth. The removal of the stumpage tax will eliminate much of currently unadministrable portion of §480a. Retaining the management plan and some penalties for conversion or management plan nonadherence will prevent land speculators from entering lightly into the program, and the reduction of the acreage minimum to 25 will broaden the availability of the exemption. At the same time, since the land value will be taxed at its present value, local tax bases will not be stripped in those areas of the State where an 80% exemption for forests produces substantial tax burden shifts to residences and other land classes.

A different approach to forest taxation than proposed herein is site productivity. We encourage interested parties to continue to explore the feasibility of a site productivity approach to forest taxation in New York State. However, at the present time a statewide forest taxation plan based on site productivity cannot be implemented without considerably more information about timber growth in the State than currently exists.

SUMMARY TABLE: ALTERNATIVE FOREST TAXATION OPTIONS

CONDITIONS:	Fisher Tax Law (\$480)	Current Tax Law (\$480a)	Revision Proposal
Minimum Acreage	15 acres	50 acres	25 acres
Stumpage Tax	6% at harvest	6% at harvest	none
Management Plan Certification	none	required	required
Conversion Penalties	6% of value of standing timber	2.5 times full tax liability up to 10 years	3% of MV times years up to 10 years
Real Property Tax Liability	marginally adjusted value of land only	lesser exemption of two formulas: up to 80% exempt	current value of land only

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I. THE STATUS OF NEW YORK STATE'S COMMERCIAL TIMBER RESOURCES

Background

Part I is a brief analysis of the commercial timber resources in New York State. There is no doubt that the State's timber resources continue to be substantial. Many of the isolable trends presented herein depict a reasonably healthy commercial timber situation. However, the sudden increase in the consumption of home firewood poses some questions concerning the State's readily available quality hardwood stock. Management of timber resources and public education are necessary to prevent the firewood demand from depleting specific types of hardwoods and the supply of quality sawtimber. The following is an itemization of the status of New York's forest industry:

- A. There has been a substantial increase in the area of commercial forest land in the State. While the extent of increase varies considerably among the State's geographic units, the Southeastern, Northern, and Southwestern regions all show a substantial increase. Between 1950 and 1980, the area of commercial forest land increased 22% State wide.
- B. The proportion of ownership of commercial forest land among the forest industry, public, farm, and other private interests has remained constant since 1968. This constancy extends to the ownership of commercial sawtimber, poletimber, sapling - seedling stands and non-stocked areas.
- C. Timber volume in the State is substantial and increased steadily between 1950 and the last available Federal estimation in 1977. There was a continuous increase in the net volume of both soft and hardwood growing stock, including sawtimber, on commercial forest land. The net annual growth of growing stock for all species was 3.6 million cords in 1976. However, there is evidence that the 4.7 million cords of hardwood consumed for home firewood and industrial use in 1980 exceeded the net growth in hardwood growing stock by 80% and will do so by a greater rate in 1982. Hardwood sawtimber growing stock, which had a net annual growth of one million cords in 1976, may be in the most jeopardy from rapidly increasing home firewood consumption.
- D. The larger segments of the State's timber and timber products industry have been resurging in the last 25 years. The timber industry in the State had approximately 85,200 employees in 1977 according to the

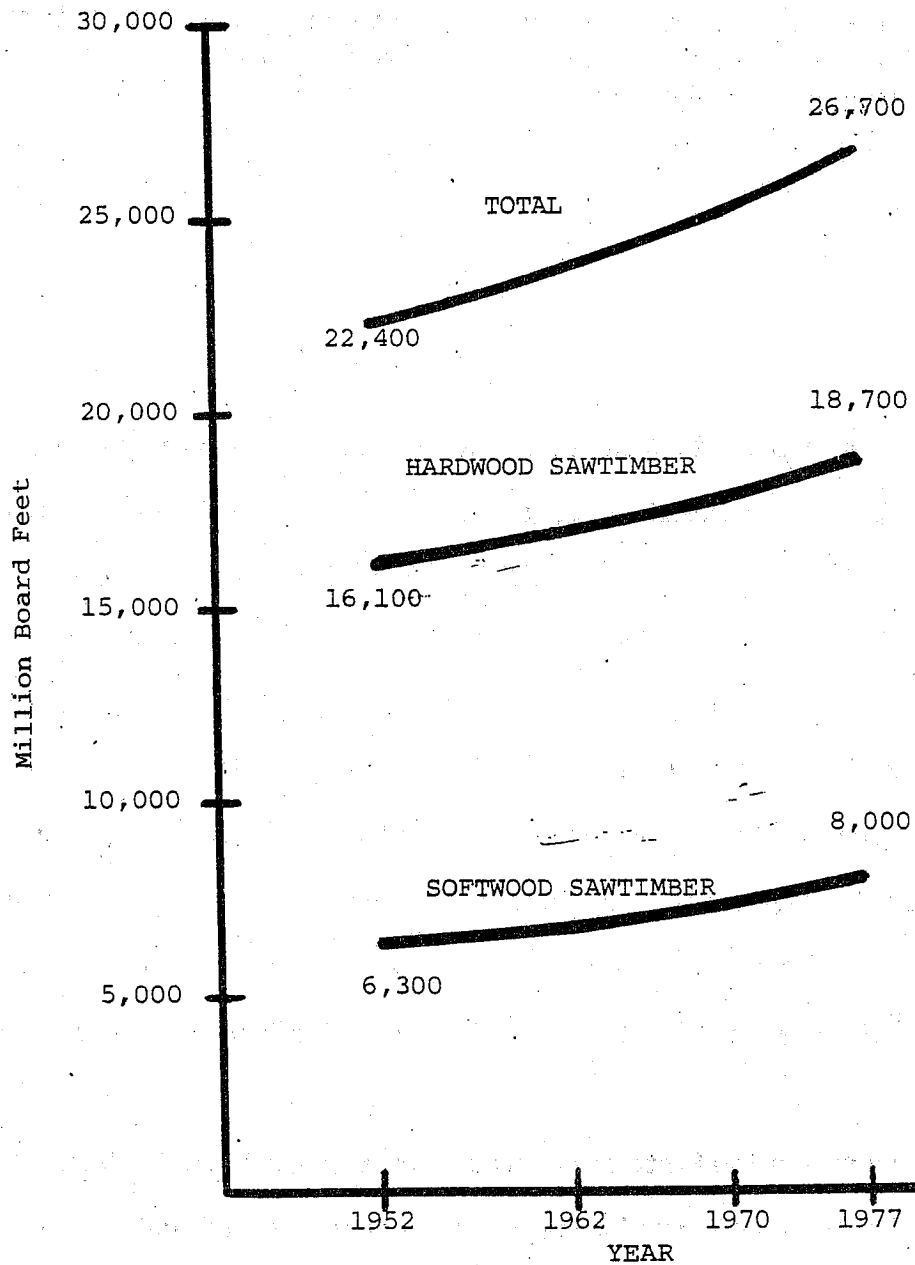
Bureau of Census data for the three selected industry groups of lumber and wood products, furniture and fixtures, and paper and allied products. This represents a decrease from 90,600 employees in 1972, and 105,800 in 1967. Despite the decline in personnel and the number of sawmills and pulpmills, their use of the state timber resource and their production capacity has increased. Between 1967 and 1979 there has been a 56% increase in harvested timber. General timber products output from sawlogs and pulpwood has increased by 70% and 66% respectively between 1967 and 1979. The increased capacity from fewer mills is the result of technical innovations in the areas of both harvest and production.

Timber Volume

The total timber volume in New York State has been increasing steadily since 1950. In the U.S. Department of Agriculture Survey of 1968, the live tree volume, including sound-wood volume in rough and rotten trees totaled 14.8 billion cubic feet. This was 2.8 billion cubic feet greater than the 1950 volume. The U.S. Forest Service indicated that this increase resulted principally from the large difference between volume of growth and the volume of "removals" (harvest for whatever reason). They also concluded that to some extent the increase was due to the "ingrowth"—the number or net volume of trees that grow large enough during a specified year to qualify as saplings, poletimber or sawtimber—of forest trees on land that became forest land during the period between surveys.

The timber volume in the State has continued to increase between 1968 and 1977. Figure 1 indicates a constant increase in the net volume of both soft and hardwood sawtimber on commercial forest land. The data is based on U.S. Forest Service estimations for 1952, 1962, 1970, 1977 and represents the most recent available data.

Figure 1. Net Volume of Sawtimber on Commercial Timberland, New York State, 1952-1977.

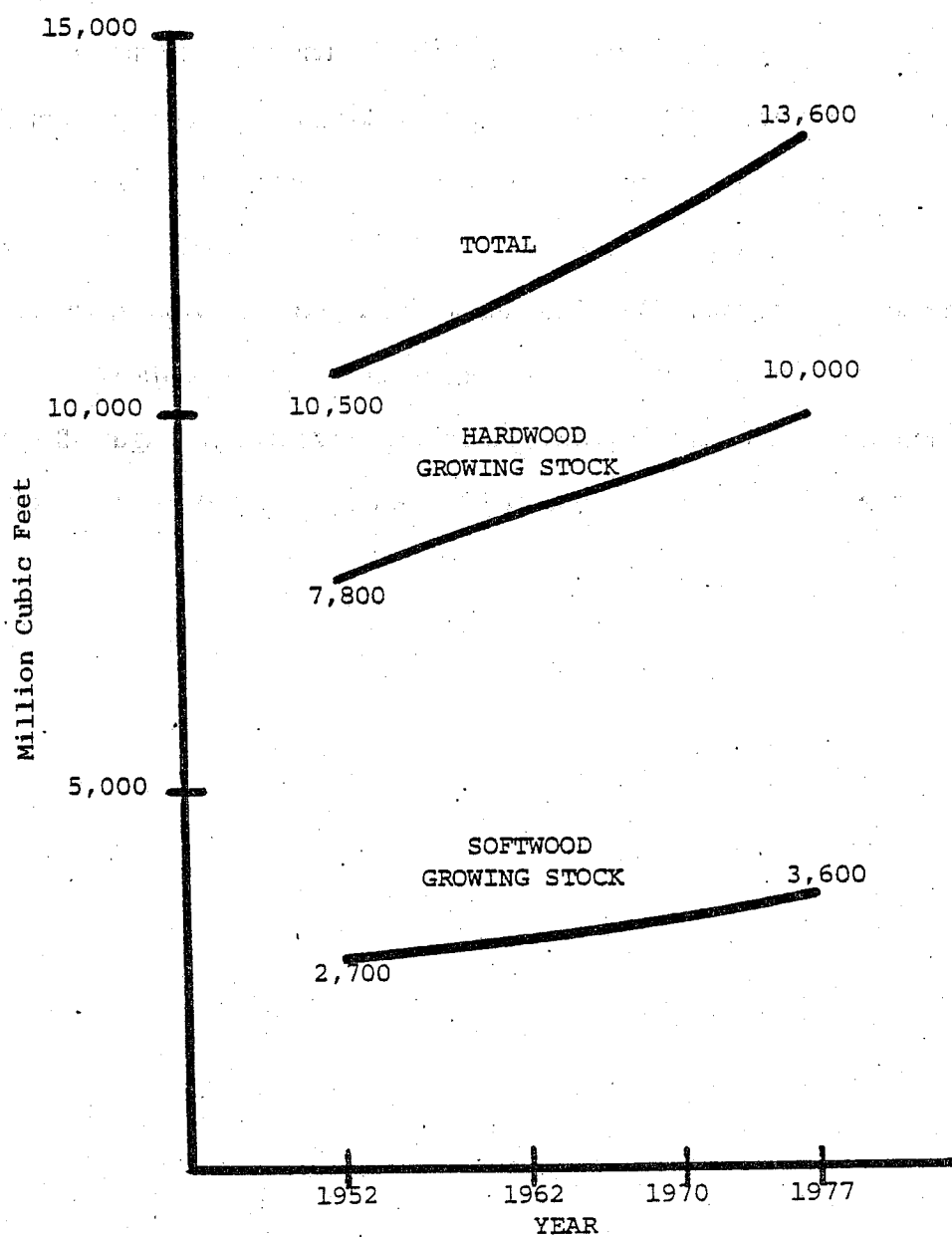


Source: United States Forest Service, Forest Statistics of the U.S., 1977.

Between 1950 and 1968, the growing stock volume in New York State increased by 20%*. Changes in growing stock volume were not uniform throughout the State. For example, the Catskill-Lower Hudson geographic unit had the greatest increase in volume; 45%. Only the Eastern Adirondack unit had a decrease in volume; -17%. Throughout this period the average annual net growth of growing stock, for all species, was almost double the average annual removal. The annual growth of softwoods was 69 million cubic feet and the annual timber removal was 41 million cubic feet. For hardwoods, growth was 176 million and removal was 93 million cubic feet. Recent data suggests that general increases in the State's growing stock are continuing. Figure 2 shows a continuing increase in both hardwood and softwood growing stock based on 1952 to 1977 trend data.

*See: Appendix A for glossary of terms

Figure 2. New Volume of Growing Stock on Commercial Timberland, New York State, 1952-1977.



Source: United States Forest Service, Forest Statistics of the U.S., 1977.

Until the incorporation of firewood use estimates, the net annual growth of growing stock continued to be almost twice as great as "removals." U.S. Forest Service 1976 data shows a growth in growing stock for all species at approximately 308.5 million cubic feet and removals totalling 164.5 million cubic feet. Soft and hardwood growing stock grew by 86.8 and 221.7 million cubic feet respectively. Removals for commercial timber purposes of these types of wood totaled 46.9 and 117.6 million cubic feet.

However, such voluminous data does not show the amount of readily accessible or high quality wood. There is considerable concern that the dramatic increase in the use of firewood in the State in the last two years could result in an erosion of the State's quality hardwoods. As a later section of this report indicates, the use of firewood for home consumption has risen 100% since the 1978-1979 wood burning season to an estimated 3.4 million cords during the 1980-1981 season.* Almost all of this firewood was hardwood. Most recently available U.S. Forest Service statistics for January 1977 indicate that there exists 114.5 million cords of hardwood growing stock, which includes hardwood sawtimber, in the State. This hardwood growing stock had a 1976 net growth rate of 2.6 million cords.

In 1980, approximately 1.3 million hardwood cords were harvested for industrial use, with another two and one half times as much consumed, as home fuelwood. Together, the annual hardwood harvest is approximately 80% greater than the last available annual growth volume of the hardwood growing stock. The impact of the massive increase in home firewood consumption, which is projected by the Department of Environmental Conservation to increase another

* The 3.4 million cords of firewood is a consumption and not a harvest estimate. It is assumed most of this wood was harvested in New York State. Of course, some of it was not, but there is an equal probability that some State harvested firewood was consumed in other states.

18% during the 1981-1982¹ wood burning season, is difficult to ascertain. It remains uncertain how much of the firewood is taken from sawtimber or potential sawtimber. The volume of State hardwood sawtimber growing stock was listed in 1976 as being 36.6 million cords with an annual net growth rate of one million cords. The danger of depletion of valuable hardwoods is increased if most firewood is taken from more readily accessible timber resources or if the harvest is concentrated in certain types of quality hardwoods and hardwood sawtimber.

New York State has considerable timber resources with which to meet an escalating firewood demand. In 1976 the total growth in growing stock for all timber species was 3.6 million cords. It will require effective management of this resource as well as selective harvesting of firewood to insure that the State's firewood demand does not damage the supply of available, quality hardwood.

Area of Commercial Forest Land

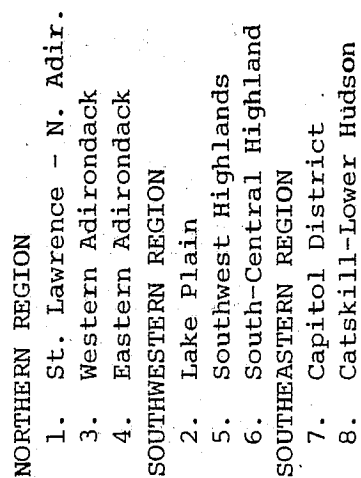
Considerable changes in land use have taken place in New York State during the last three or four decades. Farming on small farms and marginal cropland became less profitable. The younger generation born on farms left their homes to seek more lucrative employment elsewhere. Thruways and highways absorbed numerous farms that crossed their right of way. Thousands of farms were abandoned, and land formerly in crops and pasture reverted to weeds, branches and shrubs. Seeds of forest trees in nearby woods were dispersed over much of the abandoned farm land and eventually trees replaced the former farm crops. This land became classified as commercial forest land.

As Table 1 indicates, commercial forest land in New York State increased approximately 2.8 million acres in the 30 year period between the 1950 and 1980 U.S. Department of Agriculture surveys. This represents a 22% increase to a total of 15.4 million acres.

Table 1. Area of Commercial Forest Land.

<u>Geographic Unit</u>	<u>1950</u>	<u>1968</u>	<u>1980</u>	<u>1950-1980</u>
	(Thousands of Acres Com. Forest Land)			
<u>Southwestern Region</u>	4,619	5,698	6,314	+37%
Lake Plain	1,440	1,889	2,164	+50%
Southwest Highlands	1,480	1,656	1,733	+17%
South-Central Highlands	1,699	2,153	2,417	+42%
<u>Northern Region</u>	4,603	5,288	5,403	+17%
St. Lawrence - N. Adirondacks	2,080	2,505	2,580	+24%
Western Adirondacks	1,259	1,488	1,555	+24%
Eastern Adirondacks	1,264	1,295	1,268	0%
<u>Southeastern Region</u>	3,344	3,295	3,671	+10%
Capital District	1,009	1,240	1,395	+38%
Catskill - Lower Hudson	<u>2,335</u>	<u>2,055</u>	<u>2,276</u>	<u>-3%</u>
N.Y.S. Totals	<u>12,566</u>	<u>14,281</u>	<u>15,388</u>	<u>+22%</u>

Figures subjected to rounding and USDA sampling error.
Source: U.S. Department of Agriculture



The large increase in acreage is not uniformly distributed over the eight geographic units. The three regions, Southwestern, Northern, and Southeastern, had varied average increases of +37%, +17% and +10% over the 30 year period. Considerable variation exists in the percentages of change among geographic units that comprise the three regions. These percentages of change range from +50%, +42%, and +38% in the Lake Plain, South Central Highlands, and Capital District to +17%, 0%, and -3% in the Southwest Highlands, Eastern Adirondack, and Catskill-Lower Hudson geographic units over the 30 year period.

Ownership of Commercial Forest Land

There has not been much change in the ownership of New York State's commercial forest land. In 1968 the U.S. Department of Agriculture reported that 94% of this land was privately owned. The forest industry owned 9% of the commercial forest land with farmers and other private ownership accounting for 85%. At that time only 6% of the commercial forest land was publicly owned. The State itself owned five-sixths of this. U.S. Forest Service 1977 statistics show only a 1% decrease in land owned by the forest industry and a 1% increase in combined farm and other private ownership. These changes are not very significant considering the 8% standard error on the Forest Service's estimate of a 14,243,300 acre inventory of the State's commercial forest land for that year. The data indicate that the area of commercial sawtimber, poletimber, sapling-seeding stands and nonstocked areas has been constant in terms of ownership. Forest industry, public, farm and other private interests own the same proportion of these different commercial forest stands in 1977 as they did in 1968. There are no National Forest ownership of such stands in New York State. Federal ownership of State's commercial forests land is less than 1%.

Industrial Timber Harvest

New York State's forest land consists mostly of hardwood trees of valuable species. Approximately three fourths of the States forests are hardwood. Most of these trees are found in the hilly areas in the Northern and Southwestern regions which are both noted for their excellent hardwood and softwood timber sites. Nearly half of the State's hardwood timber is located in the Southwestern region.

In 1979, 152 million cubic feet of timber were harvested for use by the timber industry from New York State's forests. Most of this timber was used for sawlogs and pulpwood. The bulk of the State's industrial timber harvest has always been in the form of sawlogs and pulpwood in the last 30 years. Sawlogs accounted for over 60% of the total 1979 harvest. Pulpwood accounted for over 36% of this harvest. The remaining harvest was used for poles, posts, and miscellaneous timber products. Hardwoods accounted for 74% of the total timber harvest. Table 2 depicts the 1979 industrial timber harvest by geographic unit.

Table 2. Industrial Timber Harvest, by Geographic Unit, Softwoods and Hardwoods, and Products, New York, 1979.

(Thousands of cubic feet)

<u>Geographic unit and species group</u>	<u>Sawlogs</u>	<u>Pulpwood</u>	<u>Other products</u>	<u>All Products</u>
<u>Northern</u>				
Softwoods	11,414	8,049	334	19,797
Hardwoods	16,082	35,828	1,709	53,619
Total	27,496	43,877	2,043	73,416
<u>Southeastern</u>				
Softwoods	8,041	2,363	107	10,511
Hardwoods	12,882	4,862	636	18,380
Total	20,923	7,225	743	28,891
<u>Southwestern</u>				
Softwoods	8,460	1,046	489	9,995
Hardwoods	35,118	3,170	1,564	39,852
Total	43,578	4,216	2,053	49,847
<u>All units</u>				
Softwoods	27,915	11,458	930	40,303
Hardwoods	64,082	43,860	3,909	111,851
Total	91,997	55,318	4,839	152,154

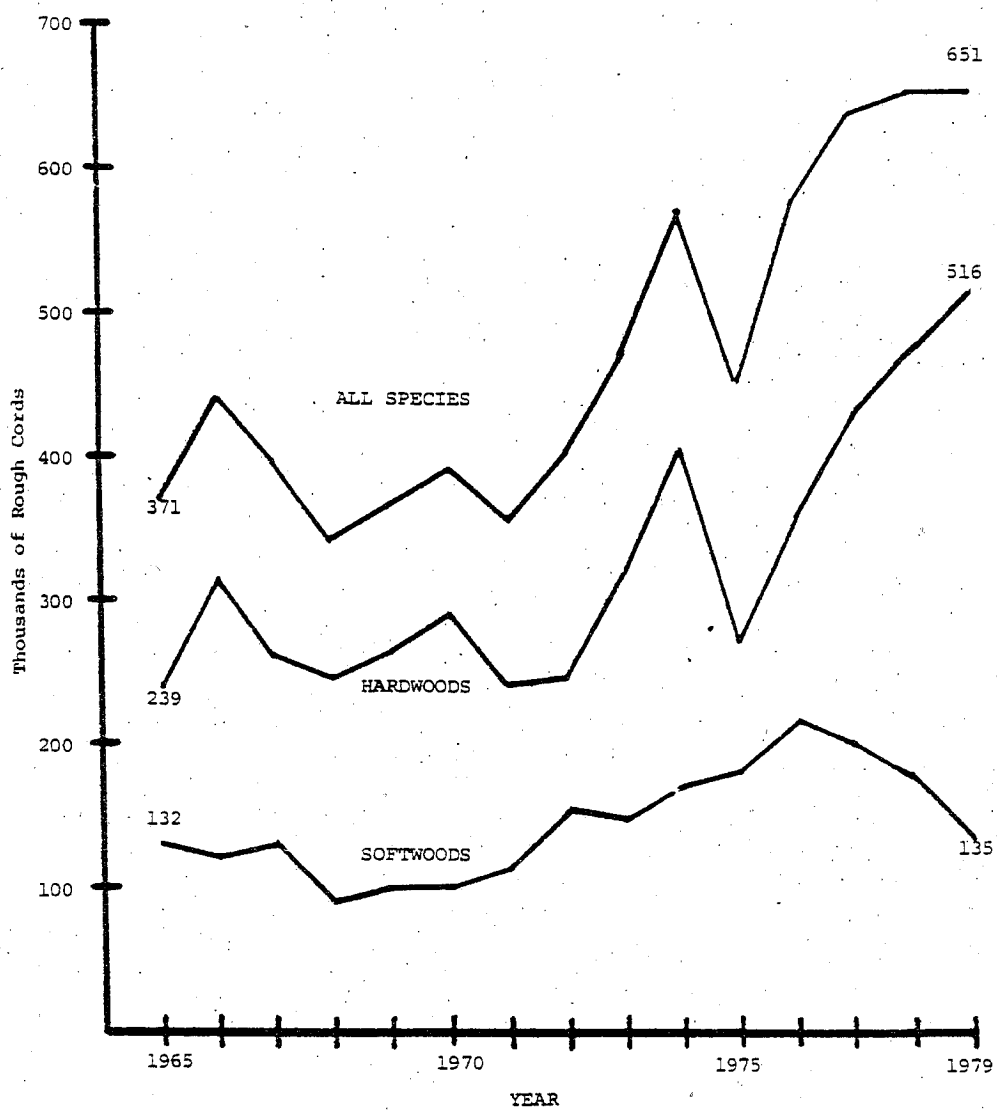
Does not include fuelwood or removals that were not manufactured into industrial products. Includes cabin and veneer logs, piling, and stock for bats, bowls, handles, ladders, shingles, and miscellaneous dimension.

Source: U.S. Department of Agriculture, 1980.

Between 1967, the last published reinventory of the States' forest resources, and 1979, the two major timber products, sawlogs and pulpwood, accounted for the overall increase of 56% in the volume of harvested timber. The combined cubic foot volume for these two products was 68% higher in 1979. However, timber cut for all other products, such as veneer logs, polls, and posts, declined in production. This decline ranged from 38% to 83% with an overall decline of 53% between 1967 and 1979.

The industrial timber harvest of 1967 was only 8% higher than in 1950. However, the timber harvests in New York State have increased substantially in recent years, as Figure 4 indicates.

Figure 4. Pulpwood Harvest in New York State, 1965-1979.



Source: Preliminary data, United States Department of Agriculture Forest Service, 1980.

The volume of hardwoods harvested for industrial purposes in the State has continued to rise since 1950. It has accounted for nearly all the gain in harvest between 1950 and 1967 as well as most of the gain between 1967 and 1979. In this latter period hardwood sawlog production rose nearly 50%, and the production of pulpwood from hardwoods almost doubled. Substantially more softwood was used in 1979 than in 1967. Most of this resulted from an increased use of softwood sawlogs.

Nearly half, 48%, of New York State's 1979 timber harvest was from the Northern geographic unit and 33% from the Southwestern unit. The Southwestern unit produced nearly 50% of the sawlog harvest. The Northern unit produced 80% of the 1979 pulpwood harvest with 13% being harvested in the Southwestern unit. The Southeastern unit accounts for about one fifth of the total harvest and sawlog harvest.

State of the Timber Industry

The larger segments of the timber and timber products industry in New York State have been resurging in the last 25 years. Even though the number of loggers, sawmills, and pulpmills have continued to decline, their use of the timber resource has increased substantially. A decline in the manufacture of minor primary wood products has continued but there has been a growth in some larger specialty products such as cabin logs and bat stocks. Improved technology, stronger demand, energy conservation and ecological concerns have all contributed to the recent growth in the State's timber industry.*

*See: Neville and Sochia, New York Timber Industries — A Periodic Assessment of Timber Output, USDA Forest Service Resource Bulletin, NE, 1981.

More wood fiber has been recovered for use by the timber industry since the 1950's. Larger, more efficient harvest and processing equipment and improved logging systems have been developed. These technical innovations provided a larger variety of specialized timber products to larger, more efficient mills producing a variety of secondary products. Chain saws, rubber-tired skidders, mechanical harvesters and knuckle boom headers were used to provide logs, bolts, and chips to high capacity saw, veneer, pulp and pallet mills. Multi product logging of the State's hardwood stands and the use of tree length material has reduced harvesting and processing costs, increased product recovery, and has improved yields in the woods and mills.

The use of chips of wood byproducts for pulp fuel and sewage sludge treatment has added a new dimension to the markets for timber residue. A variety of economic opportunities, such as energy cost savings, reduction in equipment maintenance, increases in productivity, and changing bark and pulpwood markets have prompted mills to install debarkers, chippers, and wood-burning power plants. Much of the additional wood fiber and bark was substituted for oil and gas as boiler fuel and in home heating plants throughout New York. Increased volume of softwood sawlogs and pole timber grown and harvested on New York commercial timberland has encouraged in-state production of cabin logs, lumber and construction material, and pulpwood from softwoods.

The number of high production saw mills remained relatively constant during the 1950's and 60's. These mills, capable of making more than one million board feet annually, produce an increasingly greater proportion of New York State's timber. During this period stumpage and operating costs increased. From 1952 to 1967 the diameter and quality of available sawlogs decreased and the demand for lumber declined. As a result, lumber production decreased 12%

and the number of low production mills decreased by 68%. However, the number of high production plants decreased by only 3% during this period. During the 1970's, sawmills began again to increase in number, with annual State lumber production fluctuating around 300 million board feet through the decade. From 1967 to 1979, the number of high production mills rose by 22% from 114 to 139. Low production mills increased 10% from 92 to 101. Table 3 shows the number of sawmills by class and year.

Table 3. Number of Sawmills, by Annual Production Class, New York, 1952, 1967, and 1979.

<u>Year</u>	<u>More than 1 Million Board Feet</u>	<u>Less than 1 Million Board Feet</u>	<u>Idle and custom mills</u>	<u>Total</u>
1952	118	288	1,351	1,757
1967	114	92	233	439
1979	139	101	254	494

Based on sawlog receipts or reported annual lumber production capacity.

Source: N.Y.S. Department of Environmental Conservation.

Pulpmill production in New York State dropped to about 600 thousand cords by the end of the 1950's and sustained that level to the early 1970's. Similar to the sawmill situation, in recent years fewer mills have been producing more pulpwood. In 1967, 1974, and 1979, there were 16, 13, and 11 mills respectively. In these time periods the mills produced 680, 854 and 874 thousand cords. Therefore, the woodpulp industry has continued to grow mainly by increasing production capacity at existing mills. Between 1967 and 1979 this capacity increased 42%, while the number of pulp mills was reduced by about one third. The average capacity per mill has almost doubled; only two mills in 1979 were capable of less than 100 tons per day production capacity.

Table 4 presents a capsulation of general timber production trends between 1967 and 1979. Note the increase in sawlog and pulpwood product output for this time period.

Table 4. Change in Timber Products Output, New York, between 1967 and 1979.

(Million Cubic Feet)

	All species		Softwood		Hardwoods	
	1967	1979	1967	1979	1967	1979
Sawlogs	54.1	92.0	10.3	27.9	43.8	64.1
Pulpwood	33.4	55.3	11.2	11.4	22.2	43.9
Veneer logs	3.4	1.9	-	*	3.4	1.9
Poles and posts	3.0	.5	.4	.5	2.6	*
Misc. products ^a	3.9	2.4	.1	.4	3.8	2.0
Total	97.1	152.1	22.0	40.2	75.8	111.9

^aIncludes cabin logs and piling and stock for bats, bowls, handles, ladders, shingles, and miscellaneous dimension.

*Less than 100,000 cubic feet.

Source: N.Y.S. Department of Environmental Conservation

The Future: Firewood Harvest

There is evidence of a dramatic increase in the use of firewood in New York State for home heating. A recent Department of Environmental Conservation study estimates that 3.4 million cords of firewood were consumed in homes during the 1980-81 wood burning season. The 1979 Wood Energy Survey conducted by Cornell University's Agricultural Engineering Department estimated slightly more than 1.7 million cords were used in 1978. Their survey also showed a 48% increase in wood stove sales between 1977 and 1978 and a

32% increase in wood furnace sales for the same period. If these consumption figures based on sample data are reasonably accurate, there has been approximately a 100% increase in the consumption of firewood for home heating purposes since 1978. D.E.C.'s survey results also predict an increased consumption of 600,000 cords for the 1981-82 wood burning season.

According to D.E.C., 96% of the home firewood consumed in the 1980-81 wood burning season was hardwood. Maple, oak, elm, ash and beech, in that order, were the most frequently used. Almost all of this consumed wood was used in a primary residence. An estimated 21% of the homes in the State used firewood for any reason and 66% of these relied on firewood as a primary or supplemental heat source. Homes using firewood as the primary heat source consumed 51% of the total volume of home firewood. Such homes consumed an average of 5.4 cords in the wood burning season. Homes using firewood for supplemental heating purposes consumed 39% of the firewood with an average of 2.5 cords being used per household. The remaining 10% of the home firewood, an average 0.7 cords, was used for recreational purposes.

The data indicate that more wood is currently being used for home firewood consumption than for industrial purposes. The prospect of the State's timber resources being used as a major fuel source makes their proper management even more important. Of paramount concern is the use of high quality timber such as potential sawtimber lumber or veneer which should not be used for firewood. Instead of sawtimber, small low grade round wood should be used for this purpose, according to many foresters.

Summary: Commercial Timber Resources and the Industry

Forest taxation policy should be conducive to the overall management of the state's timber resources for both preservation and commercial purposes. This is especially the case since these two purposes are so closely related. The last quarter century has seen a resurgence in the larger segments of the State's timber industry. Technological advancements have resulted in higher production from fewer pulp and sawmills.

While the State's overall timber resources continue to be substantial, there is evidence that for the first time that the commercial harvest of hardwood growing stock is now greater than the growth rate of this timber. This has resulted from an estimated 100% increase in the consumption of wood for home heating purposes, almost all of it hardwood, between the 1978-79 and 1980-81 wood burning seasons. When this consumption figure is considered along with the industrial hardwood harvest a serious threat to the hardwood growing stock appears. Of special concern is the possible depletion of readily accessible hardwood sawtimber. There can be little doubt that escalating oil and gas home heating costs will create a continued focus on wood as an alternative energy source. The August 1981 New York State Energy Master Plan states: "Increased penetration of wood burning stoves and furnaces in the residential sector is expected over the forecast period. Market forces, in the form of rising conventional fuel prices creates the major incentive for conversion to wood fuel." The Plan also states that wood is a "significant energy resource in New York State" and that industrial as well as institutional fuel users have begun to test the feasibility of burning wood. This includes the potential of wood as a utility fuel for the generation of electricity.

Without further elaboration, it seems apparent that there will be increasing pressure on the State's timber as an energy source. This demand on the timber resource combined with the standard requisites of the State's timber using industry make an effective forest taxation policy all the more necessary. The current forest tax law, with its miniscule enrollment and lack of incentives to produce potential harvestable growing stock, is inadequate to complement the future management of the State's forests for either conservation or commercial purposes.

II. PERSPECTIVES ON FOREST PROPERTY TAXATION

Historical Review - Origins of the Fisher Law

Since the late 1800's, when the Adirondack Preserve was established, the State has officially recognized the necessity of protecting its forest land. As a multi-purpose resource, the continued healthy existence of New York's forest was and is considered essential to the future well-being of the State.

It was motivations of preservation, protection and production which led the State to enact in 1926 Section 480 of the Real Property Tax Law (otherwise known as the Fisher Law after its prime sponsor, an assemblyman from an Adirondack district). One of the few authorities on the origin of the Fisher Law claims that the "original intent was to encourage the reforestation of abandoned farmland whose major use had become growing bush."* However, the law's coverage was broadened to include land already in forest use. Though forest land was generally underassessed, the annual property tax bill (as opposed to a yield tax) was considered a disincentive to forest owners to retain their investment in a crop with such a long income-producing cycle. Trees, unlike farm crops, were considered as being permanently attached to the land and were valued and taxed annually. The forest owner had to pay decades of increasing (with the value of the timber) taxes before realizing a harvest.

*Fairbanks, Robert P., Local Government, Technical Report #6. Temporary State Commission on the Future of the Adirondacks, 1970.

The Fisher Law - How It Worked

The Fisher Law offered participating forest owners a tax adjustment by basing their annual assessment on the value of the land alone. A yield tax at the time of harvest replaced the taxes previously levied annually on the assessed value of standing timber.

This yield tax usually reduced the absolute eventual taxes paid by forest owners, while substantially revising the timing of payments. Ideally, the deferred tax payments were intended to stimulate forest investment, i.e., through good forest management, by freeing money otherwise reserved for the annual property tax bill. The Fisher Law was also drafted to provide an incentive for owners to keep their investment in the forest despite other opportunities which could show a quicker profit.

To be eligible for classification under Fisher and to receive the exemption, the forest tract had to be at least 15 acres in size and capable of producing a merchantable forest crop. Application was made first to the local assessors office, which then sent a copy to the Department of Environmental Conservation D.E.C. for approval of the tract as eligible forest land. If D.E.C. approved of the tract as eligible*, a certificate of approval was sent to the owner, assessor's office and the county clerk's office. The tract was then assessed at bare land (excluding the value of standing timber) values to provide the partial exemption. Owners had to harvest if tree density reached certain (unrealistically large) limits, but generally the owner was allowed total control over the timber and land.

*\$480 eligibility requirements included: average planting of 800 trees per acre, underplanting of 300 trees per acre, or a tract capable of insuring a crop of merchantable timber or pulpwood within 30 years.

The 6% stumpage tax collections generated at harvest were apportioned between the town and school district in which the tract was located. The owner could also withdraw his land from classification at any time by paying a 6% tax on the value of all the tract's standing timber.

Participation History (1926-1974)

For more than 40 years after its enactment, the growth of exempt forest acreage under the Fisher Law was gradual, at best. However, in the late 60's and early 70's this growth accelerated dramatically (see Figure 5). In the final effective year of the law (1973-74), the total amount of acreage enrolled more than doubled - from 365,694 acres to 815,503 acres - while the assessed value of the land (A.V.) almost quadrupled (see Tables 5 and 6). This total exempt acreage, however, still amounted to only about 5% of all private commercial forest land in New York in 1970.

Apparently the exemption offered by Fisher became more attractive to landowners when the inflationary trends of the early 70's made tax rates everywhere start to rise. What is remarkable is that the majority of exempt land was previously concentrated in a few upstate Adirondack counties. It wasn't until 1974 that downstate counties, where tax rates are generally higher at all times, began to show up on the Fisher acreage listing.

Another interesting observation is that the average parcel size under Fisher is noticeably larger than under the law that succeeded it. The Fisher Law found its main appeal among the large tract commercial/industrial forest owners in the Adirondacks. A State Division of Equalization and Assessment study* in

*"Taxation of Private Forest Land in New York State," State Division of Equalization and Assessment, 1976

1976 stated that "more than 80% of the total area certified is held by the five owners with the largest certified acreages." Furthermore, 79.7 percent (233,750 acres) of all certified parcels in 1969 were held by forest product companies (Finch, Pruyn and Co.; International Paper; etc.). In fact, 44.3 percent of the 1969 statewide certified total was held by Finch, Pruyn and Co., according to Fairbanks.

Figure 5. Growth in Certifications under the Fisher Act Exemption Program (RPTL 480) 1928-1974

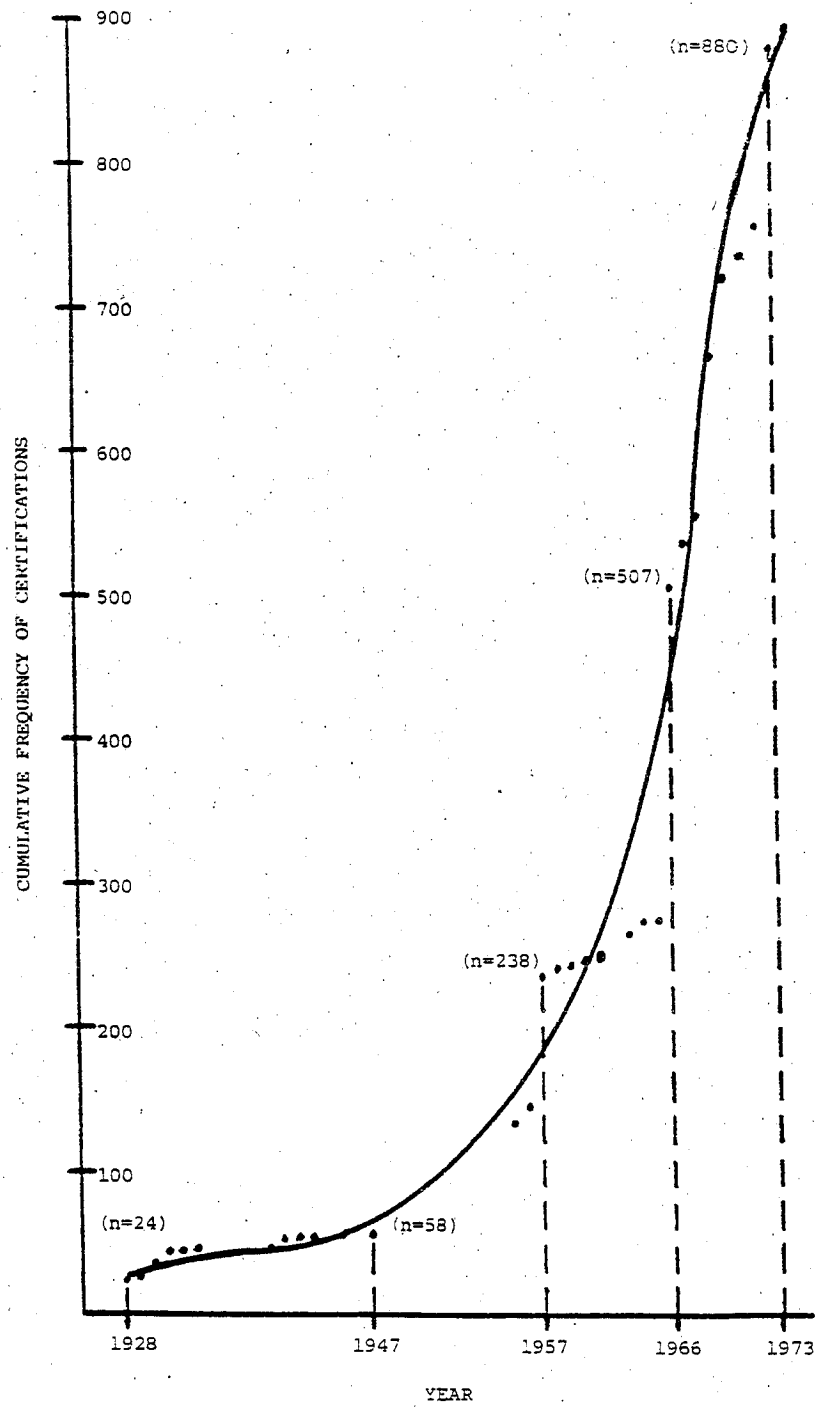


Table 5. Acres by County Enrolled in Fisher Exemption Program, Dec. 1973.

<u>County</u>	<u>Total Acreage</u>	<u>Number of Parcels</u>	<u>Number of Owners</u>	<u>Per Parcel Average Acreage</u>	<u>A.V. Land Only</u>
Allegany	287	3	2	96	2,650
Broome	122	1	1	122	5,000
Cattaraugus	2,653	20	5	133	47,926
Cayuga	170	1	1	170	1,500
Chautauqua	129	1	1	129	1,000
Chemung	197	1	1	197	700
Chenango	335	6	3	56	19,000
Clinton	20,924	13	1	395	107,370
Columbia	297	3	3	99	167,000
Delaware	379	3	2	126	26,000
Dutchess	3,133	42	27	75	174,334
Erie	266	3	2	89	61,000
Essex	86,731	338	12	257	304,267
Franklin	45,676	407	14	112	482,075
Fulton	5,534	61	1	91	24,200
Hamilton	118,158	488	7	242	452,241
Lewis	8,783	23	10	382	32,110
Otsego	493	2	2	246	900
Putnam	25	1	1	25	6,215
St. Lawrence	29,733	91	25	327	154,205
Saratoga	32,252	84	7	384	96,211
Sullivan	2,194	21	2	104	33,500
Warren	6,568	52	8	126	47,925
Washington	625	3	1	208	1,340
Total	365,694	1,668	128*	219	2,248,669

*Does not indicate column total, rather it is the number of total owners exclusive of multiple county ownership.

SDEA data compiled 1974

Source: SDEA Classification & Selection Unit, 1980

Table 6. Acres by County Enrolled in Fisher Tax Exemption Program, 1974.

<u>County</u>	<u>Total Acreage</u>	<u>Number of Parcels</u>	<u>Number of Owners</u>	<u>Per Parcel Average Acreage</u>	<u>A.V. Land Only</u>
Allegany	1,546	16	5	97	158,197
Broome	630	7	5	76	13,100
Cattaraugus	2,852	23	6	124	59,101
Cayuga	200	1	1	200	2,054
Chautauqua	306	4	4	77	14,605
Chemung	199	1	1	199	2,800
Chenango	14,084	14	9	1,006	264,375
Clinton	23,874	14	1	1,705	711,500
Columbia	480	7	5	69	11,645
Delaware	4,047	10	6	405	154,568
Dutchess	7,292	56	40	130	1,140,839
Erie	289	3	1	96	23,000
Essex	297,869	409	18	728	348,630
Franklin	114,623	387	15	296	1,120,476
Fulton	7,291	84	3	87	84,299
Hamilton	160,577	239	20	613	708,886
Herkimer	6,446	3	N/A	2,149	19,844
Jefferson	127	1	N/A	127	1,250
Lewis	6,858	20	11	343	38,225
Madison	597	10	N/A	60	9,320
Oneida	60	1	N/A	60	N/A
Ontario	152	3	N/A	31	26,500
Otsego	9,449	7	4	1,350	39,250
Putnam	41	2	2	21	3,735
St. Lawrence	73,015	136	21	537	1,381,583
Saratoga	31,307	110	8	285	128,545
Schoharie	273	2	N/A	137	1,100
Steuben	181	3	N/A	60	12,300
Sullivan	2,593	24	3	108	37,150
Ulster	2,984	16	N/A	187	612,775
Warren	37,079	414	107	90	1,362,300
Washington	8,000	10	6	800	9,330
Westchester	57	2	N/A	29	163,800
Yates	125	1	N/A	125	7,100
Total	815,503	2,040	311*	658	8,672,182

* Exclusive of duplication. Source: Same as Table 1.

Problems and Revisions

The Fisher Law had many loopholes and few restrictions, making it a potential haven for speculators. As the amounts of exempt acreage began to increase, local governments began to notice, and complain about, shifts in the tax burden. The stumpage tax collections did not come close to balancing out the revenues lost due to the exemption. The taxpayers in a few localities were bearing the cost of an exemption which primarily benefitted the timber industry.

A concept paper prepared for the Tug Hill Commission, "Forest Taxation Without a Policy," by Thomas A. Dorsey in 1980, defines three major problems inherent in the Fisher Act:

1. "The inability of statutory language to adequately differentiate pre-existing conditions (maturing forests) from current conditions (reforestation) to which new policies needed to be applied."

2. "The lack of capacity in local assessing officials to (a) establish separate 'bareland' values for preferential assessment, (b) apply vague criteria distinguishing eligible from ineligible portions of parcels, and (c) to conduct surveys of classified lands to ascertain yields and to distinguish them from limited personal use."

3. "The lack of real economic incentive which would generate a substantial response to the offer of preferential treatment beyond that associated with land holders seeking to escape the effect of increasing local taxation. This also means that large forest holders utilized the act as an exemption for undermanaged lands without generating compensating revenues under the yield tax provisions."

By 1973-74 these problems inherent in the Fisher Law had become increasingly obvious. The use of the exemption by land speculators was apparent and the outcry from local governments was increasing. The State moved to stop the increasing flow of applications for exemption under Fisher. Subsequently, a new Forest Tax Law, Section 480a of the Real Property Tax Law, was drafted and enacted as an amendment to the Fisher Law. The effective date was postponed, however, primarily due to the objections of the State Division of Equalization and Assessment.

Current Status

Section 480a (the current Forest Tax Law) of the New York Real Property Tax Law offers property tax relief in the form of a substantial tax exemption to private forest landowners. The land and the owner must meet certain requirements to be eligible.

Eligibility - The tract of forest land must be obviously suited for forest crop production and be capable of producing a merchantable crop within 30 years of certification. As opposed to the 15 acre minimum of the Fisher Act, the tract must consist of at least 50 contiguous acres of forest land. The owner must be willing and able to commit the tract to at least 10 years of forest management as specified in a management plan. This 10 year commitment must be renewed annually to retain the exemption. Private foresters prepare the majority of the management plans for consultant fees generally ranging from \$1 to \$4 per acre. The plans should contain any stocking, thinning, and harvesting activities consistent with the practice of good forestry management. The costs of management plans and related activities are borne by the owner.

The management plan, along with an application for certification, a "type map", location map, and a twenty-five dollar fee are submitted to the appropriate regional office of the Department of Environmental Conservation. After reviewing the application and the management plan in particular, D.E.C. certifies or denies eligibility. If the judgement is positive, D.E.C. gives a certificate of approval to the owner. The owner may then apply for the exemption.

Exemption Process - The owner takes the certificate of approval to the local property tax assessor and requests the partial exemption. The owner is, upon approval, entitled to a minimum exemption of either eighty percent of the assessed value or the amount that the assessment exceeds the product of multiplying forty dollars per acre by the most recent appropriate equalization rate, whichever is least. These two methods of calculating the exemption are illustrated by the formulae below, where AV is assessed value, N is the number of acres, R is the equalization rate, and E is the amount of exemption:

Method 1. $E = .8 (AV)$
: lesser amount applies.

Method 2. $E = AV - (40N)R$

Figure 6 graphically displays how each formula works with various combinations of equalization rates and assessed values. The following calculations (on a per acre basis) show how, given a fixed assessed value of \$100 per acre and varying equalization rates, Method 1 of calculating the §480a exemption will apply in one case and Method 2 will apply in the other.

Example 1: Method 1 determines the lower exemption value.

Given: $AV = \$100/\text{acre}$, $R = .20$

Method 1: $.80 (\$100) = \80 exemption per acre.

Method 2: $\$100 - (\$40) .20 = \$92$ exemption per acre.

Taxable Value: $\$100 - \$80 = \$20/\text{acre}$.

Example 2: Method 2 determines the lower exemption value.

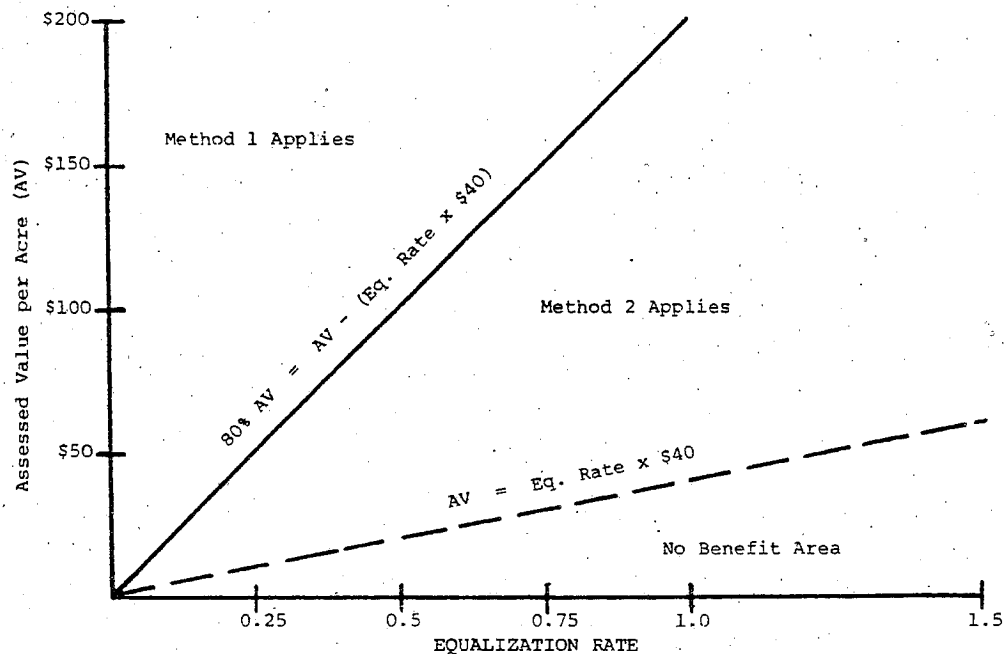
Given: AV = \$100/acre, R = .80

Method 1: $.80 (\$100) = \80 exemption per acre.

Method 2: $\$100 - (\$40) .80 = \$68$ exemption per acre.

Taxable Value: $\$100 - \$68 = \$32/\text{acre}$.

Figure 5. Appropriate §480a Tax Exemption Formula for Various Equalization Rates and Assessed Valuations



Additional Provisions - An owner who has been granted the exemption must pay a stumpage tax of 6% whenever harvesting for commercial reasons (a schedule of such harvests is included in the management plan). Non-commercial harvests (e.g. removing cull trees or scheduled thinning), and up to five standard cords of firewood annually (intended for the owner's private use), are not subject to the stumpage tax.

Penalties - If an owner of exempt forest land violates the provisions of the management plan or converts the land to another use or simply wishes to withdraw without completing the remaining nine years of commitment, a penalty in the form of roll-back taxes is imposed. These roll back taxes are calculated by multiplying the taxes that would have been due in each year (up to 10 years) if the land was not exempt by a factor of 2.5. If an owner withdraws only part of the original tract then the roll-back penalty equals twice the normal taxes due on that part.

RPTL §480a is similar to the Fisher Law in intent. However, the economic benefits offered the forest owner are exchanged for a surrender of the right to control the fate of the timber stand. The owner is still able to realize any income (less stumpage tax, when applicable) produced by the forest land, but the requirements for managing the forest are relatively stringent. Also, the owner must bear the initial cost of management plan preparation plus any maintenance cost prescribed by the management plan.

Participating owners are thus forced to invest and reinvest in the forest and having once made the commitment, are more likely to retain the land as forest. Of course, the well managed forest generally produces more and steadier income in the long run to help offset the mandatory level of investment. From a solely economic point of view, §480a costs the owner more in the short term, but, it is believed, also grants a greater exemption. Ideally, the owner's gains are absolute and immediate, rather than being a simple payment deferrment.

However, the lessened real property tax liability of the forest owners produces a shift in the tax burden within the local taxing jurisdiction. The shift is offset periodically by stumpage tax collections, but the eventual stumpage tax payments do not equal the annual tax burden shift which results. Depending primarily upon the tax rate per forest acre, exempt land may concentrate

disproportionately in certain localities, causing a significant shift to other taxpayers.

Implementation of S480a to Date

Though RPTL S480a became law in 1976, its actual effective date was delayed until 1978. The New York State Division of Equalization and Assessment (SDEA) was instrumental in furthering this delay and proposed additional postponement until 1979. SDEA staff had analyzed the bill and predicted that a likely result was that a "significant tax shift will occur, particularly in the Lower Hudson Valley" with potential "tax base reductions from 15 to 79 percent."*

The SDEA predictions were accurate in identifying the area of the state likely to be most affected by RPTL S480a and the indicated economic consequences are beginning to materialize.

Department of Environmental Conservation data** indicate that the five counties with the most certified eligible forest land (not necessarily exempt) are, in order; Sullivan, Orange, Ulster, Delaware and Dutchess. These lower Hudson counties account for 72,306 (78%) of the 92,481 total certified acres and 157 of the 238 certifications. See Table 7 for more details.

At present, the tax revenues shifted at the county level are not yet that significant. Sullivan County currently has 21,275 acres of exempt forest land with an additional 10,453 certified acres under protest or temporarily disqualified. The exempt acreage amounts to a little more than 4.6% of all

*SDEA Budget Report on Legislative Proposal #14, 1977

**Forest Tax Law Certifications by County, Department of Environmental Conservation, May 1981 (see Table 7).

private commercial forest in the county. At a hypothetical high tax rate of \$15 per acre of forest land, the revenue lost equals less than one percent of the total county tax levy. The amount of certified acreage in Sullivan County, however, more than doubled from May 1980 to May 1981.

These tax dollars shifted to other taxpayers and the objections of the local tax officials gain much more significance when considering the **town and school district level** concentrations of exempt land. Some of the recent certifications in Sullivan County include 8,000 acres in just two townships. The town of Forestburgh has 9,173 exempt forest acres out of a possible 32,000. Moreover, the Eldred School District in Sullivan County has 13,180 acres of exempt land, resulting in sharp increases in rates for the remaining taxpayers. A similar pattern of highly concentrated amounts of exempt acreage was reported in most other counties. In other words, the taxpayers in a **very few** localities are bearing the cost of the benefits created by RPTL §480a and are, in effect, subsidizing their forest owning neighbors.

Table 7. Department of Environmental Conservation Certificates for Eligibility under Real Property Tax Law Section 480a*, May 1981

<u>County</u>	<u>Certified Acreage</u>	<u>Certifications</u>	<u>Commercial Forest Acreage Countywide, 1980</u>
Allegany	312	3	421,500
Broome	126	1	279,400
Chautauqua	111	1	326,600
Chenango	3,839	20	340,300
Columbia	2,855	19	216,900
Cortland	68	1	158,100
Delaware	9,783	35	624,300
Dutchess	6,490	36	298,600
Franklin	2,832	3	655,100
Herkimer	1,686	1	388,100
Lewis	2,922	1	574,100
Madison	499	3	196,200
Ontario	107	1	142,700
Orange	12,917	35	259,000
Otsego	210	2	369,500
Putnam	1,092	4	89,900
Rensselaer	281	2	253,900
St. Lawrence	313	1	1,119,600
Saratoga	276	2	356,200
Schoharie	242	2	256,700
Steuben	445	1	478,100
Sullivan	31,728	28	463,900
Tioga	241	2	193,600
Tompkins	399	4	171,500
Ulster	11,388	23	428,900
Warren	465	3	336,300
Wayne	258	2	101,900
Westchester	596	2	82,700
Totals	92,481	238	9,263,400

*Does not necessarily indicate exempt acreage.

Source: Dept. of Environmental Conservation, Regional Forester Offices.

Conceptual Problems - An Economist's Perspective

Although it reduced the owner's annual taxes considerably, the Fisher Law retained the essential concept of assessing and taxing forest land on an ad valorem basis. The methodology was the same as that used in taxing other forms of real property, except that the exemption reduced the owner's tax dollar liability. As a property tax in combination with a yield tax, the Fisher Law had many flaws which would eventually lead to its demise.

Mason Gaffney, noted tax economist, in an article presented to a Lincoln Land Institute symposium on the state taxation of forest and land resources*, ranks the four most common ways of taxing forests in terms of economic desirability as follows:

- site productivity,
- income,
- general property, and
- yield taxes.

A site productivity taxation system places a forest tract into one of several possible site classes, dependent on variables like soil type, accessibility, and terrain. Values for each of these site classes are set, usually by a state agency or advisory board and the taxable assessment cannot exceed these set values. Site productivity as a base for forest land assessment is favored by Gaffney because it encourages immediate or early restocking of harvested land. A timber growing site's productivity remains the same, as do the taxes, regardless of the number of trees per acre. Additional pluses for site

*Gaffney, Mason, "Alternative Ways of Taxing Forests", Lincoln Land Institute Symposium, Cambridge, Mass., December 1979.

productivity as a base are that marginal sites are discouraged and better sites given more intensive management; that the taxes are on a pay-as-you-go basis, giving local governments steady revenues and eliminating any clash of interests; that there is no pressure to harvest prematurely and that the owner can deduct the site taxes paid from his Federal taxable income.

On the negative side, a site productivity system is front-end loaded (taxes are high on good sites even at the start of a tree growing cycle). Also, a greater degree of accuracy is demanded of the assessing authority and there is a tendency for marginal land to enter the system. This last problem can be checked by establishing precise definitions of eligible land.

An income based system essentially taxes the income derived from forest ownership. Gaffney ranks the income method second for taxing forests because the costs (except labor) of producing the income are deductible. Also, the tax tends to be uniform in application from area to area. However, on the negative side, he predicts that a very high tax rate would be necessary to generate the equivalent revenues derived from other methods. There would also be a reduced incentive to restock, as labor costs are not deductible.

The Fisher Law exempted the value of standing timber and thereby avoided many possible faults. However, as a property tax on land alone, without differentiation for varied site productivity, it was still relatively inefficient and inequitable. Gaffney maintains that an ad valorem property tax is inappropriate to forest taxation for several reasons:

- 1) It is an annual tax on an investment which matures in a long term cycle.
- 2) It tends to actuate premature cutting.
- 3) Tax rates vary from jurisdiction to jurisdiction, creating different levels of incentive for good forest management.
- 4) Accurate assessment is very difficult and time consuming, and beyond the scope of many local assessors.

- 5) The tax is unrelated to services provided by local governments, e.g. trees don't go to school or drive cars.
- 6) Marginal sites are not discouraged from remaining in forest use.
- 7) A tax on bare land values is front end loaded, that is, the taxes on cutover land are the same as those for an end-of-cycle mature stand.

Despite its many faults, an ad valorem system has its positive points. Most all other forms of real property are taxed on an ad valorem basis and thus a sense of a uniform taxation principle is sustained. Some tax experts accordingly feel that the value added annually by timber growth is a form of income and should be taxed annually. Moreover, the ad valorem annual tax tends to eliminate owners with cash flow problems and allows the market to function freely. In the same line of reasoning, taxes are appropriately low at the start of a growing cycle and the owner holds full equity in the crop at harvest, avoiding a clash of interest with the government. Finally, an ad valorem annual tax guarantees local government a steady, predictable flow of revenue.

On the yield tax portion of the Fisher Law, Gaffney would criticize it because:

- 1) It is an unstable and potentially infrequent source of local government revenue.
- 2) It is biased against those sites which produce mature timber faster.
- 3) The tax is capitalized into lower land values and reduces any pressure to restock.
- 4) Local government is forced to share risk with the owner and becomes, in effect, a helpless participant in a clash of interest.

The yield tax has few factors in its favor. However, as an end-of-cycle tax, it minimizes owner cash-flow problems. The yield tax also allows the owner to, in a sense, share the risks of price fluctuation, fire, blight, etc., with the government. An additional owner-favoring aspect is that the yield tax allows for leisurely harvesting, relieving any pressure imposed by ad valorem systems.

The basic differences between Section 480a and the Fisher Law are the management plan requirement and the methods of calculating the exemption. Until 1973, the Fisher Law had allowed the assessment to be frozen at the time of certification. Over time this created problems, especially if a community decided to go to full value assessment. In 1973, the legislature allowed the exemption and assessment to fluctuate with changing levels of assessment.* Between §480 and §480a, the basis for assessment remained the same, (i.e. an ad valorem tax). Also, the same yield tax was carried over.

Tax Directors' Viewpoints

In an effort to gain an up-to-date picture of the local effects of §480a, SDEA staff contacted and questioned the county Real Property Tax Directors in the areas of the State with the most certified acreage. The tax directors' attitudes toward §480a is uniformly negative, as the exemption decreases the tax base, and the consensus in the Lower Hudson area can be simply stated as, "Get rid of that law."

Overall, tax directors feel that RPTL §480a is not only a threat to the tax base, but that it is also being misused by forest owners not interested in good forest management and timber production, but only their own profits.

* "'(C)hange in the level of assessment' means the net increase or decrease in the assessed valuation of the taxable property in the assessing unit as a result of assessing such property at a higher or lower ratio of full value."

The following list details the many objections and suggestions for improvement to §480a registered by tax directors:

1) Several tax directors reported cases of owners harvesting the forest crops just prior to application for certification. While still meeting the 30 year/merchantable crop requirement, the owner avoids the 6% stumpage tax.

2) Several suggested that the management plans are lax and that, moreover, D.E.C. does not have sufficient staff to monitor whatever forest management activities are prescribed.

3) In a very basic attack on §480a, most tax directors are of the opinion that New York's forest industry is healthy enough and that, in fact, forest acreage is increasing statewide. Forest owners, despite the management plans, are entering the §480a program for primarily monetary reasons. The law does little to further the cause of conservation or to increase timber production, claim the tax officials, and, anyway, we really don't need more timber.

4) Most of the tax directors contacted felt that the "big guys" (wealthy or large commercial forest owners) were taking advantage of the law in increasing numbers. Large tracts of land are getting the exemption despite a lack of real evidence in an interest in producing timber. Large owners are reducing their costs still further by leasing to hunting and fishing clubs - creating, in effect, low cost, tax exempt areas for sportsmen.

5) The acreage minimum is too low, allowing many people to exempt what amounts to their private woodlot.

6) The stumpage tax rate is way too low and amounts to only a fraction of the tax revenues foregone. Additionally, the tax is very difficult to collect as there exists no formal procedure for notifying local assessors when the tax is due. In a sense, the assessor is forced into an added policing and monitoring activity in order to obtain compliance.

7) The present \$40 per acre figure in the second exemption calculation method should not be fixed, but rather should fluctuate to reflect changing economic situations.

8) Perhaps most importantly, the local tax administrators point to the ultimate potential impact that §480a could have on the property tax base. As interest and enrollment in §480a tends to increase with the tax rate, and as inflation and revaluation to full market value tends to increase the per acre tax on forestland, the tax burden will continue to shift toward the already overlaid homeowners. Estimates of potentially eligible acreage range from 50% to 80% of commercial forest land in those counties surveyed. That much exempt acreage would probably destroy the financial wellbeing of many municipalities.

9) Virtually every tax director contacted maintained that the State should, in some way, reimburse local governments for lost tax revenues. Several suggested payments from general funds, while others felt that the stumpage tax should be raised to a higher rate.

10) As a requirement for exemption under §480a, owners should be required to open their forest land to the public. Such a requirement would discourage marginal participants (esp. rod and gun clubs) while returning a benefit to the local populace.

Associated Observations

One of the most striking effects of RPTL §480a is the obvious concentration of certified acreage in the Lower Hudson Valley counties (see Table 7). This concentration contrasts sharply with the acreage distribution of the Fisher Law, which found its main areas of participation among the counties

in and around the Adirondack Preserve. The §480a concentration is easily understood in light of the significantly higher taxes on forest land in the Lower Hudson. Even though this area has not historically been considered a major timber industry area like the Adirondacks, the pressure of suburbanization and factors like inflation and paper shortages have combined to quickly and markedly increase the value of forest land. RPTL §480a is economically practical in these counties, as the tax savings eventually exceed the necessary initial investment and forest management costs.

What is questionable is why the Lower Hudson forest owners never bothered (until 1974) gaining an exemption under the Fisher Law. Surely even prior to 1960 the land values downstate exceeded those upstate. The Fisher Law, with its minimum entrance requirements and few restrictions should have been economically attractive to downstate owners, more so than to those upstate.

Department of Environmental Conservation Considerations

Several D.E.C. Regional Foresters were also surveyed, responding to similar questions as those directed to tax officials.

By and large, D.E.C. staff is quite supportive of, if not enthusiastic about, §480a. Their positive attitude is based almost entirely upon the specific demands for good forestry management contained within §480a. Foresters believe that the law has the potential to become an effective means for increasing timber production in the state. In fact, several respondents indicated that the beneficial effects of §480a should be increased by making the economic incentives more attractive and by publicizing the law to a greater extent.

Common explanations for the present low level of involvement were 1) a tendency among forest owners to take an anti-government regulation position

and to resist any external control over their property, 2) a simple economic decision, especially in the upstate areas with lower taxes, weighing the costs of management plan preparation and implementation against potential tax savings, and 3) many owners, especially of larger tracts where harvesting is nearly continuous, do not have the cash-flow problems which would make the annual property tax bill an excessive burden.

D.E.C. staff had varied opinions of the forest landowners in their jurisdictions. Realistically, the owners are a diverse lot, ranging from the purely speculative focussed on profit to the dedicated conservationist. Owners of second homes or vacation retreats tended to be more protective of their forest acreage. Longtime residents of forest areas were characterized as perhaps being more blasé about the issues of good forest management.

Several foresters noted a jump in inquiries regarding §480a after an area revalued to full market value. Apparently the usual resultant increase in assessments on forest land encouraged many owners to apply. This phenomenon fits the general pattern of revaluation throughout the state, where vacant land is usually underassessed. However, one forester claimed that of 200 inquiries only a handful actually followed through (only four properties certified).

Land use conversion (e.g. to a housing development) was generally not considered a current factor, though there was some mention of a "suburbanization boom" within the last decade. Owners are perhaps more content to keep their investment in forest land than the Forest Tax Laws imply.

Foresters felt that the 50 contiguous acre minimum was either appropriate or too large - several suggested a reduction to 25 acres, claiming that a parcel that small could still benefit from good forest management.

At present there are no complaints from D.E.C. staff concerning the amount of time required to administer and monitor §480a, though almost all

indicated a potential problem if the amount of exempt acreage continued to grow. Virtually all regional offices maintain a policy of annual site visits to exempt properties and all offices conduct definite inspection/confirmation of activities specified in the management plans.

Several foresters have also complained that some delays have occurred in granting exemptions to parcels certified as eligible. In Livingston and Ontario Counties an attempt by the City of Rochester to gain an exemption for their watershed areas was refused by local assessors. This decision led to an amendment of §480a to exclude all municipal applications.

Descriptions of forest conditions and potential for timber production varied from area to area, but no one conveyed a terribly bleak image. The worst description was of an overstock of low-quality Northern hardwoods. No one contacted mentioned any scarcity of trees.

Forest Owner Viewpoints

SDEA staff conducted a landowner survey to gather a representative collection of attitudes, ideas and opinions. Some data was gathered via a telephone survey, while much of the material was gleaned from printed testimonies of forest owners for hearings held by State Senator Eckert's Committee on Conservation and Recreation in September 1981. Additionally, a forest owner's survey* conducted under the auspices of the New York State Energy Office in 1980 was used as a secondary source.

*Canham, Hugh, "Landowner Attitudes," in The Availability of Forest Biomass in New York State, prepared by the College of Environmental Science and Forestry for The N.Y.S. Energy Office, April 1981

Almost without exception, forest landowners, even those who were originally in favor of the law, are not now happy with §480a. According to owners, the taxes on forest land in N.Y. are noticeably higher than in other Northeastern states. These high taxes, combined with a short growing season, steep slopes and management costs make forest ownership in New York a questionable investment at best. Factors like inflation and the trend to full value assessment are alleged to further decrease the potential for profit. Several owners indicated that they were, in effect, operating at a loss and were forced to subsidize their forest investment with money from other income sources. If these economic conditions are allowed to continue unmitigated, claim owners, they will be forced to subdivide and sell or worse, clearcut and abandon. Why should we pay taxes on assessments which are based on sales of forest land for other uses, e.g., vacation homes, or recreation, say the owners, especially when our land in forest use places so few demands upon local public services?

Section 480a, according to the statement of legislative intent, was designed to alleviate the very conditions which the owners are now complaining about. Why then, hasn't the law found greater acceptance instead of vigorous opposition? The two basic forest owner objections to §480a are:

- 1) The costs of enrollment (management plan preparation by a forester, and the cost of completing prescribed forest management thinning) are so great as to more than offset the money saved through the exemption.

- 2) The whole §480a management plan concept as administered by DEC is much too rigid and restrictive, requiring an excessive degree of governmental involvement and potential intervention.

Associated comments/complaints by surveyed forest owners include;

- 1) §480a is too complicated and technical and is too inflexible to allow the owner to make a profit by responding quickly to changing market conditions;
- 2) if §480a were to catch on in a large statewide scale, literally hundreds of additional foresters would need to be hired to adequately monitor all the exempt acreage;
- 3) §480a is an insult to owners in that it implies, by virtue of its restrictions, that owners are irresponsible, destructive and insensitive to the public good;
- 4) the yield tax encourages the postponement of harvests and allows marginal land to enter the program;
- 5) the withdrawal penalties are too high, especially for the smaller owners whose fortunes fluctuate much more radically than larger corporate owners;
- 6) forest owners were also concerned about the fact that their potential exemption under §480a would cause a shift in the tax burden to their neighbors;
- and 7) owners were similarly aware of the apparent injustice in a law which makes a few localities pay for a supposed statewide benefit.

Of course, intermixed with all this negativity were numerous suggestions and ideas for improvement. Basically, forest owners felt that the management plan requirement should be relaxed and made less costly. Moreover, the assessment of forest land should be based on the use of the land as forest, utilizing either an income or productivity index for valuation. Several owners mentioned the current New York Agricultural District Law as a good example to follow in redesigning the Forest Tax Law.

Other suggestions included;

- 1). reducing the acreage limit to 10 acres
- 2) redraft the Forest Tax law to resemble the old Fisher Law in terms of required owner activities, but with a longer commitment (20-25 years) and stiffer penalties for conversion or early withdrawal.

3) Raise the severance tax to 7% and tax all forest income, including recreational fees and gravel sales.

4) One law should be developed to specifically suit the Adirondack forest and another law designed for the downstate/Catskill region.

5) Make public access to exempt lands a requirement with additional incentives for wildlife management efforts.

6) Provide some sort of motive for cooperation by local assessors, especially when processing an application for exemption.

Virtually all who commented on the issue of reimbursement felt that it was unfair for only certain localities to bear the cost of the program. Compensatory payments from general state funds was the most common solution recommended, with some owners suggesting that reimbursement start only after a specified tax loss threshold, e.g., 2% of total assessed value, was reached. One idea involved raising the payments that the State makes to local governments in lieu of property taxes on State-owned land. These increased payments would be funded by allowing more timber to be harvested from State lands. Apparently, Pennsylvania presently has such a system in place. Another funding idea involved substantially raising and expanding the severance tax, as in 3) above.

To summarize, forest owners in New York believe that they need some sort of economic incentive to retain their investment in forest; that forest ownership at present is a risky long term investment at best, with minimal profit potential. However, owners do not believe that Section 480a provides the necessary incentives; that its requirements and restrictions are too complicated, inflexible and limiting and that, in all but the downstate counties, its proffered dollar benefits do not offset its costs.

Additional Considerations and Observations

1) Limited recreational opportunities in areas around population centers often create situations where mature timber cannot or will not be harvested because of its value for private recreational or non-forest commercial purposes.

2) RPTL §480a is designed, via the management plan, to eventually produce uneven-aged timber stands. Such stands tend, over time, to give sustained, semi-continuous yields of timber and other forest products. Uneven-aged forests also further conservation goals as defined in State and Federal policy.

3) If the purpose of the §480a exemption is to separate land value from timber value, then the eighty percent exemption would appear to represent the value of timber. Timber is not distributed in so even a proportion statewide. In fact, where harvesting occurred just prior to exemption, the timber value may initially be actually less than that of the land. Similarly, those areas where forest lands carry high assessed values (e.g. Orange County at \$600/acre) are penalized relative to those areas of low assessed values (e.g. Broome County at \$15/acre). The exemption, in effect, becomes a subsidy which varies among owners and taxing jurisdictions.

4) A noticeable difference between acreage enrolled in §480 and §480a, other than upstate vs. downstate location, is the average parcel size. The parcels exempt under the Fisher Law are of a significantly larger average size, reflecting that law's appeal to industrial/commercial owners. This size differential is surprising when one considers that the acreage minimum under Fisher was only 15 acres. One might speculate that the efforts to publicize each law's benefits may have differed in degree and target group. Large commercial owners would have, with their large staffs and resources, been more likely to

"discover" and take advantage of the Fisher Law if no one publicized its existence. A lack of publicity would also account for the very slow growth of total acreage exempt under Fisher.

Conversely, §480a has drawn many more of the smaller tract owners. However, the strict forest management requirements no doubt discourage many large commercial owners.

Other States' Solutions

Most other timber producing states recognize that some special effort is necessary to protect and preserve their forest resources while also encouraging sustained production of forest crops. Synopses of other states' practices are available elsewhere (Timber Tax Journal, "Survey of State Assessment Guidelines," 1981).

Of the other states, Vermont's law deserves further examination as an example of a working, apparently equitable site-productivity-based system. Vermont appraises its forest land according to use value, i.e. the price per acre which would be paid if the land were required to continue as forest. These use values are set annually by a state advisory board which considers the income productivity of the soil and the capitalization of net returns. There are approximately 200 soil types and 4 site classes in the Vermont system, while the assignment of use values to these classes is somewhat arbitrary.

The landowners prepare their own management plan for approval and are, as in New York, required to make an annually-renewed 10 year commitment. A flat 10% (of full market value) Land Use Change Tax is imposed for any conversions or violations.

Vermont also has a unique system of reimbursement to local taxing units for revenues lost. The Land Use Change Tax accumulates in a fund used to reimburse the difference between taxes paid on land assessed at the use value level and the taxes that would have been paid at the full market value assessment level. The Vermont State Legislature initially appropriated three million dollars as seed money for the reimbursement fund. However, the Land Use Change Tax has not yet generated sufficient income to replace the amounts already paid out to localities. As a result, the initial appropriation has dwindled to less than \$50,000 and the Legislature will be contemplating another multi-million dollar appropriation in the next fiscal year.

An interesting caveat for the forest owner's consideration is that the law now states that the owner is liable for any shortfalls in locality reimbursement caused by insufficient State funds. In other words, if the Land Use Change Tax Fund runs out of money and there is no additional legislative appropriation forthcoming, the owners of exempt acreage must reimburse their local governments themselves. If such a scenario did occur, where owners must make up the difference, as it were, then the owner is subsequently given the choice of continuing in the program or withdrawing without penalty.

Vermont has neither an ad valorem property tax nor a yield tax. Instead, "use values" determine property tax liability. Additionally, they have created a system designed to reimburse local governments for taxes lost. Ultimately, their system is intended to be enclosed and self-sustaining, offering the forest owner a break without jeopardizing local tax bases. However, this has not yet been realized.

Summary: Forest Taxation in New York State

Historically, New York State has recognized that its forest land is very important and deserving of special treatment. The Fisher Law was a simplistic attempt to protect forest land and encourage timber production. However, basic assumptions of an ad valorem assessment methodology and a yield tax combined with inflation and land speculators produced a near runaway situation as exempt acreage grew rapidly.

RPTL §480a uses an ad valorem method of assessment and attempts to use a yield tax to reimburse local government. Significant problems have already developed in the implementation of §480a. The Lower Hudson Valley counties are disproportionately accumulating the bulk of the exempt acreage and affected localities are suffering significant tax burden shifts. Some landowners have already discovered loopholes in the law and others reject it because of the apparently excessive level of government control.

The SDEA has developed a proposal designed to eliminate some of the problems associated with §480a, while avoiding other possible difficulties encountered in other states. This proposal is designed to protect New York's forest, encourage good forest management and sustained timber production, and still preserve the endangered local property tax base. SDEA hopes to incorporate comments on the proposal into appropriate legislation for submission to the 1982 legislative session.

III. RESOLVING THE FOREST TAX DILEMMA: A PROPOSAL FOR CONSIDERATION

Introduction

In response to growing concerns about technical and administrative problems in the 1926 Fisher Forest Tax Law, Section 480a was added to the Real Property Tax Law on July 1, 1977. As a replacement to Fisher, §480a was intended "to provide a means by which present and future forest lands may be protected and enhanced as a viable segment of the State's economy and as an economic and environmental resource of major importance." However, like its predecessor, §480a has been the subject of numerous criticisms and suggested revisions. They have been substantial enough to warrant a general review of the effectiveness of §480a. The Division of Equalization and Assessment has begun researching the effects of §480a in order to provide a foundation for further inquiry into New York State's forest taxation policy.

The dilemma of forest taxation policy in New York State includes the competition among three major incentives:

- (1) Maintenance of the real property tax base is required to insure the adequate funding of local general purpose governments, school districts and special districts.
- (2) The economic vitality of the State's timber industry and the rapid increase in wood consumption for home heating requires a taxation policy which does not discourage maximum productivity of forest land.
- (3) A sound forest taxation policy must be capable of comprehensive and efficient administration.

The Division of Equalization and Assessment recognizes the need for providing effective measures and incentives to preserve New York State's forest resources. For this reason it is proposing a basic revision of the forest taxation policy presently constituted by §480a. The following problems are associated with §480a and must be eliminated to insure a successful policy change:

- (1) The local tax base in certain areas is being eroded by the forest exemption.
- (2) There are no incentives within §480a to maximize forest productivity.
- (3) The stumpage (yield) tax is difficult to administer and there is evidence it is often not collected.
- (4) Management plans required by the §480a program are costly, and, in some cases, not properly supervised.
- (5) The fifty contiguous acre size requirement excludes many potential participants from the program.
- (6) Less than one percent of all commercial forest land in the State is in the §480a program.

Recommendations for a Forest Taxation Policy

It is unwise to completely separate forest exemption policy from the general consideration of the tax exemption problem in New York State. The exemption issue is extremely important because of the increasing cost to local governments and the property tax burden shifted to other taxpayers. Approximately 30 percent of the assessed value of real property in the State is exempt from taxation and the percentages of exempt property are increasing. Persistent tampering with the local property tax base intensifies the problem and confuses the responsibility for financial strain at the local level. Periodic reviews of exemption programs are desirable. Although many exemptions are well intended, their impact and effectiveness must be carefully analyzed. It should be recognized that it may be necessary to repeal or modify some exemptions. For this reason the allocation of forest exemption benefits should clearly reflect equitable, justifiable taxation policy.

In recommending a revision of the forest tax law, the Division of Equalization and Assessment is not departing from the justification given for the Fisher Law and its subsequent amendment (§480a). A forest tax program should be designed to incorporate the features of maintaining the tax base, promoting the State's timber industry, and allowing for efficient administration. We therefore propose the following features as a means of moving closer to these ideals:

1. Apply the local real property tax rate only to the assessed value of the land, with the value of the standing timber not taxed.

Removing from taxation the value of standing timber will encourage the maximum productivity from forested acreage. Yet, with the land value remaining on the tax rolls, no significant departure from an ad valorem tax occurs. Regardless of a site's productive capacity, of which a systematic data base is not currently available statewide, we can tax the "vacant land value" of forest holdings as done under the Fisher Tax Law. As land values change over time, the tax rates and the demand for timber products will dictate whether a parcel remains forested. With the substantial (and increasing) demand for wood products and firewood evident in the recent past, maximizing production from forest acreage is encouraged.

2. Eliminate the stumpage tax.

The least enforced aspect of the current law is the stumpage tax. Voluntary notification of harvests is implied by both §480 and §480a, but yield tax collections have often not occurred. Eliminating this aspect of the law will also serve to maximize productive potential.

3. Reduce the qualifying parcel minimum to 25 contiguous acres.

Currently, almost twenty percent of New York's commercial forest acreage is eliminated from participation in the §480a program by the minimum acreage provision. Reducing this to 25 contiguous acres will permit a broader participation base in the forest tax program.

4. Allow the localities the option to adopt the new law for parcels currently under §480 or §480a.

Assessing units can have acreage listed under the provisions of both §480 and §480a. The confusion resulting from yet another forest tax law revision will compound the problem. Consequently, at local option (for each assessing unit), we propose a means of consolidating the law for administrative purposes. This will necessitate some participants in §480 going through the management plan certification process. At the same time, the removal of the stumpage tax should reduce the cost of participation.

5. Management plan provisions remain the same as §480a.

The moving ten-year commitment of land to forest, along with provisions for the thinning and harvesting of wood products, also serves to maximize the commercial viability of New York's timber industry. While an investment is required at the beginning of participation in the forest tax program (i.e., the cost of securing a management plan), this should prove less than overwhelming if the purpose of participation includes production maximization incentives. If other purposes, such as land speculation, are dominant, the management plan provides the means for discouraging this shift in the tax burden to other taxpayers.

6. Penalty of three percent of market value of entire parcel assessed for each year's participation (up to 10 years) at the time of conversion or management plan violation.

The logic underlying this provision of our proposal relates the benefits obtained from program participation to the subsequent change in purpose. If a parcel owner enters into the forest tax law provisions in good faith, yet economic forces operate to alter the value of the land (for other purposes than growing trees), the penalty is related to the amount of benefit obtained from the reduced tax liability. If participation has been only three years in duration, the penalty at the time of conversion is 9% of the market value of the parcel. If conversion occurs after a ten-year reduced tax on the land, the penalty becomes 30% (maximum penalty). Under most circumstances, this penalty will reduce the liability encountered under §480a. Another major aspect of this penalty proposed is that the previously undetermined value of the standing timber is not necessary.

7. Permit farmers under the Agriculture Use Value Program to commit acreage to this program.

Currently, under the Agriculture Use Value Program, a farmer can only dedicate woodlands under a one-to-one provision. Existing rules and regulations only allow as many acres of woodland as are used in crop production to be taxed according to "use values." If a farmer owns forest acreage, we propose that such acreage may be applied to this program. Particular acreage can only be dedicated to one of the two programs, however.

Conclusion: A Comparison of Options

The proposal for forest taxation in New York State contained in this report is a temporizing measure, designed to obviate some of the problems associated with administering the current law. It is also a feasible approach to forest taxation in the absence of comprehensive data on the productive capacity of forest land. It represents an improvement over §480a of the Real Property Tax Law, providing for incentives to maximize production, allowing less sweeping reductions of local tax bases, and insuring greater administrative efficiency.

Removing the value of standing timber from the real property tax provides an incentive for the maximization of the State's timber resource. Furthermore, the elimination of the yield tax promotes the harvesting of timber at the optimal point in the growth cycle. As in a site productivity approach to taxation, this proposal is "front-end-loaded," with the cost of the tax a decreasing function of the value of the standing timber. Consequently, neither approach to forest taxation (this proposal or site productivity) will alter the cash flow arrangements of forest owners.

The proposal does not severely damage the local tax bases of some jurisdictions as §480a has. The land value remains on the tax rolls, and market forces dictate whether a continued dedication to forest purposes will obtain. The Fisher Law caused problems over time by means of a fixed assessed value (until 1973). This proposal will allow annual updates of the assessed value as determined by the local land markets.

More forest owners, including farmers with extensive forest land holdings, will be permitted to participate in the forest tax law if the acreage minimum is reduced from 50 to 25 acres. Smaller sites, in the 25-50 acre range, can also be productively managed to meet the growing demand for forest products.

While "site productivity" approaches to forest taxation are well regarded in some quarters, there are substantial "startup costs" involved in the administration of this method. It would require considerable research and cost on the part of New York State to firmly establish the productivity criteria. At the same time, a site productivity assessment would remove the assessment of forest land from local determination because of the expertise necessary to implement criteria such as soil type, slope and access characteristics, and other factors.

A retention of the §480a management plan requirements discourages the use of the policy proposal for purposes of land speculation. The costs of these plans are offset by the removal of the stumpage tax, which has been an administrative problem of both §480 and §480a.

The revised penalty provisions, to three percent of market value at the time of conversion for each year's participation (up to ten years), permit the administration of the proposed law to ignore the value of the standing timber. Only the land value need be listed for assessment roll purposes.

For these reasons the proposal presented herein for exempting timber and subjecting the land alone to the real property tax appears preferable to the current law (§480a), the law it replaced (§480), and to site productivity taxation. It would prove much easier to administer, require less State assistance, and be more generally applicable to the diverse timber resource uses and land values in New York State.

APPENDIX A.

GLOSSARY OF TERMS

Commercial Forest Land — Forest land which is producing or is capable of producing crops of industrial wood and not withdrawn from timber utilization by statute or administrative regulation.

Commercial species — Tree species suitable for industrial wood products.

Farm and Other Private Land — Privately owned lands other than forest industry.

Forest Industry Lands — Lands owned by companies or individuals operating wood-using plants.

Forest Land — Land at least 10 percent stocked by forest trees of any size, or formerly having had such cover and not currently developed for nonforest use.

Growing Stock Trees — Live sawtimber trees, poletimber trees, saplings, and seedlings meeting specified standards of quality or vigor; excludes cull trees.

Growing Stock Volume — Net volume in cubic feet of live sawtimber and poletimber trees from stump to a minimum 4-inch top (of central stem) outside bark or to the point where the central stem breaks into limbs.

Hardwoods — Dicotyledonous trees; usually broad-leaved and deciduous.

Ingrowth — The number or net volume of trees that grow large enough during a specified year to qualify as saplings, poletimber, or sawtimber.

Logging Residues — The unused portions of poletimber and sawtimber trees cut or killed by logging.

National Forest Land — Federal lands which have been designated by Executive Order or statute as national forest or purchase units, and other lands under the administration of the Forest Service, including experimental areas and Bankhead-Jones Title III lands.

Net Annual Growth — The annual change in volume of sound wood in live sawtimber and poletimber trees resulting from natural causes.

Net Volume in Board Feet — The gross board-feet volume of trees less deductions for rot or other defect affecting use for lumber.

Net Volume in Cubic Feet — Gross volume in cubic feet less deductions for rot.

Noncommercial Forest Land — Unproductive forest land incapable of yielding crops of industrial wood because of adverse site conditions, and productive forest

land withdrawn from commercial timber use through statute or administrative regulation.

Nonstocked Areas — Commercial forest land less than 10 percent stocked with growing-stock trees.

Poletimber Trees — Live trees of commercial species at least 5.0 inches in diameter breast height but smaller than sawtimber size, and of good form and vigor.

Roundwood Products — Logs, bolts, or other round sections cut from trees.

Sampling Error — The probable maximum error of an estimated total or average that arises from taking a sample rather than making a complete inventory or measurement. Sampling errors do not include technique errors such as could occur in photo classifications of areas, measurement of volume or compilation of data.

Saplings — Live trees of commercial species 1.0 inch to 5.0 inches in diameter at breast height and of good form and vigor.

Saw Log — A log meeting minimum standards of diameter, length, and defect, including logs at least 8 feet long, sound and straight, and with a minimum diameter inside bark for softwoods of 6 inches (8 inches for hardwoods) or other combinations of size and defect specified by regional standards.

Sawtimber Trees — Live trees of commercial species containing at least a 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, and with at least one-third of the gross board-foot volume between the 1-foot stump and minimum saw-log top being sound. Softwoods must be at least 9.0 inches and hardwoods at least 11.0 inches in diameter at breast height.

Softwoods — Coniferous trees, usually evergreen having needle or scalelike leaves.

Poletimber Stands — Stands at least 10 percent stocked with growing stock trees, of which half or more of the stocking is sawtimber and/or poletimber trees with poletimber stocking exceeding that of sawtimber. (See definition of Stocking.)

Sapling-Seedling Stands — Stands at least 10 percent stocked with growing stock trees of which more than half are saplings and/or seedlings.

Sawtimber Stands — Stands at least 10 percent stocked with growing stock trees, with half or more of total stocking in sawtimber and poletimber trees, and with sawtimber stocked at least equal to poletimber.

Stocking — A measure of the degree to which forest land is occupied by trees of specified classed in relation to a specified basal area standard for trees 5.0 inches d.b.h. and larger, or numbers of trees per acre of trees less than 5.0 inches; tree classes include (1) all live trees, (2) growing stock trees, and (3) desirable trees. Classifications of forest land and forest types are based on stocking of all live trees. Classification of condition classes is based on stocking of desirable trees.

