ABSTRACT

A STUDY OF SMALL PRIVATE FOREST LANDOWNERS
IN THE UPPER PENINSULA OF MICHIGAN

by Dean N. Quinney

This study, based on a list sample of small private forest landowners with ownerships of between 5 and 5,000 acres, disclosed a total population of about 30,000 ownerships. These ownerships control slightly more than 3-1/4 million acres of commercial forest land (about one-third of the total) in Michigan's Upper Peninsula.

Ownerships were classified on the basis of owner occupation or (for multiple ownerships) use categories, as well as the location of the owner's permanent residence or source of ownership decisions. Upper Peninsula owners made up the bulk of the ownership (75 percent of all owners); the remaining are absentee owners who make their permanent homes outside the study area. Empirically it appeared that this latter group is on the increase.

Local owners ranged over a wide variety of occupation or use classes. Wage earners, active farmers, professional or businessman owners, housewife-widow, and retired owners share the greatest proportion of the area owned by Upper Peninsula residents. Although the average size ownership was slightly more than 100 acres, there was a considerable range in size of individual holdings. There did not appear to be any recognizable difference between

the resident and absentee owner groups on the basis of size of ownerships.

From the initial sample of ownerships a subsample was taken for the purpose of interviewing owners concerning specific owner and ownership characteristics, forestry practices, problems, and responses to existing and proposed forestry programs. In all, 198 such interviews were made.

Individual ownerships predominate and at least 70 percent of all owners had acquired their lands by purchase or within the last 20 years. More than half of the owners do not reside on their properties; however, with the inclusion of those who do live on the property, three-fourths make their permanent residence within 50 miles.

Although ownership is spread over many age classes, the average age was found to be 56 years, with many owners over 60 years old. Expectations concerning future tenure were not too positive, with 40 percent of the owners expressing some uncertainty as to whether they would retain ownership during the rest of their lifetimes.

Objectives of retaining ownership were sorted out on the basis of the one reason which exceeded all others in importance. On this basis, the leading objectives cited included: ownership to provide a residence, hunting or fishing use, general farm use, inactive (no tangible reason at the present), and as a site for a summer home or weekend cottage. Among Upper Peninsula owners, residence

and general farm use were the most prominent reasons; while among absentee owners, hunting or fishing, and summer home use were the most often cited.

Tree planting for forestry purposes is not a widespread practice. Only 13 percent of the owners who own land suitable for planting had made reforestation-type plantings. Timber sales and timber harvesting occurred more frequently with 43 percent of all owners having sold or used timber from their properties within the last five years. Farmers, retired owners, and loggers were most active in making timber sales from their properties. Many of these sales provide the owner with the opportunity to realize an income from the use of his own otherwise idle labor time. In contrast to these active local owners, none of the ownership group who make their permanent homes outside the Upper Peninsula had sold timber from their lands. Excluding tree planting or timber sales, few owners had done any other work in their woodlands.

Neither the availability of credit or the existing property tax situation seemed to be major factors affecting the decisions of the majority of these owners.

Present amounts of forestry aid and assistance in the Upper Peninsula are quite modest and of fairly recent origin. Few owners had availed themselves of these aids, and the majority of the owners did not even know that help was available.

Owners were queried concerning possible interest in obtaining or participating in three aspects of more intensive forestry: employment of a consultant, joint management associations, and leasing of lands by private companies for forestry purposes. Although there was no outstanding responses to any of the three propositions, collectively the interest among absentee owners was greater than among Upper Peninsula owners, with close to one-fifth of the nonresidents indicating some interest in both management associations and leasing.

The writer believes that the changing composition of the ownership population (more absentee owners and less active farmer owners) is producing a changing complex of ownership objectives, forestry problems, and probable patterns of forest use. These altered conditions will necessitate a reorganization and reorientation in public forestry programs if these small forest ownerships are to make a greater contribution to the Upper Peninsula's forest economy.

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By

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CHAPTER I

THE PROBLEM

During the past four years, studies of small private forest landownership have been made by the U. S. Forest Service in several areas of the eastern United States. These studies, including the one on which this thesis is based, were made for the purpose of learning more about the small owner--his occupation, his personal characteristics, why he was holding forest land, in what forestry programs had he participated, and what factors affected his decisions.

Why is the Forest Service so interested in this category of forest ownership? This question best can be answered by means of a brief review of the history of forestry in the United States, the outlook concerning probable future demands on our forest resources, and the current forest landownership situation. The material presented in this introductory chapter sketches in some of this background information and provides a basis for an understanding of the problem.

Changes in American Forestry

> Allow me to call your attention to the necessity for all concerned in the public welfare of giving serious thought to the growing importance of the forestry question to the country as a whole and to the individual states. I trust that the warning voices pointing out the dangers to the welfare of the country, arising from an indiscriminate destruction of forests without adequate provision for their restoration, have been heard by you, and also the suggestion that, in order to arrest the tendency to wastefulness in this particular, it is necessary to look first of all to the aid of public schools and other means of education.[1]

> Tomorrow the Nation's need for timber will be strikingly greater than today or at any time in the past. We have the potential to meet that need if we fully apply our forestry knowledge and skills promptly, with vigor and determination. . . . To meet future timber demands . . . will require not only early action but an intensity of forestry practices that will startle many of us. There are no grounds for complacency. What we do in the next 10 or 20 years will determine whether we shall grow enough timber to enable our children and their children to enjoy the timber abundance that we ourselves know.[2]

The first quotation, taken from Circular No. 1 of the infant Division of Forestry of the U. S. Department of Agriculture in 1886, is a request by Dr. B. E. Fernow to the educators of the country to instill in the young people of the times an appreciation for the

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[1]B. E. Fernow, Request to Educators for Cooperation, U. S. Dept. of Agriculture Division of Forestry Circular No. 1 (Washington, 1886), p. 1.

[2]R. E. McArdle, "Foreword," in Timber Resources for America's Future, U. S. Dept. of Agriculture Forest Resource Report No. 14 (Washington: U. S. Government Printing Office, 1958), pp. II and III.

need to affect reforms in using the forests. The second statement, directed to the general public, is made by the current Chief of the United States Forest Service, Dr. Richard E. McArdle, in the "Foreword" to Timber Resources for America's Future, published in January, 1958.

In the intervening 72 years many changes have taken place in American forestry. At the time of German-trained Dr. Fernow's plea, there was no such thing as an American forestry profession. The few professionally trained foresters in the country were all Europeans, and it was not until 1890 that Gifford Pinchot, after a year's attendance at the Ecole National Forestiere at Nancy, would return as the first native American with professional training in forestry. Today in the United States there are some 17,000 trained foresters employed in various aspects of caring for and managing the nation's forested lands.

In 1886 there were no public lands dedicated to sustained timber production, and timber utilization largely was on a "cut-out-and-get-out" basis, with new unexploited timber stands waiting over the horizon. In the opinion of lumbermen of the late 1800's, the great pineries of the northern Lower Peninsula of Michigan, then at the peak of their cutting, contained

enough timber to last 1,000 years--or so they thought.[1]

Rapid changes were to take place. The vast pine forests of the Lake States were to be virtually exhausted by the early 1900's. But this was no cause for alarm as virgin stands of longleaf, slash, and loblolly pine were to be had for the cutting in the South. By 1915 these too were gone, and the "jacks" packed their "turkeys" and headed into the Pacific Northwest to sink their axes into stands of centuries-old Douglas fir, western hemlock, and other coniferous species. Old growth hardwood stands lasted somewhat longer. Lumbermen who stayed behind were still operating in the last extensive tracts of old growth hardwoods in the Northeast, South, and Lake States in the 1930's and 1940's.

It is not the purpose of this study to debate the wisdom of these largely unrestrained actions of the lumbermen in cutting their way across some 2,000 miles from Maine to the Pacific Coast in not much more than a century. Michigan pine was needed to rebuild Chicago after the fire of 1871, monies were needed to push the railroads across the continent and for other alternate investment opportunities. One can only speculate on the consequences, good or bad, which a different pattern of utilizing our timber bounty would have produced.

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[1]S. H. Holbrook, Holy Old Mackinaw (New York: MacMillan Company, 1956), p. 84.

The more than one-half century between Fernow's and McArdle's pleas has produced many changes in addition to the harvesting of most of our virgin timber stands. Reversal of a national policy of disposing of public lands, concern over the watersheds for many of our major eastern navigable rivers, and the land problems of the 1930's produced the National Forest system of some 85 million acres of commercial forest land which we have today. Tax delinquency during the depression of the 1930's, together with planned acquisition through purchase, created the 27 million acres now included in the various State forests. Additional public forest lands are now held in tracts administered by the Bureau of Land Management of the U. S. Department of Interior, various counties, and the Federal Department of Defense, and under trusteeship by the United States Indian Service.

Changes also took place in the private industrial forestry situation. In 1928 Colonel William Greeley, for eight years Chief Forester of the U. S. Forest Service, resigned to become head of the West Coast Lumbermen's Association. Guidance from such leaders as Colonel Greeley, together with a changing economic environment in regard to values involved in forest holdings, gradually changed the outlook and policies of the timber industry itself. Industrial owners came to look upon forest lands not as consumables to be liquidated and

then sold or abandoned, but as the necessary resource base for stable production facilities.[1]

This transition was not without its controversies, disputes, and personality conflicts. From the time of Dr. Fernow practically up until the present decade, the future of our timber resources and needed actions to insure continued timber supplies have been the source of much controversy. In an attempt to evaluate the situation with respect to the Nation's forest resources and to provide a basis for policy recommendations, the U. S. Forest Service over the years, by itself or in cooperation with others, has made a number of detailed comprehensive analyses of the situation in regard to ownership distribution, timber volumes, annual growth, and annual drain. These studies have included the Capper Report covering the period from 1909 to 1918, the Copeland Report covering 1925 to 1929, the Joint Congressional Committee on Forestry Report of 1938, the Reappraisal of the Forest Situation in the United States covering 1945 to 1948, and most recently the Timber Resource Review of 1958. With advances in techniques

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[1]This change in operations is reflected in the current scene where the modern lumberjack lives with his family in his own home in a permanent community. The travelling "jack" moving from woods camp to woods camp has virtually passed from the scene. The logging camp with its legendary characters has largely passed into American folklore. Paul Bunyan is no more!

of forest inventory, more accurate utilization data, and more intensive analysis, each report has represented an improvement over its predecessor.

As would be expected in studies dealing with our entire forest economy, there have been differences of opinion as to conclusions and recommendations on most of these reports. For each individual concluding "timber famine," there has been an opposite replying, "nonsense." For some who saw a dark future ahead for the forest situation and advocated some form of federal control or regulation of privately owned lands, there have been others who decried such action as both unnecessary and contrary to the American tradition of private ownership and individual freedom of action. This controversy burned fiercely, especially during the late 1920's, 1930's, and early 1940's. During this period several bills were introduced in Congress providing for federal control of cutting practices on private forest lands. None was enacted into law.

Accompanying this debate over public regulation of private forest lands were a number of ameliorating developments. During the 1920's and 1930's federal laws were enacted which provided for public programs of educational, advisory, and financial aid to private forest landowners. These included: the Extension Forestry Program of the U. S. Agricultural Extension

Service carried on in cooperation with the States; the Cooperative Forest Management Program of on-the-ground assistance to landowners operated by the States and financed by federal funds; assistance to private forest owners by the Soil Conservation Service; and federal payments to private owners for such forestry practices as tree planting, thinnings, prunings, and removal of inferior trees in timber stand improvement work under the Agricultural Conservation Program. Somewhat later, starting with Oregon in 1941, 13 States passed laws which contained some mild measure of public control at the State level over cutting practices on private forest lands.

In addition to these public-sponsored action programs, the forest industries themselves initiated steps toward improving and encouraging forest management on private lands. These have included such activities as the Keep America Green movements, Tree Farms, Trees for Tomorrow, Pilot Forests, and Busy Acres programs. In addition, various other industrial forestry associations, individual forest industries, railroads, and power companies have initiated programs to provide assistance in the form of on-the-ground advice by technical foresters to private forest landowners.

The Current Situation

In 1960 the population of the United States reached the 180 million mark. Demographers speak confidently of a population which will reach 300 million people or more by the year 2000--only 40 years in the future.[1] Unless current trends reverse themselves, this tremendous increase in population will be accompanied by a continuing increase in the individual standard of living; economists talk of a gross national product of about 1,700 billion dollars in the year 2000--a value more than three times the present gross national product.[2]

Such dramatic increases will place ever-increasing pressure on all our productive resources including those of forest lands. We shall be hard pressed to meet these needs, and it is probable that we shall have to accelerate the intensity of land use, including forest land use, if we are going to provide the output of products required by the year 2000.

For those who would scoff at an expression of concern over the future supply of timber products, a common thesis is that substitutes will be found and

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[1]Marion Clawson, R. B. Held, and C. H. Stoddard, Land for the Future (Baltimore: John Hopkins Press, 1960), p. 15.

[2]Ibid.

new, more efficient uses for wood discovered. This may be true to some extent, but while certain uses of wood, such as lumber, have declined on a per capita basis, other uses have vastly increased. Today it is estimated that for every man, woman, and child in the United States there is consumed some 440 pounds of paper and paper products annually. One need only glance at the daily content of the wastebaskets in any home with its load of discarded newspapers, magazines, food packages and wrappings, clothing boxes, facial tissue, etc., to realize where part of this consumption arises. To what extent substitutes of other origin can replace wood cellulose as a raw material for many of these essentials of modern living is a problem outside the scope of this study, but the premise can be stated that if such substitutes must be used because of a lack of economically available wood cellulose, and if these substitutes entail a greater social cost to produce them, then a social inefficiency has been permitted to take place. An extreme example of such a situation occurs in India where a teeming population consumes only nine pounds of paper and paper products annually and fuelwood is so scarce that animal excreta, badly needed as fertilizer, is used for household cooking fuel.

What can we expect of our forest resources in the future--how far can they be extended?

Several things are readily apparent. First, our land base for forest production is unlikely to be expanded; on the contrary, it may be expected to decline somewhat. Another 100 million people or more will require more food--the food problem which American agriculture currently faces is likely to reverse itself within the next three to four decades. Increasing urbanization, particularly in the Northeast and Lake States, already is sprawling out over agricultural lands including farm woodlots. New super highways and other service facilities are taking land out of farm or forest production every day.

Secondly, it is doubtful if imports of timber and timber products can be increased to any considerable extent.[1] Canada, which is our main supplier of the timber products and raw materials that we now import, can be expected also to undergo increases in population with attendant increased pressures on its own forest resource base. Expansions of imports from Canada could be expected to be only moderate at best. The timber-producing countries of Western Europe, with few exceptions, already experience levels of pressure

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[1]Edward C. Crafts, "A Summary of the Timber Resources Review," in Timber Resources for America's Future, op. cit., p. 103.

on their timber base far exceeding that of this country, and few increases can be expected from this area. Also, with the current world situation, future imports of timber products and raw materials from the countries of the non-free world are very questionable.

The conclusion is that we must be prepared to supply our future forest products needs from our own land resource base, and that it most likely will decline to some extent.

Forest Landownership Situation Nationally

Of the 489 million acres of commercial forest land in the United States, 27 percent is publicly owned and 73 percent privately owned (Table 1). In spite of the large tracts of National, State, and industrially owned forest lands, more than half of our commercial forest land is owned by a host of diverse small owners totaling some 4.5 million individuals or groups. These small landowners have less timber volume than their forest area indicates--31 percent of the national sawtimber inventory and 38 percent of the national inventory of all growing stock.

Management practices on forest lands may be classified in several ways. A very general index can be constructed on the basis of lands managed under the supervision of a professionally trained forester, or by

TABLE 1.--Ownership of commercial forest land in the United States by section, 1953

Ownership	All sections	North	South	West and coastal Alaska
	(Million acres)			
Private:				
Farm	165.2	61.4	90.1	13.7
Forest industries	62.4	14.1	33.5	14.8
Other	130.7	66.1	53.0	11.6
Total	358.3	141.6	176.6	40.1
Public:				
National forest	84.8	10.3	10.4	64.1
Other federal	18.3	2.8	3.8	11.7
State and local	27.2	19.3	2.5	5.4
Total	130.3	32.4	16.7	81.2
All ownerships	488.6	174.0	193.3	121.3

Source: U. S. Forest Service, Timber Resources for America's Future (Washington: U. S. Government Printing Office, 1958), Table 16.

means of a written management plan based on accurate inventory data and planned, regulated cutting. Another basis is to classify lands as to whether some positive measure of forest management or administration is taking place--for instance, the planting of trees on denuded lands, plowing of fire lines when needed, timber stand improvement, etc. In the recently completed Timber Resource Review still another method of measuring forest management was used--that of measuring future productivity on recently cut lands. This method has some obvious disadvantages. First, the land may be under competent technical management, but through atypical and unexpected environmental factors--for instance an unusually droughty or wet period following cutting--the stand may have failed to regenerate to desired species. The converse of this situation might be found in instances where in spite of no thought of proper management or measures to ensure regeneration, the owner obtained a satisfactory regeneration or prospect of regeneration. However, in spite of these peripheral examples of mismanagement or good management by accident, the classification of recently cut stands does offer advantages. It is a realistic standard because what is happening now on lands being cut is an index of future stand conditions. Secondly, through careful definitions of silvicultural conditions necessary for satisfactory regeneration by

specific forest types and site conditions, it provides an objective rating without involving the aggregating of a great number of widely differing criteria in a composite index.

The factors considered in the Timber Resource Review ratings of recently cut lands (lands which had been cut over after January 1, 1947) included: (1) existing stocking, (2) prospective stocking, (3) species composition, and (4) reasonableness of felling age in respect to growth of wood volume of product standards. (A detailed description of the formulation of this concept and its actual application would be too space-consuming for the purposes of this study; it can be found in the chapter on Productivity of Recently Cut Lands in the Timber Resource Review.) These factors were combined under a detailed system to provide a range of ratings or "productivity indices" from 0 to 100. For summarizing, the range of productivity indices were broken down into three groupings entitled: lower, medium, and upper--the upper rating representing the better levels of cutting practices.

On this basis the TRR reported that 56 percent of the recently cut private lands and 80 percent of the recently cut public lands fell in the upper category (Table 2). Among the public land-holding agencies there were no strong differences in percentages of land found

TABLE 2.--Productivity of recently cut forest land in the United States and coastal Alaska by type of ownership, 1953

Type of ownership	Proportion of recently cut area by productivity class		
	Upper	Medium	Lower
	(Percent)		
Private			
Farm	41	37	22
Lumber manufacturing	73	21	6
Pulp manufacturing	84	15	1
Other wood manufacturing	73	23	4
Other private	52	28	20
All private	56	29	15
Public			
National forest	81	16	3
Bureau of Land Management	80	15	5
Indian	74	25	1
Other federal	80	16	4
State	77	18	5
County and local	76	24	*
All public	80	17	3
All ownerships	65	24	11

*Less than 0.5 percent.

Source: U. S. Forest Service, Timber Resources for America's Future (Washington: U. S. Government Printing Office, 1958), Table 136.

in the upper, medium, or lower productivity classes. The ratings found on National Forest lands--81 percent upper, 16 percent medium, and 3 percent lower--conform very closely to the averages found for all public ownerships because National Forests constitute the greatest component of all public forest lands.[1]

The best cutting practices were observed on lands of the pulp and paper industry. This group averaged 84 percent in the upper category, 15 percent in the medium, and only 1 percent in the lower. The poorest showing was found in farm ownership with 41 percent in the upper, 37 percent in the medium, and 22 percent in the lower productivity class. The "other private," which consists of those owners (chiefly small owners) who are neither farmers nor timber-using firms, showed 52 percent in the upper, 28 percent in the medium, and 20 percent in the lower grouping. From these data one concludes that in the private ownership group it is the forest lands of the farmers and "other private" on which the poorer cutting practices occur and from which, under

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[1] As to possible comment on the relatively favorable showing of cutting practices on National Forest lands, it should be noted that whenever possible where cooperating groups were providing personnel for field work, the actual field examination and rating of the cutting was made by technical personnel from another agency. For instance, in Michigan the ratings of Forest Service cuttings were made by State personnel detailed to the project, while State cuttings were evaluated by Forest Service technicians.

present conditions, the nation can expect the least future contribution to our timber supply.

A further insight into the future productivity of these recently cutover lands can be gained by examining the data of the TRR as broken down by size class (Table 3). This shows a definite trend, with class of cutting improving as the size of private ownership increases--the larger the ownership the better the cutting practices. By combining data for all small private ownerships (farmers and others owning less than 5,000 acres), the TRR showed that this group had only 40 percent of recently cut lands in the upper productivity rating. It was on this basis that one of the major conclusions of the Timber Resource Review was: "A key to the future timber situation of the United States lies with farmers and other nonforest industry private owners. These ownerships are in greatest need of improvement."[1]

Following this conclusion, the Forest Service initiated ownership studies in a number of selected areas. All were based on the central theme of seeking information which would help to solve the small ownership "problem," and raise the level of timber productivity from these lands. This thesis is based on one of these studies.[2]

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[1]Edward C. Crafts, op. cit., p. 88.

[2]Although the basic study was authorized as an official Forest Service research project, the opinions and conclusions presented here are entirely the author's and do not necessarily represent the viewpoint of the Forest Service.

TABLE 3.--Productivity of recently cut private forest land in the United States and coastal Alaska by type of ownership, 1953

Size of Private Ownership	Proportion of recently cut area by productivity class		
	Upper	Medium	Lower
	(Percent)		
3 - 100 acres	38	37	25
100 - 500	40	36	24
500 - 5,000	44	35	21
5,000 - 50,000	64	26	10
50,000 and larger	78	18	4
All private ownerships	56	29	15

Source: U. S. Forest Service, Timber Resources for America's Future (Washington: U. S. Government Printing Office, 1958), Table 136.

CHAPTER II

REVIEW OF LITERATURE

This chapter will review some of the previous studies of private forest land ownership which dealt with relationships between the private owner and his forest lands, stressing projects which represent varying approaches and also concentrating on some recent work in the Lake States. The discussions will center on approaches used and the main findings in each study. The presentation is generally in chronological order.

Studies in Arkansas, Mississippi, and Louisiana

One of the earlier attempts to examine forest land ownership in terms of the owner himself, was made in the south in the early 1940's. This consisted of a series of studies in selected localities in southern Arkansas, northern Louisiana, and central Mississippi.[1]

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[1]A. D. Folweiler, Forest Land Ownership in Louisiana and its Influence on Timber Production, Louisiana Agricultural Experiment Station Bulletin No. 377 (Baton Rouge: Louisiana State University, 1944), 56 pp.

Also see: H. H. Chamberlin, L. A. Sample, and R. W. Hayes, Private Forest Land Ownership and Management in the Loblolly-Shortleaf Type in Southern Arkansas,

Using the county assessor's rolls as a source, sample universes were established from which sample owners were drawn. Owners selected were interviewed and their lands were examined for timber stand conditions, and conditions of cutting. The series of studies, varying only slightly in procedures followed, started in 1942 and concluded in 1945. They provided the basis for a number of separate reports, one of the principal being published by Chamberlin and others in 1945.

Some of the conclusions from the comprehensive analysis by Chamberlin et al. are as follows: (1) in two-thirds of the cases in which owners took a negative attitude toward forest improvement practices, the reasons cited were incompetency to carry on forest practices and inability to spare the necessary time to do the work; (2) current cutting practices have so depleted the forest capital on non-industrial lands that they are producing only about one-third of their potential capacity; type of cutting contracts, rather than the class of product removed, is responsible for the existing condition; (3) on non-industrially owned lands, timber production is higher where the owner is interested in timber growing in conjunction with agriculture; and (4) ownership

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Northern Louisiana, and Central Mississippi, Louisiana Agricultural Experiment Station Bulletin No. 393 (Baton Rouge: Louisiana State University, 1945), 46 pp.

under the same title, held over a long period of time, showed a slightly higher productivity rating than lands held for shorter periods.

Somewhat prophetically the study's final conclusion was: "Proper education in forest practices and greatly increased efforts toward complete fire protection would, no doubt, make the shortleaf-loblolly pine region of the South one of the most productive in the nation."[1]

Forest Landownership in New England[2]

This study, the subject of a Ph.D. thesis by S. L. Barraclough in 1949, presented case studies of 23 selected New England towns. Mail questionnaires were sent to the 2,106 owners falling in the defined population of owners having between 10 and 5,000 acres of forest land. Of these inquiries, replies were received from 31 percent. In addition, from the original list of 2,106 owners, 50 owners were randomly selected for personal interviews to compare personal contacts with results obtained from mail questionnaires. No examination was made of the owners' timber holdings.

Some of the results useful for possible policy formulation included the fact that timber values were

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[1]Chamberlin, et al., op. cit., p. 38.

[2]S. L. Barraclough, "Forest Landownership in New England" (unpublished Ph.D. dissertation, Harvard University, 1949), 269 pp.

given as the most important reason for ownership of 62 percent of the forest land. The second largest ownership purpose was for recreational uses, accounting for 23 percent of the forest area concerned in the study. Other findings showed that while 53 percent of the owners had harvested forest products in the previous 10 years, only 44 percent indicated that they planned to do so in the next 10 years. Wood-using industries and farmers had made more timber cuts in the preceding 10 years than had any other occupation group.

Private Forest Landownership and Management in Central Mississippi[1]

This study, somewhat similar in design and purpose to those made earlier by Folweiler and by Chamberlin et al., was made in central Mississippi in 1950 and covered a study area of slightly less than 12 million acres.

The sample design consisted of a random area selection of four sections in each of the 28 sample counties. To reduce possible bias due to the inclusion of a greater proportion of large owners, a device was used in which ownerships were included as samples only

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[1]Lee M. James, W. P. Hoffman, and M. A. Payne, Private Forest Landownership and Management in Central Mississippi, Mississippi Agricultural Experiment Station Technical Bulletin No. 33 (State College: Mississippi State College, 1951), 38 pp.

if the most northerly or easterly corner of an owner's holdings fell in the sample section--in effect a sampling of northeastern corners. Owners qualifying, 1,738 in total, were classified as to occupation and subsampled in subsequent field interview. Of 600 so selected, 564 were personally interviewed, and 10 of the 36 absentee owners responded to a mail questionnaire. At the time of the field interview the owner's forest area was appraised for cutting practices and fire protection practices according to a defined system of ratings.

Some of the findings and conclusions showed that property taxes, which averaged about 15 cents per acre, and management practices did not seem to be correlated. Also length of tenure and management practices showed no apparent relationship. Owners who indicated they held the forest land as a source of raw material for their own wood-using mill showed better management than did groups with other objectives. Proposals concerning the hiring of technical foresters at a percentage of gross stumpage sold held little interest to individuals interviewed. Also proposals concerning expanded forest credit did not produce any degree of favorable reaction. Reasons prominently cited as to lack of better management by the owners of the poorly managed stands included:

> lack of interest in forest production because of other more important activities, preference of present high stumpage prices over uncertain prices of the future, need to liquidate to raise cash, belief that woods do not need care, inability to supervise because of other demands or physical limitations, discouragement with long periods between incomes, and because they live too far away.[1]

California Forest Survey Studies[2]

These studies, started in 1947, were made in conjunction with the Forest Survey of California, and reports have been published for the major forest regions of California. The sampling system utilized base maps showing owners' names and addresses. East-west transects were drawn on these maps at two-mile intervals. Ownerships intercepted were considered samples. These samples were classified into a number of relevant strata, and total acreage and assessed land value was recorded from public tax records. Short questionnaires were sent to each owner inquiring about owner's occupation, reasons for land acquisition, tenure, and future plans for the property. Data were summarized and published by county groupings.

Findings varied by counties studied and largely are descriptive and presented in nonanalytical form.

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[1] Ibid., p. 34.

[2] A. A. Hasel and Aden Poli, "A New Approach to Forest Ownership Surveys," Land Economics, XXV (February, 1949), pp. 1-10.

Tennessee Valley Authority Study[1]

This study, briefly reported on in a 13-page publication in 1954 and more elaborately discussed in a 1958 magazine article, consisted of interviews of 505 landowners for whose lands management plans had been prepared as far back as 1941. At the time the management plans were prepared, stocking was adequate on practically all of the holdings involved. In the 1953 reevaluation a criteria to assess management was whether desirable growing stock had increased or decreased. Of the 505 cases, 289 were clear-cut as to satisfactory or unsatisfactory management--the growing stock conditions on holdings of 200 owners had improved, while 89 had deteriorated.

Analysis of owner interviews grouped by satisfactory and unsatisfactory management (as indicated by condition of the growing stock) produced a number of conclusions. Some of the major points noted were: (1) owners who had the best timber to start with did the best job of management; (2) size of ownership seemed to be associated with management, all owners having over 500 acres showing satisfactory management; (3) occupation

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[1]Tennessee Valley Authority, Private Forest Management in the Tennessee Valley, Tennessee Valley Report No. 217-56 (Norris: Tennessee Valley Authority, 1956), 38 pp. Also, see: Kenneth Seigworth, "Economics and Ethics," American Forests, LXIV (August, 1958), pp. 24-25 and 35-36.

and age did not seem to be correlated with management; (4) better management was evident on lands of owners who had owned their lands 20 years or more, and also was found more often on lands which had been inherited in contrast to lands purchased; (5) resident management, but not necessarily resident ownership, resulted in more satisfactory growing stock conditions; and (6) lands where more follow-up contact with the owner had been made by foresters, following the preparation of his management plan, showed a higher proportion of satisfactory management.

A Study of Small Woodland Management in Texas[1]

Departing from the basic survey or descriptive case study methods of most previous private landownership studies, Mignery conducted a study in Nacogdoches County, Texas, aimed at providing some answers to the question as to why some small landowners practice forestry while the great majority fail to do so.

By taking a 10-percent sample of the county tax rolls and checking with local offices, he classified 407 forest landowners as to occupation. From this

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[1]A. L. Mignery, "Factors Affecting Small-Woodlot Management in Nacogdoches County, Texas," Journal of Forestry, LIV (February, 1956), pp. 102-105.

group, 40 were identified as taking some apparent interest in their timber. Subsequent investigation revealed that only 20 had initiated some positive measure of timber management such as substantial planting, improvement cutting, or carrying on fire protection on his own for at least two years. From these 20, eight were finally selected as being representatives of owners who practiced better forest management. These eight individuals were contacted and detailed investigation made of their circumstances. The conclusions were: that landowners who undertook timber management owned properties that were reasonably well stocked to begin with; that these owners had substantial incomes from sources other than their woodlands; that their average total landholdings were six times the average for the counties; that they were successful and responsible individuals in their community; and finally, that they did not undertake management until encouraged to do so by professional foresters.

A Methodology Study in New York State[1]

This study, made in southcentral New York State by W. W. Christensen, was submitted as his Ph.D. thesis

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[1]Wallace W. Christensen, "A Methodology for Investigating Forest Owners' Management Objectives" (unpublished Ph.D. dissertation, College of Forestry, State University of New York, 1957), 184 pp.

at the New York State College of Forestry in 1957. Although essentially a methodological study applying statistical interpretation to the variation in responses among a series of mail questionnaires and limited personal field interviews, the study also presents findings concerning the private woodland owners of the area.

Among these were: (1) that only 19 percent of 959 respondents to the mail questionnaires checked "timber products for sale" as an ownership objective, while 44 percent listed both "wildlife" and "timber products for home use," and 37 percent checked "recreation" as their woodland ownership objective, and (2) that sale of timber products appears to be correlated with the area of forest owned.

Christensen, in summarizing some of his quantitative and empirical observations, stated that,

> The motivations of forest owners appear to arise from a wide variety of influences as, for example, the customs and habits of the people; health and age of owners; familiarity of owners with products involved and with the markets for products; the particular wants and needs of owners relative to the goods and services of their woodlands, the occupation, education, income level, and general family background of owners; the amount of forest extension activity performed in any given area; the effect of extremes in climatological fluctuations, and so forth. Thus the reasons which underlie the existence of management objectives stem from a complex of sociological, economic and psychological influences . . .. What owners do or do

not do with their forest land cannot, as is often assumed, be ascribed to a single cause.[1]

Forest Service Studies, 1958-1959

More recently, in response to the TRR's disclosure of the generally lower level of forestry practices found on small private forest holdings of less than 5,000 acres, studies were initiated by the Northeastern, Lake States, Central States, Southeastern, and Southern Forest Experiment Stations of the U. S. Forest Service to determine the characteristics of private forest landowners, their attitudes toward their forest lands, and why they do or do not adopt specific forestry practices. In this section the studies in regions outside the Lake States will be reviewed; the Lake States study in this series will be included later in the section covering ownership studies in this region.

These Forest Service studies, although differing slightly in sample design, used a basic questionnaire prepared in the Washington Office after a series of staff conferences among Forestry Economics personnel. Items in the questionnaire included questions on form of ownership, area of ownership, length of tenure, age of owner, intent of ownership, practices, participation in public forestry assistance and aid programs, problems, and opinions concerning possible programs.

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[1] Ibid., p. 117.

Studies in the Southeast[1]

Two areas were selected for study by the Southeastern Forest Experiment Station--one in the coastal plain of Georgia and the other in the piedmont region of North Carolina. The total land area of each amounted to a little less than 2.5 million acres. In each study area, 100 owners distributed in a 3:1 ratio between farmers and absentee owners were interviewed. Samples were drawn from existing Forest Survey inventory plot locations. Principal findings and conclusions were: (1) most small forest properties are on farms; hence it would appear that the small-forest problem in the study areas largely is a farm forest problem; (2) three-fourths of the owners have made a timber sale sometime during their ownership; (3) slightly more than one-third of the owners in both study areas had participated in public forestry programs--either having received planting stock from a public agency, used the services of a public service forester, or been partially reimbursed for performing approved forest practices under the Agricultural Conservation Program; and (4) there seemed to be no apparent correlation between use of a public forester's

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[1]W. C. Anderson, The Small Forest Landowner and His Woodland, Southeastern Forest Experiment Station, Station Paper No. 114 (Ashville: U. S. Forest Service, 1960), 15 pp.

services and the size of an owner's holdings, but younger owners were more inclined to avail themselves of a public forester's assistance.

Southwest Arkansas Study[1]

This study, conducted by the Southern Forest Experiment Station, covered a 20-county area of Southwest Arkansas, heavily forested and possessing good timber markets. The basis of the ownership sample was existing Forest Survey grid points located three miles apart in cardinal directions. Half of these points, located six miles apart, were examined on aerial photographs and classified as to forest or non-forest use. The forested points were plotted on maps, and the landowner's name, address, and acreage were obtained from county tax rolls. Such private ownerships as fell in the three to 4,999 acre category were considered samples. In all, 147 such samples were selected. Of these, 139 owners were contacted and interviewed. Interviewees were classified as "manager" or "non-manager" depending on whether they had initiated some positive measure of forest management, such as planting, timber stand improvement, control of grazing, or planned harvest. Some of the prominent findings of these interviews were:

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[1]Joe D. Perry and Sam Guttenberg, Southwest Arkansas' Small Tract Owners, Southern Forest Experiment Station Occasional Paper No. 170 (New Orleans: U. S. Forest Service, 1959), 14 pp.

(1) although only 44 percent of the owners reside on their forest property, 75 percent did live within 25 miles of their holdings; (2) one-fourth of the owners had acquired their tracts in the previous five years; (3) more than half the owners had sold timber at least once and one-fourth had made sales in the past five years; (4) managers (those who had taken positive forestry measures) were somewhat younger than non-managers; their holdings were considerably larger, and they were most apt to be business or professional people; (5) insurance, credit, and property taxation did not seem to be major problems for owners in the study area; and (6) a minority of the owners had participated in public forestry aid and assistance programs, while among the remainder a considerable number did not know that such aid and assistance was available.

Studies in Ohio[1]

In Ohio, the Central States Forest Experiment Station of the U. S. Forest Service also conducted studies in two separate areas--one a two-county unit in a quite good agricultural area in the more northern glaciated section; the second, a two-county unit in the more heavily forested, unglaciated, hill region in the

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[1] [O. Keith Hutchison], "A Study of Forest Landowners' Attitudes in Ohio," Central States Forest Experiment Station Unpublished Office Report (Columbus: U. S. Forest Service, 1959), 44 pp.

southern part of the state. Both farm and off-farm income opportunities were much greater in the northern study area than in the hill county area. In all, 173 nonindustrial private woodland owners were interviewed--102 in the northern and 71 in the southern study area.

Some of the principal conclusions were: (1) owners of woodlands in the study area where good alternatives exist in agriculture have little interest in forestry--interest was higher in the hill region where fewer alternative opportunities exist and where timber markets are more active; (2) many individuals in both study areas had never used and, in fact, were unaware of the existence of the various public aid and assistance programs in forestry; and (3) most owners had the opinion that their timber was of very little value, while a few others placed an unrealistically high valuation on their forest tracts.

Studies in Pennsylvania and New York[1]

During the spring and summer of 1958 the Northeastern Forest Experiment Station also conducted studies, using the same questionnaire as the one used in the Southeastern States, Arkansas, and Ohio studies. However, the

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[1]C. H. Stoltenberg, "Office Report on a Preliminary Study of Landowner Response to Forestry Assistance in the Northeast," Northeastern Forest Experiment Station Unpublished Office Report (Upper Darby: U. S. Forest Service, 1958), 30 pp.

approach differed in that, when choosing their study areas, they deliberately chose areas differing considerably in the availability of public forestry aid and assistance. The added objectives were to test the effectiveness of different types of assistance in creating an improved environment for the adoption of forestry practices, and to attempt to isolate those ownership characteristics which seem to be related to the adoption of various forestry practices. To meet these objectives 33 owners for sample interviews were drawn in Tioga County, Pennsylvania, where free professional advice was available under active Soil Conservation Service, and Cooperative Forest Management programs, and where planting stock had been available free of charge to landowners. To provide contrast, 33 other owners were selected in adjoining Bradford County, a similar area in socio-economic condition, but where forestry aid and assistance programs were not as readily available. The samples in Tioga County failed to produce enough owners who had participated in forestry programs. To remedy this lack, more sample landowners were selected in Tioga County and in Cattaraugus, and Chautauqua Counties, New York. These purposive samples in separate groups represented owners who either had received Agricultural Conservation Program payments for stand improvement practices or

had more opportunity to receive these payments. In addition, markets for stumpage and cut timber products were more active in the Cattaraugus and Chautauqua areas. In all, 88 sample interviews were conducted. Statistical analysis of the data showed that the only significant difference between the adopters and the non-adopters of forestry practices was the size of the forest holdings, with the adopters having larger holdings on the average. Interestingly enough, a slight negative relationship appeared between length of ownership and adoption of forest practices. An examination of the relationship between farmers and nonfarmers concerning use of convenience service in the form of a readily available contract planting crew failed to support a tentative thesis that financial assistance was likely to encourage participation, particularly by farmers, and that the aspect of convenience service in the form of contract crews would have greater appeal to the nonfarmers. Little interest was indicated in either credit or forest insurance, and the conclusion was that in the area sampled improved facilities for forest credit or insurance would have little effect on handling of the woodlands by small private owners. Also, only a very small minority indicated that property taxes influenced their management.

American Forestry Association Small Woodland Opinion Poll[1]

In view of the concern over, and emphasis on, the problems of small private forest landownership, the American Forestry Association, a private nonprofit conservation organization, published in their magazine, American Forests, a series of questions concerning ownership characteristics and opinions on various forestry assistance and aid programs. The questionnaire, directed to their readers and termed a Small Woodland Opinion Poll, was published in the August 1958 issue of American Forests on an extra page that could be removed and mailed back to the Association. The purpose of the poll was to provide a basis for policy expression by the American Forestry Association based on the "grass roots" opinion of its members and the readers of its magazine. As they expressed it: "In our opinion, it is quite possible that our 30,000 readers represent the widest most informed cross section of opinion in forest conservation."[2]

The results of this poll were analyzed and published in the January 1959 issue of American Forests.[3]

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[1]"Small Woodland Opinion Poll," American Forests, LXV (August, 1958), pp. 31-33.

[2]Ibid., p. 31.

[3]K. B. Pomeroy, "What AFA Small Woodland Owners Want," American Forests, LXV (January, 1959), pp. 14-16 and 58-60.

Some statistics concerning the respondees to this poll raise some question as to whether the readers (or at least readers who owned land and mailed back the completed form) could be considered "the widest . . . cross section." Descriptive statistics on respondees showed that over half of the AFA members responding owned more than 100 acres each, 88 percent had purchased the woodlands themselves, 44 percent had been forest owners 10 years or longer, 66 percent identified themselves as business or professional people, 33 percent indicated that their woodland was part of a farm but only eight percent listed farming as their occupation, and finally 72 percent of the AFA members responding to the poll had used the services of a professional forester. An elite group indeed!

No figure was cited in the analysis as to the total number who responded to the poll, but the replies to the questions regarding action programs and policy proposals were presented in percentage breakdown. These data show that the most favorable responses were to proposals to provide long-term credit, expand technical guidance, increase public cost-sharing for deferred income forestry practices, expand educational efforts, and encourage long-term agreements between small woodland owners and private wood-using industries.

Ownership Studies in the Lake States

Probably more studies of land ownership have been made in the Lake States than in any other region of the United States. The pioneer efforts of the agricultural economists, particularly those at the University of Wisconsin, in examining settlement patterns and problems of the northern Lake States were milestones in socio-economic research.

Although not directed at the owner as an individual, ground-breaking work in area resource analysis was also done by the Michigan Land Economic Survey and the Wisconsin Land Economic Survey started in the 1920's and early 1930's. Both of these projects were centered in the northern cut-over counties in each state and consisted of surveying and mapping soil types and forest and agricultural conditions, together with analyzing institutional factors in detail, particularly in reference to property taxes and tax delinquency.

Northwestern Wisconsin Study[1]

One of the earliest studies in the Lake States, and indeed in the entire country, which sought out the individual landowner himself in an effort to analyze

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[1]C. H. Stoddard, "Future of Private Forest Land Ownership in the Northern Lake States," Journal of Land and Public Utility Economics, XVIII (August, 1942), pp. 267-283.

his relevant characteristics, history of ownership, purposes, and plans in regard to forest landownership was made in northwestern Wisconsin in 1941 by Charles H. Stoddard, Jr. In a five-county study area deemed fairly representative of much of the Northern Lake States, one-third of the private owners (1,008) who had paid taxes that year and who owned over 35 acres of forest land were sent mail questionnaires. Questions dealt with acreage owned, residence and supervision over property, length of tenure, method of acquisition, purpose of ownership, owner's estimate of best land use, interest in forestry, attitude toward possible public forestry assistance programs, and plans for timber harvesting.

From this mail sample, 492 usable questionnaires were returned. These data showed that much of the land was held by land companies and non-resident individuals who had purchased their lands during the speculative boom in the middle 1920's and had continued to hold their lands up until the time of the study. (It should be noted that Stoddard sampled only owners who had paid taxes in 1941; undoubtedly there were many other land speculators who had lost hope and allowed their holding to go tax delinquent prior to 1941.) Few of the owners who replied showed much interest in holding their lands for long-term timber production, and few indicated that they were carrying on any forestry practices on their

holdings. A few showed an interest in having a group association manage their lands for them. Stoddard concluded that:

> In view of the lack of interest of most private owners in long-term forestry such policies as special tax laws, long-term rehabilitation credits, and forest insurance probably will be of very limited application in the region. These policies may be necessary for those relatively few owners intending to remain in the forestry business, but they can hardly be expected to induce people who are unable or uninterested to undertake long term management.[1]

Northern Lower Michigan Study[2]

The advent of World War II diverted attention from the land and ownership problems of the cut-over regions of the Northern Lake States, and the post-war period was to see an entirely new situation. The demand for and speculation in the northern cut-over lands had reached a peak and then collapsed in the 1920's. During the generally depressed economic conditions of the 1930's some 17½ million acres of these lands were tax-forfeited, and much of this moved into county or state ownership. Land purchases by the Federal Government, chiefly for inclusions in National Forests, created a new public domain. These lands, together with county, state, and

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[1] Ibid., p. 283.

[2] James G. Yoho, "Private Forest Landownership and Management in Thirty-One Counties of the Northern Portion of the Lower Peninsula of Michigan" (unpublished Ph.D. dissertation, Dept. of Forestry, Michigan State University, 1956), 343 pp.

other public ownership, were to total over 21 million acres in the Lake States in 1946. The brighter economic scene in the late 1940's and 1950's brought a new landowner to the Lake States scene--the recreation owner. Although recreation ownership had existed in these areas before, it could hardly be said to be widely based throughout economic strata and was a relatively minor component. Increased wages, an almost ubiquitous ownership of automobiles, and shorter work weeks with more leisure time produced a demand for northern lands by city dwellers in Detroit, Milwaukee, the Twin Cities, and other urban areas throughout the region and in adjacent states to the south. Properties, purchased for summer cottage sites and hunting and fishing spots, began to make up an ever-increasing part of the Northern Lake States ownership pattern.

It was in the context of these developments that a study of private forest landownership was made by James G. Yoho under the auspices of the Michigan State University Agricultural Experiment Station and in cooperation with the Lake States Forest Experiment Station of the U. S. Forest Service. This study was conducted in 1953 and 1954 in the northern part of the Lower Peninsula of Michigan and was aimed at exploring "the most important relationships between private ownership of forestland and the condition and management of the

forest resource." The 31-county study area constituted the heart of what had once been the great Michigan pineries--now a cut-over region which had gone through all the throes of land problems typical of so much of the Northern Lake States.

Yoho's study utilized as a base, sample forties identified as private forest land in the post-World War II forest survey of the region. By contacting township supervisors, the name of the owner, his occupation or ownership category, and place of residency were determined for 1,265 sample forties. Grouping the samples into strata on the basis of occupation or ownership category, a subsample was taken for interview purposes. In all, 229 owners were personally interviewed and 165 questionnaires were mailed to absentee owners. Of this latter group, 63 replies were received. At the time of field interview, if feasible without undue extra travel, sample blocks where cutting had taken place in the preceding five-year period were examined and a rating made of the class of cutting. This rating was the same as that employed by James in his Mississippi study and fell into three classes based on the silvicultural effectiveness of logging.

In addition to data obtained and analyzed from the questionnaires, a detailed analysis of timber volumes and species distribution was made for the various

occupation classes, utilizing the forest survey data available for all 1,265 of the initial sample forties.

Some of the major findings and conclusions were as follows: (1) objectives of ownership showed that farm usage made up 31 percent of the forest area representing 37 percent of the owners, recreation or residence 19 percent of the area and 39 percent of the owners, and investment or speculation 18 percent of the forest area and 4 percent of owners; no other objective accounted for more than 10 percent of the forest area or 10 percent of the owners; (2) while less than three-tenths of the forest area was owned by residents who lived on their properties, four-tenths was owned by owners who lived more than 100 miles from their holdings; (3) slightly less than one-half of the owners had never harvested timber from their lands; and (4) actual programs or proposals considered to offer incentives for better forest management, such as the existing Michigan forest yield tax laws and proposals for low-cost forest credit and forest management cooperatives, elicited little enthusiasm on the part of owners interviewed.

A unique aspect of this study, heretofore little analyzed in detail by any previous studies, was the analysis of the effectiveness of the various public forestry assistance programs offered in the

study area. Results of this phase disclosed that 82 percent of the owners did not know about the existence of a forestry extension program, 97 percent did not know about the on-the-ground assistance and advice available under the service forestry program, and 90 percent of the farmers were unaware that payments for approved forestry practices could be obtained through the Agricultural Conservation Program. This lack of information about available aids and assistance was one of the major disclosures of the study.

Central Wisconsin Study[1]

The second major post-war study of forest landownership in the Lake States was made in a 12-county block in Central Wisconsin by the Lake States Forest Experiment Station in 1958. This study was another in the series of studies conducted by the Forest Service in 1958 and 1959 and employed the same questionnaire used by the Southeastern, Southern, Central, and Northeastern Forest Experiment Stations. This study differed from Yoho's in respect to the nature of the study area. The counties involved, although not falling in an area of highly prosperous agricultural

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[1]C. F. Sutherland, Jr., and C. H. Tubbs, Influence of Ownership on Forestry in Small Woodlands in Central Wisconsin, Lake States Forest Experiment Station, Station Paper No. 77 (St. Paul: U. S. Forest Service, 1959), 21 pp.

conditions, show less kinship to the northern cut-over region and could best be classified as a dairy-farming region. They are transitional in economic conditions and land use between the southern farming regions and the northern Lake States.

The sampling system consisted of a random selection of 15 four-square mile blocks scattered throughout the study area. These blocks were mapped as to ownership, and each owner having a tract of forest land three acres or larger and less than 5,000 acres was contacted and interviewed. This procedure produced 180 interviews.

The major findings and conclusions were as follows: (1) farmers constituted the largest group of forest landowners (61 percent); (2) almost two-thirds of the owners had owned their lands 10 years or longer; (3) woodland holdings average less than 50 acres in size; (4) timber growing was cited by half of the owners as being the primary use of their forest land; (5) the harvesting of timber for home use was almost three times more prevalent than the sale of stumpage or cut products; (6) little interest was shown in proposals concerning forest credit, forest insurance, or the leasing of forest land to organizations for forest management purposes; and (7) although very few owners had taken advantage of available forestry aid and

assistance programs, the interviewers gained the impression that the owners knew of them but were confused as to specific details.

Summary

While the preceding review does not pretend to present all literature pertaining to the small owner as an individual in his relationship to forested holdings, it has presented most of the major studies, especially the recent ones.

Regarding methodology, the series of studies may be broken down into intensive or extensive groupings, depending upon whether a 100 percent canvass of owners was made over a limited land area or samples taken over an extensive study unit. A compromise, used in a number of studies, has been to select sample units containing a number of eligible owners, but have these units scattered over an extensive study area.

Another choice in separating studies is on the basis of the information sought; some studies dealt with only a relatively few descriptive items concerning the owner and his forest, while others attempted to gather much more descriptive material, objectives, practices, problems, and attitudes toward current and proposed forestry programs.

A third sorting of studies can be based on whether or not an on-the-ground quantification or rating was made of the owner's woodland conditions or apparent management. This rating generally was tied back to relevant ownership characteristics in an effort to isolate typically good or bad forest classes of owners and to analyze the reasons behind their behavior.

All of the above types of methodology are evident among the studies reviewed. Some recent criticism has been directed at an overemphasis on survey types of ownership studies, particularly in respect to a lack of a suitable basis for assessing investment-opportunity among the small private forest landowners. There is some validity in this contention, but in the form of analogy, it can be said that in a national health program, it is essential to know the distribution of diseases among the populace and their respective responses, good or bad, to possible treatments before an effective overall program of research and treatment can be formulated. So it has been in forest ownership studies.

Regarding the plethora of findings and conclusions in the various ownership studies discussed (whose number prohibited a detailed listing of all findings for each), some conclusions can be drawn. First, each

study must be analyzed fully in its context--context in the locale of the study and in terms of the time when it was made. Economic, sociological, and physical factors vary considerably from place to place and over time.

Secondly, the historical pattern of viewing the small private forest landowner in terms of the economics of the firm--that is, assuming him to be motivated by a desire for profit and that profit to be forthcoming from the growing and harvesting of trees--is misleading. Study after study has shown this view to be erroneous, as, with few exceptions, many other objectives of ownership take precedence over growing timber for sale. Because of this refusal on the part of many owners to place timber growing for profit high on their objectives of management, the lack of reasonably-priced credit, burden of taxes, and lack of insurance, have been of little concern to most small forest landowners. That these factors are influential in the operation of the firm are obvious, but from the replies of owners in most of these studies, few regard these factors as problems in the ownership of forest lands.

Another generalization, based mainly on the number of recent studies which included this aspect, concerns the use and knowledge of the various public

aid and assistance programs--most of which have been in existence 20 years or more. Here the most striking revelation is the great lack of knowledge about the programs, apparently caused by the failure of established communication channels to bring information about these aids and services to the people they were intended to help.

In summary, there appears to be no single variable other than size and condition of management linking these small owners. Their most striking feature is their heterogeneity.

CHAPTER III

STUDY PROCEDURES AND TECHNIQUES

This study was planned and carried out as a part of the research program of the Lake States Forest Experiment Station of the U. S. Forest Service. Accordingly, the planning and review prior to beginning the study conformed to established Forest Service research procedures. To assist in planning the project, a two-day meeting was held in East Lansing in July 1959 attended by Dr. Lee James and Division of Forest Economics Research staff members from Station Headquarters at St. Paul, the East Lansing Research Center, and the Forest Service Washington Office. During this meeting the author presented a tentative work plan and proposed questionnaire. Following this initial critical review, a formal work plan and a questionnaire were prepared and submitted. The plan and especially the questionnaire were reviewed by the Lake States Forest Experiment Station staff, the Forest Service Washington Office, staff members of the Washington Office of the Agricultural Marketing Service, and the Washington Office of the Bureau of the Budget. The questionnaire received final approval by the Bureau of the Budget in October 1959.

Preliminary field work was started late in August; most of the fall months were spent making the sample layout.

Selection of Study Area

Although ownership studies had been done in the farm woodlot and the lower cut-over regions of the Lake States, no recent studies had been made of the small private forest owners in the most northern portion of the Lake States. The northern Lake States form a belt extending from the Upper Peninsula of Michigan across northern Wisconsin and northern Minnesota. Although differing somewhat in physical aspects and local institutions, these three areas possess a common land-use heritage of a boom during the late 1800's in mineral and timber exploitation, followed by a long period of static or regressive economic conditions. In all three areas forestry seems to promise a prominent opportunity for economic development.

While an ownership study spread over the entire northern Lake States would have been desirable, practical considerations of time and funds limited coverage. Consequently, it was felt that by concentrating the study in one area of this northern belt, results would be obtained which would permit generalizations for the area studied and some valid "extrapolation" to the other areas where somewhat similar conditions prevail.

The Upper Peninsula of Michigan constitutes a logical entity in which to examine small private forest ownership in the northern Lake States. Long isolated physically, the Upper Peninsula of Michigan has been a chronic problem area in respect to economic conditions. In addition, a common logging and mining heritage, together with a resident population very similar in ethnic origin and contemporary social institutions to those of northern Wisconsin and Minnesota, made the Upper Peninsula a good "case study" area for the northern Lake States. As the Upper Peninsula's forested lands--61 percent privately owned--constitute one of its greatest potentials for economic development, a comprehensive study of private forest landownership also would be of valuable assistance in planning for economic progress.

Specific Objectives

In pursuing causal relationships between owner attitudes and the handling of their forest lands, it is of primary importance to determine the identity of the owners of the forest resource and how they differ in relevant characteristics. In the Upper Peninsula, extensive changes have taken place in forest ownership in the past 30 years. Although public ownership has expanded and large private ownership has undergone a continuing

process of adjustment and consolidation, the small private forest landowners still own 32 percent of the commercial forest land. This group's composition and objectives in ownership appear to be diverse and complex. In the past few decades private owners have acquired a considerable number of small tracts of forest land, chiefly for recreational purposes. While many of these tracts are owned by Upper Peninsula residents, many others are owned by individuals and groups from the Lower Peninsula, Wisconsin, Ohio, Indiana, Illinois, and other states. What attitudes these owners have toward timber production and other aspects of forestry are virtually unknown. In addition to this diverse recreational group, the attitudes and purposes of other small private ownership classes also are far from clear.

Because of the initial need to determine quantitatively the nature of the small ownership population, an approach was chosen which would identify (and characterize) the small private forest owners of the Upper Peninsula as well as provide the basis for an examination of their attitudes, motivations, and responses in holding forest land. Under prevailing conditions it was felt that this type of approach would produce information on small private forest ownership most useful for policy planning by both public agencies and private timber-using companies, and eventually would benefit the small private owners themselves.

The objectives of the study as formally stated in the work plan were as follows:[1]

1. To determine who are the small private forest owners, their groupings by occupation or principal area of corporate enterprise, their place of residency or origin of forest policy decision, and how much forest land each group owns.

2. To determine specific characteristics of small private forest landowners including ownership objectives, forest practices, participation in forestry aid and assistance programs, forestry problems typically encountered, and general attitudes toward managing their forest lands.

3. To determine procedures followed and problems encountered by the small forest landowner in harvesting and marketing timber or timber products.

4. To provide the basis for a comprehensive analysis of the small private forest landowner's present role in the timber supply pattern from the Upper Peninsula, to evaluate his future significance in this supply, and to suggest policies or programs which will facilitate a more rational utilization of his forest lands, from both the individual and social standpoints.

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[1]D. N. Quinney, "Work Plan for a Study of Forest Landownership in Michigan's Upper Peninsula," Lake States Forest Experiment Station Unpublished Work Plan (St. Paul: U. S. Forest Service, 1959), 18 pp.

5. To provide information useful to both public agencies and private companies in planning for an increased contribution of the Upper Peninsula's forest resources to the area's economic progress and development.

Sampling Procedure

In sampling landowners and landownership, two general approaches are possible. One uses as its basis the land area itself, the owners being determined from an initial sample of area. The second involves a sampling from a universe of owners' names, a list sample. The first method, which has been most widely used in previous forest landownership studies, is effective, but it tends to emphasize the attributes of the larger owners, who have a greater probability of being drawn as samples. The list sample, although lacking this fault, often is difficult to make as there frequently exists no convenient and accurate source of ownership names from which to sample.

This study used a list sample to provide both the pattern of small private ownership and also the subsample for personal interviews. During the planning of the project the author checked at both the State of Michigan and the Michigan State University libraries concerning availability of recent landownership plat

books for the Upper Peninsula Counties. If available, such plat books probably would be a more convenient source from which to prepare the list of owners' names than the township tax rolls. However, it seemed that although plat books had been published for most Upper Peninsula counties, they were 15 years or older and hence would be too outdated to be of much value. Consequently the basis of the list sample was planned to be exclusively the township assessment rolls located at the various county courthouses. From the author's personal knowledge of these records in the courthouses of the Lower Peninsula, it was thought that perhaps some of the Upper Peninsula township rolls might be alphabetically indexed. This would greatly simplify the task of assembling the universe of small private forest landowners. For those not indexed, a list of qualifying owners would be assembled from ownership descriptions as they appeared in the tax rolls. Essentially, the procedure was to assemble the universe of small owners owning in total between five and 5,000 acres of nonurban, nonplatted land; the assumption was that in the Upper Peninsula, ownerships of over five acres would contain some forest land. Forest land was defined as land at least 10 percent stocked by forest trees or land formerly forested but now less than 10 percent stocked and not developed for other use.

The minimim size forest tract recognized was one acre, and the minimum width of a qualifying shelterbelt or streamside strip was 120 feet. This is in accord with the definition used by the Forest Service in all forest resource surveys. A list of large owners owning over 5,000 acres of forest land was available, so that group was easily excluded from the sample universe.

In order to handle the problem of an owner owning land in several combinations, i.e., a tract owned individually, another tract owned with a brother-in-law, and a third owned as a member of a hunting club, it was decided to enter each as a separate ownership in the listing of owners. Such an ownership selected as a sample would be queried concerning only those lands held under the ownership designation drawn as a sample. Husband-and-wife ownerships were considered as an "individual" ownership in the husband's name. Because of this method of population designation and the inclusion of hunting clubs and other group ownerships, the final data on number of ownerships will not coincide with the actual number of individuals who have forest ownership interests in the Upper Peninsula.

From examination of data from the Census of Agriculture, Census of Population, and other studies, and from the author's familiarity with the size of forest holdings in the cut-over region of the Lake States, a

tentative Upper Peninsula sample universe of 20,000 small private forest landowners was theorized. From such a sample universe a sample in which every 20th name is recorded would provide a first-stage sample of 1,000 forest landowners, representing five percent of the theorized population of owners. This sample would provide the basis for the estimation of small private forest landownership distribution as to size of ownership, occupation, and residency of owner. During the preparation of the work plan it was decided to utilize a system of cluster sampling based on a three-random start systematic count of the ownership lists. To illustrate its use, if every 20th owner were to be recorded as a sample, three random numbers would be chosen between one and 60 inclusively. These three random starting points would provide the "between sample" interval for each of three separate counts of the ownership lists. Each count would produce one sample cluster. The sampling of the ownership lists would be carried systematically from township to township and county to county.

After the lists were prepared, they were carefully scanned to guard against an ownership appearing in the list more than once. Lists for adjacent counties were compared to further guard against duplications. As the sample progressed from county to county,

a checklist was compiled of owners, such as real estate operators and other groups or individuals, who, although classified as small owners, might have quite extensive holdings with land in more than one county. It was obvious that some duplications would appear in the universe of owners, but it was hoped that careful preparation of the lists would minimize this source of error.

Changes in the Sampling Procedure

It was planned to begin the sampling in the eastern end of the Upper Peninsula and work progressively west, county by county. Accordingly, work was started with the Chippewa County tax rolls about the middle of September. Earlier checks at a scattering of Upper Peninsula court houses showed no alphabetical listing of owner names either at the county or township level. This, too, was true in Chippewa County. After three days of working in the County Treasury vault with the County Tax Rolls, two things became apparent. First, if the other counties showed patterns similar to Chippewa, then the preliminary estimate of the small private forest landowner population would be too low, and second, an easier method of obtaining the ownership lists was needed.

To allow for the underestimate of the small ownership population, it was decided to reduce the systematic sample from five to three percent. The number of owners

included in the Chippewa County list indicated that the entire sample universe probably would be closer to 30,000 than 20,000 and that a three percent sample would provide the planned-for 1,000 first-stage sample owners. Although the Chippewa list was completed, using the county tax rolls, information obtained at the County Agricultural Agent's office disclosed that a landownership plat book for Chippewa County was then in the process of preparation as a 4-H Club Project and would be published within a few months; also, that there actually were recently published landownership plat books available for several of the other counties and books in the process of preparation for still more counties. Accordingly, it was decided to utilize such plat books whenever possible as the source of ownership lists. Subsequent work disclosed that several of these books contained alphabetical lists of ownerships, a ready-made sample universe for the county concerned. For those plat books without alphabetical indices, the list of owners was prepared by systematically working through the plat book and recording each qualifying owner's name once. As the plat books were prepared from the County Tax Rolls, the source of information was the same as though the Tax Rolls themselves had been scanned. Advantages of using the plat books included the convenience of working in the author's Marquette office under a good

desk lamp, as well as a saving in travel expenses. In total, ownership lists for eight counties were obtained from the plat books, while lists for the seven counties without recent plat books were obtained directly from the county tax rolls.

Obtaining General Characteristics of Small Forest Landowners

When the first-stage sample owners were selected, their total qualifying land holdings by legal description and gross acreage were recorded on a specially prepared form. (A facsimile of this form is shown in Figure 1). At this same time occupation or, for multiple ownership, type of ownership was obtained from the County Treasurer. These owner or ownership classifications were ones which could be identified and which might show logical patterns of ownership purposes, practices, and problems. Definitions of strata used in the study are included in the Appendix. Based on the author's experience in obtaining ownership data in the northern counties of the Lower Peninsula, it was thought that the county treasurers would be acquainted with a majority of the owners and could readily supply this information. This was true for only a few counties. Since most Upper Peninsula counties are much larger than those of the northern Lower

F.L.O. Study
Upper Peninsula, Michigan

OWNERSHIP CLASSIFICATION AND GENERAL CHARACTERISTICS

1. County_____ Date_____

2. Town_____E,W Recorder_____

3. Cluster and Owner Number_____

4. Owner_____ Address_____

5. Forest Area Owned:

(a) In county _____ acres
(b) In study area _____ acres
(c) Total holdings _____ acres
(d) Total land holdings _____ acres

6. Type of ownership:

(a) ☐ Individual
(b) ☐ Partnership
(c) ☐ Corporation
(d) ☐ Undivided estate
(e) ☐ Club

7. If individual ownership: Distance of residence from forest holding (or nearest tract) _____ miles

8. Owner's occupation or ownership classification:

(a) ☐ Farmer
(b) ☐ Farmer-woods worker
(c) ☐ Part-time farmer
(d) ☐ Resort owner or commercial resort
(e) ☐ Recreation group
(f) ☐ Businessman or professional worker
(g) ☐ Wage earner
(h) ☐ Undivided estate
(i) ☐ Retired (former occupation _____)
(j) ☐ Housewife or widow (Husband's occupation _____)
(k) ☐ Logger
(l) ☐ Multiple-miscellaneous
(m) ☐ Absentee individual
(n) ☐ Absentee housewife-widow
(o) ☐ Absentee recreation group
(p) ☐ Other (specify _____)

Figure 1.--Form used to record ownership data in first-stage sample.

Peninsula, and the towns and villages often are quite widely spread, the Treasurer was not always as widely acquainted with owners throughout the entire county. Therefore, additional contacts had to be made with various other public officials and with Soil Conservation Service, State Forestry Division, and United States Forest Service personnel to gather data on owner occupation or type of ownership. From the first county sampled it seemed that since some absentee owners often are infrequent visitors to their property and hence are less well known, it would be impossible to find out their occupation by checking locally. It was rationalized that non-residency probably would be the significant factor in land ownership by this group and that having occupation data on them would be of minor value anyway. Accordingly, members of this group were classified into three categories: (1) individual absentee, (2) housewife or widow absentee, and (3) recreation group absentee.

As the identities of the ownerships included in the first-stage sample unfolded it became obvious that several of the categories initially included on the Ownership Classification and General Characteristics form would either have no representation or consist of such a small number as to make segregation as a separate group of little value. Accordingly, a few

were merged with strata to which they would have closest identity. The "part-time farmer" and "farmer-woods worker" groupings were merged with "farmer" into one broad category; in the Upper Peninsula the distinction between the three is quite variable, depending largely on the off-farm opportunities or timber marketing conditions prevailing in the time period preceding the inquiry. Only a few resort owners or real estate operators were found in the first-stage sample and accordingly members of these two groups were placed in the "business-professional" category. One glaring omission in the initial preparation of the classification form was that of "logger." This stratum was added, as was a new category called "multiple-miscellaneous" for lack of a better term. This latter grouping included ownerships listed in the names of two or more individuals, generally members of the same family and not man and wife, in which the purpose for ownership did not fit the other group categories such as recreation group or undivided estate, or could not readily be determined at this stage of the study.

From the first county sampled it became apparent that heirs often are laggard in making changes in the listing of a property in the public records following the death of an owner. In many instances the reply to an inquiry concerning an individual's occupation

was that he was deceased. One merry-minded Township Supervisor replied by mail that the individual-in-question's occupation was "dead" and his residence was "the cemetery." As follow-ups to trace the disposition of property in such instances would have been quite time-consuming, it was decided to include them in the "undivided estate" category and prorate their disposition on the basis of findings from the subsampling of the "undivided estate" category.

The work of assembling the sample universe, sampling, and gathering information on total land owned, residency and occupation or use category was started in the middle of September. It was carried on throughout the fall and completed shortly after the first of the year. This phase of the study, along with the gathering of relevant background material on Upper Peninsula conditions performed at the same time, required approximately 55 work days.

By selecting every 33d ownership from the sample universe, 913 first-stage samples were recorded. Of this number, five were duplicates, indicating duplications in the lists. These five were discarded, leaving 908 first-stage samples. Of these, 894 were classified as to occupation or ownership status, and place of residency or location of ownership decisions. Five owners could not be traced as to occupation without excessive

travel and inquiry. Nine owners were in diverse categories which could not be grouped logically with any of the other sample strata including "multiple-miscellaneous," and were so widely separated in nature of ownership as to make a separate grouping for personal interviewing meaningless. These included such widely unrelated classifications as several who were patients at public institutions, one mining company, two defunct lumber companies, one fuel supply company, and one manufacturer of rustic wooden fences. In all, 14 ownerships, the five not classified as to occupation and the nine miscellaneous, were carried in summaries of total land owned and number of owners, but were not subsampled for personal interview.

Subsampling for Personal Interviews

Because of the absence of information concerning the distribution of characteristics in the small ownership population or the validity of sample strata established on the basis of *a priori* reasoning as to groupings which might exhibit differences in motivations and practices in forest land ownerships, the total number of owners to be subsampled for interview had to be an arbitrary decision conditioned by availability of time and research funds. It was decided that time and funds would permit making 200 personal interviews in the

various ownership categories.

The selection of this subsample for interviewing was made on the basis of the occupation class strata, using a method applied by both James and Yoho in ownership studies in Mississippi and northern Lower Michigan. This method allocates the number of interviews in proportion to the square root of the number of owners in each of the strata. The method satisfies the requirements for minimum sampling of small frequency classes without heavy sampling of large classes.[1] The indicated number of owners for interviewing was selected randomly within the occupation or use class strata. One alternate owner of the same occupation group was randomly chosen for each two owners selected. The alternate sample owners were interviewed only if all reasonable efforts to interview a "primary" sample owner were unsuccessful and if further attempts would involve considerable extra travel with doubtful chance of success.

In sampling the absentee groups, eligible owners for personal interviewing were restricted to those residing in Lower Michigan or Wisconsin. This decision was based on practical considerations, and also it was felt that this group would have essentially the same characteristics and attributes as owners living farther away.

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[1]Yoho, op. cit., p. 72.

Interviewing the Owners

Interview Schedules

Three separate schedules or questionnaires were used. One was concerned with owner characteristics, objectives, practices, and attitudes toward various forestry programs, while the other two were marketing schedules covering sales of stumpage or cut timber products made within the last five years.

The "general information" schedule was completed for each owner interviewed. The marketing schedules were completed for those owners who had sold stumpage or cut products from their lands within the last five years. The most recent sale was analyzed, and only one marketing schedule was completed for any one interviewee. All three questionnaires are shown in the Appendix.

Conducting the Interviews

The author conducted all interviews personally. Although the list sample scattered the ownerships as to location, there was some clustering of residency which speeded up contacts. Nonetheless, the interviewing was a slow process. In many instances the owner had moved and the address listed on the tax roll no longer was correct. This caused extra travel and not a few "wild goose chases."

The interviews were started during the middle of January, 1960, and the last interviews of absentee owners in Wisconsin were completed in June. Inclement weather conditions which made driving hazardous (and at times impossible) existed periodically during the winter and spring months. The period of the spring "break-up" was characterized by exceptionally heavy rainfall which closed some areas completely during parts of April and early May. For parts of February, March and April, the interviewing was suspended because of bad travel conditions and the press of other work assignments. About 80 actual working days were spent making the interviews. Interviewing absentee owners in Detroit and Milwaukee was most time-consuming because of the difficulty in locating street addresses and finding individuals at home. Although the friendliness of responses varied, none of the owners contacted refused to provide answers to the questionnaire.

Regarding the technique of interviewing itself, an informal approach was adopted. Although the sequence of questions as developed in the questionnaire was usually adhered to, this was not always possible. Some talkative owners would provide answers to a number of questions in the few minutes while the author was introducing himself. Other owners would insist on rambling off the subject and had to be tactfully brought back to the questionnaire.

The author maintained the role of a "friendly neutral" attempting to obtain accurate responses to the various questions. No attempt was made to "sell" any of the programs covered, although when some of the owners asked for information, i.e., a pamphlet on planting or the name of the nearest service forester, it was provided. In addition to the more conventional sites of interviews such as homes or offices, interviews also were taken in the woods on logging jobs or in barns, taverns, and other locations where the owner could be located and contacted.

Table 4 shows the distribution of owners by categories in the first-stage sample, the allocated number of second-stage or interview samples, and the number actually interviewed. As mentioned earlier, locating and interviewing the absentee owners was extremely time-consuming because they were widely scattered and usually resided in large metropolitan areas. As a consequence, the allocated number of 45 interviews in this group was not attained. Because of other research commitments, a definite time period was set aside for the interviewing of these absentee owners and accomplishments had to be limited accordingly. Some extra sampling was done in a number of the Upper Peninsula categories when it became apparent that the total number would fall short of the anticipated 200 samples. Even so, because of other work commitments, the interviewing was terminated

TABLE 4.--Distribution of first-stage samples, allocation of interview samples, and actual interviews by ownership classes

Ownership class	No. of sample owners	$\sqrt{N}$	Interviews allocated	Interviews accomplished
Farmer	181	13.45	28	28
Recreation group	22	4.69	10	13
Business-professional	88	9.38	20	23
Wage-earner	169	13.00	27	28
Undivided estate	47	6.85	14	10
Retired	80	8.94	19	19
Housewife-widow	60	7.74	16	19
Logger	38	6.16	13	11
Multiple-miscellaneous	16	4.00	8	6
Absentee individual	150	12.24	26	21
Absentee housewife-widow	18	4.24	9	5
Absentee recreation group	25	5.00	10	9
Absentee "other"[a]	0	0	0	2
Total	894	95.69	200	198

[a]The ownership class absentee "other" represents two absentee owners--one an undivided estate now in the process of being settled, and the second a land-holding corporation operated primarily for the leasing of mineral rights. The latter is a very large holding and was so atypical of the absentee owner groups that it was decided to segregate data from this sample in the analysis. The undivided estate, although very similar in size of holding and practice to the other absentee groups, also has been listed separately in some of the tabulations.

with 198 schedules completed. To retrace routes, involving considerable travel, to pick up the two more interviews needed to reach the 200 goal seemed neither necessary nor practical. Figure 2 shows the generalized locations of the 198 owners interviewed over the course of the study.

Computational Methods and Accuracy of Data

The computing of data involved two phases--first, the expansion of the sample data to a total for the entire sample population in terms of number of owners and forest area owned, and second the computing of specific ownership characteristics, forest practices, and other aspects as revealed by the interview subsample in terms of the total population. These two phases plus an analysis of the accuracy of results are discussed below.

Computing Forest Areas and Numbers of Owners

Initially it had been decided to use a system of cluster sampling based on a three-random start systematic count of the owners, and the first-stage sample was made in this manner. However, when computing was started it became apparent that because the subsampling for interview purposes was not uniform across ownership strata, quantitative analysis would be difficult, using

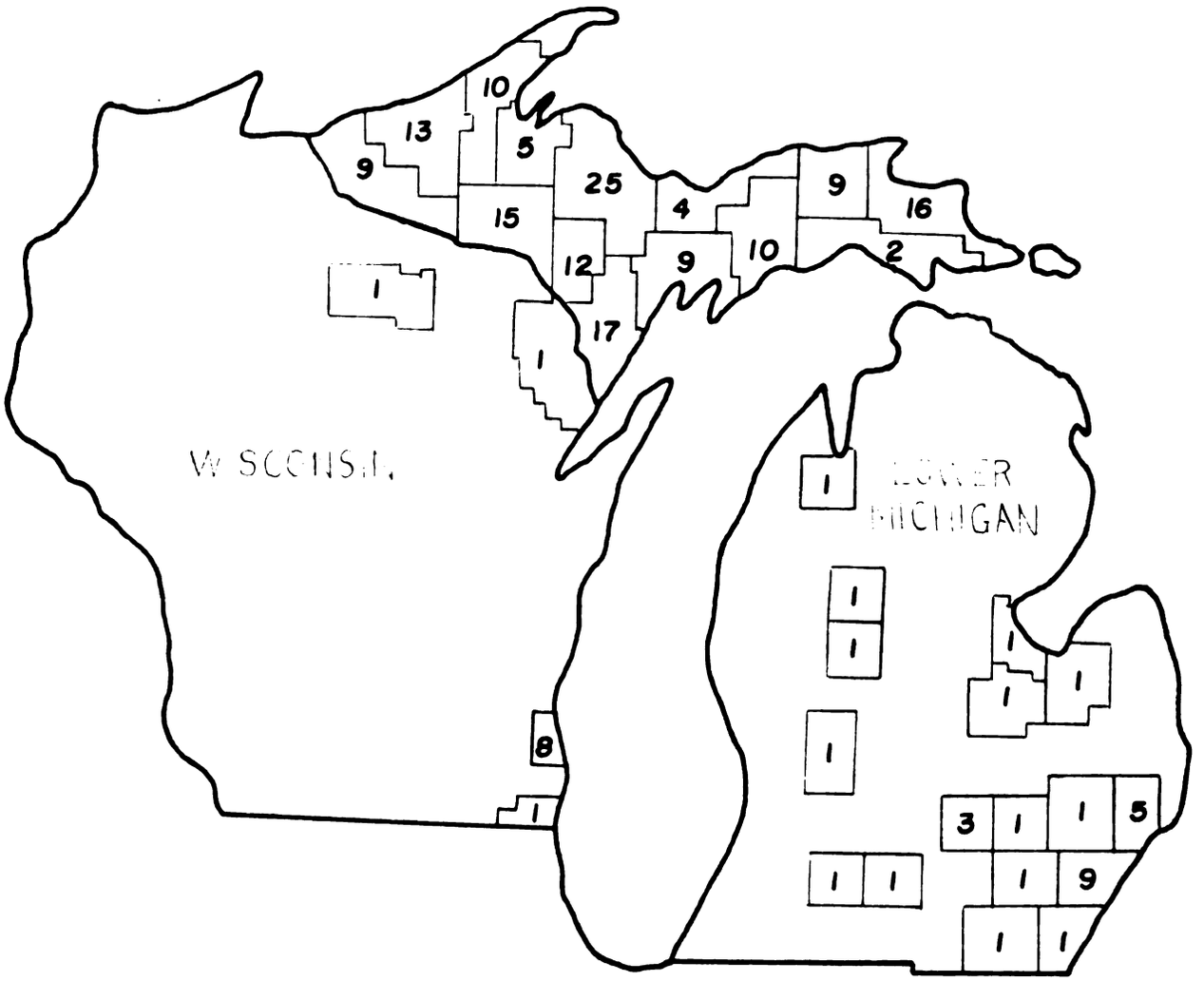

Figure 2.--Location of permanent residence of owners interviewed during the study.

the data as three clusters. Accordingly the data on number of owners and areas owned was considered as a simple random sample. This assumption was believed justified on the basis that the ownership lists (prepared from public records and ownership plat books) from which the sample was taken were in "random" order. Cochrane discusses populations in "random" order as follows:

> Systematic sampling is sometimes used, for its convenience, in populations where the numbering of the units is effectively random. This is so in sampling from a file arranged alphabetically by surnames, if the item that is being measured has no relation to the surname of the individual. There will then be no trend or stratification in y_i as we proceed along the file, and no correlation between neighboring values.
>
> In this situation we would expect systematic sampling to be essentially equivalent to simple random sampling and to have the same variance.[1]

The first-stage sample was expanded to the population total for both number of owners and forest area owned by use of the ratio estimate technique.[2] For instance, the ratio between the number of local retired owners in the first-stage samples and the total number of first-stage samples multiplied by the number of owners in the sample universe would provide the estimate of the number of retirees in the sample universe. Similarly the

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[1] W. C. Cochran, Sampling Techniques (New York: John Wiley & Sons, 1953), p. 168.

[2] Ibid., p. 129.

total acreage in each ownership class (after expanding second-stage values to first-stage totals) would be expanded by 33. Then the acreage totals for the various classes would be added together to provide a population total.

In terms of area, these initial data were for gross area owned and did not indicate what proportion was commercial forest land. Accordingly, an "adjustment factor" was computed for each stratum on the basis of stereo-examination on aerial photographs of sample properties. It was originally planned to photo-interpret all first-stage ownerships. However, because the overall work load was larger than anticipated, an economy was made by limiting this phase to a photo examination of properties in the second-stage sample. Because the amount of nonforest land on a property could depend on the ownership classification (for instance, farm ownerships might be assumed to contain a greater proportion of nonforest area than properties owned by hunting clubs and similar recreation groups), these corrections were worked up separately for each stratum. In addition to adjusting each sample observation for this gross area-forest area difference, a correction was applied for changes or errors in area owned. These represented discrepancies between the gross area recorded for each owner from an examination of public records or ownership

plat books, and the actual acreage owned as revealed by the interviewed owners. Some of these differences were due to errors in not "catching" a second or third description when scrutinizing ownership records while others represented changes due to sales of tracts of land or acquisition of new tracts. The "corrections" for these differences also were computed by ownership class or stratum as it was suspected that some classes typically might own only one description or show less recent acquisition or divestment of ownerships and hence be less subject to this type of error.

The totals for numbers of owners were obtained by simply expanding the number of valid owners in the first-stage sample by the sample percentage. (It should be noted here that several duplicates were "pulled" in the first-stage sample; these represented duplications in the population lists and in such cases the duplicate observation was simply dropped from the first-stage sample.) For areas, the two "corrections" by ownership class were applied to each first-stage observation. These "corrected" observations were then expanded to give an estimate of the total of each stratum, and these totals were then added to provide a population total.

Although this provided the estimate of total numbers of owners and forest area owned (including the

broad quantitative break-down between Upper Peninsula and absentee owners), it did not provide the final distribution of owners and areas by specific ownership class because the interviews taken during the second-stage or subsample had revealed some misclassification of ownership. As mentioned earlier, information concerning an owner's occupation or ownership classification was obtained by contacting county treasurers and other local public officials. It was found that the accuracy of these responses varied considerably. Data obtained from some officials would be highly accurate as to the nature of the owner or the ownership, while other sources proved to be not so reliable. Again the factor of time played a role. A Treasurer might identify an owner as being a farmer; if this owner was drawn as an interview sample, the subsequent interview might reveal that he had been a farmer but since had retired. For the 198 interviewed owners, 74 percent had been correctly identified initially as to occupation or class of ownership. To correct for these errors a correction table was prepared showing initial classification of the 198 interviewed owners (by owners and acreage) and the corrected classification totals as revealed by the interviews. These corrections were then applied to the data for the first-stage sample, providing the final estimates of number of owners and

forest acres owned by the ownership classes used.

Analysis of the Interview Questionnaires

Initially it had been planned to code the questionnaires for IBM summarizing at the completion of the interview phase. Because for so many categories there was such a small amount of variation in the sample, it was decided to hand-compute the data by means of tables and a hand calculator. This proved to be very time-consuming, and in retrospect it appears that IBM summarizing might have saved some time.

As each stratum had been sampled at a different intensity, the computing of responses had to be done separately for each ownership category. This was done by means of the ratio estimate technique, with a separate expansion being made both for numbers of owners and forest area owned. The population totals to which the interview responses were expanded were those "corrected" values as discussed in the preceding section. Responses in terms of both owners and forest areas owned are not given for every questionnaire phase, but only those where the proportion of forest area represented would differ considerably from the proportion of the number of owners possessing the particular characteristic or responding in a certain manner. For those phases where area difference would be small

or not especially relevant, the data are expressed only in terms of number of owners.

Several phases of the questionnaire were not included in the analysis. These were questions or phases where the owner either was incapable of answering or confused to the point where the necessary detailed explanation by the interviewer probably influenced his answer. Question 15a and questions 53 to 58 fell in these categories. These last six, termed nonstructured general-opinion questions, might be useful if a study was being made of a narrow, homogeneous ownership population. But in a study such as this where sample owners ranged from semi-literates to bank presidents, the range of responses to the opinion questions was so variable that they proved to be of small value. Another phase dropped from the analysis was the very last item included on the questionnaire. Here the writer made a judgment of the owner's concept of timber management as revealed during the interview. This subjective judgment seemed to be correlated with an owner's overall intelligence, state of being well-read and well-informed, and inclination to be "chatty" during the interview. Upon completion of the interviews, it was decided that presentation of this item would add little to the study and accordingly it is not included.

Accuracy of Results

Originally it was thought that the sample was designed so as to permit the computation of sampling errors. However, because the sampling technique necessitated a number of corrections to the basic data for non-sampling errors--i.e., correcting gross areas to forest areas, correcting ownerships for errors in total area owned, and correcting for misclassifications of ownership classes--the computing of an overall sampling error would be quite difficult and the result tenuous. Accordingly no quantitative measures of accuracy are presented. As will be noted later on in Chapter V, comparison of the estimate of forest area owned by these owners in this study and one obtained by a completely different method as part of the Michigan Forest Survey show reasonable agreement. Also, number of farmers and forest area owned proved to be quite close to that reported by the 1959 Census of Agriculture.

The reader should remember that results for individual ownership categories probably are least reliable in those classes with the smallest representation in the total population, and also that data summarized for the entire population would be more reliable than those presented by individual stratum.

CHAPTER IV

THE STUDY AREA

The Upper Peninsula of Michigan stretches almost 327 miles from the tip of Drummond Island on the east to its boundary with Wisconsin in the extreme northwest. Excluding Isle Royale,[1] it extends 160 miles in a north-south direction from the north shore of Keweenaw County to the southern boundary of Menominee County across from Marinette, Wisconsin (Fig. 3). While it shares a common land boundary with Wisconsin on the southwest, the greater part of the land mass, with 1,169 miles of coastline, is bounded by Lake Superior, Lake Michigan, and Lake Huron. With a total land area of 10,585,000 acres or 16,539 square miles, the Upper Peninsula is larger than any one of the following nine states: New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New Jersey, Delaware, Maryland, or Hawaii.

Historical Background

Prehistoric people knew the Upper Peninsula for several thousand years before the canoes of the French

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[1]Isle Royale, located 48 miles out in Lake Superior, is the site of the Isle Royale National Park and contains no privately-owned lands.

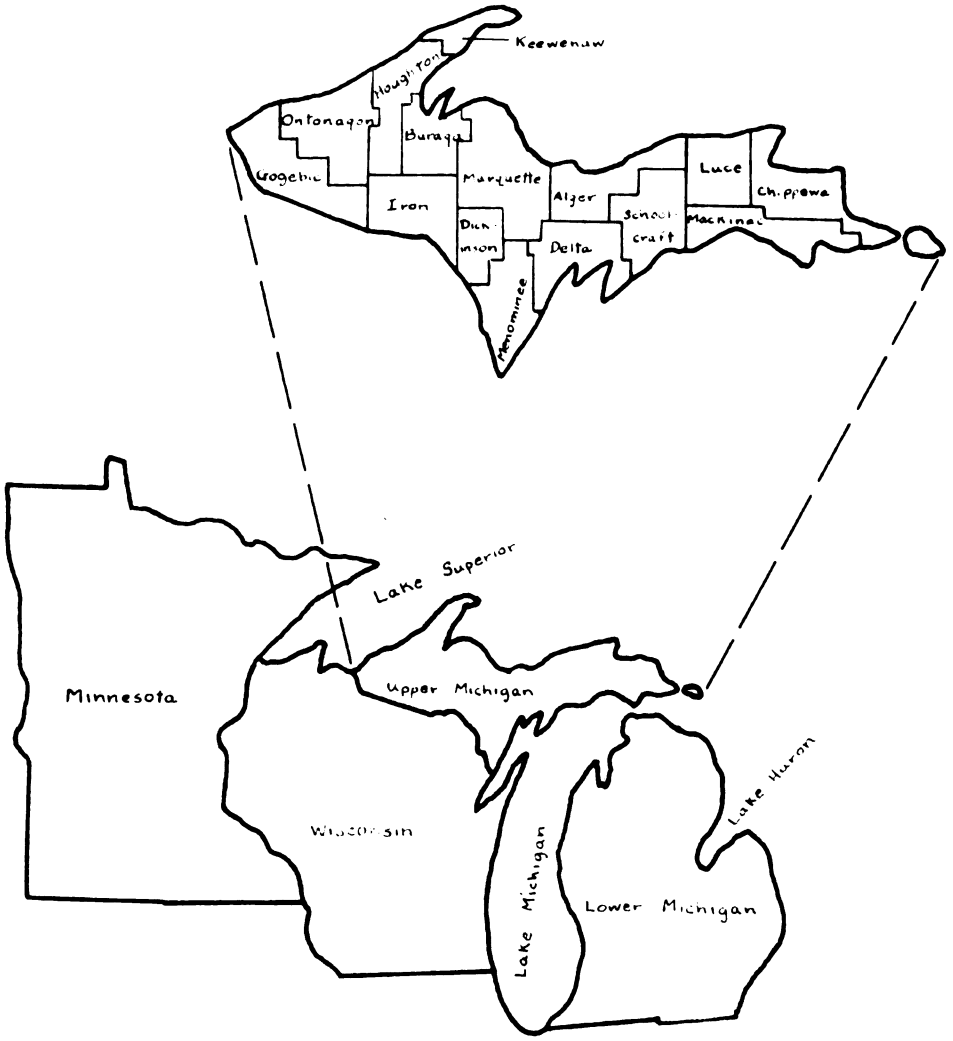

Figure 3.--Lake States region and study area.

voyageurs beached on its gravelly shores early in the 1600's.[1] In historic times, tribes who lived or hunted in the area included the Chippewa, Huron, Ottawa, and Menominee Indians. That others, unknown by name, lived or visited there is evident in the open pit copper mines filled with tons of remnants of stone mining implements left behind by prehistoric people.

The French--explorers, traders, and priests--moved across the Peninsula in their desire to spread the faith and enhance the glory and coffers of France. Other than establishing trading posts and missions such as those at Sault Sainte Marie and St. Ignace, they did not colonize the Upper Peninsula to any extent.

As an aftermath of the French and Indian War of 1760, the Union Jack replaced the Fleur-de-lis. British tenure was to last only 36 years, and in 1796 the Northwest Territory, including what later was to be Michigan, became part of the United States. The ordinance of 1787 and the Act establishing Michigan Territory, both had set Michigan's southern boundary as a line drawn from the southernmost point of Lake Michigan due east to Lake Erie. Ohio's boundary had been vague and a survey of its

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[1]Material concerning the historic background of the study area largely is taken from two sources: (1) Michigan Writers' Project of the Work Project Administration, Michigan--A Guide to the Wolverine State (New York: Oxford University Press, 1941), 696 pp.; and (2) M. M. Quaife and Sidney Glazer, Michigan (New York: Prentice-Hall, Inc., 1948), 374 pp.

line in 1817 overlapped the presumed boundary of the Michigan Territory. Because the port of Toledo was included in the disputed zone, a heated boundary dispute developed. Tempers mounted and by 1835 clashes between the two respective state militia seemed imminent. The situation sizzled until 1836, when the President signed the bill admitting Michigan to the Union as a state and containing the provisions that attached the Upper Peninsula to the new state as compensation for the loss of the Toledo Strip. At the time this was considered poor compensation, indeed!

The Upper Peninsula largely remained undeveloped until 1841. Then, following State Geologist Douglas Houghton's report on copper in the western part, outlanders began entering the area in search of mineral wealth. In 1844, a surveyor, William A. Burt, while working near present-day Negaunee observed erratic gyrations of the needle of his compass--iron had been discovered in the Upper Peninsula. Mining developed steadily, with the production of both copper and iron ore eventually reaching peaks about the time of the First World War. Depletion of high-grade ore bodies, together with discovery of richer ore ranges in Minnesota and farther west, led to a halt in the expansion of the mining industry.

Close behind the mining boom came the logging epoch. Although not as grandiose as the cutting of pine in the Lower Peninsula, the Upper Peninsula still had its saga of the woods. Sawmills were first established at Menominee and Escanaba in the 1840's; but in general the logging of the Upper Peninsula pine was to follow, rather than parallel the peak of activity in the Lower Peninsula. Besides Menominee and Escanaba, other prominent sawmill towns were Manistique, Grand Marais, Baraga, Ontonagon, Pequaming, Seney, Nahma, and Hermansville. Pine lumbering reached a peak in 1890.

Population

Many of the early immigrants attracted by employment in Upper Peninsula mining were miners from Cornwall in southwestern England. These "cousin-jacks" as they were called, together with the Irish, were numerous in the growing mining industry. Immigrants from many other European countries, as well as newcomers from the Northeast and Canada, flavored the scene. However, the dominant national group in the Upper Peninsula was not to arrive until the late 1800's. These were the Finns. Coming by the thousands to work in the mines, many soon turned to a pattern of life they had known in their homeland--that of farming. Cutover land could be had quite

reasonably and these Finnish pioneers formed the backbone of agricultural development in the Upper Peninsula. In 1930 almost one-fourth of the population was foreign-born.[1] Today this percentage is considerably lower, but the overseas heritage is pronounced. In many rural areas Finnish still is more commonly spoken, especially among the older residents, than is English. While people of Finnish ancestry make up a large proportion of the population, there are also many of English, Irish, French, Polish, Italian, Belgian, and Russian descent. Although the pattern is gradually breaking down, many of these groups still reside in towns or rural neighborhoods showing the dominant cultural pattern of the particular ethnic group.

The fluctuations in population since 1890, as shown by census figures, portray much of the Upper Peninsula's economic history during this period (Table 5). There was a steep rise from 1890 to 1920 as mining boomed. Following the peak of mining activity about the time of the First World War, there was a decline through the 1920's. The country-wide great depression of the thirties produced in the Upper Peninsula (as in many other essentially rural areas) a slight rise in population as the unemployed returned home from the closed factories of Detroit and Milwaukee. World War II and the

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[1] R. N. Cunningham and H. G. White, Forest Resources of the Upper Peninsula of Michigan, U. S. Dept. of Agriculture Miscl. Publication No. 429 (Washington: U. S. Government Printing Office, 1941), p. 1.

TABLE 5.--Population of the Upper Peninsula, Michigan, 1890-1960

Year	Resident population (number)	Proportion of total state population (percent)
1890	189,122	9
1900	261,362	11
1910	325,628	12
1920	332,556	9
1930	318,676	7
1940	323,544	6
1950	302,258	5
1960	305,622	4

Source: Population data from respective decennial censuses, U. S. Bureau of the Census.

post-war prosperity of the late 1940's produced outside job opportunities leading to an out-migration and a lower population in the 1950 decennial census. The very slight resurgence indicated by data from the 1960 census can be traced to the construction of two large military air bases which brought in thousands of military and civilian technicians together with their families.

The population in the 1960 census was 305,622, approximately evenly divided between urban and rural. Actually, many of those listed as rural live in towns and villages too small to qualify in the urban category. Marquette, Sault Sainte Marie, and Escanaba, with populations in the 15,000-20,000 range, are the largest cities in the area.

Land and Climate

The Upper Peninsula may be separated into two major physiographic areas, the eastern lowland portion consisting of Chippewa, Luce, Mackinac, Schoolcraft, Alger, Delta, and Menominee Counties, and the western plateau highland including Marquette, Baraga, Dickinson, Iron, Ontonagon, Gogebic, Houghton, and Keweenau Counties.[1] The eastern part, whose terrain ranges 600

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[1]J. O. Veatch, Soils and Lands of Michigan (East Lansing: Michigan State College Press, 1953), p. 1.

to 900 feet above sea level, exhibits only minor relief features and has many swamps and poorly drained areas. The western section, in contrast, is a dissected plateau, showing elevations from 1200 to 1700 feet and consequently bolder relief. In both areas lakes and streams are numerous.

Although agricultural-type soils are located to varying degrees throughout the area, much of the land is too poorly drained or the soils too infertile and acid to be suitable for agriculture.

Precipitation is well distributed throughout the year and averages close to 35 inches. Yearly snowfall ranges from about 65 inches in the Delta-Menominee area to slightly over 100 inches up in the Copper Country. The mean annual temperature is about 40 degrees Fahrenheit. The moderating influence of the Great Lakes on extremes of temperature affect the areas close by, but this effect decreases toward the interior of the peninsula. The average length growing season is about 115 days.

Land Use

Upper Michigan largely is forest land with approximately 89 percent of the land area so classified (Table 6). Of the forest land, slightly more than 96

TABLE 6.--Major land uses in Upper Michigan, 1955

Land use	Total	Eastern Upper[a] Michigan	Western Upper[b] Michigan
	(Thousand acres)		
Forest			
Commercial	9,039	4,291	4,748
Noncommercial	370	117	253
Total	9,409	4,408	5,001
Nonforest			
Farm	634	361	273
Other	542	244	298
Total	1,176	605	571
All land	10,585	5,013	5,572

[a]Includes Chippewa, Mackinac, Luce, Schoolcraft, Alger, Delta, and Menominee Counties.

[b]Includes Marquette, Baraga, Dickinson, Iron, Gogebic, Ontonagon, Houghton, and Keweenaw Counties.

Source: U. S. Forest Service.

percent is suitable and available for timber production.[1] Agricultural lands (cropland and nonwooded pasture) make up six percent of the total land area; while the remaining five percent, listed as "other," would include urban areas, service areas, railroads, highways, etc., plus small water areas not separated from land area under Bureau of Census standards. Land categories by use in the two broad area divisions, Eastern and Western Upper Michigan, are quite similar, the major exception being that the eastern counties show a slightly larger proportion in agricultural use.

Current Economic Scene

Although an exhaustive economic analysis of the Upper Peninsula will not be attempted, a few of the major sources of income and economic activity within the area will be discussed.[2] Information is given under the broad

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[1]Forest lands termed noncommercial are areas that, although not developed for other use, are either physically incapable of producing usable wood products, or have been withdrawn from timber utilization by statute.

[2]Information concerning the economic background of the area was obtained from a variety of sources including pertinent publications of the U. S. Departments of Agriculture and Commerce. Among the prominent sources used, see: W. Paul Strassman, Economic Growth in Northern Michigan, Michigan State University Institute for Community Development and Services, General Bulletin No. 2 (E. Lansing: Michigan State University, 1958), 61 pp. Also: Ebasco Services, Inc., Engineering Study of the Michigan Upper Peninsula (Lansing: Michigan Dept. of Economic Development, 1953), 188 pp.

headings of: (1) agriculture, (2) fisheries, (3) forestry, (4) mining, (5) recreation, and (6) sales and service.[1] Most of the statistics shown represent conditions in 1950 or 1954. Although there have been some changes, the situation and intra-relationships between income sources remain essentially the same today.

Agriculture

In spite of the contributions of the hard-working Finnish pioneers, agriculture has never become a sustained major component of the Upper Peninsula's economy. Relatively short growing seasons (especially in the interior of the Peninsula) and scarcity of high-quality agricultural soils, together with long distances to large centers of population and markets, combined to limit agricultural development. Upper Peninsula farmers often supplement their farm income with off-farm work in the woods, mines, or other sources of employment. In 1954, 26 percent of the operators of commercial farms worked 100 days or more in off-farm employment. While there are a number of quite thrifty farming areas, Menominee County being the leading farming county, recent agricultural statistics chronicle

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[1]Manufacturing is not included as a separate category because much of the activity under this heading occurs in the wood-using industries and is reported under "forestry." The most significant phase of manufacturing outside of the wood-using industries would consist of metal fabrication industries located in the cities of Escanaba and Iron Mountain.

the decline of agriculture in the area. The number of operating farms dropped from 16,081 to 5,446 between 1935 and 1960.

The 1954 Census of Agriculture listed 8,381 commercial or part-time farms in the Upper Peninsula.[1] Of these slightly over half were listed as having a total gross return from sale of products of less than $2,500 annually. Employment in agriculture, including both hired and family labor, totaled 14,865 individuals.

Total receipts for farm products sold in 1954 was $18,369,000. The sale of dairy products constituted the largest share of this total (57.5 percent), followed by crops (20.7 percent), livestock and livestock products (11.5 percent), forest products (5.6 percent), and poultry products (4.7 percent). While Upper Peninsula agriculture consists mainly of dairy farming, in some localized situations other farm products (i.e., potatoes, berries, flax, and other cash crops) may be the leading source of farm income.

Fisheries

Surrounded by waters of three of the Great Lakes, some lakeshore communities in Upper Michigan have an important source of income from commercial fishing. While the

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[1] Includes all farms with a value of sales of farm products of $250 or more yearly.

volume of fish taken commercially each year has remained fairly constant, the composition of the catch has changed. The buildup during the 1940's and 1950's of the predatory sea lamprey in the waters of the Great Lakes has coincided with the shrinking population of lake trout and whitefish. Recent catches show a smaller proportion of these valuable species. Accordingly, the 1950 catch, valued at almost 2-1/4 million dollars, is slightly greater in poundage taken, but represents a considerable loss in value from the 1940 fisheries income because of this decline in quality. The 1959 catch had further declined in value to 1-1/3 million dollars. Recent advances in lamprey control give promise for the future, but it remains to be seen as to what extent the desirable lake trout and whitefish populations will respond and recover.

Forestry and Forest Industries

Comprehensive figures summarized in the Ebasco Report in 1953 on the economic resources of Upper Michigan list the dollar volume of sales from forestry and forest products at slightly over 127 million dollars and the number of production workers employed at 18,800. When the most recent Census of Manufacturers data are released, changes undoubtedly will be noted; however, these figures probably are still reasonably indicative of the forestry situation. Some production changes that

will show up in the 1960 data are: (1) some decline in lumber manufacture, and (2) a considerable increase in pulpwood used locally and shipped out of the area.

The cutting of the old-growth hardwoods did not assume much importance until after the pine was gone. Inventory data for 1934 showed that there still was 1-1/2 million acres of old-growth hardwood sawtimber, much of it in virgin stands. The most recent inventory data show only a little more than 500,000 acres in old-growth sawtimber, and a sizable share of this area has had some cutting. Although remnants of these virgin stands remain, cutting is rapidly shifting into second-growth stands for the harvesting of smaller size sawtimber trees and vastly increased amounts of pulpwood material. Some analysis of these changes in use of timber products can be gained by comparing production data for 1934 and 1954 (Table 7). These changes are caused by two basic factors: (1) the available resource, and (2) changing market conditions. Although sawtimber and veneer production show increases, one should remember that 1934 was during the heart of the depression, and the overall economy was greatly distressed. Fuelwood, hewn ties, mine timbers, and miscellaneous products such as woodenware, handles, lath, shingles, etc., all have declined. These losses in output were caused by technological changes and consumption trends, rather

TABLE 7.--Timber products output for specified years, Upper Peninsula, Michigan

Timber products	Unit of measure	Annual cut		
		1934	1954	1959[a]
Lumber logs	M bd. ft.	231,400	250,130	-
Veneer logs	" " "	10,800	27,210	-
Cooperage logs	" " "	-	-	-
Pulpwood	Std. cds.	410,000	550,400	607,000
Fuelwood	" "	712,400	346,500	-
Chemical wood	" "	110,000	125,600	-
Piling	Lineal ft.	100,000	17,000	-
Poles	Pieces	142,000	20,000	-
Posts	"	3,985,000	4,576,000	-
Hewn ties	"	191,000	41,000	-
Mine timbers, etc.	M cu. ft.	4,700	3,728	-
Miscellaneous[b]	" " "	4,500	1,915	-

[a]Pulpwood only, other timber products estimates not available.

[b]Woodenware, handle stock, cabin logs, heading stock, excelsior, lath, shingles, etc.

Source: U. S. Forest Service.

than a decline in the availability of supplies. On the other hand, piling and pole output have declined because of the passing of the old-growth timber. The biggest change has been the expansion in the pulpwood industry, both in terms of new facilities and in greater reliance on Lake States species. The latter is evidenced both by increased pulpwood consumption in the Upper Peninsula and increased exports to Wisconsin. Pulpwood production in the area has increased almost 50 percent in the past 25 years.

While five pulpmills or fibreboard mills operate in Upper Michigan, most of the pulpwood harvested is shipped to Wisconsin mills. In 1959 these shipments amounted to 447,000 cords. Two large hardwood distillation plants still are in operation, but this phase of wood utilization has declined from the peaks reached in the 1920's. Although four large veneer mills were active as recently as 1954, since then three have ceased operations.

In summary, the forestry and forest products situation in the Upper Peninsula has changed and is changing. The past three decades have seen the problems encountered in shifting from timber use based on old-growth, large sawtimber to utilization of products from second-growth timber stands. Many towns and villages have experienced economic hardships with the closing of

a large sawmill which was built to operate on old-growth timber. Conversely, the increase in pulp and paper manufacture and pulpwood production has created new jobs, both in the mills and in the woods. One pulp and paper mill at Ontonagon, idle during the middle 1950's, has recently been renovated and is back in operation. Also, a completely new mill which manufactures hard board from pulpwood-derived wood cellulose has been constructed and now is in operation at L'Anse.

Mining

In 1954, 10,480 individuals were engaged in the copper and iron mining industries in the Upper Peninsula. Wages paid amounted to $58,694,000, and shipments of ore were valued at $94,093,000.

Both copper and iron mining reached peaks about the time of the First World War. Since then, competition from other sources with richer ore deposits and lower mining costs have reduced mining activities.

Copper mining, in particular, has suffered. Copper production dropped from a high of 135,000 tons in 1916 to 45,000 tons for the two-year period, 1954-1956. Because present copper mining facilities are marginal operations, the outlook for copper mining in the Upper Peninsula is far from bright, and further reductions in output are probable.

The three producing Upper Peninsula iron ranges--the Gogebic, Menominee, and Marquette--shipped 12,540 tons of ore in 1956. Though production has been fairly steady since 1930, it is estimated that the present rate of production will exhaust the deposits of high-grade ores in about 25 years. Brightening this picture somewhat has been the recent construction of several ore concentration or "beneficiation" plants. Here low-grade ores are concentrated into pellets, making feasible the mining and shipping of low-grade iron ores.

Summarizing, it appears that the mining industry will be a continuing factor in the economy of the Upper Peninsula for a considerable time, but one not likely to show expansion. In fact, some sources predict that barring some reversal in long-term trends, mining employment in the Upper Peninsula will decline 25 to 40 percent from present levels by 1970.[1]

Recreation

The long coast line, numerous lakes and rivers, abundant forest lands (including vast tracts of public-owned forest), a pleasant summer climate, wild game, and a relatively small local population compared with land resources make the Upper Peninsula a very attractive

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[1]W. Paul Strassman, op. cit., p. 38.

vacationland. Although tourists, summer vacationers, hunters, and fishermen long have visited the Upper Peninsula, the big surge in recreation largely has developed since World War II. More leisure time and overall greater individual prosperity have triggered the ever-increasing flow of recreationists to the north country. For the Upper Peninsula, park attendance rose 112 percent from 1948 to 1955.

Measuring the economic impact of recreation on an area's economy is difficult. In general, additional incomes from recreation are represented in totals for sales and services for any area. Food, lodging, equipment, gas, use of commercial amusement facilities, and numerous other items are included in such incomes. A study published in 1953 cited a dollar volume of sales for the recreation industry in the Upper Peninsula at $50,000,000. This figure was based on 1950 conditions, and considerable increases have occurred since. The 1958 opening of the Mackinac Bridge, linking Upper and Lower Michigan, has been another favorable factor in the area's present and future recreation prospects.

Summarizing, the future for recreational development in Upper Michigan is very promising. A growing national population and (as hoped for) even more leisure time and improved standard of living should reflect themselves in greater recreational use of Upper Michigan's

forests, streams, and lakes.

Sales and Services

Department of Commerce data gathered in 1954 showed that about 17,500 people were employed in retail, wholesale, and selected services trade in Upper Michigan and that payrolls in these trade industries totaled $36,993,000. Dollar volume of sales was estimated at $436,359,000 for this same year. (It should be noted here that these figures would include most, if not all, income produced by recreation.) Undoubtedly these totals have increased since 1954 as the expansion of one military airbase and the construction of another have brought additional military personnel and civilian technicians, together with their families, into the Upper Peninsula.

Summary

Michigan's Upper Peninsula needs to develop, as much as possible, all its sources of income. Realistic appraisals under present economic conditions, technological knowledge, and governmental policies would seem to indicate that very little expansion, and more probably additional reductions, will occur in both mining and agriculture. (A national emergency, such as war, could bring a turn-about in both mining and agriculture, creating new demands through curtailment of supplies of

foreign ores or the requirement of furnishing vast quantities of foodstuffs to other lands.)

A potential for expansion in forestry is available. The eventual harvesting of the last available old-growth timber stands in other parts of the country, innovations and improvements in growing and harvesting technology, plus anticipated increased demand for wood engendered by huge population increases, should accelerate utilization of Upper Michigan's forests.

Similarly (although probably much more certain), recreational use of the area's woodlands, lakes, streams, ski slopes, etc., will continue to bring additional incomes into the Upper Peninsula. However, recreational spending usually is marginal beyond more basic spending needs. Accordingly, a severe depression or moderate recession could slow down this rise in recreation incomes. Also, contrary to the effect produced on mining, agriculture and forestry, a major war or grave national emergency could pinch off the stream of tourists and vacationers.

CHAPTER V

OWNERSHIP OF SMALL PRIVATE FOREST LANDS

The initial objective of this study was to identify the owners of small private forest lands in the Upper Peninsula as to occupation (or, for multiple ownerships, purpose of ownership), place of residency or origin of forest policy decision, and how much forest land each group owns.

From previous studies as well as on the basis of intuitive reasoning, it would seem that a landowner's purpose of ownership, practices, problems, and response to various forestry programs are influenced by a number of factors which may be correlated with, or expressed by, occupation. That occupation is a good expression to classify or stratify individuals in a forest landownership study is not accepted by all. Some consider a measurement of owner assets to be a better basis for population stratification.[1] This may be true, but difficulties immediately arise

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[1] H. H. Webster and C. H. Stoltenberg, "What Ownership Characteristics are Useful in Predicting Response to Forestry Programs," Land Economics, XXXV (August, 1959), p. 294.

in gathering such a personal characteristic on a great number of owners (in this study, over 900) separated widely as to residence and background.

To some extent, occupation expresses a measure of net worth as well as some of the other characteristics and attributes believed correlated with or influencing forest land management. Few would deny, plumbers' wages to the contrary, that the business-professional class, on the average, shows a higher net worth than the wage earner class. Some characteristics besides financial position expressed to a varying degree by occupation would include residence of owner in respect to forested property, time or ability to supervise timber sales or do woods work, individual time preference in respect to returns from invested funds, education, and degree of social consciousness.

For these reasons--meaningfulness and relative ease of classification--the stratification of individual owners was made on the basis of occupation.[1] As previously mentioned, it was soon recognized that classification was difficult for owners who resided outside

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[1]The choice of owner characteristic or attribute to use in a study such as this depends upon institutions and other factors. In Wisconsin the use of a measure of financial status, such as current annual income, as the basis for individual owner classification would be feasible as such data are gathered during the process of collecting state income taxes.

the study area and for this reason these individuals were classified simply as "individual-absentee," "housewife-widow-absentee," and "recreation group-absentee." As the study deals also with multiple-owner situations, the occupation category obviously would not fit this group. These ownerships were classified on the basis of apparent ownership purpose or principal form of corporate endeavor.

In establishing occupation or ownership categories it was assumed that all or some of these strata might show distinctive patterns of forestry practices, problems, or responses to forestry programs. Also that if this was true, then the stratifications used could also easily by identified by agencies or private industries interested in promoting or amending action programs aimed at such groups. How these categories actually did differ as shown by their responses in the personal interviews will be discussed in later chapters.

Total Owners and Area Owned

The study showed close to 30,000 individual or group ownerships in the small ownership population (private individuals, groups of individuals, or corporations owning between five and 5,000 acres of rural nonplatted land within the study area, some of which

could be classified as forest). Of these almost 75 percent are Upper Peninsula residents while the remaining 25 percent make their permanent residence outside the area. Of this absentee group, 60 percent live in Lower Michigan, 13 percent in Wisconsin or Minnesota, and 27 percent outside the Lake States (Table 8). For those owners living outside the Lake States some list permanent residences as far away as Florida and California; however, the majority reside in Ohio, Indiana, and Illinois, with the Chicago area being home for many. The total of 6,270 nonresident owners at first glance may seem low, but it should be kept in mind that by definition this study is concerned with owners who have over five acres of nonplatted land, thus excluding many nonresident recreationists who own only the lot on which their cabin or cottage is located. The latter group are not meaningful forest landowners and hence are not of concern to this study.

Analysis of the sample data, according to the computing techniques explained in Chapter III, placed the total commercial forest land owned by the small private ownership class at approximately 3,225,000 acres.[1]

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[1]As explained earlier, the sampling process involved a step in which forest areas were tallied as the result of stereoscopic examination of aerial photographs. This, of course, contains a subjective judgment on the part of the viewer and this value for total commercial forest land may be somewhat high due to the inclusion of some wild lands of doubtful productivity.

TABLE 8.--Summary of nonresident ownership showing general locale of permanent residency and place of land ownership in the Upper Peninsula

Place of permanent residence	Number of nonresident owners by place of landownership[a]			
	Total	Percent	Eastern Upper Peninsula	Western Upper Peninsula
Lower Peninsula	3,762	60	2,376	1,386
Wisconsin	627	10	132	495
Minnesota	198	3	66	132
Lake States total	4,587	73	2,574	2,013
Outside of Lake States	1,683	27	825	858
All nonresident owners	6,270	100	3,399	2,871

[a]The section designated as the eastern Upper Peninsula includes the counties of Alger, Chippewa, Delta, Luce, Mackinac, Menominee, and Schoolcraft; the western Upper Peninsula includes the counties of Baraga, Dickinson, Gogebic, Houghton, Iron, Keewenaw, Marquette, and Ontonagon.

A recently completed timber inventory for Michigan, which used 1955 as its base year for summarizing data, showed 2,908,000 acres of commercial forest land in this same small private ownership category. This value, computed by a completely different method, is almost 10 percent lower than the total arrived at in this study. While changes are taking place in ownership and empirical evidence indicates some movement of forest land from some of the large private ownership categories into small private ownership, it is doubtful if the major part of this difference is due to change over a four-year period. More probably both the 3,225,000 and the 2,908,000-acre estimates contain some error. However, a difference of 10 percent from an independently arrived at estimate provides some measure of confidence in the sampling techniques employed in this study.

Although resident Upper Peninsula owners account for about 75 percent of total small owners, they own 2,624,000 acres or 81 percent of the forest land. The remaining 601,000 acres are owned by absentee owners, of whom a majority live in Lower Michigan.

The largest individual ownership group is that of wage earners, who comprise almost 18 percent of the total population. Following closely is the farmer group with 5,113 owners or 17 percent of the total. This estimate of 5,113 farmers agrees quite closely with data from

the 1959 Census of Agriculture, which indicates that there are 5,251 operating farms in the Upper Peninsula. The figure found in this study and the Census value are not entirely comparable as the Census data includes owners who own more than one operating farm; also in this study a few of the owners classified as retired or housewife-widow owned farms operated by members of their families. However, recognizing these slight differences, the values are surprisingly close. The next largest group of owners would be absentee individuals who number almost 16 percent, followed by the business-professional class and the retired class each of which make up about 10 percent of the total owners. The local housewife-widow group amounts to approximately nine percent. None of the others individually exceed four percent of the total.

As might be expected, the size of forest holdings owned by the various categories varies more within than between ownership classes. Some measure of the amount of this variation is given in Table 9, which presents the average size holding, standard deviation, and standard error of the mean for the various ownership classifications. These values represent data from the first-stage sample which had been adjusted for area and forest-nonforest changes found as a result of the interview corrections, but had not been adjusted to

TABLE 9.--Average size of forest holdings, standard deviation, and standard error of estimate by occupa- or type of ownership classification*

Occupation or type of ownership	Average size (acres)	Standard deviation	Standard error of mean
Business-professional	239.3	334.06	35.42
Logger	174.6	241.08	38.14
Housewife or widow	170.7	147.30	18.72
Absentee recreation group	150.0	438.28	87.66
Retired	97.3	285.67	31.74
Recreation group	87.2	108.14	23.06
Undivided estate	84.3	65.07	9.48
Absentee individual	83.0	215.31	12.04
Wage earner	74.3	73.26	5.65
Farmer	70.1	71.17	5.30
Absentee housewife or widow	61.9	39.20	8.77
Multiple-miscellaneous	54.5	39.46	10.20
All owners	107.6	203.13	6.74

*Based on the data prior to corrections for misclassifications in ownership classes.

recognize misclassifications in categories themselves. Because of this, these averages are fairly close to, but do not coincide with the final averages shown in Table 10.

The average size holding (not necessarily a contiguous tract) for the entire sample population was 107.6 acres per owner or ownership complex. Establishing 95-percent confidence limits about this value shows the average ownership to consist of 107.6 ± 13.2 acres. Because of adjustments to correct for misclassifications of occupation or ownership categories in the first-stage sample, statistical testing between the means for the various categories would have little meaning, particularly since the amount of misclassification in the first-stage sample was not the same for all categories. However, both from the first-stage sample and the interviews, there does appear to be a valid basis for recognizing that both the business-professional and logger categories seemed to have larger size holdings than the other classes. The seemingly large average size holding of the housewife-widow group probably reflects the influence on the computations for this category of a very large correction error for one interview in which land belonging to the same owner was listed under several names on the tax rolls. The correction for this error applied to the entire class boosted the average

TABLE 10.--Number of owners, area owned, and average size of forest holdings by occupation or type of ownership classification

Occupation or type of ownership	Average size (acres)	Number of owners	Forest area (acres)
Farmer	84.3	5,113	430,972
Recreation group	75.6	784	59,308
Business-professional	234.8	3,007	706,071
Wage earner	52.4	5,446	285,419
Undivided estate	90.1	466	41,991
Retired	109.7	3,072	337,098
Housewife or widow	142.3	2,799	398,228
Logger	177.5	1,025	181,911
Multiple-miscellaneous	125.4	665	83,424
Absentee individual	40.2	4,710	189,381
Absentee housewife or widow	61.7	920	56,798
Absentee recreation group	105.1	1,168	122,784
Absentee undivided estate	65.1	110	7,166
Absentee corporation	1,168.0	217	253,457
Unsampled	-	462	71,313
Average	107.6		
Total		29,964	3,225,321

for the entire housewife-widow group. It's doubtful if this group actually holds as large holdings, on the average, as the data indicate. Checking the average size of total forest holdings owned by farmers, 84.3 acres, against that indicated by the 1959 Census of Agriculture shows a difference of only 6.6 acres, the Census average being 90.9 acres. Again, the two values are not completely comparable; this study includes any forest tracts owned by farmers apart from their home farm, while the Census data would include only woodlands that are part of operating farms.

Although as a result of the interviews, considerable corrections were applied to the occupation and ownership categories as classified in the first-stage sample, changes in place of residence from Upper Peninsula to absentee and vice versa were very slight. Consequently a statistical testing of the averages for these two groupings as identified in the 894 first-stage samples seemed valid. Accordingly the total acreage for each owner classified in the first-stage sample was summarized and corrected for error in acreage owned and forest-nonforest error as found in the interviews, and the average size holdings computed for Upper Peninsula owners and absentee owners. Average size of holding was calculated at 111.6 acres for the local group and 89.5 acres for those residing outside

the study area. A statistical comparison of these two values, using Students t-test showed no significant difference.

Comparisons of Average Size Tracts With Other Lake States Studies

The values indicated by this study for average size tract by various ownership categories differ considerably from those shown by previous ownership studies conducted in the Lake States. Stoddard, in a northern Wisconsin study using mail questionnaires in 1941, found the average size ownership of forest land for noncorporate private owners to be 225 acres.[1] Yoho, in 1953 in a study in northern Lower Michigan, similarly found the average acreage owned to be considerably higher, as were also his averages for strata comparable to some of those used in this study (Table 11).

These differences probably reflect a combination of contrasting factors including time, sampling technique, and definition. Stoddard, for example, did not include in his study any owners who held less than 35 acres of forest land or whose lands were tax delinquent. Furthermore, his study was made prior to the widespread upsurge in buying of these northern lands for recreational purposes.

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[1]Stoddard, op. cit., p. 271.

TABLE 11.--Comparison of average size of forest holdings between some comparable ownership classes for northern Lower Peninsula and the Upper Peninsula of Michigan

Ownership class	Average size of holdings	
	Northern Lower Peninsula	Upper Peninsula
	(Acres)	
Farmer	119	84
Business-professional	635	235
Wage earner	67	52
Undivided estate	1,097	90
Retired	262	110
Housewife-widow	242	142
Average all classes*	661	108

*For the Lower Peninsula data, one ownership is excluded from the total because its holdings exceeded 5,000 acres. Other than this one exclusion, the "average all classes" values are for the respective ownership population totals, and they include those ownership classes not shown and compared separately because their definitions were not exactly comparable between the two studies.

Source: Lower Peninsula data from Yoho, op. cit., p. 103.

Yoho's study area, the northern half of the Lower Peninsula, in general was logged over several decades before the Upper Peninsula and possibly these Lower Michigan lands were sold in larger blocks following logging. In addition to these differences, there probably is some variation due to sampling technique--Stoddard having used a mail sample, Yoho a systematic sample of area, and this study a list sample of ownership names.

Changes in Number of Owners

Some evaluation of the changes taking place in the small private forest landownership population can be made on the basis of comparisons with data from other sources. In total the area owned by small private owners has been increasing. Data from forest inventories made in the 1930's show 2,180,000 acres of forest land held by small private owners in the Upper Peninsula compared with 3,225,000 acres today.[1]

Not all of the small ownership categories have been increasing, however. Census of Agriculture data show a steep downward trend in number of farms and hence, number of farmers or farm woodlot owners. The Soil Bank aspect of the Federal Farm Program has accelerated this decline in farms in the Upper Peninsula,

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[1]Cunningham and White, op. cit., p. 20.

providing the opportunity for many elderly farmers to retire after placing their farms in the Soil Bank.

Probably the largest increase has been in the nonresident categories, owners motivated in landownership largely by recreational desires. While the study provides no precise quantitative measurement of the increase in the nonresident ownerships, some evidence of trend is available. For instance, analysis of the 32 nonresident ownerships interviewed who had acquired their lands by purchase disclosed that 50 percent had acquired their land within the past 10 years and 81 percent within the past 15 years. Many of these individuals indicated that they had purchased their property from Upper Peninsula residents or landowning corporations. In many instances it was stated that the timber had been logged off prior to sale and that the seller apparently had been following a policy of selling the merchantable timber and placing the property on the real estate market, presumably to go for an attractive price to people from "below the straits." Another empirical clue to the growth of nonresident forest landownership is found in observations on land prices. Many owners indicated that they had paid $600, $800, or even $1,000 for their forty of cutover or second-growth forest land. These prices are 10 or 20 times higher than the market value of such lands 15 or 20 years ago. Much of this increment apparently is

due to the brisk market for lands for recreational use, particularly by nonresidents.

Summary

The owners of forest land were identified for the purpose of segregating the various classes, interviewing each class, and relating characteristic practices, problems, and responses back to the total population. This chapter has shown that the ownership is spread over a great number of individuals or groups of individuals, varying as to occupation, class or purpose of ownership, and residency. While a majority of the owners, 75 percent, owning 81 percent of the land, make their permanent residence in the study area, a significant group lives outside the area and, as will be shown in a subsequent chapter, visit their property only periodically. In addition to showing a wide distribution among owners, this phase of the study also reveals a wide variation in size of tracts owned, with apparently about as much variation among classes used for strata as between classes. Although the sampling and computing techniques used did not provide a valid basis for testing differences between average size forest holdings by individual ownership classes, the data seem to support the opinion that the professional-business and logger classes are characterized by larger-sized holdings.

The implications of these findings in regard to forest practices, obstacles to management, and responses to present or proposed forestry programs by these forest landowners will be discussed in subsequent chapters.

CHAPTER VI

SPECIFIC OWNER AND OWNERSHIP CHARACTERISTICS

This chapter presents the results of the 198 personal interviews, relating the various aspects back to the total population in terms of numbers of owners and amount of forest land owned.[1] The sections will be presented under the questionnaire headings of: (1) General Information, dealing with descriptive characteristics of the owner and ownership; (2) Owner's Woodland Practices, covering an owner's activities in respect to tree planting, timber harvesting or sales, or other work in his woodlands; (3) Credit and Taxation; (4) Owner's Knowledge of and Participation in Various Forestry Programs; and (5) Owner's Attitude Toward More Intensive Forestry Aids.

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[1]The population studied includes partnerships, clubs, and corporate groups as well as individual owners. In order to simplify the presentation and avoid needless repetition of qualifying clauses, the term owner will be used most frequently in the presentation and analysis. Unless stated otherwise this term has an all-inclusive meaning and takes in both individual owners and multiple ownerships. Also in reference to distribution of characteristics by ownership classes, the term "total population" or "total forest area," refers to the owners and forest land making up the small private ownership component of the Upper Peninsula's forest resource.

General Information

Type of Ownership

In order to place in fuller perspective those aspects which might influence decision making and continuity of land management policies in a particular population of owners, it is helpful to learn the form of ownership under which their lands are held.

Property interests in land can be classified on the basis of number of owners, conditions of holding, duration, and time of enjoyment.[1] The first classification, number of owners, provides an easily identifiable characteristic of ownership that can be meaningful in terms of decision making, continuity of objectives, and other factors influencing forest land management.

Usually an individual owner is capable of responding to stimuli and making quicker decisions concerning his land holdings than multiple owners because there is no need for consultation and group agreement. On the other hand, multiple ownerships, where ownership interests are held under joint tenancy, and especially corporate ownerships, may possess longer planning horizons and more continuity of objectives than those of single owners.

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[1]Raleigh Barlowe, Land Resource Economics (Englewood Cliffs: Prentice-Hall, Inc., 1958), p. 348.

To a considerable extent the classifications used in this study were based upon the form of ownership. Owners classified on the basis of occupation mainly were individual ownerships, while those classified on the basis of apparent purpose of ownership or field of business endeavor consisted of partnerships, informal clubs, and corporations.

Individual owners, as indicated in Table 12, make up 87 percent of all owners and have 80 percent of the land owned by all groups.[1] Partnerships and clubs together total eight percent of the owners and have that same proportion of the land owned. A considerable number of the 10 percent of all owners listed as corporations actually are hunting clubs organized as nonprofit corporations. Undivided estates, a category which in most instances can be considered to be fairly inactive in respect to any positive management actions during the period of estate settlement, represent only two percent of the owners and two percent of the land.

From these data it appears that only the small portion in corporate ownership might be expected to tend toward continuity of ownership and management exceeding that likely to occur in individual ownerships, partnerships, or nonincorporated clubs. Hence there is no

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[1]As mentioned earlier, husband and wife ownerships were considered as individual ownerships and classified according to the husband's occupation.

TABLE 12.--Distribution of legal form of ownership among the small ownership population

Form of ownership	Percent of forest area	Percent of forest owners
Individual	80	87
Partnership	7	6
Club	1	2
Corporation	10	3
Undivided estate	2	2
Total	100	100

evidence that the prevalent form of ownership in the Upper Peninsula's private forest ownership population is an institutional factor that might promote continuity of plans or objectives beyond the life span of present owners. Also the data show that for over three-fourths of the ownerships the decision-making process legally involves only one individual or one married couple.

Method of Land Acquisition

The analysis of the method of forest land acquisition is based on the data converted into percentages of forest area acquired by the different methods of land transfer. Figures for the proportions of individuals or groups becoming landowners via the various methods of acquisition have not been computed because some owners have more than one tract, and the data on acquisition are not always mutually exclusive.

Some writers have suggested that the method of acquiring land may be a strong factor influencing an owner's feeling toward the tract. There is the old analogy that people tend to cherish and care more for something that was acquired by personal payment of time or resources rather than through casual circumstances. Opposed to this rationalization is one based on an individual's sentimental attachment for an inherited family property. There probably is some truth to each, but

there are so many other mitigating circumstances that such clear-cut statements usually are not valid. However, method of land acquisition, analyzed on the basis of contemporary socio-economic conditions and the owner's expressed statement of purpose of land ownership, helps to place in better focus the current ownership situation and also may furnish clues toward future trends.

Examination of the transfer processes whereby present owners acquired title to their properties shows that more than three-fourths of the forest area was acquired through purchase (Table 13)--most of this being purchased from nonrelatives of the owners. Inheritance accounted for one-fifth of the land area acquired, while acquisition by means of tax sales, foreclosure or debt settlement, and gift, represented very minor components of the land acquisition picture.

Although in the northern Lake States, including the Upper Peninsula, thousands of acres changed hands through tax delinquency during the 1930's, a relatively low percentage of present owners indicated this method of acquisition. This might be explained by the fact that a majority of the owners had acquired their lands within the past 10 to 15 years, during which time tax forfeitures have been relatively low. Although the study provides no device for tracing back ownership changes, it's quite probable that some of these

TABLE 13.--Distribution of forest land by method of acquisition

Method	Percent of forest land
Purchase from relatives	4
Purchase from nonrelatives	72
Tax sale	2
Inheritance	20
Foreclosure or debt settlement	1
Gift	1
Total	100

purchased lands were acquired by the previous owner or owners at tax sales.

While no provisions were made in the questionnaire, it appeared that more insight into the flow of these ownerships might be gained by inquiring as to the nature of the previous owners. Of interviews on which this information was gathered, a majority indicated that the land had been purchased from a lumber company or large landholding corporation. This would be expected in view of the termination of the large-scale logging of the old-growth sawtimber in the 1930's and 1940's, followed by the dissolution of many lumber companies. The process is still continuing and although most of the lands of the lumber companies have been disposed of, several holding corporations based both on ore and timber operations are selectively disposing of holdings when the market price proves to be more attractive than their estimate of incomes to be gained from continued ownership of surface rights.

Analyses of method of acquisition by ownership classes shows that inheritance is a more prominent form of ownership transfer in the farmer category than among other categories (Table 14).[1] This probably reflects

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[1]As husband and wife ownerships were considered an individual ownership, the method of acquisition for a property held by a widow was listed as the one whereby she and her husband acquired the property initially. Hence the housewife-widow category shows a smaller proportion of area acquired through inheritance than might normally be expected.

TABLE 14.--Method of acquisition of forest land by ownership class

Ownership class	Method of acquisition (percentages by method and ownership class)						
	Total	Purchase from relatives	Purchase from non-relatives	Inheritance	Tax sale	Foreclosure or debt settlement	Gift
Farmer	100	14	59	27	-	-	-
Recreation group	100	16	75	4	-	-	5
Business-professional	100	1	88	1	7	3	-
Wage earner	100	4	72	16	2	2	4
Undivided estate	100	-	-	100	-	-	-
Retired	100	-	78	18	4	-	-
Housewife-widow	100	3	91	5	-	-	1
Logger	100	2	93	5	-	-	-
Multiple-miscellaneous	100	7	40	53	-	-	-
Absentee individual	100	7	92	*	-	-	1
Absentee housewife-widow	100	11	35	8	-	23	23
Absentee recreation group	100	-	100	-	-	-	-
Absentee corporation	100	-	-	100	-	-	-
Absentee undivided estate	100	-	-	100	-	-	-
All classes	100	4	72	20	2	1	1

*Less than 0.5 percent.

the tendency for a farmer's heir to possess the same ownership motivations as his predecessor--operation of the farm enterprise or residence. Some properties held by other owners also were acquired through inheritance. A very frequent situation has been the bequeathing of a former farm property by the parents to children no longer living in the immediate neighborhood. Such properties are often retained in joint ownership and shared for use during summer vacations, visits "back home," or during deer season. In a number of these instances it was indicated that the estate had never been settled because the heir or heirs felt that the value of the property was relatively low in comparison to the costs to be incurred in making the ownership transfer legal. One such respondent indicated that as the only surviving relative he paid taxes on his deceased brother's property and that he figured this action established and maintained his right of "ownership."

Period of Acquisition and Length of Tenure

The length of ownership or tenure period is considered of special significance in forestry. Any production process which requires a relatively long period of time (especially in respect to the length of an individual's life period or planning horizon)

will be particularly prone to interruptions or switches in management planning caused by changes in ownership. The purpose of ownership of forest land, especially, may change with a new owner, and application of inputs may be terminated, stepped up, or altered. Also costs of ownership transfer or interest charges on capital borrowed to finance forest land acquisition may produce different practices of use or exploitation.

Because of the a priori assumption that length of tenure and perhaps method of acquisition may be variables influencing practices or motivations on the part of these small forest landowners, data were gathered covering three phases: first, the year of acquisition; second, for individual owners, the number of generations the property has been in the family; and third, the individual owner's expectation as to his future tenure, including any plans to bequeath the property to heirs and his impressions of their likelihood of retaining ownership.

Again, because some owners hold more than one property, often acquired at different times, the computation of period of acquisition or length of tenure by percent of owners is not possible. However, data concerning period of acquisition and length of tenure analysed in terms of percentage of forest area involved are presented in Table 15. Only a small proportion of

TABLE 15.--Period of acquisition and length of tenure

Period of acquisition	Length of tenure (years)	Percent of forest area
1955 through 1959	0 to 6	16
1950 through 1954	6 to 11	13
1945 through 1949	11 to 16	21
1940 through 1944	16 to 21	21
1930 through 1939	21 to 31	22
1920 through 1929	31 to 41	5
1919 or earlier	41+	2
Total		100

the forest area belongs to owners who acquired their lands before 1930. The amount of forest area acquired during the depression-ridden thirties and still retained today is practically comparable to that acquired during each of the five-year periods in the 1940's. These periods cannot be closely compared concerning relative activity of the forest land markets during the time periods used, as earlier periods naturally would show more attrition of ownership as owners passed away or motivations and other circumstances affecting ownership changed. The activity of the post-war period, 1945 through 1949, probably is a consequence of more participants entering the land market as military personnel and others absent during the war period returned home. In this study, the relatively large proportion of the forest land acquired during World War II is due to the occurrence sample of a very large holding which had changed hands through the inheritance process during this particular time period. However, both Barraclough in New England and Yoho in Northern Lower Michigan did find considerable acquisition of forest land during World War II. Yoho speculated that this might reflect a reduction in overall investment opportunity during this period.

An examination of the period of acquisition by ownership class does not show any strong distinctions or patterns among individual classes (Table 16).

TABLE 16.--Period of forest land acquisition by ownership class

Ownership class	Percent of forest area acquired by time periods							
	Before 1920	1920-1929	1930-1939	1940-1944	1945-1949	1950-1954	1955-1959	Total
Farmer	-	6	14	21	33	12	14	100%
Recreation group	12	12	20	-	14	13	29	100
Business-professional	-	5	28	11	26	19	11	100
Wage earner	-	5	11	14	28	5	37	100
Undivided estate	-	-	-	24	39	37	-	100
Retired	7	6	32	30	20	3	2	100
Housewife-widow	7	16	50	12	11	1	3	100
Logger	6	-	3	3	26	-	62	100
Multiple-miscellaneous	-	-	18	-	18	7	57	100
All local owners	3	7	25	15	24	9	17	100
Absentee individual	-	-	12	14	15	44	15	100
Absentee housewife-widow	-	-	28	-	-	72	-	100
Absentee recreation group	-	-	6	-	19	41	34	100
Absentee corporation	-	-	-	100	-	-	-	100
Absentee undivided estate	-	-	-	-	-	-	100	100
All absentee owners	-	-	7	44	9	28	12	100
Total all owners	2	5	22	21	21	13	16	100

A comparison of absentee and Upper Peninsula owners indicates that the bulk of the acquisitions by absentee owners has taken place since World War II. Although acquisitions by Upper Peninsula owners were spread over the last five decades, the 1930's and the immediate post-World War II years do seem to be periods when local owners were very active in acquiring lands.

The data on period of property acquisition analyzed in terms of length of tenure show that more than a quarter of the holdings have been held by present owners for no longer than 10 years, and that more than 70 percent of the lands have been owned 20 years or less. Yoho in his study in northern Lower Michigan reported a similar situation; he found that 38 percent of the forest area had been held less than 10 years and 59 percent less than 20 years.

Another aspect of tenure concerns the number of generations that a property has been held by the same family. A supposition often made is that property handed down from generation to generation is more likely to be handled wisely than property which passes through many unrelated ownerships. Of the individual owners queried as to the number of generations the property had been in their family, 80 percent replied that the property had not been in the family prior to their acquisition, 19 percent said it had been owned by one

generation previously, and only one percent indicated that they were the third generation to own the property. As might be expected, farmers showed more continuity of family ownership than any of the other categories: 39 percent were second-generation owners.

While length of individual and family tenure may be indexes of what has happened in the past, changing social and economic conditions may produce vastly different circumstances in the future. Accordingly individual owners were asked about their future tenure plans for their properties. Three questions were asked. The first inquired if the owner expected the property would remain in his family during his lifetime; the second asked those who indicated they expected to keep their properties if they planned on leaving the property to an immediate heir or heirs; and the third question asked whether such heirs likely would retain the property. The responses to these questions are given in Table 17.

A majority of the individual owners interviewed said that they expected the property would remain in their family during the rest of their lifetime. Ten percent said "no," indicating that their property was now for sale or that they had plans to dispose of it sometime in the future. Nearly a third did not feel strongly either way and could be considered undecided about future tenure. Most of those who expected to

TABLE 17.--Individual owner's expectations concerning future tenure

Question	Percent of owners interviewed			Percent of forest area		
	Yes	No	Undecided	Yes	No	Undecided
Expect property to remain in family during owner's lifetime	60	10	30	47	13	40
Plan to will property to member of family	51	1	8	39	1	7
Believe that heirs would retain ownership of property	7	-	44	4	-	35

retain their properties intended to bequeath them to members of their families, but only a small proportion felt that these heirs could be expected to keep the properties. From this, one might conclude that a majority of these individual owners would be unlikely to make sizable investments in their forest property unless such inputs could be expected to produce returns during their lifetime or be reflected in future sale value.

Although a long and stable ownership tenure is considered more favorable to continuity of planning and socially desirable management of land resources, the predominance of short tenure in ownership is not so surprising. The United States is, and has been, a dynamic nation characterized by geographic, social, and occupational mobility. The son of an Upper Peninsula Finnish farmer may be a young medical doctor now practicing in Keokuk, Iowa; an electrician about to retire from employment in Detroit may be planning on making his retirement home near Big Bay de Noc, the area where he spent his boyhood. Such examples characterize a society where a great amount of individual freedom and opportunity prevail. Often, however, one of the consequences of such mobility is a relatively short ownership tenure in land. This factor is one that we shall have to recognize in forestry programs, for it probably cannot be altered to any extent

at present. Possibly a vastly larger national population in the future and concomitant greatly increased competition for land ownership could create a greater reservation demand on the part of landowners or their heirs. If and when land ownership becomes a much sought-after privilege, owners may become much more reluctant to relinquish their position.

Owner's Residence and Age

Personal characteristics of owners or ownership groups can have considerable relationship to ownership objectives, woodland practices, responses to present forestry programs, or likelihood of participating in proposed programs. In this section two variable characteristics of owners will be examined. They are residence of all types of owners and age of individual owners.

The location of an owner's residence in respect to his forest property often may be the major factor determining the amount of supervision and control he can exercise over the property. Timber sales, timber stand improvement work, tree planting, exposure to information media, and risk of damage through fire, theft, or vandalism all are influenced by the amount of attention an owner can devote to his holdings. This frequently is a function of the distance he must travel from his permanent residence to reach the property.

The owner's age also may be a strong determinant of land management practices judged to be socially desirable or exploitive. Foremost among correlates with age would be the length of an undividual's planning horizon. As indicated in the previous section on tenure, very few of the owners interviewed held firm opinions that their heirs would be continuing the family's tenure. This finding has definite connotations when one realizes that land ownership usually is not an attribute of the young. Other aspects closely related to age of owner are ability to do physical work on the property, personal asset position (Duerr considers exploitive management by small forest owners largely a problem of their meager propensity to save), occupation and mobility.

A majority of the owners do not live on their forest property (Table 18). However, half of them live within 10 miles of their holdings, and 75 percent within 50 miles. Contrasting Upper Peninsula residents with absentee owners shows that 97 percent of the local owners live within 50 miles of their properties, while most of the latter group live more than 150 miles from their lands in the Upper Peninsula. From these data one might generalize that any management problems developing because of the distance between the owner's residence (or nearest source of ownership control) and his property essentially would be confined to owners who do not reside in the Upper

TABLE 18.--Distance of forest property from owner's residence or nearest source of ownership control

Distance in miles	All owners		Upper Peninsula owners		Absentee owners	
	Percent of owners	Percent of land	Percent of owners	Percent of land	Percent of owners	Percent of land
0	46	37	60	46	-	-
1-10	4	4	5	5	-	-
11-50	25	37	32	47	3	*
51-100	1	1	2	2	-	-
101-150	1	1	1	*	3	1
151-300	6	11	-	-	24	54
Over 300	17	9	-	-	70	45
Total	100	100	100	100	100	100

*Less than 0.5 percent.

Peninsula. However, even for Upper Peninsula owners, 40 percent, controlling 54 percent of the land area owned by this category, do not reside on their properties. Although distance should not be a great barrier to this group, information channels may not operate as efficiently in bringing them information concerning forestry programs, timber markets, etc. This particular aspect will be further examined later in this chapter.

Acquisition of assets including property generally increases with age, particularly during an individual's working lifetime. The ownership of forest lands in the Upper Peninsula seems to be no exception to this generality. An examination of the age distribution among the 160 individual owners interviewed showed this pattern:

Age class in years	Percent of owners interviewed
Under 30	1
31 - 40	6
41 - 50	26
51 - 60	25
Over 60	42

The average ages of individual interviewees tabulated by ownership classes range from a low of 49.8 years for the wage earner category up to 69.8 years for the retired group. The average age for all interviewees was

56.3 years. That forest landownership in the Upper Peninsula is concentrated in the hands of owners past 50 years of age is not surprising. In addition to the fact that landownership usually is not acquired during the early years of an individual's working life, the Upper Peninsula over the past two decades has successively shown a population loss through net migration (net migration referring to the changes in population over a time period after births and deaths for the period have been taken into account).[1] If one accepts the premise that younger adults are more likely to be migrants, then migration probably is another reason why the older owners predominate among the forest landownership population.

Owner's Knowledge of Current Market Value of Property

In order to learn something of the price ranges for forested properties in the area and also to assess the owner's interest in the land market as one additional index to his ownership intentions, each owner was questioned concerning his idea of the current market value of his property. A majority indicated that they hadn't paid much attention to it, that it had been purchased 10 years ago at such and such a price, or that it was assessed

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[1] J. A. Beegle and J. F. Thaden, Population Changes in Michigan, 1950-1960, Michigan Agricultural Experiment Station Report (E. Lansing: Michigan State University, 1960), p. 15.

on the tax rolls at a certain value. The owners who seem to have an idea of their property's current market value (or who at least were prompt and positive in the reply to the question) were too few to draw any quantitative conclusion on value range. Also complicating this question was the fact that for a good many properties the woodland was a part of the farm, or contained a dwelling, hunting cabin, or summer cottage. As a consequence, an accurate separating of land and timber values could not be done by most owners. Empirically the price range for lands with second-growth tree stocking seemed to fall in a range of $400 to $1,000 per forty-acre tract. Location in respect to roads, stream and lake frontage, or good deer hunting seemed to weigh heavily in value determination. Because so few owners knew or could separate out the market value of their land plus timber the question concerning their likelihood of selling at various price increases was not applicable. From the puzzled responses of those few owners who could place a value on their wooded land, it appeared that this was not an effective question to ask in a survey type study where wide variation in comprehension exists among interviewees. Unless an owner has given serious consideration to disposing of his property he probably cannot reply to a question involving an abstract action, the actual counterpart of which would involve a major decision on his part.

Source of Managerial Decisions

The source of actual decisions concerning the handling of property may not rest with the legal owner. In multiple ownerships such as clubs, decision-making may be a joint process, depending upon the degree of activity and interest shown by the various owners and the personalities of these participants. The actual sleuthing out of the roles played by those involved in such group decisions would be extremely difficult. However, for these ownerships as well as for individual owners, the inquiry can be made if managerial decisions are delegated to anyone other than the legal owner or owners. If such delegation is typical of particular ownership groups, there might have to be definite changes in the analysis of their behavior regarding their property, and also in the formulation of forestry programs designed to reach such groups. Accordingly the owner was asked whether he made all decisions regarding his forest property, and if not, to whom does he delegate responsibility.

Formal delegation of managerial responsibility is almost unknown among the small private forest landownership population. The interviews disclosed only one recreation group who employed a manager; on the basis of area blowups, this represents only 0.6 percent of the forest area. However, a number of ownership

categories did indicate an informal delegation of authority over the property to some member of the owner's family. This was especially true of the local housewife-widow category where almost one-half of the interviewees said that their sons made the decisions concerning their properties. It was also true among the absentee housewife-widow group. In all, these informal delegations of authority to relatives involved holdings representing about 10 percent of the total forest area owned by small owners.

From these findings it appears that among small private owners in the Upper Peninsula there is no substantial amount of delegation of supervision and responsibility over forest lands to hired managers, tenants, or any other nonfamily individuals. However, the actions of many of the housewife-widow owners concerning their land holdings are probably less a consequence of their own objectives, expectations, and knowledge than of the opinions held by the members of their family to whom they have delegated authority.

Objectives of Ownership

Among all characteristics of forest owners, probably the most important would be objectives of ownership. The analysis of all other factors has little meaning unless made in the context of the owner's purpose

or reasons in holding the land. To seek out these objectives, owners were queried as to their reason or reasons for retaining ownership of their properties. They were not urged to list any particular number by priority, but where several reasons were cited they were asked to list them in order of importance. Many owners may have a complex of reasons why they acquire and retain an economic good. These reasons may change and alter in importance over time, but usually at any one time an owner can isolate their relative importance. In order to facilitate the sorting out of the primary reason for ownership, the owner was asked if he would likely retain ownership if the utilities provided by a particular use were removed. To illustrate this technique in separating out the primary from among several uses, the author cites a retired owner who made his residence on a small wooded tract from which he sold cedar posts and cut fuelwood for home use. While subdivision of tracts of land can and are often made, in many instances a property has its highest value as a unit. Also in areas of marginal economic activity where land markets are slack, such separation usually is neither practical nor possible. This was the case with this owner who considered residency as his primary reason for retaining ownership of his property. Although he realized incomes and utilities from the cedar posts and fuelwood uses, neither was important enough to cause him

to retain ownership if the residence utility was eliminated.

Some owners could not give any concrete reason for holding their property and their ownership was listed as "inactive." These often were group ownerships where the property had been inherited, a typical response from such owners being, "the taxes are low and we probably wouldn't receive much if we did sell." Some of these situations apparently owe their continued existence to the factor of joint ownership, as in several instances members of such joint ownerships indicated that some of their number wanted to sell and some didn't. These ownerships, as well as those of individual owners who were unable to cite any definite reason for continuing ownership, could be considered to be instances of "ownership inertia"--the disutility of ownership in the form of payments of annual property taxes apparently is insufficient to overcome or outweigh the utilities of ownership, however subtle and abstract, and cause the owner to break the status quo by disposing of the property. This situation was found among the absentee housewife-widow group where several interviewees held land inherited from parents. Such lands, which some owners never had visited, apparently were being retained mainly on the basis of sentiment, the utility of emotional satisfaction outweighing the disutility of a small annual cost in the form of

property tax payments. For these "inactive" owners, as well as others who cited more tangible reasons for ownerships, a subtle motivation for continuing ownership may be the widespread realization that land prices have been increasing. The author would speculate that this factor often plays a role in the failure of these inactive owners to take action to dispose of a property.

Objectives of ownership by specific categories for number of owners and proportion of land represented are given in Table 19. The definitions for these objectives are included in the Appendix, but some brief explanation here of a few which could raise questions may be helpful. General farm use implies that the woodlot is an integral part of the farm. It was acquired with the farm when the entire unit was purchased or represents that part of the farm which was not cleared for agriculture during the development phase. It may be used for pasture, fuelwood cutting, fence posts or as a source of revenue from periodic timber sales. It is the author's contention that many farm woodlots exist because of physical and institutional circumstances. Many farm woodlots were a valuable source of building material during the early stages of farm development and in many cases still provide many utilities today. However, the fact remains that a detailed analysis of the woodlot on most farms would show that the tract was poorly drained, rocky

TABLE 19.--Objectives of ownership by specific categories

Objectives of ownership	Percent of forest owners	Percent of forest area
General farm use	17	16
Pasture	2	1
Source of fuelwood	2	1
Sale of timber and timber products	4	7
Adjunct or part of a resort	1	1
Summer home or week-end recreation	9	5
Hunting or fishing site	17	8
Residence	19	12
Business site	*	*
Sale of minerals or mineral rights	1	8
Investment or speculation	6	26
Inactive	14	10
Property for sale	8	5
Total	100	100

*Less than 0.5 percent.

or less fertile than the cleared fields, or marginally situated in respect to the road or homesite. (For areas such as the Upper Peninsula the wooded portion of the farm often was submarginal in terms of scale of farm operation during the clearing and developmental stages.) The question may be asked, why doesn't the farmer dispose of such woodlands? First, they do provide many utilities--pasture and shade for the cattle, fence posts, fuelwood for the home, and a periodic source of income from sales of timber. Secondly, it is neither easy nor practical in many instances to dispose of them. If the legal land description on which the wooded land occurs also contains cleared pasture, cropland, or buildings, one cannot allow the woodland to go tax delinquent without also forfeiting the farmed portion. Also, such woodlots frequently are inaccessible from the road and have very limited potential for hunting, cabin sites, building lots, etc. Where they could be sold for such use, the intrusion of another owner within the immediate vicinity might represent a distinct nuisance to the farmer. The author's contention is that most of these farm woodlots in the Upper Peninsula, as well as in other parts of the country where farming is marginal and there is no great press of urban expansion, are fixed assets to the owner. Their salvage value through sale, usually is less than the values contributed as casual pasture, fence posts,

source of fuelwood, timber harvesting, and perhaps esthetic pleasure. Moreover, even when the benefits provided are almost nil, the location of the wooded area in respect to improved portions of the farm may preclude disposal through sale or tax forfeiture. During the interviews a frequent answer by farmers as to their reasons for continuing to own their woodlands was, "It goes with the farm," or "It's part of the farm."

In terms of number of owners the greatest single reason for ownership was for residence. This may seem surprising at first glance, but it should be remembered that although more than half of the residents of the Upper Peninsula are classified as rural, a minority of these actually are active farmers. Members of the business-professional, wage earner, logger, retired, and housewife-widow groups frequently are rural residents. Following the cutting of the virgin timber in the northern Lake States, cutover forest land was very cheap and usually it was almost as economical to acquire a forty- or eighty-acre tract as to buy an acre or half-acre building lot. Consequently, rural homes on such wooded tracts are quite common. In addition to this factor, some of the individuals listing residence as their main reason for continuing ownership once were farmers and the land itself is a former farm. Although this group represents 19 percent of all small owners,

they control only 12 percent of the forest area. Ranked close behind residence as a reason for retaining property ownership are "general farm use" and "hunting or fishing site," each representing 17 percent of all owners. This last category appears to consist of owners with smaller than average holdings as it represents only eight percent of the area.

No purposeful reason for ownership could be given by owners who represented 14 percent of the total and 10 percent of the area. This group is listed as "inactive" under reasons for retaining ownership. One housewife-widow interviewee provided a good example of the type of owner classified under this label. She said that she and her husband had acquired a 40-acre tract of wooded land in the 1930's because it was such a bargain, and she continued to keep it following her husband's death because the taxes were low. During this period no use was made of the land and it contained no buildings or improvements. She indicated that her plans for future ownership were uncertain, as the annual property tax payments were becoming too much to pay out of a small Social Security income. In addition, she stressed that her sons showed no interest in the holding. From this, it would appear that the most tangible reason for her continued ownership had been the thought that some day her sons might make use of the property, but this motivation

vanished when it became apparent that her sons weren't interested. This seemed to be another instance of ownership inertia, the low annual tax bill balanced by the satisfaction gained in the thought that heirs would have the use of the property. The realization that this was not a valid satisfaction because they weren't interested in the property, together with the financial pinch of living on a small income, seemed to be contributing toward an overcoming of this inertia and a divestment of ownership.

Grouping reasons for retaining ownership under six applicable aggregate headings provides a further insight into purposes motivating Upper Peninsula small woodland owners (Table 20). The combined categories of investment, inactive, and for sale account for 28 percent of the owners and 41 percent of the area. The basis for aggregating these segments of the population is their common attribute of uncertain future tenure; owners in this grouping either now have their lands for sale or indicate that they would readily sell if the price was right. The size of this group has unfavorable implications for forestry programs which require a reasonable amount of stability and length of planning horizon among potential participants. Recreational use--individual, group, and commercial--accounts for the next largest aggregate. Residence follows, then

TABLE 20.--Objectives of ownership by broad categories

Objectives of ownership	Percent of forest owners	Percent of forest area
Farm use	19	17
Timber values and use	6	8
Recreational aspects	27	14
Residence	19	12
Mineral exploitation	1	8
Investment, inactive and for sale	28	41
Total	100	100

farm use, timber values, and finally mineral exploitation. It should be noted that these are primary reasons for ownership; many owners often gave other secondary reasons as well. Farmers, rural residents, businessmen, and others often made timber sales and considered timber values as one of the secondary reasons for ownership. Similarly, individuals and groups listing recreation as their primary use, sometimes mentioned that they also considered their property an investment. (Investment value probably would have some status in a complex of ownership reasons for all owners who are convinced that land prices will continue to rise.)

Because the author did not insist that each respondent list any specific number of reasons for ownership and also because some owners were emphatic in saying that they had only one reason for ownership, data on secondary reasons are not equally available either across or within ownership strata. This makes analysis difficult and rather limited in meaning. The author feels that where the population sampled is very heterogenous, data on these secondary reasons are limited in usefulness because of the difficulty in assessing their validity. It seems probable that where several reasons for ownership are requested and the respondent can think of only one, he may be tempted to list secondary ones which he feels are socially desirable, i.e., "conservation,"

"reforestation," "game cover," etc. For these reasons, data on secondary reasons for ownership are not presented, as it would do little more than confirm the fact that some forest landowners do have a number of reasons for ownership.

Primary reason for ownership by specific ownership categories forms a quite logical pattern (Table 21). Farmers mainly are motivated by general farm use, pasture, and timber values. Several other categories also listed farm use, but to only a minor extent. These were business-professional, retiree, or housewife-widow owners of a farm that was being operated by a manager or relative. More of the retired, housewife-widow, and business-professional groups showed residence as their primary reason for ownership than any other reason. Recreational aspects--hunting, fishing, or summer cottage--was the number-one reason for ownership among the wage-earner group.

As the sample of loggers was not large, the fact that more loggers list residence than timber value as a primary ownership reason may be a sampling oddity. However, several of the loggers who listed residence as currently their main reason had logged the timber when they first moved on the property. Also, in the Upper Peninsula public landowning agencies make frequent timber sales, and many loggers operate exclusively on purchased stumpage.

TABLE 21.--Primary reason for ownership by ownership classes

Reasons for ownership	Upper Peninsula owners					
	All	Farmer	Recreation group	Business-professional	Wage-earner	Undivided estate
	(Percent of forest owners)					
General farm use	22	79	0	4	0	0
Pasture	2	7	0	0	0	0
Source of fuelwood	3	0	0	0	13	0
Sale of timber	5	4	0	14	0	0
Adjunct or part of a resort	1	0	0	4	0	0
Summer home or weekend recreation	6	0	17	9	16	0
Hunting or fishing	12	0	83	18	17	0
Residence	25	0	0	23	37	0
Business site	*	0	0	5	0	0
Sale of minerals or mineral rights	0	0	0	0	0	0
Investment or speculation	5	0	0	14	7	0
Inactive	13	7	0	5	10	100
Property for sale	6	3	0	4	0	0
Total	100	100	100	100	100	100

*Less than 0.5 percent.

TABLE 21.--(continued)

Retired	Housewife widow	Logger	Mult.-miscl.	Absentee owners: All	Absentee owners: Individual	Absentee owners: Housewife widow	Absentee owners: Recreation group	Absentee owners: Other
(Percent of forest owners)								
5	17	12	0	0	0	0	0	0
0	0	0	0	1	0	12	0	0
0	0	0	0	0	0	0	0	0
9	0	25	11	0	0	0	0	0
0	4	0	0	0	0	0	0	0
0	0	0	0	19	23	13	11	0
9	4	13	0	35	32	0	78	34
45	35	50	0	1	0	12	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	3	0	0	0	66
0	9	0	11	11	13	13	0	0
18	18	0	56	16	14	50	0	0
14	13	0	22	14	18	0	11	0
100	100	100	100	100	100	100	100	100

Another somewhat surprising fact is that only slightly more than half (54 percent) of the absentee owners listed recreation as their primary ownership reason. This is more than three times the frequency found among Upper Peninsula owners, but it might be questioned why it is not even higher. Part of the explanation lies in the fact that 15 percent of these absentee owners are inactive in ownership purposes and 14 percent now have their property up for sale. A majority of both groups had once considered recreation as their ownership objective, but personal circumstances had changed, and they now are inactive or are disposing of their properties. The frequency of the "for sale" category among absentee owners is more than twice that among Upper Peninsula owners. Although this absentee recreational ownership seems to be increasing in importance, apparently it is not as stable as local ownership.

Part of this turnover in absentee ownership seems to be attributable to the age of the owner. During the interviews, the absentee owners who stated that their property was for sale most often were older individuals who indicated that they no longer were motivated by those purposes that had led them to acquire the property (for instance, they no longer hunted or fished to the extent they once had), or that the travel

distance now seemed too great for them to get much enjoyment out of the property. Although this fading away of earlier motivation probably is common to many ownership categories, it seems that absentee owners are especially susceptible. That these properties are not always "taken up" by an heir suggests that not all fishermen fathers have fishermen sons!

Owner's Woodland Practices

In the preceding section we discussed who the owners were and their relevant individual characteristics including objectives of ownership. In this section we shall move closer to the forest properties themselves and attempt to determine the owners' patterns of activities in respect to tree planting, timber harvesting, and other work in their woodlands.

Tree Planting

To obtain more meaningful data concerning the number who have or have not planted trees, owners first were asked if they now own or have owned open land suitable for tree planting. For farmers, this was qualified to refer to land not used for crops or pasture. Approximately 50 percent of the owners indicated that they did have open land suitable for planting. Of these, only 13 percent said that they had made reforestation-type plantings.[1]

[1]Plantings were limited to those which amounted to one acre or more. Windbreak or hedge row plantings were not tallied.

Table 22 shows the frequency of planting among ownership classes. The business-professional class showed the highest incidence; 42 percent of those who owned open land suitable for planting had made plantings. Other owners, ranked in order of frequency of tree planting, were local recreation group, absentee recreation group, farmer, logger, multiple-miscellaneous, and wage earner. No plantings were reported by the undivided estate, retired, housewife-widow, absentee individual, or absentee housewife-widow classes.

Most of the plantings had been made since 1950. The largest size planting was 25 acres, and the average size was approximately seven acres. When queried about their reasons for planting, most owners were very general in their reply. Such answers as "game cover" and "reforestation" predominated. One owner indicated that he planted "for the novelty of it." The widespread planting of Christmas trees, in evidence in lower Michigan and other areas of the Lake States closer to centers of population, has not yet reached the Upper Peninsula. Only a quarter of the owners gave Christmas trees as their reason for planting.

Owners who had suitable open land but had not planted were asked why they hadn't planted. Answers varied widely, but almost one-half replied that they hadn't ever considered it one way or the other. About

TABLE 22.--Tree planting by ownership classes among owners having open land suitable for planting

Ownership class	Owners who have planted	Owners who have not planted
	(Percent)	(Percent)
Farmer	25	75
Recreation group	33	67
Business-professional	42	58
Wage earner	11	89
Undivided estate	0	100
Retired	0	100
Housewife-widow	0	100
Logger	25	75
Multiple-miscellaneous	14	86
All Upper Peninsula Owners	14	86
Absentee individual	0	100
Absentee housewife-widow	0	100
Absentee recreation group	33	67
Absentee "other"	0	100
All absentee owners	9	91
All owners	13	87

one-quarter said that they had considered it but never had taken any action. Other answers fell in such groupings as: "indefinite future plans for property," "plenty of trees on property as it is," and "lacked information on source of trees or how to go about planting."

In examining the outlook of Upper Peninsula owners on tree planting, two things must be taken into consideration. First, the appeal of planting for Christmas tree production does not exist to the extent that it does in Michigan's Lower Peninsula. Plantation-grown trees in the Upper Peninsula would have a long haul to market and would be in a poorer competitive position than trees situated closer to the Midwest's large population centers. Hence the economic appeal of tree planting probably is less in the Upper Peninsula than in the Lower Peninsula. Secondly, among farmers there are many who can show calloused hands obtained partly from clearing off tree growth in order to farm. Many of the Upper Peninsula farms were cleared as recently as the 1920's. Several farmers made the comment that, "It doesn't make too much sense to me to plant trees back on land that I worked hard to grub stumps out of." This probably is especially rational in view of the lack of any immediate economic gains to these owners from such plantings.

Timber Sales and Harvesting

To assess timber use among small owners, they were asked if they had sold or used cut timber products, or sold stumpage from their holdings within the last five years. Owners representing 43 percent of the total replied in the affirmative (Table 23). Approximately one-quarter of all owners had made commercial sales of stumpage or cut products. The majority of these commercial timber sales were of cut products--logs, pulpwood, posts, etc. Only a minority made sales of standing timber or stumpage. The greatest contrast occurs between Upper Peninsula and absentee owners. While more than one-half of the Upper Peninsula owners had sold or made home use of timber or timber products, only 11 percent of the absentee owners reported such practices. Of these absentee owners, none had made commercial sales; all of the material cut was for use on the property.

Farmers, loggers, and retired owners all show a greater amount of timber use than the population or Upper Peninsula owner average. Excluding the logger category, whose principal occupation is timber cutting, farmers and retired individuals probably cut more timber because they have the time to do or supervise woods work and they often need the supplementary income. Many farmers indicated that they depend on logging, either on their own lands or on purchased stumpage, to supplement their

TABLE 23.--Timber sales and use by ownership classes, 1954-1959

Ownership class	Owners who have sold or used timber	Form of sale or use		
		Stumpage	Cut products	Home* use
	(Percent of forest owners)			
Farmer	78	0	52	26
Recreation group	0	0	0	0
Business-professional	35	17	9	9
Wage earner	38	3	7	28
Undivided estate	33	0	0	33
Retired	77	14	45	18
Housewife-widow	43	4	13	26
Logger	78	0	56	22
Multiple-miscellaneous	33	11	11	11
All Upper Peninsula owners	53	6	25	22
Absentee individual	9	0	0	9
Absentee housewife-widow	12	0	0	12
Absentee recreation group	22	0	0	22
Absentee "other"	0	0	0	0
All absentee owners	11	0	0	11
All owners	43	5	19	19

*Home use is larger than this column indicates. Many of the owners who made sales of stumpage or cut products also had harvested fuelwood or other products for home use.

farm income. One farmer used the term "winter cash crop" to designate his winter logging operation, and several others said that without this winter-time activity and income they did not think that they could continue as farmers.

As indicated in the footnote to Table 23, home use is larger than the data would indicate. Home use was recorded where an owner had cut fuelwood which provided a significant part of his annual fuel, or where logs were harvested and custom-sawn into lumber for use on the property. Very casual cutting such as a farmer does who replaces a dozen or so fence posts each year, or an owner might do in cleaning up a dead tree for kindling wood, was not considered as significant home use and hence was not tallied. The bulk of the material included under the "home use" category would be fuelwood. Data from the 1959 Census of Agriculture indicated that 44 percent of the farms had cut fuelwood during the year.[1] This does not represent the total number of farms who heat with wood as some owners may "put up a woodpile" that lasts longer than one year. Also during the course of the interviews a number of owners said that they heated with wood, but did not cut it from their own properties

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[1]U. S. Bureau of the Census, "Preliminary County Data Sheets," United States Census of Agriculture, 1959 (Washington: U. S. Government Printing Office, 1960).

because it was cheaper to obtain slab wood from the nearest sawmill. However, heating with wood seems to be declining. Several owners who burned wood to heat their homes said that they didn't plan to do so indefinitely, and even now rural homes with oil heat are not uncommon and probably will be even less so in the future.

Owners who had not sold or used timber during the five-year period were asked why they hadn't.[1] Specific replies varied, but could be grouped under nine generalized headings as follows:

Reason for not selling or using timber	Percent of interviewed owners
Woodlands immature and contain little or no saleable material.....	60
No special reason.....	16
Cutting would be incompatible with use or plans for property.....	7
Inadequate time, ability, or knowledge to make timber sale.....	5
Have not received an offer to sell...	4
Growth still good and would be unwise to cut at this time.....	2
No need to make sale.....	2
Returns from sale would be negligible.....	2
Miscellaneous reasons.....	2
Total.....	100

[1]Although the question concerning reasons for not using timber was addressed to a group which neither sold nor cut timber for home use, their responses usually were

A majority of the owners indicated that the reason they hadn't sold timber was that their woodlands were second-growth stands with not much saleable timber. It must be remembered that this was the owner's opinion of his woodlands and not necessarily the actual situation. An owner who thinks in terms of sawtimber might attach little importance to a pulpwood-size stand. However, from observation of some stands on the ground and all stands on aerial photographs, the author feels that this group has in general made a fair evaluation of their holdings. The second largest group, 16 percent, said there was no special reason why they hadn't sold; they really hadn't given it much thought. Seven percent of the owners felt that a timber sale would be incompatible with their use or plans for the property. These owners usually either had a home or summer residence on the property, or were holding the land for speculative purpose and felt that timber cutting might affect its future value. Five percent of the owners said that personal reasons precluded their making a sale. They were either too busy, physically unable, or lacked the necessary knowledge and information to carry out a timber sale. None of the other reasons listed amounted to more than a few percent of the owners interviewed.

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phrased in terms of why they hadn't sold timber. For a non-farmer who has no need for fence posts and heats his house with oil, a question concerning reason for not selling or using timber is interpreted in the context of sale and not home use.

From these replies it seems that there is no appreciable "locking up" of timber by these small owners, but that a majority of those who haven't sold don't have much to sell at this particular time. The explanation that their forest lands contained little merchantable material was given as the main reason for not selling among all ownership classes. This tends to confirm the author's empirical observation that in the Upper Peninsula there is no wide variation in the condition of forest lands among these small private owners. Whether they are farmers, business-professional, absentee, or others, most of their lands were logged over by previous owners and the present second-growth condition largely is a legacy from past treatment.

A detailed analysis of the practices followed by owners making sales, their reasons for making the sale, and their satisfactions with the outcome will be covered later in Chapter VII.

Other Work in the Woodlands

In addition to data concerning tree planting and timber harvesting, information was collected on any other forestry operations, such as plowing fire lines, noncommercial thinnings, removal of cull trees, pruning, and other practices often lumped under the term "timber

stand improvement work."[1]

Owners representing only six percent of the total population indicated that they had performed any of the above listed practices. As the practices were performed over a time period dating back as far as 20 years ago, the true incidence among the present population actually is even lower. Noncommercial thinning led among the practices performed. For ownership classes carrying out these forestry practices the incidence of occurrence among each class was as follows:

Ownership class	Percent of ownership class carrying out other forestry operations
Farmer.....	11
Business-professional.	22
Retired.....	4
Logger.....	11
Absentee individual...	4

Recognizing that some of these forestry practices were done as long as 20 years ago and that objectives of ownership can change over time, it is important to note

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[1]Fencing woodlands was not tallied as the author questions (at least in the north) whether the intent in this practice is to protect the woodlands from cattle or the cattle from the woodlands. Anyone who has looked for errant dairy cows or new calves in a sizeable block of second-growth timber will understand this statement.

that a majority of the owners who performed positive-type forestry operations had listed "timber values" as their reason for ownership. Another salient point is the high proportion of activity among the business-professional group. In most respects this group seemed to show more interest and appeared to be more amenable to forestry and forestry programs than most of the other ownership classes.

Owners who had not done any of these forestry practices on their lands were asked why they hadn't. Their replies varied but could be generalized as follows:

Reasons for not performing any forestry practices	Percent of interviewed owners
Does not know of anything which needs to be done, and hadn't thought much about it.....	52
Interest in holding land does not specifically include the physical condition of the timber.....	34
Physically unable to do woods work.....	5
Alternate use of time and funds greater.....	4
Miscellaneous reasons.....	5
Total.....	100

Most owners, even where they listed a quite specific reason, gave the impression that they had never seriously considered such action. For instance, an

owner in his 60's who after looking slightly baffled by the question might reply, "I'm not able to do woods work--too old." Although a few interviewees indicated that they had considered doing something, but had been thwarted in some manner, the bulk of the owners who had not carried out any forestry measures gave the impression that initially what was lacking was the motivation to do such things, and not necessarily the means to overcome physical or economic obstacles standing in the way of such work. That these barriers were present in many situations was obvious, but the author does not believe that they represent the dominant reason why positive forest management practices are not being performed on these lands.

Credit and Taxation

Credit and taxation often are major factors influencing the success of a business enterprise or firm. The purpose of this section is to examine how the small forest landowner in this study area views credit and one aspect of taxation--the general property tax--in relationship to his forested property.

Credit

Duerr defines an economy's credit system as "an institutional scheme for meeting one man's investment opportunity with another's idle resources--for

clearing society's shortages against its surpluses, and so provide for full and growing resource use."[1] Classically, in explanations of the failure of the small forest owner to practice better management, an inability to obtain credit is listed as a major cause. The Timber Resources Review stated this as follows: "Many owners lack investment and operating funds for stand improvement, protection, taxes, and other carrying charges in the year when no sales are made."[2] Further elaboration on the role which credit can play in forestry is contained in a recent forest credit study by Resources for the Future.[3] This study listed the principal ways in which credit can be used constructively in forestry as follows:

1. For enlarging or consolidating holdings so as to make efficient operating units where the segments by themselves may not be profitable to operate at all, or at best may be operated only at low levels of efficiency.

2. For transferring ownership from inactive and nonresident owners into the hands of more aggressive or more competent owners who may lack the capital needed for well-planned, long-term development.

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[1]W. A. Duerr, Fundamentals of Forestry Economics (New York: McGraw-Hill Book Company, Inc., 1960), p. 471.

[2]H. R. Josephson and J. R. McGuire, "Ownership of Forest Land and Timber," in Timber Resources for America's Future, op. cit., p. 313.

[3]Resources for the Future, Inc., Forest Credit in the United States, A Report of a Committee Appointed by Resources for the Future, Inc. (Washington: Resources for the Future, Inc., 1958), p. 7.

3. For rounding out large units so as to make feasible the carrying out of sustained-yield operations.

4. To make possible the holding of rapidly appreciating stands until they are at an optimum age for cutting. This may, of course, involve funds for thinning and improvement, though these operations are usually self-sustaining financially.

5. For relatively long-term investments in rehabilitating badly run-down or unstocked forest lands.

6. To meet current requirements for cash in such ways that owners will not be forced to sell timber in a period of market weakness or disrupt long-term forestry programs to meet emergency or short-time needs for cash.

To determine whether credit needs or satisfaction of such needs are factors influencing forest management among small private owners in the Upper Peninsula, several questions were asked concerning the owner's attitude toward and experience with credit. First, the owner was asked if he felt that the lack of available funds (credit or source of borrowed money) was any handicap to his handling of his woodlands. None of the interviewed owners felt that a lack of credit influenced their handling of their woodlands. Several of the owners indicated interest at mention of the word "credit," but subsequent comment on their part disclosed that they were thinking in terms of credit for personal buying and their property was either too small or too poorly stocked with timber to represent much collateral. Generally the

property had been in such condition when they acquired it and had not necessarily been exploited to satisfy their consumption needs. However, in several instances "disinvestment" in forest capital through timber cutting and sales had been made to satisfy personal buying needs or to acquire additional farm equipment. Several farm owners referred to their woodlands as their "bank," saying that they cut some timber when they wish to purchase a new car or some item of equipment. In these instances they were not only converting the forest capital to another use, but were providing an outlet for their own labor in the process. Thus, it would seem that some of these owners do follow a practice of transferring forest capital to other uses somewhat in the same manner as described by Redmond in a Kentucky study.[1] However, the rationalization on the owner's part probably, at most, is very subtle, and this writer doubts that these owners have the necessary facts concerning incomes and alternatives to make this choice quite as neatly as Redmond suggests.

To provide further insight into the influence of credit and also to provide a cross-check on the conclusions arrived at from the first question, the owners were asked if at any time they had ever considered the

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[1] J. C. Redmond, "Economic Aspects of the Farm Woodlot Enterprise," Journal of Farm Economics, XXXVIII (November, 1956), p. 909.

idea of borrowing funds on the security of their forest land. One owner said he had tried to and had been turned down. His purpose in borrowing was to obtain funds to develop resort facilities. Another said he had borrowed on the equity of his forest land for the purpose of financing additional land purchases. A number of other owners said that they had borrowed on their farms, but the loan had been made on the equity provided by the whole unit and the wooded part represented a minor component.

The final question in the series on credit concerned the owner's possible interest in borrowing if credit on forest land was readily available. Most said they were not interested, the most common explanation being that they had no purpose in mind for which to use the funds. The few who expressed interest indicated that they would use the funds for some nonforestry purpose--to develop building lots, construct resort facilities, or build a hunting cabin for personal use.

From the results of these questions it seems that at this particular time in the Upper Peninsula the availability of credit has little influence on the forest management practices carried on by these small owners. Most of these owners primarily are motivated in their land ownership by purposes in which the forested portion, as a producer of timber and timber products, plays

a secondary role. Hence, it is not surprising that these owners express no pent-up demand for resources to invest in the woodlands themselves. It might be analogous to suggest that a lack of credit to purchase stock shares of "Acme Futuristic Gold, Ltd." has very little influence on the sales of such stock unless buyers otherwise are motivated to acquire shares in the company.

General Property Tax

Taxes of many sorts can influence a landowner's decisions and practices. Property taxes, special assessments, taxation of capital gains, documentary taxes, severance taxes, income taxes, sales taxes, business taxes, and custom duties all can influence landownership and use.[1] Of these, the general property tax is considered to have the greatest and most widespread significance to private forest ownership in the United States. Its particular impact on forest ownerships held primarily for wood production arises from the fact that the tax, an annual expense, is levied on an enterprise in which incomes typically are deferred, periodic, or both. Another feature which can make the property tax a difficult burden in forestry is the fact that the forest owner usually cannot control or sometimes even predict the

[1]Raleigh Barlowe, op. cit., p. 534.

amount of this cost. The significance of this in an industry requiring the longest of production periods is quite obvious.

It is hardly necessary to list the part that the general property tax played in forest land problems in the northern Lake States. Innumerable studies chronicle the settlement and speculative boom in cut-over forest lands in the northern Lake States in the early 1900's.[1] Cutover forest lands deemed suitable for development into farms (including many whose suitability was extremely doubtful, even at the time) were purchased in large tracts by land companies, divided into appropriate size units and sold to land-hungry settlers. These lands were not bargains, considering their undeveloped condition and speculative future. This fervor in land settlement in the northern Lake States typically was accompanied by very ambitious plans for county development in the form of government and service facilities. Unfortunately such optimism about population growth and subsequent needs was not

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[1] For a coverage of what was happening in the Michigan and the northern Lake States cutover during this period see: J. D. Black and L. C. Gray, Land Settlement and Colonization in the Great Lakes, U. S. D. A. Bulletin 1295, 1925; W. A. Hartman and J. D. Black, Economic Aspects of Land Settlement in the Cut-Over Region of the Great Lakes States, U. S. D. A. Circular 160, 1931; and W. N. Sparhawk and W. D. Brush, The Economic Aspects of Forest Destruction in Northern Michigan, U. S. D. A. Tech. Bulletin 92, 1929.

rewarded, so that the tax load fell heavily on those who were attempting to clear land for farms. Barlowe reports the fantastic mill rate in one school district in the Minnesota cutover of 14,911.88 mills.[1] Although this was a phenomenal example of the tax burden on land in the cutover during the period, it generally was the rule that taxes rose all out of proportion to current or anticipated incomes. The distressed years of the thirties provided the last straw. Ownerships fell by the score. Not only disappointed settlers forfeited their cutover lands for taxes, but also land companies, estates, and lumbering corporations as well. In Michigan a tax moratorium from 1933 to 1938 slowed down the overturn of ownerships and steady flow into State control. Nonetheless, during the years from 1927 to 1940, 3,805,508 acres of tax-reverted lands were turned over to the State. The bulk of these were in the northern cutover.

Purchases of land by the Federal Government during the late 1930's for national forest purposes, together with a much improved economic situation during and after World War II, brought an end to the widespread problem of tax delinquency in northern Michigan. The 1955-1956 Biennial Report of the Michigan Department of Conservation

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[1]Raleigh Barlowe, Administration of Tax-Reverted Lands in the Lake States, Michigan Agricultural Experiment Station Technical Bulletin No. 225 (E. Lansing: Michigan State College, 1951), p. 9.

comments concerning the 973 acres of tax-reverted land deeded to the State during the two year period:

> These figures reflect a continued low and stable level at which tax-delinquent land reverts to the State, a condition which has prevailed during the past ten years, attributed in large part to favorable economic conditions during the period.[1]

Yoho's 1953 and 1954 study found that most of the forest land in the northern part of Lower Michigan was taxed at between 10 and 14 cents per acre, with only a small proportion being taxed at more than 25 cents per acre.[2] Also, he noted that very few of the owners expressed much concern over their property taxes.

To determine whether these conclusions applied to the Upper Peninsula also, owners were queried concerning their annual property taxes. Initially, the owner was asked if he could separate the portion of his annual property tax that was levied on his woodland. Most could not, as the tax bill often included improved land, a hunting cabin, or summer home. Several of the large owners, on the spur of the moment, could provide only a range of tax costs over their holdings. Only 65 owners could provide specific information on holdings which did not have improved land or buildings included in the tax

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[1] Eighteenth Biennial Report of the Michigan Department of Conservation (Lansing: Michigan Dept. of Conservation, 1957), p. 183.

[2] Yoho, op. cit., p. 202.

bill. These ranged from 10 cents to as high as $1.11 per acre and were distributed as follows:

Range of annual property taxes in cents per acre	Percent of interviewed owners who could provide specific tax cost data
10 to 15	25
16 to 25	34
26 to 50	29
Over 50	12
Total	100

These data represent only those 65 interviewed owners who could provide specific data on wooded tracts not containing improvements. Bearing this fact in mind, it is interesting to note that these tax ranges do seem to be higher than those found by Yoho in the northern part of the Lower Peninsula. This difference might represent an upward trend over the six-year interval separating these two studies, as many of the interviewees in the Upper Peninsula mentioned that their property taxes had increased considerably in just the last few years.

Owners who could not separate the forested from the improved portions of their property were asked if they felt that any part of their tax was levied on the wooded area. All replied yes, but most of them considered it was only a small part as compared to that

levied on buildings or other improvements.

A third question in this series on property taxes asked owners if they believed the general property tax influenced their handling of their woodlands. Owners representing slightly more than four percent of the population replied that it was influencing their plans for the property as a whole. Most of these felt apprehensions about the rate at which taxes were increasing, stating that if they kept increasing they probably would sell. A lesser number indicated that they hesitated to make any improvements on their property for fear of additional increments on a tax bill that had already risen considerably. One interviewed owner, stating that timber values were his primary reason for ownership, was seriously considering disposing of a 40-acre tract because of a high tax assessment. This property fronted on a road, and he stated that the Township Supervisor automatically considered a property so situated to have a market value of at least 25 dollars per acre. Considering the tree stocking on the property he felt such a high assessment precluded him from holding the tract for forestry purposes.

Although not part of the sample, the author also talked with several individual large owners who stated that they were following a pattern of selling their lands piecemeal to recreationists because property taxes were

becoming oppressive. Undoubtedly these increasing taxes were factors, but the author suspects that the higher prices now being paid by individuals and groups for tracts of land for hunting, fishing, and general recreation purposes strongly influence such decisions. One individual commented that he probably could sell out quickly in larger blocks to interested forest industries, but he was in no hurry to sell and would realize more by disposing of his holdings in 40- and 80-acre tracts to recreationists.

The concern over tax problems in forestry, particularly in regard to cutover lands, led to the establishment of laws designed to relieve some of the tax obstacles in the way of managing forest lands. Michigan passed the first such law--a yield tax law--in 1911.[1] Today 14 states have laws of this nature. A forest yield tax is a form of severance tax which postpones the payment of all taxes on growing timber until the time of harvest. Most such laws embody features whereby an amount representing the tax on the land itself still must be paid annually, but the tax on timber located on the land is deferred until cutting.

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[1]Ralph W. Marquis, Forest Yield Taxes, U. S. Dept. of Agriculture Circular 899 (Washington: U. S. Government Printing Office, 1952), p. 5.

Michigan has two such yield tax laws, the Woodlot Act passed in 1917 (superseding the earlier Foster Act of 1911) and the Commercial Forest Reserve Act (also commonly known as the Pearson Act) of 1925.[1] As the name implies, the 1917 law is aimed at farm woodlots. Qualifying properties must be farms, not over 160 acres in total size; at least half must be improved for agriculture; and the woodlot itself cannot make up more than one-quarter of the entire property. Woodlots entered under the Woodlot Act are assessed at not more than $1 per acre, this assessment then being taxed at the prevailing annual ad valorem rate. At the time of harvest, a yield tax of five percent is collected on the value of material removed. Although the Woodlot Act has been in existence for almost 43 years, the law apparently has not been used to any great extent. No central data are kept on entries under the law, but listings seem to be very few.[2]

The second law, the Pearson Act, applies to commercial forest properties. To be eligible for listing, properties may not be used or developed for agriculture, mineral, grazing, industrial, recreational, or resort purposes. They cannot be posted to exclude public

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[1]Lee M. James, "Property Taxes and Alternatives for Michigan," Journal of Forestry, LVIII (February, 1960), p. 89.

[2]Ibid.

hunting or fishing. In addition, the land must have the potential to produce commercial timber and at the time of listing there must be a stocking of trees sufficient to show promise of a reasonably stocked stand at maturity. Owners of registered lands pay an annual property tax of from five to ten cents per acre, and at the time of timber cutting pay an assessment equal to ten percent of the appraised stumpage value.[1]

In Yoho's study, owners representing 72 percent of the forest area in northern Lower Michigan had never heard of either of these two yield tax laws. Of those who did know of the laws' existence, most had not registered their lands under either of the Acts because they either were wary of what they believed to be the restrictions involved or did not believe they would obtain any advantages over having their properties taxed under the general property tax. Owners representing only three percent of the privately owned forest land area had registered under either of the two laws.[2]

In order to evaluate the situation in the Upper

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[1]In addition to the annual payment from the owner himself, the local government receives an additional 15 cents per acre from the State, making a total of 20 to 25 cents per acre which the local government receives from lands registered under the Pearson Act. At the time of timber harvest, the yield tax payment is evenly split, half going to the local government and half to the State

[2]Yoho, op. cit., p. 215.

Peninsula, a somewhat similar series of questions concerning yield taxes were asked interviewed owners.[1] Analysis showed that 38 percent of the owners, representing 46 percent of the forest land, are eligible to register under one or the other of the two Acts. None of the small owners in the sample had lands registered. While data are not available concerning registrations in the Upper Peninsula under the Woodlot Act, specific information could be obtained about the number of registrants under the Pearson Act. If the Woodlot Act is used to an equivalent extent by farm woodland owners, as the Pearson Act is by eligible owners, it is not surprising that the sample did not disclose any participants under yield tax laws. Only 16 small forest owners have lands in the Upper Peninsula listed under the Pearson Act.[2]

Owners whose property qualified were asked if they knew of the particular yield tax law applicable

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[1]During the planning of the questionnaire it was decided to ask questions concerning the yield taxes only if an owner indicated in a preceding question that his annual general property tax did influence him in his handling of his forested land. Very soon in the interviewing it became apparent that so few were going to indicate problems over their property taxes that the portion on yield taxes would be a blank due to the scanty number of owners interrogated on these points. Consequently it was decided to ask the yield tax questions of all owners whose properties qualified for entry under the Woodlot or Pearson Acts.

[2]Letter from Mr. J. D. Stephansky, Assistant Chief, Lands Division, Michigan Department of Conservation, Lansing, Michigan, August 27, 1959.

to their situation. Only one-fifth of those qualified under the Woodlot Act had even a general idea that there was such a law, while among owners eligible under the Pearson Act one-third said that they had heard of such a law. Some owners commented that they thought the Pearson Act applied only to holdings of the large wood-using companies.

Owners who had never heard of either law, but who qualified for entry under one or the other, were given a brief explanation of the applicable law and then queried if they would be interested in registration. Only a very few expressed interest. One farmer, after this explanation, quickly commented that if township officials were not in sympathy with special treatment for the woodlot portion of a farm they could easily nullify any advantage gained through entry under the Woodlot Act by simply raising the assessment on the rest of the farm.

Explanations of why they had not registered under yield tax laws by eligible owners who had heard of the laws went as follows:

Reason for failure to register	Percent of qualifying interviewed owners who knew of laws
Feels no need for switching property from under general property tax.....	46
Believes registration would hinder decisions and tie up property.....	21

Reason for failure to register	Percent of qualifying interviewed owners who knew of laws
Objects to special treatment or prefers to keep property on the regular tax rolls.....	13
Never gave it much thought one way or the other.....	12
Had only vague knowledge about laws and might be interested.....	8
Total.....	100

The situation among small private forest owners in regard to the general property tax seems to be very similar to that uncovered in the earlier study in the northern Lower Peninsula. There is no widespread concern among these owners about present property taxes. A frequent comment among owners who lived outside the Upper Peninsula was, "that this is nothing compared to city taxes down below." However, many did express concern over the rate at which taxes have been increasing. Such comments as, "they have doubled in the last five years" were common. These opinions seem to represent concern over whether this trend would continue, and if so what taxes might rise to in a few years.

Empirically it seemed that property taxation is causing some shift in lands held for forestry, minerals, or investment purposes into ownership for recreation. Several large owners--heirs to landholdings acquired in

earlier years for lumbering, mining, or speculation purposes--indicated that property taxes were a prime consideration in their decision to liquidate their holdings by selling land in 40- and 80-acre tracts. While annual taxes of $0.50 per acre may not seem excessive to an owner with one 40-acre tract held for hunting, fishing, or summer home purposes, it becomes difficult for larger owners rationally to continue payments of such costs on large areas of land where the primary purpose of ownership is timber values or even land speculation.

Yield taxes have little appeal to the small owner in the Upper Peninsula at this time. Only a handful across the entire 15 counties had registered lands under the Pearson Act. Lands of a majority of small owners were not eligible for entry under either of Michigan's two yield tax laws. Upper Peninsula farmers frequently did not qualify for the Woodlot Act because less than half of their property was improved for agriculture. On the other hand, many nonfarmers were not eligible for the Pearson Act entry because their property possessed a cabin or other improvements. However, even among owners who qualified there was little interest. A majority of these did not know of the laws, but showed no surge of interest even when they were explained. Of those who did know of the yield tax laws, the most prominent reasons given for not registering were the lack of any strong need

to switch lands from under the general property tax and, secondly, apprehensions about tying up the property. This last reason apparently applies to those situations mentioned previously where larger landowners, seemingly motivated by timber values but not owning a sawmill or other processing facilities, have preferred not to register lands under the Pearson Act. They fear they would lose the flexibility of decision to sell tracts of land where the market price for recreational purposes exceeds their own valuation of anticipated returns from timber or further land value appreciation.

Owner's Knowledge of and Participation in Various Forestry Programs

To assess the role played by various forestry programs in the Upper Peninsula a number of questions were asked concerning some of these sources of aid and assistance to the small private owner. This section presents the results of these questions.

Nature of Existing Aids to Private Owners

Small private woodland owners may receive aid and assistance in the management of their woodlands from a number of sources. In the Upper Peninsula these may be catalogued as follows: (1) the State service forestry program, (2) forestry extension, (3) the Soil Conservation

Service program, (4) private consulting foresters, (5) foresters employed by various paper companies and other forest products industries, and (6) forestry payments under the Agricultural Conservation Program. Each of these will be briefly discussed in order to provide background for the subsequent presentation of findings concerning forestry aid and assistance programs.

The State Service Forestry Program.--The main program designed to provide on-the-ground management assistance to small private forest owners is that of the state service forestry, or, as it is commonly called, the C. F. M., program. Initially authorized in an earlier form with the passage of the Norris-Doxey Act in 1937, this program was amended with the passage of the Cooperative Forest Management Act in 1951. The Act provides for the allocation to cooperating states of federal funds, which the states usually match or exceed to a varying extent, to provide on-the-ground forestry advice and assistance to private landowners. Within limits the administration of these services as to location and quantity are state decisions. In Michigan there are seven full-time C. F. M. or service foresters located in the southern part of the Lower Peninsula. For the northern areas of Michigan C. F. M. work is carried on as additional duties of the state foresters responsible for the administration of the various state

forests. The program was not extended to the Upper Peninsula until 1957, when part of the area was covered. In 1958 the remaining portion was brought into the program, and in fiscal year 1959 16.22 man-months were devoted to C. F. M. work in the Upper Peninsula with 511 owners being given woodland management assistance.[1]

Forestry Extension.--The forestry extension program, the oldest of the programs designed to bring forestry information and services to private owners, is provided for in part by federal funds but is administered through the land grant colleges and universities. In the Upper Peninsula 15 County representatives, usually trained in general agriculture, provide some forestry advice to local woodlot owners but rely upon the one extension forester for more specialized help. Although on-the-ground visits to individual owners are made by both the county agents and the extension forester, forestry extension's primary responsibility is to promote dispersal of information and arrange group demonstrations which illustrate good forestry practices. The county agents generally work closely with the C. F. M. foresters and Soil Conservation Service technicians and refer individual owners to each of these groups for detailed on-the-ground assistance.

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[1]Letter from the Office of the Regional Forester, U. S. Forest Service, Milwaukee, Wisconsin, December 9, 1960.

Soil Conservation Service Forestry.--As part of their overall program of encouraging good land management on the holdings of farmers and other private owners, the farm planners of the Soil Conservation Service frequently include recommendations concerning woodland management in the comprehensive land management plans they prepare for their cooperators. In addition, they may be called upon from time to time to provide informal advice on various phases of forestry outside of that included in farm plans. Because of a nucleus of common training in soils and other applicable phases, college-trained foresters possessing the requisites of a farm background have been eligible for farm planner positions with the Soil Conservation Service. In the Upper Peninsula two of the eight Soil Conservation District farm planners have forestry degrees.

The soil conservation districts themselves are established under a state enabling act--Michigan's being passed in 1937. Although districts were organized for most counties in the Lower Peninsula much earlier, the first district in the Upper Peninsula was not established until 1949. Soil conservation districts now have been established in 13 of the 15 counties.

Private Consulting Foresters.--Not a program as such, but another source of forestry assistance to the small owner, is that offered by technically trained

foresters in business for themselves as consultants. Services are provided for a fee, the amount depending upon the forester's own value of his services and the size of the job. Many consulting foresters combine forestry services, i.e., cruising timber, contract tree planting, etc., with land surveying to round out the services they can provide landowners. Although a number of otherwise employed foresters do some consulting work as a sideline, the author knows of only two full-time technically trained consulting foresters now doing business in the Upper Peninsula.

Industrial Foresters and the Tree Farm Program.--Paper companies and other wood-using industries often provide various services to private owners in their areas. Some of these take the form of aggressive defined programs of assistance, while others may be offered by company foresters as a sideline to other duties. Under the Tree Farm Program sponsored by American Forest Products Industries, Inc., a private owner may apply to have his land certified as a Tree Farm. A forester representing the A. F. P. I. examines the forest land and if it qualifies it is certified as a Tree Farm. The program essentially is a form of recognition of the present condition of the forest and also the owner's intentions to manage his land for timber production. Although not an action program, it does

provide a channel whereby an owner may keep better informed and perhaps be more likely to request technical forestry advice as the need arises. In the Upper Peninsula 128 small owners with a combined area of 31,891 acres are enrolled under the A. F. P. I. Tree Farm program.[1] The bulk of the acreage listed as Tree Farms in the Upper Peninsula are of the paper companies and other wood-using industries.

Agricultural Conservation Program.--This program, not a technical assistance program, provides partial payments to landowners for performing certain approved forestry practices. These payments are part of an overall federal program, first authorized in 1936, dealing with soil-building and water-conserving practices. Although funds are federally authorized, the actual practices for which partial reimbursements are paid are decided upon in a broad sense at the state level, with more specific administrative discretion at the county level by a farmers' advisory board. The forestry phases of the program for which payments can be approved consist of tree planting, timber stand improvement work such as noncommercial thinnings, pruning in plantations, and the fencing of woodlots from grazing. Practices must conform to defined standards, and payment is made only

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[1]Letter from Mr. Young W. Rainer, Forester, American Forest Products Industries, Inc., Washington, D. C., March 9, 1961.

after the woodland has been inspected and the practice certified as completed by the examining forester.

Knowledge of Sources of Assistance

All owners were asked if they were acquainted with any of the sources of on-the-ground woodland management help and, if so, which ones.[1] Owners representing 21 percent of the total population said they knew of such programs only in a general manner and did not know any specific sources. Eighteen percent of the owners could name a specific source, while 61 percent did not know that aid was available at all (Table 24).

Among ownership classes farmers, business-professional, and local recreation groups were the best informed about sources of forest management assistance while the local housewife-widow, undivided estate, and absentee owner classes had the least knowledge. Because of the inclusion of the several quite well-informed classes cited above, Upper Peninsula owners showed more

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[1] In assessing an individual's knowledge of sources of assistance, the interviewee was tallied as being informed if he could name an assistance program, cite a particular individual engaged in such work, or give the location of the office where contact could be made to inquire about management assistance. Not all of the individuals cited, i.e., county agent or U. S. Forest Service personnel, have the responsibility of providing individual on-the-ground management advice. However, if the owner cited such individuals as sources of help he was credited with being informed as contact with these individuals would produce a reference to the nearest source of on-the-ground aid.

TABLE 24.--Owner's knowledge that on-the-ground assistance in woodland management is available

Ownership class	Owner's knowledge of existence of management help			
	Total	Unaware that help is available	Knows of help only in a general manner	Could cite specific source
	(Percent of forest owners)			
Farmer	100	27	40	33
Recreation group	100	46	18	36
Business-professional	100	39	13	48
Wage earner	100	80	10	10
Undivided estate	100	100	0	0
Retired	100	73	18	9
Housewife-widow	100	78	22	0
Logger	100	67	11	22
Multiple-miscellaneous	100	56	33	11
All Upper Peninsula owners	100	59	21	20
Absentee individual	100	69	22	9
Absentee housewife-widow	100	76	12	12
Absentee recreation group	100	56	22	22
Absentee "other"	100	44	66	0
All absentee owners	100	66	23	11
All owners	100	61	21	18

awareness of on-the-ground forest management help than did absentee owners living outside the area.

By specific sources of aid there were no clear-cut distinctions in how well the population was aware of each source, as the best known source was known by only seven percent of the owners. Also the least known sources are those not specifically charged with on-the-ground services to private owners. As will be discussed in more detail a little later, this lack of awareness that forest management help can be obtained by these owners is perfectly understandable in view of the newness and limited amount of such aid in the Upper Peninsula. The proportion of owners citing each source was as follows:

Source of assistance	Percent of owners citing this source[1]
Private consulting forester...	1
Industrial service forester...	1
State forester.....	7
Extension forester,.....	4
Federal forester.....	1
County agent.....	4
Soil Conservation service technician.....	7
Total.....	18

[1]Because some owners cited more than one source, the data presented here do not add to a column total.

Owner's Use of Technical Forestry Assistance Services

To gauge the actual use of technical forestry services by the small owners, several questions were asked concerning this phase. First, each owner was asked if a professional forester or other land-use technician had ever advised him on-the-ground in handling his woodlands and, if so, what was the nature of this advice or aid. In addition, if he had received such help, he was asked to give his evaluation of the service received.

From the relatively small proportion of owners who knew of specific sources of forest management assistance, it could be predicted that the number of owners who had had a technician visit their woodlands would not be large. The interviews showed that 12 percent of the owners representing 24 percent of the forest area at some time have had on-the-ground advice from a forester or other land-use technician. Contrasting Upper Peninsula with absentee owners showed that 15 percent of the first group had received on-the-ground assistance as compared to only two percent among absentee owners (Table 25). By specific categories, farmer, business-professional and local recreation groups were most active in securing on-the-ground help in the handling of their woodlands.

TABLE 25.--Owner's receiving on-the-ground assistance from a forester or other land-use technician

Ownership class	Total	Source of assistance							
		Private consulting forester	Industrial forester	State forester	Extension forester	Federal forester	County agent	Soil Conservation Service	Other
	(Percent of forest owners)								
Farmer	30	0	0	4	0	0	7	15	4
Recreation group	18	0	0	0	0	0	0	9	9
Business-professional	30	4	9	9	4	0	4	0	0
Wage earner	7	0	0	4	0	3	0	0	0
Undivided estate	0	0	0	0	0	0	0	0	0
Retired	9	0	0	0	5	4	0	0	0
Housewife-widow	0	0	0	0	0	0	0	0	0
Logger	11	0	0	11	0	0	0	0	0
Multiple-miscellaneous	0	0	0	0	0	0	0	0	0
All Upper Peninsula owners	15	1	1	3	1	1	3	4	1
Absentee individual	0	0	0	0	0	0	0	0	0
Absentee housewife-widow	0	0	0	0	0	0	0	0	0
Absentee recreation group	11	0	0	0	11	0	0	0	0
Absentee "other"	0	0	0	0	0	0	0	0	0
All absentee owners	2	0	0	0	2	0	0	0	0
All owners	12	*	1	3	1	1	2	3	1

*Less than 0.5 percent.

In examining the distribution of this assistance by source it should be stressed that the data do not provide nor imply any critical analysis of the effectiveness of the various sources in providing on-the-ground assistance. Not all of the categories have forest management advice to small owners as specific responsibilities and with the exception of private consulting foresters, who usually offer a wide range of services, none of them has on-the-ground aid to small owners as their primary responsibility. Again, there is no wide variation in proportion of owners receiving on-the-ground aid from the various sources. The leading sources, state foresters and Soil Conservation Service technicians, each had visited lands owned by three percent of the small private forest owner population. County agricultural agents had looked at woodlands owned by two percent, while the other sources had visited no more than one percent of the owners.

The nature of this on-the-ground assistance falls into three categories as follows:

Nature of forestry assistance	Percentage distribution among owners who had received help
Tree planting.....	58
General woodland management.....	18
Timber harvesting.....	24
Total.....	100

It is significant to note here that although tree planting and reforestation assistance was the main type of on-the-ground assistance received by owners and exceeded advice on timber harvesting by more than two to one, the actual performances of these two types of forestry activities are reversed. As shown earlier, only 13 percent of the owners who had open land suitable for planting had ever planted trees, while 43 percent of all owners had sold or used timber products within the past five-year period. From this it appears that owners are less likely to seek forestry assistance concerning timber harvesting than for tree planting, even though the latter activity is done by more owners.

In assessing the owner's attitude toward the forestry assistance provided it is difficult to make definitive separations, as some of the advice on general woodland management was, as the name implies, quite general. Also the sources were so varied, some coming from public agencies and some provided quite casually by a professional forester who was a personal friend of the owner. This type of advice might simply concern some action the owner was casually contemplating or might merely have confirmed the desirability of some practice the owner already was following. Some owners, however, did specifically indicate that they had not performed any of the practices recommended by the visiting

technician. One interviewee had his woodlot examined concerning Agricultural Conservation Program payments for timber stand improvement work. When told that he would have to fence out his cattle if he was to receive forestry payments for doing the recommended thinning, he decided against it because he felt the work of fencing outweighed benefits received in the form of an improved stand of timber plus partial payments for doing the thinning. Several other owners indicated that they hadn't done anything as yet because they haven't had time or just hadn't gotten around to it. In general, the assistance that was provided seemed to have been well received by the recipients.

Owners Receiving Verbal Advice Concerning their Forest Lands

Owners who had never received on-the-ground forestry assistance were asked if they had received verbal advice from a professional forester or other land-use technician without his visiting the property. Four percent of the owners representing four percent of the forest land replied that they had. Between Upper Peninsula and absentee owners there was little difference in this respect--four percent for the first and five percent for the latter group. Forestry verbal advice was received by ownership classes as follows:

Ownership classes receiving verbal forestry advice	Percent of owners in class receiving advice
Farmer.....	4
Business-professional.....	17
Wage earner.....	3
Absentee individual.....	4
Absentee recreation group.	11

Verbal advice was received in about equal proportion from industrial foresters, state foresters, and county agents. It should be noted here that owners receiving on-the-ground forestry assistance also may have received verbal advice at other times, so these data do not imply that on-the-ground forestry assistance to small owners in the Upper Peninsula is received more frequently than verbal advice on forestry matters alone.

Owners Receiving Written Material on Forestry

All owners were asked if they had ever obtained written material on woodland management or other phases of forestry. Seventeen percent of all owners (16 percent of the Upper Peninsula owners, and 24 percent of the absentee owners) had obtained or received such written forestry information. Among ownership classes reporting having had written forestry information the frequency by class was as follows:

Ownership classes obtaining written forestry material	Percent of owners in class reporting this activity
Farmer	18
Recreation group	9
Business-professional	35
Wage earner	14
Retired	18
Housewife-widow	4
Multiple-miscellaneous	11
Absentee individual	26
Absentee recreation group.	44

A majority of owners reporting that they had received written forestry information had also received on-the-ground or verbal assistance concerning their forested property. Data were not collected in a form which would indicate whether the written forestry material was received previous to, accompanying, or after the personal forestry aid. Analysis along these lines might provide some interesting clues to techniques in promoting greater use of technical forestry assistance.

Printed forestry material was obtained or received from a host of sources including conservation education displays at county fairs, congressional representatives, and, as some owners phrased it, simply "through the mail." However, the leading sources of printed informational material were county agents, state foresters (including

the Lansing headquarters of the Conservation Department), and Michigan State University.

Agricultural Conservation Payments

Forestry payments to Upper Peninsula private woodland owners under the Agricultural Conservation Program amounted to $35,348 in 1958.[1] Almost two-thirds of the payments were for planting trees or shrubs for forestry purposes, while the remainder was to partially reimburse owners for noncommercial thinnings, pruning, or other timber stand improvement work. Four hundred and fifty-three farms participated, with the payment per farm averaging $69.15 for tree planting and $99.87 for forest improvement work.

To investigate this aspect of forestry aid in the Upper Peninsula, owners were asked if they had ever heard of ACP payments. Here the question of eligibility arose, and after some checking with county offices administering the program, it appeared that considerable variation exists. Some offices indicated that absentee owners were not eligible, while others apparently made payments regardless of whether the owner was a resident farmer or absentee owner. A written check with the Lansing office

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[1] U. S., Commodity Stabilization Service, 1959 Michigan Annual Report (Lansing: U. S. Dept. of Agriculture, 1960), 58 pp.

of the Commodity Stabilization Service produced the following reply:

> Any person who, as a landlord, tenant or sharecropper on a farm, bore a part of the cost of an improved practice is eligible to file an application for payment of the Federal cost-share due him. Persons eligible to receive ACP cost-sharing are limited to agricultural producers by law. The term 'agricultural producer' includes only persons who currently are producing and selling crops, livestock or other agricultural commodities including forest products. (Italics mine.)
>
> Eligible land for ACP purposes includes woodland (including cutover woodland and woodland consisting of scrubby growth or undesirable species) being operated for the production and present or future sale of forest products. A farm for ACP purposes may consist entirely of woodland. Absentee owners, such as hunting clubs or summer residences, are generally not eligible. Instructions require that cost-sharing shall not be approved on practices for the production of land that has been retired from agricultural production. Such land includes farmland sold or reserved for manufacturing plant sites, golf courses, parks, recreational areas, hunting or fishing clubs, farmland to be flooded by dams, municipal airports, highways, etc. The decision as to whether ACP cost-sharing is to be approved for eligible cases is solely that of the ASC county committee. (Italics mine.)[1]

Because there appeared to be various interpretations by the various units administering the program as to who was eligible for ACP forestry payments, all owners were queried concerning this phase. In the analysis, however, owners considered to be eligible for ACP were those who resided on the land (not necessarily as a farmer), or, if absentee, had their lands managed as part of a farm.

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[1]Letter from Mr. Richard Vanderhoof, Acting Administrative Officer, Commodity Stabilization Services, U. S. Dept. of Agriculture, Lansing, Michigan, December 7, 1960.

Using the above criteria, approximately 42 percent of the owners with 34 percent of the forest land would be eligible for this form of aid. Of these, more than half (53 percent) said that they had never heard of ACP forestry payments. (Some of these owners had heard of the payments for practices concerning croplands and pastures but did not know that payments were made for certain forestry practices). If the eligible owner had never heard of the program, it was explained in a general sense and he was then asked if he might be interested in participating. Less than 10 percent of such owners indicated any interest in future participation. Of those owners who had heard of the program, about one-sixth (17 percent) had at some time applied for and received payments.[1] Almost two-thirds of these owners had been paid for tree planting, while the remaining third had been partially reimbursed for doing improvement work in existing stands.

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[1]The sample showed these participants to number approximately 1,000 owners. Data from the 1959 State Annual Report of ACP activities showed 453 farms receiving payments for forestry practices. Although some of these 453 owners may have received payments for performing more than one type of practice and hence some owners may appear more than once in this total, it is interesting to compare this known total with that shown by the sample. The author strongly suspects that a detailed study of participation in the ACP programs, both for forestry and agricultural practices, would show that participation is heavily repetitious and that year to year additions of new landowners are only moderate.

Tree Farm Program

As mentioned earlier, the Tree Farm Program is an industry-sponsored movement to encourage forest owners to practice better forestry by public recognition of their activities. To assess the nature of participation and also to ascertain the motivations which prompt owners to enroll lands as Tree Farms, a question was directed to all owners concerning whether they belonged to the Tree Farm system and, if so, why did they join.

Only three of the 198 interviewed owners had lands enrolled under the Tree Farm system, and two of these owners were professional foresters. The non-forester stated that he had enrolled so as to manage his lands better, while the foresters both stated that their enrollment was in the nature of lending support to what they considered a worthwhile movement. As cited earlier, Tree Farm membership in the Upper Peninsula is heavily weighted by the holdings of the paper companies and other wood-using industries. To date this program has not reached the small owners to any extent. It is interesting to note that many of the owners interviewed stated that they were aware of Tree Farms (as a result of seeing the posted metal recognition signs) but thought that this was a program only for the large companies and had something to do with obtaining lower property taxes.

Summary of Aid and Assistance Programs

Forestry aid and assistance to the small private owner in the Upper Peninsula is provided to only a limited extent. A majority of owners did not even know that on-the-ground help in managing their woodlands was available. Only 12 percent of the owners had ever had a forester or other land-use technician visit their woodlands. Farmers, Upper Peninsula recreation groups, and business-professional owners were not only better informed about sources of forestry aid and assistance, but also showed the greatest use of such aid in the form of actual visits by technicians to their woodlands. The business-professional class also showed the greatest frequency of obtaining verbal forestry advice from technicians without an actual woodland visit.

About one-sixth of all owners had at one time or another obtained or received printed material on woodland management or other phases of forestry. Here, in contrast to knowledge about specific programs or use of on-the-ground assistance, the data indicate that absentee owners as a group have received printed forestry informational matter to a greater extent than Upper Peninsula owners.

Forestry payments under the Agricultural Conservation Program do not appear to be much of an influence

among these small owners as the total amount of such payments and number of recipients are relatively small. In addition, slightly more than one-half of the owners deemed to be eligible had never heard of the payments at all. There also appeared to be considerable inconsistencies among counties as to just who was eligible for participation in the program. A literal interpretation of program definitions would seem to eliminate absentee owners who do not have their properties managed as part of a farm, although in actual practice this seems to depend on the thinking of the county advisory board.

Participation by small owners in the Tree Farm program is negligible, and this institution appears to have made little if any impression on Upper Peninsula small private woodland owners.

These findings concerning aid and assistance programs fall in much the same pattern as those reported during the earlier Lower Peninsula study. Quoting from a report based on the 1954 study in Lower Michigan:

> In view of the limited effort put into them, limited effects from the assistance programs would appear to be inevitable. For example, forestry extension specialists could devote only about 90 man-days a year to the study area and 11 district foresters could assign only nine percent of their work loads to service forestry.
>
> The lack of knowledge about the existence of programs is striking. The existence of a forestry extension program was unknown to 82 percent of the

> forest landowners in the field. Ninety-seven percent of the owners did not know anything about the service forestry program. Ninety percent of the farmers were unaware that payments for forestry practices were available under the Agricultural Conservation Program.[1]

Forestry aid and assistance is extremely thinly spread over the almost 30,000 small woodland owners in the Upper Peninsula. In addition, the nature of the programs or the devices used to channel information about them have failed to make a strong impression on owners for whom the programs presumably are intended. Empirically it appeared that the considerable number of agencies or sources providing forestry aid and assistance of various types created a state of confusion in the minds of many owners and acted as an impediment to their seeking forestry help in the management of their lands.

Owner's Attitude Toward More Intensive Forestry Aids

In addition to examining the owners' knowledge of and participation in some of the existing programs, it was felt that it would be worthwhile to interrogate the owners concerning more intensive aids. Consequently the owner's reaction was sought concerning the following

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[1]James G. Yoho and Lee M. James, "Influence of Some Public Assistance Programs on Forest Landowners in Northern Michigan," Land Economics, XXXIV (November, 1958), p. 364.

three aspects of more intensive forestry aid: (1) employing services of a forester on a fee basis to assist the owner with the management of, or sale of products from, his woodlands, (2) participating in a local association which would hire a forester to jointly manage the forest properties of members, and (3) leasing lands to a private forester or company for a specified period of years and sharing receipts from sales of stumpage.

These proposals were presented in a very general form and because they represented abstract situations (particularly the forest management association and the leasing of land for forestry purposes), these responses cannot be considered to be identical with those which might be received if the owner was confronted with a specific offer to participate in such schemes. Also, as Yoho and James point out, "Conservatism in response to a new idea is commonplace. Attitudes could change after additional contacts with the idea and the program which embodies it."[1] Nonetheless these questions should give some clue as to whether there is considerable untapped enthusiasm concerning such proposals.

Services of a Consulting Forester

As indicated earlier, there are only a few full-time consulting foresters now operating in the Upper

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[1] Ibid., p. 360.

Peninsula, and it could be assumed that many owners might not realize that intensive professional forestry assistance can be obtained on a fee basis. The owner was asked if he would be interested either now or perhaps at some time in the future, in employing a forester on a fee basis to assist with the management of, or sale of products from, his woodlands.

Six percent of the owners with 26 percent of the forest land indicated that they might be interested in hiring a professional forester for some specific tasks in the handling of their woodlands (Table 26). Among absentee owners the proportion of owners interested in this aspect of more intensive forestry aid rose to 13 percent as contrasted to only three percent among all Upper Peninsula owners. Among the latter group only the business-professional and recreation group classes expressed possible interest, 22 percent of the business-professional class stating that they might be interested in hiring a consultant's services to assist in some phase of forest management.

Joint Management Associations

Although various types of forestry cooperatives have operated quite successfully in the Scandinavian countries, they have had only a limited amount of success in the United States and have not become a significant factor in our forest economy. In the Upper Peninsula

the marketing of logs and pulpwood through a cooperative store organization was begun as early as 1914.[1] This and several other forestry marketing cooperatives in the Upper Peninsula probably owe a good share of their existence to the fact that they were formed in communities predominantly populated by Finnish immigrants or descendants of such immigrants. Finland, as well as the Scandinavian countries, long has had cooperatives as prominent features of their national way of life. However, Cunningham reports that in this instance of the cooperative store, the marketing co-op aspect has not advanced forestry because emphasis has been entirely on moving products with little thought of desirable forest management or continued yields.[2]

To assess how much interest there might be in a cooperative or association which would employ a forester to manage the properties of members jointly, all owners were queried concerning such a proposition. (The term "cooperative" was not used as it was thought that for some owners this term might have negative connotations implying socialism, collectivism, etc.) Fourteen percent of the owners with 32 percent of the land indicated

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[1] R. N. Cunningham, Forest Cooperatives in the United States, Report 6 of the U. S. Forest Service Reappraisal of the Forest Situation (Washington: U. S. Government Printing Office, 1947), p. 3.

[2] Ibid.

interest (Table 26). Once more the absentee owners as a group showed slightly more interest than did Upper Peninsula owners.[1] By specific classes, the business-professional group again expressed the most interest, with slightly more than one-quarter in favor of participation in a management association.

Leasing Lands for Forest Management

During the past 10 to 15 years some wood-using industries, particularly in the South, have entered into leasing arrangements with individual owners whereby the company manages the land for a specified period of years, with payment to the owner being in the form of a set amount or a proportion of receipts from stumpage sales. In the Upper Peninsula there are a number of leasing arrangements whereby paper companies and other wood-using industries have acquired long-term leases of timber rights from various landholding and mining companies. However, such leasing programs have not been extended to include the lands of small owners.

To find out how favorably these small owners might view a lease arrangement for forestry purposes, a question was asked concerning such a proposition. The

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[1]The large proportion of forest area owned by absentee owners favorable to all three of these intensive forestry aid proposals reflects the influence in the sample of the absentee land-holding corporation's larger than average holdings.

TABLE 26.--Owner attitude toward more intensive forestry aids

Ownership class	Owner's showing interest in the proposals					
	Employing a consulting forester		Joining a local forest management association		Leasing lands for forest management	
	Percent of owners	Percent of land	Percent of owners	Percent of land	Percent of owners	Percent of land
Farmer	0	0	11	15	4	3
Recreation group	9	16	9	4	9	4
Business-professional	22	74	26	76	17	19
Wage earner	0	0	10	17	7	13
Undivided estate	0	0	0	0	0	0
Retired	0	0	9	10	9	8
Housewife-widow	0	0	13	5	22	7
Logger	0	0	0	0	0	0
Multiple-miscellaneous	0	0	11	17	11	17
All Upper Peninsula owners	3	21	12	29	10	10
Absentee individual	13	12	17	12	17	12
Absentee housewife-widow	12	2	12	2	12	2
Absentee recreation group	0	0	11	7	11	7
Absentee undivided estate	0	0	0	0	0	0
Absentee corporation	100	100	100	100	100	100
All absentee owners	13	44	18	45	18	45
All owners	6	26	14	32	12	17

question, of course, represents an abstract situation for the area, but to make it more specific the owner was asked if he would be interested in having his lands managed under good forestry practices for a contracted period of years. During the contract period, he would receive 80 percent of the gross receipts from stumpage sales, and would have the option of withdrawing from the agreement after providing one year's written notice. Twelve percent of the owners representing 17 percent of the forest land reacted favorably to this proposal (Table 26). Again, as a group, absentee owners showed more interest than Upper Peninsula owners and the local business-professional class also responded favorably. In addition, the local housewife-widow class also showed quite a bit of interest in this proposition.

Summary of Responses to Proposals

The responses to the queries concerning the three types of more intensive forestry aid--employment of consultants, joint management associations and long-term leases--form quite a logical pattern. Although the overall population response was not great for any of the three, these responses could become very meaningful. The absentee owners showed more interest in all three proposals than did Upper Peninsula owners as a group. In fact there was a complete lack of interest in any of

the three proposals by several of the Upper Peninsula ownership classes--undivided estate and logger--and only a slight interest shown by several others. The local business-professional class indicated considerable interest in all three proposals, and the local recreation group class also expressed some interest in all three aspects.

Of all three proposals employing a consulting forester was the least attractive to the owners. This is easily explained, as positive action on this proposal would entail an expenditure of funds. Many of the owners who said they might be interested in participating in a joint management association or leasing their lands phrased it thusly, "I might be interested if it would mean that I'd get some income out of the property." However, many such individuals seemingly were in no financial position (or even mentally so inclined) to make investments in the property themselves in the form of inputs for forestry purposes.

Surprisingly, a good many of the owners who seemed interested in the management association or leasing arrangements were owners who seemed to have the least reason for retaining their properties. The absentee housewife-widow who had inherited her property, had not visited it for years, and whose main purpose in keeping it was because her father had liked to hunt there, typifies such cases. Apparently the ownership satisfactions

for these owners are entirely psychological, and the leasing of holdings or their incorporation in a management association would not infringe on these satisfactions. On the other hand, owners such as farmers and loggers have quite well defined objectives or commitments for most of their lands, and participating in the propositions might either be directly conflicting or constitute a nuisance.

Although for the total population there was not much difference between the proportion of owners who were interested in a management association and those who reacted favorably to the idea of leasing their lands, the amount of land concerned--32 percent for the first proposal as compared to only 17 percent for the second proposal--would tend to indicate that the idea of long-term leases was not received too favorably by the larger owners. From impressions gained during the interviews as well as an analysis of the data, certain classes of owners apparently shy away from surrendering some of their ownership prerogatives under a lease arrangement. This is evident in the data for the business-professional group, a group which seemingly has larger size tracts than the population average, where 26 percent of the owners with 76 percent of the land indicated interest in a management association and only 17 percent of the owners with 19 percent of the land had a similar interest

in leasing lands. Both the farmer and wage earner groups also followed this pattern of showing less interest in leases than in management associations. In contrast, the housewife-widow class showed more interest in the leasing proposal than in the other two. From this, it might be theorized that an individual's willingness to surrender some of his ownership rights in a property (assuming that this would happen to a greater extent under the leasing than under the management association proposal) is related to his own feeling of self-reliance and ability to look after his own affairs as well as his particular reasons for ownership.

Compared broadly, the findings on these proposals do not entirely agree with those by Yoho in northern Lower Michigan. He reported that 99 percent of the owners of 98 percent of the forest area stated flatly that they would not be interested in forest management cooperatives.[1] (Some speculation could be made here as to whether the term "cooperative" does have a less favorable connotation than the term "association." Also, it should be remembered that co-op retail stores are located throughout the Upper Peninsula and the idea of cooperatives is not alien to people with a heavily Finnish background.) In contrast to a lack of enthusiasm concerning cooperatives, Yoho found that four percent of the owners with 30 percent of the forest land responded

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[1]Yoho, op. cit., p. 262.

favorably to a management contract or leasing arrangement. Yoho concluded by stating that:

> Comparison of owner's attitude toward this question with the attitudes displayed toward cooperatives seems to lend evidence to the writer's opinion that the management contract scheme blends better with American institutions.[1]

This writer would concur that institutions surely are important, but also would suggest that size of properties involved, the nature of the owner himself, and the reasons why he keeps a property also bear heavily on the responses to proposals for management cooperatives or long-term management leases.

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[1] Ibid., p. 266.

CHAPTER VII

TIMBER MARKETING PRACTICES

A study of the marketing practices followed by small owners in a particular locality can help to round out the analysis of the small forest ownership situation. Without adequate markets and marketing practices which permit the owner a satisfactory return from his timber products, the task of bringing better forest management to these small ownerships becomes even more difficult. To learn more about the marketing practices followed by small forest owners in the Upper Peninsula, marketing questionnaires were completed for those interviewed owners who had sold stumpage or cut products within the last five years. One questionnaire dealt with sales of standing timber or stumpage while the other was concerned with sales of cut products. The most recent sale was analyzed, and only one marketing schedule was completed for any one interviewee.

In a survey of this type where the distribution and frequency of occurrence of a particular practice among the sample population are not known prior to making the study, it cannot be foretold as to whether

the data on some phases will be adequate enough to warrant a detailed analysis. In all, 38 schedules were completed for owners who had sold timber within the period from 1954 to 1959--eight covering stumpage sales and 30 covering sales of logs, pulpwood, posts, or other cut products. Because the type of sale and circumstances of sale varied widely, an intensive analysis does not seem justified. However, the material does provide some leads as to practices and patterns of sales which would be significant to the overall picture. The data have not been extrapolated to totals for the entire population and are presented only in terms of frequency within the group of marketing questionnaires.

Stumpage Sales

The eight stumpage sales show a number of characteristics. These sales apparently were made quite casually, with the owner playing a passive role in the transaction. This conclusion seems justified on the basis that: (1) in all but one instance the buyer initially had contacted the owner concerning the making of a sale; (2) in all but one instance the owners said that they had no presale information on either prices of products or buyers; (3) all sellers reported that they had offers from only one buyer; (4) all the sellers who had made sales of logs reported that although the

sale was on a measured basis, they did not know what log rule had been used; and (5) only one owner reported that he made the sale because of a need for funds while the others said that they had sold to help a friend who was looking for work or simply because the buyer was persuasive.

None of the owners were interested in doing any part of the harvesting because they had more profitable use for their time or were physically unable to do this type of work.

All but one indicated satisfaction with the results of the sale; the one owner who indicated some dissatisfaction was concerned about logging debris which he considered a detraction on a property held primarily for recreational purposes. Although one-half indicated that they might make future stumpage sales, the remainder said that they wouldn't be making any more sales for quite some time because of a lack of available merchantable material.

Sales of Cut Products

Type of Product and Quantity Sold

Although sales of cut products included sawlogs, veneer logs, and cedar posts, almost two-thirds were sales of pulpwood. These pulpwood sales averaged 39 cords per

seller; with the exclusion from the data of two full-time loggers the average fell to 23 cords per seller. This is approximately one-half the volume reported for sales among farmers in the Upper Peninsula in 1959 by the Census of Agriculture (Table 27). Sales of 20 cords occur quite frequently as this is the approximate volume of pulpwood which can be carried on a railroad car. Local pulpwood dealers frequently will contract with farmers or other small owners to cut one or more "cars" of wood; the seller is paid for the wood when it is loaded on the car at a railroad siding.

In this study, sales of cut products exceeded stumpage sales by almost four to one. However, among farmers the Census of Agriculture data for 1959 show sales of cut products to occur about three times as frequently as sales of standing timber.

Census of Agriculture data showed the average value of stumpage sales among farmers who made sales in 1959 was $730. This probably largely represents sales of hardwood sawlogs and veneer logs, as stumpage values for pulpwood, posts, or chemical wood are so nominal that volumes sold per farm would have to be extremely large to contribute to an average value of this magnitude.

As cited earlier, the Census of Agriculture figure for the average per farm of pulpwood cut and

TABLE 27.--Timber products harvested from farms in Michigan's Upper Peninsula, 1959

Product	Number of farms	Volume	Value
Stumpage sold	341	-	$248,879
Saw logs and veneer logs cut and sold	174	1,424 MBF	-
Pulpwood cut and sold	529	22,972 cords	-
Fence posts cut and sold	240	427,549 pieces	-
Fuelwood cut and sold	153	4,655 cords	-

Source: U. S. Bureau of the Census, 1960 Census of Agriculture. Farm characteristics and farm products. Preliminary county data sheets, Sept. 1960.

sold was 43 cords. To gain some perspective of value involved, if this volume was aspen and sold as stumpage at $1.86 per cord the return to the farmer from this average sale would be $79.98.[1] If sold delivered to the mill yard, railroad siding or concentration yard at a price of $13.80 per cord, the gross return from this average sale would be $593.40. Although a detailed analysis would involve the segregation of various operating and overhead costs in this second value, the point is that the small owner who sells cut products markets not only his timber but also his labor. If he has surplus time and the returns from engaging in woods work represent an attractive marginal increment to his overall income he is likely to take advantage of this work opportunity.

As shown earlier in Table 23, this study indicated that over half of the farm and almost 45 percent of the retired small forest owners had made sales of cut products during the five-year period from 1954 to 1959. These classes of owners often have surplus labor time and a need to supplement their overall income. In contrast, only a relatively small proportion of the business-professional class of owners had sold cut products.

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[1] The average stumpage and cut product prices are taken from a 1955 study of pulpwood marketing in Michigan. See: Lee M. James, Marketing Pulpwood in Michigan, Michigan Agricultural Experiment Station Special Bulletin No. 411 (E. Lansing: Michigan State University, 1957), p. 67.

One might conclude that bankers, doctors, or lawyers are unlikely to be found cutting and peeling pulpwood behind their hunting cabins on a Saturday afternoon!

Frequency of Sales

To ascertain the frequency with which sales were made among the various ownership classes, owners were queried concerning the number of separate sales carried out over the last five years. Based on the five-year record, the average interval in years between sales by classes was as follows:

Ownership class	Average interval in years between sales	
	(Stumpage)	(Cut products)
Farmer	-	1.2
Business-professional	5.0	5.0
Wage earner	5.0	3.3
Retired	5.0	2.2
Housewife-widow	-	5.0
Logger	-	0.5
Multiple-miscellaneous	5.0	2.5

From these data it appears that loggers, farmers, and retired owners make more frequent sales of cut products. This, of course, would be expected from loggers, but for farmers and retired owners again it would seem to be associated with available time and need for supplementary income. As noted above, farmers made a sale

almost once a year. It should be borne in mind that these are averages for those farmers reporting sales in the five-year period and not for all farmers in the population. Some farmers may consider winter woods work on either their own or purchased stumpage as a consistent part of their yearly work pattern, while other farmers with larger dairies or other significant off-farm employment may seldom participate in logging. The importance of farmers to the Upper Peninsula's forest economy is reflected to only a minor degree by statistics concerning logging on their own properties, as many log, contract-haul, or do other jobs on timber sales of public or large privately owned stumpage.[1]

Characteristics of Cut Product Sales

Approximately one-half of the owners interviewed who had sold cut products handled all phases of their operations to the point of sale, while most of the remaining half had done the logging themselves but had hired the hauling. One owner had hired the felling and bucking while another had contracted out all the physical phases.

One point that might have implications to program planning concerns the location of residency of

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[1] Ibid., p. 49.

those owners who had sold cut products. Over three-fourths of these owners resided on the forested property. This relationship, of course, ties in with owner occupation, since nearly one-half of the sellers of cut products are farmers. Again, it seems logical to assume that proximity of the owner's permanent residence to the site of logging operations as well as the availability of spare time would bear strongly on an owner's ability to carry out sales of cut timber products.

The pattern of measurement varied considerably, but in most cases the seller had scaled his cut products, although the payment usually represented the buyer's scale. As most of the transactions were pulpwood sales, the understanding of and ability to apply a cord measurement was universal. Similarly, sellers of sawlogs knew what log rule had been used by the buyer to measure their products.

The point of delivery of products to the buyer varied--some was sold at roadside with the buyer doing the hauling; some was loaded on a railroad car on a siding; and some was delivered at a concentration yard or mill yard. In all cases the title to ownership of the product passed to the buyer at this point of delivery.

None of these sales (nor none of the stumpage sales) were cut and sold on a marked-tree basis. A few

sawtimber sales were cut on the basis of acceptable species and minimum diameter which would make a saleable product.

To assess the role played by market information in these sales, owners were queried as to whether they had presale knowledge of market conditions (apart from that supplied by the ultimate purchaser of the material). Although 13 of the 30 owners said that they did not, it seems probable that they had misinterpreted the question. This appears to be the case because analysis of a subsequent question revealed that all of this group said that they had initiated the contact with the buyer and so apparently knew of at least this one potential outlet for their cut products. The other owners stated that they had information on both prices and potential buyers prior to making the sale. This is not surprising in an area such as the Upper Peninsula where many individuals who do not necessarily consider timber marketing their main occupation still carry on some function in the marketing chain. Farmers may do logging or hauling in their spare time, and a number of county grocery store owners or other local businessmen "double" as pulpwood dealers. It is the writer's belief that in most sections of the Upper Peninsula an interested observer could obtain a fairly accurate commentary on potential market outlets and timber product prices by

stopping in at any cross-roads country store and chatting with the proprietor and customers.

This opinion seems to be borne out by the responses to a question presented in the general information questionnaire. It attempts to assess the opinions of those owners who had made sales concerning an organized system of price reporting for timber somewhat along the lines of those existing for various agricultural commodities. In order to avoid phrasing the question in a leading manner, owners who had sold timber were first asked their opinion about the adequacy of present sources of information on current stumpage prices and general market information. If they indicated that they considered them inadequate, they were then asked if they would be interested in the establishment of an organized timber price and marketing information service. The results of the first question were as follows:

Opinions concerning adequacy of present sources of price and market information	Percent of owners who had sold timber
Present sources are adequate.....	50
Present sources are inadequate.....	11
No definite opinion either way.....	39
Total.....	100

Although those owners who felt that present sources were inadequate did favor organized price reporting, apparently the majority of the sellers do not view this phase of marketing as a problem area. Some owners did venture the opinion that if they thought organized price reporting would cause the prevailing prices to rise, then they would be in favor of instituting the service. This, of course, is not viewed as one of the reasons for or necessarily the consequence of organized price reporting.

Again, these results should be viewed within the context of prevailing conditions. Most of these owners had sold pulpwood, a product sold on the basis of a quite standardized and simple measurement unit whose price usually is not subject to wide fluctuation. In addition, as noted earlier, the general familiarity of many of the local inhabitants with the timber market makes it fairly easy for anyone to obtain price and marketing information by means of a few casual inquiries.

Because the quantitative data presented here apply only to those owners who have made at least one timber sale, the question might be raised as to whether the non-seller, and in particular the absentee owner, would react similarly. However, as noted earlier in Chapter VI, most of the owners who had not sold timber stated that they had not because their stands contained

little or no merchantable material. As these timber stands develop into larger size classes with more merchantable material, the factor of price and market information could have considerable relevance, particularly to the absentee owner. But even then other factors such as familiarity with product measurement and description, ability to supervise or carry out timber sales, and motivation to sell may loom as larger deterrents to successful timber marketing than the absence of organized price reporting.

To summarize the writer's opinion of the existing need for organized price reporting in the Upper Peninsula, the succinct comment of one interviewee who favored price reporting for timber products is cited. He stated that although he was interested in price reporting, he was not sure whether this same opinion was shared widely enough among other owners to justify the establishment of the service--a layman's apt phrasing of the economist's cost-benefit principle!

For all 30 owners, only two stated that the buyer had made the initial contact on the bargaining, the remaining 28 having taken the contact initiative themselves. However, in spite of this, all 30 owners said that they had had offers (definite statement of terms) from only the one buyer. This would seem to indicate that these sellers well recognize the prevailing

market conditions. As James observed in his study of pulpwood marketing in Michigan: "What is most noticeable in the price record is the 'stickiness' of pulpwood prices, their tendency to remain unchanged over long periods of time."[1]

One-half of the sales were made without any contract between buyer and seller prior to the beginning of the cutting. For those in which contracts were involved, only three entailed written terms while the remainder were based on verbal agreement.

Concerning the reason for selling timber products, a combined 63 percent answered that it was done to satisfy a need for funds or to provide personal wages. Other owners said that the timber was mature and ready to cut (a frequent comment concerning aspen pulpwood sales was that "the aspen was about to go back" and was ready for cutting). Only a few cited a need for emergency funds or to provide funds for an alternative opportunity. As indicated earlier, it is this writer's opinion that for most of these Upper Peninsula small landowners who do cut and sell timber products, their wooded lands provide an opportunity for them to convert their surplus labor time into income--they sell not only the product of their woodlands but also their otherwise unemployed labor resources.

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[1]James, op. cit., p. 53.

All but one owner said that he was satisfied with the outcome of his timber sale; the one dissident indicated that he apparently had paid too much for his land and the logging "chance" was tougher than he had anticipated. Nineteen of the 30 indicated that they planned to make future sales from their woodlands. Of those who did not have such plans, most said that their stands would not support additional cuts until quite some time in the future or that they now considered themselves to be too old for woods work.

Summary

From a limited sample it appears that sellers of stumpage and sellers of cut timber products form two distinct groups among the small ownership population. The first play quite a passive role in the marketing transaction, with the sale being initiated and consummated largely because of the buyer's solicitation and suasion. In contrast, the sellers of cut products--a majority of whom were loggers, farmers, and retired persons--contact the buyer themselves, carry out most of the logging operations, understand product measurements, and seem to have some presale information on both prices and potential buyers. Also, this latter group gave purposeful reasons for making timber sales such as the providing of personal wages, or the obtaining

of funds for personal or family expenditures. In general the sale of cut products provides the owner with the opportunity to market not only the value contained in his stumpage but also his own surplus labor--in pulpwood this sale of labor often represents the difference between an insignificant and a significant sale income to the owner.

Only a small proportion of all sellers viewed present sources of price and market information as being inadequate and were interested in the establishment of an organized timber price and marketing information service. This probably was because most of the sellers had sold pulpwood--a product with a simple measurement unit, with little price variation among buyers, and with a fairly static price pattern over time.

Several factors apparently influence an owner's decision to sell cut products instead of stumpage: first, the need to supplement his income; and secondly, the ability to physically carry out the sale in terms of surplus labor time, ability to do woods work, and proximity of the owner's residence to the site of the sale. Implicit in these considerations is the existence on the owner's land of merchantable size timber and also a market for such material. If the future sees more of these lands moving into the hands of absentee owners, less possessed by the financial need to make sales and

the ability or time to do logging, the pattern of supply transactions from small private forest ownerships may tend decidedly toward stumpage sales. These sales, particularly for pulpwood-size material, may have to be solicited on some other basis than financial gain to the owner as the magnitude of the value involved may not be too impressive to an owner with a reasonably adequate other source of income. However, in the current supply situation in the Upper Peninsula in which the demands of wood-using industries are largely satisfied by timber supplies on public and large privately owned forest lands, these factors presently are not critical.

CHAPTER VIII

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The hypothesis that this study has attempted to test is that the population of small forest owners in Michigan's Upper Peninsula is a diversified group, differing in occupation or class of ownership, location of permanent residence, characteristics of ownership, forestry practices, forestry problems, and attitudes toward existing and proposed forestry programs. The findings as summarized in this chapter would appear to validate the above thesis.

In the following pages some of the major findings of the study will be presented and their implications discussed. In addition, some recommendations concerning forestry programs and additional needed research will be given.

Summary of Findings

Ownership and Ownership Characteristics

This study showed that the population of small forest landowners in the Upper Peninsula totaled close

to 30,000 ownerships. These ownerships control slightly more than 3-1/4 million acres of commercial forest land. Upper Peninsula owners make up 75 percent of the ownership; the remaining 25 percent are absentee owners who do not make their permanent homes in the area. At least in the Upper Peninsula, it no longer is true that farmers are the dominant component of the small private forest owner population. Farmer owners represent only 17 percent of the total number of owners--a smaller part of both the total number of owners and total forest land owned than do absentee owners. Although the size of forest properties owned varied considerably, the average size holding for all owners was approximately 108 acres.

Individual ownerships predominate, with 87 percent of all ownerships being of this type (ownerships held jointly by husbands and wives were considered individual ownerships). Many of the properties held by corporations actually belonged to hunting clubs which were organized as nonprofit corporations.

Slightly more than three-fourths of the total forest area had been acquired by purchase, while one-fifth had come into the hands of the present owners through inheritance. Land obtained at tax sales represented only a very small part of the total. That this should be the case is not too contradictory as more than 70 percent of the total land had been acquired

during the past 20 years in which tax delinquency has steadily declined. Regarding expectations as to future tenure, 40 percent of the owners were uncertain as to whether they would retain their properties during the rest of their lifetime.

More than half of the owners do not reside on their properties; however, with the inclusion of those who do live on the property, three-fourths make their permanent residence within 50 miles. Analyzing the ages of individual owners showed the average age to be 56 years, with many owners over 60 years old. Concentration of land ownership in the hands of older owners is particularly pronounced in an area such as the Upper Peninsula where there is considerable out-migration. Even among absentee owners there is little delegation of managerial authority over the property, either formally or informally. The only exception to this occurs among the housewife-widow class, both local and absentee, where decision-making often is delegated to a son or other relative.

Although many owners may have a number of ownership objectives, or reasons for owning a property, most can sort out one primary reason which exceeds all others in importance. On this basis, it was found that ownership objectives varied considerably. Prominent ones cited included: ownership to provide a residence,

hunting or fishing use, general farm use, inactive (no tangible reason at the present time), and a site for a summer home or weekend cottage. Only six percent of the owners with eight percent of the forest land gave timber production and timber values as their primary ownership objective. Among Upper Peninsula owners, residence and general farm use were the two most prominent reasons for ownership, while among absentee owners hunting or fishing and summer home use were the two reasons most often cited. On a percentage basis more than twice as many absentee owners were attempting to sell their properties than was the case among Upper Peninsula owners.

Woodland Practices

Tree planting for forestry purposes is not a widespread practice among these owners. Only 13 percent of the owners who owned open land suitable for planting had made reforestation-type plantings. The largest size planting encountered was 25 acres while the average size was about seven acres. In contrast to the Lower Peninsula the tree planting "fever" has not reached to the Upper Peninsula. Empirically it would seem that this difference between the two areas is caused by distance and background. The Upper Peninsula is further removed from the metropolitan centers of the Midwest and the "golden opportunity" of growing and selling Christmas

trees is not quite so appealing. Also farmers who either had cleared the lands themselves in the early part of the century, or had watched their fathers clear it were apparently not so keen on planting trees back on fields where tree stumps so recently had been laboriously removed.

Timber sales and timber harvesting occurred more frequently, 43 percent of all owners having sold or used timber from their property within the last five years. Among owners who had not sold timber the most prominent reason cited was that their second-growth stands do not contain enough merchantable material to make timber cutting or sales worthwhile.

Excluding tree planting and timber harvesting, few owners had done any other work in their woodlands. When queried as to why they had not done such things as thinnings or other constructive forestry measures, more than half said they simply hadn't thought much about it, while another third indicated that their interest in holding the land did not specifically include the physical condition of the timber.

Performance of the forestry practices discussed above varied considerably by ownership classes (Table 28). The farmer, business-professional, and logger classes showed the most activity, while the local recreation group, undivided estate, housewife-widow, and absentee classes showed little activity.

TABLE 28.--Summary of owner's woodland practices

Ownership class	Proportion of owners carrying out forestry-type activities*			
	Reforestation	Sale of stumpage or cut products	Timber cutting for home use	Thinnings or other forestry operations
	(Percent of forest owners)			
Farmer	25	52	26	11
Recreation group	33	0	0	0
Business-professional	42	26	9	22
Wage earner	11	10	28	0
Undivided estate	0	0	33	0
Retired	0	59	18	4
Housewife-widow	0	17	26	0
Logger	25	56	22	0
Multiple-miscellaneous	14	22	11	0
All Upper Peninsula owners	14	31	22	7
Absentee individual	0	0	9	4
Absentee housewife-widow	0	0	12	0
Absentee recreation group	33	0	22	0
Absentee "other"	0	0	0	0
All absentee owners	9	0	11	4
All owners	13	24	19	6

*Because some owners may have performed more than one practice, the data are not mutually exclusive; hence no column has been set up showing the total percentage who have performed at least one of the woodland practices.

Credit and Property Taxation

The availability of credit did not seem to be a factor affecting owners in the handling of their lands, and very few expressed interest in obtaining credit for forestry purposes even if it was made readily available. This lack of interest probably is due to the fact that at this time few owners regard the forest potential on their property as an investment opportunity--that is, not in the sense of being interested in large-scale reforestation, thinnings or other forestry practices carried beyond the hobby stage.

The lack of adequate sources of forest credit may be an impediment to better forest management on the lands of small owners in the South and elsewhere. However, a need for credit is not now apparent in the Upper Peninsula. Its development probably will come only when the investment opportunities in forest management for small owners can be brought to their attention or become self-evident through stand development and the emergence of more attractive markets for stumpage and cut forest products.

Similarly, it did not appear that the property tax was a major factor affecting the decisions of the majority of these owners. This, in spite of the fact that in many cases property taxes did seem to be very high on unimproved properties. This lack of concern was

particularly true among absentee owners who have as their index of comparison urban property taxes in the Lower Peninsula and elsewhere. However, among some of the larger small owners (particularly in the business-professional group) who expressed interest in holding lands for forestry or general investment purposes, the property tax was of real concern. Michigan's main yield-tax law, the Pearson Act, does not appear to be a solution for property tax problems on forested properties as most owners do not even know of the law and those who do are wary of tying up their properties through its use. Only 16 small owners had lands in the Upper Peninsula listed under the Pearson Act in 1959.

Forestry Programs

Although there are a number of public and private sources of forestry aid and assistance in the Upper Peninsula, the sum total of such effort is quite small. The state service forestry program, initiated in the Upper Peninsula in 1957, amounted to only 16 man-months of professional service in 1959. One Extension Service Forester, working with 14 county extension agents, covers the entire area. In addition to these sources, some forestry advice and assistance is provided by eight District Soil Conservation Service technicians, two of whom are trained foresters, under the Soil Conservation Service Program. Private forestry help is available as

an additional responsibility of foresters employed by some of the paper companies and other wood-using industries, or from the two full-time private consulting foresters who are in business in the Upper Peninsula. In addition to technical advice, cost-sharing payments (subsidies) for performing certain approved forestry practices are available to some of the small owners under the Agricultural Conservation Program. In 1958 these payments for tree planting, noncommercial thinnings, pruning or other timber stand improvement work totaled slightly more than $35,000.

More than 60 percent of the owners did not know that there were public programs which would provide a landowner with on-the-ground advice concerning his forestry problems. Of those who indicated some awareness that such services could be obtained, only a minority could name a specific source of such help.

About one-eighth of the owners at some time have had a professional forester or other land-use technician examine their properties concerning some phase of forestry or forest use. Most of this help was to provide advice on tree planting. Of these owners who had never had their woodlands visited by a technician, only a small group (four percent of all owners) had talked with a technician concerning forestry problems.

Printed forestry information--bulletins, pamphlets, etc.--had been received at some time by about one-sixth of all owners. This material had come from a variety of places but the leading sources were county extension agents, state foresters (including the Lansing headquarters of the Conservation Department), and Michigan State University. Many of those who had received written information also had had personal contacts with foresters or other land-use technicians.

Similar to the situation in respect to the performance of forestry practices, a considerable difference existed between ownership classes concerning their knowledge of and use of forestry aid and assistance (Table 29). Again, the farmer and business-professional groups ranked foremost; while those showing the least knowledge and use of forestry aids were wage earner, undivided estate, retired, and housewife-widow owners. With the exception of the absentee housewife-widow class, the absentee owners as a group did not rank much lower than Upper Peninsula owners in their awareness that forestry aid was available and in their use of such aid. The big difference is not between the groupings of Upper Peninsula and absentee owners, but rather between two ownership classes--farmers and business-professional owners and the rest of the population. That farmers would rank high is not surprising because they long

TABLE 29.--Summary of owner's knowledge of and use of forestry aids or assistance

Ownership class	Knowledge of and use of forestry aids or assistance				
	Aware that on-the-ground assistance is available	Aware of a specific source of assistance	Has had property visited by a tech.*	Has received verbal advice without an on-the-ground visit	Has received written forestry material
	(Percent of forest owners)				
Farmer	73	33	30	4	18
Recreation group	54	36	18	0	9
Business-professional	61	48	30	17	35
Wage earner	20	10	7	3	14
Undivided estate	0	0	0	0	0
Retired	27	9	9	0	18
Housewife-widow	22	0	0	0	4
Logger	33	22	11	0	0
Multiple-miscellaneous	44	11	0	0	11
All Upper Peninsula owners	41	20	15	4	16
Absentee individual	31	9	0	4	26
Absentee housewife-widow	24	12	0	0	0
Absentee recreation group	44	22	11	11	44
Absentee "other"	66	0	0	0	0
All absentee owners	34	11	2	5	24
All owners	39	18	12	4	17

*Refers to a forester or other land-use technician.

have been the target of various public assistance and education programs. Forestry literature may automatically arrive in the farmer's mail box via the county agent, and forestry cost-sharing payments are described in brochures on the current A. C. P practices as mailed out to most farmers by the local Agricultural Stabilization and Conservation office. Because he works where he lives, he is not difficult to contact and can easily be found at home by the county agent, Soil Conservation Service farm planner, or C. F. M. service forester. In contrast, the business-professional owner typically must solicit any assistance he receives, and more often than not does not reside on his forest property. Some of the implications in this comparison between these two more active ownership classes will be discussed a little later under the recommendations section.

The receipt of cost-sharing payments for performance of forestry practices under the Agricultural Conservation Payments program was not listed in Table 29 because many owners are not eligible. Although the actual interpretation of eligibility requirements concerning forestry payments seems to vary county by county, a literal interpretation of the enabling law would exclude owners who do not reside on the forested property or, if absentee, do not have the property operated as a farm. Of those owners considered to be eligible for payments,

more than half had never heard of this form of forestry aid. Among owners who did know of the program, about one-sixth at some time had applied for and received payments. Two-thirds of these payments had been received for planting trees while the remaining third was to partially compensate for doing improvement work in existing stands.

The study failed to show much participation by these small owners in the industry-sponsored Tree Farm Program. Only three of the 198 owners had their properties listed as Tree Farms, and two of these owners were professional foresters themselves.

Responses to More Intensive Forestry Aids

All owners were queried concerning their interest in obtaining or participating in three aspects of more intensive forestry--employment of consultants, joint management associations, and leasing of lands for forestry purposes. About one-eighth of all owners expressed some interest in the joint management associations or in leasing their lands for forestry purposes. About one-half of this number was interested in using the services of a hired consultant. Among ownership classes the local business-professional class expressed the most interest in all three proposals. Collectively the interest among absentee owners was higher than that among Upper Peninsula

owners concerning all three aspects, with close to one-fifth of the nonresidents indicating some interest in both management associations and leasing.

Marketing Practices

Sellers of stumpage and cut timber products seem to form two quite different groups. The first are quite passive in their sale activity, making transactions largely because of the persuasiveness of the buyer. The latter group, however, typically instigate the sale themselves and take an active part in most phases of the marketing transaction. The sale of cut products offers the owner who has the time and ability to do the timber harvesting himself the opportunity to realize an income from not only the sale of his stumpage but also his personal labor. On pulpwood sales particularly, this difference between stumpage value alone and value of the cut product delivered at the roadside, mill, or other transfer point can be quite significant, making cut product sales much more attractive than stumpage sales for the owner who is interested in and able to do the harvesting himself. Among owners who had sold stumpage or cut products only a small minority viewed present sources of price and market information as being inadequate, and indicated interest in the establishment of an organized timber price and marketing information service.

Conclusions

The foremost conclusion is, as some other researchers have noted, that there is no simple single variable relationship between a class of owners or ownerships and their performance of forestry practices or attitudes toward such practices. An analysis of the small private ownership situation must embrace not only the character of the forest resource itself, as exemplified by size of holdings and condition of tree stocking, but the economic, social and physical environment. Factors relevant to the analysis would include the alternative opportunities available to the owner, asset position, age and physical ability to do or supervise forestry practices, educational background and social consciousness, ownership objectives, historical background of the area, and extent and effectiveness of public forestry aid and assistance programs.

In the Upper Peninsula there is no justification for looking at these small ownerships through "forestry-colored glasses." Most of the properties held by these owners are relatively small and consist of second-growth tree stocking. The investment potential, at this time, is not high. Most of the owners do not reside on their properties and usually are not in a position to do woods work in their spare time. For the overwhelming majority their main reason for owning the property concerns some value other than forestry. In addition there is a sizeable

group of owners whose future tenure is fragile because they already have their properties for sale or cannot now cite any tangible reason why they continue to hold the property. Public forestry programs have failed to reach a majority of these owners, even to the extent of establishing an awareness that the programs exist.

These factors, although contrary to some long cherished precepts held by forestry policy makers, are not surprising. Patterns of land use, economic opportunities, and population mobility have undergone revolutionary changes in the past 20 years. The end of farming as a leading land use in many marginal areas is an established fact. The former small dairy farmer may still live on the home place, but now he has a job in town. His spare time for chores around the property may not be much greater than that possessed by the doctor or lawyer who is a landowner. His willingness to do extra work for extra income often depends on the relative magnitude of these extra incomes in comparison to his primary wages or salary. More and more urbanites are pushing into the north country for recreation; and many of these are becoming landowners. These owners who visit their properties for summer vacations or for fishing, or hunting trips are unlikely to engage in strenuous woods work beyond those casual efforts enjoyed as a hobby. The belief that these private lands feasibly can be consolidated into economic

units under single ownerships for forestry purposes is in error. Excluding public lands and lands of the paper companies and other wood-using industries, it is probable that the future will see more rather than less fragmentation of holdings.

That there should be a considerable turn-over in properties and many owners with very slim reasons for ownership is not unusual. Personal situations change, emergencies develop, and plans for the future are thwarted. Under a political system entailing private landownership we can expect a continued and endemic proportion of lands changing hands all the time. Also, because most owners realize that the future is uncertain, it is doubtful if land dedication or covenants pertaining to land use would be accepted by most owners unless formally imposed by society.

Recognizing the above factors, it still is possible to plan programs which will encourage better forestry practices and a greater contribution to the Upper Peninsula's economy by these small forest ownerships. Granting that most owners have an ownership objective which would be paramount over forestry, it still should be possible to raise forestry to a higher ranking among their scheme of secondary objectives, while at the same time strengthening its position among those owners who do recognize it as a primary ownership objective.

Recommendations

Future Forestry Programs

To attain a greater contribution from these small ownerships, programs first must realistically recognize the nature of the small owner, including his ownership interests and personal limitations as to labor or monetary inputs. Any new or expanded programs should be selective, concentrating first priorities on larger size properties and in ownership classes which show the most interest and likelihood of carrying out management recommendations. In this study, the business-professional class would typify a group which would seem to offer a "high investment opportunity" for public forestry education and assistance efforts.

This writer also believes that there should be a greater consolidation of public programs, especially in the sense of firmly establishing in the public mind the image of one agency as the source of forestry aid and assistance. C. F. M., A. C. P., and S. C. S. farm management plans (frequently featuring woodlot recommendations)--the patterns involved in these various public programs can be complicated enough for the professional technician and in most cases are baffling to the small owner or "customer" for whom they are intended. A potential recipient of assistance is now referred to one office for one phase, then to another for a second, and frequently to a third

for another. The recommendation to reforest a piece of land may be received from a technician employed by one agency, the trees are obtained from a second, and if the owner applies for forestry payments this application is made to a third who processes the application but defers payment until the practice is certified as complete by a forester employed by still another agency. The network is complicated enough in its actions, but more important the multitude of "cooks working on the broth" have the effect of leaving the owner with a confused image of just who is responsible for what. There is no creation in the owner's mind of the idea that there is one agency who deals with his forestry problems. This point was apparent time and time again in this study when the interviewees would refer to a forestry or land use technician as being that "conservation guy who has his office over Maki's Store, etc." Several owners when queried about sources of forestry aid referred to the local game warden. Another individual who had as yet made no attempt to contact sources of aid had gone to the effort of cutting an article out of the local paper which briefly discussed aid and assistance to small woodland owners and referred interested readers to the Agricultural Stabilization and Conservation office or to the Game Division of the Conservation Department, neither of whom have service forestry as a specific responsibility. This failure to identify in the public mind one

agency (in the form of the local office) which specifically has forestry aid and assistance as its prime responsibility is not unique to the Upper Peninsula.

In some circumstances the strong personality of one of the responsible technicians has been great enough to overcome these confusions and to establish himself as the individual to whom the small forest owner immediately comes when seeking forestry advice or assistance. However, this is not always the case. And this writer views the failure to identify "the small forest ownership agency or technician" as one of the major reasons why forestry programs have seemingly been slow to reach the small owner. This is one obstacle in the way of improved forest management on the lands of small owners that, with a certain amount of planning and program reorientation, can be eliminated or greatly reduced.

A high priority should be given to establishing management associations or co-ops. This need is especially strong because of the significant proportion of the owners who do not live on their properties and often do not even live in the study area. Such owners have little time to carry on forestry practices or even supervise such operations, and since this group seems to be growing, their participation could ensure that their lands would not be lost to the forest economy through default. However, as cited earlier, efficient marketing institutions can be

detrimental if no thought is given to planning or encouraging harvests for continued yields. In this respect consulting foresters might very well play a beneficial role in guiding or assisting the operations of these institutions.

Programs of leasing lands for forestry purposes by wood-using industries, under conditions which would permit the owners to continue to satisfy their primary ownership objectives, could serve the same purpose as the management associations. However, private industry usually cannot make the same investment in these ownerships that the public can, especially in the formative stages; and it may be some time before a concern over future timber supplies causes industry to initiate such programs in the Upper Peninsula.

Expanded vocational training and extension efforts in forestry could pay a big dividend in the Upper Peninsula. These, of course, should be well integrated with technical service programs, with boundaries of responsibilities well defined. In many instances Upper Peninsula residents combine employment in various aspects of the recreational industry with woods work as independent loggers or company "jobbers." This often provides very practical dual employment, as the peaks of recreational business are seasonal and logging is carried on during the slack time. Both vocational training and expanded extension programs,

particularly on phases of timber harvesting and marketing, could increase these opportunities by providing better trained individuals to carry on logging and other forestry operations, both on industrial and small private ownerships.

The answer to inequitable (and often irrational as well) patterns of taxation on forest lands would best seem to come from assessments which are related more closely to productive capacity and potential incomes under management. While many small owners receive satisfactions in forms other than that of incomes from timber production and seemingly often are able to take "all that the traffic will bear" in the way of property taxes, it will continue to be difficult to convince such owners that forest management is a bona-fide secondary use of their land as long as property taxes are so completely out of line with income potential. Measures which would provide for the equitable assessment of forest land on the basis of its potential productivity under management would remove one obstacle which undoubtedly could affect the success of an intensive program of encouraging better forest management among these small owners.

Summarizing, this writer believes that forest practices and productivity on the lands of Upper Peninsula small private owners can be improved through public forestry programs that better coordinate and consolidate effort, and, by recognizing the changing nature of the owner and his

environment, establish channels and institutions which are most effective in reaching and influencing him.

Future Research

Future research on small forest ownerships in the Lake States should focus on detailed evaluations of some of our existing forestry aid and assistance programs. From our studies to date it appears that information concerning these programs does not seem to reach many owners--or, if it reaches them, it fails to make any impression or to motivate them to take the positive step of requesting the aid and assistance offered. While our studies have examined in a broad sense the owner's response to and knowledge of some programs, there have been too many extraneous variables, i.e., time, administration of the programs on the local level, motivations of the landowners, etc., to permit an intensive analysis of the efficiency of the programs themselves.

Secondly, from information gleaned from such intensive studies of programs, we need to form tentative action programs which would entail the new or altered features seemingly required. These could be tested by setting up of pilot areas where the new techniques could be applied and their effect studied in detail.

Thirdly and accompanying both of the phases listed above, we need to delve deeper into the characteristics of the owner himself. Here, we may want to avail ourselves

of some of the experimental methods used by psychologists and sociologists, such as projective techniques, to find out how these owners best can be reached and influenced. Our studies have shown us that, contrary to long accepted belief, many of these owners are not primarily motivated by economic factors in the handling of their wooded lands--at least not within certain limits. If that is the case, we can not expect traditional forestry slogans such as, "money grows on trees" or "green gold" to be effective. In view of an increasing proportion of non-resident small forest landowners, perhaps more research may show us that themes such as, "good forestry means good wildlife conditions" or "proper timber harvesting produces more deer browse" may do the job better.

To achieve the goal of increasing forest productivity on small forest ownerships, future programs must fit future conditions, and research as outlined above can help us assess these conditions with more accuracy.

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APPENDIX A

DEFINITION OF OWNERSHIP CLASSES

APPENDIX A

DEFINITION OF OWNERSHIP CLASSES*

Farmer.--An individual owning more than three acres of land, devoting at least three-fourths of his work time to farming, and considering farming his principal occupation and source of income.

Farmer woods-worker.--An individual owning at least three acres of land which he farms but who, in addition, spends more than one-fourth of his work time in logging or other phases of woods employment.

Part-time farmer.--An individual also fitting the previous category, but whose nonfarm employment is other than woods work.

Recreation group.--A collective ownership organized on a nonprofit basis, such as an informal group owning land for hunting or fishing purposes.

Business-professional.--An individual engaged in business, in a recognized profession, or serving as a public official. Other than business entrepreneurs, individuals in this category would be salaried.

Wage-earner.--A nonsalaried worker not classified under any of the previous categories.

Undivided estate.--A category in which ownership is in the hands of the heir or heirs of an unsettled estate in land.

Retired.--A male owner who is retired from active work by reason of age or physical disability.

Housewife-widow.--Any woman not classifiable under any other listed category. Where the ownership is listed under a wife's name but the husband is living and apparently the policy-maker for the property, he will be indicated as owner and his occupation cited.

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*With the exception of those designated as absentee classes, all definitions apply to individuals who make their permanent residence in the Upper Peninsula.

Logger.--An individual who devotes the majority of his time to logging operations in which he acts as the entrepreneur, and who does not qualify as a farmer woods-worker.

Multiple-miscellaneous.--Ownerships listed in the names of two or more individuals, generally members of the same family and not man and wife, in which the purpose for ownership does not fit any of the other group categories such as recreation or undivided estate, or could not readily be determined at the time of the first-stage sample.

Absentee individual.--A masculine owner (or husband and wife co-owners) who makes his permanent residence outside of the Upper Peninsula.

Absentee housewife-widow.--A female owner who owns land as an individual and makes her permanent residence outside of the Upper Peninsula.

Absentee recreation group.--A collective organization whose membership make their permanent residence outside of the Upper Peninsula, organized on a nonprofit basis such as an informal group owning land for hunting or fishing purposes.

APPENDIX B

QUESTIONNAIRES USED FOR INTERVIEWS

Form No. 1
F.L.O. Study (FS-4-el-4-LS)
Upper Peninsula, Michigan

Form approved.
Budget Bureau No. 40-59127

CLASSIFIED FOREST LANDOWNERSHIP QUESTIONNAIRE

Observations on Small Private Ownership in Michigan's Upper Peninsula

1. County _____ Date _____

2. Town _____N_____W Recorder _____

3. Cluster and Owner Number _____

4. Owner _____ Address _____

   Occupation _____ _____
   (preliminary classification)

General information (interviewer verify #5 and #6 before asking #7.)

5. Forest area owned (from public records):

   (a) In county _____ acres (c) Total forest holdings _____ acres

   (b) In study area _____acres (d) Total land holdings _____ acres

Forest area, size of holdings in study area (acres):

(a) ☐ 3 to 39
(b) ☐ 40 to 159
(c) ☐ 160 to 639
(d) ☐ 640 to 1,279
(e) ☐ 1,280 to 4,999

6. Type of ownership (from public records):

(a) ☐ Individual
(b) ☐ Partnership
(c) ☐ Corporation
(d) ☐ Undivided estate
(e) ☐ Club

7. (If non-corporate owner): How many acres of your forest land did you acquire by:

   (a) Purchase from relatives _____
   (b) Purchase from nonrelatives _____
   (c) Tax sale _____
   (d) Inheritance _____
   (e) Foreclosure _____

8. When was the land in the study area acquired? (If more than one tract, indicate year and acreage applicable for each.)

Tract:	A	B	C	D
Year :				
Acres:				

9. FOR INDIVIDUAL OWNERSHIP: Prior to present ownership, how long has this property been in your family? (If more than one tract, generalized for majority of holdings.)

(a) ☐ No previous generation
(b) ☐ One generation
(c) ☐ Two or more generations

10. FOR INDIVIDUAL OWNERSHIP: Do you expect the property to remain in your family during present owner's lifetime?

☐ Yes ☐ No ☐ Don't know

(a) IF YES: Is present owner planning to will property to members of family?

☐ Yes ☐ No ☐ Don't know

(1) IF YES: Are they expected to retain ownership?

☐ Yes ☐ No ☐ Don't know

11. FOR NONCORPORATION OWNERSHIP: How far do you reside from your forest holding? (If more than one tract, indicate miles and acreage applicable to each.)

Tract:	A	B	C	D
Miles:				
Acres:				

12. What is your occupation or principal area of corporate enterprise?

(a) ☐ Farmer
(b) ☐ Farmer - woods worker
(c) ☐ Part-time farmer
(d) ☐ Sawmill operator or enterprise
(e) ☐ Pulp company
(f) ☐ Other forest industry (specify) _____
(g) ☐ Mining company
(h) ☐ Other nonforest industry (specify) _____
(i) ☐ Resort owner or commercial resort
(j) ☐ Recreation group
(k) ☐ Professional worker or businessman
(l) ☐ Dealer in real estate or real estate company
(m) ☐ Wage earner
(n) ☐ Undivided estate
(o) ☐ Retired (former occupation _____)
(p) ☐ Housewife or widow (Husband's occupation _____)
(q) ☐ Other (specify) _____

13. FOR INDIVIDUAL OWNERSHIP: What is your age? _____years

14. What are your main reasons for retaining ownership of this property? (If more than one, list first 3 by priority.)

(a) ☐ General farm use (implies a combination, no single use predominates)
(b) ☐ Sale of timber
(c) ☐ Growing timber for sale (implies objectives beyond one rotation)
(d) ☐ Clear for agriculture
(e) ☐ Pasture
(f) ☐ To cut timber for own consumption
(g) ☐ To cut fuelwood
(h) ☐ Production for owner's sawmill
(i) ☐ Adjunct and part of a resort
(j) ☐ Recreation, summer residence
(k) ☐ Recreation, hunting (individual or group use)
(l) ☐ Sale of minerals or mineral rights (known occurrence, not speculation)
(m) ☐
  (1) ☐ Anticipation of higher values for recreational use
  (2) ☐ Anticipation of higher values in timber
  (3) ☐ Anticipation of discovery of minerals
  (4) ☐ Other (specify) _____
(n) ☐ Inactive
(o) ☐ Property now up for sale
(p) ☐ Other (specify) _____

15. Do you have an idea of the current market value of your property (land plus timber)?

☐ Yes: $_____per acre ☐ No

(a) ☐ IF YES, would you be likely to sell if the market price increased?
  (1) ☐ By 10%
  (2) ☐ By 25%
  (3) ☐ By 50%
  (4) ☐ By 100%
  (5) ☐ Not interested

16. Do you make all decisions regarding the management of your forest property?

☐ Yes ☐ No

(a) IF NO: To whom do you delegate responsibility?
  (1) ☐ Manager
  (2) ☐ Tenant
  (3) ☐ Other (specify) _____

Owner's Woodland Practices

17. Do you or have you owned any open land suitable for tree planting?

☐ Yes ☐ No

(a) ☐ IF NO, skip to question 20.

18. IF OWNER OWNS OR HAS OWNED OPEN LAND SUITABLE FOR PLANTING: Have you planted trees on any of your lands?

☐ Yes ☐ No

(a) ☐ IF NO, why haven't you?_____

_____

(b) ☐ IF YES, how many acres by species and by years? (Complete table below)

Species	Acres Planted by Years				
Total					

(c) ☐ IF YES, what was the purpose of your planting? (If more than one, rank in order of preference.)

(1) ☐ Timber production
(2) ☐ Christmas trees
(3) ☐ Game cover
(4) ☐ Aesthetic value
(5) ☐ Erosion control
(6) ☐ Other (specify) _____

19. Have you sold or used cut timber products or sold stumpage from your woodlands within the last 5 years?

☐ Yes ☐ No

(a) ☐ IF NO, why not? (Check and skip to question 23)

- (1) ☐ Woodlands immature and contain little or no salable material
- (2) ☐ Woodlands contain merchantable products but it would be unwise to cut yet as growth is still vigorous
- (3) ☐ Market price too low
- (4) ☐ Cutting would be incompatible with other woodland uses (specify)_____
- (5) ☐ No markets available
- (6) ☐ No specific reason
- (7) ☐ Other (specify)_____

(b) ☐ IF YES, was the material sold in the form of stumpage or cut products or was it used in the owner's business or for personal use?

- (1) ☐ Sold as stumpage or cut products ENUMERATOR, complete appropriate marketing form at end of this schedule. Skip to question 23.
- (2) ☐ Timber cut for use on property or in owner's business

20. IF CUT FOR USE IN OWNER'S BUSINESS OR PERSONAL USE: Were any cutting controls employed--trees marked prior to cuttings, diameter limitations, species limitations, or other control device? (Check all items which apply.)

(a) ☐ Trees marked prior to cutting. IF SO, by whom?

- (1) ☐ Owner
- (2) ☐ Owner's agent (nontechnical)
- (3) ☐ Employed forester (specify)_____
- (4) ☐ Industrial forester (independent of the buyer or group represented by the buyer)
- (5) ☐ State district forester
- (6) ☐ Buyer or his agent (specify)_____
- (7) ☐ Other (specify) _____

(b) ☐ Cut to diameter limit (specify)_____

(c) ☐ Species limitation (specify)_____

(d) ☐ Other (specify)_____

(e) ☐ Combination of controls (specify)_____

(f) ☐ No control, feller's choice

21. How frequently have these cuttings for home or business use been made?

(a) ☐ Yearly
(b) ☐ Periodically when need arises (less frequently than yearly)
(c) ☐ Other

22. What home-use products have you cut?

(a) ☐ Fuelwood
(b) ☐ Fence posts
(c) ☐ Other (specify) _____

23. Excluding planting and timber harvesting, have you carried out any other work in your woodland? (Check all items which apply)

☐ Yes ☐ No

(a) ☐ IF NO, why not? (If more than one reason, rank in order of preference)

(1) ☐ Does not know of anything that needs to be done
(2) ☐ Interest in holding land does not specifically include the physical condition of the timber
(3) ☐ Feels that there are things that should be done but believes results would not justify costs
(4) ☐ Alternative use for time is greater
(5) ☐ Alternative use of funds is greater
(6) ☐ Does not know how to go about doing woods work
(7) ☐ Lacks funds to buy equipment believed necessary for work in woodlands (specify) _____
_____
_____
(8) ☐ No special reason, hadn't thought about it
(9) ☐ Other (specify) _____
_____

(b) ☐ IF YES, of what type?

(1) ☐ Fencing out livestock
(2) ☐ Plowing fire lines
(3) ☐ Timber stand improvement (girdling, poisoning, noncommercial thinning, pruning)
(4) ☐ Other (specify) _____
_____

Owner's Attitude Toward Credit

24. Do you feel that lack of available funds (credit or source of borrowed money) is any handicap to your handling of your woodlands?

☐ Yes ☐ No

(a) ☐ IF YES, in what manner? (Specify)_____

_____

_____

25. Have you ever considered the idea of borrowing funds on the security of your forest land? ☐ Yes ☐ No

26. Would you be interested in borrowing if this credit was readily available?

(a) ☐ No interested
(b) ☐ Mildly interested
(c) ☐ Strongly interested

27. IF NOT INTERESTED: Why not?

(a) ☐ Opposed to borrowing on general principles
(b) ☐ Opposed to regulatory clause of management of woodland
(c) ☐ Prefers to use other collateral
(d) ☐ Other (specify) _____

28. IF INTERESTED: For what purposes would you wish to borrow?

(a) ☐ Improve or manage forest property
(b) ☐ Other (nonforestry) purposes (specify)_____

_____

Owner's Attitude Toward General Property Tax

29. Can you separate out the portion of your annual property tax levied on your woodland? (Applies only to forest properties under property tax.) ☐ Yes ☐ No

(a) ☐ IF YES, what is the tax per acre? $_____
(b) ☐ IF NO, do you feel that any part of your total tax is borne by the woodland area?

☐ Yes ☐ No

30. Do you believe this tax influences in any way your handling of your woodlands? (Applies only to forest properties under property tax.) ☐ Yes ☐ No

(a) ☐ IF NO, skip to question 34
(b) ☐ IF YES, (specify) _____

_____

_____

Owner's Attitude Toward Yield Taxes

31. ENUMERATOR: If owner qualifies under one of the special alternatives to the general property tax, check which law:

(a) ☐ Woodlot yield tax
(b) ☐ Commercial Forest Reserve Act
(c) ☐ Does not qualify under either law

32. IF OWNER QUALIFIES UNDER SPECIAL TAX LAW: Are you acquainted with the_____ (specify particular law)
☐ Yes ☐ No

(a) ☐ IF NO, would you be interested in registering under such a law). (Enumerator's brief explanation)
(1) ☐ Shows interest
(2) ☐ Shows no interest

(b) ☐ IF YES, have you registered?
☐ Yes ☐ No

(1) ☐ IF NO, why?
(a) ☐ No interest, feels he has no need
(b) ☐ No interest, too much procedure involved
(c) ☐ No interest, believes it would tie up property and hinder his use and decisions
(d) ☐ Objects to provisions of special treatment
(e) ☐ Does not know how to apply
(f) ☐ Intend to register, but hasn't gotten around to it yet
(g) ☐ Other (specify)_____

_____

(2) ☐ IF YES, how much has this affected your handling of your property?
(a) ☐ Insignificantly
(b) ☐ Provided more stability in planning and handling of woodlands
(c) ☐ Woodlands would not have been retained without the assistance underthis law
(d) ☐ Other (specify)_____

_____

_____

Owner's Attitude Toward Agricultural Conservation Payments

33. IF OWNER IS ELIGIBLE FOR ACP PAYMENTS: Have you ever heard of ACP payments?

☐ Yes ☐ No

(a) ☐ IF NO, some of the practices for which payments are made are planting, thinning, and pruning. Payments generally cover a part up to 50% of the cost of these practices. What interest would you have in this program?

(1) ☐ Not interested
(2) ☐ Interested in possible payments, but does not believe practices would be influenced
(3) ☐ Interested in possible payment and believes practices would be influenced
(4) ☐ Other (specify)_____

(b) ☐ IF YES, have you ever applied for and received payments?

☐ Yes ☐ No

(1) ☐ IF NO, why not?

(a) ☐ Does not think he qualifies
(b) ☐ No need for them on his property
(c) ☐ Objects to terms
(d) ☐ Is not in sympathy with this type of public payment
(e) ☐ Other (specify) _____

(2) ☐ IF YES, what practices were you partly reimbursed for doing?

(a) ☐ Planting
(b) ☐ Thinning, pruning, and T.S.I.
(c) ☐ Fencing
(d) ☐ Other (specify) _____

Owner's Experience with Forest Assistance and Service Programs

34. Owners of private woodlands such as yourself can receive on-the-ground help in managing their woodlands from various public and private sources. Are you acquainted with any of these possible sources of assistance? ☐ Yes ☐ No

(a) ☐ IF YES, which ones? (Check all items which apply.)

(1) ☐ Private consulting forester
(2) ☐ Industrial service forester
(3) ☐ State forester
(4) ☐ Extension forester
(5) ☐ Other (specify) _____

35. Has a professional forester or other land-use technician advised you on-the-ground in handling your woodlands?

☐ Yes ☐ No

(a) ☐ IF NO, skip to question 43.
(b) ☐ IF YES, of what type? (Check all items which apply.)

(1) ☐ Private consulting forester
(2) ☐ Industrial service forester
(3) ☐ State forester
(4) ☐ Extension forester
(5) ☐ Other (specify) _____

ENUMERATOR: Complete paired questions 37 and 42 for the particular source of assistance indicated.

36. IF ON-THE-GROUND ASSISTANCE RECEIVED FROM _____ (specify source): What was the nature of this advice or aid?

(a) ☐ Prepared written management plan
(b) ☐ Marked timber
(c) ☐ Provided verbal assistance on marking or cutting timber after visiting woodlands
(d) ☐ Provided verbal assistance on planting
(e) ☐ Provided verbal assistance on marketing
(f) ☐ Other (specify) _____

37. We'd like to have your evaluation of the service. That is, if you followed the advice, what you thought of it; or if you did not follow it, why it was that you didn't?

(a) ☐ Did not fully understand advice given, hence has not followed it
(b) ☐ Doubts technical soundness of advice; hence has not followed it
(c) ☐ Believes too costly to follow it
(d) ☐ Has used aid, but considers results unsatisfactory
(e) ☐ Has followed advice, but is uncertain if it is satisfactory;
(f) ☐ Has followed advice and considers it satisfactory
(g) ☐ Other (specify) _____

38. IF ON-THE-GROUND ASSISTANCE RECEIVED FROM _____ (specify source): What was the nature of this advice or aid?

(a) ☐ Prepared written management plan
(b) ☐ Marked timber
(c) ☐ Provided verbal assistance on marking or cutting
(d) ☐ Provided verbal assistance on planting
(e) ☐ Provided verbal assistance on marketing
(f) ☐ Other (specify) _____

_____

39. If you followed the advice, what did you think of it; or if you did not follow it, why was it that you didn't?

(a) ☐ Did not fully understand advice given, hence has not followed it
(b) ☐ Doubts technical soundness of advice, hence has not followed it
(c) ☐ Believes too costly to follow
(d) ☐ Has followed advice, but considers results unsatisfactory
(e) ☐ Has followed advice, but is uncertain if it is satisfactory
(f) ☐ Has followed advice and considers it satisfactory
(g) ☐ Other (specify) _____

40. IF ON-THE-GROUND ASSISTANCE RECEIVED FROM _____ (specify source): What was the nature of this advice or aid?

(a) ☐ Prepared written management plan
(b) ☐ Marked timber
(c) ☐ Provided verbal assistance on marking or cutting
(d) ☐ Provided verbal assistance on planting
(e) ☐ Provided verbal assistance on marketing
(f) ☐ Other (specify) _____

41. If you followed the advice, what did you think of it; or if you did not follow it, why was it that you didn't?

(a) ☐ Did not fully understand advice given, hence has not followed it
(b) ☐ Doubts technical soundness of advice, hence has not followed it
(c) ☐ Believes too costly to follow
(d) ☐ Has followed advice, but considers results unsatisfactory
(e) ☐ Has followed advice, but is uncertain if it is satisfactory
(f) ☐ Has followed advice and considers it satisfactory
(g) ☐ Other (specify) _____

42. Have you ever had verbal advice from a professional forester without him visiting your property? ☐ Yes ☐ No

(a) ☐ IF NO, skip to question 47
(b) ☐ IF YES, from what agency or group (check all appropriate items

(1) ☐ Private consulting forester
(2) ☐ State district forester
(3) ☐ Extension forester
(4) ☐ Industrial service forester
(5) ☐ Other (specify) _____

REMEMBER: Questions 44 to 46 apply to nature of advice received from sources indicated above.

43. IF ADVICE RECEIVED FROM_____
(specify source): What was the nature of this advice?

(a) ☐ General woodland management
(b) ☐ Tree planting
(c) ☐ Timber harvesting
(d) ☐ Marketing aspects, including prices and/or names of possible buyers
(e) ☐ Insect and disease problems
(f) ☐ Other (specify)_____

44. IF ADVICE RECEIVED FROM_____
(specify source): What was the nature of this advice?

(a) ☐ General woodland management
(b) ☐ Tree planting
(c) ☐ Timber harvesting
(d) ☐ Marketing aspects, including prices and/or names of possible buyers
(e) ☐ Insect and disease problems
(f) ☐ Other (specify)_____

45. IF ADVICE RECEIVED FROM_____
(specify source): What was the nature of this advice?

(a) ☐ General woodland management
(b) ☐ Tree planting
(c) ☐ Timber harvesting
(d) ☐ Marketing aspects, including prices and/or names of possible buyers
(e) ☐ Insects and disease problems
(f) ☐ Other (specify)_____

46. Have you ever obtained written material on woodland management or other phases of forestry? (Check all sources)

☐ Yes ☐ No

(a) ☐ IF YES, from what source?

(1) ☐ Extension forester
(2) ☐ State or county forester
(3) ☐ Industrial service forester
(4) ☐ U. S. Forest Service
(5) ☐ Industrial forestry association (specify)
_____
(6) ☐ County agent
(7) ☐ Other (specify)_____

Owner's Participation in and Attitude Toward Tree Farm Program

47. Do you belong to the American Tree Farm System?

☐ Yes ☐ No

(a) ☐ IF YES, why did you join?

(1) ☐ Is an aid to management through services
(2) ☐ A recognition of good management
(3) ☐ An incentive to better management
(4) ☐ Not specific
(5) ☐ Other (specify)_____

Owner's Attitude Toward Timber and Stumpage Price Reporting

48. Do you feel present sources of information on current stumpage prices and general market information are adequate?

☐ Yes ☐ No ☐ No definite opinion

(a) IF NO, would you be interested in the establishment of an organized timber price and marketing information service?

(1) ☐ No interest
(2) ☐ Mild interest
(3) ☐ Strong interest

49. IF INTERESTED IN TIMBER PRICE INFORMATION SERVICE: Who do you believe should administer and provide such a service?

(a) ☐ County
(b) ☐ State
(c) ☐ Federal
(d) ☐ Industrial source
(e) ☐ Nonprofit private source
(f) ☐ Other (specify)_____

Owner's Attitude Toward More Intensive Forestry Aids

50. IF OWNER HAS NEVER EMPLOYED A CONSULTING FORESTER: Would you be interested in employing a forester on a fee basis to assist you with the management or sale of products from your woodlands?

☐ Yes ☐ No

51. Would you be interested in joining other owners in your area in an association which would hire a forester to jointly manage their forest properties?

☐ Yes ☐ No

52. Would you be interested in having a private forester or company manage your woodlands under good forestry practices for a contracted period of years? (Stumpage would be sold under a cutting plan which would improve or maintain the condition of your woodlands; you would receive 80 percent of the gross sale receipts, while the managing forester or company would receive 20 percent; you would have the option to cancel the arrangement at any given time upon one year's written notice.)

☐ Yes ☐ No

Nonstructured General Opinion Questions

53. For a private woodland owner (such as yourself) what forestry or woodland handling practices do you believe are practical?

_____
_____
_____

54. In what way do you believe your woodlands are important to you?

_____
_____
_____
_____

55. Of what importance, if any, do you feel they have to the local community or area? _____
_____
_____

56. What problems do you have which are directly connected or associated with your woodland ownership? (If none, skip to No. 60)

_____
_____
_____

57. Do you believe similar size woodland owners in this area face these same problems? _____
_____
_____

58. What might be done to correct these problems? _____
_____
_____
_____

59. **ENUMERATOR'S JUDGMENT OF OWNER'S CONCEPT OF TIMBER MANAGEMENT:** (For individual owner or ownership where policy decisions are made by one individual.)

(a) ▱ High concept - indicates recognition of role of planting, intermediate cultural treatments including thinnings, harvesting, and regeneration in the management of forested lands

(b) ▱ Moderately high concept - indicates recognition of most phases of forest management, but concept deficient in a few areas

(c) ▱ Medium concept - indicates recognition of at least several phases of forest management, i.e., planting and plantation care, intermediate treatments and planned harvests

(d) ▱ Moderately low concept - indicates recognition of only one or so phases of forest management, i.e., protection aspect, planting, etc.

(e) ▱ Low concept - indicates almost no recognition of any phase of forest management

ENUMERATOR: Complete Harvesting and Marketing Schedule for commercial sales made within past 5 years.

Form No. 2
F.L.O. Study (FS-4-el44-LS)
Upper Peninsula, Michigan

Form Approved.
Budget Bureau No. 40-59128

CLASSIFIED FOREST LANDOWNERSHIP QUESTIONNAIRE

Information on Timber Harvesting and Marketing in Upper Michigan

Stumpage Sale

1. Cluster and Owner Number _____

2. How many separate sales (separate negotiations involving the same or different buyers) have you made in the last 5 years? _____

3. ENUMERATOR - List the year in which the sale covered by this questionnaire was made (if more than one sale, analyze most recent transaction):

   (a) ☐ 1959
   (b) ☐ 1958
   (c) ☐ 1957
   (d) ☐ 1956
   (e) ☐ 1955

4. IF INDIVIDUAL OWNER: Did you or any member of your family do any of the harvesting operation?

   ☐ Yes ☐ No

   (a) ☐ IF YES, in what manner?

   (1) ☐ Felling and bucking
   (2) ☐ Skidding
   (3) ☐ Hauling
   (4) ☐ Other (specify) _____
   (5) ☐ Mixed phases (specify) _____
   _____

5. IF OWNER OR MEMBER OF FAMILY DID PART OF THE HARVESTING OPERATION: Why didn't you handle the whole operation rather than making a stumpage sale?

   (a) ☐ Lacked necessary equipment
   (b) ☐ Unfamiliarity with markets
   (c) ☐ Lacks experience
   (d) ☐ Inadequate family or hired labor
   (e) ☐ Believe stumpage sale more profitable
   (f) ☐ Other more profitable use for his time
   (g) ☐ Other demands on time
   (h) ☐ Other (specify) _____

6. IF OWNER DID NOT PERFORM ANY OF THE HARVESTING OPERATIONS: Were you interested in doing some of the harvesting operations?

☐ Yes ☐ No

(a) IF YES, why didn't you?

(1) ☐ Stumpage buyer did not offer opportunity
(2) ☐ Lacked necessary equipment
(3) ☐ Inadequate family or hired labor
(4) ☐ Other (specify)_____

(b) IF NO, why weren't you interested in doing some of the harvesting operations?

(1) ☐ Lacked necessary equipment
(2) ☐ Unfamiliarity with markets
(3) ☐ Lacks experience
(4) ☐ Inadequate family or hired labor
(5) ☐ Physically unable
(6) ☐ Believe stumpage sale more profitable
(7) ☐ Other more profitable use for his time
(8) ☐ Other demands on time
(9) ☐ Other (specify) _____

7. In this stumpage sale, what were the logs or bolts to be used for?

(a) ☐ Sawlogs
(b) ☐ Chemical wood
(c) ☐ Veneer logs
(d) ☒ Fuelwood
(e) ☐ Poles or pilings
(f) ☐ Did not know
(g) ☐ Combination of products (specify)_____

8. What species and volumes were included in this sale?

(a) ☐ Knows exactly by species and volume (complete table below)
(b) ☐ Knows species involved, but volume only as an aggregate
(c) ☐ Knows volume as an aggregate, but unsure of all species involved
(d) ☐ Does not know

Species	Volumes by Units		
Totals			

9. Was the sale made on a lump sum or measured basis?

(a) ☐ IF LUMP SUM: Did you have an idea of volume concerned before negotiating sales? (Check and then skip to question 11.)

(1) ☐ No
(2) ☐ Some general idea (specify source)_____
(3) ☐ Define knowledge (specify source) _____

(b) ☐ IF MEASURED BASIS: Where and by whom was measurement made?

(1) ☐ By buyer on delivery at processing or first transfer point
(2) ☐ By buyer at roadside
(3) ☐ By buyer in woods
(4) ☐ By owner or his agent on delivery at processing or first transfer point
(5) ☐ By owner or his agent at roadside
(6) ☐ By owner or his agent in woods
(7) ☐ By owner and buyer both (specify) _____
(8) ☐ Other (specify) _____

10. IF ON A MEASURED BASIS: Do you know what log rule (sawtimber sale), cubic foot, or other unit of description and measurement was used?

(a) ☐ Yes (specify) _____
(b) ☐ No

11. Do you know how to measure volume in a standing tree?

☐ Yes ☐ No

12. Do you know how to measure the volume of cut timber?

☐ Yes ☐ No

13. Do you know what board feet, cubic feet, or cords represent?

☐ Yes ☐ No

14. Were any cutting controls employed--trees marked prior to cuttings, diameter limitations, species limitation, or other control device?

☐ Yes ☐ No

15. IF CUTTING CONTROLS WERE EMPLOYED: What were these controls?

(a) ☐ Trees marked prior to cutting (check appropriate block for individual who did marking)

(1) ☐ Owner
(2) ☐ Owner's agent (nontechnical)
(3) ☐ Employed forester (specify) _____
_____
(4) ☐ Industrial forester (independent of the buyer or group represented by the buyer)
(5) ☐ State forester
(6) ☐ Buyer or his agent (specify) _____
_____
(7) ☐ Other (specify) _____

(b) ☐ Cut to diameter limit (specify) _____
(c) ☐ Species limitation
(d) ☐ Other (specify) _____
(e) ☐ Combination of controls (specify) _____
_____

16. Did you have presale knowledge of stumpage market conditions (apart from that given by buyer)? ☐ Yes ☐ No

(a) ☐ IF YES, on what aspects

(1) ☐ On prices
(2) ☐ On potential buyers, how many _____
(3) ☐ On both

(b) ☐ IF NO, skip to question 17

17. IF OWNER HAD PRESALE KNOWLEDGE ON PRICES: What was the source of your information on prices?

(a) ☐ Newspapers
(b) ☐ State forester
(c) ☐ Extension forester
(d) ☐ Industrial forester (specify) _____
(e) ☐ Consulting forester on paid basis
(f) ☐ County agent
(g) ☐ Neighbor or friend
(h) ☐ Other (specify) _____
(i) ☐ Mixed sources (specify) _____

18. IF OWNER HAD PRESALE INFORMATION ON POTENTIAL BUYERS: What was the source of your information on potential buyers?

(a) ☐ Newspapers
(b) ☐ State forester
(c) ☐ Extension forester
(d) ☐ Industrial forester (specify) _____
(e) ☐ Consulting forester on paid basis
(f) ☐ County agent
(g) ☐ Neighbor or friend
(h) ☐ Other (specify) _____
(i) ☐ Mixed sources (specify) _____

19. Who made the initial contact on the bargaining (letter, phone call, personal meeting)?

(a) ☐ Buyer contacted owner
(b) ☐ Owner contacted buyer
(c) ☐ Doesn't remember

20. Did you have offers (definite statement of terms) from more than one buyer before you made the sale?

☐ Yes ☐ No

(a) ☐ IF YES, why did you finally sell to the buyer chosen?

(1) ☐ Offered highest price
(2) ☐ Had previously dealt with and believed reliable
(3) ☐ Local reputation of reliability
(4) ☐ Would purchase on basis of grade
(5) ☐ Willing to purchase all material offered in sale
(6) ☐ Provided woods employment for self or member of family
(7) ☐ Made advance payment on value of timber
(8) ☐ No definite opinion
(9) ☐ Other (specify) _____

21. Was the sale by written contract or verbal agreement?

(a) ☐ Written contract (b) ☐ Verbal agreement

22. Do you know whether the buyer works for himself or someone else?

☐ Yes ☐ No

(a) IF YES, what was his position?

(1) ☐ Employed (salaried) by pulpmill, sawmill, or other processing plant
(2) ☐ Dealer or concentrator
(3) ☐ Woods jobber who in turn sells to dealer
(4) ☐ Other (specify) _____

23. What do you consider your main reason for selling?

(a) ☐ Timber was mature and "ripe" for cutting
(b) ☐ Timber in need of thinning
(c) ☐ Timber ready for cut on planned cutting cycle
(d) ☐ To salvage wind, insect, or disease-killed material
(e) ☐ A need for emergency funds
(f) ☐ A need for funds to be used in an alternative business opportunity
(g) ☐ A need for funds for personal or family expenditures (non-emergency)
(h) ☐ Land clearance for agriculture
(i) ☐ To provide personal or family wages (specify)_____
_____
(j) ☐ Property tax on timber an excessive burden
(k) ☐ No strong motivation, more or less persuasiveness of buyer
(l) ☐ Other (specify) _____

24. Were you satisfied with the outcome of the sale?

☐ Yes ☐ No

(a) IF NO, why not?

(1) ☐ Satisfied with post-sale condition of the woods but financial aspect of sale unsatisfactory
(2) ☐ Dissatisfied with post-sale condition of woods but felt financial aspect of sale all right
(3) ☐ Dissatisfied both with post-sale condition of woods and financial aspects of the sale
(4) ☐ Sale conditions all right but returns did not justify time and effort
(5) ☐ Other (specify) _____

25. Do you plan to make future sales from your woodland?

☐ Yes ☐ No

(a) IF YES, are they likely to be stumpage or cut product sales?

(1) ☐ Stumpage
(2) ☐ Cut products
(3) ☐ Not sure which

(b) IF NO, why not?

(1) ☐ Stand will not support additional cuts until quite some time in the future
(2) ☐ Returns for time and effort inadequate
(3) ☐ Lacks suitable equipment to handle adequately another sale (specify) _____
(4) ☐ Current markets inadequate
(5) ☐ Need for funds past
(6) ☐ Other (specify) _____

Form No. 3
F.L.O. Study (FS-4-el-4-LS)
Upper Peninsula, Michigan

Form Approved:
Budget Bureau No. 40-59129

FOREST LANDOWNERSHIP QUESTIONNAIRE

Information on Timber Harvesting and Marketing Practices

In Upper Michigan

Sale of Cut Products

1. Cluster and Owner Number _____

2. How many separate sales (separate negotiations) involving the same or different buyers have you made in the last 5 years? _____

3. ENUMERATOR - List the year in which the sale covered by this questionnaire was made (if more than one sale, analyze most recent transaction):

(a) ☐ 1958
(b) ☐ 1956
(c) ☐ 1957
(d) ☐ 1954
(e) ☐ 1955

4. IF INDIVIDUAL OWNER: Did you do all the harvesting operations yourself or did you contract out some of the harvesting operations while retaining control of the sale?

(a) ☐ Did all the harvesting operations to the point of sale
(b) ☐ IF CONTRACTED OUT: Which phases?
  (1) ☐ Felling and bucking
  (2) ☐ Skidding
  (3) ☐ Hauling
  (4) ☐ Other (specify) _____
  (5) ☐ Mixed phases (specify) _____

5. IF OWNER DID CONTRACT OUT ALL OR PART OF THE HARVESTING OPERATION: Why didn't you handle the whole operation rather than contract out some phases?

(a) ☐ Lacked necessary equipment
(b) ☐ Lacks experience
(c) ☐ Inadequate family or hired labor
(d) ☐ Physically unable
(e) ☐ Other more profitable use for his time
(f) ☐ Other demands on time
(g) ☐ Other (specify) _____

6. What were the cut products to be used for?

(a) ☐ Saw logs
(b) ☐ Chemical wood
(c) ☐ Veneer logs
(d) ☐ Fuelwood
(e) ☐ Poles or pilings
(f) ☐ Combination of products (specify) _____

_____

7. What species and volumes by type of products were included in the sale?

(a) ☐ Knows exactly by species and volume (complete table below)
(b) ☐ Knows species involved, but volume only as an aggregate
(c) ☐ Knows volume as an aggregate, but unsure of all species involved
(d) ☐ Does not recall

	Product by Volume Unit			
Species				
Totals				

8. Where and by whom was the product measurement made?

(a) ☐ By buyer on delivery at processing or first transfer point
(b) ☐ By buyer at roadside
(c) ☐ By buyer in woods
(d) ☐ By owner or his agent on delivery at processing or first transfer point
(e) ☐ By owner or his agent at roadside
(f) ☐ By owner or his agent in woods
(g) ☐ By owner and buyer both (specify) _____

_____

(h) ☐ Other (specify) _____

9. What measurement rule was used?

(a) ☐ For saw logs

(1) ☐ Knows rule (specify)_____
(2) ☐ Does not know

(b) ☐ For pulpwood

(1) ☐ Can describe unit of measurement (specify) _____
(2) ☐ Knows only name of unit (specify) _____
(3) ☐ Does not know

(c) ☐ For other products

(1) ☐ Can describe unit of measurement (specify) _____
(2) ☐ Knows only name of unit (specify) _____
(3) ☐ Does not know

10. Where did you deliver your products to the buyer?

(a) ☐ Mill yard
(b) ☐ Concentration yard
(c) ☐ Railroad siding
(d) ☐ Roadside
(e) ☐ In the woods
(f) ☐ Other (specify) _____

11. Did the title to ownership pass to the buyer at this point of delivery?

☐ Yes ☐ No

(a) ☐ IF NO, where did title pass to buyer? _____

_____

12. Were any cutting controls employed--trees marked prior to cutting, diameter limitations, species limitations, or other control device? (Check all items which apply)

☐ Yes ☐ No

13. IF CUTTING CONTROLS WERE EMPLOYED: What were these controls?

(a) ☐ Trees marked prior to cutting (check appropriate block for individual who did marking)

- (1) ☐ Owner
- (2) ☐ Owner's agent (nontechnical)
- (3) ☐ Employed forester (specify) _____
- (4) ☐ Industrial forester (independent of the buyer or group represented by the buyer)
- (5) ☐ State or county forester
- (6) ☐ Buyer or his agent (specify)_____
- (7) ☐ Other (specify) _____

(b) ☐ Cut to diameter limit (specify) _____
(c) ☐ Species limitation
(d) ☐ Owner's decision as to what would make a saleable product
(e) ☐ Other (specify) _____
(f) ☐ Combination of controls (specify) _____
(g) ☐ No control, feller's choice

14. Did you have presale knowledge of market conditions (apart from the ultimate purchaser of the material)?

☐ Yes ☐ No

(a) ☐ IF YES, on what aspects?

- (1) ☐ On prices
- (2) ☐ On potential buyers, how many _____
- (3) ☐ On both

(b) ☐ IF NO, skip to question 17

15. IF OWNER HAD PRESALE KNOWLEDGE ON PRICES: What was the source of your information on prices?

- (a) ☐ Newspapers
- (b) ☐ State forester
- (c) ☐ Extension forester
- (d) ☐ Industrial forester (specify) _____
- (e) ☐ Consulting forester on paid basis
- (f) ☐ County agent
- (g) ☐ Neighbor or friend
- (h) ☐ Other (specify) _____
- (i) ☐ Mixed sources (specify) _____

16. IF OWNER HAD PRESALE INFORMATION ON POTENTIAL BUYERS:
What was the source of your information on potential buyers?

(a) ☐ Newspapers
(b) ☐ State forester
(c) ☐ Extension forester
(d) ☐ Industrial forester (specify) _____
(e) ☐ Consulting forester on paid basis
(f) ☐ County agent
(g) ☐ Neighbor or friend
(h) ☐ Other (specify) _____
(i) ☐ Mixed sources (specify) _____

17. In the sale of your products who made the initial contact on the bargaining (letter, phone call, personal meeting)?

(a) ☐ Buyer contacted owner
(b) ☐ Owner contacted buyer
(c) ☐ Doesn't remember

18. Did you have offers (definite statement of terms) from more than one buyer before you made the sale?

☐ Yes ☐ No

19. Was the sale of your products under the terms of a written or verbal contract prior to your beginning your cutting?

☐ Yes ☐ No

(a) ☐ IF YES, was it verbal or written?

(1) ☐ Verbal
(2) ☐ Written

20. Do you know whether the buyer works for himself or someone else?

☐ Yes ☐ No

(a) IF YES, what was his position?

(1) ☐ Employed (salaried) by pulpmill, sawmill or other processing plant
(2) ☐ Dealer or concentrator
(3) ☐ Woods jobber who in turn sells to dealer
(4) ☐ Retail outlet for product
(5) ☐ Other (specify) _____

21. What do you consider your main reason for selling timber products from your woodlands?

(a) ☐ Timber was mature and "ripe" for cutting
(b) ☐ Timber in need of thinning
(c) ☐ Timber ready for cut on planned cutting cycle
(d) ☐ To salvage wind, insect, or disease-killed material
(e) ☐ A need for emergency funds
(f) ☐ A need for funds to be used in an alternative business opportunity
(g) ☐ A need for funds for personal or family expenditures (non-emergency)
(h) ☐ Land clearance for agriculture
(i) ☐ To provide personal or family wages (specify)_____
_____
(j) ☐ Property tax on timber an excessive burden
(k) ☐ No strong motivation, more or less persuasiveness of buyer
(l) ☐ Other (specify _____

22. Were you satisfied with the outcome of the sale?

☐ Yes ☐ No

(a) ☐ IF NO, why weren't you satisfied?

(1) ☐ Returns for effort inadequate
(2) ☐ Buyer refused to accept all material prepared for sale (specify) _____
_____
(3) ☐ Other (specify) _____

23. Do you plan to make future sales from your woodland?

☐ Yes ☐ No

(a) ☐ IF NO, why?

(1) ☐ Stand will not support additional cuts until quite some time in the future
(2) ☐ Returns for time and effort inadequate
(3) ☐ Lack suitable equipment to adequately handle another sale (specify) _____
_____
(4) ☐ Current markets inadequate
(5) ☐ Need for funds past
(6) ☐ Other (specify) _____