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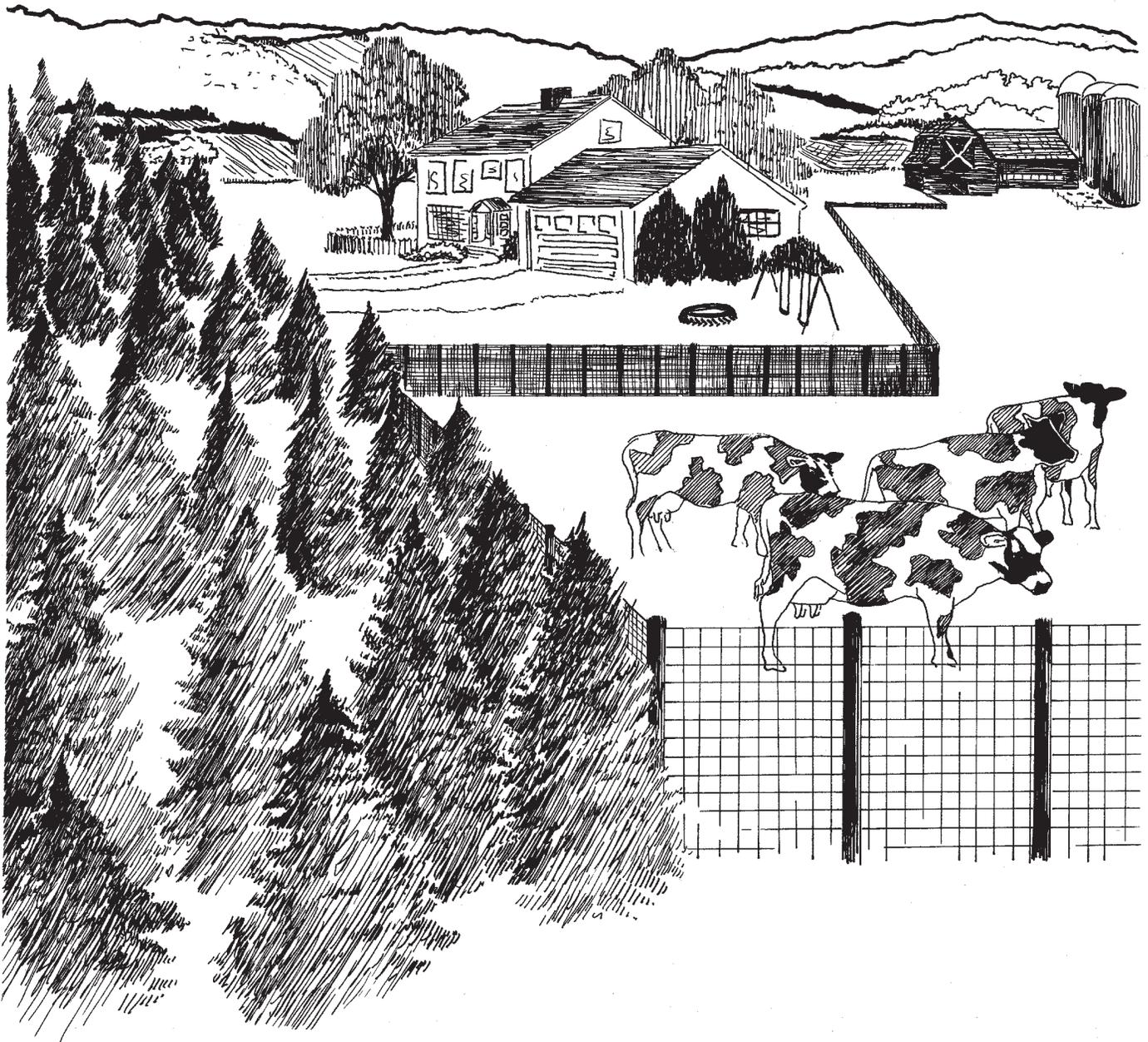
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Wisconsin Private Timberland Owners: 1997

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HIGHLIGHTS

Owner Characteristics

- An estimated 262,234 private timberland owners in Wisconsin hold an estimated 10,811,900 acres of timberland.
- Small timberland holdings predominate. On average, 90 percent of owners have fewer than 100 acres of timberland. A few owners, mostly forest industry, have sizeable tracts of timberland in northern Wisconsin.
- Almost three-quarters of private owners own one tract or parcel of timberland. Ten percent of owners hold timberland in three or more tracts, and they own more than one-third of the State's private timberland.
- Most timberland owners reside within a mile of their land. However, more than one-quarter of owners have timberland that is more than 25 miles from their residence or business.
- Ninety-five percent of owners are individual or joint owners, and they hold 80 percent of the private timberland in Wisconsin. Only 1 percent of owners are corporations, but they hold 14 percent of the private timberland. Other owners hold timberland in partnerships, associations, or trust.
- Individual timberland owners are older than the general population—one-quarter of the owners are 65 years or older and a like proportion are retired. Retirees also hold over one-quarter of the private timberland in the State.
- Corporations and other nonindividual owners account for 5 percent of owners. Forest industry holds the largest share of nonindividual timberland with over 1 million acres.

Owner Objectives and Motives

- Timberland owners hold land for a variety of reasons, primarily as a place for recreation and esthetic enjoyment. Timber production is not an important reason for owning timberland. However, those who own timberland for timber production control 13 percent of the State's private timberland area.
- Benefits derived from owning timberland correspond closely to reasons for owning timberland. Recreation and esthetic enjoyment are the primary benefits of owning timberland. Also, owners expect to receive benefits in the future similar to those they received in the past.

Timber Harvesting Activity

- Although most owners do not hold timberland for timber production, almost half of owners (46 percent) have harvested timber from their land. Owners who harvested timber control 72 percent of the private timberland area.
- Among individual owners, timber is generally harvested because owners believe timber is "mature." More than one-quarter of individual owners have harvested timber for their own use, primarily for fuelwood. Industry owners harvest timber primarily to supply mills and improve stand condition.
- More than half (54 percent) of owners have never harvested timber from their land. These owners hold 28 percent of the private timberland in Wisconsin.
- Many owners do not harvest because they believe scenery would be reduced. Other important reasons for not harvesting are that holdings are too small, or that the owner generally does not believe that timber is of a size or quantity to warrant harvest. Sixteen percent of the owners did not harvest because they are opposed to harvesting; they own 15 percent of the area (454,730 acres) that was not harvested.

Timber Harvest Plans

- Nearly 7 of every 10 owners plan to harvest timber sometime in the future. They own nearly 9 of every 10 acres of private timberland in the State.
- Slightly more than one-quarter of owners say they will never harvest timber. They own 1 of every 10 acres of private timberland. Owners who never expect to harvest timber come from all occupational backgrounds, but retired owners hold the largest share of acreage with no plans to harvest.

Forest Management Assistance

- Slightly more than one-third of all owners do not know an agency or office to contact for forestry management assistance. As size of holding increases, timberland owners are more knowledgeable about sources of professional forest management assistance.
- Twenty-eight percent of owners have requested forestry management assistance. As size of holding increases, owners are more likely to seek and use professional management assistance.

Recreational Use of Timberland

- The majority (63 percent) of owners use their timberland for recreation. Hunting is the most popular activity.
- On timberland belonging to 4 out of every 10 owners, the owner, owner's family, and friends engage in hunting. Other important recreation activities are hiking and birdwatching—about one-third of owners do those activities on their land.
- Nearly three-fourths (72 percent) of owners do not permit the public to recreate on their timberland. They own 58 percent of the State's private timberland.
- Owners who allow public recreation permit a variety of activities, primarily snowmobiling, hunting, and hiking. As size of holding increases, owners are more likely to permit public use of their timberland.
- Forty-four percent of owners post their timberland against public entry; they own 55 percent of private timberland in the State. Primary reasons for posting land are to control or prohibit access and to control hunting.

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DEDICATION TO THOMAS W. BIRCH

Thomas W. Birch, one of the Nation's foremost authorities on forestland owners and their concerns, died of cancer in January 2000. Tom was a wonderful man, dedicated to his Nation, his work, and his family. A native of Illinois, he spent most of his professional career conducting surveys of forestland owners as a Forester with the USDA Forest Service at the Northeastern Station. Over the last 7 years, I had the good fortune to work with Tom on several projects. As I began conducting research in the landowner arena, Tom served as my mentor, giving me guidance and generously sharing his time and wisdom. We were preparing to conduct a survey of the Nation's forestland owners when he died.

As a token of what Tom Birch has meant to the forestry community, to the Nation at large, and to me, I feel that it is fitting and proper to dedicate this publication to him. His memory will be perpetuated through his work and the impressions he left with those who knew him.

Earl C. Leatherberry

Wisconsin Private Timberland Owners: 1997

Earl C. Leatherberry

INTRODUCTION

In Wisconsin, there are 34.8 million acres of land and about half (16 million acres) are forested. Nearly all forest land—98 percent (15.7 million acres)—is timberland. Timberland is land that is producing or capable of producing industrial wood crops and is not administratively or legislatively excluded from timber harvest. Timberland is not associated with urban or rural development and is at least 1 acre in size. (See Appendix for complete definition of terms used in this paper.) Seven of every 10 acres (10,811,900 acres) of timberland in Wisconsin is privately owned (table 1). Private timberland owners are a person, combination of persons, or legal entities such as corporations (including forest industry), partnerships, associations, or trusts that control timberland.

Wisconsin's private timberland provides an array of benefits. For example, in the State, 15 distinct forest habitat groups have been identified that represent a range of ecological conditions (Kotar *et al.* 1999). Private timberland is the foundation that supports the forest products industry, the second largest manufacturing sector in the State, which employs nearly 90,000 workers and has an annual payroll approaching \$3 billion (American Forest and Paper Association 1997). Also, expenditures for travel, licenses, taxes, and other expenses associated with forest-based activities contribute significantly to rural economies. In addition, private timberlands are important recreational resources for activities such as hiking, skiing, hunting, fishing, and visiting second homes. These and other activities bring enjoyment and a sense of accomplishment to many people.

Owners of timberland are a diverse group. Some have held timberland for many years and others only recently acquired it. The amount of timberland owned ranges from an acre to thousands of acres. Some owners use timberland as a source of income, while others view timberland as simply part of the farm or residence. Some are absentee owners who use their timberland as a recreation resource, while others seldom visit the land they own. The diversity associated with timberland owners and the societal benefits derived from those lands raise a number of important public policy concerns. Perhaps most important is ensuring the sustainable flow of timber, and other goods and services such as ecological diversity and recreational opportunities, from private timberland.

To ensure the sustainable flow of goods and services from private timberland and to protect and enhance owners' rights and responsibilities, it is important to have pertinent information about owners. In an effort to better understand Wisconsin's private timberland owners, the Forest Inventory and Analysis Program of the USDA Forest Service surveyed a sample of timberland owners during the winter of 1997. The survey was systematic and conducted throughout the State. The objectives of the survey were to: (1) identify and profile private timberland owners; (2) ascertain their objectives and motives for owning timberland, including benefits received from owning timberland and expected benefits; (3) determine the extent of timber harvest activities, including reason for harvesting or not harvesting, and harvest plans; (4) determine owners' knowledge and use of professional forestry management assistance; and (5) ascertain how owners viewed public use of their land.

The study population was drawn from Wisconsin's private timberland area. An estimate of timberland area was based on a comprehensive inventory of Wisconsin forest resources (Schmidt 1997). As part of the

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AN OVERVIEW OF WISCONSIN'S PRIVATE TIMBERLAND

forest inventory, the name and address of owners whose land was inventoried was recorded. Questionnaires were mailed to a sample of those private timberland owners. The response rate to the questionnaire was 49 percent. Those responses were statistically expanded to estimate the State's population of private owners and the traits and characteristics associated with them. The Appendix contains a more detailed discussion of survey procedures and response rate. Tabular data upon which this report was based are found in the Appendix. Select tables contain sampling errors that are helpful in assessing the reliability of the estimates provided.

In 1984, Roberts *et al.* (1986) surveyed a sample of Wisconsin's nonindustrial private timberland owners. Their survey procedures were similar to those used here. Unfortunately, the survey populations and survey instruments differ significantly, and only limited comparisons of data from the two surveys can be made. Much of the information presented here complements published statistics about the extent of timberland, the amount of wood fiber present, its physical condition, and the growth and removal rates associated with Wisconsin's timberland resources (Schmidt 1997).

To facilitate discussion and to discern regional differences in owner characteristics, Wisconsin is divided into five Forest Survey Units along county boundaries (fig. 1). Each unit represents homogeneous areas based largely on physiographic conditions and the industrial/economic character of the region. The northern region of the State—the Northeastern and Northwestern Survey Units—is predominantly rural: few towns have resident populations of more than 10,000 people. The region is more than 70 percent forested and contains 51 percent of the State's private timberland area. Private timberland is intermixed with public forests, mostly National Forests, with some State and County forests, and forests owned by Native American tribal groups. Maple-beech-birch and aspen-birch are the dominant forest cover types. The forests of the region are also characterized by boreal forest species, with spruce, fir, and northern white-cedar having a significant presence. Poletimber-size stands predominate throughout the region. Industrial roundwood production is concentrated there, accounting for 70 percent of the State's total production (Hackett and Whipple 1997).

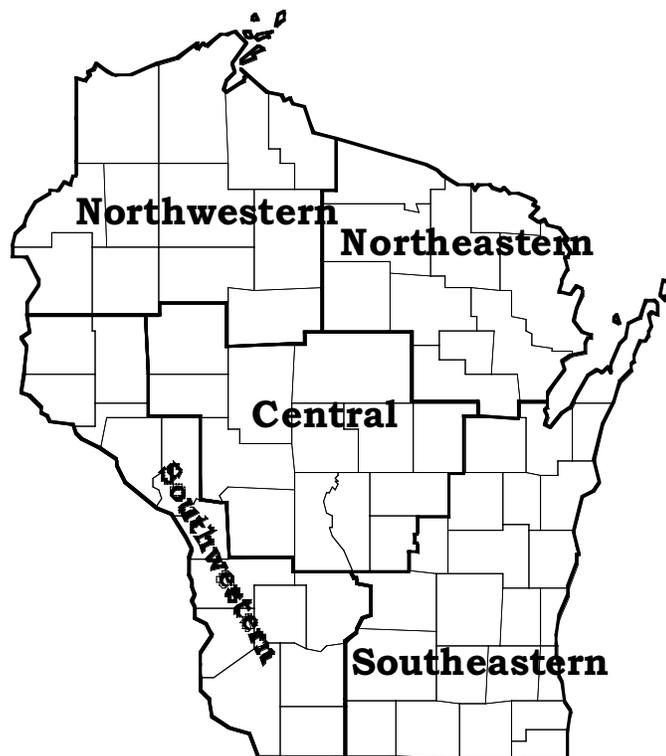


Figure 1.—Forest Survey Units of Wisconsin, 1997.

The Central Unit is mostly rural, with 43 percent of the land in forests. Small towns dot the landscape and several larger urban manufacturing centers anchor the economy. Seventy-eight percent (2,394,900 acres) of the Central Unit's timberland is privately owned. County governments own most of the remainder. The forest cover is mostly hardwoods—the oak-hickory (32 percent) and the maple-beech-birch types (25 percent) predominate, and the aspen-birch cover type has a significant presence. Pines also occupy a significant portion of the landscape, mostly in plantations (Roussopoulos and Leatherberry 1992). The Central Unit provides 20 percent of the State's industrial roundwood production (Hackett and Whipple 1997).

The southern region of the State—the Southwestern and Southeastern Units—has extensive agricultural and urban/industrial development. However, forests occupy a significant portion of the landscape. In the Southwestern Unit, one-third of the land is forested. Oak-hickory and maple-beech-birch are the dominant forest types, together occupying about 80 percent of the unit's timberland. In the more developed and populated Southeastern Unit, 13 percent of the land is forested. There the maple-beech-birch forest type is the predominant cover, occupying more than one-third of the timberland. The oak-hickory and the elm-ash-cottonwood cover types have a significant presence, each occupying 25 percent of the Southeastern Unit's timberland area. Timber stands in the southern region contain mostly sawtimber-size trees. In both units, over 90 percent of the timberland is privately owned.

PRIVATE TIMBERLAND OWNERS

Estimated Number of Private Timberland Owners

An estimated 262,234 private owners hold 10,811,900 acres of timberland in Wisconsin. The estimate of owners was derived using a sampling procedure similar to the one used to estimate the State's timberland area (Schmidt 1997, also see Estimation Procedures in the Appendix). The estimate of owners has an associated sampling error of 6.2 percent, or $\pm 16,258$ owners. This means that if the study were repeated, two out of three times the resulting estimate of owners would be between

245,976 and 278,492. However, owners with fewer than 10 acres of timberland may have been under sampled by chance, resulting in a possible underestimation of their number. A comparison of sampling errors associated with owners holding fewer than 10 acres and owners holding 10 or more acres reveals sampling errors of 17.5 percent ($\pm 16,024$ owners) and 3.0 percent ($\pm 5,120$ owners), respectively. This means that the estimate of 91,565 owners who own fewer than 10 acres is between 75,541 and 107,589 owners. The estimate of owners with 10 or more acres is probably more precise. At 3.0 percent, the sampling error associated with the estimate of 170,669 owners holding 10 or more acres places the number between 165,549 and 175,789 owners.

Size of Private Timberland Holdings

There are a large number of small-tract timberland owners and a small number of large-tract owners (table 2, fig. 2). About three-fourths of owners (76 percent) hold about one-fourth (28 percent) of the private timberland. More than one-third (35 percent) of owners hold fewer than 10 acres of timberland, accounting for only 3 percent of the private timberland acreage. Conversely, 10 percent of owners hold more than half (51 percent) of the private timberland area. The larger holdings, those over 500 acres, account for 17 percent of the private timberland area and are held by less than 1 percent of owners.

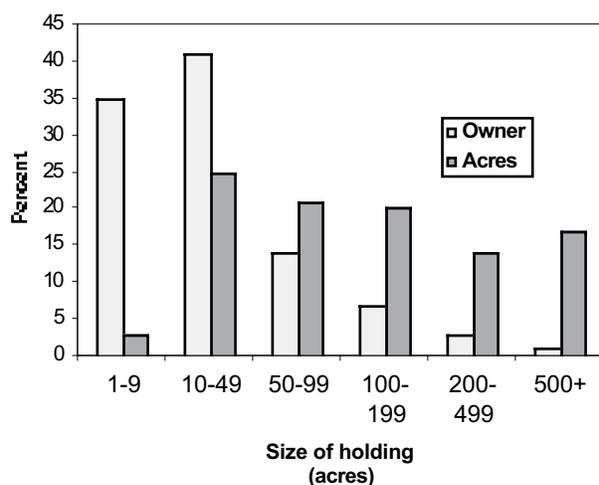


Figure 2.—Distribution of private owners by size of holding, Wisconsin, 1997.

Larger holdings are more common in the Northeastern Unit and smaller ones are more common in the Southeastern Unit (fig. 3). For instance, in the Southeastern Unit, 70 percent of owners hold about one-quarter of the timberland in holdings of fewer than 20 acres. In the Northeastern Unit, owners with more than 500 acres hold about 30 percent of the private timberland. In the Northwestern Unit, a majority of owners (58 percent) hold timberland in holdings of fewer than 20 acres. However, 1 percent of owners (about 400 owners) hold one-fourth of the unit's timberland in holdings of 500 acres or larger. The two northern units contain 9 of every 10 acres of timberland held by owners who have more than 1,000 acres.

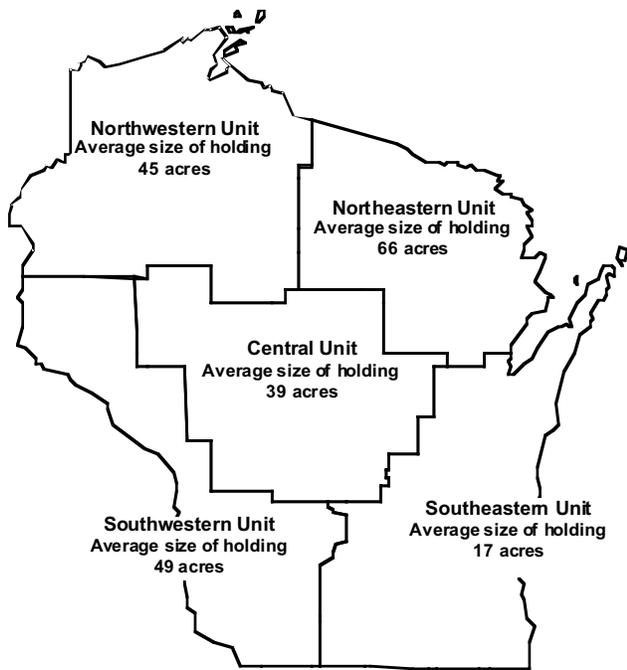


Figure 3.—Forest Survey Units and average size of private timberland holding, 1997, Wisconsin.

Owners with fewer than 50 acres hold nearly one-third of the State's private timberland. In the Central and southern units, small noncontiguous tracts are often intermixed with other land uses, especially agriculture. Change in the size of the State's dairy herd has resulted in some pastureland converting to timberland, but many of the small tracts cannot be effectively managed as sustainable timber-producing units with most traditional methods

(Sampson and DeCoster 2000). As a consequence, small tracts are increasingly becoming susceptible to the pressure of fragmentation—the dividing of timberland into smaller holdings. Also, suburban expansion has resulted in timberland near urban centers being more vulnerable to fragmentation.

Timberland in the northern units is also under fragmentation pressure, mostly from second home and other recreational developments. However, vast tracts of timberland in the north are held in contiguous tracts. These timberlands, when transferred from one owner to another, generally remain intact. Most are enrolled in the State's Managed Forest Law, which reduces property taxes until timber harvesting takes place (Wisconsin Statutes, Chapter 77). The Managed Forest Law tends to keep large tracts intact as timber producing units (Barrows and Rosner 1982).

Number of Tracts Owned

Single-tract owners predominate (table 3, fig. 4). Seventy-three percent of owners hold timberland in single tracts. Owners with multiple tracts, however, hold the majority of timberland acreage. Seventeen percent of owners hold timberland acreage in two tracts, accounting for 22 percent of the private timberland. Just 10 percent of owners hold timberland in three or more tracts, but they own 35 percent of the private timberland acreage.

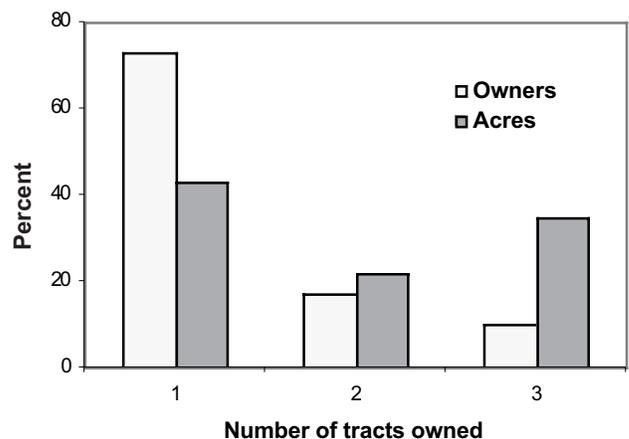


Figure 4.—Distribution of private ownership units by number of tracts owned, Wisconsin, 1997.

The Northwestern Unit has the largest share of one-tract owners: 82 percent have a single tract of timberland. The preponderance of one-tract holdings in the Northwestern Unit is reflected in the relatively small average size of holding (45 acres). Many of the holdings are used for second or seasonal homes, which generally do not require extensive tracts of timberland.

Although single-tract owners predominate throughout the State, owners holding multiple tracts are fairly common in all regions. In the northern units, owners with multiple tracts, on average, have larger holdings. To illustrate, owners in the Northeastern Unit holding three or more tracts have an average of 263 acres of timberland; in the two southern units, owners with three or more tracts have an average of just 70 acres. Throughout the State, owners of multiple tracts tend to hold larger acreages than do single-tract owners as shown below:

Number of tracts owned	Average size of holding (acres)
1	24.1
2	54.6
3+	140.8

Distance of Timberland from Residence

The nearest tract of timberland is within a mile of the primary residence or place of business of 58 percent of owners (table 4). Ten percent of owners have timberland located between 2 and 25 miles of their residence or business. An additional 27 percent of owners have timberland located more than 25 miles from their residence or business. Owners residing more than 25 miles from their holdings have 24 percent of the private timberland in Wisconsin. Nineteen percent of owners, controlling an estimated 1,705,762 acres, reside more than 100 miles from their timberland holdings.

In the two southern units, about three-fourths of owners in each unit are resident owners—they reside within a mile of their timberland (table 4). In the Central Unit, 60 percent of owners are resident owners. In the two northern units, fewer than 50 percent of owners are resident owners; about one-third of owners reside more than 100 miles from the timberland they own. The regional differences in

place of residence and location of timberland are related, to some extent, to why people own timberland. In the southern part of Wisconsin, timberlands tend to be associated with agriculture holdings. In the northern and central regions of the State, timberland is a more dominant aspect of the landscape. Its vastness attracts both timber harvesters and people who desire forest retreats. (The reasons people own timberland are discussed later.)

For one-tract owners the distance from residence to timberland is more clear than for multiple-tract owners. For one-tract holdings, 55 percent of owners are resident owners; they hold 52 percent of the timberland in this category (table 5). On the other hand, 66 percent of the multiple-tract owners are resident and, while they hold 58 percent of the timberland in this category, the portion of the acreage close by is not defined. For instance, some multiple-tract owners view their farthest tract as being less than a mile from their residence. These owners probably live on a tract of land and have other tracts nearby.

SOCIAL CHARACTERISTICS ASSOCIATED WITH OWNERS

Owner Types

Individual or joint owners make up 95 percent (248,654) of Wisconsin private timberland owners, and they control 80 percent (8,637,803 acres) of the State's private timberland (table 6). Individual or joint owners are single persons, or two or more individuals, such as spouses or others, not including family corporations. Individual or joint owners hereafter are referred to as individual owners. Partnerships make up 3 percent of owners and collectively control 4 percent of the private timberland. Corporations make up only 1 percent of owners but collectively control 14 percent (1,504,922 acres) of the private timberland. Club/association and/or land held in trust account for the remaining 1 percent of owners, and each category holds about 1 percent of the private timberland in Wisconsin.

Individuals own the largest share of timberland in all units. Corporate-owned timberland is concentrated in the north where about 20 percent of the private timberland in each of the two northern units is corporately owned. Much of the corporate-owned timberland in

the north is owned by forest industry. Also, club/association-owned timberland is likely to be in the north. Most of that timberland is held for recreational purposes.

Timberland connected in some way to farming is held by more than 30 percent of owners (79,473 owners) and amounts to nearly one-third (3,360,998 acres) of the private timberland in Wisconsin (table 7). Virtually all timberland connected with farming is held by individual owners.

The average size of holding differs significantly among type of owner, as shown below:

Type of owner	Average size of holding (acres)
Individual	34.7
Partnership	61.8
Corporation	381.4
Club/assoc.	105.4
Other	89.0

Selected Characteristics of Individual Timberland Owners

Individual timberland owners are employed in a variety of occupations: 21 percent are white collar workers, 18 percent are blue collar workers, and 13 percent are farmers (table 8). In their response to our questionnaire, 38 percent of owners indicated their timberland is connected with farming, but only 13 percent listed their occupation as farmer. Perhaps some retired owners hold timberland that is connected with farming, and some retired farmers may still view themselves as farmers. Indeed, the most distinguishing factor among individual owners is that retirees account for over one-fourth of individual owners, and as a group, they hold nearly one-fourth of the private timberland in Wisconsin.

Among individual owners white collar workers, along with farmers, tend to have larger tracts (fig. 5). The average size of holding for those owners is 42 acres. Retired persons hold an average of 35 acres of timberland. Blue-collar and service workers, on average, hold 33 acres of timberland.

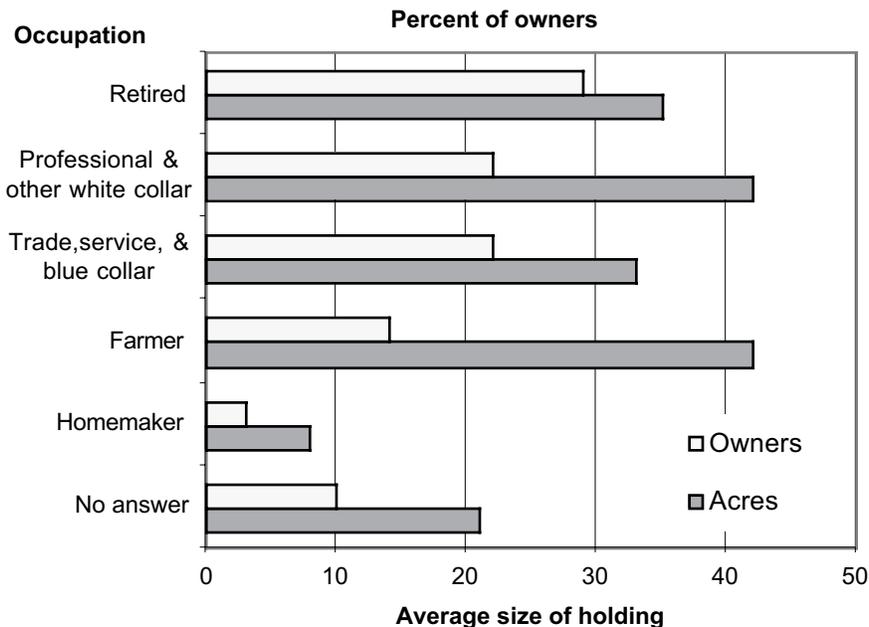


Figure 5.—Distribution of individual owners by occupation and average size of timberland holding, Wisconsin, 1997.

Because a large share of individual timberland owners are retired, it follows that timberland owners are older than the general population—25 percent are 65 years or older whereas only 13 percent of the general population is 65 years or older (U.S. Bureau of the Census 1997) (table 9). Young timberland owners—those under 45 years of age—are only 16 percent of owners (40,687 owners). About half of the “young owners” hold timberland in the Central and Southwestern Units. Age of owner does not appear to be related to amount of timberland owned.

Wisconsin’s individual timberland owners have slightly higher household incomes than the State’s general population. In 1995, the median household income in Wisconsin was \$40,955 (U.S. Bureau of the Census 1997). Forty-two percent of the individual timberland owners have annual incomes greater than \$40,000 (table 10). Fourteen percent have incomes greater than \$75,000. Nineteen percent of owners did not provide information about income.

Selected Characteristics of Corporate and Nonindividual Timberland Owners

Corporate and nonindividual timberland owners (partnerships, clubs/associations, or miscellaneous others) make up 5 percent (13,580 owners) of Wisconsin’s timberland owners (table 11). Combined, these organizations hold an estimated 2,174,097 acres of timberland (table 12) or one-fifth of all private timberland in Wisconsin. Corporations account for 29 percent of the nonindividual owners, and they hold 14 percent of the State’s (1,504,922 acres) private timberland area. Partnerships are 55 percent (7,461 owners) of the nonindividual owners and own 4 percent (461,405 acres) of all private timberland. Eighty percent of corporate-owned timberland is in northern Wisconsin and amounts to 20 percent of the timberland in the region. An estimated 883 owners are organized as clubs/associations, and they hold an estimated 93,064 acres of timberland. Club/association-owned timberland is concentrated in northern and central Wisconsin.

Forest industry is the largest corporate or nonindividual holder of timberland with 1,025,710 acres (table 12). Other firms hold timberland and may manage it for timber production but do not own primary wood-using

mills. Those firms are classed as “land investment companies,” and include owners holding land as fiduciaries for the benefit of others. The more than 600 land investment companies in Wisconsin hold 90,402 acres of timberland. Organizations that hold timberland for sport and recreation own 238,797 acres of timberland. Most of the organizations that own timberland for sport and recreational purposes are organized as partnerships or clubs/associations. These organizations range from structured memberships to informal groups.

Tenure Among Owner Groups

Over time, a given tract of timberland changes owners. Some is bought or sold; owners die and pass some to heirs; some is given to others; and some is lost through legal entanglements. The majority (58 percent) of timberland owners, holding 69 percent of the private timberland in Wisconsin, first acquired their land before 1980. These owners can be classed as “long-term” owners. The remaining 42 percent of owners, classed as “recent” owners, first acquired timberland since 1980, and they control about one-third of the private timberland (table 13). Forty-two percent of the recent owners can be classified as “new” owners—those who acquired timberland since 1990. The new owners make up 18 percent of all owners and control 11 percent of the private timberland. The two-decade period from 1970 to 1989 was a period of high turnover in timberland owners and timberland area. Nearly half of owners first acquired 44 percent of the State’s private timberland area during the period.

In general, corporate and other nonindividual owners hold timberland longer than individual owners (table 13). For instance, more than half (51 percent) of the timberland—over 1 million acres—held by corporate, and other owners, was obtained before 1950. Conversely, only about 7 percent of the timberland owned by individual owners was obtained before 1950.

Tenure patterns differ by regions. Since 1980, turnover in ownership has been greater in the southern units and the Central Unit than in the northern units. In the Central and Southwestern Units, more than half of owners acquired timberland since 1980. In the Southeastern Unit, 42 percent of owners acquired

timberland since 1980. In the Northeastern and Northwestern Units, 37 percent and 29 percent of owners, respectively, acquired timberland since 1980 (table 14).

OWNER OBJECTIVES AND MOTIVES

Reasons for Owning Timberland

Recreation and esthetic enjoyment are the primary reasons many people own timberland. Forty-five percent of owners, controlling 41 percent of the private timberland (4,460,524 acres), own timberland primarily for recreation and esthetic reasons (table 15, fig. 6). In northern and central Wisconsin, approximately one-third of the timberland area in each of the three units is owned primarily for recreation (table 16). About one-third of owners in the two northern units and nearly

one-fourth in the Central Unit reside more than 100 miles from the timberland they own. Many nonresident owners have seasonal or second homes, primarily for recreation and esthetic enjoyment.

More than one-fourth (26 percent) of owners hold timberland primarily because it is part of residence or farm. These owners hold an estimated 2,148,694 acres, or 20 percent of the private timberland acreage. Timberland that is associated with farming is concentrated in the south. Approximately 4 of every 10 acres of timberland in the two southern units are owned because they are associated with farming. Some of that timberland is in so-called "back forties"—land too steep or too wet for row crop farming. Other farm-associated timberland is threatened by residential or commercial encroachment. Farm-associated

Reason for owning

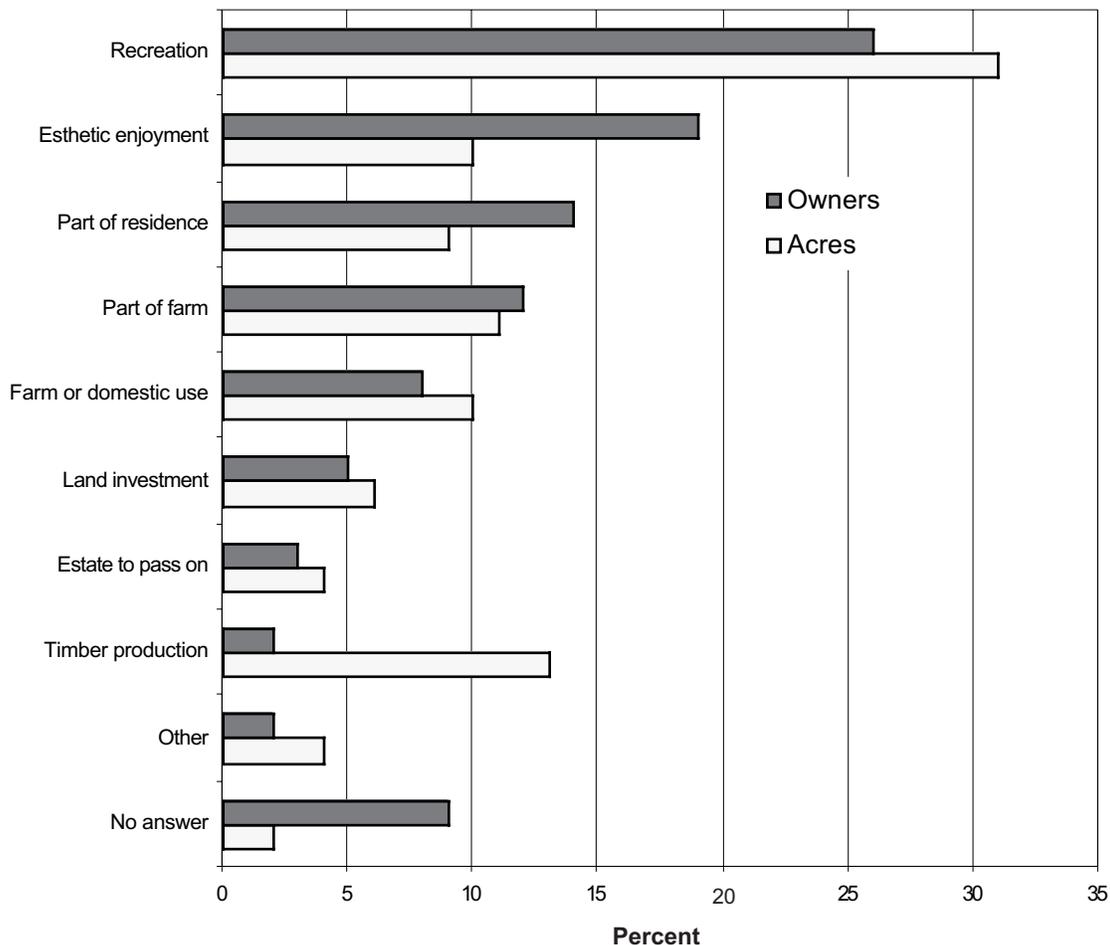


Figure 6.—Primary reason for owning timberland, Wisconsin, 1997.

woodlots provide farmers with a ready source of wood for fence posts, fuelwood, building material, recreation, and hunting opportunities.

Land investment is the primary reason for owning timberland for 5 percent of owners holding 6 percent of all private timberland. Holding timberland as an investment may be considered a passive activity and does not preclude using the land for other purposes, such as recreation or esthetic enjoyment. Also, some owners holding land as an investment may secure current income from the land through such activities as leasing the land to hunters. Owning timberland as an investment is more prevalent in the Northwestern and Southeastern Units. In each of those units, approximately 1 of every 10 acres is held as an investment.

Timber production is generally not the primary reason people own timberland. Only 2 percent of owners hold timberland primarily to produce timber. Although few in number, owners holding land primarily for timber production control 13 percent of all private timberland. In the Northeastern Unit, one-fourth of the private timberland area is owned primarily for timber production. In the Northwestern Unit,

15 percent of the private timberland is owned for timber production. Fewer than 2,000 owners in the two northern units have over a million acres of timberland owned for timber production.

Primary Benefits Received

Recreation (25 percent) and esthetic enjoyment (43 percent) were the primary benefits 68 percent of owners received in the last 10 years from owning timberland (fig. 7, table 35). Only 3 percent of owners, holding 15 percent (1,569,200 acres) of the private timberland in Wisconsin, indicated that timber income was the primary benefit received from owning timberland. Land value increase was the primary benefit for 6 percent of owners. It is unclear if those owners sold timberland to capture the benefit of increased value, or if the increase was a "paper gain." If the increased land value represents a paper gain, at some point in the future those owners may want to capture the increase by selling some or all of their timberland. Owners who reported that an increase in land values was the primary benefit derived from owning timberland hold 8 percent (817,328 acres) of the private timberland in Wisconsin.

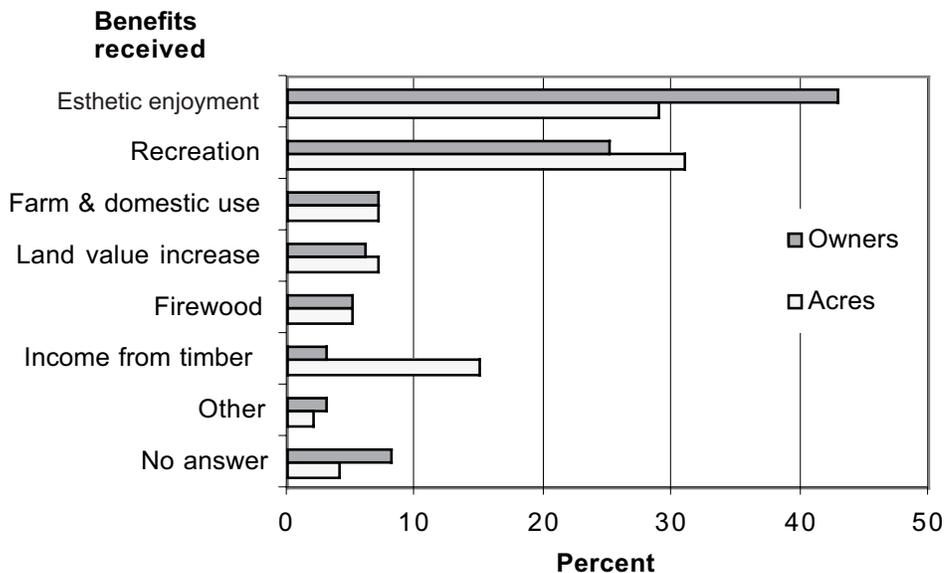


Figure 7.—Primary benefits received in last 10 years from owning timberland, Wisconsin, 1997.

Primary Benefits Expected

Wisconsin timberland owners expect future benefits of owning timberland to be similar to those they presently receive (table 36). As in the present, recreation and esthetic enjoyment are important expected benefits while timber income ranks low. Only 2 percent of owners expect in the next 10 years that timber income will be derived from their timberland. Owners expecting timber income, however, hold 15 percent (1,668,366 acres) of the State's private timberland area. Some owners look forward to increased land value. Eight percent of owners, holding 11 percent of the timberland, expect land value increase to be a primary future benefit.

TIMBER HARVEST ACTIVITIES

Timber Harvest History

Although timber production was not an important reason for owning timberland, timber harvesting was conducted by 46 percent of owners (120,150 owners) (table 17). Owners who harvested timber own 72 percent (7,809,968 acres) of the State's private timberland. The vast majority of harvesters—96

percent—are individual owners. Corporations and partnerships account for only 3 percent of the harvesters, but they hold 22 percent of the acreage owned by harvesters.

Retired owners predominate among harvesters, accounting for 28 percent of them (table 18). Although relatively active harvesters, the majority (53 percent) of retired owners have yet to harvest timber from their land. Owners whose occupations are classed as white collar make up 22 percent of the harvesters. Approximately half of white collar owners have harvested timber and half have not. Farmers make up 19 percent of harvesters. Unlike retirees and white collar owners, most farmers (67 percent) are harvesters. Many owners in other occupational groups harvest timber, but they own relatively few acres of timberland. Corporate, partnership, and other organizational owners make up only 4 percent of harvesters, but as a group they hold about one-fourth of the acreage owned by timber harvesters. Timberland owned by organizational owners, when combined with timberland owned by retired owners and farmers, accounts for two-thirds of all timberland owned by harvesters.

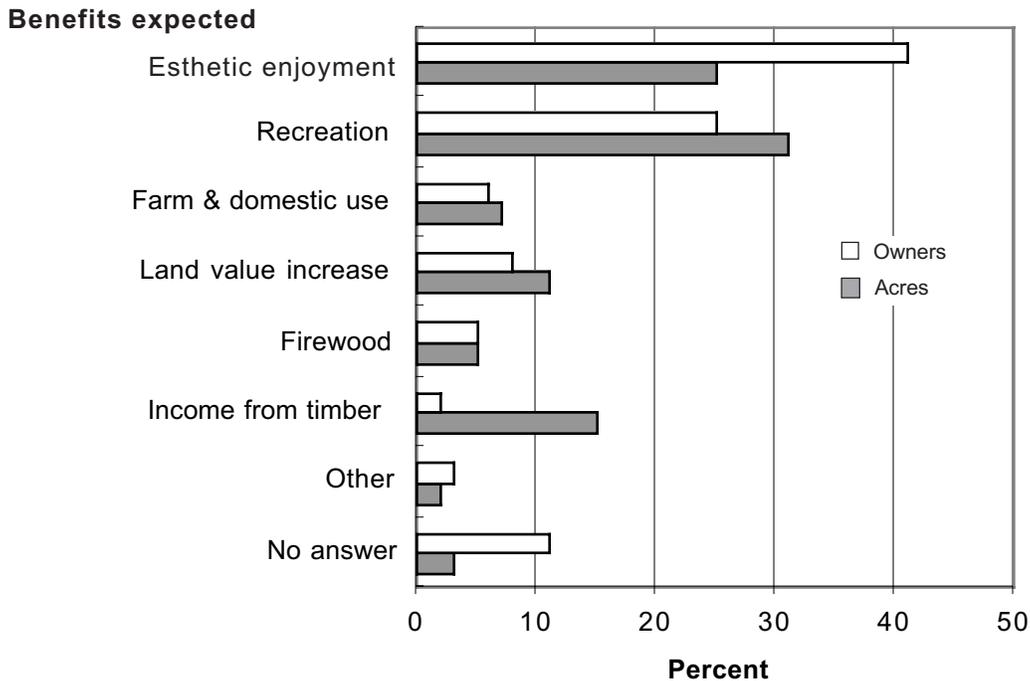


Figure 8.—Primary benefits expected in the next 10 years from owning timberland, Wisconsin, 1997.

Harvesters are fairly active—8 of every 10 harvesters have conducted a harvest within the past 7 years (table 19). Older owners are the most active harvesters, as shown in the tabulation below:

Age of harvester (years)	Percent of individual harvesters
Under 34	2
35-44	18
45-54	21
55-64	23
65+	32
No answer	4
Total	100

Reasons for Harvesting Timber

Harvesters generally remove timber when they feel it is mature or for their own use (table 20). It should be noted that the term “mature” is self-defined. Other owners harvest timber to improve stands. Cultural treatments, or stand improvement activities, were the most important reason to harvest for 11 percent of owners who removed timber. Owners who conducted some form of cultural treatment own an estimated 1,196,766 acres. An additional 12 percent of harvesters removed timber as part of a timber salvage operation. Although most owners of timberland ranked recreation or esthetic enjoyment as a primary benefit of owning timberland, few (1 percent) harvested timber to improve recreation or esthetic values.

The reason for harvesting timber varies by region. In the Southeastern Unit, relatively few owners harvest timber because they believe it is “mature” (table 20). Instead, harvesters in the Southeastern Unit tend to harvest for their own use, for stand improvement, or as part of a timber salvage operation. Obviously, as stands “mature” more owners may choose to harvest. In the Northwestern Unit, relatively few owners harvest timber as part of a cultural treatment operation. Although few in number, those owners control 306,610 acres, or 26 percent, of the timberland owned by harvesters in the unit. A similar situation exists in the Northeastern and Central Units. Forest industries own considerable acreage in each of these units and tend to perform cultural treatments more than other owners.

Form of ownership appears to be related to why owners harvest timber (table 21). Forest industry harvests timber primarily for two reasons—timber is mature, and for own use. Farmers and other individual owners, on the other hand, harvest for a number of reasons, but as in forest industry many harvest because timber is mature. Again, the term “mature” is self-defined. Probably, some owners believe “mature” stands are at risk of decay or other damages and will decline if not harvested. Through harvesting, owners may feel they capture the monetary value associated with “mature” stands. However, few owners profess to harvest timber because they are offered a good price or because they need money. Only 11 percent of the harvesters, controlling 9 percent of the timberland owned by harvesters, harvest timber for monetary reasons. This finding is somewhat perplexing because the prices paid for stumpage have increased rather dramatically over the past decade. For example, Stier and Hacker (2000) report that in 1989, one county forest in the Northwestern Unit sold over 19,000 cords of timber for approximately \$5 per cord. In 1994, approximately 18,000 cords of timber were sold for approximately \$15 per cord. Clearly, standing timber has become more economically valuable.

The decision to harvest involves the consideration of a number of factors, including personal values, stand condition, perceived current and future monetary value of stands, markets, and owner tenure. Most individual owners need to face the decision to harvest probably only once because of land area they own and because of forest ecology and natural histories of stands in the region. Although timber production is not their primary reason for owning the land, many owners apparently view harvesting as the best action to take when they think timber is “mature.” Harvesting because stands are mature is especially prevalent in northern Wisconsin where aspen stands predominate. Aspen generally grows in even-aged stands, and pathological rotation is about 55 to 60 years. Owners who have “mature” stands probably conclude that they must either sell the timber, or see it decline.

Products Harvested

Fuelwood is the product most often harvested—78 percent of harvesters cut fuelwood for their personal use (table 22). Fuelwood

cutters, on average, own fewer than 50 acres of timberland. They are among the one in four households in Wisconsin who burn fuelwood (May and Mace 1996). In addition to burning wood for home-heating, some burn wood in fireplaces for pleasure (May and Mace 1996). An additional 6 percent of harvesters cut fuelwood to sell. The harvesting of fuelwood probably does not adversely impact industrial wood supplies because most of the harvested fuelwood comes from non-growing-stock trees—dead trees and harvest residues, such as limbs and branches. Only about a third of the harvested fuelwood in Wisconsin comes from growing-stock trees (May and Mace 1996).

Mainly, forest industry and owners with more than 500 acres of timberland harvest saw logs and pulpwood (table 22). The harvesting of saw logs and pulpwood by forest industry is done to supply mills and is an ongoing activity. But, for individual owners, especially small-tract owners, the harvesting of saw logs or pulpwood occurs infrequently. Indeed, as size of holding increases, the proportion of owners that harvest saw logs and pulpwood increases.

Reasons for Not Harvesting Timber

Owners have a variety of reasons for not harvesting timber. Among owners who have not harvested, the most prevalent reason is concern that harvesting would reduce scenery (table 23). Eighteen percent of owners have not harvested because they believe harvesting would reduce scenery. The belief that harvesting would reduce scenery corresponds closely to the primary reasons for owning timberland. The high proportion of owners holding timberland primarily for recreation and esthetic enjoyment reflects the value of scenery. An additional 16 percent of those who have not harvested feel that their timber is in a small area. Those owners hold less than 1 percent of the private timberland area in Wisconsin. Fourteen percent of those who have not harvested have not done so because of factors associated with volume or tree size. Some owners who cited volume or size as a factor in not harvesting may harvest in the future if trees increase in size to where owners think harvesting is warranted, or if market conditions are favorable for harvesting. Incidentally, only 3 percent of those who did not

harvest feel market or low prices is a reason for not harvesting. Nine percent have not harvested timber because they believe that if they did the value of the land for recreation or hunting would be reduced.

Moral or ethical reasons influence some owners not to harvest. Sixteen percent of nonharvesters are opposed to harvesting. Owners who oppose harvesting control 15 percent (454,730 acres) of the timberland owned by nonharvesters. Opposition to harvesting is most prevalent in the Southeastern Unit where more than one-half of all owners who oppose harvesting have land. Among the different groups of owners, individual owners tend to oppose harvesting more than others (table 24). Fifteen percent of the individual owners who have not harvested and 19 percent of the farmers who have not harvested are opposed to harvesting. A few owners—1 percent of the nonharvesters—have not harvested because they distrust loggers. Owners who distrust loggers hold 4 percent (118,916 acres) of the timberland owned by nonharvesters. Landowner discontent with loggers stems mostly from misunderstandings about timber price or harvesting techniques and from observations of logger activities on someone else's land (Leatherberry 1998).

Timber Harvest Plans

More than half of owners have not harvested timber. Some feel strongly about not harvesting. Twenty-six percent of owners never intend to harvest timber, and they hold 1 of every 10 acres of private timberland (table 25). Most owners, however, plan to harvest. Nearly 7 of every 10 owners plan to harvest timber from their land sometime in the future. Forty-two percent of owners plan to harvest timber within the next 10 years, and they hold 64 percent (6,866,957 acres) of the private timberland in Wisconsin (fig. 8). An additional 26 percent of owners intend to harvest but are not sure when the harvest will take place; they hold 25 percent (2,695,116 acres) of the private timberland. Owners who intend to harvest hold nearly 9 of every 10 acres of private timberland in the State.

Larger tract owners are more likely to plan to harvest than smaller tract owners (table 25). Sixty-one percent of owners holding between 1 and 49 acres of timberland intend to harvest;

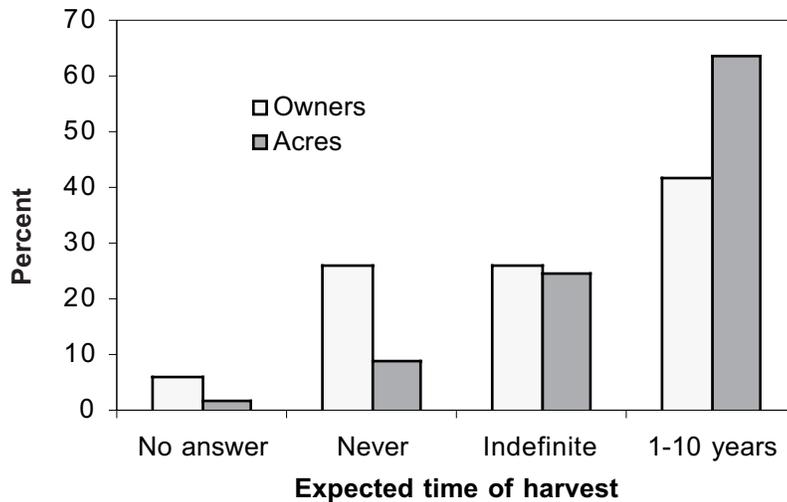


Figure 9.—Distribution of owners and acres by intention to harvest, Wisconsin, 1997.

the figure increases to 90 percent for the 50- to 499-acre size class and to 96 percent for owners holding more than 500 acres.

As pointed out previously, few owners profess to hold timberland for timber production. Instead, nearly half own timberland primarily for recreation and esthetic enjoyment. Among those owners, nearly three-quarters plan to harvest timber (table 26). Planning to harvest timber and owning land for recreation/esthetic reasons may appear to be incongruous. The apparent dichotomy of purpose may have several explanations. Some owners may view recreation/esthetic values and timber production as complementary—a stand managed for saw logs can provide esthetic values and recreational opportunities for much of its existence. Other owners who own larger tracts may remove timber from the more remote stands and preserve the timber near homes and favorite places. Perhaps, the dichotomy is best explained by the proclivity of owners to harvest timber when they believe it is mature.

Some owners plan to not harvest timber. Twenty-six percent (68,383) of the nonindustrial timberland owners, controlling over a million acres of timberland, expect that they will never harvest timber (table 27). Owners who expect not to harvest timber are mostly individual, nonfarm owners and are from all occupational backgrounds. However, retired owners hold the largest share of acreage

(347,046 acres) where there are no plans to harvest (table 28). Many retired owners have fixed incomes, and although they may not have plans to harvest timber, economic necessity may force some to harvest. Also, the retired owners who plan not to harvest hold only an average of 13 acres—an area usually not economical to manage for timber production.

Owners self-proclaimed as “homemakers” generally do not plan to harvest timber—85 percent of them indicated they never would harvest. However, the average size-of-holding for those owners was only 2 acres. Many are widowed. As retired owners continue to age, the group classed “homemakers” may expand and the area of timberland in the class is likely to increase.

A caveat should be observed when relying on owner’s stated harvesting plans. What owners plan to do can change with time. For example, Stone (1970), who studied timber harvest behavior of landowners in the Upper Peninsula of Michigan, observed that the owners’ stated interest in harvesting timber and their actual behavior did not match. Much more harvesting was done than owners’ statements alone would suggest. And, property changes ownership, which can affect harvesting plans. Carpenter (1985) observed that a majority of new owners in the Upper Peninsula held different attitudes about owning timberland

than previous owners. New owners were more likely to harvest timber.

FORESTRY MANAGEMENT ASSISTANCE

Knowledge of Management Assistance Resources

Knowledge of management assistance resources is not universal; just over half of owners (53 percent) knew of agencies or offices they could contact for forestry management assistance (table 29). Forest industry owners, as expected, were knowledgeable about the sources of information for forestry management assistance. Nonindustrial private owners with more than 500 acres of timberland were also knowledgeable about sources to contact for management assistance. Indeed, it appears that size of holding is related to knowledge of management assistance. Among owners with more than 500 acres, only 6 percent did not know whom to contact for forestry management assistance. Conversely, among owners with less than 50 acres, 40 percent of them did not know whom to contact for forestry assistance.

About one-third of nonindustrial private owners would seek assistance from public agencies. Seventeen percent of owners would contact State employees (i.e., Department of Natural Resources). Only 4 percent of owners controlling 7 percent (712,028 acres) of the private timberland would use a private consulting forester (table 29). However, large-tract owners are more likely to contact a consulting forester and to contact multiple sources for assistance than are smaller tract owners. In general, those who would contact nongovernment foresters for assistance hold larger tracts (500 acres or more) of timberland.

Use of Management Assistance

Forestry management assistance has been obtained by 28 percent of owners (74,480) (table 30). These owners hold 56 percent (6,091,242 acres) of the private timberland. As the size of holding increases, timberland owners are more likely to obtain management assistance (fig. 9). For instance, only 21 percent of small-tract (1-49 acres) owners have obtained assistance. Conversely, 86 percent of the nonindustrial private owners who hold more than 500 acres have requested assistance. Because logging small tracts is not

economically feasible, some small-tract owners may not use outside assistance because they do not intend to harvest.

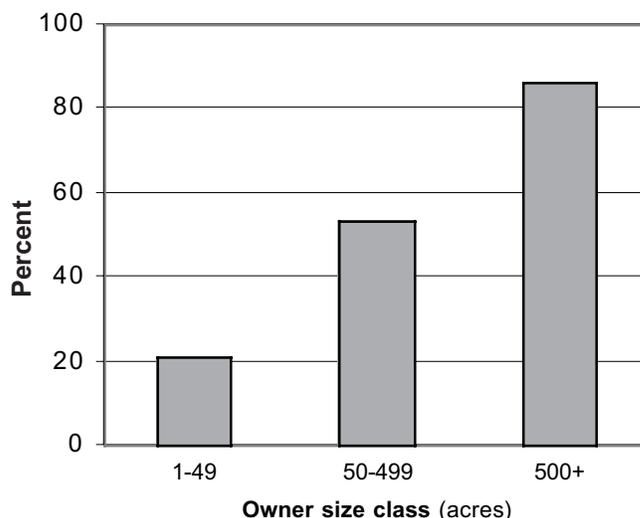


Figure 10.—Percent of nonindustrial owners obtaining forest management assistance by owner size class, Wisconsin, 1997.

The proportion of owners obtaining management assistance ranges from 17 percent of owners in the Northwestern Unit to 44 percent in the Southwestern Unit (table 31). Owners who have obtained assistance control more than 50 percent of the private timberland acres in each of the units, except the Southeastern Unit, where they control 43 percent of the private timberland.

Owners who have obtained assistance have larger holdings than owners who have not, as shown below:

Unit	Average size of holding	
	Assistance obtain	No assistance obtained
	(acres)	
Northeastern	110	40
Northwestern	145	28
Central	76	26
Southwestern	73	30
Southeastern	25	14
State	82	26

The size of holding has obvious implications for the delivery of assistance to landowners. Statewide, owners who have requested assistance have an average of 82 acres of timberland. However, in the Central Unit and the two southern units, the average size of holdings for those who requested assistance is smaller than the statewide average. The relatively smaller tract size, in conjunction with the larger number of owners involved, presents a greater challenge in delivering assistance. In the Southeastern Unit, 4,000 more owners obtained assistance than in the Northwestern Unit. However, owners in the Northwestern Unit who obtained assistance have more than four times as much timberland as owners in the Southeastern Unit.

Owners who obtained forestry assistance sought help with a variety of forest related concerns (table 32). The assistance obtained by owners was generally related to forestry management or information about forestry. Some owners obtained information about wildlife, which exemplifies the strong relation between forest ownership and recreation.

In terms of obtaining assistance in the future, 31 percent of owners who have obtained forestry assistance would contact State personnel; these owners have 2,166,203 acres (table 33). Multiple sources would be used by an additional 31 percent of those who have obtained assistance. An additional 9 percent would contact a consultant forester; these owners have 483,052 acres of timberland. Not surprising, nearly half the owners (84,366 owners) who have not obtained forestry management assistance did not know whom to contact for assistance; they control 2 million acres of timberland. Among those owners who have not obtained assistance, 13 percent indicated that in the future they would contact State personnel.

COMPARING OWNERS WHO HAVE HARVESTED TIMBER TO THOSE WHO HAVE NOT

Wisconsin timberland owners are closely split between those who have harvested and those who have not. Timberland owners generally profess that timber production is not an important reason for owning timberland—only 2 percent of owners say they hold timberland primarily for that reason. Instead of timber

production, many owners are interested in recreation and esthetics. Even among timber harvesters there are strong feelings about recreation and esthetics. Many harvesters, like those who do not harvest, hold timberland for recreation or esthetic reasons (table 34). Both harvesters and those who do not harvest tend to view benefits of owning timberland similarly (table 35). For example, a significant proportion of both harvesters and non-harvesters view recreation and esthetic enjoyment as primary benefits received from the timberland they own. For some who have not harvested, land value increase is an important benefit, while fewer harvesters view land value increase as a primary benefit. Timber income is an important benefit to just 5 percent of harvesters, but those harvesters hold one-fifth of the timber owned by harvesters. Both harvesters and those who have not harvested have similar expectations about the benefits they will receive from owning timberland (table 36). Approximately two-thirds of both harvesters and those who have not harvested expect recreation and esthetic enjoyment to be important future benefits of owning timberland.

Wisconsin timberland owners, like timberland owners in other places, are motivated by multiple objectives. However, it is clear that one of their primary objectives for owning timberland is recreation and esthetic enjoyment. An obvious question is: if people hold timberland primarily for recreation and esthetic values, why do some harvest and others do not? Findings presented here suggest that a stable proportion of owners in the larger size classes, mostly nonindividual owners, regularly harvest timber. Many individual owners harvest timber because they perceive there is a biological need (i.e., mature timber) or because they need the timber for their own use. Few individual owners say they harvest timber primarily for monetary gain. Just 11 percent of harvesters cut timber because they “needed money” or were “offered a good price.” Instead, most individual owners harvest because stands are “mature.” Does this propensity to harvest when stands are “mature” suggest that many nonharvesters will harvest at some time in the future? Many probably will because about 7 of every 10 owners indicated they plan to harvest. While not responding solely to economic forces when harvesting, many owners apparently are not willing to forego harvest when they perceive stands are mature.

Essentially, at stand “maturity,” the utility of the stand for recreation and esthetics is decreased while the economic value is maximized. At this juncture many owners decide to harvest. Stone’s (1970) research supports this conjecture. He postulates that an owner eventually becomes aware of the timber value and conducts a harvest. Thus, over time, particularly as long as a forest management or pathological rotation period, most private timber would probably be available for harvest.

Obviously some factors preclude or limit the likelihood of harvest. For instance, some species may not be in demand or have a ready available market. Much of the timber harvest in Wisconsin occurs in the northern part of the State where size of holding has obvious implications for timber management. The predominance of smaller holdings in southern Wisconsin and the Central Unit may impede timber harvest. Indeed, 16 percent of owners who did not harvest indicated they did not harvest because the area they owned was too small. Further, about one-third of owners holding fewer than 50 acres of timberland indicated they would never harvest timber from their land. For some owners, moral or ethical values play a role in the decision to not harvest. Sixteen percent of those who have not harvested are opposed to harvesting. A greater proportion of owners in the southern part of the State are opposed to harvesting than in the northern part. Apparently, owners who oppose timber harvesting expect to derive greater utility from the recreational or esthetic enjoyment of their land than from income or products gained from a harvest.

Harvesters are more likely to request forestry management assistance than owners who do not harvest (table 37). Four of every 10 harvesters have requested forestry assistance and they collectively own over 5 million acres of timberland. Conversely, only 18 percent of those who have not harvested have requested forestry management assistance. For those owners requesting assistance, harvesters own an average of 103 acres, while those who have not harvested own just 41 acres of timberland.

RECREATIONAL USE OF PRIVATE TIMBERLAND

Recreational Use and Availability

Recreational use of timberland was reported by 7 of every 10 owners, holding 87 percent of private timberland in the State (table 38). Twenty-one percent of owners, holding 39 percent of the timberland, indicated that the public is permitted to use their land. Nearly three-fourths (73 percent) of owners, controlling 58 percent of the private timberland, do not allow the public to recreate on their timberland.

Sixty-three percent of owners personally use their land for recreation, or have family or close friends that do (table 39). Hunting is the most popular recreation activity, reported by an estimated 42 percent of owners that control 51 percent of the private timberland acreage. Hiking is also popular. Thirty-six percent of owners indicated that they, or their family or friends, hiked on the land. These owners control 42 percent of the private timberland. Birdwatching is another popular form of recreation among timberland owners. Thirty-two percent of owners holding 31 percent of the private timberland acreage birdwatch or allow their friends on their land to birdwatch. Picnicking, camping, snowmobiling, and winter sports are all important recreational activities engaged in by owners, their family, and friends, on owner’s timberland. Of course, timberland can support multiple activities, and many forest-based recreation pursuits can be engaged in concurrently.

The 21 percent of owners who allow the public to use their timberland for recreation are most likely to permit snowmobiling and hunting (table 40). Snowmobiling is allowed by 6 percent of owners who hold 17 percent of the private timberland. Hunting is allowed by 5 percent of owners who hold 17 percent (1,871,736 acres) of the private timberland acreage. Owners who allow public access permit most recreational activities, but many appear hesitant to allow camping.

The more timberland owned, the more likely the owner is to permit public use of the land (table 41). For instance, only 11 percent of owners who hold between 1 and 19 acres allow

the public to recreate on their land. This is probably due to the small size of the property, much of which is associated with a residence or is part of the farm. Conversely, 53 percent of owners holding 500 or more acres permit public use. In Wisconsin, a relatively small number of owners holding large tracts of timberland allow public access, including most of the large corporate owners. Under the Managed Forest Law, owners who enroll over 80 acres of timberland must open their land to the public.

The different types of recreation that take place on private timberland indicate how diverse recreational opportunities are on Wisconsin's timberland. Many of the activities take place on the same land. However, more acreage is used for hunting than for other activities. Eighty percent of private timberland acreage (8,709,741 acres) held by 55 percent of owners is used for hunting. However, on most land where hunting occurs, the public is not allowed to hunt (table 42). Only 13 percent of owners, controlling 3,217,740 acres of timberland (30 percent of the private timberland area), allow others to hunt on the land they own. Forty-two percent of owners, controlling 51 percent of the timberland, hunt but do not allow the public to hunt on the land they own.

Restricting Access by Posting

Forty-four percent of owners holding 55 percent of the private timberland acreage indicated they post their land against public entry (table 43). The percentage of timberland area posted is higher in the populated central and southern parts of Wisconsin than in the north. In the Central Unit, owners of 68 percent of the timberland indicated they post their land; in the two southern units owners of about two-thirds of the timberland said they posted. In the Northeastern Unit, 52 percent of the timberland is posted; in the Northwestern Unit, only 40 percent of the timberland is posted. The higher proportion of land posted in central and southern Wisconsin reflects the land-use activities and population expansion occurring there. It is likely that the expansion of suburbia into rural areas in southern and central Wisconsin has contributed to increased posting. In the more rural north, where posting is less prevalent, much of the land posted is probably associated with absentee

owners. Many of those owners reserve the use of their land to only family and friends. But the posted land in the region is offset by the larger tracts of forest industry timberland where public use is allowed.

Sixty-seven percent of owners who hold 500 acres or more of timberland reported that they post their land (table 44). However, these owners hold only 34 percent of the land in that class. Conversely, 33 percent of owners in this size class, controlling 61 percent of the acreage, do not post their land. In general, the small timberland holders (owners of between 1 and 9 acres) and the large timberland holders (owners of more than 500 acres) post less of their land than do owners holding between 10 and 500 acres.

Reasons for Posting Timberland

The most common reason owners post their land is to prohibit access—17 percent of owners with 21 percent of the timberland post for that reason (table 45). Another important reason is to control hunting. Nine percent of owners, with 13 percent of the timberland, post to control hunting. As pointed out earlier, 20 percent of the timberland owners allow the public to use their land. But, some owners who allow public use also post their land, which suggests that just because land is posted does not mean it is not available for public use. Among owners who permit public use of their land, 44 percent also post their land. The most common reason for these owners posting their land is to prohibit access, control hunting, and control access. Owners who allow use and post their land probably do so to screen potential land users and to encourage them to use the land responsibly.

CONCLUSION

Private timberland owners are a diverse group motivated by multiple objectives. However, timber production, recreation, and esthetic enjoyment are clearly important reasons for owning timberland. In terms of timber production, there are basically three types of timber harvest behavior among Wisconsin timberland owners. A relatively small body of owners hold large tracts of timberland primarily for timber production, and they harvest on a regular basis. A large body of owners hold timberland primarily for recreation or esthetic

values, but many of them harvest timber when they feel it is “mature.” Those owners are not generally motivated by money to harvest. And finally, a small group of owners plan never to harvest timber.

Will the mix of owner behaviors result in a sustainable flow of both timber and nontimber services from private timberland into the future? This is an important question, one complicated by the reality that it is difficult to predict timber harvest behavior from past behavior (i.e., Stone 1970, Carpenter 1985, Bliss and Grassl 1987). This is especially applicable for nonindustrial owners. The condition of Wisconsin’s forest and the kinds of harvest behaviors exhibited by Wisconsin timberland owners, however, suggest that for the near term—say 20 to 30 years out—adequate timber supply will flow from private lands. There are three prime reasons for this conclusion. First, net growth exceeds harvest in Wisconsin. Much of the growth is on young trees, as is shown in the expansion of sapling-seedling-size stands between 1983 and 1996 (Schmidt 1997). Second, owners with large holdings use their land primarily for timber production and that land base has remained fairly stable over time, even when ownership is transferred. Third, the fact that many owners harvest timber when they believe it is mature indicates that a significant acreage may be continuously available for harvest. However, for the long term—beyond 30 years—the flow of timber from private lands is not clear, especially from nonindustrial timberland. In the future, the consequence of increased numbers of smaller holdings may have an adverse affect on the flow of timber because owners of smaller holdings are less likely to harvest timber. Also, economies of scale make forestry management more difficult for small landowners. Timber supply may be adversely affected by a lack of forestry management on individual private lands. In our study, more than one-third of the State’s private timberland owners did not know about sources that could provide forestry management assistance. Smaller tract owners generally have little knowledge of technical forestry management, and few seek assistance or advice on managing their timberland.

Because owners hold timberland for seemingly divergent reasons (i.e., timber production versus recreation and esthetics), incentive programs must be effectively targeted. Kline *et*

al. (2000) note that programs that offer cost-sharing or technical assistance to increase timber production may have only limited success if a significant proportion of owners do not possess strong timber objectives. Programs with the greatest potential for success target those owners whose objectives are most consistent with program goals. Therefore, present and near term timber production incentives should be directed to the larger tract owners because they are more likely to harvest timber. Providing individual assistance to many small-tract owners who are subjected to diseconomies associated with harvesting small tracts may not be a productive use of limited funds and resources. However, to assist small landholders interested in forestry management, public agencies and forest products industries should encourage and promote cooperative, integrated forestry management among smaller tract holders. The Wisconsin Woodland Owner Association has been effective in promoting forestry management among smaller timberland owners. Further, in the future, new harvesting technologies may lead to the efficient harvesting of smaller holdings.

Timberland is an important source of recreational opportunities. Most owners hold timberland primarily for recreation or esthetic enjoyment. Only about one-quarter of owners allow the public to use their land for recreation; the remaining owners exclude the public from their land. In general, however, larger tract owners tend to permit public access to their land. Larger tract owners are more likely to participate in State tax incentive programs that require owners to allow public access to the land. The incidences of posting to restrict access to timberland are greatest in central and southern Wisconsin. In these areas, farmers historically owned most timberland, and they traditionally permitted others access to their land. However, farmers have been divesting their holdings at an alarming rate. For example, in 1956, farmers owned 6,372,000 acres of timberland (Stone and Thorne 1961). By 1997, farmer-owned timberland had declined to 1,467,750 acres. Transfer of farms to nonfarmers leads not only to less harvesting, but also to fragmentation of tracts. Pressure to divide timberland into smaller holdings is increasing due to expanding residential and recreational developments. These smaller tract owners apparently perceive significant opportunity costs associated with

allowing public access to their land. As a consequence, posting and use restrictions are likely to increase.

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APPENDIX

Study Methods

The sampling scheme used in the survey of Wisconsin timberland owners was derived from the sampling design used in the Wisconsin forest inventory of 1996 (see Schmidt 1997). Sampling intensity was increased from a single intensity to a double intensity level. The goal was to provide a sampling error of less than 10 percent for the total timberland by county from the increased sampling intensity. Such sampling was made possible through the cooperation, assistance, and additional funding provided by the State of Wisconsin.

In this study, owners surveyed were selected from a sample of randomly distributed points of timberland on aerial photographs of the entire State of Wisconsin. The exact ground location of selected timberland points on the aerial photographs was determined, and the owner of the land where the point occurred was identified from legal descriptions at county land departments or other reliable sources. A total of 9,165 timberland field plots were identified in Wisconsin. These were systematically distributed within each of the five survey units. The name and mailing address of plot owners were arranged by unit and plot number, and were recorded into a file of owners.

Timberland plots that were publicly owned were removed from the file. The resulting file of owners served as the survey sample base. The file of private timberland owners, however, contained duplicate names and unusable addresses. Many large ownerships were identified that had multiple plot locations. As a result, it was necessary to define the survey sample base further. All duplicate names and addresses were identified. The first identified listing for an owner remained in the file and all other listings for the same owner were removed, leaving a single entity for multiple listings. Also, all addresses deemed unusable were removed. The final definition of the survey population included those 3,171 private timberland owners in Wisconsin, where forest inventory plots were established on timberland they owned. A continuous listing of owner names and addresses was arranged by survey unit, and a questionnaire was sent to each owner.

The questionnaire was developed from ownership studies done in the Northeastern States by Thomas Birch, and was revised to accommodate unique Wisconsin data requirements. A copy of the questionnaire is included in the Appendix. A questionnaire was mailed to owners with an enclosed postage-paid, addressed return envelope. A cover letter explaining the purpose of the study was mailed with the questionnaire to each selected owner; those who did not respond in approximately 3 weeks received a second letter and questionnaire. To check for nonresponse bias, a sample of owners who did not reply to the mail questionnaire was randomly selected from each unit to be interviewed over the phone using a modified version of the mail questionnaire. Analysis of responses from the 45 completed phone interviews did not reveal a nonrespondent bias, and those respondents are included in the final data tabulations.

After the initial mailing and one mail followup, 1,754 questionnaires were returned. Of the returned questionnaires, 414 were not usable primarily because the owner had either moved and could not be located, had died, had sold the land, or had returned the questionnaire without answers. These owners were removed from the sample base. Therefore, the information presented is based on the responses of 1,340 owners representing a 49-percent response rate when unusable replies are excluded. The findings from the sample population were statistically expanded to estimate the total population of private timberland owners and the acreage they own in Wisconsin. Responses to the questionnaire provided the basis for the estimates presented in this report. The design of the study is land oriented, and the probability that a particular forest ownership would be sampled depended on the rate of sampling and the acreage of timberland owned.

Estimation Procedures

The estimate of total acreage of timberland in private ownership was obtained from the forest resources inventory. The area of timberland in large acreage ownerships was then subtracted to form a separate stratum. The remaining private timberland area in each unit was divided by the number of small acreage field plots represented by the remaining valid

questionnaires to determine the area represented by each plot.

Since the sampling scheme is area-based, there is a low probability of inclusion for owners of small parcels of timberland. To estimate the total number of ownership units in Wisconsin, it was necessary to weigh the number of ownership units obtained in the sample. The procedure can be stated as:

$$N = \frac{T_p}{N_r} \sum \frac{1}{A_i}$$

Where:

- N = estimated number of private ownership units in the sampling strata.
- T_p = the acres of timberland in the sampling strata.
- N_r = number of respondents in the sampling strata.
- A_i = acres owned by individual respondents.

The N then equals the estimated number of private ownership units in the State or unit. This is an unbiased estimate of the total number of ownership units that hold timberland in Wisconsin. Owners having more than one survey plot on their land were sent only one questionnaire, and their response was weighed proportional to the acreage they own. The private timberland base and number of private timberland owners in each Forest Survey Unit in Wisconsin are shown below:

Unit	All private ownerships	
	(acres)	(number)
Northeastern	2,432,300	36,918
Northwestern	3,165,700	70,661
Central	2,394,900	61,749
Southwestern	1,888,200	38,149
Southeastern	930,800	54,757
	10,811,900	262,234

Data were tabulated with the cooperation of the Forest Inventory and Analysis Program of USDA Forest Service's Northeastern Research Station under the direction of Thomas Birch (deceased).

Sampling Errors

It is important to have a measure of the variation associated with the estimate shown in the tabulation because every owner and every acre were not sampled. The data presented are estimated. A measure of the reliability of an estimate based on the sample is given by sampling error. Sampling errors were calculated for the estimated number of timberland owners and acreage of timberland. The sampling error for the number of acres of timberland in private ownership is calculated as part of the forest inventory and is designed to achieve a national standard of plus or minus 3 percent at a million acres of timberland. Because this study has a much smaller sample size than the normal forest inventory, sampling errors rise rapidly for smaller areas of timberland.

Because this survey was conducted using a land-area sample, the estimates of area have smaller sampling errors than the estimates of number of owners. Estimates for the State as a whole are the most reliable (having the smallest sampling errors in percent), followed by units. The inclusion of small timberland parcels (fewer than 10 acres) in the survey substantially increases the sampling error for the estimated number of owners. Sampling errors appear in some tables of this report and are presented for each unit. The sampling errors (in percent) are shown in the tabulation on the top of the next page.

Survey Unit	Estimates of acres of private timberland	Estimates of number of owners of private timberland	Estimates of the number of owners holding 10 or more acres
Northeastern	0.8	10.0	7.6
Northwestern	0.7	15.0	5.7
Central	0.6	8.5	6.4
Southwestern	0.6	18.4	6.8
Southeastern	0.4	14.1	7.4
All Survey Units	0.3	6.2	3.0

COPY OF QUESTIONNAIRE

NC FOREST EXPERIMENT STATION	Form Approved	State _____
FOREST SERVICE	OMB No. 0596-0078	Country _____
U.S. DEPT. OF AGRICULTURE	Expires: 6-30-97	Plot _____

NORTH CENTRAL WOODLAND OWNERSHIP STUDY

THIS SURVEY IS VOLUNTARY AND THERE ARE NO PENALTIES FOR REFUSING TO ANSWER ANY QUESTIONS. BECAUSE IT WOULD INVOLVE A TREMENDOUS COST TO THE TAXPAYERS WE ARE UNABLE TO CONTACT ALL WOODLAND OWNERS. THEREFORE, WE TAKE A SMALL BUT REPRESENTATIVE SAMPLE OF WOODLANDS, ONE OF WHICH HAPPENS TO BE YOURS. SINCE YOU REPRESENT HUNDREDS OF OTHER WOODLAND OWNERS, YOUR COOPERATION IS IMPORTANT TO MAKE THE SURVEY RESULTS COMPREHENSIVE, ACCURATE, AND TIMELY. THANK YOU.

Please complete the following questions. Where actual records are not available please use your best estimate. Please be assured your answers will be strictly confidential, only statistical tabulations will be published. If you do not now own woodland please answer question 1 and return the questionnaire.

1. In what states do you own land?

State	Total acres	Acres* wooded

*include idle fields and pastures with young trees.

2. Of your woodland in Wisconsin, how much is in each of the following areas?

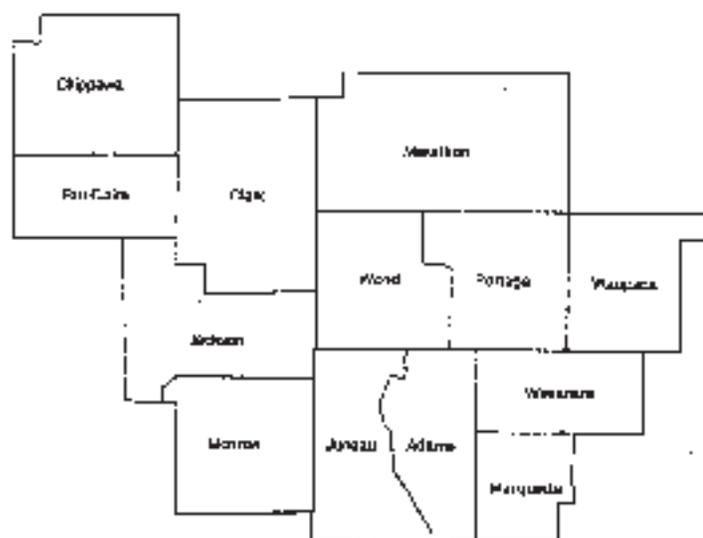
a. Northeast Wisconsin: Acres _____ or Percent _____



b. Northwest Wisconsin: Acres _____ or Percent _____



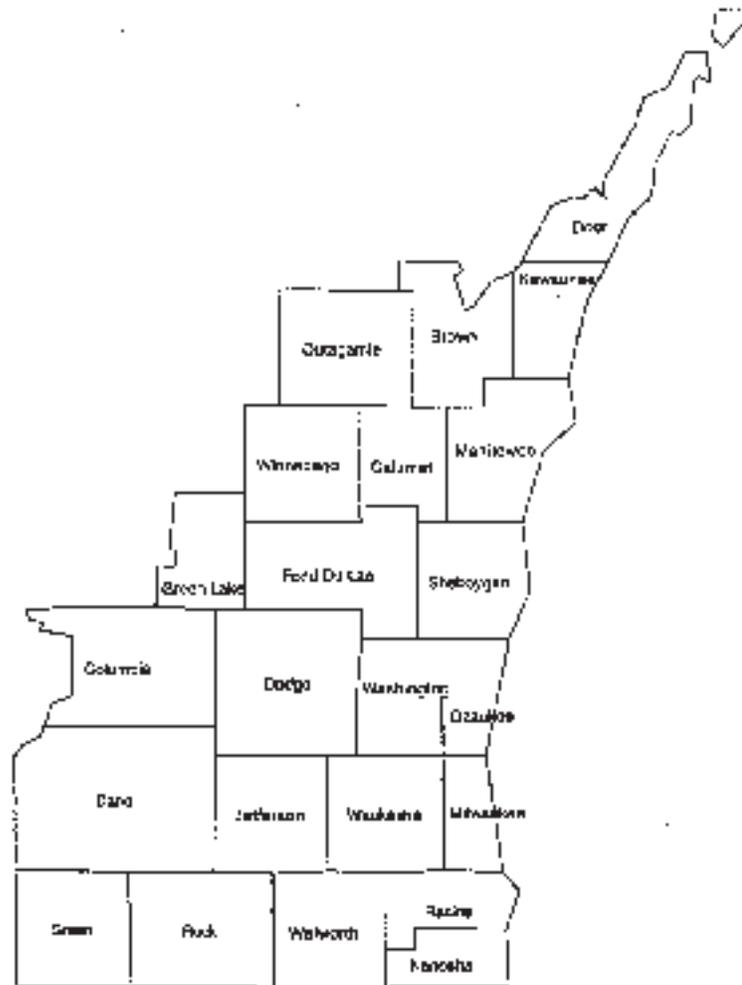
c. Central Wisconsin: Acres _____ or Percent _____



d. Southwest Wisconsin: Acres _____ or Percent _____



e. Southeast Wisconsin: Acres _____ or Percent _____



3. How many individual tracts or parcels of woodland do you now own?

Number _____

4. In what year did you first acquire woodland? (Whether or not you still own the first tract you acquired.)

Year _____

How much woodland have you acquired in the last 15 years? Acres _____

How much woodland have you disposed of (sold or deeded to others) in the last 15 years? Acres _____

5. In which of the following ownership categories does the major portion of your woodland holding fall?

Check one

- 1. _____ Individual (including joint husband and wife and family ownerships other than family corporations)
- 2. _____ Partnership
- 3. _____ Corporate
- 4. _____ Club or association
- 5. _____ Other (please specify) _____

6. If your ownership is connected with a business or association, what is the nature of the organization?

Check one

- 1. _____ Forest industry (sawmill, pulpmill, etc.)
- 2. _____ Farm
- 3. _____ Industrial business (manufacturing, mineral extraction, etc.)
- 4. _____ Real estate
- 5. _____ Non-industrial business (retail, sales, service industry, etc.)
- 6. _____ Sport/recreation club or association
- 7. _____ Public utility
- 8. _____ Other (please specify) _____

7. What is the approximate road mileage from your primary residence to your nearest and farthest tract of woodland? (For businesses or organizations consider primary residence to mean nearest place of business.)

Miles to the nearest tract Miles _____

(Enter zero if you live on the tract.)

Miles to farthest tract Miles _____

8. Have you been approached to sell all or part of your woodland in the last five years? 1. All _____ 2. Part _____ 3. No _____

Have you been approached to sell trees in the last five years?

1. Yes _____ 2. No _____

9. Have trees been harvested from your land, either by you personally or by someone else, during the time you have owned your woodland?
 Yes _____ Year of the most recent harvest: _____
 No _____ IF TREES HAVE NOT BEEN HARVESTED FROM YOUR LAND, SKIP TO QUESTION 17 ON PAGE 7.

10. During the last 15 years, in what years have trees been cut from your land either by yourself, or by someone else for your personal use (i.e. fuelwood, fence posts, etc.) or for wood industry use (sawlogs, pulpwood, etc.)? Please complete the following table. Check as many as apply.

Year	Personal use	Industry use	Both
All years			
1995-1996			
1993-1994			
1991-1992			
1989-1990			
1987-1988			
1985-1986			
1983-1984			
1981-1982			

11. During the cutting, what products were harvested?

Check as many as apply

1. _____ Fuelwood for your own use or for the use of friends
2. _____ Other products for personal use (fence posts, lumber, etc.)
3. _____ Fuelwood for sale
4. _____ Sawlogs for sale
5. _____ Pulpwood for sale
6. _____ Posts, poles and pilings for sale
7. _____ Christmas trees for sale
8. _____ Other products (please specify) _____
9. _____ Don't know what products were harvested

12. Before trees were cut from your land, did you have an opportunity to visit a logging operation? 1. Yes _____ 2. No _____

After the cutting, were you satisfied with the condition of the area? 1. Yes _____ 2. No _____

If you sold trees, were you satisfied with the price you received? 1. Yes _____ 2. No _____

13. For the harvests in the last 15 years or the most recent harvest before then, how were the trees chosen to be cut?

	<u>Check as many as apply</u>	
	<u>Cut for</u>	<u>Cut for wood</u>
	<u>own use</u>	<u>using industry</u>
Preselected marked trees were cut	1. _____	1. _____
Trees over a minimum diameter were cut	2. _____	2. _____
All or nearly all of the trees on a specified area were cut	3. _____	3. _____
Trees were cut to clear the land for another use	4. _____	4. _____
The logger selected the trees as he cut	5. _____	5. _____
Other (please specify) _____	6. _____	6. _____
Don't know what method was used to select the trees	7. _____	7. _____

14. For the harvests in the last 15 years or the most recent harvest before then, who was most responsible for determining which particular trees would be cut?

	<u>Check as many as apply</u>	
	<u>Timber for</u>	<u>Timber for wood</u>
	<u>own use</u>	<u>using industry</u>
Landowner	1. _____	1. _____
Forester	2. _____	2. _____
Friend or neighbor	3. _____	3. _____
Logger or timber buyer	4. _____	4. _____

15. Why were trees cut from your land? (Please rank as many as apply with number 1 the most important reason, number 2 the next most important reason and so on.)

<u>Rank</u>	
1. _____	Felt trees were mature
2. _____	Offered a good price
3. _____	Land clearing
4. _____	Needed money
5. _____	Needed wood for own use
6. _____	Trees harvested for company use (forest industry only)
7. _____	Salvage of trees damaged by insects, disease, fire or weather
8. _____	To improve wildlife habitat
9. _____	If so, for what species of wildlife _____
10. _____	To improve the view or the scenic quality of the area
11. _____	To improve recreation opportunities
12. _____	Forest improvement--thinning, weeding, cull tree removal, etc.
13. _____	To be eligible for preferential forest land tax treatment
_____	Other (please specify) _____

16. Has the harvested area remained stocked with trees or been reforested?

- 1. _____ Yes, include leaving site to reforest itself
- 2. _____ No

If yes, what practices or methods were used to keep the area forested?

Check as many as apply

- 1. _____ Left mature seed trees standing on the site
- 2. _____ Prepared seed bed using heavy machinery
- 3. _____ Controlled competing vegetation using fire or herbicide
- 4. _____ Planted seedlings or dispersed seed by hand or mechanically
- 5. _____ Made sure area was stocked with younger trees prior to harvest
- 6. _____ Other reforestation method (please specify) _____
- 7. _____ No action taken, left area to reforest itself
- 8. _____ Don't know

17. If trees have not been cut from your land, why not? (Please rank with number one the most important reason and number two the next most important reason and so on.)

- | <u>Rank</u> | |
|-------------|--|
| 1. _____ | No market or prices too low |
| 2. _____ | Trees are too small |
| 3. _____ | Trees are of too low quality |
| 4. _____ | Scenery would be reduced |
| 5. _____ | Value of the land for recreation or hunting would be reduced |
| 6. _____ | Distrust of loggers |
| 7. _____ | Opposed to or uninterested in cutting trees |
| 8. _____ | Not enough volume to make harvesting worthwhile |
| 9. _____ | Not enough area to make harvesting worthwhile |
| 10. _____ | Inaufficient knowledge of what trees to sell or how to sell |
| 11. _____ | Another reason (please specify) _____ |

18. Do you plan to cut trees or harvest non-wood products (maple ssp, Christmas trees, etc.) from your land for your personal use or for sale?

	<u>Wood for own use</u> (Check one)	<u>Wood for sale</u> (Check one)	<u>Non-wood products</u> (Check one)
In the next 10 years?	1. _____	4. _____	7. _____
Possibly at some future date?	2. _____	5. _____	8. _____
Never plan to harvest?	3. _____	6. _____	9. _____

19. What percent, if any, of your woodland do you feel you would never cut trees from? Percent _____

Why would you not cut trees from this land? (Please rank with number one the most important reason and number two the next most important reason and so on.)

- Rank
1. _____ No market or prices too low
 2. _____ Trees are too small
 3. _____ Trees are of too low quality
 4. _____ Scenery would be reduced
 5. _____ Value of the land for recreation or hunting would be reduced
 6. _____ Distrust of loggers
 7. _____ Opposed to or uninterested in cutting trees
 8. _____ Not enough volume to make harvesting worthwhile
 9. _____ Not enough area to make harvesting worthwhile
 10. _____ Insufficient knowledge of what trees to sell or how to sell
 11. _____ Another reason (please specify) _____

20. Have you ever sought advice or assistance in managing your woodland?
 1. Yes _____ 2. No _____

(If you answered yes above, please check the kinds of help you sought.)

Check as many as apply

1. _____ Information about forestry
2. _____ Help with tree planting
3. _____ Forest management assistance
4. _____ Information about wildlife
5. _____ Help in selling trees or other forest products
6. _____ Help with insect or disease
7. _____ Information about tax incentive programs
8. _____ Information about forest recreation
9. _____ Other (please specify) _____

21. What office, agency, or individual would you contact for forestry help or advice? (If you don't know, please check "Don't know.")

Check one

1. _____ Private consulting forester or wildlife biologist
2. _____ Industrial forester
3. _____ State employee (forester or wildlife biologist)
4. _____ Extension Service
5. _____ Natural Resources Conservation Service (formerly SCS)
6. _____ Other (please specify) _____
7. _____ Don't know

22. How did you become aware of the existence of technical forestry assistance?

Check as many as apply

1. _____ Newspaper article
2. _____ Magazine article
3. _____ Radio
4. _____ Television
5. _____ State employe (forester or wildlife biologist)
6. _____ Extension Service
7. _____ A friend or neighbor
8. _____ Other (please specify) _____
9. _____ Don't know

23. Is there a written forestry or wildlife management plan for your property?

1. Yes _____ 2. No _____

If yes, who prepared the plan?

1. _____ I prepared the plan
2. _____ Other (please specify) _____

24. What types of forestry assistance would you be willing to pay for?

Please specify _____

25. Why do you own woodland? (Please rank with number 1 the most important, number 2 the next most important and so on.)

- Rank
1. _____ Land investment (hope to sell all or most of my woodland at a profit)
 2. _____ Recreation (hunting, camping, fishing, bird watching, etc.)
 3. _____ Timber production (growing timber or other forest products for sale)
 4. _____ Farm or domestic use (having the woods as a source of timber for my own use; e.g., firewood, fence posts, etc.)
 5. _____ Enjoyment of owning "green space"
 6. _____ Part of the farm (woodland is the uncultivable part of the farm and serves no useful function in the farm operation)
 7. _____ Woodland is part of my residence
 8. _____ For an estate to pass on to my children
 9. _____ Other (please specify) _____

26. Which of the following do you feel were the most important benefits you derived from your woodland during the last 10 years? (Please rank these benefits in order of importance, with number 1 the most important.)

- Rank
1. _____ Increase in land value (investment)
 2. _____ Recreation (hunting, camping, fishing, bird watching, etc.)
 3. _____ Timber production
 4. _____ Farm or domestic use
 5. _____ Enjoyment of woods, wildlife, and "green space"
 6. _____ Firewood
 7. _____ Other (please specify) _____
-

27. Which of the following do you feel will be the most important benefits you expect to derive from your woodland during the next 10 years? (Please rank these benefits in order of importance, with number 1 the most important.)

- Rank
1. _____ Increase in land value (investment)
 2. _____ Recreation (hunting, camping, fishing, bird watching, etc.)
 3. _____ Timber production
 4. _____ Farm or domestic use
 5. _____ Enjoyment of woods, wildlife, and "green space"
 6. _____ Firewood
 7. _____ Other (please specify) _____
-

28. Does your woodland contain or is it adjacent to a:

- Check all that apply
1. _____ Lake (10 acres or larger)
 2. _____ Stream or river
 3. _____ Wetland (swamp or marsh)
 4. _____ Pond (less than 10 acres)
 5. _____ Public road

29. Is your woodland used for recreational purposes? 1. Yes _____ 2. No _____

(If you answered yes above, indicate what activities are permitted and by whom.)

Check as many as apply

<u>Family, friends or employees only</u>	<u>General public</u>	
1. _____	1. _____	Hiking
2. _____	2. _____	Picnicking
3. _____	3. _____	Camping
4. _____	4. _____	Hunting
5. _____	5. _____	Fishing
6. _____	6. _____	Snowmobiling and trail biking
7. _____	7. _____	Winter sports
8. _____	8. _____	Bird watching
9. _____	9. _____	Other (please specify) _____

30. Is your woodland posted? 1. Yes _____ 2. No _____

(If yes, what is the primary reason you posted?)

Check one

1. _____	Fast abuse of the property (littering, damage to fences, etc.)
2. _____	To protect the safety of residents and property
3. _____	To protect the owner from liability
4. _____	To control hunting (I wish to know who is hunting on my land and/or when)
5. _____	To prohibit hunting (I do not want any hunting on my land)
6. _____	To control access (I wish to know who is on my land)
7. _____	To prohibit access (I do not want uninvited persons on my land)
8. _____	Other (please specify) _____

31. Do you or any member of your household subscribe to or receive any of the following periodicals?

Check as many as apply

1. _____	American Forests
2. _____	Audubon Magazine
3. _____	Wisconsin Agriculturist
4. _____	Woodland Management
5. _____	Wisconsin Trails
6. _____	Wisconsin Natural Resources
7. _____	Country Today
8. _____	Sierra
9. _____	Wisconsin Outdoors
10. _____	Wisconsin Sportsman
11. _____	We don't receive any of the above magazines
12. _____	Any other periodicals similar to those listed above (please specify) _____

32. Please indicate, by circling the appropriate letter, whether you agree or disagree with each of the following statements made by other forest-land owners. If you feel you don't know, please circle the letter C "no opinion."

A. Strongly disagree
B. Disagree

C. No opinion

D. Agree
E. Strongly agree

1.	A	B	C	D	E	Protecting forests from fire, insects, and disease is a state forestry job.
2.	A	B	C	D	E	Management of forest land for wildlife and recreation reduces the value of the land for timber production.
3.	A	B	C	D	E	Lower taxes on forested land would not influence me to keep my land forested.
4.	A	B	C	D	E	The trees near my house are valuable for shade and to provide wildlife cover.
5.	A	B	C	D	E	I'm willing to pay for help to make better management decisions on my forest land.
6.	A	B	C	D	E	The country is being denuded. One must do something to preserve the forest land.
7.	A	B	C	D	E	Owners who manage their forest land should pay lower property taxes.
8.	A	B	C	D	E	More facilities that can use low grade or poor quality wood for energy are needed.
9.	A	B	C	D	E	I don't believe in wilderness areas; I believe in some form of productivity for all forest land.
10.	A	B	C	D	E	It doesn't make any difference whether I pay an annual tax on standing timber or a single tax when the timber is harvested.
11.	A	B	C	D	E	I purchased my forest land for investment to leave alone and sell later.
12.	A	B	C	D	E	To preserve the woods you have to cut periodically. We cut to maintain the natural productivity of the land.
13.	A	B	C	D	E	I would allow the public to use my land for recreation, including hunting, if my taxes were reduced for doing so.
14.	A	B	C	D	E	I like the beauty of the forest the most. We must preserve it, not damage it.
15.	A	B	C	D	E	It is getting harder and harder to find places to use for recreation; owning forest land insures we will have a place.

The following questions are asked to insure proper classification to questions 1 through 32 by categories such as age, sex, and education. If you need space to expand on any of your answers, use the space at the end of the questionnaire. Again, answers are strictly confidential and only statistical tabulations are published. No information that could identify you as an individual is ever published, or released.

THESE QUESTIONS DO NOT PERTAIN TO AND SHOULD NOT BE ANSWERED BY CORPORATIONS AND ORGANIZATIONS.

If the woodland is owned by more than one person, the following questions should be answered for the person to whom the questionnaire is addressed. If the questionnaire is addressed to joint owners, as husband and wife, these questions should be answered by the person who makes most of the decisions.

33. During the first 12 years of the owner's life, where did he or she live most of the time:

Check one

1. _____ In a city with a population of 100,000 or more
2. _____ In a city with a population of 10,000 to 99,999
3. _____ In a town with a population of fewer than 10,000
4. _____ In a rural area
5. _____ On a farm

34. What is the sex of the owner?

1. Male _____ 2. Female _____ 3. Joint Ownership _____

35. What is the age of the owner?

Check one

1. _____ Under 25
2. _____ 25-34
3. _____ 35-44
4. _____ 45-54
5. _____ 55-64
6. _____ 65 and over

36. How many years of formal education has the owner completed?

Check one

1. _____ Grade 1-8
2. _____ Some high school (9-11)
3. _____ High school (12)
4. _____ Some schooling beyond high school (12-15)
5. _____ Undergraduate college degree (16)
6. _____ Some graduate college work (16+)

37. What is the primary occupation of the owner?

38. What is your best estimate of the total combined income of all members of the owner's household over 14 years of age during the past 12 months? (Please include NET income from businesses, farming, and rentals, money from jobs, pensions, dividends, interest, Social Security, unemployment, welfare, and workman's compensation.)

Check one

- 1. _____ Less than \$10,000
- 2. _____ \$10,000 to \$19,999
- 3. _____ \$20,000 to \$29,999
- 4. _____ \$30,000 to \$39,999
- 5. _____ \$40,000 to \$49,999
- 6. _____ \$50,000 to \$59,999
- 7. _____ \$60,000 to \$74,999
- 8. _____ \$74,000 to \$99,999
- 9. _____ Over \$100,000

How many people in owner's household are over age 14?
Number _____

39. Which category below most closely describes the racial or ethnic origin of the owner?

Check one

- 1. _____ White (not of Hispanic origin)
- 2. _____ Black (not of Hispanic origin)
- 3. _____ American Indian or Alaskan native
- 4. _____ Hispanic
- 5. _____ Asian or Pacific Islander

THANK YOU FOR TAKING THE TIME TO FILL OUT OUR QUESTIONNAIRE. YOUR COOPERATION IS GREATLY APPRECIATED. WOULD YOU LIKE TO BE SENT A COPY OF THE RESULTS OF THIS SURVEY? 1. _____ Yes 2. _____ No

Please feel free to write in any comments you have in the space below or on the next page.

Public reporting burden for this collection of information is estimated to average 15 minutes, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information including suggestions for reducing this burden to Department of Agriculture, Clearance Officer, OIRM, Room 404-W, Washington, DC 20250; and to the Office of Management and Budget, Paperwork Reduction Project (OMB# 0596-0078), Washington, DC 20503.

DEFINITION OF TERMS

Commercial species.—Tree species presently or prospectively suitable for industrial wood products. (Note: Excludes species of typically small size, poor form, or inferior quality.)

Cord.—One standard cord is 128 cubic feet of stacked wood, including bark and air space. Cubic feet can be converted to solid wood standard cords by dividing by 79.

Corporate.—Lands owned by a private corporation not in the business of operating primary wood-using plants.

Farm.—Any place from which \$1,000 or more of agriculture products were produced and sold during the year.

Farmer-owned land.—Land owned by persons whose primary occupation is farming.

Forest industry land.—Land owned by companies or individuals operating primary wood-using plants.

Forest land.—Land at least 10 percent stocked. (Note: Historically 16.7 percent was used based on full stocking equaling 167 percent. Consequently, this was equal to a standard of 10 percent based on a 100-percent scale that is now used) by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use. (Note: Stocking is measured by comparing specified standards with basal area and/or number of trees, age or size, and spacing.) The minimum area for classification of forest land is 1 acre. Roadside, streamside, and shelterbelt strips of timber must have a crown width of at least 120 feet to qualify as forest land. Unimproved roads and trails, streams, or other bodies of water or clearings in forest areas shall be classed as forest if less than 120 feet wide. (See Tree, Land, Timberland, Reserved forest land, Other forest land, Stocking, and Water.)

Forest type.—A classification of forest land based on the species forming a plurality of live tree stocking. The associated species for each forest type are based on net volume of growing stock and all live biomass by species group from the 1996 inventory of Wisconsin forests.

Growing-stock tree.—A live tree of commercial species that meets specified standards of size, quality, and merchantability. (Note: Excludes rough, rotten, and dead trees.)

Growing-stock volume.—Net volume in cubic feet of growing-stock trees 5.0 inches d.b.h. and over, from 1 foot above the ground to a minimum 4.0-inch top diameter outside bark of the central stem or to the point where the central stem breaks into limbs.

Individual private land.—Privately owned land held in individual or joint ownership.

Industrial wood.—All roundwood products except residential fuelwood.

Land.—(a) *Bureau of the Census.* Dry land and land temporarily or partly covered by water such as marshes, swamps, and river flood plains (omitting tidal flats below mean high tide); streams, sloughs, estuaries, and canals less than one-eighth of a statute mile wide; and lakes, reservoirs, and ponds less than 40 acres in area.

(b) *Forest Inventory and Analysis.* The same as the Bureau of the Census, except minimum width of streams, etc., is 120 feet and minimum size of lakes, etc., is 1 acre.

Native American land.—Land held in trust by the United States for tribes or individual Native Americans (Indians).

Nonforest land.—Land that has never supported forests, and land formerly forested where use for timber management is precluded by development for other uses. (Note: Includes areas used for crops, active Christmas tree plantations as indicated by annual shearing, orchards, nurseries, improved pasture, residential areas, city parks, improved roads of any width and adjoining clearings, powerline clearings of any width, and 1- to 40-acre areas of water classified by the Bureau of the Census as land.) If intermingled in forest areas, unimproved roads and nonforest strips must be more than 120 feet wide and more than 1 acre in area to qualify as nonforest land.

Nonforest land without trees.—Nonforest land with no live trees present.

Nonforest land with trees.—Nonforest land with one or more trees per acre at least 5 inches d.b.h.

Nonresident owner.—An owner whose primary residence is more than a mile from the nearest tract of timberland owned.

Other forest land.—Forest land not capable of producing 20 cubic feet per acre per year of industrial wood crops under natural conditions and not associated with urban or rural development. Many of these sites contain tree species that are not currently used for industrial wood production or trees of poor form, small size, or inferior quality that are unfit for most industrial products. Unproductivity may be the result of adverse site conditions such as sterile soil, dry climate, poor drainage, high elevation, and rockiness. This land is not withdrawn from timber use.

Owner tenure.—The length of time a property has been held by an owner.

Ownership size class.—The amount of timberland owned by one owner, regardless of the number of parcels.

Ownership unit.—All types of legal entities having ownership interest in land, regardless of the number of people involved. The ownership unit is the focus of decision-making for each parcel whether an individual (sole proprietor), group of individuals (partnerships or individual estates), or legal person (corporation or trust).

Plantation.—An artificially reforested area sufficiently productive to qualify as timberland. The planted species is not necessarily predominant. Christmas tree plantations, which are considered cropland, are not included.

Poletimber stand.—(See Stand-size class.)

Poletimber tree.—A live tree of commercial species at least 5.0 inches d.b.h., but smaller than sawtimber size.

Posted land.—Ownerships displaying signs indicating public trespass or admittance is not allowed.

Primary wood-using mills.—Mills receiving roundwood or chips from roundwood for processing into products.

Pulpwood.—Any log from which wood pulp is to be made; usually measured in bolts of 4 or 8 feet.

Private timberland.—All timberland other than that owned by Federal, State, or local government or their agencies.

Public timberland.—

County and municipal land.—Land owned by counties and local public agencies or municipalities, or land leased to these governmental units for 50 years or more.

Miscellaneous Federal land.—Federal land other than National Forest land administered by agencies of the Federal government.

National Forest land.—Federal land that has been legally designated as National Forest or purchase units, and other land administered by the USDA Forest Service.

State land.—Land owned by the State of Wisconsin or leased to it for 50 years or more.

Reserved forest land.—Forest land withdrawn from timber use through statute, administrative regulation, or designation. Note: Christmas tree plantations were once classified as reserved forest land. Now however, they are classified as cropland.

Resident owner.—An owner whose primary residence is within a mile of the nearest tract of timberland owned.

Sapling.—A live tree 1.0 to 5.0 inches d.b.h.

Sapling-seedling stand.—(See Stand-size class.)

Sawtimber stand.—(See Stand-size class.)

Sawtimber tree.—A live tree of commercial species containing at least a 12-foot saw log or two noncontiguous saw logs 8 feet or longer, and meeting regional specifications for freedom from defect. Softwoods must be at least 9.0 inches d.b.h. Hardwoods must be at least 11.0 inches d.b.h.

Seedling.—A live tree less than 1.0 inch d.b.h. that is expected to survive. Only softwood seedlings more than 6 inches tall and hardwood seedlings more than 1 foot tall are counted.

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

Stand.—A group of trees on a minimum of 1 acre of forest land that is stocked by forest trees of any size.

Stand-size class.—A classification of stocked (see Stocking) forest land based on the size class of live trees on the area; that is, sawtimber, poletimber, or seedlings and saplings.

Sawtimber stands.—Stands with half or more of live tree stocking in sawtimber or poletimber trees, and with sawtimber stocking at least equal to poletimber stocking.

Poletimber stands.—Stands with half or more of live tree stocking in poletimber and/or sawtimber trees, and with poletimber stocking exceeding that of sawtimber.

Sapling-seedling stands.—Stands with more than half of the live tree stocking in saplings and/or seedlings.

Timberland.—Forest land that is producing, or is capable of producing, more than 20 cubic feet per acre per year of industrial wood crops under natural conditions, that is not withdrawn from timber use, and that is not associated with urban or rural development. Currently inaccessible and inoperable areas are included. (Timberland was formerly called commercial forest land.)

Urban and other areas.—Areas within the legal boundaries of cities and towns; suburban areas developed for residential, industrial, or recreational purposes; school yards; cemeteries; roads; railroads; airports; beaches; powerlines and other rights-of-way; or other nonforest land not included in any other specified land-use class.

Urban forest land.—Land that would otherwise meet the criteria for timberland but that is in an urban-suburban area surrounded by commercial, industrial, or residential development and not likely to be managed for the production of industrial wood products on a continuing basis. Wood removed would be for land clearing, fuelwood, or esthetic purposes. Such forest land may be associated with industrial, commercial, residential subdivision, industrial parks, golf course perimeters, airport buffer strips, and public urban parks that qualify as forest land.

Water.—(a) *Bureau of the Census.*—Permanent inland water surfaces, such as lakes, reservoirs, and ponds at least 40 acres in area; and streams, sloughs, estuaries, and canals at least one-eighth of a statute mile wide.

(b) *Noncensus.*—Permanent inland water surfaces, such as lakes, reservoirs, and ponds from 1 to 39.9 acres in area; and streams, sloughs, estuaries, and canals from 120 feet to one-eighth of a statute mile wide.

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Ownership class	Forest Survey Unit						All units
	Northeastern	Northwestern	Central	Southwestern	Southeastern		
	Acres						
Public							
National forest	597,500	766,000	-	-	-	-	1,363,500
Other federal	-	17,800	103,000	33,000	3,400	3,400	157,200
State	229,500	226,900	117,600	94,600	75,500	75,500	744,100
County and municipal	665,100	1,157,500	426,600	11,300	21,800	21,800	2,282,300
Total public	1,492,100	2,168,200	647,200	138,900	100,700	100,700	4,547,100
Private							
Forest Industry	508,900	477,600	101,300	3,100	11,300	11,300	1,102,200
Corporate	168,900	241,700	140,500	62,000	78,600	78,600	691,700
Individual	1,754,500	2,446,400	2,153,100	1,823,100	840,900	840,900	9,018,000
Total private	2,432,300	3,165,700	2,394,900	1,888,200	930,800	930,800	10,811,900
Native American	261,100	80,200	-	-	2,200	2,200	343,500
All ownerships	4,185,500	5,414,100	3,042,100	2,027,100	1,033,700	1,033,700	15,702,500

Table 2.-Estimated number of private owners and acres of timberland owned by size class and Forest Survey Unit, Wisconsin, 1997

Size class of ownership (acres)	Northeastern		Northwestern		Central		Southwestern		Southeastern		All units		Sampling error	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Owners														
1-9	3,637	10	35,470	50	14,140	23	8,581	23	29,737	54	91,565	35	17.5	17.5
10-19	8,652	24	5,538	8	10,219	17	6,788	18	8,585	16	39,782	15	11.3	11.3
20-49	12,575	34	13,748	19	20,112	33	10,444	27	12,200	22	69,079	26	5.2	5.2
50-99	7,031	19	8,337	12	11,951	19	6,495	17	2,765	5	36,579	14	7.4	7.4
100-199	3,256	9	4,991	7	3,942	6	4,035	10	1,033	2	17,257	7	5.4	5.4
200-499	1,489	4	2,184	3	1,264	2	1,603	4	395	1	6,935	3	8.1	8.1
500-999	153	**	260	**	84	**	180	1	27	**	704	**	12.8	12.8
1,000-4,999	95	**	106	**	33	**	21	**	15	**	270	**	20.7	20.7
5,000+	30	**	27	**	4	**	2	**	-	-	63	**	27.1	27.1
Total	36,918	100	70,661	100	61,749	100	38,149	100	54,757	100	262,234	100	6.2	6.2
Sampling error (%)	10.0		15.0		8.5		18.4		14.1		6.2			
Acres Owned														
1-9	16,366	1	118,533	2	68,501	3	20,303	1	115,627	12	339,330	3	13.7	13.7
10-19	106,379	4	76,698	4	137,003	6	87,981	5	109,846	12	517,907	5	11.3	11.3
20-49	400,966	16	474,133	15	622,739	26	318,084	17	341,100	37	2,157,022	20	5.5	5.5
50-99	482,797	20	571,748	18	635,194	26	426,368	23	173,441	19	2,289,548	21	5.5	5.5
100-199	400,967	17	613,583	19	485,736	20	500,813	26	109,846	12	2,110,945	20	5.8	5.8
200-499	319,137	13	536,886	17	280,233	12	392,529	21	40,470	4	1,569,255	14	6.8	6.8
500-999	98,196	4	160,368	5	43,592	2	115,052	6	17,344	2	434,552	4	12.9	12.9
1,000-4,999	122,745	5	118,533	4	31,137	1	20,303	1	23,126	2	315,844	3	15.5	15.5
5000+	484,747	20	495,218	16	90,765	4	6,767	**	-	-	1,077,497	10	25.1	25.1
Total	2,432,300	100	3,165,700	100	2,394,900	100	1,888,200	100	930,800	100	10,811,900	100	0.3	0.3
Sampling error (%)	0.8		0.7		0.6		0.6		0.4		0.3			

** Less than 0.5 percent.

Table 3.--Estimated number of private owners and acres of timberland owned by number of tracts and Forest Survey Unit, Wisconsin, 1997

Number of tracts	Northeastern		Northwestern		Central		Southwestern		Southeastern		All units	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Owners												
1	24,349	66	57,598	82	43,736	71	27,570	72	37,921	69	191,174	73
2	8,739	24	6,658	9	12,060	19	5,589	15	11,022	20	44,068	17
3 or more	3,830	10	6,405	9	5,953	10	4,990	13	5,814	11	26,992	10
Total	36,918	100	70,661	100	61,749	0	38,149	100	54,757	100	262,234	100
Acres Owned												
1	842,848	35	1,227,167	39	1,133,385	47	947,484	50	450,947	48	4,601,831	43
2	580,993	24	599,638	19	572,920	24	412,832	22	242,817	26	2,409,200	22
3 or more	1,008,459	41	1,338,895	42	688,595	29	527,884	28	237,036	26	3,800,869	35
Total	2,432,300	100	3,165,700	100	2,394,900	0	1,888,200	100	930,800	100	10,811,900	100

Table 4.--Estimated number of private owners and acres of timberland owned by distance from nearest forest tract and Forest Survey Unit, Wisconsin, 1997

Distance from residence (miles)	Northeastern		Northwestern		Central		Southwestern		Southeastern		All units	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Owners												
Less than 1	14,366	39	30,484	43	37,087	60	28,201	74	42,449	77	152,587	58
2-25	7,365	20	5,210	7	6,041	10	4,252	11	3,688	7	26,556	10
26-100	2,982	8	2,520	4	6,851	11	2,394	6	4,936	9	19,683	8
100+	10,896	30	23,105	33	9,906	16	3,108	8	2,520	5	49,535	19
No answer	1,309	3	9,342	13	1,864	3	194	1	1,164	2	13,873	5
Total	36,918	100	70,661	100	61,749	100	38,149	100	54,757	100	262,234	100
Acres Owned												
Less than 1	999,416	41	1,669,888	53	1,429,863	60	1,252,032	66	682,201	73	6,033,400	56
2-25	770,061	32	585,977	18	336,070	14	250,406	13	156,097	17	2,098,611	19
26-100	196,392	8	230,094	7	168,140	7	169,194	9	52,032	6	815,852	8
100+	433,699	18	629,656	20	417,235	17	196,265	11	28,907	3	1,705,762	16
No answer	32,732	1	50,085	2	43,592	2	20,303	1	11,563	1	158,275	1
Total	2,432,300	100	3,165,700	100	2,394,900	100	1,888,200	100	930,800	100	10,811,900	100

Table 5.--Estimated number of private owners and acres of timberland owned by distance from residence and number of tracts, Wisconsin, 1997

Distance from residence (miles)	Owners of more than one tract					
	Owners of one tract		Distance to:			
	Number	Percent	Nearest tract		Farthest tract	
	Number	Percent	Number	Percent	Number	Percent
	Owners					
Less than 1	105,685	55	46,940	66	26,623	38
2-25	17,735	9	8,909	12	17,915	25
26-100	14,808	8	4,903	7	8,007	11
100+	39,792	21	9,709	14	17,716	25
No answer	13,153	7	600	1	800	1
Total	191,173	100	71,061	100	71,061	100
	Acres					
Less than 1	2,408,054	52	3,624,864	58	1,382,065	22
2-25	684,912	15	1,414,110	23	1,807,019	29
26-100	412,992	9	403,006	6	788,045	13
100+	974,204	21	732,073	12	2,183,059	35
No answer	121,669	3	36,016	1	49,881	1
Total	4,601,831	100	6,210,069	100	6,210,069	100

Table 6.--Estimated number of private owners and acres of timberland owned by form of ownership and Forest Survey Unit, Wisconsin, 1997

Form of ownership	Northeastern		Northwestern		Central		Southwestern		Southeastern		All units		Sampling error (%)
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	
Owners													
Individual	33,052	90	69,029	98	59,715	96	36,272	95	50,586	93	248,654	95	6.5
Partnership	1,165	3	979	1	997	2	843	2	3,477	6	7,461	3	40.0
Corporation	1,948	5	439	1	515	1	445	1	601	1	3,948	1	27.0
Club/Assn.	232	1	75	**	118	**	451	1	**	**	883	**	57.0
Other	521	1	139	**	404	1	138	1	86	**	1,288	1	37.4
Total	36,918	100	70,661	100	61,749	100	38,149	100	54,757	100	262,234	100	6.2
Sampling error (%)	10.0		15.0		8.5		18.4		14.1		6.2		
Acres Owned													
Individual	1,628,416	67	2,405,526	76	2,086,176	87	1,685,168	89	832,517	89	8,637,803	80	2.9
Partnership	110,830	5	127,633	4	80,956	3	101,516	6	40,470	4	461,405	4	13.4
Corporation	594,858	24	604,651	19	177,949	8	81,213	4	46,251	5	1,504,922	14	17.5
Club/Assn.	40,915	2	20,918	1	18,682	1	6,768	**	5,781	1	93,064	1	28.1
Other	57,281	2	6,972	**	31,137	1	13,535	1	5,781	1	114,706	1	25.4
Total	2,432,300	100	3,165,700	100	2,394,900	100	1,888,200	100	930,800	100	10,811,900	100	0.3
Sampling error (%)	0.8		0.7		0.6		0.6		0.4		0.3		

** Less than 0.5 percent.

Table 7.--Estimated number of farm and nonfarm ownerships and acres of timberland
by form of ownership, Wisconsin, 1997

Form of ownership	Farm			Nonfarm			Total					
	Owners	Percent	Acres	Owners	Percent	Acres	Owners	Percent	Acres	Percent		
Individual	77,209	97	3,119,968	93	171,446	94	5,517,834	74	248,655	95	8,637,802	80
Business and group ownership												
Partnership	885	1	98,573	3	6,576	4	362,832	5	7,461	3	461,405	4
Corporation	1,170	1	129,462	4	2,776	1	1,375,460	19	3,946	1	1,504,922	14
Clubs/Assn.	-	-	-	-	883	**	93,064	1	883	**	93,064	1
Other	209	**	12,995	**	1,080	1	101,712	1	1,289	1	114,707	1
Subtotal	2,264		241,030		11,315		1,933,068		13,579		2,174,098	
All owners	79,473	100	3,360,998	100	182,761	100	7,450,902	100	262,234	100	10,811,900	100

** Less than 0.5 percent.

Table 8.--Estimated number of private owners and acres of timberland owned by occupation and Forest Survey Unit, Wisconsin, 1997

Occupation	Northeastern		Northwestern		Central		Southwestern		Southeastern		All units		SE	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Owners														
Professional	5,496	15	6,834	10	3,474	6	5,098	14	6,395	12	27,297	10	27,297	18.2
Executive	3,422	9	4,291	6	7,556	12	1,991	5	5,331	10	22,591	9	22,591	17.9
Other white collar	306	1	2,151	3	1,461	2	918	2	165	**	5,001	2	5,001	18.0
Skilled trade	2,723	7	12,717	18	4,591	7	1,473	4	5,835	11	27,339	10	27,339	20.0
Other blue collar	3,131	9	5,143	7	8,064	13	1,793	5	2,088	4	20,219	8	20,219	15.6
Farmers	2,194	6	2,300	3	10,776	17	9,343	24	9,968	18	34,581	13	34,581	12.5
Service worker	239	1	2,806	4	2,202	4	613	2	671	1	6,531	3	6,531	28.5
Homemaker	557	2	7,344	11	500	1	-	-	-	-	8,401	3	8,401	83.2
Retired	12,629	34	13,362	19	14,838	24	13,251	35	16,919	31	70,999	27	70,999	15.5
Corp.; Partnership, etc.	3,866	10	1,632	2	2,033	4	1,877	5	4,171	7	13,579	5	13,579	23.8
No answer	2,355	6	12,081	17	6,254	10	1,792	4	3,214	6	25,696	10	25,696	23.9
Total	36,918	100	70,661	100	61,749	100	38,149	100	54,757	100	262,234	100	262,234	6.2
Sampling error (%)	10.0		15.0		8.5		18.4		14.1		6.2			
Acres Owned														
Professional	212,758	9	264,956	8	168,139	7	223,335	12	92,502	10	961,690	9	961,690	8.6
Executive	188,209	8	292,846	9	280,233	12	175,961	9	98,283	10	1,035,532	9	1,035,532	8.2
Other white collar	32,732	1	139,451	4	74,729	3	54,142	3	5,781	1	306,835	3	306,835	15.1
Skilled trade	155,477	6	306,792	10	199,276	8	74,445	4	80,939	9	816,929	8	816,929	9.4
Other blue collar	188,209	8	230,094	7	217,959	9	81,213	4	34,688	3	752,163	7	752,163	9.8
Farmers	163,660	7	195,231	6	348,734	15	534,652	28	225,473	24	1,467,750	13	1,467,750	6.3
Service worker	16,366	1	55,780	2	74,729	3	40,607	2	23,126	3	210,608	2	210,608	17.7
Homemaker	16,366	1	34,863	1	18,682	1	-	-	-	-	69,911	1	69,911	31.9
Retired	572,809	23	683,309	22	585,375	24	412,832	22	213,911	23	2,468,236	23	2,468,236	5.5
Corp.; Partnership, etc.	803,884	33	760,174	24	308,724	13	203,032	11	98,283	11	2,174,097	20	2,174,097	11.6
No answer	81,830	3	202,204	6	118,320	5	87,981	5	57,814	6	548,149	5	548,149	11.3
Total	2,432,300	100	3,165,700	100	2,394,900	100	1,888,200	100	930,800	100	10,811,900	100	10,811,900	0.3
Sampling error (%)	0.8		0.7		0.6		0.6		0.4		0.3			

Table 9.--Estimated number of private individual owners and acres of timberland owned by age class and Forest Survey Unit, Wisconsin, 1997

Age class (years)	Northeastern		Northwestern		Central		Southwestern		Southeastern		All units	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Owners												
Under 25	-	-	-	-	-	-	-	-	-	-	-	-
25-44	4,485	12	8,458	12	11,141	18	9,031	24	7,572	14	40,687	16
45-64	15,032	41	36,225	52	31,042	50	18,298	48	26,325	48	126,922	48
65 or older	11,899	32	13,561	19	16,509	27	8,699	23	14,548	26	65,216	25
All other owner	3,865	10	1,632	2	2,033	3	1,878	5	4,171	8	13,578	5
No answer	1,637	5	10,785	15	1,024	2	243	1	2,141	4	15,831	6
Total	36,918	100	70,661	100	61,749	100	38,149	100	54,757	100	262,234	100
Acres Owned												
Under 25	-	-	-	-	-	-	-	-	-	-	-	-
25-44	286,405	12	425,325	13	367,416	15	351,923	19	138,753	15	1,569,822	15
45-64	801,933	33	1,157,441	37	1,096,021	46	785,058	43	375,789	40	4,216,242	39
65 or older	523,712	21	718,171	23	579,147	24	521,116	26	283,287	30	2,625,433	24
All other owners	803,884	33	760,175	24	308,724	13	203,032	11	98,283	11	2,174,098	20
No answer	16,366	1	104,588	3	43,592	2	27,071	1	34,688	4	226,305	2
Total	2,432,300	100	3,165,700	100	2,394,900	100	1,888,200	100	930,800	100	10,811,900	100

Table 10.--Estimated number of private individual owners and acres of timberland owned by annual income class and Forest Survey Unit, Wisconsin, 1997

Annual income	Northeastern		Northwestern		Central		Southwestern		Southeastern		All units	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Under \$19,999	2,257	6	4,204	6	5,922	10	3,236	8	8,292	15	23,911	9
20,000-39,999	6,983	19	15,284	22	18,504	30	10,873	28	14,401	26	66,045	25
40,000-59,999	8,377	22	17,501	25	12,117	19	5,646	15	6,853	13	50,494	20
60,000-74,999	2,727	8	7,606	11	4,878	8	943	3	3,832	7	19,986	8
75,000-99,999	2,041	6	4,235	6	4,330	7	1,832	5	3,031	6	15,469	6
100,000+	3,334	9	3,995	5	3,118	5	2,538	7	8,939	16	21,924	8
No answer	7,333	20	16,204	23	10,847	17	11,204	29	5,238	10	50,826	19
All other owners	3,866	10	1,632	2	2,033	4	1,877	5	4,171	7	13,579	5
Total	36,918	100	70,661	100	61,749	100	38,149	100	54,757	100	262,234	100
Acres Owned												
Under \$19,999	90,013	4	257,983	4	180,594	8	142,122	7	115,628	12	786,340	7
20,000-39,999	417,332	17	641,474	17	523,101	21	514,349	27	173,441	19	2,269,697	21
40,000-59,999	392,784	16	376,517	16	498,192	21	297,781	16	98,283	11	1,663,557	16
60,000-74,999	122,745	5	223,121	5	205,504	9	94,748	5	92,502	10	738,620	7
75,000-99,999	130,928	5	209,176	5	168,139	7	108,284	6	69,376	7	685,903	6
100,000+	204,575	9	306,792	9	230,413	10	270,710	14	144,534	15	1,157,024	11
No answer	270,039	11	390,462	11	280,233	11	257,174	14	138,753	15	1,336,661	12
All other owners	803,884	33	760,175	33	308,724	13	203,032	11	98,283	11	2,174,098	20
Total	2,432,300	100	3,165,700	100	2,394,900	100	1,888,200	100	930,800	100	10,811,900	100

Table 11.--Estimated number of corporate and nonindividual owners¹ by nature of business and form of ownership, Wisconsin, 1997

Nature of business	Form of ownership										All businesses and groups	
	Corporations		Partnerships		Clubs/Assn.		Other		Percent		Number	Percent
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent		
	Owners											
Forest industry	206	5	8	**	-	-	-	-	-	-	214	1
Nonfarm	-	-	145	2	-	-	-	-	-	-	145	1
Business unspecified	213	5	1,795	24	-	-	-	-	-	-	2,008	17
Industrial business	86	2	-	-	-	-	-	-	-	-	1,881	12
Land investment	582	15	43	1	-	-	-	-	-	-	625	4
Nonindustrial business	42	1	256	3	-	-	-	-	-	-	298	2
Sport/recreation club	110	3	3,843	51	876	99	64	5	4,893	30		
Public utility	9	**	-	-	-	-	-	-	9	**		
Trust	-	-	-	-	-	-	1,015	79	1,015	6		
Other	1,529	39	486	7	7	1	-	-	2,022	13		
Nonfarm subtotal	2,777	70	6,576	88	883	100	1,079	84	11,315	86		
Farms	1,171	30	885	12	-	-	209	16	2,265	14		
Total	3,948	100	7,461	100	883	100	1,288	100	13,580	100		

¹ Does not include individual owners.

** Less than 0.5 percent.

Table 13.--Estimated number of private owners and acres of timberland owned by date of acquisition and form of ownership, Wisconsin, 1997

Year acquired	Individual & farmer		Corporate & other		All forms of ownership		Sampling error
	Number	Percent	Number	Percent	Number	Percent	
Owners							
1990-1997	45,357	18	1,723	15	47,080	18	18.2
1980-1989	61,923	25	1,795	15	63,718	24	13.8
1970-1979	60,136	24	4,196	36	64,332	25	9.2
1960-1969	27,154	11	936	8	28,090	11	9.5
1950-1959	18,755	7	595	5	19,350	7	18.5
1940-1949	10,652	4	1,022	9	11,674	4	35.3
1901-1939	3,970	**	264	2	4,234	2	30.4
Prior to 1900	713	2	32	1	745	**	52.5
No answer	22,023	9	988	9	23,011	9	38.8
Total	250,683	100	11,551	100	262,234	100	6.2
Acres Owned							
1990-1997	1,089,121	12	140,011	7	1,229,132	11	7.2
1980-1989	1,940,338	22	242,090	12	2,182,428	20	5.8
1970-1979	2,395,399	27	205,539	10	2,600,938	24	5.2
1960-1969	1,638,380	19	147,419	8	1,785,799	16	6.5
1950-1959	874,245	10	161,543	8	1,035,788	10	9.9
1940-1949	404,426	4	305,217	16	709,643	7	20.7
1901-1939	190,835	2	674,196	34	865,031	8	28.7
Prior to 1900	45,512	1	23,436	1	68,948	1	31.9
No answer	259,764	3	74,429	4	334,193	3	14.7
Total	8,838,020	100	1,973,880	100	10,811,900	100	0.3

** Less than 0.5 percent.

Table 14.--Estimated number of private non-forest industry owners and acres of timberland owned by date of acquisition and Forest Survey Unit, Wisconsin, 1997

Year acquired	Northeastern		Northwestern		Central		Southwestern		Southeastern		All units	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Owners												
1990-1997	4,128	11	8,258	12	11,196	18	13,477	35	10,021	18	47,080	18
1980-1989	9,574	26	12,219	17	21,190	34	7,571	20	13,164	24	63,718	24
1970-1979	8,073	22	14,996	21	15,292	25	8,647	23	17,324	32	64,332	25
1960-1969	5,007	14	8,611	12	5,487	9	3,896	10	5,089	9	28,090	11
1950-1959	7,419	20	2,551	4	4,263	7	1,656	4	3,461	6	19,350	7
1940-1949	601	2	4,511	6	1,570	3	1,680	4	3,312	6	11,674	4
Prior to 1940	300	**	2,132	3	1,474	2	582	2	481	1	4,979	2
No answer	1,816	5	17,383	25	1,277	2	640	2	1,905	4	23,011	9
Total	36,918	100	70,661	100	61,749	100	38,149	100	54,757	100	262,234	100
Acres Owned												
1990-1997	147,294	6	278,902	9	323,824	13	351,923	19	127,189	14	1,229,132	11
1980-1989	536,346	22	522,023	16	566,693	24	412,832	22	144,534	16	2,182,428	20
1970-1979	454,761	19	741,215	23	610,284	26	494,045	26	300,633	32	2,600,938	24
1960-1969	408,738	17	556,119	18	348,734	15	304,548	16	167,660	18	1,785,799	16
1950-1959	320,169	13	257,984	8	249,096	10	121,819	6	86,720	9	1,035,788	10
1940-1949	209,098	9	242,117	8	105,866	4	94,748	5	57,814	6	709,643	7
Prior to 1940	298,614	12	405,694	13	171,722	7	40,606	2	17,343	2	933,979	8
No answer	57,280	2	161,646	5	18,681	1	67,679	4	28,907	3	334,193	4
Total	2,432,300	100	3,165,700	100	2,394,900	100	1,888,200	100	930,800	100	10,811,900	100

** Less than 0.5 percent.

Table 15.--Estimated number of private owners and acres of timberland owned by primary and secondary reason for owning, Wisconsin, 1997

Reason for owning	Primary reason		Secondary reason	
	Number	Percent	Number	Percent
Owners				
Land investment	12,328	5	8,153	2
Recreation	68,429	26	39,526	15
Timber production	3,800	2	7,132	3
Farm or domestic use	21,980	8	23,591	9
Esthetic enjoyment	49,685	19	48,324	19
Part of farm	31,226	12	18,850	7
Part of residence	36,253	14	21,863	9
Estate to pass on	8,050	3	14,720	6
Other	6,196	2	2,926	1
No secondary reason given	-	-	52,862	20
No answer	24,287	9	24,287	9
Total	262,234	100	262,234	100
Acres Owned				
Land investment	679,152	6	592,162	5
Recreation	3,334,057	31	1,732,902	16
Timber production	1,450,323	13	801,015	7
Farm or domestic use	1,035,883	10	1,139,790	11
Esthetic enjoyment	1,126,467	10	1,939,677	18
Part of farm	1,178,938	11	592,059	5
Part of residence	969,756	9	724,565	7
Estate to pass on	377,003	4	930,021	9
Other	403,416	4	79,349	1
No secondary reason given	-	-	2,023,455	19
No answer	256,905	2	256,905	2
Total	10,811,900	100	10,811,900	100

Table 18.--Estimated number of private owners and acres of timberland owned by occupation and harvest history, Wisconsin, 1997

Occupation	Harvest history											
	Harvesters				Nonharvesters				All owners			
	Number	Percent	Sampling error Percent	Sampling error Percent	Number	Percent	Sampling error Percent	Sampling error Percent	Number	Percent	Sampling error Percent	Sampling error Percent
Professional	13,201	11	20.7	29.6	14,096	10	29.6	29.6	27,297	10	18.2	18.2
Executive	11,092	9	17.2	31.2	11,499	8	31.2	31.2	22,591	9	17.9	17.9
Other white collar	2,626	2	23.7	27.8	2,375	2	27.8	27.8	5,001	2	18.0	18.0
Skilled trade	8,484	7	14.8	28.4	18,855	13	28.4	28.4	27,339	10	20.0	20.0
Other blue collar	9,012	8	17.8	24.6	11,207	8	24.6	24.6	20,219	8	15.6	15.6
Farmers	23,305	19	13.1	27.6	11,276	8	27.6	27.6	34,581	13	12.5	12.5
Service worker	3,715	3	39.3	41.4	2,816	2	41.4	41.4	6,531	3	28.5	28.5
Homemaker	969	1	54.4	93.8	7,432	5	93.8	93.8	8,401	3	83.2	83.2
Retired	33,245	28	11.8	25.3	37,754	27	25.3	25.3	70,999	27	14.5	14.5
Corporate; Partnership, etc.	4,707	4	15.2	35.6	8,872	6	35.6	35.6	13,579	5	23.8	23.8
No answer	9,794	8	20.4	36.6	15,902	11	36.6	36.6	25,696	10	23.9	23.9
Total	120,150	100	5.2	11.1	142,084	100	11.1	11.1	262,234	100	6.2	6.2
Acres Owned												
Professional	625,163	8	10.7	14.2	336,527	11	14.2	14.2	961,690	8	8.6	8.6
Executive	626,686	8	10.6	12.9	408,846	14	12.9	12.9	1,035,532	7	8.2	8.2
Other white collar	198,925	2	18.8	25.2	107,910	4	25.2	25.2	306,835	4	15.1	15.1
Skilled trade	483,710	6	12.1	14.5	333,219	11	14.5	14.5	816,929	6	9.4	9.4
Other blue collar	491,782	6	12.2	16.1	260,381	9	16.1	16.1	752,163	6	9.8	9.8
Farmers	1,230,106	16	6.9	16.7	237,644	8	16.7	16.7	1,467,750	6	6.3	6.3
Service worker	116,789	1	23.5	26.9	93,819	3	26.9	26.9	210,608	1	17.7	17.7
Homemaker	43,511	1	41.2	50.2	26,400	1	50.2	50.2	69,911	2	31.9	31.9
Retired	1,762,566	23	6.5	9.7	705,670	23	9.7	9.7	2,468,236	25	5.5	5.5
Corporate; Partnership, etc.	1,846,348	24	13.8	11.6	327,749	11	11.6	11.6	2,174,097	27	11.6	11.6
No answer	384,382	5	13.4	11.3	163,767	5	11.3	11.3	548,149	8	11.3	11.3
Total	7,809,968	100	1.9	4.8	3,001,932	100	4.8	4.8	10,811,900	100	0.3	0.3

Table 19.--Estimated number of harvesters and acres of timberland harvested
by year of last harvest, Wisconsin, 1997

Year since last harvest	Owners		Acres owned	
	Number	Percent	Number	Percent
1990-1997	98,267	82	6,908,276	87
1980-1989	14,978	12	613,602	8
1970-1979	2,885	2	135,811	2
1960-1969	683	1	47,877	1
Before 1959	41	**	8,183	**
No year given	3,296	3	96,219	1
Total	120,150	100	7,809,968	100

** Less than 0.5 percent.

Table 20.--Estimated number of harvesters and acres of timberland owned by reason for harvesting and Forest Survey Unit, Wisconsin, 1997

Reason for harvesting	Northeastern		Northwestern		Central		Southwestern		Southeastern		All units		Sampling error (%)
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	
	Harvesters												
Mature timber	5,826	26	7,180	30	5,171	17	8,125	38	3,005	14	29,307	24	8.1
Good price	670	3	1,656	7	1,231	4	1,166	5	952	4	5,675	5	28.1
Land clearing	3,181	14	1,138	5	2,855	9	1,173	6	1,927	9	10,274	8	36.4
Needed money	1,231	6	742	3	2,417	8	2,419	11	1,059	5	7,868	6	20.2
For own use	4,758	22	6,065	25	6,309	20	2,715	13	5,302	25	25,149	21	10.6
Timber salvage	2,147	10	2,881	12	4,688	15	712	3	3,626	17	14,054	12	15.6
Wildlife habitat	372	2	647	3	949	3	1,102	5	61	**	3,131	3	33.9
Improve rec./esthetics	246	1	-	-	105	**	181	1	128	1	660	1	58.9
Cultural treatment	2,577	12	1,333	5	3,972	13	1,516	7	3,862	18	13,260	11	17.9
Other	649	3	1,696	7	1,887	6	1,485	7	4	**	5,721	5	29.2
No reason given	200	1	962	3	1,593	5	669	3	1,627	7	5,051	4	33.1
Total	21,857	100	24,300	100	31,177	100	21,263	100	21,553	100	120,150	100	5.2
	Acres Owned												
Mature timber	519,812	27	723,462	31	361,189	22	629,400	45	115,627	23	2,349,490	30	5.6
Good price	24,549	1	64,879	3	37,364	2	87,982	6	34,688	7	249,462	3	16.4
Land clearing	40,915	2	76,698	3	56,047	3	27,071	2	5,781	1	206,512	3	18.5
Needed money	65,464	4	62,752	3	130,775	8	175,961	13	17,344	3	452,296	6	12.1
For own use	496,221	26	674,962	29	408,572	25	142,123	10	138,753	27	1,860,631	24	7.7
Timber salvage	171,843	9	181,288	8	180,594	11	67,677	5	69,376	14	670,778	9	10.3
Wildlife habitat	57,281	3	97,616	4	74,729	5	27,071	2	5,781	1	262,478	3	6.4
Improve rec./esthetics	16,366	1	-	-	6,227	**	20,304	1	5,781	1	48,678	1	50.5
Cultural treatment	440,673	23	306,610	13	273,796	17	94,748	7	80,939	16	1,196,766	15	16.6
Other	67,281	3	97,616	4	68,501	4	101,517	7	5,781	1	340,696	4	19.8
No reason given	24,549	1	41,835	2	49,819	3	27,071	2	28,907	6	172,181	2	19.7
Total	1,924,954	100	2,327,718	100	1,647,613	100	1,400,925	100	508,758	100	7,809,968	100	1.9

** Less than 0.5 percent.

Table 21.--Estimated number of harvesters and acres of timberland owned by reason for harvesting and form of ownership, Wisconsin, 1997

Reason for harvesting	Form of ownership											
	Forest industry		Farmer		Individual		Corporate		Other		All forms	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
	235	52	11,881	27	15,729	22	241	27	1,221	41	29,307	24
Mature timber	-	-	1,617	4	3,925	6	49	6	84	3	5,675	5
Good price	-	-	2,149	5	7,740	11	13	1	372	13	10,274	8
Land clearing	-	-	5,081	11	2,409	3	222	25	156	5	7,868	6
Needed money	198	44	10,183	23	14,572	20	23	3	173	6	25,193	21
For own use	-	-	2,607	6	11,305	16	103	12	39	1	14,054	12
Timber salvage	-	-	1,204	3	1,735	2	56	6	136	5	3,131	3
Wildlife habitat	-	-	166	**	494	1	-	-	-	-	660	1
Improve rec./esthetics	17	4	6,170	14	6,707	9	151	17	215	7	13,260	11
Cultural treatment	-	-	1,732	4	3,667	5	24	3	298	10	5,721	5
Other	-	-	1,568	3	3,233	5	-	-	250	9	5,051	4
No reason given	450	100	44,358	100	71,516	100	882	100	2,944	100	120,650	100
Total	76,136	7	953,264	36	1,066,712	31	121,000	39	132,378	38	2,349,490	30
Mature timber	-	-	97,403	4	130,410	3	5,781	2	15,868	5	249,462	3
Good price	-	-	105,370	4	86,732	2	6,227	2	8,183	2	206,512	3
Land clearing	-	-	298,529	11	134,340	4	13,200	4	6,227	2	452,296	6
Needed money	661,406	62	518,732	20	647,101	19	8,183	3	25,209	7	1,860,631	24
For own use	-	-	191,963	7	440,320	13	23,339	8	15,156	4	670,778	9
Timber salvage	-	-	31,772	1	166,017	5	30,106	10	34,583	10	262,478	3
Wildlife habitat	-	-	12,549	**	36,129	1	-	-	-	-	48,678	1
Improve rec./esthetics	329,277	31	252,138	10	491,462	14	56,555	18	67,334	20	1,196,766	15
Cultural treatment	-	-	73,234	3	202,817	6	43,262	14	21,383	6	340,696	4
Other	-	-	78,904	3	73,850	2	-	-	19,427	6	172,181	2
No reason given	1,066,819	100	2,613,858	100	3,475,890	100	307,653	100	345,748	100	7,809,968	100
Total												

** Less than 0.5 percent.

Table 22.--Estimated number of private owners on whose land products have been harvested and acres of timberland owned by timber products harvested and size class of ownership, Wisconsin, 1997¹

Timber product	Forest industry				Nonindustrial private owners							
	All acres		1-49		Ownership size class (acres)				50+		All harvesters	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Fuelwood personal	51	11	62,601	80	30,671	75	572	68	93,937	78		
Fuelwood sale	38	8	2,624	3	4,055	10	107	13	6,824	6		
Saw logs	450	100	21,826	28	21,412	50	712	85	44,400	37		
Pulpwood	289	64	18,422	24	21,041	50	610	72	40,362	34		
Other personal	122	27	17,212	9	11,130	27	305	36	28,769	24		
Christmas trees	26	6	1,154	1	1,776	4	47	6	3,003	3		
Other product sale	3	1	880	**	1,021	3	12	1	1,916	2		
Don't know	-	-	713	**	-	-	16	2	729	1		
All harvesters	450		77,967		40,891		842		120,150			
All owners	450		200,426		60,401		957		262,234			
					Acres Owned							
Fuelwood personal	605,221	22	1,221,532	41	3,284,547	74	431,507	60	5,543,004	71		
Fuelwood sale	86,381	3	74,529	2	413,896	9	141,735	20	716,575	9		
Saw logs	1,066,819	100	556,600	18	2,498,307	57	619,693	85	4,741,679	61		
Pulpwood	1,028,521	37	476,260	16	2,451,582	55	575,093	79	4,531,643	58		
Other personal	108,721	4	389,509	13	1,267,368	29	232,552	32	1,998,228	26		
Christmas trees	730,259	26	26,195	1	244,495	6	45,328	6	1,046,316	13		
Other product sale	141,385	5	30,311	1	112,808	3	21,923	3	306,439	4		
Don't know	-	-	15,155	**	-	-	14,951	2	30,108	**		
All harvesters	1,066,819		1,602,674		4,415,318		725,157		7,809,968			
All owners	1,066,819		3,014,260		5,929,811		801,010		10,811,900			

¹ Items do not add to total because some owners may have harvested more than one product.

** Less than 0.5 percent

Table 23.--Estimated number of private owners that have not harvested and acres of timberland owned by reason for not harvesting and Forest Survey Unit, Wisconsin, 1997

Reason for not harvesting	Northeastern		Northwestern		Central		Southwestern		Southeastern		All nonharvesters	
	Number	Percent	Number	Percent								
Nonharvesters												
No market/price too low	205	1	227	**	2,699	9	81	**	1,074	3	4,286	3
Trees too small	3,130	21	4,021	9	2,079	7	1,778	10	514	2	11,522	8
Poor quality	284	2	827	2	530	2	75	**	2,399	7	4,115	3
Scenery reduced	3,720	25	7,874	17	6,562	22	1,504	9	6,360	19	26,020	18
Destroy hunting	2,733	18	2,720	6	3,809	13	1,881	11	981	3	12,124	9
Distrust loggers	71	**	271	1	694	2	263	2	715	2	2,014	1
Opposed to harvest	723	5	1,544	3	5,237	17	2,287	14	12,530	38	22,321	16
Low volume	684	5	1,523	3	2,879	9	1,437	9	2,546	8	9,069	6
Small area	-	-	10,460	23	2,024	7	6,769	40	3,214	10	22,467	16
Not enough knowledge	726	5	3,082	7	1,063	3	442	3	1,118	3	6,431	5
Other	1,967	13	4,333	9	2,275	7	167	1	344	1	9,086	6
No answer	818	5	9,479	20	721	2	202	1	1,409	4	12,629	9
Total	15,061	100	46,361	100	30,572	100	16,886	100	33,204	100	142,084	100
Acres Owned												
No market/price too low	8,183	2	27,890	3	12,454	2	13,535	3	17,344	4	79,406	2
Trees too small	98,196	19	97,616	12	112,093	15	87,980	19	34,688	8	430,573	14
Poor quality	24,549	5	20,918	2	24,910	3	6,768	1	34,688	8	111,833	4
Scenery reduced	98,196	19	160,368	19	93,411	13	81,213	17	63,595	15	496,783	17
Destroy hunting	114,562	23	160,368	19	124,548	17	81,211	17	34,690	9	515,379	17
Distrust loggers	16,366	3	27,890	3	18,682	2	27,072	6	28,907	7	118,917	4
Opposed to harvest	40,915	8	90,643	11	149,457	20	81,213	17	92,502	22	454,730	15
Low volume	32,732	7	27,890	3	56,047	8	47,374	10	34,688	8	198,731	7
Small area	-	-	13,945	2	18,682	2	6,768	1	17,344	4	56,739	2
Not enough knowledge	32,732	7	48,808	6	74,729	10	27,071	6	28,908	7	212,248	7
Other	32,732	7	104,588	13	37,364	5	13,535	3	17,344	4	205,563	7
No answer	8,183	2	57,058	7	24,910	3	13,535	3	17,344	4	121,030	4
Total	507,346	100	837,982	100	747,287	100	487,275	100	422,042	100	3,001,932	100

** Less than 0.5 percent.

Table 25.--Estimated number of private owners and acres of timberland owned by size class and expected time of future harvest and size class of ownership, Wisconsin, 1997

Expected time of future harvest	Ownership size class (acres)												Sampling error
	1-49 acres		50-499 acres		500+ acres		Total acres		Total acres		Total acres		
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	
1-10 years	71,256	35	39,010	64	739	71	111,005	42	6.2				
Indefinite	51,810	26	15,867	26	261	25	67,938	26	9.8				
Never	63,640	32	4,713	8	30	3	68,383	26	19.3				
No answer	13,720	7	1,181	2	7	1	14,908	6	37.2				
Total	200,426	100	60,771	100	1,037	100	262,234	100	6.2				
Acres owned													
1-10 years	1,360,423	45	3,872,014	65	1,634,520	89	6,866,957	64	2.4				
Indefinite	954,727	32	1,585,167	26	155,222	9	2,695,116	25	5.1				
Never	598,859	20	401,156	7	23,134	1	1,023,149	9	8.1				
No answer	100,250	3	111,410	2	15,018	1	226,678	2	17.0				
Total	3,014,259	100	5,969,747	100	1,827,894	100	10,811,900	100	0.3				

Table 27.--Estimated number of non-forest industry owners and acres of timberland owned by ownership class and expected time of future harvest, Wisconsin, 1997

Ownership class	Expected time of future harvest									
	1-10 years		Indefinite		Never		No answer		All individual owners	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
	Owners									
Farmers	41,742	38	18,150	27	17,242	25	2,339	16	79,473	30
Individual	65,027	59	46,521	69	47,236	69	12,426	83	171,210	66
Corporate										
(non-forest industry)	659	**	1,621	2	234	**	56	**	2,570	1
Other	3,217	3	1,556	2	3,670	6	87	1	8,530	3
Total	110,645	100	67,848	100	68,382	100	14,908	100	261,783	100
	Acres Owned									
Farmers	2,134,763	37	898,431	34	229,268	22	98,537	42	3,360,999	35
Individual	3,109,533	53	1,515,948	56	740,874	72	110,369	46	5,476,724	56
Corporate										
(non-forest industry)	241,559	4	109,624	4	14,951	2	20,799	9	386,933	4
Other	320,509	6	154,886	6	38,057	4	6,973	3	520,425	5
Total	5,806,364	100	2,678,889	100	1,023,150	100	236,678	100	9,745,081	100

** Less than 0.5 percent.

Table 30.--Estimated number of private owners and acres of timberland
by owners who have requested forest management assistance
and by size class of ownership, Wisconsin, 1997

Size class of ownership (acres)	All private owners		Owners that requested assist.		Percent of size class
	Number	Percent	Number	Percent	Percent
Owners					
Forest industry (all sizes)	450	**	319	**	71
Nonindustrial					
1-49	200,426	76	41,137	55	21
50-499	60,401	23	32,203	43	53
500+	957	**	821	1	86
Total	262,234	100	74,480	100	28
Acres owned					
Forest industry (all sizes)	1,066,819	10	981,184	16	92
Nonindustrial					
1-49	3,014,260	28	907,252	15	30
50-499	5,929,811	55	3,496,527	57	59
500+	801,010	7	706,278	12	87
Total	10,811,900	100	6,091,241	100	56

** Less than 0.5 percent.

Table 31.--Estimated number of private owners and acres of timberland owned by requests for forestry assistance and Forest Survey Unit, Wisconsin, 1997

Forestry assistance requested	Northeastern		Northwestern		Central		Southwestern		Southeastern		All units	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Yes	13,998	38	11,786	17	15,985	26	16,772	44	15,939	29	74,480	28
No	21,959	59	49,560	70	43,732	71	21,026	55	36,875	67	173,152	66
No answer	961	3	9,315	13	2,032	3	351	1	1,943	4	14,602	6
Total	36,918	100	70,661	100	61,749	100	38,149	100	54,757	100	262,234	100
Owners												
Yes	1,535,903	62	1,706,772	54	1,217,923	51	1,231,729	65	398,914	43	6,091,241	56
No	871,848	36	1,401,870	44	1,127,158	47	629,400	33	514,542	55	4,544,818	42
No answer	24,549	2	57,058	2	49,819	2	27,071	2	17,344	2	175,841	2
Total	2,432,300	100	3,165,700	100	2,394,900	100	1,888,200	100	930,800	100	10,811,900	100
Acres Owned												

Table 32.--Estimated number of private owners who have received forest assistance and acres of timberland owned by type of assistance, Wisconsin, 1997

Type of assistance	Owners assisted		Acres owned	
	Number	Percent	Number	Percent
Information about forestry	10,500	4	758,274	7
Help with tree planting	6,160	2	501,197	5
General forest management	10,614	4	881,228	8
Information about wildlife	4,484	2	587,656	5
Help with timber sales	2,620	1	214,995	2
Help with insect or diseases	1,261	**	124,063	1
Information on taxes	16	**	13,740	**
All types ¹	48,771	19	5,026,489	46
No assistance/no answer	213,463	81	5,785,411	54
Total	262,234	100	10,811,900	100

¹ Columns do not add to total because some owners have received more than one type of assistance.

Table 34.--Estimated number of private owners and acres of timberland owned by primary reason for owning by harvesters and nonharvesters, Wisconsin, 1997

Primary reason for owning	Owners		Sampling error	Acres owned		Sampling error
	Number	Percent	Percent	Number	Percent	Percent
Harvesters						
Land investment	4,164	3	18.4	394,159	5	14.0
Recreation	34,320	29	11.2	2,101,395	27	6.1
Timber production	2,978	2	15.8	1,411,056	18	18.5
Farm of domestic use	17,113	14	11.8	884,305	11	8.6
Esthetic enjoyment	15,442	13	15.2	707,182	9	10.0
Part of farm	15,000	12	17.4	817,296	10	8.6
Part of residence	17,620	15	17.0	692,978	9	10.2
Estate to pass on	4,784	4	25.8	284,694	4	16.1
Other	4,427	4	37.0	348,101	5	25.7
No answer	4,302	4	34.1	168,802	2	20.2
Total	120,150	100	5.2	7,809,968	100	1.9
Nonharvesters						
Land investment	8,164	6	21.1	284,993	10	15.7
Recreation	34,109	24	15.8	1,232,661	41	7.6
Timber production	822	1	68.7	39,268	1	41.2
Farm or domestic use	4,867	4	28.2	151,579	5	21.0
Esthetic enjoyment	34,243	24	27.4	419,284	14	12.8
Part of farm	16,226	11	21.2	361,642	12	13.1
Part of residence	18,633	13	40.6	276,778	9	15.5
Estate to pass on	3,266	2	43.5	92,308	3	26.9
Other	1,769	1	48.9	55,315	2	35.7
No answer	19,985	14	41.1	88,104	3	28.0
Total	142,084	100	11.1	3,001,932	100	4.8
All Owners						
Land investment	12,328	5	15.8	679,152	6	10.5
Recreation	68,429	26	9.5	3,334,056	31	4.9
Timber production	3,800	2	19.3	1,450,324	13	17.9
Farm of domestic use	21,980	8	11.0	1,035,884	10	7.9
Esthetic enjoyment	49,685	19	19.4	1,126,466	10	7.9
Part of farm	31,226	12	13.5	1,178,938	11	7.0
Part of residence	36,253	14	22.4	969,756	9	8.5
Estate to pass on	8,050	3	23.3	377,002	4	13.9
Other	6,196	2	29.8	403,416	4	22.6
No answer	24,287	9	34.3	256,906	2	16.4
Total	262,234	100	6.2	10,811,900	100	0.3

Table 35.--Estimated number of private owners and acres of timberland owned by primary benefit received in the last 10 years and harvest history, Wisconsin, 1997

Primary benefit received	Harvest history						Sampling error Percent
	Harvest		Did not harvest		All owners		
	Number	Percent	Number	Percent	Number	Percent	
Owners							
Land value increase	5,582	5	9,972	7	15,554	6	16.5
Recreation	32,809	27	33,364	23	66,173	25	9.9
Timber income	6,577	5	-	-	6,577	3	18.4
Farm or domestic use	7,961	7	9,396	7	17,357	7	15.8
Esthetic enjoyment	47,754	40	66,132	47	113,886	43	11.3
Firewood	12,618	10	-	-	12,618	5	15.9
Other	2,036	2	7,116	5	9,152	3	64.0
No answer	4,813	4	16,104	11	20,917	8	29.4
Total	120,150	100	142,084	100	262,234	100	6.2
Acres Owned							
Land value increase	499,669	6	317,660	11	817,329	7	9.4
Recreation	2,185,533	28	1,180,082	39	3,365,615	31	4.8
Timber income	1,569,200	20	-	-	1,569,200	15	16.6
Farm or domestic use	599,986	8	200,528	7	800,514	7	9.0
Esthetic enjoyment	2,012,511	26	1,109,210	37	3,121,721	29	4.8
Fuel wood	510,241	6	-	-	510,241	5	11.4
Other	150,493	2	73,086	2	223,579	2	18.0
No answer	282,335	4	121,366	4	403,701	4	22.2
Total	7,809,968	100	3,001,932	100	10,811,900	100	0.3

Table 36.--Estimated number of private owners and acres of timberland owned by primary benefit expected in the next 10 years and harvest history, Wisconsin, 1997

Primary benefit expected	Harvest history						Sampling error Percent
	Harvest		Did not harvest		All owners		
	Number	Percent	Number	Percent	Number	Percent	
Owners							
Land value increase	10,869	9	10,774	8	21,643	8	12.7
Recreation	35,710	30	28,951	20	64,661	25	9.6
Timber income	4,920	4	846	1	5,766	2	14.4
Farm or domestic use	7,443	6	7,885	6	15,328	6	14.3
Esthetic enjoyment	40,829	34	65,733	46	106,562	41	12.2
Firewood	12,000	10	2,042	1	14,042	5	15.6
Other	1,976	2	2,218	1	4,194	2	22.2
No answer	6,403	5	23,635	17	30,038	11	28.8
Total	120,150	100	142,084	100	262,234	100	6.2
Acres Owned							
Land value increase	763,292	10	435,958	15	1,199,250	11	7.6
Recreation	2,242,602	29	1,086,853	36	3,329,455	31	4.8
Timber income	1,609,151	20	59,216	2	1,668,367	15	15.8
Farm or domestic use	552,159	7	191,481	7	743,640	7	9.4
Esthetic enjoyment	1,728,201	22	942,533	31	2,670,734	25	5.3
Firewood	447,784	6	70,180	2	517,964	5	11.2
Other	216,487	3	70,626	2	287,113	3	15.8
No answer	250,292	3	145,085	5	395,377	3	13.1
Total	7,809,968	100	3,001,932	100	10,811,900	100	0.3

Table 37.--Estimated number of private owners and acres of timberland owned by request for forest assistance and harvest history, Wisconsin, 1997

Forestry assistance requested	Harvester		Nonharvester		Total	
	Number	Percent	Number	Percent	Number	Percent
Yes	48,771	41	25,709	18	74,480	28
No	68,896	57	104,256	73	173,152	66
No answer	2,483	2	12,119	9	14,602	6
Total	120,150	100	142,084	100	262,234	100
Owners						
Yes	5,026,489	64	1,064,752	35	6,091,241	56
No	2,696,712	35	1,848,106	61	4,544,818	42
No answer	86,767	1	89,074	4	175,841	2
Total	7,809,968	100	3,001,932	100	10,811,900	100
Acres Owned						

Table 38.--Estimated number of private owners and acres of timberland owned by availability for recreation, Wisconsin, 1997

Recreation availability	Owners		Acres owned	
	Number	Percent	Number	Percent
Owner does not recreate but permits public use	14,893	6	1,698,580	16
Owner recreates and permits public use	38,668	15	2,492,265	23
Owners recreates and excludes public	125,465	48	5,157,767	48
Owner recreates and did not answer on availability	17	**	15,156	**
Subtotal recreation	179,043	69	9,363,768	87
Not used and not permitted	66,828	25	1,078,633	10
No answer	16,363	6	369,499	3
Total	262,234	100	10,811,900	100

** Less than 0.5 percent.

Table 39.--Estimated number of private owners and acres of timberland owned by type of recreational use by owner, owner's family, or immediate circle of friends, Wisconsin, 1997

Recreation by owners, family, and friends	Private owners		Acres owned	
	Number	Percent	Number	Percent
Hiking	94,796	36	4,567,620	42
Picnicking	46,750	18	2,569,214	24
Camping	45,712	17	2,722,789	25
Hunting	109,429	42	5,492,001	51
Fishing	27,879	11	1,903,817	18
Snowmobiling	40,833	16	2,461,648	23
Winter sports	45,372	17	2,571,271	24
Birdwatching	83,465	32	3,404,263	31
Other	11,243	4	476,317	4
All types ¹	164,113	63	7,650,032	71
No use indicated	98,121	37	3,161,868	29
Total	262,234	100	10,811,900	100

¹ Columns do not add to total because some owners report more than one type of use.

Table 40.--Estimated number of private owners and acres
of timberland owned by type of public use permitted, Wisconsin, 1997

Type of public use permitted	Owners		Acres owned	
	Number	Percent	Number	Percent
Hiking	6,834	3	1,549,033	14
Picnicking	3,389	1	1,188,652	11
Camping	3,025	1	353,352	3
Hunting	13,612	5	1,871,736	17
Fishing	3,920	1	1,349,594	12
Snowmobiling	14,761	6	1,814,991	17
Winter sports	6,698	3	1,380,005	13
Birdwatching	7,244	3	1,510,625	14
Other	3,474	1	509,935	5
Some type of public use permitted ¹	53,561	21	4,190,845	39
Public use not permitted	125,465	48	5,157,767	48
No uses indicated	83,208	31	1,463,288	13
Total	262,234	100	10,811,900	100

¹ Columns do not add to total because some owners report more than one type of recreation.

Table 42.--Estimated number of private owners and acres of timberland owned by availability for hunting, Wisconsin, 1997

Hunting availability	Owners		Acres owned	
	Number	Percent	Number	Percent
Owner permits hunting and does not hunt	13,612	5	1,871,736	17
Owner hunts and permits hunting	21,856	8	1,346,004	12
Owner hunts and does not permit public to hunt	109,429	42	5,492,001	51
Subtotal	144,897	55	8,709,741	80
No answer	117,337	45	2,102,159	20
Total	262,234	100	10,811,900	100

Table 43.--Estimated number of private owners and acres of timberland owned by whether land is posted or not posted and Forest Survey Unit, Wisconsin, 1997

Land posted	Northeastern		Northwestern		Central		Southwestern		Southeastern		All units	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Land posted	19,770	54	16,254	23	36,714	59	24,288	64	17,118	31	114,144	44
Land not posted	15,601	42	43,823	62	19,686	32	13,386	35	35,974	66	128,470	49
No answer	1,547	4	10,584	15	5,349	9	475	1	1,665	3	19,620	7
Total	36,918	100	70,661	100	61,749	100	38,149	100	54,757	100	262,234	100
Owners												
Land posted	1,258,511	52	1,295,974	40	1,619,122	68	1,170,819	62	572,355	61	5,916,781	55
Land not posted	1,124,691	46	1,676,522	53	694,822	29	670,006	35	341,101	37	4,507,142	42
No answer	49,098	2	193,204	7	80,956	3	47,375	3	17,344	2	387,977	3
Total	2,432,300	100	3,165,700	100	2,394,900	100	1,888,200	100	930,800	100	10,811,900	100
Acres Owned												

Table 44.--Estimated number of private owners and acres of timberland owned by size class and whether land is posted or not posted, Wisconsin, 1997

Posting status	Ownership size class (acres)													
	1-9 acres			10-49 acres			50-499 acres			500+ acres			Total	
	Number	Percent		Number	Percent		Number	Percent		Number	Percent		Number	Percent
	Owners													
Land posted	18,598	20		56,140	52		38,711	64		694	67		114,143	44
Land not posted	58,167	61		49,554	45		20,410	33		339	33		128,470	49
No answer	14,798	19		3,168	3		1,651	3		4	**		19,621	7
Total	91,563	100		108,862	100		60,772	100		1,037	100		262,234	100
	Acres Owned													
Land posted	84,890	25		1,430,722	53		3,780,730	63		620,440	34		5,916,782	55
Land not posted	208,315	61		1,175,022	44		2,011,194	34		1,112,611	61		4,507,142	42
No answer	46,126	14		69,185	3		177,822	3		94,843	5		387,976	3
Total	339,331	100		2,674,929	100		5,969,746	100		1,827,894	100		10,811,900	100

** Less than 0.5 percent.

Table 45.--Estimated number of private owners and acres of timberland owned by reason for posting and use permitted, Wisconsin, 1997

Reason for posting	Public permitted		No answer		Total		Sampling error (%)
	Number	Percent	Number	Percent	Number	Percent	
Owners							
Past abuse of property	1,463	3	3,765	2	5,228	2	22.1
Safety	994	2	7,284	3	8,278	3	22.6
Liability	418	1	4,347	2	4,765	2	34.3
Control hunting	7,011	13	16,047	8	23,058	9	11.0
Prohibit hunting	671	1	10,996	5	11,667	4	58.9
Control access	3,498	7	12,039	6	15,537	6	13.3
Prohibit access	9,098	17	35,682	17	44,780	17	9.1
Other	207	**	601	**	808	**	45.0
Reason not specified	-	-	22	**	22	**	98.7
Total posted	23,360	44	90,783	44	114,143	44	7.6
Land not posted	30,062	56	98,408	47	128,470	49	10.2
No answer	140	**	19,481	9	19,621	7	32.7
Total	53,562	100	208,672	100	262,234	100	6.2
Sampling error (%)	8.2		7.7		6.2		
Acres owned							
Past abuse of property	145,867	3	255,561	4	401,427	4	13.3
Safety	108,151	3	236,477	4	344,628	3	14.1
Liability	65,229	2	172,488	3	237,717	2	17.4
Control hunting	512,664	12	892,451	13	1,405,115	13	7.0
Prohibit hunting	40,941	1	203,824	3	244,765	2	17.1
Control access	308,277	7	661,288	10	969,565	9	8.4
Prohibit access	457,192	11	1,759,708	27	2,216,900	21	5.5
Other	32,722	1	42,880	1	75,602	1	30.5
Reason not specified	12,879	**	8,183	**	21,062	**	72.7
Total posted	1,683,922	40	4,232,860	65	5,916,782	55	3.4
Land not posted	2,494,468	59	2,012,673	30	4,507,142	42	4.6
No answer	12,455	1	375,522	5	387,976	3	23.0
Total	4,190,845	100	6,621,055	100	10,811,900	100	0.3
Sampling error (%)	5.2		3.3		0.3		

** Less than 0.5 percent.

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2001. Wisconsin private timberland owners: 1997. Res. Pap. NC-339. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Research Station. 84 p.

Identifies and profiles Wisconsin's private timberland owners. Estimates the number and distribution of private timberland owners by owner attitudes and objectives concerning forest ownership, management, and use. Provides 45 tables relating owner and property characteristics for the State and its five survey units.

KEY WORDS: Private landowner, owner objectives, owner attitudes, harvesting, forestry assistance, recreation.

