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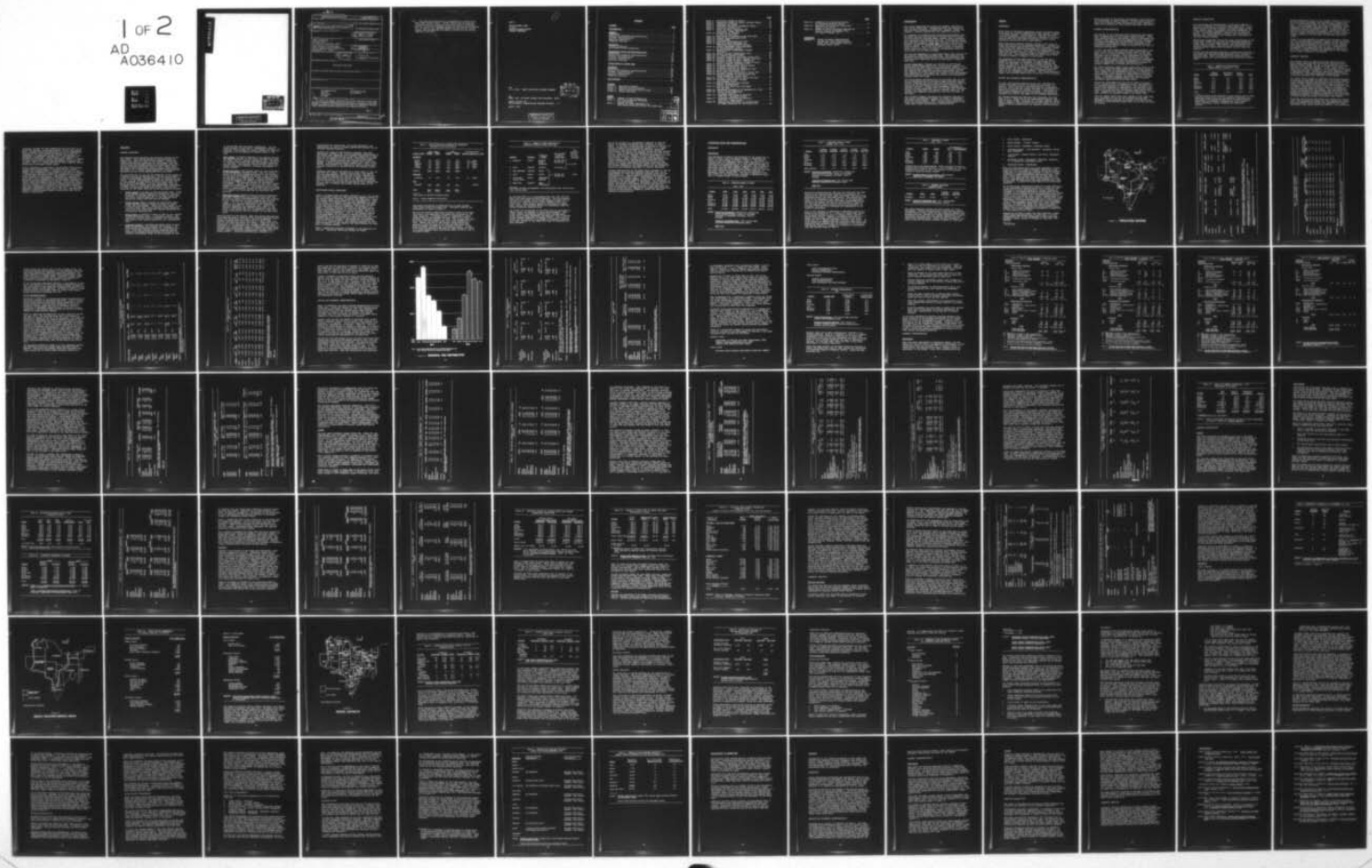

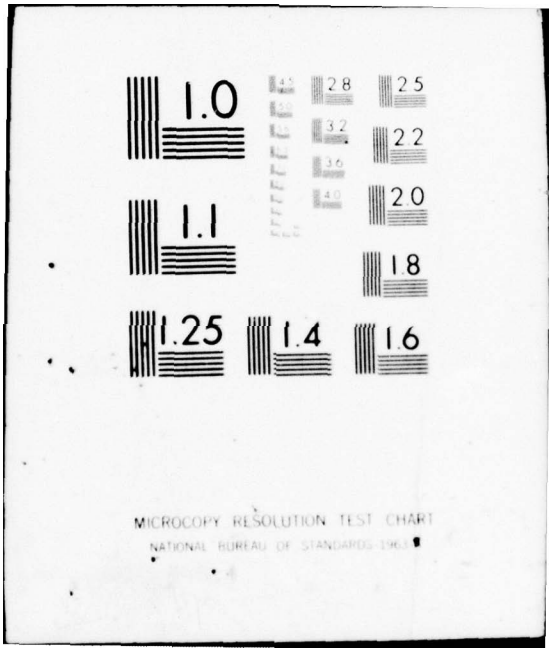
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The social and economic characteristics of the Study Area are described. Because of economic difference, data are presented on a county by county basis. Included are narrative data and projections relative to population, housing, income, employment, resource productivity and community services.

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20. The study area characteristics are representative of those of the entire Upper Peninsula region. The data indicate that the region has historically relied on mining and native forest resources for economic survival. Future forest management programs and efficient mining techniques will, for the most part, determine whether the Study Area will achieve economic stability,employment and community services on a par with the remainder of the state.

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BOOK 2

# SOCIOECONOMIC DATA of the UPPER MICHIGAN REGION PROJECT SEAFARER

for
U. S. Navy. Naval Electronic Systems Command

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## INTRODUCTION

This report describes the social and economic characteristics of the Study Area. Included are data and projections with narrative relating to population, housing, income, employment, resource productivity and community services.

For purposes of collecting and analyzing socioeconomic data, the Study Area has been defined to include the full extent of seven counties including Alger, Baraga, Delta, Dickinson, Iron, Marquette and Menominee Counties. This extends beyond the Study Area noted in other data reports of the Site Survey. Wherever the expression Study Area is noted in this Socioeconomic report, it refers to the entire area of the above seven counties. Due to the very small portion of Houghton County within the area of interest, socioeconomic data for this county has not been included.

The data are presented on a county-by-county basis because of the economic differences between them. The exceptions are Marquette and Alger Counties whose wage and employment characteristics by industrial sector are available in combined form only.

Because demographic figures rely heavily on 1970 United States Census Bureau statistics, all available updates and projections for the future are provided where required. Relevant data sources are noted on each of the tables included. The numerous and currently available publications used in the preparation of this report are listed in the Bibliography. Most publications are derived from private and governmental sources within the State.

The socioeconomic characteristics of the Study Area are generally representative of the entire Upper Peninsula region. The data indicate that the region has historically relied on mining and the harvesting of native forest resources for economic survival. Future forest management programs and efficient mining techniques will for the most part determine whether the Study Area will achieve economic stability, employment and community services on a par with the rest of the State.

The following Summary highlights the prominent features of each major socioeconomic category set forth in subsequent portions of this report. Refer to the section Distinctive Units and Characteristics for a complete description of the Study Area's major socioeconomic characteristics.

## SUMMARY

### DEMOGRAPHY

After years of declining population levels the seven county Study Area has recently experienced a very gradual increase in resident numbers. Projections for 1980 and 1990 show that the population should continue to increase at an accelerating rate with only Alger and Baraga Counties losing population during the 1970 to 1980 period.

Major population centers normally provide a full range of goods and services to the resident population. Because most cities and towns contain fewer than 2,500 residents, almost all counties are 100% rural according to United States Census Bureau criteria. Over 40% of the inhabitants of the Study Area reside in towns, cities or villages of 1,000 persons and less. The long-term trend has been toward slowly increasing numbers of people in rural areas.

The population of the seven counties is over 99% White. Excepting the 60 to 74 age group, all age groups are expected to experience an increase in numbers between the years 1975 and 1990. In Iron and Dickinson Counties, the growing community of retired persons is reflected in higher county median age statistics. In contrast, there has been shown to be a decline in the number of persons under 11 years of age throughout the counties. This could negatively impact the available labor force in the next 10 to 20 years.

### HOUSING AND HOUSEHOLD CHARACTERISTICS

In 1970, the housing vacancy rate was 12%, although the vacancy-available rate for the Study Area was about 2.5 percent. There has been a continued decline in household size and with slight but steady increases in population the demand for housing will continue to exist. One fourth of all existing housing units are classified as structurally inadequate to fulfill the needs of the resident population.

The average persons per dwelling unit throughout the Study Area is 3.17. About 10% of all husband-wife families are over 65 years of age. Although on a gradual upswing, median family income in 1970 was about $8,123 with about 11% of all families having incomes below the federally defined poverty level.

About one-third of the housing constructed in the Study Area is attributable to public efforts. Private housing production is not likely to meet the production level necessary to house new households by 1980 without government assistance.

## ECONOMIC CHARACTERISTICS

The economy of the Study Area has historically been dependent on exploitation of the natural resource base. Since 1940, manufacturing as the primary source of employment has gradually been replaced by the nonmanufacturing industries including government and the wholesale and retail trades. Iron mining in Marquette County is now increasing as an employment source and the volume of production has been increasing substantially.

In 1975, the seven county average annual unemployment rate rose to over 11% of the total civilian labor force, far above the 6.6 percent recorded in mid 1974 for the Upper Peninsula area in general. Total employment has been increasing, but not as fast as the increase in the labor force. Greatest yearly fluctuations in percent unemployed occur in those counties which are dependent on few industries for employment and where industries are subject to seasonal demand, as in tourism and construction.

Per capita personal income levels remain below those of the State as a whole and public assistance recipients account for a large share of governmental costs. An indication of lower incomes is the relatively high number of families in the Study Area that continue to reamin below the poverty level. In Marquette County, the higher ratios of working income to transfer payments reflect the more favorable employment opportunities that exist there.

Mining was responsible for over 19% of labor and proprietor's income in 1973 in Marquette County, the highest of all nonfarm industries in the county. The wholesale and retail trade industry is important to all counties, particularly in counties with a relatively large tourist business. Excepting Iron County, contract construction is not a major producer of personal income in the Study Area.

Data for recent years shows that incomes in the Study Area have increased, but not at the national average rate. Employment income continues to account for a smaller proportion of total personal income than is true for the State as a whole.

## RESOURCE PRODUCTIVITY

Iron ore mining and beneficiation is the major segment of the mining industry in the seven county Study Area. Occurrences of other metallic minerals, including gold, silver, lead, copper, zinc, and uranium, have been documented, but no mine is currently producing ore from any of these deposits. The larger deposits, however, may constitute resources that could prove to be economically extractable in the next several decades.

Agricultural production is of only minor significance in the Study Area, except for portions of southeastern Menominee County and, to a much lesser extent, the southeastern portions of Delta County. The land is only marginally productive and most agricultural products are for local consumption.

Forest land and products represent a significant resource in the Study Area and contain the potential for a variety of multiple uses. Table 1 summarizes land productivity by assigned values and county groupings for each major product area.

Table 1. SUMMARY OF LAND PRODUCTIVITY
(ANNUAL VALUES IN MILLIONS $) - 1974

| County | Mineral Production | Agriculture Products | Forest Related* | Total |
|---|---|---|---|---|
| Alger | 0.1 | 1.1 | 20.0 | 21.2 |
| Baraga | 0.1 | 0.6 | 30.0 | 30.7 |
| Delta | 0.2 | 2.4 | 25.0 | 27.6 |
| Dickinson | 37.4 | 1.2 | 25.0 | 63.6 |
| Iron | 6.6 | 0.6 | 45.0 | 52.2 |
| Marquette | 172.3 | 0.5 | 50.0 | 222.8 |
| Menominee | 0.1 | 8.8 | 25.0 | 33.9 |
| Total | 216.8 | 15.2 | 220.0 | 452.0 |

*Includes estimated values attributed to forest products such as timber, maple syrup, honey and the like; all commercial recreational uses associated with the quality and character of the land and adjoining inland water, and intangible (nonquantifiable) values imputed to various recreational, retreat, wilderness and conservation functions.

Mineral production is by far the largest industrial activity by quantitative standards, with agriculture a distant second. In qualitative terms for which no measureable values exist, it is estimated that the potential intangible values associated with forest resources rival in importance the cummulative mineral production values. Forests provide the setting for many tourist and resident recreational activities on a year-round basis contributing to a great source of related revenue in the services and wholesale and retail trades.

Though it is not possible to secure fully reliable information on the magnitude of economic impact tourism and recreation have within the Study Area, analysis of the industry shows that approximately $107 million in tourist revenues were generated in the Study Area in 1972. Continued improvements in accommodations and recreational facilities will tend to secure tourism and recreation as what appears to be a major industry in the region.

## COMMUNITY SERVICES

The complete range of medical services normally found in major urban areas does not exist within the Study Area. Medical doctors number .80 per 1,000 population, less than half the 1974 national average of 1.644. Each county is served by at least one hospital. Fifty percent of the total Study Area bed count is found in the three hospitals located in Marquette County. Ambulance service is provided by 23 organizations, affording reasonably comprehensive coverage in all but the most rural sections of each county.

The public school system is organized into school districts to provide an equalized tax base and to facilitate communication between district administrators and the public. The range of school facilities available varies significantly throughout the region in terms of size and enrollment, ranging from a single one-room school house to a complex of schools operating under one system. Most pupil/classroom ratios are currently at the optimum level and stable to slightly declining enrollment is expected to the year 1980. Vocational training is limited primarily to the few courses provided through the region's four-year high schools.

Principl cities within the Study Area provide fire protection. The equipment available for fire suppression varies, with the smaller cities having less equipment and correspondingly lower annual operating budgets. Fire protection

insurance ratings for most communities are poor and, to improve the ratings, a balanced program of fire loss management is needed involving prevention as well as suppression. Cooperation for fire protection between local units of government is widespread to make up for low personnel and equipment inventories. Additionally, fire fighting resources are available to local settlements from K. I. Sawyer Air Force Base and the Michigan Department of Natural Resources. The U. S. Forest Service has fire fighting responsibilities on National forest lands.

Police protection is provided by the Michigan State Police, county sheriff department, city police and to a lesser degree, the township police. Typically, the size of individual police agencies is small and a great deal of reliance is placed upon the State Police for protection and surveillance outside of urban areas. Additionally, the 8th District State Police Headquarters, located near Negaunee in Marquette County, maintains a crime laboratory available for use by local governmental police units. Each county maintains a sheriff's office with each sheriff being an elected official, normally with limited law enforcement authority. City police department forces vary from one to 41 full-fime personnel, depending on the size of the city, and generally afford a slightly higher degree of protection than can be found in rural areas.

## EVOLUTION

## CURRENT CONDITIONS

The Michigan Upper Peninsula was initially settled in the late 1800s. Its existing population patterns were not formed until after the turn of the century. Mining and logging provided the incentives for settlement, with the cities being established primarily as shipping points for the raw materials extracted from the land. Small towns developed almost exclusively along railroad lines serving the region, as a highway system adequately integrating the Peninsula was not fully established until the 1930s.

The post World War II era saw the emergence of the region as a popular hunting and fishing area. By the 1960s recreational and retirement settlements began to characterize the region. Current developmental patterns are limited largely by the presence of huge tracts of State forest lands in which private development is highly restricted. Thus, development tends to locate near long-established settlements, or along the privately-owned lake shores. The existing character of the seven counties can be described as follows:

- Alger County is an area of flat and marshy land. Since it is located midway between the population centers of Marquette to the west and Sault St. Marie to the east and offers limited amenities, it has been suffering population losses over the last few decades.

- Baraga County offers a variety of recreational amenities, and has recently become the scene of recreational home development. Aside from this aspect, it is a stable county with little economic growth potential other than that associated with logging operations and recreational opportunities.

- Delta County is similar to Alger in that it is a region of flat and marshy lands. It includes, however, the relatively thriving city of Escanaba, and its southern shoreline is also gaining popularity as a recreational area.

- Dickinson County is forested and highly rural in character to the north, but includes the "booming" Iron Mountain-Norway-Kingsford region in its southern portion. This area situated within reasonable driving distance of metropolitan Milwaukee and including attractive recreational lands, is fast becoming an area

of second home and retirement communities. The services industry in the area is consequently growing. In addition, the increase in national demand for iron has resulted in the re-opening of several mines in the area.

- Iron County is heavily forested in its central portion. The southern portion of the County includes many lakes and towns, and is a popular recreation area. Relatively vigorous land sales and home development characterize the area. The northern portion of the County also serves recreation interests, although development is highly limited.

- Marquette County, the largest County in the Study Area, is an economically diverse county. The City of Marquette is the major population center on the Peninsula. To the north and southeast of the City, land is becoming suburban to a large degree. West of Marquette, up to Lake Michigamme, the region is rapidly filling in with strip commercial, industrial and residential development. The northern portion of the County serves recreation interests, and is also the site of a large number of private estates. The southern portion of the County is agricultural, except for the region including K. I. Sawyer Air Force Base and its servicing communities.

- Menominee County supports thriving service industries, and light manufacturing and trucking activities (especially in towns like Hermansville, which are situated at the intersections of major highways and railroad lines). It, too, is recreationally oriented and a number of its lighter industries direct themselves to devising equipment for recreation use. Most of the County's population and economic activities are centered in and around the City of Menominee, with significant agricultural activity evident in the more rural areas.

Since the turn of the century, when iron mining declined and the lumbermen began to move on after selling depleted forest lands, the Study Area has shown a loss of population. Economic opportunities have remained on a level lower than that of the State and nation as a whole. Industries for the conversion of raw materials into consumer goods was never developed to a significant level as Midwestern manufacturing concerns have historically tended to locate near large urban centers close to efficient transportation systems and regional markets. Existing manufacturing, therefore, is

concentrated in custom made, low volume production and fabrication for local or highly specialized markets such as finished hardwood products.

Another root cause of the Counties' economic (and thus employment) problems lies in the competitive disadvantage of the region when competing with resource industries in other parts of the country and the world. While Upper Peninsula iron ore is competitive with ore from Canada and South America, its forest products must compete with those from Canada. A short growing season coupled with a lack of productive land suitable for competitive farming limits agricultural production to serving mainly the resident population.

Community services do not exist at a level equal to that of the State as a whole. Medical doctors per 1,000 population are approximately one-half the national average and many hospital services are limited in scope. Many public educational facilities are old and in need of replacement. Fire protection is, in part due to the distances involved, poor in rural areas and police services are not stemming the growing rate of robbery and larceny taking place in the counties.

## ANTICIPATED FUTURE CONDITIONS

There is evidence that the Upper Peninsula is on a new threshold of economic stability with particular emphasis placed on the western Upper Peninsula including the Study Area. There are revenue bonds being issued for the development of industrial parks; the expansion of specialty manufacturing operations relative to tools, machines, freezers and increased activities associated with lumbering; the production of veneer, flooring, hardwood for furniture and paper making. There is increased activity at State and local levels directed toward stimulating the tourist industry, one of the region's largest industries. Part of the impetus leading to the development of new mines in Marquette County and improvements to existing production facilities are new technologies that make relatively low grade iron ore economically feasible to process. The production of pelletized iron ore is climbing and in turn creating pressure for year-round navigation on Lake Superior and Lake Michigan for shipment to southern markets.

Table 2 summarizes projected increases in the production of iron ore. Locations, mines and volumes are noted.

Table 2. IRON ORE PRODUCTION ESTIMATES AND PROJECTIONS
(Millions of Tons and Dollars)

| County & Mine | 1975 - 1976 Volume | 1975 - 1976 Value | 1985 Volume | 1985 Value* | Predicted Future Years of Operation - 1975 |
|---|---|---|---|---|---|
| **Marquette** | | | | | |
| Mather | 2.8 | 62.0 | 2.0 | 44.0 | 25 years |
| Empire | 5.2 | 116.0 | 8.0 | 178.0 | 25-30 years |
| Republic | 3.6 | 80.0 | 4.0 | 89.0 | 25 years+ |
| Tilden | 4.0 | 89.0 | 8.0 | 178.0 | 50 years |
| Cascade | -0- | -0- | 4.0 | 89.0 | 40 years |
| Subtotal | 15.6 | 347.0 | 26.0 | 578.0 | |
| **Dickinson** | | | | | |
| Groveland | 2.0 | 44.0 | 4.0 | 89.0 | 25 years+ |
| **Iron** | | | | | |
| Sherwood | 0.4 | 9.0 | -0- | -0- | Limited |
| Total | 18.0 | 400.0 | 30.0 | 667.0 | |

*1985 Values in 1975-1976 Constant dollars

Source: Mining Companies and Operators

Continued iron mining is predicted for at least another fifty years within the Study Area. Estimated reserves are substantial as shown in Table 3.

One new iron mine is definitely planned to open in the next five years, and additional iron mines may be opened at two other locations. Cleveland Cliffs is scheduled to begin construction on the Cascade facility, west of the town of Cascade, (Marquette County), in 1976. The Cascade mine will be an open pit and should reach full-scale production by 1980. Before the end of the century, Hanna Mining may develop an open pit mine in an iron ore body about five miles southwest of Randville in Dickinson County. Inland Steel also may develop a new open pit mine during the 1990s in a proven deposit about four miles south of Felch, also in Dickinson County.

Table 3. SUMMARY OF KNOWN INFORMATION ON IRON-MINING DISTRICTS WITHIN STUDY AREA

| District | Activity | Formations Mined | Past Recorded Production (long tons) | 1974 Estimated Reserves (Millions of tons) |
|---|---|---|---|---|
| a. Marquette | active | Negaunee<br>Bijiki<br>Greenwood | through 1974<br>427,183,498 | 17,465 |
| b. Gwinn | inactive | Riverton | 12,785,000 | |
| c. East Menominee | inactive | Vulcan | | |
| d. Felch | active | Vulcan | through 1974<br>311,232,305 | 1,800 |
| e. Iron River-Crystal Falls | active | (Sherwood?)<br>Riverton | | |
| f. Amasa Oval | inactive | Amasa<br>(Riverton?) | | |

Only three of these, the Marquette, Iron River-Crystal Falls, and Felch are still actively mined.

By the year 2000, it is anticipated that all iron ore will come from lower grade taconite deposits. The Lake Superior district will become the principal domestic source of this ore and will continue to be a major industry within the Study Area. Other mineral deposits consisting of copper, lead, uranium and precious metals are undergoing study for future extraction possibilities.

The future of agriculture in the Study Area is projected to remain stable in response to local market demands. Additional product development possibilities include maple syrup, cold climate vegetables and specialty fruit orchards in the western midsection of Baraga County. The future of forest related products is projected to gradually increase with time, notably in the specialty areas of hardwoods and panel products.

Use of the forest as a recreational resource is also expected to increase and become more intensive in future years. In the past, there has been a feeling on the part of private enterprise and promotional agencies (i.e., Upper Peninsula Travel and Recreation Association, Operation Action-Upper Peninsula) that tourist volume has been limited due to a lack of adequate accommodations and the use of low profile advertising. However, positive developments in both the private and public sectors of the industry are now taking place. These include increasing and upgrading overnight accommodations, developing more extensive winter resort facilities, developing waterfront facilities and marinas in communities previously without such attractions and further designation of cross-country ski and snowmobile trails by the Michigan Department of Natural Resources.

Through stabilization of the Study Area's economy, it can be anticipated that existing community services will not be overburdened if local and regional planning goals are systematically met. Public health facilities are becoming available on a broader scale. Consolidation of small school districts which cannot support a high school is being encouraged by the State Board of Education. The protection of public and private property is continually being reviewed by public officials in the effort to secure time and cost effective methods of police services. Final decisions are slow in coming and are tempered by considerations reflecting population distribution, community growth and regional economic characteristics.

## DISTINCTIVE UNITS AND CHARACTERISTICS

### DEMOGRAPHY

#### Population

The population of each of the counties of the Study Area is shown in Table 4 and the percent change in population by county for each decade is shown in Table 5. The Tables indicate that the aggregate seven county population in 1970 represented the continuation of a slow trend which began in 1950 when the population began to increase. The increase in population has not been uniform, however, in that four of the seven counties lost population between 1960 and 1970 and have had a declining population, with the exception of Menominee County, since 1940. The loss in population has been offset by the substantial increase in Marquette County and to a lesser extent in Delta County.

Table 4. POPULATION TRENDS BY COUNTY

1940 - 1990

| County | 1940 | 1950 | 1960 | 1970 | 1980 | 1990 |
|---|---|---|---|---|---|---|
| Alger | 10,167 | 10,007 | 9,250 | 8,568 | 8,428 | 9,585 |
| Baraga | 9,356 | 8,037 | 7,151 | 7,789 | 7,759 | 8,746 |
| Delta | 34,037 | 32,913 | 34,298 | 35,924 | 44,220 | 54,335 |
| Dickinson | 28,731 | 24,844 | 23,917 | 23,753 | 25,616 | 26,434 |
| Iron | 20,243 | 17,692 | 17,184 | 13,813 | 15,232 | 17,363 |
| Marquette | 47,144 | 47,654 | 56,154 | 64,686 | 76,870 | 91,790 |
| Menominee | 23,883 | 25,299 | 24,685 | 24,587 | 30,386 | 39,042 |
| TOTAL | 173,561 | 166,446 | 172,639 | 179,120 | 208,511 | 247,295 |

Source: Population Projections; Revised 1974; Planning and Policy Analysis Division, Bureau of the Budget, Department of Management and Budget, State of Michigan.

Industrial Development Plan; 1975; Central Upper Peninsula Planning and Development Region.

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Table 5. POPULATION TRENDS BY COUNTY
% CHANGE, 1940 - 1990

| County | % Change 1940-1950 | % Change 1950-1960 | % Change 1960-1970 | % Change 1970-1980 | % Change 1980-1990 |
|---|---|---|---|---|---|
| Alger | - 1.6 | - 7.6 | - 7.4 | - 1.6 | +13.7 |
| Baraga | -14.0 | -11.0 | + 8.9 | - 0.4 | +12.7 |
| Delta | - 3.3 | + 4.2 | + 4.7 | +18.7 | +22.9 |
| Dickinson | -13.5 | - 3.7 | - 0.7 | + 7.8 | + 3.2 |
| Iron | -12.6 | - 2.9 | -19.6 | +10.3 | +14.0 |
| Marquette | + 1.1 | +17.8 | +15.2 | +18.8 | +19.4 |
| Menominee | + 1.7 | - 2.6 | - 0.4 | +23.6 | +28.5 |
| Seven Counties | - 4.1 | + 3.7 | + 3.8 | +16.4 | +18.6 |

Source: Population Projections; Revised 1974; Planning and Policy Analysis Division, Bureau of the Budget, Department of Management and Budget, State of Michigan

Industrial Development Plan, 1975; Central Upper Peninsula Planning and Development Region

EDAW, Inc.

Population projections for 1980 and 1990 show that the population of the region should continue to increase at an accelerating rate with only Alger and Baraga Counties losing population during the 1970-1980 period. The projections are based on the assumption that there will be no significant change in the rate of births and deaths established during the 1960-1970 decade and that net out migration (Table 6) will be reduced largely through planning and economic improvement policies to be developed and implemented by all levels of government.

Most of the increase in population in Marquette County is a result of the growth of K. I. Sawyer Air Force Base, Northern Michigan University and to a lesser extent, the Marquette State Prison. However, servicemen stationed at K. I. Sawyer Air Force Base and persons confined to the State Prison are not a readily available civilian labor force. If these groups are removed from the population statistics, the population has increased only 15.3 percent in the 1940-1970 time period (Table 7), instead of 37 percent in accordance with the figures found in Table 4.

Table 6. COMPONENTS OF CHANGE
1970 - 1973

| County | Births | Deaths | Net Migration | |
|---|---|---|---|---|
| | | | No. | % of Population |
| Alger | 400 | 300 | -400 | -4.1 |
| Baraga | 400 | 300 | -200 | -2.1 |
| Delta | 2,000 | 1,300 | 1,300 | 3.7 |
| Dickinson | 1,000 | 1,000 | 200 | 1.0 |
| Iron | 400 | 700 | 100 | 0.7 |
| Marquette | 4,000 | 1,800 | 1,700 | 2.7 |
| Menominee | 1,100 | 1,000 | 100 | 0.4 |

Estimates are to the nearest hundred. Births and Deaths are based on reported vital statistics from April 1, 1970 to December 31, 1972, with extrapolations to June 30, 1973. Net Migration is the difference between net change and natural increase.

Source: Economic Report of the Governor, 1975; Michigan Department of Management and Budget.

Table 7. PERMANENT POPULATION
MARQUETTE COUNTY

| County | 1960 | 1970 | % Change 1960-1970 | % Change 1940-1970 |
|---|---|---|---|---|
| Marquette | 49,729 | 55,691 | 11.9 | 15.3 |

Source: Industrial Development Plan, 1975; Central Upper Peninsula Planning and Development District

The terms population center and urban center are interchangeable. Within the Study Area, these centers provide the majority of jobs, offer the most complete shopping and related services, contain the largest investments in public facilities and offer the best quality medical care and educational opportunities. There are such population centers in each of the seven counties (Figure 1). They are:

- Alger County - Munising*
- Baraga County - L'Anse*, Baraga
- Delta County - Escanaba*, Gladstone, Wells
- Dickinson County - Iron Mountain*, Kingsford, Norway, East Kingsford
- Iron County - Crystal Falls*, Iron River, Stambaugh, Caspian
- Marquette County - Marquette*, Negaunee, Ishpeming, K. I. Sawyer Air Force Base, Gwinn
- Menominee County - Menominee*

While the above major towns and cities represent a concentration of the full range of economic activities in the Study Area, it is natural for farming, mining and forestry industries to locate processing plants in rural or remote locations to reduce distribution and storage costs. However, unless their location provides for long-term livability, the employees for these installations live elsewhere. When the area around the plant developes as a town or community, a population center begins to be established (Table 8).

The United States Census Bureau defines an urban population as one consisting of persons living in 1) places of 2,500 inhabitants or more incorporated as cities, boroughs or villages; 2) the densely populated, settled urban fringe including both incorporated and unincorporated places around cities of 50,000 or more; and 3) unincorporated places of 2,500 or more outside any urban fringe. Because many of the population centers in the Study Area are of less than 2,500 inhabitants, the Census Bureau definition of urban populations strongly suggests the presence of a rural settlement pattern. To adequately assess the rural-urban population distribution within the Study Area, Table 9 provides a comparison of all incorporated and unincorporated places having 1,000 or more inhabitants expressed as a percentage of total population by County.

Examination of Table 9 shows that there has been a trend toward increasing populations in rural areas. In 1970, approximately 40% of the inhabitants of the Study Area resided in towns, cities or villages of less than 1,000 persons.

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*County Seat

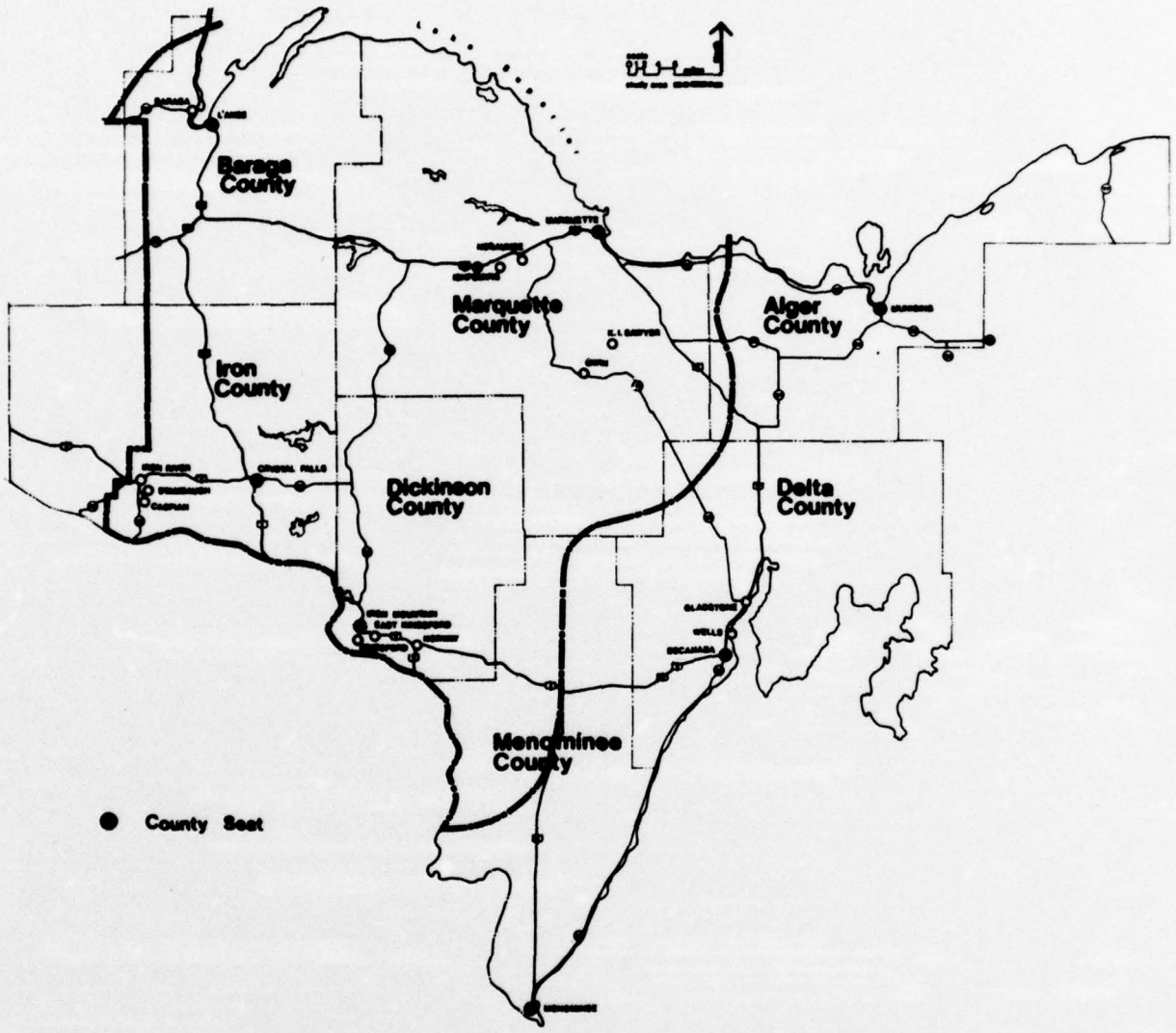



Figure 1. **POPULATION CENTERS**

Table 8. POPULATION CENTERS - 1970

| County | 10,000+ | (pop.) | 5,000-9,999 | (pop.) | 2,500-4,999 | (pop.) | 1,000-2,499 | (pop.) |
|---|---|---|---|---|---|---|---|---|
| Alger | - | | - | | Munising | (3,677) | - | |
| Baraga | - | | - | | L'Anse | (2,538) | Baraga | (1,116) |
| Delta | Escanaba | (15,368) | Gladstone | (5,237) | - | | Wells | (1,085) |
| Dickinson | - | | Kingsford<br>Iron Mountain | (5,276)<br>(8,702) | Norway | (3,033) | East Kingsford | (1,155) |
| Iron | - | | - | | Iron River | (2,684) | Crystal Falls<br>Stambaugh<br>Caspian | (2,000)<br>(1,458)<br>(1,165) |
| Marquette | Marquette | (21,967) | Ishpeming<br>Negaunee<br>K. I. Sawyer | (8,245)<br>(5,248)<br>(8,224) | - | | Gwinn | (1,054) |
| Menominee | Menominee | (10,748) | - | | - | | - | |

Source: Recreation Resource Reports, Planning Region 12, Planning Region 13, 1975 Office of Planning Services, Department of Natural Resources, State of Michigan

Michigan Statistical Abstract; 1974 Division of Research, Graduate School of Business Administration, Michigan State University

Marquette County Comprehensive Plan, 1974 Marquette County Planning Commission

Table 9. URBAN AND RURAL POPULATION AND PERCENTAGE CHANGE - 1960-1970

| County | 1960 Population | | | | 1970 Population | | | | Percentage Change 1960-1970 | | Population Density Persons Per Sq. Mile | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Urban | % | Rural | % | Urban | % | Rural | % | Urban | Rural | 1960 | 1970 |
| Alger | 4,228 | 45.7 | 5,022 | 54.3 | 3,677 | 42.9 | 4,891 | 57.1 | -13.0 | - 2.6 | 10.1 | 9.5 |
| Baraga | 2,107 | 29.5 | 5,044 | 70.5 | 3,654 | 46.9 | 4,135 | 53.1 | +73.4 | -18.0 | 7.9 | 8.6 |
| Delta | 20,658 | 60.2 | 13,640 | 39.8 | 20,605 | 57.4 | 15,319 | 42.6 | -00.3 | +12.3 | 29.1 | 30.5 |
| Dickinson | 18,617 | 77.8 | 5,300 | 22.2 | 18,166 | 76.5 | 5,587 | 23.5 | - 2.4 | + 5.4 | 31.6 | 31.4 |
| Iron | 9,326 | 54.3 | 7,858 | 45.7 | 7,307 | 52.9 | 6,506 | 47.1 | -21.6 | -17.2 | 14.4 | 11.8 |
| Marquette | 41,516 | 73.9 | 14,638 | 26.1 | 44,738 | 69.2 | 19,948 | 30.8 | + 7.8 | +36.3 | 30.5 | 35.4 |
| Menominee | 11,289 | 45.7 | 13,396 | 54.3 | 10,748 | 43.7 | 13,839 | 56.3 | - 4.8 | + 3.3 | 23.9 | 23.7 |
| | 107,741 | 62.4 | 64,898 | 37.6 | 108,895 | 60.8 | 70,225 | 39.2 | + 1.1 | + 8.2 | | |

Source: EDAW, Inc.

Michigan Statistical Abstract, 1974, Division of Research, Graduate School of Business Administration, Michigan State University

Growth during the period 1960 to 1970, though slight, has occurred showing a net increase of 6,481 persons, with the area urban population remaining relatively constant. The noted exception is Baraga County which experienced a major shift from rural to urban areas. Changes in overall population density per county are directly attributable to increases or decreases in population (Table 5).

Of the 39 percent population residing in settlements of less than 1,000 persons, in 1970 most were scattered throughout the Study Area in both named and unnamed places varying from several persons to 500 and more. As shown in Table 8, those counties nearly 100 percent rural by United State Census Bureau definition are Baraga and Iron.

Social Characteristics

Referring to Table 10, it can be seen that the population of the seven counties is overwhelmingly White. Only in Baraga County which contains the L'Anse Indian Reservation is the Indian population a significant percentage of the total. Marquette County, where the City of Marquette offers a diversity of employment opportunities, is the only County supporting a significant Black population as well as larger numbers of other minority groups.

Table 11 indicates the population of each county by age for the year 1975. The only age group that is projected to decrease in number is the 60 to 74 age group. All other age groups will experience an increase between the years 1975 and 1990 in accordance with the overall population increase of the Study Area. The fact that the Study Area has demonstrated an ability to hold its younger population is illustrated in the median age statistics. With the exception of Iron County which has experienced a heavy decline in population in recent years, most of the Study Area's counties have a 1975 median age consistent with the rest of Michigan's counties. Marquette's population is younger than the average, an indication of its more attractive employment opportunities. In Iron and Dickinson Counties, the impact of the growing community of retired persons can be seen in their significantly higher than average median age statistics.

The population figures in Table 11 do not represent general age distributions of the larger Upper Peninsula region however. Data from the Planning Districts indicates that those leaving the 15 county Upper Peninsula region are

Table 10. POPULATION OF COUNTIES
BY RACE AND SEX - 1970

| County and Sex | White | % | Negro | Indian | Japanese | Chinese | Filipino | All Other |
|---|---|---|---|---|---|---|---|---|
| Alger | 8,443 | 98.5 | 38 | 84 | - | - | 2 | 1 |
| Male | 4,228 | | 37 | 43 | - | - | - | 1 |
| Female | 4,215 | | 1 | 41 | - | - | 2 | - |
| Baraga | 7,337 | 94.2 | 33 | 411 | - | - | 2 | 6 |
| Male | 3,832 | | 33 | 195 | - | - | 2 | 5 |
| Female | 3,505 | | - | 216 | - | - | - | 1 |
| Delta | 35,724 | 99.4 | 23 | 151 | 9 | 4 | 11 | 2 |
| Male | 17,641 | | 13 | 71 | 1 | 2 | 2 | 1 |
| Female | 18,083 | | 10 | 80 | 8 | 2 | 9 | 1 |
| Dickinson | 23,728 | 99.9 | 2 | 12 | 3 | - | 1 | 7 |
| Male | 11,667 | | - | 4 | 2 | - | 0 | 1 |
| Female | 12,061 | | 2 | 8 | 1 | - | 1 | 6 |
| Iron | 13,757 | 99.6 | 4 | 42 | 5 | - | - | 5 |
| Male | 6,775 | | 2 | 24 | 1 | - | - | 3 |
| Female | 6,982 | | 2 | 18 | 4 | - | - | 2 |
| Marquette | 63,109 | 97.6 | 1,213 | 128 | 53 | 37 | 33 | 113 |
| Male | 32,514 | | 866 | 61 | 8 | 17 | 10 | 59 |
| Female | 30,595 | | 347 | 67 | 45 | 20 | 23 | 54 |
| Menominee | 24,400 | 99.2 | 4 | 159 | 5 | 1 | 11 | 7 |
| Male | 12,030 | | 2 | 84 | 0 | 0 | 2 | 4 |
| Female | 12,370 | | 2 | 75 | 5 | 1 | 9 | 3 |

Source: Michigan Statistical Abstract; 1974 Division of Research, Graduate School of Business Administration, Michigan State University

Table 11. POPULATION OF COUNTIES BY AGE
1975 - 1990

| County | 0 - 14 | | 15 - 29 | | 30 - 44 | | 45 - 59 | | 60 - 74 | | 75 + | | Median Age | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1975 | 1990 | 1975 | 1990 | 1975 | 1990 | 1975 | 1990 | 1975 | 1990 | 1975 | 1990 | 1975 | 1990 |
| Alger | 2,258 | 3,090 | 1,903 | 2,155 | 1,195 | 1,772 | 1,434 | 1,114 | 1,088 | 1,009 | 310 | 445 | 28.53 | 27.16 |
| Baraga | 2,196 | 2,787 | 1,517 | 2,113 | 1,006 | 1,422 | 1,230 | 944 | 1,170 | 900 | 425 | 580 | 31.36 | 26.65 |
| Delta | 10,695 | 12,624 | 9,778 | 11,331 | 7,292 | 13,939 | 5,986 | 10,470 | 4,280 | 4,233 | 1,705 | 1,736 | 28.48 | 33.57 |
| Dickinson | 5,360 | 4,648 | 4,948 | 3,653 | 3,968 | 4,709 | 4,578 | 5,255 | 3,987 | 4,939 | 1,951 | 3,230 | 37.96 | 45.70 |
| Iron | 2,815 | 4,045 | 3,144 | 3,695 | 1,665 | 3,470 | 2,846 | 1,935 | 2,688 | 2,480 | 1,195 | 1,738 | 41.64 | 33.31 |
| Marquette | 15,886 | 18,867 | 26,020 | 25,902 | 12,870 | 27,539 | 8,567 | 13,225 | 5,576 | 4,480 | 1,996 | 1,777 | 24.42 | 30.51 |
| Menominee | 6,645 | 8,981 | 6,177 | 7,793 | 5,356 | 10,442 | 4,231 | 8,795 | 3,157 | 2,317 | 1,197 | 714 | 32.12 | 34.27 |
| | 45,855 | 55,042 | 53,487 | 56,642 | 33,352 | 63,293 | 28,872 | 41,738 | 21,946 | 20,358 | 8,779 | 10,220 | 32.07 | 33.02 |

Source: Population Projections for the Counties of Michigan
1975 Department of Management and Budget, State of Michigan

EDAW, Inc.

young, and that the majority of persons to leave do so upon the completion of high school, college, or military service. There has been shown to be a decline in the number of persons under 11 years of age which could negatively impact the labor force in the next 10 to 20 years.

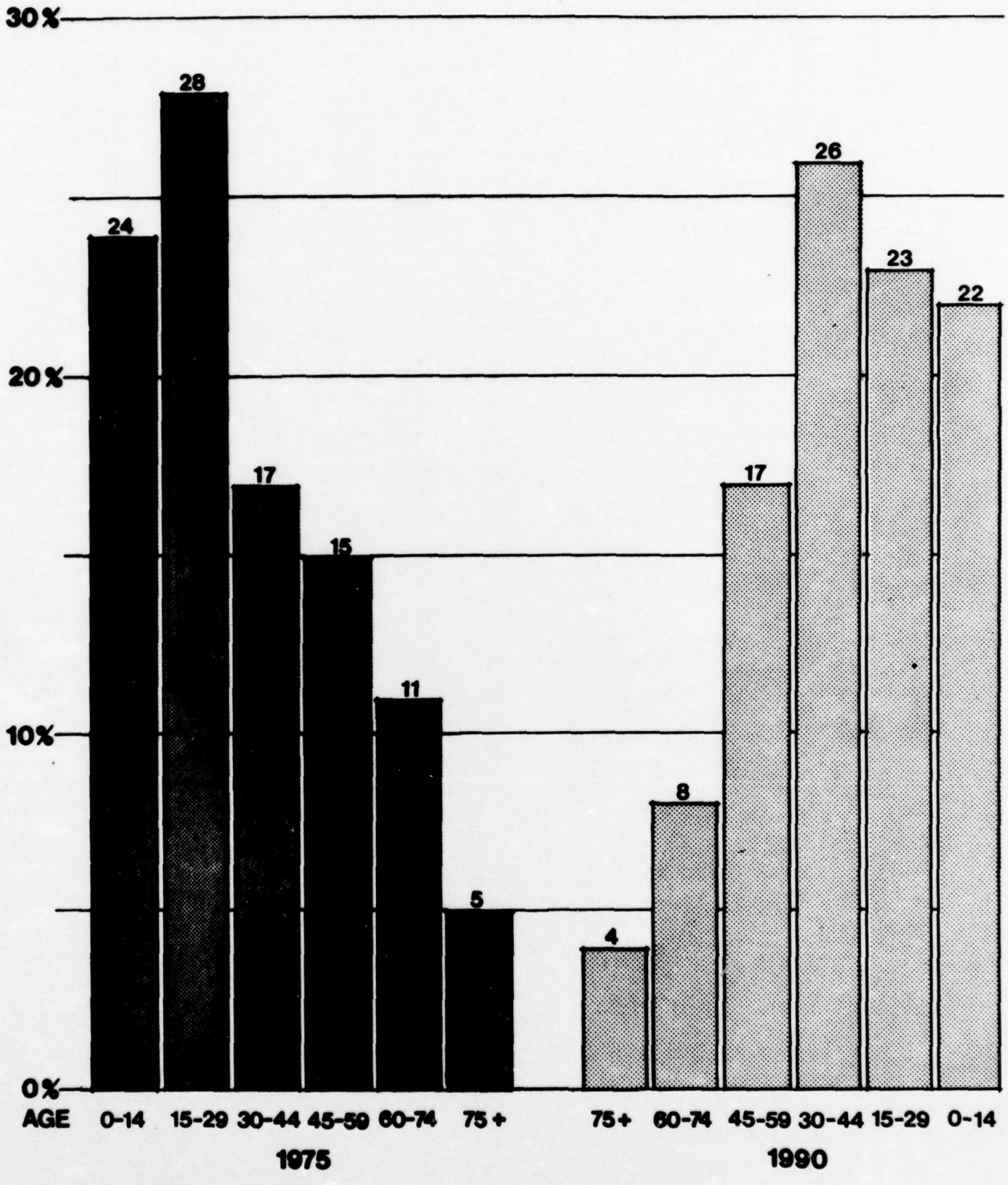
Figure 2 presents a relatively normal age distribution profile for the Study Area with somewhat heavier emphasis in the 15 to 29 age group for the year 1975, shifting upward to the 30 to 44 age group by 1990. Notable is the fact that in terms of a percentage of total population, there are fewer persons under 15 years of age projected for the year 1990 than exists in 1975. This conforms to United States Census Bureau projections for fewer children per family. However, as shown in Table 11, the absolute number of people in the over 30 age group will increase dramatically putting greater pressure on the need for single family homes as detailed in the paragraphs following.

## HOUSING AND HOUSEHOLD CHARACTERISTICS

Table 12 summarizes the major housing characteristics of the Study Area. Ninety-two percent of the total housing stock, including mobile homes in the year 1970, was classified as year round housing by the United States Census Bureau. Although the vacancy rate was 12 percent, the vacancy-available rate for the region was about 2.5 percent, which compared to the national average of 3 percent.

Between 1960 and 1970 the number of occupied units (households) increased from 50,164 to 54,398. This amounts to an increase of 8.4 percent. During the same time period, the population increased by 3.8 percent. (Table 5). The difference in these amounts of change is reflected in a decline in household size tending to reinforce the demand for housing. A declining birth rate has contributed to the decline in household size. On an average, slight but steady increases in population and households throughout the seven county region may be anticipated to the year 1990.

During the 1960-1970 decade 10,236 new year-round units were constructed satisfying the demand exerted by the 4,234 new households formed during the decade. The balance provided replacement units for those lost by conversion to other uses, fire, demolition and other types of loss. In that there is a lack of data concerning these losses, it is not possible to quantify the housing demand which existed between 1960 and 1970. Some new construction was stimulated




Source : POPULATION PROJECTIONS FOR THE COUNTIES OF MICHIGAN ; 1975
State of Michigan Department of Management and Budget.

Figure 2. **REGIONAL AGE DISTRIBUTION**

Table 12. HOUSING CHARACTERISTICS
1970 (1974)

| | Alger | | (1) | Baraga | | | Delta | | | Dickinson | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | | % | No. | | % | No. | | % | No. | | % |
| Year Round Housing Units | 3,439 | (2) (3,485) | 87 | 2,900 | (3,074) | 91 | 12,318 | (12,776) | 93 | 8,639 | (9,102) | 91 |
| Occupied | 2,595 | | 66 | 2,372 | | 75 | 10,816 | | 81 | 7,855 | | 83 |
| Vacant | 844 | | 21 | 528 | | 16 | 1,502 | | 12 | 784 | | 8 |
| Seasonal | 502 | | 13 | 274 | | 9 | 962 | | 7 | 813 | | 9 |
| Total Stock | 3,941 | | | 3,174 | | | 13,280 | | | 9,452 | | |

| | Iron | | | Marquette | | | Menominee | | | Study Area | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | | % | No. | | % | No. | | % | No. | | % |
| Year Round Housing Units | 6,093 | (6,117) | 88 | 19,968 | (21,602) | 91 | 8,909 | ( 9,079) | 96 | 62,266 | (65,235) | 92 |
| Occupied | 4,930 | | 71 | 18,184 | | 83 | 7,646 | | 82 | 54,398 | | 80 |
| Vacant | 1,163 | | 17 | 1,784 | | 8 | 1,263 | | 14 | 7,868 | | 12 |
| Seasonal | 827 | | 12 | 2,006 | | 9 | 390 | | 4 | 5,774 | | 8 |
| Total Stock | 6,920 | | | 21,974 | | | 9,299 | | | 68,040 | | |

(1) Expressed as a percentage of Total Stock
(2) Increase represents difference between demolitions, etc. and new construction, 1970 to 1974

Source: Michigan State Housing Authority, Market Analysis; 1974, State of Michigan, Department of Social Services

Michigan Statistical Abstract; 1974, Division of Research, Graduate School of Business Administration, Michigan State University

Recreation Resource Reports, Planning Region 13 and 12; 1975, Office of Planning Services, Michigan Department of Natural Resources

Table 13. HOUSING NEEDS
1974

| County | Year-Round Housing Stock | Physically Inadequate Units | (1) Physically Adequate Units | Households | Total Needs Based Upon Structural Characteristics No. | % | Overcrowded Units No. | (2) % |
|---|---|---|---|---|---|---|---|---|
| Alger | 3,485 | 2,090 | 1,353 | 2,600 | 1,247 | 48 | 213 | 8.2 |
| Baraga | 3,074 | 1,642 | 1,389 | 2,451 | 1,062 | 43 | 211 | 8.6 |
| Delta | 12,776 | 3,827 | 8,681 | 12,204 | 3,523 | 29 | 1,050 | 8.6 |
| Dickinson | 9,102 | 1,604 | 7,273 | 8,734 | 1,461 | 17 | 480 | 5.5 |
| Iron | 6,117 | 1,906 | 4,085 | 5,449 | 1,364 | 25 | 256 | 4.7 |
| Marquette | 21,602 | 5,407 | 15,709 | 20,510 | 4,801 | 23 | 1,682 | 8.2 |
| Menominee | 9,079 | 2,607 | 6,278 | 8,423 | 2,145 | 25 | 673 | 8.0 |
| Total Seven County Area | 65,235 | 19,083 | 44,768 | 60,371 | 15,603 | 26 | 4,565 | 7.6 |

(1) Includes 3% vacancy factor

(2) % of households

Source: Michigan State Housing Authority, Market Analysis; 1974, State of Michigan, Department of Social Services

by government subsidies and a substantial number of units were constructed at K. I. Sawyer Air Force Base. There remains, however, a need to replace poor quality housing that is structurally unsound and to rehabilitate deteriorated housing.

Examination of Table 13 shows that in 1974, 26% of the housing units on a seven county basis were not physically adequate to fulfill the needs of the resident household population. Relative needs for physically adequate housing units were highest in Alger County. Physical inadequacy is defined by the Michigan State Housing Authority in terms of dilapidated units and/or nondilapidated units which lack some or all plumbing facilities, and/or units which have marginal or no heating systems. The total need for housing units is derived from a comparison of physically adequate units and the total number of households in each county.

Some households live in physically adequate units but suffer from overcrowding or a high rent burden. Overcrowded units are those containing more than one person per room; (room counts do not include bathrooms, foyers, attics or basements). Therefore, occupancy of a six room (three bedroom) unit should have no more than six occupants.

Household sizes varied from an average of 2.75 persons per dwelling unit (PPDU) in Iron County to 3.40 in Menominee County. The average for the Study Area was 3.17. About 10 percent of all husband-wife families were elderly, (over 65). Median family income was about $8,123 in 1970 with about 11 percent of all families having incomes below the Federally defined poverty level. About 24 percent of all elderly families had income below the poverty level. In this regard, residents of poor quality housing cannot compete in the housing market for better housing without government sudsidies.

There is a significant number of groups and individuals directly involved in the development of housing in the Upper Peninsula which include the following:

Federal level

Department of Housing and Urban Development (HUD)
Federal Housing Administration (FHA)
Farmers Home Administration (FmHa)

State level

Michigan State Housing Development Authority (MSHDA)

Local level

Local Governmental Units
Housing Commissions
Non-Profit Housing Organizations

Private Sector

Lending Institutions
Labor Organizations
Land Developers and Home Builders

Table 14. HOUSEHOLD CHARACTERISTICS
1970

| County | Average Size | Median Family Income | % Income Below Poverty Level |
|---|---|---|---|
| Alger | 3.23 | 8,014 | 11.1 |
| Baraga | 3.19 | 8,045 | 12.4 |
| Delta | 3.28 | 8,779 | 10.6 |
| Dickinson | 2.97 | 8,316 | 10.2 |
| Iron | 2.75 | 7,443 | 10.6 |
| Marquette | 3.39 | 8,562 | 8.7 |
| Menominee | 3.40 | 7,703 | 12.9 |
| | 3.17 | 8,123 | 10.9 |

Source: Initial Housing Plan; 1974, Central Upper Peninsula Planning and Development Region

Michigan Statistical Abstract; 1974, Division of Research, Graduate School of Business Administration, Michigan State University

Because there are so many organizations involved in the housing industry, there is a tendency to work on a somewhat independent basis leading to duplication of effort and confusion on the part of both consumers and local officials while critical funding decisions are made in Washington or Lansing. At the same time, there has been little local improvement in housing conditions.

There are other factors in the Upper Peninsula relating to supply and demand that tend to work against the production of a suitable supply of adequate housing. Among the most prevalent are:

- There is a large number of units which are "vacant" (Table 12) but not available on the market. Some are inhabitable, but others are used seasonally although they are capable of being lived in year round.

- About 40 percent of all year-round units are in poor condition. Sixty percent are more than 30 years old and 45 percent are more than 50 years old.

- Housing costs are increasing faster than incomes creating a widening gap in the ability of many families to purchase housing.

- The housing industry is characterized by small, low volume producers that lack capital and management skills.

- There has been limited use of FHA and FmHa subsidy programs due to lack of program awareness by potential users and lack of local private capital.

- High down payment requirements for conventional mortgages reduce the ability of young families to purchase housing.

- Existing property tax laws tend to inhibit the improvement, and in some cases, the basic maintenance of dwellings, contributing to the decline in housing quality.

It has been estimated by regional planning agencies that about one-third of the housing constructed in the central Upper Peninsula is attributable to public efforts either directly or by way of subsidy programs. Based on this and the absence of any substantial increase in employment and earnings (Table 19) private housing production is not likely to meet the production level necessary to house new households or reduce the number of substandard housing units by 1980 without government subsidies.

## ECONOMIC CHARACTERISTICS

### Employment

Wage and salary employment by industrial sector for the years 1970 and 1975 and the percentage of employment in each industrial sector for the year 1975 is shown in Table 15. Historically, manufacturing has been a primary source of employment in the region. Since 1940, manufacturing has

Table 15.[1] WAGE AND SALARY EMPLOYMENT BY INDUSTRIAL SECTOR
ANNUAL AVERAGES

| INDUSTRIAL Classification Code | | Baraga 1970 | Baraga 1975 | | Delta 1970 | Delta 1975 | |
|---|---|---|---|---|---|---|---|
| | **Manufacturing Industries** | | | | | | |
| | Durable Goods | | | | | | |
| 24 | Lumber & Wood Products | 225 | 200 | | 350 | 225 | |
| 25 | Furniture & Fixtures | - | - | | - | - | |
| 33-34 | Metal Products | - | - | | - | a/ | |
| 35 | Nonelectrical Machinery | 225 | 250 | | a/ | a/ | |
| 36 | Electrical Machinery | - | - | | a/ | - | |
| 371-375, 379 | Transportation Equipment | - | - | | a/ | a/ | |
| 19,32, 38-39 | Other Durable Goods | - | - | | 1,550 | 1,650 | |
| | TOTAL | 450 | 425[2] | 19% | 1,900 | 1,875 | 19% |
| | Nondurable Goods | | | | | | |
| 20 | Food & Kindred Products | - | - | | 125 | 100 | |
| 22-23 | Textile Mill Products & Apparel | - | - | | - | - | |
| 26 | Paper & Allied Products | b/ | b/ | | b/ | b/ | |
| 27 | Printing, Publishing & Allied | b/ | b/ | | 100 | 75 | |
| 28-29 | Chemicals, Petroleum & Retail | - | - | | - | - | |
| 21, 30-31 | Other Nondurable Goods | 250 | 325 | | 925 | 600* | |
| | TOTAL | 250 | 325 | 15% | 1,125 | 775 | 8% |
| | Nonmanufacturing Industries | | | | | | |
| 15-17 | Construction | 25 | 50 | | 525* | 200 | |
| 40-49 | Transportation, Communications, Utilities | 50 | c/ | | 825 | 725* | |
| 50 | Wholesale Trade | 25 | 75 | | 250 | 225 | |
| 52-59 | Retail Trade | 275 | 350 | | 1,550 | 2,325 | |
| 60-67 | Finance, Real Estate, Insurance | 25 | 50 | | 275 | 350 | |
| 70-89 | Service | 25 | 275 | | 1,100 | 1,525 | |
| 10-14 | Mining | 175 | - | | c/ | c/ | |
| | TOTAL | 600 | 800 | 36% | 4,500 | 5,325 | 54% |
| | Government | | | | | | |
| 91 | Federal | 75 | 75 | | 200 | 250 | |
| 92 | State | 100 | 100 | | 250 | 300 | |
| 93 | Local | 525 | 450 | | 1,200 | 1,300 | |
| | TOTAL | 675 | 650 | 30% | 1,625 | 1,850 | |
| | COUNTY WAGE AND SALARY EMPLOYMENT | 1,975 | 2,200 | | 9,150 | 9,825 | 19% |

a/ Employment included in other durable goods
b/ Employment included in other nondurable goods
c/ Employment included in services
* Indicated a labor-management dispute involving more than 25 workers existed in the industry

(1) Excludes all self-employed and military personnel. Totals may not be exact due to rounding of numbers to nearest 25.

(2) Percent of county wage and salary employment.

Source: Civilian Labor Force and Employment Estimates, 1970-1975
Michigan Department of Labor, Employment Security Commission

Table 15.[1] WAGE AND SALARY EMPLOYMENT BY INDUSTRIAL SECTOR
ANNUAL AVERAGES (continued)

| INDUSTRIAL Classification Code | | Dickinson 1970 | Dickinson 1975 | | Iron 1970 | Iron 1975 | |
|---|---|---|---|---|---|---|---|
| | **Manufacturing Industries** | | | | | | |
| | Durable Goods | | | | | | |
| 24 | Lumber & Wood Products | 150 | 150 | | 175 | 250 | |
| 25 | Furniture & Fixtures | a/ | a/ | | - | - | |
| 33-34 | Metal Products | a/ | 450 | | a/ | a/ | |
| 35 | Nonelectrical Machinery | - | 500* | | a/ | a/ | |
| 36 | Electrical Machinery | - | a/ | | - | a/ | |
| 371-375, 379 | Transportation Equipment | - | - | | - | - | |
| 19,32, 38-39 | Other Durable Goods | 925 | 250 | | 50 | 425 | |
| | TOTAL | 1,050 | 1,350 | 17% | 225 | 675 | 21% |
| | Nondurable Goods | | | | | | |
| 20 | Food & Kindred Products | 50 | 50 | | b/ | 25 | |
| 22-23 | Textile Mill Products & Apparel | - | - | | - | - | |
| 26 | Paper & Allied Products | b/ | b/ | | b/ | - | |
| 27 | Printing, Publishing & Allied | 175 | 225 | | - | 25 | |
| 28-29 | Chemicals, Petroleum & Retail | b/ | b/ | | - | - | |
| 21, 30-31 | Other Nondurable Goods | 75 | 75 | | 50 | - | |
| | TOTAL | 300 | 350 | 5% | 50 | 25 | 1% |
| | **Nonmanufacturing Industries** | | | | | | |
| 15-17 | Construction | 525 | 575 | | 75* | 225 | |
| 40-49 | Transportation, Communications, Utilities | 550* | 450 | | 100* | 100* | |
| 50 | Wholesale Trade | 425 | 425 | | 100 | 100 | |
| 52-59 | Retail Trade | 1,150 | 1,250 | | 575 | 575 | |
| 60-67 | Finance, Real Estate, Insurance | c/ | 175 | | c/ | 100 | |
| 70-89 | Service | 1,450 | 1,450 | | 575 | 325 | |
| 10-14 | Mining | c/ | c/ | | c/ | 100 | |
| | TOTAL | 4,100 | 4,300 | 55% | 1,400 | 1,525 | 47% |
| | **Government** | | | | | | |
| 91 | Federal | 500 | 600 | | 75 | 75 | |
| 92 | State | 75 | 100 | | 100 | 125 | |
| 93 | Local | 1,025 | 1,100 | | 775 | 850 | |
| | TOTAL | 1,600 | 1,800 | 23% | 925 | 1,025 | 31% |
| | COUNTY WAGE AND SALARY EMPLOYMENT | 7,050 | 7,825 | | 2,600 | 3,275 | |

a/ Employment included in other durable goods
b/ Employment included in other nondurable goods
c/ Employment included in services
* Indicated a labor-management dispute involving more than 25 workers existed in the industry
(1) Excludes all self-employed and military personnel. Totals may not be exact due to rounding of numbers to nearest 25.
(2) Percent of county wage and salary employment.

Source: Civilian Labor Force and Employment Estimates, 1970-1975
Michigan Department of Labor, Employment Security Commission

Table 15.(1) WAGE AND SALARY EMPLOYMENT BY INDUSTRIAL SECTOR
ANNUAL AVERAGES (continued)

| INDUSTRIAL Classification Code | | Marquette-Alger** 1970 | 1975 | | Menomonee 1970 | 1975 | |
|---|---|---|---|---|---|---|---|
| | **Manufacturing Industries** | | | | | | |
| | Durable Goods | | | | | | |
| 24 | Lumber & Wood Products | 500 | 550 | | 350 | 350 | |
| 25 | Furniture & Fixtures | - | - | | 700 | a/ | |
| 33-34 | Metal Products | - | a/ | | 300 | 350 | |
| 35 | Nonelectrical Machinery | a/ | a/ | | 200 | a/ | |
| 36 | Electrical Machinery | - | - | | a/ | a/ | |
| 371-375, 379 | Transportation Equipment | - | - | | a/ | a/ | |
| 19,32, 38-39 | Other Durable Goods | 200 | 250 | | 600 | 1,650 | |
| | TOTAL | 700 | 800 | 3% | 2,100 | 2,325 | 35% |
| | Nondurable Goods | | | | | | |
| 20 | Food & Kindred Products | 300 | 350 | | 100 | b/ | |
| 22-23 | Textile Mill Products & Apparel | b/ | b/ | | - | - | |
| 26 | Paper & Allied Products | b/* | b/ | | b/ | b/ | |
| 27 | Printing, Publishing & Allied | 100 | b/ | | b/ | b/ | |
| 28-29 | Chemicals, Petroleum & Retail | b/ | b/ | | - | - | |
| 21, 30-31 | Other Nondurable Goods | 800 | 700 | | 400 | 475 | |
| | TOTAL | 1,200 | 1,025 | 4% | 500 | 475 | 7% |
| | **Nonmanufacturing Industries** | | | | | | |
| 15-17 | Construction | 400 | 1,875 | | 250 | 175 | |
| 40-49 | Transportation, Communications, Utilities | 900 | 1,025 | | 250 | 275 | |
| 50 | Wholesale Trade | 400 | 550 | | 200 | 250 | |
| 52-59 | Retail Trade | 3,300 | 4,350 | | 800 | 1,000 | |
| 60-67 | Finance, Real Estate, Insurance | 600 | 675 | | 125 | 125 | |
| 70-89 | Service | 2,200 | 7,200 | | 650 | 675 | |
| 10-14 | Mining | 3,500 | c/ | | - | - | |
| | TOTAL | 11,300 | 15,675 | 64% | 2,275 | 2,500 | 38% |
| | **Government** | | | | | | |
| 91 | Federal | 1,100 | 1,025 | | 75 | 50 | |
| 92 | State | 2,400 | 2,000 | | 50 | 50 | |
| 93 | Local | 3,400 | 2,125 | | 900 | 1,175 | |
| | TOTAL | 6,900 | 7,175 | 29% | 1,000 | 1,300 | 20% |
| | COUNTY WAGE AND SALARY EMPLOYMENT | 20,100 | 24,675 | | 5,900 | 6,575 | |

a/ Employment included in other durable goods
b/ Employment included in other nondurable goods
c/ Employment included in services
* Indicated a labor-management dispute involving more than 25 workers existed in the industry
** Multi-county labor market areas consist of counties among which commuting is extensive.
(1) Excludes all self-employed and military personnel. Totals may not be exact due to rounding of numbers to nearest 25.
(2) Percent of county wage and salary employment.

Source: Civilian Labor Force and Employment Estimates, 1970-1975
Michigan Department of Labor, Employment Security Commission

Table 15.[1] WAGE AND SALARY EMPLOYMENT BY INDUSTRIAL SECTOR
ANNUAL AVERAGES (continued)

| INDUSTRIAL Classification Code | | Study Area Total 1970 | 1975 | % Change | % of Employed 1970 | 1975 |
|---|---|---|---|---|---|---|
| | **Manufacturing Industries** | | | | | |
| | Durable Goods | | | | | |
| 24 | Lumber & Wood Products | | | | | |
| 25 | Furniture & Fixtures | | | | | |
| 33-34 | Metal Products | | | | | |
| 35 | Nonelectrical Machinery | | | | | |
| 36 | Electrical Machinery | | | | | |
| 371-375, 379 | Transportation Equipment | | | | | |
| 19,32, 38-39 | Other Durable Goods | | | | | |
| | TOTAL | 6,425 | 7,450 | +16% | 14% | 14% |
| | Nondurable Goods | | | | | |
| 20 | Food & Kindred Products | | | | | |
| 22-23 | Textile Mill Products & Apparel | | | | | |
| 26 | Paper & Allied Products | | | | | |
| 27 | Printing, Publishing & Allied | | | | | |
| 28-29 | Chemicals, Petroleum & Retail | | | | | |
| 21, 30-31 | Other Nondurable Goods | | | | | |
| | TOTAL | 3,425 | 2,975 | -13% | 7% | 6% |
| | **Nonmanufacturing Industries** | | | | | |
| 15-17 | Construction | | | | | |
| 40-49 | Transportation, Communications, Utilities | | | | | |
| 50 | *Wholesale Trade* | | | | | |
| 52-59 | Retail Trade | | | | | |
| 60-67 | Finance, Real Estate, Insurance | | | | | |
| 70-89 | Service | | | | | |
| 10-14 | Mining | | | | | |
| | TOTAL | 24,175 | 30,125 | +25% | 52% | 55% |
| | **Government** | | | | | |
| 91 | Federal | | | | | |
| 92 | State | | | | | |
| 93 | Local | | | | | |
| | TOTAL | 12,725 | 13,800 | + 8% | 27% | 25% |
| | COUNTY WAGE AND SALARY EMPLOYMENT | 46,750 | 54,350 | | | |

Source: Civilian Labor Force and Employment Estimates; 1970-1975; Michigan Department of Labor, Employment Security Commission

gradually been replaced by nonmanufacturing industries including the wholesale trade, retail trade and government. This change is in contrast to the State as a whole where manufacturing has always been and remains the primary source of employment. Nonmanufacturing industries showed the most substantial increases in employment in the Study Area between 1970 and 1975 and currently employ the largest number of wage and salary workers. Government employment increased less than employment in the durable goods manufacturing industries, yet it maintains a second place position in the total number of workers employed.

In 1975 the nonmanufacturing industries on a seven county basis accounted for 55 percent of all wage and salary employment. Iron mining in Marquette County is now increasing as an employment source and the volume of production has also been increasing slightly. Governmental agencies in 1975 accounted for 25 percent of total wage and salary employment with the remaining 20 percent working in the manufacturing industries. Contract construction and the broad categories of transportation, communication and public utilities in 1975 accounted for 6 percent and 5 percent respectively. Wholesale and retail trade employed 21 percent with finance, insurance and real estate at the 3 percent level. Services including, for the most part, mining activities employed 21 percent of all wage and salary workers.

As shown on Table 16, the civilian labor force in the Study Area has increased by 23 percent for the five year period ending December 31, 1975. In 1975, the average annual unemployment rate rose to over 11 percent, expressed as a percentage of the civilian labor force, far above the 6.6 percent of the labor force recorded in mid 1974 for the 15 county Upper Peninsula region. While total employment within the Study Area has been increasing, unemployment has been increasing faster. Employment has not been rising as fast as the increase in the labor force.

The data in Table 17 present the unemployment problem by county. The statistics show that the number of unemployed persons declined until the mid 1960s. Since that time unemployment has tended to increase each year. The largest average percentages of unemployed persons per county for the years 1970 through 1975 are located in Baraga and Iron Counties. Highest percentages of the total labor force unemployed do not occur in those counties with a high number of persons unemployed, indicating that a broader economic opportunity base exists in more densely populated areas.

Table 16. GENERAL EMPLOYMENT CHARACTERISTICS BY COUNTY
ANNUAL AVERAGES

| County | Civilian Labor Force 1970 | 1975 | % Change | Employment 1970 | 1975 | % Change | Unemployment 1970 | 1975 | % Change |
|---|---|---|---|---|---|---|---|---|---|
| Baraga | 2,675 | 3,225 | +21% | 2,450 | 2,775 | +13% | 225 | 450 | +100% |
| Delta | 13,450 | 16,100 | +20% | 12,400 | 14,175 | +14% | 1,058 | 1,925 | + 83% |
| Dickinson | 8,875 | 10,525 | +19% | 8,350 | 9,500 | +14% | 525 | 1,025 | + 95% |
| Iron | 4,975 | 6,400 | +29% | 4,350 | 5,600 | +29% | 625 | 800 | + 28% |
| Marquette-Alger | 24,675 | 32,800 | +33 | 23,050 | 29,425 | +28% | 1,625 | 3,375 | +108% |
| Menominee | 9,175 | 10,700 | +17% | 8,725 | 9,775 | +12% | 450 | 925 | +106% |
| 5 year average | | | +23% | | | +18% | | | +87% |

Source: Civilian Labor Force and Employment Estimate; 1970, 1975 Michigan Employment Security Commission

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## Table 17. AVERAGE ANNUAL UNEMPLOYMENT TRENDS 1970 - 1975

| Year | Baraga County | | Delta County | | Dickinson County | |
|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % |
| 1970 | 225 | 8.4 | 1,050 | 7.8 | 525 | 5.9 |
| 1971 | 225 | 8.4 | 1,275 | 8.5 | 500 | 5.4 |
| 1972 | 250 | 9.0 | 1,300 | 9.1 | 525 | 5.5 |
| 1973 | 175 | 6.4 | 975 | 7.0 | 500 | 5.1 |
| 1974 | 250 | 8.7 | 1,200 | 8.2 | 625 | 6.0 |
| 1975 | 450 | 14.0 | 1,925 | 12.0 | 1,025 | 9.7 |
| Average | 263 | 9.15% | 1,288 | 8.8% | 617 | 6.3% |

| Year | Iron County | | Marquette-Alger Counties | | Menominee County | | Michigan |
|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | % |
| 1970 | 625 | 12.6 | 1,625 | 6.6 | 450 | 4.9 | 6.7 |
| 1971 | 500 | 10.2 | 1,875 | 7.5 | 525 | 5.8 | 7.6 |
| 1972 | 475 | 9.7 | 1,875 | 7.4 | 475 | 5.0 | 7.0 |
| 1973 | 450 | 8.9 | 1,600 | 5.9 | 425 | 4.4 | 5.8 |
| 1974 | 525 | 9.4 | 2,200 | 7.3 | 475 | 4.7 | 8.9 |
| 1975 | 800 | 12.5 | 3,375 | 10.3 | 925 | 8.6 | *12.0 |
| Average | 563 | 10.6% | 2,092 | 7.5% | 546 | 5.6% | 8.0% |

* Estimate prior to March of 1975
% = Percent of Civilian Labor Force

Source: Civilian Labor Force and Employment Estimates; 1970-1975; Michigan Department of Labor, Employment Security Commission

Economic Report of The Governor; 1975 Michigan Department of Management and Budget

EDAW, Inc.

The yearly information on unemployment does not reveal the problem of variation in employment during the year. A typical situation is shown in Table 18, suggesting that the greatest change in percent unemployed occurs in the counties which are dependent on few industries for employment. These Counties are Iron and Delta whose primary source of variation is due to the hiring of persons during the summer months to meet the needs of the tourist business and greater construction demands.

The Michigan Employment Security Commission, (1972-1973), has derived tabulations relative to the preferred occupation of the unemployed through personal interviews. The information provides an indication of persons with possible skills in particular occupations, but does not guarantee that the skills actually exist. Excluding Iron and Baraga Counties, it was found that the largest number of unemployed males do structural work followed by miscellaneous and bench work. In Marquette County, the number of unemployed males in clerical and sales occupations was slightly higher than unemployed males in bench work. Female unemployment in the counties is concentrated in clerical, sales and service occupations.

Income

With per capita personal income levels low, (Table 19) and unemployment high, the region's economy is at a lower level than the State's as a whole. Public assistance recipients account for a large share of government costs at the county level. In 1960 the median income of $4,837 was 71% of the State's median income of $6,256. By 1970, both median incomes had increased approximately 76% and the Study Area's level remained 70% of the State median income of $11,032. A clear indication of the lower income level of the area's population is the number of families below poverty level. There were 10.9% below in 1970 as compared to the State's 7.3%, (Table 14).

While working income provides a yardstick of economic activity, personal income is a more complete measure of an individual's economic vitality. In addition to the working income from sources both within and without a county, residents may benefit from property income (rent, dividends and interest) and transfer (welfare, retirement and unemployment insurance) payments.

Examination of Table 19 shows that in the seven county Study Area, working income accounted for 72 percent of total personal income in 1973; property income 12 percent; and trans-

Table 18. MONTHLY PERCENT UNEMPLOYMENT - 1974

| County | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Baraga | 8.8 | 9.7 | 10.3 | 9.8 | 9.6 | 9.2 | 7.8 | 6.5 | 6.0 | 5.3 | 10.2 | 10.9 |
| Delta | 9.0 | 10.4 | 10.2 | 9.1 | 7.1 | 7.7 | 7.9 | 6.3 | 6.5 | 6.8 | 7.8 | 10.1 |
| Dickinson | 6.8 | 7.9 | 7.2 | 6.7 | 5.6 | 5.8 | 5.3 | 4.9 | 4.9 | 4.5 | 6.2 | 6.8 |
| Iron | 11.4 | 12.4 | 13.1 | 13.0 | 9.5 | 8.3 | 7.0 | 6.2 | 6.4 | 7.1 | 8.5 | 12.0 |
| Marquette-Alger | 7.4 | 8.6 | 7.9 | 7.6 | 6.6 | 7.0 | 6.6 | 5.8 | 5.9 | 7.0 | 7.8 | 8.9 |
| Menominee | 5.0 | 5.1 | 5.0 | 3.9 | 3.6 | 5.4 | 6.1 | 3.4 | 3.9 | 4.6 | 5.6 | 5.8 |
| Average | 8.1 | 9.0 | 9.0 | 8.4 | 7.0 | 7.2 | 6.8 | 5.5 | 5.6 | 5.8 | 7.7 | 9.1 |

Source: Civilian Labor and Employment Estimate; 1974, Michigan Employment Security Commission

Table 19. PER CAPITA PERSONAL INCOME (RESIDENCE ADJUSTED)
(DOLLARS)

| County | 1940 | *% | 1950 | % | 1959 | % |
|---|---|---|---|---|---|---|
| Alger | 300 | 51 | 988 | 66 | 1,207 | 56 |
| Baraga | 343 | 60 | 967 | 65 | 1,311 | 60 |
| Delta | 423 | 71 | 1,144 | 77 | 1,538 | 71 |
| Dickinson | 363 | 61 | 1,060 | 71 | 1,623 | 75 |
| Iron | 365 | 62 | 1,179 | 79 | 1,665 | 77 |
| Marquette | 476 | 80 | 1,260 | 84 | 1,432 | 66 |
| Menominee | 412 | 70 | 1,156 | 77 | 1,447 | 67 |
| Average | 383 | 65 | 1,108 | 74 | 1,460 | 67 |

| County | 1970 | % | 1971 | % | 1972 | % | 1973 | % |
|---|---|---|---|---|---|---|---|---|
| Alger | 2,608 | 66 | 2,873 | 68 | 3,272 | 72 | 3,511 | 70 |
| Baraga | 2,892 | 73 | 3,173 | 76 | 3,576 | 79 | 3,560 | 71 |
| Delta | 3,057 | 77 | 3,148 | 75 | 3,433 | 75 | 3,782 | 75 |
| Dickinson | 3,088 | 78 | 3,330 | 79 | 3,874 | 85 | 4,348 | 86 |
| Iron | 2,994 | 75 | 3,386 | 81 | 3,279 | 72 | 3,659 | 73 |
| Marquette | 3,166 | 80 | 3,323 | 79 | 3,679 | 81 | 4,083 | 81 |
| Menominee | 2,950 | 74 | 3,056 | 73 | 3,435 | 76 | 3,873 | 77 |
| Average | 2,965 | 75 | 3,184 | 76 | 3,507 | 77 | 3,831 | 76 |

* Percent of National Average

Source: Total and Per Capita Personal Income In Selected Years, 1929-1973 By SMSA'S and Counties; Michigan Department of Commerce, Office of Economic Expansion

fer payments 16 percent. This compares to the State as a whole in 1973 where the figures were 78 percent, 12.4 percent and 9.6 percent respectively. The relative contributions of working income to the total in the various counties can be seen in Table 20. The higher ratio of working income in Marquette County indicates that more favorable employment opportunities exist there pointing to a strong relationship between employment income and per capita personal income.

Transfer payments have been a rapidly growing component of personal income in the Upper Peninsula through the increasing Aid to Dependent Children caseload and, as shown earlier in this report, the rising number of people 65 years of age or older and the history of rising unemployment rates. In 1973, Marquette County ranked 32 out of 83 counties in Michigan in terms of per capita transfer payments with Iron County ranking highest of the seven counties in the Study Area at 65 of a possible 83. However, the figures tend to corroborate evidence of a migration of retirees from Lower Peninsula city areas to Upper Peninsula counties. Such shifts may explain the drag on per capita income statistics for the Upper Peninsula, raising the question of the degree to which the data measure the well-being of the local population.

With regard to personal income by major industry, in 1973 the seven county Study Area derived 68 percent of its labor and proprietors income from nonfarm industry, 30 percent from Federal, State and local governmental jobs and 2 percent from the farm industry. During the period 1969 to 1973, almost all industry categories for which personal income statistics are available showed an increase in dollar amounts. Although existing as a small industry, personal income in the farm industry rose dramatically ranging from a five year low growth of 64 percent in Menominee County to a high of 172 percent in Iron County. Table 21 shows that reversals in personal income gains occurred in Marquette County's manufacturing industry. An overall loss of 3 percent occurred in Iron County for the five year period, most attributable to a temporary reduction in employment in mining and, to a lesser extent, in the services and other industries.

Owing to the lack of specific personal income data for several of the major industries, precise comment cannot be made. However, an overview of major industry employment and income can be summarized. In 1973, manufacturing activities accounted for a major portion of labor and proprietor's income ranging from a high of 44 percent in Baraga County and 41 percent in Menominee County to a low of 4 percent in

Table 20. PERSONAL INCOME BY FUNCTIONAL SOURCE: 1973
(RESIDENCE ADJUSTED)
(Thousands of Dollars)

| County | Working Income Originating and Shared Within | | Property Income | | Transfer Payments | | Total Personal Income |
|---|---|---|---|---|---|---|---|
| Alger | 21,216 | (70%) | 3,247 | (11%) | 5,742 | (19%) | 30,205 |
| Baraga | 18,965 | (67%) | 3,185 | (12%) | 6,024 | (21%) | 28,174 |
| Delta | 97,717 | (68%) | 19,209 | (14%) | 26,406 | (18%) | 143,332 |
| Dickinson | 72,211 | (69%) | 15,197 | (14%) | 17,782 | (17%) | 105,190 |
| Iron | 30,684 | (62%) | 7,090 | (14%) | 11,618 | (24%) | 49,392 |
| Marquette | 216,178 | (77%) | 29,395 | (10%) | 35,420 | (13%) | 280,993 |
| Menominee | 68,291 | (71%) | 12,954 | (14%) | 14,732 | (15%) | 95,977 |
| Total | 525,262 | (72%) | 90,277 | (12%) | 117,724 | (16%) | 733,263 |

Source: County Income and Employment Patterns in Michigan's Upper Peninsula; 1975; Division of Research, Graduate School of Business Administration, Michigan State University

Table 21. [1] PERSONAL INCOME BY MAJOR INDUSTRY: 1969-1973
(Thousands of Dollars)

| | Alger | | | Baraga | | | Delta | | | Dickinson | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1969 | 1973 | [2] % | 1969 | 1973 | % | 1969 | 1973 | % | 1969 | 1973 | % |
| **Farm** | 215 | 427 | +99% | 205 | 368 | +80% | 1,469 | 2,990 | 104% | 963 | 2,370 | +146% |
| **Nonfarm** | | | | | | | | | | | | |
| Manufacturing | (D) | 6,763 | - | 5,647 | 8,218 | +46% | 24,239 | 33,578 | + 39% | 10,198 | 15,902 | + 56% |
| Mining | - | - | - | (D) | (D) | - | (D) | (D) | - | (D) | (D) | - |
| Contract Construction | (D) | (D) | - | 409 | (D) | - | 2,830 | 4,585 | + 62% | 7,016 | 10,918 | + 56% |
| Wholesale/Retail | 2,046 | 2,412 | +19% | 1,972 | 2,059 | +4.4% | 12,385 | 16,830 | + 36% | 10,711 | 13,801 | + 29% |
| Finance/Insurance/Real Estate | 280 | (D) | - | (D) | 248 | - | 2,307 | 3,428 | + 49% | 1,023 | 1,533 | + 50% |
| Transportation/Communication/ Public Utilities | (D) | 1,075 | - | (D) | 378 | - | 10,174 | 12,953 | + 27% | 4,665 | 6,855 | + 47% |
| Services | 1,843 | 2,071 | +12% | 1,116 | (D) | - | 8,027 | 11,858 | + 48% | 5,131 | (D) | - |
| Other Industries | 75 | (D) | - | (D) | (D) | - | (D) | (D) | - | (D) | (D) | - |
| **Government** | 2,983 | 4,544 | +52% | 3,470 | 5,213 | + 50% | 11,553 | 17,496 | + 51% | 10,063 | 15,592 | + 55% |
| [3] Total Personal Income | 14,024 | 18,399 | +31% | 13,253 | 18,809 | + 42% | 73,390 | 104,182 | + 42% | 49,849 | 80,038 | + 61% |

(1) Labor and Proprietor's Income

(2) % Change for the time period shown

(3) Working Income shown on Table 20 is Total Income less:
a. contributions for social insurance; and
b. plus residence adjustment (county inflow/outflow)

(D) Data not available but included in tables.

Source: County Income and Employment Patterns in Michigan's Upper Peninsula; 1975, Division of Research, Graduate School of Business Administration, Michigan State University

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Table 21. [1] PERSONAL INCOME BY MAJOR INDUSTRY: 1969-1973 (continued)
(Thousands of Dollars)

| | Iron | | | Marquette | | | Menominee | | | 1973 | % of |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1969 | 1973 | % [2] | 1969 | 1973 | % | 1969 | 1973 | % | Total | Total |
| **Farm** | 301 | 818 | +172% | 268 | 592 | 120% | 2,504 | 4,099 | +64% | 11,664 | 2% |
| **Nonfarm** | | | | | | | | | | | |
| Manufacturing | 1,221 | 2,262 | + 85% | 9,115 | 8,734 | - 4% | 18,480 | 24,018 | +30% | | |
| Mining | 9,048 | (D) | - | 34,211 | 43,800 | +28% | - | - | - | | |
| Contract Construction | 3,216 | 4,547 | + 41% | 6,002 | 15,566 | +159% | 2,704 | 2,713 | 0% | | |
| Wholesale/Retail | 4,589 | 5,275 | + 15% | 17,924 | 24,472 | + 37% | 7,343 | 9,839 | +34% | | |
| Finance/Insurance/Real Estate | 707 | 885 | + 25% | 3,105 | 4,609 | + 48% | 754 | 1,034 | +37% | | |
| Transportation/Communication/ Public Utilities | 498 | 893 | + 79% | 7,462 | 10,892 | + 46% | 2,378 | 3,361 | +41% | | |
| Services | 2,432 | (D) | - | 14,850 | 22,249 | + 50% | 4,152 | 5,087 | +23% | | |
| Other Industries | (D) | (D) | - | 280 | 215 | - 23% | 272 | 232 | -15% | 366,601 | 68% |
| **Government** | 6,005 | 9,070 | + 51% | 62,080 | 100,644 | + 62% | 6,173 | 8,091 | +31% | 160,650 | 30% |
| [3] Total Personal Income | 28,066 | 27,240 | - 3% | 155,297 | 231,773 | + 49% | 44,760 | 58,474 | +31% | 538,915 | 100% |

[1] Labor and Proprietor's Income

[2] % Change for the time period shown

[3] Working Income shown on Table 20 is Total Income less:
a. contributions for social insurance; and
b. plus residence adjustment (county inflow/outflow)

(D) Data not available but included in tables.

Source: County Income And Employment Patterns in Michigan's Upper Peninsula; 1975, Division of Research, Graduate School of Business Administration, Michigan State University

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Marquette and Alger Counties. The statewide average was 45 percent and that for the nation, 27 percent.

Mining was responsible for over 19 percent of labor and proprietor's income in Marquette County, the highest of all nonfarm industries in the County. The wholesale and retail trade is shown in Table 22 to be important in all counties, and judging by the statistics available, very important to the economy in Alger County. Counties exhibiting a relatively heavy emphasis on the trade sector are apt to be those with a comparatively large tourist business, the magnitude of which is explored in the Resource Productivity section of this report.

With the exception of Iron County, contract construction is not a major producer of personal income in the Study Area. Finance, transportation and services play minor roles but are nonetheless important to maintaining current levels of personal income. Government has a high impact in all of the seven counties and is responsible for high proportions of personal income ranging from a high of 43 percent in Marquette County to a low of 17 percent in Delta County, somewhat above the 13 percent figure for the State.

The data for 1973 in Table 21 shows that with the exception of Iron County, incomes have increased. Yet despite the increase, the seven counties have fallen behind the nation in the rate of income growth. Percent increase in total personal income (working income, property income and transfer payments) nationally for the 1972-1973 period was 11.7 percent, and as an average for the seven county Study Area, 9.2 percent with Baraga County showing no increase. For total personal income, each county is much more heavily dependent on transfer payments (16 percent in 1973) than the State as a whole (9.6 percent in 1973). Working income accounted for 72 percent of total personal income compared with 78 percent statewide.

Table 23 summarizes mineral production activity in the Study Area. Mineral production is dominated by the extraction of iron ore, representing virtually all of the production of this metal in the State of Michigan. The Study Area is also a major source of iron ore for the nation as a whole.

Table 22. PERSONAL INCOME BY MAJOR INDUSTRY AS A PERCENT OF TOTAL PERSONAL INCOME BY COUNTY 1973

| | Alger | Baraga | Delta | Dickinson | Iron | Marquette | Menominee |
|---|---|---|---|---|---|---|---|
| Farm | 2% | 2% | 3% | 3% | 3% | 0% | 7% |
| Nonfarm | | | | | | | |
| Manufacturing | 4% | 44% | 32% | 20% | 8% | 4% | 41% |
| Mining | - | (D) | (D) | (D) | (D) | 19% | - |
| Contract Construction | (D) | (D) | 4% | 14% | 17% | 7% | 5% |
| Wholesale/Retail | 13% | 11% | 16% | 17% | 19% | 11% | 17% |
| Finance/Insurance/Real Estate | (D) | 1% | 3% | 2% | 3% | 2% | 2% |
| Transportation/Communication Public Utilities | 6% | 2% | 12% | 9% | 3% | 5% | 6% |
| Services | 11% | (D) | 11% | (D) | (D) | 10% | 9% |
| Other Industries | (D) | (D) | (D) | (D) | (D) | 0% | 0% |
| Government | 25% | 28% | 17% | 19% | 33% | 43% | 14% |

(D) Data not available

Source: EDAW, Inc., Table 21

Table 23. VALUE OF MINERAL PRODUCTION - 1974
(Thousands of Dollars)

| County | Iron Ore | Sand & Gravel | Sandstone & Granite | Total |
|---|---|---|---|---|
| Alger | -0- | 88.0 | -0- | 88.0 |
| Baraga | -0- | 126.0 | -0- | 126.0 |
| Delta | -0- | 223.0 | -0- | 223.0 |
| Dickinson | 36,400.0 | 244.0 | 700.0* | 37,344.0 |
| Iron | 6,400.0 | 199.0 | -0- | 6,599.0 |
| Marquette | 171,200.0 | 805.0 | 309.6 | 172,314.6 |
| Menominee | -0- | 46.0 | -0- | 46.0 |
| Total | 214,000.0 | 1,731.0 | 1,009.6 | 216,740.6 |

* Estimate/Data not available.

Source: State of Michigan, Geological Survey Division Department of Natural Resources, Annual Report 8

RESOURCE PRODUCTIVITY

Mining

Six mines currently are producing iron ore in the Study Area, and construction and development work is scheduled to begin on a seventh iron mine in April 1976. Total production from the area's mines in 1974 amounted to 11,500,000 long tons (2,200 pounds/ton) of iron ore pellets and direct-shipping ore having a total value of $214,000,000. The current (1976) production capacity of these iron mines is approximately 17,000,000 long tons of pellets and ore, and the anticipated capacity of existing and planned facilities for 1985 is about 30,000,000 long tons. Most of the iron production for the next 25 years will be from the Marquette Basin.

All counties produce small quantities of sand and gravel, primarily for roadway maintenance and construction. Virtually all sand and gravel extracted is for local consumption as this product is relatively abundant throughout the region. Additionally, sand and gravel's low value to bulk eliminates economic long-haul potential. These mining operations are primarily small, (5-6 men average) in localized area numbering from 50-100 throughout the Study Area.

## Agriculture

Agriculture has not played a dominant role in terms of income within the Study Area. Presently, dollar income based on the total value of agricultural goods sold is approximately 16 million dollars annually. The agricultural economy is diverse and is made up of a series of pockets of agricultural land, some scattered throughout the Study Area, others which cluster around the urban areas.

The agricultural sector has been following national trends. The number of farms and people on them has decreased but has been counterbalanced by increased average farm size. The decline in the number of farms has followed a straight line pattern through the 1959, 1964 and 1969 Censuses of Agriculture. This trend has continued for the last five years.

Agriculture is the second largest category of land use in the Study Area (after forestry). Although the agricultural industry has been on a steady decline over the past 30 years, recent product shortages, comsumer demand and other factors have tended to reverse this trend.

Table 24 summarizes agricultural land use in acres by county. Several characteristics are noted below:

- Only 8.0 percent of the total land area in the Study Area is used for agricultural purposes.
- Well over one-half of all agricultural land is in pasture.
- Menominee County is the most agriculturally significant in the Study Area.
- The second major agricultural area is Delta County.
- All agricultural lands in the entire Study Area are of comparatively low or marginal quality, are in low intensity use and are primarily utilized for local consumption.

Table 25 summarizes livestock production by county, and shows that the production of cattle and calves has almost doubled in the past five years in response to increased consumer demand.

Table 26 summarizes the land acreages and related yields of feed and hay for the year 1969. While the latest available data are from the Census information, the poor yields together with the comparatively large acreages involved, make

Table 24. ESTIMATED AGRICULTURAL LAND BY COUNTY
(Thousands of Acres)

| County | Total Area | Hay & Feed | Small Grains | Pasture & Miscellaneous | Total | % of Total Area |
|---|---|---|---|---|---|---|
| Alger | 597.8 | 9.65 | 0.85 | 14.60 | 25.1 | 4.2% |
| Baraga | 592.4 | 6.84 | 0.30 | 17.86 | 25.0 | 4.1% |
| Delta | 769.3 | 27.32 | 6.35 | 67.83 | 101.5 | 13.2% |
| Dickinson | 510.2 | 10.86 | 1.44 | 27.40 | 39.7 | 7.8% |
| Iron | 780.2 | 4.60 | 0.70 | 22.00 | 27.3 | 3.5% |
| Marquette | 1,210.9 | 6.15 | 0.60 | 20.65 | 27.4 | 2.3% |
| Menominee | 698.8 | 58.62 | 13.36 | 96.22 | 168.2 | 24.0% |
| Total | 5,159.6 | 124.04 | 23.60 | 266.56 | 414.20 | 8.0% |
| % of Total Area | 100% | 2.4% | 0.4% | 5.2% | 8.0% | |

Source: County and Regional Facts, MSU Cooperative Extension Service

Table 25. *LIVESTOCK INVENTORY BY COUNTY*

| County | 1969 | | 1974 | |
|---|---|---|---|---|
| | Cattle & Calves | Chickens | Cattle & Calves | Chickens |
| Alger | 2,070 | 4,750 | 3,900 | 8,700 |
| Baraga | 1,440 | 770 | 2,300 | 4,200 |
| Delta | 6,720 | 31,570 | 12,100 | 27,500 |
| Dickinson | 2,240 | 520 | 4,300 | 1,900 |
| Iron | 1,310 | 1,610 | 2,600 | 5,900 |
| Marquette | 1,250 | 1,270 | 2,400 | 3,100 |
| Menominee | 12,020 | 18,520 | 21,500 | 25,000 |
| Total | 27,050 | 59,010 | 49,100 | 76,300 |

Source: 1969 - U. S. Census of Agriculture Michigan, U. S. Department of Commerce

1974 - Michigan Agricultural Statistics, State of Michigan, Department of Agriculture, June 1975

Table 26. LIVESTOCK FEED AND HAY PRODUCTION - 1969

| County | Alfalfa | | Clover | |
|---|---|---|---|---|
| | Acres | Tons | Acres | Tons |
| Alger | 3,330 | 6,730 | 950 | 1,650 |
| Baraga | 650 | 1,300 | 1,830 | 2,980 |
| Delta | 7,310 | 15,070 | 4,490 | 8,690 |
| Dickinson | 3,000 | 6,120 | 1,440 | 2,450 |
| Iron | 260 | 520 | 670 | 1,220 |
| Marquette | 1,320 | 2,770 | 1,110 | 2,230 |
| Menominee | 17,230 | 37,280 | 5,520 | 10,150 |
| Total | 33,100 | 69,790 | 16,010 | 29,370 |

| County | Hay | | Silage | | Total | |
|---|---|---|---|---|---|---|
| | Acres | Tons | Acres | Tons | Acres | Tons |
| Alger | 5,360 | 10,420 | -0- | -0- | 9,640 | 18,800 |
| Baraga | 4,360 | 6,280 | -0- | -0- | 6,840 | 10,560 |
| Delta | 14,760 | 28,070 | 760 | 6,880 | 27,320 | 58,710 |
| Dickinson | 6,150 | 11,550 | 270 | 3,500 | 10,860 | 23,620 |
| Iron | 3,710 | 6,380 | -0- | -0- | 4,640 | 8,120 |
| Marquette | 3,720 | 7,000 | -0- | -0- | 6,150 | 12,000 |
| Menominee | 30,190 | 58,920 | 5,680 | 64,050 | 58,620 | 170,400 |
| Total | 68,250 | 128,620 | 6,710 | 74,430 | 114,070 | 302,210 |

Source: U.S. Department of Agriculture/Statistical Reporting Service/ 1969 Census of Agriculture

it unlikely that any significant change has occurred within the past five years. Feed and hay is used primarily for local (livestock) consumption. Production in the Study Area is again dominated by the southern portions of Menominee County, and secondarily Delta County.

Table 27 summarizes small grain production in the Study Area by acreage and quality. For the most part, the same characteristics associated with hay and feed production are apparent. There is low intensity use of the land and low per acre yields. Menominee County dominates the regional production followed by Delta County.

Also produced throughout the Study Area are minor amounts of eggs, maple syrup and dairy products, especially cheese, in Menominee County. Table 28 summarizes the total value of agricultural production estimated for the Study Area. Hay, feed and related livestock production dominate the figures, with oats and corn grain of secondary importance. The per acre production yields are low with only portions of Menominee County producing near State-wide average yields.

Forestry

Logging of the forests in the Study Area represents a significant commercial activity. Commercial forest use is found throughout the region except in the case of urban areas which are surrounded by agriculture and inactive land uses. According to findings of the Department of Natural Resources, about 50 percent of commercial forest lands are well stocked with sound trees. However, the quality and composition of the forest varies significantly and there is little evidence of intensive management. Forest land is dominated by a maple-birch (northern hardwood) forest type which occupies 51 percent of the region, twice the area of aspen, the second most extensive forest type. Because of the high value products associated with this forest type, northern hardwoods command some of the highest stumpage prices in the country. This ranks the forests in the Study Area among the Nation's most valuable. In addition, there is a continuing increase of forest stock.

Table 29 provides an estimate of the existing volume of forest, in commercial terms, which exists within the Study Area. This volume is fairly evenly distributed throughout the area and represents about 22% of the total State hardwood inventory and nearly 35% of the softwood inventory.

## Table 27. SMALL GRAIN PRODUCTION - 1974

| County | Oats | | Barley | |
|---|---|---|---|---|
| | Acres | Bushel | Acres | Bushel |
| Alger | 800 | 36,000 | 50 | 2,000 |
| Baraga | 300 | 12,000 | -0- | -0- |
| Delta | 4,900 | 230,000 | 400 | 12,000 |
| Dickinson | 1,100 | 46,000 | 100 | 3,500 |
| Iron | 700 | 28,000 | -0- | -0- |
| Marquette | 600 | 24,000 | -0- | -0- |
| Menominee | 8,200 | 352,000 | 2,200 | 96,000 |
| Total | 16,600 | 728,000 | 2,750 | 113,500 |

| County | Wheat | | Corn | | Total | |
|---|---|---|---|---|---|---|
| | Acres | Bushel | Acres | Bushel | Acres | Bushel |
| Alger | -0- | -0- | -0- | -0- | 850 | 38,000 |
| Baraga | -0- | -0- | -0- | -0- | 300 | 12,000 |
| Delta | 120 | 3,560 | 930 | 48,500 | 6,350 | 294,060 |
| Dickinson | -0- | -0- | 240 | 15,600 | 1,440 | 65,100 |
| Iron | -0- | -0- | -0- | -0- | 700 | 28,000 |
| Marquette | -0- | -0- | -0- | -0- | 600 | 24,000 |
| Menominee | 190 | 5,000 | 2,770 | 158,150 | 13,360 | 611,150 |
| Total | 310 | 8,560 | 3,940 | 222,250 | 23,600 | 1,072,310 |

Source: Michigan Agricultural Statistics, State of Michigan, Department of Agriculture, June 1975

Table 28. ESTIMATED ANNUAL AGRICULTURAL VALUES - 1974
($000s)

| County | Oats @ $2./bushel | Barley @ $2.5/bushel | Wheat @ $4./bushel | Corn @ $3.5/bushel | All Hay @ $30./ton |
|---|---|---|---|---|---|
| Alger | 72.0 | 5.0 | -0- | -0- | 564.0 |
| Baraga | 24.0 | -0- | -0- | -0- | 316.5 |
| Delta | 460.0 | 30.0 | 14.3 | 170.0 | 527.0 |
| Dickinson | 92.0 | 8.7 | -0- | 54.5 | 708.0 |
| Iron | 56.0 | -0- | -0- | -0- | 243.5 |
| Marquette | 48.0 | -0- | -0- | -0- | 360.0 |
| Menominee | 704.0 | 240.0 | 20.0 | 554.5 | 5,095.0 |
| Total | 1,456.0 | 283.7 | 34.3 | 779.0 | 7,814.0 |

| County | All Cattle @ $100/head | All Chickens @ $1./bird | Total Values | Total Acres (000s) | Yield $ Value per Acre |
|---|---|---|---|---|---|
| Alger | 390.0 | 8.7 | 1,039.7 | 25.1 | 41.6 |
| Baraga | 230.0 | 4.2 | 570.5 | 25.0 | 22.8 |
| Delta | 1,210.0 | 27.5 | 2,438.8 | 101.5 | 24.0 |
| Dickinson | 430.0 | 1.9 | 1,193.2 | 39.7 | 30.1 |
| Iron | 260.0 | 5.9 | 565.4 | 27.3 | 20.7 |
| Marquette | 240.0 | 3.1 | 561.1 | 27.4 | 20.5 |
| Menominee | 2,150.0 | 25.0 | 8,788.5 | 162.2 | 54.2 |
| Total | 4,910.0 | 76.3 | 15,157.2 | 408.3 | 37.1 |

Source of Unit Prices: Michigan Agricultural Statistics/State Department of Agriculture, June, 1975

Table 29. ESTIMATE VOLUMES OF GROWING STOCK AND TIMBER, COMMERCIAL FOREST LAND

| County | Growing Stock (Million Cubic Feet) | | Sawtimber (Million Board Feet) | |
|---|---|---|---|---|
| | Softwoods | Hardwoods | Softwoods | Hardwoods |
| Alger | 155.4 | 335.8 | 430.6 | 865.0 |
| Baraga | 163.9 | 363.1 | 543.7 | 890.3 |
| Delta | 182.0 | 275.2 | 417.7 | 556.2 |
| Dickinson | 142.2 | 229.5 | 457.9 | 415.2 |
| Iron | 189.5 | 401.8 | 533.7 | 795.6 |
| Marquette | 360.8 | 579.1 | 1,185.9 | 1,339.6 |
| Menominee | 160.0 | 249.4 | 398.6 | 532.2 |
| Total | 1,353.8 | 2,433.9 | 3,368.1 | 5,393.2 |
| Total State | 3,838.4 | 11,186.6 | 9,659.7 | 24,074.0 |
| Region as % of State | 35.2% | 21.8% | 34.9% | 22.4% |

Source: U.S. Department of Agriculture, U.S. Forest Service North Central Forest Experiment Station, Research Note NC-50, Michigan's Timber Volume: 1968, St. Paul, Minnesota.

Table 30 summarizes the Study Area land in forest as a percentage of the State total. While forest lands cover over 86 percent of the Study Area, less than one-half of this forest land is considered prime. This proportion changes from a low of 30 percent in Marquette County, to a high of 70 percent in Iron County.

Although the Study Area represents only 14 percent of the entire State, it contains about one quarter of the State's commercial forest land and over one-third of the prime forest land.

Table 30. VOLUME OF FOREST LAND BY COUNTY AND AREA
(Thousands of Acres)

| County | Total Area | Commercial Forest Area | Commercial Forest % | Prime Forest* Area | Prime Forest* % |
|---|---|---|---|---|---|
| Alger | 597.8 | 535.9 | 89.7% | 120 | 20% |
| Baraga | 592.4 | 535.1 | 90.3% | 355 | 60% |
| Delta | 769.3 | 623.9 | 81.1% | 75 | 10% |
| Dickinson | 510.2 | 447.7 | 87.7% | 255 | 50% |
| Iron | 780.2 | 696.1 | 89.2% | 545 | 70% |
| Marquette | 1,210.9 | 1,097.1 | 90.4% | 365 | 30% |
| Menominee | 698.8 | 513.3 | 73.4% | 210 | 30% |
| Total Study Area | 5,159.6 | 4,449.1 | 86.2% | 1,925 | 37% |
| Total State | 36,492.1 | 18,900.2 | 51.8% | 5,475 | 15% |
| Study Area as % of State | 14.1% | 23.5% | | 35.2% | |

* Estimates based on Survey Soil Conservation Service, USDA; defined as quality timber of economic harvest value.

Source: County and Regional Facts, Michigan State University Cooperative Extension Service, 1972

Table 31 shows price data for Upper Peninsula forest volumes and it is evident that stumpage prices are subject to extreme fluctuations. Due to this and a general lack of harvest data for the Study Area, production values are not estimated in this report.

Besides providing lumber for saw-timber and pulp, commercial forest land has many other uses. These uses include forms of recreation such as fishing, hunting, hiking, cross-country skiing, snowmobiling on logging roads and camping in either primitive or developed facilities. Additionally, commercial forest land serves as a habitat for wildlife and preserves potential mineral-bearing areas from development. It is not possible to place a fixed commercial value on such intangible but essential considerations.

## Tourism

Tourism and recreation in the Upper Peninsula constitute a specific industry within the category of resource productivity. Tourism and recreation activities are predominately

Table 31. MICHIGAN STATE FOREST VOLUMES AND STUMPAGE PRICES
January 1973-July 1974 Receipts from 1973 and 1974 Permits

| Product and Species | Upper Peninsula Net Volume | Average Price | Base Price Range |
|---|---|---|---|
| **Sawlogs - Million Board Feet** | | | |
| Aspen | 2,147 | 4.53 | 1.00- 20.00 |
| Basewood | 82 | 17.35 | 5.00- 60.00 |
| Beech | 414 | 20.38 | 5.00- 50.00 |
| Yellow Birch | 389 | 61.78 | 5.00-160.00 |
| White Birch | 470 | 12.55 | 2.00- 30.00 |
| Elm | 1,058 | 12.55 | 2.00- 50.00 |
| Hemlock | 203 | 18.80 | 4.00- 27.78 |
| Hard Maple | 1,099 | 48.25 | 3.50-125.00 |
| Soft Maple | 327 | 21.69 | 2.00- 60.00 |
| Jack Pine | 106 | 5.97 | 1.00- 25.00 |
| Oak | 2 | 18.73 | 8.75- 30.00 |
| White Pine | 1,603 | 17.40 | 5.00- 49.03 |
| Red Pine | 741 | 20.93 | 5.00- 43.00 |
| Cedar | 500 | 9.00 | 1.00- 12.00 |
| Miscellaneous Hardwood | 841 | 8.78 | .75- 26.51 |
| **Pulpwood - Cords** | | | |
| Aspen | 55,741 | 2.72 | .50- 8.04 |
| White Birch | 3,754 | 2.00 | .25- 7.72 |
| Hemlock | 2,361 | 3.11 | .90- 4.50 |
| Jack Pine | 24,720 | 5.99 | .50- 11.16 |
| Oak | 4 | 1.00 | 1.00- 1.00 |
| White Pine | 1,447 | 3.19 | 2.00- 7.68 |
| Red Pine | 2,290 | 4.78 | 2.00- 10.04 |
| Cedar | 1,175 | 2.47 | 1.00- 6.52 |
| Balsam | 9,508 | 3.66 | 1.65- 9.21 |
| White Spruce | 3,087 | 6.90 | 2.50- 12.43 |
| Black Spruce | 2,328 | 7.74 | 3.00- 11.38 |
| Miscellaneous Hardwood | 23,459 | 1.36 | .25- 5.43 |
| **Miscellaneous Products (Cords)** | | | |
| Cedar | 4,261 | 2.67 | 1.20- 3.00 |

Source: State of Michigan, Division of Natural Resources Lands Division, Marquette, Michigan

outdoor, for the many forests, lakes and scenic areas provide an attractive setting. This is verified by the seasonally large influx of vacationers who come to the region.

Though the importance of the industry is unquestionable, fully reliable information on its magnitude is not available. The region lies within an area one day's drive from 40 to 50 million people in the nation's industrial heartland, about one-fourth of the United States population. State and federal parks are abundant while almost all corporate holdings are available for recreational use with a high proportion of small private ownerships available for varied recreational use. Tourists arrive largely by automobile and over 90 percent come from the midwest. Data presented by the Michigan Department of Natural Resources, Office of Planning Services shows that favored activities in terms of volume of activity days as well as number of participants are swimming in lakes, picnicking, fishing, boating and canoeing, camping, hiking, hunting, nature study and snowmobiling.

Recent economic research conducted at Michigan State University has shown that tourism within the Upper Peninsula in the year 1972 generated $227 million in tourist volume. This figure was based on an analysis on the 4 percent Michigan tax on commercial accommodations for the area which comprised 9.7 percent of Michigan's total tourist dollar volume. Testing of this figure using alternative methods (checks of commercial accommodation revenues) shows the dollar estimate to be reasonable. Apportioning 47 percent of the $227 million revenue to the seven county Study Area (47 percent of all land and water area in the Upper Peninsula) shows that approximately $107 million in tourist revenues were generated in the Study Area for the year 1972. This substantially confirms the fact that tourism and recreation is a major industry in the Study Area together with mining and forestry related enterprises.

## COMMUNITY SERVICES

### Medical Services

The Study Area does not have the complete range of medical facilities and services normally found in major urban areas. Health facilities are scattered throughout the region and no comprehensive regional health center exists.

As shown in Table 32, the Study Area is served by 11 hospitals offering 1,091 beds, or one bed per 174 persons.

Medical doctors per 1,000 persons are computed at .80 compared with 1.460 statewide, less than half the 1970 national average of 1.644. This ratio means that approximately 160 medical doctors are needed to provide adequate service. A similar situation prevails for other medical personnel including nurses and medical specialists.

The physician per 1,000 population ratio is particularly low in Alger, Delta, Iron and Menominee Counties. Many cases requiring a specialist's care are sent out of the region to Duluth, Green Bay and at times to Chicago and Ann Arbor, Michigan.

Table 32 shows that each county in the Study Area is served by at least one hospital with a minimum licensed bed capacity of 34. The persons-per-bed average in the Study Area is 174, substantially below the statewide average of about 220 persons per bed. Hospitals and medical facilities are located in the larger towns with 50 percent of the total beds contained in the three Marquette County hospitals. The service area of Marquette County's hospitals extends into adjacent counties as the facilities in Marquette serve as a referral center for specialized services.

The Western Upper Peninsula Economic Development District reports that throughout its planning area, including Baraga and Iron Counties, hospital beds are on the average 88 percent occupied and that in Baraga County, beds are normally 97 percent occupied, the highest rating in the State. In view of the higher persons per bed counts in other counties, it can be expected that bed occupancy rates will remain on a high level throughout the Study Area.

In addition to the medical facilities shown in Table 32, K. I. Sawyer Air Force Base maintains a 50 bed hospital serving Air Force personnel. Like other hospitals in the region it offers services in general therapy, internal medicine, obstetrics-gynecology, orthopedics and pediatrics. Ancillary services include a clinical laboratory, pharmacy, physical therapy and diagnostic roentgenology.

Table 33 provides a summary listing of other health care facilities located throughout the Study Area. Nursing care facilities and homes for the aged are distinguished from hospitals through the services they provide. For example, a hospital is defined by Michigan Public Acts 17 (1968), as an establishment offering in-patient services for diagnosis, treatment and overnight care of persons with conditions requiring the direction of licensed physicians. The Act authorizes clear differentiation between the intensive care

Table 32. MEDICAL FACILITIES AND LICENSED MEDICAL PROFESSIONALS BY COUNTY - 1974

| County | (1) Hospitals No. | (location) | Beds | (3) Persons/Bed | (2) Physicians Medical | (3) M.D./1,000 | Osteopaths |
|---|---|---|---|---|---|---|---|
| Alger | 1 | (Munising | 34 | 240 | 5 | .61 | 0 |
| Baraga | 1 | (L'Anse) | 72 | 105 | 8 | 1.06 | 0 |
| Delta | 1 | (Escanaba) | 127 | 306 | 21 | .53 | 0 |
| Dickinson | 2 | (Norway, Iron Mtn.) | 138 | 178 | 27 | 1.09 | 1 |
| Iron | 2 | (Crystal Falls, Iron River) | 77 | 184 | 8 | .52 | 2 |
| Marquette | 3 | (2-Marquette, Ishpeming) | 541 | 129 | 74 | 1.05 | 1 |
| Menominee | 1 | (Menominee) | 102 | 255 | 10 | .38 | 1 |
| Totals | 11 | | 1,091 | 174 | 153 | .80 | 5 |

| County | (4) Registered Nurses | (4) Licensed Practical Nurses | (4) Dentists | (4) Dental Hygenists |
|---|---|---|---|---|
| Alger | 38 | 18 | 2 | 1 |
| Baraga | 45 | 31 | 2 | 0 |
| Delta | 160 | 156 | 18 | 4 |
| Dickinson | 161 | 132 | 13 | 4 |
| Iron | 59 | 65 | 9 | 0 |
| Marquette | 497 | 310 | 31 | 7 |
| Menominee | 82 | 81 | 7 | 1 |
| Totals | 1,042 | 793 | 82 | 17 |

(1) January 1, 1975. Excludes Federal hospitals and hospitals licensed by the Michigan Department of Mental Health.

(2) Distribution by address of employment, licensed physicians only.

(3) Computed from population projections for the year 1974 as published by the Michigan Department of Management and Budget.

(4) Distribution by county of residence.

Source: Michigan Statistical Abstract, 1974; Graduate School of Business Administration, Michigan State University

Specialties of Medical Doctors, 1974; Michigan Department of Public Health

Directory of Hospitals, Nursing Care Facilities and Homes for the Aged, January 1975; Michigan Department of Public Health

Table 33. NURSING CARE FACILITIES AND HOMES FOR THE AGED

| County | Facility Location/Beds | | | |
|---|---|---|---|---|
| | NH | CMCF | HLTU | HA |
| Alger | Munising/48 | -- | -- | -- |
| Baraga | L'Anse/61 | -- | -- | Covington/47 |
| Delta | Escanaba/81<br>Escanaba/59<br>Escanaba/99 | -- | -- | Escanaba/28<br>Gladstone/13<br>Gladstone/33 |
| Dickinson | Iron Mtn./51<br>Iron Mtn./51<br>Kingsford/107 | -- | -- | Iron Mtn./18 |
| Iron | Crystall Falls/90<br>Iron River/25 | Crystal Falls/111 | -- | Iron River/13 |
| Marquette | Marquette/99<br>Marquette/30<br>Palmer/78 | -- | Marquette/97 | -- |
| Menominee | Menominee/34<br>Daggett/55 | Powers/160 | -- | -- |

KEY (see text for description)
NH - Nursing Home
CMCF - County Medical Care Facility
HLTU - Hospital Long-term Care Unit
HA - Home for the Aged

Source: Director of Hospitals, Nursing Care Facilities and Homes for the Aged, January 1975; Michigan Department of Public Health

expected in hospitals and that which is expected in extended care facilities. For example, a nursing home is defined as an institution other than a hospital functioning for the nursing of individuals for periods of more than 24 hours. A county medical care facility (CMCF) is a county owned and operated facility which provides nursing care. A hospital long-term care unit (HLTU) is a separate unit of a hospital which is designed, equipped and staffed to provide nursing care for in-patients who are suffering from chronic disease or who are convalescing. A home for the aged is defined as an establishment other than a hospital, hotel or nursing facility which provides room and board to nontransient individuals 65 years of age or older. Their purpose is to provide supervised personal care for elderly persons who do not need organized nursing care. Where any of the above facilities occur within a single institution, each unit is licensed separately.

Of principal concern with respect to long-term care facilities is the fact that over one-third of the beds do not conform to Federal and State regulations. The State Health Facilities Plan indicates that all beds will be modernized to meet Federal and State standards.

Ambulance service is provided by 23 public or commercial ambulance services with a total of 34 licensed vehicles. It is estimated that 25 of these vehicles normally operate solely within the Study Area and an examination of service location indicates a reasonably comprehensive coverage of all but the predominantly rural areas of each county. Response time data on ambulance service is not available. Air ambulance service to the Study Area originates in Houghton County, the Lower Peninsula and outlying regions.

## Education

### Public Schools

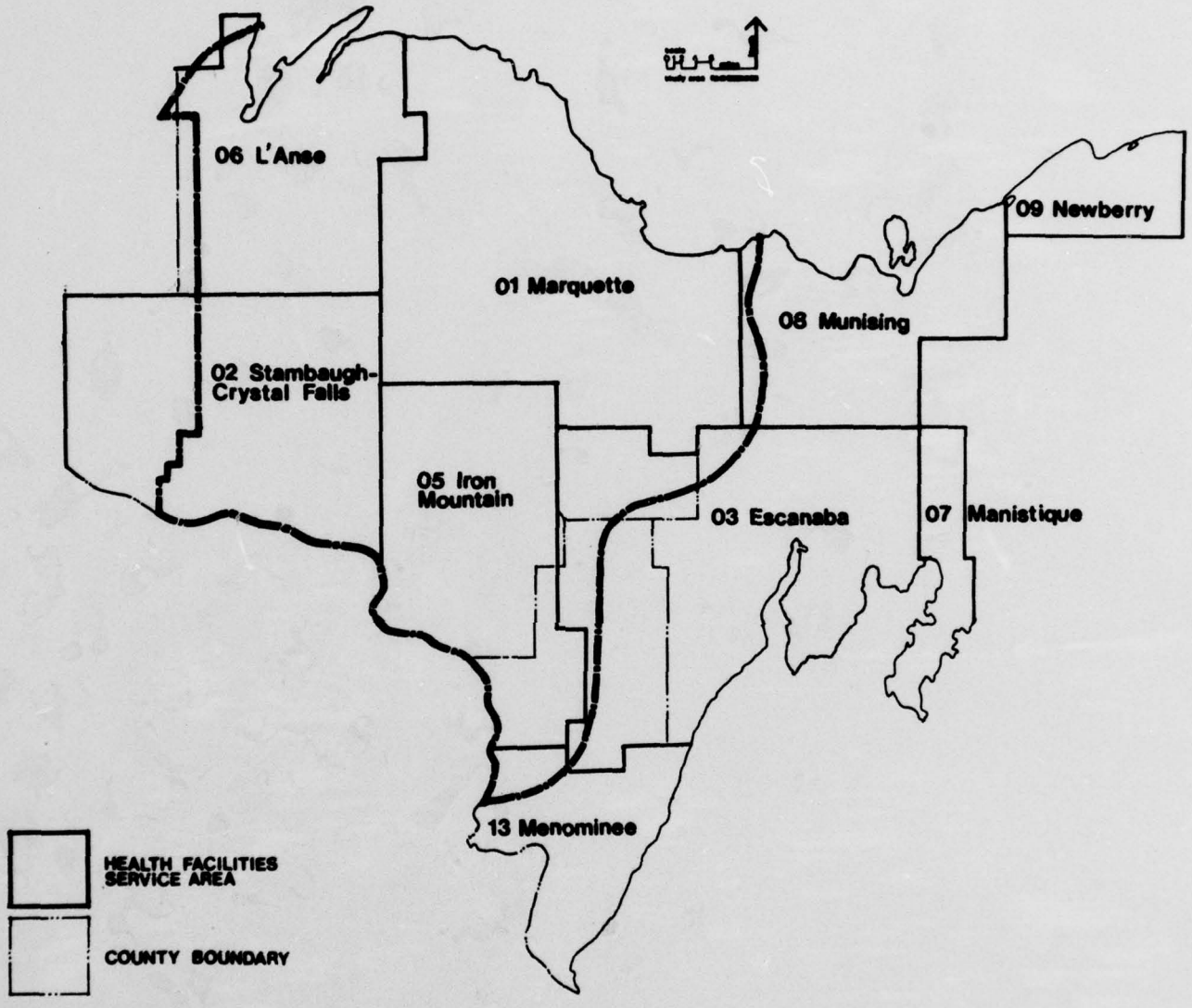
As shown in Figure 4, all school facilities in the Study Area are organized into school districts. (Enrollments for each district for the school year 1974-1975 are shown in Table 35.) The principal justification for the configuration of school districts is to provide an equalized tax base and to facilitate communication between district administrators and the public.

Table 34. AMBULANCES LICENSED AS OF SEPTEMBER 30, 1975

| County | Active Licenses | Service* Area | Station |
|---|---|---|---|
| Alger | 2 | 08 | Munising |
| | 2 | 09 | Grand Marais |
| Baraga | 2 | 06 | Baraga |
| Delta | 1 | 07 | Garden |
| | 4 | 03 | Escanaba (3)/Rock (1) |
| Dickinson | 4 | 05 | Foster City (1)<br>Iron Mountain (2)<br>Sagola (1) |
| Iron | 4 | 02 | Iron River (2)<br>Crystal Falls (2) |
| Marquette | 10 | 01 | Gwinn (2), Ishpeming (2)<br>Big Bay (1)<br>Republic (1) Palmer (1)<br>Marquette (3) |
| Menominee | 1 | 13 | Stephenson |
| | 4 | 05 | Menominee (1)<br>Marinette (1)<br>Hermansville (1)<br>Faithorn (1) |

Source: Inventory of Ambulances in Michigan, September 30, 1975; Michigan Department of Public Health

* Refer to Figure 3, page 62




Source: Michigan Dept. of Public Health

Figure 3

## HEALTH FACILITIES SERVICE AREAS

## Table 35. PUBLIC SCHOOL MEMBERSHIP BY SCHOOL DISTRICT, 1974-1975

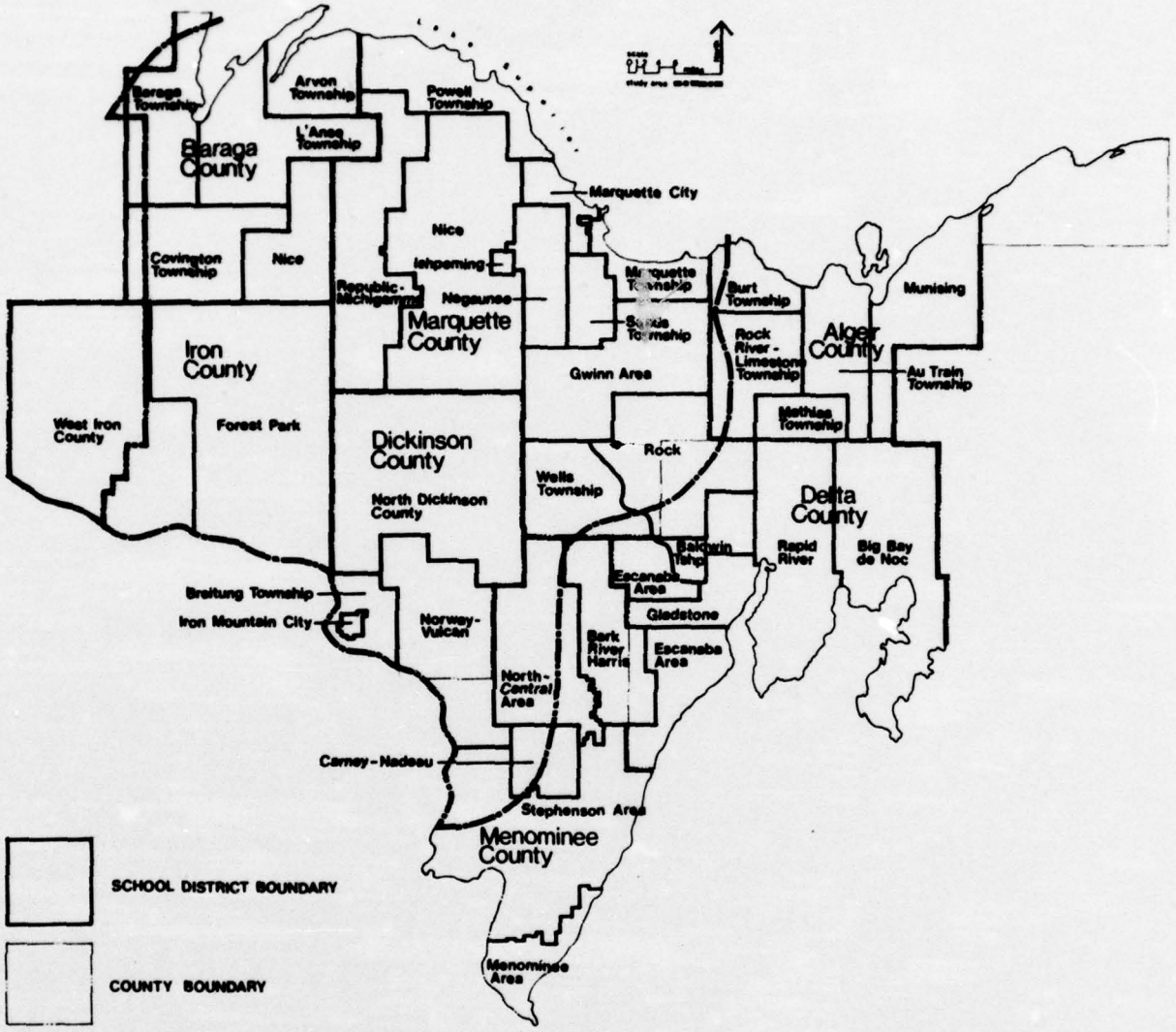
| School District | K-12 Membership |
|---|---|
| **Alger County** | |
| Au Train Township | 65 |
| Burt Township | 147 |
| Mathias Township | 172 |
| Munising | 1,519 |
| Rock River-Limestone Township | 447 |
| | 2,350 |
| **Baraga County** | |
| Arvon Township | 39 |
| Baraga Township | 831 |
| Covington | 140 |
| L'Anse Township | 1,103 |
| | 2,113 |
| **Delta County** | |
| Baldwin Township | 221 |
| Bark River Harris | 874 |
| Big Bay de Noc | 607 |
| Escanaba Area | 5,281 |
| Gladstone | 2,454 |
| Rapid River | 647 |
| Rock | 309 |
| | 10,393 |
| **Dickinson County** | |
| Breitung Township | 2,778 |
| Iron Mountain City | 1,702 |
| North Dickinson County | 507 |
| Norway-Vulcan | 972 |
| | 5,959 |

Table 35 (continued)

| School District | K-12 Membership |
|---|---|
| **Iron County** | |
| Forest Park | 941 |
| West Iron County | 2,029 |
| | 2,970 |
| **Marquette County** | |
| Gwinn Area | 3,334 |
| Ishpeming | 1,839 |
| Marquette City | 5,316 |
| Marquette Township | 189 |
| Negaunee | 2,062 |
| Nice | 1,664 |
| Powell Township | 73 |
| Republic-Michigamme | 466 |
| Sands Township | 48 |
| Wells Township | 66 |
| | 15,057 |
| **Menominee County** | |
| Carney-Nadeau | 372 |
| Menominee Area | 3,053 |
| North-Central Area | 865 |
| Stephenson Area | 1,330 |
| | 5,620 |

Source: 1974-1975 Constituent School District Data; School Management Services, Michigan Department of Education.

The range of available public schools and their size varies enormously throughout the Study Area. Marquette City school district has the largest membership and operates four elementary schools, one junior high and one high school. Conversely, Sand Townships district (Marquette County) operates a single school in a wood frame structure of early vintage as a K-3 system. In areas where settlements are widely spaced, students must commute long distances, particularly with respect to high schools which are fewer in number than elementary schools.




Source: Michigan Dept. of Education

Figure 4

## SCHOOL DISTRICTS

Relative to the disposition of existing facilities, a few statistics are available for Marquette County. Table 36 points out in a rough way the wide variance in facilities in each of the districts.

Table 36. CLASSROOM FACILITIES BY DISTRICT, 1972-1973
MARQUETTE COUNTY

| District | Elementary | | | Secondary | | |
|---|---|---|---|---|---|---|
| | Classrooms | Students | Ratio | Classrooms | Students | Ratio |
| Gwinn Area | 105 | 2,726 | 25.9 | 32 | 936 | 29.25 |
| Ishpeming | 36 | 1,247 | 34.6 | 56 | 900 | 16.0 |
| Marquette City | 79 | 1,826 | 23.1 | 140 | 2,969 | 21.2 |
| Marquette Township | 10 | 233 | 23.3 | -- | -- | -- |
| Negaunee | 36 | 929 | 25.8 | 42 | 955 | 22.7 |
| Nice | 37 | 835 | 22.5 | 31 | 548 | 17.6 |
| Powell Township | 6 | 71 | 11.8 | -- | -- | -- |
| Republic-Michigamme | 9 | 230 | 25.5 | 12 | 261 | 21.8 |
| Sands Township | 1 | 27 | 27.0 | -- | -- | -- |
| Wells Township | 3 | 49 | 16.3 | -- | -- | -- |

Source: Marquette County Comprehensive Plan; 1975; Marquette County Planning Commission

At the elementary level, the pupil/classroom ratio varies from 11.8 in Powell Township to 34.6 in Ishpeming. A ratio of 20 to 25 is the generally accepted optimum. Hence, only Ishpeming is substantially higher and only Wells and Powell are substantially below the optimum. At the high school level, the optimum ratio is generally less because of the more specialized facilities required such as laboratories. Negaunee's ratio is somewhat high, and Gwinn's is extremely high.

While Marquette County's student enrollment is the largest in the Study Area, (Table 35), Alger's is among the lowest. A review of Alger County's pupil/classroom ratio suggests that most facilities in the County are under-utilized reflecting the overall gradual decline in county population in previous decades. Generally, where student memberships are high in a district, pressures for additional classroom facilities are apt to be high also.

Table 37. CLASSROOM FACILITIES BY DISTRICT, 1972-1973
ALGER COUNTY

| District | Elementary Classrooms | Elementary Students | Elementary Ratio | Secondary Classrooms | Secondary Students | Secondary Ratio |
|---|---|---|---|---|---|---|
| Au Train Township | 4 | 66 | 16.5 | -- | -- | -- |
| Burt Township | 5 | 56 | 11.2 | 8 | 55 | 6.9 |
| Mathias | 4 | 64 | 16 | 8 | 102 | 12.8 |
| Munising | -- | 799 | -- | -- | 793 | -- |
| Rock River-Limestone Township | 9 | 209 | 23.2 | 10 | 208 | 20.8 |

Source: Alger County Comprehensive Plan, 1975; Alger County Planning Commission

In the past, student membership has fluctuated slightly each year throughout the districts. Membership fluctuations are attributed by local planning officials to intracounty population shifts in response to changing employment and economic opportunities. For example, enrollment in the Negaunee School District is likely to increase if iron mining has the positive impact on employment that is currently anticipated. Throughout the Study Area, however, stable to slightly declining enrollments are expected to the year 1980.

The cost of providing school facilities is to a great extent reliant on the scale of district operations. Fewer students per facility indicate higher per pupil costs. Administrative costs and physical plant costs are fixed costs which all districts must bear regardless of their size.

Per pupil costs vary significantly between districts. For example, in Marquette County (1973), for those districts operating K-12 programs, costs ranged from $726 in Ishpeming (2,357 students), to $1,065 in Republic-Michigamme (490 students). State equalized valuations by district also vary widely with the higher valuations normally assigned to those districts with the greater number of students.

Funds for the operation of schools are drawn from local property taxes and State and Federal aid. There has been considerable public discussion of various schemes designed to restructure the system of financing. Property tax payers find that about the only avenue available for them to express their discontent with increasing taxes is at the polls

regarding new school construction. Consequently, budgets are slim and new construction is rare. Many school buildings are old, and their potential replacements are frequently put off for future consideration. The one-room schoolhouse is still prevalent on the fringes of major population centers and several grades in one classroom, under one teacher, is not an unusual situation. For the immediate future, it appears that revenue sources will remain the same with facility programming and district consolidation contining to be made locally by elected Boards of Education.

Parochial Schools

Parochial elementary and secondary schools have many of the same characteristics and problems as the public institutions. Although little information is available on the subject, financial support is a primary concern in most instances and some schools have closed as a result of the financial burden, adding to enrollment in the public facilities.

Higher Education

The Study Area is served directly by two institutions of higher learning. Bay de Noc Community College is a two year college located in Escanaba whose students are primarily residents of Delta and neighboring counties. Northern Michigan University is a four year university located in Marquette offering baccalaureate and graduate programs through the Ph.D. (Located outside the Study Area and serving the region are two four-year institutions: the University of Wisconsin, Marinette, and Michigan Technological University in the City of Houghton, Houghton County. Michigan Tech emphasizes curricula in the engineering fields and listed a 1973 opening fall enrollment of 4,975.)

The curriculum at Bay de Noc provides for either transfer credits in most fields of study or for a two year course leading directly to an Associate Degree. Northern Michigan University provides a liberal arts oriented program with major fields of study in business, science, nursing and education. The university supplies most of the elementary and secondary school teachers throughout the Upper Peninsula and maintains a Public Services Division providing education services to Upper Peninsula communities. Northern Michigan University also has a resident center for college credit in the Iron Mountain-Kingsford area.

Table 38. OPENING FALL ENROLLMENT IN INSTITUTIONS OF HIGHER EDUCATION BY INSTITUTION, 1973

| Institution & City | Men | | Women | |
|---|---|---|---|---|
| | Full-time | Part-time | Full-time | Part-time |
| Northern Michigan University, Marquette | 3,304 | 933 | 2,988 | 983 |
| Bay de Noc Community College, Escanaba | 245 | 236 | 170 | 180 |

| Institution & City | Total | | |
|---|---|---|---|
| | Full-time | Part-time | Total |
| Northern Michigan University, Marquette | 6,292 | 1,916 | 8,208 |
| Bay de Noc Community College, Escanaba | 415 | 416 | 831 |
| | | | 9,039 |

Source: Michigan Statistical Abstract, 1974; Graduate school of Business Administration, Michigan State University

Michigan State University resources are available in the Study Area. Programs in agriculture, home economics, 4-H and youth, natural resource development and marketing are available through its Extension Center at Marquette and other offices in each of the counties. Services from the Michigan State University colleges of business, engineering and others are available through the Continuing Education Division at the Marquette Extension Center. The Extension Service is supported by Federal, State and local government.

These educational institutions provide an important source of funds to the economy of the area resulting from the purchases of goods and services and payments to employees. Of equal importance is student spending within the communities for supplies and services and additional funds stimulated from visitors, conferences, summer institutes and research projects.

## Vocational Training

There are no clear-cut responsibilities for vocational training between the local school districts, Bay de Noc College, Northern Michigan University and the industries that need skilled workers. Vocational training is limited to the few courses provided through four year high schools, the community college and Northern Michigan University.

Northern Michigan University has maintained an area training school for vocational training since 1962. For the most part, cooperation of business and industry with the high schools has provided vocational education programs in agriculture, trade and industrial education.

## Fire Protection

### Status and Services

Within the Study Area, each of the principal cities has a fire department. The equipment found in each city varies, with the smaller cities having less equipment. Accordingly, annual budgets for fire protection are low and vary from $15,000 in Alger County to $75,000 in Marquette County. Most of this money is used for fire suppression rather than fire prevention.

Per capita expenditures for fire protection in the townships varies greatly with seemingly no correlation between expenditures and fire protection insurance ratings. In Marquette County, for example, both Republic and Richmond Townships have an undesirable insurance service rating of class nine, but Republic budgets about $1.60 per capita annually while Richmond budgets over $10.50 annually.

The rating system, established and administered by the Insurance Services Organization is the most widely used method of determining the adequacy of fire protection for an area. The ratings range from one to ten with a number one rating being the best obtainable. Insurance Services Fire Ratings are used by all insurance companies when pricing insurance policies using 52 criteria under four general categories:

- water supply, 39 percent
- fire department, 39 percent
- fire service communication, 9 percent
- fire safety control, 13 percent

Table 39 shows the listing of Marquette, Alger and Delta County communities and their established fire protection

ratings. All communities and areas not listed in these counties are given a class ten rating.

Table 39. COMMUNITY FIRE PROTECTION RATING BY INSURANCE SERVICES OFFICE

| Location | Rating |
|---|---|
| (1) Alger County | |
| Burt Township | 9 |
| Chatham | 9 |
| Munising | 7 |
| (2) Delta County | |
| Bark River | 9 |
| Bark River Township | 9 |
| Escanaba City | 6 |
| Gladstone | 7 |
| Kipling | 9 |
| Masonville City and Township | 9 |
| Nahma City and Township | 9 |
| Rapid River | 9 |
| Schaffer | 9 |
| (1) Marquette County | |
| Austin | 9 |
| Chocolay Township | 9 |
| Forsyth Township | 9 |
| Gwinn | 9 |
| Harvey | 9 |
| Ishpeming City | 7 |
| Ishpeming Township | 9 |
| Marquette City | 6 |
| National Mine | 9 |
| Negaunee City | 7 |
| New Swanzy | 9 |
| North Lake | 9 |
| Palmer | 9 |
| Princeton | 9 |
| Republic | 9 |
| Republic Township | 9 |
| Richmond Township | 9 |
| Sawyer Air Force Base | 5 |
| Tilden Township | 9 |

(1) November 1, 1972

(2) November 1, 1974

Source: Marquette County Comprehensive Plan, 1975; Marquette County Planning Commission

Alger County Comprehensive Plan, 1975; Alger County Planning Commission

Delta County Comprehensive Plan, 1974; Delta County Planning Commission

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The ratings given most communities shown in Table 39 are poor. Protection ratings throughout other counties in the Study Area are apt to be poor also, especially in view of the fact that rural fire department service can be minimal where long distances are involved.

Because of the large geographic area to be served and fragmented settlement pattern, high levels of fire protection in rural areas using conventional techniques are difficult to achieve. Fire protection has largely been the responsibility of the townships and cities. Suppression plans that have been devised have resulted in adequate protection for the larger cities, but little to none for some rural settlements. A balanced program of fire loss management is needed involving prevention as well as suppression.

The Central Upper Peninsula Planning and Development District points out the following facts in District fire protection.

- o Fire protection planning needs to be coordinated with other community planning programs.
- o Public education about fire has been cited as the single activity with the greatest potential for reducing losses.
- o Little money is spent on fire prevention.
- o A Federal study indicated that if all rural homes had early warning fire detectors, rural fire deaths would decline by as much as 75 percent.
- o There are few or no women volunteer fire fighters. Because a fire department's role also includes education and inspection, a new source of volunteers could be tapped.

Agreements

Cooperation for fire protection between local units of government is wide spread and there has not been an accurate study done that determines the actual economies of scale involved in consolidation or cooperation.

In Marquette County, K. I. Sawyer Air Force Base has signed mutual aid agreements with the following: Marquette City, Negaunee City, Ishpeming City, Skandia Township, West Branch Township, and the Department of Natural Resources. The agreement formalizes responsibility and authorizes the Base Fire Chief to act on calls he receives. The local unit which has the fire is in charge at the fire site. Assistance is provided to other governmental units without the signed Mutual Aid Agreements but the Base Fire Chief must check with the Base Commander first. Base equipment available to local units consists of:

- one 500 gpm pumper with 400 gallon water tank
- one 750 gpm pumper with 300 gallon water tank
- two 1,500 gallon tankers
- one 5,000 gallon semi with 500 gpm pump
- 80 man fire fighting staff

The State Prison at Marquette has unwritten mutual aid agreements with the City of Marquette and Chocolay Township. The prison equipment includes one pumper of 500 gallon capacity and one tanker of 1,000 gallon capacity. There are two employees in charge of fire control and they have four inmates that assist.

The Michigan Department of Natural Resources has two types of field offices in Marquette County which can provide fire assistance. Their Regional Field office, which has men and equipment assigned to cover the entire Upper Peninsula as the need arises, is based at the State Fish Hatchery south of Marquette. In addition, there are four district field stations with smaller areas and less men and equipment. These Marquette County stations are based at Gwinn, Champion, Big Bay, and the State Fish Hatchery.

- The Regional Field office has a plane and a helicopter. Both are kept at Marquette County Airport and serve as spotters for fire and the transportation of men and equipment. There are three full-time fire personnel on duty with the back up support of seven other personnel. The fire equipment at this station, ready for duty anywhere in the Upper Peninsula, includes the following:

-one large 4 x 4 pumper
-one small 4 x 4 pumper
-one John Deere 450 caterpillar plow unit
-two D-7 bulldozers
-one 5,000 gallon tanker
-one Chrysler Heil high volume pump on trailer (used on muck fires to flood an area)

All of these units have radio but only for communication among other DNR units. The State Police monitors their frequency and assists when called.

- The District Field Station, south of Marquette at the State Fish Hatchery, has four full-time employees at the station. They all serve as fire fighters when a call is received. Their equipment, also radio equipped, includes one large 4 x 4 pumper, one small 4 x 4 pumper, and a John Deere 350 caterpillar plow unit.

- Gwinn's field station has six full-time employees which serve as the fire team. The equipment here includes a large 4 x 4 pumper, a small 4 x 4 pumper, a John Deere caterpillar plow, a 1,200 gallon tanker with portable pump attached and a D-6 bulldozer.

- Champion is a two man station that has a John Deere caterpillar plow and a large 4 x 4 pumper with fire plow attached.

- Another small station is the Big Bay unit with one full-time man. His equipment is a John Deere caterpillar plow, a large 4 x 4 pumper and a portable pump unit.

Besides these field office personnel and equipment, the DNR helps interested units of government obtain government surplus 4 x 4s, 6 x 6s and jeeps for conversion into fire fighting equipment. Under this agreement, the townships house and maintain the vehicles and agree to cooperate on any fire in their respective areas. In turn, the DNR agrees to assist, when needed, with any equipment it can spare. Units with such equipment in Marquette County are the townships of Chocolay, Sands, Ishpeming, Champion, Michigamme, Forsyth, Powell, Richmond, Wells, and the Marquette Branch Prison. In Delta County, units with equipment are the townships of Garden, Bark River, Maple Ridge and Fayette State Park.

- Not mentioned above is the Escanaba Regional Office serving Delta County with a 4 x 4 pumper, John Deere

caterpillar plow, International tractor with 2,000 gallon semi-trailor and pump, International tractor plow unit and other equipment.

In Alger County, the City of Munising has a mutual aid agreement with Munising Townships and the Department of Natural Resources. Munising also provides fire suppression services to Grand Island and Au Train Townships on a contractural/per fire basis. Pictured Rocks National Lakeshore in north Alger County has no formal agreements with local units of government and has minimal fire assist capabilities. However, its portable tank on a 4 x 4 truck is available to those who need assistance during the summer months. For major fire situations, the U. S. Forest Service from Munising is called in for assistance.

The Forest Service fire team and equipment is available to fight any forest fires occurring within the boundaries of the Hiawatha National Forest whether the fire is on State, Federal or local land. The fire team is also used outside the natural forest boundaries when severe fires exist or threaten to expand into the national forest. As a condition of employment, all Forest Service personnel are required to be involved in fire control when needed. A total of sixty people in Escanaba (Delta County), Rapid River (Delta County), Munising (Alger County), and Manistique (Schoolcraft County) are considered qualified for fire control duties. These people have experience and/or training in the various functions of fire control. In addition to the regular U. S. Forest Service staff, temporary employees ranging from 1 to 100 or more are hired during the fire season, depending on severity of conditions.

The U. S. Forest Service team is not equipped or trained to suppress structural fires. There is only one formal agreement established with the Forest Service and that is with the Michigan DNR. Obtaining formal agreements with other units of government is presently being considered by the U. S. Forest Service.

An additional service provided by the U. S. Forest Service is that of spotter airplanes. During high fire danger periods, the U. S. Forest Service contracts with a private pilot to survey the National Forest for fires. Fire tower lookouts are no longer used.

## Police Protection

Police protection services to be found in the Study Area are representative of those normally existing in rural regions

of the United States. Protection services are characterized by three basic elements: (1) there is a bare minimum of financial support; (2) protection services must cover a wide geographic area; (3) facilities are few in number and personnel must serve a relatively sparse population.

Police protection and law enforcement in the region is carried out by five separate levels of government: (1) the Federal government, (F.B.I., K. I. Sawyer Air Force Base, Bureau of Indian Affairs, U. S. Coast Guard, U. S. Postal Inspectors, U. S. Marshalls); (2) the State of Michigan (Michigan State Police); (3) the County (sheriff's department); (4) the city police; and (5) the township police. This report will address police protection as provided by the State and local governments.

Since sizes of the individual police agencies in the Study Area are small, specialization of tasks seldom occurs and each patrol officer can be characterized as a generalist. The magnitude and incidence of crime in the region does not approach that of many of the major cities of the nation. The most common crimes are burglary, larceny and auto theft.

All of the seven counties of the Study Area have full-time police officers. However, as will be shown, the number of officers per thousand population has characteristically remained below State and national averages. Excluding all State police, the mean annual police costs per capita by county ranged from $2.85 to $4.04, substantially below the $14.28 per capita cost for the State as a whole. Central Upper Peninsula Planning and Development Region data indicate that additional police needs include more in-service training and better facilities and equipment (other than patrol vehicles).

Michigan State Police

Michigan State Police have the authority to enforce all State laws, and by a recent Attorney General's opinion, also have the authority to enforce all local ordinances.

Within the Study Area there are seven State Police posts, one in each county of the Study Area. In addition to the seven posts, the 8th District includes the entire Upper Peninsula.

Besides housing district headquarters, the State Police facility at Negaunee contains the State Police satellite crime laboratory, providing a variety of crime analysis services to the State Police and to local police agencies

requesting laboratory services. The services include firearms identification, tool marking identification and latent print identification.

There are currently 129 sworn State Police personnel at the seven posts and 15 nonsworn personnel. The average post consists of one lieutenant as post commander, four uniformed sergeants in charge of individual shifts and nine troopers who perform patrol duties, criminal complaint investigation, traffic enforcement, accident investigation, dispatching, crime prevention, juvenile complaint investigation and other patrol duties. The average number of partol vehicles per post is five, which is more than adequate, since the per post maximum number of vehicles in use at one time is two. In addition, each post has access to helicopters and fixed-wing aircraft at the East Lansing headquarters.

The jurisdiction of State Police posts typically extends beyond county boundaries. Because of public confidence in the Michigan State Police, many people living in remote or rural areas have come to rely on the State Police to answer their police service needs.

County Sheriff Departments

There are seven county sheriff departments in the Study Area, one located at each county seat as required by the Michigan Constitution. The sheriff of each county is an elected official with a two-year term. The qualifications for office require no more than U. S. citizenship, county residency, voter registration and that the candidate be no less than 18 years of age.

The county sheriff has four major responsibilities as required by law: (1) to appoint an undersheriff and deputies; (2) to preserve order in circuit court; (3) to enforce State laws and county ordinances within the county; (4) to administer and operate a county jail, if one exists.

There are currently 83 full-time personnel (including deputies) employed by county sheriff departments and 45 part-time personnel. The sheriff departments also maintain a staff of 72 reserve officers throughout the Study Area.

In 1972, the average number of full-time sheriff deputies Statewide was 26.9 per county. The 1974 average for the entire 15 county region was 42. Additionally, most of the part-time and reserve force personnel in the Study Area have not attended the required Michigan Law Enforcement Officers' Basic Recruit School, seriously limiting the law enforcement authority of sheriff department personnel.

The types of vehicles utilized by sheriff departments range from patrol cars to snowmobiles, and range widely throughout the counties as to their number. Dickinson County maintains four patrol cars, two boats, two snowmobiles and one rescue wagon for a total of nine vehicles. Delta County maintains two patrol cars and one animal control vehicle, for a total of three vehicles. The Delta County Sheriff Department does not have a boat, even though the county has 162 miles of shoreline and the Department is mandated by law to try to recover drowned bodies.

Since the taxpayers provide the money to operate county government, it is up to them and their elected political officials to determine what kind of sheriff department they want. The number of full-time personnel in sheriff departments is low and thus there is inadequate police protection in areas of each county outside city boundaries. The Planning Districts point out that some counties are actively seeking to upgrade their sheriff departments, and that it is not unreasonable to assume that the Michigan State Police will, in the future, be limited in the human resources they can contribute toward assisting county sheriff departments.

City Police Departments

There are 17 city police departments in the Study Area. They are:

- Alger County: Munising
- Baraga County: L'Anse, Baraga
- Delta County: Escanaba, Gladstone
- Dickinson County: Iron Mountain, Kingsford, Norway
- Iron County: Iron River, Crystal Falls, Stambaugh, Caspian, Gaastra
- Marquette County: Marquette, Ishpeming, Negaunee
- Menominee County: Menominee

City police departments are responsible for enforceing State laws and city ordinances within the jurisdictional boundaries of the city. The departments have staffs ranging from one full-time employee in the City of Gaastra in Iron County, to 41 full-time employees in the City of Marquette. At the present time, the Escanaba and Marquette city police departments meet or exceed the recommended standard number of 20 police officers, as set forth by the Michigan Advisory Commission on Criminal Justice. Only the Escanaba police department provides an integrated police and fire service.

In 1974, all city police departments had between one and five patrol cars with the exception of Marquette, which had

nine. In addition, the Marquette police department had one boat and the Menominee police department had one snowmobile. While there is no specific number of vehicles correct for a department to own, in view of their jurisdictional limits, the number of patrol vehicles available to city police departments appears more equitable than that of the sheriff departments.

All of the city police departments in the region dispatch their own vehicles. Kingsford and Norway have agreements with the Michigan State Police and Dickinson County Sheriff Department to dispatch for those cities when no one is at the offices of the city police departments.

In Menominee County, the City of Menominee has cooperative agreements with other police agencies, including the neighboring City of Marinette in Wisconsin, the Michigan State Police and Menominee County Sheriff Department. The Cities of Iron River, Stambaugh, Caspian and Gaastra in Iron County have inter-agency mutual aid pacts. In Delta County, the Cities of Escanaba and Gladstone list mutual aid pacts.

Table 40 is a listing of the city police departments in the Study Area showing which agencies provide detective services and crime lab facilities. Most agencies rely on the Michigan State Police Crime Lab at Negaunee for crime lab services.

Township Police

Most townships in the Study Area rely on the State Police and county sheriffs for police protection. However, townships are required by Michigan law to elect at least one, but not more than four constables. The constable is given specific duties by law, mostly relating to the serving of legal papers and attending sessions of the circuit courts. Any authority for arrest is based only on legal opinion.

In practice, some townships do not have constables and many elected constables perform no function. The most extensive use of constables is as liquor license inspectors. There are townships, however, that employ policemen to perform patrol and other conventional police functions. In this respect, there are only four townships in the Study Area with established police departments, all of which are in Marquette County. The townships are Chocolay, Forsyth, Ishpeming and Marquette.

In 1974, Forsyth Township had the largest township police force, employing four police officers with two patrol cars

in a department with a $49,000 annual budget. In the majority of cases, however, townships cannot afford to employ trained policemen for normal police functions.

The dispatching of all township police vehicles is performed by the Michigan State Police, Negaunee Post. The Michigan State Police provide both detective services and crime lab services for the township police agencies.

Of concern to government officials, planning officials and the citizenry of the Study Area is the adequacy of police protection provided by all local agencies combined. A measure of the adequacy of police staffing which can be used for comparison are the State and national averages for such protection.

Table 41 shows the number of full-time sheriff, city and township police personnel for the year 1974 with the number of police personnel per 1,000 population. Alger County had the most police personnel per 1,000 population, 2.2, with Menominee County having the lowest, 1.2. In 1973, the U. S. average for local police full-time employment was 2.05, while the Michigan Average was 1.96. The Study Area average in 1974 was 1.4.

Statistics show that all counties in the Study Area experienced an increase in crime during the years 1973 and 1974. The index crimes* of larceny and burglary continue to plague the Upper Peninsula. Larceny most often occurs where there are several cities within a few miles of each other. The crime of burglary has been increasing in rural areas suggesting the possibility of a high correlation between the percentage of seasonal dwellings in a county and the amount of burglary there. The 1973-1974 reported burglary increase was about 17 percent in the Study Area, pointing to the need for additional police protection in all counties, except Alger, where local police employment falls above State averages.

* A term for a grouping of selected types of crimes which are recognized as more stable indicators of crime measurements and trends than if all crimes were used. Index crimes are: murder and non-negligent manslaughter, rape, robbery, aggravated assault, burglary, larceny and auto theft.

Table 40. DETECTIVE AND CRIME LAB FACILITIES USED BY CITY POLICE DEPARTMENTS, 1974

| Department | Detective Services Furnished by: | Crime Lab Facilities Furnished by: |
|---|---|---|
| Baraga | - | - |
| Caspian | - | - |
| Crystal Falls | - | - |
| Escanaba | Own Department | Michigan State Police<br>Negaunee - East Lansing |
| Gaastra | - | - |
| Gladstone | Michigan State Police | Michigan State Police<br>Negaunee - East Lansing |
| Iron Mountain | Own Department and Michigan State Police | Michigan State Police<br>Negaunee - East Lansing |
| Iron River | - | - |
| Ishpeming | Own Department | Michigan State Police<br>Negaunee - East Lansing |
| Kingsford | - | Michigan State Police<br>Negaunee - East Lansing |
| L'Anse | - | - |
| Marquette | Own Department | Michigan State Police<br>Negaunee - East Lansing |
| Menominee | Own Department | Michigan State Police<br>Negaunee - East Lansing |
| Munising | - | Michigan State Police<br>Negaunee - East Lansing |
| Negaunee | Michigan State Police | Michigan State Police<br>Negaunee - East Lansing |
| Norway | Dickinson County Sheriff Department and Michigan State Police | Michigan State Police<br>Negaunee - East Lansing |
| Stambaugh | - | - |

Source: Criminal Justice Plan, October 1975; Central Upper Peninsula Planning and Development Region

Western Upper Peninsula Planning and Development Region

Table 41. NUMBER OF POLICE PERSONNEL EMPLOYED BY GENERAL PURPOSE GOVERNMENTS WITH PER CAPITA AVERAGE, 1974

| County | Population Projections | No. of Full-time Employed Officers | Officers per 1,000 Population |
|---|---|---|---|
| Alger | 8,170 | 18 | 2.2 |
| Baraga | 7,780 | 13 | 1.7 |
| Delta | 38,919 | 51 | 1.3 |
| Dickinson | 24,595 | 34 | 1.4 |
| Iron | 14,522 | 26 | 1.8 |
| Marquette | 69,903 | 102 | 1.5 |
| Menominee | 26,087 | 31 | 1.2 |
| Study Area Total | 189,976 | 275 | 1.4 |

Source: Criminal Justice Plan, October 1975; Central Upper Peninsula Planning and Development Region

Western Upper Peninsula Planning and Development Region

## RELATIONSHIP TO OTHER DATA

Socioeconomic Data relates heavily to Market Value and Land Use Data. Population patterns and density determine, to a large degree, the price at which land will sell as a function of demand, especially along lake shores and near the principal cities of Marquette, Iron Mountain and Escanaba. Elsewhere in the Study Area, market value patterns strongly reflect the location of recreation areas, mining, logging sites and uninhabited lands.

Vegetation Data and Surficial/Bedrock Geology Data reflect the relative capability and attractiveness of large land areas for logging, mining, farming and other commercial enterprises. Employment data included in this report should be referred to when examining resource productivity statistics.

Mineral Extraction Data is closely allied to the discussion of mining contained in this report and provides a clear description of the many mines generating jobs and revenue in the Study Area. Soil Data and Climatic Data highlight the causative agents of the current status of the agricultural industry while Cultural and Recreational Data explain many of the resources behind tourism and recreation in the Study Area.

Community services relate strongly to Governmental Data in the legislation and organization required for their provision. Each report should be reviewed with the other relevant reports of this Site Survey in mind so that the appropriate cross references may be made where required.

## VALIDITY

Information on all subject categories in this report was derived from numerous sources, documents and reports prepared in recent years on those subjects. For a complete listing of the documents refer to the Bibliography. Below are highlighted the various methods used in deriving the statistical data as presented.

### DEMOGRAPHY

Yearly population projections are revised each year by the Michigan Department of Management and Budget, and are based on occurrences of actual events which are related to population size, i.e., births, deaths, school enrollment and automobile registration. The projections start with the Official U. S. Census of Population for 1970 by county.

Accurate statistics on the number of births and deaths of each county are tabulated annually. The direct measurement on migration is obtained from the decennial census but is estimated as the residual after natural increase (births less deaths) has accounted for its share of growth or decline. However, there is a margin of error included in the residual and the population estimates will have a margin of error of about 5 percent to 15 percent. The largest errors will occur in those counties with the lowest populations and is due to statistical problems in dealing with small numbers. Unforeseen developments such as changes in the local economic base could invalidate the projections. However, the purpose of the county population projections in this report is to indicate broad population trends within the seven county Study Area.

### HOUSING AND HOUSEHOLD CHARACTERISTICS

Information on housing is difficult to obtain. The most reliable source of housing data is the 1970 Census of Housing conducted by the U. S. Bureau of the Census. However, the Census Bureau does not conduct the same in-depth surveys in rural areas as they do in metropolitan areas and Baraga and Iron County housing statistics presented in this report are 1970 Census statistics reinforced for accuracy through WUPRPC interviews of local realtors, builders, savings and loan personnel, members of county housing commissions and

existing local housing studies. Other housing and household statistics derivations are noted on the Tables.

## ECONOMIC CHARACTERISTICS

### Employment

Each month the Michigan Employment Security Commission releases labor force statistics pertaining to each labor market area. The Upper Peninsula has thirteen such areas: eleven single counties and two combined counties, including Marquette-Alger. (Multicounty labor market areas consist of counties among which commuting is extensive.)

Nonfarm, nonmilitary wage and salary employment statistics are developed from the reports of samples of employers. The sample is selected as being representative of the entire labor market economic structure. Total civilian employment and unemployment data are calculated from these data, adjusted for commuting, and combined with statistics on unemployment among the residents of each labor market area. The unemployment statistics are based on unemployment compensation rolls.

Each year the MESC releases annual civilian employment and unemployment averages that pertain to the residents of each labor market area. The 1970 and 1975 figures for the Study Area labor market appear in Table 16.

The number of employed persons directly affected by labor disputes is known from the records of the State's labor mediation service (Table 15). The civilian labor force is the sum of the unemployed, workers involved in labor disputes, and total employment (wage and salary workers, farm workers, self-employed, unpaid family workers, and domestics). The unemployment rate is the number of unemployed divided by the total labor force stated as a percentage (Table 17).

The civilian labor force includes all those persons sixteen years of age and older who are classified as employed or unemployed. Those not in the labor force are without a job and not looking for work by reason of keeping house, unable to work for reasons of health, incarceration, in college, retired, too young, voluntary idleness or involuntary idleness but not looking for a job.

## Income

Personal income reported is adjusted for the net result of commuting between counties. The residence adjustment is the difference between what residents bring in from working outside the county, after Social Security, and what nonresidents take out from working at establishments located within the county.

Total personal income is the sum of labor and proprietors earnings (net of Social Security and other social insurance contributions by workers), property income, and transfer payments. Property income includes earned dividends, interest, and rent. The largest component of rent, in most places, is in imputed rental from owner occupied housing: in theory, what a homeowner pays himself in rent for living in his own home. This treatment of imputed rent is consistent with the treatment of residential construction as an investment expenditure elsewhere in national income (but not personal income) accounts.

Transfer payments include all payments for past services (such as pensions to retired executives) plus other payments involving no return for work or capital. Examples are military pensions, Social Security benefits, unemployment and workmen's compensation and public welfare.

## RESOURCE PRODUCTIVITY

The order of appearance of all data as shown parallels the precision and accuracy of the available statistics.

Considerable and exact information is available in the area of mineral production, especially as it relates to the principal activity of iron ore production. Mining data is extremely well documented in terms of location and volume.

Available agricultural information for the Study Area is less precise, since for the first time, the Census of Agriculture was conducted by mail in 1969. In many cases, the number of farms, land in farms and total market value of all agricultural products may well be below existing numbers.

Existing information relating to forestry is extremely difficult to assess with any qualitative precision. In certain cases where specific information or data is not available, reliance is made on the accompanying narrative description. Activities of relative insignificance to the Study Area, are either excluded or grouped together under a single heading.

With respect to tourism, a brief economic study of Michigan's tourist business has been completed by Michigan State University, East Lansing. The 1972 four percent Michigan tax on commercial accommodations of $4.8 million results in total hotel and motel expenditures of $120 million. However, this represents only 17.6 percent of total trip expenditures of tourists traveling to a point 100 miles or more from their home and using commercial accommodations. Other expenditures include transportation, 38.4 percent; food, 21 percent; entertainment, 5.9 percent; gifts, 0.5 percent; and incidentals, 16.6 percent; according to data released by the United States Travel Data Center in Washington, D.C., raising the total expenditures figure to about $679 million.

Additionally, those who use commercial accommodations represent only 25.3 percent of the tourist volume with the remaining 74.7 percent spending their nights in the homes of relatives, friends, private cabins or other non-commercial accommodations. Adding the expenditures of $679 million of tourists who used commercial accommodations to those not using commercial accommodations results in total revenues of $2.3 billion. This estimate excludes day use of facilities as there are no estimates as to how much a day user spends.

The Upper Peninsula received 9.7 percent of Michigan's use tax collections on rooms generating $227 million in tourist revenue, $107 million of which would be attributable to the seven county Study Area.

## COMMUNITY SERVICES

Community services information has only recently become available in comprehensive form. Medical services data are characteristically supplied by the Michigan Department of Public Health. Educational statistics require frequent updating, as enrollment figures for the numerous public school districts change yearly. Police and fire protection data are kept current and are supplied by the Michigan Department of State Police. In all cases, community services information as presented in this report has been referenced to current data available from the Western and Central Upper Peninsula Planning and Development Districts.

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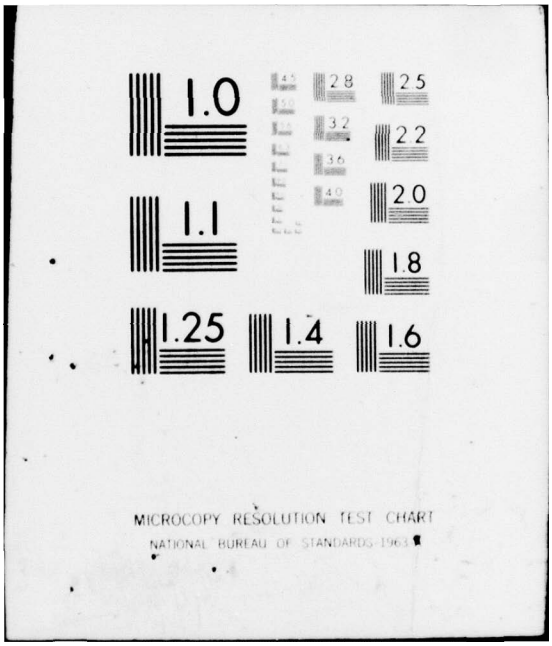
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## APPENDIX A

LETTER OF MUTUAL UNDERSTANDING
BETWEEN
THE 410th COMBAT SUPPORT GROUP (SAC)
AND
NEGAUNEE POST #81, MICHIGAN STATE POLICE

LETTER OF MUTUAL UNDERSTANDING

BETWEEN

THE 410th COMBAT SUPPORT GROUP (SAC)

K. I. SAWYER AFB, MICHIGAN

AND

NEGAUNEE POST #81, MICHIGAN STATE POLICE

1. K.I. Sawyer AFB has the capability to serve as a mobilization staging area for the Michigan State Police. Actions under this letter of agreement will become effective upon the occurrence of a situation requiring such mobilization and upon notification of the Base Commander, K. I. Sawyer AFB, by the Michigan State Police.

2. The Base Gym, building #641, will be made available for use by the Michigan State Police should future events require mobilization in the local area. The Base Gym contains ample floor space with office space available for use as a State Police Command Post. Shower and lavatory facilities are also available (see attachment 1 of this plan). Directly south of the gym is a parking lot (150' x 250') which can accomodate a large number of vehicles.

3. Additional facilities and assistance provided by K. I. Sawyer AFB will be as follows:

| | Host Responsibilities | MSP Responsibilities |
|---|---|---|
| Eating Facilities | Food will be served in the regular base mess hall, building #833, located approximately one block east of the gym. | The Michigan State Police will be charged the basic subsistence rate plus a 25¢ surcharge for each meal. |
| Availability of Beds | Due to the fluctuation of personnel in the base dormitories, K. I. Sawyer cannot assure the availability of beds/bedding. | Beds/bedding must be provided by the Michigan State Police. |
| Communications | A radio on the Michigan State Police frequency is already installed at the Law Enforcement Section, building #511. There are existing phone | Cost for all toll/ long distance calls made by the Michigan State Police will be on a reimbursable basis to K. I. Sawyer AFB. |

| | | |
|---|---|---|
| | lines between the gym and the Law Enforcement building. All telephones are serviced by the Michigan Bell Telephone company. | |
| Gasoline Supply | When not otherwise available, gasoline and petroleum products can be provided by Base Fuels and from two Base Exchange facilities. Products provided by the Base Exchange facilities will be in accordance with paragraph 3-8a(4) AFR 147-14. | Cost for all gasoline/oil issued from the base fuels service station to the Michigan State Police will be on a reimbursable basis to K. I. Sawyer AFB. Utilization of the Base Exchange Service Station by the Michigan State Police will be on a "pay-as-you-go" basis. |

4. The mutual co-operation between the 410th Combat Support Group, K. I. Sawyer AFB, and the Michigan State Police will serve to further enhance the professional accomplishment of both our missions.

DONALD R. JAMES, Colonel, USAF
Commander, 410 CSG

ALBERT K. DENTON, Lt
Post Commander, Negaunee Post #61
Michigan State Police

MAR 1 8 1974

2 Attachments:

1. Floor Plan, Bldg 641, Base Gym
2. Base Map

Distribution:

| | |
|---|---|
| Michigan State Police | 5 |
| 410 BW/CC | 1 |
| 410 CSG/CC | 1 |
| DOK | 1 |
| MAX | 1 |
| 410 SPS | 1 |
| 410 SO | 1 |
| 410 SV | 3 |
| ACB | 1 |

MICHIGAN STATE POLICE

INTER-OFFICE CORRESPONDENCE

DATE : January 29, 1974

SUBJECT: Mobilization Staging Area, Negaunee Post

TO : Colonel John R. Plants, Director

COMMUNITY
Marquette County.

FACILITY AND LOCATION
K. I. Sawyer Air Force Base on County Road 553 about fifteen miles south of Marquette.

AUTHORIZATION BY
Colonel Donald R. James, Base Commander.
Captain Sharon Loftis, Chief of Administration.
Lt Colonel Howard R. Hardt, Chief of Security.

PERSON RESPONSIBLE
Lt Colonel Howard R. Hardt.

DESCRIPTION OF BUILDING AVAILABLE
The base gym which is separate from any other building.

SIZE OF AREA FOR OUR USE
The entire building which is 155 x 69 feet.

SLEEPING FACILITY
There are two large areas for placement of cots.
The main gym is 66 x 97 feet.
An exercise room is 24 x 34 feet.
In addition, there is a handball court and a squash court.

AVAILABILITY OF BEDS
None available in area. Will have to come from Headquarters.

CAPACITY TO FEED
Any large number.

EATING FACILITIES
Food would be served in the regular base mess hall.
The mess hall is about a block west of the gym.

PREPARATION OF FOOD
Food would be prepared by the regular base cooks.

CHARGES FOR FOOD
Charges would have to be worked out at the time.

WASHING FACILITIES
The gym has several showers, lavatories and stools.

COMMAND POST
There are several offices in this building which are available.

TELEPHONE LINES
Michigan Bell Telephone Company serves the base, and there are phones already in the offices in this building.

POWER LINES
The U. P. Power Company serves the area.

COMMUNICATION
A radio on our frequency is already installed in the Security Police Law Enforcement Office. There are phone lines between the gym and the Security Police Law Enforcement Office.

PARKING AREA
Directly west of the gym is a parking lot large enough to hold a large number of vehicles.

SECURITY OF VEHICLES
There are guards on all the gates entering the base.

GASOLINE SUPPLY
Motor pool and gas stations on the base.

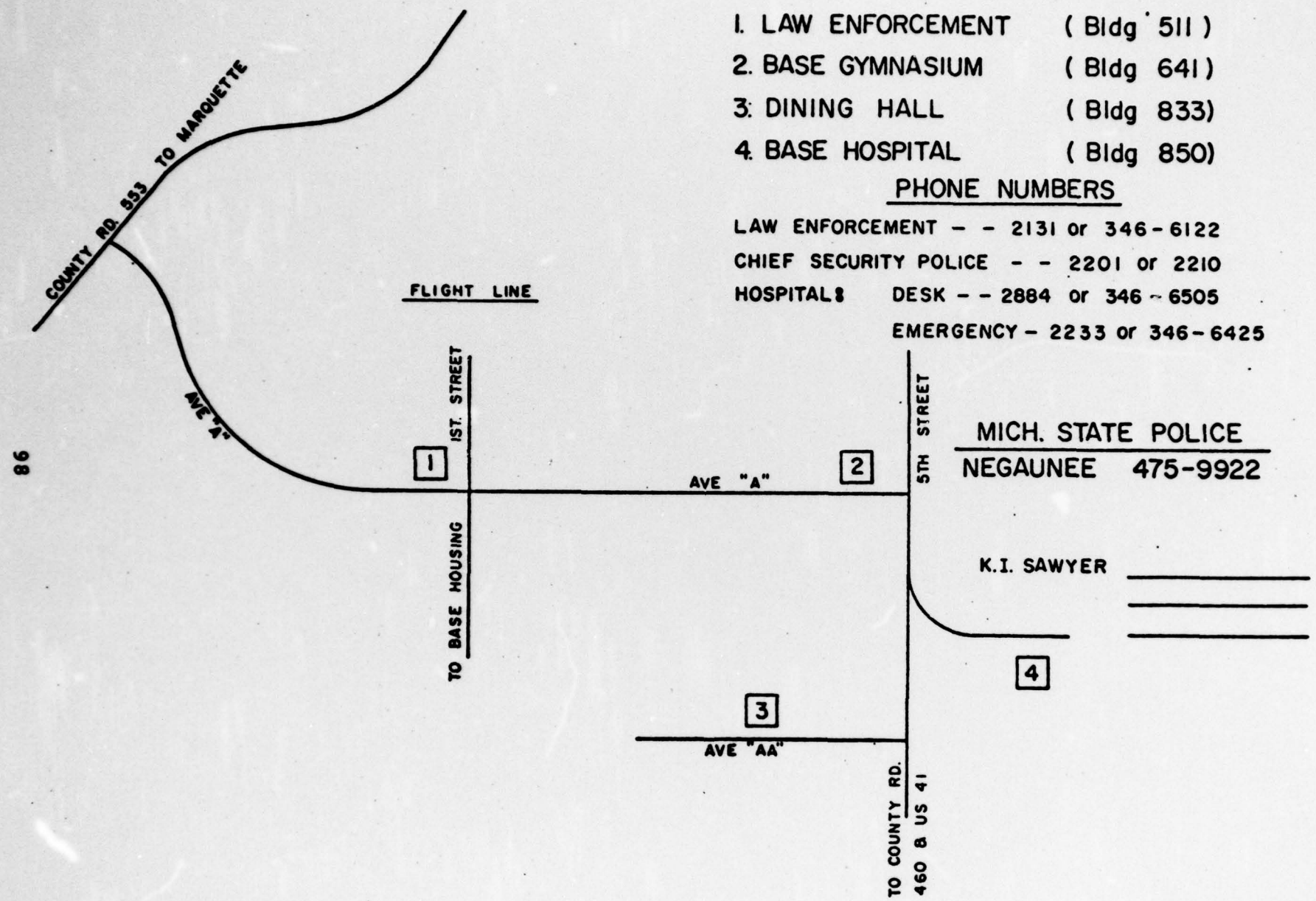
BUSES FOR TRANSPORTATION
Air Force buses are available.

AVAILIBILITY OF FACILITY
The base gym is available the entire year, except in the case of a national emergency.

Respectfully submitted

Albert K. Denton, Lt
Commanding Officer
Negaunee Post #81

MAR 1 8 1974


1. LAW ENFORCEMENT ( Bldg 511 )
2. BASE GYMNASIUM ( Bldg 641 )
3. DINING HALL ( Bldg 833)
4. BASE HOSPITAL ( Bldg 850)
PHONE NUMBERS
LAW ENFORCEMENT - - 2131 or 346-6122
CHIEF SECURITY POLICE - - 2201 or 2210
HOSPITAL: DESK - - 2884 or 346-6505
EMERGENCY - 2233 or 346-6425
COUNTY RD. 553 TO MARQUETTE
AVE "A"
FLIGHT LINE
1ST. STREET
5TH STREET
AVE "A"
TO BASE HOUSING
AVE "AA"
TO COUNTY RD. 460 & US 41
MICH. STATE POLICE
NEGAUNEE 475-9922
K.I. SAWYER
1
2
3
4