THE IMPACT OF PUBLIC OWNERSHIP 
ON PRIVATE LANDS IN 
POLK AND BURNETT COUNTIES, 
WISCONSIN 

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INTRODUCTION

Study Objectives

A number of recent developments have accentuated the interest in land use planning. In particular, the energy crisis, fluctuations in food supplies and prices, and continuing ecological awareness have raised new concerns about how we use our land. The effectiveness of policy tools available to direct land use is also being subjected to closer scrutiny.

Most land in the U.S. is privately owned. In order to design suitable programs to guide and influence private land use, a sound information base concerning land ownership patterns and owner motivations is needed. This study includes an examination of landowner patterns and motivations, as well as the impact of government owned land on adjacent private lands.

The objectives of this study, carried out in Polk and Burnett counties in northwestern Wisconsin, are threefold:

-- To examine the extent and spatial dispersion of non-resident owned land in the study area.
-- To determine the nature and impact of both resident and non-resident owner goals on specific areas of land-policy concern.
-- To examine the effect of public lands on the value of nearby private lands.

In our study, we surveyed a random sample of northwestern Wisconsin landowners by mail. The survey examined the property owners' motivations for ownership; common characteristics; and opinions of government services, land use controls, fish and wildlife management policies, and conservation practices.

The survey also explored owners' perceptions of public land impacts on local property taxes, the impact of public lands on nearby property values, and private owners' use and attitudes toward public land.

Northwestern Wisconsin serves as a good example of the trends and problems resulting from increasing recreational pressure on a lightly populated rural region. This study will serve as a benchmark for future studies within the two-county area. Study data and supporting material will be maintained in the offices of the Landownership Section of the USDA's Economics and Statistics Service in Madison, Wisconsin.*

The Department of Urban and Regional Planning, University of Wisconsin-Extension hopes that this study will stimulate further research and

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*The contributions of the Natural Resource Economics Division, ESS, USDA, are gratefully acknowledged.
investigation in the area of land tenure. An understanding of land tenure in its broadest sense is critical to developing land-use plans and governmental programs to achieve both public and private goals.

The Study Area

The study area is located within portions of Polk and Burnett counties in northwestern Wisconsin (see Map 1). Before the influence of White exploration and settlement, much of the study area was characterized by openings, barrens and prairie savanna. Fires caused by lightning and periodic burning by Indian groups kept much of the area in this condition.

Minneapolis and St. Paul lie less than two hours away by car, while Chicago and Milwaukee are within a day's drive some 400 miles southeast (see Map 2).

Like many other rural regions, the two-county area lost population during the past few decades. However, this trend was reversed in the late 1960s and the permanent population of Polk, Burnett and adjoining counties has increased faster than the statewide average (see Table 1). Since 1970, Polk and Burnett counties have been among the fastest growing areas in Wisconsin. The population in Burnett County alone has grown at four times the state average.

The newcomers follow a trail blazed before recorded history by Dakota Indians. French voyageurs followed the Dakota and used the St. Croix River as a water route between Lake Superior and the Mississippi.

The Chippewa drove the Dakota -- by then called the Sioux -- from the area in the early 1800s. By mid-century, loggers arrived, drawn by stands of Norway and white pine and the river's easy access to sawmills.

Scandinavian and French immigrants followed the loggers. For a while, agriculture flourished on the cut-over land, but short growing seasons and the dry, sandy soil made long-term farming unprofitable.

Wholesale abandonment followed during the 1920s and 1930s. Fire raged over the vacant homesteads. The charred river valley with its isolated, abandoned fields became known as the "barrens".1

With the advent of forest protection in the 1930s, the area began to reforest naturally. Large areas were also planted with trees. In the late 1920s, with the passage of the Wisconsin County Forest Crop Law, the two counties began adding potential forest land to county forests.

State aid, fire protection and tree planting have restored many forest blocks to productive use. Mixtures of jack pine, aspen, white birch and scrub oak cover more than 118,000 acres of county forest crop land in Polk and Burnett counties.

THE STUDY AREA

Polk & Burnett Counties
Wisconsin (not to scale)
Only civil towns within the study area are identified.
DISTANCE TO GRANTSBURG

Approximate road mileage to center of the study area. (not to scale)

MINNEAPOLIS
71 miles

GRANTSBURG
POLK

MADISON
296 miles

MILWAUKEE
360 miles

CHICAGO
434 miles

Map 2.
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td><strong>Rural north-western counties</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burnett</td>
<td>11,382</td>
<td>10,236</td>
<td>-10.1</td>
<td>9,214</td>
<td>9,276</td>
<td>11,463</td>
<td>23.6</td>
</tr>
<tr>
<td>Polk</td>
<td>26,197</td>
<td>24,944</td>
<td>-4.8</td>
<td>24,968</td>
<td>26,666</td>
<td>30,594</td>
<td>14.7</td>
</tr>
<tr>
<td>St. Croix</td>
<td>24,842</td>
<td>25,905</td>
<td>4.3</td>
<td>26,164</td>
<td>34,354</td>
<td>42,129</td>
<td>22.6</td>
</tr>
<tr>
<td><strong>Urban southern counties</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dane</td>
<td>130,660</td>
<td>169,357</td>
<td>29.6</td>
<td>222,095</td>
<td>290,272</td>
<td>319,105</td>
<td>9.9</td>
</tr>
<tr>
<td>Milwaukee</td>
<td>766,885</td>
<td>871,047</td>
<td>13.6</td>
<td>1,036,041</td>
<td>1,054,249</td>
<td>960,993</td>
<td>-8.8</td>
</tr>
<tr>
<td><strong>State total:</strong></td>
<td>3,137,587</td>
<td>3,434,575</td>
<td>9.5</td>
<td>3,951,777</td>
<td>4,417,821</td>
<td>4,652,755</td>
<td>5.3</td>
</tr>
</tbody>
</table>

Source: 1940-1970 U.S. Census of Population
1978 Wisconsin Department of Administration
In the mid 1940s, the Wisconsin Conservation Department -- now the Department of Natural Resources (DNR) -- began acquiring the remnants of glacial marshes which had been drained, farmed and burned. Today, approximately 61,000 acres of DNR-owned marshland -- including the Crex Meadows and Fish Lake Wildlife Areas -- lie within the study area (see Table 2).

In addition, the National Park Service (NPS) now holds in fee or easement 5,196 acres along the St. Croix River from St. Croix Falls through Polk and Burnett counties. An additional 5,758 acres are also planned for acquisition in these counties (see Table 2).

In 1968, the National Wild and Scenic Rivers Act created another major category of public land adjacent to the St. Croix and Namakagon rivers.

The Act aimed to preserve the natural, recreational, historic and cultural values of free-flowing rivers. It established three categories of rivers:

-- Wild rivers which are primitive and inaccessible except by trail.

-- Scenic rivers which are accessible in places by roads. Scenic rivers have only limited recreational uses such as canoeing.

-- Recreational rivers which are readily accessible and open to a wide range of recreational uses, including power boating.²

The Wild Rivers Act covers three Wisconsin rivers including the upper and lower St. Croix and Namakagon. A total of 185 miles of these two rivers are located above St. Croix Falls. An additional 59 miles of river in Minnesota and Wisconsin from St. Croix Falls to Prescott, Wisconsin were added to the system in 1973.

The area is jointly administered by the National Park Service and the Minnesota and Wisconsin Departments of Natural Resources.

Despite several acquisition projects and federal protection, substantial areas of property remain in private hands within public boundaries -- especially in the county forests. In addition, there are large acreages of private land adjacent to the public projects.

The study area consists of a strip of 12 towns adjacent to the Minnesota-Wisconsin state border and, extending from central Polk County to the Burnett County line (see Map 1).

The towns are similar in their generally recreational orientation and rural character.

Three of the towns lie within Polk County. These towns contain some farms -- chiefly family dairy farms -- located inland from the St. Croix River.

**TABLE 2 - Public Ownership in Polk and Burnett Counties, Wisconsin**

<table>
<thead>
<tr>
<th>Type of Ownership*</th>
<th>Burnett</th>
<th>Polk</th>
</tr>
</thead>
<tbody>
<tr>
<td>School</td>
<td>1,049</td>
<td>330</td>
</tr>
<tr>
<td>Town</td>
<td>1,021</td>
<td>4,406</td>
</tr>
<tr>
<td>County</td>
<td>102,390</td>
<td>15,854</td>
</tr>
<tr>
<td>State</td>
<td>58,387</td>
<td>12,939</td>
</tr>
<tr>
<td>Federal</td>
<td>5,132</td>
<td>64</td>
</tr>
<tr>
<td><strong>Totals:</strong></td>
<td><strong>167,979</strong></td>
<td><strong>33,593</strong></td>
</tr>
</tbody>
</table>

Percent of all land in county 32.8% 6.5%
Percent of all land in the county in farms 19.0 63.0

*1980 data
Source: Wisconsin Department of Natural Resources; 1974 Census of Agriculture, Volume 1, Part 49.
These towns contain small county forest holdings along with privately owned wooded lands and glacially formed lakes and wetlands.

Moving north along the St. Croix River from the Town of Sterling in Polk County into the Town of Anderson in Burnett County, we enter the barrens. The sandy, droughty soil of the barrens -- which includes the Fish Lake Wildlife Area -- supports jackpine mixed with aspen, scrub oak openings and logged areas.

Further north -- in West Marshland town -- lies the Crex Meadows Wildlife Area. The meadows -- vast marshy remnants of prehistoric Glacial Lake Grantsburg -- were created 10,000 years ago when a lobe of the Wisconsin glacier blocked the St. Croix River.

In 1945, the Conservation Department began acquisition of the area for wetland restoration. Now stretching over 27,000 acres, Crex Meadows is home for almost 250 species of birds, 200 species of true prairie plants, and a 79-acre prairie scientific area.

Following the river from Highway 70 north to Danbury, lowland forest covers much of the land. Silver maple, ash, elm and other flood tolerant species dot the lowlands while stands of scrub oak, aspen and pine appear inland from the river.

There are numerous lakes in the northern towns of the study area. Most are surrounded by subdivision lots or cottage and second-home developments.
PREVIOUS RESEARCH

Impact of Recreational Development

While several previous studies have focused on the economic impact of tourism, there is little relevant literature on the impact of public land ownership and management on private lands either in Wisconsin or other states.

However, several previous studies provide some insight into the impact of recreational development -- both public and private -- on lightly populated rural areas.

Gene Wunderlich's 1975 study, entitled "Land Along the Blue Ridge", identified several land-use trends in an area of western Virginia. Although Wunderlich didn't attempt to study the impact of public land, he found increasing subdivision, rising land values and a shift toward recreational ownership in private lands adjoining Shenandoah National Park.

Wunderlich's study also examined the effects of increasing subdivision on existing recreational land and its value. He found a majority of landowners favored land-use controls to preserve the character of the area and their investments.3

A 1976 study of recreational subdivisions in southern Colorado by Herbert Hoover disclosed many property owners who were dissatisfied with their properties' poor resale values. These subdivisions were typical of large developments on low-value land where high-pressure sales tactics proved no substitute for careful planning.

Hoover's study also considered a subdivision's economic impact on the surrounding area. He concluded: "Visitors to subdivision lots spend money in the area through food purchases, lodging, recreation and taxes while demanding little in terms of schools, public safety and roads." However, as subdivisions become more fully developed, demands for public services will increase. Only then can the total economic as well as environmental impact of recreational subdivisions be determined.4

A 1975 study by Charles Deknatel of Wisconsin's State Planning Office, entitled "Impacts of Recreational Development: The Voyager Village Experience", studied the impact of Voyager Village, a large Burnett County recreational development.


The project developers acquired the site in the late 1960s. The sandy soil, which originally contained small, undeveloped lakes and stands of aspen, oak and pine, was well suited for individual sewerage systems and planned unit design. When developed, the project also featured large lots and substantial setback requirements to preserve lakefront views. More than 3,000 lots were divided for sale to the public.

However, many lots remain unsold today. Other property owners, hoping to resell their property, have been forced to accept offers below their original purchase prices.

The Wisconsin study concluded -- as did the Colorado study -- that the full local impact of the development will take years to become apparent. But because the development lies within the study area, the data in this report was influenced by a large number of Voyager Village property owners. This influence is noted later in the discussion.

In 1977, Richard Dunford surveyed rural land buyers and sellers in six southwestern Wisconsin counties and examined the effect of recreationally motivated buyers on the area.

Dunford identified three types of rural land buyers in the area:

-- Non-farm residential purchasers who buy small lots in rural areas for home sites.

-- Recreational buyers who usually will not live on the land until they retire.

-- Agricultural buyers who are chiefly farmers interested in expanding existing farms.

Dunford also noted that recreational buyers are not limited by the income-producing capacity of the land. Unhampered by the land's profit potential, the recreational buyer can bid more for the property than agricultural or forestry users. Since higher land prices may mean higher real-estate taxes, this increase in land values could be a burden on other residents whose incomes may rise slowly or who are dependant on the production potential of the land.

Dunford discovered that the aesthetic qualities which originally attracted recreational land buyers to the area may be damaged by the swelling recreational population. For example, the value of a site to a recreational user may depend more on the unspoiled beauty of the surrounding area than on the land itself. While the beautiful view increases the site's value, further development damages the view and the value of the land.

Dunford also found that residential buyers prefer parcels of less than ten acres, recreational buyers prefer acres with water access and farmers want productive cropland. The result is three distinct land markets in southwest Wisconsin.6

In 1976, Guy Phillips studied the impact of a proposed Corps of Engineers flood-control dam and lake project on the Kickapoo River near La Farge in southwestern Wisconsin.

In the 1960s, the federal government acquired 6,000 acres of land for this controversial project, which eventually was modified not to include the lake development. The project was subsequently stopped.

Phillips compared land sales near the federal project to sales in a control area with similar features. Hoping to measure the impact of public land acquisition on property values, Phillips used linear regression techniques to build a model of rural land sales prices. However, limitations of the data stymied the study and the model wasn't particularly successful in predicting land values.

Phillips also found little effect on surrounding land values due to public land acquisition. However, he did document the presence of a recreational land boom in southwest Wisconsin. During the ten-year period from the late 1960s to early 1970s, land values in southwestern Wisconsin rose by about 300 percent in both the study and control areas.7

Phillips also pointed out since recreational land is a luxury good, demand for the land increases faster than its capacity to produce income. However, as a luxury item, demand for recreational land suffers during a recession.

A major study in 1978 of the St. Croix Scenic Riverway public lands by the University of Wisconsin's Institute for Environmental Studies addresses the management issues faced by the National Park Service and the conflicts between property owners along the river and the river's recreational users.

The study, called "User and Resource Conditions: The Lower St. Croix River Study", documented heavy use of the river and problems caused by over-use. The study also identified the values and behavior patterns of different groups of users and suggested alternatives for soothing conflict and impacts through proper management.


Among the management alternatives suggested in the study was placing limits on recreational experiences sought by users to avoid overcrowding. Unless the river is carefully managed, misuse could contribute to slowed demand for recreational property in the area.

In 1975, the Wisconsin Department of Natural Resources (DNR) published an "Investigation of the Accessibility of Wisconsin Lakes and Streams." 9

Although Burnett County only claims about 11,000 residents, the DNR study showed two million people live within two hours driving time of the St. Croix Scenic Riverway. 10 These data predict the potential substantial increased use of public lands in the study area and probably indicate a strong demand for private recreational land.

Tax Impacts of Public Lands

Several studies examine the impact of public land purchases on local property taxes in Wisconsin.

Monroe Rosner and Richard Barrows have published a series of articles treating property tax impacts within the complicated structure of the state's tax-sharing formulas.

A 1977 publication dealt specifically with towns along the St. Croix riverway. The author concluded: "The impact of National Park Service and Department of Natural Resources acquisitions upon taxes is not very significant. In five of the seven towns within the (St. Croix River) State Forest a lower total tax rate resulted; in one town there was no change; and in one, a small increase." 11

Several factors could contribute to a tax reduction even when land is removed from the tax rolls. For example, the state school tax -- which accounts for about 70 percent of total property tax in rural areas -- remains unchanged by public land purchases. In Wisconsin, the state increases school aids by an amount equal to any loss in the local tax base. The remaining deficit is covered -- or in most cases more than covered -- by state and federal payments in lieu of taxes.

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10 Ibid.

To quote Rosner: "The in-lieu payment exceeds the share of the property tax which the towns would otherwise receive if the land was still in private ownership."12

Although the property tax rate is not increased by public purchases, taxes may increase for other reasons. For example, rapid increases in land values for certain types of land could boost taxes in certain areas if assessors are alert to rising land values. Taxes are based on total valuation, not acreage. Although public purchases remove acres from the tax rolls, if inflation and high demand increase the value of the remaining land, the tax base also could increase. This would result in a higher equalized value behind each student, thus decreasing state school aids.

In his southwestern Wisconsin study, Guy Phillips confirmed that a public project would not increase property tax rates -- even if federal and state payments didn't replace the lost tax dollars. However, Phillips speculated that local government costs could increase due to visitors increasing use of roads and local services.13

In 1974, Mel Cohee reported in the Wisconsin DNR bulletin that public property has little impact on local tax rates.

The study examined six DNR-owned areas ranging from a state park to a public hunting ground. It concluded that public lands attract more visitors to an area, which increases local employment and income.14

In general, these studies conclude that a public project's specific impact on an area is not seen in its tax impact -- which is minimal -- but rather on the basis of other positive or negative effects on the locality.

12Ibid.
SURVEY METHOD

Towns revise their tax rolls annually. Regularly updated, the tax rolls provide a relatively complete, up-to-date list of landowners and their addresses. A random, periodic sample of 510 landowners was selected from 12 towns bordering or near the St. Croix River in Polk and Burnett counties. One in 20 landowners received the survey.

Twenty local government officials, public land managers, local businessmen and landowners also were interviewed to identify issues related to land ownership and the impact of public lands. Previous studies of northwestern Wisconsin and similar recreational areas were reviewed and a pretest questionnaire was mailed to 20 landowners and to 12 local "experts". Based on their comments, the survey was revised to improve readability, question order and format.

In October 1978, questionnaires were mailed to landowners. Later non-respondents received two followup mailings. At the final tally, 282 landowners -- or 58 percent of the 484 property owners in the final sample -- returned their questionnaires.

Non-response is a major difficulty with mailed questionnaires. Two bias usually occur: respondents tend to have higher incomes and more education than non-respondents. Since tax rolls include information on land parcels, we verified that response rates were similar in all towns and for all types of parcels. Some 63 percent of Wisconsin residents responded compared to a 55 percent response rate from non-resident property owners.

The sampling error for this size sample is approximately plus or minus three percent at a 95 percent confidence level. Non-response bias probably is a more serious source of potential trouble than sampling errors. Due to the possibility of some degree of error in measurement, the results should be interpreted conservatively.

See the appendix for a more detailed discussion of the survey method.

15. Harry Sharp, Director, University of Wisconsin, Survey Research Laboratory, oral communication, May, 1979.
SURVEY RESULTS

Characteristics of Land Parcels

The data reported here are for all replies to each question on the questionnaire. This results in a varying number of responses among questions. Percentage results are based on total responses to a question, not to the total number of respondents.

Parcel Size. The towns include several types of holdings. To the south and east, farms lie in the towns of St. Croix Falls, Sterling, Anderson and Eureka. Much of the study area is pine and aspen forest or wetland with small private acreages and extensive public land holdings. Lakeshore-platted subdivisions include the very large Voyager Village development in the towns of Webb Lake and Jackson.

There are smaller private plats in several other towns -- especially in the towns of St. Croix, Union, Oakland and Swiss. Some larger blocks of private lands are held by timber or power companies. About 19 percent of respondents owned Voyager Village lots, 15 percent owned lots in other plats, while 66 percent owned unplatted land. Many of the unplatted acreages were subdivided by certified survey maps or were small lots of under 20 acres.

<table>
<thead>
<tr>
<th>Parcel Type</th>
<th>Number*</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Voyager Village</td>
<td>57</td>
<td>19</td>
</tr>
<tr>
<td>Other platted lots</td>
<td>43</td>
<td>15</td>
</tr>
<tr>
<td>Certified survey map or under six acres</td>
<td>90</td>
<td>30</td>
</tr>
<tr>
<td>6-40 acres</td>
<td>59</td>
<td>20</td>
</tr>
<tr>
<td>41-160 acres</td>
<td>34</td>
<td>11</td>
</tr>
<tr>
<td>Over 160 acres</td>
<td>16</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>299</strong></td>
<td><strong>100</strong></td>
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*Total exceeds number tabulated because it includes some respondents who did not answer all questions.
Platted land by town is presented in Table 4.

<table>
<thead>
<tr>
<th>Town</th>
<th>Number of Non-Platted Parcels</th>
<th>Number of Platted Parcels</th>
<th>Percent Platted</th>
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<tbody>
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<td>Polk County</td>
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<td></td>
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</tr>
<tr>
<td>Eureka</td>
<td>35</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Sterling</td>
<td>26</td>
<td>0*</td>
<td>0</td>
</tr>
<tr>
<td>St. Croix Falls</td>
<td>30</td>
<td>7</td>
<td>19</td>
</tr>
<tr>
<td>Burnett County</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anderson</td>
<td>18</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Grantsburg</td>
<td>26</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>West Marshland</td>
<td>17</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Union</td>
<td>24</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>Swiss</td>
<td>42</td>
<td>11*</td>
<td>21</td>
</tr>
<tr>
<td>Blaine</td>
<td>19</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Webb Lake</td>
<td>32</td>
<td>19*</td>
<td>37</td>
</tr>
<tr>
<td>Oakland</td>
<td>41</td>
<td>13*</td>
<td>24</td>
</tr>
<tr>
<td>Jackson</td>
<td>38</td>
<td>94</td>
<td>71</td>
</tr>
</tbody>
</table>

*Many parcels under five acres in certified survey map or non-platted areas.

In platted areas, ownership of multiple lots was fairly common. For example, one person owned 19 lots in a new plat. Interviews with local officials indicated that many landowners bought more than one lot to protect their property from adjacent development or for investment.

Buildings. Sixty-two percent of all parcels had buildings. Cottages, deer hunting cabins, second homes and other recreationally used structures were more prevalent than year-round homes (Table 5).

Uses on Land. Woodland proved to be the most common use for the land, but the wooded parcels were not large (Table 6).

Many parcels with timber are not devoted to wood production but actually are small lots held for recreational use or building sites. Timber companies and a few private owners who are in the timber business hold large acreages.
TABLE 5 - Buildings on Land

<table>
<thead>
<tr>
<th>Building Type</th>
<th>Number</th>
<th>Percent of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home used full time</td>
<td>62</td>
<td>23</td>
</tr>
<tr>
<td>Mobile home used full time</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Home used part time</td>
<td>17</td>
<td>6</td>
</tr>
<tr>
<td>Cabin, cottage or mobile home used part time</td>
<td>78</td>
<td>29</td>
</tr>
<tr>
<td>Barn or other farm buildings</td>
<td>26</td>
<td>9</td>
</tr>
<tr>
<td>Other buildings</td>
<td>51</td>
<td>19</td>
</tr>
<tr>
<td><strong>Total parcels</strong></td>
<td><strong>165</strong></td>
<td><strong>62</strong></td>
</tr>
</tbody>
</table>

*Does not add due to multiple reports by some respondents.

TABLE 6 - Acreage and Frequency of Land Cover

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of Parcels</th>
<th>Average Acres in Category Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woodland, timber</td>
<td>124</td>
<td>31</td>
</tr>
<tr>
<td>Cropland</td>
<td>42</td>
<td>174</td>
</tr>
<tr>
<td>Pasture or hayland</td>
<td>26</td>
<td>48</td>
</tr>
<tr>
<td>Brush, waste, swamp</td>
<td>39</td>
<td>18</td>
</tr>
<tr>
<td>Building site</td>
<td>83</td>
<td>3</td>
</tr>
</tbody>
</table>

Characteristics of Owners

Residence of Owner. Only a quarter of the owners in the sample towns lived on their land parcel (Table 7), Almost twice as many -- 45 percent -- live in Minnesota. This ownership pattern reflects the recreational nature of the area which is further documented in the question on ownership motivation.
TABLE 7 - Location of Residence

<table>
<thead>
<tr>
<th>Location</th>
<th>Number*</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>On land parcel</td>
<td>63</td>
<td>24</td>
</tr>
<tr>
<td>Other location, same county</td>
<td>25</td>
<td>10</td>
</tr>
<tr>
<td>Another Wisconsin County</td>
<td>39</td>
<td>15</td>
</tr>
<tr>
<td>Minnesota</td>
<td>119</td>
<td>45</td>
</tr>
<tr>
<td>State other than Wis. or Minn.</td>
<td>15</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>261</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

*Missing or non-response 19 of 280.

Ownership of Other Lands in Wisconsin. Forty-three percent of owners hold other land in Wisconsin (Table 8). Wisconsin residents who don't live on the parcel were very likely to own other Wisconsin land. Even residents who live year-round on their parcel owned other Wisconsin land in 43 percent of the cases.

TABLE 8 - Ownership of Other Land in Wisconsin by Residence

<table>
<thead>
<tr>
<th>Residence</th>
<th>Yes</th>
<th>No</th>
<th>Total Reporting Number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>-- Percent --</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On land</td>
<td>43</td>
<td>57</td>
<td>51</td>
</tr>
<tr>
<td>Other locations, same county</td>
<td>92</td>
<td>8</td>
<td>25</td>
</tr>
<tr>
<td>Another Wisconsin county</td>
<td>79</td>
<td>21</td>
<td>34</td>
</tr>
<tr>
<td>Minnesota</td>
<td>20</td>
<td>80</td>
<td>96</td>
</tr>
<tr>
<td>State other than Wisconsin or Minnesota</td>
<td>7</td>
<td>93</td>
<td>15</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>41</td>
<td>58</td>
<td>221</td>
</tr>
</tbody>
</table>
Owner's Occupation. Thirty-one percent of all owners are in professional occupations (Table 9). Twenty-one percent are retired. Only seven percent are farms, and one percent are employed in forestry. Only one resident -- 0.3 percent -- was employed in "recreation, resort or tourist services".

<table>
<thead>
<tr>
<th>Occupation</th>
<th>On Land</th>
<th>Residence Other Wisconsin</th>
<th>Out of State</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmer</td>
<td>11</td>
<td>5</td>
<td>1</td>
<td>17</td>
</tr>
<tr>
<td>Forestry</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Recreation</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Professional, manager, businessman</td>
<td>11</td>
<td>17</td>
<td>52</td>
<td>80</td>
</tr>
<tr>
<td>Sales, clerical, worker, craftsman</td>
<td>11</td>
<td>16</td>
<td>34</td>
<td>61</td>
</tr>
<tr>
<td>Housewife</td>
<td>4</td>
<td>0</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Retired</td>
<td>19</td>
<td>13</td>
<td>22</td>
<td>54</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
<td>9</td>
<td>21</td>
<td>37</td>
</tr>
<tr>
<td>Total</td>
<td>63</td>
<td>63</td>
<td>133</td>
<td>259</td>
</tr>
</tbody>
</table>

Professional occupations appeared more often among residents of other Wisconsin counties, Minnesota and other states. Retired persons and farmers were more likely to be found living on the land parcel.

Owner's Incomes. Distribution of owners' incomes reveal a broad range (Table 10).

<table>
<thead>
<tr>
<th>Income Class</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $5,000</td>
<td>24</td>
<td>10</td>
</tr>
<tr>
<td>$5,000 - $9,999</td>
<td>35</td>
<td>15</td>
</tr>
<tr>
<td>$10,000 - $14,999</td>
<td>32</td>
<td>13</td>
</tr>
<tr>
<td>$15,000 - $24,999</td>
<td>88</td>
<td>37</td>
</tr>
</tbody>
</table>

(continued on page 20)
TABLE 10 - Owner Income (continued)

<table>
<thead>
<tr>
<th>Income Class</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>$25,000 - $49,999</td>
<td>47</td>
<td>19</td>
</tr>
<tr>
<td>$50,000 or more</td>
<td>14</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>240</td>
<td>100</td>
</tr>
</tbody>
</table>

Land ownership extends to some persons with very low incomes (Table 11). Many landowners are retired or widowed. Sixty-two percent of those earning less than $5,000 annually were 65 years old or older. Those with incomes of $25,000 or more were concentrated in the 35 to 64 year old age range. Non-resident owners tended to have considerably higher incomes than resident owners.

TABLE 11 - Annual Income by Place of Residence

<table>
<thead>
<tr>
<th>Income Class</th>
<th>On Land or Same County</th>
<th>Other Wis. Counties, Minn. or Other States</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td>Less than $10,000</td>
<td>37</td>
<td>48</td>
</tr>
<tr>
<td>$10,000 - $24,999</td>
<td>32</td>
<td>42</td>
</tr>
<tr>
<td>$25,000 or more</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>77</td>
<td>100</td>
</tr>
</tbody>
</table>

A third of the non-resident owners earned more than $25,000 a year. Only a tenth of county-resident owners had annual incomes of more than $25,000. The proportions are reversed at low income levels. Forty-eight percent of county resident owners earned less than $10,000 annually, while only 13 percent of non resident owners had incomes of less than $10,000.

Age. Almost seventy percent of owners are 45 years old or older (Table 12).
TABLE 12 - Age of Owner

<table>
<thead>
<tr>
<th>Age</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 25</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>25 - 34</td>
<td>31</td>
<td>12</td>
</tr>
<tr>
<td>35 - 44</td>
<td>51</td>
<td>19</td>
</tr>
<tr>
<td>45 - 54</td>
<td>65</td>
<td>24</td>
</tr>
<tr>
<td>55 - 64</td>
<td>70</td>
<td>26</td>
</tr>
<tr>
<td>65 or over</td>
<td>48</td>
<td>18</td>
</tr>
<tr>
<td>Total</td>
<td>267</td>
<td>100</td>
</tr>
</tbody>
</table>

Education. Twenty-seven percent of the respondents had completed college while eighteen percent had not completed high school (Table 13).

TABLE 13 - Education of Owner

<table>
<thead>
<tr>
<th>Years of Education</th>
<th>Number of Owners</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than high school</td>
<td>48</td>
<td>18</td>
</tr>
<tr>
<td>(Less than 12 years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Completed high school</td>
<td>143</td>
<td>55</td>
</tr>
<tr>
<td>(12 to 15 years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College or more</td>
<td>71</td>
<td>27</td>
</tr>
<tr>
<td>(16 or more years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>262</td>
<td>100</td>
</tr>
</tbody>
</table>
Land Acquisition

Three-quarters of owners surveyed purchased their land in the open market (Table 14). Few inherited land. The pattern of land acquisition has changed in the past 50 years. Since the 1920s, young people have left the area seeking jobs. Agriculture and forestry also have declined. Since the 1960s, there has been an influx of buyers seeking a wilderness retreat.

<table>
<thead>
<tr>
<th>Method</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase in the open market</td>
<td>205</td>
<td>77</td>
</tr>
<tr>
<td>Purchase from relative</td>
<td>30</td>
<td>11</td>
</tr>
<tr>
<td>Inheritance or gift</td>
<td>11</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>22</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>268</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Year Acquired. Responses show accelerated land sales beginning in the mid-1960s with a marked increase in 1972 corresponding to marketing of Voyager Village (Table 15).

<table>
<thead>
<tr>
<th>Year Acquired</th>
<th>Number</th>
<th>Percent</th>
<th>Percent Acquired per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before 1950</td>
<td>22</td>
<td>9</td>
<td>-</td>
</tr>
<tr>
<td>1950 - 1959</td>
<td>32</td>
<td>12</td>
<td>1.3</td>
</tr>
<tr>
<td>1960 - 1964</td>
<td>18</td>
<td>7</td>
<td>1.4</td>
</tr>
<tr>
<td>1965 - 1969</td>
<td>45</td>
<td>18</td>
<td>3.6</td>
</tr>
</tbody>
</table>

(continued on page 23)

TABLE 15 - Year Land was Acquired
(continued)

<table>
<thead>
<tr>
<th>Year Acquired</th>
<th>Number</th>
<th>Percent</th>
<th>Percent Acquired per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970 - 1974</td>
<td>88</td>
<td>35</td>
<td>7.0</td>
</tr>
<tr>
<td>1975 - 1977</td>
<td>47</td>
<td>19</td>
<td>6.2</td>
</tr>
<tr>
<td>Total</td>
<td>252</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

The five-year averages in Table 15 conceal some recent changes. The 1972 percentage was 8.2 -- a sharp jump from 4.3 percent in 1971. By 1977, acquisition slowed to 3.2 percent -- down from 7.1 percent in 1976. Voyager Village sales are apparently the cause of these fluctuations. Many of the increasing sales figures are due to more parcels on the market. This land has been subdivided into more and more units. A sale meant something different in 1950 than it does today. Then it was likely to be a sale of a farm or a wooded 80 acres. Now most sales are much smaller lots or parcels.18

Future Plans to Sell. About 30 percent of owners plan to sell sometime in the foreseeable future, while 70 percent have no plans to sell (Table 16). About eight percent have land for sale now -- a figure very consistent with turnovers in recent years.

TABLE 16 - Future Plans to Sell Land

<table>
<thead>
<tr>
<th>Plans</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>For sale now</td>
<td>20</td>
<td>8</td>
</tr>
<tr>
<td>Plan to sell within 2 years</td>
<td>19</td>
<td>7</td>
</tr>
<tr>
<td>Plan to sell, but not within 2 years</td>
<td>35</td>
<td>14</td>
</tr>
<tr>
<td>Will not sell in the foreseeable future</td>
<td>184</td>
<td>71</td>
</tr>
<tr>
<td>Total</td>
<td>258</td>
<td>100</td>
</tr>
</tbody>
</table>

---

18 The view that real estate is not land or buildings as such, but a "space-time product" or a stream of services from land and that real estate is created by human delineation of spaces is expressed by Professor James Graaskamp, Chairman, Real Estate Department, School of Business, University of Wisconsin, Madison.
Ownership Motivation

Reasons for Owning Land. About two-thirds of all owners own their land because they enjoy the natural environment or because it's their residence (Table 17). A surprising number didn't single out any particular activity, but simply responded "recreation" or "peace and quiet". An unspoiled view and quiet are salable commodities which appear to be important forces holding up the local land market.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recreation total</td>
<td>116</td>
<td>41</td>
</tr>
<tr>
<td>General</td>
<td>59</td>
<td></td>
</tr>
<tr>
<td>Enjoy nature/seclusion</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Fishing, boating, canoeing</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Hunting</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Camping</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Weekend retreat</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Vacations</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Homesite total</td>
<td>77</td>
<td>28</td>
</tr>
<tr>
<td>Present home</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>Second home</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Retirement home/future home</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>Investment or hedge against inflation</td>
<td>26</td>
<td>9</td>
</tr>
<tr>
<td>Income total</td>
<td>20</td>
<td>7</td>
</tr>
<tr>
<td>Farming</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Timber</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Other unclassifiable total</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td>Missing, no response total</td>
<td>27</td>
<td>10</td>
</tr>
<tr>
<td>Survey total</td>
<td>280</td>
<td>100</td>
</tr>
</tbody>
</table>

Owners were given a check list of motivations for land ownership and asked to rate the importance of each to them and their family (Table 18).

Most owners hold land for use rather than for investment. Owners see their land's profit potential as a secondary reason for owning the lot -- only 10 percent listed profit on future sale as extremely important. On the other hand, enjoyment of outdoors was extremely important to 43 percent of the owners we surveyed.
<table>
<thead>
<tr>
<th></th>
<th>Total Reporting</th>
<th>Not Important or Slightly Important</th>
<th>Somewhat, Very, or Extremely Important</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td><strong>Business or Investment</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm operation</td>
<td>197</td>
<td>170</td>
<td>86</td>
</tr>
<tr>
<td>Timber production</td>
<td>196</td>
<td>160</td>
<td>82</td>
</tr>
<tr>
<td>Profit on future sale</td>
<td>208</td>
<td>108</td>
<td>52</td>
</tr>
<tr>
<td>Development or subdivision</td>
<td>189</td>
<td>168</td>
<td>89</td>
</tr>
<tr>
<td><strong>Residence</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Present home</td>
<td>182</td>
<td>115</td>
<td>63</td>
</tr>
<tr>
<td>Future home or retirement home</td>
<td>196</td>
<td>91</td>
<td>46</td>
</tr>
<tr>
<td>Second or vacation home</td>
<td>193</td>
<td>97</td>
<td>50</td>
</tr>
<tr>
<td><strong>Recreation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hunting</td>
<td>203</td>
<td>103</td>
<td>51</td>
</tr>
<tr>
<td>Fishing</td>
<td>223</td>
<td>85</td>
<td>38</td>
</tr>
<tr>
<td>Enjoyment of outdoors</td>
<td>237</td>
<td>26</td>
<td>11</td>
</tr>
<tr>
<td>Peace and quiet</td>
<td>242</td>
<td>27</td>
<td>11</td>
</tr>
</tbody>
</table>

Only 11 percent of the survey property owners failed to give peace, quiet and enjoyment of outdoors a high rating. These environmental motivations proved to be one of the strongest and most widespread reasons why owners bought land.

Property owners of all three types of land in Table 19 rated enjoyment of the outdoors and peace and quiet as extremely important. While few owners in any category were thinking of development or subdivision, resale profits proved important to a higher percentage of Voyager Village owners. Thirty-three percent of the Voyager Village owners rated profit on resale very important while less than 20 percent of other owners claimed this motivation for ownership. Ironically, resales of Voyager Village lots are the only category of land in the area to have shown declines in value.

Income Sources from Land. Only a small percentage of owners in the study area are engaged in farming or forestry. But these owners hold large parcels and are important land users. Only 19 percent of respondents listed a source of income from their land (Table 20).
TABLE 19 - Ownership Motivation as to Platted vs. Non-Platted Parcels

<table>
<thead>
<tr>
<th>Motivation</th>
<th>Non-Platted</th>
<th>Voyager Village</th>
<th>Other Platted Lots</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percent</td>
<td>Percent</td>
<td>Percent</td>
</tr>
<tr>
<td>Business or investment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm operation</td>
<td>16</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Timber production</td>
<td>11</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Profit upon future sales</td>
<td>20</td>
<td>33</td>
<td>13</td>
</tr>
<tr>
<td>Development or subdivision</td>
<td>5</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Residential</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Present home</td>
<td>43</td>
<td>5</td>
<td>33</td>
</tr>
<tr>
<td>Future or retirement home</td>
<td>40</td>
<td>29</td>
<td>40</td>
</tr>
<tr>
<td>Second or vacation home</td>
<td>35</td>
<td>27</td>
<td>60</td>
</tr>
<tr>
<td>Recreation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hunting</td>
<td>33</td>
<td>12</td>
<td>42</td>
</tr>
<tr>
<td>Fishing</td>
<td>38</td>
<td>32</td>
<td>57</td>
</tr>
<tr>
<td>Enjoyment of outdoors</td>
<td>77</td>
<td>74</td>
<td>82</td>
</tr>
<tr>
<td>Peace and quiet</td>
<td>78</td>
<td>78</td>
<td>83</td>
</tr>
</tbody>
</table>

TABLE 20 - Income Sources from Land

<table>
<thead>
<tr>
<th>Source</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm crops</td>
<td>23</td>
<td>8</td>
</tr>
<tr>
<td>Timber/pulpwood</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Resort/campground</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Land rental</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Sales of lots</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Other income</td>
<td>11</td>
<td>4</td>
</tr>
<tr>
<td>No response</td>
<td>227</td>
<td>81</td>
</tr>
<tr>
<td>Total</td>
<td>280</td>
<td>100</td>
</tr>
</tbody>
</table>
Eighty-nine percent of the owners surveyed reported no income from land or losses while less than two percent netted more than $10,000 income from their land. Peace and quiet are apparently the most abundant product in the area. With low incomes from the land, non-cash benefits such as outdoor recreation, quiet and a scenic view become the main support for land values in the area.

**Owner Profile.** Several types of owners hold land in the rural areas of northwest Wisconsin. Some owners are farmers -- chiefly dairy farmers. In a majority of the surveyed townships, recreationally motivated owners hold only small parcels or lots. A few developers or investors are meeting the demand for rural retreats by subdividing land into plats or small parcels. Timber companies or power companies own larger acreages. Many local residents live on small rural acreages or lots and commute to work. A substantial minority of the resident owners are retired. Finally, the public owns large acreages devoted to county forest, the National Wild and Scenic Riverway and DNR wildlife areas.

Each class of owners tends to have certain common objectives with other landowners. However, sometimes the objectives of different classes may conflict. Even an individual landowner might be split on the benefits of ownership. For example, a recreational landowner may be delighted to have property values rise, but not like the tax increase which may follow the increase in wealth.

**Non-Resident Spending.**

Non-resident owners estimated their 1977 spending in Polk and Burnett counties in two broad categories (Table 21).

**TABLE 21 - Non-Wisconsin Resident Spending in Polk and Burnett Counties**

<table>
<thead>
<tr>
<th>Spending for Food, Lodging, Recreation, etc.</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>11</td>
<td>8</td>
</tr>
<tr>
<td>Less than $500</td>
<td>66</td>
<td>49</td>
</tr>
<tr>
<td>$500 - $999</td>
<td>35</td>
<td>26</td>
</tr>
<tr>
<td>$1,000 - $4,999</td>
<td>22</td>
<td>16</td>
</tr>
<tr>
<td>$10,000 or more</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spending for Buildings or Improvement of Property</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>43</td>
<td>37</td>
</tr>
<tr>
<td>Less than $500</td>
<td>33</td>
<td>29</td>
</tr>
<tr>
<td>$500 - $999</td>
<td>20</td>
<td>17</td>
</tr>
<tr>
<td>$1,000 - $4,999</td>
<td>13</td>
<td>11</td>
</tr>
<tr>
<td>$5,000 - $9,999</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>$10,000 or more</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>
These figures indicate that more than 90 percent of non-resident owners spend some money each year in the area where they own land. A minority spend large amounts. Less than 20 percent spend more than $1,000 in either of the two spending categories. However, with more than 50 percent of all landowners non-Wisconsin residents, the aggregate spending of even small amounts would total a significant contribution to the local economy.

In the study, 55 percent of the landowners surveyed were non-Wisconsin residents. Average spending cannot be precisely estimated since respondents answered by categories, not precise amounts. The distribution of spending categories allows for an estimate of $500 average annual spending by out of state owners. If so, non-resident owners in these twelve towns alone bring about $2.7 million annually into the economy of Burnett and Polk counties. This result is consistent with a 1972 survey by J.E. Powers. Powers estimated an average local spending of $602 by Wisconsin second home owners. More important than the non-resident's present spending is their spending potential. If a substantial proportion of these out of state owners construct second homes or retire to the area and bring their retirement incomes, they will make a much larger economic contribution in the future than they do now.

Opinion of Local Governmental Services

Landowners' opinions of public services may show where local governments should strive for more efficiency or greater service. Landowners rated local services ranging from schools to the local assessor (Table 22).

The results show that landowners think tax assessment procedures need improvement. Only nine percent of owners surveyed thought tax assessments were excellent or good. A majority (58 percent) thought assessments were fair or poor. Police protection was rated almost as low, with 56 percent responding fair or poor. Owners also gave fire protection and trash disposal more low ratings than high ratings.

Owners rated other local government services fairly high. The problem area for public services may be those areas facing increased demand. For example, rapid rises in land values makes the local assessor's job much more difficult. If property is reassessed infrequently, unfair adjustments may result. Different types of land change in value at different rates, adding to assessment problems. Spiraling prices, inflation and high demand call for frequent reassessment. A home reassessed only five years ago may be seriously underassessed in today's market.

Landowners also criticized fire protection in the area. Large tree plantations on sandy soils can become a major hazard in dry years. Fire breaks and other good management practices seem expensive and unnecessary during wet years, but may prevent disaster during droughts. Moreover, with each new recreational cottage or cabin, the hazards of careless use

TABLE 22 - Rating of Local Public Services*

<table>
<thead>
<tr>
<th>Service</th>
<th>Excellent or Good</th>
<th>Fair or Poor</th>
<th>No Opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schools</td>
<td>36%</td>
<td>10%</td>
<td>37%</td>
</tr>
<tr>
<td>Police protection</td>
<td>15</td>
<td>56</td>
<td>15</td>
</tr>
<tr>
<td>Road maintenance</td>
<td>44</td>
<td>35</td>
<td>5</td>
</tr>
<tr>
<td>Parks and recreation</td>
<td>41</td>
<td>15</td>
<td>25</td>
</tr>
<tr>
<td>Fire protection</td>
<td>29</td>
<td>32</td>
<td>17</td>
</tr>
<tr>
<td>Trash disposal</td>
<td>26</td>
<td>28</td>
<td>24</td>
</tr>
<tr>
<td>Building and septic inspections</td>
<td>33</td>
<td>12</td>
<td>31</td>
</tr>
<tr>
<td>Zoning administration</td>
<td>24</td>
<td>18</td>
<td>36</td>
</tr>
<tr>
<td>Tax assessment</td>
<td>9</td>
<td>58</td>
<td>15</td>
</tr>
<tr>
<td>County Extension services</td>
<td>21</td>
<td>11</td>
<td>53</td>
</tr>
</tbody>
</table>

*Because percentages do not include the "adequate" response category, totals are less than 100 percent. The table is presented without the adequate category to focus attention on the higher or lower ratings.

of fire increases dramatically. Major fires in nearby Douglas and Jackson counties during the 1977 drought and the fires of 1980 should serve as a warning to all in the pine barrens. Firebreaks in the jackpines must be very wide. These fires can jump half a mile under windy conditions.20

The "no opinion" response reported in Table 22 is an indication of awareness and use of public services. For example, most people were able to offer an opinion on road maintenance because everyone uses the roads. Only four percent had no opinion. Yet, while most people thought County Extension agents did an adequate to excellent job, 53 percent had no opinion, perhaps indicating they are not familiar with Extension programs and because a large number are not Wisconsin residents.

Conservation Practices and Timber Production

Landowners were asked about conservation practices they had undertaken on their lands (Table 23). Many indicated they had begun at least rudimentary conservation efforts.

Since about 75 percent of all owners hold less than 40 acres, these figures are rather impressive. On small parcels, intensive timber management would conflict with recreational values of undisturbed landscapes. In economic terms, trees are worth more as landscape than as timber to

20Harold C. Jordahl, Jr., Department of Urban and Regional Planning, University of Wisconsin, Madison, oral communication, CIRCA, Oct. 1978.
the majority of owners in the St. Croix area. To a lesser extent, mature
timber adds value to a recreational parcel even if not cutting the trees
reduces productivity from a timber-management standpoint. About two-thirds
of respondents reported harvestable timber on their lands, although this
may amount to only a few trees: In some cases, cutting these small stands
may not be economically efficient.

A Burnett County timber company owner stated that the cost of cutting
timber makes small parcels less profitable to harvest. The value of pulp-
wood on a ten-acre parcel would not justify the surveying necessary to
avoid cutting a neighbor's timber, bidding, preparing a contract, moving
in equipment, building roads and other fixed costs of cutting.

Since the value of the land is based on recreational use, cutting
timber—which leaves a landscape littered with dead tree tops and limbs
— would decrease land value on a small parcel by almost as much as the
owner would gain by cutting.

Profitable timber management is better practiced on larger acreages.
In Wisconsin, thinnings are possible after 25 years. The entire cycle
from planting to production of saw timber may be 50-to-100 years.
Managing a timber enterprise requires tracts substantially bigger than
those in the area to allow managers to rotate planting and harvesting over
time. Public land holds in these counties are large enough for efficient
management. County and state ownership of large forest acreages allows
for effective timber management over long periods of time.

<table>
<thead>
<tr>
<th>Practice</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant trees</td>
<td>73</td>
<td>26</td>
</tr>
<tr>
<td>Thin timber</td>
<td>67</td>
<td>24</td>
</tr>
<tr>
<td>Obtain advice from county</td>
<td>29</td>
<td>10</td>
</tr>
<tr>
<td>foresters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timber stand improvement</td>
<td>45</td>
<td>16</td>
</tr>
<tr>
<td>Ponds, terraces, waterways</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Soil and Water Conservation</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>District Plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>16</td>
<td>6</td>
</tr>
<tr>
<td>No response</td>
<td>38</td>
<td>14</td>
</tr>
<tr>
<td>Total</td>
<td>280</td>
<td>100</td>
</tr>
</tbody>
</table>
Woodland Tax and Forest Crop Laws. The Woodland Tax and Forest Crop Laws allows landowners to enjoy lower taxes in return for committing their land to forestry for a long period of time.\textsuperscript{21} Landowners were asked if they were eligible for the program and if they participated in it. Most said they had never even heard of the program.

Since 77 percent of the surveyed landowners don't post their land against trespassing, the requirement that forest crop lands be open to hunting and fishing doesn't seem to be a major roadblock. Public access is not required on the Woodland Tax lands. With 71 percent of the property owners unaware of the program and 52 percent not certain of their eligibility, lack of knowledge seems to be the biggest factor in non-participation (Table 24).

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Not Sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heard of woodland tax/forest crop laws?</td>
<td>29</td>
<td>71</td>
<td>--</td>
</tr>
<tr>
<td>Eligible for program?</td>
<td>8</td>
<td>40</td>
<td>52</td>
</tr>
<tr>
<td>Participate in program?</td>
<td>3</td>
<td>97</td>
<td>--</td>
</tr>
</tbody>
</table>

Farmland Preservation Act. In 1977, the Wisconsin Legislature created the Farmland Preservation Act (FPA) to reduce taxes for farmers who agreed not to develop their land. In addition to preserving land for food production, the Act aims to preserve the family farm and improve rural land-use planning. The tax credits are increased if the county adopts a land-use plan to preserve farm lands.\textsuperscript{22} About 20 percent of the respondents said they planned to participate in the FPA (Table 25).

The fact that three times as many landowners plan to participate in the FPA as believe they are eligible might be a vote for tax breaks rather than farmland preservation. Also, many respondents may have misunderstood the question.

Post Lands. In recent years, the number of landowners who post their land against trespassing has increased in many areas of Wisconsin. Landowners in the study area reported that they generally do not post their land (Table 26).


TABLE 25 - Farmland Preservation Act

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Not Sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heard of FPA?</td>
<td>35</td>
<td>65</td>
<td>--</td>
</tr>
<tr>
<td>Eligible for FPA?</td>
<td>5</td>
<td>58</td>
<td>37</td>
</tr>
<tr>
<td>Plan to participate in FPA?</td>
<td>19</td>
<td>81</td>
<td>--</td>
</tr>
</tbody>
</table>

TABLE 26 - Property Posted Against Hunting

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posted</td>
<td>61</td>
<td>23</td>
</tr>
<tr>
<td>Not Posted</td>
<td>201</td>
<td>77</td>
</tr>
<tr>
<td>Total</td>
<td>262</td>
<td>100</td>
</tr>
</tbody>
</table>

Landowner Opinions of DNR Fish and Wildlife Management Programs

Landowners were questioned as to whether they agreed or disagreed with a variety of DNR fish and wildlife management practices.

Seventy-six percent of the Wisconsin residents surveyed said they favored raising out of state hunting fees while 87 percent of the non-Wisconsin residents strongly opposed fee increases (Table 27).

TABLE 27 - Opinion: Wisconsin Should Raise Out of State Hunting Fees

<table>
<thead>
<tr>
<th></th>
<th>Oppose</th>
<th>Favor</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wisconsin residents</td>
<td>24</td>
<td>78</td>
<td>102</td>
</tr>
<tr>
<td></td>
<td>(24%)</td>
<td>(76%)</td>
<td>(100%)</td>
</tr>
<tr>
<td>Minnesota or other state</td>
<td>84</td>
<td>13</td>
<td>97</td>
</tr>
<tr>
<td>residents</td>
<td>(87%)</td>
<td>(13%)</td>
<td>(100%)</td>
</tr>
</tbody>
</table>
Landowners apparently favor discouraging non-resident competition for game. But had the same question been asked of merchants -- who depend on non-resident dollars -- the response might have been quite different.

A non-resident bias also appears in the bow-hunting responses. In northwestern Wisconsin, bow hunting means hunters from the Twin Cities in Minnesota and competition for deer which local people hunt during the deer gun season later in the fall.

Almost equal numbers of landowners favored and opposed the sharptail grouse habitat maintenance (burning prairie restoration) program (Table 28).

### TABLE 28 - Opinions of Fish and Wildlife Management Practices*

<table>
<thead>
<tr>
<th>Management Practice</th>
<th>Percent Disagree or Strongly Disagree</th>
<th>Percent Agree or Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raise out of state hunting fees</td>
<td>43</td>
<td>39</td>
</tr>
<tr>
<td>Burning to promote sharptail grouse habitat</td>
<td>34</td>
<td>38</td>
</tr>
<tr>
<td>Promote birdwatching and wildlife appreciation</td>
<td>9</td>
<td>64</td>
</tr>
<tr>
<td>Restrict bow hunting</td>
<td>34</td>
<td>40</td>
</tr>
<tr>
<td>Timber harvesting on public lands</td>
<td>23</td>
<td>51</td>
</tr>
<tr>
<td>Wetland restoration to promote waterfowl habitat</td>
<td>10</td>
<td>71</td>
</tr>
<tr>
<td>Fish stocking</td>
<td>4</td>
<td>78</td>
</tr>
<tr>
<td>Stream improvement to improve trout fishing</td>
<td>8</td>
<td>68</td>
</tr>
</tbody>
</table>

*Because percentages do not include the "adequate" response category, totals are less than 100 percent. The table is presented without the adequate category to focus attention on the higher or lower ratings.

Other DNR efforts -- including fish stocking, stream improvement, wetland restoration and promoting wildlife appreciation and birdwatching -- received lopsided votes of approval. Ten percent or less of the landowners disagreed with these practices.

Sharptail grouse require a prairie habitat which has become rare in Wisconsin. Since the 1950s, Wisconsin's conservation program has included restoring prairie by burning to provide habitat to allow continued survival of sharptail grouse.
Timber harvesting on public lands was given a negative vote by almost a quarter (23 percent) of the landowners. The owners may be reacting more to specific practices -- such as clear cutting along roads -- than to harvesting itself. Several owners commented that leaving uncut areas along roads would improve the appearance of the area.

Attitudes Toward Land-Use Controls

Landowners were asked to agree or disagree with several different land-use controls. The responses, which varied from strong agreement to strong disagreement, were combined to produce Table 29. The "favor" column contains both landowners who agree and strongly agree with the program. The "oppose" column contains those who disagree and strongly disagree with the program. The "no opinion" column contains don't know, neutral or missing responses.

<table>
<thead>
<tr>
<th>Policy</th>
<th>Oppose</th>
<th>Favor</th>
<th>Neutral or No Opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>County zoning</td>
<td>16%</td>
<td>44%</td>
<td>40%</td>
</tr>
<tr>
<td>Limitations of subdivision</td>
<td>9</td>
<td>51</td>
<td>40</td>
</tr>
<tr>
<td>Restrict second homes in rural areas</td>
<td>33</td>
<td>23</td>
<td>44</td>
</tr>
<tr>
<td>Mobile homes only in mobile home parks</td>
<td>32</td>
<td>43</td>
<td>25</td>
</tr>
<tr>
<td>Prevent draining or filling of wetlands</td>
<td>15</td>
<td>54</td>
<td>31</td>
</tr>
<tr>
<td>Discourage conversion of prime agricultural lands to non-agricultural uses</td>
<td>13</td>
<td>54</td>
<td>33</td>
</tr>
</tbody>
</table>

Despite the contradiction between favoring the uncontrolled right to build second homes while also favoring zoning and other controls, there's a rational explanation for these opinions. Landowners want the character of the area preserved. This means while second homes would be allowed, property owners don't want shacks built that would reduce their property value. Landowners also want wetlands and farmland preserved. They don't want to allow subdivisions which would destroy the area's rural character.

Response categories to this question were strongly disagree, disagree, neutral, agree, strongly agree, don't know/no opinion. To simplify presentation, strongly disagree and disagree were combined into "oppose" and agree and strongly agree into "favor".
Recreational land owners face a dilemma. Land values rely on continued demand from new recreational buyers, but the quality of scenery that makes the area desirable will be destroyed if too many subdivisions and too much homebuilding occurs. Most owners seem to realize that zoning and other types of controls are needed to channel development and preserve the quality of the area.

On the surface, it appears that the two counties and area municipalities would adopt strong land-use controls to protect rural amenities. However, the data also shows support for these policies comes mainly from non-residents who can't vote in local elections or referendums (Table 30).

**TABLE 30 - Opinion of Zoning by Residences of Owners**

<table>
<thead>
<tr>
<th>Residence</th>
<th>Oppose</th>
<th>Favor</th>
<th>Neutral or No Opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>On parcel or in same county as land</td>
<td>35%</td>
<td>37%</td>
<td>28%</td>
</tr>
<tr>
<td>Minnesota, other state, or Wisconsin county outside of two-county study area</td>
<td>9</td>
<td>57</td>
<td>34</td>
</tr>
</tbody>
</table>

Very few non-resident owners opposed zoning while 57 percent favor zoning. Local opinion is split. If only local owners voted in an election, zoning would pass by only a narrow margin despite the fact that a strong overall majority of owners favor zoning.

The non-resident owner is in a position of taxation without representation with regard to local government. In the study area, a majority of property taxes are paid by owners who can't vote on how their money is spent or on land-use controls to protect their property.

**Landowner Opinions of Public Lands**

The towns included in this survey are close to public lands. About one-fifth of the landowners reported that their land borders public lands. Only 12 percent were located more than five miles from public lands (Table 31).

Surprisingly, 20 percent of the landowners surveyed didn't know how far they were from public lands. This may be due to rapid public land acquisition and to the fact that many non-resident owners aren't very familiar with the area.
TABLE 31 - Distance to Public Lands

<table>
<thead>
<tr>
<th>Panel Location</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borders land</td>
<td>50</td>
<td>19</td>
</tr>
<tr>
<td>Less than 1 mile</td>
<td>42</td>
<td>16</td>
</tr>
<tr>
<td>1 - 5 miles</td>
<td>86</td>
<td>33</td>
</tr>
<tr>
<td>Over 5 miles</td>
<td>31</td>
<td>12</td>
</tr>
<tr>
<td>Don't know, not sure</td>
<td>52</td>
<td>20</td>
</tr>
</tbody>
</table>

Public land nearest to their property included the St. Croix Riverway (41 percent); state, county or town forest (29 percent); and DNR lands (20 percent).

Owners also were asked how many days during 1977 they had visited public lands (Table 32). The question was worded to try to express the concept of visitor day used by recreational planners.\(^{25}\)

TABLE 32 - Visits to Public Lands

<table>
<thead>
<tr>
<th>Type of Land</th>
<th>Total</th>
<th>Did Not Visit</th>
<th>Visited 1 - 5 Days</th>
<th>Visited 6 - 20 Days</th>
<th>Visited Over 20 Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Croix Riverway</td>
<td>100%</td>
<td>62%</td>
<td>28%</td>
<td>7%</td>
<td>3%</td>
</tr>
<tr>
<td>State, county or town forest</td>
<td>100</td>
<td>68%</td>
<td>16%</td>
<td>9%</td>
<td>7%</td>
</tr>
<tr>
<td>State or county park</td>
<td>100</td>
<td>76%</td>
<td>20%</td>
<td>4%</td>
<td>-</td>
</tr>
<tr>
<td>DNR wildlife area</td>
<td>100</td>
<td>58%</td>
<td>23%</td>
<td>9%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Despite their proximity to public lands, a majority of landowners reported they don't visit public lands. Since very few landowners are heavy users of public lands, owning land may substitute for public land use. Area landowners meet their recreational needs on their own land.

\(^{25}\) "Visitor day" is a concept widely used by government recreational planners. Since most visitors don't stay all day when they fish or hunt, one counts as a "day" any calendar day in which they visit the project. Multiplying visitor days times an arbitrary dollar figure is a rough and ready way of evaluating the economic value of recreational resources.
But since much of the study area is publicly owned, it's likely respondents visited public lands more often than they realized.

Public Land Influence on Purchase Decisions. Most owners reported that public holdings did not greatly influence their decision to purchase land. Sixty-five percent said that nearby public lands were not important in their purchase decisions. Only nine percent said public lands were extremely important to their decisions to buy. For 35 percent of owners surveyed, public lands were at least slightly important.

Landowners were asked to estimate the impact on their land's value if there were no public lands in the vicinity. Most (61 percent) felt their land values would be about the same. Almost 14 percent felt their land values would be higher, and 25 percent thought land values would be lower.

Landowners also rated the advantages and disadvantages of public lands. The question read "How do public lands in Polk and Burnett counties affect you or your family?"

Table 33 combines categories for simpler presentation.

<table>
<thead>
<tr>
<th>TABLE 33 - Advantages and Disadvantages of Public Lands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Important</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Advantages of Public Lands</td>
</tr>
<tr>
<td>Outdoor recreation opportunities</td>
</tr>
<tr>
<td>Hunting and fishing</td>
</tr>
<tr>
<td>Helps local economy</td>
</tr>
<tr>
<td>Protects views</td>
</tr>
<tr>
<td>Disadvantages of Public Lands</td>
</tr>
<tr>
<td>Prevents private development</td>
</tr>
<tr>
<td>Takes land off tax rolls</td>
</tr>
<tr>
<td>Attracts too many people</td>
</tr>
<tr>
<td>Increases government costs</td>
</tr>
</tbody>
</table>

Given that private landowners were not generally heavy users of public lands, it's not surprising to find that protection of scenic views
was the highest rated advantage of public lands. Least important was public land impacts on the local economy. None of the disadvantages of nearby public land was important to more than a minority of landowners, but taking land off the tax rolls was the chief objection to public acquisition. This objection is based on false assumptions since public lands do not increase the tax rate. (See tax impact section below and literature cited above).

Who Gets Benefits from Public Lands? Owners clearly perceive the St. Croix projects to be chiefly beneficial to people from outside the area (Table 34). This corresponds to the statements heard during interviews with local residents, including complaints that the river is so crowded with canoeists that local people have given up fishing.

<table>
<thead>
<tr>
<th>Main Benefits of the St. Croix River Public Lands are for:</th>
<th>Agree</th>
<th>Disagree</th>
<th>Neutral/No Opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local People</td>
<td>10</td>
<td>56</td>
<td>34</td>
</tr>
<tr>
<td>People from outside Polk and Burnett counties</td>
<td>46</td>
<td>19</td>
<td>35</td>
</tr>
</tbody>
</table>

Opinion was about evenly divided on whether more public land should be purchased along the St. Croix River (Table 35).

Despite this split, most respondents agreed that the need for outdoor recreation opportunities and preservation of natural areas are important (Table 36).

---

26 The economic value of views should not be underestimated because a view seems intangible. Example: Lots in urban areas with views sometimes sell for $5,000-$10,000 higher prices than similar lots differing only in that they lack views.


28 A personal incident: While camping, the author emerged from a trout stream to find several carloads of Twin Cities teenagers clustered around a portable stereo drinking, smoking and listening to loud rock music. So much for the modern wilderness experience.
TABLE 35 - Purchase of More Public Land Along the St. Croix River

<table>
<thead>
<tr>
<th></th>
<th>Agree</th>
<th>Disagree</th>
<th>Neutral/No Opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>No more public lands should be purchased in the St. Croix area</td>
<td>28</td>
<td>27</td>
<td>45</td>
</tr>
</tbody>
</table>

TABLE 36 - Reasons for Public Land Ownership

<table>
<thead>
<tr>
<th></th>
<th>Agree</th>
<th>Disagree</th>
<th>Neutral/No Opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public lands are needed to provide outdoor recreation</td>
<td>63</td>
<td>12</td>
<td>25</td>
</tr>
<tr>
<td>Preservation of wilderness is an important reason for public lands</td>
<td>67</td>
<td>13</td>
<td>20</td>
</tr>
</tbody>
</table>

If county resident landowners had the deciding vote, it appears that public land purchases might be stopped. If non-resident landowners -- who are a majority of all owners in the towns surveyed -- decided the issue, more public land would be purchased (Table 37).

TABLE 37 - Resident vs. Non-resident Owners Opinions' on Public Land Acquisition

<table>
<thead>
<tr>
<th></th>
<th>Disagree</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>No more public lands should be purchased in the St. Croix area:</td>
<td>----</td>
<td>Percent ----</td>
</tr>
<tr>
<td>Resident, same county</td>
<td>37</td>
<td>63</td>
</tr>
<tr>
<td>Resident, outside county</td>
<td>58</td>
<td>42</td>
</tr>
</tbody>
</table>
Sixty-three percent of the resident owners surveyed want to see public land acquisition ended while 58 percent of the non-resident owners want more public land purchases.

Since there are more non-resident owners in these towns, the combined total is slightly in favor of more public-land purchases. These results suggest that government land purchases have a broad base of support, but not necessarily local support.
ANALYSIS OF TAX AND REAL ESTATE VALUE IMPACTS OF PUBLIC LANDS

Real Estate Taxes

Personal interviews showed real-estate tax increases to be a major concern of landowners. For example, one lake property owner who retired to Burnett County four years ago stated that his property taxes more than doubled during that time. For a person living on a fixed income, a doubling of property taxes is a real hardship. However, this same person admitted that while his property tax increased from $400 to $1,000, his land value also increased from $40,000 to $100,000. Still, he was not happy with his $60,000 profit.

"I don't plan to sell," he said. "I want to live here the rest of my life."

This example shows the problems created by rapid increases in taxes and land values. For the taxpayer, an increase in property values often means an increase in equity and property taxes, not an increase in the income needed to pay those taxes.

Landowners also were asked to estimate the increase or decrease in their taxes for the five-year period from 1972-1977 (Table 38).

<table>
<thead>
<tr>
<th>TABLE 38 - Changes in Real Estate Tax in Past Five Years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Gone down</td>
</tr>
<tr>
<td>Stayed about the same</td>
</tr>
<tr>
<td>Increased by 1 - 49 percent</td>
</tr>
<tr>
<td>Increased by 50 - 99 percent</td>
</tr>
<tr>
<td>Increased by 100 - 199 percent</td>
</tr>
<tr>
<td>Increased by 200 percent or more</td>
</tr>
<tr>
<td>Don't know, not sure</td>
</tr>
<tr>
<td>No answer or missing</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
The magnitude of increases is shown in Table 39 which reports the number of respondents who said their real-estate taxes have more than doubled in the past five years.

<table>
<thead>
<tr>
<th>Township</th>
<th>Percent of Landowners Reporting A Tax Increase of More than 100 Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Croix Falls</td>
<td>29</td>
</tr>
<tr>
<td>Eureka</td>
<td>56</td>
</tr>
<tr>
<td>Sterling</td>
<td>47</td>
</tr>
<tr>
<td>Anderson</td>
<td>50</td>
</tr>
<tr>
<td>Grantsburg</td>
<td>31</td>
</tr>
<tr>
<td>West Marshland</td>
<td>55</td>
</tr>
<tr>
<td>Union</td>
<td>31</td>
</tr>
<tr>
<td>Swiss</td>
<td>38</td>
</tr>
<tr>
<td>Blaine</td>
<td>29</td>
</tr>
<tr>
<td>Webb Lake</td>
<td>43</td>
</tr>
<tr>
<td>Oakland</td>
<td>22</td>
</tr>
<tr>
<td>Jackson</td>
<td>26</td>
</tr>
<tr>
<td>Total</td>
<td>29</td>
</tr>
</tbody>
</table>

Of the 233 respondents who estimated their tax increases, 35 percent said their taxes had more than doubled in five years. Fifteen percent estimated their taxes had more than tripled. On the other hand, a few had no tax increase and a substantial number -- 37 percent -- reported increases of less than 50 percent. The wide range of differences among owners living in the same towns suggests that assessment practices may not be uniform or their ability to recall is not accurate. One reason some people's taxes appear to have risen greatly is the fact that others have changed only slightly.

Landowners rated fairness of tax assessments lowest among public services. Respondents were asked why they thought real-estate taxes increased (Table 40).

How realistic are these opinions about tax increases? The subject of property taxes in Wisconsin is exceedingly complex. Efforts to fairly
distribute educational aid, the tax burden, and other considerations have led Wisconsin to establish a complicated structure of state aids. School aids, road aids, state revenue sharing based on local tax effort, and other funds flow back and forth between different levels of government.

TABLE 40 - Landowners' Opinions of Reasons for Real Estate Tax Increases

<table>
<thead>
<tr>
<th>Reasons</th>
<th>Not Important</th>
<th>Very Important</th>
<th>No Opinion</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased property values</td>
<td>47</td>
<td>27</td>
<td>26</td>
<td>100</td>
</tr>
<tr>
<td>State made rural areas pay higher share</td>
<td>31</td>
<td>20</td>
<td>49</td>
<td>100</td>
</tr>
<tr>
<td>Public land purchases decreased local tax base</td>
<td>40</td>
<td>18</td>
<td>42</td>
<td>100</td>
</tr>
<tr>
<td>Government spending increased</td>
<td>18</td>
<td>54</td>
<td>28</td>
<td>100</td>
</tr>
</tbody>
</table>

In rural Wisconsin, about 70 percent of each property-tax dollar goes to support local schools. The state guarantees aid to support local schools if a town's tax base (total property value in the town) decreases below a certain point.

Most taxpayers are concerned about the bottom line: How much tax they must pay. Even though tax rates have gone down, we have already seen the amount of tax paid by landowners has gone up. Since taxes equal the tax rate multiplied by valuation, the assessed value must have increased as the tax rate went down.

The causes of such tax increases are hard to identify in this complicated system of tax sharing. This paper does not attempt a complete analysis, instead we compare landowners' perceptions of tax increases to tax statistics to see whether landowners have a valid understanding of property taxes.

Government Spending. Fifty-four percent of the landowners surveyed blamed increases in government spending for rising taxes. Table 41 shows that the total tax levy in the study area did increase substantially from 1972 to 1977.
<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>1972 Tax Levy $</th>
<th>1977 Tax Levy $</th>
<th>Percent Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Croix Falls</td>
<td>249,144</td>
<td>368,033</td>
<td>48</td>
</tr>
<tr>
<td>Eureka</td>
<td>209,758</td>
<td>384,390</td>
<td>83</td>
</tr>
<tr>
<td>Sterling</td>
<td>86,662</td>
<td>159,691</td>
<td>84</td>
</tr>
<tr>
<td>Anderson</td>
<td>42,801</td>
<td>79,657</td>
<td>86</td>
</tr>
<tr>
<td>Grantsburg</td>
<td>88,541</td>
<td>129,985</td>
<td>47</td>
</tr>
<tr>
<td>West Marshland</td>
<td>14,155</td>
<td>44,351</td>
<td>213</td>
</tr>
<tr>
<td>Union</td>
<td>73,327</td>
<td>117,623</td>
<td>60</td>
</tr>
<tr>
<td>Swiss</td>
<td>137,873</td>
<td>211,126</td>
<td>53</td>
</tr>
<tr>
<td>Blaine</td>
<td>25,746</td>
<td>50,804</td>
<td>97</td>
</tr>
<tr>
<td>Webb Lake</td>
<td>149,122</td>
<td>273,905</td>
<td>84</td>
</tr>
<tr>
<td>Oakland</td>
<td>160,925</td>
<td>248,987</td>
<td>55</td>
</tr>
<tr>
<td>Jackson</td>
<td>142,330</td>
<td>549,855</td>
<td>286</td>
</tr>
<tr>
<td>Polk County total</td>
<td>7,116,170</td>
<td>11,401,510</td>
<td>60</td>
</tr>
<tr>
<td>Burnett County total</td>
<td>2,597,505</td>
<td>4,768,308</td>
<td>84</td>
</tr>
<tr>
<td>Wisconsin state total</td>
<td>1,326,681,029</td>
<td>1,856,188,602</td>
<td>40</td>
</tr>
</tbody>
</table>

Source: Wisconsin Department of Revenue

Landowners are correct in believing increased government costs are the most fundamental reason for tax increases. Inflation lies behind a large part of this cost increase. The dollar buys less due to inflation, so governments collect more dollars to maintain the same level of services. Between 1972 and 1977, the Consumer Price Index -- the usual measure of inflation -- increased by about 50 percent.

Population increases are another reason for tax hikes (Table 42). In general, more people means more costs for government -- more school children, more trash and so forth. Rapid growth in population can lead to large increases in government costs. For example, just a few extra children can double the school bus budget and strain other government facilities and services.
TABLE 42 - 1972-1977 Population Increases by Town

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>1972-1977 Population Increase (Number)</th>
<th>Percent Increase</th>
<th>Percent Tax Levy Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Croix Falls</td>
<td>23</td>
<td>3</td>
<td>48</td>
</tr>
<tr>
<td>Eureka</td>
<td>7</td>
<td>11</td>
<td>83</td>
</tr>
<tr>
<td>Sterling</td>
<td>92</td>
<td>24</td>
<td>84</td>
</tr>
<tr>
<td>Anderson</td>
<td>8</td>
<td>4</td>
<td>86</td>
</tr>
<tr>
<td>Grantsburg</td>
<td>25</td>
<td>5</td>
<td>47</td>
</tr>
<tr>
<td>West Marshland</td>
<td>56</td>
<td>30</td>
<td>213</td>
</tr>
<tr>
<td>Union</td>
<td>39</td>
<td>25</td>
<td>60</td>
</tr>
<tr>
<td>Swiss</td>
<td>111</td>
<td>21</td>
<td>53</td>
</tr>
<tr>
<td>Blaine</td>
<td>10</td>
<td>8</td>
<td>97</td>
</tr>
<tr>
<td>Webb Lake</td>
<td>66</td>
<td>49</td>
<td>84</td>
</tr>
<tr>
<td>Oakland</td>
<td>79</td>
<td>25</td>
<td>55</td>
</tr>
<tr>
<td>Jackson</td>
<td>147</td>
<td>115</td>
<td>286</td>
</tr>
<tr>
<td>Polk County total</td>
<td>3,133</td>
<td>12</td>
<td>60</td>
</tr>
<tr>
<td>Burnett County total</td>
<td>1,836</td>
<td>20</td>
<td>84</td>
</tr>
<tr>
<td>Wisconsin state total</td>
<td>114,256</td>
<td>3</td>
<td>40</td>
</tr>
</tbody>
</table>

Source: Wisconsin Department of Administration and Department of Revenue.

Increased Property Values. Since Wisconsin gives school aids to towns based on the tax base, it's important to accurately assess property in order to share the state aids fairly. The Wisconsin Department of Revenue depends on property sales records and an extensive information-gathering system to estimate "equalized" valuations. Table 43 shows the state estimates of equalized valuation of property in the study area.

---

29 Equalized valuations are calculated from actual sales data compiled by the Wisconsin Department of Revenue. Sales are screened to ensure that only arms-length transactions representing actual market value sales are used.
TABLE 43 - Changes in Equalized Valuation
1972-1977

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>1972 Valuation (000)</th>
<th>1977 Valuation (000)</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Croix Falls</td>
<td>$8,786</td>
<td>$19,284</td>
<td>119</td>
</tr>
<tr>
<td>Eureka</td>
<td>6,823</td>
<td>19,963</td>
<td>193</td>
</tr>
<tr>
<td>Sterling</td>
<td>3,071</td>
<td>8,850</td>
<td>188</td>
</tr>
<tr>
<td>Anderson</td>
<td>1,745</td>
<td>5,077</td>
<td>191</td>
</tr>
<tr>
<td>Grantsburg</td>
<td>3,476</td>
<td>8,224</td>
<td>137</td>
</tr>
<tr>
<td>West Marshland</td>
<td>945</td>
<td>3,875</td>
<td>310</td>
</tr>
<tr>
<td>Union</td>
<td>2,971</td>
<td>7,314</td>
<td>146</td>
</tr>
<tr>
<td>Swiss</td>
<td>5,621</td>
<td>12,971</td>
<td>131</td>
</tr>
<tr>
<td>Blaine</td>
<td>1,319</td>
<td>3,132</td>
<td>137</td>
</tr>
<tr>
<td>Webb Lake</td>
<td>6,063</td>
<td>16,920</td>
<td>179</td>
</tr>
<tr>
<td>Oakland</td>
<td>3,173</td>
<td>15,481</td>
<td>388</td>
</tr>
<tr>
<td>Jackson</td>
<td>6,689</td>
<td>33,608</td>
<td>402</td>
</tr>
<tr>
<td>Polk County total</td>
<td>239,586</td>
<td>538,160</td>
<td>125</td>
</tr>
<tr>
<td>Burnett County total</td>
<td>97,639</td>
<td>268,065</td>
<td>175</td>
</tr>
<tr>
<td>Wisconsin state total</td>
<td>40,833,250</td>
<td>73,530,548</td>
<td>80</td>
</tr>
</tbody>
</table>

Source: Wisconsin Department of Revenue

Rural Areas Share of Taxes. Twenty percent of respondents thought that changes in state tax policy made rural areas pay more. State figures on tax rates don't show that to be the case (Table 44).

Tax rates decreased by about the same percentage for all categories of municipalities. The decreasing tax rate was due to federal and state revenue aids to local governments and increased property values.

Local realtors report that rural recreational land prices in these counties have increased annually by about 25 percent -- a figure consistent with state increase estimates. The very large increase in valuation in the towns of Oakland, Webb Lake and Jackson are attributable to the Voyager Village project which converted forest into high-priced subdivision lots.
TABLE 44 - Effective Full Value Tax Rates
Per Thousand Dollars of Property Value,
1972-1977 for Towns, Villages and Cities

<table>
<thead>
<tr>
<th></th>
<th>1972 Tax Rate</th>
<th>1977 Tax Rate</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Towns</td>
<td>$22.45</td>
<td>$17.28</td>
<td>-23</td>
</tr>
<tr>
<td>Villages</td>
<td>28.08</td>
<td>21.99</td>
<td>-22</td>
</tr>
<tr>
<td>Cities</td>
<td>32.21</td>
<td>25.95</td>
<td>-19</td>
</tr>
<tr>
<td>Total</td>
<td>28.65</td>
<td>22.31</td>
<td>-22</td>
</tr>
</tbody>
</table>

Source: Wisconsin Department of Revenue.

If taxes in rural towns have risen because of increased land value, taxes didn't go up as quickly in cities and villages in these counties. In 1972, villages in Burnett County paid 16 percent of total tax collection in the county. In 1977, they paid 14 percent of the total.

Polk county municipalities paid 37 percent of the county's total taxes in 1972 and 32 percent in 1977. Rapid increases in rural land values have redistributed some of the tax burden in these counties.\(^{50}\)

Public Land Purchases. A sizeable minority of survey respondents (18 percent) believe public lands are an important reason for tax increases. Forty-two percent said they aren't sure about the effect of public land on taxes. Therefore, about 60 percent of the owners don't realize that Wisconsin's tax-sharing formula insulates local taxpayers as land is removed from the tax rolls. It seems logical: If land goes from private to public ownership and no longer is taxed, the local tax base decreases and other landowners have to pick up the cost. However, this isn't true in Wisconsin. School taxes, which make up about 70 percent of the total property tax, are replaced dollar for dollar when the local tax base shrinks. As a result, some 70 percent of the total tax is unchanged by public land purchase. In addition, the state and federal governments make payments to the local government "in lieu of" taxes where land has been purchased for public use. These payments go to the town, except for part of the federal payment which goes to county and school districts. Therefore, the towns' income from the land actually is greater than it would have been with the land in private ownership. For this reason, Monroe Rosner, a University of Wisconsin economist who has studied the impact of public land on local taxes, says, "In most cases, the towns with the most public lands are the towns with the lowest taxes."\(^{31}\)

\(^{50}\)Wisconsin Department of Revenue. "Property Taxes by Township." 1972-1977 editions, Madison.

\(^{31}\)Monroe Rosner, Specialist, Department of Agricultural Economics, University of Wisconsin-Madison, oral communication, October, 1978.
Public lands do not raise taxes for nearby private owners, but in fact tend to lower taxes. This conclusion is supported by figures for the 12 towns studied here (Table 45).

<table>
<thead>
<tr>
<th>Town</th>
<th>Tax Rate 1977</th>
<th>Approximate Acreage in County and State Ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Marshland</td>
<td>$11.44</td>
<td>29,266</td>
</tr>
<tr>
<td>Blaine</td>
<td>16.21</td>
<td>27,015</td>
</tr>
<tr>
<td>Anderson</td>
<td>15.95</td>
<td>23,261</td>
</tr>
<tr>
<td>Swiss</td>
<td>15.86</td>
<td>19,287</td>
</tr>
<tr>
<td>Sterling</td>
<td>17.19</td>
<td>10,969</td>
</tr>
<tr>
<td>Union</td>
<td>15.59</td>
<td>10,543</td>
</tr>
<tr>
<td>Webb Lake</td>
<td>15.80</td>
<td>9,445</td>
</tr>
<tr>
<td>Grantsburg</td>
<td>15.25</td>
<td>7,587</td>
</tr>
<tr>
<td>Jackson</td>
<td>15.91</td>
<td>4,163</td>
</tr>
<tr>
<td>St. Croix Falls</td>
<td>17.35</td>
<td>539</td>
</tr>
<tr>
<td>Oakland</td>
<td>15.68</td>
<td>316</td>
</tr>
<tr>
<td>Eureka</td>
<td>17.67</td>
<td>1</td>
</tr>
<tr>
<td>Average Polk County</td>
<td>19.12</td>
<td>- - -</td>
</tr>
<tr>
<td>Average Burnett County</td>
<td>16.93</td>
<td>- - -</td>
</tr>
</tbody>
</table>

Source: Wisconsin Department of Revenue

West Marshland, the town with the most public land, also has the lowest tax rate. Other towns with large amounts of public land generally have an average or below average tax rate.

In this discussion on taxes we do not include National Park Service lands along the St. Croix River because data by towns were not conveniently available. However, this omission doesn't change the conclusion that public lands don't increase local taxes in Wisconsin. The effect of public lands on property taxes is clearest in the nine towns bordering the river -- which is part of the National Riverway. The effect of federal ownership wouldn't vary greatly in the other towns.
Also, federal payments in lieu of taxes are even more generous than state payments. In 1978, the federal payment for lands along the St. Croix averaged $3.24 per acre -- much higher than the state payment which can be as low as 50 cents an acre.\(^{32}\)

If federal lands were considered, the relationship between low taxes and high public land ownership would be even stronger.

**Value Impacts of Public Land Acquisition Along the St. Croix River**

If public ownership reduces the property tax on nearby private land, what is the effect of public holdings on property values?

As used here, land value means the property's fair market value if offered on the real-estate market for a reasonable period of time and a transaction is being made between a willing buyer and seller. This is the appraiser's definition of value.

Under this definition, values are revealed through sales in the land market. This definition is normative. There is an implication that the price is fair or justified in relation to some intrinsic value. Value to a particular owner might be more or less than this market price. For example, a potential seller may be emotionally attached to his land and might not part with it at any price or a buyer might not want the land enough to pay for its asking price.

Obviously, land value will fluctuate as market conditions change. Because of this fluctuation, land values are best stated as a range rather than a precise estimate value.\(^{33}\)

Since every parcel of land is unique, appraisal is a difficult process. Many variables may enter into haggling between buyers and sellers. For example, a sportsman might pay more for a trout stream, a farmer more for corn land, and a recreationist more for an unspoiled view. Since all these buyers could bid for the same parcel of land, the market price will be determined by which type of buyer will pay the most. For much of the land near the St. Croix River, recreational buyers provide a constant demand. In appraisal terminology and in the minds of the buyers, recreation is the "highest and best use" of the land.

Since buyer psychology is important in setting land values, surveying owners is a direct way of estimating the imagined impact of public holdings on the value of nearby private land.

Owners were asked if the location of public lands entered into their decision to buy. The property owners also were asked to estimate how the public land affected their own land. Since these are the buyers whose purchases helped establish land values, their opinions provide a fair reflection of buyer psychology in the real estate market.


We can obtain some evidence about the impact of public holdings on land prices by comparing sales figures between areas with nearby public lands and areas without such public projects. However, this evidence can't be generalized. No two areas or any two sales are exactly alike. So many variables affect prices that it becomes impossible to separate out the result of a single variable. For example, the land in the study area would have increased in price with or without public land projects. We can't tell whether the increases would have been greater or less if the Wild and Scenic River project and other projects hadn't been created.

Equalized valuations provide a useful source of information on land values throughout Wisconsin. The changes of equalized valuations for an entire town are used here as an indicator of value changes. Since these figures cover the entire town and are based on multiple sales, they will average out to a reasonably accurate measure of value changes. To further improve accuracy, we used changes in valuation for a five-year period. If a few unusual sales occur during a given year, they should average out over a period of years.

Five independent variables were used to predict changes in equalized valuation for the twelve towns studied here.

These were:

a. Distance to the Twin Cities. The distance involved an estimate of road miles taking into account access across bridges.

b. Estimates of number of lakes or flowages in the town and their quality. Scored subjectively from 1 to 10.

c. Miles of Wild and Scenic Riverway in the town.

d. Presence of near proximity to Voyager Village (dummy variable).

e. Acreage of non-riverway public land in the town.

Expressed as an equation: \( \text{price/acre} = C_1 \text{ (distance to Twin Cities)} + C_2 \text{ (lakes rating)} + C_3 \text{ (riverway miles)} + C_4 \text{ (Voyager Village)} + C_5 \text{ (public land acreage)} \). \( C_1 \) to \( C_5 \) are dimensionless coefficients corresponding to the weight each variable has in determining land value.

These are not the only variables that affect land values. Others include type of timber, amount of wetlands, the county forests, the Crex Meadows and Fish Lake projects, amount of farmland and number of platted lots in the area. But since our main objective is to estimate the impact of public lands, a complete model may not be necessary or feasible given limitations of data. The above variables should allow a tentative estimate of the impact of public land on property values and be a first step towards a more complete model.
Using regression techniques, each variable was compared separately against the change in equalized valuation between 1972 and 1977. The results, expressed as a percentage of 1972 valuation, revealed the following when the 12 towns were used as sample points:

a. Distance to the Twin Cities was not significantly related to change in valuation.

b. Lake rating score was only slightly related to valuation changes -- probably due to the tendency for lake property to be platted and developed. Towns with more lakes tended to increase in total valuation slightly faster than towns with fewer lakes.

c. Miles of Wild and Scenic Riverway were related to the percentage change in equalized valuation ($r^2 = .44$, $t = -3.14$). This probably was related to removal of land from the tax rolls, not the per acre prices. If valuations didn't increase as fast in towns with more river miles, it's really an accounting issue since the land only shifted from private to public ownership. Therefore, this regression really doesn't answer the question of whether riverway acquisition increased or decreased nearby land values. It is not valid to argue that publicly owned land becomes worthless just because its value is not part of equalized valuation. Ownership simply has changed to the public. An improved model would have added an estimated value of public lands to the equalized value figure used here.

d. The Voyager Village development did contribute to increases in land valuations. The reason distance to the Twin Cities was not related to valuation may be because Voyager Village masked any efforts that did appear. [$r^2$ $VV$ (dummy variable) vs. equalized value = .48, $t = 3.38$].

e. Acreage of public land already owned in the town also was not related to changes in valuation. The majority of this acreage had been publicly owned for some time and the effect of public ownership had already been absorbed in the land market. Private lands in towns with more public land holdings did not seem to change value much differently than land located in towns with less land.

Combining all the above variables into an equation to explain change in equalized valuation resulted in a model that only explained 41 percent of the variance. This was less than the Voyager Village variables alone. Such results are not statistically significant. Also, several of the variables -- notably lakes and Voyager Village, river miles and public land acreage, and lakes and distance to the Twin Cities -- have correlation coefficients above .5. Multicollinearity makes the result invalid.

These regressions were repeated using only the nine towns actually located along the river. Even after omitting the three towns most influenced by Voyager Village, the results were substantially similar.

The results of this analysis were inconclusive. Theoretically, it might be possible to isolate the effects of public lands on values of nearby private lands using this kind of method. However, the data was not sufficiently broad or disaggregated to reveal these effects. It appears
TABLE 48 - Percent Rating Public Land Important to Purchase Decision by Distance to Nearest Public Land

<table>
<thead>
<tr>
<th>Distance to Nearest Public Land:</th>
<th>Land Acquired 1969 or Before</th>
<th>Land Acquired 1970 or Later</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borders public land</td>
<td>39</td>
<td>62</td>
</tr>
<tr>
<td>Less than one mile</td>
<td>25</td>
<td>48</td>
</tr>
<tr>
<td>1-5 miles</td>
<td>13</td>
<td>29</td>
</tr>
<tr>
<td>Over 5 miles</td>
<td>--</td>
<td>29</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>40</td>
</tr>
</tbody>
</table>

Note: Chi-square test indicates results not statistically significant at .05 level.

TABLE 49 - Percent Rating Public Land Important to Purchase Decision by Type of Nearest Public Land

<table>
<thead>
<tr>
<th>Type of Public Land Nearest to Parcel:</th>
<th>Land Acquired 1969 or Before</th>
<th>Land Acquired 1970 or Later</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Croix National Wild And Scenic Riverway</td>
<td>18%</td>
<td>22%</td>
</tr>
<tr>
<td>State, county or town forest</td>
<td>38</td>
<td>51</td>
</tr>
<tr>
<td>State or county park</td>
<td>--</td>
<td>38</td>
</tr>
<tr>
<td>DNR wildlife area</td>
<td>11</td>
<td>37</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>37</td>
</tr>
</tbody>
</table>

Note: Chi-square test indicates results not statistically significant at .05 level.

Only ten percent of those who acquired land since 1970 felt the value of their parcel would be higher without public land nearby. Three times as many (32 percent) felt values would be lower (Table 50). A majority -- including recent buyers -- thought values would be about the same with or without nearby public land.

Of those who acquired land since 1970 and whose land borders public land, 50 percent think their land value would be lower without public land nearby (Table 51).
TABLE 50 - Opinion of Change in Land Values if No Nearby Public Land

<table>
<thead>
<tr>
<th>If No Public Land May Land Value Would Be:</th>
<th>Land Acquired 1969 or Before</th>
<th>Land Acquired 1970 or Later</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>24</td>
<td>32</td>
</tr>
<tr>
<td>Same</td>
<td>58</td>
<td>58</td>
</tr>
<tr>
<td>Higher</td>
<td>18</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

TABLE 51 - Opinion of Change in Land Value if No Nearby Public Land by Distance from Public Land (acquired since 1970)

<table>
<thead>
<tr>
<th>Land Value If No Public Land</th>
<th>Total</th>
<th>Borders Public Land</th>
<th>Less Than 1 Mile to Public Land</th>
<th>1-5 Miles to Public Land</th>
<th>More Than 5 Miles to Public Land</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>32%</td>
<td>50%</td>
<td>40%</td>
<td>22%</td>
<td>18%</td>
</tr>
<tr>
<td>Same</td>
<td>58</td>
<td>45</td>
<td>55</td>
<td>59</td>
<td>76</td>
</tr>
<tr>
<td>Higher</td>
<td>10</td>
<td>5</td>
<td>5</td>
<td>19</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Note: Chi-square test indicates results not statistically significant at .05 level.

Regardless of the type of public land nearest their property, owners are likely to believe public holdings have more of a positive than negative impact on land values (Table 52).

Again, most landowners think public lands have little or no impact on land values. If these owners' opinions are representative of most buyers in the land market, it can be concluded that public lands probably have a positive impact on nearby private land values. However, except for owners whose parcels border public land, this effect is not large in the vicinity of the St. Croix River.

The impact of public land on private property values depends on the nature, management and development of the public project.
TABLE 52 - Opinion of Change in Land Values if No Nearby Public Land
by Type of Public Land Nearest Parcel Owned

<table>
<thead>
<tr>
<th>If No Public Land My Land Value Would Be:</th>
<th>Total</th>
<th>St. Croix Riverway</th>
<th>State, Town or County Forest</th>
<th>State or County Park</th>
<th>DNR Wildlife Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>28%</td>
<td>21%</td>
<td>38%</td>
<td>25%</td>
<td>24%</td>
</tr>
<tr>
<td>Same</td>
<td>62</td>
<td>67</td>
<td>57</td>
<td>63</td>
<td>67</td>
</tr>
<tr>
<td>Higher</td>
<td>10</td>
<td>12</td>
<td>5</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Note: Chi-square test indicates results not statistically significant at .05 level.

Intensive development, for example, may have a negative effect on nearby property values if potential owners are in search of peace and quiet. Yet the same intensive development can have a positive effect on owners who value the increased recreational opportunities afforded by the project.

The entire issue is complicated. It's difficult to demonstrate the effect of public land on nearby property values in isolation from the many other variables which affect land values.

Long-Run vs. Short-Run Effects. In the short run, entry of the government into a land market may cause some shift in prices. But in the following years, the character of the public project determines the impact on values. It seems likely that as wild areas become more scarce, the value of lands near the St. Croix Wild and Scenic Riverway will be enhanced by proximity to a well-managed public project. It will take several decades to prove this hypothesis correct.

Eventually this final outcome will be much more important than short-run effects now visible. The real impact of the St. Croix Riverway and other public projects on land values hasn't appeared yet. This impact will depend on land management decisions made by local governments, by the National Park Service and DNR, and by private landowners themselves. The fruits of the wise decisions will appear over a long period of time, as will the results of poor or shortsighted decisions.
SUMMARY

Land tenure in the study area has changed dramatically in the past 50 years. In 1930, the area had been logged, drained and burned. Because of short growing seasons and infertile soils, farming was not successful. Thousands of acres were tax delinquent. The economy of the region and the fiscal resources of local governments were depressed. Governmental actions reversed the trend. The State Legislature authorized counties to take title to tax-delinquent land and to enter such land in the county forest crop program. Forest fire protection and reforestation began to change the vegetative character of the area and today the bulk of the upland soils support forest stands.

In the 1940s, the State Conservation Department began to acquire and restore lands in the drained glacial marshes near Grantsburg and Siren in Burnett County. Later, other blocks of land were set aside for restoration of prairie savannas for sharp-tail grouse and prairie chickens. In 1968, the St. Croix National Wild and Scenic Riverway was established by Congress and the State Department of Natural Resources (formerly the State Conservation Department) established the St. Croix River State Forest. In total, more than 215,000 acres are in public ownership in Burnett and Polk counties. Within and adjacent to these public projects are substantial acreages of private lands.

Population decline in the area was reversed in the late 1960s and today Polk and Burnett counties are growing at substantially faster rates than the rest of the state.

The objectives of this study were threefold:

-- To examine the extent and spatial dispersion of non-resident owned land in the study area.

-- To determine the nature and impact of resident owner goals on specific areas and land policy.

-- To examine the effect of public lands on value of nearby private lands.

The study area consists of a strip of twelve towns adjacent to the Minnesota-Wisconsin state border in Polk and Burnett counties. Minneapolis and St. Paul lie less than two hours away by car.

A random sample of 510 landowners was selected from the twelve towns. One in 20 owners received the questionnaire. In the final sample, 299 owners or 59 percent responded to the questionnaire. In addition, interviews were conducted with knowledgeable local citizens.
Findings

1. Sixty-four percent of all parcels were small platted lots or certified survey parcels. Nineteen percent of the ownerships consist of lots in Voyager Village. Only sixteen percent of the ownerships are 40 acres or more. Sixty-two percent have buildings on the land, the majority of which are used seasonally. Twenty-four percent of the owners have their permanent homes on the land.

2. In platted areas, ownership of multiple lots was common. In part, ownership of more than one lot is to protect their land from adjacent development or for investment.

3. Most of the land is wooded, but parcels are small. Recreation is a more important use for most owners than timber production.

4. Forty-five percent of the owners are from Minnesota. Twenty-four percent live on the land parcel surveyed here.

5. Thirty-one percent are in professional occupations, Twenty-one percent are retired. Retired persons and farmers were more likely to be living on the land parcel.

6. Sixty-two percent of those earning less than $5,000 annually were 65 years old or older. Those with incomes of $25,000 or more were in the 35 to 64 age range. Non-resident owners tended to have considerably higher incomes than resident owners. A third of the non-resident owners earned more than $25,000 a year. Local residents have substantially lower levels of income.

7. The bulk of the land (77 percent) was acquired in the open market. Responses show accelerated sales beginning in the mid-'60s with a marked increase in 1972, corresponding to marketing of Voyager Village.

8. Sales over time show a marked decrease in size. In the '50s, sales most commonly were 40 or 80-acre tracts. Today the bulk of sales consist of small acreages or lots.

9. Seventy-one percent of the landowners have no plans to sell while 29 percent plan to sell in the foreseeable future. Only eight percent have land for sale now. Most owners hold land for use now rather than for investment. Resale profits proved important to Voyager Village owners (33 percent). However, lots in this subdivision are the only category of lands showing a decline in value.

10. About two-thirds of all owners own their land because they enjoy the natural environment, for recreation and "peace and quiet". Unspoiled views and quiet appear to be important forces holding up the local land market. Only a small percentage of owners are engaged in farming or forestry. Only 20 percent listed a source of income from this land as the most important reason for owning the land.

11. Spending by non-resident landowners brings about $2.7 million annually into the economies of Polk and Burnett counties.
12. Landowners think tax assessment needs improvement. Police protection received low ratings. Owners also gave fire protection and trash disposal low ratings. While most people thought Extension agents do an adequate to excellent job, 54 percent had no opinion -- indicating they were not familiar with Extension programs.

13. About two-thirds of owners reported harvestable timber on their land. Substantial numbers had planted trees, thinned timber or had obtained advice from the county forester. The bulk of the owners were not familiar with property-tax incentives if they placed their land in either the Woodland Tax or Forest Crop Tax programs. Seventy-seven percent do not post their land against trespassing. A substantially larger number owners (35 percent) were aware of tax benefits associated with the agriculture lands preservation program and 19 percent indicated a plan to participate in the program although it is doubtful that most of the owners would qualify.

14. Seventy-six percent of the Wisconsin residents said they favored raising out of state hunting fees while 87 percent of the non-residents strongly opposed fee increases. Also, residents do not like non-resident bow hunters, hunting deer.

15. Most Department of Natural Resources programs were viewed favorably by the owners except burning for prairie grouse management (about an equal split). Also, 23 percent did not favor harvesting timber on public land.

16. Non-resident owners strongly support zoning, whereas local owners are about evenly split on the issue.

17. Despite their proximity to public lands, a majority of land owners are not heavy users of adjacent public lands. Moreover, most owners reported that public lands did not greatly influence their decision to purchase or did public lands influence the price of their land. Significantly, the most important value of public lands was the protection of views. Opinion was split as to whether more land should be purchased by the public. However, resident owners strongly favored no more public acquisition while 58 percent of the non-residents favored such purchases.

18. Owners are concerned about property taxes. Twenty-nine percent said taxes had more than doubled in five years. Twelve percent indicated they had more than tripled. On the other hand, a few reported no tax increases and 32 percent reported increases of less than 50 percent. Owners rated tax assessment lowest among public services. In general, owners have a poor grasp of the way in which the property tax and state-shared tax system works in Wisconsin. This is especially evident in their view that public land purchases increase local property taxes, when in fact such purchases have no effect or may actually decrease local taxes. Because the values of rural land are increasing more rapidly than lands in villages in the two counties, rural land owners in the 1972-1977 period are paying a slightly increasing share of the local governmental cost.
19. Public land seems to be becoming more important in the buyer's decision process. The relationship is not strong since two-thirds of the owners did not consider nearby public land to be important. However, since 1970, recreationally oriented buyers in all the study-area towns were more likely to consider public lands before buying. Public lands are most important to those owners whose parcel lies near or borders public land. In spite of that, the majority of recent buyers thought the value of their land would be about the same with or without the public land base.
CONCLUSIONS

Before beginning this study, the authors postulated that public lands positively influence the market values of adjacent private lands. This does not appear the case. However, the data indicates a trend, beginning in the early '70s, which shows buyers considering adjacent public lands in their purchase decisions.

Obviously, the two counties' 215,000 acres of public lands have contributed materially to area scenic quality -- a significant influence on the buyer's decision to purchase acreages or lots. Another study, five or ten years from now, would probably reveal significant influences of public land on the private land market.

Non-Resident Ownership

Local attitudes toward non-residents are mixed. Local residents realize non-resident landowners and visitors are a source of dollars to help the area's economy, yet the non-residents also compete for resources such as fish, game, and land which may be scarce.

The state boundary seems an artificial division. Minnesotans cross state lines freely. Non-resident landowners are a relatively new industry in northwest Wisconsin. Non-residents are chiefly responsible for increasing local land values and the wealth of many area residents. They spend large amounts of money in the area and pay a majority of property taxes in some towns. A retiree who brings a steady pension income to the area is as much an addition to the regional economic base as a new factory job. Many non-resident owners eventually intend to build homes and retire in northwestern Wisconsin. Non-residents also contribute to increased local employment in real estate, building, services and other occupations.

Local governments need to be aware of the needs of non-resident property owners. Today, non-resident taxpayers have little influence in how their property taxes are spent. They pay for many local government services that they never use.

Local governments should attempt to represent non-resident owners in decisions which affect these owners' interests. For example, the local government could conduct advisory referenda or polls of landowners. In areas where a majority of landowners are non-residents, local decision making should consider non-resident interests along with the interests of local voters. Although a locality does not have to consider the opinions of non-resident owners, such consideration could encourage more non-resident participation in the local economy and political processes.

For example, while vandalism affects both resident and non-resident property owners, only resident owners are allowed to vote for increased police protection. Yet the vacant cottages of non-resident owners are often the vandal's target. Burglarized or vandalized cottages contribute to the poorer image of an area, lower property values, and discourage construction of second homes. Vandalism's economic impact ranges far
beyond its immediate cost. Non-resident owners expressed a desire for better police protection -- a service they pay for yet cannot vote for.

Local governments also should consider non-resident opinions on zoning and other land-use controls. Survey results show a nearly even split on zoning among local residents, while a strong majority of non-resident owners favor zoning. Land-use planning and regulations are needed to preserve the scenic views and character of the area which is valued by residents and non-residents alike.

Northwest Wisconsin's sandy soils and gentle topography allow for land-use regulations at a relatively modest cost. For example, the area's flat, sandy soils are suitable for long, unpaved driveways. Thus, setback requirements on new homes become a relatively inexpensive zoning option. While snow-removal costs are increased, the longer driveways and hidden homes help preserve the area's natural character. Another approach is cluster development on suitable land where services such as roads, electricity, telephone and trash hauling are shared responsibilities. Clustering conserves land, protects scenic beauty, and reduces police protection and fire prevention costs.

In 1979, local land sold for about $300 an acre. At that price, a forty-acre parcel costs less than a single-home lot in many major cities. Such low-cost land allows for relatively large minimum lot size and subdivision regulations. Such regulations help avoid overcrowding while preserving the area's character. Preserving this character -- a salable commodity on the real estate market -- pays long run dividends as it attracts non-resident dollars into the local economy. However, this study clearly documents that the number of rural-land sales is increasing while the average size of parcels is decreasing. This process will continue. Without planning and zoning, the natural beauty of the area -- the prime attraction to buyers -- will slowly be lost and property values will suffer.

Regional Economy

It is important to distinguish among different groups when discussing the benefits and costs of public lands and of growth. Among those who have profited from the recreational boom are:

-- Realtors, developers and builders.

-- Landowners who hope for profits upon resale.

-- Certain local businesses, especially restaurants, taverns, canoe rentals, antique dealers, and so forth.

On the other hand, among those who may have been adversely affected by the land boom are:

-- Retired persons or others who own primarily for use as opposed to owning for resale. Their taxes may have increased with the rise of the property values while their incomes remained relatively stable.
-- Local governments facing increased costs and problems.

-- Residents who prefer less crowded living or recreation areas.

Northwestern Wisconsin has become part of the Minneapolis-St. Paul market area. In a sense, the study area sells recreation and serves as a weekend retreat for Twin City residents. Local development strategies traditionally have stressed adding basic employment by attracting new industries. For northwest Wisconsin, an additional strategy would seek to capture more of the secondary employment created by purchases made by Twin City residents. Retail stores, restaurants and local services could aim to capture a greater share of spending by out of state and part-time residents.

Rapid growth creates risks and problems. The major economic risks from increasing land subdivision are not related to farm or timber management, but to dissipation of recreational values through low quality or excessive development. It's important to recognize the area's recreational quality as a vital asset to the local economy.

Efficient timber management today is probably only possible on larger holdings and on public land. The operating cycle from initial investment to harvesting for a timber enterprise in northwest Wisconsin extends over decades. It may be 25-to-30 years before investors realize the first income from a newly planted forest.

Under these circumstances, good management calls for continuity and a long-term perspective. Decisions are made that pay returns years later -- perhaps far beyond the decision-maker's lifetime. The present system of combining public and private land and forest management appears to make good economic sense for the area. And, as prices for timber increase, there may be economic incentives for both the landowner and the logger to harvest trees on small ownerships. The owners' sense of beauty and aesthetic qualities associated with the region should receive paramount attention. Moreover, timber sales on both public and private lands should be carefully considered to insure that the environmental values of the region are not violated. On the other hand, educational programs should stress the importance of the wood-using industry to the local and regional economy.

Fire Prevention and Control

More second homes and the establishment of new forests means a growing potential for economic loss from fire.

Fire control is a major problem in the sandy pine and oak forests. Major fires in nearby counties in 1977 and in Burnett County in 1980 caused substantial losses. In Burnett County, the 1980 fires claimed 69 structures -- many within the study area. In nearby Washburn County, on lands similar to the study area, spring forest fires claimed 79 structures. In both instances, many of the structures were homes or recreational cottages.
Excessive monoculture stands of jackpine and red pine may be productive for short-term management, but might actually have lower returns if the risk of fire is fully accounted for. The preservation and restoration of wetlands is having value now in creating large fire breaks. Openings for prairie grouse also are providing some protection. There should be coordination of efforts to establish fire breaks and fire prevention programs by government agencies active in the area, local units of government, the timber industry, insurance companies, lending institutions and private landowners. The authors believe that fire protection, land-use planning and regulation are the most significant public steps necessary to preserve the character of the area and to protect property values. In some extremely high hazard fire areas, consideration should be given to restricting second home development through zoning, acquisition of development rights, and public purchases to expand existing public lands. The risk of forest fire is simply too great to permit continued unplanned development in the study area and in other areas of the light sandy soil region extending from the Town of Sterling in Polk County almost to Lake Superior in Bayfield County.

Property Taxes

Improve Assessment Procedures. Survey results show widespread dissatisfaction among landowners regarding the fairness of assessments. If landowners' reports of tax increase are accurate, it appears that owners of similar rural lands suffer widely different increases in assessments. One reason some assessments are high is that others receive unusually low assessments. The burden of taxation may not be fairly distributed because of poor administration of assessments. Improving assessment practices costs money as assessors' qualifications are improved and public employees increase the time they devote to reassessments. In an area with rapidly increasing land values, this extra spending to achieve fairer assessments seems worthwhile.

Consider Absorption Rates in Assessment. Simply because some lots sell for high prices, the surrounding land isn't necessarily salable as lots. There are limited numbers of lot buyers and the market can absorb only a limited number of parcels each year. Improved assessment practices would avoid reassessing all land upwards without regard for the time required for lots to be absorbed by the market. Assessors could estimate absorption rates for lots -- expressed as the number of lots per year -- and discount the value of the remaining land by the number of years until development is likely to occur.

Property Tax Postponement. Many retired persons are living on fixed incomes while area property values are increasing rapidly. These residents would benefit from a property-tax postponement law. Such a law, similar to a program in effect in California, allows landowners to postpone property taxes on their residence. The postponed taxes bear interest and become a lien against the homeowner's estate. The heirs to the property pay the taxes plus interest. Elderly homeowners aren't forced to sell their property or reduce their standard of living in order to pay higher taxes resulting from higher land values. The state should study tax postponement as a possible means of preventing retired persons from becoming so land rich they become tax poor.
Public Land Acquisition

Once a public project is designated, land acquisition or control should be completed as quickly as possible. There are a number of devices which can be used to accomplish this goal while at the same time mitigating the impacts on owners. For example, the National Park Service uses scenic easements which permit continued private ownership but prevent development that would destroy scenic quality.

The NPS also grants landowners the right to continue occupancy for periods of up to 25 years with rights of resale or life tenure.

It's unlikely government policies will avoid all conflict. Most survey respondents saw public lands chiefly benefiting non-residents. Conflict is inevitable when resources are limited. The National Riverway is a good example. Who owns the St. Croix River and adjacent lands? Local people claim to have "lost our river", but can local residents ever own a river? What does the future hold for the river and adjacent lands without public protection? Whether privately developed or protected by public protection, the scenic quality of the landscape was protected and the recreational experience enhanced.

In addition to zoning and outright acquisition of land by public agencies, there are other programs which can be used to influence the use of private lands to protect scenic qualities. For example, the Wisconsin Agriculture Land Preservation program provides tax incentives for maintaining lands in farms. Owners of forest land also have two state programs which provide tax incentives for practicing forestry. A blend of farm land, forest land, public lands and private recreational ownerships will provide a diversity of land uses and enhance scenic quality. A planning process involving local citizens, local governments, non-resident owners and government agencies can provide the blueprint for achieving both public and private goals.

Public Education

The above comments suggest a number of educational needs. In addition, the study suggests several other areas in which government agencies should increase their informational and educational efforts:

1. Eighteen percent of the landowners surveyed said they thought public land purchases increase taxes by reducing the tax base. Although this belief isn't true, it is widely accepted. Although the Department of Natural Resources, University of Wisconsin-Extension and the National Park Service have public-information programs about this issue, their efforts should be strengthened.

2. Increased public education also is needed to preserve the character of the area. Riverway users should be made aware of the need for litter control, responsible behavior and environmental protection. Good management can eliminate many local problems. For example, litter cleanup, trash containers and increased patrols could alleviate local objections to untidy river users.
Many of these problems developed during the transition period when the National Park Service didn't own the land but was expected to manage the river. These problems should become less critical as the project is completed. Other problems, such as overcrowding, may become more serious in the years ahead. Management plans should begin addressing these developing issues today.

3. Although U.W.-Extension has programs for non-residents, a large number of those in the study area were not aware of such programs. Non-resident ownership will increase, and Extension educators should attempt to reach clients -- especially in the areas of land use planning, management and regulation.

4. The Department of Natural Resources programs -- on the whole -- are viewed favorably. Additional educational efforts could develop clearer understanding of the practice of forestry, the goals of prairie grouse habitat development and maintenance, bow hunting for deer and issues associated with the cost of non-resident hunting and fishing licenses.

Finally, the survey results can be interpreted positively with regard to concerns by residents, non-residents, local officials and knowledgeable citizens to protect the quality of the area. The challenge is clear, we must develop lasting programs to unite these groups toward achieving this protection.
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# 8, "Preferences for Expansion of Public Services in Five Central Wisconsin Counties" (V. Lambert).
# 9, "Attitudes About Environment, Industry and Tourism in Four West Central Wisconsin Counties" (D. McGranahan).
# 10, "Characteristics of People Moving Into and Out of Four West Central Wisconsin Counties" (V. Lambert).
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Selected Bibliography on Survey Research Methods


APPENDIX I

SURVEY METHOD

Sample Selection

A random periodic sample was drawn from the list of landowners on county tax rolls. Tax rolls are updated annually for mailing tax bills and are a fairly complete and accurate list of landowners and their addresses. Five percent (one in twenty) of landowners in 12 towns bordering the St. Croix National Scenic Riverway were selected. The towns were chosen for their high percentage of county forest lands and the presence of Voyager Village, a major recreational subdivision.

The 510 owners in the sample should be representative of landowners in these towns. One cannot say, however, that the towns are representative. To the south and east, both counties have less public ownership and more agricultural land. The sample towns are unusual for the midwestern United States due to their high proportion of public lands.

In generalizing to a larger population from the sample surveyed here, precise percentages may be valid only for the towns surveyed (within the limitations of sampling error, non-response bias, etc.). On the other hand, the trends observed here may be representative of any area where recreational amenities are located within a few hours drive of a major city. In all these areas, governments face the problems of protecting natural resources and accommodating increasing recreational use and absentee ownership. Areas which face analogous issues may include Vermont in relation to New York City; southern New Hampshire to Boston; western Virginia to Washington, D.C.; southwest Wisconsin to Chicago, Milwaukee and Madison; southern Colorado to Dallas/Ft. Worth and Houston; the northern lower peninsula of Michigan to Detroit; and others.

Survey Instrument Design

Local government officials, public land managers, local businessmen, and landowners were interviewed to identify issues related to land ownership and public lands. Previous studies of northwest Wisconsin and similar areas were reviewed. Survey questions were drafted to measure issues identified as significant.

Pretest

Questionnaires were mailed to 20 landowners. Additional questionnaires were sent to 12 local experts such as county Extension agents, public land managers and others. Landowners returned 60 percent (12) of the pretest surveys, a close approximation of the final response rate. After the pretest, the questionnaire was extensively revised to improve readability, question order and format.
Responses and Analysis

In late October 1978, questionnaires were mailed to the sample landowners. Two weeks later, a reminder postcard was mailed to non-respondents, followed two weeks later by a second copy of the survey form. A total of 299 returns were received for a response rate of 59 percent of usable returns. Table 53 is an accounting of the sample and responses.

<table>
<thead>
<tr>
<th>TABLE 53 - Sample and Questionnaire Returns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Survey</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>Total sample</td>
</tr>
<tr>
<td>Unusable addresses</td>
</tr>
<tr>
<td>Surveys mailed</td>
</tr>
<tr>
<td>Returned not deliverable</td>
</tr>
<tr>
<td>(postmaster returns)</td>
</tr>
<tr>
<td>Returned blank (10 refusals, 9 land sold)</td>
</tr>
<tr>
<td>Returned usable</td>
</tr>
<tr>
<td>Not returned</td>
</tr>
<tr>
<td>Percent of sample returned usable = 280/503 = 56%</td>
</tr>
</tbody>
</table>

Returned questionnaires were keypunched and tabulated using the SPSS statistical programs on the Madison Academic Computing Center (MACC), Univac 1110.

Sources of Error

The major problem affecting the validity of mailed surveys is that people who respond differ from people who don't respond to the survey. Since about 40 percent of the sample did not answer, this could be a large source of error. Two directions of bias in mailed surveys are known to occur. Respondents tend to be higher in education than non-respondents and to have higher incomes.1 Since the tax roll included addresses and parcel acreage, we were able to check for non-response biases in relation to size of parcel, location of parcel and residence of owner. Reviewing the tax rolls showed that no particular category was greatly over or under represented. The respondents appear to have been a cross section of the

1Harry Sharp, Wisconsin Survey Research Laboratory, personal communication, 1978.
<table>
<thead>
<tr>
<th>Residence</th>
<th>Number in Sample</th>
<th>Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wisconsin residents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In county</td>
<td>185</td>
<td>60%</td>
</tr>
<tr>
<td>In another county</td>
<td>42</td>
<td>74</td>
</tr>
<tr>
<td>Total:</td>
<td>227</td>
<td>63 (average)</td>
</tr>
<tr>
<td>Non-Wisconsin residents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minnesota</td>
<td>226</td>
<td>58%</td>
</tr>
<tr>
<td>Other state</td>
<td>46</td>
<td>39</td>
</tr>
<tr>
<td>Total</td>
<td>272</td>
<td>55 (average)</td>
</tr>
</tbody>
</table>
APPENDIX II

DISCUSSION OF REGRESSION ANALYSIS EQUATIONS

A statistical technique called linear regression can be used to help explain relationships such as those contained in Table 43. Linear regression measures how well data on two or more variables conform to the assumption that they are related. In this case, linear regression tests how strongly increases in population are associated with increases in tax levy.

One way to explain regression in a non-mathematical fashion is to look at a plot of two variables. Suppose that \( x = \) population increase and \( y = \) tax levy in each of the three examples below:

Example of Regression Relationships

\[
\begin{array}{c}
\text{A} \\
\text{B} \\
\text{C}
\end{array}
\]

\[
\begin{array}{c}
X \\
Y \\
X \\
Y \\
X
\end{array}
\]

\[
\begin{array}{c}
\text{r}^2 = 0 \\
\text{r}^2 = 1 \\
\text{r}^2 = .4
\end{array}
\]

A low \( r^2 \) means scattered points and a weak relationship. In plot A, knowing \( x \) does not allow prediction of \( y \). In plot B, there is a strong relationship between the two variables. Knowing \( x \) allows a perfect prediction of \( y \). In plot C, \( x \) seems to have some relationship to \( y \), but there must be other factors as well. Since many variables affect taxes, plot C is typical of the relationships we actually found.

Even if there appears to be a relationship between two variables, the result must be interpreted cautiously. There may be other variables associated with the two variables being plotted that actually are causing the relationship to appear. For example, a population change might increase taxes because of school costs. If so, a retirement community would have a different effect than young families moving into an area and the relationship to taxes would be due to school children, not population itself. Regression tells whether variables are linearly related, but not whether one causes the other to vary.
Regressions statistics showed an $r^2$ of .34 when all 12 towns' tax rates are compared to public land acreages. When three towns not located on the St. Croix River (Oakland, Webb Lake and Jackson) are omitted from the regression because their proximity to Voyager Village may obscure the effect of public land, the $r^2$ increases to .42.

The result shows that taxes for these towns are a little lower with large public land holdings and that this effect is quite small. Roughly speaking, towns having 10,000 or more acres of public land have a tax rate of $1$ per $1000$ of assessed valuation lower than if the land were in private ownership.

Many other factors influence tax rates. This is only a generalization based on averages in the study area along the St. Croix River. It may be that taxes are lower not because of the public land holdings, but because of some other factor which happens to vary with public land holdings -- for example, population of the town. The fact remains: Tax rates are slightly lower in the towns with large public land holdings.

Construction of a regression model relating dependent variables such as land prices or tax rates to independent variables such as population changes, amount of public land nearby or proximity to urban areas is beyond the scope of the present paper. The brief comments on regression results we report are a tentative effort. They shouldn't be pushed further than is justified by the brief examination given to the issues.

Construction of a better validated model would be a painstaking process. A better researched theoretical basis for the model should be a starting point. Larger data sets would add statistical reliability. Considerable time and effort would need to be devoted to testing variables to see if they conform to the assumptions necessary for valid regression equations (for example, lack of auto-correlation and heteroscedasticity). The Bio-Medical programs (BMDP) or SPSS statistical packages contain the appropriate programs for this analysis and testing of alternative models. One would probably wish to use the step-wise regression program with analysis of residuals to construct a multi-variable model according to some more objective criteria. Here the regression work was performed with MINITAB, a more rudimentary program which does not allow as sophisticated analysis.

There would appear to be an extremely valuable data base in Wisconsin that would be useful in further research in this area, namely the equalized valuation statistics compiled by the State Department of Revenue (DOR). Due to the necessity of finding some means to calculate state aids to municipalities -- some of which are conditioned upon local tax base -- the State of Wisconsin has implemented a sophisticated means of appraising aggregate property values in each municipality in the state including rural towns. The Wisconsin Department of Revenue begins with all land sales, then discards all those not judged to be arms-length sales (e.g. sales between close relatives). Remaining sales are used to estimate changes in market value of property each year. Since there are more than 1800 municipalities in Wisconsin, this is an impressive data base which lends itself to regression analysis. Moreover, the DOR data base includes information on land use and land-use changes. Since data is available
for each town, spatial analysis of value and tax-rate variables also are possible. For example, the location of the town in the present study area can be analyzed relative to the large urban centers which may influence property values.

Use of the DOR data base would therefore appear to be a promising avenue for further research and a new source of important information which did not exist prior to the late 1970s and which does not exist in most states, at least not in such detail.

Regression Models Tested in this Study

Analysis was confined to the 12 towns along the St. Croix River covered by this study. This sample is quite small, which does not invalidate the results, but simply makes the results statistically less precise. The following variables were assembled for each town:

1. 1972 and 1977 tax rates (full value effective rate).
4. Acreage, as of 1978, of public land in the towns (state forest and DNR lands).
5. Estimate of miles of St. Croix National Scenic Riverway in each town (estimated from county maps).
6. Estimate of miles from center of each town to a point near the center of Minneapolis-St. Paul metropolitan area. (This distance estimate took account of access, that is, it was an estimate of road miles, taking account of bridges and highways forming the shortest routes).
7. A subjective estimate of the quantity and quality of lakes in the town -- scored on a scale of one to ten (lake acreage was felt to be too simplistic since lakes vary widely in their recreational appeal).
8. A dummy variable for presence or absence of the major Voyager Village lot development.

Since tax levys, tax rates, equalized valuations and population statistics were each obtained for 1972 and 1977, it was possible to calculate net changes over this period. Population figures used were Wisconsin Department of Administration (DOA) estimates for towns. The DOA estimates have proven to be quite accurate when tested against special censuses, so these population figures can be considered reliable.
A simple regression of town tax rates on the single variable of acreage of public land dispels the idea -- at least for these towns -- that public land raises taxes. Taxes were, in fact, lower in the towns with more public land.

<table>
<thead>
<tr>
<th>Township</th>
<th>Township tax rate in 1977 (dollars/$1000)</th>
<th>Acres of public land (000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. St. Croix Falls</td>
<td>$17.35</td>
<td>5.39</td>
</tr>
<tr>
<td>2. Eureka</td>
<td>17.67</td>
<td>0.01</td>
</tr>
<tr>
<td>3. Sterling</td>
<td>17.19</td>
<td>109.69</td>
</tr>
<tr>
<td>4. Anderson</td>
<td>15.05</td>
<td>232.61</td>
</tr>
<tr>
<td>5. Grantsburg</td>
<td>15.25</td>
<td>75.87</td>
</tr>
<tr>
<td>6. West Marshland</td>
<td>11.44</td>
<td>293.66</td>
</tr>
<tr>
<td>7. Union</td>
<td>15.59</td>
<td>105.43</td>
</tr>
<tr>
<td>8. Swiss</td>
<td>15.86</td>
<td>192.87</td>
</tr>
<tr>
<td>9. Blaine</td>
<td>16.21</td>
<td>270.15</td>
</tr>
<tr>
<td>10. Webb Lake</td>
<td>15.80</td>
<td>94.45</td>
</tr>
<tr>
<td>11. Oakland</td>
<td>15.68</td>
<td>3.16</td>
</tr>
<tr>
<td>12. Jackson</td>
<td>15.91</td>
<td>41.63</td>
</tr>
</tbody>
</table>

The regression analysis produced the following model:

\[
TR = 16.9 - .0959 \text{ PL}
\]

where: TR is the 1977 tax rate,

PL is the 1977 public land acreage

The coefficient had a t-ratio of 2.57 and a standard deviation of .0373. The \( r^2 \), adjusted for degrees of freedom, was .34.

These results indicate there is a weak negative relationship in these towns between tax rate and public land acreage. The more public land, the lower the tax rate. On the average, an additional 1,000 acres of public land is associated with almost $1 less per $1,000 of assessed valuation. The relatively low \( r^2 \) indicates a weak relationship. As might be expected, public lands aren't the main determinant of tax rates.

Essentially, none of the succeeding attempts to add other variables to the equation modified this initial conclusion of a weak, negative relationship between taxes and public lands. Too much reliance should **not** be placed on these results. It is in effect a negative result. It shows that there is **not** a strong relationship between tax rates and public acreage in Wisconsin.
A minitab scatter plot confirms this weak relationship:

MTB-Plot C4 C5

<table>
<thead>
<tr>
<th>18.50+</th>
<th>-</th>
<th>-</th>
<th>*</th>
<th>-</th>
<th>*</th>
</tr>
</thead>
<tbody>
<tr>
<td>17.00+</td>
<td>Rate</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>*</td>
</tr>
<tr>
<td>15.50+</td>
<td>Expressed</td>
<td>-</td>
<td>-</td>
<td>Per One</td>
<td>*</td>
</tr>
<tr>
<td>14.00+</td>
<td>in Dollars</td>
<td>-</td>
<td>-</td>
<td>Thousand</td>
<td>*</td>
</tr>
</tbody>
</table>
| 12.50+ | Dollars | - | - | of Value | *
| 11.00+ | - | - | - | - | - |

ACRES OF PUBLIC LAND

0.  8,000.  16,000.  24,000.  32,000.  40,000.

Removing the two towns not located on the St. Croix River and one town containing Voyager Village raised the \( r^2 \) for the above regression model to .42. This means that when the analysis was limited to the nine more homogenous towns, a stronger relationship between acres of public lands and lower tax rates appeared. Given that state tax formulas provide tax payments to towns with public lands, it is not surprising to find this resulting in lower tax rates.

One of the nine towns, West Marshland (number 6 on page 84) has a very strong impact on the \( r^2 \). When West Marshland is removed, the \( r^2 \) was reduced to .24 for the remaining eight river towns. If the main difference between West Marshland and the other towns is its large public land acreage, then it should not be dropped. If West Marshland has some other
Dear Landowner:

The University of Wisconsin is surveying landowners to ask your opinions about several issues affecting property values and enjoyment of your land. The questions ask how public lands have affected your land, your opinions about real estate taxes, conservation and land use, fish and wildlife management, and quality of local government services. We hope your answers will provide government officials with information they need to serve you better.

The questionnaire is designed to be quick and easy to answer. Most questions just need a check mark. Spaces are provided however, if you want to add more of your own ideas or comments. There are no right or wrong answers to many of the questions—the purpose of the survey is to ask your opinions. Your name will be kept strictly confidential. No individual will be identified in the report of survey results.

Please take the few minutes needed to complete and return the survey in the envelope enclosed. If everyone receiving a survey answers, the results will more accurately measure landowners opinions on these important issues. Thank you very much for your help.

Sincerely,

Max Kummerow
Research Assistant
WISCONSIN LANDOWNER SURVEY

SECTION I  LAND YOU OWN IN POLK OR BURNETT COUNTIES, WISCONSIN

Public records show you to be the owner of:

If you do not own this land parcel, please check the correction below and return this questionnaire in the enclosed envelope.

_____ land has been sold
_____ record incorrect or miscopied. I do not own this land

Do you own other lands in Wisconsin?  ____yes  ____no

About how much land do you own in all?  ____total acres  ____number of lots
(Include only property in Wisconsin)

Note:  ALL QUESTIONS BELOW APPLY ONLY TO THE LAND PARCEL DESCRIBED ABOVE, NOT TO OTHER LAND YOU MAY OWN.

1. In what year did you acquire the land described above?  19____.

2. How did you acquire ownership?  ____purchase in open market
_____ purchase from relative
_____ inheritance or gift
_____ other (explain: ____________________________)

3. Considering only the parcel of land described at the beginning of the survey, about how many acres would you describe as:

_____ cropland
_____ permanent hayland or pasture
_____ brushland, wasteland, swamp
_____ buildings or building site
_____ other (explain _____________________________)
_____ total acreage in parcel
4. Are there buildings on the tract of land described above?  
   ____yes  ____no  
   Check types of buildings:  
   ____home used full time (Check here if mobile home____)  
   ____home used part time  
   ____cabin, cottage, or mobile home used part time  
   ____barn or other farm buildings  
   ____other buildings (what?________________________)  

5. Very briefly, what is your most important reason for owning this land?

6. Check how important each of the following is to you as a reason for owning this land:

<table>
<thead>
<tr>
<th>Business or investment</th>
<th>not important</th>
<th>slightly important</th>
<th>somewhat important</th>
<th>very important</th>
<th>extremely important</th>
</tr>
</thead>
<tbody>
<tr>
<td>farm operation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>timber production</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>profit upon future sale</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>development or subdivision</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Residence              |               |                     |                    |               |                     |
| present home           |               |                     |                    |               |                     |
| future or retirement home |           |                     |                    |               |                     |
| second or vacation home |               |                     |                    |               |                     |

| Recreation             |               |                     |                    |               |                     |
| hunting                |               |                     |                    |               |                     |
| fishing                |               |                     |                    |               |                     |
| enjoyment of outdoors  |               |                     |                    |               |                     |
| peace and quiet        |               |                     |                    |               |                     |

<table>
<thead>
<tr>
<th>Other reasons for owning parcel of land described above (list and check importance)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>


SECTION II. HOW PUBLIC LANDS AFFECT YOUR LAND

Public lands include the St. Croix National Wild and Scenic Riverway, State and County Parks, County, Town, and State Forests, Public Hunting and Fishing Areas owned by DNR, Wildlife and Scientific areas and other lands or easements owned by governments.

7. What type of public land is nearest your land? (Check one)
   ___St. Croix National Wild and Scenic Riverway
   ___State, Town or County Forest
   ___State or County Park
   ___DNR wildlife area or public hunting/fishing area
   ___other public lands (what type? ________________________ )

8. How far is your land parcel from the nearest public land?
   ___borders public land
   ___less than one mile from public land
   ___between one and five miles from public land
   ___over five miles from public land
   ___don't know or not sure

9. Please estimate the number of days during 1977 you made use of public lands in Polk or Burnett Counties. Count each visit as a day even if only part of the day was spent on public land.

<table>
<thead>
<tr>
<th>Type of public land:</th>
<th>did not visit</th>
<th>1-5 days</th>
<th>6-20 days</th>
<th>over 20 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Croix National Wild and Scenic Riverway</td>
<td>___</td>
<td>___</td>
<td>___</td>
<td>___</td>
</tr>
<tr>
<td>State, Town, or County Forest</td>
<td>___</td>
<td>___</td>
<td>___</td>
<td>___</td>
</tr>
<tr>
<td>State or County Park</td>
<td>___</td>
<td>___</td>
<td>___</td>
<td>___</td>
</tr>
<tr>
<td>DNR wildlife area or public hunting/fishing area</td>
<td>___</td>
<td>___</td>
<td>___</td>
<td>___</td>
</tr>
<tr>
<td>Other public lands (what type?</td>
<td>___</td>
<td>___</td>
<td>___</td>
<td>___</td>
</tr>
</tbody>
</table>

10. How important were nearby public lands in influencing your decision to buy or hold your parcel of land described above? (Check one)
    ___ not important
    ___ slightly important
    ___ somewhat important
    ___ very important
    ___ extremely important

If you did consider public lands, why were public lands a factor? __________________________________________
__________________________________________________________________________
__________________________________________________________________________
11. In your opinion, if there were no public lands in the area, would your land's value (likely selling price) be:

<table>
<thead>
<tr>
<th>much lower</th>
<th>somewhat lower</th>
<th>about the same</th>
<th>somewhat higher</th>
<th>much higher</th>
<th>not sure or don't know</th>
</tr>
</thead>
</table>

12. How do public lands in Polk and Burnett Counties affect you or your family? Mark how important each of the following advantages or disadvantages of public lands is to you:

**Advantages:**
- outdoor recreation (such as hiking, canoeing, etc.)
- hunting and fishing
- helps local economy (attracts tourists)
- protects views (prevents building in scenic areas)

**Disadvantages**
- prevents private development
- takes land off tax rolls
- attracts too many people
- increases local government cost (for trash collection, etc.)

What other **advantages** do you feel result from public lands in the area?

What other **disadvantages** do you feel result from public lands in the area?
13. Please check below the blank which most closely describes your opinion about each statement:

Main benefits of public lands along the St. Croix are for Burnett/Polk County people.

Main benefits of public lands along the St. Croix are for people from outside Polk/Burnett Counties.

No more public lands should be purchased in the St. Croix area.

Public lands are needed to provide outdoor recreation (canoeing, hunting, hiking, etc.).

Preservation of "wilderness" is an important reason for public lands.

14. Please check the blank closest to your opinion of the following fish and wildlife management practices:

Raise out of state hunting fees

Burning to promote sharptail grouse habitat

Stream improvement to improve trout fishing

Promote birdwatching and wildlife appreciation

Restrict bowhunting

Timber harvesting on public lands

Wetland restoration to promote waterfowl habitat

Fish stocking

Others (please specify)
15. In your opinion, what changes, if any, should be made in the management of public lands? (National Wild and Scenic Riverway, State and County Parks, State, County, or town forests, public hunting and fishing areas, or other public lands.)

SECTION III PROPERTY TAXES

16. Real estate taxes pay for schools and for town and county governments. In the past five years (1972-77) would you estimate that the real estate taxes on the land parcel described at the beginning of this survey have:

____ gone down
____ stayed about the same
____ increased 1-49% (each $100 of tax in 1972 went up to between $100 and $149 by 1977)
____ increased 50-99% (each $100 of tax in 1972 went up to between $150 and $199 by 1977)
____ increased 100-199% (between doubled and tripled since 1972)
____ increased 200% or more (tripled or more since 1972)
____ don't know, not sure

17. What are the most important reasons for real estate tax increases? Check how important you think each item below is:

<table>
<thead>
<tr>
<th>Reason</th>
<th>not important</th>
<th>slightly important</th>
<th>somewhat important</th>
<th>very important</th>
<th>extremely important</th>
<th>no opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>increased property values</td>
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<tr>
<td>state made rural areas pay higher share of taxes</td>
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<tr>
<td>public land purchases decreased local tax base</td>
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<tr>
<td>government spending increased</td>
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<tr>
<td>other possible reasons for tax increase (specify)</td>
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</tbody>
</table>
SECTION V CONSERVATION AND LAND USE

18. Check any conservation or timber management practices you have used on your land parcel described above within the past five years:
   __planted trees (___number of acres, ______________ type of trees)
   ___thinning timber
   ___obtained advice from county forester
   ___timber stand improvement or brushcutting
   ___built ponds, terraces, or waterways
   ___land is under a Soil and Water Conservation Plan in cooperation with County Soil and Water Conservation District
   ___other (describe ____________________________)

19. Is there harvestable timber or pulpwood on your land?  ___no  ___yes
   (___number of acres, __________________________________ type of trees)

20. Is your property posted to prevent strangers from using it for hunting, berry picking, hiking, etc.  ___yes, posted  ___no, not posted
   If your land is posted, what are the reasons you do not permit such uses?
   ___________________________________________________________________
   ___________________________________________________________________
   ___________________________________________________________________

21. Do you disagree or agree with the following types of controls on land use? Check the blank which most closely matches your opinion.

   strongly disagree  disagree  neutral  agree  strongly agree  not sure, no opinion

   County zoning
   Limitations of subdivision
   Restrictions on second homes in rural areas
   Mobile homes allowed only in mobile home parks
   Prevention of draining or filling of wetlands
   Discourage conversion of prime agricultural lands to non-agricultural uses

22. Wisconsin's "Farmland Preservation Act" provides a tax break for farmers who agree to keep their land as farmland—that is, not allow building or development. Before now, had you heard about the Farmland Preservation Act?  ___yes  ___no
   Are you eligible for the tax break offered by the act?  ___yes  ___no  ___not sure
   Will you participate in this program?  ___yes  ___no
   Why or why not? _____________________________________________
23. The Woodland Tax Law and Forest Crop Law allow landowners to reduce taxes on land reserved for timber production.

Before now, had you heard of the Woodland Tax or Forest Crop laws?  ____yes  ____no
Are you eligible for these programs?  ____yes  ____no  ____not sure
Do you participate in either of these programs?  ____yes  ____no
Why or why not? ____________________________________________________________________________________

24. How would you describe the quality of the following public services to your land parcel?

<table>
<thead>
<tr>
<th>Service</th>
<th>Excellent</th>
<th>Good</th>
<th>Adequate</th>
<th>Fair</th>
<th>Poor</th>
<th>No opinion</th>
</tr>
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<tbody>
<tr>
<td>Schools</td>
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<td>Police and vandalism protection</td>
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<tr>
<td>Road maintenance</td>
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<tr>
<td>Parks and recreation</td>
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<tr>
<td>Fire protection</td>
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<tr>
<td>Trash disposal</td>
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<tr>
<td>Building and septic inspection</td>
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<tr>
<td>Zoning administration</td>
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<tr>
<td>Tax assessment (are assessments fair?)</td>
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<tr>
<td>County extension</td>
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<tr>
<td>Other county or town services:</td>
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</tbody>
</table>
SECTION VI YOUR USES AND PLANS FOR YOUR LAND

25. What are your future plans for the land described above?

___ for sale now
___ will probably sell within two years
___ will probably sell but not within two years
___ will not sell in the foreseeable future

26. What is the approximate dollar value of improvements, such as buildings, that you have added to this land parcel since owning it? $________

27. Not counting value of improvement you have added, over the past five years would you estimate that your land's approximate market value (price it would probably sell for) has:

___ gone down
___ stayed the same
___ increased 1-49% (each $100 of land value in 1972 went up to between $100 and $149 by 1977)
___ increased 50-99% (each $100 of land value in 1972 went up to between $150 and $199 by 1977)
___ increased 100-199% (doubled to tripled since 1972)
___ increased 200% or more (tripled or more since 1972)

28. Is your average annual net income from the land described above:

___ loss ___ none ___ $1-999 ___ $1000-9999 ___ $10,000 or more

What is the main source of income from the land?

___ farm crops, milk, or livestock
___ timber or pulpwood sales
___ resort or campground income
___ land rental
___ building rental
___ sales of lots or land parcels
___ other (describe______________________)

29. WISCONSIN RESIDENTS SKIP TO THE NEXT QUESTION. If you are not a resident of Wisconsin, which most nearly is the amount of money you spent in Burnett and Polk Counties in 1977. (Not including land purchase payments or taxes)

<table>
<thead>
<tr>
<th>category</th>
<th>none</th>
<th>less than $500</th>
<th>$500-999</th>
<th>$1000-4999</th>
<th>$5000-9999</th>
<th>over $10,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food, lodging, recreation, etc.</td>
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<tr>
<td>Building or improvement of property</td>
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</tbody>
</table>
SECTION VII  ABOUT YOU, THE LANDOWNER

30. Where is your home or residence?
   ____ on land described above
   ____ other location in same county as parcel described above
   ____ in another Wisconsin county
   ____ Minnesota
   ____ state other than Wisconsin or Minnesota

31. Where is your place of employment?
   ____ on land described above
   ____ other location in same county as parcel described above
   ____ in another Wisconsin county
   ____ Minnesota
   ____ State other than Wisconsin or Minnesota
   ____ retired
   ____ not employed

32. What is your occupation? (Main source of income, principal activity)
   ____ farmer
   ____ forestry, timber production, or wood products manufacturing
   ____ recreation, resort, or tourist services
   ____ professional or managerial (physician, lawyer, businessman, etc.)
   ____ sales, clerical, service worker, craftsman, operative
   ____ housewife
   ____ retired
   ____ other (Describe__________________________________________________________ )

33. Please check your gross annual income category:
   ____ less than $5000
   ____ $5000-9999
   ____ $10,000-14,999
   ____ $15,000-24,999
   ____ $25,000-49,999
   ____ $50,000 or more
34. Please check your age group:
   _____ under 25 years
   _____ 25-34 years
   _____ 35-44 years
   _____ 45-54 years
   _____ 55-64 years
   _____ 65 years or over

35. Circle the number of years of education you have completed:
   6 or less, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18 or more

36. How many children do you have enrolled in schools in Burnett or Polk Counties?
   _____ none     _____ one     _____ two     _____ three or more

THANK YOU VERY MUCH FOR TAKING THE TIME TO COMPLETE AND RETURN THIS SURVEY.

Check if you wish to receive a copy of the survey report.

Please add any comment you wish to make here.
<table>
<thead>
<tr>
<th>Sample #</th>
<th>Owner Name</th>
<th>Owner Address</th>
<th>Twp</th>
<th>Rge</th>
<th>Tax Parcel No.</th>
<th>Section</th>
<th>Description</th>
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</thead>
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</tbody>
</table>

**Public Lands Attitude Survey**

**Sample Information Card**

**APPENDIX IV**