Lake of the Woods County

Comprehensive Land Use Plan

Adopted by the
Lake of the Woods County Board
March 28, 2000

Prepared by
Headwaters Regional Development Commission
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</table>
Introduction

Legal Citation

This Comprehensive Land Use Plan has been developed pursuant to Minnesota Statutes, Chapter 394, which authorizes the county to carry out planning and zoning activities.

History of the Planning Effort

The Lake of the Woods County Board became interested in updating its land use plan as a result of its work with ten other northern Minnesota counties during the 1990’s. Through its membership in the Northern Counties Land Use Coordinating Board (NCLUCB), a joint powers board consisting of representatives of ten northern Minnesota county boards, Lake of the Woods County participated in a two part planning process.

The first part of the process resulted in the development of a suggested land use planning process for use by NCLUCB member counties. The report documenting this process is titled: Science and the Land-Use Planning Process: A Roadmap for Northern Minnesota. The report states that NCLUCB commissioned the consultant for this project, the Center for the Study of the Environment (CSE), “to help develop an approach to land-use planning that is neutral, does not promote a specific environmental or development agenda, and provides guidance on the use of science in the land-use planning process.”

The second part of the planning process began in October of 1998, when the Lake of the Woods County Board requested assistance from the Headwaters Regional Development Commission (HRDC) to assist in the preparation of a new, updated land use plan for the county. The proposal, which followed an outline approved by NCLUCB, included an inventory of land use related data, maps, and technology, an analysis of available data, a citizen participation process, an investigation into current land use issues, and the development of a new land use plan.

Citizen Participation

Citizen participation was made an integral part of the Lake of the Woods County Land Use planning process. Several methods were used to better understand local aspirations and to set policy.

The Lake of the Woods County Board was the principal policy setting body. A number of meetings were held with the County Board over the nine month planning process to identify the scope of the process, review parts of the document, and to ultimately set land use policy. Oftentimes these meetings were monthly.
LAKE OF THE WOODS COUNTY LAND USE PLAN

INTRODUCTION

(Figure 1)

Source: Lake of the Woods County and Mn/DOT
In addition, a survey was developed and distributed to a number of individuals, businesses, and local and state staff that served the county. The survey was used to identify the scope of the process, as well as to better understand the principal issues and concerns of local citizens.

Third, small group sessions were held with various local and state staff to further investigate specific issues of most importance to the county. Finally, numerous informal conversations and discussions were held with local and state staff in order to collect information, understand specific issues, and to elicit advice regarding policy.

Scope

The Lake of the Woods County land use planning process has been designed to provide overall long term guidance to the county in its land use decision-making process through the development of land use goals and policies. It has also been designed to address specific shorter term strategic issues facing the county. As a result, the plan contains specific implementation measures to be accomplished in the next three to five years.

It was important to the County Board to focus the project’s limited resources on those issues most important to Lake of the Woods County. To accomplish this, the survey described in the previous section helped the Board identify specific high priority issues. The conclusions reached from the survey and subsequent discussions of the county board are as follows:

- Businesses and residents clearly felt that timber harvesting and shoreland development have had the greatest effect on the county’s natural resources over the past decade. These two are of continuing importance to the county.

- Preserving the county’s tax base is a high priority.

- It is important for the county to have influence over state and federal natural resource decisions.

- There was very little support for additional state or federal parks in the area.

- The county should provide a balanced approach to land use planning which takes into consideration individual rights, protection from the actions of others, and protection of the natural environment.

To a large extent, the planning process and information analysis used existing, readily available information. In some circumstances where an additional piece of information was judged to be valuable, work was done to develop that information piece. In this regard, the most significant new piece of information was the development of a GIS attribute layer for zoning permits in the county over the last decade, as well as a GIS layer showing the location of feedlots within the county.

Plan Contents
There are two major sections within this plan. The first includes a substantial amount of background information on population, housing, the economy, and the county’s physical characteristics. In each of these sections a number of information resources are cited to develop a more complete understanding and context for making land use policy for the county.

The second major section following the introduction is the plan development section, which includes a summary of the values that guide the planning process, a detailed general and issue-specific land use analyses, and the plan component that includes a summary of the goals and policies that were developed, a future land use plan, and short term implementation strategies for that plan. Monitoring indicators are also provided that will enable the county to track the resource status of the county over the next decade.

Appendix A at the end of the report provides a copy of the survey and survey results that were done as a part of this process. (In addition to this work, digital copies of all of the HRDC’s work have been provided to the county, including the GIS maps and analyses that have been produced through this effort.) Appendix B provides a summary of local GIS capability, and also provides recommendations on future data collection priorities.
I. Background

Population Characteristics

Using available local, state, and federal information, this section develops a complete context for the county that will enable the County Board to craft appropriate policy for guiding land use within the county over the next decade. To develop this context, this section includes information on population, housing, the local economy, and the county’s physical characteristics.

Change. The population of Lake of the Woods County has been relatively stable over the past 50 years. It reached a low point in 1980 and, since that time has grown by 21 percent. This indicates that the county has been successful in reversing a trend that has severely affected many rural counties in the Upper Midwest.

There has been a growing demand for rural lots and new sites for residential development; virtually all of the recent population growth has occurred outside of the city limits of the three cities of Baudette, Williams, and Roosevelt.

Table 1. Total Population

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Baudette</td>
<td>1,349</td>
<td>1,597</td>
<td>1,547</td>
<td>1,170</td>
<td>1,146</td>
<td>1,157</td>
</tr>
<tr>
<td>Williams</td>
<td>414</td>
<td>317</td>
<td>220</td>
<td>217</td>
<td>212</td>
<td>230</td>
</tr>
<tr>
<td>Roosevelt (Part₁)</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>6</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>Rural Areas</td>
<td>3,192</td>
<td>2,390</td>
<td>2,220</td>
<td>2,377</td>
<td>2,708</td>
<td>3,157</td>
</tr>
<tr>
<td>Total County</td>
<td>4,955</td>
<td>4,304</td>
<td>3,987</td>
<td>3,764</td>
<td>4,076</td>
<td>4,553</td>
</tr>
</tbody>
</table>

Source: U.S. Census; State Demographer, 1999
₁ Only a small portion of the City of Roosevelt lies in Lake of the Woods County

Projections. State Demographer population projections shows a stable county population for the next 25 years. (Projections are not made for the cities in the county.)

Table 2. Projected Population

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake of the Woods County</td>
<td>4,440</td>
<td>4,470</td>
<td>4,470</td>
<td>4,490</td>
<td>4,520</td>
<td>4,490</td>
</tr>
<tr>
<td>Headwaters Region</td>
<td>73,950</td>
<td>76,200</td>
<td>77,470</td>
<td>78,080</td>
<td>78,410</td>
<td>78,340</td>
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</table>

Source: U.S. Census; State Demographer, 1998

Migration. During the decade of the 1980s, Lake of the Woods County experienced a 3.1 percent rate
of in-migration. The county was one of two counties in the Headwaters Region that experienced in-migration and had the highest rate. This is another indication of the county’s ability to counter the out-migration trend that many rural counties are experiencing. Economic growth and job availability are important factors which influence in-migration. A further discussion on these will occur in a later section.

**Age.** In Lake of the Woods County, the population has been aging slower than the state’s population. The median age only increased by one year between 1980 and 1990, while the state’s median age increased by over three years. The county has been able to attract (or keep) young workers and young families. In fact, the county had a higher percentage of the population in the 0-17 age group than the state. On the other hand, the county had a significantly higher percentage of people over 65 than both the state and the region.

<table>
<thead>
<tr>
<th>Table 3. Population by Age</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Lake of the Woods</td>
</tr>
<tr>
<td>Headwaters Region</td>
</tr>
<tr>
<td>State of MN</td>
</tr>
</tbody>
</table>

*Source: U.S. Census of Population*

**Income.** Lake of the Woods County had higher per capita incomes than the region in both 1986 and 1996, although incomes grew at a slower rate than the region during that period. According to the census, persons in poverty dropped from 628 to 427 between 1980 and 1990, representing a decline of 32 percent. In 1990, the county had the lowest poverty level in the Headwaters Region (10.6 percent, compared to 10.2 percent for the state).

<table>
<thead>
<tr>
<th>Table 4. Per Capita Personal Incomes in Lake of the Woods County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake of the Woods</td>
</tr>
<tr>
<td>Headwaters Region</td>
</tr>
<tr>
<td>State of Minnesota</td>
</tr>
</tbody>
</table>

*Source: Bureau of Economic Analysis*

**Education.** In 1990, Lake of the Woods County trailed both the state and the region in the percent of
persons who held a post secondary degree. However, the county had a higher percentage of persons who had at least a high school diploma than does the Headwaters Region.

### Table 5. Education of Persons

<table>
<thead>
<tr>
<th></th>
<th>Total Pop.</th>
<th>Less than 25+</th>
<th>Percent of High School Population</th>
<th>Percent of Post Sec. Graduate Population</th>
<th>Percent of Post Sec. Graduate Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake of the Woods</td>
<td>2,687</td>
<td>667</td>
<td>24.8%</td>
<td>1,467</td>
<td>54.6%</td>
</tr>
<tr>
<td>Headwaters Region</td>
<td>40,390</td>
<td>10,661</td>
<td>26.4%</td>
<td>19,743</td>
<td>48.9%</td>
</tr>
<tr>
<td>State of Minnesota</td>
<td>2,770,562</td>
<td>488,765</td>
<td>17.6%</td>
<td>1,440,057</td>
<td>52.0%</td>
</tr>
</tbody>
</table>

*Source: U.S. Census of Population, 1990*

**Conclusions.** Lake of the Woods County is successfully battling the dual rural trends of decreasing population and increasing population age. The county is expected to have stable population over the next 25 years.

### Housing and Household Characteristics

The housing and household change by type provides some indication of the demand for land for this type of use. The following information provides this part of the planning context.

**Change.** Household growth greatly surpassed total population growth over the past 37 years. Almost all of the growth in households has occurred in the rural areas of the county (outside of the city limits of the three cities). The number of households in rural areas increased by 74 percent between 1960 and 1998, while the total number in the three cities did not change during the same period.

On a countywide basis, households grew 39 percent since 1960 as the population increased by only 4.4 percent. The county can have a stable population and an increase in households because the household size has decreased over the last 30 years (3.39 in 1960, to 2.59 in 1990).
Table 6. Total Households

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Baudette</td>
<td>469</td>
<td>496</td>
<td>468</td>
<td>463</td>
<td>479</td>
</tr>
<tr>
<td>Williams</td>
<td>110</td>
<td>86</td>
<td>93</td>
<td>95</td>
<td>96</td>
</tr>
<tr>
<td>Roosevelt (Part 1)</td>
<td>NA</td>
<td>NA</td>
<td>2</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Rural Areas</td>
<td>690</td>
<td>657</td>
<td>826</td>
<td>1,014</td>
<td>1,202</td>
</tr>
<tr>
<td>Total County</td>
<td>1,269</td>
<td>1,239</td>
<td>1,389</td>
<td>1,576</td>
<td>1,784</td>
</tr>
</tbody>
</table>

Source: U.S. Census of Population; State Demographer, 1999

Only a small portion of the City of Roosevelt lies in Lake of the Woods County.

Type; Ownership. In 1990, 2,917 units or 95.6 percent of all housing in the county was classified as a single family dwelling — either attached, detached, or mobile home. However, of this number, one-third were mobile homes. Lake of the Woods County had the highest percentage of mobile homes in the Headwaters Region in 1990. Although statistics are not available, local anecdotal evidence suggests many of these mobile homes are seasonal residences.

Table 7. Housing Type by Number of Units

<table>
<thead>
<tr>
<th></th>
<th>Single Detached</th>
<th>Single Attached</th>
<th>2-4 Units</th>
<th>5-9 Units</th>
<th>10+ Units</th>
<th>Mobile/ Other</th>
<th>Total Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baudette City</td>
<td>377</td>
<td>0</td>
<td>27</td>
<td>7</td>
<td>59</td>
<td>61</td>
<td>531</td>
</tr>
<tr>
<td>Roosevelt City</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Williams City</td>
<td>88</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>24</td>
<td>116</td>
</tr>
<tr>
<td>District 1</td>
<td>15</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>20</td>
<td>1</td>
<td>36</td>
</tr>
<tr>
<td>District 2</td>
<td>129</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>35</td>
<td>167</td>
</tr>
<tr>
<td>District 3</td>
<td>341</td>
<td>2</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>139</td>
<td>489</td>
</tr>
<tr>
<td>District 4</td>
<td>517</td>
<td>8</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>429</td>
<td>956</td>
</tr>
<tr>
<td>District 5</td>
<td>459</td>
<td>2</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>282</td>
<td>747</td>
</tr>
<tr>
<td>Lake of the Woods County</td>
<td>1,927</td>
<td>14</td>
<td>46</td>
<td>7</td>
<td>80</td>
<td>976</td>
<td>3,050</td>
</tr>
</tbody>
</table>

Source: U.S. Census, 1990

Because Lake of the Woods County has a substantial tourism economy, it is no surprise that it has, for many years, had a large number of seasonal homes. The number of seasonal homes has increased rapidly (by 76 percent) in the past 20 years.

Year-round homes grew by 332, or only 22 percent, between 1970 and 1990.

In 1990, Lake of the Woods County had the highest level of home ownership (84.5 percent) among the five counties in the Headwaters Region.
Table 8. Year-Round Versus Seasonal Housing

<table>
<thead>
<tr>
<th>Year</th>
<th>1970</th>
<th>1980</th>
<th>1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year-Round</td>
<td>1,483</td>
<td>1,937</td>
<td>1,815</td>
</tr>
<tr>
<td>Seasonal</td>
<td>247</td>
<td>772</td>
<td>1,235</td>
</tr>
<tr>
<td>Total</td>
<td>1,730</td>
<td>2,709</td>
<td>3,050</td>
</tr>
</tbody>
</table>

Source: U.S. Census

**Age.** The county has a rather even distribution of housing ages. About one-quarter of the housing in Lake of the Woods County was built before 1950, making it at least 50 years old. On the other hand, over half has been built within the past 30 years.

Table 9. Age of Housing in Lake of the Woods County

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-1940</td>
<td>513</td>
</tr>
<tr>
<td>1940 - 1949</td>
<td>237</td>
</tr>
<tr>
<td>1950 - 1959</td>
<td>263</td>
</tr>
<tr>
<td>1960 - 1969</td>
<td>474</td>
</tr>
<tr>
<td>1970 - 1979</td>
<td>917</td>
</tr>
<tr>
<td>1980 and later</td>
<td>646</td>
</tr>
</tbody>
</table>

Source: U.S. Census, 1990

Note: Numbers represent the date of construction of the housing stock that existed in the region in 1990, not the actual housing that was constructed during the periods listed.

Conclusions. Over the last 30 years, Lake of the Woods County has had a modest increase in single family homes, but a sharp increase in seasonal homes, most of which are mobile homes. It is anticipated that the number of year round residences will stabilize. A lower rate of growth than what has been experienced in the past is expected for seasonal homes, for two reasons: the base is growing, and the availability of sites for new mobile homes in parks connected to resorts will be somewhat limited.
Economic Characteristics

An understanding of the economic characteristics of Lake of the Woods County is helpful in explaining past land use patterns as well as predicting future demands for development. Some of the most important factors to understand are labor force issues, the economic base of the county, and trends in major economic sectors.

**Labor Force; Employment.** The labor force in Lake of the Woods County has been growing during the past two decades. As new jobs have become available, the county has attracted new workers from other areas, and the number of residents who have entered the labor market has increased. The labor force grew by 773 or 44 percent between 1980 and 1997. During the same period the overall population in the county grew 19 percent.

<table>
<thead>
<tr>
<th>Table 10. Labor Force Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake of the Woods</td>
</tr>
<tr>
<td>Headwaters Region</td>
</tr>
</tbody>
</table>

*Source: Minnesota Department of Economic Security*

The recent growth in employment in the county exceeded the growth experienced in the labor force. Between 1980 and 1997, employment grew by 966 jobs, much faster than the labor force growth of 773 workers during the same period.

<table>
<thead>
<tr>
<th>Table 11. Total Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake of the Woods</td>
</tr>
<tr>
<td>Headwaters Region</td>
</tr>
</tbody>
</table>

*Source: Minnesota Department of Economic Security*

As employment exceeded the growth in the labor force since 1980, it is not surprising that the unemployment rate in the county has declined. Although the total number of unemployed has remained fairly constant since 1980, the unemployment rate in the county has declined from 5.9 percent to 4.4 percent. The county has had a very strong economy when compared to other counties in the five-county Headwaters Region. For example, in 1990 the annual rate of unemployment of the county was 3.3 percent, while the unemployment rate in the region stood at 9.1 percent.
Table 12. Total Unemployment

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake of the Woods</td>
<td>103</td>
<td>69</td>
<td>110</td>
<td>6.8%</td>
<td>59.4%</td>
<td>6.8%</td>
</tr>
<tr>
<td>Headwaters Region</td>
<td>3,151</td>
<td>2,709</td>
<td>2,590</td>
<td>(17.8%)</td>
<td>(4.4%)</td>
<td>12.0%</td>
</tr>
</tbody>
</table>

Source: Minnesota Department of Economic Security

The number of residents of Lake of the Woods County employed in the manufacturing sector of the economy has grown substantially in recent years. Between 1980 and 1990, manufacturing employment increased by over 50 percent. Many residents of Lake of the Woods County commute to Roseau County for employment in manufacturing plants located there, accounting for some of this growth. In addition, the growth of Solvey Pharmaceuticals in Baudette has also been a contributing factor. Recent expansions in industries both inside and out of the county are likely to lead to future manufacturing job opportunities for residents of the county.

Table 13. Employment by Industry

<table>
<thead>
<tr>
<th>Industry</th>
<th>1980 Number</th>
<th>1980 Percent</th>
<th>1990 Number</th>
<th>1990 Percent</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, Forestry, and Fishing</td>
<td>195</td>
<td>12.0%</td>
<td>123</td>
<td>6.5%</td>
<td>(37)</td>
</tr>
<tr>
<td>Construction</td>
<td>95</td>
<td>5.8%</td>
<td>73</td>
<td>3.8%</td>
<td>(23.2)</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>405</td>
<td>24.8%</td>
<td>609</td>
<td>32.1%</td>
<td>50.2</td>
</tr>
<tr>
<td>Transportation</td>
<td>86</td>
<td>5.3%</td>
<td>65</td>
<td>3.4%</td>
<td>24</td>
</tr>
<tr>
<td>Communications and Public Utilities</td>
<td>42</td>
<td>2.2%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trade</td>
<td>229</td>
<td>14.0%</td>
<td>278</td>
<td>14.6%</td>
<td>21.4</td>
</tr>
<tr>
<td>F.I.R.E.</td>
<td>32</td>
<td>2.0%</td>
<td>59</td>
<td>3.1%</td>
<td>84.4</td>
</tr>
<tr>
<td>Services</td>
<td>503</td>
<td>30.8%</td>
<td>547</td>
<td>28.8%</td>
<td>8.7</td>
</tr>
<tr>
<td>Public Administration</td>
<td>89</td>
<td>5.4%</td>
<td>104</td>
<td>5.5%</td>
<td>16.9</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1,634</td>
<td></td>
<td>1,900</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Private</td>
<td>1,299</td>
<td>79.5%</td>
<td>1,318</td>
<td>69.4%</td>
<td>1.5</td>
</tr>
<tr>
<td>Total Government</td>
<td>335</td>
<td>20.5%</td>
<td>349</td>
<td>18.4%</td>
<td>4.2</td>
</tr>
<tr>
<td>Federal Government</td>
<td>63</td>
<td>3.9%</td>
<td>45</td>
<td>2.4%</td>
<td>(28.6)</td>
</tr>
<tr>
<td>State Government</td>
<td>27</td>
<td>1.0%</td>
<td>94</td>
<td>4.9%</td>
<td>248.1</td>
</tr>
<tr>
<td>Local Government</td>
<td>245</td>
<td>15.0%</td>
<td>210</td>
<td>11.1%</td>
<td>(14.3)</td>
</tr>
<tr>
<td>Self Employment</td>
<td>354</td>
<td>21.7%</td>
<td>211</td>
<td>11.1%</td>
<td>(40.4)</td>
</tr>
<tr>
<td>Unpaid Family Workers</td>
<td>13</td>
<td>0.8%</td>
<td>22</td>
<td>1.2%</td>
<td>69.2</td>
</tr>
</tbody>
</table>


An increasing number of residents are also employed in the F.I.R.E. (finance, insurance and real estate);
transportation, communications and public utilities; and trade sectors. Between 1980 and 1990, there was a general decline in employment in two sectors: agriculture, forestry and fishing; and construction.

Private employment increased by 69.4 percent while public employment increased only 18.4 percent. All of the increase in public employment occurred in the “state government” sector. During the same period, employment actually declined in the sectors of federal and local government employment. The number of individuals classified as self employed also declined by over 40 percent.

Agriculture. The U.S. Census of Agriculture indicates a general decline in the agricultural industry in Lake of the Woods County from 1987 to 1992. There were fewer farms, less land in farms, and fewer individuals who identified their principle occupation as farming.

Farm production declined in many categories, including the total value of crops sold and the total value of livestock sold. The average sales per farm, $31,735, was an increase of 13.5 percent over 1987 sales. The only crop that did not experience a decline in the number of acres harvested was corn. The number of cattle, calves, hogs and pigs being raised in the county was fewer than in 1987.

Whether this trend will continue will depend largely on farmers’ costs, the prices they receive for their products, and the precipitation levels in the county. It does not appear that there will be a substantial demand for new farmland to be made available for additional crop or livestock production.
**Table 14. Agricultural Production**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Farms</td>
<td>222</td>
<td>176</td>
<td>(20.7%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land in Farms (acres)</td>
<td>118,959</td>
<td>103,665</td>
<td>(12.9%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Farm Size (acres)</td>
<td>536</td>
<td>589</td>
<td>9.9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crops Sold (000)</td>
<td>4,246</td>
<td>4,038</td>
<td>(4.9%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Livestock, Poultry, etc.</td>
<td>1,961</td>
<td>1,547</td>
<td>(21.1%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Per Farm</td>
<td>27,958</td>
<td>31,735</td>
<td>(13.5%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acres Harvested</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corn</td>
<td>622</td>
<td>873</td>
<td>40.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wheat</td>
<td>14,756</td>
<td>11,961</td>
<td>(18.7%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barley</td>
<td>6,075</td>
<td>3,416</td>
<td>(43.8%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oats</td>
<td>3,607</td>
<td>2,107</td>
<td>(41.6%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hay</td>
<td>14,088</td>
<td>13,136</td>
<td>(6.8%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irrigation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Farms</td>
<td>1</td>
<td>3</td>
<td>200%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Acres</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cattle and Calves</td>
<td>4,926</td>
<td>3,879</td>
<td>(21.3%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hogs and Pigs</td>
<td>726</td>
<td>702</td>
<td>(3.3%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sheep and Lamb</td>
<td>146</td>
<td>152</td>
<td>4.1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operators</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farming Principle Occ.</td>
<td>129</td>
<td>103</td>
<td>(20.2%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Principle Occ.</td>
<td>93</td>
<td>73</td>
<td>(21.5%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: U.S. Census of Agriculture, 1987 and 1992*

**Timber.** Lake of the Woods County has recently experienced a substantial increase in the annual timber harvest. In the five year period ending in 1997, the timber harvest increased from 86,800 cords to 122,200 cords, a 40.8 percent increase. A high percentage of this harvest has traditionally been in four species: aspen, jack pine, balm of gilead, and spruce. Aspen alone accounted for three-fourths of the wood harvested in 1997.

Much of this increase is coming from private lands due to the increase in stumpage prices. Harvest from state lands has remained relatively stable.

According to the Minnesota Department of Natural Resources, a majority of the timber harvested in the county is shipped to the Boise-Cascade paper mill in International Falls.
Table 15. Timber Harvest

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake of the Woods</td>
<td>86,800</td>
<td>122,200</td>
<td>40.8%</td>
</tr>
<tr>
<td>Headwaters Region</td>
<td>691,700</td>
<td>691,700</td>
<td>0%</td>
</tr>
</tbody>
</table>

Source: Minnesota Department of Natural Resources, Division of Forestry

Tourism. Although there are few direct measures in this economic sector, retail sales and lodging sales are both reasonable indicators.

The retail trade sector of the economy has experienced dramatic growth over the past 10 years. In 1990, total retail sales in the county were $19.5 million. The latest figures indicate that in 1996, retail sales have grown to $38.3 million, nearly doubling in a six year period.

With the resident population only growing by about 19 percent during that period, it is obvious that the county is attracting shoppers from a much greater area in 1996 than it did in 1990.

Table 16. Retail Sales by Category

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Materials</td>
<td>2,797,231</td>
<td>3,076,256</td>
<td>3,817,566</td>
<td>4,052,961</td>
<td>3,216,120</td>
<td>3,303,875</td>
<td>6,416,111</td>
</tr>
<tr>
<td>General Merchandise</td>
<td>3,222,804</td>
<td>2,835,794</td>
<td>2,844,048</td>
<td>3,128,224</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Food</td>
<td>6,380,285</td>
<td>6,479,709</td>
<td>6,786,252</td>
<td>6,479,838</td>
<td>6,529,065</td>
<td>6,989,786</td>
<td>10,484,735</td>
</tr>
<tr>
<td>Auto Dealer and Service</td>
<td>3,523,885</td>
<td>4,463,440</td>
<td>6,785,902</td>
<td>5,977,495</td>
<td>6,455,623</td>
<td>7,179,826</td>
<td>7,255,270</td>
</tr>
<tr>
<td>Apparel</td>
<td>706,629</td>
<td>667,515</td>
<td>620,506</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Furniture</td>
<td>--</td>
<td>68,515</td>
<td>571,776</td>
<td>1,029,807</td>
<td>1,240,422</td>
<td>1,097,317</td>
<td>975,036</td>
</tr>
<tr>
<td>Eating/Dining</td>
<td>942,798</td>
<td>1,133,736</td>
<td>2,333,802</td>
<td>2,769,077</td>
<td>2,215,110</td>
<td>1,009,381</td>
<td>1,840,923</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>1,953,142</td>
<td>2,159,685</td>
<td>2,078,221</td>
<td>2,793,319</td>
<td>3,786,949</td>
<td>11,145,70</td>
<td>11,283,515</td>
</tr>
<tr>
<td>TOTAL</td>
<td>19,526,774</td>
<td>20,884,650</td>
<td>25,838,073</td>
<td>26,230,721</td>
<td>23,443,289</td>
<td>30,725,955</td>
<td>38,258,590</td>
</tr>
</tbody>
</table>

Source: Minnesota Department of Revenue

Lodging sales are the best indicator of change in the tourism industry. In this category, Lake of the Woods County has done exceedingly well since 1980. Lodging sales have increased from slightly over $2 million per year to almost $7 million in 16 years, an increase of 237 percent. This increase illustrates
that the county has been very successful in expanding its tourism industry and meeting the needs of its tourist guests. Much of this growth can be attributed to its success in establishing winter tourism and becoming a year-round tourist destination, primarily for fishing enthusiasts.

<table>
<thead>
<tr>
<th>Table 17. Lodging Sales (000's)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake of the Woods</td>
</tr>
<tr>
<td>Headwaters Region</td>
</tr>
</tbody>
</table>

*Source: Minnesota Department of Revenue*

**Conclusions.** The Lake of the Woods economy enjoys slow, stable growth and is well diversified. While a significant part of the local economy is natural resource-based, it also has a healthy number of people employed in manufacturing jobs.

**Physical Characteristics**

**Land Use/Cover.** Lake of the Woods County encompasses a total area of 1,138,040 acres, or about 1,778 square miles. Because the county boundaries encompass a portion of Lake of the Woods, which accounts for about 482 square miles or 27.2 percent of the county, an analysis of the use and cover on the actual land mass of the county is the most useful information and will be used here. Figure 2 displays land use/cover for the county.

Lake of the Woods County is one of the most sparsely populated counties in Minnesota, primarily covered by wetlands and forests, with a smaller portion dedicated to farming. According to data compiled in an aerial survey in 1996, the two wetlands categories, wetland-bogs, and wetlands-marsh and fens, together accounted for over 48 percent of the land area in the county. The next largest categories, deciduous forest, mixedwood forest, and coniferous forest covered over 32 percent of land area. Land uses dedicated to farming, grassland, and cultivated land, covered only 15 percent of the county. Land used for urban and rural development in the categories urban/industrial, other rural development, and farmsteads and rural residences, were a very small percentage of land use at less than one percent.
LAKE OF THE WOODS COUNTY LAND USE PLAN

I. BACKGROUND

Lake of the Woods
Land Use/Cover
(Figure 2)

Land Class

- Bare rock
- Coniferous forest
- Deciduous forest
- Mixedwood forest
- Forest cut-overs
- Grassland
- Shrubby grassland
- Gravel pits and open mines
- Cultivated land
- Farmsteads and rural residences
- Other rural developments
- Urban/industrial (cities & towns)
- Wetlands - bogs
- Wetlands - marsh and fens
- Open water

Source: Minnesota Land Management Information Center
Table 18. Land Use/Cover

<table>
<thead>
<tr>
<th>Type</th>
<th>Acres</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bare rock</td>
<td>18.8</td>
<td>0</td>
</tr>
<tr>
<td>Coniferous forest</td>
<td>29,141.9</td>
<td>3.5</td>
</tr>
<tr>
<td>Cultivated land</td>
<td>60,353.7</td>
<td>7.3</td>
</tr>
<tr>
<td>Deciduous forest</td>
<td>154,320.1</td>
<td>18.6</td>
</tr>
<tr>
<td>Farmsteads and rural residences</td>
<td>420.7</td>
<td>.1</td>
</tr>
<tr>
<td>Forest cut-overs</td>
<td>33,810.8</td>
<td>4.1</td>
</tr>
<tr>
<td>Grassland</td>
<td>61,110.3</td>
<td>7.4</td>
</tr>
<tr>
<td>Gravel pits and open mines</td>
<td>1,009.6</td>
<td>.1</td>
</tr>
<tr>
<td>Mixed wood forest</td>
<td>83,888.8</td>
<td>10.1</td>
</tr>
<tr>
<td>Other rural developments</td>
<td>958.8</td>
<td>.1</td>
</tr>
<tr>
<td>Shrubby grassland</td>
<td>4,648.6</td>
<td>.6</td>
</tr>
<tr>
<td>Urban/industrial (cities &amp; towns)</td>
<td>383.4</td>
<td>.1</td>
</tr>
<tr>
<td>Wetlands - bogs</td>
<td>330,434.1</td>
<td>39.8</td>
</tr>
<tr>
<td>Wetlands - marsh and fens</td>
<td>68,273.1</td>
<td>8.2</td>
</tr>
</tbody>
</table>

**TOTAL** 828,772.5 100.0

*Source: Land Management Information Center*

**Land Ownership.** Lake of the Woods County, like many counties in northern Minnesota, has a very large amount of land in public ownership (see Figure 3). Federal, state, county, and tribal lands account for almost 76 percent of the land base in the county, leaving only 24 percent of the land, or about 198,000 acres, available for private use and development. A discussion of land conversion from public to private, including the possibility of land exchange, occurs later in this plan.

Table 19. Land Ownership

<table>
<thead>
<tr>
<th>Type</th>
<th>Acres</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal</td>
<td>62,884</td>
<td>7.61</td>
</tr>
<tr>
<td>State</td>
<td>448,198</td>
<td>54.25</td>
</tr>
<tr>
<td>County</td>
<td>615</td>
<td>.01</td>
</tr>
<tr>
<td>Tribal</td>
<td>116,020</td>
<td>14.04</td>
</tr>
<tr>
<td>Private</td>
<td>198,502</td>
<td>24.03</td>
</tr>
</tbody>
</table>

**TOTAL** 826,218 99.94

*Source: Land Management Information Center*
Lake of the Woods County Land Use Plan

I. BACKGROUND

Lake of the Woods Land Ownership
(Figure 3)

Ownership Class
- Federal Lands
- State Lands
- County Lands
- Private Lands
- Tribal Land Boundaries

Source: Minnesota Land Management Information Center and Mn/DOT

*Ownership data was collected by LMIC and classifies tribal lands as private lands; Tribal Land boundaries were collected by Mn/DOT. The two data sets were collected at different scales using different methods and may not agree. Tribal Land boundaries should be used for reference only.
**Roads.** The road system in Lake of the Woods County consists primarily of four types of roads: state trunk highways, a county state aide system, county roads, and Department of Natural Resources (DNR) forest trails. The entire road system is 823.1 miles in length, and only 8.3 percent, or 68.4 miles, is state trunk highway. As can be seen in Figure 4, the higher class, paved roads serve the populated and most developed areas of the county, primarily the central and southeastern parts of the county. Areas that are primarily public, forested, or wetland areas are served by DNR unimproved forest trails if there is any road access at all.

<table>
<thead>
<tr>
<th>Type</th>
<th>Miles</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trunk Highway</td>
<td>68.4</td>
<td>8.3</td>
</tr>
<tr>
<td>County/State Aid Highway</td>
<td>364.0</td>
<td>44.2</td>
</tr>
<tr>
<td>County Road</td>
<td>191.1</td>
<td>23.2</td>
</tr>
<tr>
<td>Department of Natural Resource Forest Trail</td>
<td>171.8</td>
<td>20.8</td>
</tr>
<tr>
<td>Other</td>
<td>27.8</td>
<td>3.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>823.1</td>
<td>99.9%</td>
</tr>
</tbody>
</table>

*Source: Lake of the Woods County*

**Soils.** Three types of soils data are available for Lake of the Woods County. Two of these exist in digital format: soil landscape unit data from the Minnesota Land Management Center (LMIC), and the National Wetland Inventory (NWI). Both have significant limitations.

The third data source is the recently completed level two soil survey for the County. This data is available in hard copy format; only one township has been digitized. The use of this data is limited by the lack of its availability in digital format.

Figures 5 and 6 display soil landscape unit and NWI data for the County. Following is a brief description of each. (A copy of the level two soil inventory is available in the County Planning Office.)

**Landscape Unit Soil Data.** Following is a partial description provided by LMIC:

**Description:** A soil landscape unit is a group of soils generalized into a homogeneous unit based on sub-surface soil texture, surface soil texture, drainage characteristics, and surface color. Combinations of these four characteristics describe unique soil types identified by a four-letter soil code keyed to the four soil characteristics noted above.

**Data Source:** This data was obtained during 1970-1996 from 1:250,000 preliminary Minnesota Soil Atlas sheets developed by the Department of Soil Science, University of Minnesota, in cooperation with the U.S. Soil Conservation Service. The smallest area shown in the Atlas for which reliable information is available is approximately 600 acres.
LAKE OF THE WOODS COUNTY LAND USE PLAN

I. BACKGROUND

Lake of the Woods

Road Class

- STATE HIGHWAY
- CSAH PAVED
- CSAH GRAVEL
- COUNTY PAVED
- COUNTY GRAVEL
- COUNTY UFT
- COUNTY UNKNOWN
- DNR GRAVEL
- DNR UFT
- CITY PAVED
- CITY GRAVEL
- OTHER GRAVEL
- OTHER B
- PRIVATE PAVED
- PRIVATE GRAVEL
- PRIVATE UFT
- PRIVATE UNKNOWN
- No Data

Source: Lake of the Woods County
Lake of the Woods Wetlands
(Figure 6)

Circular 39 Classifications
- Type 1-Seasonally Flooded
- Type 2-Inland Fresh Meadows
- Type 3-Inland Shallow Fresh Marshes
- Type 4-Inland Deep Fresh Marshes
- Type 5-Inland Open Fresh Water
- Type 6-Shrub Swamps
- Type 7-Wooded Swamps
- Type 8-Bogs
- Upland

Source: Minnesota DNR
Soil units less than 600 acres may be displayed on atlas maps but are not identified with complete confidence. Source data are currently available as published maps at a scale of 1:250,000 from the Minnesota Soil Atlas published by the Agricultural Experiment Station, University of Minnesota, or from the Bulletin Room, Coffey Hall, University of Minnesota, St. Paul, MN.

Coding Procedure: The MLMIS staff encoded soils information in 1976 using a grid overlay procedure. A mapograph machine was used to project soil atlas sheets onto a 40-acre grid, and the dominant soil type of each 40-acre parcel was recorded. Forty-acre parcels containing water were coded according to the 100 percent rule: a cell had to be completely covered by water to be coded as such.

Each soil landscape unit is coded with a four-letter designation that symbolizes the following factors:

1. Texture of the soil material below 5 feet of the surface, with “S” designating sandy; “L” for loamy or silty; “C” for clayey; “X” for mixed sandy and loamy; “Y” for mixed silty and clayey; and “R” for bedrock.

2. Texture of the material in the five 5 feet below the surface, or a significant part of it, with “S” for sandy; “L” for loamy; and “C” for clayey.

3. Drainage of the unit, where “W” means well-drained (water table commonly below the rooting zone), and “P” means poorly-drained (water table within the rooting zone).

4. Color of the surface horizon with “D” for dark-colored and “L” for light-colored (Darker colors associated with higher organic matter content).

Using this scheme, the code “LLPD” means a dark-colored, poorly-drained loamy soil over loamy material. The code “LCWD” designates a dark-colored, well-drained clayey soil over loamy material. Data is recorded as a two-digit code for the various combinations of soil texture, drainage and color.

This information is relatively old, and can only be used in a very generalized way. It should not be used for site-specific analysis.

Wetlands. Figure 6 displays National Wetland Inventory (NWI) data. The data was created through a national program funded jointly between the USFWS and the State. The USFWS was responsible for initial data collection and LMIC performed the final processing for distribution. The data was developed by interpolating 1:50,000 scale and photos and doing limited field verification studies. This data is not intended for site specific uses where precise boundaries are needed.
There are some significant limitations for this data source, as well. Because it is derived from aerial photo interpretation, some wetlands that are farmed were not identified as wetland. Also, wooded wetlands are oftentimes miscoded as upland.
II. PLAN DEVELOPMENT

Previous sections of this plan have provided background information to help policy makers better understand the nature of the existing situation in Lake of the Woods County. This section builds on this context, and in doing so, defines a future vision for the county and describes actions and policies that will help governmental leaders move toward that vision.

The first part of this section describes the values that guided Lake of the Woods County in the creation of the land use plan. The second section provides a detailed land use analysis that describes the nature, magnitude and spatial pattern of development over the last decade in the county, and also makes judgements about the likely characteristics of future growth.

The third section describes the plan for land development in the county and the role the county will play in that development. This section includes land use goals and policies, a future land use map, an identification of specific short term strategies the county will undertake to address its priority land use issues, and a listing of economic and land development monitoring indicators that can be used to track the health of Lake of the Woods County.

Summary of Values

The Lake of the Woods County Board is clear about the type of values important to the county as it develops an approach to managing its land base over the next decade. While those values include a respect for the environment and a desire to maintain the environmental quality that now exists, they also include a desire for local control over the issues that affect the county’s land, and individual choice when it comes to issues of work and leisure. Following is a summary of those values important to Lake of the Woods County:

- **Individual Choice:** In the types of work and leisure to pursue, and in where to live and in the lifestyle to pursue;

- **Local Influence:** Over policy that affects the lives of county citizens;

- **Conservation:** Of the resources in the county. Those resources would be used in a way that they remain healthy for future generations; and finally,

  - **Balance:** Between individual rights and the public’s welfare and between competing economic development and environmental protection objectives.
Land Use Analysis

General. The background section of this plan describes Lake of the Woods County as a rural area, experiencing slow growth in both population and households during the past 10 years. At the same time, the overall economy of the county has been healthy. New jobs have been created and personal incomes have increased substantially. In addition, seasonal home growth has been significant. For a rural county in Minnesota where many counties have been experiencing serious declines, Lake of the Woods County has done well in maintaining its population and diversifying its already strong economic base.

Based on trends that have been observed over the past decade, one can expect that the county will continue to experience a similar rate of growth in the future.

The analyses presented in the following pages assess the nature and magnitude of land available for new development, and determine the types of land demand that will likely exist for three types of uses: 1) agricultural activity; 2) timber production; and 3) low density rural activity (residential, commercial, and seasonal).

Land Available for Expansion. Figure 7 presents a land development suitability analysis for the county. The purpose of this analysis is to determine which lands within the county could be most easily developed, and to also determine the quantity of these lands that are potentially available. This analysis provides policy makers with a sense of the location and quantity of these lands, and is one more piece of information that will be useful in determining land use policy for the county.

Lands identified in this analysis as most easily developed includes all land in private ownership within one mile of an existing road that is not classified as wetland in the National Wetland Inventory, and is not already in intensive use or being cultivated. These lands are identified by the color yellow in Figure 7.

A total of 58,016 acres were identified. This compares to a total of 421 acres now classified as farmsteads and rural residents, 958 acres identified as in other rural development, and 383 acres now classified as under urban/industrial development. This land is largely adjacent and contiguous to existing development. The location of this land and the number of acres available will be compared with the likely demand for new land in the subsequent analyses.

Agricultural Lands. The agricultural lands of the county (shown in Figure 8) include cultivated land and grasslands. These lands lie primarily along and north of Trunk Highway 11 and south of Baudette in the Carp area. For the most part they are accessible to a good farm-to-market road system and are likely to continue as agricultural lands well into the future.

During the period from 1987 to 1992, the total farm acreage declined by 12.9 percent, the number of farms declined 20.9 percent and the number of people listing farming as a principal occupation declined 20.2 percent. During that period, farms were consolidated as the average farm size increased by 9.9 percent, to 589 acres.
Lake of the Woods
Land Suitability Analysis
(Figure 7)

Lake of the Woods

Land Class
- Yellow: Land most easily developed
- Red: Urban/industrial (cities & towns)
- Purple: Farmsteads and rural residences
- Cyan: Other rural developments
- Green: Cultivated land

Source: Minnesota Land Management Information Center and Headwaters Regional Development Commission
Lake of the Woods
Agricultural Land
(Figure 8)

Agricultural Land Class
- Cultivated land
- Grassland

Source: Minnesota Land Management Information Center
It is likely that further consolidation of farms will occur in the future, that some marginal agricultural lands will be taken out of production, and/or converted to forested lands, and that there will be little demand for substantial additional conversion of other land uses to agricultural lands. As a result, farms will become larger and the agricultural areas of the county, while very important to the overall economy, will support a smaller population and fewer farmsteads.

**Forested Lands.** Figure 9 shows forested land by cover type. It shows 29,138 acres of coniferous forest, 154,301 acres of deciduous cover, 33,806 acres that are cut-over areas, and 83,878 acres of mixed wood forest.

Because of a strong demand for timber from area markets, timber harvesting has seen substantial increases in recent years. Between 1992 and 1997 the county saw a 40.8 percent increase in timber harvest. Regularly scheduled timber harvesting has occurred on public lands which are primarily managed by the Minnesota Department of Natural Resources. Because of increasing prices for timber, harvesting has also increased substantially on private lands. The large majority of timber (75 percent) harvested in 1997 was aspen.

Strong demand for timber products is expected to continue into the foreseeable future. As a result, the forested lands in Lake of the Woods County will continue to be very valuable economic resources. Strong demand will also make it less likely that there will be significant demands to convert productive forest lands to agricultural or other uses. In fact, it is likely that more lands will become forested due to conversion from agricultural use.

**Low Density Rural Activity.** Lands in Lake of the Woods County classified as low density rural activity areas include farmsteads and rural residences, and other rural developments. The latter classification includes a significant number of resort and recreational properties in the county and some commercial and industrial properties.

The low density rural activity lands in Lake of the Woods County account for only a small fraction of total land uses. The county can expect to experience some modest growth in these uses primarily for recreational properties on or near lakeshore. Since 1980, almost all of the net growth of households has been in the rural areas of the county, outside of the limits of the cities, and all of the net increase in residences has been in the seasonal home category. Commercial and industrial developments which are more suited for locations which provide urban services (e.g., sewer and water) are expected to be concentrated in the cities of the county, primarily Baudette. It is anticipated that seasonal home development will remain strong, although the rate of growth is anticipated to be somewhat smaller than what has been experienced over the past 20 years.

**Conclusions.**

- Overall, there will likely be a net decrease in farm land acreage.
- There will be a need for adding modest acreage to selected farms.
Lake of the Woods

Forested Land

(Figure 9)

Source: Minnesota Land Management Information Center

Forest Type
- Coniferous forest
- Deciduous forest
- Forest cut-overs
- Mixedwood forest

Lake of the Woods

Williams

Baudette
• Continued strong demand for wood as well as the revenues from DNR from stumpage sales, suggest that it is in Lake of the Woods County’s best interest to maintain its present level of forested land.

• There will be modest growth in intensive uses, principally seasonal home development, over the next two decades. This growth will be at a rate that is somewhat less than what has been experienced in the county over the past two decades.

• There is more than enough land available that can be relatively easily developed to accommodate the growth that is expected in the major uses discussed above.

Priority Issues. The previous analyses provide a broad overview of past land development activity and likely future trends in the county. It included conclusions regarding the demands for land in the future, and the availability of suitable lands.

The following section provides a more detailed analysis of the four most important land use-related issues in the county. These issues concern themselves with the impacts of timber harvesting, the sale and exchange of land within the county, the development of shoreland areas, and the process of making state policy that affects land use in the county.

As mentioned earlier, these issues were identified by the County Board at a regular Board meeting after a thorough review of land use information and the results of a survey of residents, businesses and staff in the county.

Each issue is framed in the subsequent pages of this section, followed by an analysis of the issue and conclusions.

### Issue #1. TIMBER HARVESTING

**ISSUE:** What is the magnitude of timber harvesting in Lake of the Woods County, and are there impacts that should be addressed by the county or others?

**Background**

Timber harvesting has increased substantially in the last ten years in Lake of the Woods County as a result of the increased demand and high prices for pulp wood from surrounding wood processing plants. In 1992, approximately 86,800 cords were harvested in Lake of the Woods County, while in 1997, five years later, a total of 122,200 cords were harvested in the county, a 40.8 percent increase.

At the same time, the allowable cut in the county from state lands has been relatively stable at approximately 1,600 acres per year (Source: DNR). The harvest has been distributed broadly throughout all of the state owned lands in Lake of the Woods County. According to DNR, the normal timber sale exceeds no more than 25 contiguous acres.
The substantial increase in the number of cords harvested in Lake of the Woods County over the last several years, coupled with the fact that while the cut off state lands has been relatively stable, suggests that nearly all of the harvest increase has occurred on private lands. Discussions with a number of people support this contention. It appears that the substantial increase in the price paid for stumpage is the primary reason for this increase in the private harvest.

This increase has resulted in questions being raised as to the potential impacts of this harvest on the county. The concerns are two fold: the impact on the visual quality of the landscape, and the effect of the harvesting on traditional hunting areas.

Discussions with DNR and other local staff suggest that the concerns being raised are principally due to the unpredictable nature of the geographic location of the private cuts. While DNR has a specific ten year harvest plan that identifies specific areas where stumpage is to be sold, the private sale is controlled by dozens of individual landowners, and is not coordinated with the DNR sales. While DNR indicates that it is willing to adjust its sale plans based on private sales, often times loggers are given five years to harvest a specific tract, and during that five year period an adjacent harvest on private land may occur, leaving DNR with little recourse.

In addition, while DNR follows the state adopted visual quality best management practices (BMPs) for forest management, there is no local requirement for visual quality BMPs to be followed on private lands.

Conclusion

- The principal concern regarding the increase in timber harvesting is related almost exclusively to the impact on visual quality, with some minor concerns regarding the impact of cutting on traditional hunting practices and patterns of local residents and long time visitors. These concerns appear to be of modest dimensions, and do not rise to the level of requiring aggressive regulatory intervention.
Issue #2: LOCAL INVOLVEMENT IN STATE LAND MANAGEMENT-RELATED DECISIONS THAT AFFECT LAKE OF THE WOODS COUNTY

ISSUE: How can/should Lake of the Woods County be involved in state land management-related decisions that affect their county?

Background

Lake of the Woods County would like to find ways that it can be a participant in the decision making processes that affect the management and use of lands within the county. More specifically, the county is interested in finding ways it can be a partner in the decision making process for many of the decisions that DNR makes within the county.

There are good examples of positive collaboration between DNR and the county. The DNR has formed a local advisory committee to make recommendations regarding management policy for Zipple Bay State Park. This group has been active over the last several years in helping the DNR make management choices that are in the best interest of both the citizens of the county as well as the State Park.

In addition, there is an existing policy development process that is now underway in the county, by DNR, to review and craft new policies for the management of off highway vehicles (OHVs). This decision making process has been used as a case study to determine ways in which local governments can be involved in DNR policy setting activities.

**OHV Case Study.** DNR is now undertaking a process to craft policies concerning OHVs on state lands in the county. Local DNR staff, with the participation from regional DNR staff, are developing a task force that will study and make recommendations on OHV use on different types of state land within Lake of the Woods County.

Discussions with DNR indicate that the task force that is being developed includes a number of people within the county that have a specific interest in this issue. In addition, the HRDC suggested it would make sense to also invite a County Commissioner to be part of that advisory committee; DNR staff agreed that this was a good idea, and indicated that that would be accomplished.

While local DNR staff are committed to involving local citizens in local management policy, sometimes policy that affects the management of state lands within the county is made on a statewide basis, thereby lessening the role of local staff and local citizens in policy making. DNR staff, both local and at the regional level, indicated a preference for management policy to be decentralized to the regions and local offices where practical and possible.
Conclusion

- **DNR staff at the regional and local level are willing to include local people within the decision making process for issues that are under local and/or regional DNR control.** Oftentimes there may not be full understanding about the best methods to secure that participation, or the protocol to be used to involve county officials. The intent, however, is clear: to invite the county to be a participant in most deliberative processes.

### Issue # 3: LAND ACQUISITION, SALE, AND EXCHANGE

**ISSUE:** Can a land acquisition, sale, and exchange process be developed in Lake of the Woods County that has the involvement of the County Board as well as DNR, and addresses the interests of both parties?

**Background**

DNR occasionally desires to buy private land within Lake of the Woods County, principally for expansion or consolidation of existing management units, oftentimes wildlife management area units. The benefits of public land are obvious to even the most casual observer. In 1998, DNR payments to the county as a result of timber harvesting and general sale from state lands totaled $360,638.

On the other hand, Lake of the Woods County needs to generate funding from private lands for the services that are offered to county residents and visitors. The reduction in an already limited tax base causes some concern for the County Board.

Finally, there are some private interests that would like to purchase land, whether it would be for an expansion of an existing farm, or for other private purposes such as a seasonal home or for hunting purposes.

A review of population trend data as well as information on agricultural production suggests that the demand for a large transfer of lands from public to private ownership is low. The population in 1990 was 4,076, with a projection of 4,520 people in the year 2020. The number of acres in agricultural production had declined to 103,665 acres in 1992 from 118,950 acres in 1987, a 12.9 percent decrease.

On the other hand, timber harvesting has substantially increased in the county over the past five years, from 86,800 cords to 122,200 cords, 1992 to 1997 (as a previous issue paper indicated, most of that increase in harvesting was accomplished through timber sales on private lands).

Discussions with the Lake of the Woods County Board indicated that the county is open to the discussion of the sale, exchange, and acquisition of state lands, and would like to initiate a dialog with DNR on this issue. The county has acknowledged that there are likely appropriate instances where some private land should be placed into public ownership for specific management objectives. There were also suggestions that there may be some instances where the sale of public land for specific private uses is also appropriate.
Discussions with the DNR Regional Administrator in Bemidji suggests DNR may be willing to jointly discuss the issues of land sale, exchange, and acquisition. It was suggested that the county first undertake a more detailed look at its long term recreational development objectives as a starting point in determining the demands that may exist in the future for public recreational land. One method to undertake this recreational planning process would be to expand the advisory committee membership that now oversees the management of Zipple Bay State Park to include more of a countywide perspective, and to staff that committee with local DNR staff to undertake that long range review of countywide recreational objectives and the resulting demands for public land.

Conclusions

- **The jurisdictional transfer of land, either from private to public ownership, or vice versa, appears to be needed only at the margins.** No significant change in ownership appears to be necessary over the next decade. There is little increase in private economic activity that would suggest the need for a wholesale transfer of public land to private ownership. On the other hand, there does not appear to be huge public demands that would require the wholesale transfer of private ownership to public ownership.

- **Discussions with both parties indicate that there is potential to have dialog on this issue and to reach common ground concerning an appropriate land sale, exchange, and acquisition process.**

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**Issue #4: SHORELAND DEVELOPMENT**

**ISSUE:** What is the magnitude of development in the shoreland area in Lake of the Woods County, and are there impacts that should be managed by Lake of the Woods County.

**Background**

For the purposes of this analysis, the shoreland development within Lake of the Woods County is divided into two parts: the impacts of new development, and the impacts of existing development. Each will be discussed in some detail below.

*New Development.* New development is almost exclusively related to resort and residential expansion. The development within the shoreland area in the county is principally on the south shore of Lake of the Woods, its tributaries, Rainy River, and the Northwest Angle and its islands. The growth is in existing resorts, as well as the addition of new seasonal and, to some extent, year round homes.

Figure 10 shows the location of those building permits that are in the shoreland area over the last ten years. As can be seen, these permits are from the far northwestern tip on Rocky Point through Zipple Bay and to the east. In addition, there were a number of permits during this same period for the Northwest Angle and its islands.

The growth of residential and resort-related development could be considered moderate over this period...
of time. Extensive discussions with local staff involved with resource management issues in Lake of the Woods County reveal that there are no large intensive developments occurring, but rather there are additions of houses or mobile homes in a variety of areas. One example of this is the new subdivision in the Sandy Shores area that created 13 lots. While these lots have been sold, no structures have been built as yet.

The figure referred to previously also shows other private land available within the county that could be developed. While there is a modest amount of private upland available along the lake, there is substantial land that would present more of a challenge for development: land inaccessible to the existing road system, and/or wetland where mitigation would have to occur for development to proceed.

The existing regulatory structure for Lake of the Woods County for shoreland areas includes:

1) **Shoreland Zoning, including minimum lot sizes;**
2) **Individual septic sewage treatment system regulations that require certain standards to be met for new sewage treatment systems; and**
3) **The Wetland Conservation Act, which requires mitigation of wetland impacts.**

These three regulations appear adequate to effectively manage the new growth and development that is likely to occur on the south shore of Lake of the Woods and on Rainy River.

Development on the Northwest Angle and its islands has been increasing steadily over the last several years. A number of new subdivisions have been created, and a scattering of seasonal homes have been built. While the tax base of this new development is welcome, there is some feeling in Lake of the Woods County that the development should be managed in a way that helps the area retain the semi-wilderness character which is unique to this county. Other tourism areas in the state have a more developed character that can not provide the privacy, seclusion, and pristine environment that Lake of the Woods has to offer.

The increasing development is likely to change the character of this area if not managed differently than the rest of the shoreland areas in the county. There may be some cause to rethink density, use and other controls.

In addition, there may be more demand for public access and public use areas in the Angle as development continues.

*Existing Development.* There is a substantial amount of existing development along the south shore of Lake of the Woods County and Rainy River. In the Rocky Point, Birch Beach, and Sandy Shores areas there are collections of 10-50 mobile homes and small cabins (some cabins have been converted to larger seasonal homes) on very small lots – in some cases lots as small as 25-50 feet wide. In many of these cases, there are likely septic systems that do not conform to new ISTS regulations. Furthermore, in most of these cases, alternative sewage treatment system designs will be needed to bring these housing units into compliance.
Lake of the Woods

Building Permit Location
1989 - 1998
(Figure 10)

Source: Lake of the Woods County
On the other hand, many of these areas have septic systems built in sandy or very permeable soil, which allows the functioning of the septic systems, even if they are not conforming. Nearly all of these areas have deeper wells that draw drinking water from a confined aquifer. Even if many of these septic systems are leaking nitrates and other pollutants into the unconfined aquifer, it is likely that there is no contamination of deep wells within these particular areas.

Agricultural activity may also have an impact on the county. Figure 11 shows the location of cultivated land in the northern half of the county, as well as the general location of concentrations of livestock. This map also shows the relationship of these activities to the tributaries into Lake of the Woods and the existing ditch system.

Sedimentation from cultivated land (and to a lesser extent, cattle being watered in the tributaries) has contributed to the filling in of ditches and the sedimentation of tributaries feeding into Lake of the Woods. Cattle concentrations along these waterways also contribute nutrient loading to these waters. The two principal areas are Bostick Creek and Zipple Bay. The prevention of these problems can be addressed through a variety of management techniques.

Conclusions

- **New shoreland-related residential and commercial development in Lake of the Woods County is moderate in scope.** There has been some steady growth in shoreland development in the last ten years, with nearly all of it being residential and resort-related. This growth has occurred on the islands, and in places such as Rocky Point, Long Point, Sandy Shores, and Wheeler’s Point.

- **Management tools now in place, adequately enforced, are sufficient to appropriately manage the level and types of growth occurring on Rainy River and the south shore of Lake of the Woods.** Lake of the Woods County has shoreland zoning, ISTS, and Wetland Conservation Act regulations in place to effectively manage the magnitude and type of growth that is now occurring in these areas.

- **Septic systems within the existing and older residential and resort-related development along Lake of the Woods shoreland are likely nonconforming, and will need alternative system design to be brought into compliance.** Most of the older septic systems are nonconforming, and the traditional solutions are not appropriate for these areas because of the small lots in the area. On the other hand, these systems are likely not to provide a significant health or safety threat to area properties if the wells that are used for drinking water are deep wells that draw their water from the confined aquifer.

- **Some agricultural-related development in the shoreland areas, and more specifically in the Bostick Creek and Zipple Bay watersheds, are contributors to the sedimentation of ditches and tributaries to Lake of the Woods.** While there is clearly some sedimentation that can be attributed to these activities, future sedimentation can be largely prevented through the implementation of a variety of management options.
Lake of the Woods County Land Use Plan

II. PLAN DEVELOPMENT

Location of Livestock Operations 1998
(Figure 11)

Source: Lake of the Woods SWCD
Future Land Use Plan

The following section describes Lake of the Woods County’s vision for future land use and development in the county. It includes a statement of the county’s land use goals, policies it will promote through its activities, and a future land use map that illustrates the described future land use pattern in the county. This section also includes specific implementation strategies the county will undertake to further its goals and policies, as well as monitoring indicators that can be used to judge its progress toward its goals.

Goals. Within the context of its values and philosophy, Lake of the Woods County has developed a series of goals to guide the development of its land use plan. Following are those goals.

1. Enhance the economic opportunities available for individuals and businesses in the county in ways that are compatible with long term environmental quality.

2. Maintain the tax base of the county so quality services can be provided.

3. Enhance the forest resources of the county in ways that promote economic and recreational use, wildlife diversity, and environmental quality.

4. Improve recreational opportunities for residents and visitors.

5. Maintain and, where necessary, improve water quality.

Policies.

1. Maintain the county government’s economic health through the maintenance of its tax base, and the promotion of compatible economic activity.

2. Support and promote agricultural activity within the county through the county’s land use policies and regulations, and through efforts to work with the Minnesota Department of Natural Resources on land exchange issues where appropriate.

3. Promote the long term health of the forest resource base within the county.

4. Work to enhance the tourism industry in Lake of the Woods County through recreational enhancement and promotion activities.

5. Undertake and/or support activities to protect environmentally sensitive areas within the county.

6. Actively manage growth to maintain the character of Lake of the Woods County, including the semi-wilderness character of the Northwest Angle and its islands.
7. Continue to effectively enforce existing ordinances; reassess the effectiveness of the county’s regulatory tools on an ongoing basis.

8. As a first response to new land use management issues, emphasize educational and technical assistance activities over new regulations when possible.

9. Continue to develop county capability to manage its land use issues through the updating of technology, training of staff, and acquisition of priority land use-related information.

10. Encourage future growth to occur in areas that are not environmentally sensitive, and that are already served by infrastructure; conversely, discourage growth in areas that would cause environmental problems or be expensive for the county to serve with roads and other facilities.

11. Actively seek a full working relationship with the Minnesota Department of Natural Resources to promote local policy and goals, including activities to influence state land use related policy, to explore the issue of land exchange and sale, and to explore the potential enhancements to the local economy through recreational facility and activity improvements.

Future Land Use. The goals and policies stated above are focused on the county’s core values: individual choice in the areas of work and leisure, local influence over land use policy that affects the county, balance between individual rights and the public’s welfare and between competing economic development and environmental interests, and conservation of the natural resources of the county. The future land use map (Figure 12) presented in this section is derived from, and a spatial representation of, these county goals and policies.

The future land use map is derived from a combination of much of the spatial information presented earlier. The future land use map identifies four categories: rural development activity, agricultural use, forested use, and low impact use areas.

This plan shows an expansion of rural development activity in areas adjacent and contiguous to existing similar uses, a maintenance of the agricultural and forest land base, and the conservation of a large area where only low impact use would be encouraged. This map is consistent with previously stated county policies that encourage the maintenance and promotion of agricultural, forest, and recreational activities, the protection of environmentally sensitive areas, and the development of intensive uses in areas that are easily served by public infrastructure. Following is a more specific identification of the decision rules that guided the development of each land use category.

- **Rural Development Activity** – Existing and future development areas which are within one-half mile of currently developed lands, but excluding lands that are either in public ownership, classed as wetlands, or more than one mile from an existing road. Future developments may include industrial, commercial, tourism, residential or other uses as appropriate to the site characteristics and neighborhood character.

- **Agricultural Use** – Existing agricultural land.
Lake of the Woods
Future Land Use
Desired Future Development Patterns
(Figure 12)

Land Use Class
- **Red**: Rural Development Activity*
  (Includes residences, farmsteads, and other intensive uses)
- **Yellow**: Agricultural Land
- **Green**: Forested
- **White**: Low Impact Activity

*Note: The rural development activity area is meant to show appropriate areas for future development. Such development may include industrial, commercial, tourism, residential or other uses as appropriate to the site’s characteristics and neighborhood’s character.

Source: Headwaters Regional Development Commission
• **Forested Land** – Existing forested land, recently forested but cut-over land, excluding those lands that are identified as appropriate for low density rural activity expansion.

• **Low Impact** – Those lands that are in public ownership, classed as wetlands, or more than one mile from an existing public road.

This future land use plan map is meant to be a guide for future development patterns and a guide for future land use policy and decision-making by Lake of the Woods County. Specific circumstances are likely to modify this pattern somewhat: e.g., the successfully negotiated exchange or sale of public and private land, new opportunities generated by increased economic activity, or changes in state or local policy to adjust to changing future circumstances. However, the map represents an accurate reflection of the policies that have been enunciated in the previous narrative in this section.

**Implementation Strategies.** In addition to the policies identified previously, the county has developed short term strategies that it will implement to address its top priority issues. Each of these strategies is identified below.

### Strategies for: Timber Harvesting

1) *Expand the existing DNR forest stewardship assistance program for private woodlot owners through a partnership with local government.*

2) *Encourage the implementation of an educational effort for private woodlot owners.*

3) *Support the timber management efforts of DNR on public land to assure the future growth of stumpage based revenues to the county.*

### Strategies for: Local involvement in state land management-related decisions that affect Lake of the Woods County

1) *Promote local DNR decision authority.*

2) *Find ways to actively participate in DNR-sponsored planning and management efforts.*

### Strategies for: Land acquisition, sale, and exchange

1) *Support countywide recreational planning effort in conjunction with DNR, and commit to active participation in this effort, including local staff support where needed.*

2) *Develop a county-based analysis that shows specific areas on which the county would like to focus the land sale and exchange dialogue.*
Strategies for: Shoreland development

1) Develop a resource package (technical and possibly financial) to assist groups of property owners in older, dense lakeshore development areas to investigate joint options for upgrading septic systems.

2) Develop an educational and financial assistance program targeted to the Zipple Bay and Bostick Creek watersheds that helps farmers explore alternative management practices that reduce sedimentation from cultivated land as well as livestock production. Target one to three small watersheds for this activity over the next five years.

3) Reexamine and, if warranted, refine the management controls now in place for the Northwest Angle and its islands.

Recommendations to DNR

1. Regularly inform County Board of DNR five year harvest plans.

2. Involve the County Board in long range planning efforts.

3. Continue to accommodate private efforts to sell timber.

4. Advocate for the decentralization of as much DNR policy setting as possible.

5. Involve and/or inform the County Board as much as possible in most DNR policy setting issues.

6. Within two years, provide staff support to the county to look at long range recreational objectives in Lake of the Woods, and to determine long range land ownership/development needs to support recreational objectives.

7. After completion of the investigation of recreational needs, enter into discussions with the County about methods and procedures to involve the county in land sale and exchange process that could be of mutual benefit to the county and DNR.

8. Upon county request, assist Lake of the Woods County in exploring the need for additional public access and public use areas on the Northwest Angle and its islands.

Monitoring Indicators. It is important for the County to monitor the progress it is making in achieving its land development-related goals and in monitoring its economic and environmental health. To this end, the following monitoring indicators have been identified for use by the county.

Each indicator is given, along with the source and when it is updated. Although some indicators are updated monthly, there is little need to document change more than once a year.
### Economic and Environmental Health Monitoring Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Source</th>
<th>Updated</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Economic Activity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>#1: Unemployment Rate</td>
<td>MN Department of Economic Security (DES)</td>
<td>Monthly</td>
</tr>
<tr>
<td>#2: Number Employed</td>
<td>MN Department of Economic Security (DES)</td>
<td>Monthly</td>
</tr>
<tr>
<td>#3: Wage Rates</td>
<td>MN Department of Economic Security (DES)</td>
<td>Every Year</td>
</tr>
<tr>
<td>#4: Per Capita Income</td>
<td>Bureau of Economic Analysis</td>
<td>Monthly</td>
</tr>
<tr>
<td><strong>Land Development/Use</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>#1: Number, Type of Permits per year</td>
<td>County Planning Office</td>
<td>Yearly</td>
</tr>
<tr>
<td>#2: Annual Timber Harvest on Public and Private Land</td>
<td>MN/DNR</td>
<td>Yearly</td>
</tr>
<tr>
<td>#3: Number of Acres in Agricultural Production by Commodity</td>
<td>U.S. Bureau of Census</td>
<td>Every 5 Years</td>
</tr>
<tr>
<td><strong>Land Ownership/Tax Base</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>#1: Number of Acre change in public and private land</td>
<td>MN Department of Natural Resources</td>
<td>Yearly</td>
</tr>
<tr>
<td>#2: Change in Assessed Value</td>
<td>County Assessor’s Office</td>
<td>Yearly</td>
</tr>
<tr>
<td>#3: Resource-related payments from State to County</td>
<td>County Auditor’s Office</td>
<td>Yearly</td>
</tr>
</tbody>
</table>
APPENDIX A

Survey of Residents of Lake of the Woods County

Lake of the Woods County is undertaking a nine-month planning process that will result in an updated land use plan. As a part of this process, the county board would like to address the most important land use-related issues as identified by county residents. You have been selected by a random process to receive a survey form. Your opinion is important! Please take a few minutes to fill out the form and return it by December 15th in the self-addressed envelope. (All responses are anonymous.)

1. Although Lake of the Woods County has experienced only modest growth over the past decade, development has been occurring in the county. Which type of development do you think has had the greatest effect (positive or negative) on the county’s natural resources? (Check 2)
   ______ Shoreland development along Rainy River and Lake of the Woods
   ______ Development of the islands in Lake of the Woods
   ______ Agricultural activity
   ______ Timber harvesting
   ______ Recreational use of state and federal lands
   ______ Other (identify)_____________________

2. On what should the Lake of the Woods County Board focus its natural resource and land use management efforts over the next ten years? (Check 2)
   ______ Preserving the tax base of the county (opposing state or federal purchases which remove land from tax roles)
   ______ Managing growth on along Rainy River and Lake of the Woods
   ______ Influencing natural resource decisions made by state or federal agencies
   ______ Managing wetlands
   ______ Protection of unique and environmentally sensitive recreation areas
   ______ Managing peatland development or mining
   ______ Other (identify)_____________________

3. Do you feel there is a need for additional state or federal parks in or near Lake of the Woods County? (Check 1)
   ______ Yes
   ______ No

4. What is most important to you? (Check 1)
   ______ Protection of individual rights to use your property as you wish
   ______ Protection from the actions of others that may affect your property
   ______ Protecting the natural environment of the county
   ______ All of the above are important

5. What other natural resource or land use issues would you like the county board to address in its planning? Please feel free to write additional comments on the back of this page.

________________________________________________________________________________________
________________________________________________________________________________________

Thank you for your help with this important project!
Survey of Businesses in Lake of the Woods County

Lake of the Woods County is undertaking a nine-month planning process that will result in an updated land use plan. As a part of this process, the county board would like to address the most important land use-related issues as identified by county business people. You have been selected by a random process to receive a survey form. Your opinion is important! Please take a few minutes to fill out the form and return it by December 15th in the self-addressed envelope. (All responses are anonymous.)

1. Although Lake of the Woods County has experienced only modest growth over the past decade, development has been occurring in the county. Which type of development do you think has had the greatest effect (positive or negative) on the county’s natural resources? (Check 2)
   - Shoreland development along Rainy River and Lake of the Woods
   - Development of the islands in Lake of the Woods
   - Agricultural activity
   - Timber harvesting
   - Recreational use of state and federal lands
   - Other (identify)_____________________

2. On what should the Lake of the Woods County Board focus its natural resource and land use management efforts over the next ten years? (Check 2)
   - Preserving the tax base of the county (opposing state or federal purchases which remove land from tax roles)
   - Managing growth on along Rainy River and Lake of the Woods
   - Influencing natural resource decisions made by state or federal agencies
   - Managing wetlands
   - Protection of unique and environmentally sensitive recreation areas
   - Managing peatland development or mining
   - Other (identify)_____________________

3. Do you feel there is a need for additional state or federal parks in or near Lake of the Woods County? (Check 1)
   - Yes
   - No

4. What is most important to you? (Check 1)
   - Protection of individual rights to use your property as you wish
   - Protection from the actions of others that may affect your property
   - Protecting the natural environment of the county
   - All of the above are important

5. What other natural resource or land use issues would you like the county board to address in its planning? Please feel free to write additional comments on the back of this page.

________________________________________________________________________________________
________________________________________________________________________________________

Thank you for your help with this important project!
Survey of Natural Resource-Related Organizations
Serving Lake of the Woods County

Lake of the Woods County is undertaking a nine-month planning process that will result in an updated land use plan. As a part of this process, the county board would like to address the most important land use-related issues as identified by organizations which have information on (or are interested in) the natural resources in the county. Your organization has been identified as meeting this criteria. At the same time, the county is interested in learning more about plans or data that your organization might have that should be taken into consideration in its local planning process. Please take a few minutes to fill out the form and return it by December 24th in the self-addressed envelope.

1. Although Lake of the Woods County has experienced only modest growth over the past decade, development has been occurring in the county. Which type of development do you think has had the greatest effect (positive or negative) on the county’s natural resources? (Check 2)

_______ Shore land development along Rainy River and Lake of the Woods
_______ Development of the islands in Lake of the Woods
_______ Agricultural activity
_______ Timber harvesting
_______ Recreational use of state and federal lands
_______ Other (identify)_____________________

2. On what should the Lake of the Woods County Board focus its natural resource and land use management efforts over the next ten years? (Check 2)

_______ Preserving the tax base of the county (opposing state or federal purchases which remove land from tax roles)
_______ Managing growth on along Rainy River and Lake of the Woods
_______ Influencing natural resource decisions made by state or federal agencies
_______ Managing wetlands
_______ Protection of unique and environmentally sensitive recreation areas
_______ Managing peatland development or mining
_______ Other (identify)_____________________

3. What other natural resource or land use issues do you think are important for the county board to address in its planning? Please write your comments below.
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________

4. The county would like to gain an understanding of plans or regulations that affect land use in Lake of the Woods County. Does your organization have any land use-related plans or regulations which apply to Lake of the Woods County? (Examples might be wetland regulations, zoning ordinances, or highway plans.) If so, please list them below.

_______ Yes
_______ No
Title of Plan or Regulation  Contact Person  Phone Number
____________________________________  _______________________  ______________
____________________________________  _______________________  ______________
____________________________________  _______________________  ______________

5. The county is interested in using existing data in its planning efforts whenever possible. Does your organization have land use-related information that might be of use in this process? If so, please describe the data source.

Data Item  Computerized (Y/N)  Contact Person  Phone Number
________________________________________  __________________  _______________________  ______________
________________________________________  __________________  _______________________  ______________
________________________________________  __________________  _______________________  ______________
________________________________________  __________________  _______________________  ______________

6. Early in the planning process, the Headwaters Regional Development Commission will be conducting a meeting of natural resource-related agencies and organizations which have an interest in this project. The meeting will be used to discuss natural resource issues and to seek cooperation from organizations such as yours. Are you interested in being invited to the meeting?

_______ Yes
_______ No

Information submitted by_________________________________   __________________________________
Name      Organization

Thank you for your help with this important project!
Survey Results

Natural Resource Issues in Lake of the Woods County
December 1998

<table>
<thead>
<tr>
<th></th>
<th>Residents (R)</th>
<th>Businesses (B)</th>
<th>Organizations (O)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surveys mailed</td>
<td>200</td>
<td>70</td>
<td>22</td>
</tr>
<tr>
<td>Surveys returned</td>
<td>88</td>
<td>32</td>
<td>10</td>
</tr>
<tr>
<td>Percent returned</td>
<td>44.0</td>
<td>45.7</td>
<td>45.5</td>
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</table>

Question 1. (Asked of residents, businesses and organizations)

Although Lake of the Woods County has experienced only modest growth over the past decade, development has been occurring in the county. Which type of development do you think has had the greatest effect (positive or negative) on the county=s natural resources? (Check 2)

<table>
<thead>
<tr>
<th>Percent</th>
<th>R</th>
<th>B</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>53</td>
<td>59</td>
<td>40</td>
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<tr>
<td>14</td>
<td>16</td>
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<td>28</td>
<td>5</td>
<td>40</td>
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<td>61</td>
<td>44</td>
<td>70</td>
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<td>33</td>
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</tr>
<tr>
<td>7</td>
<td>3</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

Shoreland development along Rainy River and Lake of the Woods
Development of the islands in Lake of the Woods
Agricultural activity
Timber harvesting
Recreational use of state and federal lands
Other

Effect of Development by Type

[Graph showing the effect of development by type for residents, businesses, and organizations.]
**Question 2.** (Asked of residents, businesses and organizations)
On what should the Lake of the Woods County Board focus its natural resource and land use management efforts over the next ten years? (Check 2)

<table>
<thead>
<tr>
<th>Percent</th>
<th>R</th>
<th>B</th>
<th>O</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>72</td>
<td>69</td>
<td>30</td>
<td></td>
<td>Preserving the tax base of the county (opposing state or federal purchases which remove land from tax roles)</td>
</tr>
<tr>
<td>32</td>
<td>34</td>
<td>60</td>
<td></td>
<td>Managing growth on along Rainy River and Lake of the Woods</td>
</tr>
<tr>
<td>44</td>
<td>50</td>
<td>30</td>
<td></td>
<td>Influencing natural resource decisions made by state or federal agencies</td>
</tr>
<tr>
<td>9</td>
<td>3</td>
<td>10</td>
<td></td>
<td>Managing wetlands</td>
</tr>
<tr>
<td>19</td>
<td>13</td>
<td>10</td>
<td></td>
<td>Protection of unique and environmentally sensitive recreation areas</td>
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<tr>
<td>8</td>
<td>6</td>
<td>0</td>
<td></td>
<td>Managing peatland development or mining</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>40</td>
<td></td>
<td>Other</td>
</tr>
</tbody>
</table>

**Focus of Management Efforts**

The chart above illustrates the focus of management efforts as indicated by residents, businesses, and organizations.
Question 3. (Asked of residents and businesses)

Do you feel there is a need for additional state or federal parks in or near Lake of the Woods County? (Check 1)

Percent

<table>
<thead>
<tr>
<th></th>
<th>R</th>
<th>B</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>17</td>
<td>22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>81</td>
<td>78</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Need for Additional Parks

- **Yes**: 17% Residents, 22% Businesses
- **No**: 81% Residents, 78% Businesses
**Question 4.** (Asked of residents and businesses)

What is most important to you? (Check 1)

<table>
<thead>
<tr>
<th>Percent</th>
<th>R</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>75</td>
<td></td>
</tr>
</tbody>
</table>

- Protection of individual rights to use your property as you wish
- Protection from the actions of others that may affect your property
- Protecting the natural environment of the county
- All of the above are important

### Most Important

![Bar chart showing the percentage of residents and businesses for each option]

- **Residents**
  - Individual Rights: 24%
  - Protect from Others: 9%
  - Protect Environment: 8%
  - All are Important: 53%

- **Businesses**
  - Individual Rights: 5%
  - Protect from Others: 3%
  - Protect Environment: 6%
  - All are Important: 75%
**Question 5.** (Asked of residents, businesses, and organizations)

What other natural resource or land use issues would you like the county board to address in its planning? Please feel free to write additional comments on the back of this page.

**Items With More Than One Response**

<table>
<thead>
<tr>
<th>Times Mentioned</th>
<th>Issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>R   B  O  Total</td>
<td>Issue</td>
</tr>
<tr>
<td>4   1  2  7</td>
<td>Protect water resources (surface and ground), sewer for Wheeler-v point area</td>
</tr>
<tr>
<td>4   1  1  6</td>
<td>Develop more public water accesses</td>
</tr>
<tr>
<td>4   1  1  6</td>
<td>Develop trails, natural attractions, beaches</td>
</tr>
<tr>
<td>4   1  1  6</td>
<td>Work with DNR to allow local management</td>
</tr>
<tr>
<td>4   1  0  5</td>
<td>County should manage wetlands, redefine them</td>
</tr>
<tr>
<td>4   1  0  5</td>
<td>Improve forests, reseed after cutting</td>
</tr>
<tr>
<td>3   0  2  5</td>
<td>Limit zoning variances, stricter guidelines</td>
</tr>
<tr>
<td>2   1  1  4</td>
<td>Limit development in the county</td>
</tr>
<tr>
<td>3   0  0  3</td>
<td>Ease regulations on farmers, landowners</td>
</tr>
<tr>
<td>1   1  0  2</td>
<td>Encourage growth and development</td>
</tr>
<tr>
<td>2   0  0  2</td>
<td>Sell public land</td>
</tr>
<tr>
<td>2   0  0  2</td>
<td>Develop more shoreland</td>
</tr>
<tr>
<td>0   2  0  2</td>
<td>Defend fishing rights, promote aquaculture</td>
</tr>
</tbody>
</table>
Conclusions

XBusinesses and residents clearly feel that timber harvesting and shoreland development have had the greatest effect on the county’s natural resource over the past decade. It appears that these two issues will also need managing in the future.

XPreserving the county’s tax base is very important to both residents and businesses.

XResidents and businesses would also like to see the county work with state and federal agencies to influence natural resource decisions.

XThere is very little support for additional state or federal parks in the area.

XBusinesses and residents support a balanced approach to land use planning which takes into consideration individual rights, protection from the actions of others, and protection of the natural environment.

XResidents, businesses, and organizations suggested a very wide range of natural resource and land use issues for consideration in the planning process. However, no single issue was raised by a significant number of respondents in the survey.
Appendix B

Survey of Local GIS and Computer-Related Capacity

The County and the SWCD are the only two local organizations in the county with any GIS capability. The County is currently creating and maintaining its parcel base map with CAD and ARC/CAD and augments these two systems with ARCVIEW. The County also has a digital copy of its roads it obtained by driving the centerlines with GPS receivers. The SWCD has just begun to use ARCVIEW and has not been involved in any primary data collection. They have access, however, as does the County, to all the public data available from state agencies.

Additional Data Needs

Lake of the Woods County already has a substantial amount of secondary data at its disposal and is already involved in the creation of some additional primary data needed to accomplish its land use planning goals. The amount of new information the County could collect is almost limitless, while the County’s resources are not. The most appropriate approach to new data collection efforts, then, is to target the County’s efforts to those data items that would be most useful to address the County’s most important land management issues. Following are recommendations for future information development efforts.

- **The County should consider computerizing its Level 2 Soil Survey.** The County has a level 2 soil survey (the soil coverage has been overlaid on air photos). This data could be made much more useful if computerized.

- **The County should continue its efforts to create a county parcel base map.** The County is currently working on a parcel base map for the six townships that are the most intensively developed. The County should continue to maintain it and expand it when possible.

- **The County should develop a computer database for all future building permits.** The County currently tracks new building permit data by township and section. This information could be further refined and integrated into its GIS system.

- **The County should explore the development of a computerized feedlot database, either by itself or through its SWCD partner.** The County has some feedlot location data, but a complete computerized inventory is needed to make most useful.

- **The County should investigate the potential of refining data on ditches.** The accuracy of the drainage ditch data from the MN/DOT Base Map is suspect and should be examined and, if necessary, refined.