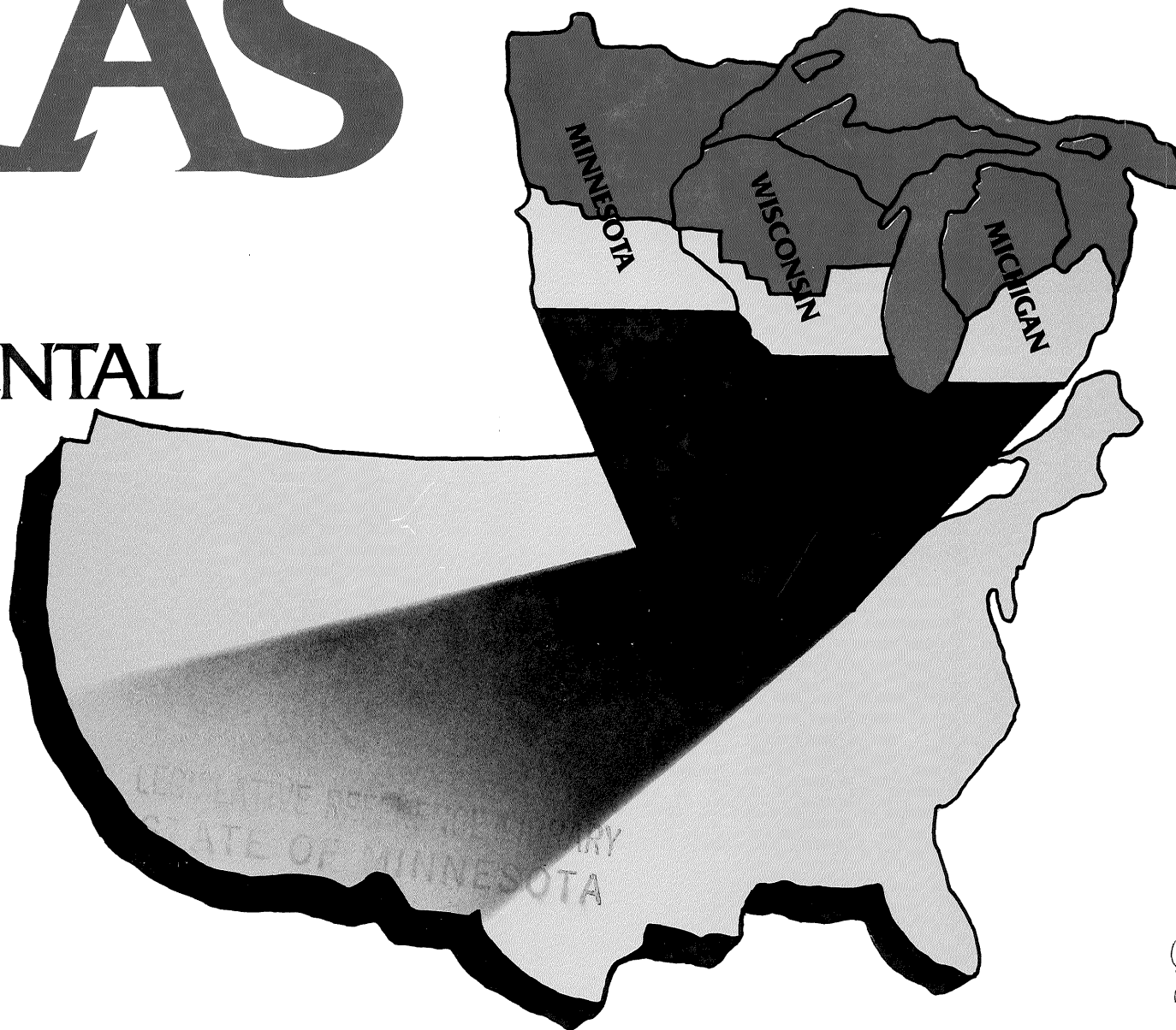


UPPER GREAT LAKES REGION

ATLAS

ECONOMIC
SOCIAL
ENVIRONMENTAL
INDICATORS



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UPPER GREAT LAKES REGION

ATLAS

ECONOMIC
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INDICATORS

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① Upper Great Lakes Regional Commission

③ 1979

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PREFACE

The Upper Great Lakes Regional Commission, since its inception in 1967, has strived for balanced growth and economic development in the northern regions of Wisconsin, Michigan and Minnesota. This area has historically been characterized by population outmigration, high unemployment, low incomes, poor public facilities and services, and an unstable economy resulting in part from the extensive exploitation of the region's once magnificent natural resources.

In its developmental efforts, the Commission has worked closely with other Federal, State and Local agencies, as well as with the private sector and the citizens of the region. These "partnership" activities have now started to produce some dramatic results. The 1970's have clearly established a pattern of "Turnaround" throughout this once-depressed region. Measured in terms of various demographic, economic, and social indicators, this region is experiencing a dramatic economic and social recovery. The purpose of this Atlas is to document some of these changes and to provide to citizens and decisionmakers alike, an overview of the growth and change taking place in this region.

As the following charts and descriptions indicate, the Upper Great Lakes region is once again showing signs of economic revitalization. In many instances the growth rates of the Commission counties far exceed those of the southern counties of the three-state area. However, it should also be pointed out that when measured in terms of absolute levels of social and economic well-being, significant disparities still exist between the northern and southern parts of this three state region. To continue the improvement in the quality of life for the region's citizens will be the major challenge to the Upper Great Lakes Regional Commission in the coming decade.

We hope that the information in this Atlas will be helpful to you in your better understanding the future problems and potentials of this important region.



WILLIAM R. BECHTEL
Federal Cochairman

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Population Change

1930—1976

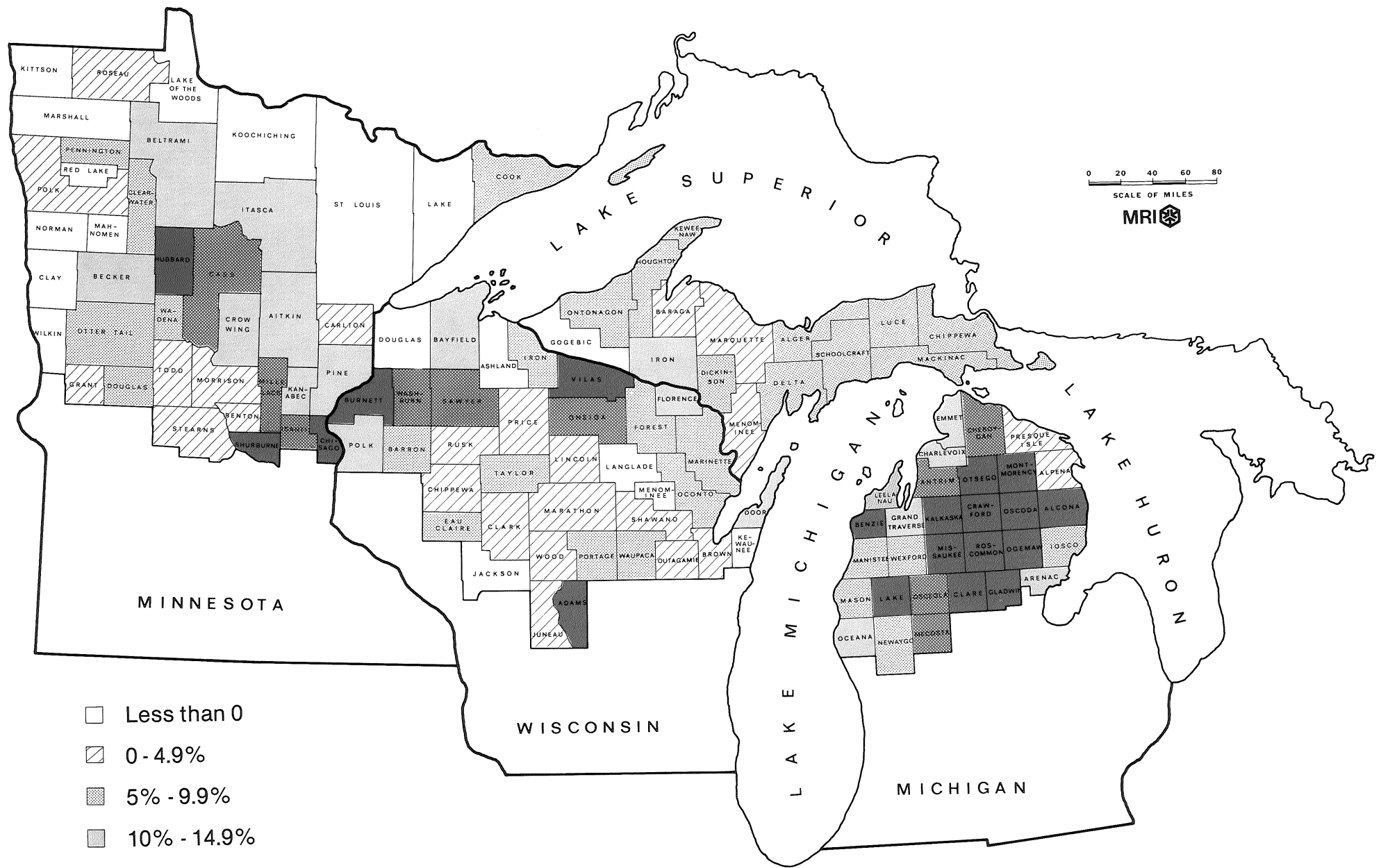
The Upper Great Lakes region gained population at a rather rapid rate between 1970 and 1976 when compared with the U.S. and the three-state average. This is a dramatic reversal of past trends. Between 1940 and 1970, the growth of the region was well below the rate for the U.S. or the three-state area.

In 1976 the population of the Upper Great Lakes region was about 3,163,500 or about 18 percent of the population of the three states; in 1970 the UGL region population was about 2,882,400 or 17 percent of the three-state population. This represents an increase of nearly 10 percent in contrast to an increase of 3.4 percent for the three-state area; the national increase was approximately 5 percent.

The figure at the lower left illustrates the annual rates of growth in the populations of the Upper Great Lakes region, the three-state area and the U.S. as a whole over 10-year periods from 1930 to 1970 and over the six-year period from 1970 to 1976.

The map on the opposing page shows the comparative rates of growth for the counties in the UGL region for the period 1970 to 1976.





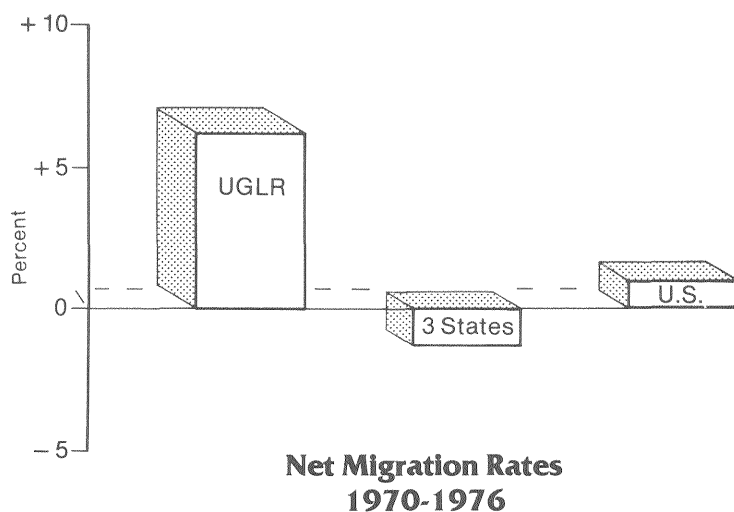
Population Change
Through Net Migration
1970-1976

Prepared by Midwest Research Institute for the Upper Great Lakes Regional Commission, 1978.

SOURCES: Michigan — U.S. Bureau of the Census Current Population Reports
Minnesota — State Planning Agency, Office of the State Demographer
Wisconsin — Department of Administration, Demographic Services Center

Net Migration

1970—1976

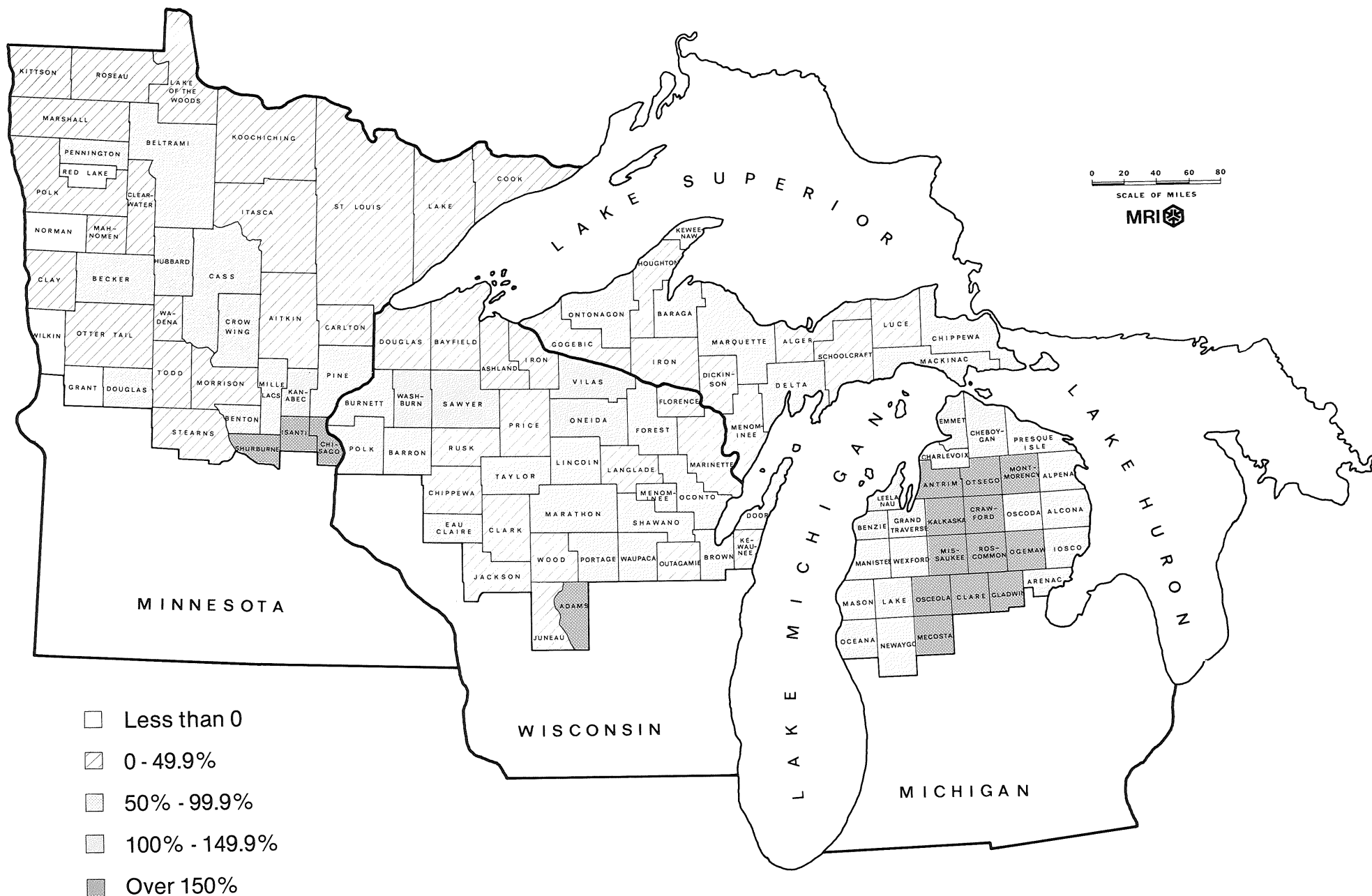


Counties in the Upper Great Lakes region generally showed large increases in population due to net immigration between 1970 and 1976. The region as a whole had a net immigration rate five times the U.S. average over the period. However, in the three-state area net immigration rates were below the U.S. average for the period, and in Michigan net outmigration occurred.

In the Upper Great Lakes region, Michigan counties increased nearly 12 percent over their 1970 population due to net immigration. Only one Michigan county in the region lost population during this period. Minnesota and Wisconsin UGLR counties increased by nearly 5 percent in the same period. Eleven of these counties in Minnesota and six in Wisconsin lost population during this period. Overall, the Upper Great Lakes region increased in population by 6.7 percent due to net immigration.

In the three-state area Minnesota and Wisconsin showed increases in population due to net immigration of 0.1 and 0.7 percent respectively. Michigan showed an overall loss of 2.4 percent of its 1970 population. The average net migration rate for the three-state area showed a decrease of 1.04 percent. In the U.S. as a whole, population increased 1.2 percent due to net immigration.

The figure at the lower left shows the net migration for the period 1970 to 1976 for the Upper Great Lakes region, the three-state area and the U.S. as a whole. The map on the opposing page shows the net migration rates for UGLR counties over the period 1970 to 1976.



Projected Population
Increase 1970 to 2000

Prepared by Midwest Research Institute for the Upper Great Lakes Regional Commission, 1978.

SOURCE: The University of Michigan, Population Studies Center, Projections of Population and Employment for Upper Great Lakes States

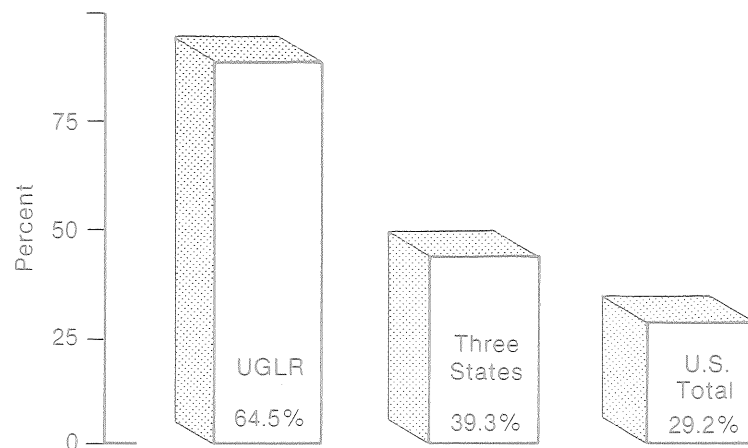
Population Projections

1970—2000

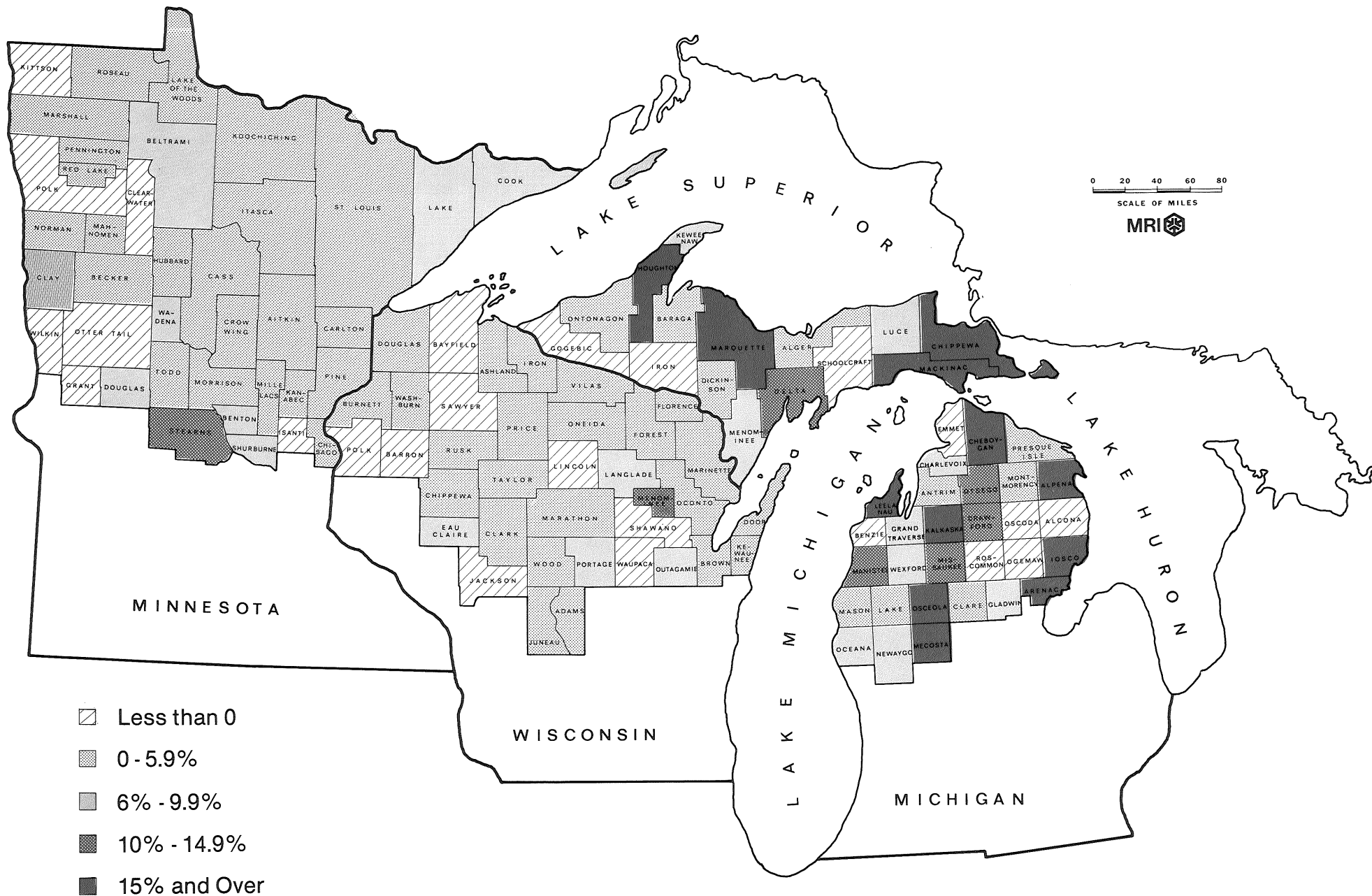
A recent study of population trends in the Upper Great Lakes region, conducted by the Population Studies Center of the University of Michigan, indicates that the past trend of out-migration in the region has been reversed and that the region is gaining population faster than the three-state area or the U.S. as a whole. The study projects that this growth trend will continue to the year 2000. The population projections are based on two key assumptions: (1) fertility will begin to rise in the latter part of the 1970's and will continue upward to 1995 at which point it will decline; and (2) the migration rates of the 1970's will continue to the end of the century.

To a great extent this turnaround reflects a national trend. Although non-metropolitan areas lost population in the 1950's and 1960's, since 1970 there has been a general increase in the non-metropolitan population of the nation. It is expected that this trend will continue to the turn of the century.

The figure at the lower left indicates the projected increase in population from 1970 to the year 2000 for the Upper Great Lakes region, the three states and the U.S. as a whole. The map on the opposing page shows the projected increases for counties in the Upper Great Lakes region.



Projected Increase in Population
1970-2000



Percentage Increase
in Median Age
1970-1975

Prepared by Midwest Research Institute for the Upper Great Lakes Regional Commission, 1978.

SOURCES: Michigan — Department of Management and the Budget, Special Release
Minnesota — State Planning Agency, Office of the State Demographer
Wisconsin — Department of Administration, Demographic Services Center

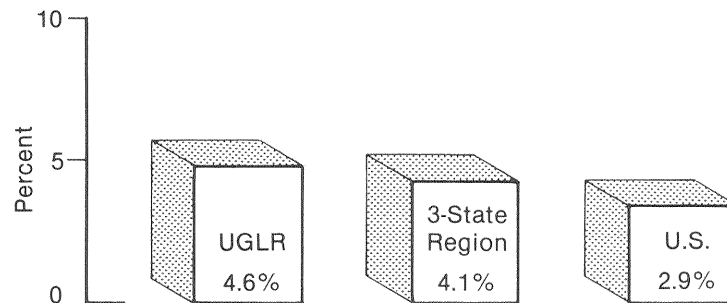
Median Age

1970—1975

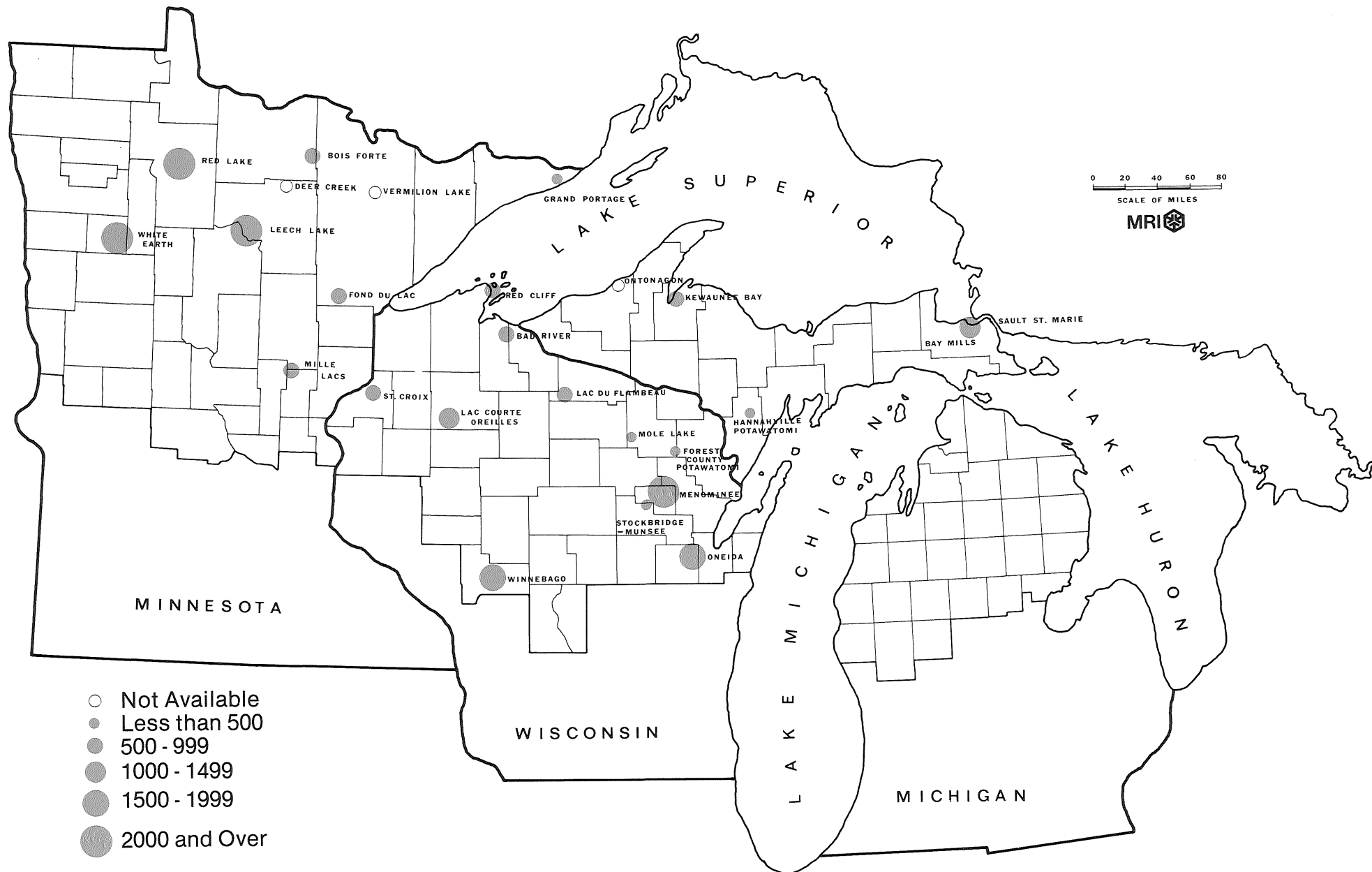
The median age (the midpoint in the distribution of ages from youngest to oldest) of the population of the Upper Great Lakes region rose between 1970 and 1975 by 1.4 years. This increase exceeded the rise in the three-state area, and was almost twice the increase for the U.S. as a whole.

The median age of the Upper Great Lakes region rose from 30.5 in 1970 to 31.9 in 1975. The greatest increase occurred in Michigan, where the median age of UGL region counties rose from 30.6 to 33.2 for an increase of 2.6 years. Both Minnesota and Wisconsin rose from about 30.4 to about 31.1 for an increase of about 0.7 years. The median age in the three-state area rose from 26.8 to 27.9 or 1.1 years, and the median age of the U.S. as a whole rose from 28.0 in 1970 to 28.8 in 1975, for an increase of 0.8 years.

The figure at the lower left indicates the percentage increases in the median age of the Upper Great Lakes region population, the three-state area and the U.S. as a whole between 1970 and 1975. The map on the opposing page shows the percentage change in the median age for Upper Great Lakes region counties.



Percent Change in Median Age
1970-1975



Native American
Reservation Populations
1977

Prepared by Midwest Research Institute for the Upper Great Lakes Regional Commission, 1978.

SOURCE: U.S. Bureau of Indian Affairs

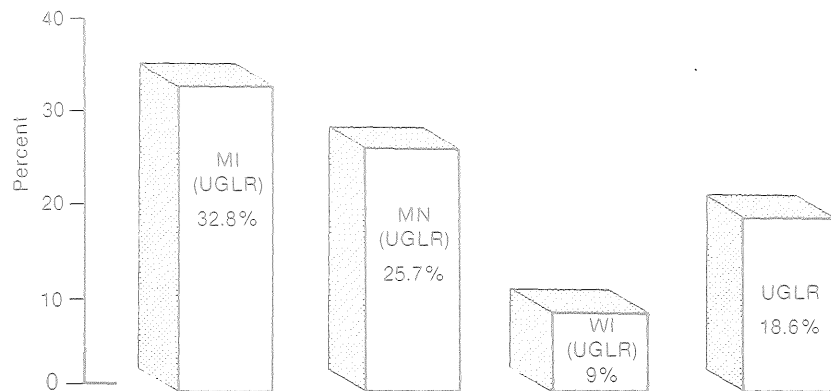
Native American Population

1970—1977

According to the 1970 census, there were about 59,000 Native Americans in the three-state area in 1970. Over 40 percent of this population (about 24,000) was registered as residing on reservation land. Although statewide only 40 percent of the Native American population resides on reservations, in the Upper Great Lakes region the percentage is almost 100. In 1970 UGL region reservations had a total population of 23,200. In 1977 the population was 27,500. This represents an increase of 18.6 percent. It is assumed that increases in reservation population accurately reflect increases in Native Americans in the region.

A great deal of caution should be used in comparing census estimates of the Native Americans with estimates of reservation populations. The census does not provide a clear-cut definition of Native American or American Indian. In addition, estimates of reservation population may include whites or other minorities who reside on reservation lands.

The figure at the lower left indicates changes in reservation populations in the Upper Great Lakes region. The map on the opposing page shows the locations of reservation lands in the UGL region and the 1977 populations of these reservations.



Changes in Reservation Populations — Upper Great Lakes Region
1970-1977

Unemployment

1970—1976

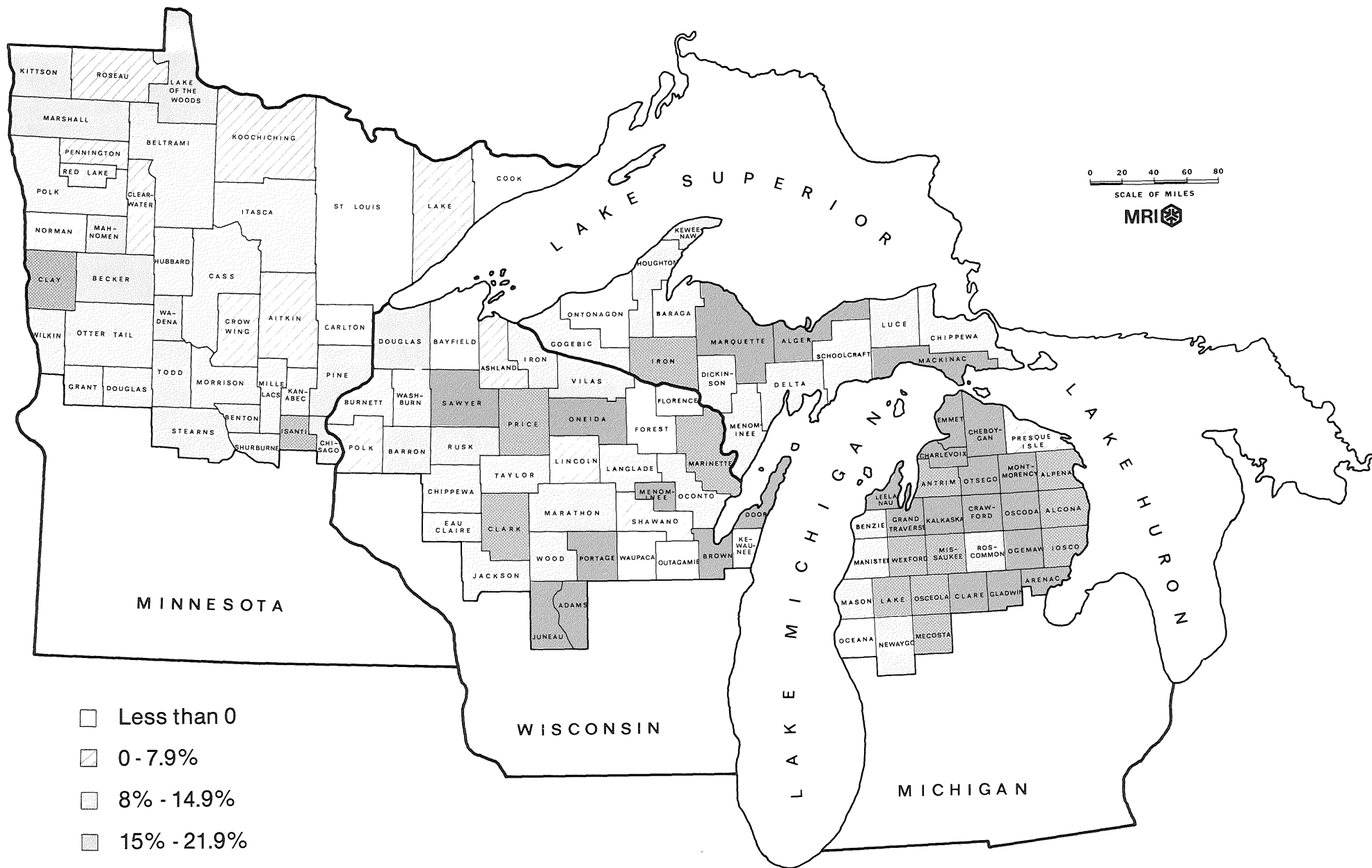
The regional rate of unemployment reached a peak in 1975 and has since declined following the national trend. By 1976 unemployment in the region had declined, but still remained above the 1970 level.

The rates of unemployment in the Upper Great Lakes region and in the three states were higher than the U.S. average in 1970 and slightly below the U.S. average in 1976. In both years the high rate of unemployment in the region is accounted for by the high levels of unemployment in UGLR counties in Michigan. Both Minnesota and Wisconsin show levels of unemployment that are below the U.S. average in both years.

The figure at the lower left shows the annual average rates of unemployment for the Upper Great Lakes region, the three-state area and the U.S. as a whole for the years 1970 and 1976. The map on the opposing page shows the 1976 rate of unemployment for counties in the UGL region.

	Year	Total	MI	MN	WI
Upper Great Lakes Region	1970	5.3	8.5	4.5	4.2
	1976	7.3	12.4	5.5	5.8
Three States	1970	5.4	6.7	4.2	3.9
	1976	7.5	9.4	5.9	5.6
United States	1970	4.9			
	1976	7.7			

Unemployed Percentage of the Labor Force
(Annual Averages)



- Less than 0
- ▤ 0 - 7.9%
- ▥ 8% - 14.9%
- ▦ 15% - 21.9%
- ▧ 22% - 28.9%
- ▨ 29% and Over

Percentage Increase
in Employment
1970-1976

Prepared by Midwest Research Institute for the Upper Great Lakes Regional Commission, 1978.

SOURCES: Michigan — Employment Security Commission, Special Release
Minnesota — Department of Economic Security
Wisconsin — Department of Labor Industry and Human Relations

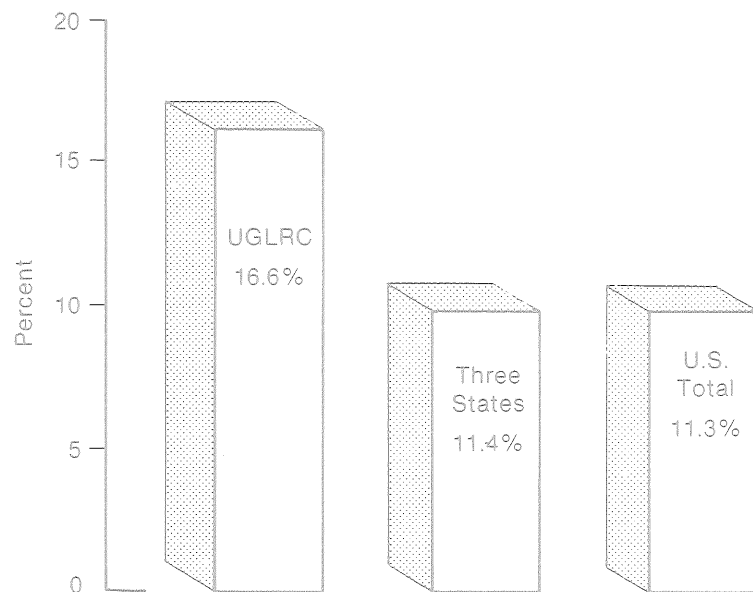
Employment Growth

1970—1976

Employment in the Upper Great Lakes region increased 16.6 percent between 1970 and 1976. This rate of job creation surpassed both the three-state area and the U.S. as a whole at 11.4 and 11.3 percent, respectively.

There were 183,000 more people employed in the Upper Great Lakes region in 1976 than in 1970. The Michigan UGL region counties had the fastest rate of growth in jobs — 24 percent. Wisconsin UGL region counties accounted for the largest increase in actual numbers, with 80,600 jobs created over the period. Minnesota UGL region counties showed an increase of 43,000 jobs or 10.5 percent.

The figure at the lower left compares employment growth in the Upper Great Lakes region counties, the three-state area and the U.S. as a whole. The map on the opposing page shows the growth in employment for counties in the UGL region.



Rate of Employment Growth
1970-1976

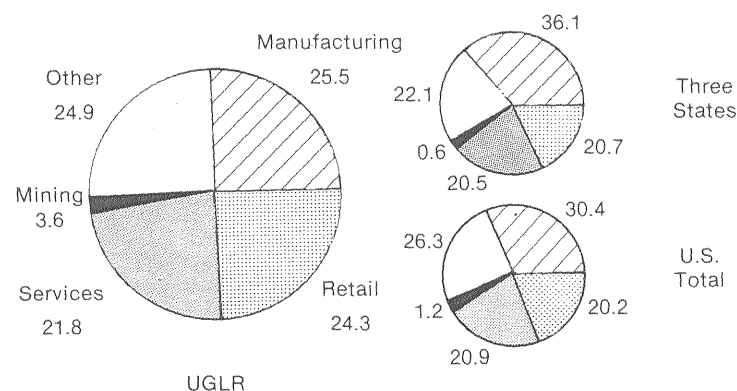
Dominant Economic Activity

1976

Economic activity in the Upper Great Lakes region, as measured by the number of employed persons, is about evenly distributed between manufacturing, retail trade, services (which includes tourism and other personal services) and other employment (such as transportation and finance, insurance and real estate). Agricultural employment is not shown in this breakdown because the data used cover only payroll employment and do not show self-employed economic activity.

In comparison, the three-state area and the U.S. as a whole show higher levels of employment in manufacturing and lower employment rates in retail trade and services than the Upper Great Lakes region. Mining is also a more predominant economic activity in the region than in the three states or the nation.

The figure at the lower left shows the distribution of employment in 1976 by sectors for the Upper Great Lakes region, the three-state area and the U.S. as a whole. The map on the opposing page shows the dominant economic activity by number of jobs for counties in the UGL region.



Percent of Employment by Industry Division

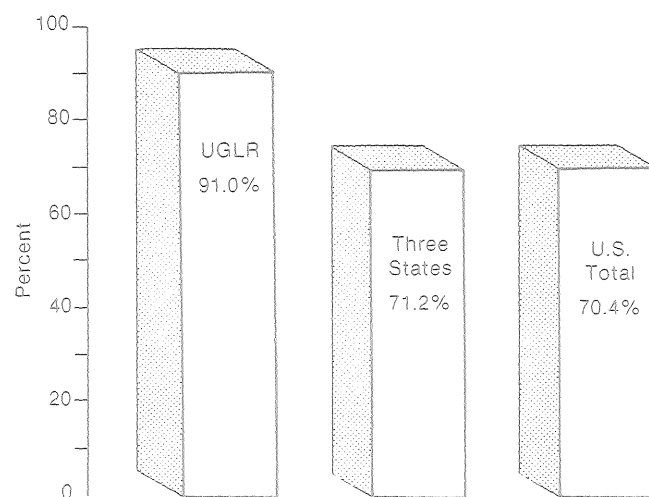
Retail Sales

1972—1978

Retail sales in the Upper Great Lakes region increased substantially between 1972 and 1978 based on econometric estimates. The dollar value of retail sales in the region grew over 90 percent in this period. The increase in retail sales for the three-state area and the U.S. as a whole was about 70 percent.

Of the three states, Wisconsin showed the greatest degree of growth, 85.9 percent overall and over 100 percent in the UGLR counties; Michigan showed the lowest percentage of growth at 62.5 percent for the state as a whole and 72.5 percent for the UGLR counties; the increase for Minnesota was 76.4 percent overall and 94.5 percent for the Upper Great Lakes counties. The absolute dollar value of retail sales for the region is projected to be 12 billion for the year 1978.

The figure at the lower left shows the comparison of growth in retail sales for the Upper Great lakes region, the three-state area and the U.S. as a whole. The map on the opposing page shows the projected increase for counties in the UGL region.



Percent Change in Retail Sales
1972-1978

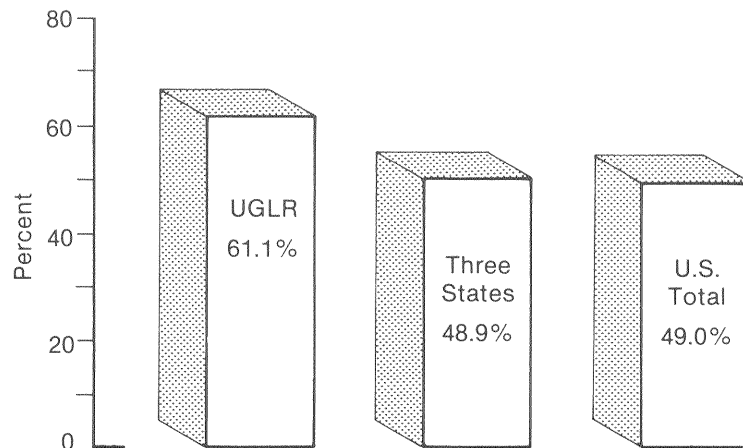
Manufacturing Payroll

1970—1976

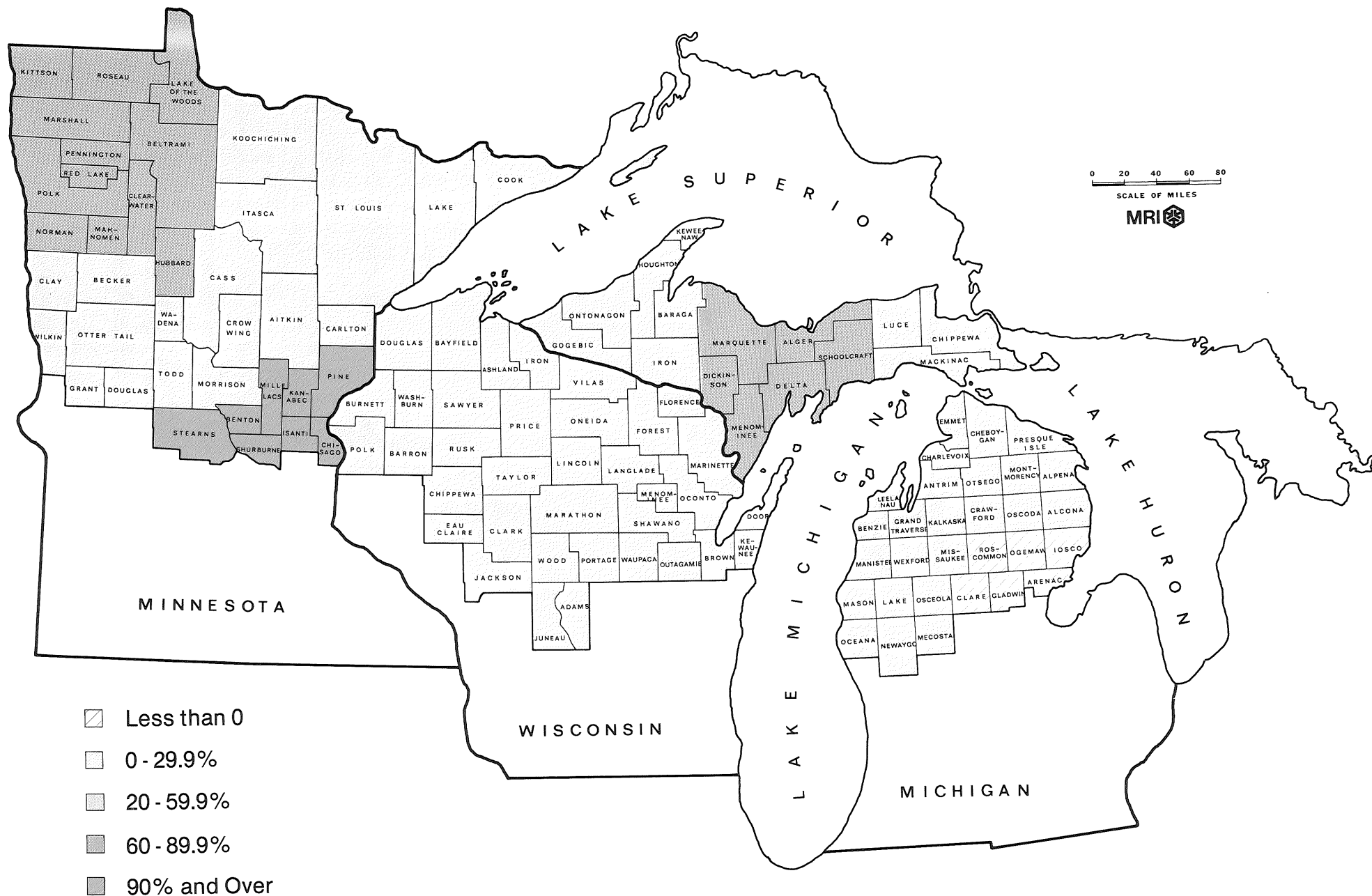
Manufacturing payroll as measured by total compensation paid to manufacturing employees during the first quarter of the year increased over 60 percent in the Upper Great Lakes region between 1970 and 1976. The growth in manufacturing payroll for the three-state area and for the U.S. as a whole was just under 50 percent for the period. All figures are in current dollars so that the effects of inflation magnify the actual changes, but do not affect the comparison of relative growth.

Michigan counties in the Upper Great Lakes region showed the highest average rates of growth at over 70 percent. Wisconsin counties increased 63 percent and Minnesota counties 57 percent. The three states as a whole were about equal in growth of manufacturing payroll at 50 percent.

The figure at the lower left shows the comparison of growth in manufacturing payroll for the Upper Great Lakes region, the three-state area and the U.S. as a whole. The map on the opposing page shows the change in manufacturing payroll for counties in the UGL region.



Percentage Change in Manufacturing Payroll
1970-1976



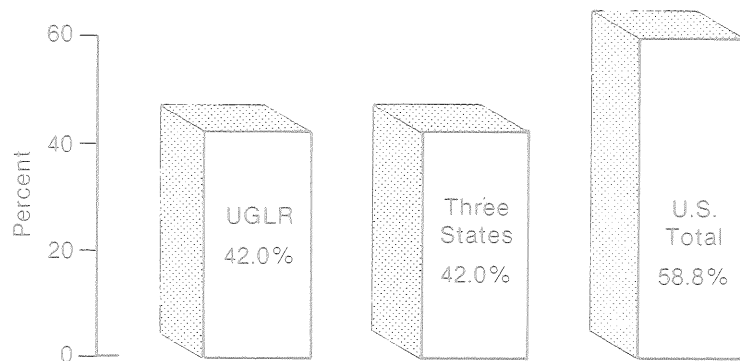
Increase in Percentage
Lodging Receipts
1970-1975

Prepared by Midwest Research Institute for the Upper Great Lakes Regional Commission, 1978.

SOURCES: Michigan — Department of Commerce, Office of Economic Expansion
Minnesota — Department of Economic Development, Tourism Division
Wisconsin — Department of Business Development

Lodging Receipts

1970—1975

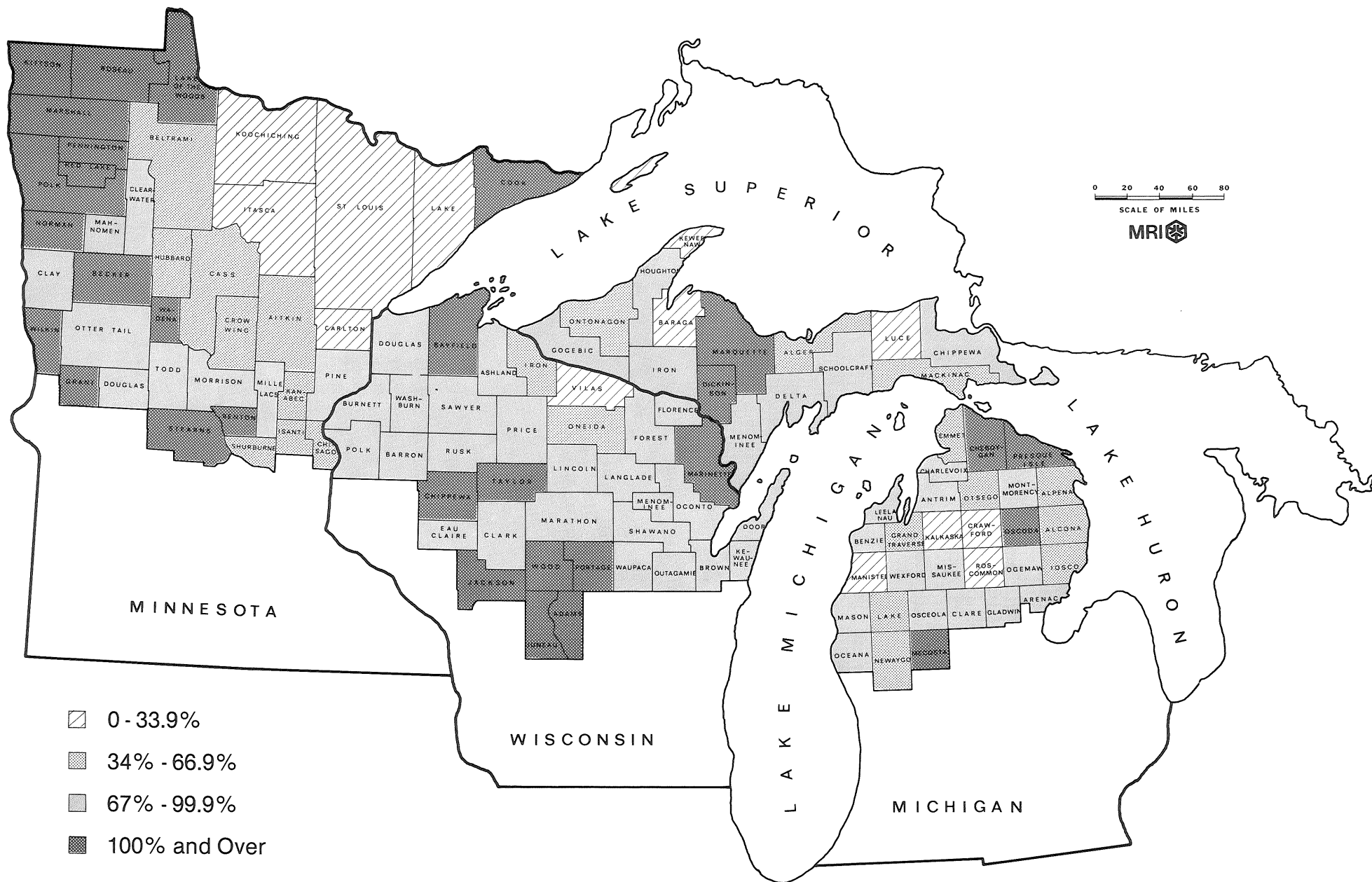


Increase in Lodging Receipts
1970-1975

Assessing the total impact of tourism spending is very difficult. Current statewide attempts to measure total tourism impact are not comparable across state boundaries, and national studies of tourism lack the detail to be useful on a substate level. Lodging receipts have been used as an indication of tourism spending because they are a uniform measure of the change in spending and because lodging is a large portion — roughly 20 percent — of a traveler's expenditures.

The data indicate that tourism spending in the Upper Great Lakes region did not increase as fast as the national rate of growth between 1970 and 1975. Both the Upper Great Lakes region and the three-state area showed increases of 42 percent in the value of lodging receipts. In the U.S. as a whole, the increase was almost 59 percent over the period. Minnesota counties in the Upper Great Lakes region showed the largest average increases at 63.5 percent. Michigan counties gained 37.1 percent on the average; Wisconsin counties gained only 30.7 percent.

The figure at the lower left compares the increases in lodging receipts during the period 1970 to 1975 for the Upper Great Lakes region, the three-state area and the U.S. as a whole. The map on the opposing page shows the rate of increase for sub-state areas in the Upper Great Lakes region.



Percentage Increase in
Agricultural Receipts
1970-1976

Prepared by Midwest Research Institute for the Upper Great Lakes Regional Commission, 1978.

SOURCES: Michigan — Department of Agriculture, Statistical Reporting Service
and U.S. Bureau of Economic Analysis
Minnesota — Department of Agriculture, Crop and Livestock Reporting Service
Wisconsin — Department of Agriculture, Statistical Reporting Service

Agricultural Receipts

1970—1976

Cash receipts for all agricultural commodities in the Upper Great Lakes region increased almost 95 percent between 1970 and 1976. In the three-state area, agricultural receipts increased about 92 percent. For the U.S. as a whole, the increase was somewhat less than 87 percent.

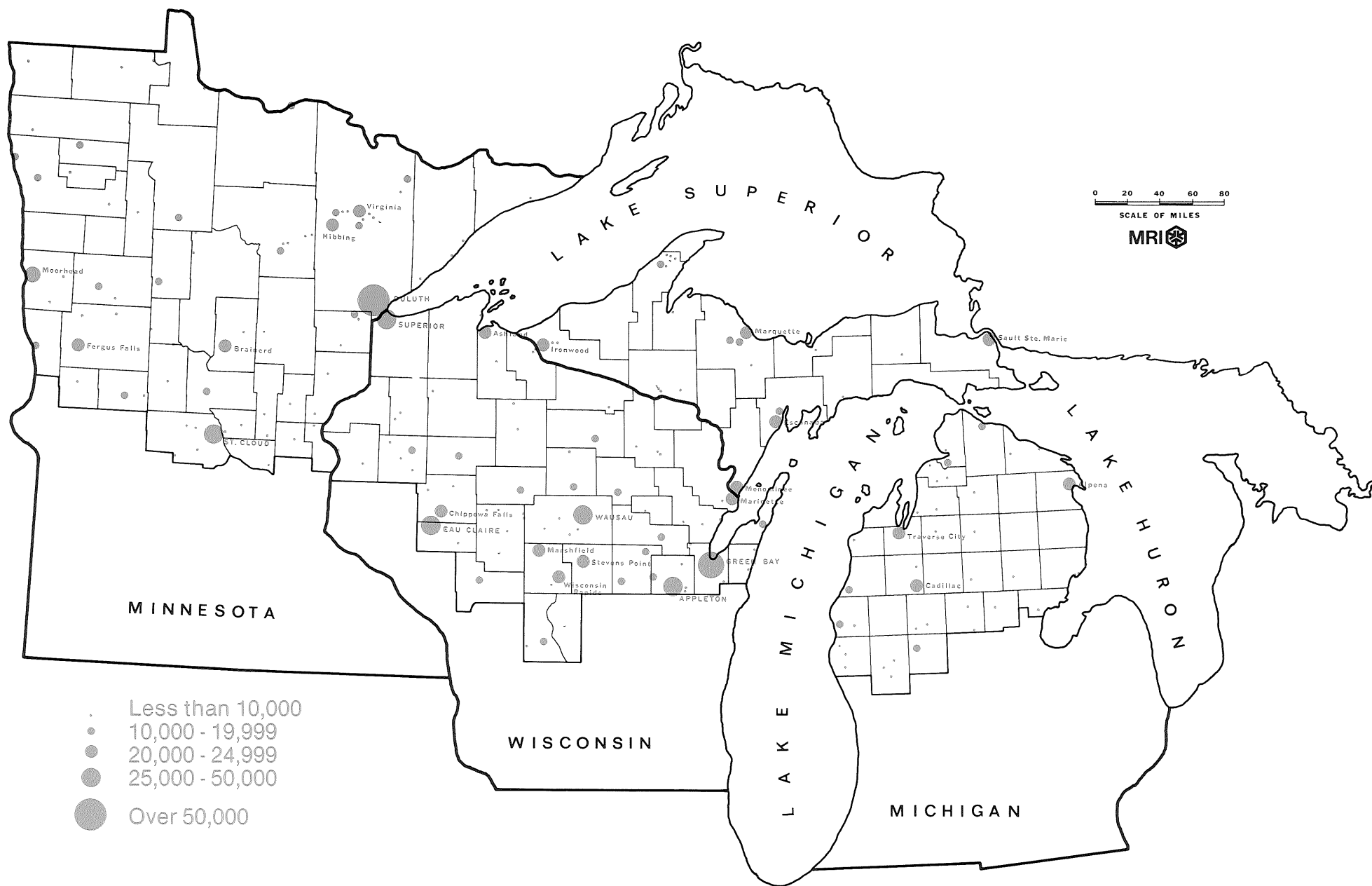
The level of prices received for agricultural commodities increased about 70 percent over the 1970 to 1976 period, in the region as well as in the U.S. as a whole.

The figure at the lower left indicates the value of agricultural receipts in current dollars for the years 1970 and 1976 and the rate of change for the Upper Great Lakes region, the three-state area and the U.S. as a whole. The map on the opposing page shows the percentage change in agricultural receipts for counties in the UGL region.

AGRICULTURAL PRODUCTION (In Billions of Current Dollars)

	1970	1976	Percent Change
Upper Great Lakes Region	1.265	2.461	94.5
Three States	4.588	8.800	91.8
U.S. Total	50.539	94.326	86.6

Rate of Change in Agricultural Receipts 1970-1976 (All Commodities)



Community Size
Distribution
1976

Prepared by Midwest Research Institute for the Upper Great Lakes Regional Commission, 1978.

SOURCES: Michigan — U.S. Bureau of the Census, Current Population Reports
Minnesota — State Planning Agency, Office of the State Demographer
Wisconsin — Department of Administration, Demographic Services Center

Community Sizes

1976

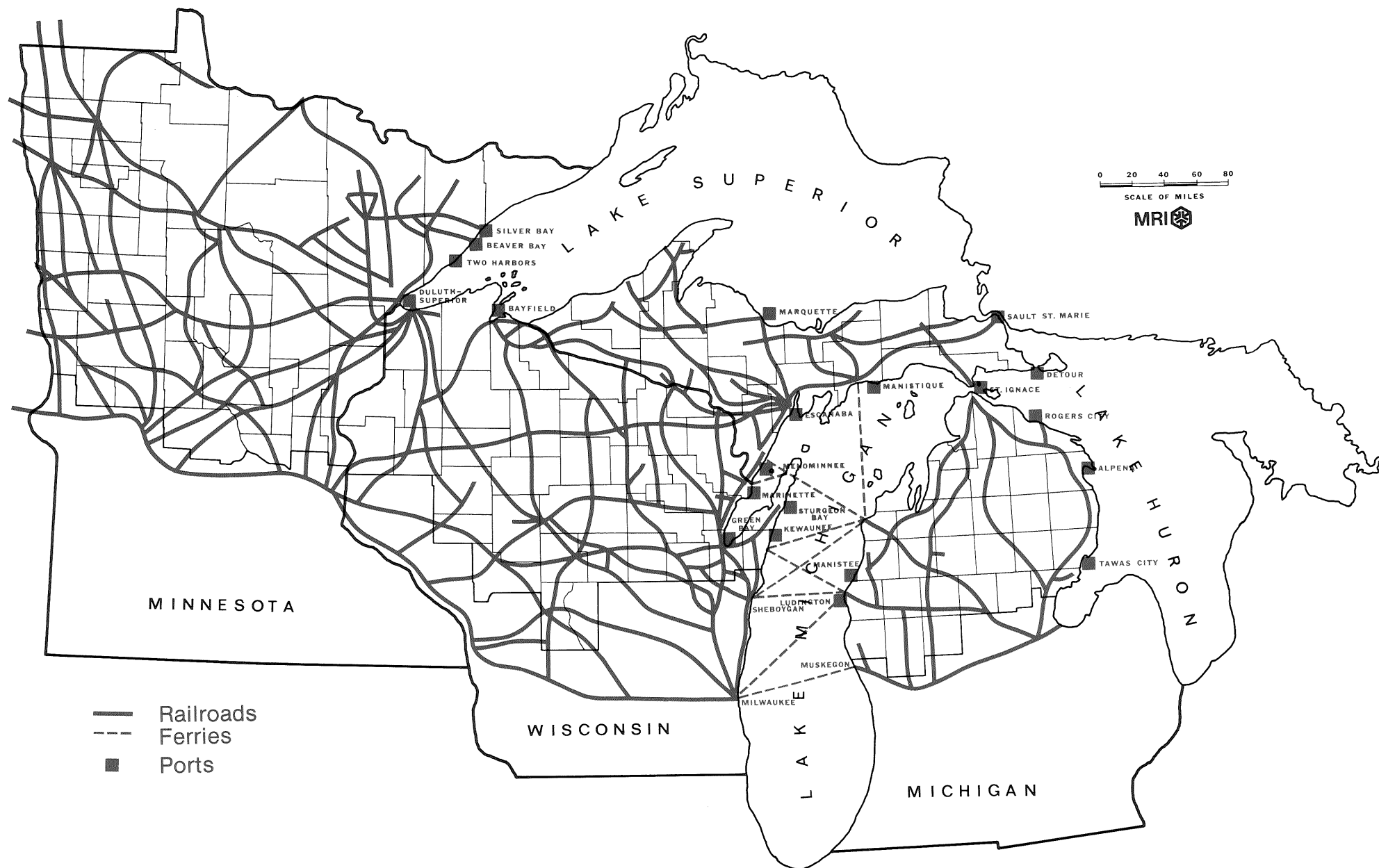
The Upper Great Lakes region is largely rural in nature. It is estimated that only 25 to 30 percent of the region's population live in communities of 1,000 or more people. Nationally about 75 percent of the population live in communities of 1,000 or more.

There were only 26 communities in the region with populations over 20,000 in 1976. Most of the larger communities in the region are located in the southern agricultural belt and at the major Great Lakes ports.

The figure at the lower left shows the distribution of communities in the region by size in 1976. The map on the opposing page shows the location and size of communities in the Upper Great Lakes region with over 10,000 people.

Population	Number of Communities
over 50,000	2
25,000 - 50,000	5
20,000 - 24,999	19
10,000 - 19,999	37
less than 10,000	200

Distribution of Communities by Size
1976



Railroad and
Port Facilities
1977

Prepared by Midwest Research Institute for the Upper Great Lakes Regional Commission, 1978.

SOURCE: Union Pacific Railroad Company

Railroads and Port Facilities

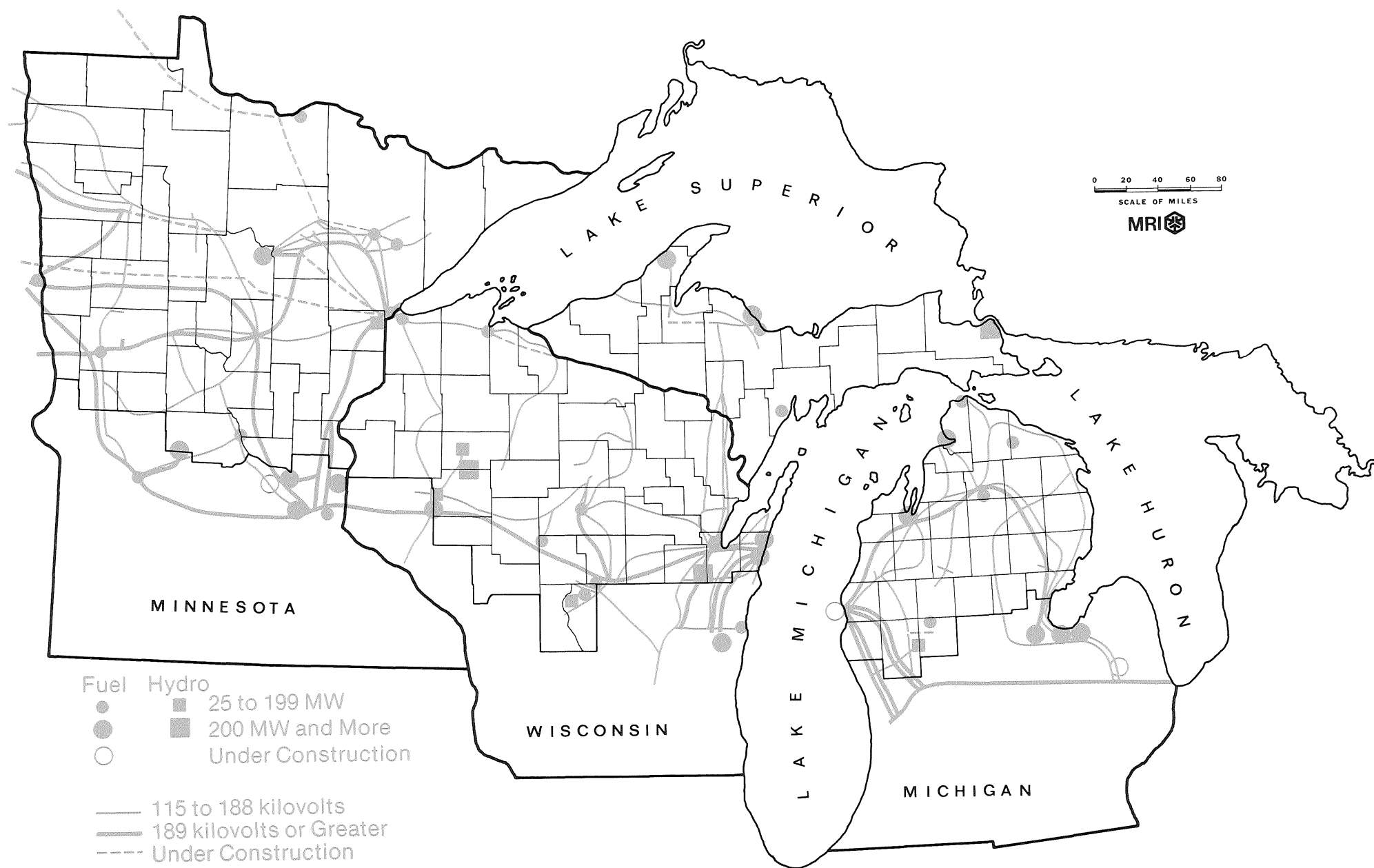
1977

The Upper Great Lakes region possesses an unusually well-developed rail and shipping infrastructure. This infrastructure is vital to the economy of the region and the Upper Midwest.

Exports delivered through the rail and port systems include agricultural products, such as wheat, corn and fertilizers; minerals, such as iron ore, taconite, copper and nickel; and finished heavy equipment and manufactured goods. Coal is imported by some ports and exported by others. Goods received by the system include foreign manufactured goods, chemicals and petroleum products.

Major rail-shipping ports include Duluth-Superior, Green Bay, Ashland, Ludington and Sault Ste. Marie.

The Upper Great Lakes shipping season generally extends from late March to mid-December. Efforts are currently underway to determine the feasibility of further extending this shipping season.



Electric Generating
Facilities and
Transmission Lines

Prepared by Midwest Research Institute for the Upper Great Lakes Regional Commission, 1978.

SOURCE: Federal Energy Regulatory Commission

Electric Power

1971—1976

The demand for electricity in the three-state area increased 22 percent between 1971 and 1976 or about 4 percent per year. In the U.S. as a whole electrical demand increased 26 percent for an annual rate of 4.7 percent.

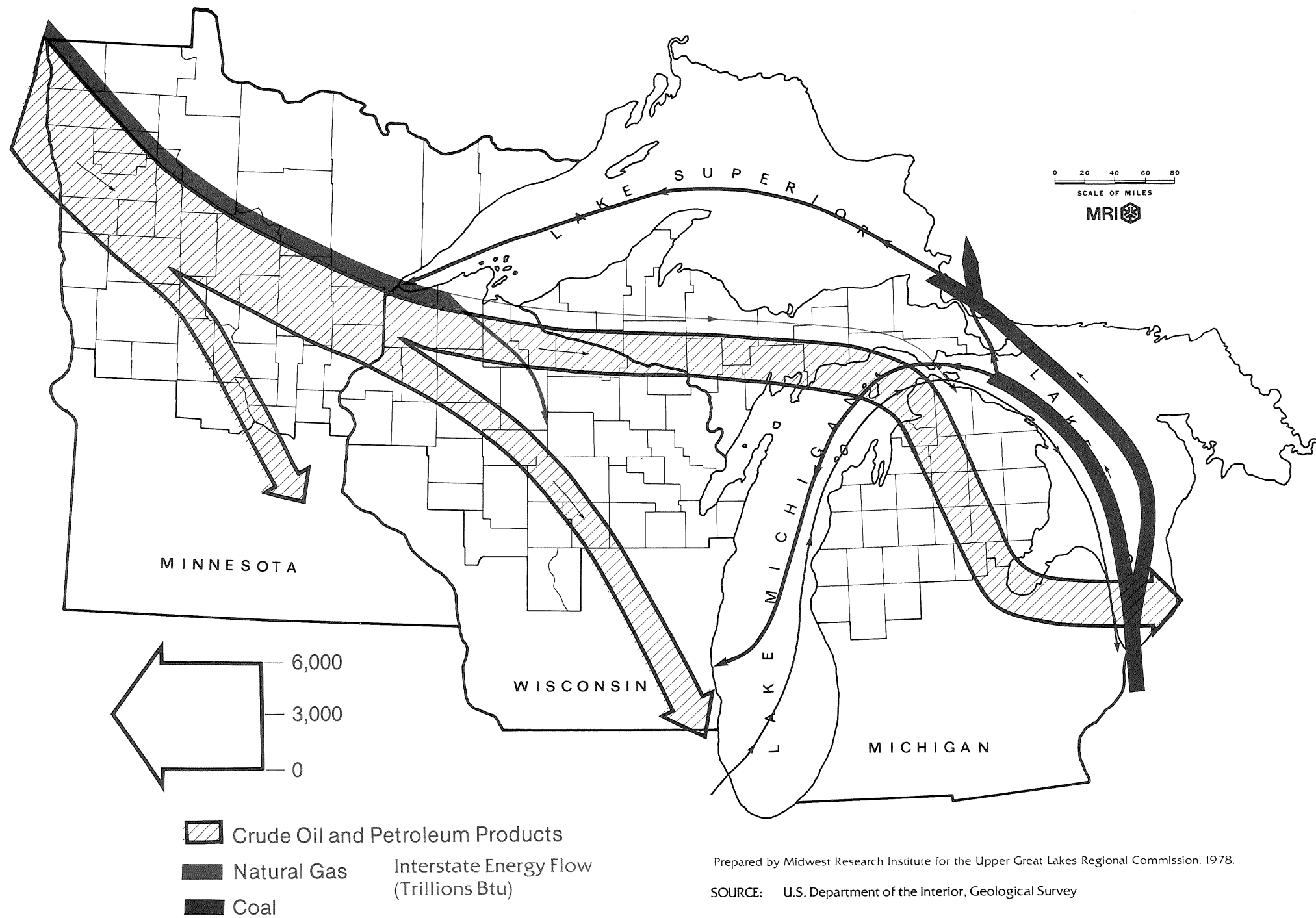
In the three-state area, Minnesota experienced the largest increase — 31 percent, or 5.5 percent per year. Total net electrical generation in Minnesota (excluding transmission losses) was 26 billion KWH in 1976. In Michigan the increase in demand was 19 percent, or 3.5 percent per year. Total net electrical generation for 1976 was 69 billion KWH. Demand for electricity in Wisconsin increased 26 percent over the period, or 4.7 percent per year. In 1976 35.5 billion KWH of electricity were generated in Wisconsin.

The three-state region as a whole is highly dependent on coal for electrical production, over 60 percent compared with less than 40 percent for the U.S. as a whole. In addition, nuclear power supplies over 20 percent of the electricity to the region compared with less than 10 percent nationwide.

The figure at the lower left shows the breakdown of electrical generating capacity by fuel type for the three states and the U.S. as a whole for the year 1976. The map on the opposing page shows the location, size and type of major electrical generating plants, and the location and size of electrical transmission lines.

	Mich.	Minn.	Wisc.	U.S. Total
Coal	68	57	60	39
Oil-Gas	17	21	5	39
Nuclear	14	20	30	9
Hydro	1	2	5	11
Other	0	0	0	2
TOTAL	100%	100%	100%	100%

Percent of Electrical Generating Capacity Supplied
by Various Sources — 1976



Prepared by Midwest Research Institute for the Upper Great Lakes Regional Commission, 1978.

SOURCE: U.S. Department of the Interior, Geological Survey

Energy Flow

1970—1975

	1970		1975	
	Trillion Btu's	%	Trillion Btu's	%
Three-State Production	103.6	2.6	200.8	5.1
Domestic Import	3,298.1	83.2	3,092.5	78.3
Foreign Import	563.5	14.2	656.3	16.6
Total Supply	3,965.2	100.0	3,949.6	100.0
Export	213.0	5.4	328.1	8.3
Net Consumption	3,752.2	94.6	3,621.5	91.7

**Fossil Fuel Supplies by Source
1970 and 1975**

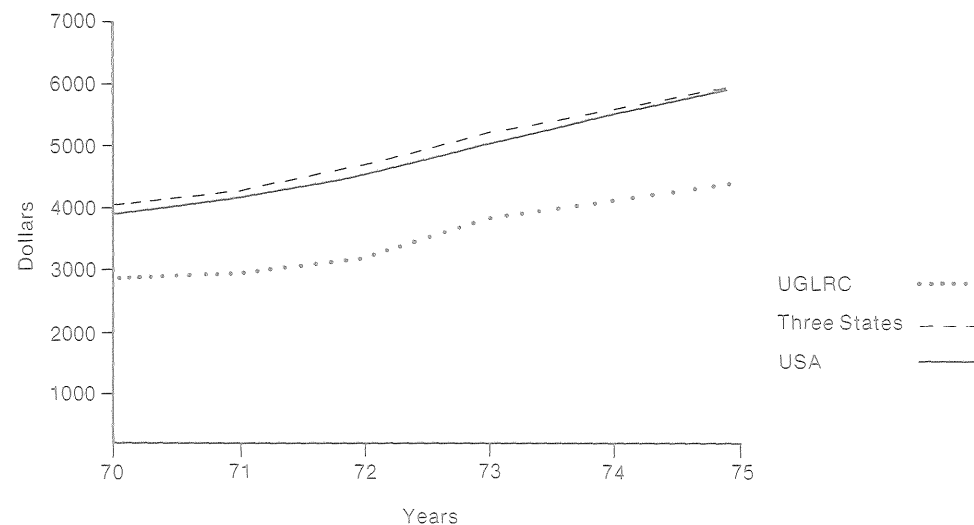
The map of energy flows shows movements of crude oil, petroleum products, natural gas and coal within the region. Currently the bulk of the crude oil supplied to the region comes from Canada. The bulk of the coal originates in the eastern United States. Both of these energy flow patterns are in a state of change.

During the period from 1970 to 1975 more than 60 percent of the crude oil supplied to the three-state area originated in Canada. It is projected that by 1985 these supplies will no longer be available. In 1970 almost 98 percent of the coal supplied to the three-state area was mined in the eastern and midwestern areas of the country. Only 2 percent came from the west. By 1975 western coal contributed over 14 percent of the total supply. In general the percentage of fossil fuel energy supplied by domestic imports and in-state production decreased over the period. The only significant in-state production is crude oil and natural gas from Michigan. The percentage of energy supplied by foreign sources increased from 14.2 percent in 1970 to 16.6 percent in 1975.

The figure at the lower left shows the supply of fossil fuels, including crude oil, natural gas and coal, from in-state, domestic and foreign sources for the years 1970 and 1975. The map on the opposing page shows the movement of fossil fuels into the region for the year 1974.

Per-Capita Income

1970—1975



Per Capita Income
1970-1975

The average per capita income in the Upper Great Lakes region increased at about the same rate as the three-state area and the U.S. average from 1970 to 1975. However, the level of per capita income in the UGL region remains well below that of the three states and the U.S. as a whole.

The average per capita income in the Upper Great Lakes region increased from about \$2,900 in 1970 to approximately \$4,200 in 1975, measured in current dollars. This represents an increase of about 45 percent in the five-year period. The three states and the U.S. as a whole experienced a per capita income increase from about \$4,000 in 1970 to \$5,900 in 1975; this represents an increase of about 48 percent. During this same period median family incomes showed similar increases. The median family income in the three-state area was about \$10,000 in 1970 and \$15,000 in 1975. Although the UGL region, the three states, and the U.S. experienced similar rates of growth, the per capita income of the UGL region still remains well below that of the three states and the U.S. average.

The figure at the lower left depicts the growth in per capita income for the region, the three states and the U.S. as a whole. The map on the opposing page indicates the 1975 level of per capita income of counties in the Upper Great Lakes region.

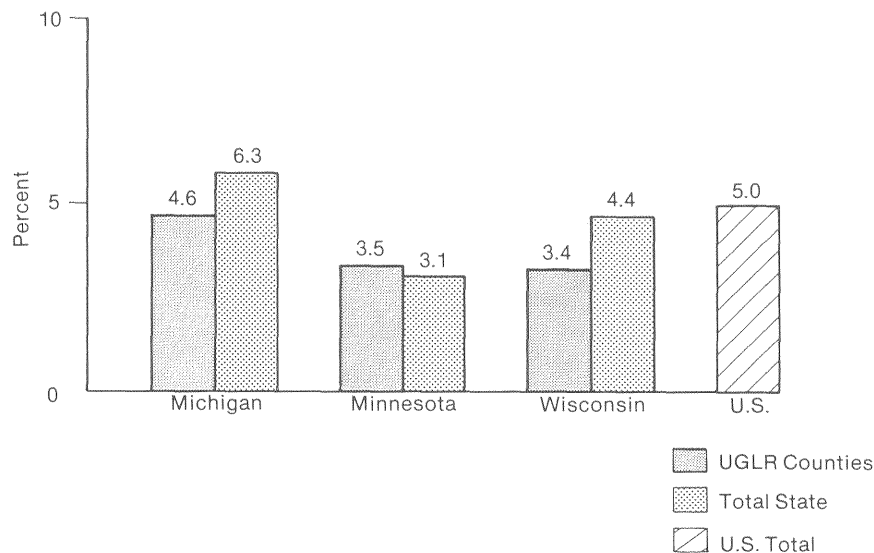
Student Dropout Rates

1976—77

The number of student dropouts as a percentage of school enrollment in the Upper Great Lakes region was about 3.7 percent for the 1976-1977 school year. This contrasts favorably with a student dropout rate of 4.8 percent for the three-state area and a rate of 5.0 percent for the U.S. as a whole.

When the dropout rates for Upper Great Lakes region counties are compared with the corresponding state averages it appears that while Michigan and Wisconsin UGL region counties have relatively high student dropout rates they are below the corresponding state averages. Minnesota UGL region counties have higher dropout rates than for the state. However, the dropout rate for the state of Minnesota is well below the Wisconsin and Michigan state averages.

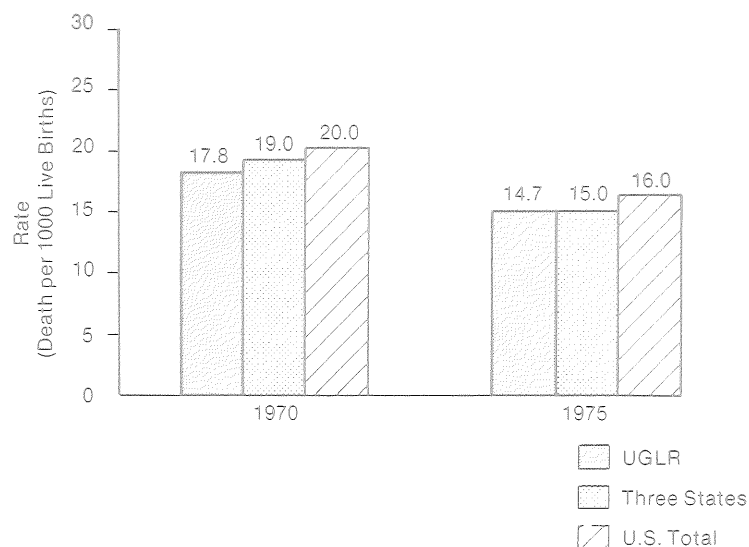
The figure at the lower left shows the comparison between UGL region counties and the corresponding state averages as well as a comparison with the rate for the U.S. as a whole. The map on the opposing page shows the student dropout rates for UGL region counties for the year 1976-77.



Dropout Rates — Percentage of Enrollment
1976-77

Infant Mortality

1970—1975



Rate of Infant Mortality

Often cited as the single best indicator of health conditions, the infant mortality rate often serves as an indicator of nutritional levels, prenatal care, and access to medical facilities.

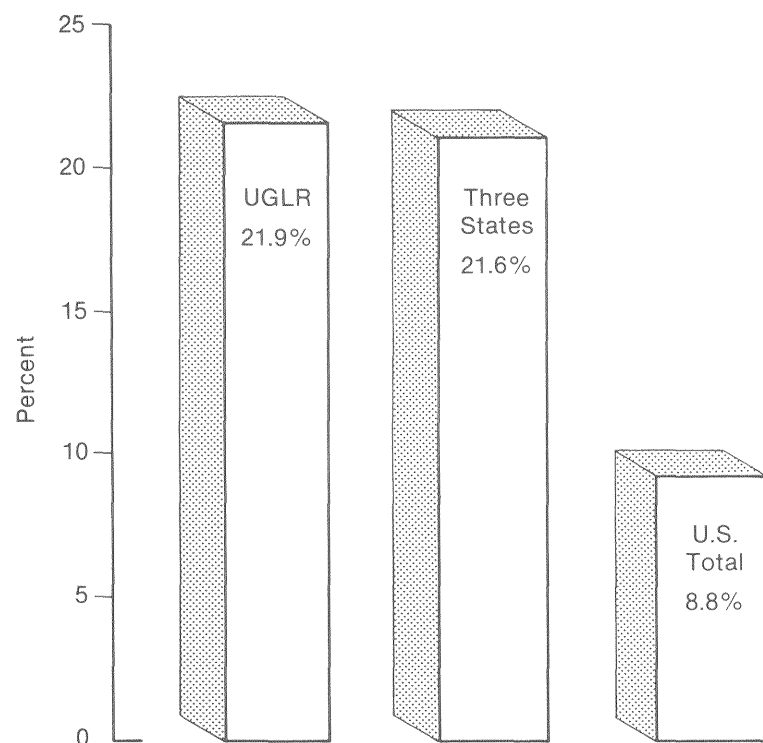
In the five-year period from 1970 to 1975, the rate of infant mortality declined almost 20 percent in all areas: in the Upper Great lakes region, the three-state area, and the U.S. as a whole.

In the Upper Great Lakes region, the rate decreased from 17.8 deaths per 1000 live births in 1970 to 14.7 in 1975. In the three-state region the rate decreased from 19 to 15 and in the U.S. as a whole the infant mortality rate decreased from 20 deaths per 1000 live births to just over 16 in 1975. The Upper Great Lakes region thus has a lower rate of infant mortality than the three states and the nation as a whole.

The figure at the lower left shows the decline in the infant mortality rates for the Upper Great Lakes region, the three states and the U.S. The map on the opposing page shows the infant mortality rates for UGL region counties in 1975.

Physicians

1970—1976

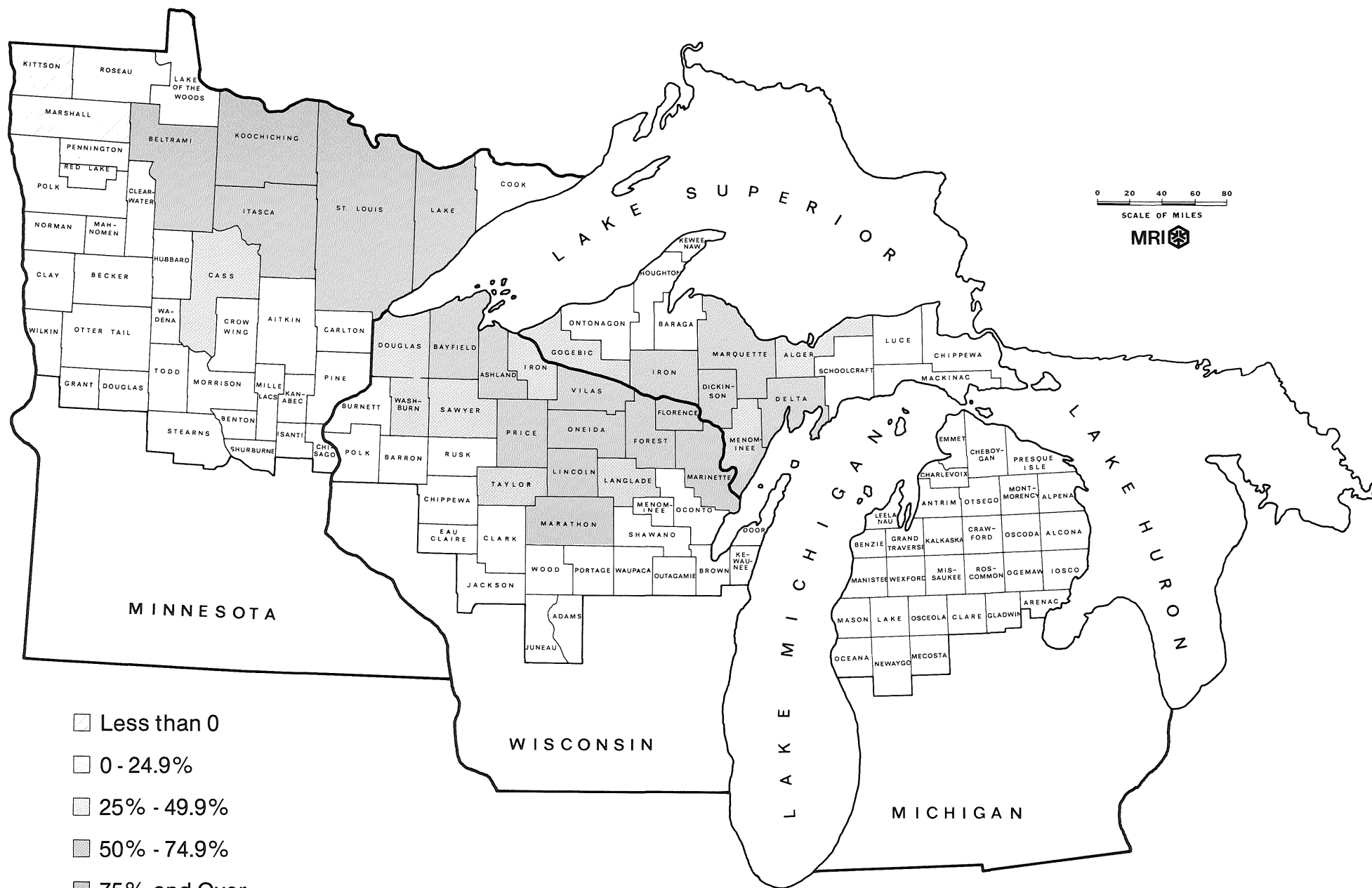


Percent Change in Physicians per 10,000 Population
1970-1976

In both 1970 and 1976 there were fewer physicians per 10,000 population in the Upper Great Lakes region than the three-state average, or the average in the U.S. as a whole. There were slightly over seven physicians per 10,000 population in the Upper Great Lakes region in 1970; in 1976 there were almost nine per 10,000 population. In 1970 the three-state averages ranged from 11 to 13 and in 1976 all three states averaged 14 physicians per 10,000 population. In the U.S. as a whole, the average increased from 12.5 in 1970 to 13.6 in 1976.

While the number of physicians per 10,000 population increased in all areas — the Upper Great Lakes region, the three-state area and the U.S. as a whole — only in Minnesota was the percentage of increase smaller than the nation as a whole. In the Upper Great Lakes region, and in Michigan and Wisconsin as a whole, the percentage increase in physicians per 10,000 population was from two to three times higher than for the U.S.

The figure at the lower left shows the percentage increase in the number of physicians per 10,000 population in the UGL region, the three states and the U.S. as a whole. The map on the opposing page shows the number of physicians per 10,000 population in UGL region counties in 1976.



Percentage Increase in Pulpwood Production 1970-1976

Prepared by Midwest Research Institute for the Upper Great Lakes Regional Commission, 1978.

SOURCE: U.S. Department of Agriculture, North Central Forest Experiment Station, Forest Service

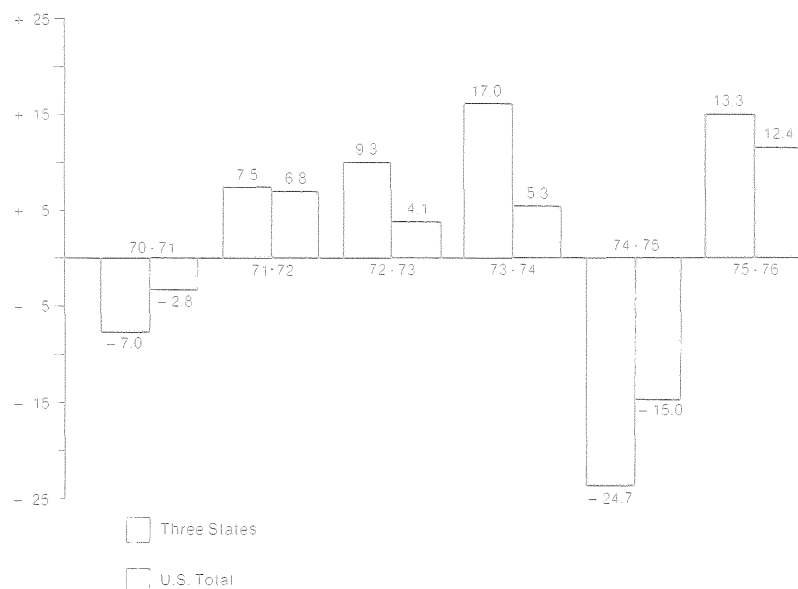
Pulpwood

1970—1976

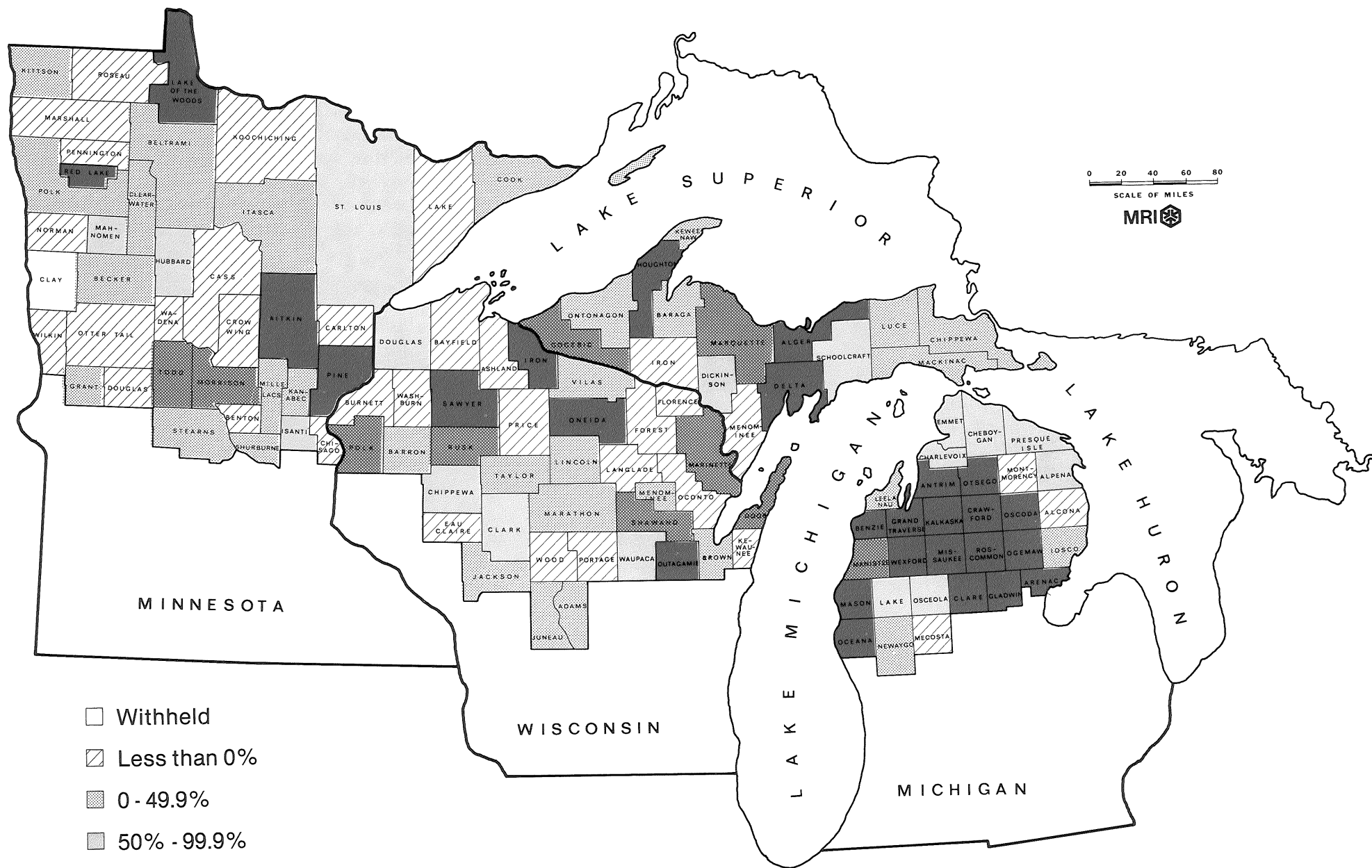
Pulpwood production accounts for over half the timber production of the Upper Great Lakes region. Production of pulpwood in the region increased almost 9 percent between 1970 and 1976. While the annual variations in regional production tended to follow the direction of the trend in U.S. pulpwood production, the regional variations tended to be more extreme. The dramatic drop in pulpwood production in 1975 was due in part to a 14 percent decline in paper and paperboard production in the U.S. that year.

The Upper Great Lakes region produced 4.17 million standard cords of pulpwood in 1976; this was an increase of about 9 percent over the 1970 production of 3.83 million cords. In 1970 the pulpwood production of UGL region counties accounted for 90 percent of the pulpwood produced in the three-state area. In 1976 it was over 98 percent. Pulpwood production in the three-state area excluding the UGL region counties decreased over the six-year period. On balance the total production of the three-state area was about the same in 1970 and 1976 at 4.25 million standard cords. U.S. production increased from 68 to 74 million standard cords or about 9 percent over the period.

The figure at the lower left shows the annual variations in pulpwood production in the three-state area and the U.S. as a whole. The map on the opposing page shows the percentage increase in pulpwood production for UGL region counties.



Annual Percentage Change in Pulpwood Production
1970-1976



Percentage Increase
in Value of
Minerals Production
1969-1975

Prepared by Midwest Research Institute for the Upper Great Lakes Regional Commission, 1978.

SOURCE: U.S. Department of the Interior, Bureau of Mines, Minerals Year Book

Mineral Production

1969—1975

In the six-year period from 1969 to 1975, the value of minerals produced in the Upper Great Lakes region increased over 95 percent as compared with 82 percent for the three-state area and 131 percent for the U.S. as a whole.

The average growth in the value of minerals production in Michigan UGLR counties for the period was 129 percent. Most of this increase was in iron ore production, which accounts for over 25 percent of the value of minerals production in Michigan. Minnesota UGLR counties showed a 75.2 percent increase in the value of production. Iron ore accounts for over 90 percent of the value of minerals produced in Minnesota. Wisconsin counties in the Upper Great Lakes region showed a 38 percent increase in the value of minerals production — mainly sand, gravel and stone, which account for over 60 percent of the value of minerals production statewide.

The table at the lower left shows the major minerals produced in the three-state area (80 percent of which is produced in the Upper Great Lakes region) and a comparison with total U.S. mineral production. The map on the opposing page shows the change in the value of minerals production of UGLR counties during the period from 1969 to 1975.

	1975 Millions of Dollars		Percent Change 1969 - 1975	
	Three States	U.S. Total	Three States	U.S. Total
Iron Ore	1,354	1,621	82.9	74.4
Copper	95	1,815	32.3	23.6
Sand, Gravel, & Stone	270	3,539	22.7	45.0
Cement	138	2,127	33.2	57.1
Natural Gas & Petroleum	65	34,834	25.6	132.5
Other	591	18,339	206.2	222.0
Total	2,513	62,275	81.6	131.3

Value of Minerals Production and Percent Change

The Upper Great Lakes Regional Commission is a local-state-federal partnership for the economic development of northern Wisconsin, Michigan and Minnesota. The Commission has worked toward this goal through its technical assistance grant program which funds research and demonstration projects of regional impact and its supplemental grant program which helps meet local matching share requirements for public works projects. Working in the areas of transportation and energy, industrial development, planning, recreation and tourism, natural resources and vocational education, UGLRC has helped facilitate multistate planning and development and has coordinated local, state, federal, and private investments.

Gov. William G. Milliken
Michigan

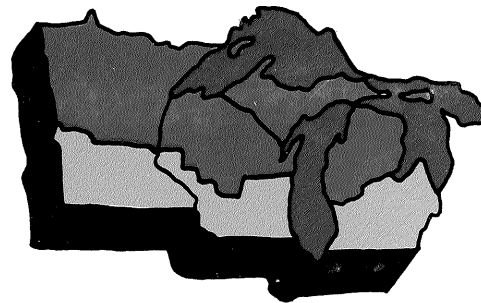
Gov. Albert H. Quie
Minnesota

Gov. Lee Sherman Dreyfus
Wisconsin

William R. Bechtel
Federal Cochairman

UPPER GREAT LAKES REGIONAL COMMISSION

A Federal-State-Local Partnership
for Regional Development



For further information contact:
UPPER GREAT LAKES REGIONAL COMMISSION
Room 2093
Main Commerce Building
14th & E Streets NW
Washington, DC 20230
(202) 377-2845