

## **MSU Extension Publication Archive**

Archive copy of publication, do not use for current recommendations. Up-to-date information about many topics can be obtained from your local Extension office.

The Role of Natural Resources in Community and Regional Economic Stability in the Eastern Upper Peninsula

Michigan State University Agricultural Experiment Station and Cooperative Extension Service

Research Report

Maureen McDonough, Jeremy Fried, Karen Potter-Witter, Jim Stevens Dan Stynes, Georgia Peterson, Christina Kakoyannis, Karin Steffens

Issued December 1999

106 pages

The PDF file was provided courtesy of the Michigan State University Library

**Scroll down to view the publication.**

# RESEARCH REPORT



Michigan Agricultural  
Experiment Station  
Michigan State University

## *The Role of Natural Resources in Community and Regional Economic Stability in the Eastern Upper Peninsula*



Photo courtesy of Patrick D. Smith

---

# The Role of Natural Resources in Community and Regional Economic Stability in the Eastern Upper Peninsula

## Investigators:

Maureen McDonough  
Jim Stevens

Jeremy Fried  
Dan Stynes

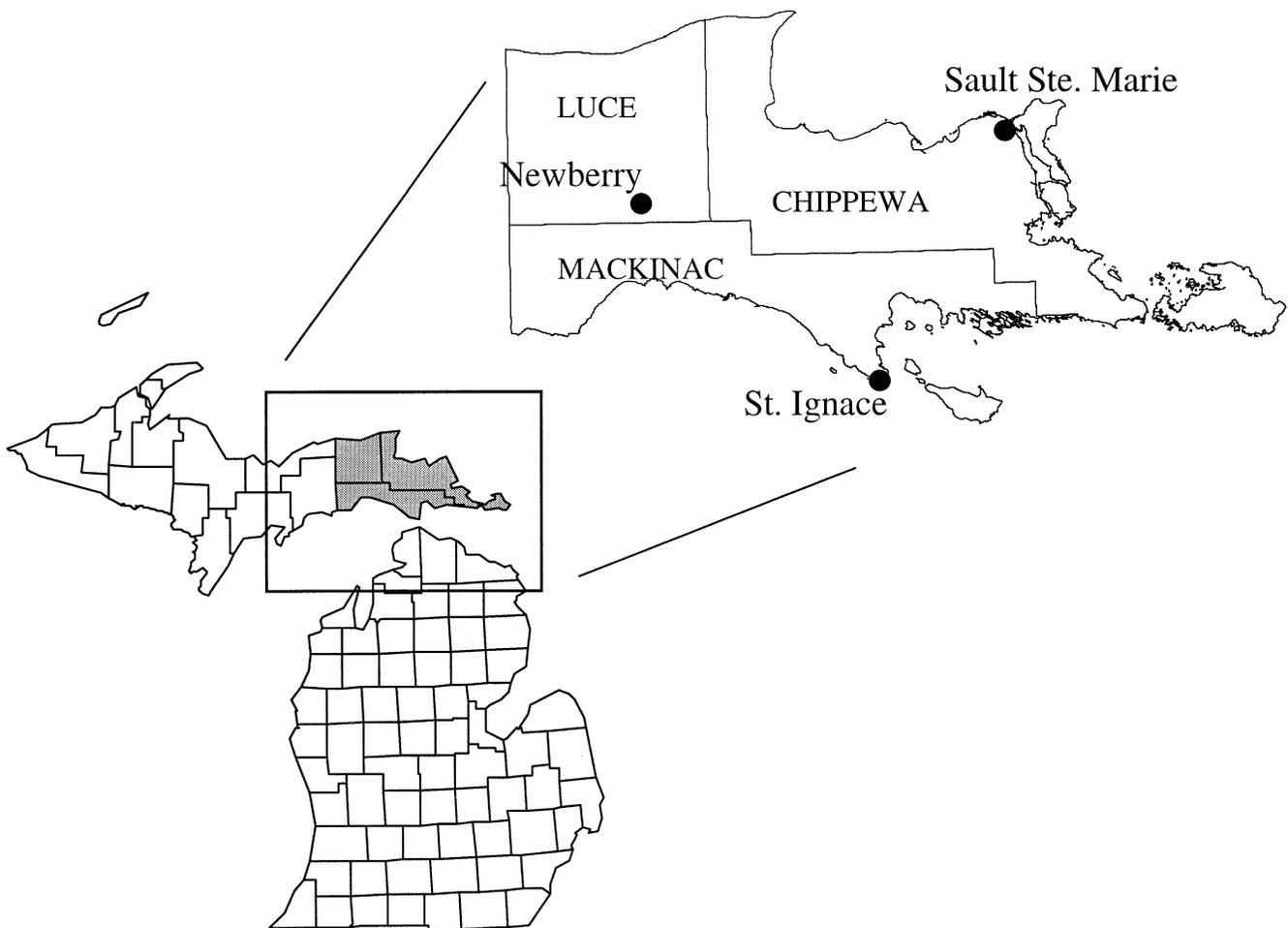
Karen Potter-Witter

## Research assistants:

Georgia Peterson

Christina Kakoyannis

Karin Steffens



# The Role of Natural Resources in Community and Regional Economic Stability in the Eastern Upper Peninsula

General outline	Author(s)	Page
<b>Chapter 1. Introduction</b> Overview of this Report Study Rationale Study Area: The Eastern Upper Peninsula Objectives of the Research Program Significant Events in the Eastern U.P.	Fried, McDonough and Stevens	1
<b>Chapter 2 Methods</b> The Eastern Upper Peninsula Data Sources Secondary Data Oral History and Focus Group Interviews Household Survey	McDonough, Kakoyannis and Fried	5
<b>Chapter 3. Population Profile</b> Demographic Profile and Comparisons Mail Survey Results Seasonal Homes and Permanent Homes Personal Values Personal Values among Different Demographic Segments Importance and Satisfaction Importance of Eastern U.P. Characteristics among Different Demographic Segments Satisfaction with Eastern U.P. Characteristics among Different Demographic Segments Determining Local Amenity Uses through Oral Histories and Focus Groups Summary	Kakoyannis, Peterson and Steffens	11
<b>Chapter 4a. General Profile of the Market Economy</b> Economic Overview Income Employment Value-added Residents' Perspective of Economic Events	Steffens and Stevens	27
<b>Chapter 4b. Natural Resources Economy</b> Eastern U.P. Land and Water Eastern U.P. Natural Resource Industries Wood Products Agriculture Commercial Fishing Mining Summary	Potter-Witter	35

General outline	Author(s)	Page
<b>Chapter 4c. Tourism</b>	Stynes	43
<ul style="list-style-type: none"> <li>Tourism Accommodations in the Eastern U.P.</li> <li>    1990 Tourism Spending Estimates</li> <li>    Tourism Spending Estimates for 1995</li> <li>Estimates of Tourism Sales from the 1993 and 1995 IMPLAN Data Files</li> <li>    Secondary Economic Effects of Tourism Spending</li> <li>    Tourism and Natural Resources</li> <li>Summary</li> <li>    Tourism</li> <li>    Outdoor Recreation</li> <li>    Seasonal Homes</li> </ul>		
<b>Chapter 5. Outdoor Activities</b>	Stynes and Kakoyannis	53
<ul style="list-style-type: none"> <li>Outdoor Recreation</li> <li>    Lake States Estimates of Recreation Participation</li> <li>    Participation in Outdoor Recreation Activities</li> <li>    Residents' Perceptions of Outdoor Recreation Activities</li> <li>Gathering and Harvesting of Natural Resources</li> <li>    The Extent of Natural Resource Use</li> <li>    Differences in Resource Use</li> <li>    Participation and Sharing</li> <li>    Trends in Gathering and Harvesting Activities</li> <li>    Trends in Natural Resource Use over Time</li> <li>    Importance of Natural Resource Use</li> <li>Summary</li> </ul>		
<b>Chapter 6. Perceptions of Change, Alternative Futures and Development Strategies</b>	Peterson	67
<ul style="list-style-type: none"> <li>Perceptions of Change</li> <li>    Perceptions of Conservation Projects</li> <li>Preferences for Future Development</li> <li>    Demographic Variations in Future Development Support</li> <li>Summary</li> </ul>		
<b>Chapter 7. Conclusion</b>	McDonough and Peterson	73
<b>Literature cited</b>		77
<b>Appendix</b>		79
<b>Household Mail Survey</b>		83

## List of Tables

Table	Title	Page
Table 1.1	Transformational events in the eastern U.P., 1957-1997.	3
Table 2.1	Variables by level of analysis.	5
Table 2.2	Secondary data sets used.	6
Table 2.3	Weight calculations.	8
Table 2.4	Demographic profiles of mail survey respondents compared with U.S. census data.	9
Table 3.1	Population by county, 1990.	11
Table 3.2	Occupied housing units.	13
Table 3.3	Population by gender and gender ratio.	14
Table 3.4	Ethnicity.	14
Table 3.5	Comparison of seasonal and permanent residents' characteristics.	16
Table 4.1	Median household income, 1990.	27
Table 4.2	Earnings, dividends, transfer payments as percent of total personal income (1994).	29
Table 4.3	Government payments to individuals as percent of total.	29
Table 4.4	Government payments (\$) by category per 1,000 population (1994).	30
Table 4.5	Percent of labor force in professional occupations.	30
Table 4.6	Percent adult women in labor force, 1990.	30
Table 4.7	Industry employment per category as percent of total industry output.	31
Table 4.8	Percent of labor force in agriculture, forestry, fishing and mining, 1990.	32
Table 4.9	Industry value-added (1,000) per category as percent of total industry output.	33
Table 4.10	Land use by county and type in percent.	35
Table 4.11	Water resources.	35
Table 4.12	Natural resources and tourism value-added (in millions of dollars) by county and industry category, 1995.	36
Table 4.13	Timber production by county, 1984 and 1994.	37

---

<b>Table</b>	<b>Title</b>	<b>Page</b>
Table 4.14	Wood products businesses by county and type, 1996.	38
Table 4.15	Wood products labor force by county and type, 1996.	38
Table 4.16	Overnight lodging capacity, 1990.	43
Table 4.17	Lodging room receipts by county, 1985-1995.	44
Table 4.18	Tourism spending in eastern U.P. by market segment, 1990.	45
Table 4.19	Tourism spending in eastern U.P. by market segment, 1995.	46
Table 4.20	Summary of tourism-related sales to final demand in eastern U.P., 1993.	47
Table 4.21	Summary of tourism-related sales to final demand in the eastern U.P., 1995.	47
Table 4.22	Summary of tourism-related employment in the eastern U.P. by county, 1995.	48
Table 4.23	Summary of tourism-related value-added by county in the eastern U.P., 1995.	48
Table 4.24	Economic impacts of tourism spending on the eastern U.P. economy, 1995.	49
Table 4.25	Sales effects of tourism spending by sector, 1995 (\$ millions).	49
Table 4.26	Income and employment effects of tourism spending on eastern U.P. economy by sector, 1995.	50
Table 5.1	Days of recreation participation for the eastern U.P. (1,000s of person-days).	54
Table 5.2	Participation in outdoor activities by segment.	55
Table 5.3	Favorite activities by segment.	56

---

## List of Figures

Figure	Title	Page
Figure 3.1	Population trend by county.	12
Figure 3.2	Percent of population 5 years old and older who migrated into and out of eastern U.P. counties between 1985 and 1990.	12
Figure 3.3	Population by age class by county.	13
Figure 3.4	Percent of population 65 years of age and older.	13
Figure 3.5	Trends in seasonal homes in the eastern U.P., 1940-1990.	14
Figure 3.6	Educational attainment.	15
Figure 3.7	Distribution of respondent (permanent and seasonal) residence.	15
Figure 3.8	Proportion of respondents who selected the following values as one of their three most important.	17
Figure 3.9	Differences in personal values among male and female respondents.	17
Figure 3.10	Differences in personal values among age groups.	18
Figure 3.11	Differences in personal values among income categories.	18
Figure 3.12	Differences in personal values among tenure groups.	19
Figure 3.13	Differences in personal values among those who are employed full-time and those who are retired.	19
Figure 3.14	Differences in personal values among seasonal and permanent residents.	20
Figure 3.15	Proportion of respondents who felt each characteristic was very important, and the proportion who were very satisfied with each.	20
Figure 3.16	Importance/satisfaction graph for eastern U.P. characteristics.	21
Figure 3.17	Differences in importance of eastern U.P. characteristics between males and females.	21
Figure 3.18	Differences in importance of eastern U.P. characteristics among age categories.	22
Figure 3.19	Differences in importance of eastern U.P. characteristics among income categories.	22
Figure 3.20	Differences in importance of eastern U.P. characteristics by length of residence.	23
Figure 3.21	Differences in importance of eastern U.P. characteristics between those employed full-time and those who are retired.	23
Figure 3.22	Differences in importance of eastern U.P. characteristics between permanent and (non-resident) seasonals.	24
Figure 3.23	Differences in satisfaction with eastern U.P. characteristics among age groups.	24

<b>Figure</b>	<b>Title</b>	<b>Page</b>
Figure 3.24	Differences in satisfaction with eastern U.P. characteristics among income groups.	25
Figure 3.25	Differences in satisfaction with eastern U.P. characteristics by length of residence.	25
Figure 3.26	Differences in satisfaction with eastern U.P. characteristics among those who are employed full-time and those who are retired.	26
Figure 3.27	Differences in satisfaction with eastern U.P. characteristics between permanent and seasonal non-residents.	26
Figure 4.1	Real per capita income by county (1982-1984=100).	27
Figure 4.2	Transfer payments per 1,000 population (1982-1984=100).	28
Figure 4.3	Number of persons below poverty per 1,000 population.	28
Figure 4.4	Annual unemployment rate.	29
Figure 4.5	Seasonal unemployment.	30
Figure 4.6	Earnings by place of work in Mackinac County.	31
Figure 4.7	Earnings by place of work in Chippewa County.	31
Figure 4.8	Earnings by place of work in Luce County.	32
Figure 4.9	Employment by county and industry category.	36
Figure 4.10	Timberland ownership by county, 1993.	37
Figure 4.11	Timberland by county, 1966, 1980 and 1993.	37
Figure 4.12	Wood products labor force in the eastern U.P.	38
Figure 4.13	Farm acres by year and county, eastern U.P.	40
Figure 4.14	Number of farms by county, 1930-1992.	40
Figure 4.15	Lodging receipts in eastern U.P., 1985-1995.	44
Figure 5.1	Percent of eastern U.P. households that participated in gathering and harvesting activities in the past year.	57
Figure 5.2	Percent of oral history interviews in which eastern U.P. respondents mentioned participating in a particular gathering or harvesting activity during their lives.	57
Figure 5.3	Percent of male and female respondents who conducted each gathering or harvesting activity in the past year.	59

*Continued on next page*

---

<b>Figure</b>	<b>Title</b>	<b>Page</b>
Figure 5.4	Percent of seasonal and permanent respondents of the eastern U.P. who conducted each gathering or harvesting activity in the past year.	59
Figure 6.1	Percent of respondents who feel each characteristic of the eastern U.P. has changed over the past five years.	67
Figure 6.2	Residents' likelihood of moving away from the eastern U.P. in the next five years.	69
Figure 6.3	Percent of respondents who support given strategies for the future of the eastern U.P.	69
Figure 6.4	Differences in support for development strategies between men and women.	70
Figure 6.5	Differences in support for development strategies among age groups.	70
Figure 6.6	Differences in support for development strategies among income groups.	71
Figure 6.7	Differences in support for development strategies by length of residence in the eastern U.P.	71
Figure 6.8	Differences in support for development strategies between those who are employed full-time and those who are retired.	72
Figure 6.9	Differences in support for development strategies between permanent and (non-resident) seasonals.	72
Figure 7.1	Objectives of each follow-up study for the eastern U.P.	76

---

# Chapter 1

## Introduction

### Overview of this Report

This bulletin describes a multidisciplinary, multiprotocol study of the natural resources-related values, perceptions, preferences and behaviors of people living in the eastern Upper Peninsula, a predominantly rural, natural resource-rich region of northern Michigan. This study was undertaken to obtain information critical for environmental and economic planning in this region, and to explore an integrated approach to such information gathering that could prove valuable in community and regional analyses of other places with rural character and strong linkages to natural resources. This chapter provides the rationale for undertaking this study at this time and at this place.

Chapter 2 presents a preliminary overview of the study area and describes the various research protocols employed to produce the findings included in this report. Combined evidence strategy was used to strengthen conclusions, relying on findings from analyses of secondary data, oral histories, focus groups and a widely distributed mail survey. This chapter also identifies the limitations of each kind of research protocol in the context of this kind of assessment.

Findings are presented beginning with Chapter 3, consisting of a profile of the eastern U.P.'s human populations today, including their demographics, values and attitudes towards natural resources and life in the eastern U.P., and their use of local amenities. Chapter 4 provides a snapshot of the region's current economic conditions, with an emphasis

on natural resource economies (both extractive industries such as timber and amenity-based ones such as recreation), and Chapter 5 focuses on participation of both local residents and visitors in outdoor activities, and on the gathering/harvesting activities of local residents. Residents' perceptions of recent changes in their region and visions and preferences concerning alternative economic and environmental futures are outlined in Chapter 6. The concluding chapter contains a summary and discussion of key findings and objectives for the second phase of this research. Detailed summaries of secondary data and primary data collection instruments are included in the appendices.

### Study Rationale

Though income generation and job opportunities in the eastern Upper Peninsula of Michigan have long been considered linked to the condition of the region's natural resources (McDonough, 1995; Potter-Witter, 1995; Stevens, 1995), recent demographic and economic trends suggest fundamental changes in the nature of these linkages. These trends also challenge area residents to reassess their preferences and perceptions concerning extractive/consumptive activities and the perpetuation of non-market resource values such as water quality, aesthetics and biodiversity. The future character of the region will be determined by a series of public and private choices, the wisdom of which can only be assessed in light of the answers to a multitude of questions that have not heretofore been asked, let alone answered. How do eastern U.P. residents regard the current condition

and use of local natural resources? Are some values toward natural resources widely held by eastern U.P. residents? If so, what are they, and how suitable are those values as a basis for decisions about how to instigate and direct economic and social change? What would they like to see change? What would they like to see not change?

Decisions about the future of this region will likely enjoy wider and more sustained support if they are guided by more than just biophysical conditions and potential of the region's ecosystems. They must also be guided by our best estimates of the direction of local economies as well as social and cultural aspects of the human communities that use and define the value of the region's natural resources. Researchers participating in "The Role of Natural Resources in Community and Regional Economic Stability," the multidisciplinary research program that generated the findings included in this report, seek an ecologically, economically and socially integrated answer to the questions: "What futures are possible, and what roles do natural resources play?"

Human communities have been responding and adapting to environmental changes for millennia. Yet only recently have questions been asked about which factors contribute to stability and improved community well-being (e.g., Humphreys et al., 1993; Machlis and Force, 1988; Schallau and Alston, 1987). Studies of resource-dependent communities and stability have focused on "boomtown" phenomena and conditions of persistent poverty (Freudenberg, 1992). A primary point of discussion in this literature is how to define

such terms as “resource dependency,” “community stability” and “community well-being” (Overdeest and Green, 1995; Fortmann, Kusel and Fairfax, 1989).

Research on the role of natural resources in regional and community economic well-being has been conducted for various resource-extractive and timber economies. The community well-being label has been linked to a diverse set of factors, from income and employment derived from natural resource-based industries to measures of social pathologies (Schallau, 1989; Fortmann and Fairfax, 1989). Dependency has been measured as the degree to which an economy relies on identified economic sectors to bring outside money into the economy. This may be defined as how much income or employment is provided by a basic economic sector (Schallau, 1994), the degree to which economic activity of the sector transfers new income to the region (DeVilbiss, 1992) or how changes in resource use affect the income of various groups within the community (Pyatt and Round, 1985). Communities may also be socially or culturally dependent on a natural resource economy. These dependencies contribute significantly to community capacity for change (Fortmann and Kusel, 1991; Freudenberg, 1992; Carroll and Lee, 1990). Because resource dependency and community well-being are viewed as multidimensional (Overdeest and Green, 1995), a comprehensive information-gathering effort is warranted.

Shifts in the relative importance of amenity vs. extractive resources are thought to be important indicators. Though many studies focus on various resource-extractive industries and issues of persistent poverty, Freudenberg and Gramling (1994) argue that there is a trend for traditional resource-based communities to move toward amenity-based economies (e.g., tourism or conservation) and that we know very little about the extent and causes of this phenomenon and the resulting

social and economic impacts on communities. For example, 14 timber-dependent counties in Washington were identified as having more than 10 percent of their employment in timber-related industries in 1980 (Cook, 1992). In that case, immigration of retirees drove the change in the economic bases. Similar forces are at work in Michigan, where the migration of senior citizens to non-metropolitan amenity areas “up north” is expected to significantly affect most of the state’s northern counties over the next 30 years (Stynes and Olivo, 1990).

If we are to assist natural resource-based Michigan communities in adapting to inevitable and profound changes in the structure of their economies, we must understand the relationship between community well-being and resource uses of all kinds, including amenity-based (e.g., seasonal homes, tourism and biodiversity existence values) and commodity-based (e.g., timber, fisheries, minerals) uses. In this study, we sought to integrate analyses of natural resource availability and industry impacts across levels (for instance, spatial scales) and to employ a variety of quantitative and qualitative research methods. There is some agreement that studies to date have been at inappropriate levels of analysis to account for the range of factors that influence resource-dependent communities (Machlis and Force, 1988), ranging from individual sense of place to national demands for forest products. Statewide or county information is available for some analyses, but many of the impacts of the management and utilization of natural resources are experienced at the household or community level. This study integrates analyses across household, community and regional scales, and reconciles quantitative and qualitative data across the levels of analysis.

## Study Area: The Eastern Upper Peninsula

The eastern Upper Peninsula of Michigan (Chippewa, Luce and Mackinac counties) offers a unique opportunity to study these issues. Its citizens face development decisions that will irrevocably influence both the biophysical environment and the structure and well-being of human communities. The biophysical resources of the region are well documented in the strategic plans for The Nature Conservancy (TNC) projects in the region (TNC, 1995a; TNC, 1995b). Land ownership is mixed; 51 percent is publicly held. Though extractive industries such as mining and timber are present, they generate far less controversy than developments along the Lake Huron shore (seasonal homes and habitat “enhancement” projects for sport fishing and hunting). These developments are at the heart of questions raised about the future health of the region’s ecosystems and human communities.

TNC has initiated two landscape-scale projects in this region to protect critical ecosystems while providing for the economic survival of the human communities. The Northern Lake Huron Bioserve Project in Mackinac and Chippewa counties focuses on the shoreline of Lake Huron; the Two Hearted River Landscape Ecosystem Conservation Plan is concerned with the wetlands and forests of Luce County (Figure 1.1). Both projects involve landscapes and ecosystem processes that remain largely intact or that can feasibly be restored. Both are challenged by changes in industry, population and culture.

The issue of how to allow for economic development in the context of natural resource conservation is critical in counties faced with serious economic challenges. Mackinac County’s unemployment rate of 18 percent is the highest in Michigan, followed by Luce County at 14 percent. Economic Research Service

county typology for Michigan identifies all three counties as government-dependent in jobs and income: government transfer payments account for more than 25 percent of personal income in these counties. The documented rise in seasonal home development in Chippewa and Mackinac counties and the potential for this in Luce County with the pending construction of the Lake Superior shoreline highway make this a timely opportunity to examine the questions concerning natural resources and community well-being.

## Objectives of the Research Program

This research project was designed to respond to issues identified during a unique assessment effort conducted by the Michigan Agricultural Experiment Station and Michigan State University: the Status and Potential of Michigan's Natural Resources. Based on this assessment and the specific issues outlined above, five objectives were identified:

1. To determine the values of those living in eastern U.P. communities and to identify how those values are expressed as preferences and behaviors related to plant and animal biodiversity, water quality and land use (Fridgen, 1995).
2. To determine the natural resource dependency of communities in the eastern U.P. and identify differences in economic and sociological factors between those communities and those with other economic bases (Potter-Witter, 1995).
3. To determine the degree to which the wood product- and tourism-based economies of the eastern Upper Peninsula are sustainable (Stevens, 1995).
4. To determine the impact on communities of changes in resource availability and transition from one form of resource dependency to another (e.g., amenity resources, seasonal home development, conservation activities) (McDonough, 1995).
5. To forecast alternative futures for the eastern U.P. and predict impacts of changes in natural resource availability and quality.

As a summary of initial findings about the current condition of the eastern U.P., this document represents only the first step in addressing these objectives. Follow-up studies designed to respond to these specific objectives are currently underway.

## Significant Events in the Eastern U.P.

Much of the flavor of the study region and its social and economic context can be gleaned from reviewing significant events that have occurred there over the past 40 years (Table 1.1). The importance of some of these events was confirmed by oral history interviews conducted for this project. Two questions were asked: "What events have you seen that have had a great impact on your county?" and "How did these events impact your county?" In response, the five events most often mentioned as having a great impact on the eastern U.P. were (1) the closing of the air force base at Kinross, (2) building new prisons, (3) developing casinos, (4) increased tourism from snow-mobilers and (5) the changing economics of farming. Nos. 2, 3 and 4

were considered events that brought money and jobs to the region, and that did so independently of traditional extractive natural resource industries. In 42 percent of the oral history interviews, respondents commented that the prisons built at Kinross and the prison built in Newberry provided many jobs with good pay and benefits, and that they therefore represented a positive economic contribution to the area. One man in Mackinac County described the effect of the prisons: "[The prison] has enabled a lot of young people...men and women...to stay in our area, so the prison system has impacted our area in that it has allowed people to have jobs, high security jobs, pensions, good wages." Ten percent of the respondents also cited an increase in crime as one of the impacts of the prisons. Many believed that the families of prisoners that moved to the Kinross area have brought new values and contributed to an increase in crime and other social problems.

Casinos were second only to new prisons in the degree to which they were perceived to have affected the region. The most frequently mentioned impacts were increases in jobs, increases in tourism and the injection of money into the region. One man in Chippewa County remarked, "It's gigantic and it is providing an awful lot of employment for people."

**Table 1.1. Transformational events in the eastern U.P., 1957-1997.**

Year(s)	Event
1957	Opening of Mackinac Bridge
1975-1976	Kincheloe Air Force Base closed (Kinross, Chippewa County)
1978	Opening of first prison in Kinross on former Air Force base
1980	Heavy layoffs at State Regional Mental Health Center in Newberry (Luce County)
1985	Native Americans gain commercial fishing rights
1992	Mental health facility closed in Newberry (Luce County)
1995	Sault Tribe decision to expand casino and hotel complex
1996	Newberry prison officially opened (Luce County)

The fourth most important current event for eastern U.P. residents was tourism generated by snowmobilers. Residents remarked that tourism from snowmobilers has greatly increased in recent years and has brought money into the county. A man from Luce County commented on the impact of snowmobilers in the eastern U.P.: *"The snowmobile craze is just absolutely fantastic for restaurants and gas stations and selling all sorts of snowmobile supplies. It's just fantastic. Some of the guys say they're actually busier in the wintertime than they are in the summertime."* Though increased tourism tended to be regarded favorably, many people noted a consideration long accepted by economists and regional analysts: tourism jobs are less desirable than prison jobs because they are seasonal (less stable), lower paying and less likely to provide fringe benefits.

Another event widely mentioned was the changing economics of farming. One-fourth of the oral history interview respondents stated that the combination of high costs for inputs such as feed and equipment and low prices for farm products has made farming an unsustainable enterprise. As a result, abandonment and farmland sales are on the rise. A farmer from Chippewa County reflected, *"I remember back in the '50s in this three-mile block right here, there was 23 guys milking cows...today, there's two of us."* To compete in the market, the remaining farms have grown larger. Of the top five most-cited events, the declining ability to farm was the only one that was not regarded as having a large impact upon money and jobs. Instead, people were saddened that a way of life was disappearing, albeit one that employed a

relatively small proportion of eastern U.P. residents.

Some of the events recalled in these interviews had important impacts on the region at some time in the past. The closing of the air base at Kinross was mentioned as having had a great economic impact upon Chippewa County. People declared that many jobs were lost and the area became economically depressed when Kincheloe air base closed down in the mid-1970s. In Luce County, people were disappointed at the closing of the mental health facility in 1992. Respondents asserted that, as a result of the closing, many jobs were lost, the population of Newberry declined, and stores that had depended on the income generated from the mental health facility had to close.

# Chapter 2

## Methods

### The Eastern Upper Peninsula

The eastern Upper Peninsula offers a unique opportunity to study issues of natural resources communities in transition. The communities of this region are faced with development decisions that will have serious long-term consequences for the biophysical environment and the human communities that live there. The three counties of the eastern U.P. are Chippewa, Luce and Mackinac (Figures 2.1 and 2.2).

Chippewa County, with its county seat in Sault Ste. Marie, is the easternmost county in Michigan's Upper Peninsula. It borders Canada, to which it is connected by the International Bridge at Sault Ste. Marie. Chippewa County has shoreline on Lake Superior and includes several islands, the largest of which is Drummond Island (87,000 acres). Major highways include I-75, which provides access between Canada and Michigan's Lower Peninsula, M-48, M-129, M-134, M-22 and M-123. State highway 28 connects Chippewa with Luce County.

Luce County has its county seat in Newberry and is located on Lake Superior west of Chippewa County. A prominent natural feature and tourist attraction of the county is Tahquamenon Falls. Highway M-117 connects Luce County with Mackinac County, which is just to the south and east of Luce.

Mackinac County's seat is in St. Ignace, on the northern end of the Mackinac Bridge. The bridge, completed in 1957, connects the Upper Peninsula with the rest of the state. This county includes a major tourist attraction, Mackinac Island, in the Straits of Mackinac, which connect Lake Michigan with Lake Huron.

The Les Cheneaux Islands, another tourist and seasonal home location, are also located in Mackinac County. Major highways, besides M-117, are US-2, M-134, I-75 and M-129, the last three of which connect it to Chippewa County to the north and east, and M-123, which connects it to both of the other counties in the eastern U.P.

### Data Sources

Data came from three sources: secondary data, oral history and focus group interviews, and a mailed household survey. This section briefly outlines the methods that were used to obtain information from each of these sources (Table 2.1).

### Secondary Data

A summary (Table 2.2) describes the secondary data sources used in

this document. The information was compiled across categories for a single year or for multiple categories over several years. Some data were aggregated into more general categories to illustrate a certain point or were aggregated across different regions of interest in the research.

### Oral History and Focus Group Interviews

Qualitative procedures such as oral history and focus group interviews are well suited for conducting exploratory research. Qualitative research is often used to complement quantitative research because the unstructured format of qualitative interviews allows a greater chance of discovering variables and themes that were not expected at the start of the project. In this project, the data obtained from qualitative procedures are being used to complement

**Table 2.1. Variables by level of analysis.**

HOUSEHOLD	COMMUNITY	REGION
<p><b>Oral histories:</b></p> <ul style="list-style-type: none"> <li>• resource use over time</li> <li>• perceptions of changes in resource availability</li> </ul> <p><b>Surveys:</b></p> <ul style="list-style-type: none"> <li>• values for local natural resources</li> <li>• perceptions of natural resource availability</li> <li>• perceptions of local control over natural resources</li> <li>• use of natural resources</li> <li>• economic dependency on natural resources</li> <li>• preferences for specific resource attributes</li> </ul>	<p><b>Focus groups:</b></p> <ul style="list-style-type: none"> <li>• resource meanings and knowledge</li> <li>• images of the future</li> <li>• perceptions of natural resource roles</li> </ul> <p><b>Secondary data:</b></p> <ul style="list-style-type: none"> <li>• resource production</li> <li>• land ownership and tenure</li> <li>• economic base and structure</li> <li>• demographics</li> <li>• institutions</li> </ul>	<p><b>Secondary data:</b></p> <ul style="list-style-type: none"> <li>• demographics</li> <li>• migration</li> <li>• housing</li> <li>• firms, income and employment by sector</li> <li>• price, production and sales trends</li> <li>• capital investment, infrastructure and construction</li> <li>• employment, income impacts</li> <li>• transfer payments</li> <li>• dependency and diversity</li> <li>• trade flows</li> </ul>

**Table 2.2. Secondary data sets used.**

Regional Economic Information System (REIS)	
U.S. Bureau of the Census:	
Census of Agriculture	County Business Patterns
Census of Population and Housing	Bureau of Labor Statistics
County Statistics	Bureau of Economic Analysis
County and City Data Book	
Impact Analysis for Planning (IMPLAN)	
Michigan Travel, Tourism and Recreation Resources	
Michigan Employment Security Commission (MESOC)	

quantitative components and also to confirm the validity of some of the secondary data. One of the major reasons for conducting these interviews was to learn what issues were most important to the residents and then to use that information in the quantitative instrument design. Using the data obtained from qualitative interviews made the design of the household survey more relevant for eastern U.P. residents.

Not only can qualitative data help to structure the subsequent quantitative instruments, but the data obtained from qualitative approaches help reveal perspectives that cannot be obtained from quantitative data alone. Through the rich, thorough descriptions of the respondents, the researcher better understands the meanings that lie behind human behavior (Yow, 1994). Qualitative data provide a context of people's activities and behaviors (Marshall and Rossman, 1989).

Qualitative methods such as oral history interviews and focus groups have certain advantages and disadvantages over quantitative studies such as surveys. Because the interview is less structured by the researcher than in a quantitative format, the subject can more freely respond to questions and better reflect what he or she is really thinking. In fact, Marshall and Rossman (1989) declare that this is an important assumption of qualitative research—that “the participants' perspective on the social phenomenon of

interest should unfold as the participant views it, not as the researcher views it.” A personal interview also allows the interviewer to immediately follow up on an interesting response or to ask more specific questions to clarify a particular response. In addition, there is a benefit obtained from simply spending time in the study location and speaking directly with the residents and observing non-verbal cues and behavior (Marshall and Rossman, 1989).

Qualitative interviews also have disadvantages: data may be misinterpreted because of cultural differences, data are impossible to replicate exactly, it is very difficult for the researcher to control bias and the data are not generalizable. Some of these issues have been addressed by qualitative researchers. For instance, qualitative researchers are not as concerned as researchers in other traditional sciences about replicability because situations, events and perspectives change. Concerns about reliability of data may be addressed by allowing other researchers to scrutinize the procedures and protocols that were used (Marshall and Rossman, 1989). In addition, bias may be controlled by having another individual critically examine the analyses of the researcher. Finally, in an article on single case studies, Kennedy (1978) discussed the issue of case study findings becoming generalized. The author noted that, though there are no widely accepted

procedures for generalizing from case studies to a similar group of people, the onus of generalizability in this case falls upon the user who would make that connection, not on the researcher who generated the data. Though qualitative interviews require subjective judgment by researchers, the author observed that judgment is often also used in designing the sample and determining which statistical methods to use in multiple case studies.

### Oral History Interviews

To learn about resource use over time, values for local natural resources and natural resource concerns, oral history interviews were conducted with long-time permanent and seasonal residents of the eastern U.P. during the spring and summer of 1996. Oral history interviews are personal interviews in which an individual responds to a few open-ended questions in the format of a regular conversation. In this case, the sample frame for these interviews was obtained using a key informant sampling approach. County Extension directors and other individuals from the three counties contributed lists of long-time permanent residents, seasonal residents and tribal members. Only long-time residents were chosen because it was important to obtain a list of residents whose experience encompassed an extended period of time. Residents who have lived in these counties for many years have a much longer perspective on changes in natural resource use and availability than short-term residents.

From the compiled list of long-time permanent residents, 46 individuals, stratified by population size in the three counties, were chosen. As a result, 30 individuals in Chippewa County, 10 individuals in Mackinac County, and six individuals in Luce County were randomly sampled. To ensure that the opinions of the Native American tribes were represented, five tribal members were interviewed. In addition, because of the large percentage of the homes in these counties that are used seasonally, 12 long-time seasonal residents

were also interviewed. In all, 63 long-time permanent and seasonal residents were interviewed using the oral history interview method. Out of the 63 interviews, 38 percent were conducted with a male respondent only, 32 percent were conducted with a female respondent only, and 30 percent were conducted with both a male and a female respondent, usually a husband and wife. The greatest discrepancy between male and female participants occurred in Chippewa County, where the sampling frame listed only the husband's name. A greater percentage of female respondents was observed for interviews with both Chippewa and Bay Mills tribal members and for seasonal residents. For residents of Luce and Mackinac counties, the male/female respondent ratio was relatively even.

Except for one participant, all long-time seasonal residents lived on waterfront property on either inland lakes or on one of the Great Lakes. Only four of the 30 permanent residents owned homes on the waterfront. Fifty percent of the seasonal residents interviewed lived on Sugar, Neebish or Drummond Island, or the Les Cheneaux islands.

Individuals chosen for the study were sent an initial contact letter informing them of the project, which was followed by a telephone call to schedule the interview if they were willing to participate. Respondents were asked open-ended questions designed to evoke their opinions on various topics (see Appendix). Depending on the experiences of the individual respondent, an interview lasted anywhere from 45 minutes to two hours.

### Focus Group Interviews

Focus group interviews are interviews in which a few open-ended questions are discussed among a group of people. The group setting allows participants to respond to comments of other participants, either to expand that response or to express a conflicting opinion. Nine focus groups were conducted with local organizations from the eastern

U.P. during the fall of 1996. Already established organizations were interviewed to facilitate the scheduling of the focus group interviews and to obtain a relatively homogeneous group of people. The sample frame for the focus group interviews was obtained from lists of organizations in township halls. Focus group interviews lasted between 45 minutes and two hours. Questions for the focus group interviews differed slightly from the oral history interview questions (see Appendix).

### Oral History and Focus Group Interview Analysis

Each oral history and focus group interview was recorded on audiocassette tapes and was later transcribed. The transcribed interviews were analyzed for responses to the open-ended questions to examine the most commonly mentioned topics. To avoid discussing items that were rarely mentioned by eastern U.P. residents, trends or patterns are described in this document only if a certain topic was mentioned in at least 10 percent of the interviews. A cutoff of 10 percent was chosen because, on closer inspection of the data, this percent appeared to include those responses cited fairly often but did not include those responses mentioned by only a few residents.

### Household Survey

The third stage of the eastern U.P. project consisted of a mail survey designed to assess widespread trends in permanent and seasonal residents' opinions toward natural resource-related issues as well as the individual and household characteristics of these residents. A sample of 1,541 residents was selected (1,042 permanent and 499 [non-resident] seasonal) from listings of Cloverland, Edison-Soo and Newberry power company customers. These lists were used instead of mail addresses to acquire an adequate sample of seasonal residents who did not have permanent addresses in the eastern U.P. A power company customer was considered a seasonal resident if s/he received one electric bill for the entire year, the assumption

being that a non-resident customer uses substantially less electricity for a seasonal property.

Weights were assigned to each case when compiling survey results to adjust the sample to the geographic distribution of housing units in the eastern U.P., based on the 1990 Census of Housing. Weights were assigned for eight strata defined by county (with Sault Ste. Marie split out as a separate stratum) and seasonal vs. permanent residences. Ninety-three cases with bad or missing zip codes were excluded, as we could not identify a location in the eastern U.P. for either a permanent or seasonal home. Weights are computed by dividing the number of housing units from the 1990 census by the number of valid cases in each stratum (Table 2.3).

Each response from a permanent resident of the eastern U.P. represents 45 households; each seasonal home response represents 32 seasonal properties. The weights are highest for permanent homes in Sault Ste. Marie, where properties were intentionally sampled at half the rate of the rest of the region (because of its high population in relation to the rest of the region). The permanent home weight is also higher for Chippewa County, presumably because of some discrepancies between census and zip code boundaries around Sault Ste. Marie.

There were 159 permanent eastern U.P. residents sampled who also owned seasonal homes in the eastern U.P. These respondents reported information about both their permanent and seasonal homes, so it could not be determined which of the two properties was sampled. Half of these cases were therefore assigned to the permanent resident sample and half to the seasonal sample for the purpose of computing weights. Applying the weights to the final data file expands the sample to the population of housing units in the eastern U.P. and yields the correct geographic distribution of households based on 1990 census data. The weights also adjust for some small variations in response rates across counties.

**Table 2.3. Weight calculations.**

	Seasonal	Permanent	Total
<b>Number of properties in the sample<sup>a</sup></b>			
Chippewa (excluding Sault Ste. Marie)	125	127	252
Luce	51	96	147
Mackinac	124	151	274
Sault Ste. Marie	10	90	101
Total	310	464	774
<b>Housing units from 1990 census</b>			
Chippewa (excluding Sault Ste. Marie)	4,745	7,265	12,010
Luce	1,112	2,482	3,594
Mackinac	4,039	5,215	9,254
Sault Ste. Marie	42	5,971	6,013
Total	9,938	20,933	30,871
<b>Weights<sup>b</sup></b>			
Chippewa (excluding Sault Ste. Marie)	38.0	57.2	
Luce	21.8	25.9	
Mackinac	32.6	34.5	
Sault Ste. Marie	4.2	66.3	
Total	32.1	45.1	

<sup>a</sup> 93 cases with missing or bad zip codes were omitted from the weight calculations and also from any weighted analyses.

<sup>b</sup> Weight obtained by dividing number of housing units by number of survey responses.

Most analyses describe households or individuals in the eastern U.P., not properties. Eastern U.P. residents who also own seasonal homes in the region are further weighted by a factor of one-half in these analyses, as they would have twice the chance of being sampled as others (at either their permanent or seasonal property). We should also note that, though the sample was drawn from a sampling frame of utility customers that distinguished permanent and seasonal customers, cases are classified based on the response to the survey question on whether the owner was a permanent resident of the eastern U.P. There is some variation in how the respondents, utility companies and census distinguish a seasonal from a permanent home. Our sample is adjusted to the official census counts of seasonal vs. permanent homes.

The surveys were mailed during the second week of March 1997. Reminder cards were sent three weeks later. Any respondents who did not return a completed survey

three weeks after the reminder cards were sent another questionnaire. A total of 615 questionnaires were returned after the first round; another 257 were returned after the second set of questionnaires was sent. This resulted in 872 completed surveys, or a 54.5 percent response rate. The survey results were weighted to reflect the original distribution of residents in townships in the eastern U.P. as noted in the 1990 census. A written copy of the survey is provided in the Appendix.

### Non-response Bias and Representativeness of Respondents

Because the sample was drawn on the basis of geographic distribution of housing units, a non-response analysis was done to determine whether there were significant differences between respondents and non-respondents based on place of residence. There are no significant differences between respondents and non-respondents based on residence aggregated by county.

The demographic profiles of the mail survey respondents were compared with the 1990 census data to examine differences between the survey respondents and the populations of the eastern U.P. (Table 2.4). Permanent residents are separated from non-resident seasonal respondents because the census would not reflect the demographic distribution of those who do not live in the eastern U.P. permanently.

### *Population by County (Non-resident Seasonals Not Included)*

Because Chippewa County dominates the eastern U.P. in population numbers, fewer residents in that county were sampled. Therefore, larger proportions of residents in Luce and Mackinac counties are found in the mail survey. Luce County still contains the smallest proportion of respondents and constitutes a little over 20 percent of the sample. Residents of Chippewa County make up nearly half of the respondents.

**Table 2.4. Demographic profiles of mail survey respondents compared with U.S. census data.**

	Residents (survey)	Non-residents (survey)	U.S. census (1990)
<b>County distribution</b>			
Chippewa	47.5		67.8
Luce	21.0		11.3
Mackinac	31.5		20.9
<b>Age distribution</b>			
18-24	0.8	0.4	17.5
25-44	26.8	18.5	43.8
45-54	18.4	28.2	11.2
55-64	22.2	26.4	16.4
65+	31.9	26.4	16.4
<b>Gender distribution</b>			
Male	67.7	71.3	53.6
Female	32.3	28.7	46.4
<b>Education distribution</b>			
< 9th grade	3.5	2.2	11.4
Some high school	9.2	0.9	17.1
High school graduate	32.3	22.6	39.6
Some college	25.2	26.1	16.4
Associate's degree	5.4	6.6	5.3
Bachelor's degree	13.5	18.1	6.9
Graduate degree	11.0	23.5	3.3
<b>Income distribution</b>			
< \$15,000	9.7	2.2	35.4
\$15k-24,999	17.7	6.1	23.5
\$25k-34,999	20.5	11.4	18.1
\$35k-49,999	14.7	14.5	13.7
\$50k-74,999	13.2	22.4	6.8
\$75k-100,000	5.0	14.0	1.5
> \$100,000	4.5	16.7	1.1

**Age Distribution**

The age distribution graph shows that there is a severe underrepresentation of respondents (both permanent and seasonal) who are between the ages of 18 and 24 and an overrepresentation of respondents who are 45 or older. Although the instructions in the survey asked that the member of the household who had his/her most recent birthday fill out the survey (to randomize who responded to the survey), it would seem that these instructions were not effective. Over half of the survey sample (both resi-

dent and non-resident seasonal) is over the age of 55. There is a much greater proportion of non-resident seasonals in the 45-54 age category.

**Gender Distribution**

There is a slightly higher proportion of males to females in the eastern U.P. because the census includes inmates residing in the area's prison system. However, both the permanent resident and non-resident seasonal samples had a much greater proportion of males—about 70 percent of each group. As with the age

distribution, it seems that the “last birthday method” was not effective in getting a representative distribution of respondents.

**Education**

Respondents to the survey who are permanent residents are overrepresented by those with a higher education. Non-resident seasonals have a much higher proportion of college-educated respondents (approximately 45 percent have at least a bachelor's degree), which may reflect actual trends in the type of individuals who

have second homes in the eastern U.P. or may only be a reflection of who responds to these types of surveys.

*Income*

Respondent samples included fewer households with lower incomes. The resident sample generally follows census distributions, though nearly one quarter still have incomes over \$50,000. However, the

non-resident seasonal respondents are nearly a mirror opposite to the eastern U.P. census. This is clearly a factor of being able to afford a second home that is a significant distance from the permanent residence.

# Chapter 3

## Population Profile

This chapter describes various characteristics of the people who live in the eastern U.P. The first section uses the 1990 Census of Population and Housing and Regional Economic Information System (REIS) to illustrate the demographic makeup of the region by county and compares it with statewide figures. The second section describes detailed results from the 1997 eastern U.P. mail survey, including comparisons between seasonal and permanent residents, their personal values, perceived importance of various eastern U.P. characteristics and satisfaction with those characteristics. This second section also uses the oral history interviews to identify the amenities in the region that make it especially appealing to various resident groups. Examining these various aspects provides a clearer picture of residents and their attitudes toward conditions of the region.

### Demographic Profile and Comparisons

*"I think...one thing that I really like is the friendliness of the people. You are one big family."* –Seasonal resident, Neebish Island

The demographic section describes the overall population characteristics of the eastern Upper Peninsula (EUP)

and provides various data on the population in total numbers as well as percentages. The demographic makeup of the eastern U.P. is described both by county and by region. Data are provided for the total population, population of county seats/major population centers, age composition, institutionalized population, gender, ethnicity, housing units, in- and out-migration, educational attainment and rural-urban structure.

The eastern U.P. has a small population, making up only 0.6 percent of the total population in Michigan (Table 3.1). Chippewa County's population is more than three times that of the other two counties. The county seats are the largest population centers in each county. Sault Ste. Marie is the largest city in the eastern U.P. (population 14,689), located in Chippewa County. St. Ignace, Mackinac County's county seat, has a population of 2,568. Luce County's seat, Newberry, is incorporated as a village with a population of 1,873 (U.S. census, 1990). Luce County is 100 percent rural, which means that there is no town with 2,500 people or more. Mackinac County is a little less rural, with 75.9 percent of its population living in rural areas. Chippewa County is less rural than Mackinac and Luce counties, but compared with the Michigan figure of 29.5 per-

cent, the population in Chippewa County is still predominantly rural at 57.6 percent

The population has remained relatively stable over the years since 1969 (Figure 3.1). The significant drop in population in Chippewa County in the late 1970s may be explained by the closing of the Kincheloe Air Force Base in Kinross. The rise in population in subsequent years may be partially explained by the establishment of prisons on the former air base and the ensuing transfer of prisoners to the county. Consequently, Chippewa County has a high institutionalized population. In 1990, 4,230 persons (12.2 percent of the total population in the county) were institutionalized, primarily in Kinross facilities.

Figure 3.2 reinforces the stability of the eastern U.P. population. Except for Chippewa County, the eastern U.P. has a substantial proportion of individuals who did not move between 1985 and 1990. The pattern for Chippewa County, the lower proportion of non-movers and the relatively high proportion of individuals who moved from other counties may be explained by its large prison population.

The age distributions for the three counties differ in that Chippewa County is more similar to the overall Michigan distribution than are Luce

Table 3.1. Population by county, 1990.

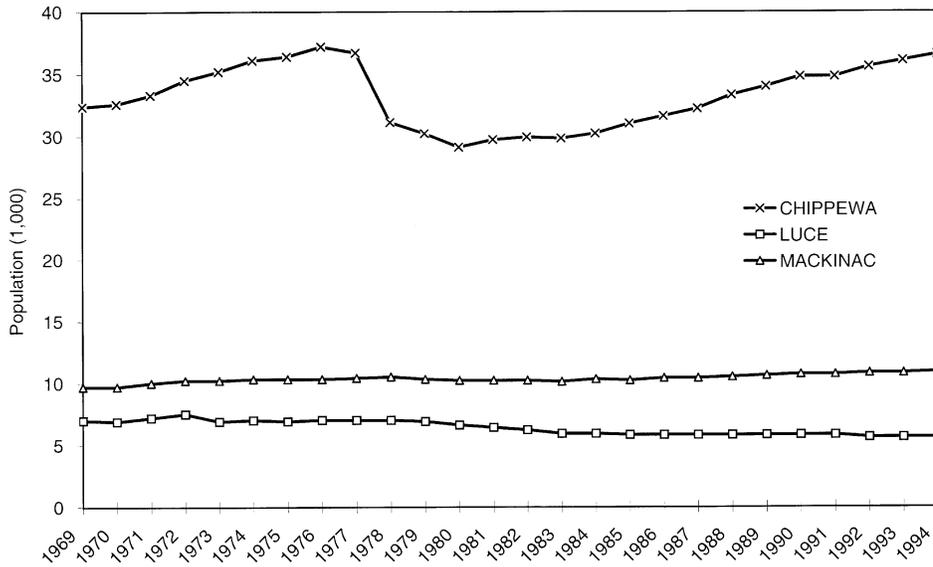
	Total population	Population as a % of Michigan population	Population as a % of EUP population
Chippewa	34,604	0.4%	68%
Luce	5,763	0.1%	11%
Mackinac	10,674	0.1%	21%
Eastern U.P.	51,041	0.6%	

Source: U.S. census, 1990

and Mackinac counties (Figure 3.3). Luce and Mackinac counties have a similar distribution, with a larger proportion of older residents.

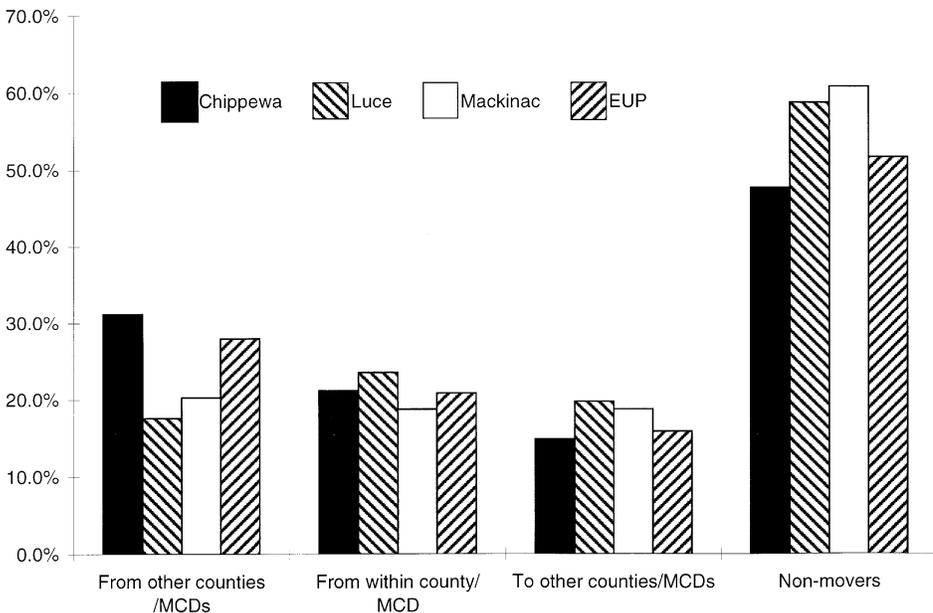
The proportion of Michigan residents at or around retirement age (over 64 years old) is approximately 12 percent (Figure 3.4). Inspection of

**Figure 3.1 Population trend by county.**



Source: REIS (1970-1994)

**Figure 3.2 Percent of population 5 years old and older who migrated into and out of eastern U.P. counties between 1985 and 1990 (MCD= Major Civil Division).**



Source: U.S. census, 1990

the data for Figure 3.5 reveals that Luce and Mackinac counties have much higher proportions. The eastern U.P. has become an attractive area for retirement homes, and these figures may reflect a trend toward an increasing influx of retirees to the region. However, the higher than state-level percentage of older residents may also reflect the fact that jobs are scarce for younger people, who often must leave the area for better employment opportunities.

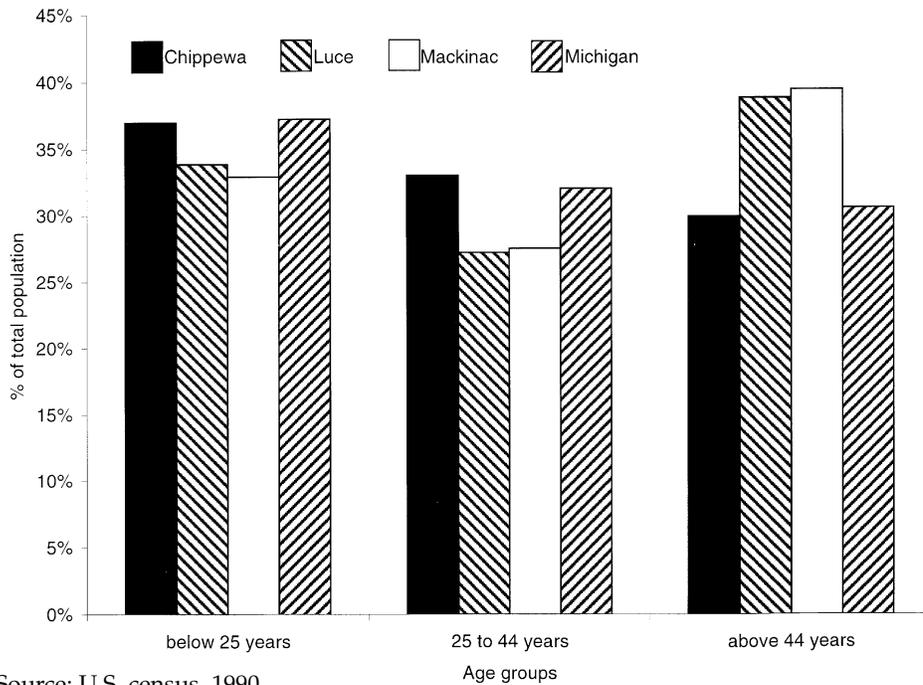
The eastern U.P. has a higher proportion of owner-occupied housing units than the state of Michigan—74.7 percent and 71 percent, respectively (Table 3.2). Luce County has the highest proportion with 79.1 percent.

The eastern U.P. contained almost 10,000 seasonal homes in 1990, representing about a third of all housing units. Seasonal homes are 44 percent of all housing units in Mackinac County, 31 percent in Luce County and 27 percent in Chippewa County (Figure 3.5). Seasonal homes are concentrated in coastal areas and around inland lakes and streams. Seasonal homes make up more than 50 percent of the housing units in 13 of the region's 31 townships and exceed 60 percent in Bay Mills, Chippewa, Drummond, Whitefish and Bois Blanc townships.

The number of seasonal homes in the region grew by about 3,000 per decade from 1940 to 1960 and by about 1,000 per decade since 1960 (Figure 3.5). Over this period, the character of seasonal homes has changed dramatically from rough cabins to expensive waterfront homes. With the reduction in property taxes for homesteads and the growing values of seasonal homes, seasonal homeowners pay about half of the taxes on residential property in the eastern U.P. and more than a fourth of all property taxes.

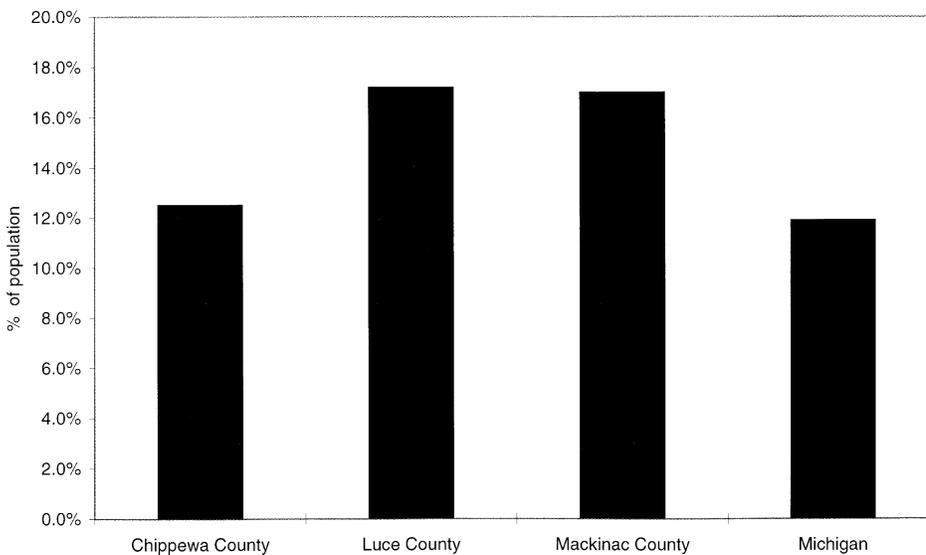
The slight majority of females in Luce and Mackinac counties is similar to the state of Michigan average (Table 3.3). Again, the fact that the gender ratio for Chippewa County is so different (0.8) can be explained by the large male prison population.

**Figure 3.3 Population by age class by county.**



Source: U.S. census, 1990

**Figure 3.4 Percent of population 65 years of age and older.**



Source: U.S. census, 1990

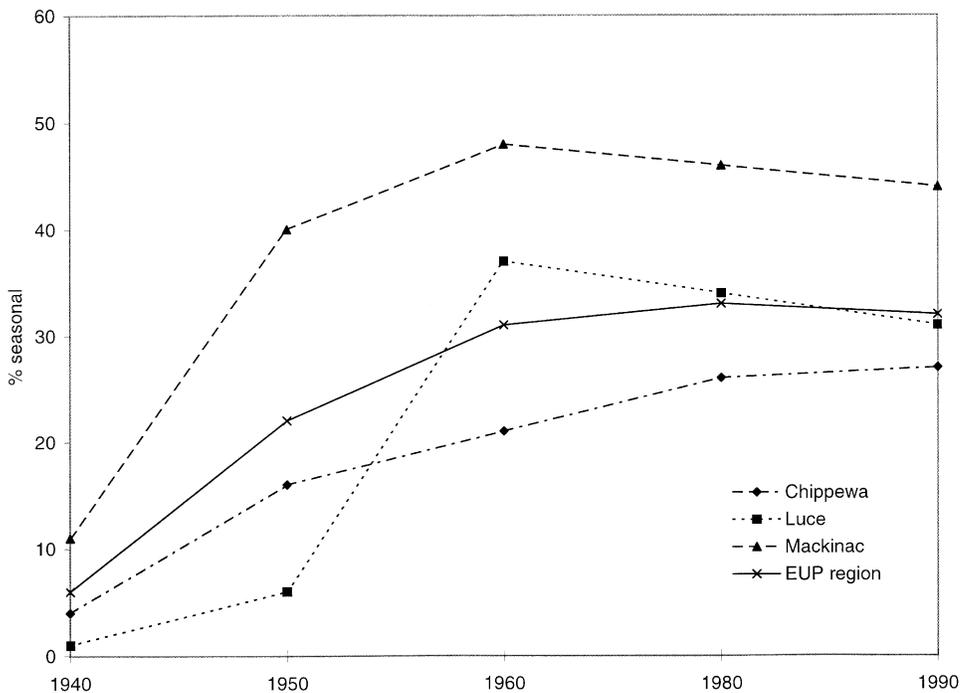
The ethnic composition of two of the three counties differs markedly from the state as a whole (Table 3.4). More than 80 percent of the population in each county is white. American Indians make up a significant proportion of the population, especially for Chippewa and Mackinac counties. The relatively lower percentage for Luce County is likely due to the absence of an American Indian reservation. Michigan has a large African American population (13.9 percent), but the only African American population in the eastern U.P. resides in Chippewa County (6.3 percent) primarily because of the institutionalized population

The pattern of educational attainment levels in the eastern U.P. counties is somewhat lower than for the state of Michigan as a whole (Figure 3.6). There is a major peak at the high school graduate level. The three counties show higher percentages for the levels below high school graduate and lower percentages above that level. Of the three counties, Chippewa County most closely approaches the levels for the state of Michigan. This may be due to the fact that Sault Ste. Marie, Chippewa County's urban center, offers more employment opportunities for more highly educated individuals than are available in either Luce or Mackinac counties.

**Table 3.2 Occupied housing units.**

	Occupied housing units	Owner-occupied	Renter-occupied
Chippewa	11,541	73.4%	26.6%
Luce	2,154	79.1%	20.9%
Mackinac	4,240	76.0%	24.0%
EUP	17,935	74.7%	25.3%
Michigan	3,419,331	71.0%	29.0%

Source: U.S. census, 1990

**Figure 3.5 Trends in seasonal homes in the eastern U.P., 1940-1990.**

Source: 1990 Census of Population and Housing

**Table 3.3. Population by gender and gender ratio.**

	Male	Female	Female/male ratio
Chippewa	19,192	15,412	0.80
Luce	2,828	2,935	1.04
Mackinac	5,284	5,390	1.02
Michigan	4,512,781	4,782,516	1.06

Source: U.S. census, 1990

**Table 3.4. Ethnicity.**

	Percent white	Percent black	Percent American Indian	Percent Asian	Percent other races
Chippewa	81.9%	6.3%	11.0%	0.4%	0.3%
Luce	94.0%	0	5.7%	0.1%	0.1%
Mackinac	83.9%	0	15.8%	0.1%	0.1%
Michigan	83.4%	13.9%	0.6%	1.1%	0.9%

Source: U.S. census, 1990

## Mail Survey Results

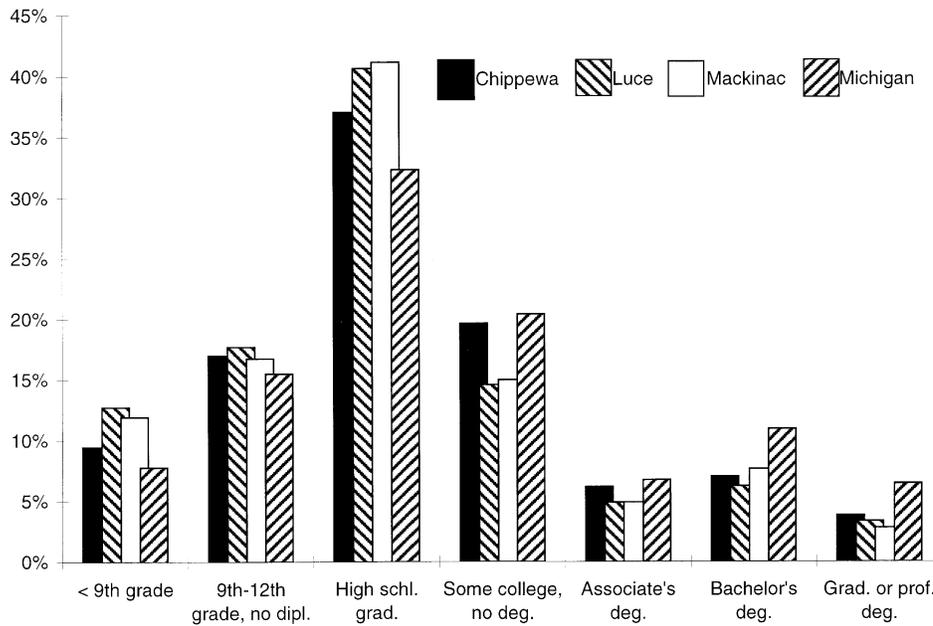
This section provides detailed results of the eastern U.P. mail survey conducted in the spring of 1997. Respondents' residence status, personal values, and preferences for and satisfaction with various eastern U.P. characteristics are described here. Detailed information on the demographic characteristics of the respondents and their differences with the overall population are provided in Chapter 2.

### Seasonal Homes and Permanent Homes

Figure 3.7 shows the distribution of mail survey respondents by their residence status. The highest proportion of respondents (approximately 37 percent) lived in the eastern U.P. permanently and owned no seasonal home. This was followed by those who have a permanent residence outside the eastern U.P. but own a second home there. These non-resident seasonals make up a little over one quarter of the survey's respondents. Permanent residents could also own a second home, either in the same area (approximately 18 percent of the respondents) or outside the eastern U.P. (7 percent of respondents). The remaining respondents, around 13 percent of them, either did not specify where their residences are located or gave no location that corresponded to eastern U.P. towns, townships or zip codes. These respondents have been omitted from the rest of the demographic profile comparisons because of this uncertainty about their residence.

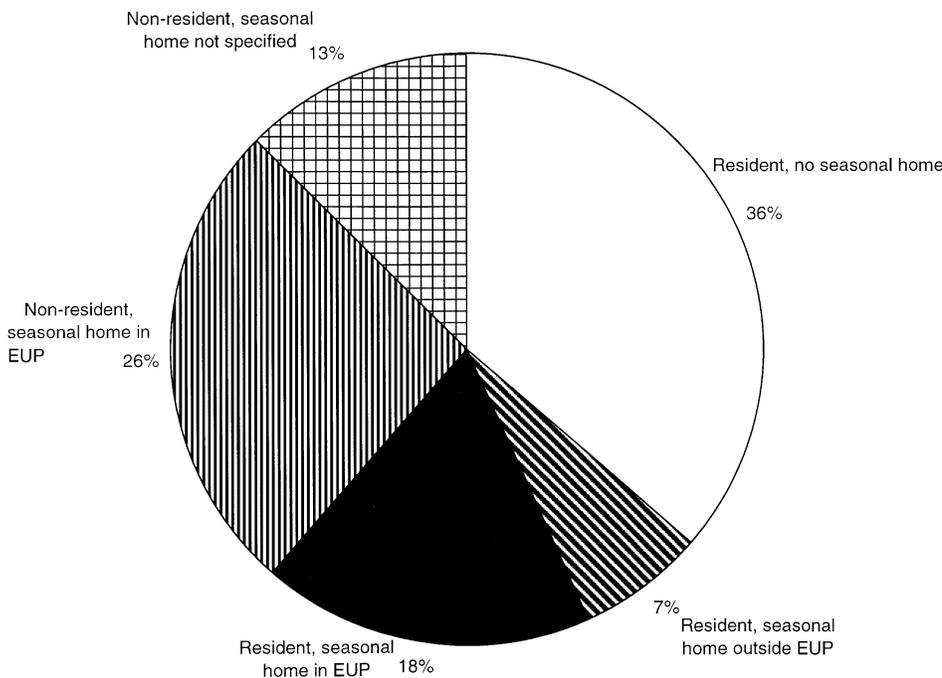
Permanent residents tend to be under 45 years of age (30 percent) or over 65 (34 percent). Forty-one percent of these households report at least one retired member. Almost half of eastern U.P. permanent residents have at most a high school degree. Most grew up in a rural area or small town; 31 percent have lived in the eastern U.P. all their lives. Only 23 percent report incomes over \$50,000; 36 percent earned less than \$25,000 in 1996.

**Figure 3.6 Educational attainment.**



Source: U.S. census, 1990

**Figure 3.7 Distribution of respondent (permanent and seasonal) residence (n=872).**



Source: U.S. census, 1990

Seasonal homeowners in the eastern U.P. are mostly over 45 years of age, divided evenly between early baby boomers (ages 45-54), individuals near retirement age (55-65) and

retirees (over 65). Over a third of seasonal homeowners in the region (36 percent) report one or more household members as retired. A fourth have graduate degrees. Almost 80

percent have had some college education. One in three seasonal homeowners grew up in a large metropolitan area. Incomes are skewed toward the higher end, with almost 60 percent reporting incomes over \$50,000. Sixty percent of seasonal residents have had a home in the eastern U.P. for less than 10 years (Table 3.5).

Twenty-seven percent of the permanent resident households also own seasonal homes, and about half of these homes are within the eastern U.P. and half outside. Those with seasonal homes outside the eastern U.P. have a profile similar to the non-resident seasonals. Over 60 percent are retired, and 46 percent are over age 65. Their incomes are therefore somewhat less than those of seasonal residents from outside the eastern U.P., though substantially higher than those of locals without seasonal homes. The similarity to non-resident seasonals suggests some may have converted seasonal homes in the eastern U.P. to their primary residence. Permanent residents with local seasonal homes are slightly older than those without seasonal homes (more fall in the 45-64 age group) with incomes generally between \$25,000 and \$75,000. Over half have lived in the eastern U.P. their entire lives. Twenty percent of their seasonal homes are classified as camps.

### Personal Values

In the mail survey, residents were asked about the values that are most important to them in their daily lives. Values, in this case, are defined as fundamental or enduring expressions of preference that may influence choices or actions. From the provided list of values (Figure 3.8), the one that was selected most often was "having freedom and independence" (46 percent chose this value as most important). This was followed by "peace, quiet and tranquillity" (40 percent chose this value), "family togetherness" (34 percent chose this value) and "safety and security" (31 percent chose this value). Respondents could select up to three values as their most important.

Table 3.5. Comparison of seasonal and permanent residents' characteristics.

Segment	Seasonal residents (N=230)	Permanent residents (N= 550 )
Percent male	71%	66%
Percent retired	36%	41%
Tribal member	1%	10%
<b>Age group</b>		
18-44	17%	30%
45-54	29%	17%
55-64	27%	20%
65-74	21%	23%
over 75	6%	11%
Total	100%	100%
<b>Education level</b>		
< high school grad	3%	14%
high school grad	21%	32%
some college	33%	31%
bachelor's degree	18%	13%
graduate degree	24%	11%
Total	100%	100%
<b>Setting where grew up</b>		
metro/suburban area	33%	17%
small city	19%	24%
small town/village	21%	28%
rural area	27%	32%
Total	100%	100%
<b>Household income (1996)</b>		
< \$15,000	2%	13%
\$15,000-24,999	6%	23%
\$25,000-34,999	13%	26%
\$35,000-49,999	16%	16%
\$50,000-74,999	27%	12%
\$75,000-100,000	16%	6%
> \$100,000	20%	5%
Total	100%	100%
<b>Years living in eastern U.P.</b>		
Less than 1 year	6%	2%
1-5 years	26%	9%
6-10 years	28%	14%
11-20 years	12%	13%
21-30 years	11%	15%
over 30 years	17%	15%
all my life	0%	31%
Total	100%	100%

## Personal Values among Different Demographic Segments\*

**Gender differences.** There are several differences in personal values between males and females in the eastern U.P. (Figure 3.9). Men are more likely to say “having freedom and independence,” “peace, quiet and tranquillity” and “being close to nature” are important personal values. Women, on the other hand, tended to focus on personal relationships by selecting the values “warm relationships with others,” “safety and security” and “family togetherness” more often than men.

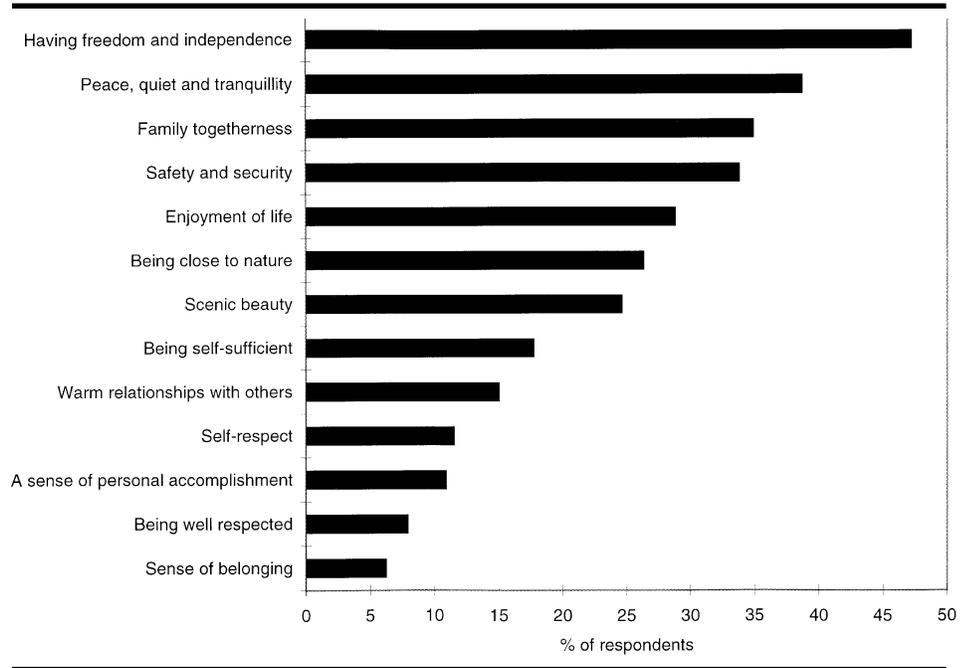
*\*Not all of the values are listed in the figures in Chapter 3. Only those with a chi-square significance of less than 0.05 are illustrated, unless otherwise noted.*

**Age differences.** There are fewer differences among age categories (Figure 3.10). Generally, older age groups were more likely to choose “scenic beauty” as one of their personal values. Younger age groups more often chose “enjoyment of life.” Interestingly, the youngest and oldest age categories were more likely to select “family togetherness” as a personal value.

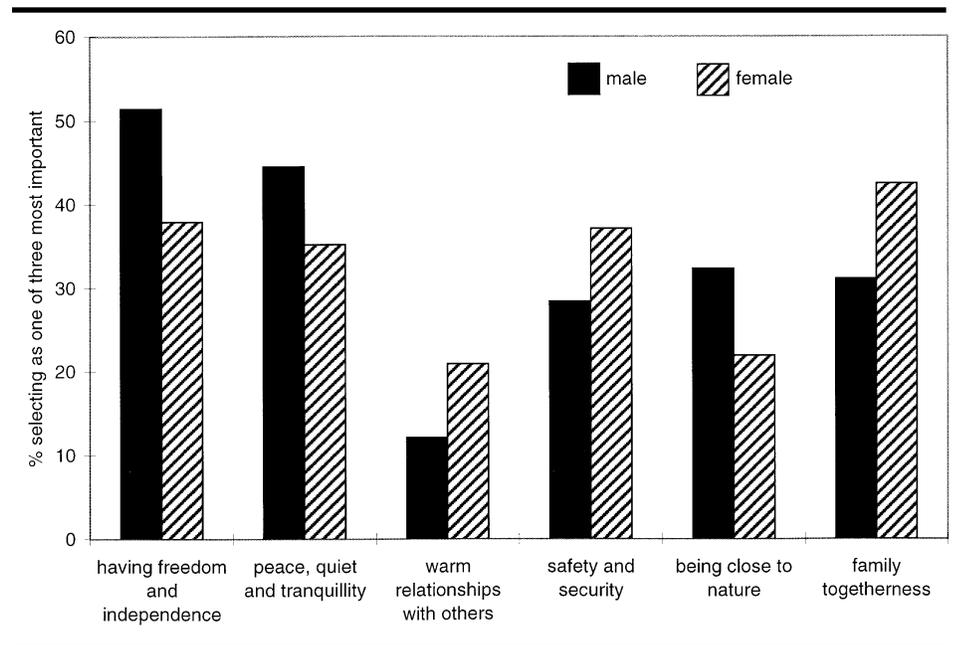
**Income differences.** Only two personal values differed among the income categories (Figure 3.11). The value “being self-sufficient” was more likely to be selected by the lower income groups. There is a general trend to choose “having freedom and independence” with lower income groups, but the pattern is not as consistent.

**Tenure differences.** Tenure is defined as the length of time a resident has lived in the eastern U.P. The results of this question apply only to those residents who live in the area permanently. Respondents were grouped into three categories: those living in the eastern U.P. for 10 years or less, those who have lived there between 11 and 30 years, and those who have been there for more than 30 years (Figure 3.12). “Having free-

**Figure 3.8** Proportion of respondents who selected the following values as one of their three most important.



**Figure 3.9** Differences in personal values among male and female respondents.



dom and independence” and “family togetherness” were two values that the groups with the longest tenure were more likely to select than the other groups. Those residents who had lived there for shorter periods of time were more likely to select “peace, quiet and tranquillity” and “being close to nature.”

**Employment differences.** Employment is divided into those respondents who hold full-time jobs and those who are retired. The other employment categories provided in the survey (homemaker, working part-time, working seasonally and unemployed seeking work) did not have enough respondents to provide

possible differences. Only two personal values differ between the two groups (Figure 3.13). These are “scenic beauty,” a value that retired respondents were more likely to select, and “enjoyment of life,” which full-time employed respondents selected more often. It is important to note that these results correspond to those found in the age differences. Retired individuals are more likely to be in the older age bracket, so

employment may not have any sort of effect on personal values in this survey.

**Seasonal and permanent residents.** Both seasonal and permanent residents include “peace and quiet,” “freedom and independence” and “family togetherness” among their three most important values (Figure 3.14). Seasonal residents rate “peace and quiet” as their most important value; for permanent residents, it is

“freedom and independence.” Seasonals include “enjoyment of life” among their top three values, while permanent residents include “safety and security.” Both groups rated “family togetherness” about equally.

### Importance and Satisfaction

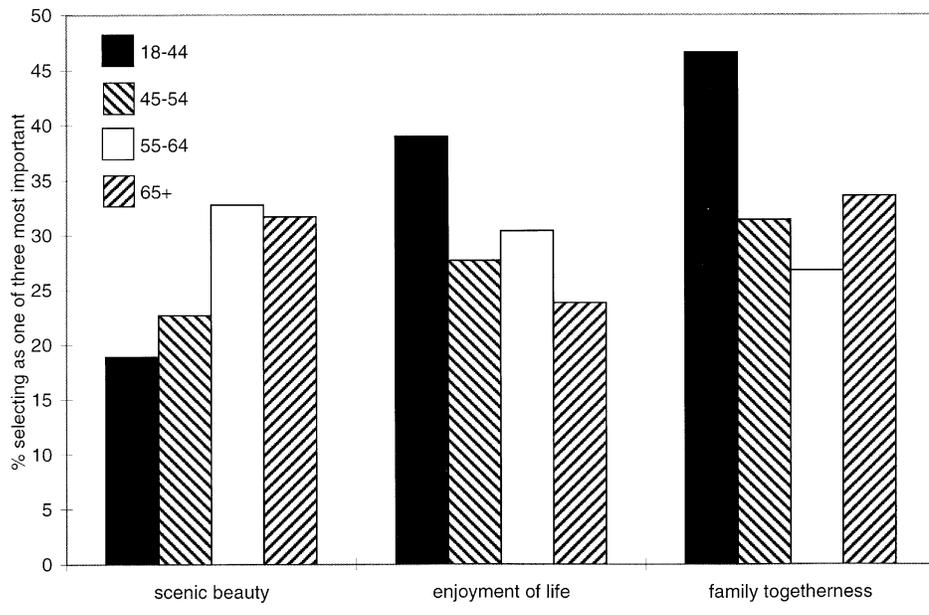
Respondents were also asked about the perceived importance of and their satisfaction with a given list of characteristics in the eastern U.P. As indicated in Figure 3.15, a mix of environmental quality factors and local infrastructure services were listed. These characteristics were selected on the basis of input gathered from residents interviewed in the oral histories and focus groups. Water and air quality, crime rates, scenic beauty and property taxes were considered very important by at least half of the respondents (Figure 3.15). Nearly 50 percent of respondents were very satisfied with scenic beauty of the area, followed by air quality (approximately 40 percent), water quality (30 percent) and friendliness of local residents (30 percent).

In the mail survey, a few characteristics have a high average importance score but a low average satisfaction score. These indicate areas that are in greatest need of attention. The two characteristics that have the highest differences, property taxes and cost of living, are directly related to household expenses (Figure 3.16). There is also a relatively high dissatisfaction with job opportunities in the area, which is reflected in the socioeconomic profile as well as the oral histories.

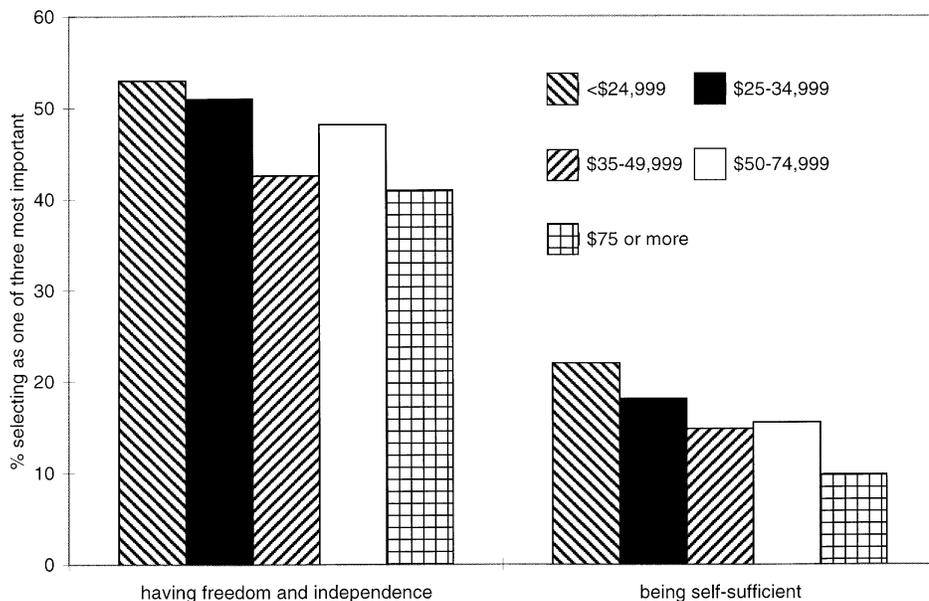
### Importance of Eastern U.P. Characteristics among Different Demographic Segments

**Gender differences.** There are many differences in what various groups feel are important characteristics in the eastern U.P. The following graphs highlight some of the ways public attitudes in the area vary. For instance, females are more likely to feel that job opportunities, school quality, health care facilities and

**Figure 3.10 Differences in personal values among age groups.**



**Figure 3.11 Differences in personal values among income categories.**



scenic beauty are very important (Figure 3.17). Males are more interested in outdoor-related amenities, more often selecting outdoor recreation opportunities as very important.

**Age differences.** There are many characteristics that older respondents

are more likely to feel are very important (Figure 3.18). These include property taxes, shopping, health care, opportunities for involvement in local decisions and friendliness of local residents. Not surprisingly, the youngest age group

was more likely to feel that job opportunities are very important. On the other hand, this age category was much less likely to feel that scenic beauty is very important.

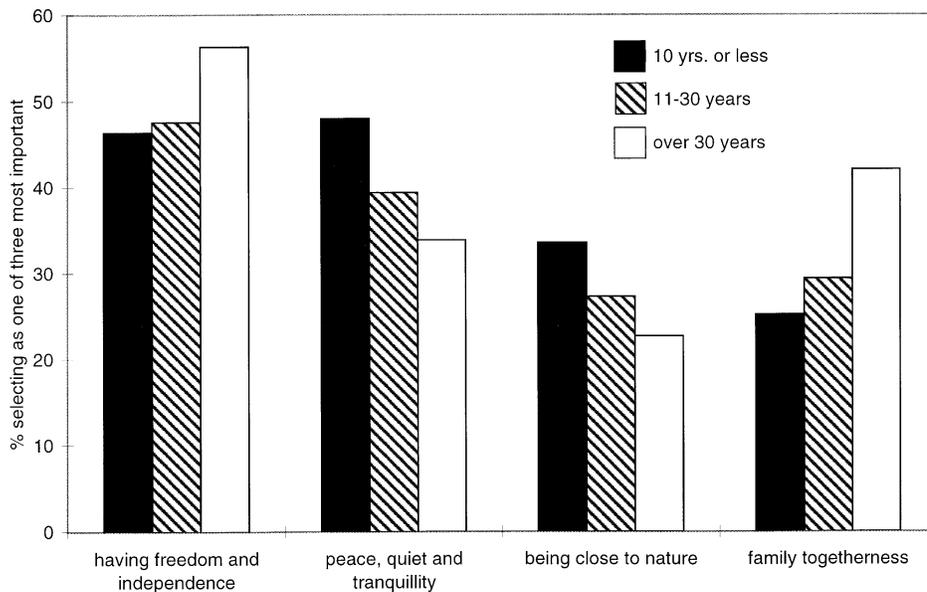
**Income differences.** Income seems to have a heavy influence on perceived importance of these characteristics (Figure 3.19). Those respondents with low incomes were more likely to feel that property taxes, shopping opportunities, school quality and friendliness of local residents are very important. Health care facilities and job opportunities were especially important to respondents in the lowest income category. It is interesting to note that cost of living is more likely to be very important to those in higher income categories.

**Tenure differences.** Tenure seems to be less of a factor in these attitude differences. Job opportunities are more likely to be very important to those who have lived there longer (Figure 3.20). School quality is also more important to long-time residents.

**Employment differences.** Employment categories once again reflect the patterns found in the age category differences (Figure 3.21). Job opportunities were more likely to be very important to those who are employed full-time, while property taxes, shopping opportunities, health care facilities, opportunities for local involvement and friendliness of local residents are all more important to those who are retired.

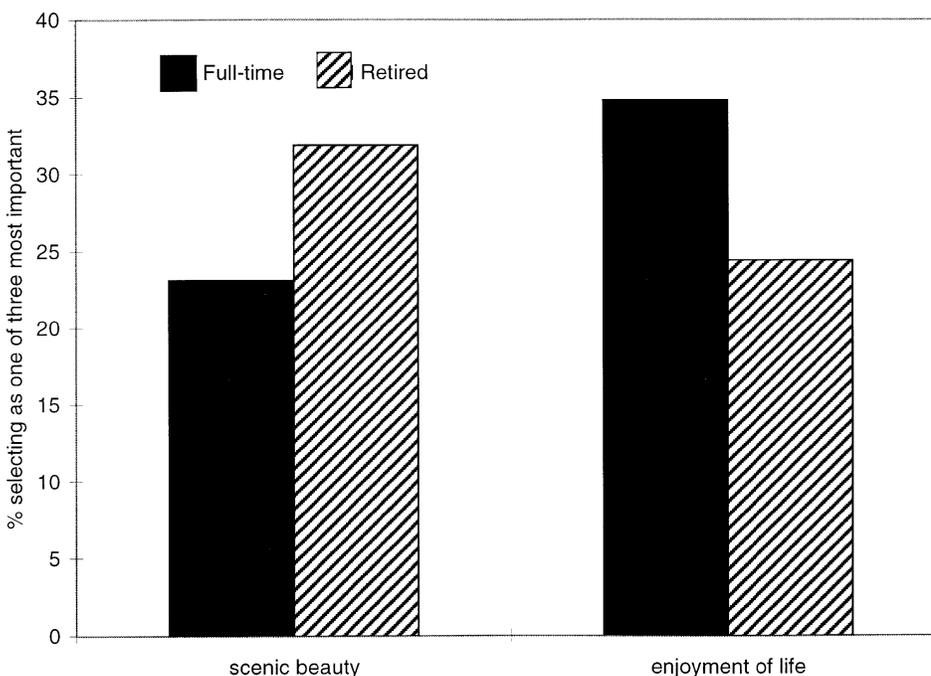
**Permanent and seasonal resident differences.** Permanent and seasonal residents like the eastern U.P. for many of the same reasons. As expected, eastern U.P. residents are more concerned with job opportunities, quality of schools and cost of living than non-residents. Seasonal homeowners consider environmental quality attributes, recreation opportunities and property taxes slightly more important than do permanent residents (Figure 3.22).

**Figure 3.12 Differences in personal values among tenure groups.**

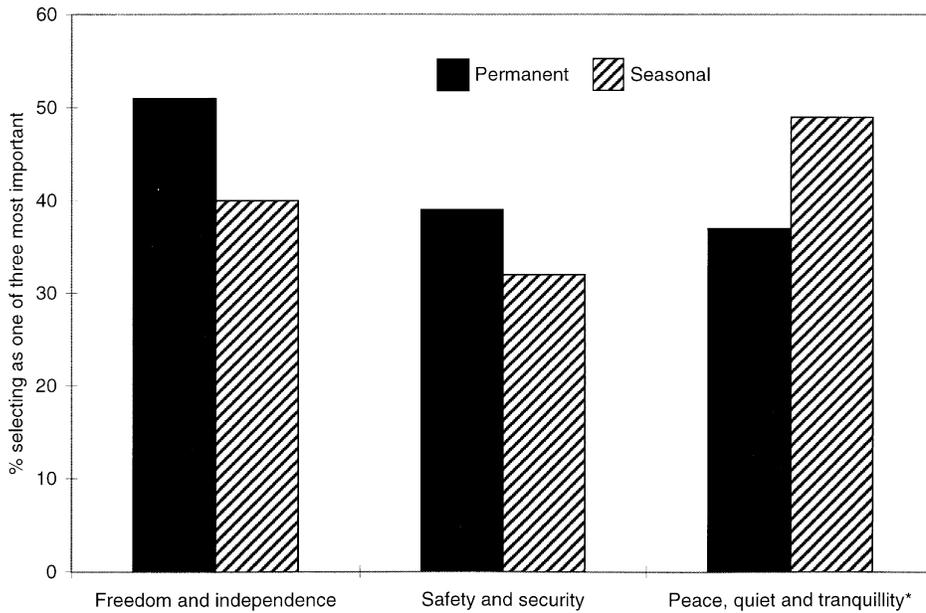


\* Significant at the  $\alpha = 0.10$  level

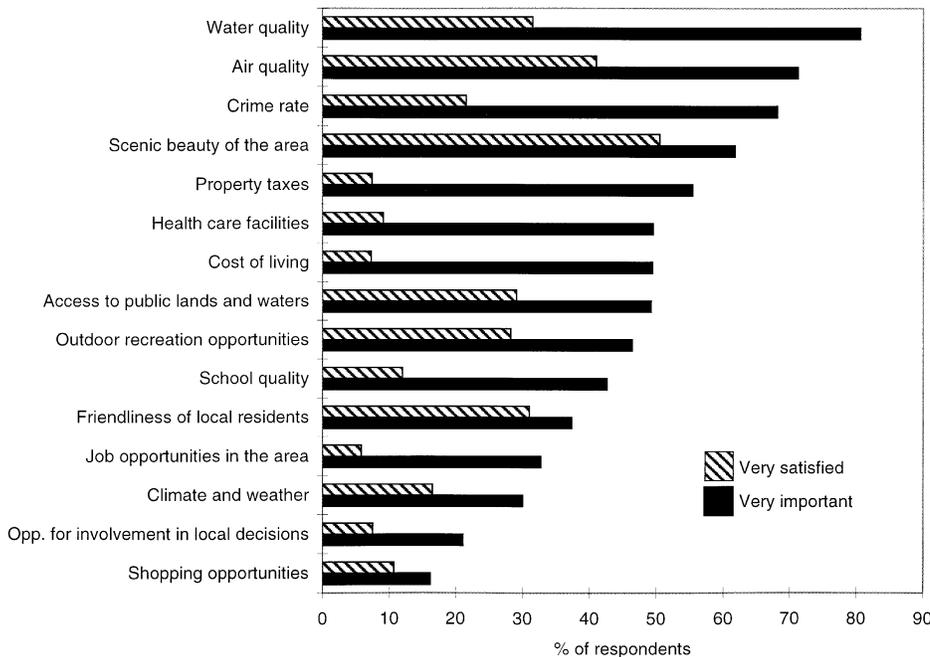
**Figure 3.13 Differences in personal values among those who are employed full-time and those who are retired.**



**Figure 3.14 Differences in personal values among seasonal and permanent residents.**



**Figure 3.15 Proportion of respondents who felt each characteristic was very important, and the portion who were very satisfied with each.**



### Satisfaction with Eastern U.P. Characteristics among Different Demographic Segments

**Gender differences.** Though there seem to be large differences in what various demographic groups feel are important eastern U.P. characteristics, there is less variation in how satisfied they are with them. For instance, male and female residents show little difference in their satisfaction with the characteristics, with the exception of scenic beauty. Women are more likely to say that they are very satisfied with this item (62 percent of women felt they were very satisfied vs. 50 percent of men).

**Age differences.** Other differences appear among the age categories (Figure 3.23). People in the youngest age group were more likely to feel that job opportunities are very important, but their satisfaction with this characteristic was the lowest. Similarly, the older age groups felt that property taxes were very important, and they are the most dissatisfied with these taxes. Conversely, older age groups were more likely to be very satisfied with water quality, friendliness of local residents and access to public lands/waters.

**Income differences.** There were several differences in satisfaction among the lower income groups (Figure 3.24). They were more likely to be very satisfied with water quality, school quality and friendliness of local residents. Lower income groups felt that job opportunities are very important and were more likely to be very dissatisfied with them. They were also very dissatisfied with cost of living.

**Tenure differences.** Residents who lived in the eastern U.P. longer were more likely to be very satisfied with the area's school quality (Figure 3.25). Those living there for less time were more satisfied with the area's scenic beauty.

**Employment differences.** The full-time and retired employment categories again follow the same patterns

as the age groups (Figure 3.26). The retired group, like the older age groups, is more likely to be satisfied with water quality and the friendliness of local residents.

**Permanent and seasonal resident differences.** Permanent and seasonal residents were similar in their ratings of satisfaction with various attributes of the eastern U.P., with only a few differences (Figure 3.27). Seasonals were more satisfied with the climate and weather, and less likely to be dissatisfied with the region's cost of living and job opportunities.

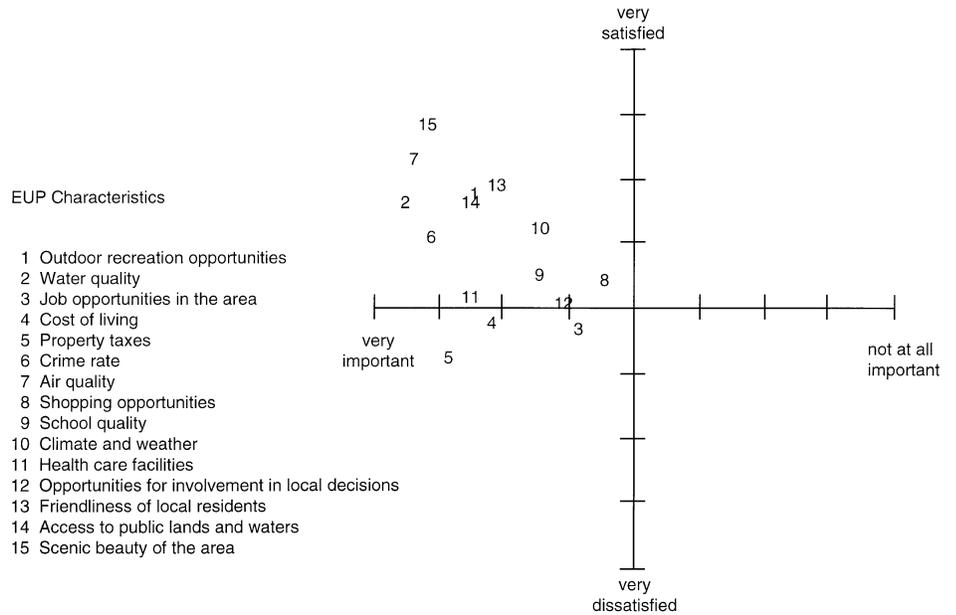
## Determining Local Amenity Uses through Oral Histories and Focus Groups

*"In the U.P., there's a lot of country that you can go and enjoy that is magnificent that doesn't cost you anything."* –Permanent resident, Luce County

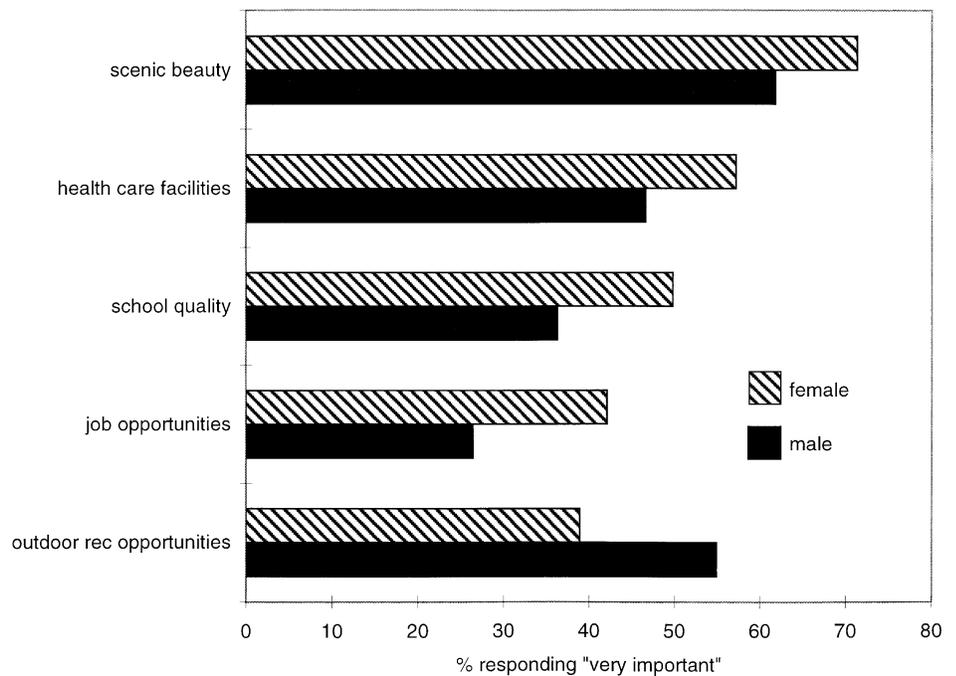
In the oral history and focus group interviews, non-consumptive aspects of the natural environment were found to be very important to eastern U.P. residents. Mainly because of the extent of these characteristics, these residents felt that the eastern U.P. remains a good place to live. When asked about their favorite characteristics of their county, eastern U.P. residents brought up many references to their county's environment. Without any particular reference in the interviews to a specific gathering or recreational activity, many residents spoke of how important the environment is to them. As one seasonal resident remarked, *"Our life is out in the water and the woods and the beaches, and the rocks and the water—oh, God, this is heaven."*

When asked what characteristics they liked most about their county, residents mentioned aspects of the environment such as water, clean air, woods, wildlife, the beauty of the environment, and the open and rural

**Figure 3.16 Importance/satisfaction graph for eastern U.P. characteristics.**



**Figure 3.17 Differences in importance of eastern U.P. characteristics between males and females.**

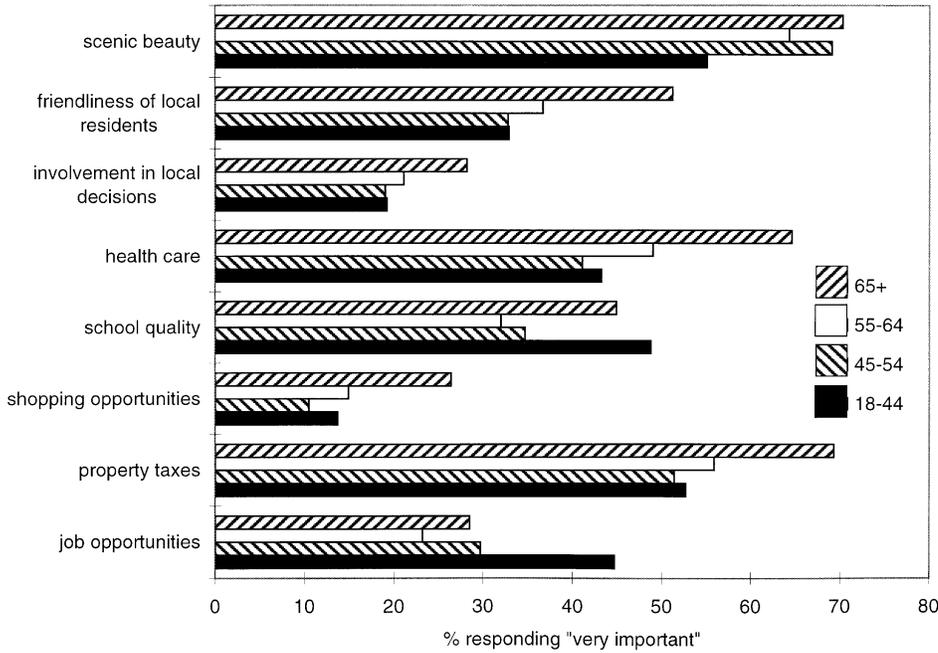


*Not all of the characteristics are listed in the figures in Chapter 3. Only those with a chi-square significance of less than 0.05 are illustrated, unless otherwise noted.*

nature of the U.P. In part because much of the eastern U.P. remains open and undeveloped, people felt that the eastern U.P. is beautiful,

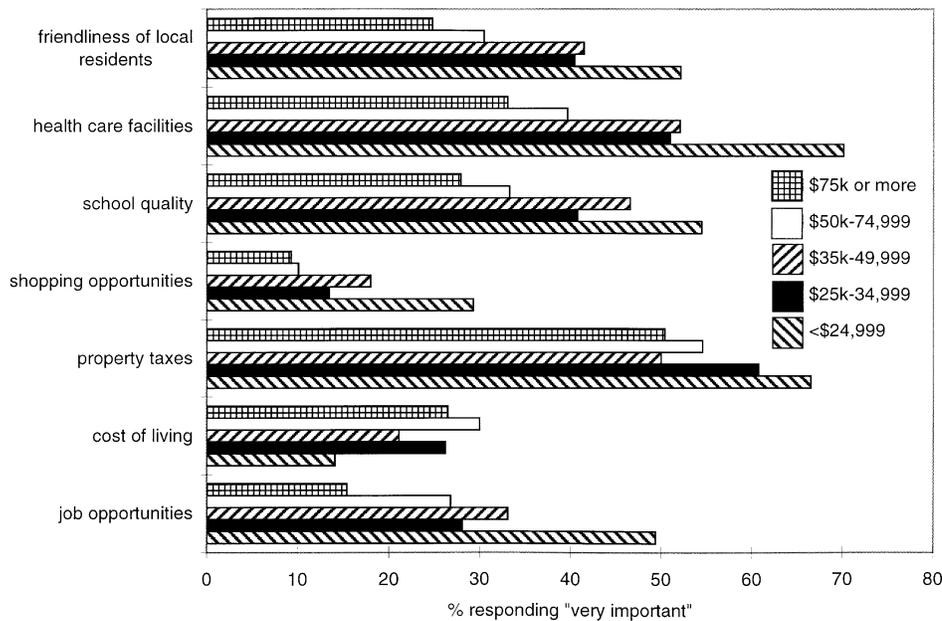
quiet and peaceful. When asked what he liked best about Mackinac County, one man replied, "Well, the outdoors. We're very fortunate here that

**Figure 3.18 Differences in importance of eastern U.P. characteristics among age categories.**



\* Significant at the  $\alpha = 0.10$  level.

**Figure 3.19 Differences in importance of eastern U.P. characteristics among income categories.**



we have so much state and federal land that in a lot of places you don't have, and so anybody that likes the outdoors, you've got a lot to do here." In general, few differences in residents' most favorite characteristics were noted between men and women, tribe and non-tribe members, seasonal and permanent residents, and between people from different counties.

More than any other characteristic, water was the aspect of the eastern U.P. that people enjoyed about their county. Not only did people enjoy fishing and swimming in lakes and streams, but residents also enjoyed the beauty and the peacefulness that they associate with water. One woman discussed what she liked best about Chippewa County:

*"The water, Great Lakes...I grew up on the Great Lakes and Lake Huron and there is just a different feel in the air and it is a different smell in the air when you are around the water...I like that freshness, I like to walk out on the deck at night and hear the frogs croaking and crickets and, you know, the things you can't find in town."*

In addition to water, many people commented on how much they enjoyed other environmental characteristics such as the woods, clean air and wildlife. One seasonal resident stated:

*"One thing about this place that is nice is the air; it's very clean and the skies are very clear, I mean, Florida is pretty good, you see stars, but up here you see 10 times as many. You see the Milky Way every night and the moon is out. You can see all kinds of constellations and zillions of stars. It's a very, very clear-air place. It's something I really appreciate here—clear nights."*

Not only did people appreciate the natural environment for the physical elements it had such as wildlife and water, but residents also placed a high value on non-tangible aspects of the eastern U.P. environment. In particular, seasonal residents and women tended to cite peace and quiet as one of their favorite characteristics of their county. They believed that the area was peaceful in part because of the existence of water

and the absence of large developments. People often spoke of the importance of having peace and quiet in their lives. One man from Chippewa County compared the eastern U.P. with other areas in Michigan: *"I guess I like it more peace and quiet...it is still a lot different world than when you get downstate. It is still not wheel to wheel when you are driving down the freeway and all this. It is just a lot quieter."* The importance of peace and quiet had also been seen in the household survey. When asked how important certain values were to them, 33.8 percent of the respondents rated the value for "peace, quiet and tranquillity" as one of their most important values—second only to "having freedom and independence" (Figure 3.8).

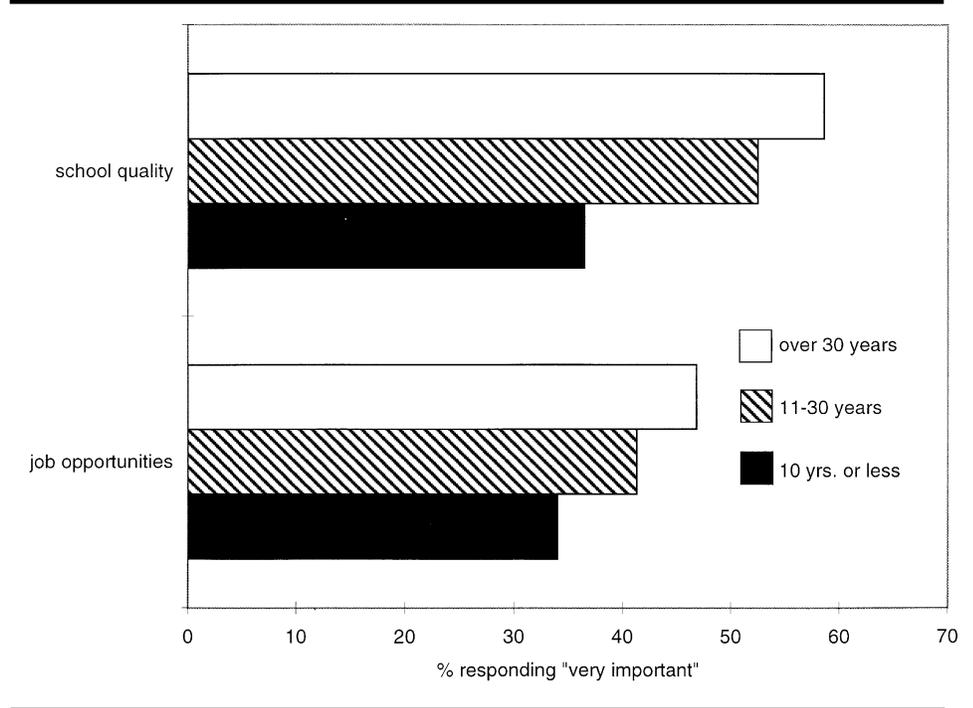
The reason why people felt that the area was peaceful had much to do with the small population, the lack of development such as is found downstate and the large amounts of public land in the eastern U.P. Furthermore, eastern U.P. residents felt that the low population and development combined with the vast acreage of public land help retain the environmental characteristics that are so important to them. When describing what he liked best about the eastern U.P., one man replied, *"Well, the kind of lifestyle that we could live here and to me the space, the trees, the forests, the lakes, the river. You can see the sky. To me that's really important that this is a place that hasn't been yet consumed by the city."*

In addition, the public land and the tradition of long-time residents not posting "no trespassing" signs on their property allows access to much of the land in the eastern U.P., especially compared with other places. This openness was important to eastern U.P. residents and was emphasized by the concern that they felt for increased development and increased posting. A man from Chippewa County described what he liked most about the eastern U.P.: *"...we can get out and roam around and go wherever we please. There's no boundaries to it or anything—like lower Michigan, a lot of places you can't go anyplace unless*

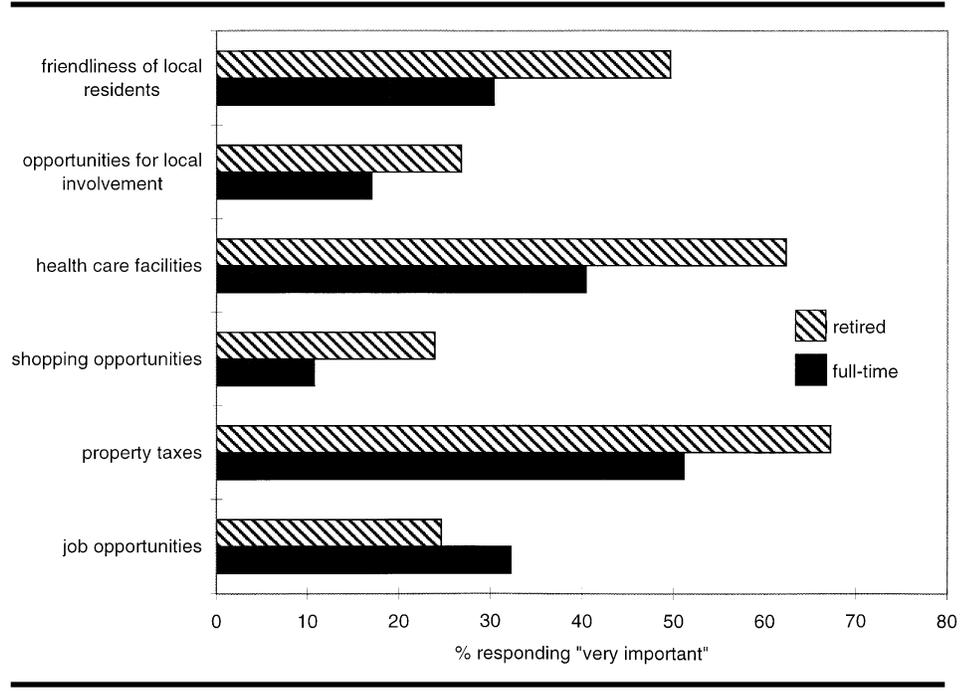
*you're on someone else's property."* The rural nature and the openness of the land were appreciated by the residents because it allowed them to

enjoy the natural environment more readily. Another man from Mackinac County reiterated this feeling when he commented:

**Figure 3.20 Differences in importance of eastern U.P. characteristics by length of residence.**



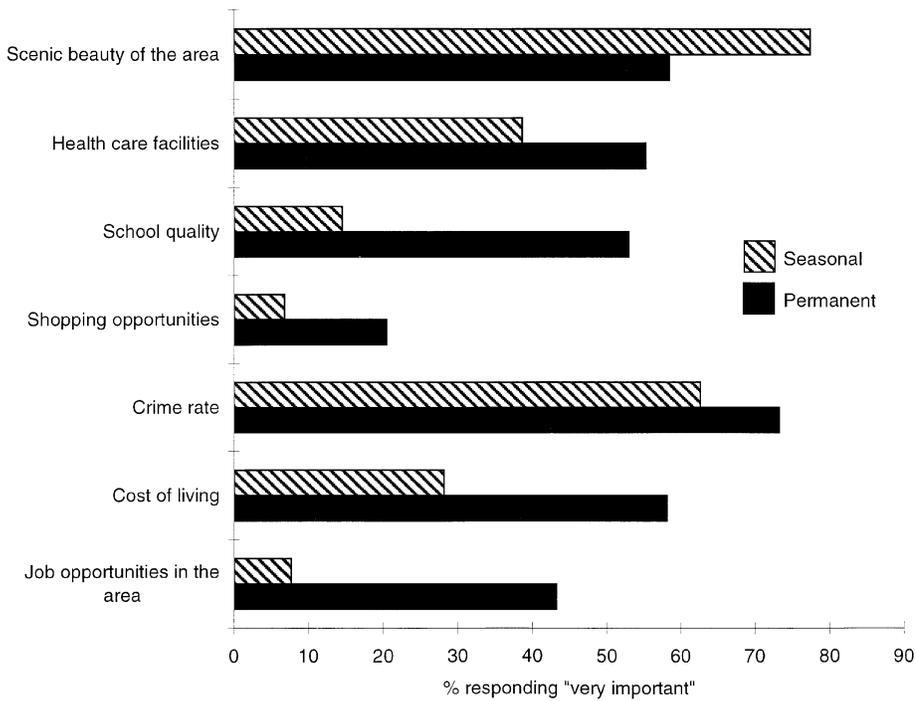
**Figure 3.21 Differences in importance of eastern U.P. characteristics between those employed full-time and those who are retired.**



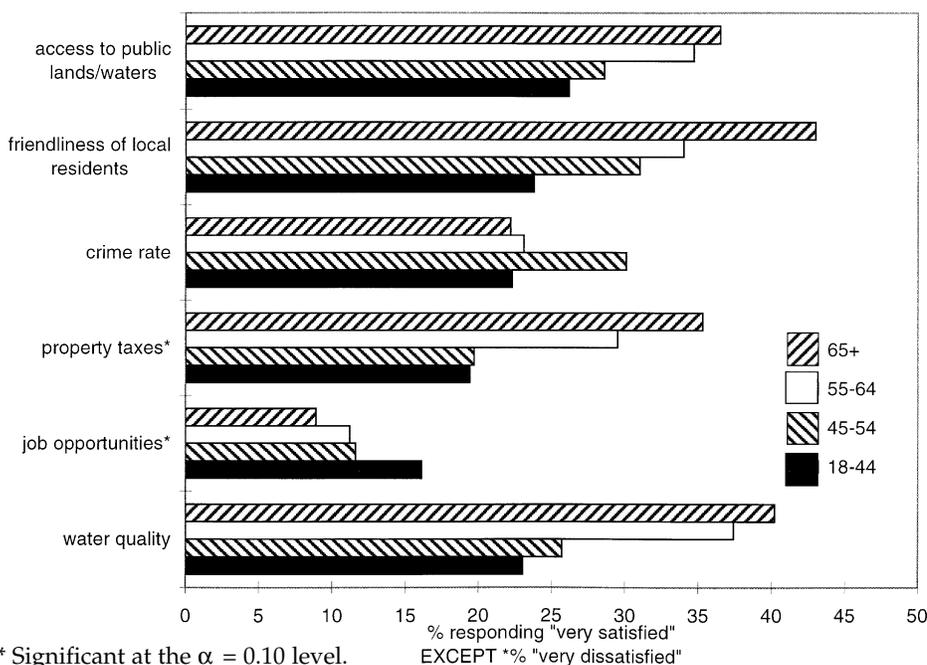
*"I just like the open-space-type thing. You can take a walk and go a quarter mile in any direction and not bump into anybody and it's just that open space, relatively unpolluted atmosphere, dealing*

*with the wildlife, and...a lot of the same things I was able to do as a child and still able to do today because the environment's in fairly good condition."*

**Figure 3.22 Differences in importance of eastern U.P. characteristics between permanent and (non-resident) seasonals.**



**Figure 3.23 Differences in satisfaction with eastern U.P. characteristics among age groups.**



## Summary

This chapter provides an overview of the composition of the eastern U.P. population. Comparisons were drawn between the populations in the three counties as well as between the counties and the state of Michigan where relevant data were available. The counties vary by population size: Chippewa County has the highest and Luce County the lowest population. Chippewa County has a large prison population, which affects statistics computed on a per capita basis. Sault Ste. Marie (Chippewa County) is the largest population center in the eastern U.P. region, with 14,689 inhabitants.

The eastern U.P. is very rural in character. Luce County is 100 percent rural. Chippewa County is the least rural, with 57 percent of its population living in rural areas. Over a 35-year period, from 1969 to 1994, the populations in the three counties remained stable to fairly stable. Chippewa County experienced a noticeable drop in its population in 1978 after the U.S. air base in the region closed. The population subsequently recovered with the installation of three prisons in the area and seems to be continuing to increase.

The eastern U.P. tends to have an older population than the rest of the state, though the age distribution for Chippewa County is affected by the large prison population (12 percent of the total).

Residents of the eastern U.P. tend to be homeowners, including a population of seasonal homeowners. Seasonal home development in the eastern U.P. increased sharply between 1950 and 1960. It has leveled off in the region as a whole since 1980. Chippewa County is still showing an increasing trend; the trend for Luce and Mackinac counties is decreasing.

Migration data show that the population in the eastern U.P. is fairly stationary. The proportion of people age 65 and older is somewhat higher in the eastern U.P. than in Michigan as a whole. The prison population

affects the gender ratio in Chippewa County because all of the prisons in Chippewa County are male prisons. The relatively higher level of ethnic diversity in Chippewa County may also be due to the prison population.

The education level in the eastern U.P. is concentrated at the high-school-graduate level. Roughly 40 percent of Luce County and Mackinac County residents hold a high school diploma as their highest degree. In Chippewa County, the percentage of high school graduates lies around 35 percent, and the county has a higher percentage of individuals with at least some college education. At the state level, the percentages for higher degrees are higher than for the three eastern U.P. counties.

The mail survey examined values, preferences and attitudes toward natural resources and socioeconomic conditions in the eastern U.P. among both permanent and seasonal residents. Non-resident seasonals in the survey sample tended to have much higher income and education levels than permanent residents and had a higher proportion of individuals in the middle-age categories.

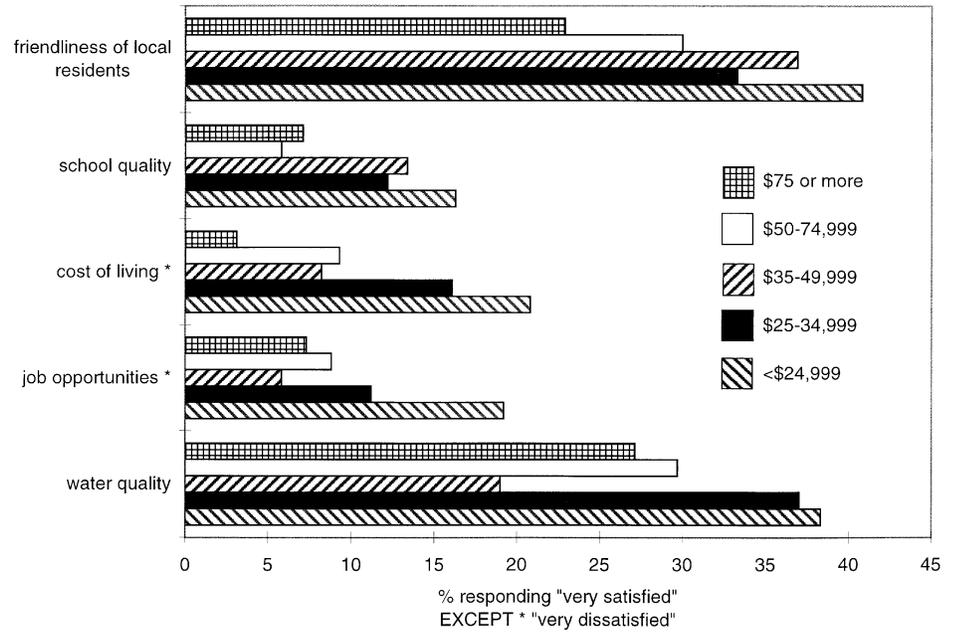
The core values listed in the survey are all of some importance to individuals. However, respondents overall are especially likely to value having freedom and independence; peace, quiet and tranquillity; family togetherness; and safety and security. The personal value of freedom and independence was significantly more important for men, lower income groups, permanent residents and those permanent residents who have lived in the eastern U.P. for more than 30 years. Family togetherness is significantly more likely to be valued among women, the younger age group (18-44) and those who have lived in the area longer. Men, those who have moved to the area more recently and seasonal residents were more likely to value peace, quiet and tranquillity.

Although environmental aspects of the area such as air quality, water quality and scenic beauty are impor-

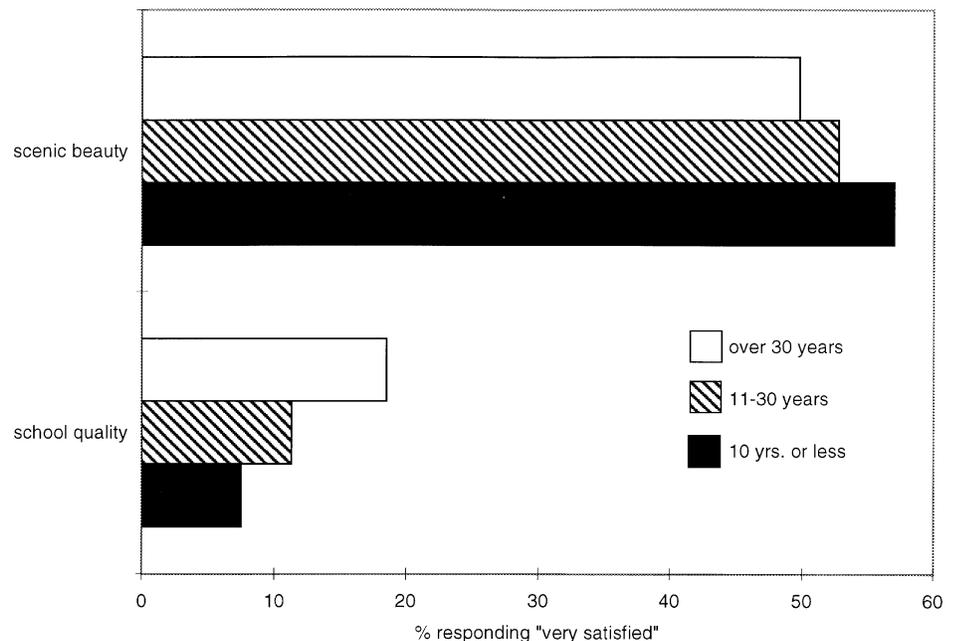
tant to respondents, the characteristics of the eastern U.P. that are of the greatest concern in this case include job opportunities, cost of living and

property taxes. These characteristics were not only very important to respondents but also received the lowest satisfaction ratings. These

**Figure 3.24 Differences in satisfaction with eastern U.P. characteristics among income groups.**



**Figure 3.25 Differences in satisfaction with eastern U.P. characteristics by length of residence.**

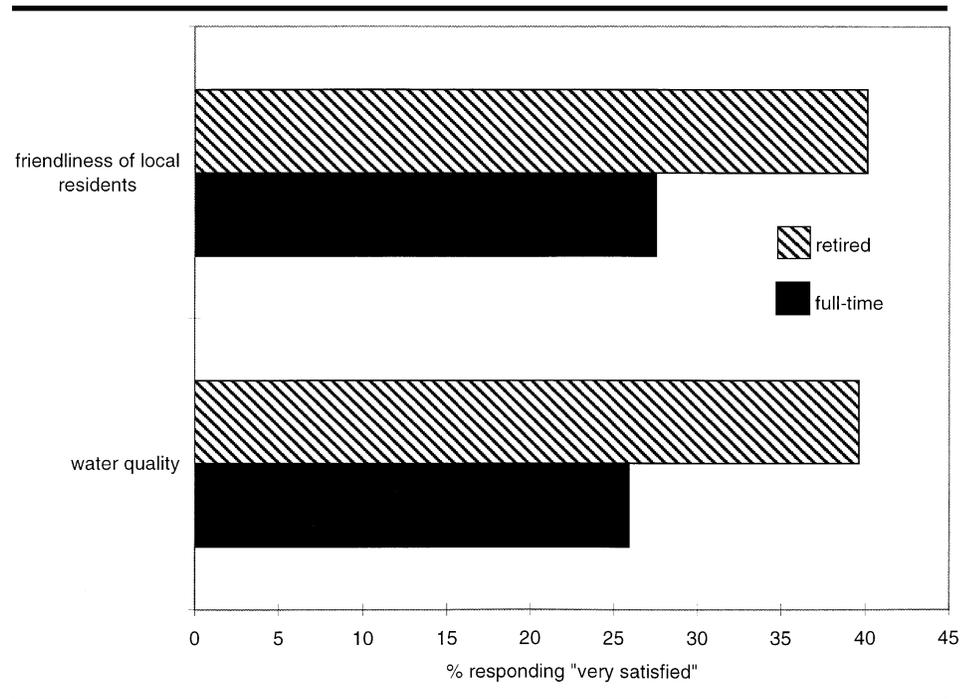


three are significantly more important for long-time permanent residents. Younger individuals, those with lower incomes and permanent residents are much less satisfied with the area's job opportunities, while the cost of living is less satisfying for older people and those with lower incomes.

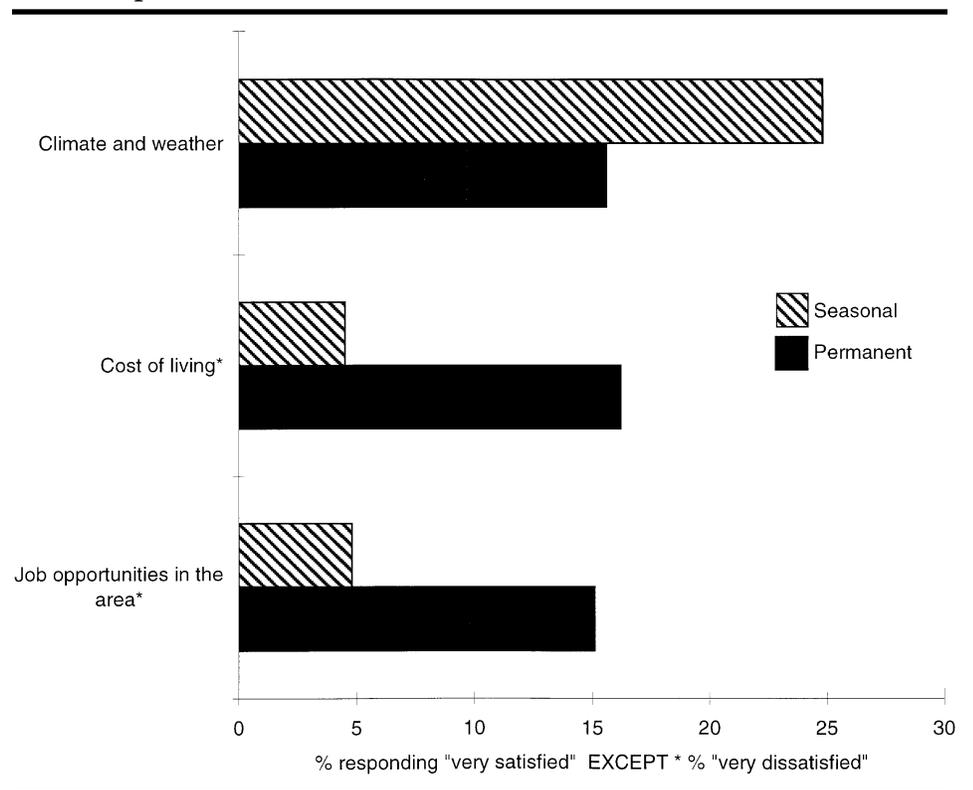
In general, the results from this section reveal the deep attachment that both seasonal and permanent residents hold for the eastern U.P.'s social and environmental conditions. The eastern U.P.'s scenic beauty, its tracts of undeveloped open spaces and other amenities related to its rural character make the area a very special place to live. Both the mail survey and oral history interviews reveal the strength of resident attachment to these aspects of the region. The accessibility of undeveloped open space gives residents opportunities for participating in almost any outdoor activity as well as a strong sense of peace and quiet. Water and water quality are especially significant aspects of the region for people, especially seasonal residents. This expressed value is responsible in part for the growth of seasonal waterfront properties. Aside from this type of development, however, the relatively stable population suggests residents will for the most part be able to maintain their sense of peace and tranquillity.

Despite the eastern U.P.'s excellent environmental conditions, many permanent residents find it difficult to cope with the poor job opportunities and cost of living. A lack of gainful employment may help to explain the relatively low proportion of young people in Luce and Mackinac counties. These conditions may also be the cause of a low proportion of residents with higher levels of education in the region. One would expect these concerns to be less important to retired residents, and this is the age category that will likely supply the greatest proportion of in-migrants in the future. These potential changes in the population of the eastern U.P. raise questions about changing demands for certain employment

**Figure 3.26 Differences in satisfaction with eastern U.P. characteristics among those who are employed full-time and those who are retired.**



**Figure 3.27 Differences in satisfaction with eastern U.P. characteristics between permanent residents and non-resident seasonals.**



sectors. Chapter 4 takes a closer look at the economic conditions of the region that may affect the region's

ability to address concerns about job opportunities and the cost of living.

# Chapter 4a

## General Profile of the Market Economy

A large proportion of a region's sustainability is tied to its economic health. This chapter, divided into three sections, explores economic trends and conditions for the eastern U.P. The first section examines the general economy of the eastern U.P., while the second looks more specifically at its natural resources and related economies, and the third examines the impact of tourism in the region.

### Economic Overview

*"I think you're able to make a living better than you were 10 years ago here... it's better than it was. It may not be up yet with the rest of the state, but it's certainly better than it used to be. There's always some job available; you might have to start out low pay."* -Permanent resident, Chippewa County

### Income

Real per capita income (i.e., with inflation effects eliminated) rose over the period 1969-1991 in Luce and Mackinac counties while remaining essentially unchanged in Chippewa County (Figure 4.1). Per capita income was very similar in all three counties for the first 10 years, but it rose more sharply in Luce County than in Mackinac County over the later 10-year period.

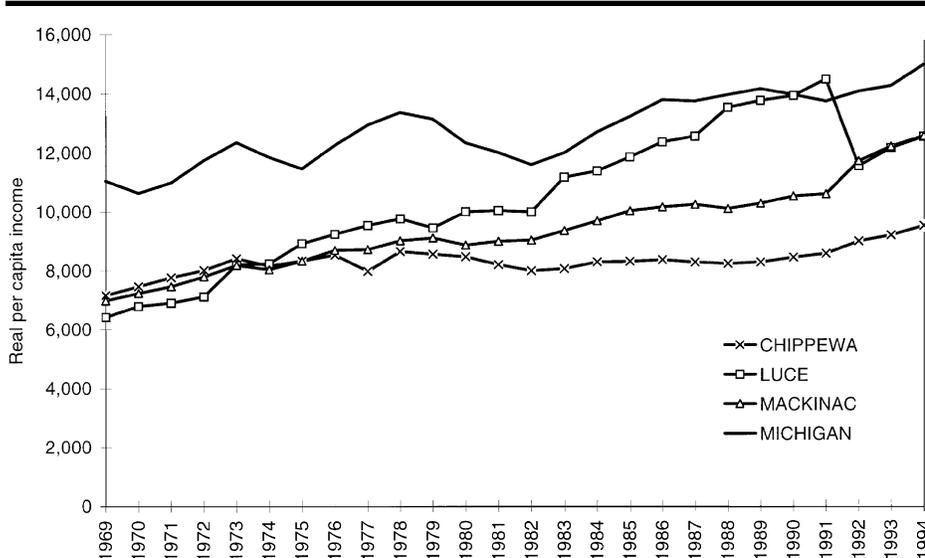
The trend in per capita income is roughly paralleled by transfer payments, another component of personal income (Figure 4.2). Transfer payments are payments to persons for which they do not render services in the current period, such as payments by government and business to individuals and non-profit institutions. They make up a substantial share of regional total income: 31.6 percent and 25 percent of total personal

income in Luce County and Chippewa County, respectively. The dip in transfer payments in Luce County in 1979 is paralleled by a dip in per capita income that same year and was similar for Chippewa County in 1977. The jump in transfer payments in Luce County in 1988 is likewise shown as a rise in per capita income that same year.

Real per capita income for Luce County, however, dropped substantially between 1991 and 1992 because of the closing of the mental health facility and the corresponding decrease in transfer payments (Figure 4.2). Interestingly, even though transfer payments per 1,000 population are higher in Luce County than in Chippewa County for most of the period, their fluctuations cause a lesser impact on per capita income in Luce County.

The median household income in the eastern U.P. is substantially below the state of Michigan's level of \$31,020 (Table 4.1). Mackinac County ranks lowest with a median household income of \$19,397.

Figure 4.1 Real per capita income by county (1982-1984=100).



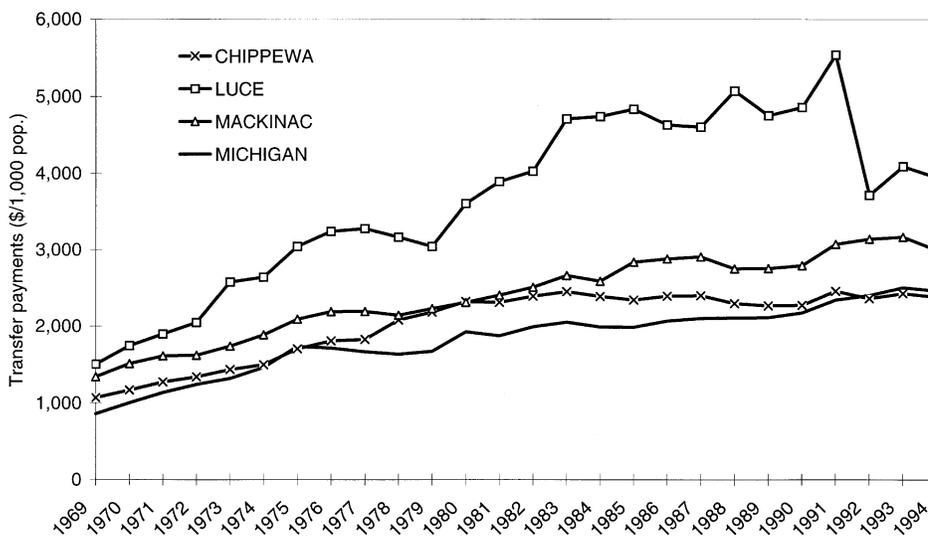
Source: REIS, 1969-1994

Table 4.1. Median household income, 1990.

County	Income
Chippewa	\$21,449
Luce	\$20,370
Mackinac	\$19,397
Michigan	\$31,020

Source: U.S. census, 1990

**Figure 4.2 Transfer payments per 1,000 population (1982-1994=100).**



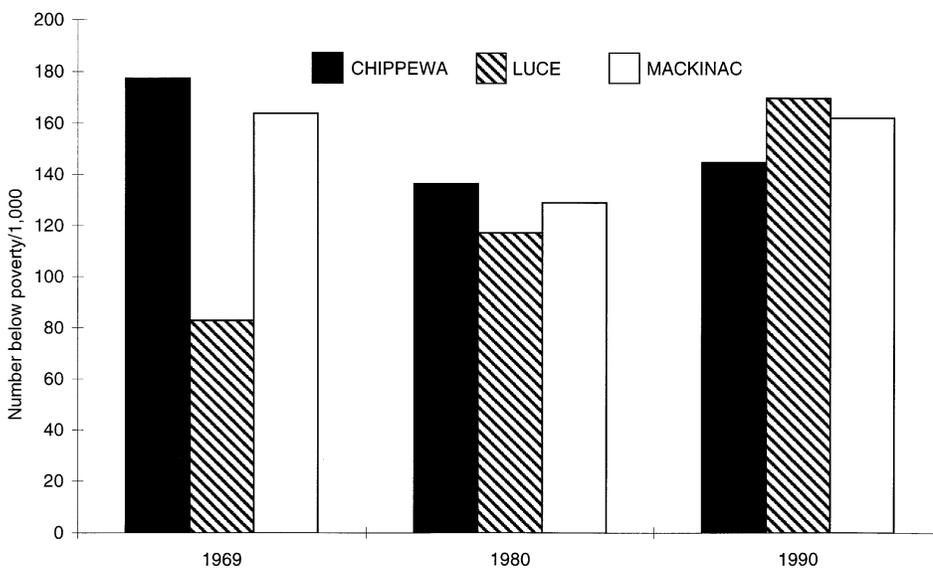
Source: REIS, 1969-1994

A consistent picture emerges when the low median household incomes and low per capita incomes in the eastern U.P. counties are compared with poverty rates (Figure 4.3). Poverty rates are quite a bit higher in the eastern U.P. than for the state of Michigan, and household incomes are about one-third lower. The number of people below the poverty level<sup>1</sup> per 1,000 total population in

the eastern U.P. does not show a consistent trend by county over the 20-year period from 1969 to 1990 (Figure 4.3). For Luce County, the poverty level per 1,000 persons rose from 83 in 1969 to 170 in 1990. The trend for Chippewa and Mackinac counties fell between 1969 and 1980 and then rose again between 1980 and 1990. The relatively lower levels of poverty in Mackinac and Chippewa counties

<sup>1</sup>set at \$12,674 for a family of four by the 1990 Census

**Figure 4.3 Number of persons below poverty per 1,000 population.**



Source: REIS, 1969-1994

may be explained by the recent income-earning opportunities created in the service sector, notably by casinos in the two counties.

Earnings made up the largest proportion of total personal income in the eastern U.P. counties and the state of Michigan in 1994 (Table 4.2). Transfer payments are, however, a major source of income in the eastern U.P. counties and exceed the proportion for the state as a whole by 7 to 15 percent. Transfer payments as a percentage of total personal income are particularly high in Luce County (31.6 percent). Though earnings and dividends increased from the previous year in all three counties and the state, transfer payments decreased in Luce and Mackinac counties by 1.1 and 2.1 percent, respectively.

Government payments to individuals, the major portion of transfer payments, are dominated by retirement and disability and medical payments (Table 4.4). These two categories account for 82 to 85 percent of total government payments to individuals.

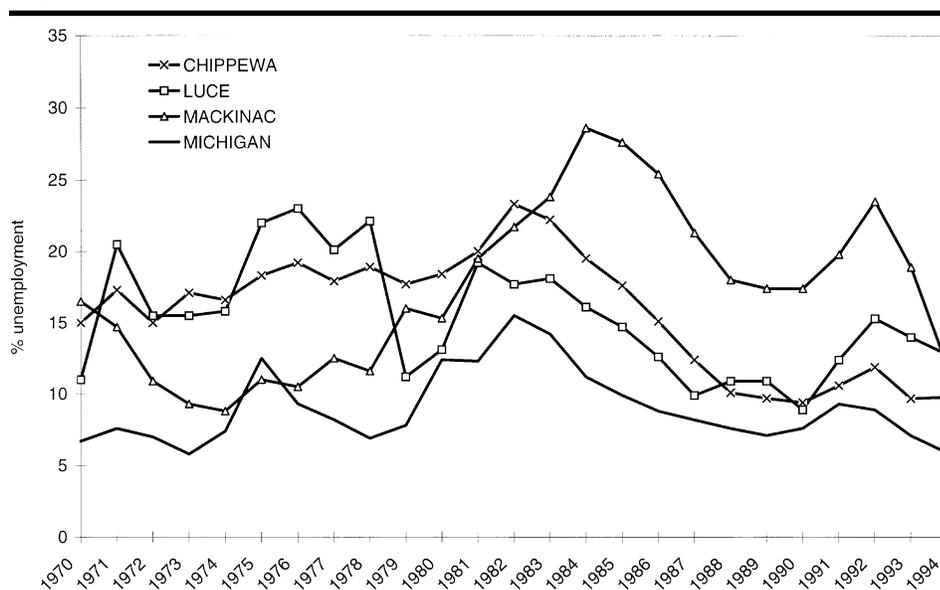
Government payments to individuals per 1,000 population were highest in Luce County for all categories except unemployment benefits (Table 4.4). Income maintenance payments were more than twice as high in Luce County as in the other two counties. The high level of payments in this category may reflect the increasing trend in the number of persons below the poverty level per 1,000 population shown in Figure 4.3. The unemployment benefits payments in Mackinac County are more than twice as high as in the other counties.

## Employment

The unemployment rate in the eastern U.P. counties has been consistently above that for Michigan as a whole (Figure 4.4). In 1984, it reached almost 30 percent in Mackinac County; the Michigan unemployment rate was a little above 10 percent. In 1984, the unemployment rate was already declining in Chippewa and Luce counties, a trend followed by Mackinac County, though its unemployment rate stayed consistently above that for the other two counties. The eastern U.P. unemployment rate began to drop again in 1992 after a brief climb. The decline was particularly pronounced in Mackinac County. This may be due to increased employment opportunities resulting from casino gaming.

The eastern U.P. counties showed a seasonal trend in unemployment (1995 data) that was not indicated by the state of Michigan data (Figure 4.5). The unemployment rate dropped during the summer and rose again in the fall. The fluctuation in unemployment rate is particularly pronounced for Mackinac County, where the summer unemployment rate was the lowest of the eastern U.P. counties and lower than the Michigan unemployment rate, but from late fall until early spring, the rate was substantially higher than the other rates. The high proportion of tourism employment (Table 4.8) and the fact that summer is the major tourist season in Mackinac County (Mackinac Island is a major tourist

Figure 4.4 Annual unemployment rate.



Source: MESC, 1970-1994

Table 4.2. Earnings, dividends, transfer payments as percent of total personal income (1994).

	Total personal income in \$1,000s*	Earnings	Dividends, interest, rent	Transfer payments
Chippewa	516,526	60.9%	14.1%	25.0%
Luce	103,548	54.7%	13.7%	31.6%
Mackinac	203,145	56.4%	19.8%	23.8%
EUP	823,219	59.0%	15.5%	25.5%
Michigan	1,129,912	67.6%	16.0%	16.4%

\*Total personal income is given for reference.

Source: REIS, 1993-1994

Table 4.3. Government payments to individuals as percent of total.

	Total government payments to individuals	Ret.+ disability	Medical payments	Income maintenance	Unemployment benefits	Other
Chippewa	123,100	52%	31%	7%	5%	5%
Luce	31,798	40%	45%	9%	3%	3%
Mackinac	46,560	49%	33%	5%	10%	3%
EUP	201,458	50%	34%	7%	6%	3%
Michigan	33,063,968	50%	35%	10%	3%	2%

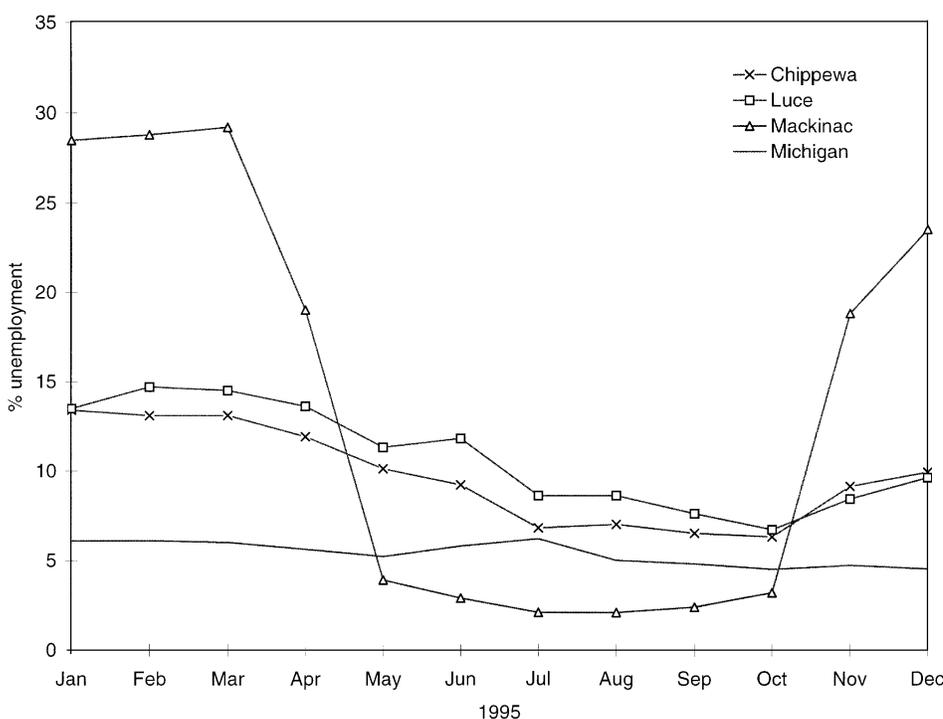
Source: REIS, 1994

Table 4.4. Government payments (\$) by category per 1,000 population (1994).

	Total government payments to individuals	Ret.+ disability	Medical payments	Income maintenance	Unemployment benefits	Other
Chippewa	3,363	1,761	1,042	249	166	146
Luce	5,678	2,289	2,554	532	181	n/a
Mackinac	4,272	2,092	1,410	230	430	109
EUP	3,794	1,885	1,277	275	222	134
Michigan	33,063,968	1,738	1,206	351	102	85

Source: REIS, 1994

Figure 4.5 Seasonal unemployment.



Source: MESOC, 1999

attraction in the summer) may explain the pattern.

The eastern U.P. counties have a lower percentage of the labor force in professional occupations than the state of Michigan as a whole (Table 4.5). This is consistent with the lower number of residents with educational levels above high school. Mackinac County has the lowest proportion of professional occupations at 8.9 percent.

The percentage of women in the labor force for Michigan is 55.7 per-

cent (Table 4.6). The percentage for each of the eastern U.P. counties is lower by 5 to 8 percent. Women's participation in the labor force is lowest in Luce County. The relatively higher figure for Chippewa County could indicate a more ready availability of jobs for women in a less rural environment.

The labor force in the eastern U.P. counties was heavily oriented toward natural resource, tourism and government sector occupations in 1995

Table 4.5. Percent of labor force in professional occupations.

County	Professional occupations
Chippewa	11.6%
Luce	10.3%
Mackinac	8.9%
Michigan	13.6%

Source: U.S. census, 1990

Table 4.6. Percent adult women in labor force, 1990.

County	Adult women in labor force
Chippewa	50.8%
Luce	47.3%
Mackinac	48.7%
Michigan	55.7%

Source: U.S. census, 1990

(Table 4.7). In this table, the term "natural resources" is defined more broadly than agriculture, forestry, fishing and mining to include manufacture of wood products (compare with Table 4.8).

Consequently, manufacture of wood products is not included under manufacturing. Natural resources, tourism and government accounted for 50.1 to 66 percent of total employment. The same sectors in the state of Michigan made up only 24.3 percent.

**Table 4.7. Industry employment per category as percent of total industry output.**

	**Natural resources	Tourism	Construction	Transportation	Wholesale	Retail	Professional	Government	Other
Chippewa	4.4%	19.2%	5.6%	2.0%	3.9%	15.3%	9.3%	26.3%	13.9%
Luce	13.2%	9.6%	6.5%	1.9%	1.6%	6.9%	3.9%	46.5%	9.8%
Mackinac	3.8%	36.7%	7.4%	5.5%	6.2%	12.2%	5.6%	13.3%	9.3%
EUP	5.5%	22.0%	6.2%	2.8%	4.1%	13.4%	7.6%	26.1%	12.2%

Source: IMPLAN, 1995

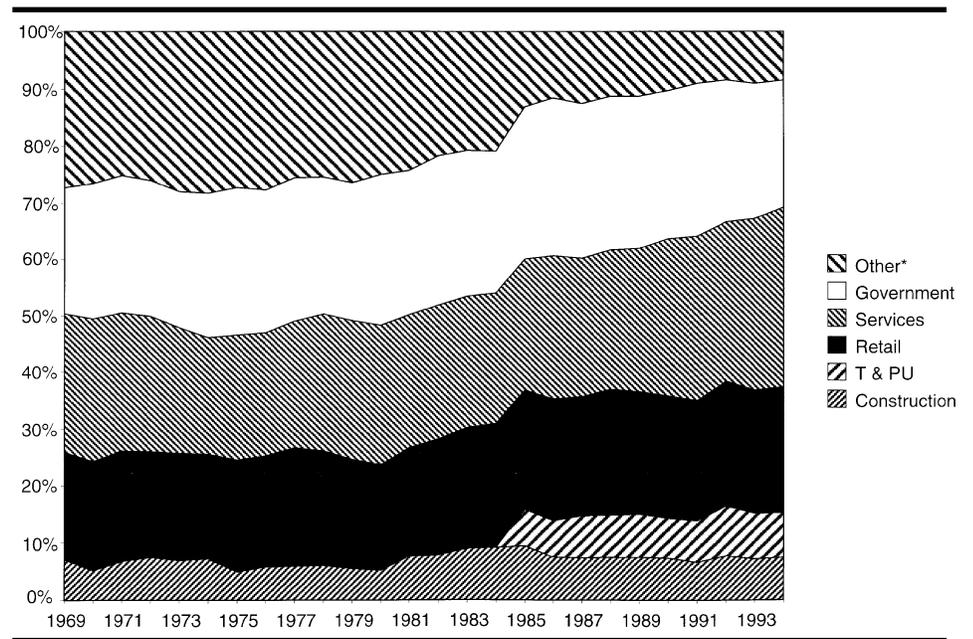
\*\* Includes manufacturing of wood products.

Tourism dominates as a source of employment in Mackinac County (33 percent), with Mackinac Island as a major tourist attraction. Casinos are also increasingly drawing tourists to the eastern U.P. Much of the tourism activity in the eastern U.P. is natural resource-based—hunting, fishing, snowmobiling, etc. No breakdown of tourism is available to separate out the natural resource-based component of tourism in the eastern U.P. counties, so tourism is reported separately. Tourism is discussed in detail in the last section of this chapter.

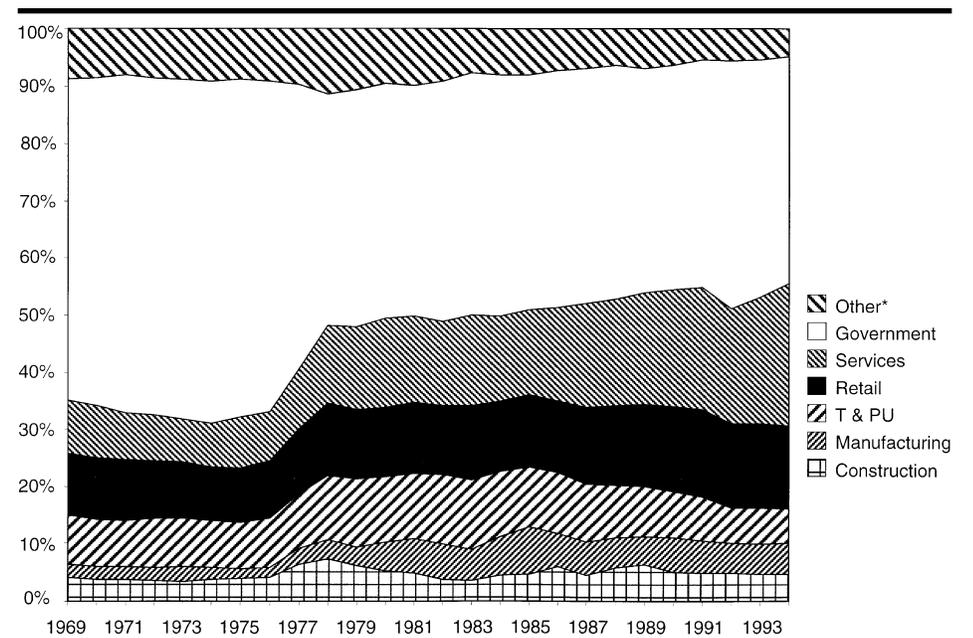
Government plays a particularly important role in Chippewa and Luce counties, where it accounts for 26.3 and 46.5 percent of employment totals, respectively. The importance of government in Chippewa County may be due to the prisons in the county. Luce County opened a prison in 1996 on the site of a former mental health facility that had closed in 1992. This county also has a Michigan Department of Natural Resources office.

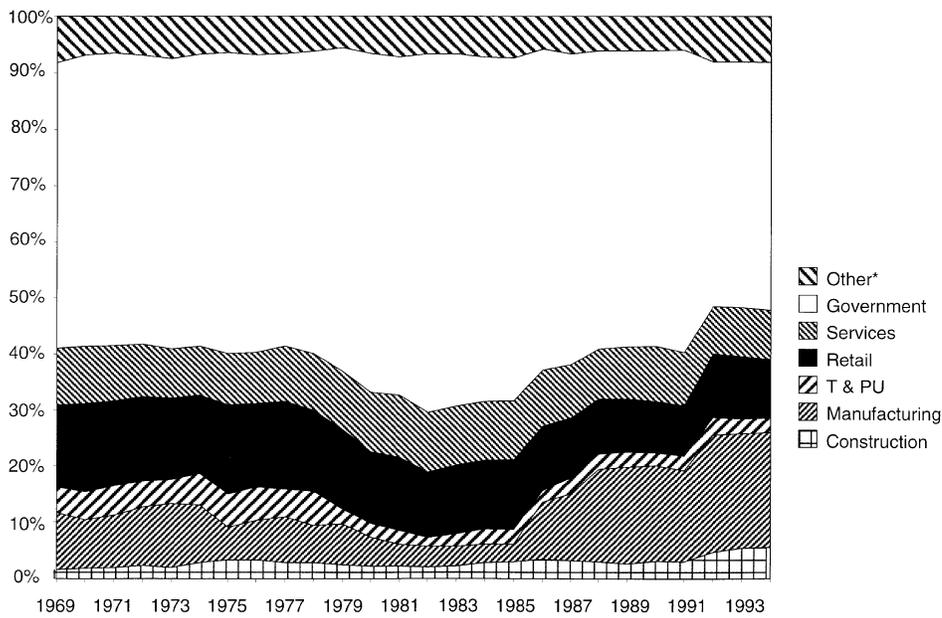
In terms of earnings by place of work, the government sector has been important in all three counties in the eastern U.P. over the past 20 years (Figures 4.6-4.8). The government sector was somewhat less important in Mackinac County but still made up between 24 and 27 percent of total earnings by place of work. For Luce County, however, the government's share lay between 52 and 59 percent for the period. In Chippewa County, the government sector declined from 57 to 42 percent between 1970 and 1990.

**Figure 4.6 Earnings by place of work in Mackinac County.**



**Figure 4.7 Earnings by place of work in Chippewa County.**



**Figure 4.8 Earnings by place of work in Luce County.**

Legend: T&PU = Transportation and Public Utilities

Source: REIS

Services and retail have become increasingly important, jointly making up 36 percent of earnings in 1990 in Chippewa County. For Mackinac County, services and retail have been important sources of earnings over the entire period, reflecting its more tourist-based economy. In farming, agriculture, fishing, forestry and mining, the entire eastern U.P. region does not seem to have a comparative advantage—those sectors make up a negligible proportion of total earnings by place of work in all three counties. However, the manufacturing sector includes earnings generated from forest products. For example, the dominant manufacturing industry in Luce County is lumber and wood products concentrated in an oriented strand board plant in Newberry (County Business Patterns, 1993). In Chippewa County, fabricated metal products dominate manufacturing, primarily because of a floating dock manufacturing plant located there (County Business Patterns, 1993).

The proportion of the labor force working directly in agriculture, forestry, fishing and mining in the eastern U.P. counties is greater than

for the state of Michigan as a whole (Table 4.8). The difference between the Michigan figure and that of Mackinac County is particularly pronounced. These data are consistent with the picture presented in Figure 4.7 of earnings by place of work. Note, however, that other employment-generating activities based on agriculture, forestry, fishing and mining—for example, wood products manufacturing—are not captured here. Specific discussion of natural resource importance to the eastern U.P. economy is taken up in the next section.

**Table 4.8. Percent of labor force in agriculture, forestry, fishing and mining (1990).**

County	Percent of labor force
Chippewa	2.8%
Luce	2.8%
Mackinac	7.5%
Michigan	2.0%

Source: U.S. census, 1990

Overall, the secondary data show that the three counties of the eastern U.P. are closing the employment gap that has traditionally existed between the region and the rest of the state. The dependence on government jobs continues with the prisons, but the private sector, notably the service and recreation-related industries, are offering more year-round jobs, with the casinos fast becoming important regional employers.

## Value-added

Natural resources made up a large share (26.3 percent) of value-added as a percent of total industry output in Luce County in 1993 (Table 4.9). Chippewa County ranked a distant second with 5.7 percent. Natural resources are aggregated to include all sectors that involve forest and wood products, such as logging camps and logging contractors, mill-work and wood household furniture. The manufacturing category does not include any firms producing wood products. Manufacturing was important in total industry output in the state of Michigan, but it plays only a minor role in the eastern U.P.

Tourism and government were substantially more important in the eastern U.P. counties for total industry output than in the state of Michigan. Tourism made up a significant share of total industry value-added in Mackinac County at 29.1 percent. Included under tourism are sectors that may cater predominantly to tourists, such as motor homes, sporting and athletic goods, and eating and drinking establishments.

## Residents' Perspective of Economic Events

In the oral history and focus group interviews, respondents discussed their perceptions regarding the most important events that have occurred in the county during their lifetimes. As discussed in the introduction, the five most commonly mentioned events were the closing of the Air Force base in Chippewa County, the introduction of prisons, the changing economics of farming, the introduc-

Table 4.9. Industry value-added (1,000) per category as percent of total industry output.

	**Natural resources	Tourism	Construction	Transportation	Wholesale, retail	*FIRE	Professional	Government	Other
Chippewa	5.7%	12.0%	6.6%	2.7%	14.0%	10.8%	5.9%	27.9%	20.1%
Luce	26.3%	7.0%	6.0%	2.6%	7.7%	12.0%	2.1%	30.3%	32.3%
Mackinac	3.5%	29.1%	8.3%	8.4%	15.1%	11.2%	4.9%	14.4%	8.6%
EUP	7.9%	15.3%	6.9%	4.0%	13.4%	11.1%	5.2%	25.1%	19.0%

Source: IMPLAN, 1995

\*Finance, insurance, real estate

\*\* Includes manufacturing of wood products.

tion of casinos and increased tourism from snowmobilers. Residents' perceptions of the Air Force base and the prisons are discussed in this section, perceptions of farming are found under the natural resource economy section of this chapter, and perceptions of the casinos and snowmobilers are located in the tourism section at the end of this chapter.

The Kincheloe Air Force Base in Chippewa County was widely regarded by residents as a boon to the economy of the eastern U.P. until its closing in 1975-76. Respondents asserted that closing the base created a great loss of jobs. As a result, the economy of the area became depressed and many people left the Kinross area. One man in Chippewa County noted, "When we first came here in '60, there was a lot of work out at the air base. There was updating it and making it a lot larger. There was a lot of work. But then after that closed and things slowed up—why, there was pretty tough times here." After the air base closed, prisons were built and opened in the same location in 1978.

Respondents believed that the introduction of five prisons near Kinross in Chippewa County and one prison at Newberry in Luce County were some of the most important events that have occurred in their counties. A man living in Chippewa County stated, "I think the biggest thing that's come in since the Air Force left is this prison over here. That... took in a lot of our young people for employment." When respondents were asked what impact the prisons

have had on their county, the most common responses were an increase in jobs, an increase in housing, and an increase in crime and similar problems.

In 42 percent of the interviews, respondents commented that the prisons have had a positive economic impact on their county because they brought many well-paying jobs with good benefits. One man in Mackinac County described the effect of the prisons: "[The prison] has enabled a lot of young people—men and women—to stay in our area, so the prison system has impacted our area in that it has allowed people to have jobs, high security jobs, pensions, good wages." Many people were glad to have the prisons because the increase in jobs made it more likely that their children could find employment instead of having to move elsewhere to find jobs. This was especially important to those residents whose children had moved to another location to find work. A woman in Chippewa County commented, "I think that [the] bringing in of the prison...is good—it is jobs. So many young people have gotten jobs out there and they are prospering now and are able to stay here."

Residents also noted that housing growth had also increased because of the increase in employment from the prisons. A man from Chippewa County commented on this trend: "Well, I think the prisons have been a good thing. They provide a lot of good jobs for people and that's one of the reasons that people are able to go out and build homes where they couldn't before."

While residents nearly unanimously agreed that the prisons had brought jobs to their county, residents in more than 10 percent of the interviews had also observed an increase in crime and other problems because of the prisons. Many of these residents felt that crime had increased primarily because of the migration of families of the prisoners to the area surrounding the prisons. Residents believed that these newcomers had values different from those of most residents of the eastern U.P. and had brought problems such as increased gang violence and drugs, which residents believed had been uncommon in their area previously. A woman in Chippewa County described how she believes the prisons have affected her area:

"The community's changed so much. It used to be when I went to school...you could go in and leave your gym locker unlocked—you never had to put a padlock on anything—you never had to worry about anybody takin' it. Now, all the time is 'Well so-and-so stole this, and the police were in and picked up so-and-so today... and we never had that until we started gettin' prison families in. I guess [that] is what you call them—people that wanna live up here, be close to the member of the family that's in prison. Then, you get those kids in school and a lot of them have been in gangs and have been in trouble..."

Because these residents believed that crime had increased, many residents no longer have the same feeling of safety that they had in the past. A woman from Luce County remarked:

*“Well, I’m closer to the prison because I live in the county and so I don’t feel quite as secure as I used to. I lock my doors where I didn’t before, and the type of people that are following the prisoners up here—well, I’m not sure that you’d like to*

*have them as neighbors. It’s a change.”*

Because of both these positive and negative impacts that the prisons have had in their area, many residents had mixed feelings about the benefit of having prisons in their

county. A woman in Mackinac County voiced this tradeoff when she mentioned, *“Well, you either work at the prison or the casino, and that’s brought a lotta jobs, a lotta gangs, a lotta transients, a lot of good and bad.”*

# Chapter 4b

## Natural Resources Economy

*"My father cut pulp. We had a sawmill as I was growing up. So, yes, I've done a lot of working in the woods."*

*"And my father, even at the end when he quit farming, he planted trees."*

*" 'Cause I went back to work at the quarry. I wasn't going to give that up. We made more money then cutting timber..."* –Permanent resident, Chippewa County

The natural resources economy of the eastern U.P. is made up of timberland, fisheries, mineral deposits and agricultural land. The industries related to these resources are logging, sawmilling, wood furniture manufacturing, commercial fishing, mining and farming. The forests and minerals, and later the agricultural land, were reasons often cited by long-term eastern U.P. residents for settlement in the region. They, their parents or their grandparents came to find higher paying employment or to escape overcrowding in the Lower Peninsula. *"My father logged up here—he was hauling logs up here back in the forties. Both my grandparents were lumbermen."*

### Eastern U.P. Land and Water

The predominant land use type in the eastern U.P. is forest. Of the 2.4 million acres of land and inland waters in the region, 1.8 million acres are classified as forest.

Water resources are important to all three counties, but the distribution based on type varies. Mackinac County has more acres of inland lakes than do Chippewa and Luce counties combined, but it has far fewer miles of rivers than the other

counties. Chippewa County has more than half of the Great Lakes shoreline of the eastern U.P., while Luce County has very few shoreline miles. Luce County's Two Hearted River contributes significantly to its dominance in designated scenic rivers. Despite the differences in water resource distribution, public access sites are evenly distributed throughout the three counties.

The Nature Conservancy (TNC) has identified two areas of the eastern U.P. as priority ecosystems for long-term preservation (TNC 1995a, 1995b). The Two Hearted River Landscape Ecosystem is located in northwestern Luce County, and the Northern Lake Huron Bioreserve is a coastal area spanning the entire shoreline of Mackinac County.

Protection is sought in these areas for unique, pristine and unusual ecosystems such as coastal marshes and lavars, and TNC is acquiring land in these areas to achieve these objectives. A conservation plan has been drafted for the Two Hearted River Landscape Ecosystem and a strategic plan written for the Northern Lake Huron Bioreserve. These areas are considered to be remarkably free of human influence and in excellent ecosystem health.

### Eastern U.P. Natural Resource Industries

Natural resources-related industries contribute a significant share of total industry value-added in the

**Table 4.10. Land use by county and type in percent.**

	Forest	Cropland	Pasture	Water	Other	Total acres in thousands
Chippewa	70.0	6.2	0.8	6.7	16.3	1,071
Luce	79.7	1.1	0.0	2.6	16.7	593
Mackinac	79.4	2.0	0.6	6.5	11.4	699

Source: Michigan Agricultural Statistics Service, 1998

**Table 4.11. Water resources.**

	Inland lake area (acres)	Rivers (miles)	Great Lakes shoreline (miles)	Designated scenic rivers (miles)	Public access sites (number)
Chippewa	11,624	800	456	13.2	26
Luce	15,271	658	31	141.0	26
Mackinac	28,547	347	298	27.8	22
EUP	55,442	1,805	785	182.0	74

Source: Travel, Tourism and Recreation Resources Center

eastern U.P. (Table 4.12). The importance of these industries varies by county. A very large share (35 percent) of value-added in Luce County is from natural resources but a relatively small share in Chippewa (5 percent) and Mackinac (2 percent). Tourism contributes 18 percent of the value-added in Mackinac County and 9 percent in Chippewa County. Natural resources and tourism combined produced 19 percent of the eastern U.P.'s \$965 million of value-added in 1995.

An estimated 1,682 people are employed in natural resource-related jobs in the eastern U.P. This type of employment is more important in Chippewa County than in Luce or Mackinac. Tourism, with 4,239 employees across the region, is a more important source of employment in Chippewa and Mackinac. Other employment-generating activities based on agriculture, forestry, fishing and mining, such as wood products manufacturing, are not included here.

**Wood Products**

*"My grandfather came here in 1880 ... in on the lumber boom. See the white pine was being harvested then..."*

*"Both my grandparents were lumbermen."* —Long-time permanent resident, Chippewa County

**Table 4.12. Natural resources and tourism value-added (in millions of dollars) by county and industry category, 1995.**

	Natural resources	Tourism
Chippewa	27.48	51.50
Luce	49.20	1.38
Mackinac	7.19	40.19
EUP	83.87	93.08

Source: IMPLAN, 1995

**Timberland Trends and Status**

Most of the eastern U.P. is in timberland (76 percent). Unlike Michigan as a whole, timberland acreage in the region decreased somewhat from 1966 to 1980 and decreased slightly from 1980 to 1993. Timberland is forestland that is not reserved from timber production and is capable of producing a commercial timber crop (i.e., it has growth of at least 20 cubic feet per acre per year). The eastern U.P.'s 1.8 million acres of timberland are half publicly and half privately owned (Figure 4.10). The region has relatively less non-industrial private land—just under 40 percent—than do other parts of Michigan, where over half of the timberland is non-industrial private. Mackinac County has the highest percentage of publicly held timberland, at 55 percent—31.7 percent of it is state owned and 23.3 percent is federally owned. Luce County has 53.6 percent privately held timberland and 46.4 percent

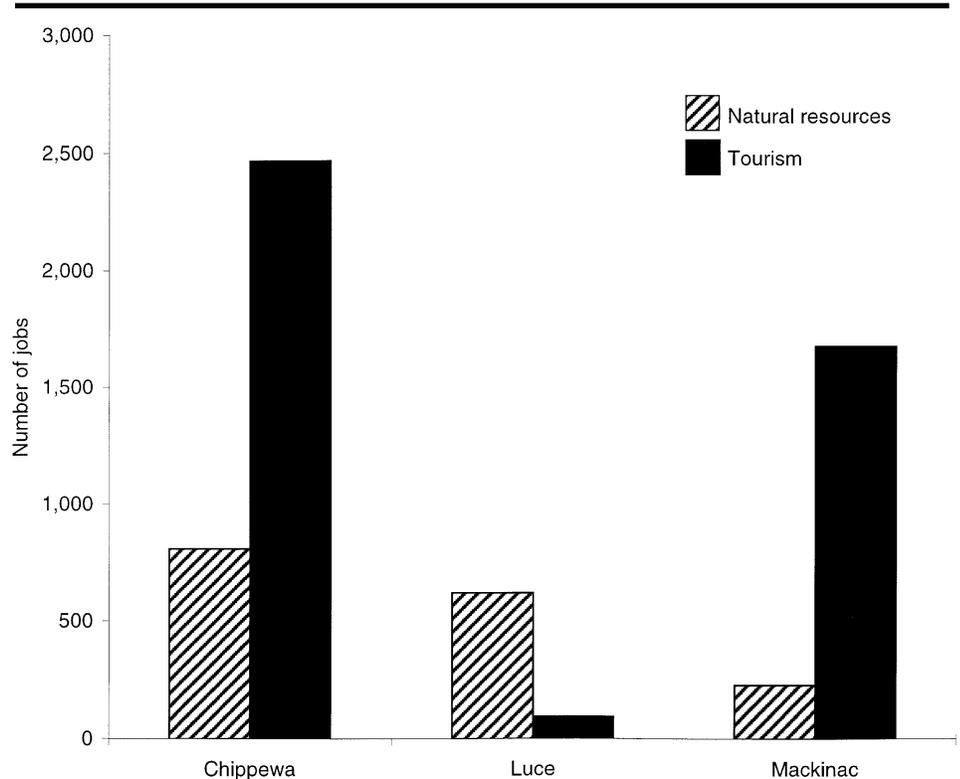
publicly held timberland, all of which is in state ownership. In Chippewa County, just under half of the timberland is held by private owners (47.6 percent); the federal government holds 30.3 percent of the timberland and the state owns 21.8 percent.

**Wood Products Industry**

*Production*

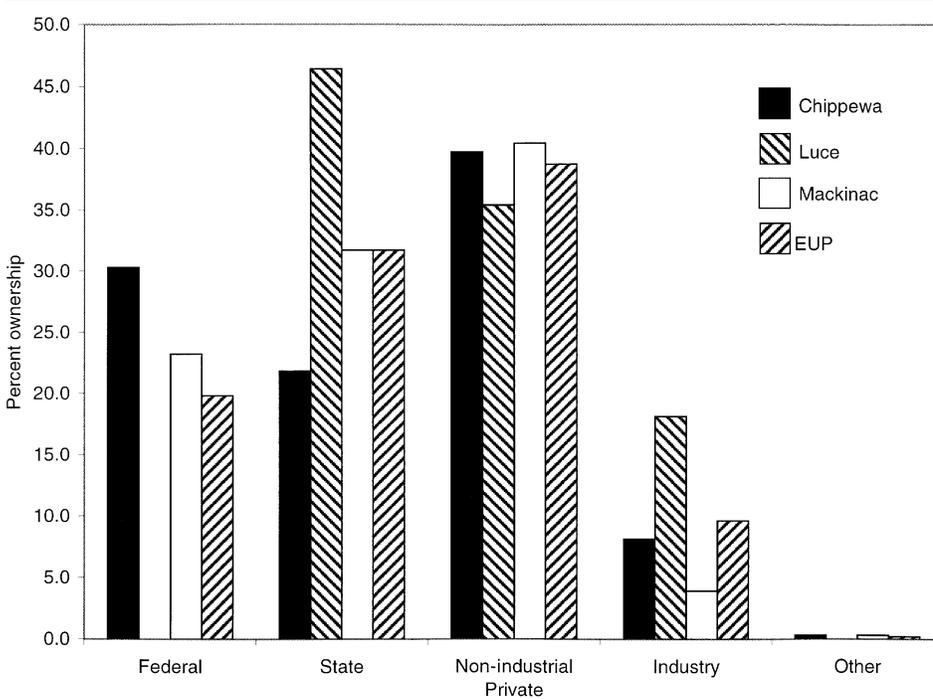
Between 1984 and 1994, timber production in the eastern U.P. increased 32 percent. Production was 23.5 million cubic feet of timber in 1994, the latest year for which data are available (Table 4.13). This is consistent with the perceptions of survey respondents, 38.6 percent of whom think that harvesting trees has increased in the past five years. For other respondents, almost one-fourth (24.4 percent) think that harvesting has stayed the same and 4.3 percent think it has decreased (28.1 percent did not know).

**Figure 4.9 Employment by county and industry category.**



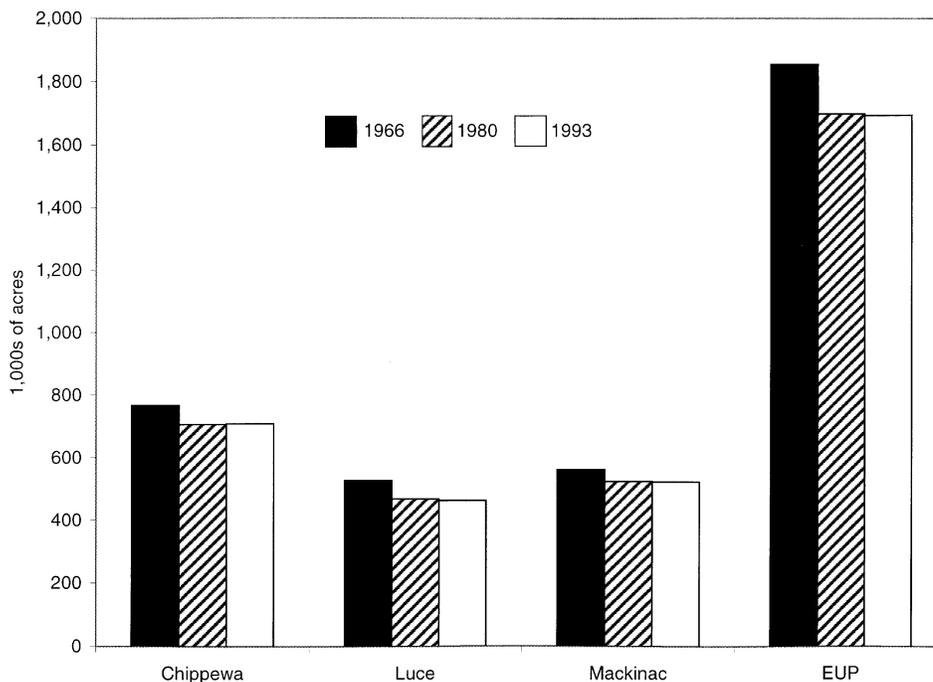
Source: IMPLAN, 1995

Figure 4.10 Timberland ownership by county, 1993.



Sources: Chase et al., 1970; Raile and Smith, 1983; Schmidt et al., 1993

Figure 4.11 Timberland by county, 1966, 1980 and 1993.



Source: Schmidt et al., 1993

Table 4.13. Timber production by county, 1984 and 1994.

County	1984	1994
<i>Thousand cubic feet</i>		
Chippewa	4,554	8,867
Luce	6,368	6,894
Mackinac	6,138	7,701
EUP	17,060	23,462

Sources: USDA Forest Service, 1986; May, D.M., and J. Pilon, 1996.

**Employment**

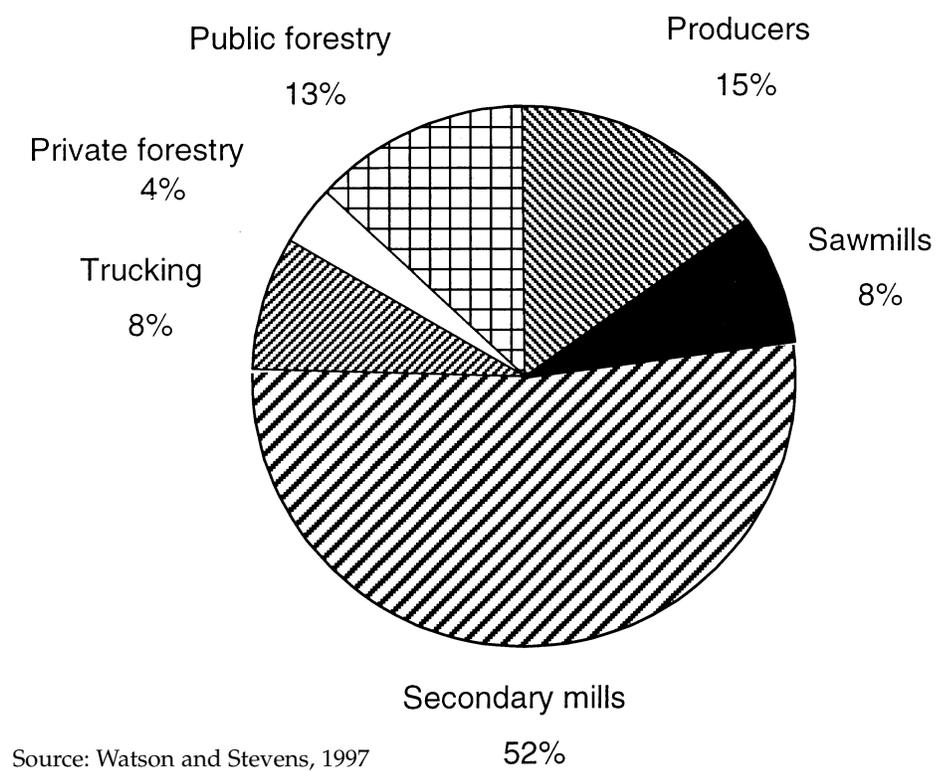
Wood products businesses are an important component of the manufacturing sector in the eastern U.P. (Table 4.14), with producers (i.e., loggers) making up the largest category of wood products businesses in the eastern U.P. counties. Chippewa County had the highest number of total wood products businesses in the eastern U.P. in 1996—32 out of a total of 84. Fifteen of these businesses were producers (timber harvesting businesses). Luce County had nine producers out of a total of 26 wood products businesses, and Mackinac County had 12 out of 26. Mackinac County had six sawmills, the highest number in the eastern U.P., while Chippewa County had the highest number of secondary mills—seven. Luce County led the eastern U.P. in trucking businesses and private forestry enterprises, with six and five, respectively. Public forestry (state and federal) is important in the eastern U.P. counties as well, with one or two operational units (ranger districts, DNR offices) per county. Private forestry includes forestry consultants and timber brokers.

Out of a total of 84 wood products businesses in the eastern U.P., producers make up the largest share, at 43 percent; secondary mills follow them at 17 percent and trucking at 14 percent. Sawmills and private forestry account for 12 and 8 percent, respectively, while public forestry represents 6 percent. In Luce County, the largest single manufacturing

employer is the Louisiana Pacific oriented strand board plant, with 124 employees (Michigan Jobs Commission, 1998). In Chippewa County, Great Lakes Plywood with 60 employees and JAS Veneer with 42 employees are also principal manufacturing employers.

Secondary mills led wood products in employment in the eastern U.P. in 1996 (Table 4.15). Out of a total of 347 employees at secondary mills, 154 were employed in Chippewa County, 146 in Luce County and 47 in Mackinac County. The low figure for Mackinac County is also reflected in total wood products employment. At 160 employees in wood products, Mackinac County trailed Chippewa County and Luce County, which had 256 and 249, respectively. Although there were more businesses classified as producers, they accounted for less than one-sixth of the total wood products labor force in the eastern U.P., with between 26 and 40 employees per county.

**Figure 4.12 Wood products labor force in the eastern U.P.**



**Table 4.14. Wood products businesses by county and type, 1996.**

	Producers	Sawmills	Secondary mills	Trucking	Private forestry	Public forestry <sup>1</sup>	Total
Chippewa	15	3	7	4	1	2	32
Luce	9	1	4	6	5	1	26
Mackinac	12	6	3	2	1	2	26
EUP	36	10	14	12	7	5	84

Source: Watson and Stevens, 1997.

<sup>1</sup> State and federal forest management offices

**Table 4.15. Wood products labor force by county and type, 1996.**

	Producers	Sawmills	Secondary mills	Trucking	Private forestry	Public forestry	Total
Chippewa	40	16	154	8	5	33	256
Luce	26	2	146	40	15	20	249
Mackinac	36	33	47	6	4	34	160
EUP	102	51	347	54	24	87	665

Source: Watson and Stevens, 1997.

In 1996, secondary mills accounted for the highest percentage of wood product business employment in the eastern U.P., with 52 percent of total employment (Figure 4.12). A large portion of this employment is from one large oriented strand board (OSB) mill in Luce County. The next highest percentages were producers and public forestry at 15 and 13 percent, respectively. Sawmills and trucking were tied at 8 percent, and private forestry followed at 4 percent of total wood products employment.

Residents' perceptions about logging varied. Several remarked on the large logging operations: "They cut a lot of timber off years and years ago, and when I say that I mean 1940 and 1945, and it never came back, never was restored." Another remarked on the continuing importance of lumbering, stating, "They still lumber. Do a lot of lumbering here." But logging has become more mechanized: "...they don't have very few people workin' ... everything's done by machine now." The change from logging large sawtimber to the current pulpwood-dominated industry was also noted by several residents.

"See, it took large timber. Well, your pine, the big pine is gone, the big hemlock is gone, the big hardwood is gone so what you'll see now is pulp cutting."

"(A)nd we have a lot of wood work here where they cut pulpwood for the pulpwood mills."

"Louisiana Pacific, they use about a trainload of timber a day."

Many residents produced wood from their own lands either for firewood or for sale to mills. "I enjoy... cuttin' timber and, you know, managing the woods ... improve it. (T)hat's how we started farming, more or less, sell pulpwood, basic pulpwood... and now we are still selling the stumpage now. We are getting almost as much for the stumpage as we used to get after we cut it and hauled it to the railroad car."

Negative perceptions regarding clearcutting were expressed by a number of residents: "I've seen some of these clearcut areas that ... you couldn't walk across the ground afterwards for ruts."

"I think there should be a law that they go back so many feet so that you can't see that they've clearcut all the logs off of it."

Residents also expressed concern regarding large parcels that had been sold and then cleared: "...they just went in and slashed the whole thing out. They just stripped it all off and just sold it."

Some positive perceptions of clearcutting were also noted. "...the state's doing a fairly decent job of that. They're taking and they're cutting. And that's as time progresses, that'll be good for us and cover for deer and animals, too."

### Wood Heat

"...wood for heating? Oh, yeah. The whole island did, everybody cut wood. Nobody does nothing today, no." —Long-term resident, Neebish Island

Twenty-eight percent of eastern U.P. households heat with wood. This proportion is well above the 3.9 percent for Michigan as a whole (U.S. census, 1990). In 1996, respondents to the mail survey reported that 51.9 percent of their households cut firewood. Household respondents who cut the firewood themselves were 25.8 percent of the respondents; 8.1 percent responded that someone else in the household cut the firewood, and in 18 percent of the households, both the respondent and someone else cut firewood.

Many of the eastern U.P. residents interviewed believed that firewood production has been decreasing: "(N)obody cuts wood anymore for firewood, and when I was a young lad up and up until the last 10 years ago, there was a whole lot of people who would go to the woods and maybe harvest some trees or something like that and firewood, especially."

### Agriculture

"... came in the timber boom. And he came in the 1880s and been here ever since... I mean he has farmed the whole rest of his life here. And there was farms..." —Long-term resident, Chippewa County

Agriculture has been a part of the economy and the communities of the eastern U.P. since the late 19th century, when timbering and settlement cleared the forest. Long-term residents spoke of parents who farmed, often taking on additional jobs to support their families. "...he'd cut all day long and he'd walk back at night and he'd milk that handful of cows at night when he got back and took care of his chickens and a hog or two."

"My mother still lives on the farm and she's 90 years old. But he worked at the quarry and he farmed part-time..."

For many residents, farming continues to be an important part of their lives. "I thought about getting off the farm... but unless I'm out of doors, I'm outta place. My oldest son —that's all he could think about is farming. He could never think of doin' anything else."

"His dad was a farmer; before that he worked at US Steel. In his blood, I guess."

### Agricultural Land Trends and Status

There are 124,378 acres of land in farms in the eastern U.P. (MASS, 1997), an all-time low for these counties. As shown in Figure 4.13, between 1950 and 1992, eastern U.P. land in farms decreased notably, though the area seems to have stabilized in recent years.

The number of farms has declined steadily from 1940, when there were 2,284 farms in the region. At the same time, the average farm size has increased. In 1930, the average farm size was between 116 and 144 acres, depending on the county. Current averages range from 280 acres in Chippewa to 317 acres in Mackinac. Historically Chippewa County has had the majority of farm acreage, though the acreage declined dramatically between 1950 and 1960. Most of the eastern U.P.'s 433 farms are also in Chippewa County (Figure 4.14).

Figure 4.13 Farm acres by year and county, eastern U.P.

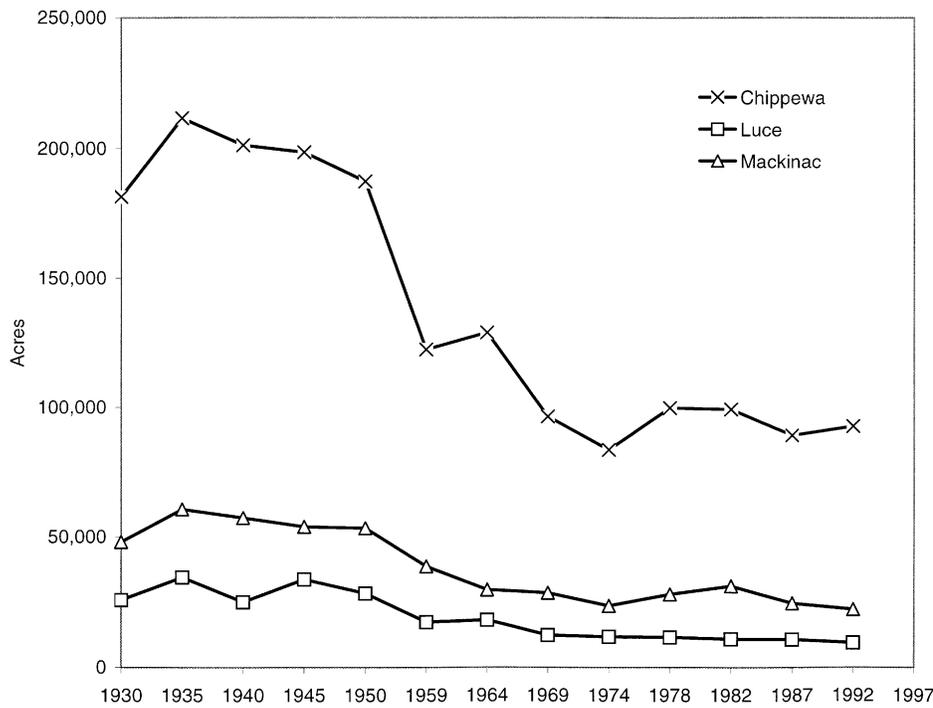
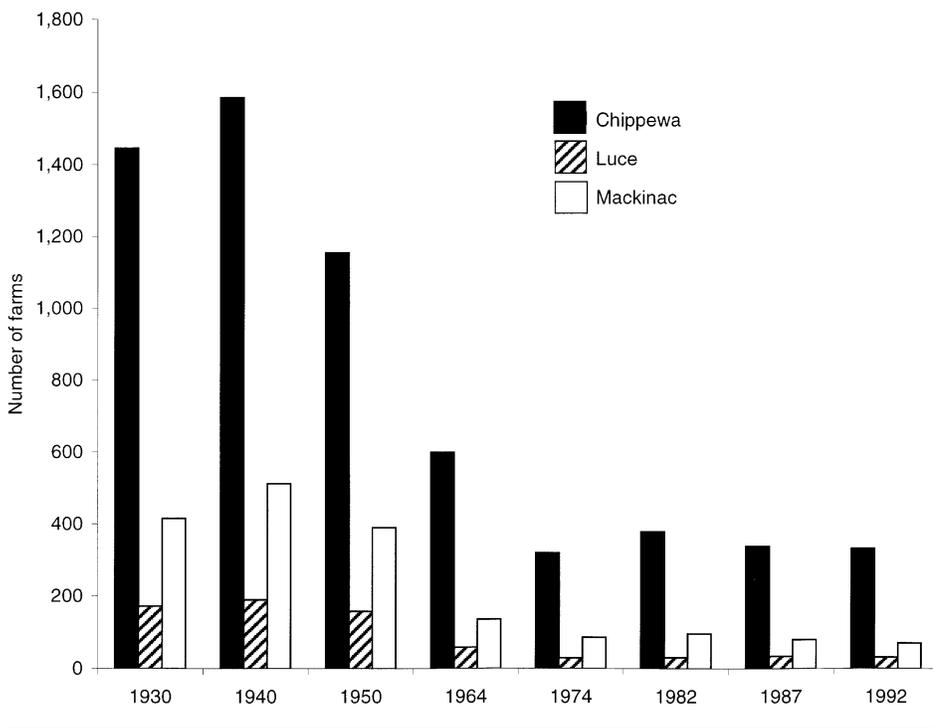


Figure 4.14 Number of farms by county, 1930-1992.



## Commercial Agriculture

### Production

Agriculture from eastern U.P. farms produced \$20.47 million in 1995 and \$12.50 million in value-added, a decline from the 1993 level of \$18.7 million (IMPLAN, 1995). Chippewa County produced 68 percent of the output and 82 percent of the value-added from agriculture in the eastern U.P. Most farm income was from livestock and livestock products in 1994 (MASS, 1996).

### Employment

The eastern U.P. has 590 people employed in agriculture, 453 of whom are in Chippewa County (IMPLAN, 1995). Most of the employment and output are in hay and pasture (424 jobs) and grass seeds (56 jobs).

### Residents' Perceptions

Particularly in Chippewa and Mackinac counties, residents believed that the changing economics of farming and the resulting decline in farming operations were some of the greatest events to have affected their county. Long-time residents of these counties remember when farming was common. They or their parents had small, diversified farms: *"(E)very farm had sheep ... and dairy cows and some had beef cows and then there was always a flock of chickens."*

The decline in the number of small or family farms was mentioned often. One man noted, *"...on the road between Sault Ste. Marie and Pickford, there was 20 to 23 dairy operations or people milking cows and this 20 to 25 years ago, and now there's only one."* The remaining farms have become relatively large and specialized. One man reflected on how he felt about this change when he said, *"Well, I hate to see all the smaller farms being swallowed up by one or two big operators. That's the only way the farmer can subsist anymore. If he isn't big, he's got to get out."* A woman in Chippewa County declared, *"...the family farm is basically gonna be gone. I think it's all gonna be commercial, they prit'neer got the family farm all wiped out."* Another

farmer remarked, "... you either gotta be big or not at all."

The high cost of machinery and feed and low prices for beef and milk were frequently cited as reasons for the decline in family farms. One farmer stated, "...everything has gone up, your income hasn't, you know, we're about back at '83 prices for what we sell calves in the fall...." Because of these two trends in prices, many residents were no longer able to continue farming. A man in Chippewa County observed, "Well, the food, the feed for the cattle, it's so expensive nowadays and then the milk prices are not that high and...by the time you pay your feed bills and you pay your utilities and all of that, you don't hardly have any money left for your wages, so it's not economical to do it anymore."

Most residents had strong feelings about the farm decline. Residents were upset to observe that land no longer being farmed was either reverting to brush in areas where property values were low or was being sold and developed in areas where property values were higher. A farmer in Chippewa County noted, "I can make more money breakin' my land up and selling it (for) homes, building spots, (than) as keeping it as one." Many residents felt that development on former farmland threatened to alter some of their favorite aspects of life in the eastern U.P. In particular, residents were concerned that the loss of farmland and subsequent development would diminish the peace and quiet and open nature of the eastern U.P. Land kept under farming had helped to maintain the rural nature of the eastern U.P., which residents said was so important to them.

In addition, residents were greatly disappointed by the decline in farming because they felt that a farming lifestyle was a way of life in the eastern U.P. When asked what he thought about this decline, a man in Chippewa County said, "I think it's sad, because I think it was one of the better places to raise a family instead of some of these other environments." Further discussion of the decline in

farming and residents' perceptions of that decline can be found under the "Gathering and Harvesting Activities" section in the next chapter.

## Commercial Fishing

*"...you have good years and you have bad years and it's always been that way. We ain't got no fish. Period."*

### Production

Commercial fishing is largely practiced by tribal members in Chippewa, Luce and Mackinac counties. Commercial fishing produced \$1.75 million in output and \$1.16 million in value-added in the eastern U.P. in 1995 (IMPLAN, 1995).

Total tonnage of fish harvest from Michigan's Great Lakes declined between 1985 and 1990 (Garling and Dann, 1995). However, tribal commercial tonnage rose 49 percent while state commercial and sport angler tonnage declined by 28 and 74 percent, respectively. Pacific salmon harvest declined the most over this period, while modest increases were recorded for whitefish catch. A major concern in previous years was the levels of DDT and PCBs found in fish, but a steady reduction in the levels of these toxins was found in Lake Michigan lake trout over a 20-year period ending in 1990 (Garling and Dann, 1995).

### Employment

Direct employment in commercial fishing in the region was 230 persons in 1997, which does not include employment in processing (Ripley, pers. comm.). Commercial fishers in the eastern U.P. are members of the Bay Mills Indian Community (68) and the Sault Ste. Marie Tribe of Chippewa Indians (162). Tribal commercial and subsistence fishers may use the eastern U.P.'s 19 access sites to Lake Superior (10), Lake Huron (7) and Lake Michigan (2) (Inter-tribal Fisheries and Assessment Program, 1998). One of these access sites is tribal; the others are state or U.S. Forest Service.

The perception that the Great Lakes fishery has declined because of

netting and salmon stocking was widespread among respondents. One person said, "Well, because it's been fished to death. And now they're fishing commercially and set gill nets... they took all the perch out of this lake by leaving gill nets." "I think they should stop that netting completely." "It's like everything else, not like it used to be, but we've got a lot of netting up here..."

## Mining

*"...when I was a youngster there was another business here. Charcoal, iron and chemical company. That's where my father worked. He was a molder. He made things out of iron. Especially for the loggers...that's what he did until the company quit and he went farming." —Long-time resident, Luce County*

The eastern U.P. mining industry produced \$7 million in value-added and \$11.45 million in industrial output in 1995 (IMPLAN). Limestone and dolomite quarries are the dominant operators. As an employer, the industry is important. For instance, the Michigan Jobs Commission reports 125 employees in limestone mining in Mackinac County, making it the largest single manufacturing employer in that county. The Osborne Materials Co. operation on Drummond Island in Chippewa County is another major manufacturing employer, as is Sand Products Corporation in Mackinac County, which produces industrial sand, largely for foundry molds. Most of the mining production and value-added in the eastern U.P. can most likely be attributed to these operations.

### Employment

Mining employed an estimated 109 people in the eastern U.P. in 1995 (IMPLAN, 1995). Though mining is not as important as it once was to the economy of the eastern U.P., residents remarked on the importance of the mines, quarries and processing facilities. One person commented, "Quite a few people from Chippewa County (are) workin' that quarry up there." Another said, "I should say the dolomite plant to me was one of the

*greatest saviors of this area, because it offered year-round employment to the people here. Because we knew people were going to stay here." Long-term residents also mentioned facilities that are no longer operating. Luce County, for example, had an iron smelter: "That iron company was one of the last to make pig iron in the United States."*

## Summary

Forests cover more than 75 percent of the eastern U.P. The resources contained in these forests provide significant economic activity to the region through forest management, timber production and forest products manufacturing. In 1995, nine percent of the value-added in the eastern U.P. economy was from natural resource primary production, and these sectors employed 1,656 people. Ties to farming in the eastern U.P. remain strong, although the agricultural

economy has declined greatly. The once 2,284 farms have declined to 433, and average farm size has increased notably. Commercial fishing in the eastern U.P. is small and is largely a tribal activity. Commercial fishers produced \$1.75 million in output in 1995 and \$1.16 million in value-added. The eastern U.P. mining sector is concentrated in production of dolomite, limestone and sand. It produced \$11.45 million in output in 1995 with \$7 million in value-added to the economy.

# Chapter 4c

## Tourism

*“[Tourism] makes some low-paying jobs for some people all winter that didn’t have them before...it’s not affectin’ the countryside or the environment—I say it’s a good thing, because anybody that’s busy is better than one settin’ in the house.”*

—Long-time permanent resident,  
Chippewa County

The eastern U.P. has long been a popular tourist destination. Since Mackinac Island is part of Mackinac County, all of the tourism activity on the island is considered part of the eastern U.P. On the mainland, tourism activity has increased substantially since 1990 with the development and expansion of American Indian gaming casinos in both Chippewa and Mackinac counties. Luce County has continued to be a popular destination for snowmobiling and forest recreation.

There are few comprehensive estimates of tourism activity or spending for the eastern U.P. The U.S. Travel Data Center (USTDC, 1992) estimated that of the \$6.7 billion spent by tourists in Michigan in 1990, \$148 million was spent in the three eastern U.P. counties. The USTDC includes all spending by visitors on trips of 100 miles or more or involving an overnight stay. Stynes (1997) estimated tourist spending at \$125 million in the eastern U.P. in 1990, not including air-related expenses or en route expenses that do not include an overnight stay in the area.

Based on their Great Lakes regional household survey, the Michigan Travel, Tourism and Recreation Resource Center reports that the three eastern U.P. counties received 2.3 million person trips in 1995, almost 10 percent of the state’s 25 million pleasure trips (Travel Michigan, 1997). Mackinac and Chippewa counties ranked fourth

and fifth, respectively, in trips received, exceeded only by Wayne, Grand Traverse and Saginaw counties. Luce County was tied for last among Michigan’s 83 counties, though this estimate is somewhat deceiving. Given the small population and economic base of Luce County, even modest levels of tourism activity in the county have significant impacts.

Trips to seasonal homes are an important component of tourism in Michigan, though many tourism data sources do not cover seasonal home-related tourism very well. A tourism-spending model developed by Stynes (see Stynes, 1996, for details) directly incorporates seasonal homes, providing estimates of their relative importance to tourism spending. Stynes’ model is used here along with secondary economic data from the IMPLAN system (MIG, Inc., 1993) to derive quantitative estimates of tourism spending and impacts in the eastern U.P. Several sources and approaches, involving somewhat distinct assumptions, are used in pinning down a more reliable and complete estimate of tourism’s economic impacts on the region.

The model is grounded in an inventory of overnight accommodations in each county (motel rooms, campsites, seasonal homes) and

Michigan’s hotel/motel room use tax data. Estimates of camping and seasonal home occupancy rates and per day spending patterns, derived from various surveys, are applied to the lodging inventory data to estimate tourist spending. The model multiplies camping and seasonal home occupancy rates by counts of seasonal homes and campsites for each county to estimate the number of party-nights in these accommodations. Room taxes are used to estimate stays in commercial lodging. Average trip spending profiles per party-night are then applied to the levels of tourism activity to estimate tourism spending in each destination county.

### Tourism Accommodations in the Eastern U.P.

The eastern U.P. had more than 5,000 motel rooms, more than 4,000 campsites and slightly fewer than 10,000 seasonal homes in 1990 (Table 4.16). Since 1990, motel rooms and seasonal homes have increased, though more recent data are unavailable. If all 19,000 lodging units are occupied with an average of three persons per room, the number of overnight visitors exceeds the size of

**Table 4.16. Overnight lodging capacity (1990).**

County	Motel rooms	Campsites	Seasonal homes	Total overnight capacity
Chippewa	1,791	1,984	4,787	8,562
Luce	386	698	1,112	2,196
Mackinac	2,951	1,403	4,039	8,393
EUP total	5,128	4,085	9,938	19,151

Source: Lodging Room Use Taxes

the resident population. Mackinac County has the greatest proportion of motel rooms (many on Mackinac Island), Chippewa the most seasonal homes and Luce a larger percentage of campsites compared with motels or seasonal homes.

Perhaps the best indicator of tourism activity in an area is Michigan's lodging room use tax. Michigan collects a 6 percent tax on the cost of each room rented. The rate was increased from 4 percent in 1995 (Spotts, 1991). Taxes for each county are reported monthly by the secretary of state. There are some minor problems in chain motel reporting and possibly some taxes not reported, but otherwise the room tax is one of the best indicators of tourism activity in an area. The tax clearly does not cover day visitors or tourists staying overnight in campgrounds, in seasonal homes, or with friends and relatives. However, activity and spending of these tourist segments can be estimated separately.

Room tax collections indicate that room receipts in the eastern U.P. grew from \$9.7 million in 1985 to \$16.9 million in 1990 and grew dramatically during the 1990s to \$42 million in 1995 (Table 4.17, Figure 4.15). The growth has been particularly dramatic in Mackinac and Chippewa counties, where it is clearly tied to casino growth. Lodging room receipts in the eastern U.P. increased by 150 percent between 1990 and 1995, three times the statewide growth rate over the same period.

### 1990 Tourism Spending Estimates

Stynes (1997) estimated that tourists in 1990 spent \$75 million in Mackinac County, \$42 million in Chippewa County and \$7.9 million in Luce County, totaling approximately \$125 million (Table 4.18). Visitors in motels accounted for 52 percent of tourist spending in the eastern U.P., visitors in seasonal homes accounted for another 28 percent, and day visitors, 13 percent.

Campers accounted for only 4 percent of tourist spending in the region but 11 percent in Luce County. Tourist spending in Mackinac County was primarily from visitors in motels and day visitors, while Chippewa and Luce counties also depended heavily on seasonal homes. Spending associated with seasonal homes includes only spending on trips (groceries, gas, entertainment, eating out and miscellaneous items), not expenses to build, operate or maintain the homes.

Figure 4.15 Lodging receipts in the eastern U.P., 1985-1995.

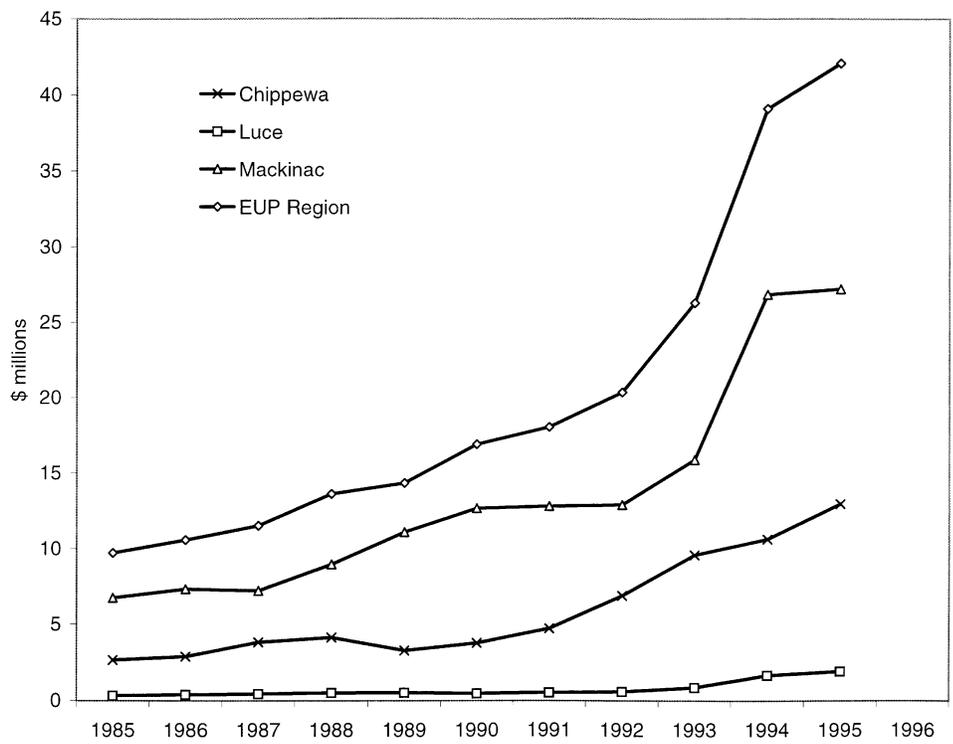


Table 4.17. Lodging room receipts by county, 1985-1995.

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
<i>Millions of dollars</i>											
Chippewa	2.65	2.87	3.83	4.14	3.29	3.77	4.73	6.88	9.56	10.62	12.96
Luce	0.32	0.38	0.44	0.50	0.51	0.47	0.51	0.58	0.85	1.65	1.92
Mackinac	<u>6.74</u>	<u>7.31</u>	<u>7.21</u>	<u>8.95</u>	<u>11.08</u>	<u>12.66</u>	<u>12.81</u>	<u>12.88</u>	<u>15.86</u>	<u>26.84</u>	<u>27.21</u>
EUP	9.71	10.56	11.49	13.60	14.88	16.90	18.05	20.34	26.27	39.11	42.09

## Tourism Spending Estimates for 1995

By updating the tourist spending figures to 1995, we can more clearly see the impacts of the growth in casinos on the region's economy. The spending estimates in Table 4.18 were updated to 1995 using travel price indices to update spending profiles and 1995 room use tax data to capture increases in overnight stays in motels in the region. The number of visitor days/nights for camping and seasonal homes is assumed to be the same as in 1990 (we have no updated information on these segments). The eastern U.P. share of statewide spending on day trips and

while visiting friends and relatives is assumed to be the same as in 1990. The 1995 American Travel Survey (Bureau of Transportation Statistics, 1998) is used to update the overall statewide estimates of travel activity. We have also not adjusted for possible errors in lodging room use tax data due to chain reporting problems. Tax collections reported from "out-of-state" by major hotel chains with properties in Michigan were allocated to counties according to the distribution of chain properties in 1990. With these assumptions, we estimate that tourists spent \$8.8 billion dollars in Michigan in 1995 (Table 4.19). Adding another billion in en route spending that is not cap-

tured in the model yields a statewide figure slightly higher than the USTDC estimate of \$9 billion for Michigan in 1995 (USTDC, 1997).

This model indicates that tourist spending in the eastern U.P. doubled between 1990 and 1995 to almost \$250 million. The increases in lodging room use taxes indicate that the largest growth was from overnight visitors staying in motels. Tourist spending is likely somewhat higher than reported in Table 4.19 because no growth was assumed in seasonal home and camping activity in the region, and this model does not adequately capture large increases in casino spending.

Table 4.18. Tourism spending in the eastern U.P. by market segment, 1990.

County	Visitors in motels	Visitors in campgrounds	Visitors in seasonal homes	Staying with friends and relatives	Visitors on day trips	Total
TOTAL SPENDING (\$1,000s)						
Chippewa	15,891	2,381	16,755	3,164	4,146	42,336
Luce	2,057	838	3,892	527	556	7,869
Mackinac	47,241	1,684	14,137	976	10,960	74,998
EUP	65,189	4,902	34,783	4,667	15,662	125,203
Michigan <sup>a</sup>	1,696,196	220,536	917,160	850,000	550,000	4,233,893
PERCENT OF SPENDING BY SEGMENT						
Chippewa	38%	6%	40%	7%	10%	100%
Luce	26%	11%	49%	7%	7%	100%
Mackinac	63%	2%	19%	1%	15%	100%
EUP	52%	4%	28%	4%	13%	100%
Michigan	40%	5%	22%	20%	13%	100%

<sup>a</sup> Does not include \$1.6 billion in air-related spending statewide, which brings the statewide total tourism spending to \$5.8 billion in 1990.

Source: Stynes, 1997

Table 4.19. Tourism spending in the eastern U.P. by market segment, 1995.

County	Visitors in motels	Visitors in campgrounds	Visitors in seasonal homes	Staying with friends and relatives	Visitors on day trips	Total
TOTAL SPENDING (\$1,000s)						
Chippewa	45,787	5,446	25,132	6,924	8,288	91,577
Luce	6,805	1,916	5,838	1,153	1,241	16,953
Mackinac	91,792	3,851	21,205	2,136	15,716	134,701
EUP	144,384	11,213	52,175	10,213	25,246	243,231
Michigan <sup>a</sup>	2,566,996	339,573	1,116,399	1,860,000	570,000	6,452,968
PERCENT OF SPENDING BY SEGMENT						
Chippewa	50%	6%	27%	8%	9%	100%
Luce	40%	11%	34%	7%	7%	100%
Mackinac	68%	3%	16%	2%	12%	100%
EUP	59%	5%	21%	4%	10%	100%
Michigan	40%	5%	17%	29%	9%	100%

<sup>a</sup> Does not include \$2.4 billion in air-related spending statewide, which brings the statewide total tourism spending to \$8.8 billion in 1990.

Source: Stynes, 1997

## Estimates of Tourism Sales from the 1993 and 1995 IMPLAN Data Files

With a few assumptions, county economic data files from the IMPLAN economic modeling system can also be used to estimate economic activity associated with tourism in the eastern U.P. The IMPLAN data include complete information at the county level on sales, income, value-added and employment for 528 economic sectors. IMPLAN data files for Chippewa, Mackinac and Luce counties were examined for 1993 and 1995 (MIG, Inc., 1993).

Tourism was defined to include all economic activity in the hotel (sector 463) and amusements sectors (sector 488) and portions of the sales in several tourism-related sectors (retail trade, wholesale trade, other amusements, eating and drinking establishments, and water transportation). Half of the sales in retail trade, other

amusements, and eating and drinking establishments were assumed to be to tourists. The exception was in Chippewa County, where the shares were reduced to 25 percent for retail trade and 40 percent for eating and drinking establishments because of the larger population base in Sault Ste. Marie. A fourth of the activity in wholesale trade and water transportation was allocated to tourism in Luce and Mackinac counties, with the wholesale trade share reduced to 12.5 percent in Chippewa County.

These shares seem reasonable, given the number of seasonal homes and tourist activity in relation to the resident population in each county. It should be noted that this approach includes only the retail and wholesale margins on goods purchased by tourists—the IMPLAN economic accounts allocate the producer price of the good to the manufacturing sector. Most goods purchased by tourists are made outside the eastern U.P., so that only about 70 percent of the money that tourists spend in the eastern U.P. appears in these eco-

nomic accounts. A small amount of tourism sales to other sectors will also be omitted from the tourism sales estimates using this approach.

With these assumptions, eastern U.P. tourism generated \$162 million in sales to final demand in 1993: \$81 million in Chippewa County, \$72 million in Mackinac County and \$8 million in Luce County (Table 4.20). If we assume that roughly 70 percent of tourism spending is captured by the region as final sales, the \$162 million in sales equates to \$231 million in tourism spending in the eastern U.P. in 1993, a figure only slightly below the independent estimate of \$243 million for 1995, reported in Table 4.19. Estimates of tourism spending based on the allocations of activity in tourism-related sectors yield slightly higher spending in Chippewa County than in Mackinac County, which is the opposite of the pattern in Table 4.19. This is likely due to the omission of much of the casino gambling-related spending in the spending model.



**Table 4.22. Summary of tourism-related employment in the eastern U.P. by county, 1995.**

Sector group	Chippewa	Luce	Mackinac	EUP	Chippewa	Luce	Mackinac	EUP
	Total employment				Percent of employment by sector			
Hotels and lodging places	500.0	94.0	736.0	1330	13%	24%	28%	20%
Amusement and recreation	1968.0	0.0	941.0	2909	53%	0%	35%	43%
Eating and drinking	537.6	88.0	343.5	969	14%	22%	13%	14%
Retail and wholesale trade	661.1	209.8	560.0	1431	18%	53%	21%	21%
Water transportation	24.3	0.5	57.3	82	1%	0%	2%	1%
Other amusements	56.0	6.0	22.5	84	1%	2%	1%	1%
Tourism total	3747.0	398.3	2660.3	6805	100%	100%	100%	100%

**Table 4.23. Summary of tourism-related value-added by county in the eastern U.P., 1995.**

Sector group	Chippewa	Luce	Mackinac	EUP	Chippewa	Luce	Mackinac	EUP
	Total value-added (\$ millions)				Percent of value-added by sector			
Hotels and lodging places	9.7	1.4	20.5	31.6	12%	15%	32%	21%
Amusement and recreation	41.8	0.0	19.7	61.5	53%	0%	31%	40%
Eating and drinking	6.9	1.2	6.2	14.3	9%	13%	10%	9%
Retail and wholesale trade	18.3	6.5	16.3	41.1	23%	71%	25%	27%
Water transportation	0.8	0.0	1.4	2.2	1%	0%	2%	1%
Other amusements	0.8	0.1	0.4	1.3	1%	1%	1%	1%
Tourism total	78.3	9.2	64.6	152.0	100%	100%	100%	100%

## Secondary Economic Effects of Tourism Spending

The above tourism impact measures capture only the effects in those sectors directly serving tourists. By applying tourist spending to a model of the eastern U.P. regional economy, we can also estimate the secondary effects on the economy. This exercise provides another check of the validity of the tourism spending estimates. For this analysis, \$57 million in casino spending is added to the \$243 million dollars in tourism spending in Table 4.18, yielding total tourism spending of \$300 million for 1995. This spending was applied to an input-output (I-O) model of the eastern U.P. economy. The I-O model was

estimated using 1995 economic data for the region using IMPLAN.

The I-O model for the region indicates that tourist spending in 1995 resulted in \$217 million in sales to final demand in the eastern U.P. (72 percent of spending was captured by its economy). Tourism sales resulted in \$110 million in direct income to the region and supported 6,000 direct jobs (Table 4.24). These estimates are slightly lower than the ones in Table 4.21 because they are based on \$300 million in spending rather than \$350 million. Perhaps coincidentally, tribal operations, which are recorded in IMPLAN under sector 504 (Labor and Civic Organizations), make up most of the difference. IMPLAN reports \$28 million in sales, \$24 million in income and 824 jobs in sector

504 for 1995. It cannot be determined exactly how casino and tribal economic activity is reported in the IMPLAN accounts, though a significant portion of tribal revenue is derived from the casino operations. These revenues support a variety of tribal activities. In any event, the various approaches taken to estimate economic activity associated with tourism in the eastern U.P. yield fairly consistent results.

Every dollar in direct tourism sales in the region results in another 45 cents in secondary sales for a total sales effect in the region of \$315 million from tourism. Including multiplier effects, these sales yield \$162 million in income for the region and support more than 7,600 jobs in the eastern U.P. Every million dollars

of tourism spending in the region yields \$540,000 in income for the region and supports about 25 jobs (Table 4.24).

Direct effects of tourism spending are felt mainly in eating and drinking establishments, retail trade, hotels and amusements; secondary effects (mostly from household spending of income earned from tourists) accrue to services, production sectors and retail establishments (Table 4.25). The final two columns of Table 4.25 report direct and total effects (from tourism spending in 1995) as a percentage of all economic activity in the eastern U.P. in 1995. The \$300 million in tourism spending accounts for 78 percent of hotel sales, 68 percent of restaurant sales, 64 percent of amusements, and 20 percent of retail and wholesale trade.

The percentages of economic activity in the region that direct effects represent should roughly correspond to the ones we used to extract 1995 tourism activity for the eastern U.P. in Table 4.21. The percentages are roughly comparable, though the 68 percent share for eating and drinking establishments is high (Table 4.25). This could be due to assignment of too high a percentage of tourist spending to restaurants, or perhaps some eating and drinking sales are being reported under the amusements sector in the IMPLAN accounts (casino-based eating and drinking establishments). If about \$10 million of restaurant spending is reallocated to the amusement sector, it brings the tourism share of direct restaurant sales down to about 50

percent and the share of recreation sales up to 84 percent, roughly in line with the percentages used above. Notice that 15 to 20 percent of hotel and amusement sales are not attributed to tourism spending, reflecting a reasonable share of sales for these sectors to local residents.

Including multiplier effects, tourist spending in 1995 accounted for 18 percent of all income in the region and more than a quarter of all jobs (Table 4.26). It should be noted that these impact estimates cover spending by tourists on trips to the region. They do not include most government activity related to tourism, new construction of tourist facilities, purchases of recreation durables (snowmobiles, boats and campers), maintenance and operation of seasonal homes, or local resident spending on recreation near home. Many of the tribal operations supported from casino revenues are also not included.

**Table 4.24. Economic impacts of tourism spending<sup>a</sup> on the eastern U.P. economy, 1995.**

Economic measure	Direct effects	multiplier	Total effects
Output/sales (\$ millions)	217	1.45	315
Total income (\$ millions)	110	1.47	162
Jobs	6,000	1.27	7,623

<sup>a</sup> Based on \$300 million in tourism spending in 1995.

## Tourism and Natural Resources

Not all tourism to the eastern U.P. is directly tied to natural resources—the tourism figures include some business travel, trips to visit friends and relatives, and some leisure travel that is not strictly natural resource-based.

**Table 4.25. Sales effects of tourism spending by sector in 1995 (\$ millions).**

	TOURISM SALES (\$ millions)			EUP ECONOMY Total sales (\$MM)	PERCENT OF EUP SALES, 1995	
	Direct sales effects	Secondary sales effects	Total Tourism sales		Direct sales/EUP total	All tourism sales/EUP total
Manufacturing	2.3	9.6	11.9	443	1%	3%
Transp. and services	9.1	56.6	65.7	509	2%	13%
Recreation	69.3	1.9	71.2	108	64%	66%
Hotel	46.0	1.9	47.9	59	77%	81%
Eat and drink	46.6	5.7	52.3	69	68%	76%
Retail/wholesale	43.5	19.0	62.5	215	20%	29%
Government	0.3	3.0	3.3	248	0%	1%
Total	217.2	97.7	314.8	1,652	13%	19%

There are no good figures on the percentage of tourism to the area related to the region's natural resources and, in fact, even defining such a concept is inherently somewhat arbitrary. Nevertheless, some ballpark estimates of the various types of tourism provide a better indication of the linkages to natural resources in the region. Camping, snowmobiling, hunting, fishing and most outdoor recreation activities clearly depend on the region's natural resource endowment. For example, snowmobilers spent \$14.4 million during the 1996/97 winter season in the eastern U.P. (Stynes et al., 1998). This is about 5 percent of all tourism spending in the region in 1995. Adding compara-

ble amounts of spending by boaters, campers, anglers, hunters and other outdoor recreationists suggests that about a third of the tourist spending in the region is associated with outdoor recreation trips.

Seasonal homes are located in the region for the outdoor recreation opportunities as well as the scenery and peace and quiet. Including spending on trips to seasonal homes, which represents about 20 percent of all tourism spending, brings the natural resource share of tourism to over 50 percent. Roughly another 25 percent of tourist spending in the region may be classified as general vacation travel, which includes sightseeing,

more passive recreation activities, and visiting natural, historical and cultural attractions in the area. Most of the activity on Mackinac Island falls into this category, and most analysts would also classify this tourism activity as natural resource-dependent. About a fourth of the tourism activity in the region may be only indirectly related to natural resources. This includes business travel, visiting friends and relatives, and much of the casino activity, though these activities are also influenced by the natural environment, and many trips to the area will entail multiple purposes and activities.

**Table 4.26. Income and employment effects of tourism spending on the eastern U.P. economy by sector, 1995.**

	Direct effects	Secondary effects	Total tourism effects	EUP economy total, 1995	Tourism activity as pct. of EUP total
<b>JOB EFFECTS (number of jobs)</b>					
Manufacturing	25	144	170	4,312	4%
Trans. and services	93	662	755	5,789	13%
Recreation	1,985	46	2,031	3,078	66%
Hotel	1,031	43	1,074	1,330	81%
Eat and drink	1,493	182	1,675	2,207	76%
Retail	1,371	505	1,876	4,916	38%
Government	2	40	42	6,623	1%
Total	6,000	1,623	7,623	28,255	27%
<b>INCOME EFFECTS (\$ millions)</b>					
Manufacturing	0.8	4.3	5.1	165	3%
Trans. and services	2.6	31.8	34.4	248	14%
Recreation	40.7	0.9	41.6	62	67%
Hotel	21.8	0.9	22.8	28	81%
Eat and drink	19.0	2.3	21.3	28	76%
Retail	25.2	10.5	35.7	113	32%
Government	0.1	1.4	1.6	236	1%
Total	110.3	52.1	162.5	879	18%

## Summary

### Tourism

Tourism has been one of the region's most important industries since the opening of the Mackinac Bridge in 1957. One of the state's most popular tourist attractions, Mackinac Island, is located in the region. The eastern U.P. is a popular location for seasonal homes and a prime destination for a variety of outdoor recreation activities, including hunting, fishing, boating, camping and snowmobiling.

Tourist spending in the region has more than doubled since 1990, largely because of growth in casinos in Chippewa and Mackinac counties. It is estimated that tourists spent \$300 million in the region in 1995, contributing \$110 million in direct income to the region and supporting about 6,000 jobs in the tourism industry. With multiplier effects, tourism spending generated \$162 million in income and supported more than 7,500 jobs in the region in 1995. This tourist spending accounts for 18 percent of all income in the region and over a fourth of all jobs. About a fifth of tourist spending is by seasonal homeowners on trips to the area. There were almost 10,000 seasonal homes in the region in 1990, representing almost a third of all housing units.

Tourism to the region is integrally tied to the region's water and forest resources. Seasonal homeowners locate in the eastern U.P. for the out-

door recreation opportunities and related amenities. Many seasonal homes are located on waterfront property, which is becoming increasingly scarce. Outdoor recreation-related tourism is sensitive to environmental conditions in the eastern U.P. The region's attraction to hunters and anglers depends on sustaining the wildlife and fish populations of the area. Snowmobiling activity is very sensitive to snow conditions from year to year. The most recent tourist boom, casino gaming, is less dependent on the region's natural resource endowment, though the proximity to other attractions such as Mackinac Island may provide a competitive advantage for the region as casinos become more widely available.

### Outdoor Recreation

Outdoor recreation activities are important to eastern U.P. residents, seasonal homeowners and tourists to the region. Traditional outdoor activities such as hunting, fishing, boating and hiking are an integral and highly valued part of the eastern U.P. lifestyle. Over half of eastern U.P. permanent resident and seasonal households also participate in wildlife viewing, gardening and berry picking. In fact, permanent residents spend almost 2 million person days in outdoor recreation activities in the region each year. This amounts to about 36 activity days per resident of the region. Another 2.3 million days of outdoor recreation are generated by visitors staying at seasonal homes, motels and campgrounds in

the region. Not surprisingly, the region is a net importer of participants for almost all outdoor recreation activities. For example, 210,000 of the 270,000 person-days of snowmobiling in the eastern U.P. in 1996-97 came from outside the region. These snowmobilers spent \$14.4 million in the region during the winter of 1996-97.

### Seasonal Homes

Seasonal homes account for a third of the housing units in the eastern U.P. and over 60 percent of housing units in Bay Mills, Chippewa, Drummond, Whitefish and Bois Blanc townships. Seasonal homeowners have significantly higher levels of education and income than permanent residents of the eastern U.P. and share many of the same values and attitudes as permanent residents. However, seasonal residents are more concerned with peace and quiet and environmental quality and assign less importance to jobs and schools in the area. Seasonals were less supportive than permanent residents of prisons, casinos, manufacturing and extractive activities as economic development strategies and most supportive of increasing outdoor recreation opportunities and setting aside natural areas. Seasonal homes account for about a fifth of the tourist spending on trips to the area. Construction, operation and maintenance of seasonal homes, including annual property tax payments, produce additional economic and fiscal impacts on the region.



# Chapter 5

## Outdoor Activities

### Outdoor Recreation

*"We had a bunch of pals, about eight or ten of the guys, and we'd camp and hike all the time. We know every bit of these woods." —Seasonal resident, Mackinac County*

### Lake States Estimates of Recreation Participation

Recreation participation models developed for the Lake States Forest Assessment (Stynes, 1997) provide quantitative estimates of recreation activity in the eastern U.P. The model provides estimates of the number of person-days of activity generated in each county (by permanent residents) and the number of person-days of participation taking place within each county (by both permanent and seasonal residents). The Lake States procedure used statewide rates of participation from the 1990 National Sporting Goods Association survey that were adjusted to individual counties based on available opportunities. Estimates were made for 17 outdoor recreation activities. Participation within the EUP is divided between local residents, seasonal residents and tourists. A lodging inventory and participation rates for visitors in seasonal homes, motels and campgrounds were used to estimate participation by tourists staying overnight in the area (see Stynes, 1996, for details on the model assumptions and procedures). Most of the data used to make the estimates are for 1990, so the estimates are circa 1990.

Snowmobiling was not covered in the Lakes States study, but comparable data have been gathered recently (Stynes, Lynch and Nelson, 1998), and estimates for snowmobiling have been added to Table 5.1. Across the 18 activities studied, an estimated 1.9

million person-days of activity are generated in the region annually by permanent residents (Table 5.1). This amounts to about 36 activity days per resident each year. It should be noted that there is some double counting in the totals because many activities can occur together (e.g., camping and hiking, boating and fishing).

Table 5.1 may be explained using the BOATING (MOTOR) row as an example. Residents (permanent) of the eastern U.P. generated 256,000 person-days of boating in 1990. Most (206,600) of these days are within the county of origin, 5,000 days are outside the county on day trips and 44,800 are on overnight trips. Person-days of boating within the eastern U.P. are estimated independently on the right-hand side of the table. For every day of boating by a resident of the eastern U.P., there is an additional 1.5 days by boaters from outside the county for a total of 633,500 person-days of boating in the eastern U.P. in 1990. Boating days taking place in the eastern U.P. include the 206,600 days of boating by eastern U.P. residents in their county of residence and another 426,900 days from outside the eastern U.P. or between counties in the eastern U.P. The days of boating coming from outside each county are estimated separately for each visitor segment—those staying overnight in motels, seasonal homes or campgrounds, and visitors on day trips. Activity associated with individuals who are visiting friends and relatives is included in the day trip estimate.

Boating by non-residents of the eastern U.P. is mostly associated with seasonal homes in the region. Almost 300,000 person-days of boating took place from visitors staying at eastern U.P. seasonal homes. Between 40,000 and 46,000 person-days of boating in the eastern U.P. were generated by each of the other three visitor

segments—visitors in motels, visitors in campgrounds and day visitors. The final column is the ratio of days received to days generated for each activity. For boating, the region receives 2.5 times the number of days of boating generated in the region.

In days of activity taking place in the region, swimming, boating, fishing and camping are the most popular activities, each involving more than 600,000 person-days of activity per year. The region is a net importer for all activities except backpacking and alpine skiing. Across all 18 activities, seasonal homes and campgrounds each account for about a million person-days of recreation participation in the eastern U.P. Together they exceed the number of days generated by eastern U.P. residents. Tables similar to Table 5.1 for each county are included in the Appendix.

### Participation in Outdoor Recreation Activities

Outdoor recreation is an important dimension of life in the eastern U.P. In the household survey, respondents reported the activities in which they or some member of the household participated during 1996 (Table 5.2). A majority of households participated in more passive outdoor activities such as wildlife viewing (85 percent), flower gardening (67 percent), wild berry picking (64 percent) and wildlife feeding (60 percent) (Table 5.3). The most popular outdoor recreation activities were fishing (71 percent), swimming (66 percent), boating (65 percent), hunting (57 percent) and camping (48 percent). Popular winter activities were skating/sledding (42 percent), snowmobiling (40 percent), cross-country skiing (32 percent) and downhill skiing (14 percent).

Permanent residents were more likely to engage in gardening activities, snowmobiling and ORV use, while seasonal residents reported higher rates of participation in fishing, swimming, boating, wildlife viewing and cutting firewood. Respondents were also asked to choose their favorite outdoor activity. Both seasonal and permanent residents listed fishing, hunting and walking/hiking as their top three activities. There were no significant

differences between the two groups in the percentages of households selecting a given activity as a favorite (Table 5.3).

### Residents' Perceptions of Outdoor Recreation Activities

Though the household survey contained a limited number of recreational activities, respondents in the oral history interviews could mention any

activities in which they had participated at some point during their lives. In these interviews, people discussed participating in activities such as boating, camping, swimming, feeding birds and deer, skiing, planting trees, watching wildlife, skating, hiking, horseback riding, canoeing, snowmobiling and walking outdoors. These outdoor activities were conducted primarily for recreation and exercise rather than to gather or harvest natural resource items.

**Table 5.1. Days of recreation participation for the eastern U.P. (1,000s of person-days).**

EUP total	Days of activity generated in the counties				Days of activity received in the counties						Ratio <sup>b</sup> Received to generated
	Total	Inside	Trips outside county		Participate in overnight stays at			Total overnight stays	On day trips	Total days in county	
			Day trips	Over-night	Seasonal home	Motel	Camp				
Backpacking	19.2	0.0	0.0	19.2	0.0	0.0	8.4	8.4	0.0	8.4	0.4
Bicycling	201.4	191.4	2.0	8.1	68.6	5.9	44.4	124.8	3.2	319.4	1.6
Camping	150.9	0.0	0.0	150.9	0.0	0.0	613.5	613.5	0.0	613.5	4.1
Fishing	212.6	186.8	18.0	7.7	152.3	57.4	62.4	274.6	224.6	685.9	3.2
Golfing	138.5	131.6	3.5	3.5	23.9	4.4	1.5	43.1	4.5	179.2	1.3
Hiking	43.3	26.0	5.2	12.1	71.6	14.8	118.3	219.5	29.5	275.0	6.4
Hunting (firearms)	70.4	51.8	11.1	7.4	40.9	2.6	16.9	63.1	46.1	161.0	2.3
Snowmobiling	77.0	61.6	11.3	4.1	31.6	126.4	0	158.0	50.0	270.0	3.5
Skiing (alpine)	26.3	0.0	10.5	15.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Skiing (cross-country)	9.7	8.3	0.7	0.7	6.8	1.1	0.0	8.9	4.5	21.7	2.2
Swimming	528.2	475.4	26.4	26.4	208.7	14.8	147.9	386.3	45.5	907.2	1.7
Tennis	70.2	68.1	0.2	1.9	9.5	3.6	0.3	17.0	0.3	85.3	1.2
Boardsailing	3.3	2.7	0.1	0.6	8.5	0.0	1.0	9.5	0.5	12.7	3.8
Boating (motor)	256.4	206.6	5.0	44.8	296.1	45.9	41.6	385.6	41.3	633.5	2.5
Canoeing	22.3	13.8	4.2	4.2	31.8	1.7	1.6	36.8	15.5	66.0	3.0
Ice skating	8.5	6.8	0.5	1.2	6.0	0.0	0.0	6.0	0.9	13.7	1.6
Sailing	19.5	17.1	0.5	1.9	23.7	0.0	6.2	29.9	4.5	51.5	2.6
Water skiing	6.8	5.2	0.3	1.3	21.7	0.0	0.6	22.2	2.7	30.1	4.4
Total <sup>a</sup>	1,864.5	1,453.2	99.2	311.7	1,001.7	278.6	1,064.6	2,407.2	473.6	4,334.1	2.3

<sup>a</sup>Totals will include extensive double counting—e.g., someone fishing from a boat is both boating and fishing.

<sup>b</sup>Ratio of total days of generated activity received to total days of activity.

Boating was the most frequently mentioned recreational activity, especially for seasonal residents, who tended to live on the water and tended to have more money than permanent residents. Though boating was often done in conjunction with fishing, it was certainly not limited to people who fished. People boated in the U.P. because they think that the area is ideal for boating. One man from Chippewa County raved about the boating:

*“There’s so many places to go—the boating up here is fantastic...It’s beautiful and you don’t have the traffic—we’re used to boating down below where there was a lot of traffic and a lot of people—we really enjoy that part of it. I think [boating] is one of the greatest things up here.”*

Camping is another activity that was often mentioned by both permanent and seasonal residents. Many permanent residents used to live in the Lower Peninsula and would camp when they came up seasonally. One man who later became a permanent resident stated, *“We used to come up and go camping—we had a smelt dipping time.... We used to come up and camp over by Carp River and spend the weekend out there and just generally have a good time.”* Camping was often done in conjunction with other activities such as hunting and fishing and was done primarily because people enjoyed spending time outdoors and enjoyed participating in those activities.

Another recreational activity that residents frequently mentioned in the interviews was feeding wildlife. Many people—many of whom also hunted—enjoyed feeding birds and deer primarily because they enjoyed helping wildlife and because they enjoyed being able to watch the wildlife in close proximity to their home. One woman from Luce County discussed the wildlife feeding activities of her and her husband: *“He feeds the deer and the raccoon and all the birds and the squirrels, and just watches them. We watch them grow; we feed them all summer.”* Another man from Mackinac County stated, *“The*

**Table 5.2. Participation in outdoor activities by segment.**

Activity	All households	Seasonal residents	Permanent residents
Percent of households participating			
Wildlife watching	85%	93%	82%
Fishing	71%	82%	67%
Flower gardening	67%	46%	74%
Swimming	66%	75%	63%
Boating (including jet skiing)	65%	81%	59%
Wild berry picking	64%	66%	64%
Wildlife feeding	60%	58%	61%
Hunting	57%	53%	59%
Cutting firewood	50%	62%	46%
Camping	49%	40%	51%
Vegetable gardening	48%	18%	51%
Skate, sled, snowshoe	42%	31%	46%
Biking	42%	42%	51%
Off-road vehicles	41%	35%	44%
Planting trees	41%	36%	43%
Snowmobiling	40%	31%	43%
Other gathering activities	38%	34%	40%
Mushroom picking	35%	32%	36%
Cross-country skiing	32%	30%	32%
Downhill skiing	14%	10%	15%
Tapping for maple syrup	7%	3%	9%

*last few years I decided I couldn’t shoot a deer anymore, so I feed them now and name them.”* The importance of this activity is realized when one considers how much money residents spend money to feed wildlife. One man from Chippewa County spoke about the importance of feeding deer to him: *“Oh, I think feedin’ deer in the wintertime—I think that’s the greatest thing there is. I wish I could do it here, but we don’t have no deer right close by. I give different guys hay to feed deer with...I don’t charge ‘em, I just give it to them.”*

Planting trees was another activity that was often brought up in the oral history interviews. People most often said they planted trees because they

enjoyed seeing woods and shade trees on their property. A resident of Chippewa County commented on the grove of trees behind his house: *“I planted all them trees through my yard...I must’ve planted about 10,000...I probably got about 2,000 out of 10,000 and...I bought apple trees this year. We’ll plant apple trees next year for deer.”*

Particularly during their childhood and when they were young adults, many people also participated in winter sports such as skating, skiing, sledding and snowmobiling. These activities were done mainly with friends. When describing the activities of his childhood, one resident from Chippewa County remarked, *“Oh, we used to [go] fishin’, huntin’, lot*

Table 5.3. Favorite activities by segment.

Activity	Seasonal residents	Permanent residents
Fishing	19%	18%
Hunting	12%	13%
Hiking/walking	12%	11%
Boating	9%	8%
Snowmobiling	4%	5%
Camping	2%	4%
Swimming	4%	4%
Gardening	1%	3%
Biking	3%	3%
Wildlife watching	3%	3%
Cross-country skiing	2%	2%
Off-road vehicles	2%	2%
Golf	2%	2%
Sightseeing	2%	2%
Cutting firewood	2%	2%
Wild berry picking	1%	1%
Yard work	2%	1%
Skate, sled, snowshoe, snowboard	0%	1%
Flower gardening	0%	1%
Mushroom picking	1%	1%

NOTE: Percents are the proportion of respondents listing the activity as one of their three favorites.

*of skiing and snow sports, because there was no TV then, so you had to do something! And the only way you can get through the winter is [to] go out and go sleddin' or skiin' or do somethin'."*

The activities that appeared to be most important to eastern U.P. residents were not always the activities mentioned most frequently. Watching wildlife was one pastime that eastern U.P. residents enjoyed greatly, though it was not mentioned as often as many other recreational activities. A man from Mackinac County described this experience: *"There was a loon out here today. I had the glasses on and the other night it was a full moon and we walked out on the deck and you could hear these loons down by the island and it's just so peaceful and so you'd think that you're in Alaska with not that much going on."*

Watching wildlife is important to many residents of the eastern U.P. because it is an activity in which most residents can participate and is an activity that allows people to feel close to their environment. Even people living in towns spoke of how much they enjoyed watching wildlife.

## Gathering and Harvesting of Natural Resources

*"Growing up, here, I've done a lot of hunting in the eastern U.P. Even as a kid, we used to come across and go deer hunting [and] rabbit hunting....Mostly camping and fishing and hunting is what we've done."*

—Permanent resident, Chippewa County

### The Extent of Natural Resource Use

The people of the eastern U.P. have used and interacted with natural resources in many ways throughout their lives. More than 50 percent of the households in the mail survey fished, hunted, picked wild berries or cut firewood in the past year (Figure 5.1). Figure 5.2 shows the percent of oral history interviews that mentioned participating in a particular gathering or harvesting activity at some point throughout their lives. As stated, because the household survey question was limited to certain activities, participation rates from the survey can be given only for hunting, fishing, wild berry picking, vegetable gardening, cutting firewood, mushroom picking and tapping for maple syrup. Other activities that were often cited in the oral histories but were not included in the household survey included farming, harvesting wood on their property, gathering apples and trapping animals for their pelts.

Throughout the interviews, the activity mentioned most frequently was fishing. The household survey revealed that 70 percent of the respondents fished during the past year, and the oral histories show that many go ice fishing. Fishing locations varied. In Chippewa County, respondents fished primarily on the Great Lakes. In contrast, Luce County residents tended to fish more in inland lakes and streams. In the past, people living near the water often fished to feed their families. One member of the Chippewa tribe of Indians spoke

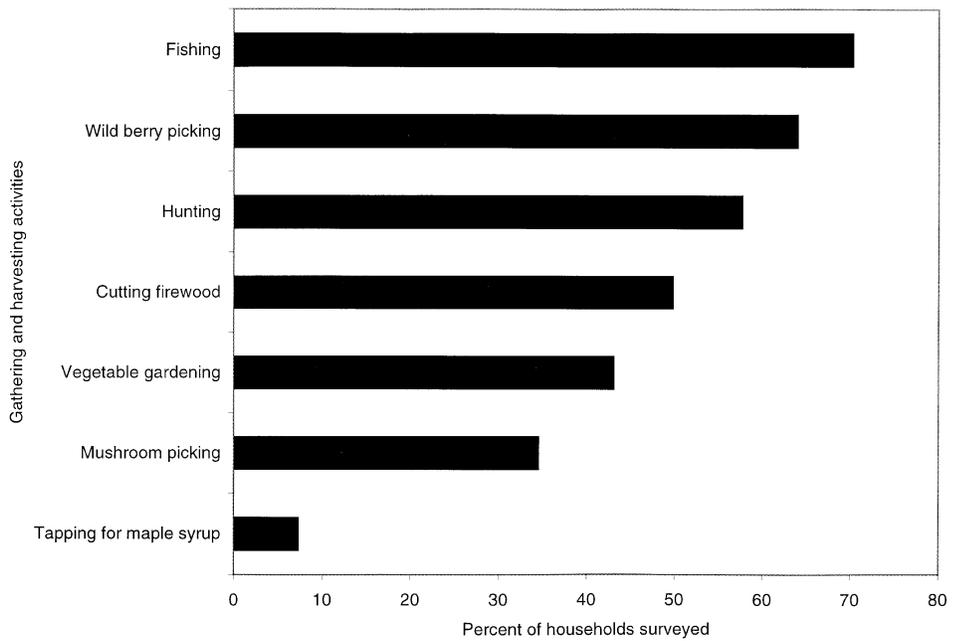
of fishing as a child. She remarked, *“There were eight of us [in my family]...I –just eight years old—could go and get three or four great big walleye...and bring them for home the next day.”*

Cited by 64 percent of the respondents in the household survey, wild berry picking was the second most common gathering activity. The interviews show that most people gathered wild blueberries, though people also gathered strawberries, raspberries, huckleberries, blackberries, elderberries and serviceberries. One woman in Luce County asserted, *“We have a lot of raspberries and strawberries...I love picking berries.”* Fifty-eight percent of the residents in the household survey stated that they hunted during the past 12 months. Most people hunted for deer, rabbits, bear, upland birds such as partridge and waterfowl. While discussing his childhood in the eastern U.P., one man stated, *“We always hunted. Hunted birds and deer...hunt a lot of coyote and fox in the wintertime.”*

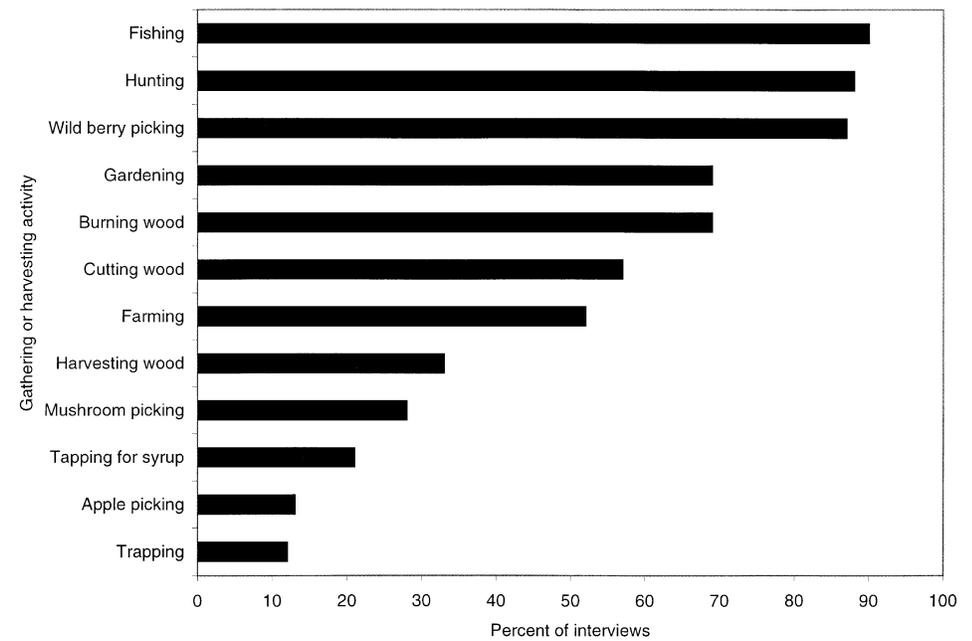
Two activities that often arose together in the oral history interviews were cutting and burning wood. Fifty percent of the respondents in the household survey had cut firewood in the past year. Interviewees said that they cut and burned wood to save money, to be self-sufficient and also simply because they enjoyed wood heat. One resident of Chippewa County observed, *“It’s more economical and we have the wood to do it. It saves money. We have electric heat, and that’s pretty expensive here.”* As they grew older, many of these people preferred to purchase wood because it was too much work for them to cut it themselves. Most people cut the wood from private land holdings, but some people obtained permits to cut dead or fallen trees from nearby state land.

An important aspect of this activity is having the woods available to cut on either private or public land. Perhaps this importance is also revealed by the frequency with which people discussed how much they enjoyed the amount of public land available in their counties.

**Figure 5.1** Percent of eastern U.P. households that participated in gathering and harvesting activities in the past year.



**Figure 5.2** Percent of oral history interviews in which eastern U.P. respondents mentioned participating in a particular gathering or harvesting activity during their lives.



Public lands were mentioned in a favorable manner by respondents in nearly half of the oral history and focus group interviews. Public lands give residents without much private

property the opportunity to participate in activities such as hunting, fishing, berry picking and cutting wood. When one man from Mackinac County was asked what he

felt about the extent of the public land in his county, he replied, *"I think [public land] is one of the reasons we are up here. It creates an awful lot more opportunities for people to not have to own vast tracts of land to be able to enjoy those kinds of diverse opportunities."*

The next most commonly cited activity in the household survey was vegetable gardening, which was conducted in the past year by 43 percent of the respondents in the household survey. Though a few people had gardening operations large enough to sell some produce for household income, the majority of the gardens were used solely for household consumption. A woman from Chippewa County declared, *"Up until three years ago, I had not bought a can of tomatoes. We canned all our own. I'd do like 75 to 100 quarts every year. 'Cause [my husband] really can grow good tomatoes. And corn, I put up 75 maybe pounds of corn from our little garden there and it's good."*

People kept gardens for a variety of reasons. According to the oral history interviews, people gardened to obtain fresh produce, to obtain vegetables produced without chemicals, for exercise and for recreation. When one woman was asked why she kept a garden, she replied, *"Once you get used to the taste of vegetables from your own garden, you cannot match the taste in the store. I don't care whether it is potatoes or carrots or whatever it is—to go out and pull it and rinse it off and eat it is really good."*

Because some items are gathered for multiple purposes, it is difficult to separate the natural resource items that are gathered for household consumption from those items that are gathered or harvested primarily to sell for household income. Farming is such an activity. In the oral history interviews, nearly half of the respondents said that they or family members had farmed during their lives. Though many farmers sold livestock and vegetable crops in the market, farmers also used these products directly for household consumption. Thus fewer meat and vegetable products were purchased from stores.

One man who grew up in Chippewa County stated, *"We lived on a farm, of course...and we had our own animals for meat and chickens, for eggs and for food and, oh, for a long time, we raised rabbits and we ate rabbits and chicken."*

Though farmers asserted that farming was hard work with little pay and free time, many continued to farm because they enjoyed working outdoors.

Harvesting timber on private land holdings is another activity that is often conducted for both household consumption and also to sell for household income. In one-third of the oral history interviews, people described how they occasionally harvested trees from their own property. Though much of the timber harvested was sold to supplement their household income, some people harvested to use the lumber for their own purposes such as for firewood and building. One woman in Luce County said, *"We cut our [trees], mainly spruce, and built a cabin with it."*

Mushroom picking—particularly for morels—was another commonly mentioned gathering activity. Thirty-five percent of the residents surveyed had picked mushrooms within the past year. This activity was conducted mainly in the spring and fall when the mushrooms are more widely available. One woman on Drummond Island spoke of a mushroom picking trip that she takes every year: *"We go [mushroom picking] for two weekends on Mothers Day, and the following weekend we take the camper...and sometimes I stay out there for a whole week."* Probably because mushrooms grow sporadically and during limited times of the year, mushroom picking was never spoken of as a large source of food for these residents. Instead, people picked mushrooms primarily for recreation.

Seven percent of the respondents in the household survey had tapped maple trees for syrup within the past 12 months. Two interviewees had sold maple syrup for a living; others participated in this activity because they enjoyed it and because the syrup made good gifts for other peo-

ple. One man from Neebish Island remarked, *"We try to make around 20 gallons. Most of it is for ourselves, for family.... Oh, I love it, I got a nice system. You know, everybody has to have a hobby of some sort and that's my hobby."*

Apple picking was cited in 13 percent of the oral history interviews as an activity that had occurred at some point during their lives. People gathered apples from apple trees on their own land primarily to make applesauce and for use in pies. One woman who was a seasonal resident said, *"I pick enough for a pie or two. There have been a lot of wild apple trees here...I always made a lot of applesauce while I'm here—put it in zip-lock bags and freeze it."*

Trapping was mentioned by people in 12 percent of the oral history interviews as an activity that was conducted primarily in the past. When asked if he trapped animals as a young adult to obtain money from their pelts, one man replied, *"There was [a bounty] then, but that really didn't justify your input into it. No, it [was] just for recreation."*

## Differences in Resource Use

How people used natural resources for gathering or harvesting may differ between subpopulations of respondents. Participation in natural resource gathering and harvesting activities was analyzed in the household survey using four demographic characteristics: gender, Native American ethnicity, location of permanent residency and county of residence for permanent residents of the eastern U.P.

### Men and Women

Men were more likely to discuss hunting, fishing, and cutting and burning wood in the oral history interviews; women were more likely to mention berry picking, mushroom picking and canning these items as activities in which they tended to participate. There was no apparent variation in these interviews between the gender of those respondents who mentioned other activities such as

gardening and apple picking. Participation rates from the general survey support these findings. Figure 5.3 reveals the comparison of participation rates in the past year by gender for each of the eight gathering and harvesting activities listed in the general survey. There were significant differences in male and female participation rates only for hunting, fishing and cutting firewood. For each of these three activities, men participated in them more in the past year than did women.

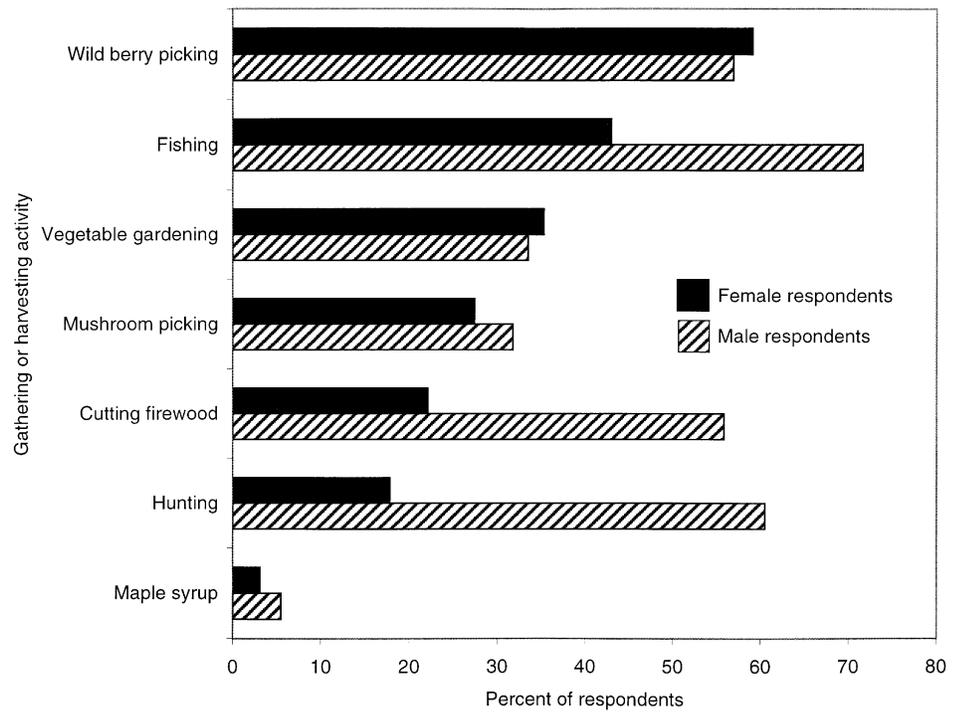
**Tribe Members and Non-tribe Members**

Another comparison was made between the activities most commonly mentioned by members of the Chippewa or Bay Mills tribes and the activities most often mentioned by non-Native populations of the eastern U.P. From the oral history interviews, it was difficult to notice any differences for many of the gathering activities, particularly because the sample size for tribe members was so small. However, Native Americans rarely mentioned participating in farming, though it is not clear why this difference may exist. Based on results from the mail survey, there were no significant differences for any of the gathering or harvesting activities between people who were tribal members and people who were not members of a tribe.

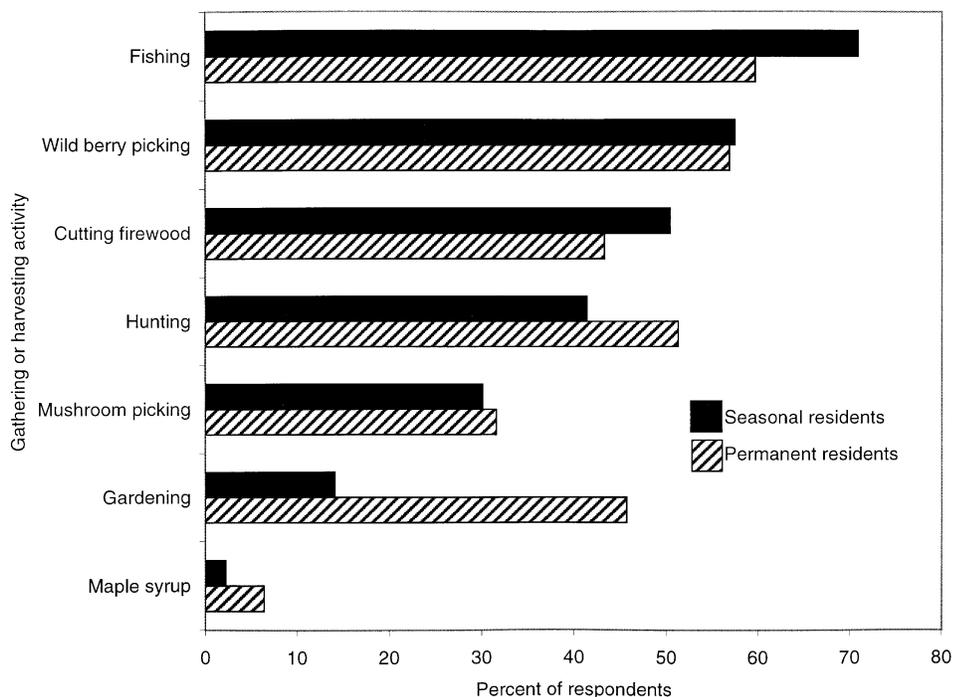
**Permanent and Seasonal Residents**

In the household survey and in the interviews, differences were observed between permanent residents whose primary residence is in the eastern U.P. and seasonal residents whose primary residence is outside the eastern U.P. Figure 5.5 compares the participation rates between seasonal and permanent residents. For instance, there were significant differences in the participation rates between permanent and seasonal residents for hunting, fishing, tapping for maple syrup and vegetable gardening. For these activities, permanent residents of the eastern U.P. participated more in hunt-

**Figure 5.3. Percent of male and female respondents who conducted each gathering or harvesting activity in the past year.**



**Figure 5.4. Percent of seasonal and permanent residents of the eastern U.P. who conducted each gathering or harvesting activity in the past year.**



ing, tapping for maple syrup and vegetable gardening in the past year. In contrast, fishing was the only activity in which seasonal residents were significantly more likely to participate in the past year. In the oral history interviews, it was also observed that seasonal residents mentioned hunting, ice fishing and gardening less often than permanent residents.

From the oral history interviews, it was apparent that the differences in the activities in which seasonal and permanent residents participated were related to the time of year that seasonal residents vacation in the eastern U.P. Based on the interview respondents, almost all seasonal residents arrived during the summer and left before the middle of the fall season. The restrictions imposed by their vacation schedules meant that most seasonal residents could gather or harvest natural resource items only during the summer months.

The household survey showed that seasonal residents participate in fishing—which can be done during the summer months—more than permanent residents. In the household survey, nearly three-fourths of the seasonal respondents stated that they fished in the past year. The oral history interviews help explain this difference. In the interviews, seasonal residents tended to be wealthier than permanent residents and were much more likely to live on one of the Great Lakes and own a boat. Owning their own boat and living in close proximity to water give seasonal residents easier access to fishing activities.

In contrast, the household survey revealed that permanent residents are more likely to hunt and tap trees for maple syrup than seasonal residents. This is primarily due to the fact that hunting and tapping trees for maple syrup are limited to the fall, winter and early spring months, when most seasonal residents are living in their permanent homes. From the oral history interviews, it was also clear that, although seasonal residents lived in the eastern U.P. during the summer, they usually did not

have vegetable gardens because the majority of them did not remain in the U.P. long enough to be able to harvest a garden. In addition, the interviews showed that seasonal residents did not farm because they were not year-round residents.

## Participation and Sharing

One important use of natural resources revealed in the oral history interviews is the chance to participate with other people in natural resource gathering activities. As observed in the interviews, involvement in outdoor activities was often conducted with family members—during their childhood and after starting their own families—or with friends. As one man stated, *“Oh, in deer season...the family was all around and we all hunted together and everybody had some venison.”*

Not only did people participate together in natural resource gathering and harvesting activities—many people also shared those items with other people. Forty-five percent of the interview respondents shared gathered or harvested items with other people during their lives. According to these interviews, people shared these items primarily with immediate family members and often with close friends. After noting how much her husband enjoys gardening, one woman in Luce County stated, *“I have a daughter in Marquette that...gets some of the vegetables, too. She possibly doesn’t buy any potatoes because when she come home, we [give her some].”*

People gave away items such as game, fish, garden vegetables, berries and syrup for several reasons. The oral history interviews showed that some people gave natural resource items as gifts because they felt it was more personal than purchasing gifts in a store. One man from Luce County who had a small farm remarked, *“We used to make up care packages at Christmas for the rest of the family....So, we used to package up some of our own pork, and our own beef, and our own lamb, and we’d make it as a*

*Christmas gift, with some vegetables.”* Other people simply enjoyed participating in the activity so much that they continued to do so even though they could not consume all they obtained. When they gathered or harvested more than they were able to consume, they gave away the remainder. As one couple from Chippewa County stated, *“Every year we always have extra vegetables and I usually give them away—most of the time [to] friends or whoever. If somebody is in need or something like that. If anyone approaches us, they usually get vegetables.”*

## Trends in Gathering and Harvesting Activities

This section outlines the major trends in resource use for the gathering and harvesting activities most frequently described by residents when discussing various stages in their lives. Participation in some activities does not appear to have altered much, but the method of participation or the reason for participation has sometimes changed. For example, though berry picking has continued today, as residents grew older some decided to pick berries on farms because they are easier to pick than wild berries. Though some people sold wild berries for money when they were children, not one person mentioned selling berries as an adult. Instead, people picked berries to eat and for recreation. Gardening was another activity that appears to have changed little over time, though some people acknowledged that today it is much easier, and perhaps also cheaper, to drive to the grocery store and purchase vegetables. Likewise, mushroom picking is an activity that appears to have changed little over time. The reasons why people participated in this activity in the past remain the same today. Neither in the past nor today did any respondent mention picking mushrooms for any reason other than for eating and recreation.

Several activities such as fishing, burning wood, farming and trapping showed a decline in participation

since childhood. The number of people who fish today seems to be influenced strongly by the general belief that fish populations have declined sharply in the past 20 years. To understand the changes in participation in fishing, it is necessary to understand people's perceptions about the decline in fish populations. As an important point of reference, people declared that fish were abundant in the past. One man from Neebish Island described it this way:

*"Oh, down at the farm there at Winter Point in them days, you could go out in the evening just before supper time and you throw your line in the water and [fish] would almost bite a bare hook. Yeah. The perch, rock bass, maybe in June you would have the smallmouth [bass], pickerel—you wouldn't know what you might bring up, that's the truth."*

Today, nearly everyone agreed that fish populations have declined. Of the people responding to the household survey that had an opinion on whether fishing quality had changed in the eastern U.P. over the past five years, 77 percent of the respondents believed that fishing quality had declined, while 21 percent felt that it had remained the same and 2 percent believed that fishing quality had increased. When asked about what concerns people had for the future of their county, respondents in 47 percent of the interviews asserted that the decline in fish populations in the Great Lakes and in inland streams was a major concern. One man from Chippewa County declared, *"When I was a kid, we used to get fish like crazy. I can go to the same local area and the same bays now and not catch a thing."* Suggestions for the decline in fish included reasons such as increased netting by Native American commercial fishing, the planting of salmon by the Department of Natural Resources in the mid-1980s and predation by cormorants.

The decline in fish populations has affected participation in fishing itself. Because people have a more difficult time catching fish, people often obtained less enjoyment from fishing

than they did in the past and people who otherwise would continue fishing for household consumption no longer expect to be able to do so around the eastern U.P. As one man commented, *"As a kid, we did quite a bit of fishing—my father and a couple of my brothers—we would fish quite often."* When then asked if he continued to fish today, he stated, *"No, [short laugh] I haven't caught a fish in Chippewa County yet...so I haven't fished."*

Though residents mentioned that there were more salmon because of the planting of salmon by the DNR, many of these residents resented the planting because they could not afford the equipment necessary to catch salmon. Many believed that the planting of the salmon benefited the wealthier residents and visitors at the expense of the average eastern U.P. fisherman. One man from Chippewa County voiced this opinion when he stated, *"In order to fish salmon you have to have a big boat, you've gotta have downriggers, you've gotta have a lot of special equipment and everything."* Many residents also commented that they take trips to other locations to be able to catch fish. One man who traveled elsewhere remarked, *"Yeah, I fish. We either go down to Port Austin or we go to Canada and fish. There's no fish around here."*

Burning wood was another activity that was found to have declined slightly. Overall, people appeared to be less likely to burn wood because it was hard work and messier than oil or gas heat. As observed in the oral history interviews, because of the difficulty in cutting wood, those who continued to burn wood throughout their lives were more likely to start purchasing wood instead of cutting it as they became older.

A decline in farming was the clearest trend in any natural resource gathering and harvesting activity. Everyone agreed that farming was declining in the eastern U.P. Though farm products continued to be used for household consumption and income, what farms still remained were having greater difficulty staying

in business. One farmer from Chippewa County described this trend when he stated, *"We used to have on this road here between Sault Ste. Marie and Pickford—there was 20 to 23 dairy operations...and now there's only one."*

The high cost of farming equipment and feed coupled with the low prices for farm products were most often mentioned as the main reasons why farmers are going out of business. Indeed, high costs and low prices were often mentioned by people when they were asked about what events had affected their county. One farmer who owned a feed store remarked, *"Right now, with the price of grain and everything, they just can't make it here. We've had two of our customers in there have sold out this spring."* As a result of this change in the economics of farming, small family-run farms became particularly difficult to continue. What farms did remain grew larger to obtain economies of scale. Farmers who cannot afford to continue farming are selling their land to developers in places where property values are high or abandoning it and letting it revert to brush in areas where property values are low.

Trapping was another activity that showed a clear decline in participation throughout life, particularly because people stated that the price of pelts had declined. Some decline in trapping of particular species has occurred because of changing regulations and the fact that certain wildlife species no longer have a bounty. Those who did continue to participate throughout their lives were doing so for recreation and enjoyment. One man from Chippewa County remarked, *"Muskrats, mink, fox...In fact, I trap every year, even today. More just a hobby, today, cause they're not worth nothing anymore."*

The trends for specific gathering and harvesting activities reveal an overall decline in the gathering and harvesting of natural resources for household income over time. In the past, gathering and harvesting of natural resources appeared to be more







to go fishing. The interviews showed that residents often shared gathered items with others.

The interviews revealed that, over time, there has been a decline in gathering natural resources to sell for household income, but the importance of gathering items for recreation has become greater. Some changes over time were noted for specific gathering activities. Though participation in hunting, berry picking, gar-

dening and mushroom picking has changed little, cutting wood, trapping and the quality of fishing have declined throughout the lives of eastern U.P. residents. The oral history and focus group interviews revealed that gathering natural resources remains important to eastern U.P. residents for economic reasons such as saving money, for recreation, for strengthening social ties by participating together in activities and sharing

items, and for instilling and maintaining values that are important to these residents, such as a strong work ethic, self-sufficiency and independence, and contact with nature. Overall, the data reveal that a majority of households participate in outdoor recreational and gathering activities, and that these activities remain important to eastern U.P. residents.



# Chapter 6

## Perceptions of Change, Alternative Futures and Development Strategies

### Perceptions of Change

*“I don’t want to see it grow too much...I don’t want to see the forest and all that stuff all gone. This is a wonderful place...you’ve got your berries and your woods and your animals...I don’t want to see the population grow any more.”* –Native American tribe member, Chippewa County.

Respondents have perceived certain changes in their surroundings over the years. In the mail survey, more than half of the respondents indicated that they believe there have been increases in mall/shopping center development, seasonal home building and hotel/motel development as well as overall population size and the amount of traffic in the past five years (Figure 6.1).

The interviews revealed that these perceived changes posed concerns for the future of their counties. One set of concerns involved development issues such as population and housing growth, especially housing development along the waterfront.

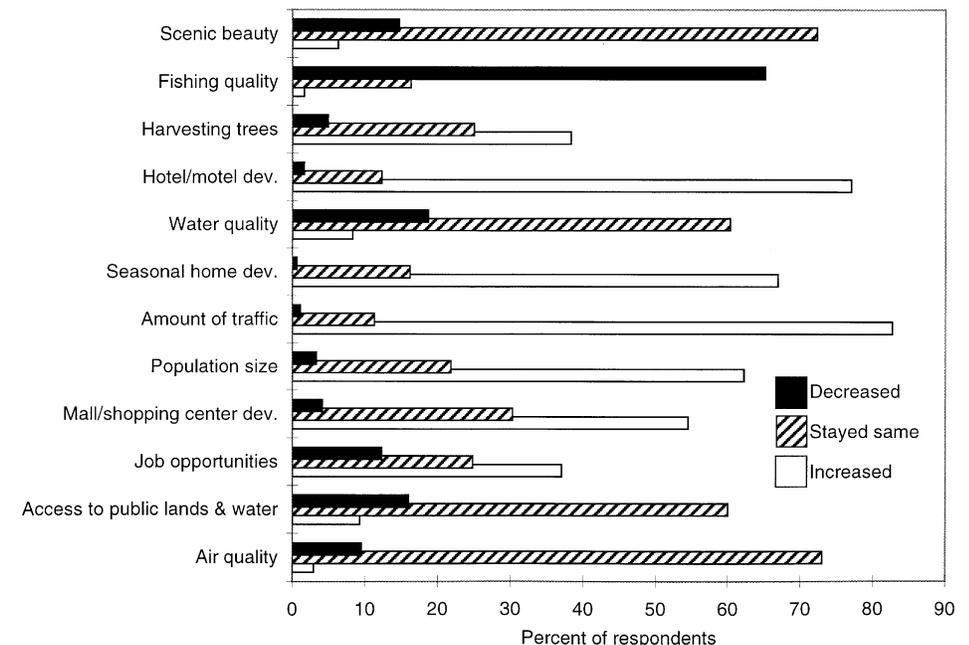
Population growth was considered a concern by 38 percent of the interviewed respondents. When asked how she felt about population growth, one woman from Mackinac County declared, *“We hate to see it. There’s gettin’ so many people.”* Many people feared that this growth would ruin their favorite characteristics of their counties such as peace and quiet, not being crowded and the feeling of safety. As one man assert-

ed, *“I think [population growth] would be bad. If you get enough of jobs and enough of people, you’re back to the big city again, so you haven’t got country living.”* Fifty-one percent of the interview respondents felt that there will be a much greater population of people living in the eastern U.P. in the future. Many others also believed that there will be an increase in development and an increase in retirees coming to live in the area. One man from Chippewa County predicted, *“In the next five years, there’s gonna be some real rude awakenings...more and more people are gonna be movin’ to the area...I think in the next*

*five years, you’re gonna see a big growth.”* Another man from Mackinac County voiced a similar prediction when he asserted, *“I think that in 50 years the Upper Peninsula will be just like the Lower Peninsula.”*

The housing development along the shoreline of the Great Lakes and the St. Mary’s River was regarded unfavorably by 27 percent of the respondents interviewed. Many did not want shoreline development primarily because they thought the shoreline should be accessible to the public. A man from Chippewa County stated, *“I think the beaches should be open for everyone.”* Another

**Figure 6.1. Percent of respondents who feel each characteristic of the eastern U.P. has changed over the past five years (n=840).**



trend that concerned 15 percent of the interviewed residents was an increase in the posting of land. People believed that the increase in posting of land was due primarily to an increase in owners from downstate who have different values and do not want other people using their property.

In reference to wildlife, residents interviewed voiced concerns about the decline in fish and the increase in deer populations. One of the most consistently voiced concerns was the decline in fish populations, which was mentioned by nearly 50 percent of the respondents in the interviews and by over two-thirds of the respondents in the mail survey. The fact that 90 percent of the interviewees fished during their childhood or adult years reveals the importance of this activity and shows why this concern was brought up repeatedly. Most individuals perceived a gradual decline in fish beginning in the 1980s and particularly within the past 5 to 10 years. People suggested many reasons for the decline, such as netting by tribal fishermen, predation by cormorants and the introduction of salmon. One man remarked, *"The cormorants are coming into Munuscong Bay and they're cleaning out the perch populations."* Another concern was the increase in the size of the deer herd. Though many people enjoyed seeing deer, 18 percent of the respondents interviewed remarked that the increase in deer populations was a concern primarily because the deer were becoming too numerous for their food source and browsing too heavily on young saplings.

When questioned about their ideal image for the future of their county in 50 to 100 years, 62 percent of the respondents interviewed wished that it would remain the same. One woman from Chippewa County said, *"It'd be very similar to what it is now. Still lots of trees, still clean streams and clean water."* Another woman noted, *"I'd like it small and quiet and [where] people know each other."* Eleven percent of the respondents jokingly or seriously stated that they wanted to

remove the Mackinac Bridge to avoid additional growth and the crowds they observe downstate. But 11 percent of the respondents interviewed would also like to see increases in industry and jobs. These respondents wanted to increase employment to allow more young adults to remain in the area instead of having to leave the county in search of jobs. One man from Chippewa County who had as a young adult left the eastern U.P. to find work commented, *"It would help if we had enough industry around so that kids graduating from school would have a job here so they don't have to migrate to the cities."* The major exception to the "no growth" ideal image was seen in Luce County. Luce residents were more likely to want additional growth and jobs because they felt that a high proportion of their youth moved away to find employment.

Despite the concerns residents have about growth and its byproducts, they have little sense of control over the changes that they see taking place. One Mackinac County resident expressed these concerns by saying, *"You're going to have it built up more and more all the time around here and that's, that's something you're not going to stop."* Another resident from Chippewa County echoed those comments: *"There's nothin' you can do about it. You can't stop it. I wish you could but you can't."* Feelings of helplessness, or at least general acceptance of the inevitable, were expressed by many participants in the interviews.

## Perceptions of Conservation Projects

Closely related to the issue of setting aside natural areas are opinions about the work of environmental groups such as The Nature Conservancy of Michigan (TNC). TNC has two conservation projects in the eastern U.P. One project is located in the watershed of the Two Hearted River in Luce County; the other project is on the northern Lake Huron shoreline in Mackinac and Chippewa counties. Though these issues did not arise often among all residents, they

were mentioned by a few residents who live quite close to TNC project areas. Residents who lived closer to these areas seemed to be more informed of TNC conservation plans.

People were rather equally divided between favorable and unfavorable opinions of TNC. Those who supported TNC conservation work in their area wanted some land to remain open even in the face of increased growth. A man in Mackinac County commented, *"Well, as far as protecting land for the future for people to enjoy without development—I think it's great. We had plots of land just down the highway—like two miles—that are protected from development, yet they're open to the public. And you gotta have 'em. I love to see it."*

Residents who had concerns about the work that TNC was doing in their area had concerns primarily about increased taxes and decreased access to land. The main concern that these people voiced in reference to TNC properties was that land acquired by TNC was no longer taxed. Because this occurred, these residents believe that the locals will have to pay a proportionately higher percentage of the tax base for their township. These respondents felt that this policy was unfair to local residents. A man in Mackinac County declared, *"Well, one concern we have is over...this conservancy that's coming in, Little Traverse Bay Conservancy [sic]. They come in and buy up property and they're going to keep it natural, which sounds good, but when they do that then they take it off the tax roll."* Other residents were concerned about these conservation projects because they believed that TNC land was not open to the public in ways that the land had been previously. A man in Mackinac County remarked, *"About 4 miles of beach front, and [The Nature Conservancy] bought that and...we've hunted and fished on there for all my life and that's going to be, I'm sure, closed off in the near future."*

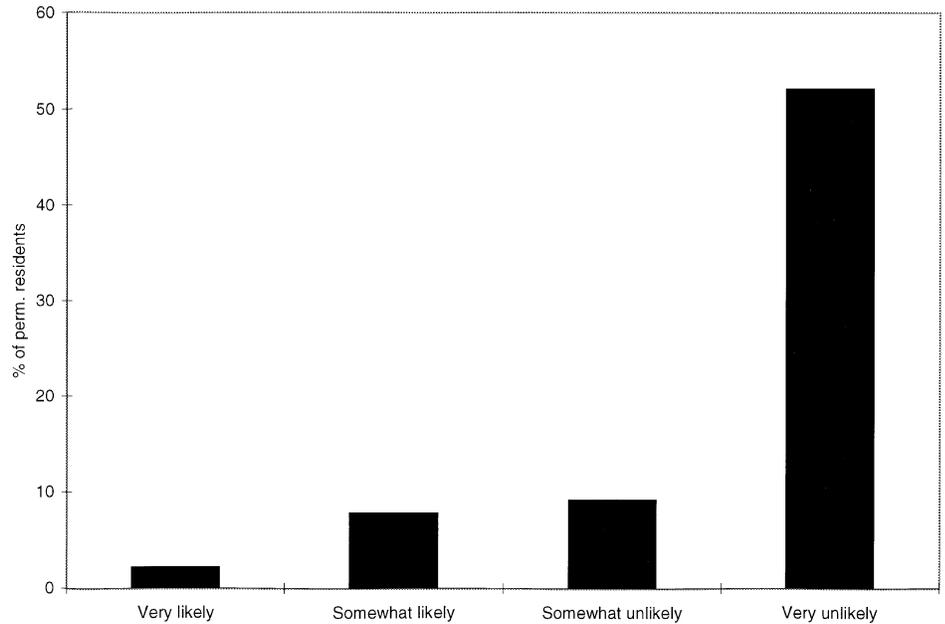
Nearly 75 percent of the people interviewed in the oral histories and 52 percent of the residents in the mail survey said they were unlikely to

move away from the eastern U.P. (Figure 6.2). In the interviews, residents did not consider leaving the area because it was a good place to live, their families lived there and they considered it home. The people who had considered moving from the eastern U.P. were thinking about doing so primarily to avoid the cold weather months.

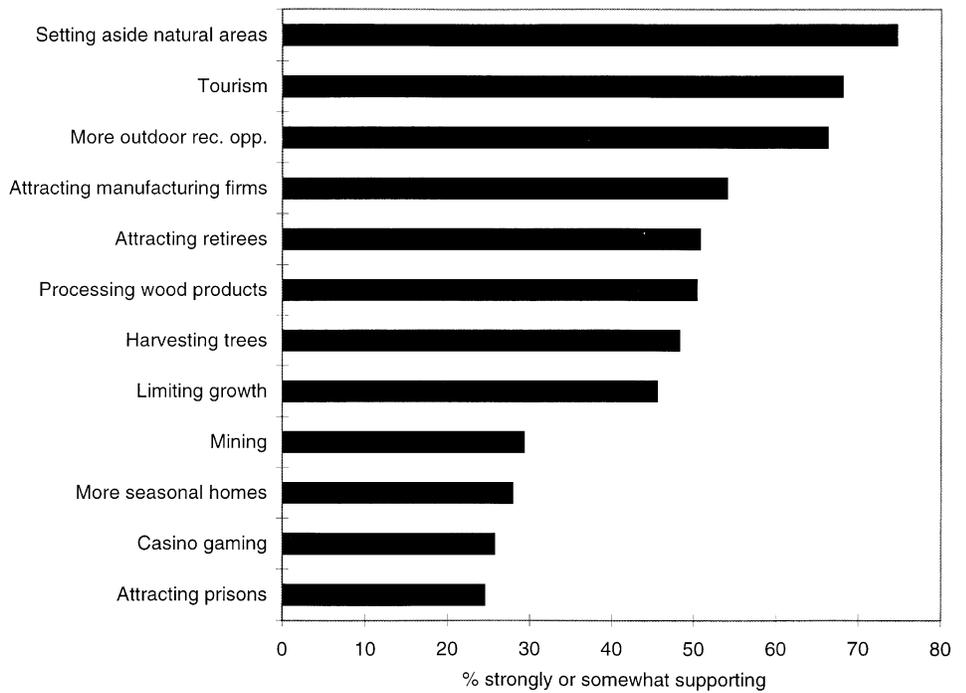
## Preferences for Future Development

An additional question in the mail survey was used to ascertain residents' preferences for economic development in the eastern U.P. Several development strategies were presented to respondents to assess levels of support for each (Figure 6.3). The two that received the greatest proportion of supportive responses were more outdoor recreation opportunities (66 percent strongly or somewhat support this option) and tourism (68 percent strongly support or somewhat support). However, the strategy that received the highest proportion of strong or partial support was setting aside natural areas (75 percent). This poses some questions, since many individuals in the oral histories indicated that they feel there is enough government-owned land. It would be difficult to determine what respondents interpreted as natural areas in the mail survey. Another interesting point to note about these strategies is that, though there was strong support for tourism, there is relatively low support for more seasonal homes (only 28 percent strongly support or somewhat support this option). Before reaching any conclusions about tourism development, there has to be more exploration of what residents feel is appropriate tourism for the eastern U.P.

**Figure 6.2. Residents' likelihood of moving away from the eastern U.P. in the next five years.**



**Figure 6.3. Percent of respondents who support given strategies for the future of the eastern U.P.**



## Demographic Variations in Future Development Support

The following graphs illustrate differences in support for future development strategies among various demographic groups. Those described are statistically significant (using a chi-square statistic) at the  $\alpha = 0.05$  level. Some additional differences are listed that are significant only at the  $\alpha = 0.10$  level and are indicated with an asterisk in the corresponding graph.

**Gender differences.** Though both men and women favor setting aside natural areas, women are more likely to support this strategy (Figure 6.4). Men, on the other hand, are more likely than women to support harvesting trees and processing wood products.

**Age differences.** Older people are more likely to support attracting retirees, while younger people support more outdoor recreation opportunities (Figure 6.5). People in the oldest age group, over 65 years of age, are more likely to be supportive of attracting manufacturing firms.

**Income differences.** Income seems to have a minor effect on preferences for future development (Figure 6.6). The item that stands out most is support for manufacturing firms—respondents with lower incomes are much more likely to support this type of development.

**Tenure differences.** Several differences in preferences for development strategies depend on the amount of time the respondent has lived in the eastern U.P. (Figure 6.7). The respondents to this question are permanent residents only (non-resident seasonals are excluded). Residents who have lived in the area for more than 30 years have expressed greater support for harvesting trees and attracting manufacturing firms but show less support for attracting retirees. Residents who have lived in the area longer are also more likely to support tourism development.

Figure 6.4. Differences in support for development strategies between men and women.

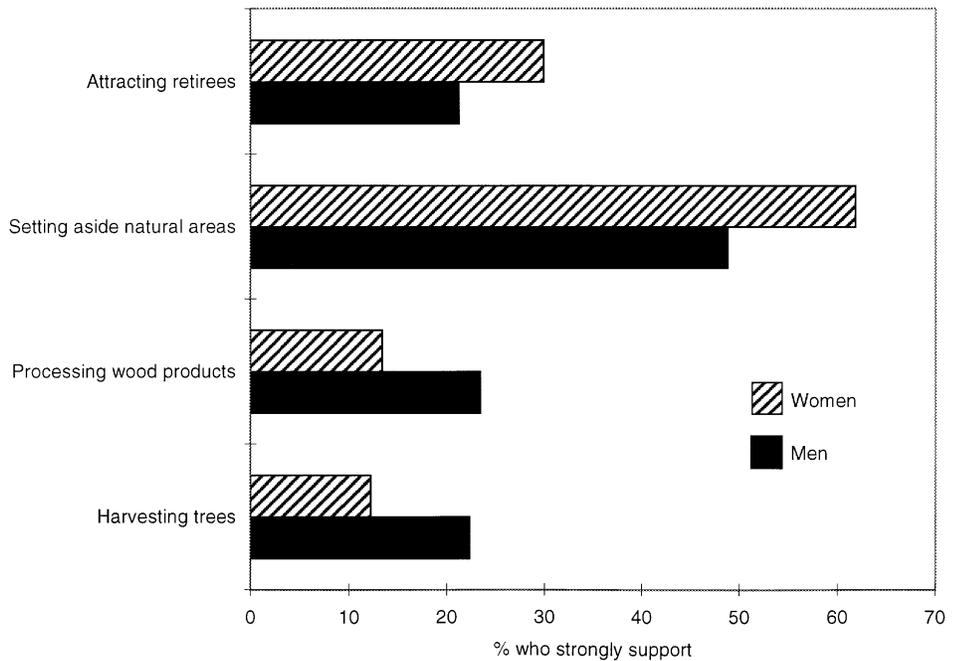


Figure 6.5. Differences in support for development strategies among age groups.

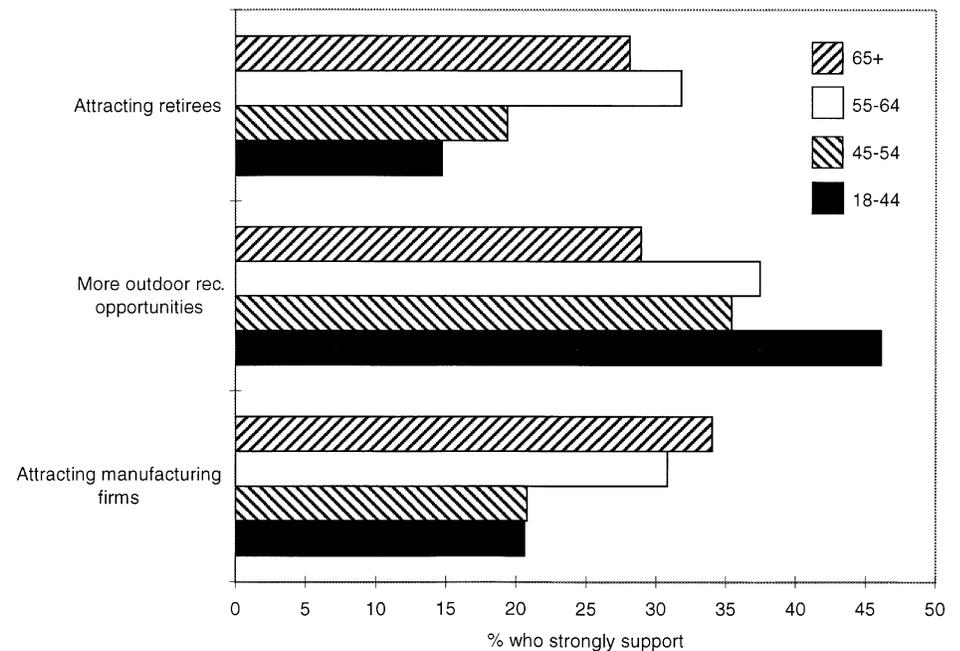


Figure 6.6. Differences in support for development strategies among income groups.

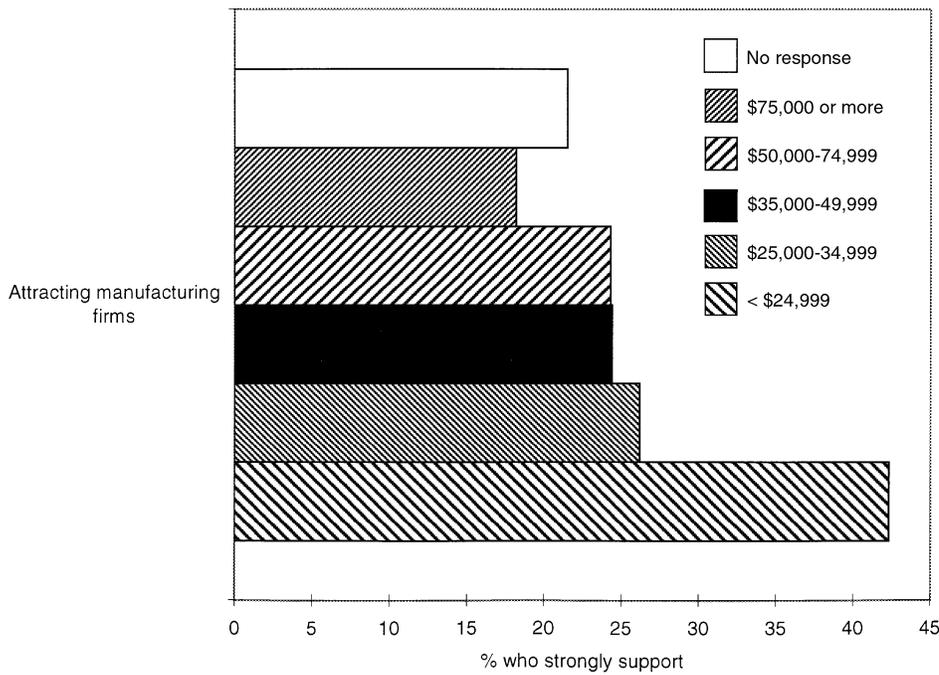
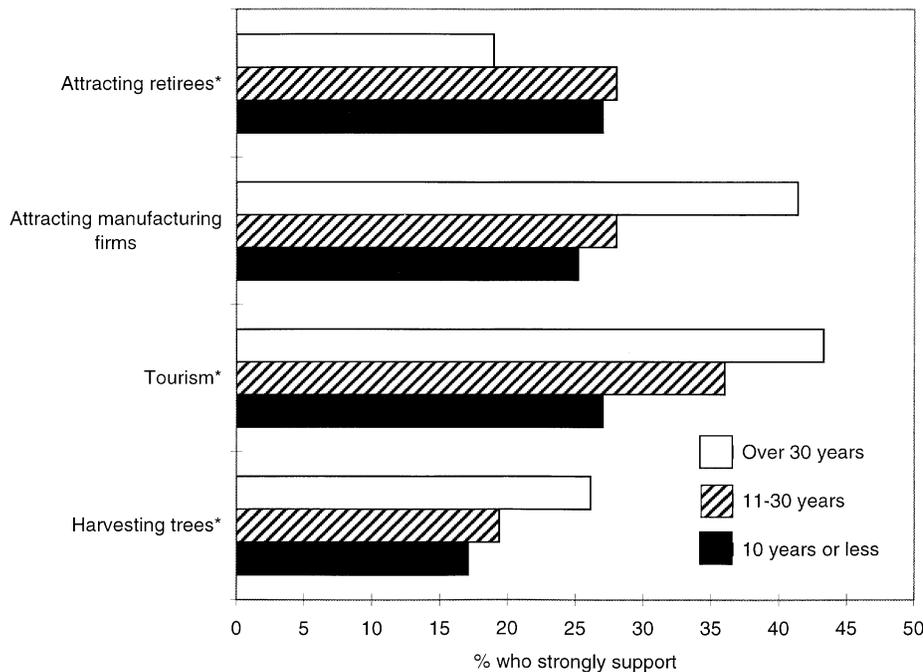


Figure 6.7. Differences in support for development strategies by length of residence in the eastern U.P.



**Employment differences.** Those respondents who are employed full-time (Figure 6.8) are more likely to support harvesting trees but are also more likely to support developing more outdoor recreation opportunities. Respondents who are retired, on the other hand, are more supportive of attracting retirees.

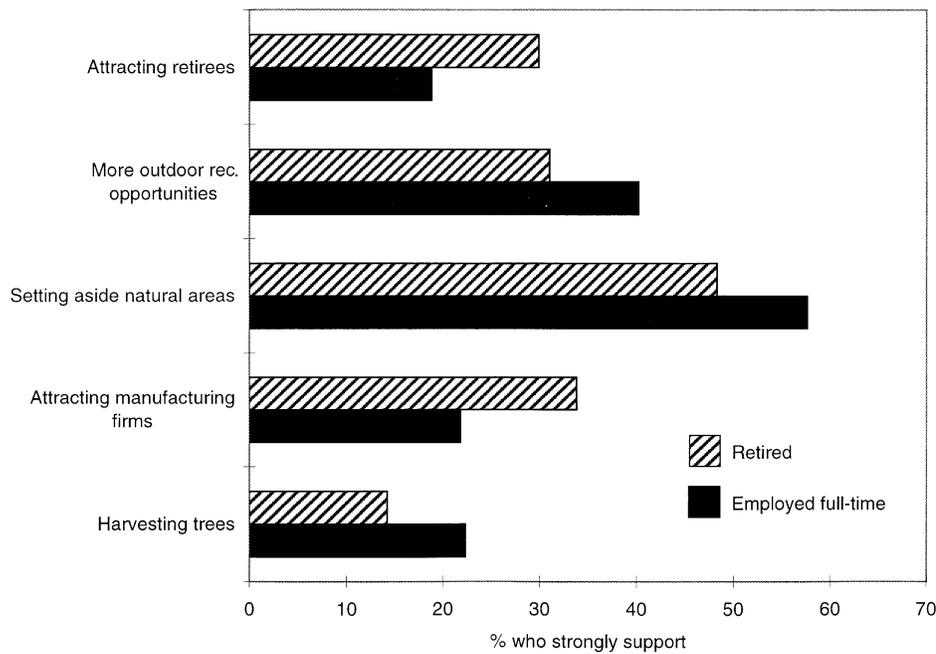
**Seasonal and permanent residents.** Seasonal residents generally expressed weaker support than permanent residents for industrial and extractive activities such as manufacturing, harvesting trees and processing wood products (Figure 6.9). Seasonal residents also expressed greater opposition to prisons but were more supportive of limiting growth and setting aside natural areas.

## Summary

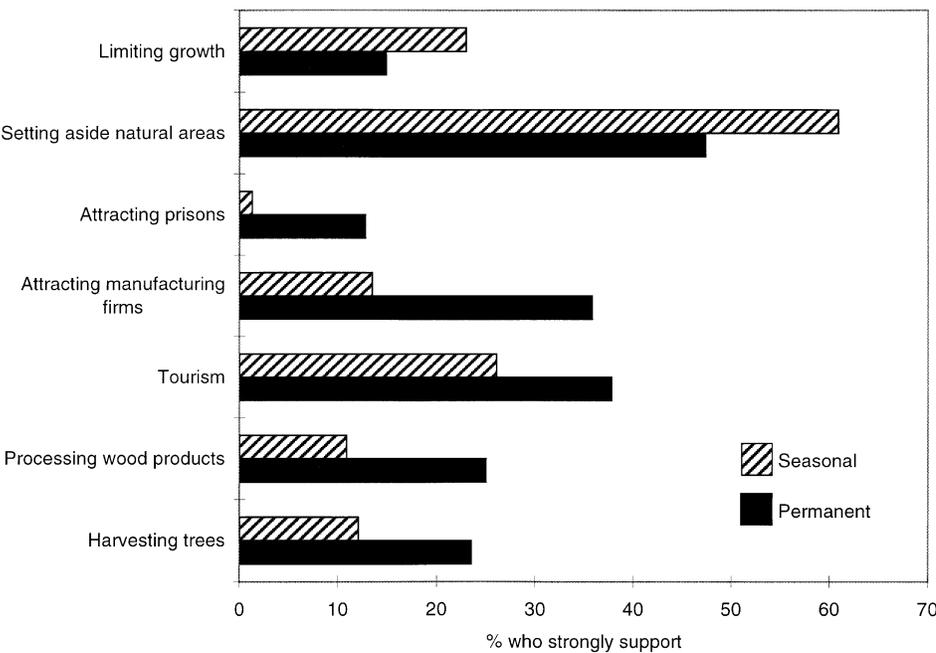
Residents of the eastern U.P. are very attached to their homes, and they are not likely to leave in the near future. However, they are concerned about changes they have seen take place in recent years. For instance, many residents are concerned about what they perceive to be increased development of seasonal homes, hotels/motels and malls/shopping centers. The region's population size and amount of traffic are also concerns. There has not been a corresponding feeling that there has been a decrease in the eastern U.P.'s scenic beauty, water quality or air quality, but there is a strong perception that fishing quality has decreased substantially.

Though residents are supportive of some future growth to support additional job opportunities (particularly for their children), they fear that the resulting additional crowding and development will ruin the character of their communities. There is substantial support for creating more outdoor recreation and tourism opportunities as future development strategies, while additional prisons, casino gaming, mining and seasonal home development are not as strongly supported. The highest proportion

**Figure 6.8. Differences in support for development strategies between those who are employed full-time and those who are retired.**



**Figure 6.9. Differences in support for development strategies between permanent and (non-resident) seasonals.**



of support was directed to setting aside natural areas, which is interesting because the oral histories found that taking more land off the tax rolls is a concern.

Support for either job growth or enhanced recreation varies with the group surveyed. Permanent residents, in particular those who have lived in the area for more than 30 years and those with lower incomes and retired persons, are more likely to support attracting manufacturing firms. On the other hand, women, those employed full-time and seasonal residents are more likely to support setting aside natural areas.

Residents are clearly concerned about economic conditions, both for themselves and for their children, yet they are very sensitive to maintaining the undeveloped beauty of the eastern U.P. Growth in population and crowding might be acceptable to a certain extent, but not in an uncontrolled or accelerated manner. With regard to economic growth, a big concern among residents is that they feel they have no control over their future and that these changes are ultimately inevitable.

# Chapter 7

## Conclusion

The eastern Upper Peninsula of Michigan has faced many challenges and opportunities over the past 40 years, including the closing of an Air Force base and a state mental health facility, the building of new prisons, the development of casinos, and increases in seasonal homes and snowmobilers. These events have had impacts on both the biophysical environment and the structure and well-being of human communities. The citizens of the region continue to face decisions about economic development, especially through the expansion of casinos and prisons. Other types of development, such as seasonal home building along shorelines, place different pressures on human and ecological systems. At the same time, outside interests place a greater emphasis on the conservation of unique biophysical resources in the region. Striking a balance among these forces requires a decision-making process that uses information on a variety of social, economic and environmental conditions. This document is designed to provide basic pieces of that puzzle.

Less than 1 percent of the state's population resides in the eastern U.P., and that proportion is primarily in Chippewa County. This sparsely populated region on average contains an older and relatively stable population, though Chippewa County more closely follows Michigan's average proportion of residents who are near retirement age. Less than 20 percent of the population moved between 1985 and 1990, and evidence from the majority of current residents indicated that they did not plan to move away from the eastern U.P. in the future. With 1.8 million acres of forestland, 55,442 acres of inland lake area, 785 miles of Great Lakes shoreline, and 1,805 river miles, it isn't surprising that residents do not intend to leave the area.

Economic conditions in the eastern U.P. reflect certain problems that are characteristically associated with rural resource-dependent regions. Median household incomes in the three-county area are substantially lower than the Michigan average, and the unemployment rate has been consistently higher in the past 20 years. Concerns about these conditions are strongly reflected in residents' opinions in the mail survey. More than 40 percent of permanent residents consider job opportunities to be an important aspect of the area, and nearly 60 percent feel the area's cost of living is important. These are also the two characteristics with which people in the region are least satisfied. Though the development of casinos throughout the region has provided more job opportunities, these are generally low-paying jobs without health or retirement benefits. The opening of prisons in Chippewa and Luce counties has provided relatively high-paying jobs with benefits, but concerns about growth in crime and corresponding declines in resident safety have grown with these facilities.

Despite the concerns about jobs and economic health, the natural resources of the eastern U.P. have provided significant economic opportunities to the region through agriculture, the forest industry and mining. In fact, it was the rich forest and mineral resources that attracted many long-term residents to the region. Though the impact of natural resource industries has declined in the recent past, they still make up a substantial share of Luce County's total industry output. Approximately 26 percent of value-added in 1993 can be attributed to these sources in Luce County, but they have less of an industrial impact in Chippewa and Mackinac counties.

Of the various commodity-based natural resource activities, timber

management and production play the greatest role. These activities include forest management, timber production and forest products manufacturing. Nearly 80 percent of the land in Luce and Mackinac counties and 70 percent in Chippewa County is forested. The majority of this forested land is available for commercial timber harvesting, and government agencies own over half of this land. Both the Michigan Department of Natural Resources and the U.S. Forest Service have one or two operational units in each county. Private timber businesses are greater contributors to the labor market. Timber producers have the greatest number of businesses in the eastern U.P., but secondary mills employ the greatest number of people. These industries currently appear to be benefiting from a steady supply of timber resources. In fact, timber production increased by 32 percent from 1984 to 1994, growing from approximately 17 million to nearly 23.5 million cubic feet. Residents have noticed this change, with nearly 40 percent responding in the mail survey that harvesting has increased. This activity is generally regarded favorably, with nearly half indicating they support or strongly support forest harvesting as an economic strategy in the eastern U.P. Residents have also noticed the change in harvesting methods and types, as indicated in the oral histories. Several residents in these interviews noted the change from large sawtimber harvesting to the current pulpwood-dominated industry. They also noted the shift to increased mechanization in harvesting activities. Often the objection was not to forest harvesting generally but to the methods that are used. For instance, there were a number of negative perceptions related to clearcutting, expressed through such descriptive words as "slashing" and "stripping" when discussing the activity.

Mining is another natural resource commodity-based activity that contributes important economic benefits to the region. Activities are concentrated in the production of dolomite, limestone and sand in a few large operations. This industry is not as prominent as it once was, yet it still contributes \$7 million in value-added for the eastern U.P. One limestone mining company alone in Mackinac County is the largest manufacturing employer. In the interviews, residents appear to recognize that these operations are economically important for their area. They especially recognized them as a valuable source of year-round employment, a matter of concern for Mackinac County, in particular. Those who responded to the mail survey, however, indicated a lukewarm response to mining as a development strategy, with a level of support approximately equal to the support for casinos and prisons.

Though agriculture is not necessarily considered a natural resource commodity, it has been a significant contributor to the eastern U.P. economy. This industry picked up where the logging activities left off at the turn of the century, but it has experienced significant declines in the past decades. Today's farms contain only about half of the total acreage that existed in the 1930s, and the majority of that is centered in Chippewa County. Average individual farm size, on the other hand, has increased to maintain economic viability. Though most farm income is derived from livestock and livestock products, a large proportion of employment in farming is related to hay and grass. Like mining, agriculture still is a player in the region's economic base, contributing \$12.5 million in value-added. This figure has declined over the years, making this industry's future uncertain in the region. Many residents who participated in the oral history interviews lamented the decline in the number of small or family farms. These declines were considered to be among the greatest events to have affected their area. Loss of these farmlands to other types of development is especially a con-

cern because these changes are perceived to be a significant threat to the prized rural nature of the region.

One resource-based industry that has experienced dramatic growth in the region is tourism. Though tourism activities such as casino gaming are not directly related to natural resources, others are on the rise, such as snowmobiling, that are heavily resource-dependent. When spending by boaters, campers, anglers and hunters is added to that of snowmobilers, at least one-third of all tourist spending in the eastern U.P. is estimated to come from outdoor recreation. Tourist spending overall doubled in five years (1990-1995) to nearly \$250 million. Lodging room receipts contributed to the greatest increases, growing by approximately \$30 million from 1985 to 1995. This increase in tourist spending has led to a corresponding growth in employment opportunities. Overall, this industry alone accounted for 18 percent of all income in the region and more than a quarter of the jobs in 1995.

Several outdoor recreation activities are substantial contributors to tourist activities in the eastern U.P. As mentioned earlier, snowmobiling has become a popular winter activity, generating about \$14 million in visitor spending during the 1996/97 season. These sorts of opportunities help to offset some the seasonal effects of traditional U.P. recreational activities, yet they come with their own sets of concerns. Other important activities pursued in the region by both residents and visitors include water activities such as fishing, boating and swimming. These activities each involved more than 600,000 person-days per year. Others with relatively high participation rates for visitors include hiking and camping. Results from the mail survey confirm many of these findings—a majority of resident households participated in fishing, swimming and boating. Residents in the survey also frequently mentioned that their household participated in a hunting-related activity at least once in 1997.

Participants in the oral history interviews also frequently mentioned boating and camping when discussing outdoor recreation activities that they and their families participate in. It's important to remember that camping, in particular, is usually done in conjunction with other activities such as hunting and fishing. The widespread participation in these various activities may in part explain general support for outdoor recreation and tourism in the mail survey. The majority of respondents support additional outdoor recreation opportunities and tourism as economic development strategies for the eastern U.P.

Seasonal homeowners are important players in the natural resource base and economy of the region. The number of seasonal homes continues to grow, though at a slower rate than during the 1950s and '60s, and the character of the homes has changed from rustic cabins to more expensive waterfront homes. Currently, about one-third of all of housing units in the eastern U.P. are seasonal homes. They are important contributors to the local economy—spending on trips to seasonal homes represents about 20 percent of all tourism spending. Additionally, operation, tax payments and maintenance of these homes provide local economic benefits. Seasonal residents typically have higher education and income levels than permanent residents and are more likely to engage in equipment-intensive outdoor recreation activities such as boating and snowmobiling. Boating, in particular, is an important activity for seasonal residents, according to those who participated in the oral history interviews. Seasonals also hold slightly different values that influence why they are attracted to the region. They are more likely to be concerned with environmental quality and a sense of peace and quiet. Despite the contributions that seasonals make to the region's local economy, permanent residents have mixed feelings about their impacts. A majority of respondents to the mail survey were very much aware of the increase in seasonal home development. Though

a large proportion of residents support tourism as a development strategy, there is relatively low support for more seasonal homes. Part of the concern lies in where these homes are located, according to participants in the interviews. A large proportion of residents who were interviewed disliked the increased development along lake shorelines. Many feel that access to shorelines should not be denied to the public. These observations and the overall concerns about crowding should temper the economic significance of tourism and seasonal home development. Over 85 percent perceived an increase in the amount of traffic in the past five years, which can at least in part be attributed to growth in the various tourism-related activities. These perceived downsides to tourism development must not be overlooked when considering additional opportunities to boost the economy of the region.

Recreation is only one motivation for resident participation in outdoor activities. Over half of all households in the mail survey hunted and/or chopped firewood in the previous year. Approximately two-thirds picked wild berries, and 70 percent fished. Aside from the importance of the hunting or gathering activities themselves, the products that were gathered from such efforts are also valuable as a source of supplemental income or subsistence. The items gathered from the natural resource base are usually consumed within that household or used as an item of exchange with friends and extended family for other items. Additionally, many items are given as gifts because they're considered more special than a purchased gift from a store. These sorts of exchange and sharing activities are important in binding residents of the area together.

Residents consider certain forest and wildlife resources to be vital to their communities, regardless of the motivation behind the hunting or gathering activity. Of the living resources in the eastern U.P., fish stocks were considered by many

participants in the interviews as especially significant in their lives, both now and during childhood. For long-time permanent residents, fish was an important supplement to their household diets during their youth. Nearly a quarter of the seasonal residents interviewed also mentioned that fishing was a major reason for coming to the area. Unfortunately, the majority of all residents believe that high-quality fishing opportunities are declining, both in the inland lakes and the Great Lakes. The mail survey also reflects this perception, with over three-quarters of the respondents indicating that fishing quality has declined in the past five years. Because people seem to have a more difficult time catching fish in the region, they are enjoying the activity less and consuming fish less often in their households. With lower expectations of successful fishing in the eastern U.P., residents are more likely to take trips to other locations to pursue their favored activity. Ideas about the cause for the decline were varied, from Native American commercial netting activities to the Michigan DNR efforts in salmon planting to predation by cormorants. These results show that concerns over the availability of successful fishing opportunities are widespread. The region heavily depends on this activity for tourism and residential use, so it is vital for resource professionals to understand the problem from the residents' and visitors' standpoints and more clearly communicate their management intentions to all interested groups.

Hunting is another activity that has played a central role in many long-term residents' lives. Nearly all participants in the oral history interviews mentioned participating in some sort of hunting in their lives. In 1990, residents generated more than 70,000 person-days from firearm hunting alone. Deer, rabbit, bear, upland birds, and waterfowl were the species that were most often hunted in the recent past, according to the interviews. As with all other gathering activities, the products from hunting

are used primarily for household consumption or exchange. Unlike fishing, however, there seems to be no perceived decline in residents' game of choice. In fact, concerns over deer increases were expressed by some residents. With the financial investment inherent in this activity through the purchase of various sporting goods, hunting continues to be an important contributor to the region's economy for both visitors and residents.

The use of firewood also remains important in the lives of many eastern U.P. residents. Fifty percent of the respondents to the mail survey said they had cut wood in the previous 12 months. Even though other sources of heat are readily available for local households, many residents who participated in the interviews said they still burn wood to save money and have the feeling of self-sufficiency. Age affects the likelihood that people will cut wood. As residents get older, those who burn wood for fuel are more likely to purchase firewood from someone else than to cut it themselves. Others, however, have stopped using wood for heat because they find it's messier than other heat sources such as oil or gas heat, and that it's hard work. Most who do participate in this activity cut the wood from private landholdings. Landowners also harvest timber from their land for other purposes, such as construction materials, either for their own consumption or to sell as supplemental household income. One-third of the participants in the interviews mentioned harvesting wood from their own property, often for construction projects as well as for fuel. Others obtain permits to cut dead or fallen trees from public property. For those households who rely on wood for heat through the winter but do not have vast tracts of their own land, continued access to public sources is very important.

The information gathered from this study shows that both visitors and residents consider a variety of hunting and gathering activities to be important aspects of the eastern U.P.

Though residents often still rely on natural resource items as supplemental to household maintenance, these activities are today more likely to be participated in merely to experience nature with friends and family. Hunting, fishing, berry picking and other harvesting activities are seen as opportunities to share time with others, especially children. Values such as a work ethic, self-sufficiency and a deep respect for the natural world are transmitted to children while these experiences are shared with parents and other kin. Aside from the active uses of the gathered items and the social aspects that accompany the activities, the natural resources themselves are intrinsically valuable to people. For instance, feeding and watching wildlife were commonly discussed among residents in the oral history interviews. Regardless of whether they lived in the country or in town, people expressed the joy they felt in helping wildlife and gaining a sense of closeness to their natural surroundings. Having access to large tracts of undeveloped open space to have such experiences with nature is also vital to residents and visitors. As shorelines continue to be developed for seasonal homes and parcels of land become more fragmented with additional private landowners, access to such experiences becomes more difficult. This in part explains why three-quarters of all respondents to the mail survey supported setting aside natural areas as a future development strategy. Other important characteristics came out during the oral histories, including peace and quiet, small population and lack of development. At the same time, concerns in the interviews about removal of land from the tax rolls for public use suggests a certain amount of ambivalence about public access and private land ownership.

The data collected in this study paint a picture of people's attachment to natural resources in many ways. Residents are concerned about changes they have seen taking place, such as development of seasonal homes, hotels and motels, malls and shopping centers, population increas-

es and the amount of traffic. Residents are clearly concerned about economic conditions for both themselves and their children, yet they want to maintain the undeveloped beauty of the eastern U.P. It's apparent, however, that they feel they have no control over their future and that undesirable changes are ultimately inevitable. To help ease these concerns, future scenarios are needed that provide employment without destroying the natural resource-based way of life in the eastern U.P. The nature and acceptability of these scenarios are being explored through other data collected in this study, as well as additional analyses of the data reported here. These include follow-up surveys focused on seasonal homes, local youth, forested land in private ownership, gathering and harvesting activities, and interviews with residents and leaders concerning their preferences for future development of the eastern U.P. A summary of the specific purposes of each follow-up is provided in Figure 7.1. We hope that these additional efforts will help to fill the gaps in information that were found in the results of the original work summarized here. Future explorations into regional social, environmental and economic changes should be undertaken so that residents and local decision makers can be aware of issues as they develop. Vigilance must be maintained to plan for a future eastern U.P. that all can be proud of.

### **Figure 7.1. Objectives of each follow-up study for the eastern U.P.**

#### Forested parcel study objectives:

- To determine any differences in forested land ownership, derived benefits and willingness to conduct harvests between seasonal and permanent resident landowners.
- To understand factors influencing landowners' decisions about whether to harvest wood products on their land.

#### Gathering and harvesting study objectives:

- To describe the extent to which eastern U.P. residents have gathered or harvested natural resources throughout their lives.
- To describe how and why their use of natural resources has changed over time.
- To understand the importance of harvesting or gathering natural resources to the lives of these residents.

#### Seasonal home study objectives:

- To estimate seasonal home occupancy rates and contributions to population in the region on a seasonal basis.
- To estimate recreation activity from seasonal homes and the importance of recreation activities in seasonal home ownership.
- To estimate spending by seasonal homeowners and economic impacts on the eastern U.P.

#### Tradeoff (conjoint) analysis objectives:

- To determine relative preferences for future conditions of various physical regional characteristics.
- To determine tradeoffs residents are willing to make among various plausible future economic development and natural resource protection strategies.

#### Leader interview objectives:

- To understand local officials' perceived roles in their communities.
- To determine the preferred methods of communication with other officials, their constituents and others outside the eastern U.P.

#### Youth study objectives:

- To understand young people's attitudes and opinions about the eastern U.P.
- To determine their future potential for career choices and out-migration.

# Literature Cited

- Bureau of Transportation Statistics. 1995. 1995 American Travel Survey; Summary Travel Characteristics, Michigan. Publ. No. BTS/ATS95-ESTC/MI. Washington, D.C.: U.S. Dept. of Transportation.
- Carroll, M.S., and R.G. Lee. 1990. Occupational community and identity among Pacific Northwestern loggers: Implications for adapting to economic changes. In: Lee, R.G., D.R. Field and W.R. Burch (eds.), *Community and Forestry: Continuities in the Sociology of Natural Resources*. Boulder, Colo.: Westview Press.
- Chase, C.D., R.E. Pfeifer and J.S. Spencer, Jr. 1970. The Growing Timber Resource of Michigan. Resource Bulletin NC-9. St. Paul, Minn.: USDA Forest Service North Central Forest Experiment Station.
- Cook, A.K. 1992. Timber dependent counties: Economic and social change in Washington. Extension Bulletin 1674. Spokane, Wash.: Washington State University Cooperative Extension.
- DeVilbiss, J.M. 1992. Economic diversity and dependency assessment. Rocky Mountain Region Technical Report, vol. 1. Fort Collins, Colo.: USDA Forest Service Rocky Mountain Region.
- Fortmann, L.P., J. Kusel and S.K. Fairfax. 1989. Community stability: The foresters' fig leaf. In: LeMaster, D.C., and J.H. Beuter (eds.), *Community Stability in Forest-Based Economies*. Portland, Ore.: Timber Press.
- Freudenburg, W.R. 1992. Addictive economies: Extractive industries and vulnerable localities in a changing world economy. *Rural Sociology*, 57(3): 305-332.
- Freudenburg, W.R., and R. Gramling. 1994. Natural resources and poverty: A closer look. *Society and Natural Resources*, 7(1): 5-22.
- Fridgen, C. 1995. Natural resources policy. Michigan State University Agricultural Experiment Station Special Report 68. East Lansing, Mich.: Michigan State University.
- Green, P.E., A.M. Krieger and J.D. Caroll. 1987. Conjoint analysis and multi-dimensional scaling: A complimentary approach. *Journal of Advertising Research*, 27(5): 21-28.
- Humphrey, C.R., G. Berardi, M.S. Carroll, S. Fairfax, L. Fortmann, C. Geisler, T.G. Johnson, J. Kusel, R.G. Lee, S. Macinko, N.L. Peluso, M.D. Schulman and P.C. West. 1993. Theories in the study of natural resource communities and persistent rural poverty in the United States. In: *Persistent Poverty in Rural America*. Boulder, Colo.: Westview Press.
- IMPLAN Professional (Social Accounting & Impact Analysis Software). 1993. Stillwater, Minn.: Minnesota IMPLAN Group, Inc.
- Inter-Tribal Fisheries Assessment Program. 1998. Tribal Access Sites (map). Sault Ste. Marie, Mich.: Sault Ste. Marie Tribe of Chippewa Indians, Chippewa/Ottawa Treaty Fishery Management Authority.
- Johnston, C.A., N.E. Detenbeck, J.P. Bonde and G.P. Niemi. 1988. Geographic information systems for cumulative impact. *Photogrammetric Engineering and Remote Sensing*, 54(11): 1609-1615.
- Kusel, J., and L. Fortmann. 1991. Well-being in forest dependent communities. Forest and Rangeland Resources Assessment Program. Sacramento, Calif.: California Department of Forestry and Fire Protection.
- Machlis, G.E., and J.E. Force. 1988. Community stability and timber-dependent communities. *Rural Sociology*, 53(2): 220-234.
- Marcouiller, D.W., D.F. Schreiner and D.K. Lewis. 1995. Distributive economic impacts of intensive timber production. *Forest Science*, 41(1): 122-139.
- May, D.M., and J. Pilon. 1995. Michigan Timber Industry - An Assessment of Timber Product Output and Use, 1992. Resource Bulletin NC-162. St. Paul, Minn.: USDA Forest Service, North Central Forest Experiment Station.
- McDonough, M.H. 1995. Natural resources and communities. Michigan State University Agricultural Experiment Station Special Report 82. East Lansing, Mich.: Michigan State University.
- M.I.G. Inc. 1993. 1990 IMPLAN database documentation. Stillwater, Minn.: Minnesota IMPLAN Group, Inc.
- The Nature Conservancy. 1995a. Northern Lake Huron Bioserve, Michigan—Strategic Plan. East Lansing, Mich.: Michigan Chapter.
- The Nature Conservancy. 1995b. Two Hearted River Landscape Ecosystem Conservation Plan. East Lansing, Mich.: Michigan Chapter.
- Overdevest, C., and G.P. Green. 1995. Forest dependence and community well-being: A segmented market approach. *Society and Natural Resources*, 8(2): 11-132.

- Potter-Witter, K. 1994. Michigan's timber and timberland. Michigan State University Agricultural Experiment Station Special Report 71. East Lansing, Mich.: Michigan State University.
- Pyatt, G., and J.I. Round (eds.). 1985. Social accounting matrices, a basis for planning. Washington, D.C.: The World Bank.
- Raile, G.K., and W.B. Smith. 1983. Michigan Forest Statistics, 1980. Resource Bulletin NC-67. St. Paul, Minn.: USDA Forest Service, North Central Forest Experiment Station.
- Ripley, M. 1998. Inter-Tribal Fisheries Assessment Program. Sault Ste. Marie, Mich.: Tribe of Chippewa Indians, Chippewa/Ottawa Treaty Fishery Management Authority, Sault Ste. Marie.
- Schallau, C.H., and R.M. Alston. 1987. The commitment to community stability: A policy of shibboleth? *Environmental Law*, 17: 429-475.
- Schallau, C.H. 1989. Sustained yield versus community stability. *Journal of Forestry*, 87(9): 16-23.
- Schallau, C.H. 1994. The contribution of the forest products industry to rural economies in the southern Appalachian region. Technical Bulletin No. 94-4. Washington, D.C.: American Forest and Paper Association.
- Schmidt, T.L. 1993. Forest Statistics for Michigan's Eastern Upper Peninsula Unit, 1993. Resource Bulletin NC-150. St. Paul, Minn.: USDA Forest Service, North Central Forest Experiment Station.
- Schmidt, T., and M. Lanasa. 1995. The Forest Resources of the Hiawatha National Forest, 1993. Resource Bulletin NC-163. St. Paul, Minn.: USDA Forest Service, North Central Forest Experiment Station.
- Spencer, D.M., D.K. Kim and P. Alexander. 1998. Tourism profiles of each county in Michigan. East Lansing, Mich.: Travel, Tourism and Recreation Resource Center, Michigan State University.
- Spotts, Daniel. 1991. Travel and tourism in Michigan: A statistical profile (2nd edition). East Lansing, Mich.: Travel, Tourism and Recreation Resource Center, Michigan State University.
- Stewart, D.W., and P.N. Shamdasani. 1990. *Focus Groups: Theory and Practice*. Newberry, Calif.: Sage Publications.
- Stevens, J.A. 1995. Lumber, furniture, composition panels and other solidwood products. Michigan State University Agricultural Experiment Station Special Report 72. East Lansing, Mich.: Michigan State University.
- Stynes, D.J. 1997. Recreation activity and tourism spending in the Lake States. In: J. Vasievich and H. Webster (eds.), Lake States regional forest assessment: Technical papers. Gen. Tech. Report NC-189. St. Paul, Minn.: North Central Forest Experiment Station.
- Stynes, D.J., J.T. Lynch and C.N. Nelson. 1998. State and regional economic impacts of snowmobiling in Michigan. East Lansing, Mich.: Department of Park, Recreation and Tourism Resources, Michigan State University.
- Stynes, D.J., and E. Olivo. 1990. Identifying amenity retirement areas in Michigan. Paper presented at 1990 National Outdoor Recreation Trends Symposium, March 29-31, Indianapolis, Ind.
- Travel Michigan. 1997. The Michigan Travel and Tourism Statistical Handbook. Lansing, Mich.: Michigan Jobs Commission.
- USDA Forest Service. 1984. Timber Products Output, 1984. St. Paul, Minn.: USDA Forest Service, North Central Forest Experiment Station.
- U.S. Travel Data Center. 1992. The economic impact of U.S. travel on Michigan counties. Report to Michigan Travel Bureau, Lansing, Michigan. Washington, D.C.: U.S. Travel Data Center.
- U.S. Travel Data Center. 1997. Impact of Travel on State Economies, 1995. Washington, D.C.: Travel Industry Association of America.
- Watson, Andrew, and James Stevens. 1997. "Wood Products Economic Impact Study for the Eastern Upper Peninsula." Lansing, Mich.: Michigan Sustainable Forest Development Roundtable Publication.
- Young, R.A., C.A. Onstad, D.D. Bosch and W.P. Anderson. 1994. Agricultural Non-Point Source Pollution Model (version 4.02) User's Guide. Minneapolis, Minn.: USDA.
- Yow, V.R. 1994. *Recording oral history: A Practical Guide for Social Scientists*. Thousand Oaks, Calif.: Sage Publications.

# Appendix Materials

- Interview questions
- Tourism supplemental tables
- Mail survey

## Oral history interview questions

1. How long have you been a resident of this county?

Have you ever considered moving from the area? Why or why not?

2. We are trying to get an idea of how people in this county have lived, used and interacted with wildlife, fish, trees, forests, lakes and streams throughout their lives. Please describe your relationship with these in your life. How did you use them when you were a kid? How about your parents or grandparents? What were things like? How have your ties to these changed throughout your life? How important have they been to your life?

Probe: Have you ever used these for household subsistence?

Have they had a role in generating household income?

3. What historical events in the past in this county have you seen to have a great impact on your county? How did these events impact your county?

4. What characteristics of this county do you like the most? What characteristics of this county do you like the least? Why?

5. Think about the future. What are your hopes for this county for your grandchildren and great-grandchildren? Can you describe your ideal image of this county in 50 years? In 100 years? Do you think this scenario of yours will turn out? If not, what characteristics do you think the future will have instead?

6. What are your greatest concerns for the future of this county?

## Focus group interview questions

1. What characteristics of this county do you like the most? What characteristics of this county do you like the least? Why?

2. How important are natural resources to you? How has availability or access to the resource changed over time?

3. Think about the future. What are your hopes for this county for your grandchildren and great-grandchildren? Can you describe your ideal image of this county in 50 years? In 100 years? Do you think this scenario of yours will turn out? If not, what characteristics do you think the future will have instead?

4. What are your greatest concerns for the future of this county?

## Outdoor recreation participation rates by activity for Chippewa, Luce and Mackinac counties.

Table a. Days of participation for Chippewa County (thousands of person-days).

Activity	Days of activity generated in the county				Days of activity received in the county						Ratio Received to generated
	Total	Inside	Trips outside county		OVERNIGHT STAYS AT			Total	On day	Total days	
			Day trips	Overnight	Seas. home	Motel	Camp	overnight	trips	in county	
Backpack	13.2	0.0	0.0	13.2	0.0	0.0	4.4	4.4	0.0	4.4	0.3
Bicycle	136.8	130.0	1.4	5.5	33.0	2.7	23.4	59.2	1.9	191.0	1.4
Camping	114.5	0.0	0.0	114.5	0.0	0.0	352.1	352.1	0.0	352.1	3.1
Fishing	159.3	144.4	10.4	4.5	78.1	17.7	35.4	131.2	117.0	392.6	2.5
Golf	92.3	87.7	2.3	2.3	11.5	4.1	0.8	16.3	2.7	106.7	1.2
Hike	29.5	17.7	3.5	8.3	34.5	6.8	62.4	103.7	13.7	135.1	4.6
Hunt (firearms)	48.0	34.9	7.9	5.2	19.3	1.1	8.7	29.1	24.9	88.9	1.9
Ski, alpine	18.6	0.0	7.4	11.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ski, XC	6.6	5.5	0.5	0.5	3.2	0.4	0.0	3.6	2.2	11.4	1.7
Swimming	360.2	324.2	18.0	18.0	100.5	6.8	78.0	185.	26.4	535.9	1.5
Tennis	48.6	47.2	0.1	1.3	4.6	1.6	0.2	6.4	0.2	53.7	1.1
Boardsailing	2.6	2.2	0.0	0.4	4.3	0.0	0.6	4.9	0.3	7.4	2.8
Boating (motor)	193.1	160.5	3.3	29.4	151.9	14.2	23.6	189.6	22.3	372.3	1.9
Canoeing	16.8	10.8	3.0	3.0	16.7	1.2	0.9	18.8	8.9	38.5	2.3
Ice skating	5.8	4.7	0.3	0.8	2.9	0.0	0.0	2.9	0.5	8.1	1.4
Sailing	14.6	13.2	0.3	1.1	12.1	0.0	3.5	15.7	2.8	31.6	2.2
Water skiing	6.8	5.2	0.3	1.3	21.7	0.0	0.6	22.2	2.7	30.1	4.4
<b>TOTAL</b>	<b>1267.5</b>	<b>988.0</b>	<b>58.9</b>	<b>220.5</b>	<b>494.3</b>	<b>56.6</b>	<b>594.6</b>	<b>1145.4</b>	<b>226.3</b>	<b>2359.8</b>	<b>1.9</b>

Table b. Days of participation for Mackinac County (thousands of person-days).

Activity	Days of activity generated in the county				Days of activity received in the county						Ratio Received to generated
	Total	Inside	Trips outside county Day trips	Overnight	OVERNIGHT STAYS AT			Total overnight	On day trips	Total days in county	
					Seas. home	Motel	Camp				
Backpack	3.9	0.0	0.0	3.9	0.0	0.0	2.6	2.6	0.0	2.6	0.7
Bicycle	41.4	39.4	0.4	1.7	27.9	7.6	13.6	49.0	0.9	89.4	2.2
Camping	25.9	0.0	0.0	25.9	0.0	0.0	178.1	178.1	0.0	178.1	6.9
Fishing	40.6	34.3	4.4	1.9	61.4	37.2	19.1	117.7	93.8	245.7	6.1
Golf	30.1	28.6	0.8	0.8	9.7	11.4	0.5	21.5	1.3	51.4	1.7
Hike	8.9	5.3	1.1	2.5	29.1	19.0	36.2	84.3	11.6	101.3	11.4
Hunt (firearms)	14.6	11.1	2.1	1.4	17.0	3.5	5.3	25.8	15.5	52.3	3.6
Ski, alpine	5.0	0.0	2.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ski, XC	2.1	1.8	0.1	0.1	2.8	1.4	0.0	4.2	1.7	7.8	3.8
Swimming	108.3	97.5	5.4	5.4	84.8	19.0	45.2	149.1	13.6	260.1	2.4
Tennis	14.0	13.5	0.0	0.4	3.9	4.6	0.1	8.5	0.1	22.1	1.6
Boardsailing	0.6	0.4	0.0	0.1	3.4	0.0	0.3	3.7	0.2	4.3	7.6
Boating (motor)	48.3	37.3	1.1	9.8	119.3	29.8	12.7	161.8	16.4	215.5	4.5
Canoeing	3.1	1.6	0.7	0.7	11.4	1.5	0.4	13.4	4.7	19.7	6.3
Ice skating	1.7	1.4	0.1	0.2	2.4	0.0	0.0	2.4	0.3	4.1	2.4
Sailing	3.8	3.2	0.1	0.5	9.5	0.0	1.9	11.5	1.4	16.0	4.3
Water skiing	6.8	5.2	0.3	1.3	21.7	0.0	0.6	22.2	2.7	30.1	4.4
<b>TOTAL</b>	<b>359.0</b>	<b>280.6</b>	<b>18.8</b>	<b>59.6</b>	<b>404.3</b>	<b>135.0</b>	<b>316.6</b>	<b>855.9</b>	<b>164.1</b>	<b>1300.5</b>	<b>3.6</b>

Table c. Days of participation for Luce County (thousands of person-days).

Activity	Days of activity generated in the county				Days of activity received in the county						Ratio Received to generated
	Total	Inside	Trips outside county Day trips	Overnight	OVERNIGHT STAYS AT			Total overnight	On day trips	Total days in county	
					Seas. home	Motel	Camp				
Backpack	2.1	0.0	0.0	2.1	0.0	0.0	1.4	1.4	0.0	1.4	0.7
Bicycle	23.2	22.0	0.2	0.9	7.7	1.5	7.4	16.6	0.4	39.0	1.7
Camping	10.4	0.0	0.0	10.4	0.0	0.0	83.3	83.3	0.0	83.3	8.0
Fishing	12.6	8.1	3.2	1.4	12.8	5.0	7.9	25.7	13.8	47.7	3.8
Golf	16.2	15.3	0.4	0.4	2.7	2.3	0.2	5.2	0.5	21.1	1.3
Hike	4.8	2.9	0.6	1.3	8.0	3.8	19.7	31.6	4.1	38.6	8.0
Hunt (firearms)	7.8	5.9	1.1	0.8	4.7	0.7	2.9	8.3	5.7	19.9	2.6
Ski, alpine	2.7	0.0	1.1	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ski, XC	1.1	1.0	0.1	0.1	0.8	0.3	0.0	1.1	0.5	2.6	2.3
Swimming	59.7	53.7	3.0	3.0	23.4	3.8	24.6	51.8	5.6	111.1	1.9
Tennis	7.6	7.4	0.0	0.2	1.1	0.9	0.0	2.0	0.0	9.5	1.2
Boardsailing	0.2	0.1	0.0	0.1	0.7	0.0	0.1	0.8	0.0	1.0	5.8
Boating (motor)	15.0	8.8	0.6	5.6	24.9	4.0	5.3	34.2	2.7	45.7	3.0
Canoeing	2.3	1.4	0.5	0.5	3.7	0.6	0.3	4.5	1.9	7.8	3.4
Ice skating	1.0	0.8	0.1	0.1	0.7	0.0	0.0	0.7	0.1	1.5	1.6
Sailing	1.2	0.8	0.1	0.3	2.0	0.0	0.8	2.8	0.3	3.9	3.3
Water skiing	6.8	5.2	0.3	1.3	21.7	0.0	0.6	22.2	2.7	30.1	4.4
<b>TOTAL</b>	<b>174.7</b>	<b>133.4</b>	<b>11.2</b>	<b>30.1</b>	<b>114.7</b>	<b>23.0</b>	<b>154.6</b>	<b>292.4</b>	<b>38.4</b>	<b>464.2</b>	<b>2.7</b>



**Eastern U.P.**

Chippewa  
Luce  
Mackinac

## Permanent and Seasonal Resident Attitudes toward the Eastern Upper Peninsula

We would like you to tell us about your perceptions and uses of the natural environment in the Eastern UP. It doesn't matter whether you are a seasonal or permanent resident. Please have the adult member (18 years or older) of your household who most recently had his or her birthday complete this survey. It should take you about 20 minutes to complete. Thank you for your cooperation!

Departments of Forestry & Parks, Recreation, and Tourism  
Michigan State University

### Your Values and Attitudes about the Eastern UP

1. We'd like you to tell us what is important to you in your daily life. Listed below are thirteen statements identifying things that people say they value in their lives. Please indicate which THREE values are MOST important to you in your daily life by checking three boxes to the left of the statements. Then check the THREE LEAST important values to the right of the statements (making sure there are no items with both left and right boxes checked).

Three MOST Important	Values	Three LEAST Important
<input type="checkbox"/>	Having freedom and independence	<input type="checkbox"/>
<input type="checkbox"/>	Scenic beauty	<input type="checkbox"/>
<input type="checkbox"/>	Being self sufficient	<input type="checkbox"/>
<input type="checkbox"/>	Peace, quiet, and tranquility	<input type="checkbox"/>
<input type="checkbox"/>	Warm relationships with others	<input type="checkbox"/>
<input type="checkbox"/>	Safety and security	<input type="checkbox"/>
<input type="checkbox"/>	Being close to nature	<input type="checkbox"/>
<input type="checkbox"/>	Being well respected	<input type="checkbox"/>
<input type="checkbox"/>	Enjoyment of life	<input type="checkbox"/>
<input type="checkbox"/>	Self respect	<input type="checkbox"/>
<input type="checkbox"/>	A sense of personal accomplishment	<input type="checkbox"/>
<input type="checkbox"/>	Family togetherness	<input type="checkbox"/>
<input type="checkbox"/>	Sense of belonging	<input type="checkbox"/>

2. We are interested in learning how important certain characteristics of the Eastern UP (Chippewa, Luce, and Mackinac Counties) are to you, and how satisfied you are with those characteristics. For each characteristic listed below:

- **Column A:** check the box indicating the IMPORTANCE of each characteristic to you.
- **Column B:** check the box indicating how SATISFIED you are with the current conditions.

<b>Column A:</b> How IMPORTANT are these these Eastern UP characteristics to you?						<b>Column B:</b> How SATISFIED are you with these characteristics in the Eastern UP?				
Very important	Neutral	Not at all important				Very satisfied	Neutral	Very dissatisfied		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Outdoor recreation opportunities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Water quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Job opportunities in the area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cost of living	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Property taxes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Crime rate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Air quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shopping opportunities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	School quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Climate and weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Health care facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Opportunities for involvement in local decisions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Friendliness of local residents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Access to public lands and waters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Scenic beauty of the area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



**Participation in Outdoor Activities**

6. For the following list of outdoor activities, please check the activities in which YOU personally and/or OTHERS in your household have participated in during 1996 in the Eastern UP.

	You personally	Others in your household		You personally	Others in your household
Camping	<input type="checkbox"/>	<input type="checkbox"/>	Wildlife feeding (excluding baiting)	<input type="checkbox"/>	<input type="checkbox"/>
Biking	<input type="checkbox"/>	<input type="checkbox"/>	Wildlife watching (e.g. birds, deer)	<input type="checkbox"/>	<input type="checkbox"/>
Off road vehicles	<input type="checkbox"/>	<input type="checkbox"/>	Wild berry picking	<input type="checkbox"/>	<input type="checkbox"/>
Boating (including jet skiing)	<input type="checkbox"/>	<input type="checkbox"/>	Mushroom picking	<input type="checkbox"/>	<input type="checkbox"/>
Swimming	<input type="checkbox"/>	<input type="checkbox"/>	Tapping for maple syrup	<input type="checkbox"/>	<input type="checkbox"/>
Cross country skiing	<input type="checkbox"/>	<input type="checkbox"/>	Planting trees	<input type="checkbox"/>	<input type="checkbox"/>
Downhill skiing	<input type="checkbox"/>	<input type="checkbox"/>	Vegetable gardening	<input type="checkbox"/>	<input type="checkbox"/>
Skating, sledding, snowshoeing,			Flower gardening	<input type="checkbox"/>	<input type="checkbox"/>
Snowmobiling	<input type="checkbox"/>	<input type="checkbox"/>	Other gathering activities	<input type="checkbox"/>	<input type="checkbox"/>
Hunting	<input type="checkbox"/>	<input type="checkbox"/>	Other _____	<input type="checkbox"/>	
Fishing	<input type="checkbox"/>	<input type="checkbox"/>			
Cutting firewood	<input type="checkbox"/>	<input type="checkbox"/>			

7. Please list your three favorite outdoor activities on the lines below. Then for each activity check one of the boxes to the right indicating where you usually carry out this activity (Please check only one box for each activity):

Outdoor Activity:	usually on public land	usually on my own land	usually on other private land
A. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Your Residence and/or Seasonal Homes**

8. Where is your legal permanent residence (homestead)?

City \_\_\_\_\_ Zip code \_\_\_\_\_

Township \_\_\_\_\_

9. Do you own one or more parcels of forested land (including your principal residence) in the Eastern UP?  
 Yes  No

9a. If yes, approximately how many total acres is this land?

- < 1 acre  6-10 acres  > 20 acres
- 1-5 acres  11-20 acres

10. Is your principal homestead/residence located in Chippewa, Mackinac, or Luce Counties?  
 Yes (please continue with question 10a)       No (please skip to question 11)
- 10a. Do you own or rent this residence?       Own       Rent
- 10b. Which of the following best describes this residence?  
 House       Apartment       Cabin/Cottage       Condominium  
 Mobile Home/Trailer       Other \_\_\_\_\_
- 10c. Please describe your residence's setting in the Eastern UP (check all that apply).  
 Small city       Great lakes waterfront       Forest setting  
 Small town/Village       Inland lakes waterfront       Adjacent to public land  
 Rural area       River or stream frontage
- 10d. How long have you been a resident of the Eastern UP?  
 Less than one year       6-10 years       21-30 years       All my life  
 1-5 years       11-20 years       Over 30 years
- 10e. How likely is it that you will move away from the Eastern UP within the next 5 years?  
 Very likely       Somewhat likely       Somewhat unlikely       Very unlikely
11. Do you own a second home or cottage either in the Eastern UP or elsewhere?  
(A second home also includes hunting camps, cabins, condominiums, and trailers)  
 Yes (please go to question 11a)       No (please skip to question 12)
- 11a. Where is this second home located?  
City \_\_\_\_\_ Zip code \_\_\_\_\_  
Township \_\_\_\_\_
- 11b. Which of the following best describes this residence?  
 House       Apartment       Cabin/Cottage       Condominium  
 Hunting camp       Mobile Home/Trailer       Other \_\_\_\_\_

## Information about You and Your Household

12. Are you:       Male       Female
13. How old are you (check one category)?  
 18-24       45-54       60-64       Over 75  
 25-44       55-59       65-74
14. In which type of residential setting did you grow up as a child/teenager?  
 Large metropolitan area       Small city       Small town/Village       Rural area  
(including suburbs)
15. Are you a member of the Bay Mills, Chippewa, or other tribe in the area?  
 Bay Mills       Chippewa       Other tribe       Not a tribe member

## 16. Education:

- Less than 9th grade       Associate's degree  
 Some high school       Bachelor's degree  
 High school graduate       Graduate or professional degree  
 Some college

## 17. Which category best describes YOUR employment status during the past year?

- Employed full-time       Employed part-time       Employed seasonally  
 Full time homemaker       Unemployed, seeking work       Retired

## 18. During the past year, how many other members of your household (NOT including yourself) were:

\_\_\_\_\_ Retired      \_\_\_\_\_ Employed full-time

## 19. In the past year, were you or any member of your household employed in one or more of the following types of jobs? (check all that apply)

**Natural Resources**

- agriculture  
 forestry  
 mining  
 commercial fishing  
 other business related to natural resources or the environment

**Tourism**

- hotels and motels  
 restaurants  
 amusements  
 casinos  
 charterboats  
 other business catering primarily to tourists

**Government or Tribal Position**

- forestry  
 mining  
 fisheries  
 wildlife  
 environmental regulation  
 tourism or outdoor recreation  
 planning or economic development  
 other government job  
 tribal affairs or business

NONE OF THE ABOVE

## 20. Indicate the number of other household members in the following age groups on each line (count only persons currently living with you). Please do not include yourself.

<5      5-17      18-24      25-44      45-54      55-59      60-64      65-74      >75

\_\_\_\_\_

## 21. Please check the category that best describes your 1996 total household income.

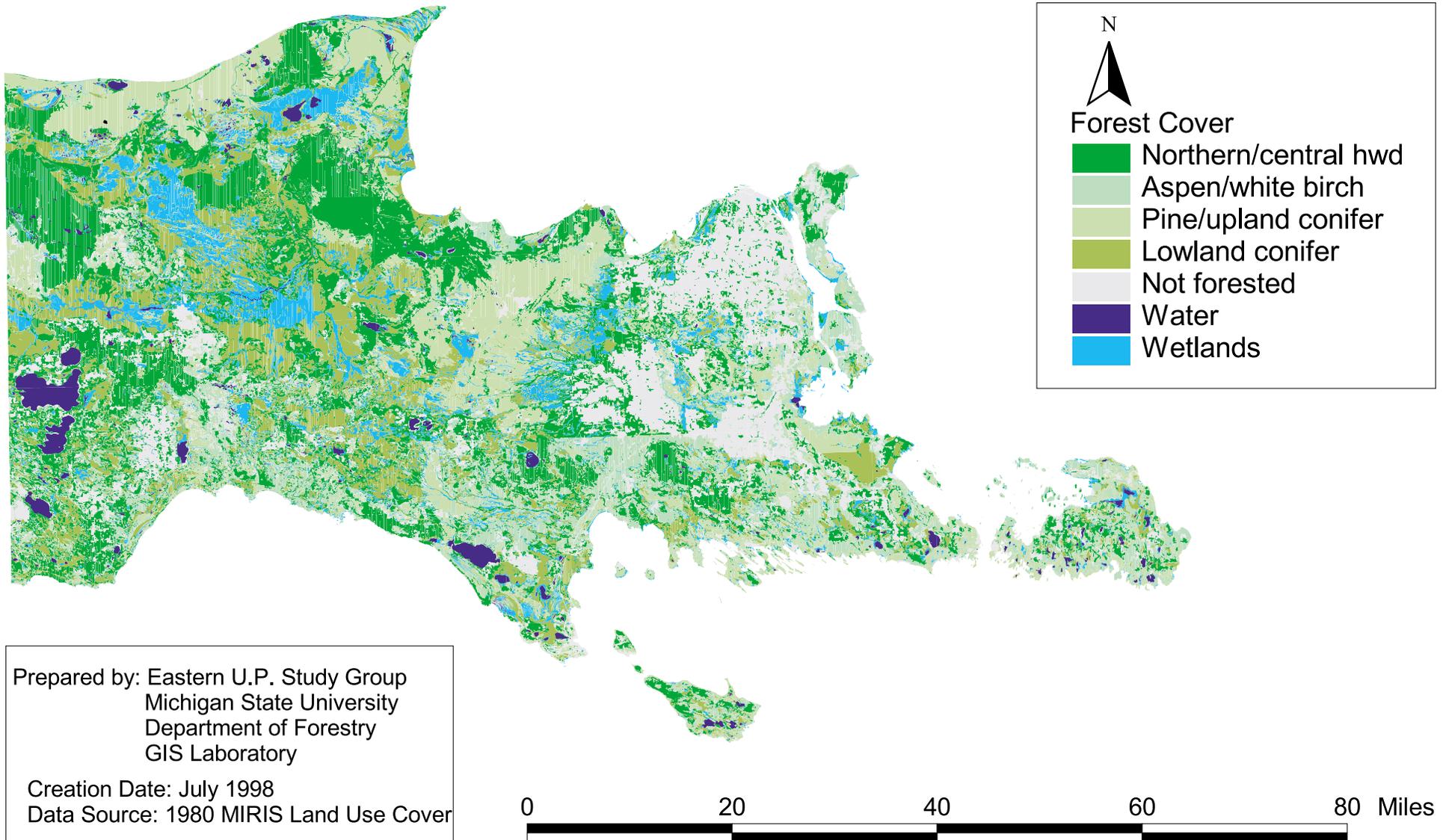
- Under \$15,000       \$25,000-34,999       \$50,000-74,999       Over \$100,000  
 \$15,000-24,999       \$35,000-49,999       \$75,000-100,000

## 22. Would you be willing to receive a follow-up survey within the year in order to obtain additional information about living in the Eastern UP?

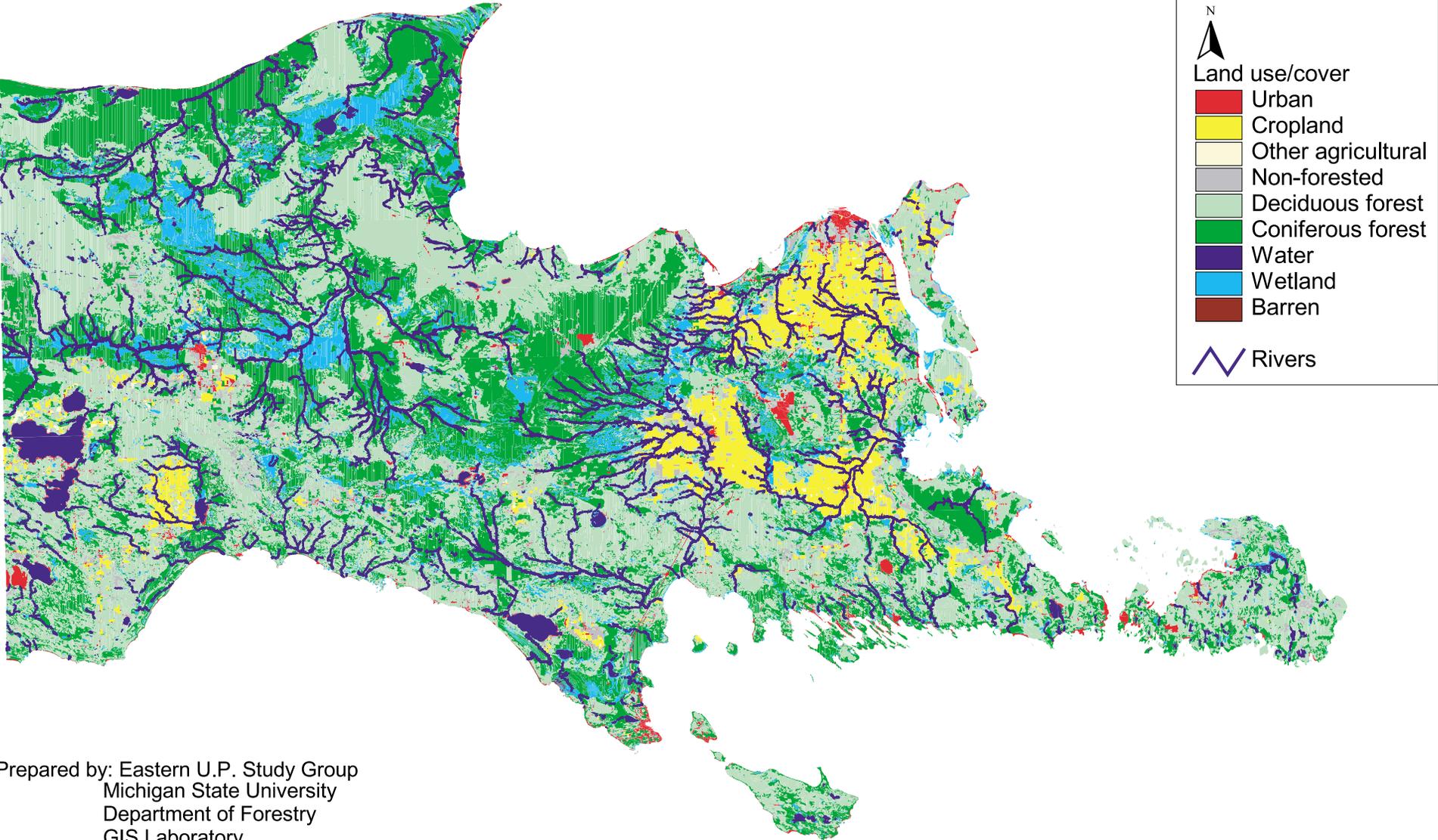
- Yes       No

**Thank you for participating in this survey! Please fold the completed survey in half (with the university address showing) and staple ends together (or use enclosed adhesive tab).**

# Forest Cover Types



# Land Cover/Use

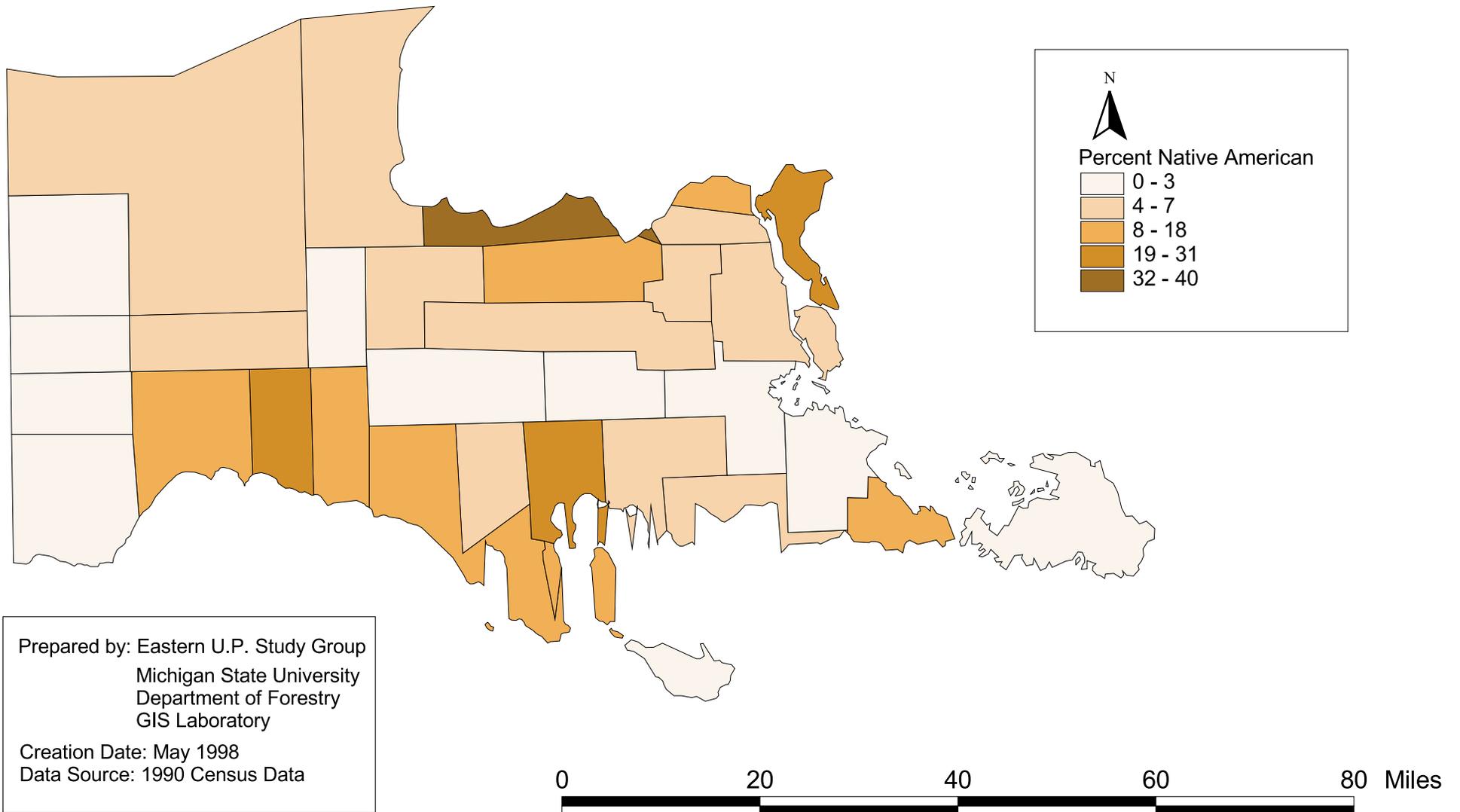


Prepared by: Eastern U.P. Study Group  
Michigan State University  
Department of Forestry  
GIS Laboratory

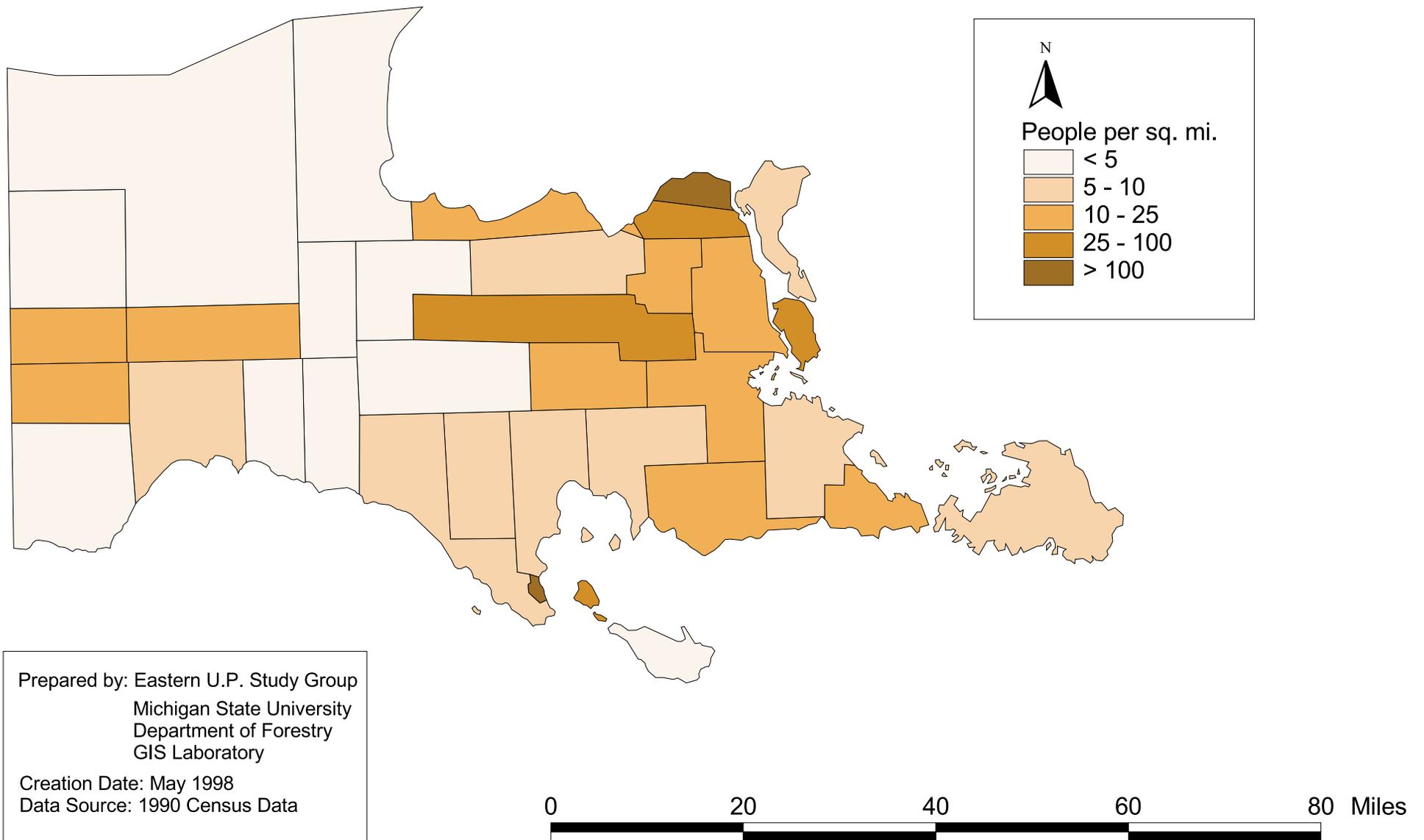
Creation Date: July 1998  
Data Source: 1980 MIRIS Land Use Cover



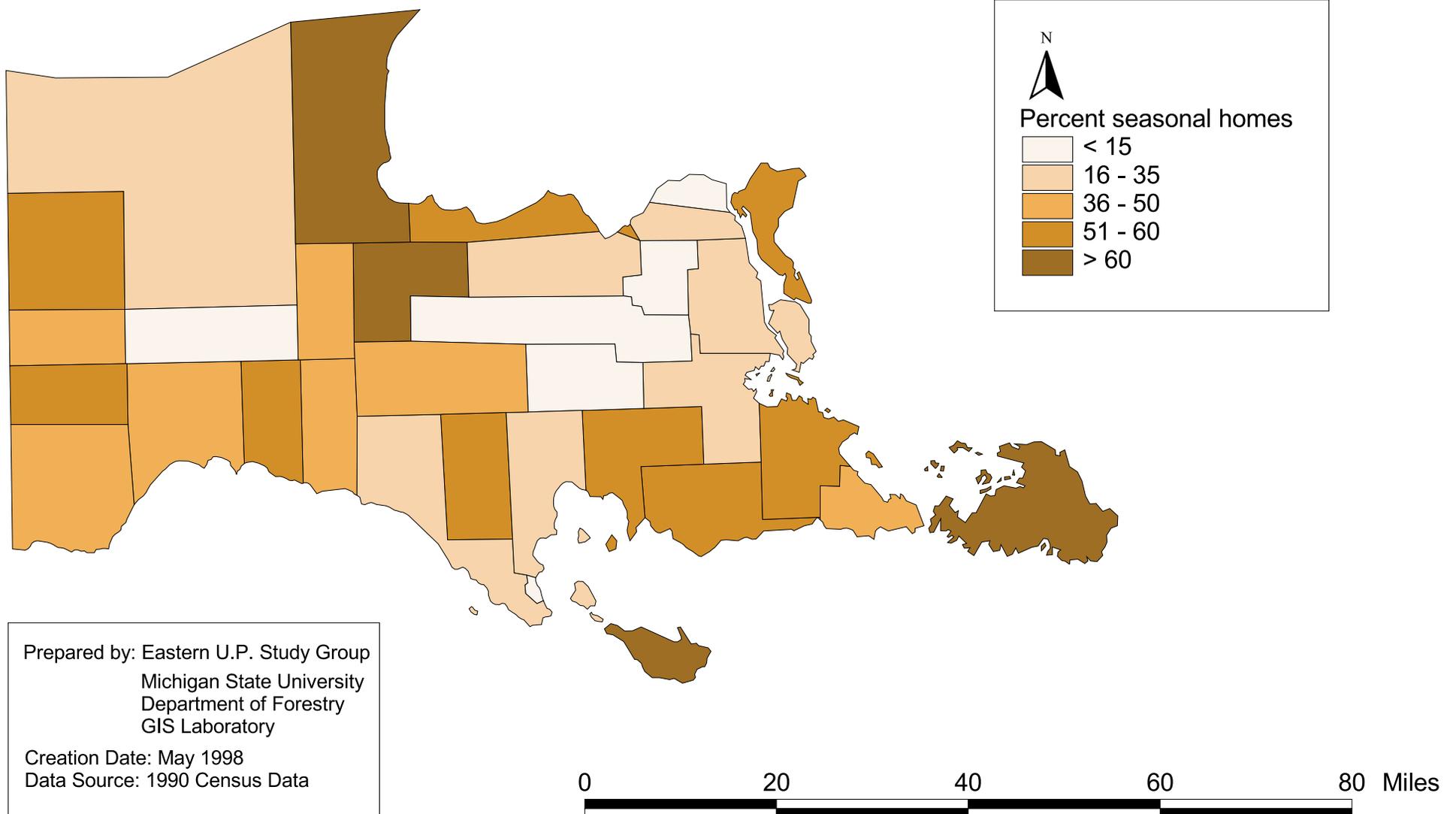
# Seasonal Home Concentration



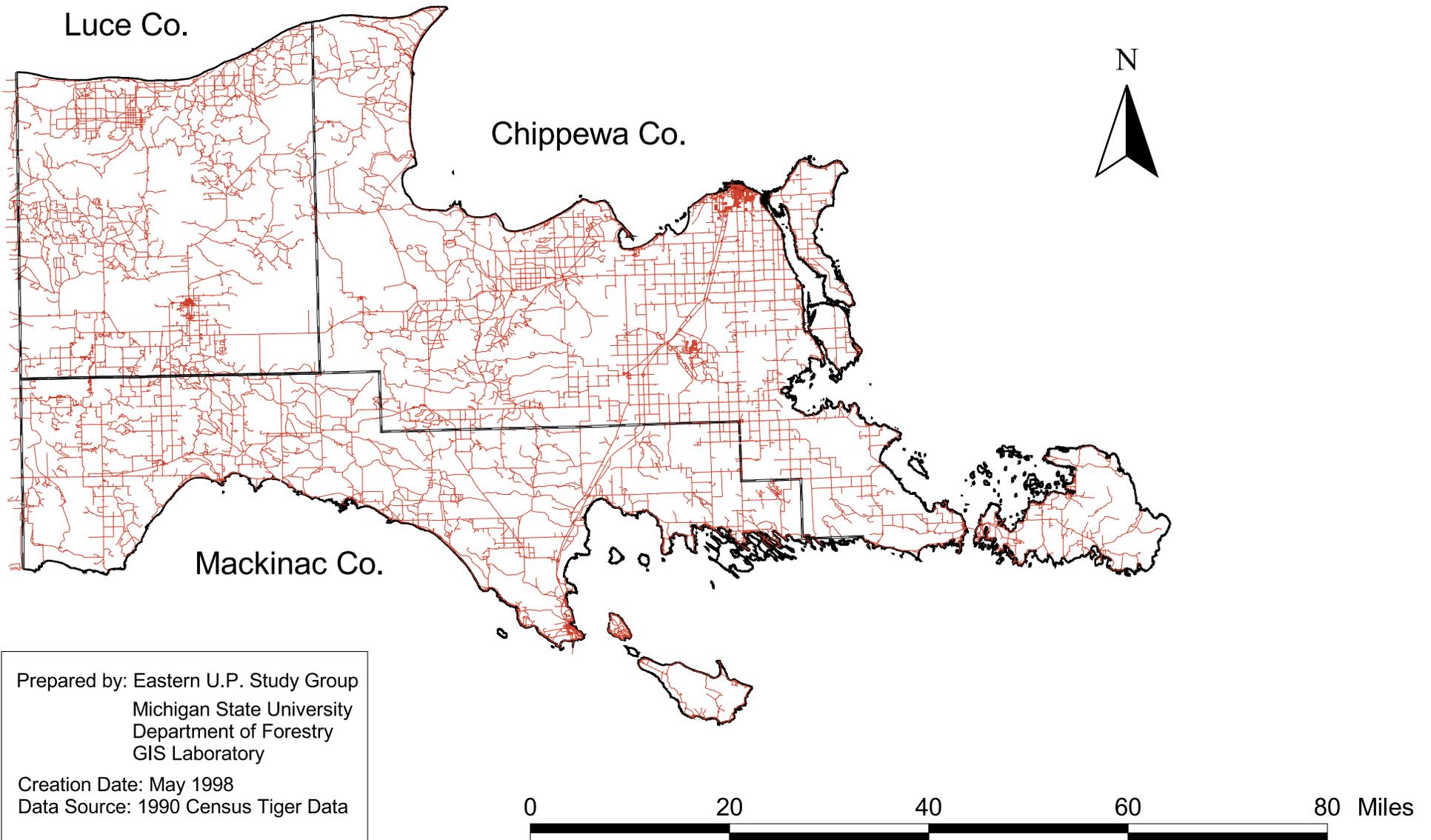
# Population Density



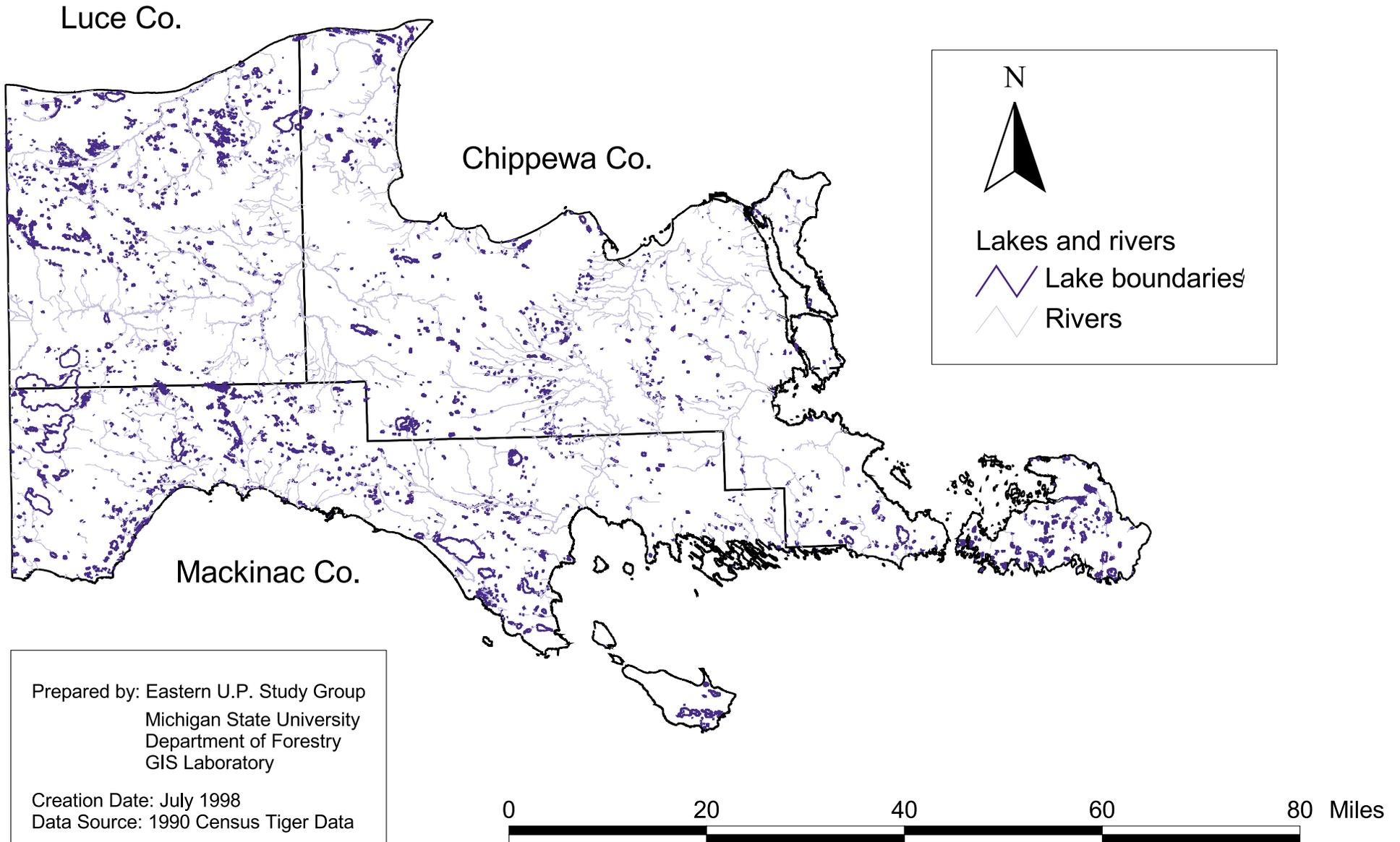
# Seasonal Home Concentration



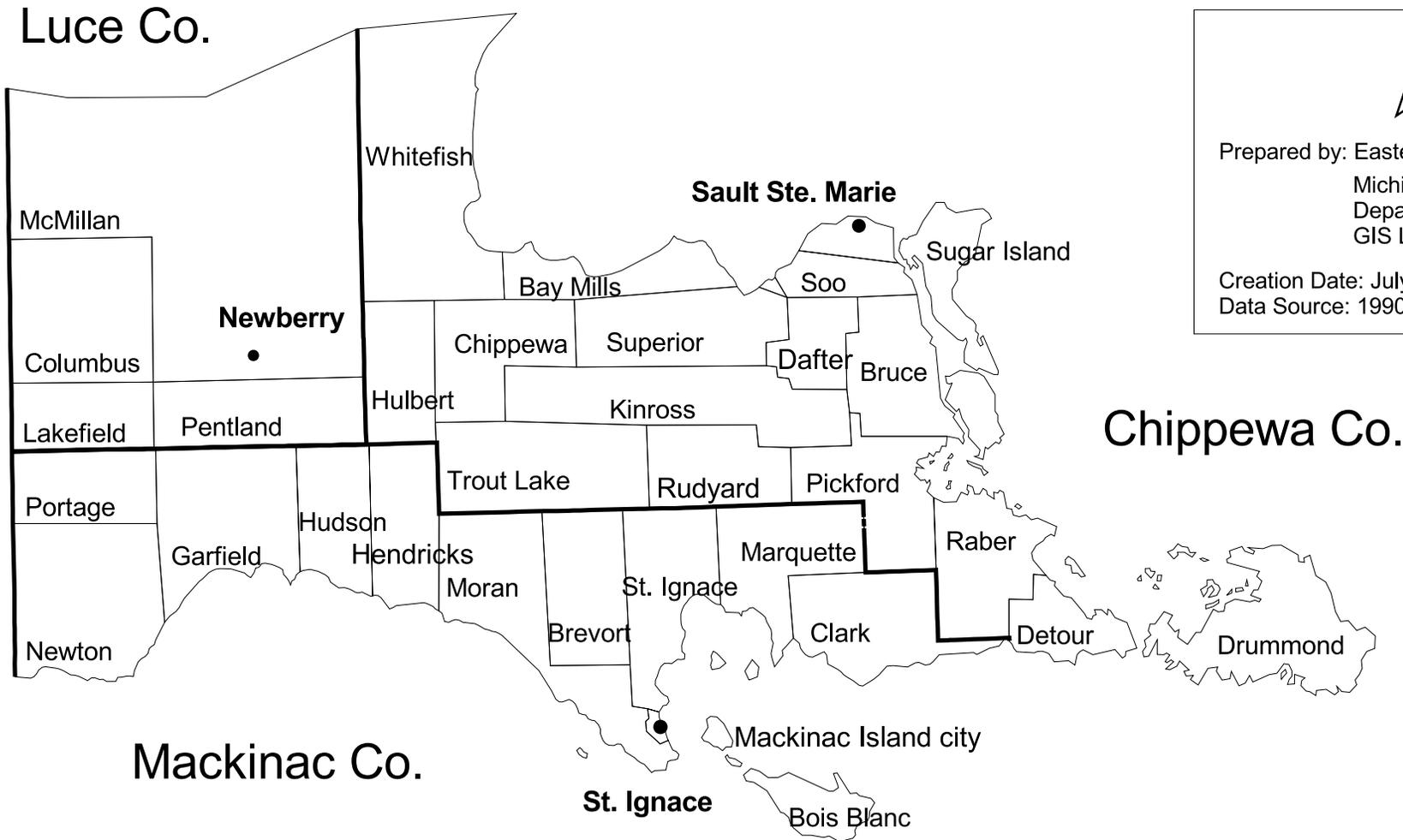
# Primary and Secondary Roads



# Rivers and Inland Lakes



# Townships and County Seats



Prepared by: Eastern U.P. Study Group  
Michigan State University  
Department of Forestry  
GIS Laboratory

Creation Date: July 1998  
Data Source: 1990 Census Tiger Data



The Michigan Agricultural Experiment Station is an equal opportunity employer and complies with Title VI of the Civil Rights Act of 1964 and Title IX of the Education Amendments of 1972.

New 12:99 - 1,000 - KMF - GP

---