

THE FOREST-LAND OWNERS OF NEW JERSEY



by Neal P. Kingsley

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ABSTRACT

Results of a mail canvass of forest-land owners in New Jersey, conducted in conjunction with the second forest survey of the State, show that there are 63,600 owners of the 1,537,900 acres of privately owned commercial forest land in the State. These owners hold an average of 24.2 acres each. However, more than half of the owner-ships are of less than 10 acres, so the private commercial forest land is extremely fragmented. Few owners hold forested land for timber production. New Jersey forest-land owners hold their land either as part of their residence or as a real-estate investment. Only 1 percent of the owners hold forest land for timber production. These owners hold 2 percent of the private commercial forest land. Despite this, 51 percent of the private forest land in the State is held by owners who express a willingness to harvest timber. New Jersey forest-land owners frequently utilize the services of a forester when they do harvest. Only about one-third of the privately owned commercial forest land in the State is available to the public for any form of recreation.

KEY WORDS: forest-land owners, private commercial forest land, available timber, forestry assistance, recreation.

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LET'S LOOK AT THE OWNERS

THE RECENTLY COMPLETED forest survey of New Jersey provided estimates of the total area of forest land, the timber volume, and the area of forest land owned by broad categories of owners.¹ However, the forest survey is not designed to provide estimates of the volume or acreage of timber that may be currently available for harvesting. It also did not provide descriptions of typical forest-land owners, their reasons for owning forest land, or their attitudes toward timber harvesting, forest management, and the recreational use of their lands by the public.

The purpose of this study is to provide this kind of information in a form that will facilitate its use in conjunction with the information provided by the forest-survey timber-resource report. The user of these data is advised to read the discussion of study methods and sampling errors presented in the appendix.

The 1970 Census of Population revealed that New Jersey has surpassed Rhode Island as the most densely populated State in the Nation. Yet, surprisingly, this State, with 953 people per square mile, has 40 percent of its land area in forest. Of this, the great part—83 percent—is in private ownership.

¹ Ferguson, Roland H., and Carl E. Mayer. 1974. The timber resources of New Jersey. USDA For. Serv. Resour. Bull. NE-34 Northeast. For. Exp. Stn., Upper Darby, Pa. 58 p., illus.

In 1959 there were 1,379,002 acres of farms in New Jersey, but by 1969 the farm land had dropped to 1,035,678 acres. This has also had its effect on the ownership of forest land in the State. In 1956, farmers, including incorporated farmers, owned 321,900 acres of commercial forest; but in 1972 they held only 108,200 acres, about 6 percent of the State's commercial forest land. These are lands held by individuals or corporations who reported that their primary occupation or business was farming.

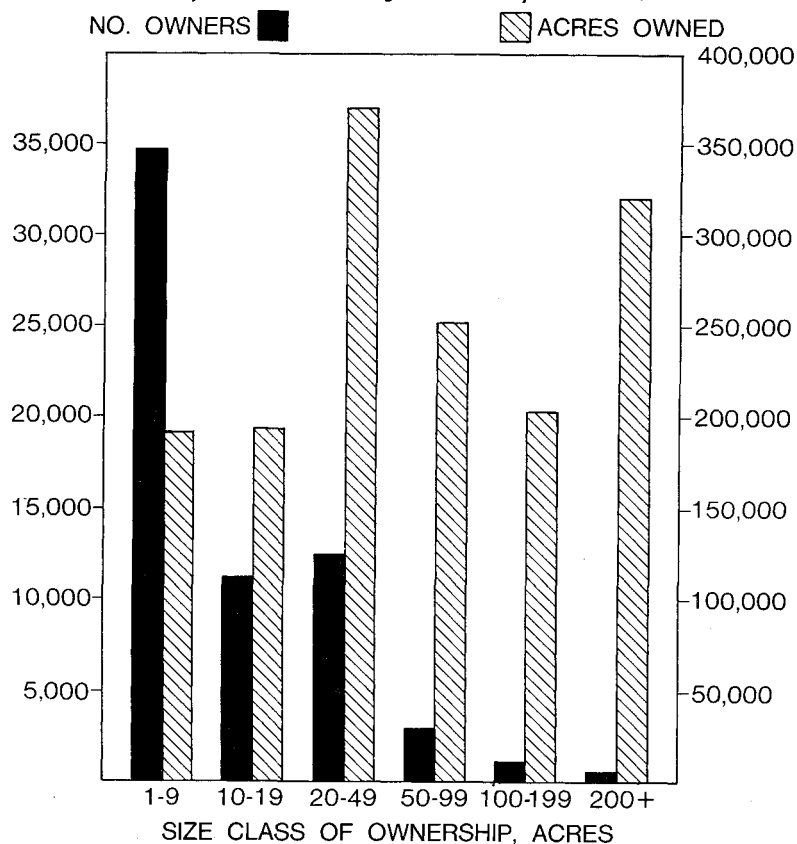
Today, 92 percent—all but 125 thousand acres of the privately owned commercial forest land in the State—is owned by individuals or organizations that are not engaged in either farming or forest-based industries. Who are these owners? Why do they own forest land? What are their attitudes toward timber harvesting, forest management, land use, and recreation? This study is an attempt to answer these questions.

RESULTS

63,600 Owners

There are an estimated 63,600 owners of private commercial forest land in New Jersey. The forest land they own ranges from 1 acre to 13,000 acres. The average owner holds 24.2 acres. Most ownerships, however, fall in the 1 to 9-acre class. In fact, more than half of all ownerships are smaller than 10 acres. These facts demonstrate that New Jersey's privately owned commercial forest land is extremely fragmented (fig. 1).

Figure 1. — Estimated number of forest-land owners in New Jersey and total acreage owned, by size class, 1972.



Individuals Hold Nearly Two-Thirds

Individuals—as opposed to corporations, partnerships, and other groups—make up 83 percent of the owners, and they hold 63 percent of the privately owned commercial forest land in the State. Corporations account for only 8 percent of the owners, yet they hold 24 percent of the land (fig. 2). While only 3 percent of the individual owners are farmers, the other 97 percent are divided evenly among professionals, executives, retired persons, white collar workers, skilled tradesmen, and others.

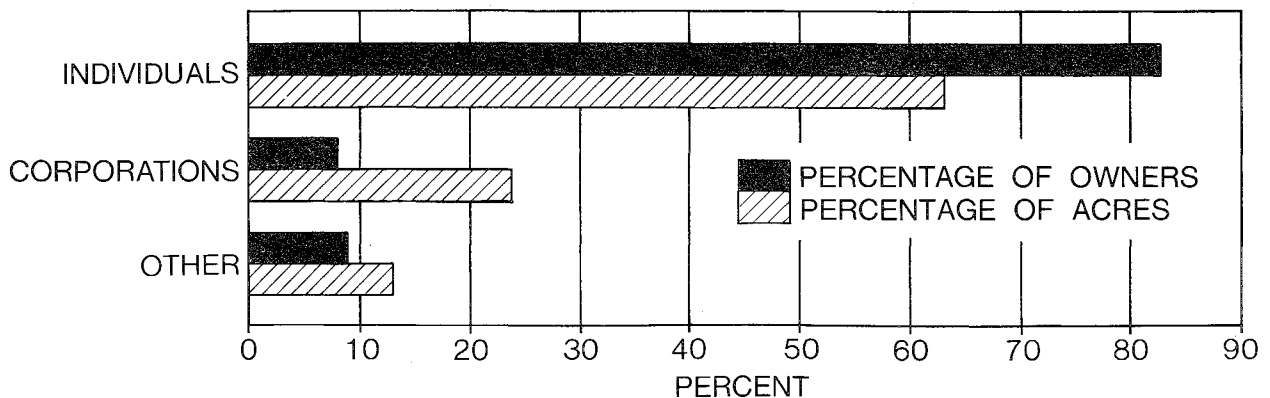
The low number of farmers who own commercial forest land in New Jersey is a reflection of the decline of agriculture in the State and the increasing importance of corporate agriculture in the farming that remains in the State. Of the corporations that own commercial forest land in the State, 8 percent are

engaged in agribusiness. Not surprisingly, in light of the growing urban character of the State, 45 percent of the corporate owners are engaged in real estate, either as land developers or as speculators. These corporations own 14 percent of all the forest land in private ownership in New Jersey. The remaining incorporated owners include various manufacturing industries, public utilities, service corporations, and incorporated organizations such as Boy Scouts, golf clubs, and so forth.

Twenty-seven percent of the individual owners in New Jersey have more than 12 years of formal education. These owners hold 38 percent of the forest land owned by individuals. Forty-six percent of the individual owners have incomes of \$10,000 per year or more.

Most owners have owned forest land for

Figure 2. — Percentage of all owners and the percentage of the total acreage they own, by form of ownership, 1972.



10 years or more—64 percent—and 21 percent have owned their forest land for 25 years or more. These long-term owners own 61 percent of the forest land in private ownership. This is also reflected in the age breakdown of individual owners in New Jersey. Owners over 60 account for 49 percent of the individuals who own private commercial forest land in the State.

The absentee landowner is not an important factor in New Jersey. Owners of 66 percent of the private forest land live on or have their headquarters within 5 miles of their land. Only 18 percent of the owners are situated more than 25 miles from their land. Most owners in New Jersey—89 percent of them—own only one tract of forest land. These owners own 73 percent of the private forest land.

Few Owners Own Forest Land Solely for Timber

People frequently have more than one reason for doing what they do. For this reason New Jersey forest-land owners were asked to rank their reasons for owning forest land.

The most common primary reason given for owning forest land was that it was part of the residence. This reason was indicated by 47 percent of the owners, who hold 28 percent of the land.

The second most common primary reason was land investment, possibly a reflection of the urban-suburban growth of New Jersey.

These owners account for 38 percent of the private commercial forest land. Though only 1 percent of the owners indicated timber production as the primary reason for owning forest land, these owners own 2 percent of the private commercial forest land in the State.

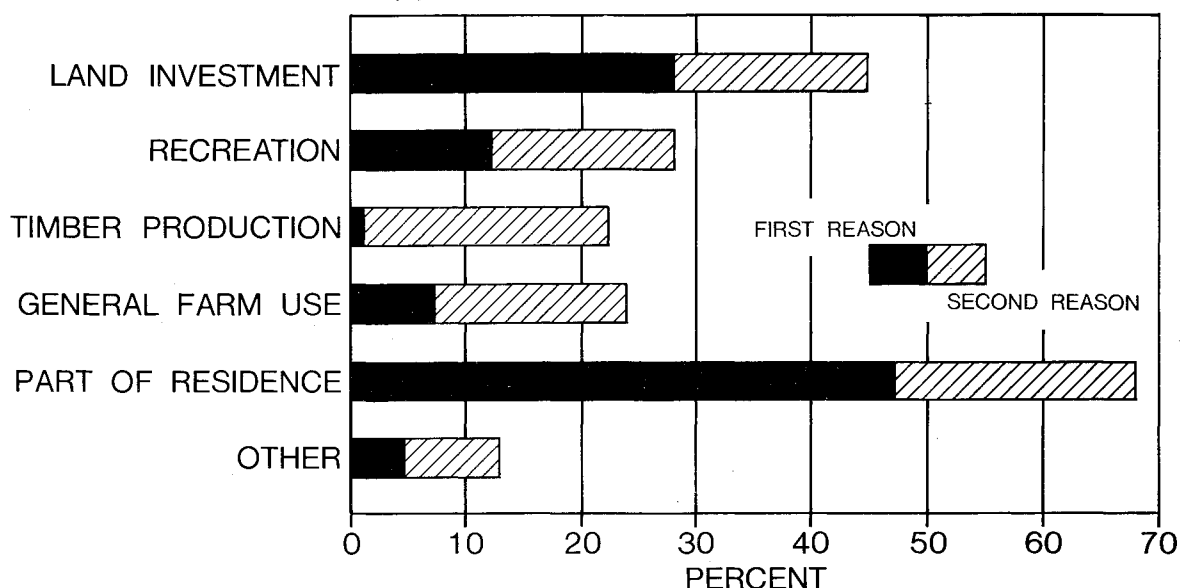
It is interesting to note that although very few owners indicated that timber production is their primary reason for owning forest land, 21 percent considered timber production the second most important reason (fig. 3).

What benefits do owners derive from their forest land? To answer this question, we asked owners what benefits they had derived from their land in the past 5 years and what benefits they expect to derive in the coming 5 years. Comparison of the results of these questions and the results of the previous question uncover some interesting insights into why people buy and hold forest land.

Esthetic enjoyment was considered the most important past benefit derived from forest-land ownership by 51 percent of the owners. This benefit did not hold up as well when the owners looked into the future. Only 33 percent said they expected esthetic enjoyment to be the major benefit during the coming 5 years.

Forty-one percent of the owners expect the increase in land value to be the primary future benefit, while only 25 percent considered it the primary past benefit. The expected increase in land value appears to be a major motivating factor for holding forest

Figure 3. — First and second reasons for owning commercial forest land, by percentage of owners, 1972.



land in New Jersey. Thirty-eight percent of the private forest land in the State is held by owners who consider this the major benefit that they have derived over the past 5 years and 46 percent is held by people who expect it to be the primary benefit in the coming 5 years.

How Much Timber is Available?

One of the major objectives of this study was to provide an estimate of the volume of timber that is available for harvesting. Because the answer to this question is influenced by many social and economic factors, it is extremely difficult to determine exactly just how much timber is available at a given time. Furthermore, even if such an exact estimate could be made, its utility would be limited to the point in time to which it applies; because industrial developments, market conditions, and other social and economic developments can drastically alter those factors that interact to determine how much timber could be brought to market. We can, however, get an idea of how much timber might be available in New Jersey by examin-

ing both the owner's past practices and his future intentions.

Only 11 percent of the present owners of forest land in New Jersey have ever harvested timber from their land. These owners own 26 percent of the privately owned forest land. With regard to future intentions, 41 percent of the owners said that they intend to harvest timber in the future. These owners own 51 percent of the privately owned commercial forest land in the State. However, only 16 percent of these owners were able to say that they intend to harvest timber at some time during the next 10 years. These owners account for 16 percent of the land.

A realistic estimate of the maximum acreage of private commercial forest land in New Jersey that is available for harvesting is about 781,600 acres. In this estimate we assume that all or nearly all of the owners who said they are willing to harvest timber would in fact harvest timber—if given the opportunity. It is also assumed that they would permit harvesting of the entire 630 million cubic feet estimated to be on their land. Because both of these assumptions are likely to prove incorrect, we are left in need

of a more practical estimate of available volume.

Only 26 percent of the private commercial forest land is held by owners who have harvested in the past. We feel that what owners have done in the past is a better indication of what we can expect to happen in the future than what present owners say they intend to do. Therefore, by applying this percentage, we would estimate that there are 322 million cubic feet of growing stock on the 400,000 acres owned by those owners who can be expected to harvest timber.

We have now presented two estimates of available growing stock, each representing a different approach to answering the question. One, 630 million cubic feet, is based on what the owners say they intend to do; and the other, 322 million, is based on what the owners have done in the past. Both are estimates of the total growing-stock volume. This leaves unanswered the question: "How much timber could be harvested from private commercial forest land annually on a sustainable basis?"

In most circumstances it is considered sound forest practice to harvest timber at an average annual rate that does not exceed the average annual rate of growth. This does not mean that the harvest in any one year cannot exceed growth, but rather that over a period of years the average annual harvest will be equal to or less than growth. If we were to consider as one large forest the private forest land in New Jersey that is now owned by owners who express a willingness to harvest, we could say that 10.6 million cubic feet of net annual growth is available.

In 1971 a total of 13,253,000 cubic feet of growing stock was removed from private forest land in New Jersey. About 34 percent of this was removed for reasons other than for timber products. Trees were removed from the inventory in land-clearing operations, trees were inadvertently destroyed in logging, and some trees are on land that can no longer be classed as commercial forest land, such as parks and housing developments. Taking these other removals into account leaves about 9 million cubic feet for

timber-product removals. In the same year net growth of growing stock on private commercial forest land totaled nearly 21 million cubic feet. Taking into account that 51 percent of the land is growing available timber, 10.6 million cubic feet of this growth was available.

This analysis indicates that in 1972 timber removals in New Jersey were slightly less than the available growth. But the data also indicate that only 26 percent of the land is held by owners who have harvested timber in the past, and we said that this, in our opinion, is a better indicator of future harvesting than the stated intentions of owners.

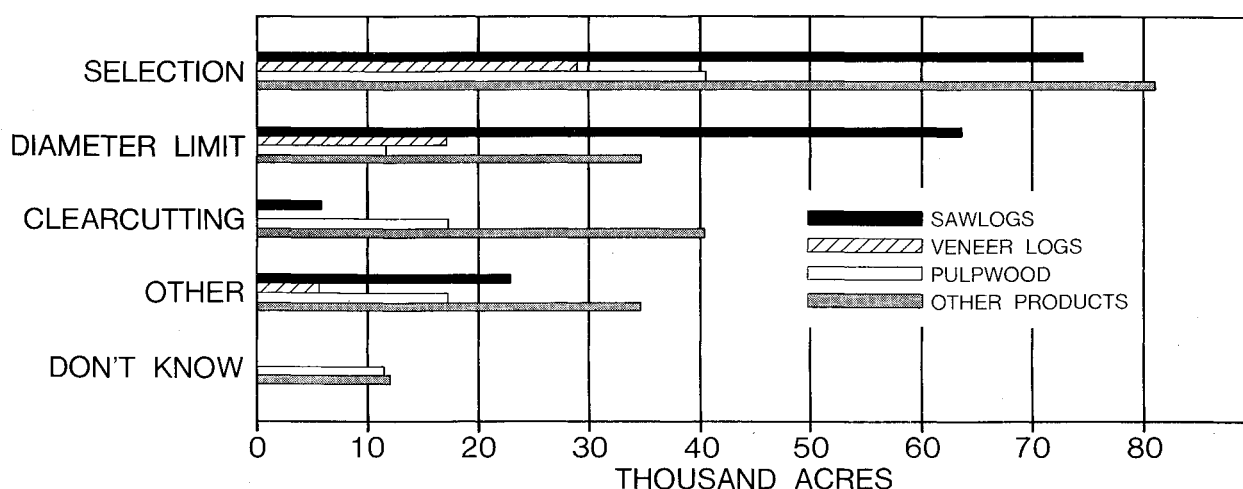
Does this mean that more timber was harvested in New Jersey in 1972 than actually should have been? No, not necessarily. Forest land and the ownership of it is not static. Land is bought and sold frequently, as evidenced by the fact that 39 percent of the private forest land in New Jersey has been owned by its present owner for fewer than 10 years. A tract of forest land that is owned today by an owner who is opposed to timber harvesting or for any other reason will not harvest timber may be sold to someone who does in fact harvest. Considering that it may take 60 to 80 years for a tree to reach harvestable size, a tract could have 8 or more owners before an individual tree reaches maturity.

Without asking our respondents again at some later date, we will have no way to analyze the effect of this turnover rate in detail. Thus we are not dealing with a fixed population of either owners or acres. And this is another reason why any analysis of available timber is tied to the time in which it is made. In a state like New Jersey, which has been settled for over 300 years, it is probably safe to say that nearly every acre of commercial forest land has been cut over for timber at least once.

Harvesting Practices

When New Jersey forest-land owners harvest timber, they frequently obtain the services of a forester. Of the 6,800 New Jersey owners who have harvested timber, 2,500 said that the selection of what trees would be

Figure 4. — The acreage owned by owners who have harvested timber, by harvesting system and product harvested, 1972.



harvested was made by a forester. These owners also owned 37 percent of the land owned by harvesting owners. The buyer of the timber decided which trees would be harvested on 28 percent of the ownerships and 27 percent of the land that was harvested. Only on 4 percent of the New Jersey ownerships where harvesting has occurred did the landowner himself select which trees would be harvested.

The diameter-limit method of tree harvesting is the most widely used method of harvesting among owners in New Jersey. But a greater area is involved with the individual-tree selection method. While 43 percent of those owners who harvested indicated that they used the diameter-limit method, this method was used on only 30 percent of the commercial forest land harvested. The single-tree selection method was used by 25 percent of the owners, but they own 41 percent of the commercial forest land on which harvesting took place. Clearcutting was employed by 19 percent of the owners, and these account for 13 percent of the acreage involved in harvesting.

Pulpwood accounted for the largest volume of all products harvested from commercial forest land in New Jersey in 1970. Yet the harvest of sawlogs, the second most abundant product harvested, involved nearly twice as

many acres as did pulpwood (fig. 4). This is because much more of the pulpwood harvest comes from clearcutting and diameter-limit harvests. These methods of harvesting produce a large volume of wood from a smaller area of land.

Public Forestry Assistance

In New Jersey 66 percent of the owners of commercial forest land said that they did not know where to obtain forestry assistance. These are usually the owners of small tracts, as evidenced by the fact that they account for 50 percent of the privately owned commercial forest land in the State. Undoubtedly many owners have never perceived a need for forestry assistance.

The New Jersey Bureau of Forestry, Department of Environmental Protection, is responsible for providing forestry services to landowners. These services may be obtained either through the Bureau or upon application to the County Agricultural Agent, Soil Conservation District, USDA Soil Conservation Service, or USDA Agricultural Stabilization and Conservation Service.

Of the 34 percent of owners who indicated that they knew where to obtain forestry assistance, 9 percent said "the State". Of the other owners, 15 percent said "the County", and presumably most of these meant the

County Agent. Another 2 percent mentioned the USDA Soil Conservation Service. The remaining 8 percent all indicated an agency that would undoubtedly put them in contact with the Bureau of Forestry.

Forestry assistance has been utilized by 6,600 of New Jersey's forest-land owners. These owners account for 294,900 acres or 19 percent of the private commercial forest land in the State. Most of this assistance was for tree planting — by 2,300 owners owning 75,200 acres. Assistance for general forest management was utilized by 2,100 owners, and they own 92,500 acres. These are the larger ownerships.

Recreation on Private Forest Land

Two-thirds of the privately owned commercial forest land in New Jersey is unavailable for public recreational pursuits.

New Jersey owners were asked "Is the general public (other than your family and immediate circle of friends) permitted to use your forest land for any of the following: hiking, picnicking, camping, fishing, or hunting?"

Hiking is permitted on 33 percent of the private commercial forest land. Picnicking and camping both had a low level of acceptability by owners. Picnicking was permitted on 25 percent of the land and camping on 22 percent. The low level of acceptance of these recreational uses may be related to littering and other forms of site degradation.

Fishing was permitted by only 8 percent of the owners. The fact that many owners do not have suitable sites for fishing or lack of water on their land undoubtedly contributes to the low response for this use.

Quite surprisingly, more owners said that they permitted hunting than any other recreational use. Hunting is permitted by 38 percent of the owners, and they own 35 percent of the land.

In New Jersey a total of 844,100 acres — 55 percent — of the privately owned commercial forest land is posted against either hunting specifically or trespassing in general. Not all of the land that is posted is closed to hunting or other uses, nor is all of the land

not posted open to use by the public. Many owners post their land to restrict or limit its use, or because they want to know who is using their land, for what, and when. Others do not take the time or expend the effort to post their land although they do not permit use by the public.

IN CONCLUSION

The results of this study show that the 83 percent of New Jersey's commercial forest land that is privately owned is extremely fragmented. Its owners, who are by and large well educated, affluent people, hold forest land for their own enjoyment or in anticipation of increasing land values. Although they seldom hold forest land primarily for the production of timber products, an estimated 51 percent of the land is owned by owners who are willing to or expect to harvest timber from their land.

These results indicate that the productive capacity of New Jersey's commercial forest land to produce timber products is underutilized. One might conclude that, this being the case, New Jersey's private forest land is merely a surplus commodity. Further, considering the expanding urban areas of the State, one might conclude that this forest land will give way to residential or industrial development with no great detriment to the populace. In a metropolitan State such as New Jersey, the value of forest land lies not in the tangible products it produces, but in the amenity values it provides. Urbanologists have for years recognized that areas of forest land interspersed and woven through areas of dense population provide a more relaxing human environment. Forests also provide an air-purifying effect and a cooling influence. And they also provide recreational opportunities and watershed protection.

What do the results of this study indicate with regard to forestry programs? While only a few of New Jersey's forest-land owners are primarily interested in producing timber on the land they own, all owners have access to forestry assistance for various

objectives. The objectives of the assistance sought may concern wildlife management,

watershed protection, or recreational planning.

APPENDIX

Study Method

The sampling scheme for this study is derived from the sampling design used in the forest survey by the Northeastern Station. Forest-survey field crews attempted to obtain the correct name and mailing address of the owner of each of the 230 privately owned forested field plots in the State. They also attempted to obtain the names of persons owning the land on which 426 photo-interpretation points were randomly located on aerial photographs of the State. The field crews were able to obtain usable addresses for nearly 90 percent of the field plots and photo-interpretation points. In all, 493 questionnaires were mailed to owners of commercial forest land in New Jersey. A total of 265 were returned with usable information.

The questionnaire used in this study was developed after investigation of several earlier ownership studies and consultations with other investigators. It was field-tested before the mass mailings. The mailing consisted of the questionnaire plus a cover letter explaining the purpose of the survey. Approximately 2 weeks after the first mailing, those addressees who had not responded received a second copy of the questionnaire and its cover letter plus a second letter urging cooperation with the study. Approximately 1 month later, 177 owners had responded. Then a 100-percent field canvass of the nonrespondents was undertaken. This effort resulted in an additional 88 usable questionnaires.

The resulting data were compiled by electronic computer, using the FINSYS generalized computer system.² Since the sampling scheme used in this study is essentially the

one used in the forest survey of timber resources, it introduces a bias because the sample is proportional to the forest area being sampled and is not proportional to the number of owners of forest land. To overcome this bias, it was necessary to weight the numbers of owners obtained in the sample. This procedure can be stated mathematically as:

$$wx = \frac{CFLp/Nr}{Ai}$$

and Σwx = estimated number of private owners in the State

where wx = the weighted number of private owners represented by the respondent

$CFLp$ = the area of privately owned commercial forest land in the State

Nr = number of respondents in the survey

Ai = acres owned by individual respondent

The sum of the weighted number of owners then provides an unbiased estimate of the total number of persons who own commercial forest land in New Jersey.

The acreage of commercial forest land was estimated in a manner similar to that used in the forest survey. The total area of privately owned commercial forest land was divided by the number of field plots represented in the ownership canvass. Thus, if a particular respondent owned land on which one forested plot was located, his response was given a weight of 1, or his response was said to account for 5,803 acres of commercial forest land. If a respondent represented two forested plots, his response received a weight of 2 or double the acreage and so on. Actual reported acreage was used only to calculate the sample, mean, mode, and median.

² Wilson, Robert W., Jr., and Robert C. Peters. 1967. The Northeastern Forest Inventory Data Processing System. I. Introduction. USDA For. Serv. Res. Pap. NE-61. Northeast. For. Exp. Stn., Upper Darby, Pa. 20 p., illus.

It was also necessary to determine if those questionnaires obtained through the mail and those obtained by means of the field follow-up were both samples of the same population. The hypothesis tested was that there was no significant difference in the mean acreage of the subsamples. Student's t-test showed that no significant difference existed at the 99-percent probability level.

Sampling Errors

Sampling errors were calculated for the estimated total number of forest-land owners in the State. The sampling error for the number of acres of commercial forest land in private ownership, calculated as part of the forest survey, is $\pm 76,606$ acres or ± 5 percent of the estimate. That is, we would expect that the true acreage falls within the range 1,461,294 and 1,614,506 acres. The sampling error for the estimated total number of owners is $\pm 7,589$ or ± 12 percent.³ Thus, we expect that the true number of owners lies within the range 56,011 and 71,189. The user of these data is cautioned that, as the size of any estimate decreases in relation to the total estimate, the sampling error, expressed as a percentage of the estimate, increases drastically.

Definition of Terms

Forest land. — Land that is at least 16.7 percent stocked (contains at least 7.5 square feet of basal area) by forest trees of any size, or that formerly had such tree cover and is not currently developed for nonforest use. (Forest trees are woody plants that have a well-developed stem and usually are more than 12 feet in height at maturity.) The minimum area for classification as forest land is 1 acre.

Commercial forest land. — Forest land that is producing or capable of producing crops of industrial wood (more than 20 cubic feet per acre per year) and is not

withdrawn from timber utilization. (Industrial wood: all roundwood products except fuelwood.)

Private commercial forest land.—All commercial forest land other than that owned by federal, state, or local governments or their agencies.

Softwoods. — Coniferous trees that are usually evergreen, having needles or scale-like leaves.

Hardwoods. — Dicotyledonous trees that are usually broad-leaved and deciduous.

Stand. — A growth of trees on a minimum of 1 acre of forest land that is at least 16.7 percent stocked by forest trees of any size.

Growing-stock trees. — Live trees of commercial species that are classified as sawtimber, poletimber, saplings, and seedlings; that is, all live trees of commercial species except rough and rotten trees.

Growing-stock volume. — Net volume, in cubic feet, of live growing-stock trees that are 5.0 inches dbh and larger, from a 1-foot stump to a minimum 4.0-inch top diameter outside bark of the central stem. Net volume equals gross volume less deduction for rot.

Sawtimber trees. — Live trees of commercial species: (1) that are of the following minimum diameter at breast height: softwoods 9.0 inches and hardwoods 11.0 inches, and (b) that contain at least one 12-foot merchantable sawlog and meet regional specifications for freedom from defect.

Sawtimber volume.—Net volume in board feet, International $\frac{1}{4}$ -inch rule, of merchantable sawlogs in live sawtimber trees. Net volume equals gross volume less deductions for rot, sweep, and other defects that affect use for lumber.

Board foot. — A unit of lumber measurement 1 foot long, 1 foot wide, and 1 inch thick, or its equivalent. By forest-survey convention, softwoods less than 9.0 inches dbh and hardwoods less than 11.0 inches dbh do not contain board foot volume.

Annual net growth. — The annual change (resulting from natural causes) in volume of sound wood in sawtimber and poletimber trees.

³ Cochran, William G. 1963. Sampling techniques. 2nd ed., p. 252. Theory for selection with arbitrary probabilities. John Wiley & Sons, Inc., New York.

Timber removals. — The net volume of growing-stock trees removed from the inventory by harvesting, cultural operations such as timber-stand improvement, land-clearing, or changes in land use.

Forest industries. — Companies or individuals operating wood-using plants.

Timber salvage. — Removals of down, damaged, or diseased trees.

Selection system. — The method of timber harvesting in which usually only the oldest or largest trees in a stand are harvested. Trees are taken singly or in small groups, but the entire stand is never cleared off completely.

Clearcutting. — The method of timber harvesting in which the area is cutclear in the literal sense of the word; virtually all

the trees, large and small, are removed. (The term is often erroneously applied to any type of cutting in which all the merchantable timber is removed and all that is not merchantable is left.)

Diameter limit. — The method of timber harvesting in which all trees above a specified diameter are removed.

Sawlog. — Any log from which lumber is to be sawn.

Veneer log. — Any log from which veneer is to be made either by peeling (rotary cut) or slicing.

Pulpwood. — Any log from which wood-pulp is to be made. Usually measured in bolts of 4, 5, or 8 feet and somewhat smaller in diameter than either sawlogs or veneer logs.

Tabular Data

Table

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27. Agency that owners would contact for forestry assistance and the acreage of commercial forest land these owners own; New Jersey, 1972.
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Table 1. — Estimated number of private owners of commercial forest land and percentage of all private owners, by ownership form and size class; New Jersey, 1972

Size class (acres)	Individual Owners ^a		Corporations		Other ^b		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
1 - 9	31,300	49	200	(**)	3,100	5	34,600	54
10 - 19	9,300	15	1,700	3	300	1	11,300	18
20 - 49	9,600	15	1,900	3	1,200	2	12,700	20
50 - 99	1,800	3	600	1	700	1	3,100	5
100 - 199	800	1	400	1	200	(**)	1,400	2
200 - 499	200	(**)	200	(**)	(*)	(**)	400	1
500 +	(*)	(**)	100	(**)	(*)	(**)	100	(**)
Total	53,000	83	5,100	8	5,500	9	63,600	100

* Fewer than 50.

** Less than 0.5 percent.

^a Includes joint ownerships.

^b Includes partnerships, associations, clubs, and undivided estates.

Table 2. — Estimated acreage of private commercial forest land and percentage of all private commercial forest land, by ownership form and size class; New Jersey, 1972

Size class (acres)	Individuals ^a		Corporations		All others ^b		Total	
	Acres	Pct.	Acres	Pct.	Acres	Pct.	Acres	Pct.
1 - 9	161,900	11	11,600	1	17,300	1	190,800	12
10 - 19	161,900	11	23,100	2	11,600	1	196,600	13
20 - 49	277,500	18	52,100	3	40,400	3	370,000	24
50 - 99	144,500	9	52,000	3	57,900	4	254,400	17
100 - 199	109,800	7	75,200	5	23,100	1	208,100	13
200 - 499	69,400	4	63,600	4	17,300	1	150,300	10
500 +	40,500	3	98,300	6	28,900	2	167,700	11
Total	965,500	63	375,900	24	196,500	13	1,537,900	100

^a Includes joint ownerships.

^b Includes partnerships, associations, clubs, and undivided estates.

Table 3. — Estimated number of private owners of commercial forest land and acreage owned, by size class and past harvest category; New Jersey, 1972

Size class average tract (acres)	Harvested		Did not harvest		Total	
	Owners	Commercial forest land owned	Owners	Commercial forest land owned	Owners	Commercial forest land owned
1 - 9	1,500	23,100	33,100	167,700	34,600	190,800
10 - 19	1,900	40,500	9,400	156,100	11,300	196,600
20 - 49	2,200	98,300	10,500	271,700	12,700	370,000
50 - 99	500	46,300	2,700	208,100	3,100	254,400
100 - 199	600	80,900	700	127,200	1,400	208,100
200 - 499	100	46,200	300	104,100	400	150,300
500 +	(*)	63,600	100	104,100	100	167,700
Total	6,800	398,900	56,800	1,139,000	63,600	1,537,900

* Fewer than 50.

Table 4. — Form of ownership, by number of owners and acreage of commercial forest land; New Jersey, 1972

Category	Owners		Commercial forest land owned	
	No.	Pct.	Acres	Pct.
Individuals ^a	53,000	83	965,500	63
Partnerships	3,300	5	127,200	8
Corporations	5,100	8	375,900	24
Other ^b	2,200	4	69,300	5
Total	63,600	100	1,537,900	100

^a Individual includes joint ownerships.

^b Other includes associations, clubs, and undivided estates.

Table 5. — Number of owners who have harvested timber and acreage of commercial forest land they own; New Jersey, 1972

Item	Individuals ^a	Corporations	All others ^b	Total
<i>Owners:</i>				
Number of owners	5,800	300	700	6,800
Percent in category	11	6	13	11
Percent of all owners	9	(*)	1	11
<i>Acreage:</i>				
Acres owned	248,500	92,600	57,800	398,900
Percent in category	26	25	29	26
Percent of all acreage	16	6	4	26

* Less than 0.5 percent.

^a Includes joint ownerships.

^b Includes partnerships, associations, clubs, and undivided estates.

Table 6. — Incorporated ownerships, by estimated number of owners and acreage of commercial forest land owned; New Jersey, 1972

Corporation	Owners		Commercial forest land owned	
	No.	Pct.	Acres	Pct.
Real estate	2,300	45	214,000	57
Corporate farms	400	8	46,300	12
Forest industries	(*)	(**)	5,800	2
Other industries ^a	900	18	57,800	15
Other corporations ^b	1,500	29	52,000	14
Total	5,100	100	375,900	100

* Fewer than 50 owners.

** Less than 0.5 percent.

^a Includes public utilities.

^b Includes incorporated organizations such as Boy and Girl Scouts, Golf Clubs, recreation, conservation groups, etc.

Table 7. — Occupations of individual owners, by number of owners and acreage of commercial forest land owned; New Jersey, 1972

Owner occupation	Owners		Commercial forest land owned	
	<i>No.</i>	<i>Pct.</i>	<i>Acres</i>	<i>Pct.</i>
Professional	6,200	12	150,400	15
Executive	7,900	15	213,200	22
Retired	10,200	19	163,000	17
White collar	7,900	15	144,200	15
Skilled laborer	10,900	21	100,300	10
Farmer	1,700	3	56,200	6
Other ^a	8,200	15	138,200	15
Total	53,000	100	965,500	100

^a Includes unskilled laborers, housewives, and others not elsewhere classified.

Table 8. — Occupations of individual owners who have harvested timber, and acreage of commercial forest land owned; New Jersey, 1972

Owner occupation	Owners who have harvested		Acreage owned by owners who have harvested	Percentage of total acreage owned
	<i>No.</i>	<i>Pct.</i>		
Professional	1,300	2	31,100	3
Executive	600	1	43,500	5
Retired	1,100	2	49,700	5
White collar	300	1	43,400	4
Skilled laborer	500	1	24,900	3
Farmer	300	1	24,900	3
Other ^a	1,700	3	31,000	3
Total	5,800	11	248,500	26

^a Includes unskilled laborers, housewives, and others not elsewhere classified.

Table 9. — Age class of individual owners, by number of owners and acreage of commercial forest land owned; New Jersey, 1972

Age class (years)	Owners		Commercial forest land owned	
	<i>No.</i>	<i>Pct.</i>	<i>Acres</i>	<i>Pct.</i>
Under 40	7,200	14	149,900	16
40-49	7,000	13	155,900	16
50-59	12,600	24	287,900	30
Over 60	26,200	49	371,800	38
Total	53,000	100	965,500	100

Table 10. — Years of formal education completed by individual owners, by number of owners and acreage of commercial forest land; New Jersey, 1972

Education level	Owners		Commercial forest land owned	
	<i>No.</i>	<i>Pct.</i>	<i>Acres</i>	<i>Pct.</i>
0- 8 years	7,100	13	116,100	12
9-12 years	31,600	60	482,800	50
1-4 years of college	7,000	13	189,400	20
More than 4 years of college	7,300	14	177,200	18
Total	53,000	100	965,500	100

Table 11. — Individual owners by income groups, by number of owners and by acreage of commercial forest land owned; New Jersey, 1972

Category	Owners		Commercial forest land owned	
	<i>No.</i>	<i>Pct.</i>	<i>Acres</i>	<i>Pct.</i>
Under \$10,000	28,500	54	360,500	37
\$10,000-\$30,000	21,500	40	392,600	41
Over \$30,000	3,000	6	212,400	22
Total	53,000	100	965,500	100

Table 12. — Early life environment of individual owners, by number of owners and acreage of commercial forest land owned; New Jersey, 1972

Type of environment ^a	Owners		Commercial forest land owned	
	<i>No.</i>	<i>Pct.</i>	<i>Acres</i>	<i>Pct.</i>
City over 100,000 population	11,400	21	229,000	24
City 15,000 to 100,000	7,400	14	142,300	15
Town under 15,000	9,500	18	229,000	24
Rural area	24,700	47	365,200	37
Total	53,000	100	965,500	100

^a First 12 years of life.

Table 13. — Period of ownership of commercial forest land, by number of owners and acreage owned; New Jersey, 1972

Period of ownership	Owners		Commercial forest land owned	
	<i>No.</i>	<i>Pct.</i>	<i>Acres</i>	<i>Pct.</i>
Less than 5 years	10,100	16	184,000	12
5- 9 years	12,800	20	412,100	27
10-24 years	27,300	43	544,500	35
25 years or more	13,400	21	397,300	26
Total	63,600	100	1,537,900	100

Table 14. — Distance owner's residence is from his nearest tract,
by number of owners and acreage of commercial
forest land owned; New Jersey, 1972

Distance from nearest tract	Owners		Commercial forest land owned	
	<i>No.</i>	<i>Pct.</i>	<i>Acre</i> s	<i>Pct.</i>
Lives on or within 5 miles	46,700	73	1,014,600	66
6-25 miles	5,400	9	191,500	12
Over 25 miles	11,500	18	331,800	22
Total	63,600	100	1,537,900	100

Table 15. — Number of tracts owned, by number of
owners and by total acreage of commercial forest
land owned; New Jersey, 1972

Number of tracts owned	Owners		Commercial forest land owned	
	<i>No.</i>	<i>Pct.</i>	<i>Acre</i> s	<i>Pct.</i>
1	56,700	89	1,127,400	73
2	5,100	8	225,500	15
3 or more	1,800	3	185,000	12
Total	63,600	100	1,537,900	100

Table 16. — First and second reasons for owning commercial forest land, by number of owners and by those who have and those who have not harvested timber; New Jersey, 1972

Reason for owning	First reason		Second reason	
	Number of owners	Percent of owners	Number of owners	Percent of owners
<i>Owners who have harvested:</i>				
Land investment	1,200	18	700	10
Recreation	1,100	16	900	13
Timber production	(**)	(*)	800	12
General farm use	1,300	19	1,600	24
Part of residence	2,900	43	1,500	22
Other	300	4	1,300	19
Total	6,800	100	6,800	100
<i>Owners who have not harvested:</i>				
Land investment	16,900	30	9,900	17
Recreation	6,300	11	9,500	17
Timber production	400	1	12,300	22
General farm use	3,000	5	9,300	16
Part of residence	27,400	48	11,800	21
Other	2,800	5	4,000	7
Total	56,800	100	56,800	100
<i>All owners:</i>				
Land investment	18,100	28	10,600	17
Recreation	7,400	12	10,400	16
Timber production	400	1	13,100	21
General farm use	4,300	7	10,900	17
Part of residence	30,300	47	13,300	21
Other	3,100	5	5,300	8
Total	63,600	100	63,600	100

* Less than 0.5 percent.

** Less than 50 owners.

Table 17. — First and second reasons for owning commercial forest land, by acreage owned for owners who have and owners who have not harvested timber; New Jersey, 1972

Reason for owning	First reason		Second reason	
	Acres of commercial forest land owned	Percent of acres	Acres of commercial forest land owned	Percent of acres
<i>Owners who have harvested:</i>				
Land investment	156,100	39	49,800	12
Recreation	40,500	10	119,700	31
Timber production	11,600	3	79,800	20
General farm use	52,000	13	79,800	20
Part of residence	115,600	29	39,900	10
Other	23,100	6	29,900	7
Total	398,900	100	398,900	100
<i>Owners who have not harvested:</i>				
Land investment	433,100	38	192,100	17
Recreation	148,300	13	315,600	28
Timber production	11,900	1	151,000	13
General farm use	59,300	5	137,200	12
Part of residence	314,400	28	192,100	17
Other	172,000	15	151,000	13
Total	1,139,000	100	1,139,000	100
<i>All owners:</i>				
Land investment	589,200	38	241,900	16
Recreation	188,800	12	435,300	28
Timber production	23,500	2	230,800	15
General farm use	111,300	7	217,000	14
Part of residence	430,000	28	232,000	15
Other	195,100	13	180,900	12
Total	1,537,900	100	1,537,900	100

Table 18. — Benefits derived in the past 5 years and benefits expected in the next 5 years, by number of owners who have and number who have not harvested timber; New Jersey, 1972

Benefit	Last 5 years		Next 5 years	
	Number of owners	Percent of owners	Number of owners	Percent of owners
<i>Owners who have harvested:</i>				
Recreation	500	7	700	10
Sale of timber	200	3	600	9
Land value increase	800	12	2,200	32
Aesthetics	4,900	72	3,100	46
Other	400	6	200	3
Total	6,800	100	6,800	100
<i>Owners who have not harvested:</i>				
Recreation	10,000	18	9,300	16
Sale of timber	—	—	700	1
Land value increase	15,400	27	23,700	42
Aesthetics	27,500	48	18,200	32
Other	3,900	7	4,900	9
Total	56,800	100	56,800	100
<i>All owners:</i>				
Recreation	10,500	17	10,000	16
Sale of timber	200	(*)	1,300	2
Land value increase	16,200	25	25,900	41
Aesthetics	32,400	51	21,300	33
Other	4,300	7	5,100	8
Total	63,600	100	63,600	100

* Less than 0.5 percent.

Table 19. — Benefits derived in the past 5 years and benefits expected in the next 5 years, by acreage owned by owners who have or have not harvested timber; New Jersey, 1972

Benefits	Last 5 years		Next 5 years	
	Acres of commercial forest land owned	Percent of acres	Acres of commercial forest land owned	Percent of acres
<i>Owners who have harvested:</i>				
Recreation	35,200	9	35,700	9
Sale of timber	29,300	7	29,800	7
Land value increase	123,200	31	190,500	49
Aesthetics	170,100	43	113,100	28
Other	41,100	10	29,800	7
Total	398,900	100	398,900	100
<i>Owners who have not harvested:</i>				
Recreation	179,500	16	187,800	16
Sale of timber	—	—	48,500	4
Land value increase	470,500	41	521,000	46
Aesthetics	365,200	32	272,600	24
Other	123,800	11	109,100	10
Total	1,139,000	100	1,139,000	100
<i>All owners:</i>				
Recreation	214,700	14	223,500	15
Sale of timber	29,300	2	78,300	5
Land value increase	593,700	38	711,500	46
Aesthetics	535,300	35	385,700	25
Other	164,900	11	138,900	9
Total	1,537,900	100	1,537,900	100

Table 20. — Reason for past harvest of timber, by number of owners and acreage owned, and by form of ownership; New Jersey, 1972

Reason	Individual ^a		Corporation		Other ^b		Total	
	Owners	Acreage owned	Owners	Acreage owned	Owners	Acreage owned	Owners	Acreage owned
	<i>No.</i>	<i>Acres</i>	<i>No.</i>	<i>Acres</i>	<i>No.</i>	<i>Acres</i>	<i>No.</i>	<i>Acres</i>
Timber mature	1,100	52,300	100	30,000	300	24,800	1,500	107,100
Good price	600	58,900	100	7,000	—	—	700	65,900
Land-clearing	700	19,600	(*)	10,400	—	—	700	30,000
Need money	900	49,000	100	17,400	200	8,300	1,200	74,700
Salvage	300	13,100	(*)	10,400	—	—	300	23,500
Cultural treatment	1,400	26,200	(*)	7,000	200	20,600	1,600	53,800
Other	800	29,400	(*)	10,400	(*)	4,100	800	43,900
Total	5,800	248,500	300	92,600	700	57,800	6,800	398,900

* Fewer than 50 owners.

^a Individual includes joint ownerships.

^b Other includes partnerships, associations, clubs, and undivided estates.

Table 21. — Reason for not harvesting timber, by number of owners and by acreage of commercial forest land owned; New Jersey, 1972

Reason for not harvesting	Owners		Commercial forest land owned	
	No.	Pct.	Acres	Pct.
Timber immature	13,900	22	254,200	17
No market	1,000	2	18,900	1
Low price	1,800	3	18,900	1
It would destroy hunting	1,400	2	37,600	2
Selling land	400	1	37,600	2
It would ruin the scenery	13,000	20	254,200	17
Poor quality and low volume	13,800	22	206,800	14
Insufficient area	2,100	3	18,900	1
Opposed to harvesting	200	(*)	18,900	1
Other	9,200	14	273,000	18
Total	56,800	89	1,139,000	74

* Less than 0.5 percent of all owners.

Table 22. — Individual who selected the timber to be harvested, by number of owners and acreage owned; New Jersey, 1972

Individual selecting timber	Owners		Commercial forest land owned	
	No.	Pct.	Acres	Pct.
Landowner	300	4	33,200	8
Forester	2,500	37	146,300	37
Friend	700	10	13,300	3
Buyer	1,900	28	106,400	27
Landowner and buyer	1,400	21	79,800	20
Other ^a	(*)	(**)	19,900	5
Total	6,800	100	398,900	100

* Fewer than 50 owners.

** Less than 0.5 percent.

^a Includes: (1) landowner and forester, (2) landowner and friend, and (3) forester and buyer.

Table 23. — Method of selecting timber to be harvested, by number of owners and by acreage owned; New Jersey, 1972

Method of selecting timber	Owners		Commercial forest land owned	
	No.	Pct.	Acres	Pct.
Selection	1,700	25	163,500	41
Diameter limit	2,900	43	117,700	30
Clearcutting	1,300	19	52,400	13
Other ^a	400	6	45,700	11
Don't know	500	7	19,600	5
Total	6,800	100	398,900	100

^a Includes diameter-limit selection, diameter-limit clearcut, and other methods.

Table 24. — Method of selecting timber to be harvested, by product harvested and number of owners; New Jersey, 1972^a

Method of selecting timber	Product				Total
	Sawlogs	Veneer logs	Pulpwood	Other products ^b	
Selection	1,100	300	700	1,200	3,300
Diameter limit	1,300	300	500	1,100	3,200
Clearcutting	100	—	400	900	1,400
Other ^c	200	(*)	100	200	500
Don't know	—	—	200	400	600
Total	2,700	600	1,900	3,800	9,000

* Fewer than 50 owners.

^a Owners are counted more than once if multiple products were harvested.

^b Includes fuelwood, posts, poles, and other products.

^c Includes: diameter limit and selection, diameter limit and clearcut, and other methods.

Table 25. — Method of selecting timber to be harvested, by product harvested and acreage owned; New Jersey, 1972^a

Method of selecting timber	Product				Total
	Sawlogs	Veneer logs	Pulpwood	Other products ^b	
Selection	75,200	28,900	40,500	80,900	225,500
Diameter limit	63,600	17,300	11,600	34,700	127,200
Clearcutting	5,800	—	17,300	40,500	63,600
Other ^c	23,100	5,800	17,300	34,700	80,900
Don't know	—	—	11,600	11,900	23,500
Total	167,700	52,000	98,300	202,700	520,700

^a Acres are counted more than once if multiple products were harvested.

^b Includes: diameter limit—selection, diameter limit—clearcut, and other methods.

^c Includes pulpwood, posts, poles, and other products.

Table 26. — Expected time of future timber harvest, by number of owners and acreage of commercial forest land owned; New Jersey, 1972

Expected time of future harvest	Owners		Commercial forest land owned	
	No.	Pct.	Acres	Pct.
<i>Owners who have previously harvested timber:</i>				
0-10 years	2,000	29	118,400	30
Indefinite	1,800	27	180,800	45
Never plan to harvest	3,000	44	99,700	25
Total	6,800	100	398,900	100
<i>Owners who have not previously harvested timber:</i>				
0-10 years	8,500	15	127,300	11
Indefinite	14,000	25	355,100	31
Never plan to harvest	34,300	60	656,600	58
Total	56,800	100	1,139,000	100
<i>All owners:</i>				
0-10 years	10,500	16	245,700	16
Indefinite	15,800	25	535,900	35
Never plan to harvest	37,300	59	756,300	49
Total	63,600	100	1,537,900	100

Table 27. — Agency that owners would contact for forestry assistance and the acreage of commercial forest land these owners own; New Jersey, 1972

Agency	Owners		Commercial forest land owned	
	No.	Pct.	Acres	Pct.
County	9,500	15	283,300	19
State	6,000	9	269,800	18
Soil Conservation Service	1,100	2	54,000	4
U.S. Forest Service	2,300	4	74,200	5
Consulting forester	400	1	6,700	(**)
Cooperative Extension Service	2,200	3	67,500	4
Other	(*)	(**)	6,700	(**)
Don't know	42,100	66	775,700	50
Total	63,600	100	1,537,900	100

* Fewer than 50 owners.

** Less than 0.5 percent.

Table 28. — Owners who have received forestry services, by nature of service and acreage of commercial forest land owned; New Jersey, 1972

Forestry service	Owners		Commercial forest land owned	
	<i>No.</i>	<i>Pct.</i>	<i>Acres</i>	<i>Pct.</i>
Timber-stand improvement	500	1	46,300	3
Tree planting	2,300	4	75,200	5
Timber marking	800	1	40,500	3
Timber-stand evaluation	2,100	3	52,000	3
General forest management	2,100	3	92,500	6
Other	900	1	80,900	5

Table 29. — Recreational use of commercial forest land permitted, by number of owners and acreage owned; New Jersey, 1972

Recreational activity	Owners		Commercial forest land owned	
	<i>No.</i>	<i>Pct.</i>	<i>Acres</i>	<i>Pct.</i>
Hiking	18,500	29	514,600	33
Picnicking	10,000	16	387,400	25
Camping	8,400	13	341,100	22
Fishing	4,800	8	283,300	18
Hunting ^a	23,900	38	531,900	35

^a A total of 844,100 acres is posted against trespassing and/or hunting.

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