



The Alcona County Plan

PEOPLE
ACTIVITIES
SERVICES
ENVIRONMENT
GOALS
ZONING & SOILS



ALCONA COUNTY BOARD OF COMMISSIONERS

ALCONA COUNTY BUILDING — HARRISVILLE, MICHIGAN 48740

June 22, 1978

Dear ALCONA COUNTY PLAN Reader:

Present County commissioners Harold Fletcher, Don Read Sr., Ken Trower, Ed Woods, and myself as chairman, commend the foresight of prior County Boards and the tireless efforts of past and present County Planning Commissioners which have resulted in recent completion of the ALCONA COUNTY PLAN.

Providing the most complete statistical data available on Alcona County, as well as outlining generally agreed upon goals and objectives for future development, this document should be of invaluable help to all public officials, agencies, and planning bodies in the County and, as an added benefit, provide desired information to various commercial and business enterprises and the interested individual citizen.

It should also be known that in accordance with P.A. 282 of 1945, as amended, adoption of this plan and certification of a copy to the County Board of Commissioners mandates that no future work shall be initiated by any county agency for any capital improvement until a full description of the project is submitted to the County Planning Commission and their assessment of its conformance to the tenets of the PLAN have been received and reviewed by the Board of Commissioners.

In this regard, the Board of Commissioners will take full advantage of the expertise of its Planning Commission and will continue to work closely with and rely on them for recommendations pertaining to other undertakings in furtherance of the health, safety, and welfare of all residents of the County. As in other areas, anticipation of, research, and planning for future public needs can result in the avoidance of crisis and the basis for better decisions.

The PLAN is not all inclusive nor is it infallible: It will be revised from time to time, as additional data are available. Please use it as it was intended--as a planning tool--to assist the task of human decision-makers to shape the future of our County.

Sincerely,

GERALD F. JASINSKI
Chairman



Preface.....

People desire:

--homes in pleasant neighborhoods with adequate schools and public services;

--protection against the hazards of unsafe building construction;

--prosperous communities that offer sufficient and diverse opportunities for employment;

--protection against the threat of air, land and water pollution;

--a variety of recreational facilities;

--efficient and safe transportation and utility service;

--patterns of development that will inspire community pride and encourage citizen involvement;

--and many other factors required of our physical, economic and social environment for living a full life;

This "Plan" is dedicated to meeting the needs and desires of the citizens of Alcona County.



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Marshall McGuire Sr.

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Introduction

For Alcona County and its residents to control or channel growth as they desire, it is essential that a comprehensive and long-range approach to planning future development be established. The written statement of this approach and its inherent research is referred to as a "Comprehensive Plan."

The PLAN is not just a reference source of pertinent data about Alcona County. Its approach strengthens the decision making capacity of our local governmental units by:

- Inventorying the various aspects of the County,
- determining through analysis the problem areas and issues facing the County,
- developing county-wide goals and objectives, and
- providing the ways and means to adopt and implement the "Plan."

The format of the method used in this "Plan" is patterned after the PASE system developed by the Northeast Michigan Regional Planning and Development Commission. In this method the various aspects of our community are divided into four basic areas. These areas include.....

the PEOPLE of the area,
the ACTIVITIES they are engaged in,
the SERVICES that are provided, and
the various aspects of the ENVIRONMENT.

These areas are thoroughly researched and a detailed inventory is compiled. This data then becomes the basis for the comprehensive planning process.

The form of the "Plan" is both written (documentation) and graphic (illustration) which will allow flexibility in depicting or portraying the inventory data. The "Plan", though it will be long-range in scope (20 years), will be general in nature. It is not intended to establish precise boundaries of land use areas or exact locations for future shopping areas, school sites or other proposed development.

This report and its accompanying maps, charts, and diagrams will constitute the "Alcona County Plan." The initial preparation and continual revision of the "Plan" will be the most important responsibility of our local governmental units in conducting Alcona County's overall planning efforts. Implementation of the "Plan" will involve thorough discussion of its elements by the County Planning Commission, County Board of Commissioners and all local government officials, as well as eventual involvement and assistance by citizen advisory committees.

After the "Plan" is formally adopted, it will be necessary to establish procedures and techniques for the administration of the "Plan," to execute periodic review and revision for the maintenance of the "Plan," and to follow through with modifications of the "Plan" in accordance with the everchanging community.

It should be noted at this point that planning must not be confused

with the "zoning" function. The two words are not synonymous, but instead are and must be held apart. The "Plan" is a statement of goals, issues, and objectives. It looks ahead and deals with every aspect of the County profile. In contrast, the zoning ordinance is short-range in scope and deals only with land use controls. Zoning is but one of several means which can be employed to work gradually and progressively towards achieving the objectives stated in the "Plan."

Alcona County, like many other counties in Michigan, has recognized the need for "charting and controlling its own destiny." This "PLAN," therefore, is intended to help guide constructive development in Alcona

County in the forthcoming years. It seeks to build upon the natural advantages present within the County and provide general guidelines for correcting apparent deficiencies. By recognizing our immediate and future needs, the "Plan" should assist County officials in meeting and satisfying these needs most economically.

Again, the planning process does not and must not end with the publication of this report. Changes will continually occur in the County which will call for adjustments and revisions to the "Plan." It must, therefore, be subjected to constant review and updating if it is to continue to serve the best interests of Alcona County and its citizens and provide a workable "Blueprint for Progress."

Part one: PEOPLE

INTRODUCTION

The PEOPLE element includes:

--history, to provide insight about our area and its inhabitants;

--population information, to provide current data about our people;

--education surveys, to establish the general character and abilities of our people;

--health and welfare data, to gain insight into our human physical needs;

--economic information, to determine how our people make their living; and

--governmental structure and information, to illustrate how we rule ourselves and provide for our collective needs.

HISTORY

Originally, Alcona County, as well as the rest of Michigan, was the homeland of the Indians. In the early 1600's the French explored the area setting up missions and carrying on a lucrative fur trading business. By its very nature, the fur business did not encourage the establishment of communities and settlements. In the mid-1700's both the British and the French courted the friendship of the Indians. Control of the Michigan Territory "see-sawed" between the French, the British and the Indians for about 100 years. Fur merchants wanted the west to remain uninhabited, except by Indians and traders; while farmers and speculators wanted the lands opened up and settled.

The Northwest Ordinance of 1787 formed the region between the Ohio and the Mississippi Rivers and

the Great Lakes into the first organized territory. Even so, very little development took place in northern Michigan due to insufficient land surveys, Indian disputes and unstable governments.

It was not until the Treaty of Saginaw (1819) that the land area of Alcona County was acquired from the Chippewa Indians. The value of the area was first realized by Lewis Cass in his explorations in 1820. He encouraged settlement of the area, particularly by former soldiers looking for land to homestead.

The land survey of the County, then called "Newegon," was completed in 1840, thus paving the way for orderly settlement. Alcona County was attached to Mackinac County, then to Cheboygan County and finally to Alpena County, prior to its formal organization in 1869.

The name is derived from:

- A L - Arabic for "the"
- C O _ root word meaning "plain or prairie"
- N A - term meaning "excellent"

hence: ALCONA "the fine and excellent plain"

Our township-county system was patterned after the one used by the State of New York. Governor Cass, a New Englander, was instrumental in making this system a permanent part of Michigan's local government. The Michigan Constitution of 1850 named the officers to be elected to operate county and township governments and listed their respective duties. Each township elected a supervisor, with the township supervisors acting collectively as a county board of supervisors. The board was required to meet four times a year to pay bills and operate the county business.

On May 8, 1869, Alcona County was organized and Harrisville was designated as the County seat. The first Board of Supervisors included: L. R. Dorr (Harrisville), E. R. Haynes (Alcona) and W. Conklin (Greenbush). Between 1869 and 1881 the County program included building the courthouse, the County infirmary and the jail. The latter burned in 1904 and rebuilding it was delayed for seven years because the citizenry of Alcona were in the midst of a political feud over moving the County seat to Barton City (the geographical center of the County).

Commercial fishing was the first industry in Alcona County with fishing stations at Black River, Harrisville and Sturgeon Point. In 1867, the yearly catch was 5,000 barrels valued at \$40,000.

The "lumber boom" exploited the region's most valuable resource and greatly influenced the future of the area. Towns were originated and

inhabited, transportation systems developed, and local governments instituted. By 1881, there were 22 companies engaged in logging operations in the County. R. A. Alger & Co. was the largest and had headquarters at Black River. Some of the others were: James Beard & Co. (Alcona), Weston Colwell & Co. (Harrisville), D. B. Mudgett (Harrisville Twp.), Jos. Van Buskirk (Springport), McDougal Co. (Greenbush) and Loud & Co. (Curtis Twp.). The "sticks" measured 75 to 100 feet in length and 12 to 24 inches in diameter. Approximately 142 million feet were cut in 1881. At the City of Harrisville, a large dock stretched out into Lake Huron to accommodate steamers loading up with timber. Lumbering peaked in 1910 and then began a rapid decline, which resulted in a population shift and a reduction in the number of lumbering towns for the next twenty years.

Next, agriculture became the primary economic activity because the cleared lands were easily converted to farming. At the turn of the century, the County was noted for growing small grains and potatoes and for dairy farming. Creamery stations were operated in almost every village. In 1899, the County had 576 farms, totaling 43,197 acres with an average of 75 acres per farm.

The first railroads were built by the lumber companies about 1885 for hauling logs to the coast for shipping on the Great Lakes. In 1882, track was extended connecting Detroit to Bay City and Alpena. Later (1895) the Railroad was sold and the line became the Detroit and Mackinac Railroad. The western portion of the County was serviced by the AuSable-Northwestern Railroad which began operation in 1887, and later became the Loud Line. Railroads played an important role in the farming enterprises and also the social activities of the era. They serviced the area by

providing employment, by bringing in supplies, by providing a means whereby livestock and farm crops could be shipped south to market and by providing passenger service, thus initia-

ting tourism for Alcona County.

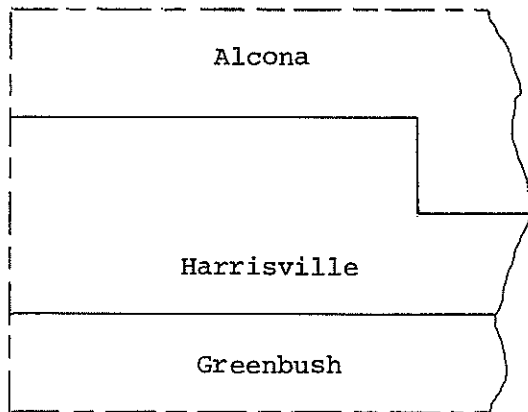
The eleven townships were organized between 1859 and 1899. MAP-1 shows the boundary changes during that time.

MAP-1

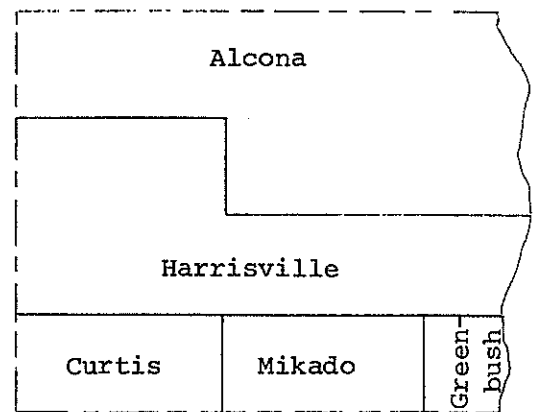
Alcona County

TOWNSHIP BOUNDARIES 1869 - 1900

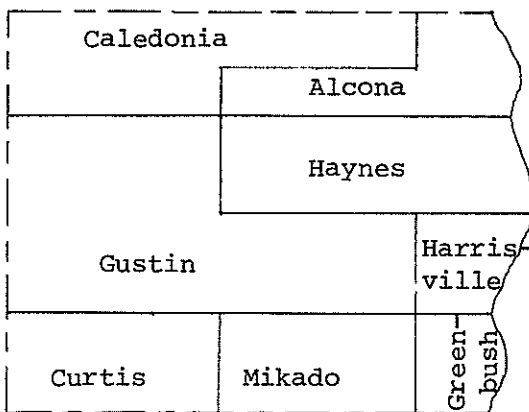
1869



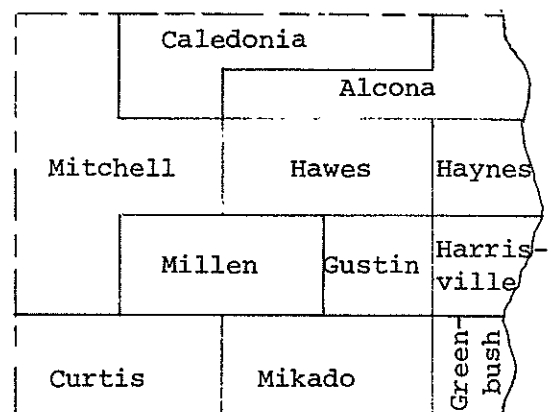
1886



1890



1900



source: "Old Timer" July 2, 1972

HARRISVILLE: (1859) by the supervisors of Alpena County. Both the township and the city were named after the Harris family who owned the sawmill and other lumber interests.

ALCONA: (1867) by the supervisors of Alpena County. The area attracted many French people who migrated from Canada.

GREENBUSH: (1869) at the same time that the County was organized. There are two theories about how it was named: (1) for a man named Green, who worked in the bush or timber and (2) for a man who came from a town in New York named Greenbush.

CURTIS: (1881) first one organized by Alcona County Board of Supervisors. The township and the settlement of Curtisville were named after the first settler in the area, Ebenezer Curtis.

MIKADO: (1886) named after the Gilbert & Sullivan operetta, "The Mikado."

GUSTIN: (1887) Organization was pushed by John H. Killmaster.

HAYNES: (1881) named after Elijah Haynes. The area attracted several Polish families who settled and began farming operations. In another area a cluster of French people settled and it was known as "French Town."

CALEDONIA: (1881) settled by Scottish people, and also some whose descendants came from the Scandinavian countries of Europe. Hubbard Lake was included in both Alcona and Caledonia Townships to share the wealth of the resort area and help the economy of both townships.

HAWES: (1893) organized by and named after Frank Hawes who homesteaded in the area.

MILLEN: (1893) organized by and named after John Millen, who was superintendent of woods work and resident boss for Alger Smith & Co. Some German, Serbian and Hungarian farmers were attracted to the area.

MITCHELL: (1899) named for Dr. David W. Mitchell who served the County as a medical doctor and community leader.

POPULATION

In Alcona County, as elsewhere, people are the major factor influencing the demand for public services and utilities, recreation, education, etc. As population continues to increase, so will the demand for these services, not only from residents within the County, but also from residents in adjoining counties and outstate metropolitan centers. While primary emphasis should be directed toward meeting the needs of the permanent residents of the County,

attention must also be directed toward the influence of the transient or seasonal residents.

GROWTH PATTERN

In 1900, Alcona's population was concentrated along the Lake Huron shoreline. The influence of the "lumber boom" is reflected in the drastic population changes occurring as vast areas were logged off and the people moved on. By 1930 the total had hit an all time

ALCONA COUNTY
POPULATION TRENDS
1900 - 1970

TABLE - 1

	1900	% Chg.	1910	% Chg.	1920	% Chg.	1930	% Chg.	1940	% Chg.	1950	% Chg.	1960	% Chg.	1970
State of Michigan	2420982	16.1%	2810172	30.5%	3668412	32.0%	4842325	8.5%	5256106	21.2%	6372009	22.8%	7824018	13.4%	8875083
N.E. Michigan Region	62102	+14.4%	71057	-7.3%	65867	-9.5%	59588	+14.3%	68098	+5.2%	71617	+15.8%	82962	+13.4%	94106
Alcona County	5691	+ 2.1%	5703	+3.7%	5912	-15.6%	4989	+ 9.5%	5463	+7.2%	5856	+ 8.5%	6352	+ 2.0%	7113
Townships:															
Alcona	1039	-68.2%	330	-12.7%	288	+3.8%	299	-1.0%	296	+25.6%	363	+ 5.0%	381	+27.6%	486
Caledonia	386	+59.6%	616	-15.4%	521	-12.5%	447	+ 2%	448	+32.1%	592	+10.5%	654	+16.7%	763
Curtis	487	+23.0%	599	+13.2%	678	-22.3%	527	+22.3%	644	+ 6.1%	683	-3.8%	664	+ 8.1%	718
Greenbush	245	-4.5%	234	+20.9%	283	-24.0%	215	+ 3.7%	223	+59.2%	355	-51.0%	536	+41.8%	760
Gustin	602	-7.8%	555	- 7%	551	+ 8.2%	506	+11.9%	666	+ 2.6%	683	+ 1.9%	696	-11.9%	613
Harrisville	1255	-39.1%	764	- 7.2%	709	-23.4%	543	+ 2.2%	555	+ 7.7%	598	+31.6%	787	+14.6%	902
Hawes	291	+4.5%	304	+68.8%	513	-11.9%	452	+23.2%	557	+11.0%	618	+ 1.0%	624	+30.0%	811
Haynes	791	-17.7%	651	- 9.4%	590	-19.3%	476	-13.4%	412	- 4.1%	395	- 6.8%	368	+13.0%	416
Mikado	410	+59.0%	652	+4.8%	583	-14.4%	499	+23.0%	614	- 9.3%	557	+10.8%	617	+ 3.1%	636
Millen	117	+98.3%	232	+16.4%	270	+ 7%	272	+ 7.0%	291	+ 2.7%	299	+ 6.4%	318	-15.1%	270
Mitchell	68	+373.5%	322	+44.7%	466	-32.4%	315	+ 1.6%	320	-28.8%	228	- 3.5%	220	-10.5%	197
Cities & Villages:															
Harrisville - City	403	+10.2%	444	+ 3.6%	460	- 4.8%	438	- 2%	437	+11.0%	485	+ 4%	487	+11.1%	541
Lincoln	122	+41.8%	173	+44.5%	173	+44.5%	250	+18.0%	295	+38.6%	409	+ 7.8%	441	-15.9%	371

Source: Northeast Michigan Planning and Development Commission

low. Although our population has increased steadily since that time, the growth rate still remains considerably less when compared to the Region and the State. During the last 70 years (1900-1970), the overall growth rate has been 25% for Alcona County compared to 51.5% for the Region and 324% for the State. (TABLE-1)

Internal growth patterns in the various townships during the past decade (1960-1970) show substantial increases in Greenbush (41.8%), Hawes (30.0%) and Caledonia (27.6%). On the other hand, losses were recorded in Mitchell (-10.5%), Gustin (-11.9%) and Millen (-15.1%).

POPULATION DENSITY

Based on the fact that a majority of the land in the County is being used for agriculture and forest-recreation and that the County does not contain any cities which may be defined as "urban" (cities with a population of 50,000 or more), Alcona County is classified as a "rural" area. However, concentrated areas of growth have occurred along U.S. 23, the Lake Huron shoreline, the shores of Hubbard Lake and Cedar Lake, the Village of Lincoln and the City of Harrisville.

Using the 1970 County Census of 7,113, Alcona's population density is 10.5 people per square miles. Areas of higher density than the County figure include: Harrisville (49.2), Greenbush (25.0), Gustin (19.7), Haynes (13.3), Caledonia (12.4) and Curtis (11.6). (MAP-2)

Looked at another way, 45% of the County's population is located in the eastern portion which comprises Haynes, Harrisville, Gustin and Greenbush Townships, the Village of Lincoln, and the City of Harrisville. Yet, this

portion constitutes only 18.5% of Alcona's land area. Approximately 28% of our residents are located in the northern Hubbard Lake portion which includes Alcona, Caledonia and Hawes Townships. The balance of the populace, representing 27% of the total, is located in the remaining townships of Curtis, Mikado, Millen and Mitchell. Highest concentration, of course, in this sector being in Curtis Township.

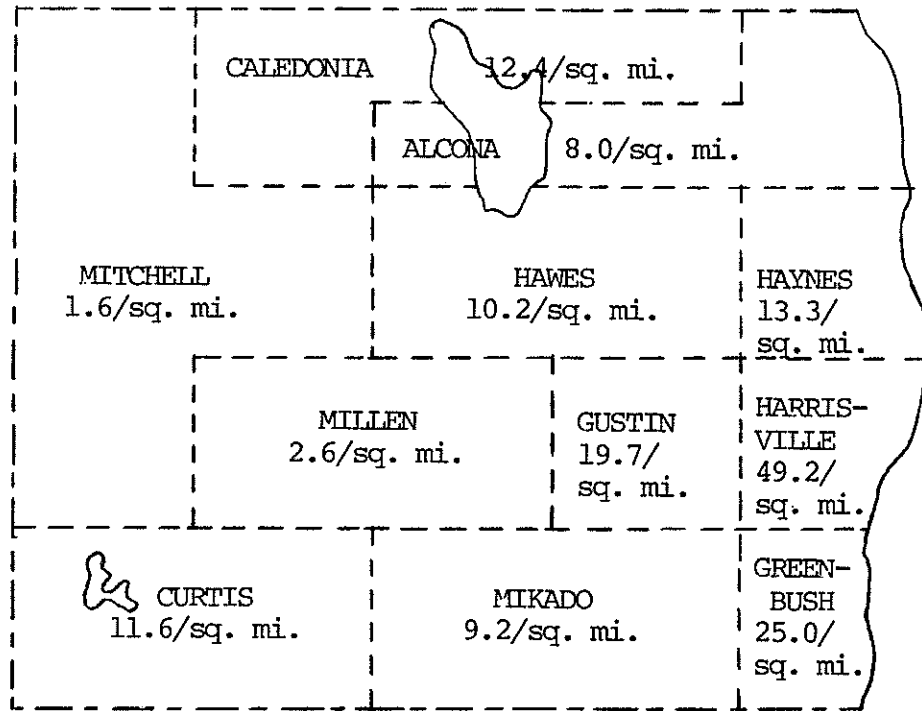
NATURAL INCREASE & MIGRATION

Population change is the result of births, deaths and net migration. Migration can be determined by comparing the actual population to the natural change resulting from the difference between births and deaths.

Between 1950 and 1960, while the balance of the Region experienced a net out-migration rate of -1.4%, Alcona recorded a slight net in-migration of 0.7%. This trend was greatly accelerated in the next decade (1960-1970) as the County reached a 8.1% net in-migration compared to the Regional rate of 2.5%. (TABLE-2)

In analyzing this migration trend, another factor worth noting is the age composition of the County's population. People of retirement age comprise approximately 17% of the total, while our young adults (those between 18 and 25 years of age) make up only 6% of Alcona's populace. The prevailing feeling is that a majority of our young adults head for the southern part of the State where employment prospects are more promising. On the other hand, the area is attracting older people when they retire who come in search of quality environment and a variety of recreational activity. (CHART-1)

POPULATION DENSITY - ALCONA COUNTY



source: U.S. Census Bureau

TABLE 2

ALCONA COUNTY
Natural Increase and Migration

	<u>Population</u>		<u>Natural Increase</u>			<u>Net Migration</u>	
	1960	1970	Births	Deaths	Am't Change	Am't	% '60 Pop.
1960 - 1970							
Region	82,962	94,106	18,080	9,069	9,011	+2,134	+2.5%
Alcona	6,352	7,113	1,026	782	244	+ 517	+8.1%
1950 - 1960							
Region	71,419	82,962	20,139	7,885	12,254	- 984	-1.4%
Alcona	5,856	6,352	1,146	689	457	+ 39	+0.7%

source: Northeast Michigan Regional Planning Handbook

CHART-1

ALCONA COUNTY (1970)

Age - Sex Composition of the Population

These should be redrafted to have constant intervals with a true pop. pyramid.

age	MALE		FEMALE		% age
	%	#	#	%	
75 - up	3.3%	238	265	3.7%	7.0%
65 - 74	5.6%	396	316	4.4%	10.0%
62 - 64	2.3%	164	142	2.0%	4.3%
60 - 61	1.5%	108	99	1.4%	2.9%
55 - 59	3.2%	230	319	4.5%	7.7%
45 - 54	5.1%	365	407	5.7%	10.8%
35 - 44	4.4%	315	320	4.5%	9.0%
25 - 34	4.3%	306	326	4.6%	8.9%
22 - 24	1.1%	81	94	1.3%	2.4%
21	0.4%	26	14	0.2%	0.6%
20	0.4%	32	38	0.5%	0.9%
18 - 19	1.1%	73	70	1.0%	2.1%
16 - 17	2.1%	147	170	2.4%	4.5%
15	1.1%	77	59	0.8%	1.9%
14	0.9%	67	75	1.1%	2.0%
10 - 13	4.2%	300	335	4.7%	8.9%
7 - 9	3.0%	215	168	2.4%	5.4%
5 - 6	1.6%	117	136	1.9%	3.5%
0 - 4	3.6%	255	248	3.5%	7.1%
Totals		3512	3601		

source: U.S. Census Bureau

DISTRIBUTION

Migration, as noted above, affects the age distribution of the County. In 1960, Alcona's median age was 32.0 years, which exceeds the State figure of 28.2 years and Regional figure of 27.0 years. By 1970 the gap was even wider, as the County's median age climbed to 36.9 years compared to the State at 26.3 years and the Region at 28.3 years.

Looking at a cross section of Alcona's population, 33.3% of our residents are 17 years and younger and 17.0% are 65 years and older. The most productive age group in terms of employment and payment of tax revenues, the 25-44 year olds, comprise only 17.9% of Alcona's citizenry.

This existing imbalance in age distribution poses serious implications for the future economic development of the area. People under 14 years and those over 65 years make the greatest demand on the community for social and welfare services, such as education, recreation and medical care. Yet, they are the least likely to contribute to meeting the cost of these programs. Unfortunately, the financial burden (via tax payments) for community programs and services must inevitably fall on those gainfully employed, primarily the 25-44 age group.

According to the 1970 Census, the male-female ratio is relatively close with only 1.2% more females in the County than males. There does

TABLE-3

Alcona County (1970)

FAMILY SIZE

Persons per Family

area	one	two	three	four	five	six or more
Alcona	483	967	316	283	229	239
<u>Townships:</u>						
Alcona	36	86	24	24	6	11
Caledonia	45	100	32	36	31	28
Curtis	37	120	18	39	51	16
Greenbush	52	131	46	23	12	52
Gustin	67	50	35	16	20	48
Harrisville	39	94	20	66	35	34
Hawes	32	107	67	19	18	23
Haynes	24	87	12	15	18	10
Mikado	59	69	27	33	28	22
Millen	13	50	9	--	--	10
Mitchell	13	13	--	11	10	17
City of Harrisville	66	60	26	11	12	8

source: U.S. Census Bureau

CHART-2

Alcona County
POPULATION DISTRIBUTION BY TOWNSHIP (1970)

	MALE		FEMALE	
	%	#	#	%
ALCONA	2.9%	206	257	3.6%
CALLIDONIA	5.8%	409	408	5.7%
CURTIS	5.5%	390	424	6.0%
GREENBUSH	4.9%	349	277	3.9%
GUSTIN	4.7%	334	374	5.3%
HARRISVILLE	7.1%	507	497	7.0%
HAWES	5.0%	354	370	5.2%
HAYNES	3.0%	214	238	3.3%
MIKADO	4.4%	313	347	4.9%
MILLEN	1.5%	107	82	1.2%
MITCHELL	1.6%	114	120	1.7%
CITY OF HARRISVILLE	3.0%	215	207	2.9%
TOTALS	49.4%	3512	3601	50.6%

source: U.S. Census Bureau

not appear to be an imbalance in distribution according to sex, even when broken down into township levels. (CHART-2)

There are an estimated 2,034 families in Alcona County, with an average size of 3.26. TABLE-3 shows that 47.5% of the families contain only two persons with decreasing percentages as family size increases.

The 1970 Census statistics indicate that of the 7,113 inhabitants of the County, 7,081 or 99.6% were white; 24 or 0.3% were Indian and 8 or 0.1% were other.

They further indicate that 76% or 5,431 of the total were native of native parents; 20% or 1,421 were native of foreign or mixed parentage and only 4% or 261 were foreign born. Of those who were born in a foreign country, almost half came from Canada.

TRANSIENT POPULATION

It is impossible to ascertain the exact number of tourists in the area each year, but it is reasonable to conclude that during peak periods, specifically the summer months, the

County's population could be tripled.

One method of substantiating this is as follows. The 1970 Census showed a total of 6,267 dwelling units in Alcona County, of which 2,394 were year round residences and 3,873 were seasonal dwellings. Census figures for the same year indicate the average household had 2.95 people. Expanding this figure (total dwellings X average number per household) would indicate a total potential of 18,488 people. This method is further applied to more recent housing figures taken in 1974 by the Alcona County Department of Public Works which indicate a total population potential of 20,784 and suggest a tourist and summer resident increase of almost 3 to 1. (TABLE-4)

PROJECTIONS

The use of population projections for time periods of 10 to 20 years into the future is always hazardous. However, if the future populace is to be served adequately and efficiently, the projected demands must be anticipated, based upon the expected population. The Northeast Michigan Regional Planning and Development Commission (NEMRPDC), using numerical averages, estimates that Alcona County's population will reach 7,871 by 1980, 8,711 by 1990 and 9,641 by the year 2000. Estimates from the Michigan Department of Management and Budget (October, 1974) project that the County's populace will reach 8,947 by 1980, 9,454 by 1985 and 9,954 by 1990.

ECONOMY

The County's economy is perhaps the single most significant factor determining the quality of life of its citizens. In our sparsely populated area of Michigan, job opportunities and wage levels have not kept pace with the balance of the State. Employment potential for many County residents is dependent upon the City of Alpena 16 miles north of the County line, and Oscoda and the Wurtsmith Air Force Base located 5 miles south of the County Line. Both provide substantial employment for County residents, about 37% of whom commute to these areas outside the County to work.

1959, representing an 80% change, and to \$10,618,000 in 1969, indicating a 92% increase. In the last two decades, farm earnings have continued to show a decline, while the other areas have gained, many of them at an overwhelming rate.

Looked at another way, wages and salaries paid by the various governmental divisions are the largest source of income and provide 37% (\$3,927,000) of the earnings for the people of the County. Next is wholesale-retail trade with \$2,122,000, providing 20%; and manufacturing with \$1,698,000 or 16%. (TABLE-5)

SOURCES OF INCOME

Total earnings from all sources in Alcona County increased from \$3,086,000 in 1950 to \$5,540,000 in

OCCUPATIONS

Tourism, agriculture, forest products and consumer related services constitute the bulk of the business

TABLE-4

ALCONA COUNTY

Projection - Seasonal Population &
Total Potential Population

political unit	permanent ¹ dwellings	seasonal ¹ dwellings	seasonal ² population	total potential ² population
Alcona Twp.	238	621	1832	2534
Caledonia Twp.	285	330	974	1814
Curtis Twp.	335	922	2720	3708
Greenbush Twp.	475	803	2369	3770
Gustin Twp.	153	51	150	602
Harrisville Twp.	312	151	445	1366
Hawes Twp.	238	359	1059	1761
Haynes Twp.	174	142	419	932
Mikado Twp.	251	184	543	1283
Millen Twp.	107	204	602	917
Mitchell Twp.	72	191	563	776
City of Harrisville	215	21	62	696
Village of Lincoln	190	22	65	625
totals	3045	4001	11,803	20,784

¹ DPW Survey by Fred Becker, 1974

² based on average of 2.95 persons per dwelling, 1970 Census

source: Survey done by Fred Becker, Dept. of Public Works, 1974

TABLE-5

ALCONA COUNTY
Total Earnings by Major Sources

	1950	% change	1959	% change	1969
Total Earnings	\$3,086,000	80%	\$5,540,000	92%	\$10,618,000
<u>Distribution of total:</u>					
Farm	1,222,000	-56%	538,000	-53%	254,000
Government	514,000	243%	1,762,000	123%	3,927,000
Manufacturing	162,000	326%	690,000	146%	1,698,000
Contract Construction	122,000	174%	334,000	167%	891,000
Transportation, Communi- cation, Public Utilities	29,000	124%	65,000	338%	285,000
Wholesale-Retail Trade	692,000	50%	1,035,000	105%	2,122,000
Finance, Insurance, Real Estate	8,000	488%	47,000	57%	74,000
Services	258,000	127%	586,000	100%	1,220,000
Other	79,000		483,000		147,000

source: Mich. Dept. of Commerce, Office of Economic Expansion
Research Division (Feb. 1970)

enterprises. According to the 1970 Census, the major areas of employment by industry were wholesale-retail trade 23.1%, manufacturing 21.4%, and construction 12.1%. (TABLE-6)

Looking at those employed in terms of occupations, a majority of our labor force are craftsmen (22.6%), operatives (18.0%) and service workers (13.0%). (TABLE-7)

INCOME LEVELS

Studying the income levels of the County's 2,034 families (1970 Census), it was noted that approximately:

- 25% or 492 families earned less than \$2,999,
- 50% or 1,051 families earned less than Alcona's median family income figure of \$5,842,
- 65% or 1,348 families earned less

than the Region's median family income figure of \$7,740, and --85% or 1,761 families earned less than the State's median family income figure of \$11,032. (TABLE-8)

The 1970 Census further indicates that the number of families below the poverty level, as well as the number receiving Social Security Income, were considerably higher in Alcona County than in the Region or the State. (TABLE-9)

Per capita income, though it has increased to \$2,172 in Alcona County, is still considerably less than the Region with \$2,428 and the State with \$3,373.

EMPLOYMENT

The term labor force includes all those persons 16 years of age

TABLE-6

ALCONA COUNTY
Employment by Industry

Item	number	%
Construction	221	12.1%
Manufacturing	389	21.4%
Transportation	68	3.7%
Communication, Utilities	58	3.2%
Wholesale-retail trade	420	23.1%
Finance, business, insurance, repair	82	4.5%
Other professional services	117	6.4%
Educational services	155	8.5%
Public administration	122	6.7%
Other industries	177	9.7%
total	1820	100.0%

source: U.S. Census Bureau

and older who are classified as employed, unemployed or members of the armed forces. Those not in the labor force are civilians 16 years of age and older who are keeping house, unable to work, inmates of institutions, students, retired, voluntarily idle, etc. The labor force participation rate is defined as the percentage of the people in the County who are engaged in full or part-time employment, as well as those actively looking for work. In 1970, the participation rate for Alcona County was 41% compared to 50% for the Region and 57.8% for the State.

Alcona County is considered with Iosco County as the "East Tawas Labor Market Area" by the Michigan Employment Security Commission, and subsequently all of the statistics reflect the combined figures for both counties. Beginning with the issuance of the March 1975 statistics, the MESCC has determined unemployment estimates for

TABLE-7

ALCONA COUNTY
Employment by Occupation

item	number	%
Professional, technical	159	8.7%
Farmers	70	3.8%
Management	143	7.9%
Clerical	188	10.3%
Sales	109	6.0%
Craftsmen	411	22.6%
Operatives	328	18.0%
Service workers	237	13.0%
Farm laborers	16	0.9%
Other laborers	159	8.7%
total	1820	100.0%

source: U.S. Census Bureau

all of the labor market areas. These revised estimates will reflect the average civilian labor force "by place of residence" rather than "by place of work: as has been the case in the past. This new method will more realistically reflect the employment and unemployment climate in Alcona County, since a substantial number of the residents work in outlying areas. (TABLE-10)

TABLE-8

ALCONA COUNTY
Family Income Levels

level	number	%
under \$ 2,999	492	24.2%
\$ 3,000 - \$ 4,999	344	16.9%
\$ 5,000 - \$ 7,999	512	25.2%
\$ 8,000 - \$11,999	413	20.3%
\$12,000 - \$14,999	118	5.8%
\$15,000 - \$24,999	131	6.4%
\$25,000 up	24	1.2%
total	2034	100.0%

TABLE-9

ALCONA COUNTY (1970)
Family Income - Selected Factors

item	Michigan	Region	Alcona
total families	2,190,269	23,586	2,034
% below poverty	7.3%	13.3%	18.1%
% rec'd Social Security income	18.6%	26.3%	38.2%

source: County & Regional facts, MSU Cooperative
Extension Service

TABLE 10

ALCONA COUNTY
Civilian Labor Force Estimates
Place of Residence Data

year/month	civilian labor force	total employment	unemployment number	rate
1970	2325	2075	250	10.8%
1971	2400	2075	325	13.5%
1972	2400	2050	350	14.6%
1973	2725	2350	375	13.8%
1974	2900	2400	500	17.2%
1975-Jan.	2950	2325	625	21.2%
Feb.	2950	2300	650	22.0%
Mar.	2975	2350	625	21.0%
Apr.	3000	2375	625	20.8%
May	3050	2525	525	17.2%
June	3200	2600	600	17.5%
July	3125	2550	575	18.4%
Aug.	3100	2625	475	15.3%
Sept.	3100	2600	500	16.1%
Oct.	3025	2500	525	17.4%
Nov.	3125	2450	675	21.6%

source: MESC

The labor force of Alcona County is greatly affected by seasonal variations in employment due to its dependency upon tourist-resort and natural resource oriented enterprises. Our highest period of unemployment occurs during the winter months. Unemployment declines in the spring and reaches its lowest rate in the late

summer at the peak of the tourist season. Greater emphasis must be directed toward reducing the wide fluctuations in employment within the County. Efforts must be exerted to expand year-round facilities and activities, if the area is to continue to rely upon tourism as a significant portion of its economic base.

GOVERNMENT

Alcona County stretches 24 miles from north to south and 30 miles from east to west, encompassing eleven political townships:

Alcona	Hawes
Caledonia	Haynes
Curtis	Mikado
Greenbush	Millen
Gustin	Mitchell
Harrisville	

Hubbard Lake
 Alcona, Caledonia and
 Hawes Townships
 Mikado
 Mikado Township
 Spruce
 Caledonia Township

(MAP-3)

Two incorporated units are located in the planning area:

City of Harrisville
 Harrisville Township
 Village of Lincoln
 Gustin and Hawes Townships

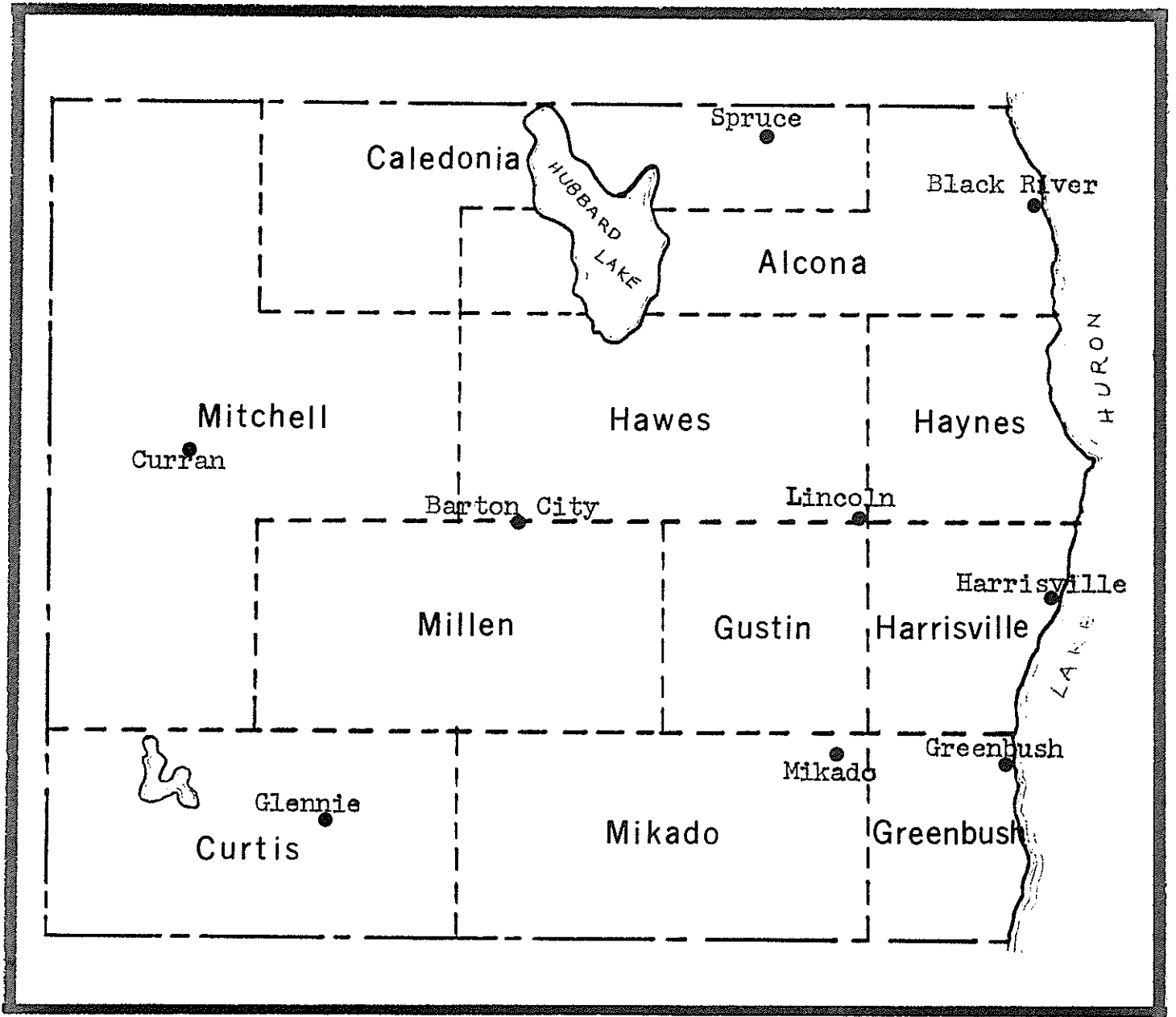
Several unincorporated settlements also exist within the County and are sometimes considered in relation to the townships in which they are located. They include:

Barton City
 Hawes and Millen Townships
 Black River
 Alcona Township
 Curran
 Mitchell Township
 Glennie and Curtisville
 Curtis Township
 Greenbush
 Greenbush Township

COUNTY

County units, as we know them in Michigan, were established over a century ago; and as such, serve more as an administrative arm of our State government than as a policy making body. Geographically, counties are useful as a basis for choosing senators and legislators and for determining various districts relating to public services. Originally, the principle responsibilities of county government were tax equalization and delinquent tax collection, administration of health and welfare services, conduct of elections, enforcement of the law and administration of justice, recording various land and legal documents, and construction and maintenance of public works. Today, however, the areas of responsibility for county government have been greatly expanded. County officials express much concern

Alcona County
POLITICAL BOUNDARIES



graphics: Alcona County Planning Commission

over the added burden of administering and maintaining new programs and services.

The legislative-administrative body of Alcona County is the County Board of Commissioners. This Board consists of one representative elected from each of the five districts in the County. The geographical boundaries of each district are determined by population. Duties of the Board include: passing on claims, determining the budget, establishing County policy and directing the general operation of County government.

As required by the State Constitution, Alcona has elected County officials who carry out various aspects of County administration. These include the offices of sheriff, prosecuting attorney, treasurer, clerk, probate judge and register of deeds.

TOWNSHIP

Today, the primary services performed by township units are to supervise elections, determine the value of property and collect taxes. Business matters are handled by elected officials (supervisor, clerk, treasurer and trustees) who collectively are known as the Township Board.

CITY & VILLAGE

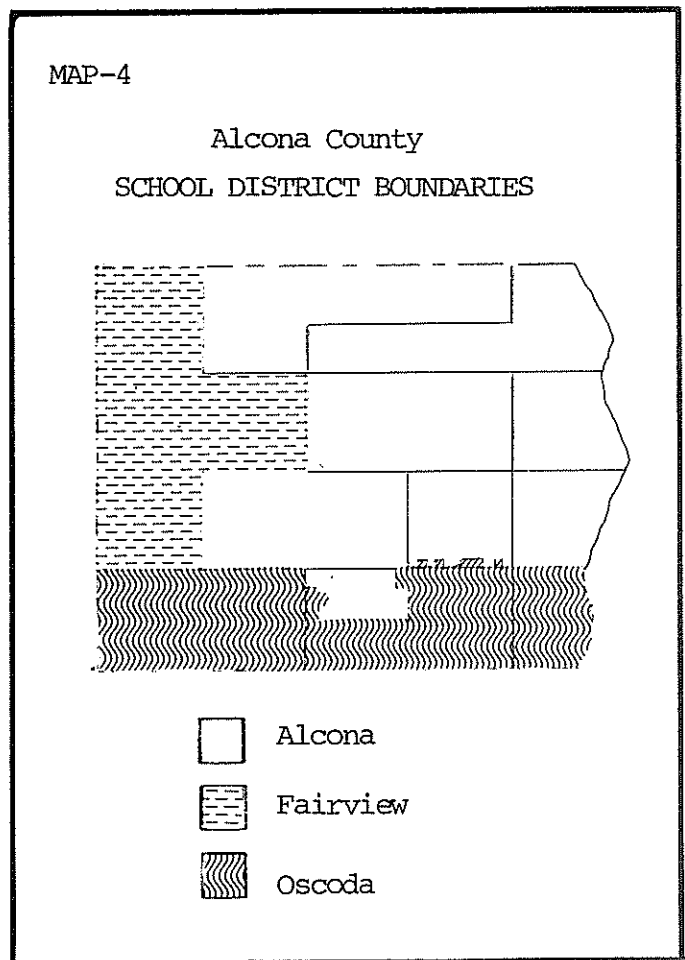
The only incorporated units in Alcona County are the City of Harrisville, which was first organized as a village in 1887 and chartered as a city in 1905; and the Village of Lincoln, which was incorporated in 1907. Both have elected officials who collectively act to conduct business affairs. The Harrisville City Council is composed of the mayor, clerk, treasurer, and aldermen; and the

Lincoln Village Board is made up of the president, treasurer, clerk and trustees.

SCHOOL DISTRICTS

Most of the townships in the County are part of the Alcona Community School District. Mitchell Township, to the west, is part of the Fairview School System and the southern townships of Curtis, Greenbush and most of Mikado are included in Oscoda Area Schools.

Alcona County, along with Alpena and Montmorency Counties, form an intermediate school district which provides specialized services for the three-county area.



graphics: Alcona County Planning Commission

SPECIAL ADMINISTRATIVE UNITS

One important area of responsibility that each of the units in this section has in common is "planning." Emphasis, of course, is placed on the specific area for which the unit was created; but nonetheless, preparing a plan of action is an integral part of the purpose of each.

County Agencies:

1. The Alcona County Planning Commission is responsible for developing, implementing and administering the planning effort for the County.
2. The Alcona County Road Commission plans and administers the development, maintenance and improvement of a highway system for the area.
3. The Alcona County Parks and Recreation Commission functions to plan and develop the recreational facilities (both public and private) to meet the needs of the County.
4. The Alcona County Department of Public Works is responsible for developing and maintaining the sanitary landfill and for environmental protection.
5. The Alcona County Commission on Aging functions to promote programs for the aging and to investigate and secure funding for its facilities and programs.

City Agencies:

1. The Harrisville Airport Commission administers the development, maintenance and improvement of the airport facility.
2. The Harrisville Harbor Commission is responsible for the operation and maintenance of Harrisville's "Harbor of Refuge."

State Agencies:

1. The Michigan Department of Natural Resources (DNR) is responsible for managing the State's natural resources, such as forests, parks, fish and game programs, etc.

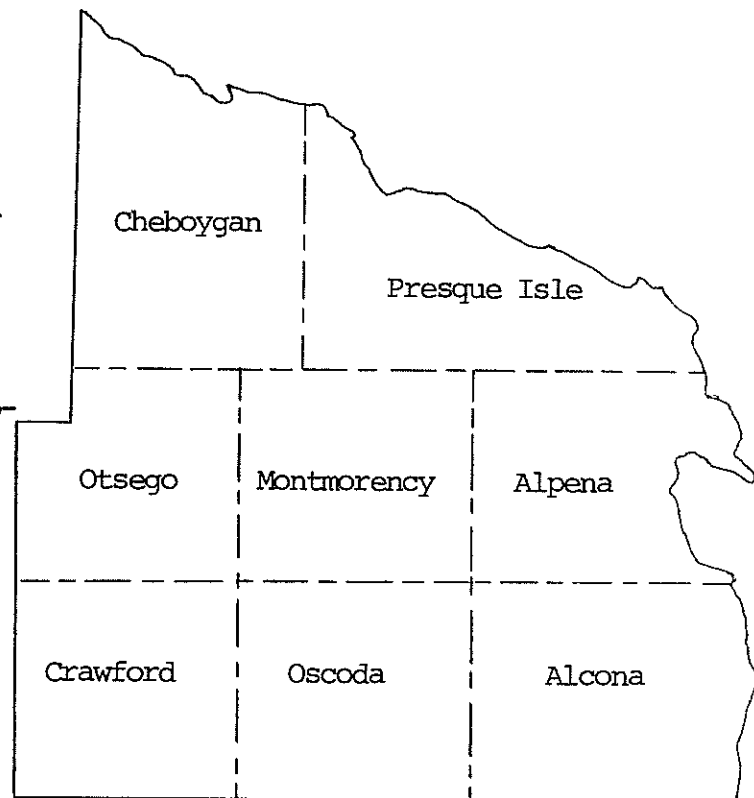
Regional Agencies:

1. The Northeast Michigan Regional

Planning and Development Commission (NEMRPDC) provides assistance and technical expertise for the various planning units in the eight county area. This agency became The Northeast Michigan Council of Governments (NEMCOG) in August, 1976.

MAP-5

NORTHEAST MICHIGAN REGION



2. The Huron Pines Resource, Conservation and Development Council (R, C & D) was organized to develop and carry out a plan for orderly conservation, development and wise use of the area's natural resources. Their jurisdiction also includes the above eight county area.

USDA Agencies:

1. The Soil Conservation District provides technical assistance to protect and improve the quality of the environment through sound conservation practices and proper land use based on soil survey data.
2. The Forest Service is responsible for managing the national forests.
3. The Cooperative Extension Service functions as an educational service to farmers, home makers and youth.
4. The Agricultural Stabilization and Conservation Service administers specific commodity and related land use programs designed for voluntary production adjustment; resource protection; and price, market and farm income stabilization.

REVENUE

Income for County operations is derived from several sources. These include:

Local property taxes	\$496,333
Charges for current services	67,900
Other local revenues	27,304
Federal revenue sharing	147,336
Emergency employment programs	48,883
State income tax	33,000
Other State & Federal revenues	14,218
Total	\$834,974

As noted in CHART-3, local property taxes account for only 59.4% of the total.

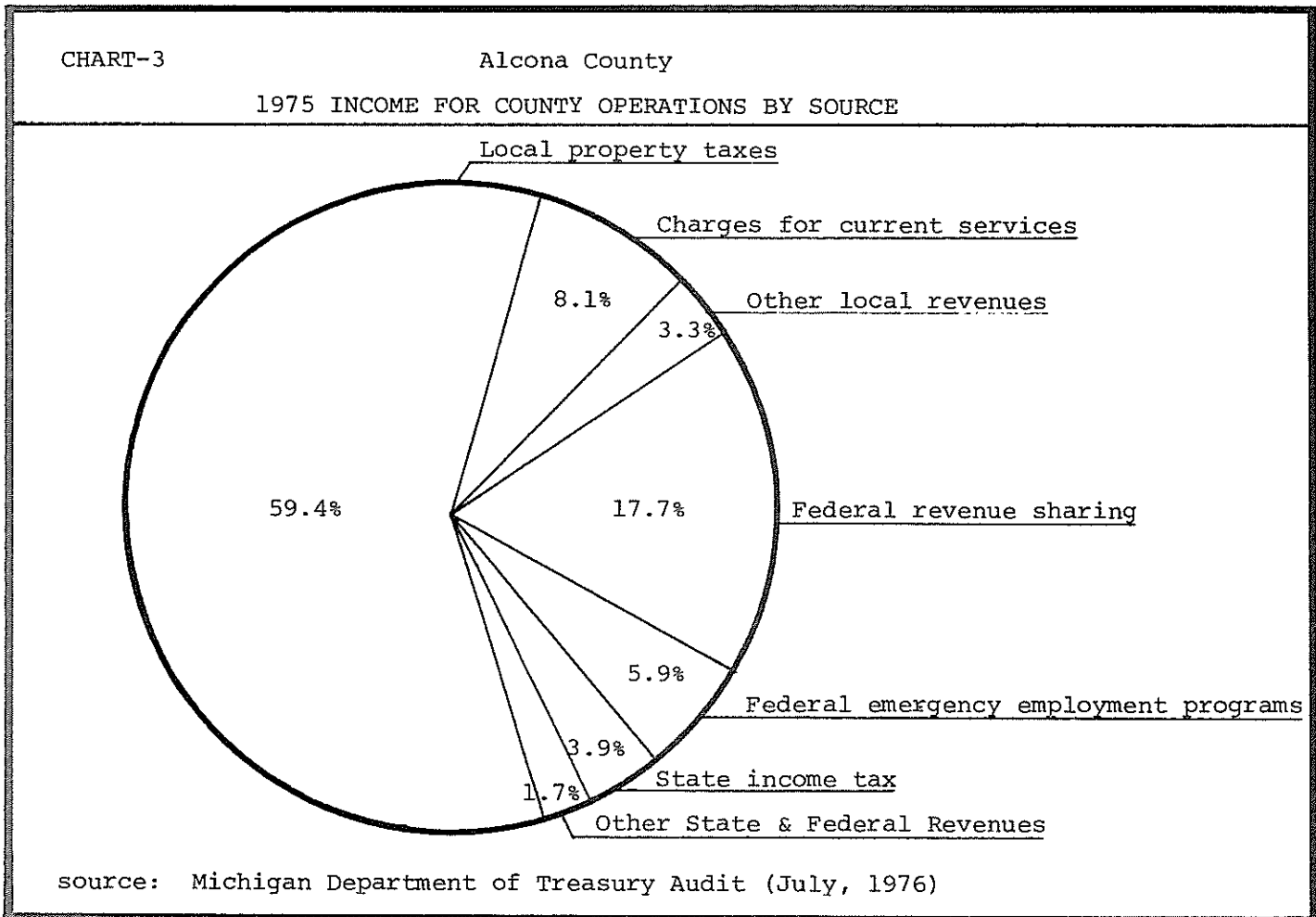


TABLE 11

ALCONA COUNTY STATE EQUALIZED VALUE

	1959	1965	1970	1972	1975	1976
County						
Total SEV	\$9,801,315	\$14,242,467	\$51,723,420	\$69,693,579	\$98,041,607	\$123,778,598
<u>Townships:</u>						
Alcona	1,108,970	1,577,075	7,004,700	9,608,898	14,745,190	18,229,690
Caledonia	1,218,075	1,711,550	6,959,700	9,417,522	13,720,292	17,078,800
Curtis	1,722,400	2,306,775	6,445,600	8,003,400	10,576,830	14,001,100
Greenbush	1,108,530	1,938,100	7,522,900	10,499,800	13,333,272	15,907,200
Gustin	563,420	725,952	2,215,250	2,940,623	4,421,080	5,124,908
Harrisville	677,600	1,246,400	4,051,400	5,315,200	7,325,656	9,786,100
Hawes	766,600	1,086,500	4,761,300	6,805,900	9,608,259	12,740,100
Haynes	450,610	646,500	2,544,720	3,593,536	4,999,354	6,478,700
Mikado	459,250	735,326	2,315,000	3,235,700	4,478,925	6,077,700
Millen	331,700	464,750	1,618,800	2,163,300	3,211,673	4,139,700
Mitchell	735,800	1,031,100	4,092,400	5,318,400	8,285,216	10,887,800
City of						
Harrisville	658,360	772,439	2,191,650	2,791,300	3,335,860	3,326,800

TABLE-12

TAX RATES IN ALCONA COUNTY PER \$1000 STATE EQUALIZED VALUE - SEPTEMBER 1975

TOWNSHIP	COUNTY TAX	ALCONA INTERMED. SCHOOL	ALPENA INTERMED. SCHOOL (SPECIAL VOTED)	SCHOOL OPER. GENERAL	SCHOOL OPER. (SPECIAL VOTED)	DEBT RETIRE. BOND	TOWNSHIP TAX	TOTAL TAX	SE FACTOR
<u>ALCONA SCHOOL DISTRICT</u>									
ALCONA	5.25	.20	.75	8.80	11.20	3.38	1.70	31.28	1.36
CALEDONIA	5.25	.20	.75	8.80	11.20	3.38	1.70	31.28	1.03
GUSTIN	5.25	.20	.75	8.80	11.20	3.38	.70	30.28	1.03
HARRISVILLE	5.25	.20	.75	8.80	11.20	3.38	.70	30.28	1.03
HAWES	5.25	.20	.75	8.80	11.20	3.38	.70	30.28	1.03
HAYNES	5.25	.20	.75	8.80	11.20	3.38	2.70	32.28	1.28
MIKADO	5.25	.20	.75	8.80	11.20	3.38	2.70	32.28	1.03
MILLEN	5.25	.20	.75	8.80	11.20	3.38	.70	30.28	1.03
<u>CITY OF HARRISVILLE</u>									
HARRISVILLE	5.25	.20	.75	8.80	11.20	3.38	7.75 *	37.33	1.03

OSCODA AREA SCHOOL DISTRICT

	IOSCO INTERMEDIATE SCHOOL	IOSCO INTERMEDIATE SCHOOL (SPECIAL VOTED)							
CURTIS	5.25	.26	.75	9.30	10.30	1.00	.70	27.56	1.03
GREENBUSH	5.25	.26	.75	9.30	10.30	1.00	2.70	29.56	1.06
GUSTIN	5.25	.26	.75	9.30	10.30	1.00	.70	27.56	1.03
MIKADO	5.25	.26	.75	9.30	10.30	1.00	2.70	29.56	1.03

FAIRVIEW SCHOOL DISTRICT

	C.O.O.R. INTERMEDIATE SCHOOL	C.O.O.R. INTERMEDIATE SCHOOL (SPECIAL VOTED)	COLLEGE						
MITCHELL	5.25	.30	.75	7.00	14.00	1.00	.70	30.40	1.03

HARRISVILLE

* CITY TAX	GENERAL FUND	ROAD FUND	LIGHT FUND	TOTAL CITY TAX	TOTAL TAX
5.00	1.00	1.75	7.75	37.33	

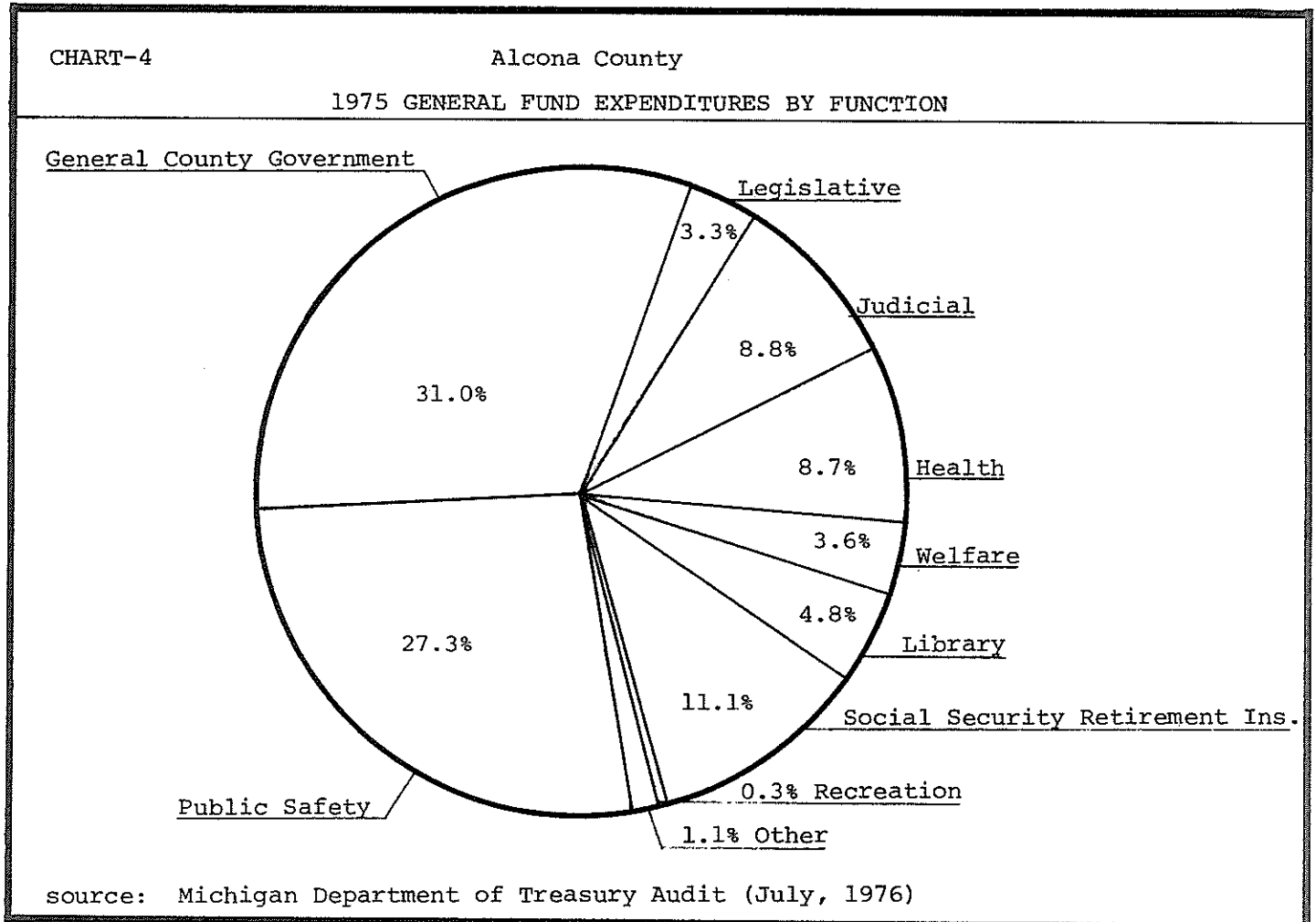
Alcona County's budget for 1975 entailed a total expenditure of \$731,538.00. Funds are allocated to the various departments under County jurisdiction. CHART-4 depicts the total County expenditures by function for 1975 as determined by the Michigan Department of Treasury Audit (July, 1976). For details of these figures, it is recommended that the reader obtain a copy of the budget and accompanying financial statements from the County Clerk's Office.

Taxes on real property--land, buildings and improvements--are paid according to their value. In order to determine the value, property is assessed or evaluated periodically and a value is placed on it. According to the 1964 State Constitution, this value shall not exceed 50 percent of its "true cash value," or roughly the supposed amount for which the property could be sold. (TABLE-11)

The combined tax rate for counties, townships and school districts was established by the 1932 amendment to the State Constitution, which states that a maximum rate of 15 mills can be levied on the assessed valuation for property taxes. This 15 mill limitation does not apply to villages and cities. In 1970, disbursement of the 15 mills to local units was fixed as follows:

School operating	8.80 mills
County gov't	5.25 mills
Township gov't	0.70 mills
Intermediate	
school district	0.25 mills
<u>Total</u>	<u>15.00 mills</u>

If additional monies are required, the local unit must secure the approval of the voters to raise the rate. TABLE-12 gives the present tax rate levied by each township.



When compared to Region and State figures, the total local property tax revenue of \$496,333 in 1975 for Alcona County is relatively low. The reason for this being the vast areas of State and Federal forests

that are essentially exempt from local taxes. The "swamp tax" (Reverted Land Act 347, PA 1965, as amended) which is levied on State forest lands does result in some monies for the County.

HEALTH AND WELFARE

On a regional basis, health facilities in Northeast Michigan are strategically spread throughout the area. However, in some instances requiring specialized medical care, it is necessary to seek treatment at hospitals in the larger urban centers, such as Flint, Bay City, Ann Arbor and Detroit. The Department of Social Services and the Public Health Department provide facilities and programs that contribute to the preservation of the health and welfare of the community. In addition, there exist long term care facilities that provide care for our elderly population.

PUBLIC HEALTH SERVICE

Alcona County, along with Iosco, Ogemaw and Oscoda Counties, is served by District Health Department No. 2. This organization provides health services and personnel for special programs.

The County Health Department provides a public health nurse who can be assisted, on a limited basis, by an aide stationed in Ogemaw County. The County nurse serves as the home health nurse (visiting nurse) for the area, supervises the school health program, handles referrals for health problems, sets up health programs and occasionally offers emergency service.

She also operates an immunization clinic once a month and a TB clinic weekly.

Medicaid screening, which is a program funded by the Michigan Department of Social Services and contracted to the Public Health Service is also available. This program provides early periodic screening-diagnostic testing for ADC recipients (ages 0-22) to determine if the client needs to see a physician. The screening is done by a team, headed by a registered nurse.

The County nurse also handles arrangements for the Crippled Children's Commission, including follow-up visits. This commission provides financial aid for people suffering from bone disorders.

The newest program offered by the Health Service involves blood pressure screening for people 55 years of age and older. This service is done at the individual's request and at various sites throughout the County.

FAMILY PLANNING CLINIC

The Family Planning Clinic, which is a federally funded program, is offered weekly at the County Building and includes the contracted services of a physician. The program

offers contraceptive advice and devices; venereal disease diagnosis, counseling and treatment; complete physicals, including pap tests for participants; and referrals for sterilization.

MENTAL HEALTH PROGRAM

Mental Health Services are the responsibility of the Northeast Michigan Mental Health Services Board, (PA 54), serving seven counties. The Northeast Michigan Mental Health Centers, Inc. with inpatient and out-patient facilities in Alpena provides a professional staff and offers emergency services, rehabilitation, after care (for people released from facilities providing mental health services) and adult activities. An adult activity center is presently operating in Barton City.

Mental health counseling is also done on a weekly basis by appointment at the Department of Social Services.

A sheltered workshop and adult retardation services are available in Alpena through the Northeast Michigan Retardation Services, Inc. The agency provides transportation for clients, which entails daily service for the sheltered workshop and weekly for the adult retardation service.

ENVIRONMENTAL HEALTH SERVICE

The areas of responsibility for this unit are also under the jurisdiction of the District Health Department No. 2. The Service monitors environmental health through inspection and/or licensing of the following:

1. Refuse transportation and transfer stations
2. Surface waters
3. Boarding and foster care facilities

4. Nursery schools or day care centers
5. Nursing homes and homes for the aged
6. Schools
7. Children's camps
8. Mobile home parks
9. Campgrounds
10. Subdivisions
11. Ambulances
12. Septic tank cleaning vehicles
13. Food service establishments
14. Bathing beaches
15. Public swimming pools
16. Air pollution
17. Sewage disposal
18. Water supply
19. Nuisance abatement

PHYSICIAN SERVICE

There is presently one practicing physician in Harrisville.

According to a June 1972 telephone survey of over 1,000 homes in the County, a large number of our residents go to Alpena for medical care. The next largest group goes to Tawas, with people also going to West Branch, Oscoda and Hale. Physicians in all of these areas have heavy patient loads and the wait is long. Unfortunately, many of them do not accept new patients, thus creating a hardship on newcomers.

MEDICAL CARE FACILITIES

Alpena General Hospital offers a full range of acute care facilities, which include surgical, emergency room, physical therapy and rehabilitation. The present facility provides 160 adult and pediatric beds, a six bed special care unit with electrical monitoring capabilities, a mental health department, 19 rehabilitative medicine beds, plus 30 newborn bassinets. The hospital also has a fully accredited

laboratory and radiology department.

Tawas St. Joseph Hospital, located in Iosco County, is also an acute care facility. It provides a medical/surgical ward with 53 bed capacity, an obstetrical ward with six beds and a coronary care unit with three beds. Two expansion projects have just been completed which included expansion of laboratory and X-ray facilities.

Occupancy rates for the hospitals are 78.6% for Alpena General and 82.0% for Tawas St. Joseph.

In the absence or lack of a family physician, many residents utilize the facilities and physicians at the emergency room units of both hospitals.

Alcona Citizens for Health organized as a non-profit entity (July, 1972) to establish, operate and staff medical facilities and institute programs to futher the health of Alcona and surrounding County residents. To date the group has tentative plans for a clinic, is attempting to recruit a physician, and is investigating methods of financing the building and necessary equipment.

EXTENDED CARE FACILITIES

There are two long term care facilities in the County. Jamieson's Nursing Home in Harrisville can accommodate 52 patients and the Lincoln Haven Rest Home in Lincoln can serve 36 patients. Both provide 24-hour nursing care.

In addition, there are approximately five licensed three-bed homes.

EMERGENCY MEDICAL SERVICE

The Alcona County Ambulance Service is operated by the County. All attendants have had emergency medical training (EMT) in anticipation of new licensing requirements, effective January, 1977. The service had two ambulances which made 285 runs in 1975 totaling 23,638 miles. A third vehicle has been purchased and will be stationed in Glennie. The average response time to the scene is 14.5 minutes. All of the vehicles have two-way voice communication with the sheriff's department dispatcher. The newer vehicles also have the capability of communicating with area hospitals. At the present time, both Alpena General and Tawas St. Joseph Hospital have established capabilities for communicating with the ambulances. Indirectly, it is also possible for the ambulance to converse with the hospital by means of a radio-telephone hook up through the sheriff's office.

PUBLIC ASSISTANCE PROGRAM

The Alcona County Department of Social Services is charged with the responsibility of administering the State's public assistance and related programs.

In August, 1975 the following figures were released for Alcona County's public assistance programs:

1. Public Assistance -
110 cases involving
295 children, costing
\$28,368.00 per month.
2. Food Stamps -
159 cases involving
603 people, value of
stamps \$19,592.00 per
month.

3. Medical Assistance -
176 people over age 21
54 people under age 21.

4. Chore Service (Self Care Program) -
26 adults assisted
\$3,749.17 cost per month.

5. Adult Foster Care -
14 homes

6. Foster Homes (children) -
20 homes

7. Supplemental Security Income -
30 people

Other programs available include:
adoption services; protective services
and child abuse; general assistance;
county hospitalization; county re-
ferral agency; investigation of finan-
cial and legal settlement status of
institutional cases; and licensing
agent for foster homes, day care
centers and baby sitters.

Part two: ACTIVITIES

INTRODUCTION

People in the course of their everyday lives create activities--activities which must be regulated to insure that each person does not infringe upon the rights of others. These activities can be separated into six basic and distinct areas:

Residential, Agricultural, Commercial, Industrial, Recreational and Public. A basic understanding of peoples' activities helps us provide for peoples' needs and design effective services while protecting the environment.

RESIDENTIAL

Land for residential purposes is the most extensively developed in Alcona County. Both seasonal and year-round homes are found in all parts of the County. The highest density concentrations are located adjacent to or within the established municipalities and the various unincorporated settlements, and along the periphery of developable portions of lake areas. Others occur near or along the heavily trafficked, hard-surface roads of the County. The lower density areas of residential dwelling units are found scattered along the many rural roads. The majority of residential developments can be characterized as single-family dwelling units on relatively small lots.

Mobile home housing is commonplace throughout the County and seems to be increasing at a rapid rate. While many mobile homes are being used for permanent residences, some are also used as summer cottages, temporary residences prior to new home construction on the same site, or dwellings for part-time farm help

or relatives of farm families.

According to the 1970 Census, Alcona County contained a total of 6,267 dwelling units--38.2% or 2,394 year-round and 61.8% or 3,873 seasonal. Of the year-round units only 251 or 10.5% were renter occupied. Looking at the housing picture in terms of those "for sale" or "for rent," there were just 98 year-round units available in 1970. TABLE-13 gives a further breakdown of the size, type and other characteristics of year-round units. Most of these year-round units were built prior to 1960: 27.8% in 1939 and before; 19.0% in 1940-49; 23.9% in 1950-59 and 29.3% in 1960-70.

The location of areas designated for one-family, two-family, multi-family units and trailer coach parks is reflected in MAP-6. These areas indicate the present status of the local zoning ordinances regarding dwelling units as "primary use" in all of the zoning districts.

In the "Housing Needs Study"

(November, 1974) recently conducted by the Michigan State Housing Development Authority, it was determined that 45.6% of the housing stock in Alcona County is considered "physically inadequate." In other words 1,738 units are classified as dilapidated, non-dilapidated lacking some or all plumbing facilities, or units which have marginal or no heating systems. Furthermore, 250 or 8.2% are recorded as being "overcrowded," that is having more than one person per room. All rooms are counted except bathrooms, foyers, utility attics and basements.

When comparing the physically adequate structures with the total number of households in the County, it can be concluded from the Study that Alcona County needs 1,038 housing units at the present time to adequately house its residents.

TABLE 13

ALCONA COUNTY

Selected Housing Characteristics: 1970

<u>No. of Rooms:</u>	<u>%</u>
3 or less	9.0
4 rooms	24.0
5 rooms	27.1
6 rooms	20.5
7 rooms	10.0
8 or more	9.4

Type:

single-family	93.0
multi-family	1.8
mobile home	5.2

Features Lacking:

plumbing (some/all)	18.3
complete kitchen	11.1
no telephone available	16.9

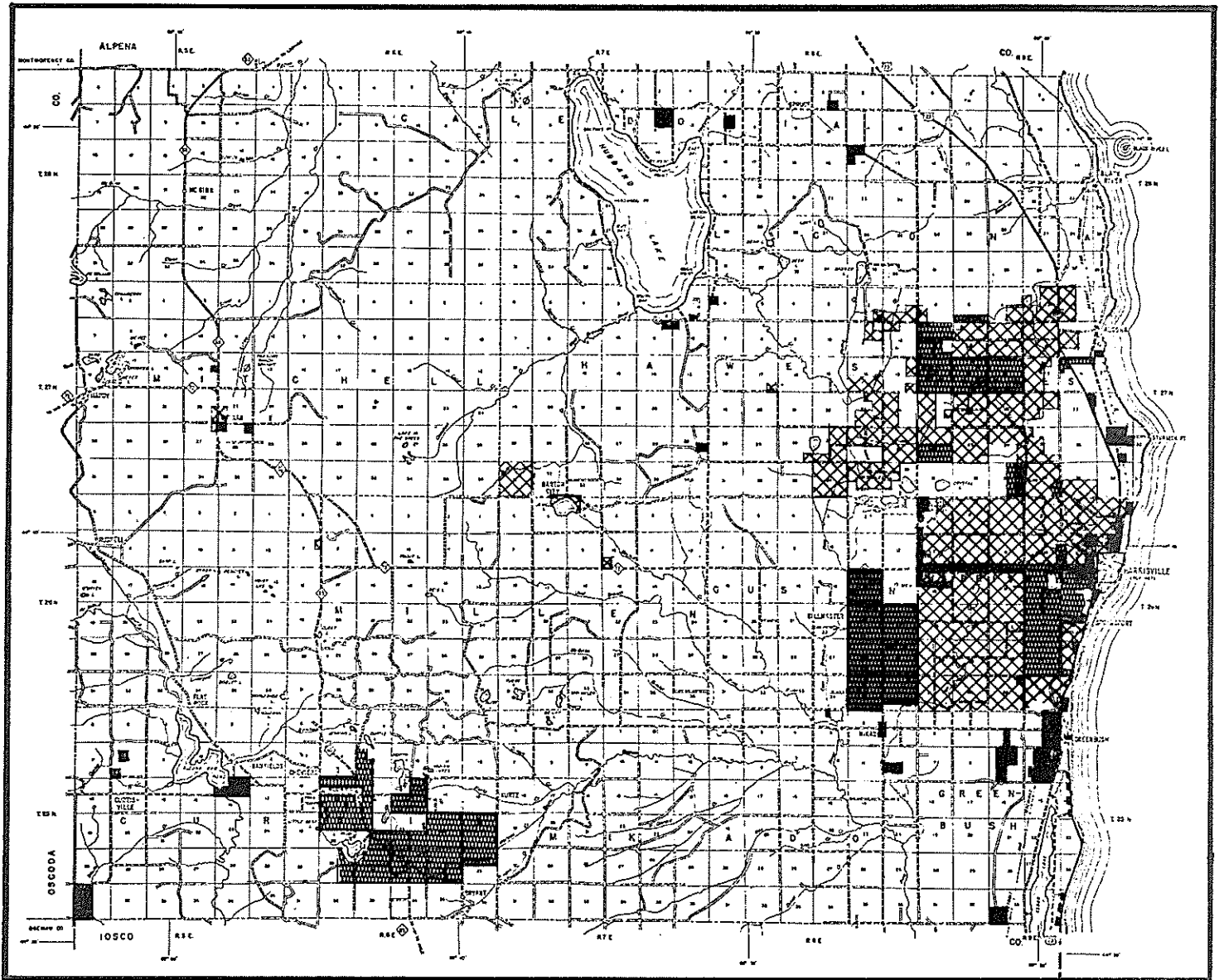
source: U.S. Census Bureau

AGRICULTURAL

Because of heavy glaciation and severe climatic conditions, much of Alcona's land is semimarginal for agricultural purposes when compared to prime farm land of the Midwest. General farming is practiced on the more tillable land, while dairy and other livestock operations take precedence in rougher, more marginal and less tillable areas.

The marginal character of a large portion of Alcona County's farm land along with labor problems, high cost of machinery, and the inflationary spiral have combined to cause the decline of agricultural pursuits in the area over the past years. At present approximately 12.9% of the land in the County is being used for agricultural purposes. The trend appears to be fewer farms with less

ALCONA COUNTY
Zoned Residential Areas



Primary Use:



one family dwellings



one, two & multi
family dwellings



one & two family
dwellings



other

data: Township zoning ordinances as of December, 1975.
graphics: Alcona County Planning Commission

TABLE-14

ALCONA COUNTY
Selected Farm Land
Characteristics

Item	1964	1969
number of farms	418	304
<u>data in acres:</u>		
land in farms	74,434	55,941
avg. size	178	189
total crop land	41,215	34,901
harvested	20,462	15,386
crop land		
pasture land	15,164	14,494
all other	5,589	5,021
cropland		
wood land	28,982	15,356
all other land	4,237	5,684
irrigated land	3	51

source: NEMRPDC and ASCS

TABLE-15

ALCONA COUNTY
Market Value of Farm Products Sold: 1970

Item	all farms	comc'l	%	other	%
total value	\$1,891,800	\$1,727,213	91.3%	\$164,587	8.7%
total farms	304	143	47.0%	161	53.0%
per farm value	\$ 6,223	\$ 12,080		\$ 1,022	

source: County & Regional Facts

land devoted to farming. Yet, the farms remaining in operation are larger in terms of acreage per farm. TABLE-14 shows a reduction of 114 farms between 1964-69 which represents a -24.8% change.

According to the 1970 Census, 47% or 143 of the 304 farms in the

County were classified as commercial. That is, ones having sales of \$2,500 or more. The total market value of farm products sold is reflected in TABLE-15. Breaking down the \$1,891,800 (total value) according to the type of agricultural operation, the census further indicates that 86.6% was derived from livestock, 12.2% from crops and 1.2%

from forest products.

Looking at farms in terms of fixed assets, the average value of the land and buildings in 1970 was \$30,608 per farm, with commercial farms averaging \$43,680.

The average age of Alcona's farm operator in 1969 was 54.4 years with only 61.2% of the farm operators working solely in farming enterprises. Many of our farms are continuing in operation because the operators have found off-farm employment nearby to

supplement their farm earnings.

A more rapid decline in farming endeavors is expected in future decades. Most of the land lost to agriculture is returning to forestry, or is being purchased by people looking for a second home retreat or a place in which to retire. Many farms are being divided into 10 acre parcels and developed as agricultural-residential areas. This fragmentation of good farm land does, in essence, impede its future return to agriculture.

COMMERCIAL

Proximity to residential areas is of prime importance in the selection of commercial locations, as relatively short travel time from such residential areas is crucial to a commercial enterprise.

An overall view of our land use maps clearly depicts the relationship between higher density residential sites and closely allied commercial land uses. By far, the largest areas of business enterprises are concentrated in the trade centers of Harrisville and Lincoln. Other commercial land uses considered less significant, though still important to the overall economics of the County, are businesses located along the highway routes and in the unincorporated settlements of Barton City, Black River, Curran, Curtisville, Greenbush, Hubbard Lake, Mikado and Spruce. Additional commercial land uses can be found near lake areas; these businesses cater primarily to the everyday needs of the cottage dwellers and tourists.

Alcona County lacks well designed shopping centers where stores are grouped compatibly. Due to the general lack of comparative shopping opportunities, many of our residents drive outside the County and at times to larger urban areas outside the Region to fulfill particular needs.

For statistical purposes, commercial enterprises are grouped according to wholesale-retail trade and selected services. TABLE-16 shows the specific figures for each area. It would be reasonable to assume that present sales figures for these areas would be considerably higher, based on current economic trends. One method of substantiating this is by using the amount of sales tax collections and the rate charged to approximate the total sales. Since sales tax collections were \$641,655 in 1973, the total sales can be calculated as approximately \$16,041,375 for that year.

In 1973 according to the Michigan

TABLE 16

ALCONA COUNTY
Commercial Enterprises: 1967

Item	Trade		Selected Services	Total
	Wholesale	Retail		
establishments	6	81	56	143
active proprietors	6	88	55	149
paid employees	28	99	28	155
sales (\$1000)	2462	6136	698	9296

source: Michigan Statistical Abstract, MSU, Graduate School of Bus.Ad., 1974.

Statistical Abstract, the following individuals and establishments were licensed by the State to offer or provide their particular services:

4 Barber Shops
13 Beauty Salons
58 Food Service Estab.
1 Food Vending Estab.
1 Mortuary
2 Nursing Homes
13 Barbers

27 Cosmetologists
1 Dental Hygenist
3 Dentists
1 Mortician
25 Registered Nurses
14 Licensed Practical Nurses
2 Physicians
65 Real Estate Salesmen
16 Real Estate Brokers
(2) Assoc. Brokers
(1) Branch Office
67 Retail Liquor Estab.

INDUSTRIAL

Of the many types of industrial endeavors, three types of activity predominate in Alcona County. These are the industries related to wood products, mineral resources and the production of machinery and machine goods. Most of the latter would be considered "light" in nature and are located primarily near the trade centers and rural centers, with a few isolated industrial facilities located in outlying County areas.

Since sewage disposal services and facilities for high water consumption demands are not available, large industrial operations have not located here.

Further development of industrial activity is being promoted by the Lincoln Development Corporation, the Harrisville-Greenbush Development Corporation and the Mikado Area Development Corporation.

RECREATIONAL

Our significant natural resources make this area an exceptionally appealing mecca for the camper, fisherman, hunter, and vacationer. Recreation plays a tremendous part in the economic and land use pattern of Alcona County and the various facilities and recreational activities draw not only the transient tourist, but also a vast number of summer residents. Although summer is generally considered the resort season, the trend has been toward expanding the winter recreational opportunities to make tourism a year-round activity.

An estimated 74.4% of the land is forested, with State and Federal forest areas comprising about 28.1% of these. Most of these areas are open to the public for hunting, hiking, camping and other sporting activities. Private hunting clubs comprise a vast number of acres, particularly in the northwest portion of the County. Game animals of significance include: deer, bear, fox, rabbits, raccoon, squirrel, bobcat, as well as ducks, geese, ruffed grouse, woodcock and turkey.

Camping facilities on State land include:

1. Harrisville State Park, south of the City of Harrisville, offers modern camping and day use facilities and a developed nature trail. Also, located in the day use area is the bathing beach with clothes changing courts. The nature trail makes it easy to explore the woods and enjoy a wide variety of species of trees, plants and flowers common to the northern forest communities.
2. Negwegon State Park is currently in the planning stages. The site is located north of the settlement of Black River.

Facilities in the Federal forests are utilized primarily for primitive camping and by tourists with self-

contained recreational vehicles. Locally however, the Alcona County Park at Alcona Dam Pond near Glennie offers complete camping facilities.

Another significant part of Alcona's tourism is attributed to the 362 miles of streams, the 233 inland bodies of water and the 25 miles of Lake Huron shoreline that are found in the County. These water resources are utilized for the full range of water related activities. In addition to catches of trout, bass and perch, fishermen converge on the area to snare the Coho and Chinook salmon which have been planted in Lake Huron.

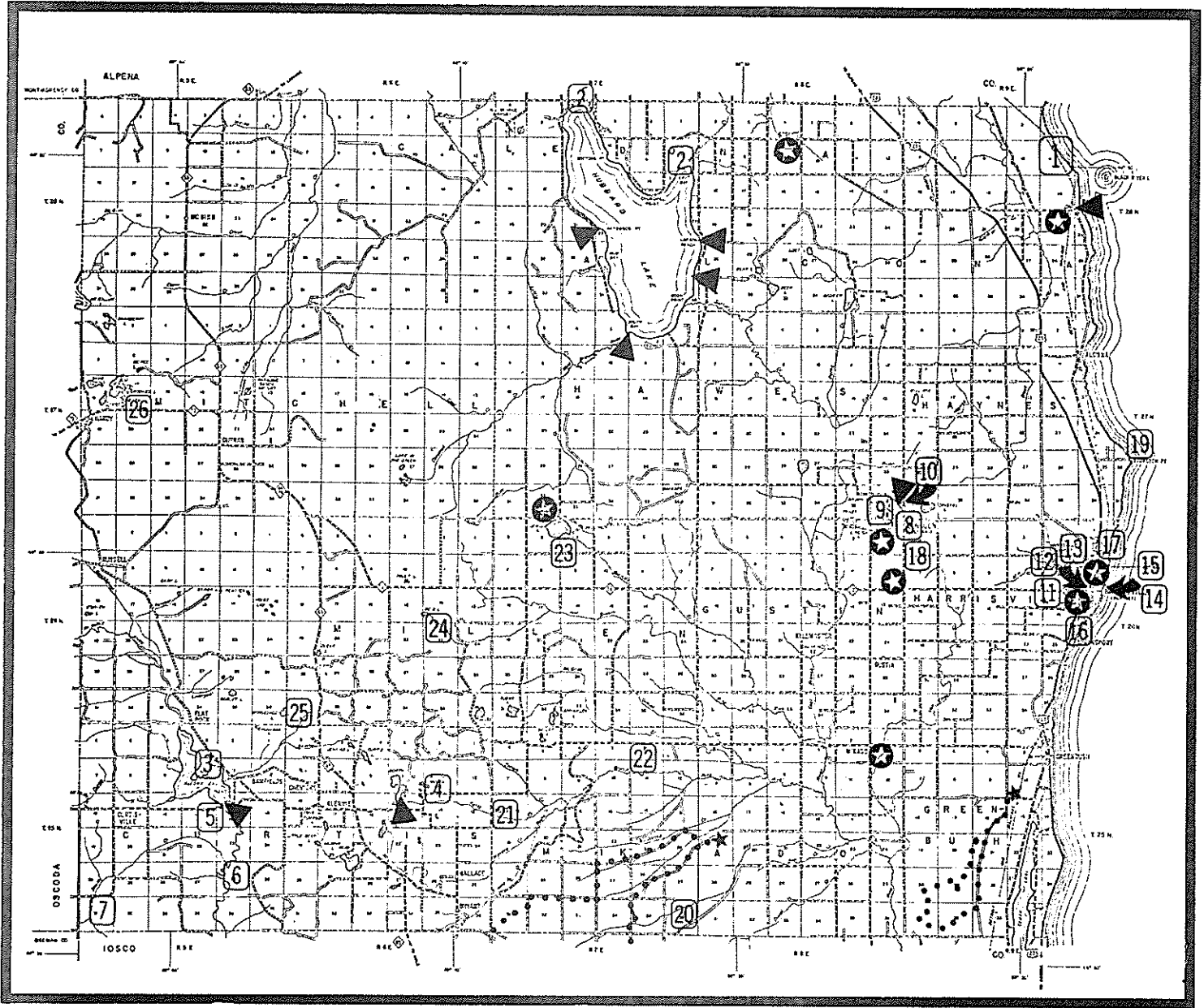
There are numerous public access sites, which in most cases have facilities for boat launching. In addition to these is Harrisville Harbor, the County's primary marine facility, which accommodates pleasure craft traveling on Lake Huron, and the Black River Harbor at the mouth of the Black River.

Other public facilities include: snowmobile trails, ball fields, community buildings and fairgrounds. Commercial and private facilities, though less plentiful, are also very important in considering the recreational amenities of the area. MAP-7 and TABLE-17 were prepared in an effort to show the general location and briefly describe the various public facilities.

Local efforts have recently been directed toward developing a 120-acre site near Lincoln as a County recreational facility. The Alcona Recreation Area project will include a one-half mile track, entrance road, parking, gate house, grandstand, well, septic system, underground power, and a building for administration, maintenance, and comfort station.

Alcona County

PUBLIC RECREATIONAL FACILITIES & POINTS OF INTEREST



- ◄ Public Access Sites
- ⊛ Ball Fields
- Snowmobile Trails

data and graphics: Alcona County Planning Commission

TABLE-17

Alcona County

PUBLIC RECREATIONAL FACILITIES & POINTS OF INTEREST

name	description
<u>Alcona Township:</u>	
1 - Negwegon State Park	proposed development - rustic camping picnicking, hiking, nature study
<u>Caledonia Township:</u>	
2 - Caledonia Twp. Parks	boating, picnicking, swimming
<u>Curtis Township:</u>	
3 - Alcona County Park	480 campsites, boating, fishing, swimming
4 - Curtis Twp. Park	picnicking, fishing
5 - Alcona Dam	
6 - Ausable River	scenic attraction
7 - Huron National Forest	riding & hiking trails
<u>Village of Lincoln:</u>	
8 - Lincoln Community Hall	community activities
9 - Village Park	picnicking
10 - Public Beach (Brownlee Lake)	swimming
<u>City of Harrisville:</u>	
11 - VFW Band Shell	"Harmony Week-End Concert"
12 - Harrisville Mill Pond	fishing
13 - Shuffleboard Courts	
14 - Harbor of Refuge	boating, fishing, playground
15 - DNR Launch Site	boating, fishing
<u>Harrisville Township:</u>	
16 - Harrisville State Park	229 modern campsites, boating, swimming, picnicking, nature trail
17 - County Fairgrounds	horse arena, ball diamonds
18 - Alcona Recreation Area	one-half mile track
<u>Haynes Township:</u>	
19 - Sturgeon Point Lighthouse	historic attraction

TABLE-17 continued

Mikado Township:

- | | |
|-----------------------------------------------|---------------------|
| 20 - Chippewa Indian Settlement | historic attraction |
| 21 - Pine River National
Forest Campground | camping, fishing |
| 22 - Bailey School House | historic attraction |

Millen Township:

- | | |
|------------------------------------------------|--------------------------------|
| 23 - Jewell Lake National Forest
Campground | 30 campsites, boating, fishing |
| 24 - Reid Lake National Forest
Campground | primitive camping |
| 25 - Horseshoe Lake National
Forest | camping |

Mitchell Township:

- | | |
|-------------------------|---------------------|
| 26 - Mitchell Twp. Park | camping, picnicking |
|-------------------------|---------------------|

LAW ENFORCEMENT

Because of lower population levels, the magnitude of the law enforcement problems in Alcona County is considerably less than that which prevails in southern Michigan. However, two factors make the proper level of police protection difficult:

1. The large geographic area is patrolled with only a few officers.
2. Seasonal population, sometimes triple the year round number, necessitates additional patrols without proportionately increasing personnel.

In Alcona County, the sheriff is the chief law enforcement officer; and his primary function is to ensure the public safety. This involves investigating all criminal complaints; providing road patrol; operating the County jail facility; conducting marine patrol safety activities and driver licensing; and handling numerous court related responsibilities. The sheriff is assisted by an undersheriff and seven deputies. During the tourist season, the department utilizes the services of a few part-time and substitute deputies.

The Alcona County Sheriff's Department has a modern facility in Harrisville from which the eastern portion of the County is serviced. Additional deputies are assigned to the outlying areas of Curran, Glennie and Hubbard Lake. The department has an informal agreement of cooperation with other police departments in the surrounding counties. In addition the Michigan State Police patrol the County from the Tawas and Alpena Posts and are on call for any needed assistance.

The City of Harrisville employs a marshal and an assistant marshal, and the Village of Lincoln employs a marshal to carry out the law enforcement activities in their respective communities.

According to the sheriff's department, 264 tickets were issued during 1975. Of this total 115 or 43.6% relate to traffic, 85 or 32.2% to warrants, 41 or 15.5% to alcohol, 10 or 3.8% to accidents, 5 or 1.9% to marine, 4 or 1.5% to marijuana and 4 or 1.5% to larceny.

Law enforcement officials express concern over the increasing incidents of breaking and entering, which they attribute to the large number of seasonal dwellings which are unoccupied for most of the year.

COURT SYSTEMS

Alcona County is in the 23rd Circuit along with Oscoda and Iosco counties. The Circuit Court has jurisdiction over all felony cases and civil claims that are not given by State statute to some other court, such as District or Probate Court. Also, the Circuit Court handles appeals from the District Court. Sessions of the Circuit Court are held four times during the year: the third Monday in March, the first Monday in June, the third Monday in October, and the second Monday in December. The 23rd Circuit has only one presiding judge, and the County Clerk serves as clerk of the Circuit Court and maintains all of the Court's records.

Breaking down the total cases disposed in Alcona County Circuit Court (by nature of litigation) in 1975, 51 or 58.6% were for divorces, 10 or 11.5% for criminal, 7 or 8.1% for auto negligence

and 19 or 21.8% for other civil cases.

Alcona, Oscoda and Ogemaw Counties are served by the one judge of the 82nd District Court and a full time magistrate. Again, the County Clerk serves as the clerk of the District Court and maintains all of the Court's records. Sessions of District Court in Alcona County are held every Wednesday.

According to the Alcona County magistrate's office 308 cases were disposed in 1975. Of this total 249 or 80.8% were for criminal cases with the balance of 59 or 19.2% for civil cases. (TABLE-18)

Probate and juvenile matters are handled by the Alcona County Probate Court which in 1975 had 53 cases filed for decedent estates, guardianships and mental commitments. In addition, the juvenile division court caseload for delinquency, adoption and neglect totaled 63.

County officials express concern over the lack of adequate adult probation services and juvenile services, the need for additional training of law enforcement officials, and the present system of court appointed attorneys--all of which present additional financial burdens for the local government.

TABLE-18

ALCONA COUNTY 82nd DISTRICT COURT

Business During 1975 Classified by Nature of Litigation

Dist. No. & Case Vol.	Civil	<u>1975 Cases</u>				Total
		<u>Civil</u> Small Claims	Landlord Summary	Traffic	<u>Criminal</u> Non- Traffic	
Pending at Beginning	24	6	5	8	78	121
Commenced	18	30	9	25	244	326
Disposed-W/out Trial	25	32	2	24	207	290
Disposed-Trial by Jury				2		2
Arraign.-Exam Waived					8	8
Arraign.-Exam Conducted					8	8
Total Cases Disposed	25	32	2	26	223	308
Pending at Year End	17	4	12	7	99	139

FIRE PROTECTION

Fire protection is one of the most important functions provided by the local governmental units and the level of fire service provided affects the rate which is charged for fire insurance. The various fire departments are responsible to township boards, citizen's groups and a private corporation, and have established mutual aid agreements

with adjacent areas.

TABLE-19 lists the fire protection agencies and services provided for Alcona County, and MAP-8 depicts the location of the various fire departments. It should be noted that there are areas in Alcona County, particularly in the western portion, which are not included in the service areas of the individual fire departments.

TABLE 19

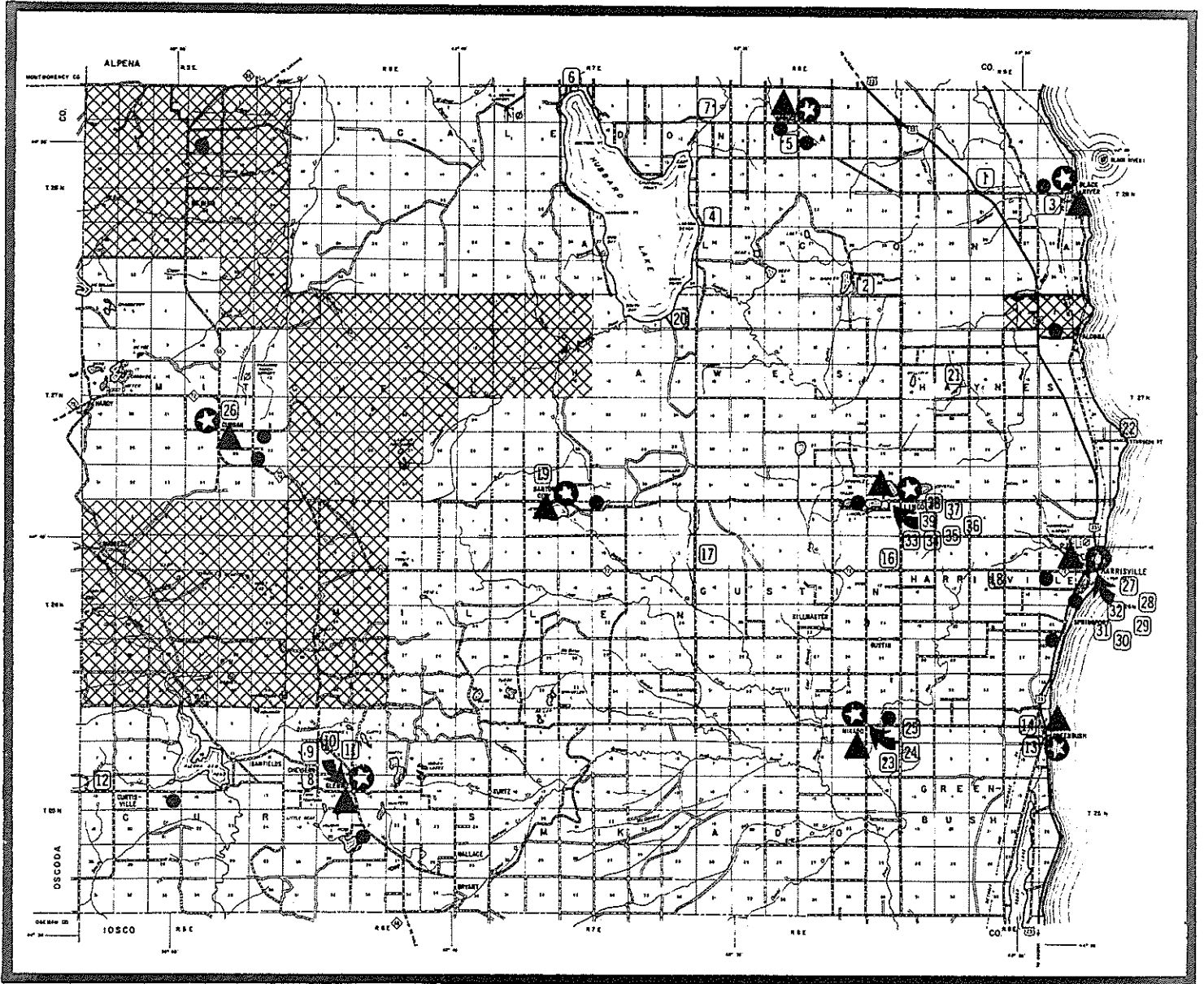
ALCONA COUNTY

FIRE PROTECTION AGENCIES & SERVICES

Agency	Personnel		Primary Equip.		Air Packs & Resuscitator	Radio
	Regular	Auxiliary	Pumpers	Tankers		
Alcona Twp. Fire Dept.	18	4	3	2	yes	no
Barton City Fire Dept.	14	6	1	1	yes	CB
Comins Twp. Fire Dept.	16		3	3	air packs	yes
Curtis Twp. Fire Dept.	25		1	1	yes	no
Greenbush Twp. Fire Dept.	15		1	2	yes	yes
Harrisville City & Twp. Fire Dept.	14		1	1	yes	yes
Hubbard Lake Fire Dept.	24		2	1	yes	yes
Lincoln Fire Dept.	13		2		yes	no
Mikado Twp. Fire Dept.	16		1	1	resuscitator	yes
So. Shore Hubbard Lake Fire Dept.	6		2		yes	yes
DNR Forest Service			1			yes

Alcona County

LOCATION OF PUBLIC BUILDINGS & FACILITIES



Not included in fire service area



Post Office



Library



Cemetery

data and graphics: Alcona County Planning Commission

Alcona County

LOCATION OF PUBLIC BUILDINGS & FACILITIES

Alcona Township:

- 1 - Alcona Township Fire Station
- 2 - Lost Lake Woods Fire Hall
- 3 - Black River Elementary School
- 4 - East Shore Fire Hall Station #2

Caledonia Township:

- 5 - Caledonia Township Memorial Hall
- 6 - Hubbard Lake Fire Station
- 7 - Caledonia Elementary School

Curtis Township:

- 8 - Curtis Town Hall
- 9 - Curtis Fire Station
- 10 - Glennie Elementary School
- 11 - Federal Forest Service Station
- 12 - Curtisville Hall

Greenbush Township:

- 13 - Greenbush Town Hall
- 14 - Greenbush Fire Station
- 15 - County Line School

Gustin Township:

- 16 - Alcona Junior-Senior High School
- 17 - Alcona County Sanitary Landfill

Harrisville Township:

- 18 - Fisher-Grange Hall

Hawes Township:

- 19 - Barton City Fire Hall
- 20 - South Shore Hubbard Lake Fire Station

Haynes Township:

- 21 - Haynes Town Hall
- 22 - USCG Lighthouse

Mikado Township:

- 23 - Mikado Town Hall
- 24 - Mikado Fire Barn
- 25 - Mikado Civic Center

Mitchell Township:

- 26 - Mitchell Town Hall

City of Harrisville:

- 27 - Alcona County Building & Courthouse
- 28 - Alcona County Sheriff's Office & Jail
- 29 - Alcona County Department of Social Services
- 30 - Harrisville Elementary School
- 31 - Forest Service Ranger Station USDA
- 32 - Secretary of State's Office

Village of Lincoln:

- 33 - Alcona County Road Commission
- 34 - Alcona Community School District
- 35 - Agricultural Stabilization & Conservation Service USDA
- 36 - Lincoln Community Center
- 37 - Lincoln Fire Hall
- 38 - Michigan DNR Office
- 39 - Lincoln Elementary School

ACTIVITY COORDINATION

When all of the County's activities are looked at as a unit and illustrated graphically, what develops is a zoning map which by and large reflects current land usage. This physical inventory of how people use the land serves as a tool in determining current trends and possibly as a guide in directing County development. Although the future cannot be completely determined by looking at what has happened in the past, the information provides a strong base upon which projections and proposals can be built.

All eleven townships at this time have adopted zoning ordinances and have designated districts for the various zoning classifications. APPENDIX-1 reflects the zoned lands which were plotted according to the descriptions accompanying the adopted ordinances and subsequent amendments. There may be minor discrepancies between these maps and the ones on file

with the township zoning administrators.

Looking at the ordinances from the standpoint of the types of districts that comprise each, we find:

(R)	Residential
(C-R)	Commercial - Residential
(R-R)	Resort-Residential
(A-R)	Agricultural - Residential
(A)	Agricultural
(F-R)	Forest-Recreational
(C)	Commercial
(I)	Industrial
(G-B)	Green Belt
(T-H)	Trailer Homesite

A comparison of zoning districts by township is shown in TABLE-21.

In further comparing each zoning district according to the described "primary uses" and "uses by special approval," many variations exist in

TABLE 21

ALCONA COUNTY Zoning Districts by Township

Township	(R)	(C-R)	(R-R)	(A-R)	(A)	(F-R)	(C)	(I)	(G-B)	(T-H)
Alcona	X	X		X		X	X	X		
Caledonia	X	X		X		X	X	X		
Curtis	X		X		X	X	X	X		
Greenbush	X					X	X	X		X
Gustin	X			X	X	X	X	X		
Harrisville	X			X	X	X	X	X		
Hawes	X			X	X	X	X	X		
Haynes	X			X	X	X	X	X		
Mikado	X		a	X	X	X	X	X		
Millen		X	X	X		X			X	
Mitchell		X	X	X		X		b	X	

a - listed as a district, but no provisions are in the ordinance

b - land has been designated, but there are no provisions included in the ordinance

the items designated by each township. The "Comparative Study" included in APPENDIX-1 provides a chart comparison of the major sections of the township zoning ordinances for each of the zoning districts. It can be concluded from the Study that the eleven township ordinances can be classified into four basic styles, each with its own particular modifications.

Location of publicly owned land is identified on MAP-9. It should be noted that a situation exists in several townships wherein more land is owned by the various governmental units than by private individuals. Overall, approximately 28% of the land area of Alcona County is publicly owned.

LAND USE CONTROLS

The strength or weakness of the zoning ordinances lies in their administration. In all of the townships, this is entrusted to a zoning administrator, the zoning board, and the board of appeals. In the final analysis, of course, the township board has the last word, since it appoints the personnel connected with zoning and makes the official decisions on the amendments.

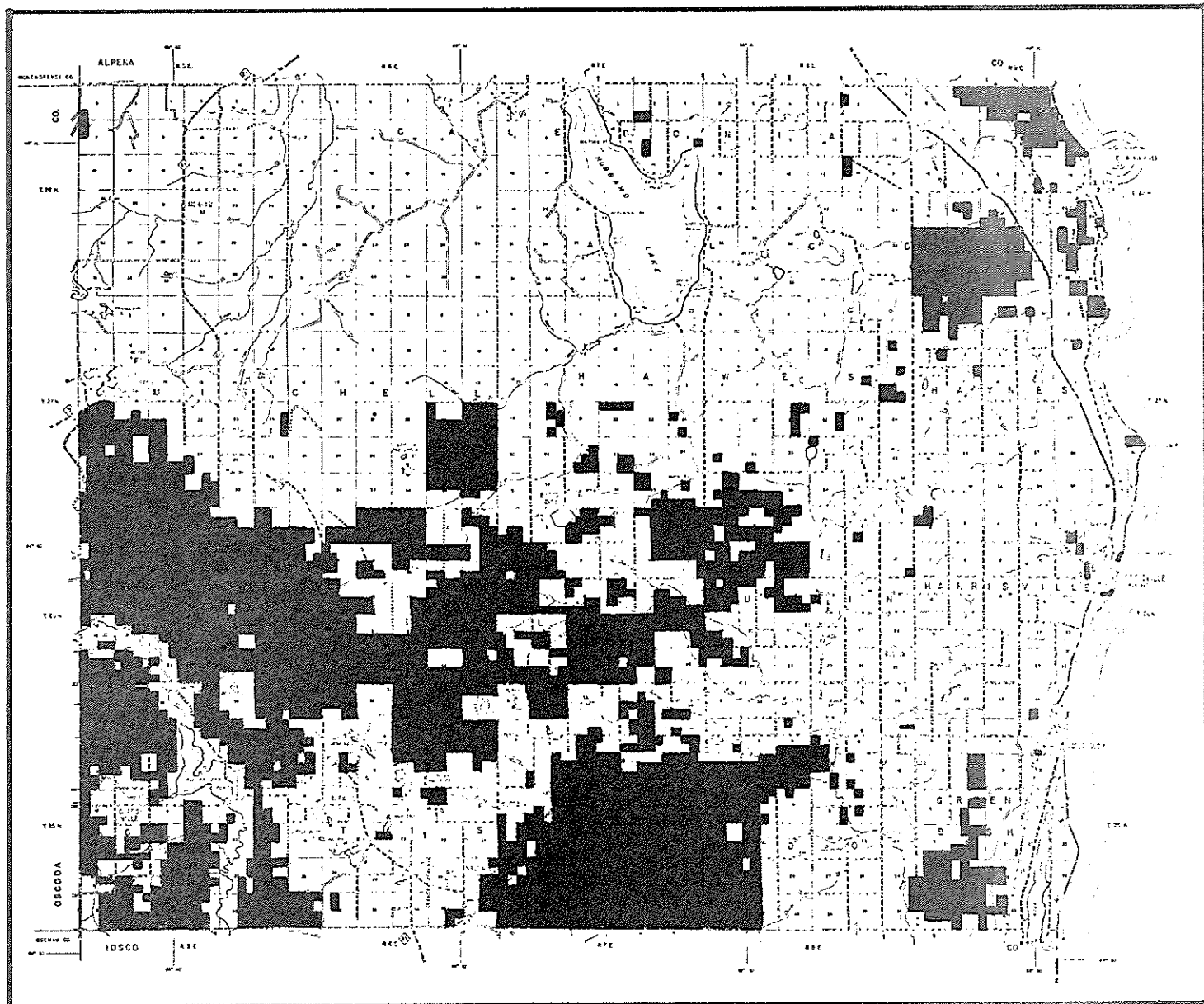
In comparing the administrative sections of the different township zoning ordinances, all of them designate that the ordinances will be enforced by a zoning administrator.

TABLE 22



ALCONA COUNTY
Administrative Provisions for Zoning

Provisions	Alc	Cal	Cur	Gre	Gus	Har	Haw	Hay	Mik	Mil	Mit
Zoning Administrator			X	X	X	X	X	X			
Building Permit				X							
Certificate of Approval	X	X	X		X	X	X	X	X	X	X
Certificate of Compliance	X	X	X	X	X	X	X	X	X	X	X
Fees	X	X	X	X	X	X	X	X	X	X	X
Board of Appeals	X	X	X	X	X	X	X	X	X	X	X
membership	X			X	X		X	X			
powers	X	X		X	X	X	X	X	X	X	X
meetings	X			X	X		X	X			
procedures	X	X		X	X	X	X	X	X	X	X
decisions	X			X	X		X	X			
Zoning Board:				X							
membership				X							
meetings				X							
special fees				X							
Amendments	X		X	X	X		X	X	X		
Violations, Enforcement & Penalties	X	X	X	X	X	X	X	X	X	X	X
Spot Zoning			X		X		X	X			

Alcona County
PUBLICLY OWNED LAND



Land ownership:

-  Public
-  Private

graphics: Alcona County Planning Commission

source: Atlas and Plat Book Alcona County, Michigan, 1974.

However, five of the ordinances do not have provisions as to how this person will be selected; three have no provisions for amendments; and only Greenbush Township designates a permanent zoning board whose primary job is to review amendments. (TABLE-22)

1975 in accordance with Public Act 230 of 1972 to administer and enforce the State uniform code of minimum standards for all buildings. Harrisville and Haynes Townships are not included in the jurisdiction of this department because they assigned the responsibility of complying with the State mandate at their township levels.

BUILDING INSPECTION

The Alcona County Building Inspector Department was created in March,

Total permits issued county-wide for 1975 were 520 with an estimated building value of \$4,218,743.00.

EDUCATION

Each community to a great extent is responsible for the education and training of its young people so that they may assume a responsible and fulfilling role in the community. To accomplish this, a large investment is made for physical facilities and equipment. Educational facilities in Alcona County are administered essentially by three local school districts. MAP-4 indicates the boundaries of the respective districts, and it should be noted that two of these districts extend into neighboring counties.

When the school districts were consolidating in the mid fifties, the southern townships, for the most part, felt that their tax burden would be less by annexing with Oscoda Area

Schools due to the fact that Wurtsmith Air Force base was included in the District.

Comparative data on school enrollments in the three districts is given in TABLE-23 and on physical plants in TABLE-24.

In comparing the financial situation of the school districts in Alcona County, figures show that only Oscoda Area Schools is receiving a substantial amount of revenue from state and federal sources. Because of the current school aid laws enacted by the state legislature, both Alcona and Fairview districts are having to rely heavily on local property taxes for revenues to support their schools.

TABLE-23

SCHOOL ENROLLMENT BY GRADE

Grade	Alcona			Oscoda			Fairview		
	1970	1975	1980*	1970	1975	1980*	1970	1975	1980*
K	98	82	122	340	294	260	29	41	
1	83	85	127	406	282	265	36	37	
2	100	67	130	384	294	270	40	33	
3	103	110	133	400	263	275	34	31	
4	110	110	136	397	312	280	36	34	
5	113	110	139	409	328	294	32	37	
6	99	125	128	408	321	282	42	36	
7	102	111	144	405	360	294	46	44	
8	120	121	123	362	342	263	43	48	
9	97	136	145	313	351	312	49	35	
10	101	121	152	280	326	328	39	50	
11	96	113	138	254	279	321	44	53	
12	84	124	153	207	225	360	28	47	
Spec.Ed.				53	24	25			
Total	1306	1415	1770	4618	4001	3829	498	526	580-600

* Estimated enrollment

TABLE 25

ALCONA COUNTY

1975-1976 School District Finances

Item	Alcona	Oscoda	Fairview
<u>Tax Base:</u>			
SEV (School District Only)	\$61,922,746	\$97,875,170	\$27,843,179
<u>Tax Rate:</u>			
Operating-General	8.80	9.30	7.00
Voted	11.20	11.30	14.00
Debt Retirement	3.38	1.00	1.00
<u>Source of Revenue:</u>			
Property Tax	\$ 1,238,815	\$ 1,874,685	\$ 584,707
State	184,739	1,643,492	31,270
Federal	47,019	884,277	25,669
Other	68,239	250,279	2,682

TABLE-24

ALCONA COUNTY
Educational Facilities
Selected Characteristics

Name	Year Built	Grades	Teaching Stations	Enroll- ment 74-75
<u>Alcona Community Schools:</u>				
Alcona Junior-Senior High Addition	1956 1975	7-12	25	689
Barton City Elementary	1956	K-2	3	77
Black River Elementary	1956	4-5	2	57
Caledonia Elementary	1956	K-4	4	87
Harrisville Elementary	1952	1-6	8	211
Lincoln Elementary	1950	K-6	13	255
<u>Fairview Schools:</u>				
Fairview High School Addition	1953 1969	K-12	26	38*
Fairview Elementary		6-8		
<u>Oscoda Area Schools:</u>				
Oscoda High School	1961	9-12	46	215*
Richardson Junior High	1965	6-8	35	132*
County Line Elementary	1962	K-5	11	171*
Glennie Elementary	1948	K-6	7	132*
Cedar Lake Road Elementary	1952	K-3	26	16*
River Road Elementary	1963	5-6	15	13*
Oscoda Elementary	1920	2-5	22	9*

* Number of Alcona County Students attending. Does not reflect total enrollment.

Alcona Community Schools in 1971, according to the "School Plant Adequacy Report" by Wigen, Morris, and Tincknell

& Assoc. Inc., were considered deficient in the following areas:

Area	*High School	Barton City	Black River	Caledonia	Harrisville	Lincoln
Library	X	X	X	X	X	X
Cafeteria Area		X	X	X		X
Rooms for Speech, Remedial and Special Ed.		X	X	X	X	X
Classrooms	X					X
Areas for Special Projects		X	X	X	X	X
Toilet Facilities	X	X	X	X		X
Storage & Maintenance		X	X	X	X	
Office Area		X	X	X		
Teacher Area		X	X	X		
Gymnasium	X					

* present facilities do not meet the fire marshal requirements for public safety in schools.

In 1974, the Alcona Community Schools issued school building bonds in the amount of \$1,775,000 to enlarge and remodel the junior-senior high school. The new construction, essentially doubling the space available, included the addition of 19 classrooms, library, band room, wood & metal shop, enlargement of the gymnasium and upgrading and remodeling of the existing structure to meet current fire codes.

ADULT EDUCATION

All three districts in the County offer opportunities for adults in continuing education programs. Adult education activities include high school completion, adult basic education, enrichment classes and GED test administration.

INTERMEDIATE SCHOOL DISTRICT

Alpena, Montmorency and Alcona Counties are combined to form the A-M-A Intermediate School District. This district offers administrative, general and special services; they also have programs supported by special grants to meet specific needs. The ISD gets its authority to organize and operate by state law. It is the middle echelon in a three-level administrative structure: the State Department of education at the top; the ISD in the middle and local schools at the third level.

HIGHER EDUCATION

Numerous opportunities are available for those persons in Alcona County who wish to continue their education beyond high school.

Alpena Community College and Besser Technical School, located in Alpena, are the closest facilities. Many students take advantage of the fine technological programs offered while others take basic courses, then transfer to larger colleges and universities. Other community colleges in relatively close proximity include: Delta College, Kirtland Community College and Mid-

Michigan Community College.

Off-campus courses are offered regularly in the area by Michigan State University and Central Michigan University.

Many residents, of course, elect to take up residence on one of the many college and university campuses throughout the State to pursue their studies.

LIBRARY SYSTEM & FACILITIES

Presently the main County library is located on the lower level of the County Building in Harrisville with branch libraries serving Barton City, Black River, Curran, Glennie, Greenbush, Lincoln, Mikado and Spruce. (MAP-8) Library service to all of the elementary schools and rest homes in the County is accomplished through the "Bookmobile."

The facilities house approximately 26,000 books and other reference materials which include: maps, large print books, magazines, filmstrips and projectors, current clipping files and an excellent collection of historical books of Michigan and books by Michigan

authors. Also, some local artists use the library facilities to display their works.

In Lincoln, a unique situation exists in that two libraries are housed in one facility. As a result of provisions in a trust, the Rickert Memorial Library was established at the Lincoln Community Building. It is a nonfiction library and the monies can only be used to buy books, not for operational costs. In an effort to make the collection more readily available to the residents, the Lincoln Branch Library moved into the same building and the County librarian services both.

CULTURAL OPPORTUNITIES

Cultural activities in Alcona County are for the most part are those offered by the Alcona High School. These consist of a spring art show, displaying the talents of the art students, and a play presented by the drama classes. Area residents are dependent upon outlying areas for

cultural opportunities.

Alpena to the north offers a variety of enrichment activities. A Community Concert Association schedules four diversified concerts each year with nationally known artists. Alpena Community College sponsors approximately

five concerts and lectures, in addition to a weekly film classic series. At the Jesse Besser Museum, new exhibits and planetarium shows are featured each month. The Alpena Civic Players present four or five plays a year, and the Thunder Bay Arts Council schedules performances by touring groups and sponsors an art festival each summer.

To the south, Tawas City has boat regattas and an annual perch festival, and Oscoda hosts the "Paul Bunyan Festival." Also in Oscoda, a newly formed theater group, The Shoreline Players, presents several plays each year; and the Art Stable, a co-op endeavor, offers art lessons, offers local artists display facilities, and sponsors art oriented activities. The Oscoda-AuSable area is also the home of the Blue Snow

Arts Council, which sponsors touring theater shows, helps sponsor the Iosco-Wurtsmith singers in concert, and is helping to organize a community concert.

Other events of special interest are the "Forestry Exposition" in Mio and the "Potato Festival" in Posen.

County fairs are sponsored by agricultural societies in Alpena, Montmorency, Oscoda and Iosco counties, as well as Alcona. These fairs give area residents an opportunity to display their livestock, farm-garden products, homemaking skills and artistic talents.

A special attraction in Harrisville is "Harmony Week-end" held annually Labor Day weekend. Feature event is the barber shop quartet and "Sweet Adelines" concert.

Part three: SERVICES

INTRODUCTION

Services are those linkages between people and their activities--when PEOPLE engage in ACTIVITIES, they create SERVICES. The basic elements for study include communications, transportation, energy supply and waste disposal. Because of the large geographic area

covered by Alcona County, providing adequate services at times can be difficult and economically inefficient. To overcome this in future planning, coordination of necessary services will be a critical function of the people and the government.

COMMUNICATIONS

In today's world communication systems are vital to the educational, cultural and social development of the people of Alcona County and also serve as an important conveyance in the County's economic structure.

NEWSPAPERS

Two local, weekly newspapers offer local news coverage. Daily coverage is available by means of out-of-county newspapers from Alpena, Bay City and Detroit.

In 1975 the monthly circulation of area newspapers to residents of the County averaged:

<u>copies</u>	<u>newspaper</u>
900	Alcona County Herald
1,000	Alcona County Review
2,171-permanent	Alpena News
360-seasonal	Alpena News
3,841	Northeastern Shopper

RADIO AND TELEVISION

Radio and television service is likewise provided from stations outside the immediate area. In the fall of 1975, WBKB TV, a CBS affiliate, began broadcasting from Alpena; and from Central Michigan University in Mt. Pleasant, educational television was made available via a newly erected tower northwest of the County.

POSTAL SERVICE

Postal service to Alcona County includes the U.S. Postal Service (post offices) and the United Parcel Service (commercial company).

The post offices in the County are the 2nd to 4th class proprietorship type common in rural areas, which are limited to one or two shipments per day. Locations of the post offices are as follows:

<u>municipality</u>	<u>class</u>	<u>zip</u>
Barton City	3rd	48705
Black River	4th	48721
Curran	3rd	48728
Glennie	3rd	48737
Greenbush	3rd	48738
Harrisville	2nd	48740
Hubbard Lake	3rd	49747
Lincoln	2nd	48742
Mikado	3rd	48745
Spruce	3rd	48762

At the present time a total of 4,399 permanent and seasonal addresses in the County are being serviced by the ten post offices. Further breaking down this total shows:

<u>post office</u>	<u>perm.</u>	<u>sea.</u>	<u>total</u>
Barton City	168	10	178
Black River	78	6	84
Curran	100	50	150
Glennie	411	31	442
Greenbush	540	150	690
Harrisville	853	15	868
Hubbard Lake	403	9	412
Lincoln	545	85	630
Mikado	384	7	391
Spruce	486	70	556
<hr/>			
total	3,966	433	4,399

The United Parcel Service (UPS) offers daily delivery service for packages to most areas of Alcona County. They also will provide daily pick-up service for anyone who makes daily shipments. For those not shipping daily, packages are accepted at a depot in Alpena for shipment.

The Greyhound Bus Depot located in Harrisville also offers delivery service for packages.

TELEPHONE

Most of Alcona County is served by the General Telephone Company of Michigan, while the southern townships are served by Michigan Bell Telephone Company (Greenbush-Mikado area) and Continental Telephone Company (Glennie area). All three are included in area code 517, and offer limited local-call areas. Company officials indicate that expansion and updating of long-range programs are underway to increase service and service potential throughout most of the County. Private lines, commercial lines and special-purpose lines are generally offered, but, are subject to availability of equipment and economic-growth trends.

At this time, General Telephone officials indicate that the number of phone installations is increasing at the rate of 6.2% each year.

Current figures on the number of telephone installations in the County show a total of 4,314. Looking at this figure in terms of local exchanges, there are:

<u>exchange</u>	<u>installations</u>
Fairview	336
Glennie	541
So. Greenbush	279
Harrisville	937
Hubbard Lake	531
Lincoln	1,359
Ossineke	331
<hr/>	
total	4,314

TRANSPORTATION

As in the past, transportation systems play an extremely important part in the economy and livelihood of a community. Not only were communities located near important resources, but they were located near transportation facilities so that goods produced could easily be taken to market. Such is the case today: Communities depend upon one another and likewise, are highly dependent upon transportation systems to inter-act with one another.

Transportation means, though quite varied, have one basic purpose. This being the movement of goods or people from one point to another. Each of the various modes of transportation will be discussed in relation to Alcona County and the surrounding areas.

HIGHWAY SYSTEM

The highway system of Alcona County consists of one Federal highway (US-23), two State trunklines (M-65 and M-72) and the County system of primary and secondary roads. From its junction with the I-75 freeway south of Standish, US-23's scenic route connects the northeastern shoreline recreation areas with the urban areas to the south. An extension of the I-75 freeway to Alpena has been proposed by the State Highway Department, but to date the exact route has not been determined.

Additional accessibility to Alcona County is accomplished in the western portion via the north-south State trunkline (M-65). This highway provides an alternate route for vacationers and travelers from Standish. M-72 runs east to west beginning at Harrisville about midway between the north and south boundaries of the County. It intersects

with US-23 and M-65 enroute to Grayling and I-75.

The County system of primary roads consists of a rather well developed network tying the rural areas into the State and Federal system. F-41 parallels the shoreline and connects with US-23 near the north County line. It provides an alternate inland north-south route, serving Mikado, the Village of Lincoln, Spruce and Hubbard Lake. Located in the southern half of the County is F-30, an alternate east-west route which intersects US-23, F-41 and M-65. Other primary roads of significance include: Black River Road, Cedar Lake Road, Hubbard Lake Road, Lake Shore Drive, Poor Farm Road and Spruce Road. Most of the primary roads and many secondary roads are paved or hard surfaced. Road weight restrictions are in force during the spring on primary County roads with a limit of 13,000 lbs. per axle allowed during this season versus 18,000 lbs. normally. These restrictions are lifted when frost conditions leave and roads stabilize.

Looking at the highway system as a whole, Alcona County offers approximately 79.4 miles of State and Federal highways, 207.16 miles of primary County roads and 558.0 miles of secondary County roads. The Alcona County Road Commission is responsible for maintaining these thoroughfares which are kept up adequately to handle present traffic volumes. The services of 30 men, 31 trucks, 4 graders and other related equipment are used by the Road Commission in executing its maintenance functions. Since 1973, the Road Commission has also handled the construction and/or resurfacing of approximately 16.5 miles of County roads, and the reseeding and mulching of about 93 acres of slopes on County roads.

In 1975 as a result of additional personnel through the Comprehensive

Employment and Training Act (CETA) program, the right-of way of about 19 miles of County roads have been brushed and cleared affording better visibility for the people using them. The CETA crew also has assisted in road repair, patching holes and filling cracks.

It should be noted that both the City of Harrisville and the Village of Lincoln have maintenance departments which service the streets within the incorporated limits.

A special point should be made of the fact that traffic volumes have increased steadily over the past ten years on each of the major arterials. According to the traffic counts made available by the Michigan State Highway Department, the heaviest volume occurs on US-23.

The following data presents statistics regarding the vehicles that use our highway system. Of the 2,394 families in Alcona County according to the 1970 Census, 1,655 or 69.1% were 1-car families, 463 or 19.3% were 2-car families, 63 or 2.6% had three or more cars available, and 213 or 8.9% of the families had no car available. For the fiscal year ending June 30, 1973, the Michigan Department of State reported that 7,358 vehicle registrations were issued in Alcona County: 4,433 passenger; 1,404 commercial; 1,235 trailer; 285 motorcycle and 1 municipal.

Greyhound Bus Service for passengers and limited freight is available daily. The bus stops in Harrisville in the morning enroute to points south and in the evening enroute to destinations to the north. Limited terminal facilities are handled by the Kerby Lanes Bowling Alley.

According to the Alcona County Sheriff's Department a total of 460 motor vehicle traffic accidents were reported in 1974. Of the accidents

involving bodily injury and fatalities, 85 persons were injured and 4 were killed. Also reported were 5 bicycle accidents resulting in injury to 4 persons; 11 motorcycle accidents involving bodily injury to 8 persons and 1 fatality; and 8 snowmobile accidents in which 8 persons were injured.

MASS TRANSPORTATION

Only one interstate/intrastate trucking firm passes through the area. Deliveries are often delayed until sizeable orders can be "blocked" together to make delivery justifiable. Due to high freight costs, raw materials are considerably higher than in southern markets.

AIRWAYS

The County has access to state, national and international airline facilities through the use of the regional airline, North Central, which has regularly scheduled service to Alpena's Phelps Collins Airport. At the Alpena airport, there are three paved runways, one of which extends 10,000 feet and can handle jet service. During the summer this facility is used for military training operations.

Tri-City Airport, some 100 miles south of Alcona County, offers regularly scheduled commercial flights and many County residents utilize the air travel services at this facility.

Because it is an air facility, Wurtsmith Air Force Base in Iosco County should also be mentioned. As a military base, however, it is not available for general aviation or local use.

Two local airports also exist, one municipal airport at Harrisville and a private field north of Hubbard Lake. Both are presently grass strips suitable

for single engine aircraft and offer minimal services. The Harrisville Airport can also handle some light twin-engine aircraft and recently has added facilities for refueling.

In recent years the popularity of small, single-engine aircraft has greatly increased. The Federal Aviation Agency (Census of U.S. Civil Aircraft) in 1971 reported 7 single-engine aircraft on the active registration list for Alcona County.

RAILWAY SYSTEM

Alcona County is included in the Northern Subsystem of the Michigan Railroad Network and is serviced by the Detroit and Mackinac Railroad.

The D & M runs, essentially, between Bay City and Cheboygan and connects numerous points along the Lake Huron shoreline. The D & M offers regular freight service on a car-load basis, but at this time does not provide passenger service.

WATERWAYS

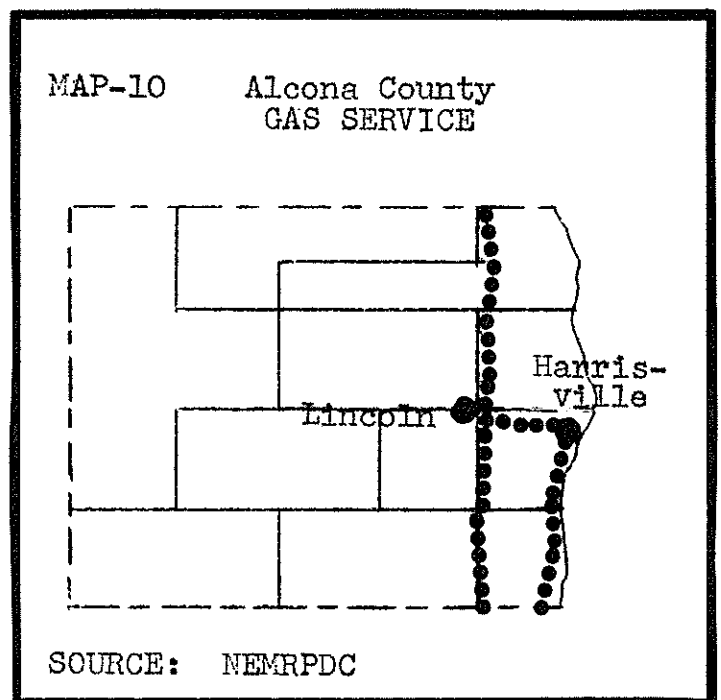
A small "Harbor of Refuge" for cruisers, fishing vessels and sailboats is located at Harrisville. This facility actually is more oriented to serving a recreational function than a transportation purpose. The rivers and inland lakes which exist in the area also serve primarily recreational needs such as canoeing, sailing and power boating.

ENERGY SUPPLY

Electric, gas and water supplies which are components of our energy system have been recognized by the people of Alcona County as vital to the total welfare of the community. If adequate energy levels are going to be available in the future, it will be necessary to assist and encourage each supply agency to continually work toward service improvements. In providing this better service it will be essential that these improvements remain compatible with other activities and our environment.

NATURAL GAS

Michigan Consolidated Gas Company supplies a narrow, north-south strip in the eastern portion of the County with 600-lb. natural gas transmission lines. (MAP-10) Although the service



areas expand east and west from the main gas transmission line shown on the map, gas service to these areas is limited to the high density developments in close proximity to the main line. At this time gas service lines to the interior and westerly portions of the County are non-existent.

ELECTRICITY

Consumers Power Company and the Presque Isle Cooperative supply electricity to Alcona County. Two factors make it difficult and expensive to provide electric service to every area resident: (1) the relatively small population, and (2) the large geographic area which must be covered. Even so, electric power is presently available to almost every dwelling in the County with the exception of a few cabins in very remote locations. Representatives of the companies indicate that no major problems exist and further that improvements in the system are continually being made.

Most of the power which is sold within the County is generated outside the area and sent by transmission lines. At the present time Consumers Power officials report that they are providing electric service to 7,500 residential hook-ups and that this number is increasing at the rate of 2½% per year.

WATER SUPPLY

With the exception of the City of

Harrisville, all water supplies for residential and commercial establishments are obtained from individual wells with little or no problems of quality or quantity.

The City of Harrisville has a public water distribution system which serves the entire corporate area and a few outlying buildings. It began operation in 1939 and to date still utilizes the same flowing wells as the source of supply. A total of 18,214,800 gallons were pumped in 1970 with a one day maximum of 96,000 gallons. There are more than 250 connections to the system.

Existing storage consists of a 50,000 gallon elevated tank and a 15,000 gallon on-land concrete reservoir. The water is not chemically treated.

During periods of peak use, a considerable drop in pressure has been experienced, but this could be remedied by installing a pump at the well site rather than depending on artesian pressure which is the present method. Other improvements recommended for the City of Harrisville's water supply system include: eliminating some of the bends in the transmission line to provide a more direct flow of water from the well site to the storage tank; replacing the portions of the transmission line that are less than six inches in diameter in order to provide adequate fire protection; looping dead-end mains to decrease the amount of pressure drops in the transmission lines; and installing an additional elevated storage tank or replacing the existing tank with one of larger capacity.

DISPOSAL SYSTEMS

WASTE WATER SYSTEMS

In general, residential and commercial establishments utilize on-site disposal facilities for the disposal of waste water.

Three municipalities were cited by the Bureau of Water Management (DNR) for discharging raw and/or semitreated domestic wastes into the surface waters thereby violating the State's "Water Quality Laws." They are the City of Harrisville in 1969, the Village of Lincoln in 1967 and the settlement of Mikado in 1970.

"City of Harrisville"

The City is in the process of installing a sanitary sewage system that was developed by their engineering firm. The proposed treatment facility will provide service for approximately 290 connections and will consist of a sewage pumping station, 2300 feet of six-inch force main, two waste stabilization ponds and an effluent disposal system. The plan specifies that the waste stabilization ponds be 2.9 acres in size and be evacuated twice a year. The effluent will then be discharged to 6-acre seepage beds.

Storm water will not be discharged into the system, but will continue to be funneled into open ditches which flow into Mill Creek and Lake Huron.

The project will be funded largely by Federal/State grants with the remainder being financed through the Farmer's Home Administration. Each user will be assessed a special "Hook-up fee" at the time of connection with the system.

The City hopes that it can have the sanitary collection and treatment facility in operation by late 1976.

"Village of Lincoln"

Presently, a majority of the residential and commercial establishments in the Village of Lincoln are being served by individual septic tanks and drain fields. In the core of the service area, six commercial establishments and ten residential dwellings are connected to a common sanitary sewer line. This transmission line runs by gravity to the south corporate limits where it enters a common septic tank and drain field type of waste treatment. The effluent from this is being discharged into an intermittent stream which enters the Pine River Watershed and eventually Lake Huron.

In 1971, the Village contracted with a consulting firm to determine the feasibility, and to prepare preliminary engineering plans and costs for a municipal sewage collection system and treatment facility for the entire service area of the Village. After careful study and investigation, plans were drafted for a lagoon treatment facility and the estimated costs were determined. Unfortunately, because of the high cost of the project, it appeared to be uneconomical to proceed with the proposed lagoon system unless grant monies could be obtained. In view of the uncertainty of available grant monies, it was recommended that an alternate solution be investigated to reduce the pollution of Brownlee Lake and to preserve the public waters of the Pine River Watershed.

"Mikado"

The present sanitary sewer system in the settlement of Mikado is connected to sixteen residences and nine commercial establishments. It consists of an eight inch vitrified clay sewer which discharges directly into Van Etten Creek. The wastes from the 25 units are treated in their respective individual septic tanks before entering the sewer line.

There is no further treatment provided before the effluent is discharged into the Creek. The remaining dwellings in Mikado are served by septic tanks and drain fields.

The Township of Mikado followed the same procedures as the Village of Lincoln and a system was proposed for the disposal of domestic wastes. However, the cost in this instance was also prohibitive.

"Hubbard Lake" -

Presently the residential and commercial establishments at Hubbard Lake rely on septic tanks and drain fields for waste water disposal. These on-site facilities are adversely affecting the high water table.

STORM WATER DRAINAGE

According to the 1967 Soil Conservation Service, Conservation Needs Inventory, there are no apparent drainage needs or problems in the rural areas of the County.

"City of Harrisville" -

The existing storm water drainage is funneled to open ditches. It follows the course of least resistance and flows into ponding areas, Mill Creek and Lake Huron. This waste water run-off has negligible effect on the coastal watershed and Lake Huron.

"Village of Lincoln" -

There is a closed storm sewer in the core service area of the Village of Lincoln. The collected storm water exits at the southerly edge of the core area into an open ditch. It then flows in a southeasterly direction and eventually enters an intermittent stream which is part of the east branch of the Pine River.

The storm water which collects in the remaining service area is absorbed by the soils or enters Lincoln Lake

and Brownlee Lake.

"Mikado" -

Existing storm water run-off is funneled to open ditches. It follows the course of least resistance and flows into ponding areas and Van Etten Creek. This run-off has a negligible effect on the Pine River Watershed.

SOLID WASTE DISPOSAL

Solid waste disposal has become a problem of paramount importance. This is due primarily to the fact that rapidly increasing amounts of solid waste are being generated by our affluent society. Counties and other jurisdictional units were forced to take positive action with the passage of Public Act 87 of 1965 which required plans for the management of solid waste disposal. The law spells out acceptable methods for collection and disposal and requires a detailed plan for the solid waste disposal system.

Prior to August 1974, there were 12 disposal sites operating in Alcona County. In view of the fact that only one of the existing sites was licensed and conforming to PA 87 of 1965, the Alcona County Planning Commission and the Department of Public Works were directed to resolve the problem of solid waste disposal for the County. Each township or group of townships could have brought their existing dumps up to State standards and continued their operation as "sanitary landfills." However, studies showed that this would be too costly for the townships. Since the provisions of PA 87 of 1965 are strict concerning the location and operation of a sanitary landfill, it appeared that the County would be the smallest governmental unit that could bear the cost of establishing a suitable landfill to serve its residents.

With this in mind, three proposals were developed:

1. Proposal "A" involved developing an amphitheater or natural bowl that could be used for a recreational area for the County fair, athletic events, race track, etc. It would have required approximately 160 acres of land and would have been developed over a 20 year period.

2. Proposal "B" would have established four sanitary landfill sites conveniently located throughout the County. The operation plan would have involved a rotating schedule allowing each site to be open two days at a time. Thus each site would be open on Saturday once a month.

3. Proposal "C" would have developed one sanitary landfill site centrally located that would service the entire County. The site selected was in Gustin Township T26N-R8E Sec. 7 - SW $\frac{1}{4}$ of NW $\frac{1}{4}$.

It was decided in May, 1974 that Proposal "C" would be the most feasible alternative to economically meet the solid waste disposal needs of the people of Alcona County.

The trench-method of landfilling is being used at Alcona County's Solid Waste Disposal Site. This method is the most common one in Michigan today and is well suited to relatively level ground. It involves the excavation and filling of successive parallel trenches that are separated by a three or four foot wall. When the refuse is compacted in the trench, the excavated soil is used to cover the waste and eventually graded to a smooth surface. (FIGURE-1)

Funding for the project was made available through the use of some revenue sharing funds. The site was opened to the public on September 11,

1974. During its initial year of operation, all of the expenses incurred were paid with funds from the County budget. A token fee of 50¢ per cubic yard was charged to commercial haulers; however, in the first ten months of operation the revenue from this charge amounted to less than 7% of the total operational cost. Based on the first year's experience, the DPW and the County Board of Commissioners evaluated the operational procedures and the financial situation of the landfill system. In an effort to put the landfill on a self-sustaining basis, a "sticker fee" system was initiated.

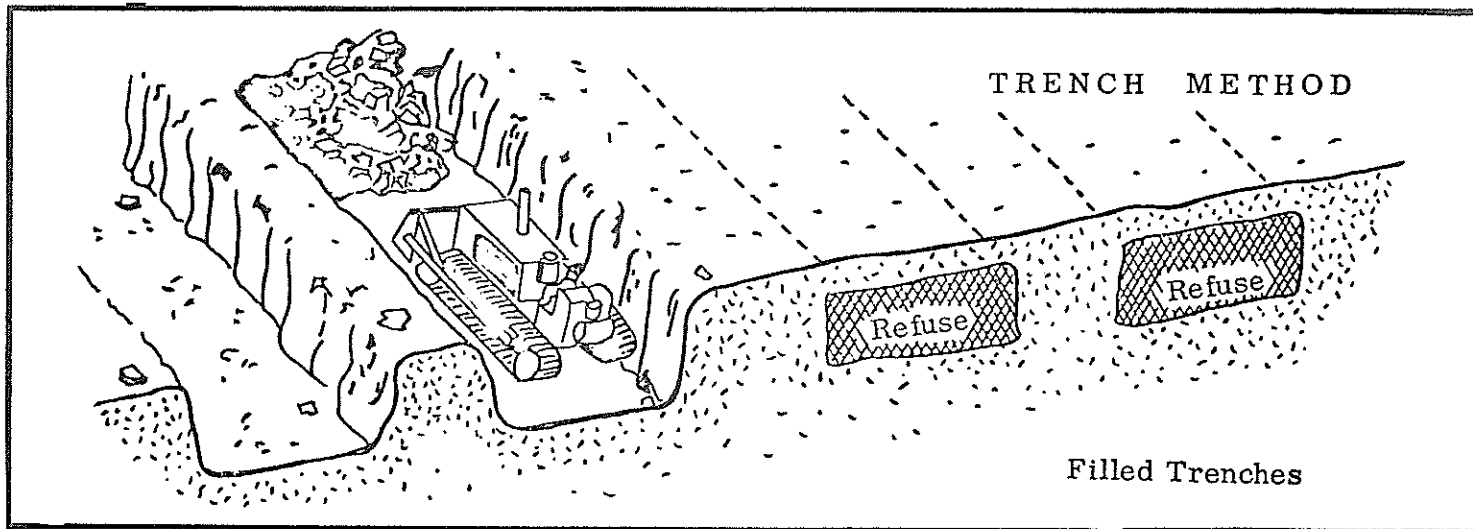
The amount of solid waste that is presently being buried at the solid waste disposal site is reflected in the monthly records of the landfill operation. (TABLE-26) It should be noted that private vehicles haul 83.6% of the solid waste to the disposal site as compared to 16.4% commercial haulers. According to the DPW, the residential areas account for approximately 90% of the solid waste generated in the County. The remaining 10% is distributed as follows:

Agricultural activity	4%
Business and retail establishments	2%
School System	2%
Recreational activity	1%
Industrial activity	1%

Based on the population projections and the estimated volume of solid waste generation listed in the Alcona County Solid Waste Disposal Plan, the County will need a land requirement of approximately 32.8 acres to handle the solid waste generated between the opening of the landfill through the year 1990. Therefore, the 40 acres purchased and developed by the DPW will more than adequately handle the anticipated solid waste disposal needs for Alcona County.

FIGURE-1

SANITARY LANDFILLING



source: NEMRPDC

TABLE-26

ALCONA COUNTY
Report on Solid Waste Disposal

month	<u>comc¹</u> <u>haulers</u>		<u>cars¹</u>		<u>pickups²</u>	
	cyds	#	cyds	#	cyds	
September 1974	500	(1000)	250.00	(1000)	2000	
October	608	(1000)	250.00	(1000)	2000	
November	491	(1600)	400.00	(892)	1784	
December	360	(1075)	268.75	(1372)	2744	
January 1975	321	(983)	245.75	(1148)	2296	
February	287	(993)	248.25	(1042)	2084	
March	444	(1120)	280.00	(1050)	2100	
April	515	(1126)	281.50	(1031)	2062	
May	448	(1789)	447.25	(1527)	3054	
June	368	(1429)	357.25	(1234)	2468	
July	1059	(1861)	465.25	(1414)	2828	
August	897	(1718)	429.50	(1380)	2760	
Totals	6298		3923.50		28,180	

1 Estimated 1/4 cyd per car

2 Estimated 2 cyd per pickup

source: Alcona County DPW

Part four: ENVIRONMENT

INTRODUCTION

The environment of Alcona County (land, water, air and resources) is tremendously important to the well being of the residents of the County and likewise the communities in which they live. Upon the land houses are built, food is grown, and from beneath the land minerals are extracted. The waters carry the food for the crops, provide a home for the fish, and serve as a basic ingredient for life itself. The air or the atmosphere provides shelter from harmful rays of the sun

and also serves as the medium in which "weather" takes place. The weather over long periods of time influences greatly the way of life and limits the crops that can be grown.

All necessary steps must be taken by the people and government officials to protect and preserve the natural environment. The ultimate quality of our physical environment will depend on our wise use of natural resources.

AIR

CLIMATIC DATA

Climate or the prevailing weather conditions of an area has a direct bearing on human behavior, animal behavior and also the growing characteristics of various forms of vegetation. Fluctuations in the weather can significantly affect recreation, agriculture, transportation, construction, the demand for fuel, etc. In short, climatic factors are an extremely important part of the natural environment and it is for this reason that they must be considered in a planning program.

Climatically, Alcona County is situated in a humid, temperate, continental area of the United States. There are a few local variations during the year, but on the average continental temperatures in the coldest months are under 32°F., and those in

the warmest are over 71°F. The month of January usually receives the lowest mean temperature of the year, and July the highest. As is typical of the central United States, Alcona County has a wide range of temperatures from summer to winter. The highest temperature ever recorded was 105°F., and the lowest -21°F. Other statistics based on "yearly averages" include:

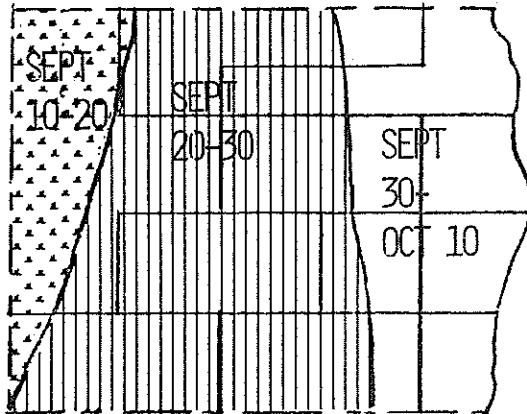
Average:

January temperature	23.2°F.
July temperature	67.6°F.
date of last killing frost in spring	April 29
date of first killing frost in fall	October 15
length of growing season	138 days
annual precipitation	27.97 in.
annual snowfall	53.60 in.

MAPS 11-14 show the general areas

MAP-11

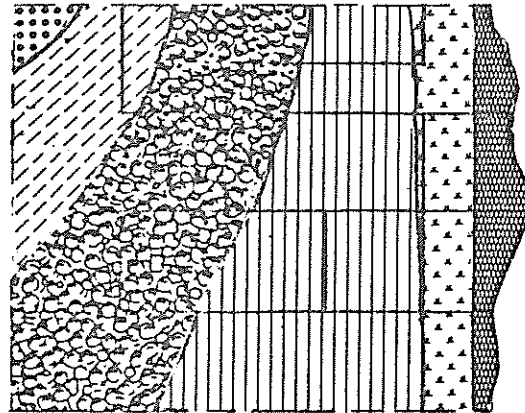
ALCONA COUNTY
Avg. Date of Freezing
Temperatures in Fall









Avg. Date of First Temp. 32°
or Lower in Fall

MAP-12

ALCONA COUNTY
Length of Growing Season

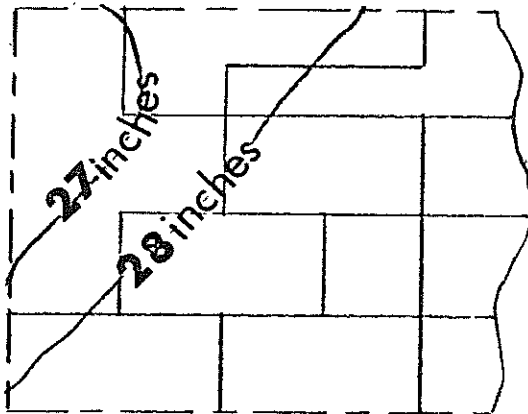


Number of Days:

	90-100		120-130
	100-110		130-140
	110-120		140 or more

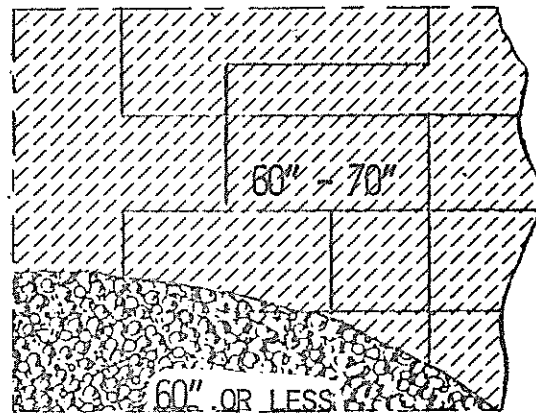
MAP-13

ALCONA COUNTY
Normal Annual Precipitation
(1940 - 1969)



MAP-14

ALCONA COUNTY
Avg. Annual Snowfall
(1940 - 1969)



source: Huron Pines Resource Conservation
and Development Project

in Alcona County for average rainfall and snowfall, length of growing season, and date of first killing frost.

Ice usually forms on the lakes and ponds by the end of December and leaves by the middle of April. The winds of Alcona County, being part of the Westerly Wind Belt System, are not often of high velocity. However, tornadoes have occurred in the County, especially during the spring and fall seasons of the year.

AIR POLLUTION

Air pollution in Alcona County is generally not regarded as a threat to the well-being of the area's residents. Although, the potential for damaging effects resulting from air pollutants does exist from exhaust emissions, fuel dumping and forest fires, and from individuals who still resort to backyard burning barrels.

LAND

GEOLOGY

In order to understand the topographical features of the land of Alcona County, it is first necessary to consider the geologic history of the State and some of the processes which brought about the various land forms. (MAP-15)

Geologic time is measured in terms of an "era" which consists of many hundreds of thousands of years. In Michigan, primarily the lower peninsula, the bed rock formations are a result of the paleozoic and mesozoic eras. Briefly, during these two time periods, this area had a climate quite different from that which we know today. For some time the area was covered by a warm tropical sea; then a dense tropical swamp; and finally it was covered by great glaciers. Sediments from the warm seas settled to the bottom and formed layers or strata of sedimentary rock. As the seas began to dry up and decrease in size, many strata were deposited in a layered pattern, somewhat resembling a stack of saucers. The upper most bedrock in Alcona County consists of both the upper and lower Mississippian series of the paleozoic era. The

various subsurface strata are indicated on MAP-16 and TABLE-27.

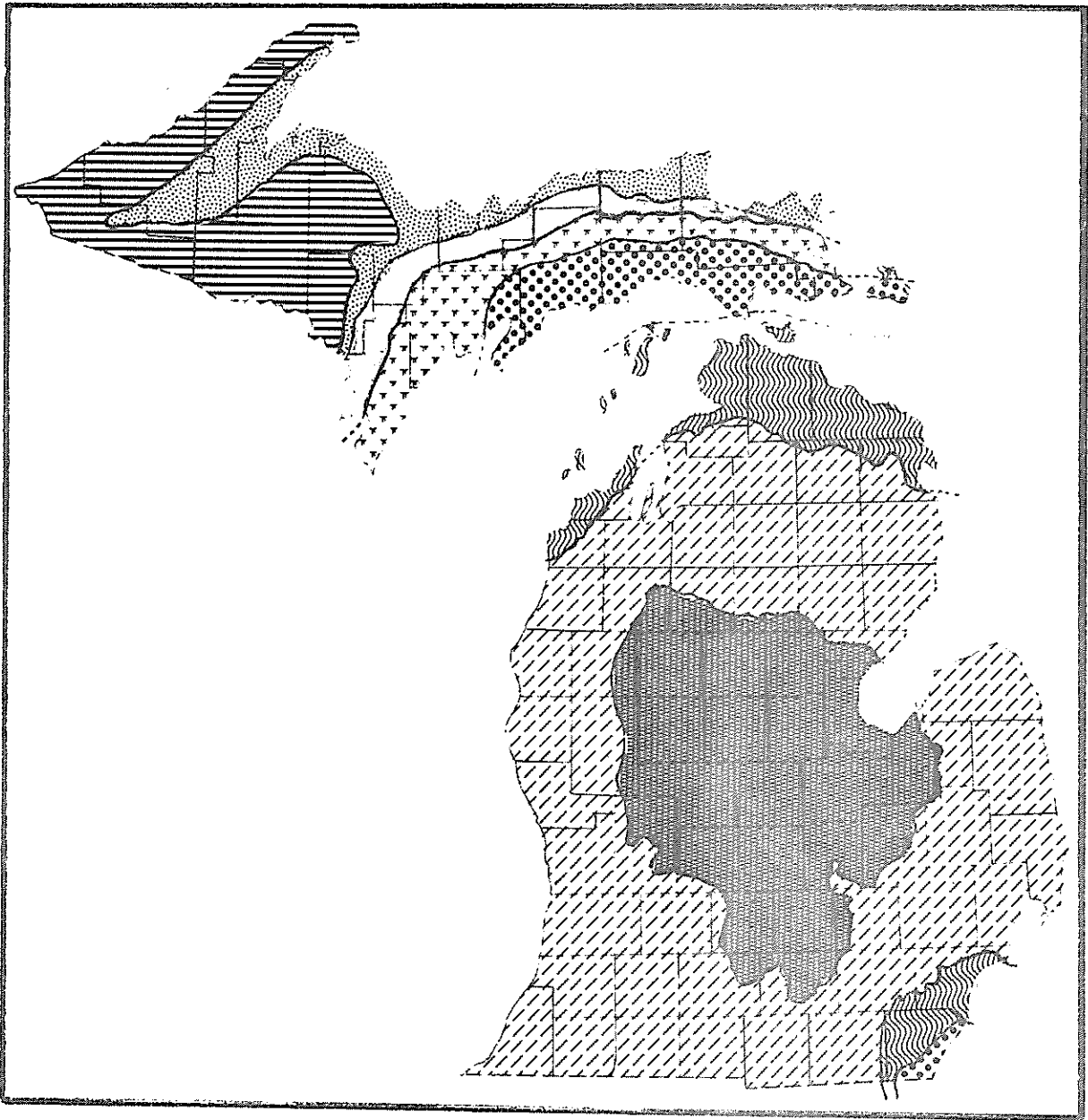
During the latter stages of the paleozoic era, the northern hemisphere was invaded by four tremendous glaciers. The landscape and terrain were altered each time the giant glaciers moved into the area. As the last glacier melted and gradually receded, it left behind:









- - hugh heaps of rock debris (some of which are 1000 ft. deep),
- - a great variety of soils that were scraped from many regions far to the north,
- - the Great Lakes, world's largest bodies of fresh water,
- - thousands of beautiful inland lakes, and
- - a flow pattern whereby the rivers and streams either flowed into Lake Michigan or Lake Huron, making it easy to reach the interior of the State.

Plants, fish and animals, now extinct, gradually moved in behind the withdrawing ice and are found from time to time as fossilized skeletons.

The debris dumped by glaciers and the streams flowing from them is called "glacial drift or till." This drift has characteristic and easily recognized

GEOLOGIC MAP OF MICHIGAN

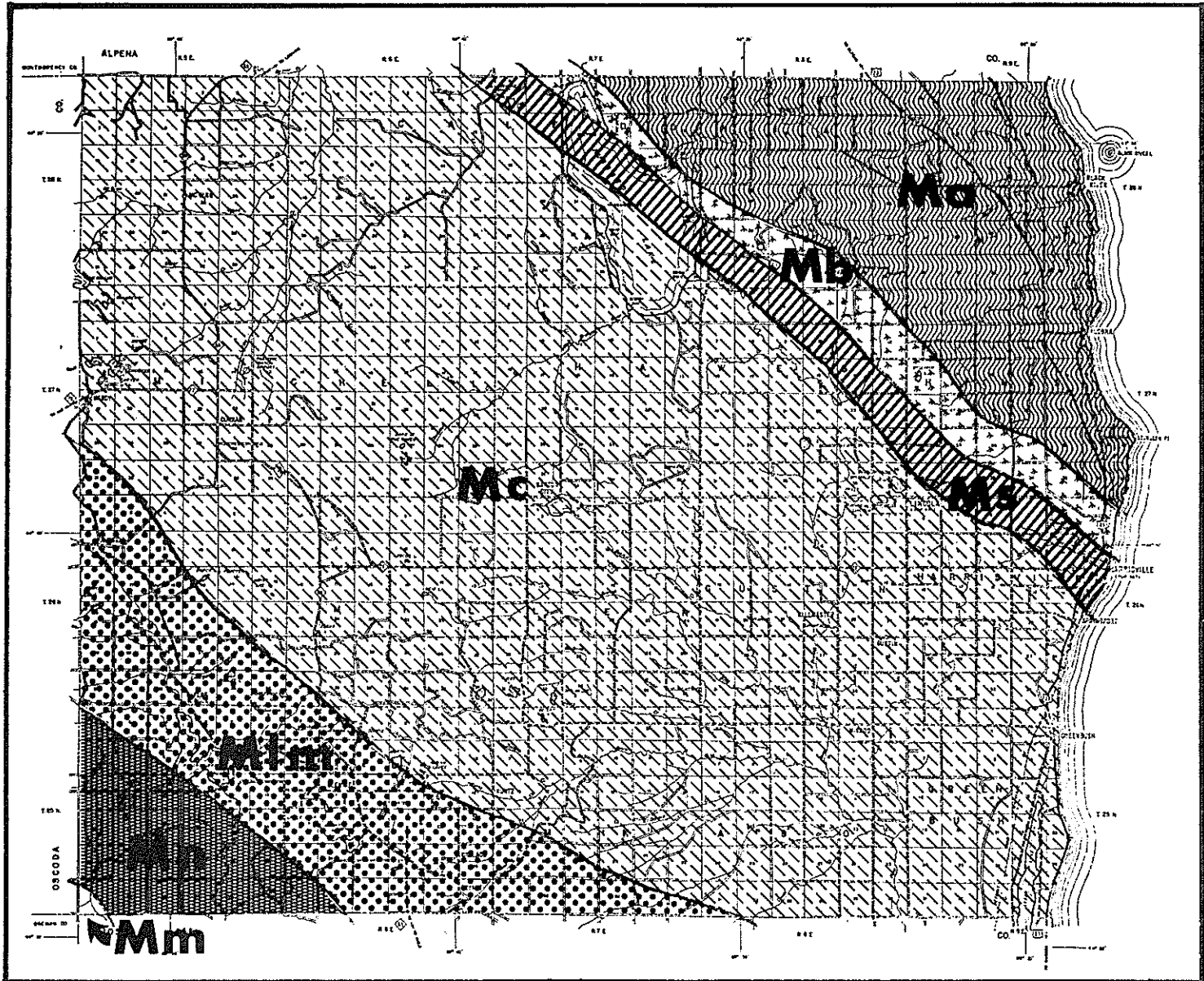


<u>Geologic Period:</u>	<u>Approx. years since period ended:</u>
 - Pennsylvanian	250,000,000
 - Mississippian	320,000,000
 - Devonian	350,000,000
 - Silurian	400,000,000
 - Ordovician	450,000,000
 - Ozarkian	475,000,000
 - Cambrian	500,000,000
 - Pre-Cambrian	750,000,000

source: NEMRPDC

graphics: Alcona County Planning Commission

ALCONA COUNTY
Subsurface Geology



Ma - Antrim Shale
Mb - Berea Sandstone
Ms - Sunbury Shale
Mc - Coldwater Shale

Mlm - Lower Marshall Sandstone
Mn - Napoleon Sandstone
Mm - Michigan

source: NEMRPDC

graphics: Alcona County Planning Commission

TABLE-27

Description of Subsurface Strata

		MERRIMACK OR BOTH		TOWNE		SENECAN		
	Mm	MICHIGAN (Winchell 1861)	Green and greenish gray, dark grey to black bituminous shales; dark micaceous sandstones; beds of gypsum and anhydrite; breccias; local red sandstones and shales, dark green sandy shale and hard brown to buff impure dolomitic limestone at base of formation. Thickness 0-500 feet. Exposures in Kent, Arenac, Iosco, Eaton, Ogemaw, Huron counties.				Gypsum, shale for cement and brick and tile products; gas in igneous. "Michigan Stray" sand near base. Fresh and sulphur waters.	
	Mn	NAPOLEON SANDSTONE (Winchell 1861)	White and light gray sandstone. Characteristically with green and red quartz grains, micaceous, pyritic; gibbsite cement; greenish gray sandstone; locally fragments of coal (carbonized driftwood) or black shale; coaly plant impressions; red sandstone in central part of the shale; abundant fresh water near outcrop margin, and bromide, magnesium, iodine, calcium chloride brines in center of shale. Thickness 50-100 feet. Exposures in Jackson, Calhoun and Huron counties.				Building stone, fresh water, locally artesian; brine for salt, chemicals, pharmaceutical products, metallic magnesium, rock solvents and calcium chloride for road work. Sulphur water.	
	Mlm	LOWER MARSHALL SANDSTONE (Winchell 1861)	Includes: HARDWOOD POINT shales and flag, PORT AUSTIN sandstones and shales, POINTE AUX BARQUES sandstones, also HURON CITY sandstones and shales, and LIGHTHOUSE conglomerate (Lane 1900). (Placed in Coldwater by Lane). White, gray, green, and red sandstones, locally very micaceous and fossiliferous. In eastern part of shale "peanut conglomerate," grit and grinitations near base; red and blue shale locally sandy; red color entirely absent in places; streaks and pockets of coal and conly impressions of vegetation. Nowhere in State red and blue gray sandstone and blue shale locally sandy, contains much mica and carbonate of iron (siderite). Generally a red shale or red micaceous sand at top and bottom. Thickness 150-250 feet. Exposures in Calhoun, Jackson, Kalamazoo, Huron, Sanilac, and Ottawa counties.				Grinitations and sylvestones; building stone; abrasives; fresh water; brine.	
	Mc	COLDWATER SHALE (Lane 1896)	Includes: RICHMONDVILLE sandstone. Blue, gray, and occasionally red plastic shales; locally an uncious apple green shale, lenticular sandstones and blue sandy shales in eastern part of the shale; concretions of iron carbonate; red shales and thin colitic limestones; thin dolomitic limestones principally in western part of shale. Red shaly limestone in places fossiliferous near base in western part of shale. RICHMONDVILLE (Wright and 1886, Gordon 1900) member, thin bedded sandstone with interbedded thin shales to a compact sandstone 6-80 feet thick 40 to 250 feet below top of Coldwater in eastern part of shale. "WEIR SAND" a reworked broken sandstone with thin shale partings locally in Ogemaw County. "Red Rock" of Coldwater 10-50 feet thick on top to 20 feet above Sunbury in central part of State to 50 feet above in western part of State. Red rock may be shale, limy shale, dolomitic limestone, or limestone and may be fossiliferous (reworked) or barren. Occasional shows of gas in shale and of oil and gas in Richmondville and "Weir" sand. Thickness 500-1,000 feet. Exposures in Hillsdale, Branch, Calhoun, Sanilac, Huron, St. Joseph counties.		KINDERHOOK			Shale for cement, brick and tile. Water usually brackish but often fresh in the Richmondville sandstone.
	Ms	SUNBURY SHALE (Lane 1909)	Brown to black shale, pyritic in places. In western part of State where a red shaly limestone is from 30 feet above to the base of the Coldwater shale, the Sunbury is reduced to a carbonaceous parting. Thickest in Thumb area. Thickness 10-50 feet.					
	Mb	BERIA SANDSTONE	White and gray to yellowish coarse sandstone, to fine grained somewhat micaceous sandstone, thin shales with calcareous layers. Usually two or three sandstone members separated by hard gray blue shales. Abent (?) in western and northwestern part of State. In 18-foot stratum of sand and/or sandy dolomite which produces gas in at the Berea horizon in the central western part of the State. Thickness 0-250 feet.				Brine, salt, gas, oil.	
	Ma	ANTRIM SHALE (Lane 1901)	Ginnamon brown to black and dark gray bituminous shales; thin bedded to fissile shale, locally with thin larry brittle coal seams and inclusions; locally very hard black crystalline limestone (concretions); fossiliferous. Concretions of siderite and dolomite and nodules of pyrite. Thickness 100-450 feet. Exposures in Presque Isle, Alpena, Grand Traverse, Antrim, Chibougan counties. Basal part of shale Devonian.				Shale for cement, brick and tile. "Shale gas."	

source: NEMRPDC

surface forms:

Moraines - the ridges or heaps of earth, stones, etc. carried by a glacier and deposited on adjacent ground, either along the course or at the edge of the glacier.

Ground moraines-- the irregularly scattered till, not concentrated into definite ridges.

Outwash & glacial channels - the finer glacial debris that is deposited in rudely stratified layers by the meltwater streams emerging from the ice.

As indicated on MAP-17, the surface geology of Alcona County consists primarily of moraines, till plains and outwash-glacial channels, except for the eastern side near Lake Huron where lake beds of clay and sand are found. Extending inland from Lake Huron are the well defined, nearly flat plains and benches representing high stages of Lake Huron at the end of the glacial period. The hills are for the most part of morainic origin, while the plains are primarily sand and gravel.

A brief overview of the County indicates a total relief of about 600 feet with the high point being the 1,250 foot contour which lies in the westerly portion mid-way between the north and south boundary lines (Curran area). From this point the terrain slopes toward Lake Huron which is approximately 550 ft. above sea level. Significant deviations from the gently rolling terrain can be found in the northwest corner of the County, south and west of Hubbard Lake, northeast of the Glennie area, and east of the Lake Huron shoreline. (MAP-18)

SOILS

The structure and characteristics

of soils are extremely important with respect to future development. For this reason the types of soils in Alcona County will be considered in terms of their characteristics and their suitability for various types of development.

Throughout much of Alcona County, the soils vary from the deep sands in the center and western reaches to the heavier loams, silty clays and organic soils in the eastern half. Smaller pockets of clayey soils occur at random throughout the area.

Through studies made by the Soil Conservation Service, the major soil groups in Alcona County have been described and subsequently interpreted according to their suitability and degree of limitation for the various land uses. Also indicated are the major management problems in each soil series (APPENDIX-II). It should be noted that the interpretations for suitability and degree of limitations for the various land uses depict conditions generally within the soil association and should not be considered specific for small areas or individual sites. Variations may be found in any or all of the soil associations which would present different conditions and/or use limitations. (MAP-19)

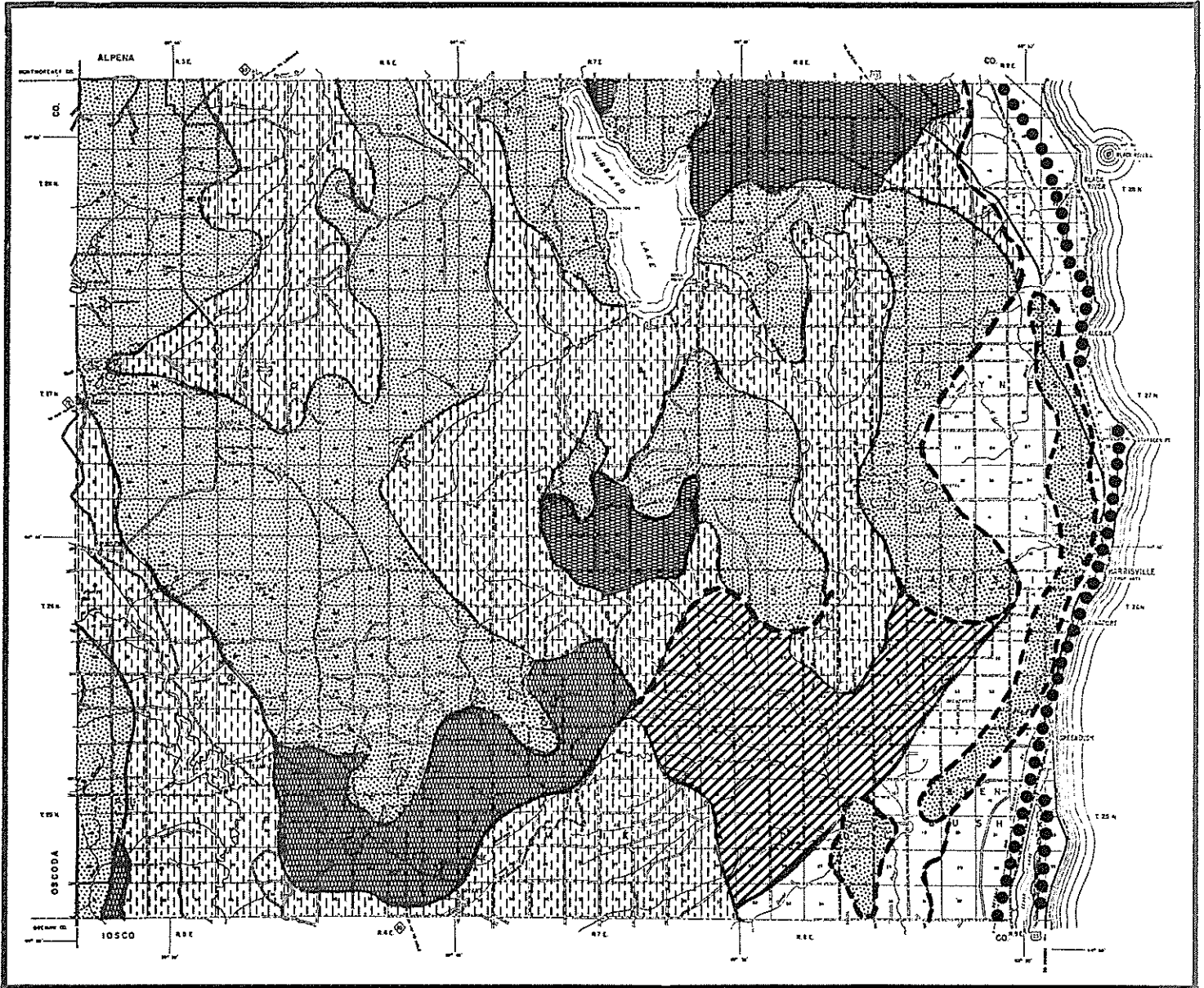
In evaluating the soils for suitability for general farming and forestry, three degrees were used and are as follows:

Good - soils that have properties which are favorable or perform very well for the soil use being rated.




Fair - Soils that have properties which are moderately favorable or perform satisfactorily for the rated use, but special planning and management are needed.

Poor - soils that have properties





ALCONA COUNTY
Surface Geology



Glacial Formations:

-  Moraines
-  Ground Moraines (till plains)
-  Outwash & Glacial Channels

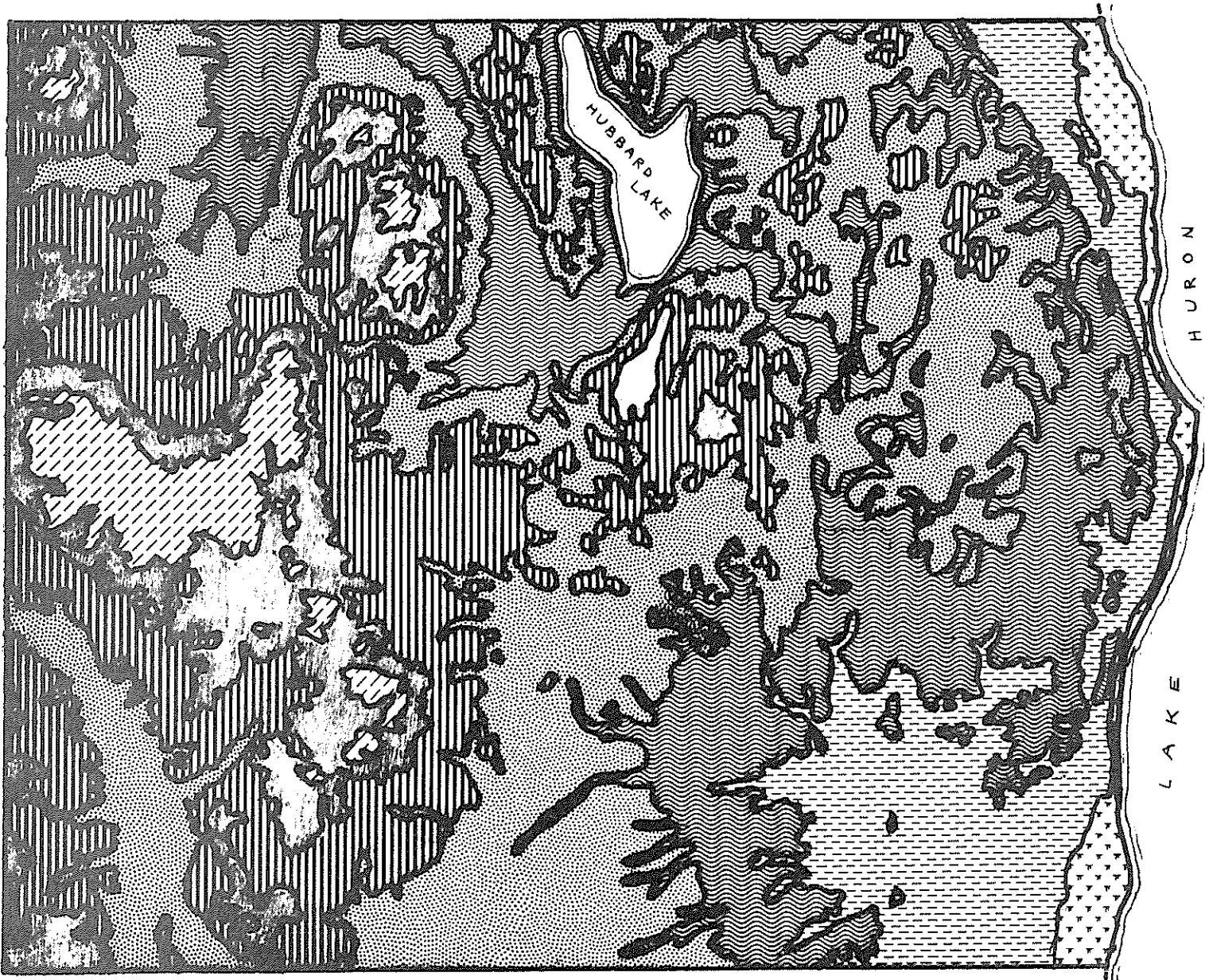
Glacial Lake Shore Lines:

-  Clay Lake Beds
-  Sand Lake Beds
-  Nipissing
-  Algonquin








source: NEMRPDC

graphics: Alcona County Planning Commission

ALCONA COUNTY
Topographic Map
Scale 1:250,000 100' Contour



Approx. feet above sea level:

	- 500		- 800
	- 600		- 900
	- 700		- 1000
			- 1100 & up

source: NEMRPDC

graphics: Alcona County Planning Commission

which in their natural state make them unfavorable or poorly suited for their rated use.

The degree of limitations for residential and intensive development are indicated on four levels and include:

Slight - soils which are relatively free of limitations or limitations are easily overcome.

Moderate - soils whose limitations need to be recognized but can be overcome with good management and careful design.

Severe - soils whose limitations are severe enough to make use questionable.

Very Severe - soils which require extreme measures to overcome the limitations and whose usage generally is unsound or not practical.

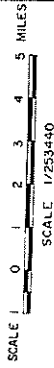
SOIL SUITABILITY

Soil characteristics in any given area affect the development of that area. On the basis of the available information the strengths and weaknesses of Alcona County's soils were determined for the different types of development. It should be realized that the soil information is "general" and listed according to the major soil series and that other soils may be present, but not in significant amounts. Therefore, a detailed soil survey should be made of the site to determine its suitability for a proposed development.

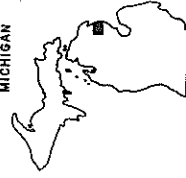
MAPS 20 and 21 reflect the apparent suitability of the soils in Alcona County for general farming and forestry. MAPS 22 and 23 depict the degree of limitation for residential development with onsite sewage disposal facilities and for intensive development.

LEGEND

- COUNTY BOUNDARY
- INCORPORATED TOWN
- UNINCORPORATED TOWN
- DRAINAGE
- U.S. HIGHWAY
- STATE HIGHWAY
- OTHER PAVED ROADS
- GRAVEL ROADS
- DIRT ROADS
- RAILROADS
- G.L.O. TOWNSHIP LINE
- SECTION LINE
- CIVIL TOWNSHIP LINE



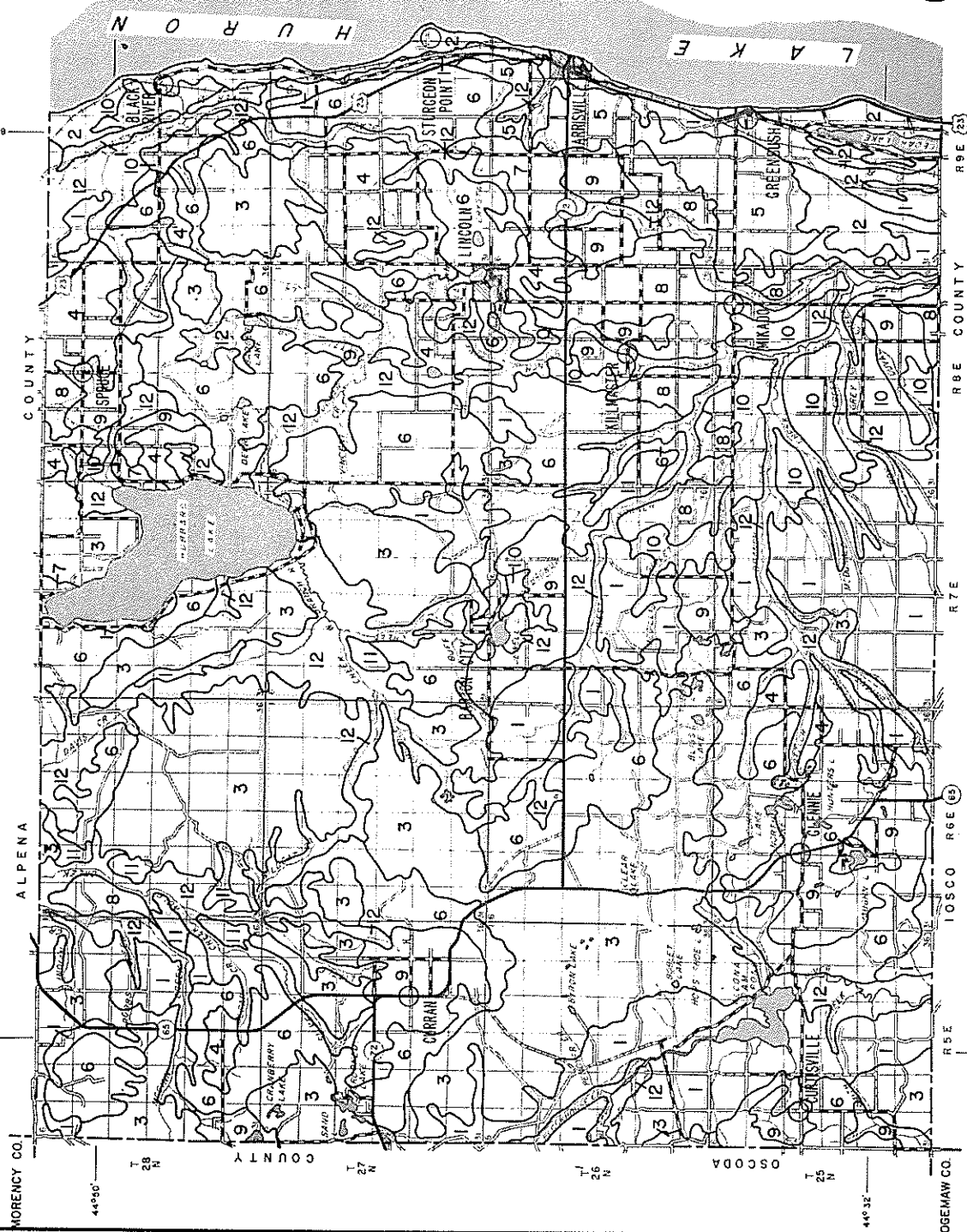
MICHIGAN



MAP-19
GENERAL SOIL MAP
ALCONA COUNTY
MICHIGAN

THIS MAP, DEVELOPED BY THE SOIL CONSERVATION SERVICE, SHOWS GENERALIZED SOIL INFORMATION AND IS NOT SUITABLE FOR DETAILED PLANNING. IT PROVIDES USEFUL INFORMATION FOR GENERAL PLANNING ONLY.

SOURCE: SURVEYS NOS. 58-1339, 110-2-741 AND INFORMATION FROM FIELD TECHNICIANS POLYCONIC PROJECTION
SCALE: 1:253,440



SOIL ASSOCIATIONS

- 1 AREAS DOMINATED BY NEARLY LEVEL TO HILLY, WELL-DRAINED TO POORLY DRAINED LOAMY AND CLAYEY SOILS.
- 2 BOHEMIAN-BRIMLEY-BOVERS ASSOCIATION: nearly level to undulating.
- 3 WESTER-KAWKAWLIN-SHIS ASSOCIATION: nearly level to undulating.
- 4 WESTER-UBLY ASSOCIATION: undulating to rolling.
- 5 AREAS DOMINATED BY NEARLY LEVEL TO GENTLY UNDULATING, SOMEWHAT POORLY DRAINED AND POORLY DRAINED SANDY SOILS AND VERY POORLY DRAINED ORGANIC SOILS.
- 6 GREYVOR-TOSED ASSOCIATION: nearly level to gently undulating.
- 7 AUGRES-ROSCOMMON ASSOCIATION: nearly level.
- 8 CARBONALE-LUPTON-LIMWOOD ASSOCIATION: nearly level.
- 9 AREAS DOMINATED BY NEARLY LEVEL TO HILLY, WELL-DRAINED TO POORLY DRAINED LOAMY AND CLAYEY SOILS.
- 10 BOHEMIAN-BRIMLEY-BOVERS ASSOCIATION: nearly level to undulating.
- 11 WESTER-KAWKAWLIN-SHIS ASSOCIATION: nearly level to undulating.
- 12 WESTER-UBLY ASSOCIATION: undulating to rolling.

ALCONA COUNTY
Soil Suitability for General Farming



Soil Suitability



Good



Fair



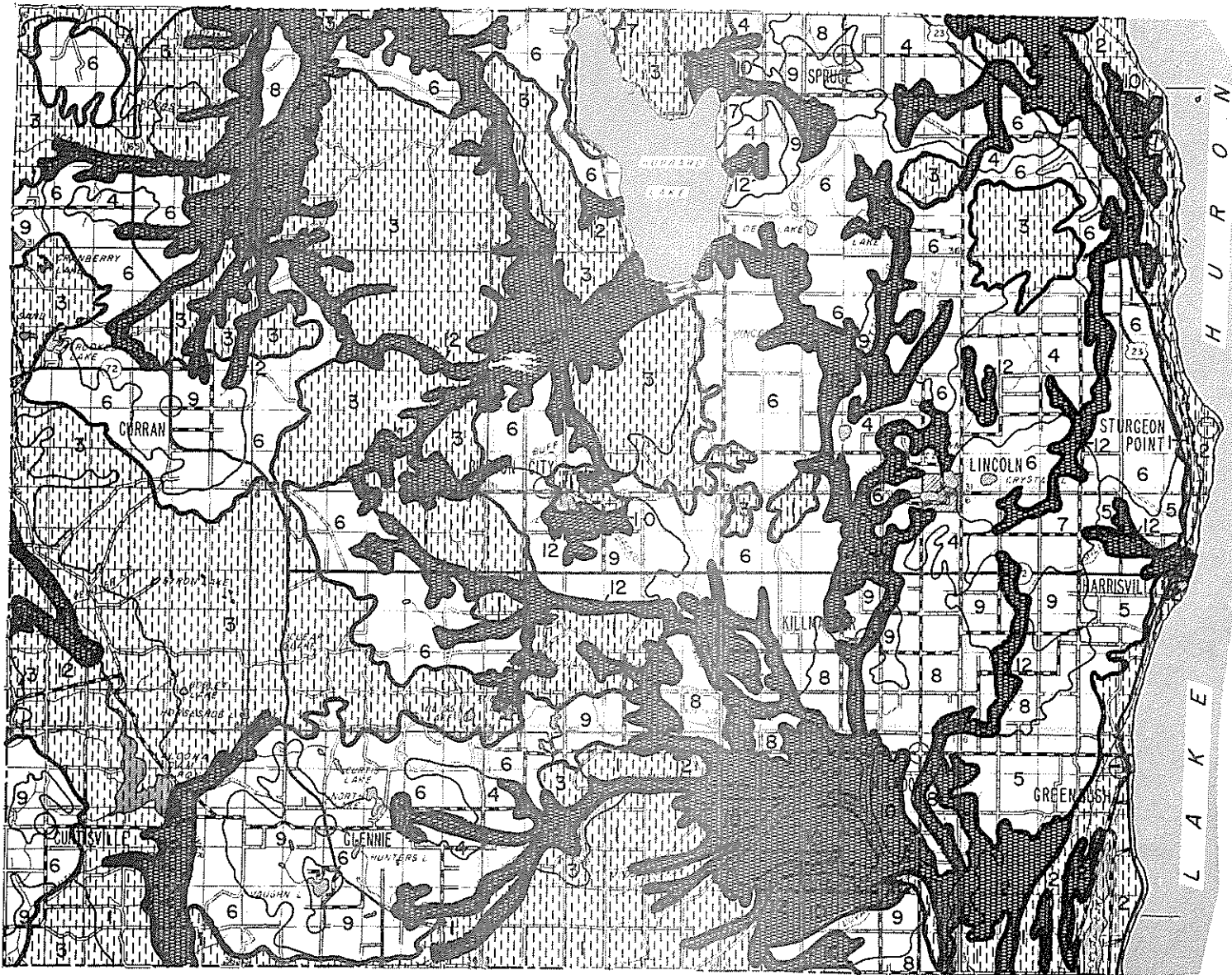
Poor

graphics: Alcona County Planning Commission

To assess the ability of Alcona County's land to support agriculture, the soils were rated in terms of their suitability for common farm crops and

pasture. The following items were used to determine the degree of suitability: erosion hazard, wetness hazard, slope, properties of the soil and general fertility.

ALCONA COUNTY
Soil Suitability for Forestry



Soil Suitability



Good



Fair



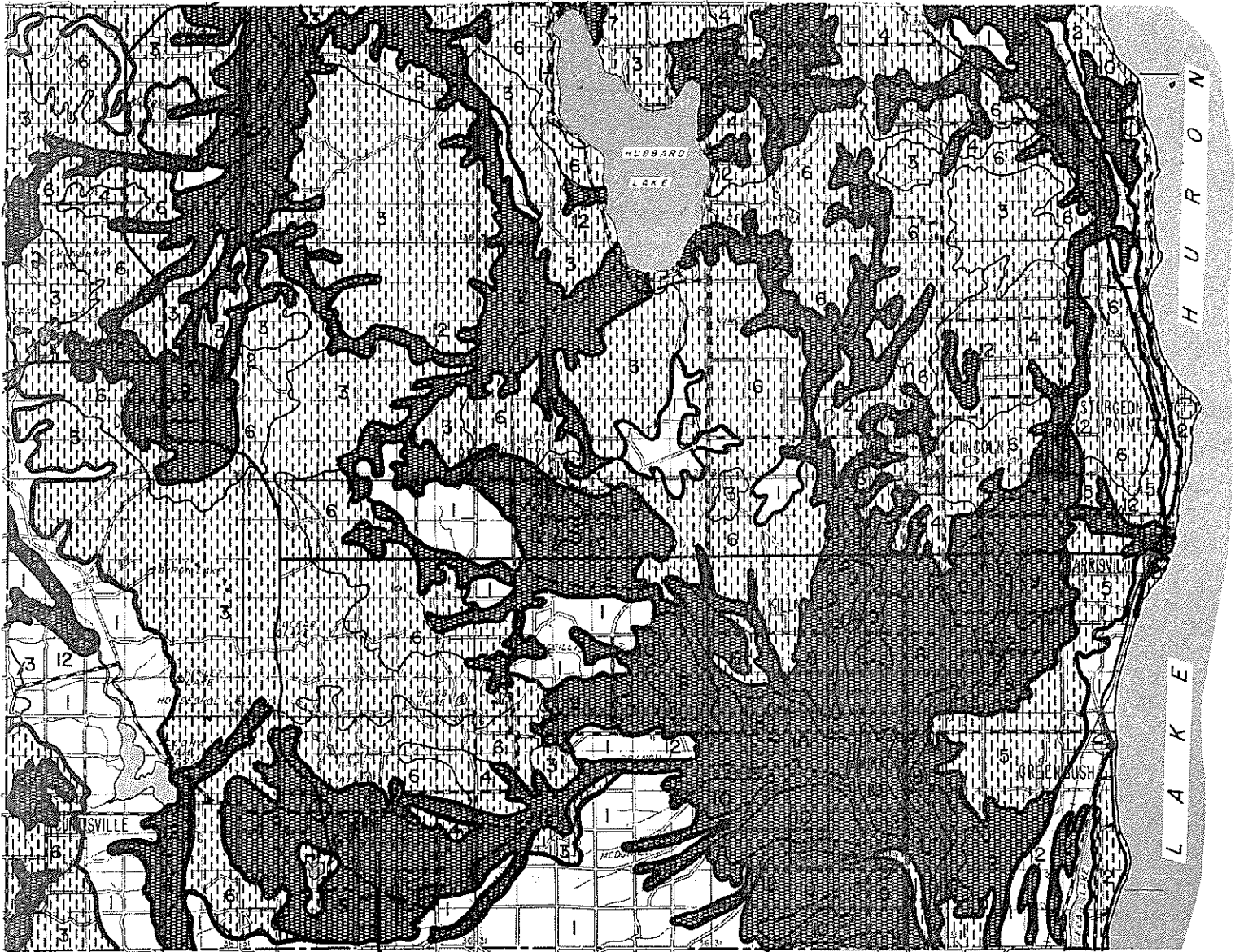
Poor

graphics: Alcona County Planning Commission


The ratings used in determining the suitability of Alcona County's land for forestry apply to the use of trees for commercial production. Avail-

able water capacity, depth to root restricting layers and natural drainage are major factors in determining the limitations of the soil.

ALCONA COUNTY
 Soil Limitations for Residential Development
 with Onsite Sewage Facilities



Degree of Limitation

 Slight

 Moderate

 Severe

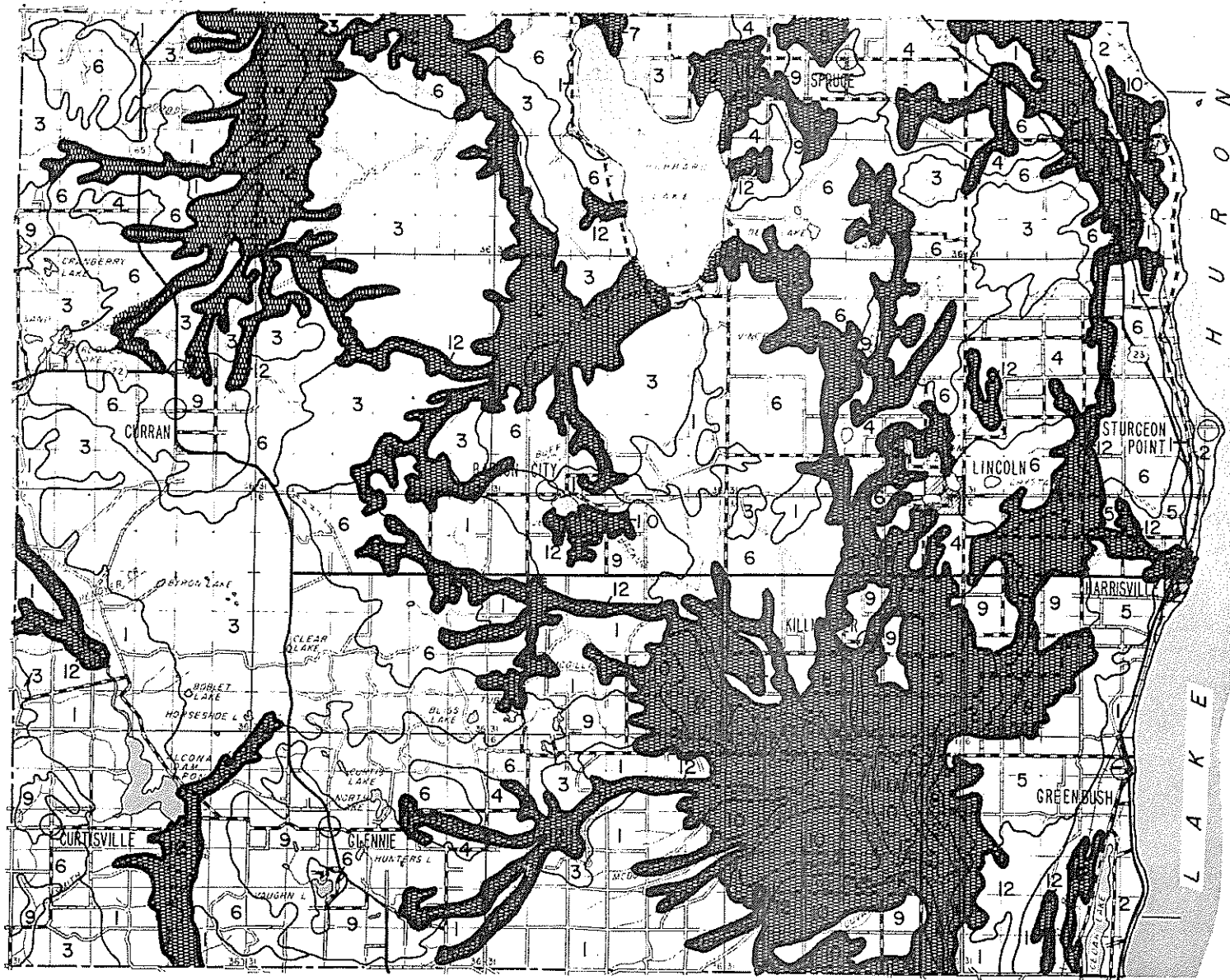
graphics: Alcona County Planning Commission

The following considerations were used to designate the ability of Alcona County's land to support residential development with onsite sewage facilities: wetness hazard, flooding hazard, slope, soil texture, depth to bedrock, erosion hazard,

water table and soil percolation rate. Consideration was also given to the limitations for foundations which include: bearing capacity, shrink-swell potential, shear strength and compressibility of the natural soil.

ALCONA COUNTY

Soil Limitations for Intensive Development



Degree of Limitation



Slight to Moderate



Very Severe

graphics: Alcona County Planning Commission

The ratings used in determining the limitations of Alcona County's land for intensive development apply to development common to industrial and commercial enterprises, subdivisions,

golf courses, campgrounds, school sites and similar activities. The severity of the limitation reflects the presence of high water table, impervious clays or unstable soil materials.

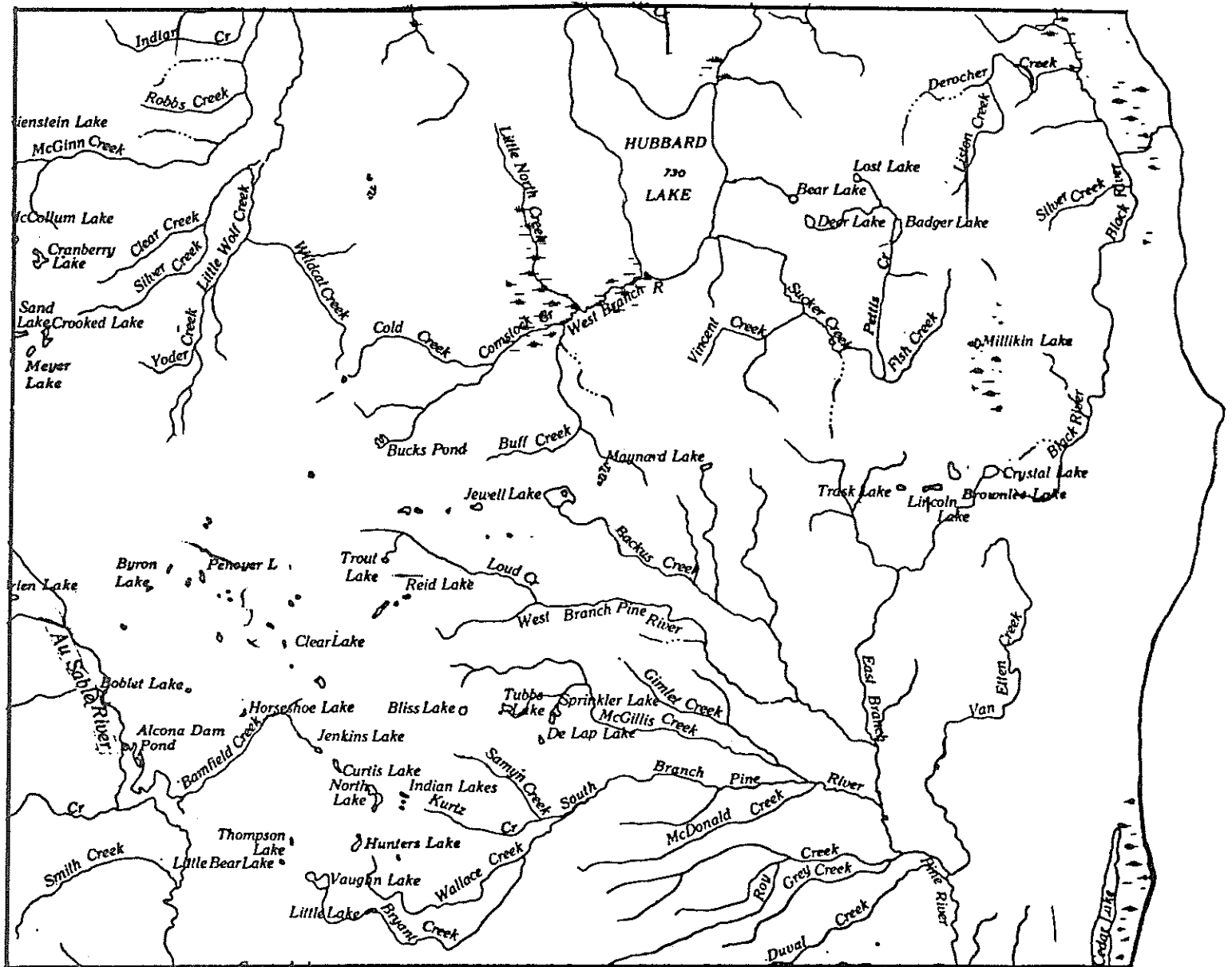
WATER

A strong measure of Alcona County's strength can be attributed to the variety, distribution, adequacy and development of its water

resources. The importance of water resources to recreation, residences, agriculture, wildlife, commerce and industry cannot be overemphasized.

MAP-24

ALCONA COUNTY Surface Water Features



source: NEMRPDC

SURFACE WATER

According to the Michigan Department of Natural Resources, 234 inland bodies of water are found in Alcona County. These natural and artificial lakes and ponds cover approximately 13,030 acres of land. Of this total, only three are over 200 acres in size. TABLE-28 lists the size, location and origin of the lakes in Alcona County.

Alcona County also contains approximately 362 miles of streams and

27.4 miles of Lake Huron shoreline which are divided into six main drainage basins or watersheds. The Sanborn, Black River and Thunder Bay River watersheds drain the northern part of the County and the Au Sable and Pine River watersheds drain the south. Along the Lake Huron shoreline a narrow watershed area exists that drains to the east into Lake Huron. (MAP-25)

An inventory of the major streams in Alcona County is listed in TABLE-29.

TABLE-28

ALCONA COUNTY

Inventory of Lakes

Lake:	Origin:	Area: (acres)	Location:		Section
			T	R	
Honawan	1	7.7	25N	5E	1
Alcona Dam Pond	5	1008.0	25N	5E	3,4,9,10,11,15,16
Curtis	2	29.0	25N	6E	4,9
Jenkins	1	12.0	25N	6E	5
North	1	90.5	25N	6E	10,15
Indian	1	39.2	25N	6E	10,11,14,15
Hunters	1	42.0	25N	6E	16,21
Thompson	1	12.5	25N	6E	17,20
Twin	1	5.9	25N	6E	17
Bear (little)	1	6.5	25N	6E	19,20
Vaughn	2	115.0	25N	6E	20,21,28,29
Bear	1	8.0	25N	6E	22
Little	1	15.0	25N	6E	27
Bryant	1	5.8	25N	6E	36
De Lap	1	13.0	25N	7E	5
Cedar	2	775.0	25N	9E	15,22,27,34
Cedar Lake Swamp	20	0.0	25N	9E	16,17,19
Hoist	1	6.4	26N	5E	13
Penoyer	1	6.4	26N	5E	14
Byron	1	13.7	26N	5E	15
Carp	1	1.3	26N	5E	16
O'Brien	1	10.3	26N	5E	18
Boblet	1	10.0	26N	5E	35
Horseshoe	1	15.6	26N	5E	36
			26N	6E	31

(continued)

TABLE-28 cont.

ALCONA COUNTY
Inventory of Lakes

Lake:	Origin:	Area: (acres)	Location:		Section
			T	R	
Trout	1	16.0	26N	6E	10
Reid	1	13.0	26N	6E	14,15
Clear	1	11.3	26N	6E	19,20,29,30
Trout (little)	1	4.5	26N	6E	26
Poplar	1	2.0	26N	6E	32
Bliss	1	44.0	26N	6E	36
Jewell	1	193.1	26N	7E	4,5
Tubbs	1	43.0	26N	7E	31
Sprinkler	1	34.0	26N	7E	32
Lincoln	1	71.0	26N	8E	1,2
			27N	8E	35,36
Trask	1	37.0	26N	8E	2
			27N	8E	35
Harrisville	7	13.0	26N	9E	12
Cranberry	1	51.0	27N	5E	5,6
Mc Collum	1	81.0	27N	4E	1
			27N	5E	6
			28N	4E	36
			28N	5E	31
McFee	1	13.0	27N	5E	8
Crooked	1	89.5	27N	5E	17,18
Sand	1	35.0	27N	5E	18
Myers	1	27.0	27N	5E	18
Lake in the Green	1	6.4	27N	6E	27
Buck's Pond	1	27.0	27N	6E	27,34
Hubbard	5	9200.0	27N	7E	1,2,3
			28N	7E	many
Potter	1	3.1	27N	7E	26
Maynard	1	18.0	27N	7E	36
Brownlee	1	87.0	27N	8E	36
Millikin	1	19.0	27N	9E	18
Crystal	1	62.0	27N	9E	31
Mud Pond	1	5.0	27N	9E	32
Mc Ginn	2	8.0	28N	5E	23,26
Silver Wolf Ranch	7	10.0	28N	6E	30
Three Bear Camp	7	5.0	28N	6E	32
Lost	1	14.0	28N	8E	27
Bear	1	15.7	28N	8E	29
Deer	1	48.0	28N	8E	33
Badger	1	83.0	28N	9E	14

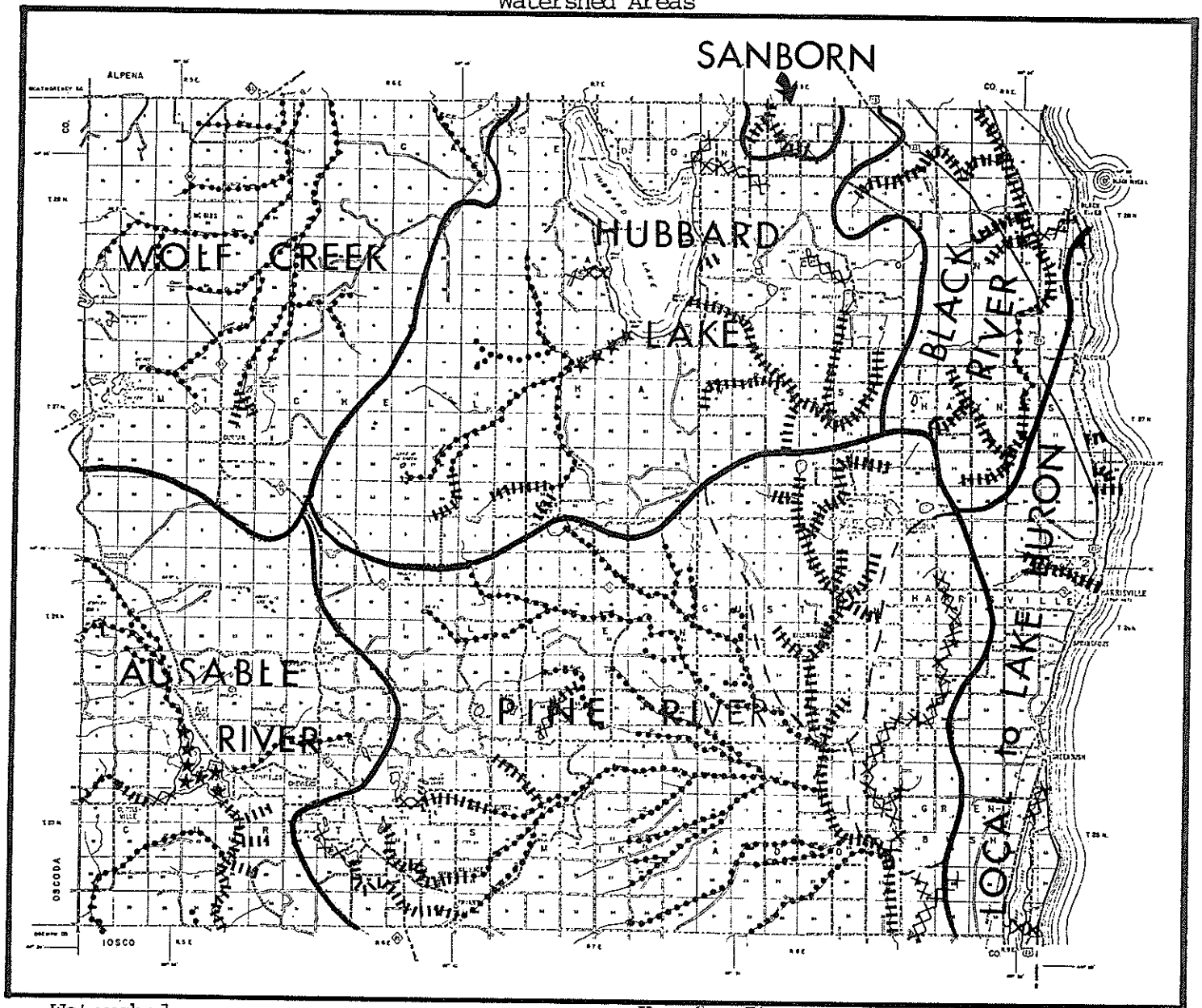
Key for Origin:

- 1 Natural lakes and ponds
- 2 Natural lake with a dam
- 5 Hydro-electric reservoir
- 7 Fish and wildlife flooding
- 20 Swamp

source: Michigan Lake Inventory Bulletin No. 1, 1962.

ALCONA COUNTY

Watershed Areas



Watershed:

Key for Streams:

Sanborn.....	2,560 acres
Black River.....	31,790 acres
Thunder Bay.....	167,740 acres
Hubbard Lake	104,260 acres
Wolf Creek	63,480 acres
AuSable River.....	53,310 acres
Pine River.....	147,840 acres
East Branch	23,680 acres
VanEtten Cr.	17,600 acres
West & South	106,560 acres
Branches	
Local to Lake Huron.....	30,040 acres

.....	top quality cold water
	2nd quality cold water
★★★★	top quality warm water
XXXXXX	2nd quality warm water

data: Michigan Dept. of Natural Resources graphics: Alcona County Planning Commission

ALCONA COUNTY
Inventory of Major Streams

<u>Stream:</u>	<u>Description:</u>
<u>Au Sable River</u> Flows across SW corner of County thru Curtis Twp. 13 miles*	Canoeing & fishing, shoreline mostly Consumers Power Co property, river famous for its natural and scenic beauty and excellent trout fishing.
<u>South Branch Pine River</u> Flows east thru Mikado Twp. 10 miles	Fishing, flows almost entirely thru National Forest. Undisturbed stream of trout quality flowing thru heavily wooded area.
<u>Van Etten Creek</u> Flows south thru Harrisville & Mikado Twp. to Pine River 13.5 miles	Some fishing near headwaters, flows mostly thru private property, pollu- tion from livestock & residences, warmed due to lack of ground water, poor grazing practices and lack of cover along banks.
<u>McGillis Creek</u> Flows southeast from Millen Twp. into South Branch of Pine River in Mikado Twp. 9.5 miles	Fishing, flows thru both private and federal forest property, spring fed stream of trout quality.
<u>West Branch Pine River</u> Flows southeast to Pine River thru Millen & Gustin Twp. 13 miles	Trout fishing, flows mostly thru federal forest property, spring fed stream of trout quality.
<u>Backus Creek</u> Starts at Jewel Lake and flows southeast thru Hawes & Gustin Twp. to West Branch of Pine River 12.5 miles	Trout fishing, flows thru both private federal forest property, trout quality stream.
<u>East Branch Pine River</u> Starts north of Lincoln and flows south thru Hawes & Gustin Twp. to Pine River 13.5 miles	Trout fishing, flows thru private clubs and farmlands, pollution from livestock, lack of ground water, warmed in some areas due to lack of bank cover.
<u>Little Wolf Creek</u> Flows north to Alpena Co. thru Mitchell & Caledonia Twp. 12 miles*	Trout fishing, flows entirely thru private hunting club property, spring fed stream of trout quality, natural and undisturbed, private dams destroy some of the trout quality.
<u>Mc Ginn Creek</u> Flows east and north thru Mitchell Twp. to Alpena Co. 11 miles*	Trout fishing, flows entirely thru private club property, cold, spring fed stream, very little disturbance.

ALCONA COUNTY
Inventory of Major Streams

<p><u>West Branch River</u> Flows east and north thru Mitchell & Hawes Twp. to Hubbard Lake 9 miles</p>	<p>Above "forks" stream & tributaries are cold, stable, & of trout quality; below "forks" stream warms due to flat terrain & lack of ground water, flows mostly thru private land, little disturbed.</p>
<p><u>Sucker Creek</u> Flows west and north thru Gustin, Hawes & Alcona Twp. 7 miles</p>	<p>Upper reaches are of trout quality, lower reaches suffer from lack of ground water, but still of trout quality, mostly private & undeveloped.</p>
<p><u>Black River</u> Flows north thru Haynes & Alcona Twp. to Lake Huron & Village of Black River 14.5 miles</p>	<p>Cold, stable flow, trout quality fishing, flows mostly thru private property; excellent anadromous spawning stream.</p>
<p>* Length indicated is that portion of the stream which flows thru Alcona County only.</p>	

source: Michigan Department of Natural Resources

ACREAGE ANALYSIS FOR ALCONA COUNTY

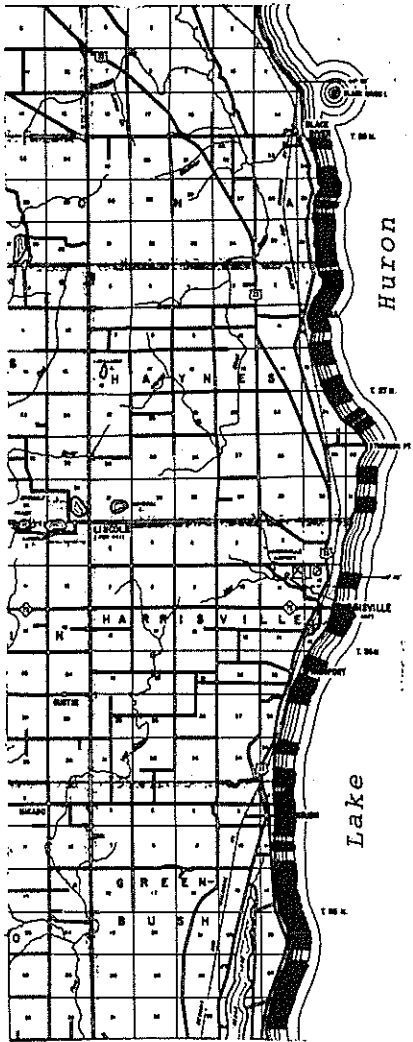
<u>Type of Water Body:</u>	<u>Number in County:</u>	<u>Area in Acres:</u>
Natural Lakes and ponds	181	1,817.5
Natural lake with a dam	5	933.0
Hydro-electric reservoir	2	10,208.0
Mill pond	1	5.5
Agricultural & wildlife ponds	73 approx.	18.0
<hr/>		
Total	262	12,964.0 acres

source: Alcona Soil Conservation Service

MAP-26

ALCONA COUNTY
Lake Huron Shoreline

"High Risk Erosion Areas"



source: Bureau of Water
Management, DNR,
1974

graphics: Alcona County Planning
Commission

In recent years much concern has arisen over the erosion of the Lake Huron Shoreline. A considerable amount of shoreland is being lost as a result of wind and wave action on higher lake levels. High risk erosion areas in Alcona County have been identified by the State Water Resources Commission through the use of aerial photographs and site inspection. (MAP-26) In an effort to force recognition of potential problems, the State of Michigan, through the Shoreland Protection and Management Act of 1970, has strongly suggested that local communities adjacent to high risk erosion areas enact special zoning regulations or other types of land use control and restrict development in these areas.

GROUNDWATER

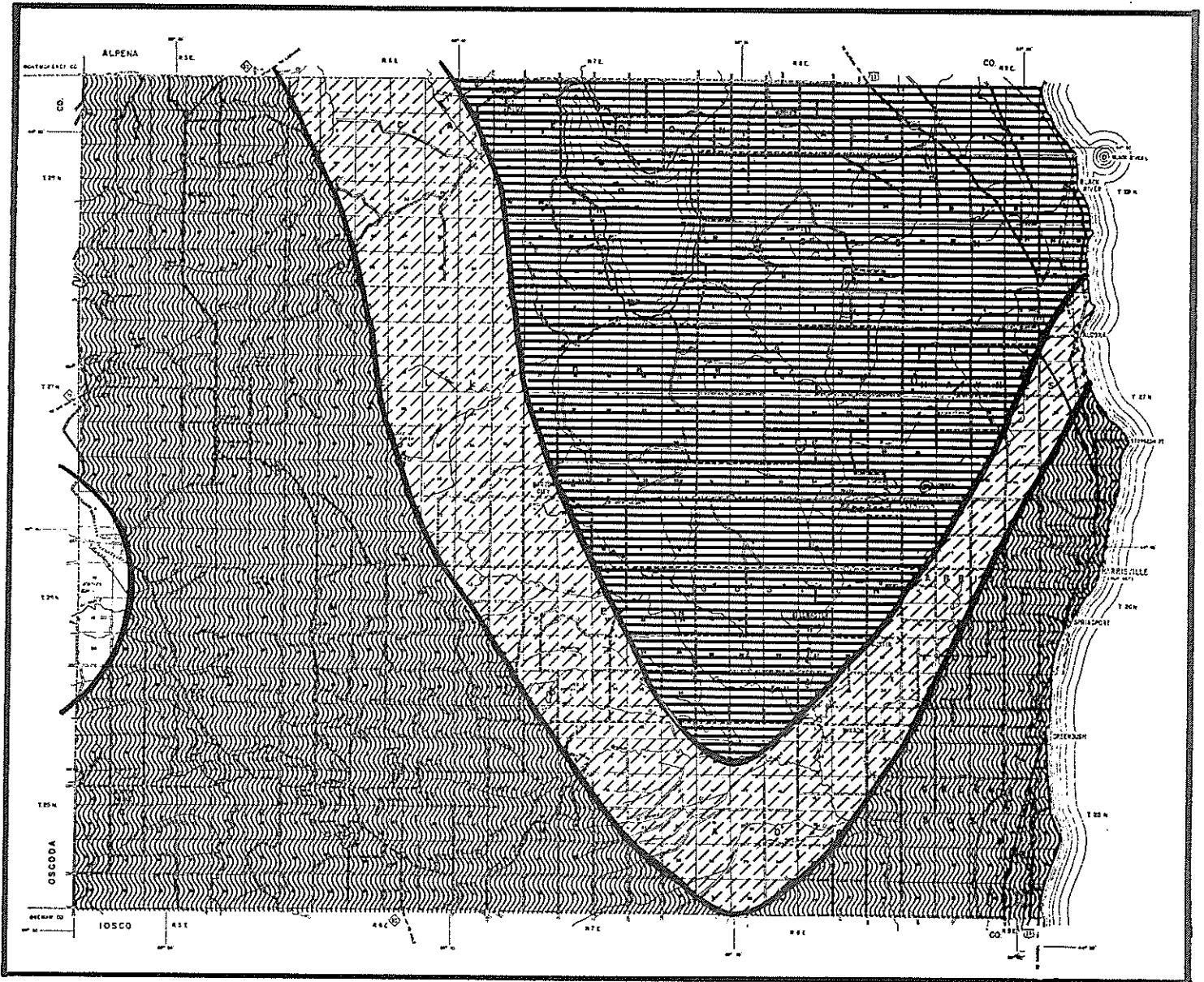
The scattered residential development throughout the County presently requires a drinking (potable) water source close by. This necessitates the development of individual wells or a central water supply system. Potable water of good quality can presently be found in most areas of Alcona County.



Normally, the quantity of available groundwater can be estimated by examining the particular type of geological characteristics in the area.



Ground water resources near the shoreline usually are not as plentiful as those found inland, but in Alcona County the opposite is true. From the glacial drainage ways, glacial lake bed sands and outwash plains along the shoreline and western portion, eight inch wells will generally yield from 100 to 500 gallons per minute. (MAP-27)

In general, the quality of water found in the County's streams, inland lakes and Lake Huron shoreline is still considered to be quite high. Three

ALCONA COUNTY
Ground Water in Glacial Deposits



 less than 10 GPM
 10-100 GPM

 100-500 GPM
 more than 500 GPM

source: NEMRPDC
graphics: ACPC

communities have been cited as being in violation of the State's water quality laws and subsequently are in the process of upgrading their exist-

ing facilities to conform with State and Federal standards. They are the City of Harrisville, the Village of Lincoln and the settlement of Mikado.

RESOURCES

FORESTS

As indicated earlier, forest resources played an important role in the history of Alcona County during the "logging boom" of the late 1800's and early 1900's. The timber barons cared nothing for the land, which was exactly the opposite attitude of the Woodland Indians. The landscape was further scarred by great fires that burned the logging slash left behind on the abandoned land. Some of the cutover land was fertile enough for farming, but much of it would not support crops and lay unproductive. Reforestation programs were implemented by State and Federal agencies to restore the land to productivity. (MAP-28)

Currently in Alcona County approximately 324,100 acres or 73% of the land is forested. This estimate is based on the following from the U.S. Forest Service (USDA):

Forest land includes that land which is at least 10% stocked by forest trees of any size, or formerly having such tree cover. It excludes lands currently developed for nonforest use such as urban or thickly settled residential or resort areas, city parks, orchards, improved roads or improved pasture lands. The minimum area classified as forest land was one acre. (MAP-29)

Of the total forest land in Alcona County, 26% is presently in public ownership as State and National projects.

Today, the "multiple use concept" has become the basic policy for managing the forest lands by the Michigan Department of Natural Resources and the U.S. Forest Service. This concept involves the following:

- - It allows the commercial cutting of trees on a sustained yield basis for the lumber and wood products industry.
- - It provides parks, campgrounds and scenic areas for the recreation-tourist industry.
- - It improves the habitat for the wildlife populations.
- - It protects the environmental quality of the forests.
- - It protects the quality of watersheds and streams.


Forest resources do significantly contribute to the overall economy of Alcona County. The lumber and wood products industry remains important primarily in pallet and pulp wood production, and the forest lands offer a wide variety of opportunities for tourist-recreation activities. Both have a measurable impact on the volume of business and commercial activity in the County. The U.S. Forest Service estimated in 1975 that the County contained 360 million board feet of hardwoods and 110 million board feet of softwoods. (TABLE-30)

MINERALS


A number of oil companies hold mineral leases on lands in Alcona County


Major Forest Types



 Maple, Beech, Birch

 White-Red-Jack Pine

 Oak, Hickory

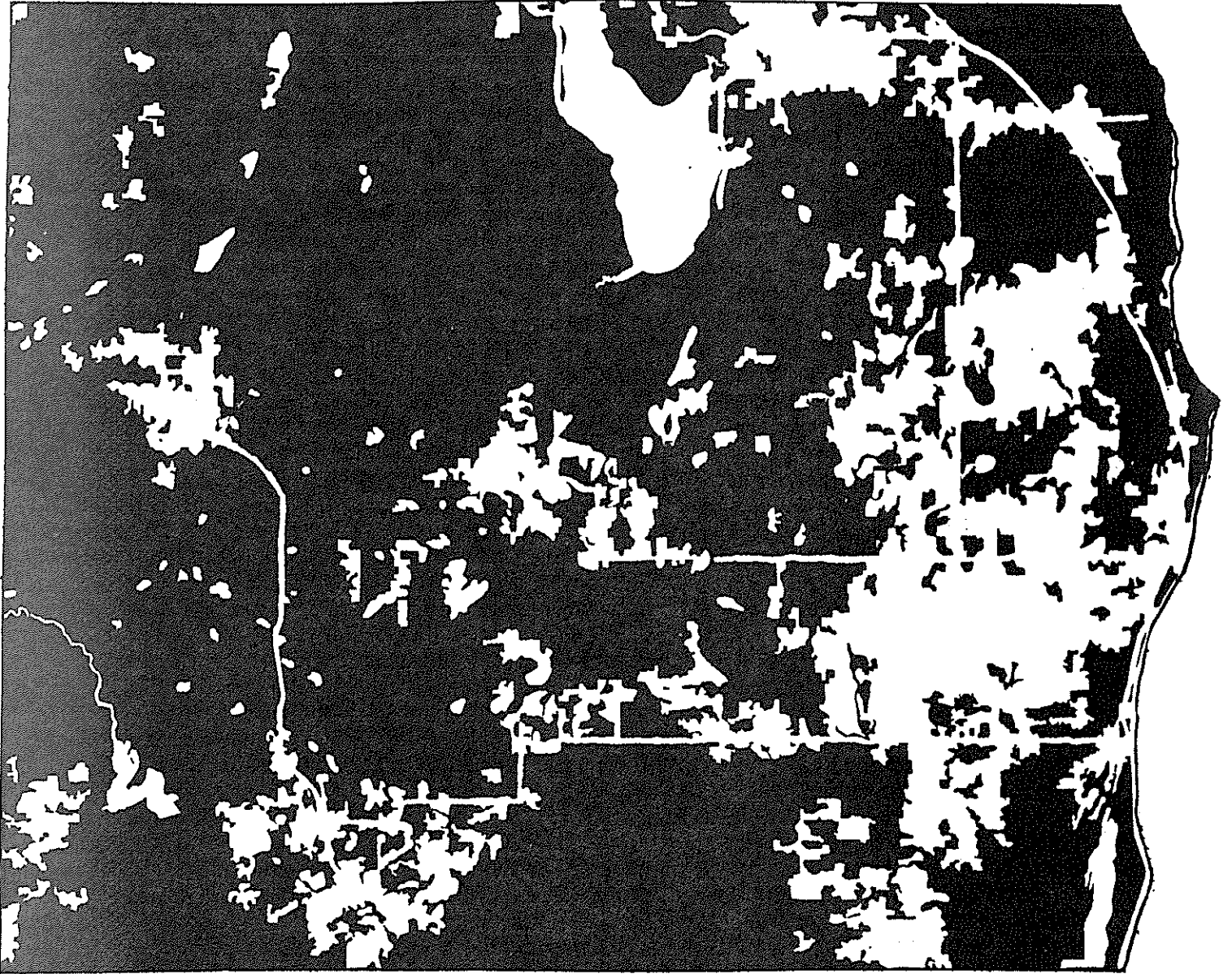
 Aspen, Birch

 Sawmills

source: Huron Pines Resource
Conservation & Development

graphics: Alcona County Planning
Commission

Forest Land



■ Forest Land

□ Farm land & Other

source: NEMRPDC

and active exploration has been undertaken for several years. At present, though, there are no producing wells. Natural resource officials indicated that future land management efforts should stress protection of sensitive ecosystems (wetlands, streams and lakes), if oil and gas production is undertaken, and should protect the quality of the air from so called "sour gas" wells.

Sand and gravel production is currently being carried on by two commercial companies, and smaller scale operations are in business seasonally. Gravel consumption is primarily for road building and maintenance.

FISH AND WILDLIFE

Alcona County's varied topography, climate and abundance of water and forests provide the basis for extensive fish and wildlife habitats. Unique species found in the area include the wild turkey, which range the entire County, and the bobcat that ranges in the northwest portion. The County is noted for its variety of wild game and fish, and thousands of sportsmen are attracted to the County each year to hunt and fish.

To understand the management of Alcona County's fish and wildlife, it is important to review the jurisdictions involved. The U.S. Forest Service is responsible for the management of habitat on Federal forest land, while the Michigan Department of Natural Resources manages habitat on State forest land. The DNR, also, manages all fisheries on both State and Federal land and is responsible for maintaining desirable populations of fish and wildlife through harvest or protection.

Both agencies have worked together in preparing a fish and wildlife management plan. This program seeks to increase wildlife populations by improving habitat, while at the same time allowing adequate harvest. It is estimated that there are over 200 species of birds, 55 mammals, 60 fish and 30 reptiles and amphibians that now inhabit the forest lands at varying population levels. Efforts have been directed toward protecting the endangered species (Kirtland's Warbler), the threatened species (Lake Sturgeon), and the unique species (Northern Bald Eagle, Osprey, Great Blue Herron).

Alcona County has about 5,000 acres of Grayling Sand soils capable of providing nesting habitat for the endangered Kirtland's Warbler. These tiny birds, whose song has been called the most beautiful of any warbler, now number less than 400. They nest only in this part of Michigan in jack pine stands seven to twenty feet tall. In 1976, the Michigan legislature declared the Kirtland's Warbler, the "State Bicentennial Bird."

Forest habitat management is accomplished by developing and maintaining permanent forest openings, harvesting timber, developing logging roads and skid trails, protecting and restoring the winter deer range and the adjacent upland areas, and developing impoundments and potholes. Emphasis is also being directed toward protecting and improving the lake and stream habitat to meet the projected demands for recreational fishing.

Development of boating access facilities on Lake Huron at Black River and Harrisville, coupled with DNR planting of salmon and lake trout has greatly increased the boating and fishing potential of Lake Huron.

TABLE-30

ALCONA COUNTY

Forest Land-Selected Characteristics

	<u>Number</u>	<u>Percent</u>
Total acreage of Alcona County	444,160	100%
Total forested acreage	324,100	73%
Forested acreage by ownership		
a. privately owned	208,300	64%
b. Huron National Forest	107,400	33%
c. Oscoda State Forest and other (DNR)	8,400	3%
	<u>324,100</u>	<u>100%</u>
	<u>Million</u>	<u>Equivalent</u>
	<u>Board Feet</u>	<u>Thousandcords</u>
Wood Production Date		
a. Estimated growing stock in County		
1. hardwoods	360	720
2. softwoods	<u>110</u>	<u>220</u>
County Total	470	940
b. Estimated Huron National Forest growing stock		
1. hardwoods	216	431
2. softwoods	<u>72</u>	<u>144</u>
3. total growing stock in Alcona County	288	575
c. Huron National Forest yearly cut (all species)	7.5	15

source: USDA Forest Service

Goals....Issues....Objectives

The comprehensive planning elements for Alcona County will be guided by statements of "Goals, Issues and Objectives," as set forth in the following pages. They will serve as the basis for the County Plan, as an expression of the public intent. The County Board of Commissioners and the County Planning Commission state that they shall be bound by the adopted statements of public intent, and that no proposals shall be approved which are in conflict with any element.

Before reviewing these statements of intent, a clear understanding of their elements is essential.

"Goals" are broad statements

dealing with County concepts in such areas as living patterns, growth and development. They are general in nature, long-term and little changing over time.

"Issues" are statements that reveal areas of concern where courses of action are necessary, suitable or mandatory.

"Objectives" are specific, definitive ends the achievement of which, through the application of existing policies, contributes measurably to the attainment of desired goals. They are short-term in nature and are most likely to be reflected in individual projects undertaken in the quest of an ultimate goal.

element: goal:

issue:

ALCONA COUNTY PLAN	PEOPLE	<p>HISTORY</p> <p>Preserve the historical heritage of Alcona County.</p>	<ul style="list-style-type: none">*Our landmarks and historical sites need to be identified and preserved.*Not enough is being done to make the public aware of our local history.*Much of our local heritage remains untapped and uncollected.*We need the leadership of persons interested in the history of Alcona County.
		<p>POPULATION</p> <p>Promote orderly population growth.</p>	<ul style="list-style-type: none">*We need to determine how much we want to grow and plan accordingly.*The extent of transient and seasonal population is not really known.
		<p>ECONOMY</p> <p>Encourage economic growth to raise income levels and increase employment potential.</p>	<ul style="list-style-type: none">*We suffer from insufficient job opportunities, out migration and high unemployment.*The seasonal nature of our economy has created "peaks and valleys."*We lack industrial parks for small and medium sized industries.*We need to determine the extent to which our economy is based on tourism.
		<p>GOVERNMENT</p> <p>Operate progressively and prudently within an economically healthy fiscal budget.</p>	<ul style="list-style-type: none">*Poor communication and cooperation exists between the local units of government.*People have lost confidence in government.*A provincial attitude exists between local units - the identity as "Alcona County" needs to be developed.*It is hard to find dedicated and qualified leaders for appointed and public office.
		<p>HEALTH & WELFARE</p> <p>Promote development of an effective health and welfare system with convenient quality facilities.</p>	<ul style="list-style-type: none">*We lack a local medical care facility- the nearest hospital is 30 miles away.*We have been unable to attract a physician to the area.*Ambulance service for outlying areas is poor.*Improper sewage treatment has resulted in water pollution in many areas.*Areas of high density lack proper sewer and water facilities.

objective:

What we have achieved through this plan:



<ul style="list-style-type: none"> --Compile a map locating the historic sites. --Identify historic sites with signs. --Identify sources of funding for specific historical projects. --Establish a historical museum. --Initiate local historical programs in schools. --Establish responsibilities for interviewing "old timers". --Develop historical references in the library. --Recruit persons to promote history and co-operate with the local historical society. 				PEOPLE	ALCONA COUNTY PLAN
<ul style="list-style-type: none"> --Investigate taking a County census. --Make a measurable impact on out-migration. --Develop a survey to reflect the peoples' opinions about growth patterns. 					
<ul style="list-style-type: none"> --Make a comprehensive study of our economy. --Investigate locations of industrial sites. --Develop recreational facilities that will specifically promote tourism. --Promote industries using resources unique to Alcona County. --Increase year-round employment opportunities. 					
<ul style="list-style-type: none"> --Develop better public relations. --Prepare a presentation on local government. --Make better use of tax dollars through planning. --Overcome provincial attitude between local units. --Work toward a balance between needed services and the taxpayer's ability to pay for them. 					
<ul style="list-style-type: none"> --Establish a clinic with qualified personnel. --Promote emergency medical training. --Renew efforts to recruit doctors. --Provide ambulances in outlying areas. --Eliminate water pollution from improper sewage treatment. 					

element: goal:

issue:

ALCONA COUNTY PLAN	ACTIVITIES	<p>RESIDENTIAL</p> <p>Insure adequate and quality housing for all residents.</p>	<p>*Many new homes are needed, also older homes need remodeling.</p> <p>*Mobile home development needs to be controlled better.</p> <p>*Our elderly do not have adequate low cost communal type housing.</p> <p>*Lack of financing and high interest rates have made it difficult for many to afford new or better housing.</p> <p>*Many families live in substandard housing with inadequate facilities.</p> <p>*Soil characteristics have not been considered, resulting in the improper placement of some homes.</p>
		<p>AGRICULTURAL</p> <p>Preserve and maintain the most productive soils of Alcona County.</p>	<p>*Prime agricultural land is being fragmented into small parcels.</p> <p>*Assessing farm land according to its potential has pushed property taxes up, thereby encouraging this fragmentation.</p> <p>*Agricultural land needs to be protected.</p> <p>*More detailed soils maps are needed.</p>
		<p>COMMERCIAL & INDUSTRIAL</p> <p>Encourage the growth of commercial and industrial activities.</p>	<p>*An unfavorable attitude exists in the County toward promoting commercial and industrial activity.</p> <p>*The businesses and industries we already have need to be protected.</p> <p>*Little is known of why our County is not appealing to industry.</p> <p>*More commercial and industrial activity is needed in all parts of the County.</p>
		<p>RECREATIONAL</p> <p>Provide a variety of year round recreational opportunities for all ages.</p>	<p>*We need to recognize our recreational needs - - outdoor? indoor? resident? visitor? organized?</p> <p>*A complete assessment needs to be made of existing places (outdoor) and spaces (indoor) recreation activities.</p> <p>*We lack a total recreation plan for the County.</p> <p>*Many areas lack community recreation resources.</p>
		<p>GOVERNMENTAL</p> <p>Develop public facilities and services to adequately accommodate the anticipated growth.</p>	<p>*The big problem is MONEY or the lack of available funds for programs.</p> <p>*We need more qualified and concerned people to run for public office.</p> <p>*The general public is not aware of the alternatives investigated or the laws governing decisions made.</p> <p>*We lack good liaison between our State and Federal elected representatives and senators.</p>

objective:

What we have achieved through this plan:



<ul style="list-style-type: none">--Promote and build medium and low income housing.--Coordinate with local planning and zoning bodies to incorporate soils information when making planning and zoning decisions.--Seek additional funding for low income and senior citizen housing improvements.--Work with local planning and zoning bodies to better define and handle mobile home development.--Support the building and plumbing codes and work with those handling the inspections.				ACTIVITIES	ALCONA COUNTY PLAN
<ul style="list-style-type: none">--Work for a remodeling of our property tax laws to protect farming interests.--Promote awareness of Public Act 116 (Farm Land and Open Space Act).--Work with local planning and zoning bodies to retain suitable soils for agricultural purposes.					
<ul style="list-style-type: none">--Effectively support industrial development corporations and chambers of commerce.--Expand, upgrade and beautify our present commercial establishments.--Promote industrial parks.--Publicize qualities in our community that are desirable to industry.					
<ul style="list-style-type: none">--Make a comprehensive study of the recreational needs of all age groups.--Support development of the Alcona Recreation Area.--Encourage and support local groups promoting recreational activities.--Consider development of the Lincoln Memorial Hall into a County Civic Center.--Update and revise the County Recreation Plan.--Coordinate with local units on recreational needs in their jurisdiction.					
<ul style="list-style-type: none">--Get the most for our money through wise use of revenues.--Expand efforts to develop good public relations.					

ALCONA COUNTY PLAN	ACTIVITIES	<p>EDUCATIONAL Promote development of quality education programs and facilities and stimulate cultural endeavors.</p>	<p>*The community school program is limited to high school completion for adults. *Our method of financing our school is outdated and unfair. *Public relations between school officials, parents and taxpayers needs improving. *More space is needed for library expansion.</p>
		<p>LAND USE Promote a well-balanced land use pattern by adopting ordinances and policies consistent with the objectives.</p>	<p>*Our zoning ordinances lack comprehensive planning. *More emphasis should be directed toward inter-township coordination. *Our county and townships lack comprehensive plans and effective zoning.</p>
	SERVICES	<p>COMMUNICATIONS Encourage coordination and continued development of the various systems.</p>	<p>*Development of our systems is hindered by the geographical separation of our populace. *Capability for emergency communication is lacking, also any type of wire service. *Local newspapers do not actively seek news items or are negative in their viewpoint. *Profitability of advertising via TV, radio, newspapers, etc, is questionable. *Overhead wires blight our landscape.</p>
		<p>TRANSPORTATION Maintain and further develop County highway, rail, air and waterway facilities.</p>	<p>*"How accessible does Alcona County want to be?" This needs to be determined. *The route (corridor) that the extension of US-23 will follow is not known. *Any type of mass transit is lacking. *Airport and railroad capabilities have not been developed. *Improvements are needed on present roadways.</p>
		<p>ENERGY SUPPLY Promote availability of public utility systems in all portions of the County.</p>	<p>*The entire problem is really beyond us. *Much skepticism exists regarding the threat of future energy shortage. *Power supply necessary for industrial development in our outlying areas is not available.</p>
		<p>DISPOSAL SYSTEMS Provide adequate facilities to handle the projected needs of the County.</p>	<p>*The most primitive problem still exists - - sewers running directly into lakes, ponds, rivers, etc. *Junk cars and equipment are still a problem in some areas. *Transporting solid waste to a central site is costly.</p>

<ul style="list-style-type: none"> --Support revision of school financing laws. --Work closely with schools on common concerns. --Recruit qualified members for the school board. --Make better use of our schools for other community activities. --Prepare a presentation on how schools are financed. 				ACTIVITIES	ALCONA COUNTY PLAN
<ul style="list-style-type: none"> --Assist township, city and village planning and zoning bodies in developing comprehensive plans. --Involve local units in County planning. --Set up specific joint education and informational meetings. --Develop an awareness of federal and state land use developments and controls. 					
<ul style="list-style-type: none"> --Develop a plan for the improvement of emergency communications capabilities, as funds become available. --Develop an awareness of how the geographical separation of our populace works against us. --Keep abreast of future plans of private enterprises providing communication services to take advantage of these developments as they may affect Alcona County. 				SERVICES	
<ul style="list-style-type: none"> --Conduct a survey on the question of "How accessible does Alcona County want to be?" --Obtain an update from the Michigan State Highway Dept. on the current status of the US-23 corridor. 					
<ul style="list-style-type: none"> --Establish communications with utility companies to keep abreast with their proposed plans for development. 					
<ul style="list-style-type: none"> --Review and recommend a junk car ordinance to the Board of Commissioners for their adoption. --Encourage and work with local groups in identifying areas with pollution problems and support efforts to resolve them. --Encourage use of commercial haulers. 					

		element:	goal:	issue:
ALCONA COUNTY PLAN	ENVIRONMENT	AIR	Promote programs to reduce and/or eliminate pollution of the air, land and water.	*Some residents still persist in polluting the air by burning trash in open barrels. *The dumping of fuel by aircraft should be investigated. *Our approach should be an "ounce of prevention."
		LAND	Develop the necessary attitudes and programs to insure a quality environment. Promote the wise-use of natural resources through coordinated management programs.	*Land pollution - - LITTER! *We have inherited the residue resulting from relatively unrestricted use of herbicides and insecticides. *Recycling efforts have not been economically successful. *More detailed soils maps are needed.
		WATER		*Sources of water pollution need to be identified and cited, and the necessary corrections or adjustments made. *We lack a shoreland management program.
		RESOURCES		*We need to determine our most valuable resources - - which automatically will involve planning for their use. *Zoning boards lack current information on pollution standards to do an effective job. *Additional educational programs are necessary in our schools and in our communities to maintain and improve our total environment.
	GENERAL	CITIZEN AWARENESS	Instill within the citizens the desire to be actively interested in community functions and the future of the County.	*Complacency among people - - too many people are apathetic and do not want to get involved. *We do not have effective media coverage about what's happening. *Some existing organizations function in name only. *People respond to threats - - cause and effect. *What constitutes "the citizenry?" is constantly changing.
		AESTHETICS	Make Alcona County an even more desirable county in which to live by improving its general aesthetics and appearance.	*Residents who improve their property and buildings are penalized by increased tax assessments.
		COOPERATION	Promote TOTAL cooperation for the betterment of the County.	*The identity "Alcona County" needs to be promoted. *A lack of cooperation and coordination exists between units of government and the general public.

objective:

What we have achieved through this plan: → → → →

<p>--Investigate existing regulations which will promote more effective control of residential and commercial open burning of trash.</p> <p>--Investigate dumping of fuel by military aircraft to see if a pollution problem exists.</p>				ENVIRONMENT	ALCONA COUNTY PLAN
<p>--Develop and recommend to the Board of Commissioners the adoption of an anti-litter ordinance.</p> <p>--Acquire more detailed soils maps from the Alcona Soil Conservation Service.</p>					
<p>--Develop in conjunction with NEMCOG a regional shoreland management plan.</p>					
<p>--Secure copies of Federal and State pollution standards applicable to air, land, water, and resources.</p>					
<p>--Publish a weekly County calendar to advise citizens of current public and organizational activities and events.</p>				GENERAL	
<p>--Work with community groups, technical committees, advisory bodies, adjacent counties, regional and state authorities, and all independent commissions, boards and governing bodies.</p>					



Implementation....

Compiling and analyzing the data, determining the issues, and developing obtainable objectives, as indicated earlier, are the steps that were taken by the County Planning Commission in preparing the Alcona County Plan. The most important task at this juncture of the planning effort is the implementation of the Plan; and for future years, the revision and updating of the Plan.

Those entrusted with the preparation of this document will agree that the Plan will be successful only insofar as it is understood, agreed upon and implemented. The County Board of Commissioners and local governmental officials, along with the County Planning Commission, must make themselves thoroughly familiar with the Plan, and more importantly must make the Plan available to the public so that community support may reinforce the Plan. It is essential that all individuals, community organizations, technical committees and advisory groups realize that only through joint effort

and coordination is The Plan capable of shaping the future of Alcona County, and of significantly affecting the lives of its citizens.

In addition, those charged with the development of the Plan will agree that it does not have all the answers bound up in a neat package. The Plan is the most comprehensive source of data about Alcona County ever developed, but it should not be considered finished by any means. Nor should it remain static after it is adopted. To fulfill its earlier commitment to provide a "Blueprint for Progress," the Plan must be constantly updated with the most current data; and it must remain a flexible, ever-changing document that encourages new solutions consistent with the every changing scene.

In the Preface the plan was dedicated to meeting the needs and desires of the citizens of Alcona County. The Plan now asks for the help of the citizens of Alcona County in dedicating their efforts to making it work for them through implementation.

ZONING MAPS
AND
COMPARATIVE STUDY
ALCONA COUNTY, MICHIGAN

PREPARED BY
ALCONA COUNTY
PLANNING COMMISSION

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ALCONA COUNTY COMMISSIONERS

Harold Fletcher, Chairman
John Frechette
Gerald Jasinski

Gerson Kahn
Marshall McGuire Sr.

Donald Williams, County Coordinator

ALCONA COUNTY PLANNING COMMISSION

Ralph C. Mills, Chairman
Carl R. Anderson
Howard Anderson
Richard Currell
James O. Frederick
Jack Houghton

Gerson Kahn
George Karsen
Robert A. Reames
Thomas A. Rossler
Alfred J. Scully

ALCONA COUNTY TOWNSHIP SUPERVISORS

Alcona Township
Caledonia Township
Curtis Township
Greenbush Township
Gustin Township
Harrisville Township
Hawes Township
Haynes Township
Mikado Township
Millen Township
Mitchell Township

Willard LeClair
Kenneth R. Timm
Henry H. Bell
Fred A. Carron
Theodore Miks
Robert L. Emerick
George Karsen
John Grzeskowiak
Albert R. Simpson
Mike Unkovich
George M. Crowell

CITY OF HARRISVILLE

Henry Gauthier, Mayor

VILLAGE OF LINCOLN

Leonard Ferris, President

ALCONA COUNTY ZONING & PLANNING OFFICIALS

	<u>administrator</u>	<u>board chairman</u>
Alcona Township	Richard King	Omer LaVergne
Caledonia Township	Earl Wakeman	Richard Currell
Curtis Township	Ed Bartos	William Schwerin
Greenbush Township		Robert Newman
Gustin Township	Calvin Harding	Ralph Tait
Harrisville Township	John Grzeskowiak	Boyd Kinnee
Hawes Township	Don Read Sr.	Joseph Sefernack
Haynes Township	John Grzeskowiak	Ralph Miller
Mikado Township	Ron Nelson	Ed Woods
Millen Township	Maynard Miller	John Loy
Mitchell Township	George M. Crowell	Lee LaForge
City of Harrisville		Joseph Sysak

Introduction... ..

During the past decade, the townships in Alcona County, like those throughout Michigan, have experienced rapid change. How these changes will affect the lives of the people and the property they own has been an item of much concern.

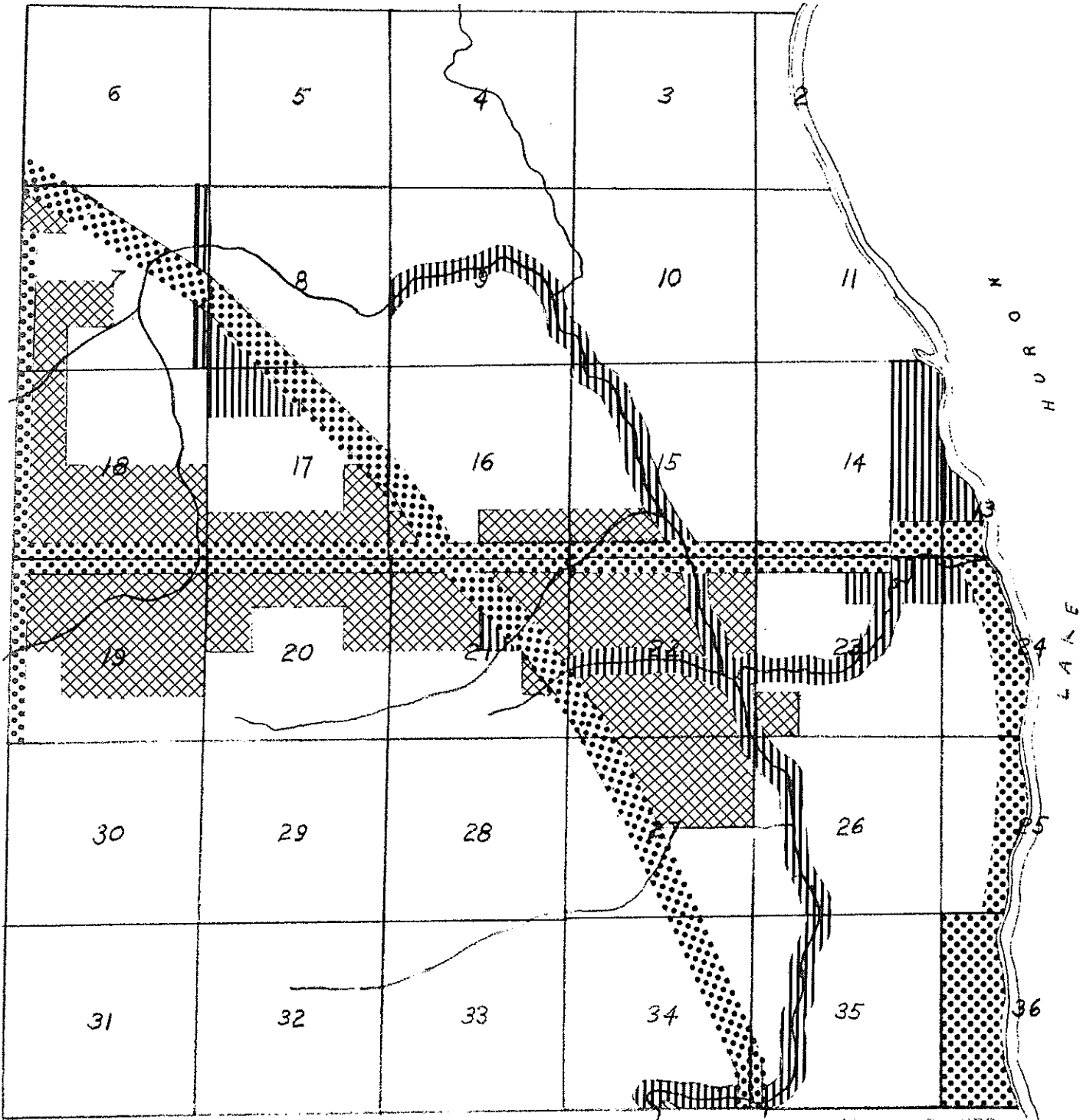
Township boards recognized the need for controlling land use and appointed zoning boards to study and draft ordinances for their townships. By January, 1975 all eleven townships in the County had designated zoning districts and adopted zoning ordinances.

This report is the result of a joint effort on the part of the Alcona County Planning Commission and the various township officials and began with the idea of compiling a "Zoning Map of Alcona County."


The study is divided into two parts:


PART ONE consists of a series of township maps showing the zoning districts, which were plotted according to the descriptions accompanying the adopted ordinances and subsequent amendments. Due to the approval of changes after the dates appearing on the maps, there may be minor discrepancies between these maps and the ones on file with the township zoning administrators. In view of this, these maps cannot be considered "official." Therefore, individuals requesting the current zoning designation on a specific parcel of land should check with the zoning administrator of the respective township.


PART TWO attempts to indicate the specific stipulations or requirements that apply to the zoning districts in the eleven townships. Here again, since amendments are continually being made, the study cannot be considered "official;" however, it is hoped that it will be useful as a resource document.




ZONING DISTRICTS:

 Agricultural-Residential

 Residential

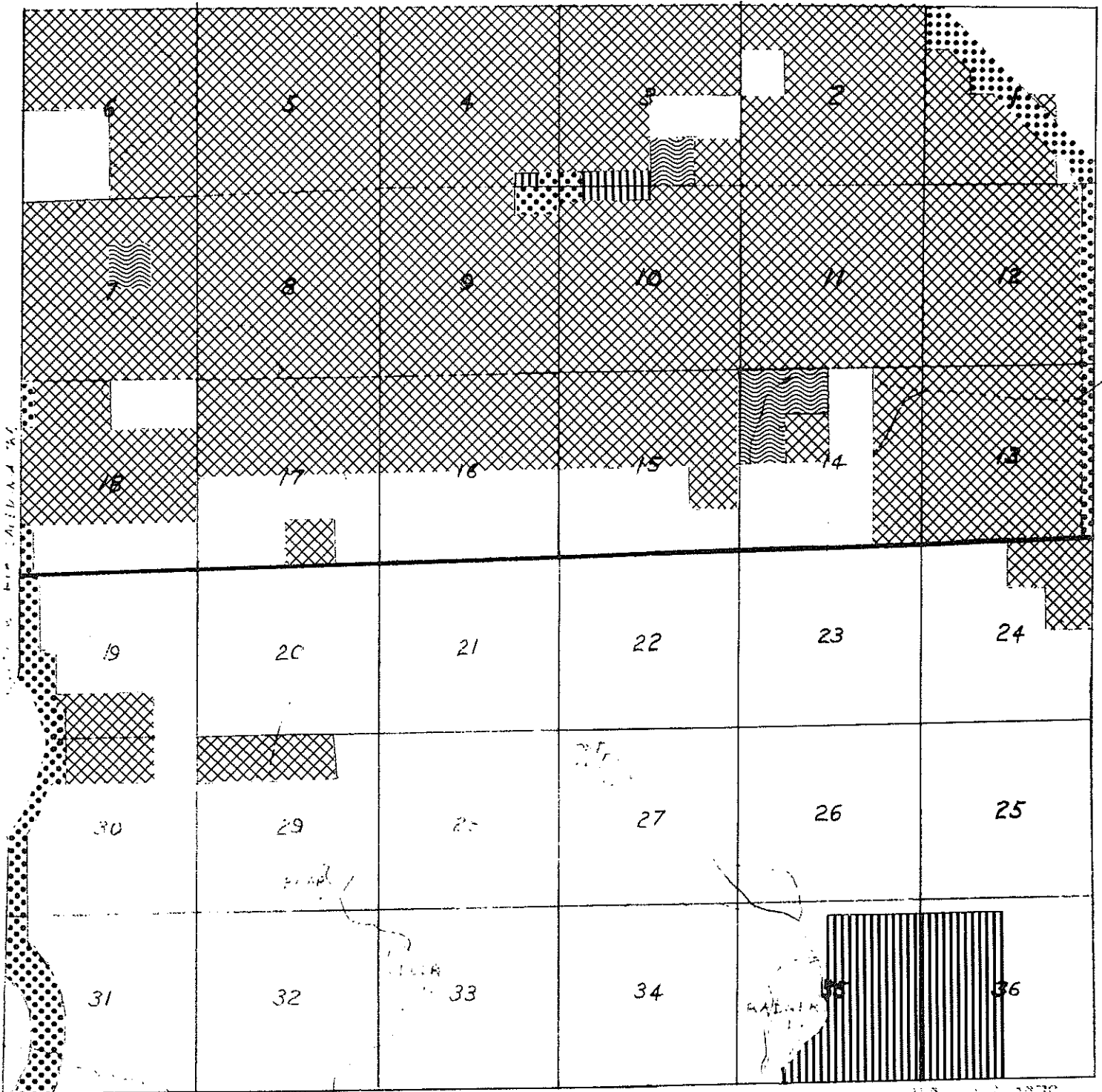
 Commercial-Residential

 Forest-Recreational

CENTRAL
PART


ALCONA EAST PART CALEDONIA


T. 28 N.-R. 8 E





NOV 21 1975
159


ZONING DISTRICTS:

 Agricultural-Residential

 Residential

 Commercial-Residential

 Forest-Recreational

 Industrial

CENTRAL
PART

CALEDONIA


WEST
PART


ALCONA


T. 28 N.-R. 7 E.





ZONING DISTRICTS:

 Agricultural-Residential

 Residential

 Commercial-Residential

 Forest-Recreational

 Industrial

NOV 27 1975
UP

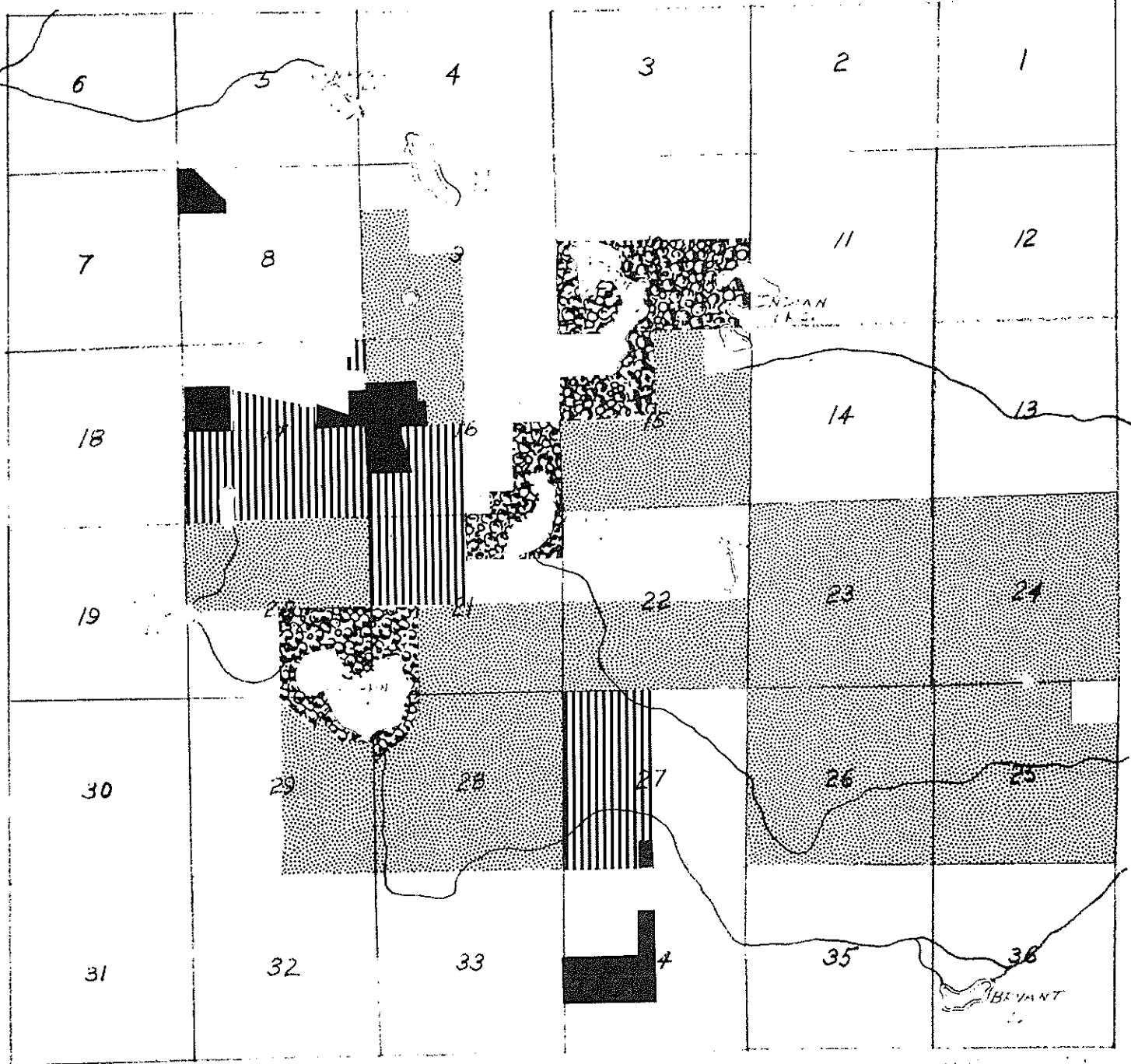
WEST PART **CALEDONIA**

T. 28 N.-R. 6 E.






6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

ZONING DISTRICTS:

Forest-Recreational

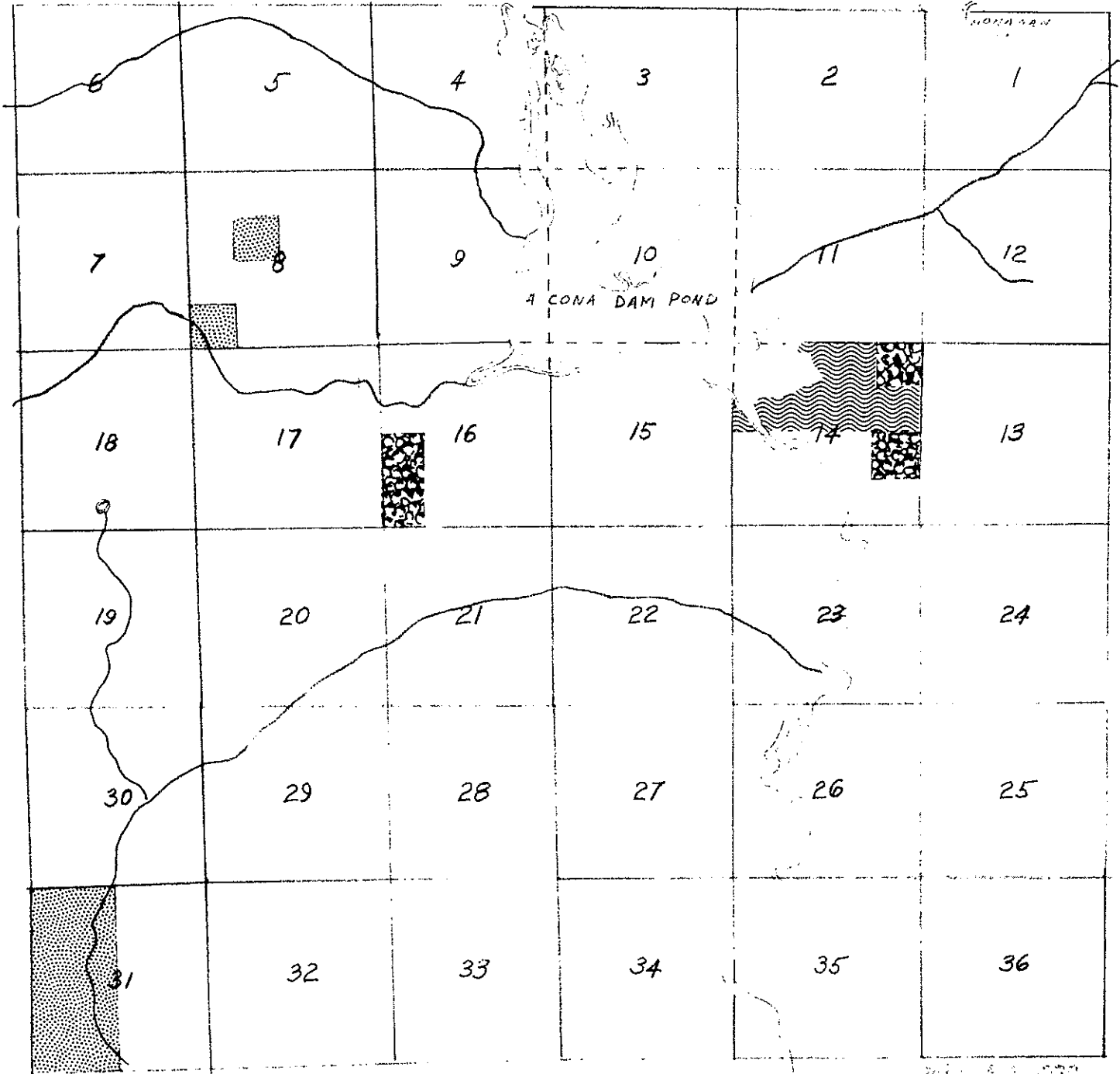


ZONING DISTRICTS:

- | | | |
|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
|  Residential |  Agricultural |  Resort-Residential |
|  Commercial |  Forest-Recreational | |

WEST PART **CURTIS**


T. 25 N.-R. 5 E.





MAR 10 1976
BP

ZONING DISTRICTS:

 Agricultural

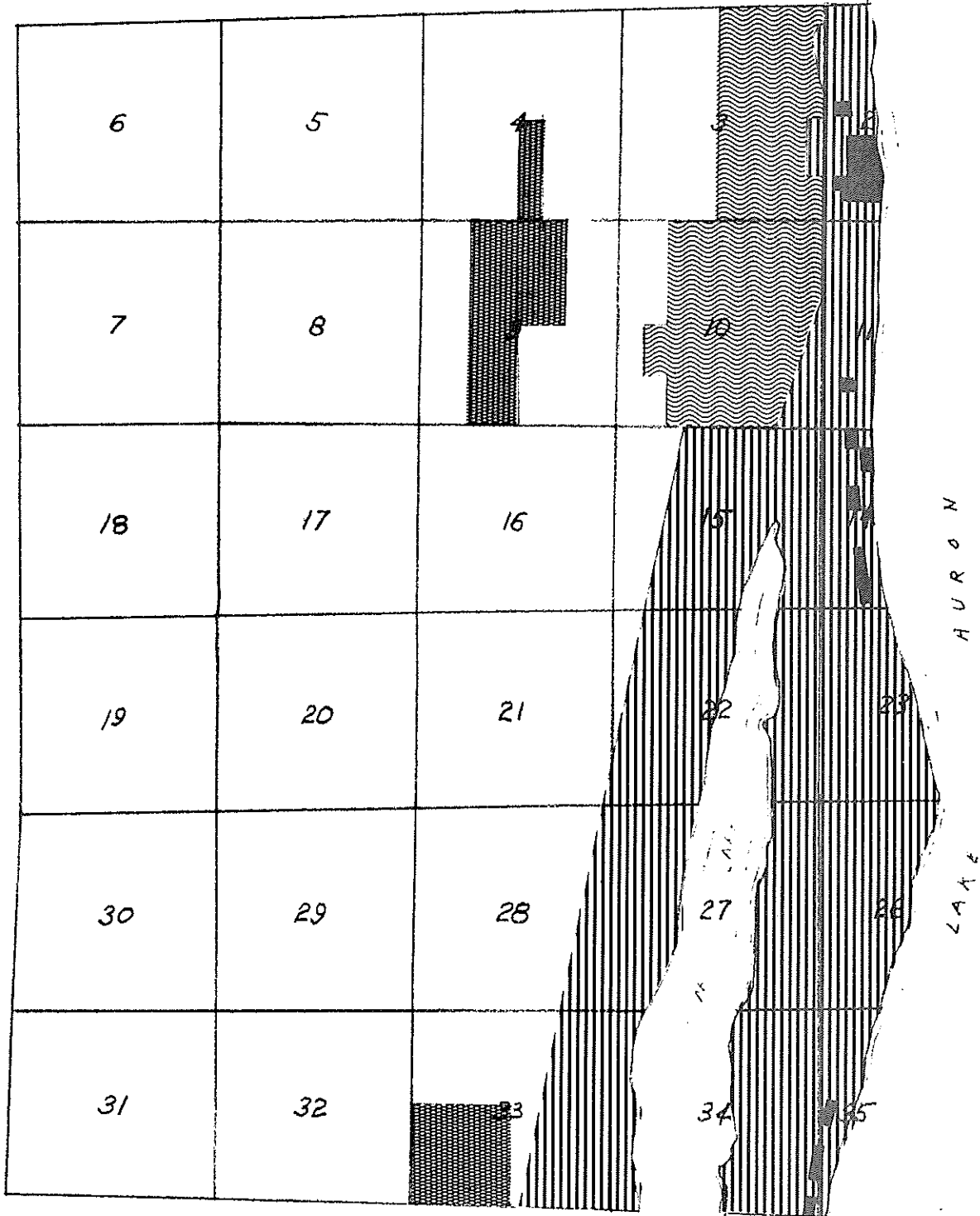
 Resort-Residential

 Industrial

 Forest-Recreational

GREENBUSH

T. 25 N.-R. 9 E.



ZONING DISTRICTS:



Residential



Forest-Recreational



Trailer Homesite



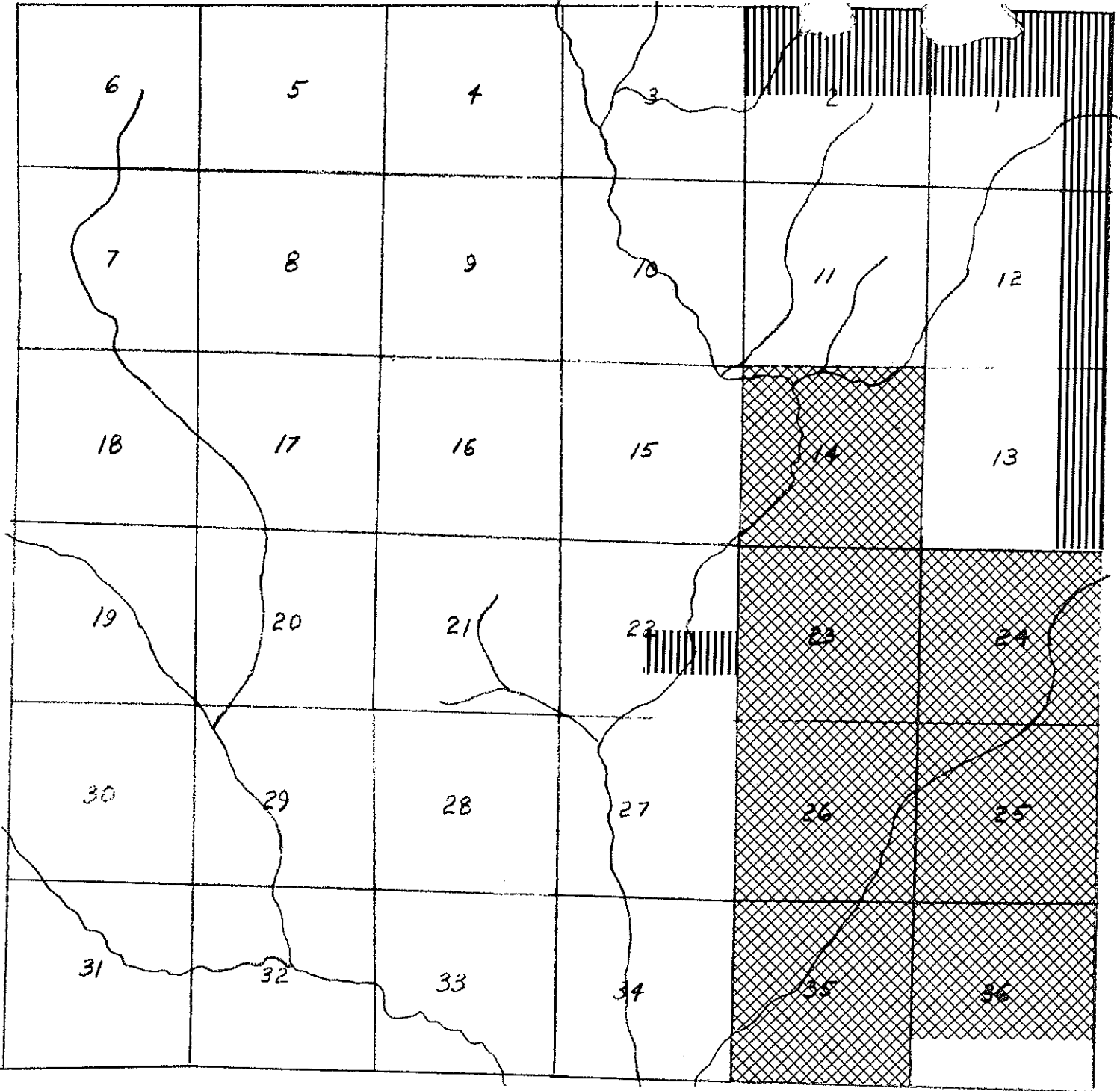
Commercial




Industrial


GUSTIN


T. 26 N.-R. 8 E.



ZONING DISTRICTS:

 Residential

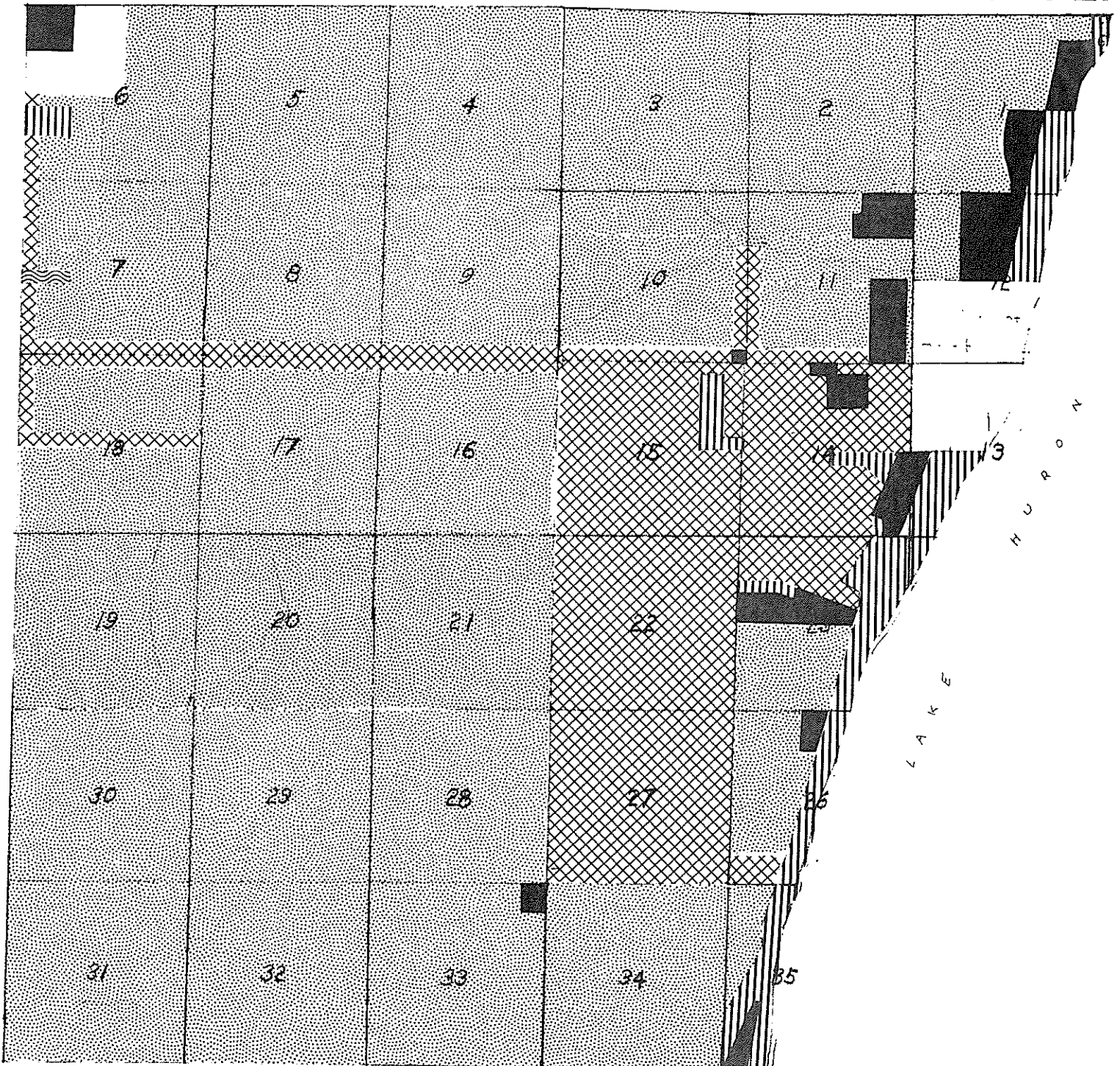
 Agricultural-Residential

 Forest-Recreational







1976

HARRISVILLE

T. 26 N.-R. 9-10 E.



ZONING DISTRICTS:

- | | | |
|---------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
|  Residential |  Agricultural |  Agricultural-Residential |
|  Forest-Recreational |  Commercial |  Industrial |

EAST PART **HAWES**

T. 27 N.-R. 8 E.



ZONING DISTRICTS:



Residential



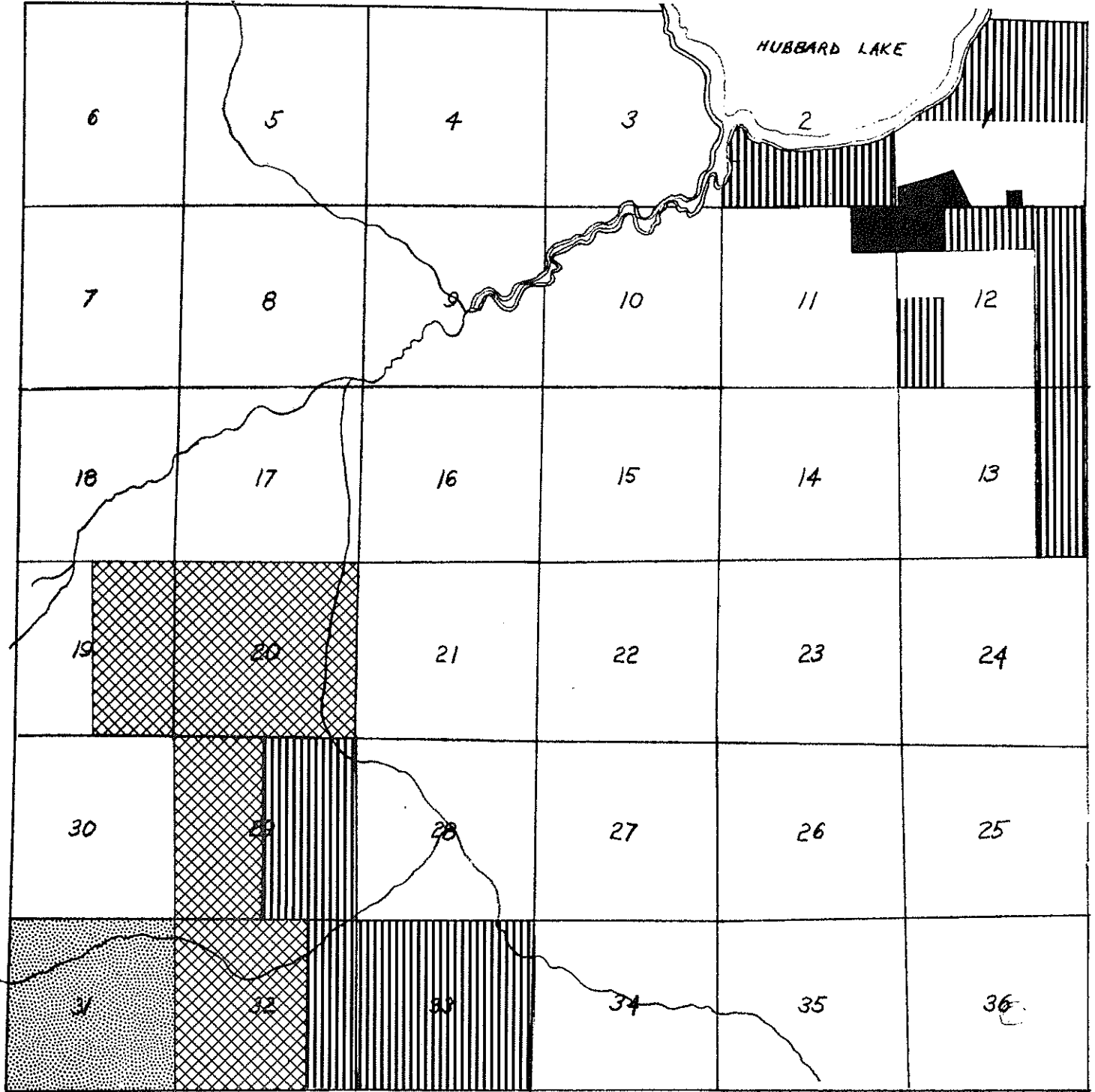
Agricultural



Industrial





Forest-Recreational




ZONING DISTRICTS:


FEB 9 1976
13P

 Residential

 Agricultural-Residential

 Agricultural

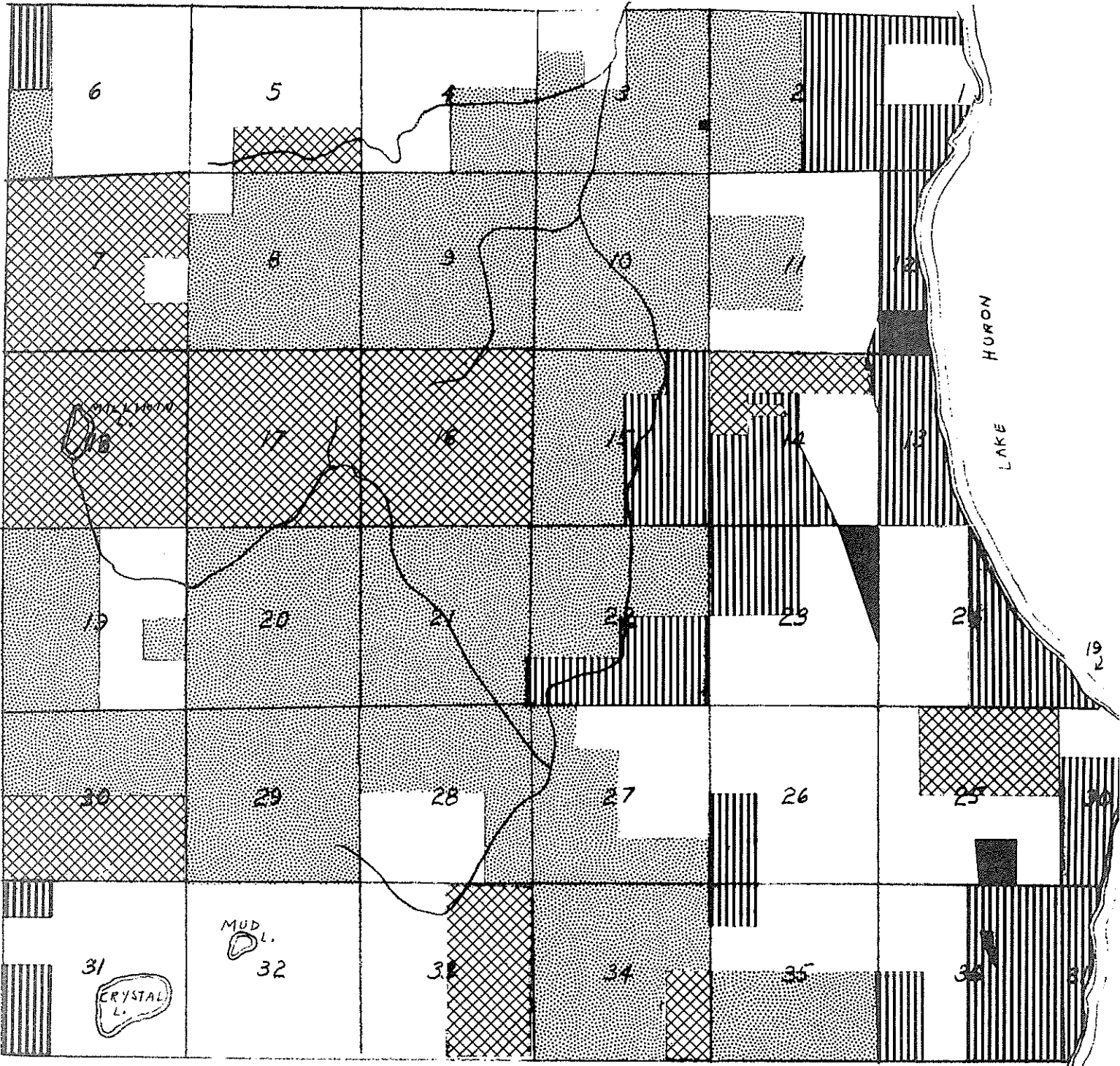
 Commercial

 Industrial






 Forest-Recreational

HAYNES

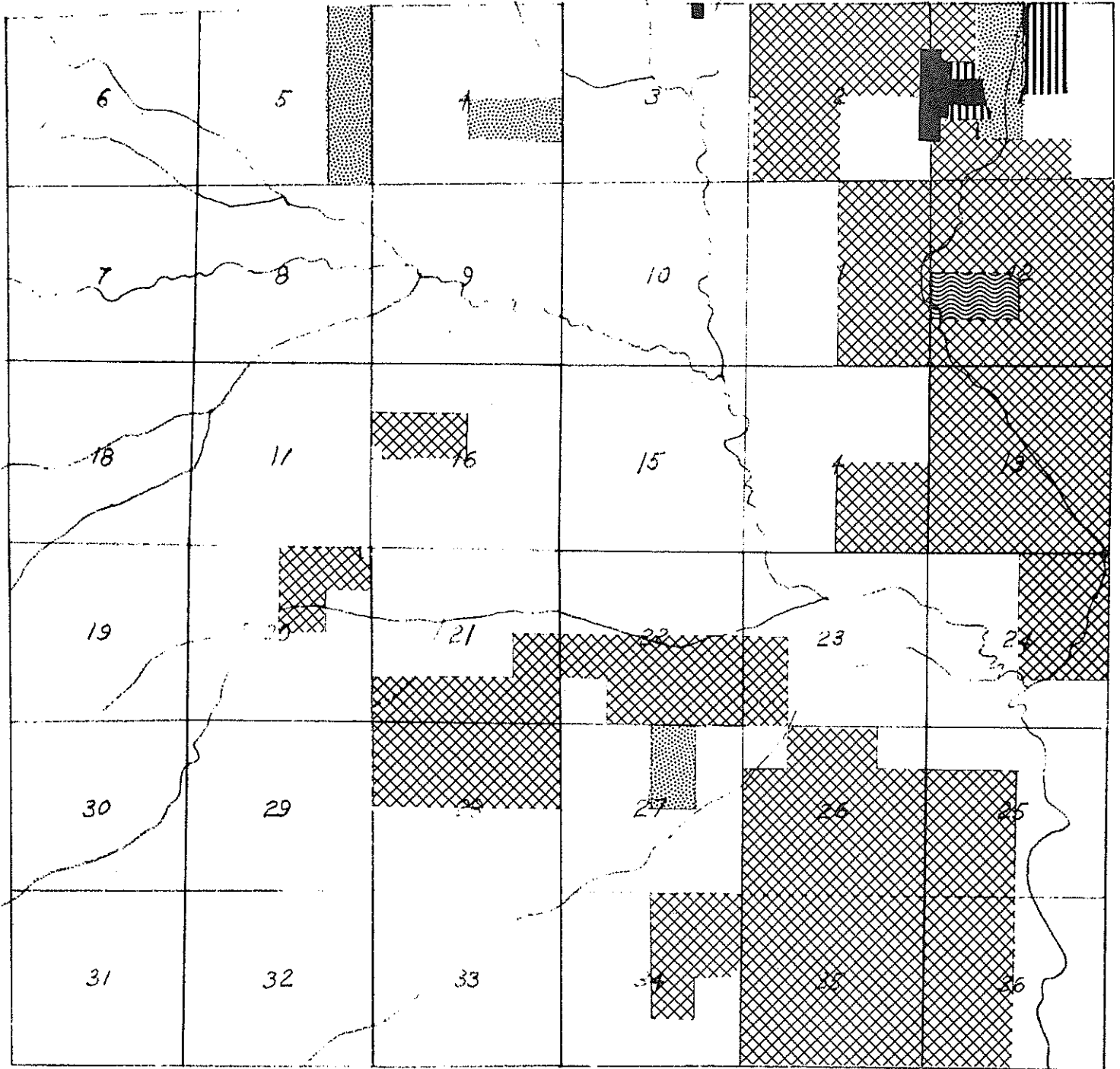
T. 27 N.-R. 9-10 E.



ZONING DISTRICTS:

- | | | | | | |
|-------------------------------------------------------------------------------------|---------------------|-------------------------------------------------------------------------------------|--------------------------|---------------------------------------------------------------------------------------|--------------|
|  | Residential |  | Agricultural-Residential |  | Agricultural |
|  | Forest-Recreational |  | Commercial | | |

APR 12 1975
BP



1976 12 13 1976

6P

ZONING DISTRICTS:



Residential



Agricultural-Residential



Agricultural



Commercial



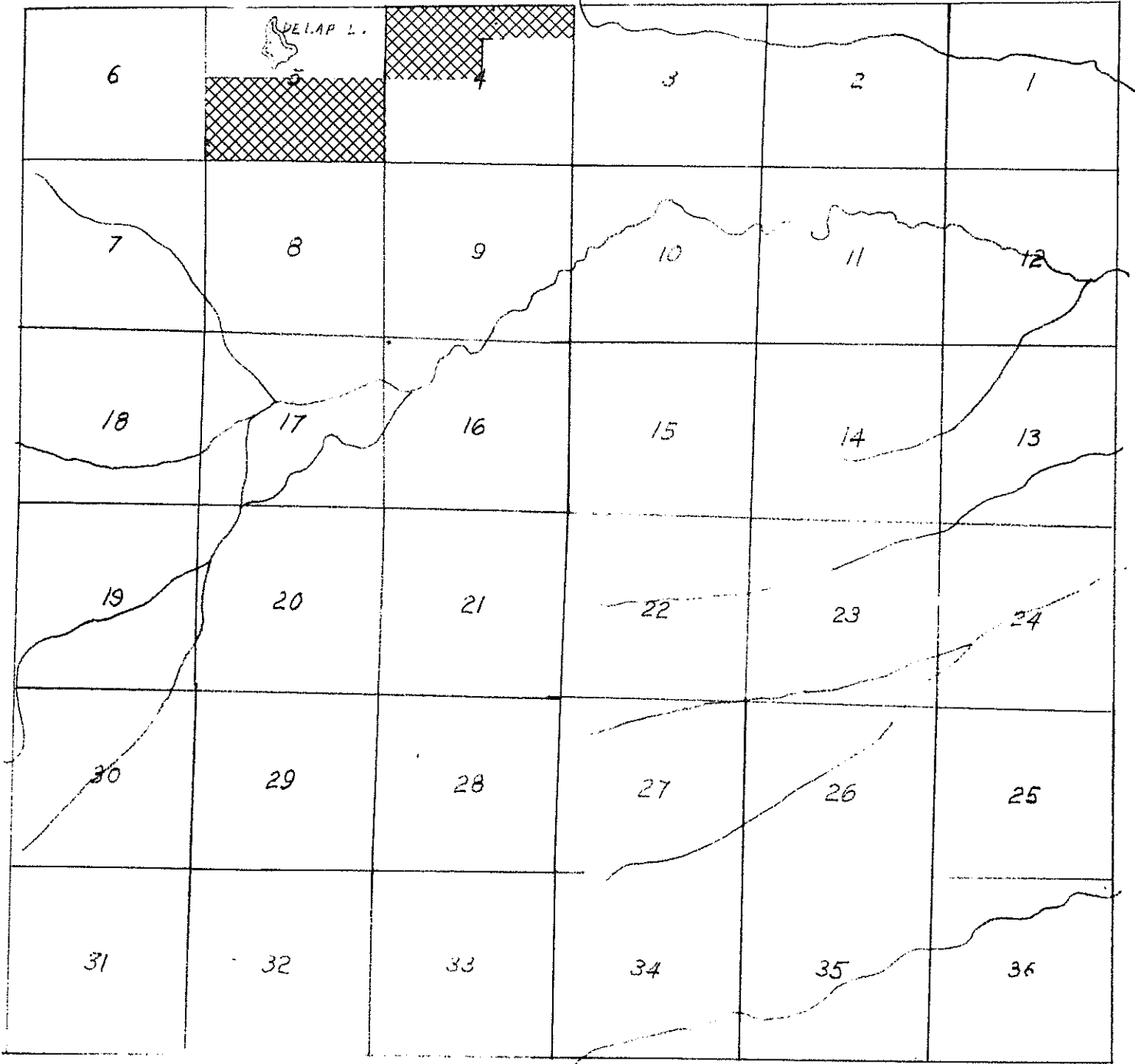
Industrial



Forest-Recreational


WEST PART MIKADO


T. 25 N.-R. 7 E.

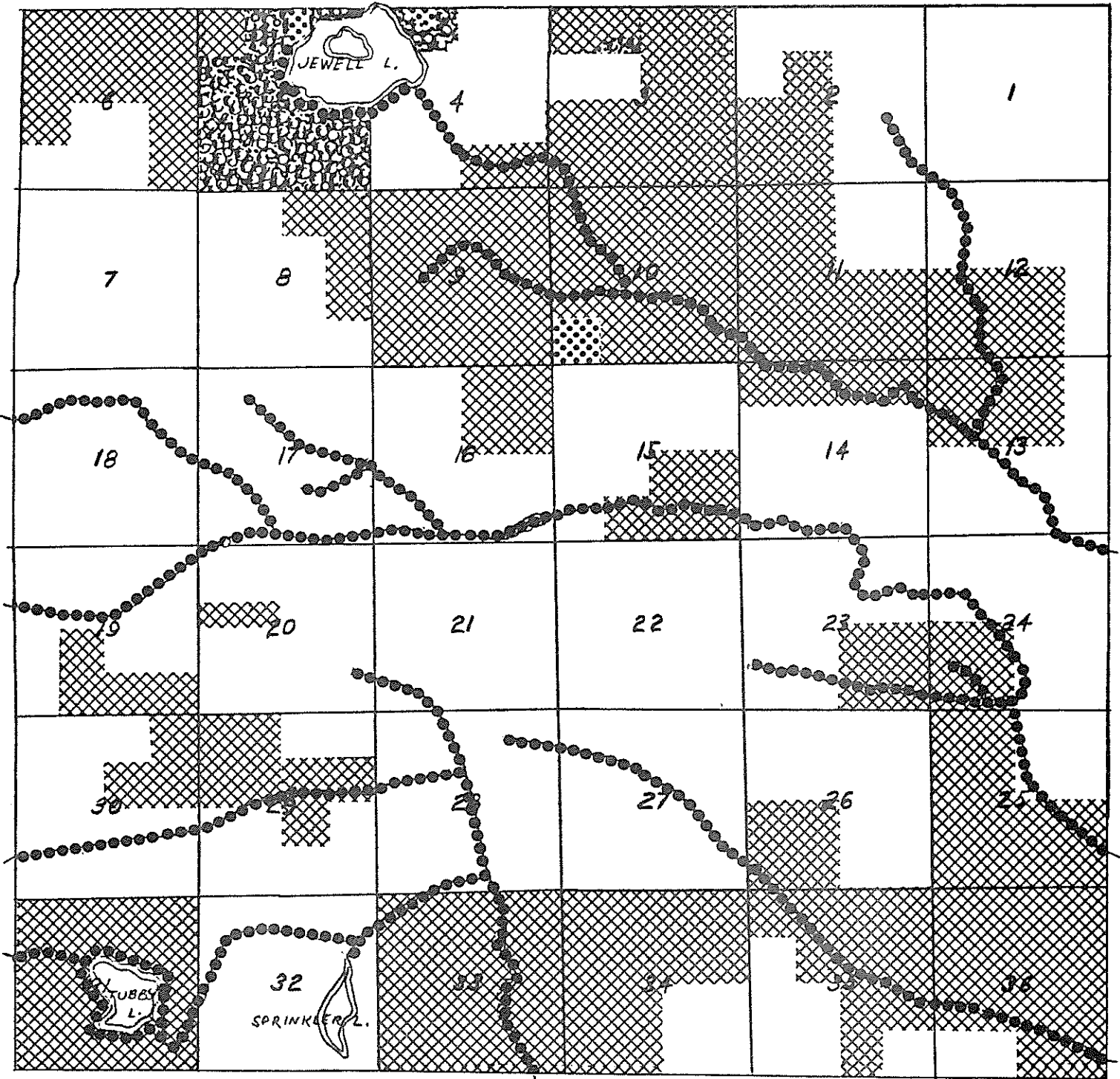


July 13 1975
6P

ZONING DISTRICTS:






 Agricultural-Residential

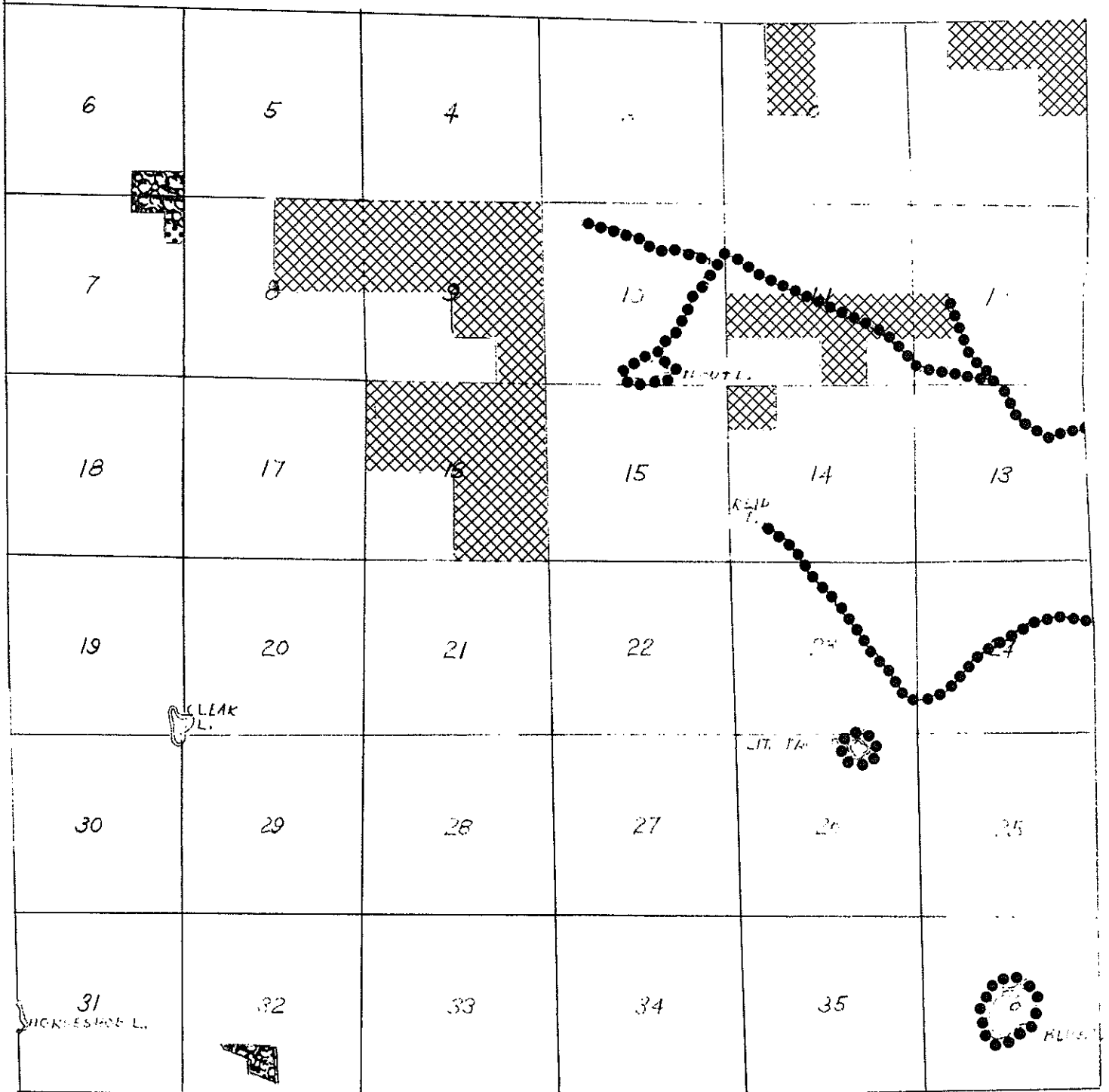
 Forest-Recreational



ZONING DISTRICTS:

NOV 20 1975

-  Agricultural-Residential
-  Resort-Residential
-  Commercial-Residential
-  Forest-Recreational
-  Green Belt



ZONING DISTRICTS:



Agricultural-Residential



Resort-Residential



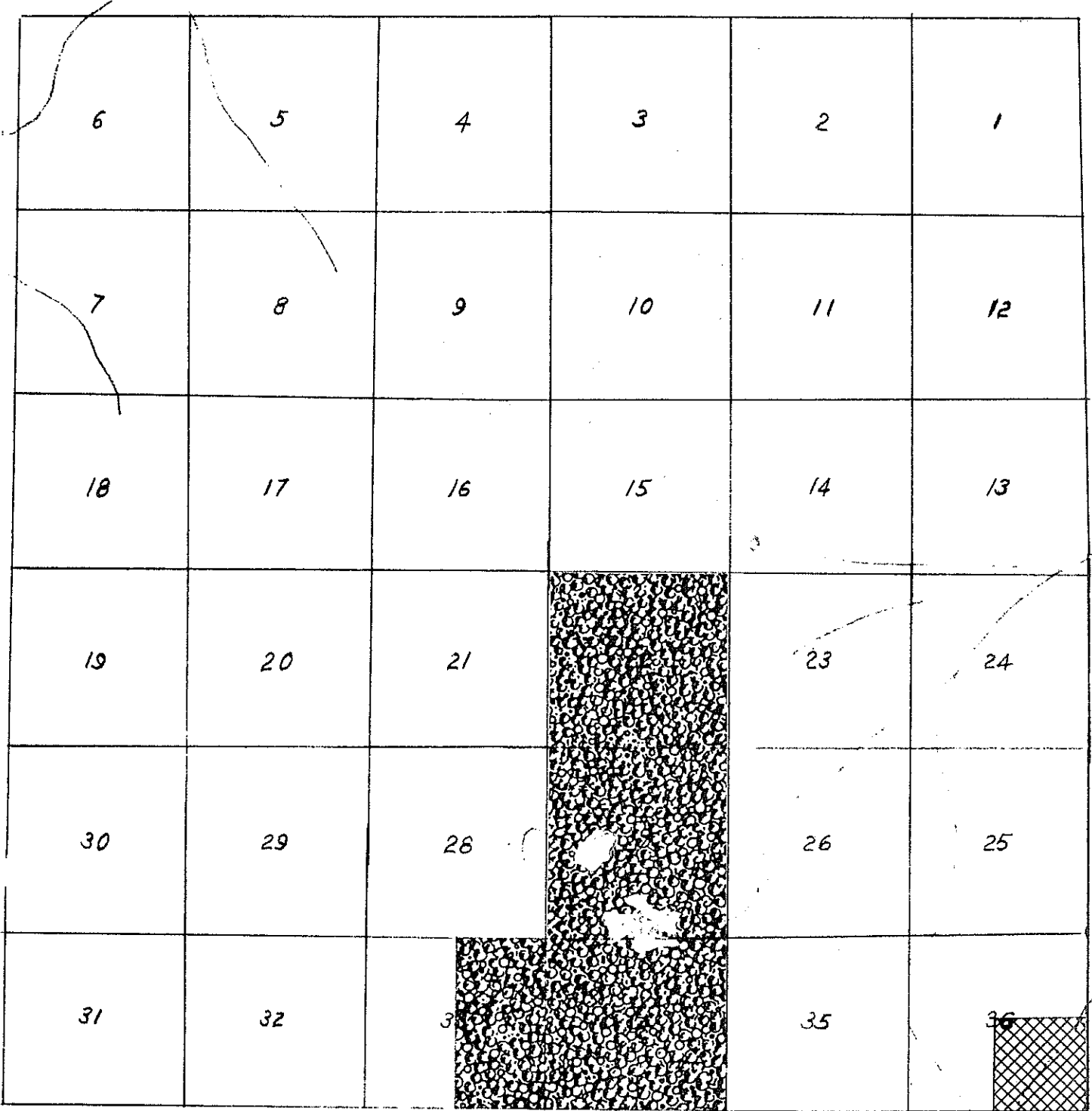
Commercial-Residential



Forest-Recreational



Green Belt



ZONING DISTRICTS:

NOV 20 1975
6P



Agricultural-Residential



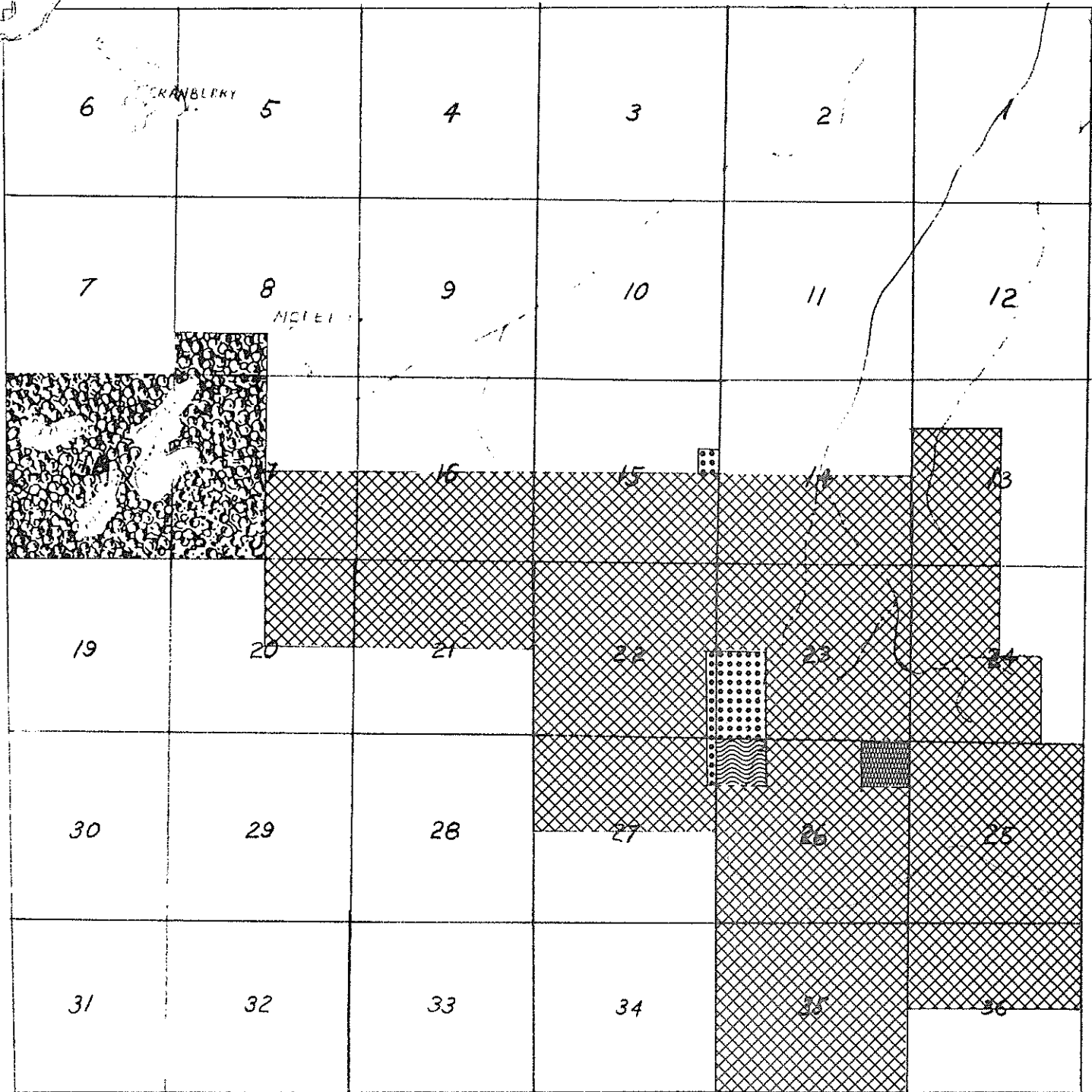
Resort-Residential



Forest-Recreational

WEST CENTRAL PART MITCHELL

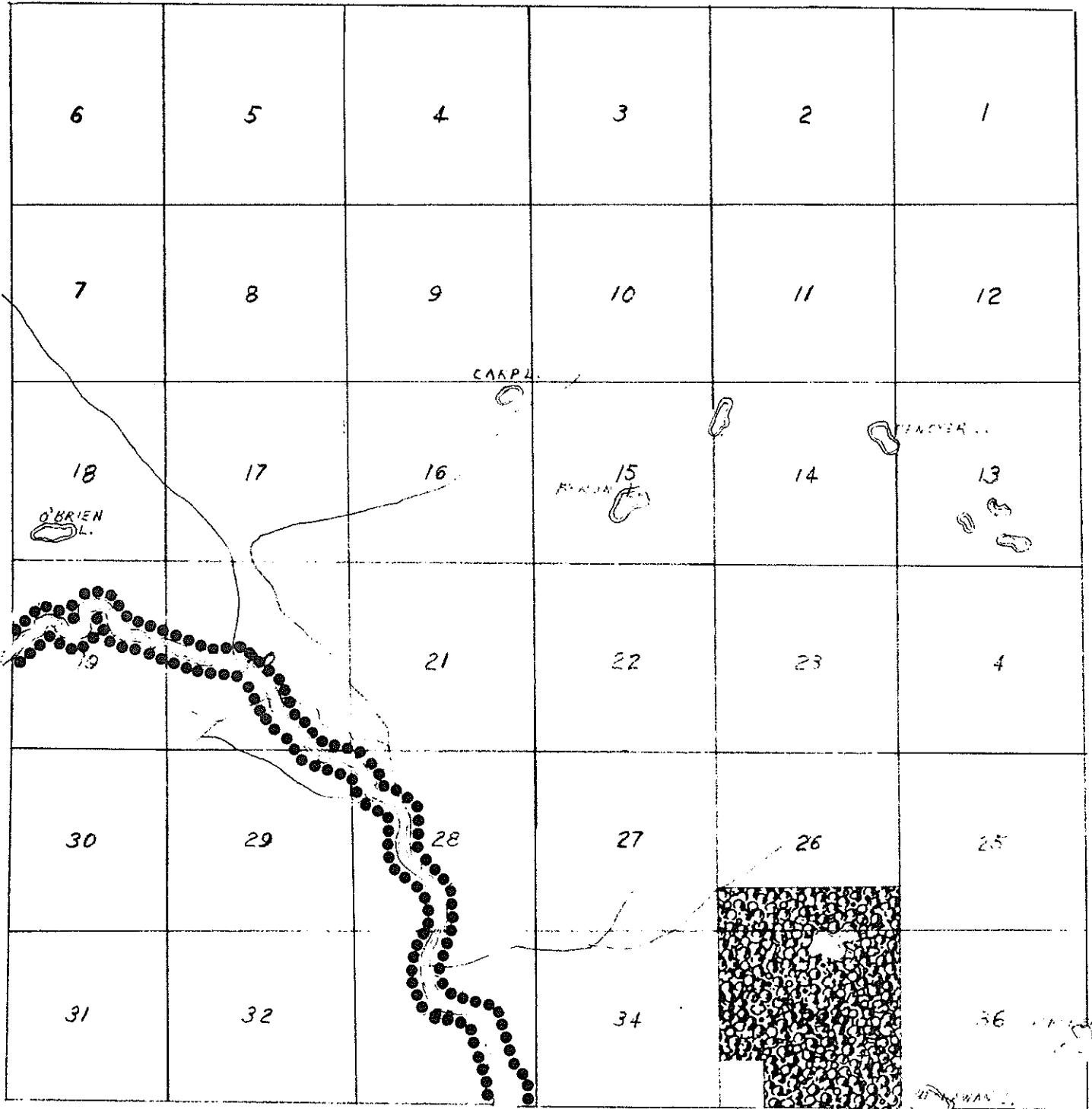
T. 27 N.-R. 5 E.




ZONING DISTRICTS:


- | | | | | | |
|--|--------------------------|--|--------------------|--|------------------------|
| | Forest-Recreational | | Resort-Residential | | Commercial-Residential |
| | Agricultural-Residential | | Industrial | | Trailer Court |


NOV 23 1975



ZONING DISTRICTS:

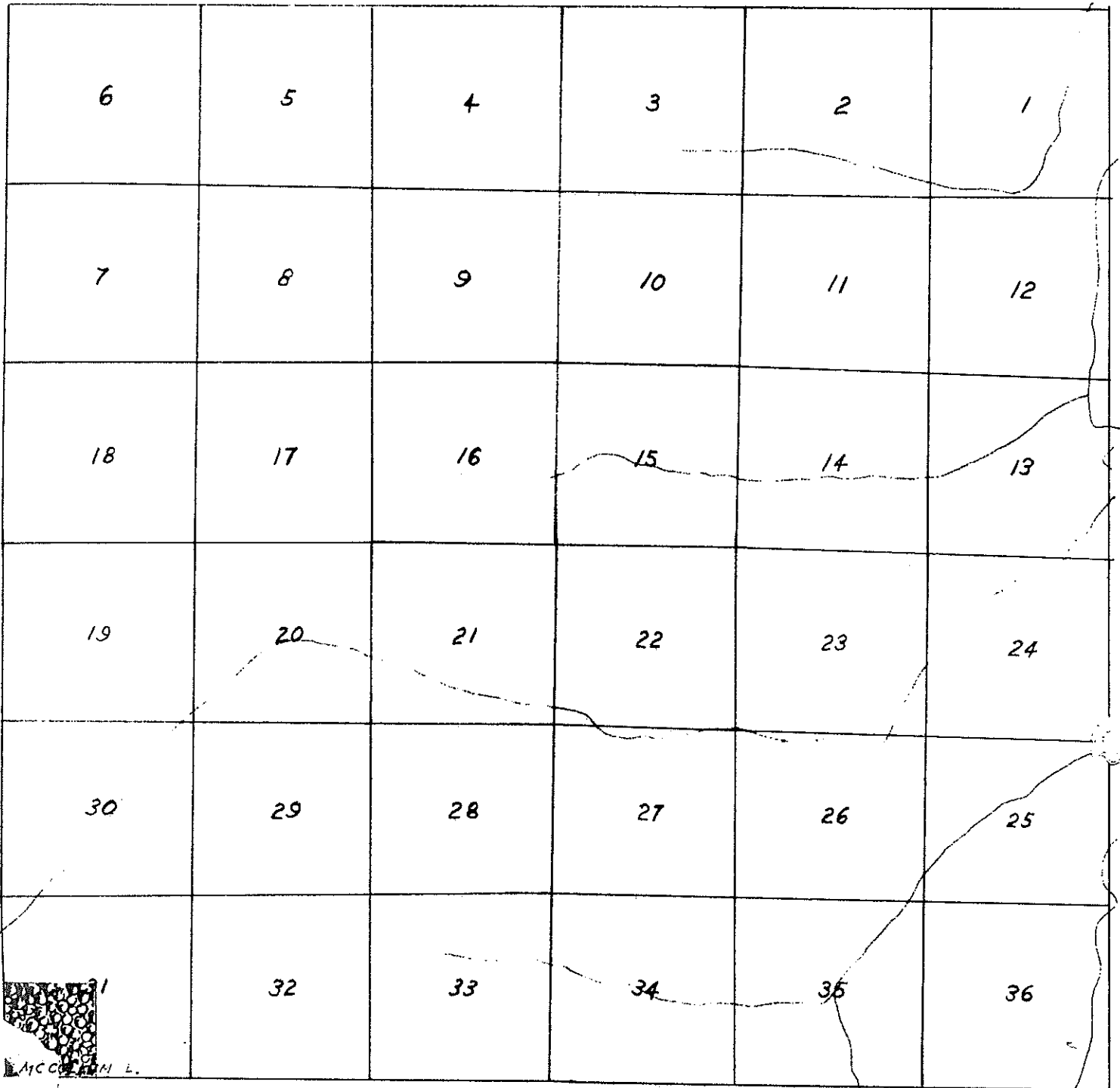
 Forest-Recreational

 Resort-Residential

 Green Belt


NORTH PART MITCHELL


T. 28 N.-R. 5 E.



ZONING DISTRICTS:

NOV 25 1977

 Forest-Recreational

 Resort-Residential

CITY of HARRISVILLE

HARRISVILLE CORPORATE

LIMITS

LIMITS

HURON

WASHINGTON ST.

LIDOCK ST.

CHURCH ST.

MILL POND

MAIN ST.

HARRISVILLE CORPORATE

HARRISVILLE CORPORATE

SCHOOL DR.

3RD ST.

7th St.

1st St.

4th St.

5th St.

6th St.

8th St.

9th St.

10th St.

11th St.

12th St.

13th St.

14th St.

15th St.

16th St.

17th St.

18th St.


19th St.


20th St.


DEM


STATE PARK

ZONING DISTRICTS:

 Residence A

 Residence B

 Commercial

 Industrial

ALCONA COUNTY
MICHIGAN

COMPARATIVE STUDY
TOWNSHIP ZONING ORDINANCES

Item	Alc	Cal	Cur	Gre	Gus	Har	Haw	Hay	Mik	Mil	Mit
<u>ZONING DISTRICTS:</u>											
Residential	X	X	X	X	X	X	X	X	X		
Commercial-Residential	X	X								X	X
Resort-Residential			X						a	X	X
Agricultural-Residential	X	X			X	X	X	X	X	X	X
Agricultural			X		X	X	X	X	X		
Forest-Recreational	X	X	X	X	X	X	X	X	X	X	X
Commercial	X	X	X	X	X	X	X	X	X		
Industrial or Economic Development	X	X	X	X	X	X	X	X	X		b
Green-Belt										X	X
Trailer-Homesite				X							

a listed as a district, but no provisions in the ordinance

b land has been designated, but no provisions are included in ordinance

ALCONA COUNTY
MICHIGANCOMPARATIVE STUDY
TOWNSHIP ZONING ORDINANCES

Item	Alc	Cal	Cur	Gre	Gus	Har	Haw	Hay	Mik	Mil	Mit
<u>AGRICULTURAL DISTRICTS:</u>											
<u>Primary Uses:</u>											
Farming			X		X	X	X	X	X		
One-family dwellings			X		X	X	X	X	X		
Two-family dwellings			X		X	X	X	X			
Customary farm bldgs. & structures			X		X	X	X	X		X	
Roadside stands			X		X	X	X	X			
Plant nurseries; green-houses			X		X	X	X	X			
Churches & other bldgs. of religious nature			X		X	X	X	X			
Schools & other educational bldgs.			X		X	X	X	X			
Hospitals & sanitariums			X		X	X	X	X			
Museums; libraries			X		X	X	X	X			
Community bldgs; cemeteries			X		X	X	X	X			
Fire & police stations; water & sewage plants			X		X	X	X	X			
Multiple dwellings					X	X	X	X			
Home occupations & professional offices			X		X	X	X	X			
Trailer during construction of dwelling					X	X	X	X			
Accessory bldgs. & structures			X		X	X	X	X			
<u>Uses by Special Approval:</u>											
Kennels			X		X	X	X	X			
Veterinary services & hospitals			X		X	X	X	X			
Landing fields; related facilities			X		X	X	X	X			
Golf courses			X		X	X	X	X			
Gov't administrative bldgs.			X		X	X	X	X			
Public utility bldgs.			X		X	X	X	X			
Fire control structures			X		X	X	X	X			
Non-domestic fur bearing animals			X		X	X	X	X			
Trailer coach parks			X		X	X	X	X			
Motels			X		X	X	X	X			
Individual trailer coaches					X	X	X	X			
Mines; quarries; gravel pits					X	X	X	X			
Subdivisions			X								

ALCONA COUNTY
MICHIGANCOMPARATIVE STUDY
TOWNSHIP ZONING ORDINANCES

Item	Alc	Cal	Cur	Gre	Gus	Har	Haw	Hay	Mik	Mil	Mit-
<u>AGRICULTURAL DISTRICTS:</u>											
<u>Minimum Land Requirements:</u>											
One-family dwelling (acres)			12,000 sq.ft.		5	5	5	5	5		
Width (feet)			65		200	200	200	200			
Depth (feet)			185								
<u>Minimum Yard Requirements:</u>											
Front - setback in feet from lot line or ROW from waterway			25		60	60	60	60 75	40		
Side - each side in feet			5		25	10	25	25	25		
Rear - in feet			5		25	10	25	25			
<u>Minimum Floor Area:</u>											
Dwellings - per unit (sq. ft.)			576		576	576	576	576			

ALCONA COUNTY
MICHIGAN

COMPARATIVE STUDY

TOWNSHIP ZONING ORDINANCES

Item	Alc	Cal	Cur	Gre	Gus	Har	Haw	Hay	Mik	Mil	Mit
<u>AGRICULTURAL-RESIDENTIAL DISTRICTS:</u>											
<u>Primary Uses:</u>											
Farms	X	X			X	X	X	X	X	X	X
Plant nurseries, green-houses, truck gardening	X	X			X	X	X	X	X	X	X
One-family dwelling w/max. 3-car garage	X	X			X	X	X	X	X	X	X
Two-family dwelling w/max. 3-car garage					X	X		X			
Tourist homes, boarding & lodging homes	X	X			X	X	X	X	X	X	X
Home Occupations	X				X	X	X	X	X	X	X
Professional offices	X	X			X	X	X	X	X	X	X
Trailer coach during construction of dwelling	X	X			X	X	X	X	X	X	X
Accessory bldgs & structures	X	X			X	X	X	X	X	X	X
<u>Uses by Special Approval:</u>											
Churches & other bldgs. of a religious nature	X	X			X	X	X	X	X		
Schools & other educational bldgs.	X	X			X	X	X	X	X		
Hospitals & sanitariums	X	X			X	X	X	X	X	X	X
Museums & libraries	X	X			X	X	X	X	X		
Community bldgs & cemeteries					X	X	X	X			
Fire & police stations; water & sewage plants					X	X	X	X			
Multiple dwellings					X	X	X	X			
Clubs & fraternal organizations	X	X			X	X	X	X	X	X	X
Agricultural related business	X	X			X	X	X	X	X	X	X
Kennels					X	X	X	X			
Veterinary services & hospitals	X	X			X	X	X	X	X	X	X
Recreational enterprises	X	X			X	X	X	X	X	X	X
Philanthropic & eleemosynary institutions	X	X			X	X	X	X	X	X	X
Public utility bldgs	X	X			X	X	X	X	X	X	X
Golf courses; driving ranges; gun clubs; bowling alleys	X	X			X	X	X	X	X	X	X
Motels	X	X			X		X	X	X		X

ALCONA COUNTY
MICHIGAN

COMPARATIVE STUDY

TOWNSHIP ZONING ORDINANCES

Item	Alc	Cal	Cur	Gre	Gus	Har	Haw	Hay	Mik	Mil	Mit
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AGRICULTURAL-RESIDENTIAL DISTRICTS:

Uses by Special Approval - continued:

Trailer coach parks	X	X			X		X	X	X	X	X
Mines, quarries, gravel pits					X	X	X	X			
Individual trailer coaches	X	X			X	X	X	X	X	X	X
Professional offices	X	X							X		
Parks & playgrounds w/ bldgs.	X	X							X		
Parks & playgrounds w/out bldgs										X	X
Private landing fields										X	X

Minimum Land Requirements:

One-family dwellings	5	5			62, 500	40, 000	62, 500	62, 500	15, 000	5 Acres	5 Acres
	Acres Acres				(square feet- - - -)						
Width (feet)					200	200	200	200			
Depth (feet)											

Minimum Yard Requirements:

Front - setback in feet											
from lot line or ROW	40	40			60	60	60	60	40	40	40
from waterway	40							75			
Side - per side in feet	25	25			25	10	25	25	10	25	25
Rear - in feet					25	10	25	25			

Minimum Floor Area:

Dwellings - per unit in sq. ft.					576	576	576	576			
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ALCONA COUNTY
MICHIGAN

COMPARATIVE STUDY

TOWNSHIP ZONING ORDINANCES

Item	Alc	Cal	Cur	Gre	Gus	Har	Haw	Hay	Mik	Mil	Mit
<u>COMMERCIAL DISTRICTS:</u>											
<u>Primary Uses:</u>											
Retail stores & shops	X	X	X	X	X	X	X	X	X		
Storage of materials & goods to be sold retail				X							
Business offices	X	X	X	X	X	X	X	X	X		
Personal service shops	X	X	X	X	X	X	X	X	X		
Repair services	X	X	X	X	X	X	X	X	X		
Professional offices	X	X	X	X	X	X	X	X	X		
Banks	X	X	X	X	X	X	X	X	X		
Show Rooms			X	X	X	X	X	X			
Undertaking establishments			X	X	X	X	X	X			
Public utility bldgs. w/out storage yards			X	X	X	X	X	X			
Publicly owned bldgs			X	X	X	X	X	X			
Civic, social & fraternal organization bldgs			X	X	X	X	X	X			
Recreation centers			X	X	X	X	X	X			
Businesses			X	X	X	X	X	X			
Churches			X	X	X	X	X	X			
Radio, TV, plumbing shops	X	X	X	X	X	X	X	X		X	
Sales & service - auto & agricultural machinery			X	X	X	X	X	X			
Restaurants	X	X	X	X	X	X	X	X		X	
Theaters; auditoriums				X							
Motels			X	X	X	X	X	X			
Trailer coach parks					X	X	X	X			
Auto laundry				X							
Auto sales & service	X	X								X	
Outdoor advertising not pertaining to the premises			X								

ALCONA COUNTY
MICHIGAN

COMPARATIVE STUDY

TOWNSHIP ZONING ORDINANCES

Item	Alc	Cal	Cur	Gre	Gus	Har	Haw	Hay	Mik	Mil	Mit
<u>COMMERCIAL DISTRICTS:</u>											
<u>Uses by Special Approval:</u>											
Service stations & garages	X	X	X	P	X	X	X	X			
Outdoor sales - auto & house trailer				X							
Commercial parking lots			X		X	X	X	X			
Sale & storage of fuels; used lumber & other bldg. materials			X		X	X	X	X			
Transformer stations			X	P	X	X	X	X			
Wholesale storage bldgs. & warehouses			X		X	X	X	X			
Others similar in character but not specifically listed			X	P	X	X	X	X			
Trailer coach parks			X								
Drive-in restaurants	X	X		X	X	X				X	
Veterinary services & hospitals	X	X								X	
Recreational & amusement enterprises	X	X		X						X	

P - Primary Use

ALCONA COUNTY
MICHIGANCOMPARATIVE STUDY
TOWNSHIP ZONING ORDINANCES

Item	Alc	Cal	Cur	Gre	Gus	Har	Haw	Hay	Mik	Mil	Mit
<u>COMMERCIAL DISTRICTS:</u>											
<u>Minimum Land Requirements:</u>											
Minimum as set by Sub-Divisions Control Act (12,000 sq. ft.)					X		X	X			
Adequate for off road parking, loading, unloading, storage						X					
<u>Minimum Yard Requirements:</u>											
Front - setback in feet from lot line or ROW	40	20		5	20	20	20	20	20		
as set by zoning board			X								
fireproof walls w/out windows or other openings	10	2½	0	5	0	0	0	0	2½		
Side - per side in feet walls w/windows or other openings	10		10	5	10	10	10	10			
walls not fireproof		7½							7½		
wall abutts residential or a dwelling	10	7½	5	5	7½	7½	7½	7½	7½		
Privacy fence height in feet						6					
Rear - total feet			10	10	10	10	10	10			
<u>Minimum Floor Area:</u>											

ALCONA COUNTY

MICHIGAN

COMPARATIVE STUDY

TOWNSHIP ZONING ORDINANCES

Item	Alc*	Cal*	Cur	Gre	Gus	Har	Haw	Hay	Mik	Mil	Mit
<u>COMMERCIAL-RESIDENTIAL DISTRICTS:</u>											
<u>Primary Uses:</u>											
One-family dwelling w/3 car garage										X	X
Publicly owned parks & playgrounds w/out bldgs.										X	X
Home Occupations										X	X
Trailer coach during construction of dwelling										X	X
Retail stores & shops, exc. antique shops	X	X								X	X
Personal service shops	X	X								X	X
Business & professional office; banks	X	X								X	X
Radio, TV, plumbing shops	X	X								X	X
Restaurants	X	X								X	X
Multiple dwellings										X	X
Service stations & garages	X	X								S	S
Auto sales & service	X	X								S	S
Drive-Ins	X	X								S	S
Veterinary service & hospitals	X	X								S	S
Recreation & amusement facilities	X	X								S	S
Accessory bldgs & structures	X	X								X	X
<u>Uses by Special Approval:</u>											
Churches & other bldgs. of religious nature										X	X
Schools & other educa- tional bldgs.										X	X
Museums; libraries										X	X
Professional offices										X	X
Publicly owned parks & playgrounds w/bldgs										X	X
Hospitals, clinics, convalescent homes										X	X

* Commercial uses must be adjacent to, but seperated by wall or floor from dwelling unit

S Use by Special Approval

ALCONA COUNTY

MICHIGAN

COMPARATIVE STUDY

TOWNSHIP ZONING ORDINANCES

Item	Alc*	Cal*	Cur	Gre	Gus	Har	Haw	Hay	Mik	Mil	Mit
<u>COMMERCIAL-RESIDENTIAL DISTRICTS:</u>											
<u>Minimum Land Requirements:</u>											
Dwelling units (sq. ft.)										15,000	15,000
Commercial units (sq. ft.)										15000	
Width (feet)										100	100
Depth (feet)											
<u>Minimum Yard Requirements:</u>											
"Dwellings & Principal Bldgs"											
Front-set back in feet from lot line or ROW	40	20								40	40
Side-each side in feet walls not fireproof	10	7½								7½	7½
walls fireproof	10	2½								7½	2½
abuts lot zoned for or with existing dwelling	10	7½								7½	7½
bldgs over 25 ft. add 1 ft. for each added ft. of height										*	*
Rear - total feet											
<u>Minimum Floor Area:</u>											
Dwelling (sq. ft. each unit)										576	576
Principal bldg (sw. ft.)										567	

ALCONA COUNTY
MICHIGAN

COMPARATIVE STUDY

TOWNSHIP ZONING ORDINANCES

Item	Alc*	Cal	Cur	Gre	Gus	Har	Haw	Hay	Mik*	Mil	Mit
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ECONOMIC DEVELOPMENT OR INDUSTRIAL DISTRICTS:

Uses by Special Approval:

Manufacturing	X	X	X	X	X	X	X	X			
Wholesale commercial establishments	X	X	X	X	X	X	X	X			
Wholesale contractor's yard & bldg	X	X			X	X	X	X			
Clothing cleaning estab			X		X	X	X	X			
Waste disposal facilities			X	X	X		X	X			
Junk yards	X	X	X								
Essential services			X		X		X	X			
Gravel pits, extractive industries	X	X	X	X	X	X	X	X			
Sawmills	X	X			X	X	X	X			
Laboratories	X			X							
Commercial Kennels				X							
Research & office facilities	X			X							
Warehouse & storage facilities	X			X							
Auto, tractor, trucking facilities	X										
Public utility generating plants, services; storage yards	X										
Retail uses of an industrial nature				X							
Assembly plants				X							
Metal finishing	X			X							
Facilities for production, processing, cleaning, servicing, testing, repair or storage				X							
Processing of extractive minerals				X							
Temporary bldgs for construction purposes				X							

LAND HAS BEEN DESIGNATED, BUT NO PROVISIONS ARE INCLUDED IN ORDINANCE

* All uses subject to approval by zoning board

ALCONA COUNTY
 MICHIGAN

COMPARATIVE STUDY
 TOWNSHIP ZONING ORDINANCES

Item	Alc	Cal	Cur	Gre	Gus	Har	Haw	Hay	Mik	Mil	Mit
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ECONOMIC DEVELOPMENT OF INDUSTRIAL DISTRICTS:

Minimum Land Requirements:

Minimum Yard Requirements:

Front - set back in feet from lot line or ROW	25	30	20	40	20	20	20	20			
Side - total feet (each side)	5	20	10	20	5	5					
Rear - total feet	10		10	20	10	10					
Privacy fence (height in feet)	6		6	6	6	6					

Minimum Floor Area:

LAND HAS BEEN DESIGNATED, BUT NO PROVISIONS ARE INCLUDED IN ORDINANCE

ALCONA COUNTY
MICHIGAN

COMPARATIVE STUDY

TOWNSHIP ZONING ORDINANCES

Item	Alc	Cal	Cur	Gre	Gus	Har	Haw	Hay	Mik	Mil	Mit
<u>FOREST-RECREATIONAL DISTRICTS:</u>											
<u>Primary Uses:</u>											
Forestry, including pro- duction of forest products	X	X	X	X	X	X	X	X	X	X	X
Harvesting of a native crop	X	X	X	X	X	X	X	X	X	X	X
Parks; playgrounds; hunting; fishing	X	X	X	X	X	X	X	X	X	X	X
Cabins or cottages				X	X	X	X	X	X	X	
Snowmobiling; winter sports	X										
Cabins or cottages - limited occupancy	X		X							X	X
Dams; transmission lines; substations				X							
Public buildings				X							
One-family dwelling				X					X		
Accessory bldgs & structures	X	X		X	X	X	X	X	X	X	X
<u>Uses by Special Approval:</u>											
Forest recreational enterprises	X	X	X	X	X	X	X	X	X	X	X
Mines; quarries; gravel pits	X	X	X		X	X	X	X	X	X	X
Camps; clubs	X	X	X		X	X	X	X	X	X	X
Individual trailer coaches	X	X	X	X	X	X	X	X	X	X	X
Year-round occupancy dwellings	X	X	X							X	X
Utility storage yards				X							
Private landing fields										X	X

ALCONA COUNTY
MICHIGAN

COMPARATIVE STUDY

TOWNSHIP ZONING ORDINANCES

Item	Alc	Cal	Cur	Gre	Gus	Har	Haw	Hay	Mik	Mil	Mit
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FOREST-RECREATIONAL DISTRICTS:

Minimum Land Requirements:

One-family dwelling (sq. ft.)	20, 000	20 acres	15, 000	43, 560	62, 500	45, 000		15, 000	15, 000	15, 000	15, 000
Width (feet)		500		150							
Depth (feet)											

Minimum Yard Requirements:

Front-set back in feet from lot line or ROW	40	40	40	50	40	40		40	40	40	40
from waterway	40							70			
Side - per side in feet	10	7½*	7½	20	7½	10		7½	7½	7½	7½
Rear - total feet		5&10		35	7½	10		7½			

Minimum Floor Area:

Dwelling (sq.ft.per unit)			576	750	400	400	400	400	576	500	400
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* Either of the requirements listed; also for buildings exceeding 25 ft. in height, an additional foot for each foot in excess of such height.

ALCONA COUNTY
MICHIGANCOMPARATIVE STUDY
TOWNSHIP ZONING ORDINANCES

Item	Alc	Cal	Cur	Gre	Gus	Har	Haw	Hay	Mik	Mil	Mit
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GREEN-BELT DISTRICTS:Primary Uses:

One-family dwelling										X	X
Parks & playgrounds										X	X
Plats										X	X
Detached accessory bldg max. height 12 ft.										X	X
Clubs										X	X
Guest houses											X

Minimum Land Requirements:

Dwellings (sw. ft.)											20, 000
Width (feet)											100
Depth (feet)											200

Maximum Height-Bldgs:

2½ stories or 35 ft.											X	X
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Minimum Yard Requirements:

Front-setback in feet from waterway											100
----------------------------------------	--	--	--	--	--	--	--	--	--	--	-----

Side

Rear

Minimum Floor Area:

ALCONA COUNTY
MICHIGAN

COMPARATIVE STUDY

TOWNSHIP ZONING ORDINANCES

Item	Alc	Cal	Cur	Gre	Gus	Har	Haw	Hay	Mik	Mil	Mit
<u>RESIDENTIAL DISTRICTS:</u>											
<u>Primary Uses:</u>											
One-family dwelling w/garage	X	X		X							
One-family dwelling w/max. 3 car garage			X		X	X	X	X	X		
Two-family dwelling w/max. 3 car garage for each			X								
Publicly owned parks & playgrounds w/out bldgs.	X	X	X	X	X	X	X	X	X		
Home occupations	X	X			X	X	X	X	X		
Professional offices					X	X	X	X			
Trailer coach during construction of dwelling	X	X			X	X	X	X	X		
Accessory bldgs & structures	X	X	X	X	X	X	X	X	X		
<u>Uses by Special Approval:</u>											
Multiple dwellings					X	X	X	X			
Publicly owned parks & playground w/bldgs.	X	X								X	
Home occupations			X								
Professional offices	X	X	X							X	
Churches & other bldgs of a religious nature	X	X	X	X	X	X	X	X	X	X	
Schools & other educa- tion bldgs.	X	X	X	X	X	X	X	X	X	X	
Hospitals & sanitariums			X		X	X	X	X			
Museums & libraries	X	X	X		X	X	X	X		X	
Community bldgs & cemeteries			X	X	X	X	X	X			
Fire & police stations; water & sewage plants			X		X	X	X	X			
Recreation bldgs; swim- ing pool; golf courses				X							
Temporary bldgs. & uses for construction				X							
Horses for private use								X			

ALCONA COUNTY
MICHIGAN

COMPARATIVE STUDY

TOWNSHIP ZONING ORDINANCES

Item	Alc	Cal	Cur	Gre	Gus	Har	Haw	Hay	Mik	Mil	Mit
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RESIDENTIAL DISTRICTS:Minimum Land Requirements:

One-family dwellings (sq. ft.)	20, 000	15, 000	12, 000	9, 600	25, 000	15, 000	12, 000	12, 000	15, 000		
Two-family dwellings (sq. ft.)			12, 000								
Width (feet)	100	100	85	80	100	100	80	80	100		
Depth (feet)			185		150	150	150	150			
Horses (acres)								2½			

Minimum Yard Requirements:

Front-set back in feet from lot line or ROW	40	40	25	25	40	40	40	40	40		
from waterway	40	40						70			
Side-total feet (both sides)	20	15	10	15	15	20	15	15	15		
least on one side	10	5	5	5	7½	10	7½	7½	7½		
bldgs. over 25 ft. add * 1 ft. for each added ft. of height		*	*							*	
Rear-total feet		7½	5	35	7½	10	7½	7½			

Minimum Floor Area:

One-family dwelling (sq. ft.)	700	576	576	1050	576	576	576	576	576		
Two-family dwellings (sq. ft. each unit)			576								
Horse housing (sq. ft.)								100			

Maximum % of Lot Coverage: 35

ALCONA COUNTY
MICHIGANCOMPARATIVE STUDY
TOWNSHIP ZONING ORDINANCES

Item	Alc	Cal	Cur	Gre	Gus	Har	Haw	Hay	Mik	Mil	Mit
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RESORT-RESIDENTIAL DISTRICTS:Primary Uses:

One-family dwelling w/max 3 car garage										X	X
Publicly owned parks & playgrounds w/out bldgs.			X							X	X
Home Occupations										X	
Trailer coach during construction of dwelling										X	
One-family dwellings & cottages			X								
Docks & boathouses			X								
Non-profit recreational waterside development			X								
Multiple dwellings and/ or motels											X
Sports			X								
Scenic or wooded areas; areas of unusual topography			X								
Historic sites			X								
Forest products, indus- tries, nurseries			X								
Hunting, fishing, trapping			X								
Camping areas											X
Accessory bldgs & structures			X							X	X

Uses by Special Approval:

Commercial enterprises relating to recreation			X							X	X
Retail stores & shops			X								
Personal service shops										X	X
Recreational camps & clubs			X							X	X
Trailer coach or mobile home residential dev			X							X	X
Boat liveries, marines, launching ramps			X								
Golf courses, country clubs, miniature golf			X								
Trailer coach parks			X								
Restaurants			X								

LISTED AS A DISTRICT, BUT NO PROVISIONS IN THE ORDINANCE

ALCONA COUNTY
MICHIGAN

COMPARATIVE STUDY

TOWNSHIP ZONING ORDINANCES

Item	Alc	Cal	Cur	Gre	Gus	Har	Haw	Hay	Mik	Mil	Mit
<u>RESORT-RESIDENTIAL DISTRICTS:</u>											
<u>Minimum Land Requirements:</u>											
One-family dwellings (sq. ft.)			12, 000							15, 000	15, 000
Width (feet)			65							75	75
Depth (feet)			185								
<u>Minimum Yard Requirements:</u>											
Front-set back in feet from lot line or ROW			25							40	40
from waterway on a high bank			25							50	50
										30	30
Side-each side in feet			5							7½	7½
Rear-total feet			5								
<u>Minimum Floor Area:</u>											
One-family dwelling (sq. ft.)			576								
Trailer coach (sw. ft.)										576	576

LISTED AS A DISTRICT, BUT NO PROVISIONS IN THE ORDINANCE

ALCONA COUNTY
MICHIGAN

COMPARATIVE STUDY

TOWNSHIP ZONING ORDINANCES

Item	Alc	Cal	Cur	Gre	Gus	Har	Haw	Hay	Mik	Mil	Mit
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TRAILER HOMESITE DISTRICTS:Primary Uses:

Trailer coaches				X							
Existing one-family dwellings				X							
Publicly owned parks & recreational facilities				X							
Temporary bldgs & uses for construction				X							
Recreation bldgs; swimming pools; golf courses				X							
Occupancy load: cu ft per occupant				300							
Concrete apron: 4 inches thick & min. 24 inches wide				X							
Fuel oil & gas tanks: not be visible from street				X							
Must be skirted or placed on permanent foundation				X							

ALCONA COUNTY
MICHIGAN

COMPARATIVE STUDY

TOWNSHIP ZONING ORDINANCES

Item	Alc	Cal	Cur	Gre	Gus	Har	Haw	Hay	Mik	Mil	Mit
<u>Minimum Land Requirements:</u>											
Trailer coach (sq. ft.)				6,000							
Width (feet)				50							
Depth (feet)											
<u>Minimum Yard Requirements:</u>											
Front-setback in feet				25							
Side-total feet (both sides)				12							
least on one side				3							
Rear-total feet				35							
<u>Minimum Floor Area Per Unit:</u>											
(sq. ft.)				600							
<u>Maximum % Lot Coverage:</u>											
				35							

ALCONA COUNTY
MICHIGANCOMPARATIVE STUDY
TOWNSHIP ZONING ORDINANCES

Item	Alc	Cal	Cur	Gre	Gus	Har	Haw	Hay	Mik	Mil	Mit
<u>ADMINISTRATIVE PROVISIONS:</u>											
Zoning Administrator			X	X	X	X	X	X			
Building Permit				X							
Certificate of Approval	X	X	X		X	X	X	X	X	X	X
Certificate of Compliance	X	X	X	X	X	X	X	X	X	X	X
Fees	X	X	X	X	X	X	X	X	X	X	X
Board of Appeals	X	X	X	X	X	X	X	X	X	X	X
membership	X			X	X		X	X			
powers	X	X		X	X	X	X	X	X	X	X
meetings	X			X	X		X	X			
procedures	X	X		X	X	X	X	X	X	X	X
decisions	X			X	X		X	X			
Zoning Board				X							
membership				X							
meetings				X							
special fees				X							
Amendments	X		X	X	X		X	X	X		
Violations, Enforcement & Penalties	X	X	X	X	X	X	X	X	X	X	X
Spot Zoning			X		X		X	X			

REFERENCES:

- "Alcona Township Zoning Ordinance." Alcona County Review,
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- "Caledonia Township Zoning Ordinance." Alcona County Review,
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- "Curtis Township Interim Zoning Ordinance." Alcona County Review,
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- "Curtis Township Zoning Ordinance." Alcona County Review,
May 1, 1975, p. 3.
- "Greenbush Township Zoning Ordinance." Alcona County Review,
April 18, 1974, p. 4.
- "Gustin Township Zoning Ordinance." Alcona County Review,
April 11, 1974, p. 3.
- "Harrisville Township Zoning Ordinance." Alcona County Review,
December 19, 1974, p. 3.
- Hawes Township Zoning Board. Hawes Township Zoning Ordinance.
July 24, 1973.
- "Haynes Township Zoning Ordinance." Alcona County Review,
December 16, 1971, p. 3.
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May 2, 1968, p. 3.
- "Millen Township Zoning Ordinance." Alcona County Review,
May 31, 1973, p. 3.
- Mitchell Township Zoning Board. Mitchell Township Zoning Ordinance.
- "Zoning Ordinance for City of Harrisville." Alcona County Review,
March 23, 1950.

APPENDIX II
 INTERPRETATIONS OF GENERAL SOIL MAP
 ALCONA COUNTY, MICHIGAN 1/

MAP SYMBOL	BRIEF DESCRIPTION OF SOIL ASSOCIATION	MAJOR SERIES & APPROXIMATE PERCENT EACH 2/	DOMINANT SLOPE	SUITABILITY FOR			DEGREE OF LIMITATIONS FOR			MAJOR MANAGEMENT PROBLEMS IN THE SOIL ASSOCIATION	
				GENERAL FARMING 3/	FORESTRY 4/	RECREATION 5/	RESIDENTIAL DEVELOPMENT 6/	FIELD CROPPING	RESIDENTIAL DEVELOPMENT		
1.	These are primarily nearly level to undulating, well drained sandy soils. Areas of these soils are popularly designated as jack pine plains. Broad areas are relatively level, broken only by drainage channels, random small pit depressions and pothole bogs. Swamp borders occupied by moderately well drained and somewhat poorly drained soils are also included in this association. Local areas are gravelly. Major soils in this association have low natural fertility, low available water capacity, and rapid permeability. This soil association comprises about 17 percent of the county or 70,500 acres.	Grayling - 50% Rubicon - 30% Croswell - 10% AuCres - 5% (Rating for Soil Association)	0 - 6% 0 - 6% 0 - 4% 0 - 2%	Poor Poor Fair Fair Poor	Poor Good Good Fair Good-Poor	Moderate Moderate Moderate Moderate Moderate	Slight Slight Severe Severe Slight	1. Droughtiness. 2. Low natural fertility. 3. Soil blowing.	1. Possible pollution of ground water supplies by effluent. 2. Difficult to maintain sod without irrigation.		
2.	This soil association is comprised of the network of narrow ridges and swales that border the Lake-Huron shoreline. Principal soils on the ridges consist of well drained sands. Poorly drained sandy soils and very poorly drained organic soils occupy the intervening swales. Nearby sandy, gravelly and cobbly beaches are also included in this association. Soils in this association have low natural fertility, low available water capacity, and rapid permeability. This soil association accounts for about 1 percent of the county or 5,000 acres.	Rubicon - 30% Eastport - 25% Roscommon - 25% Tawas - 15% (Organic) (Rating for Soil Association)	0 - 18% 0 - 6% 0 - 2% 0 - 2%	Poor Poor Poor Poor Poor	Good Good Poor Poor Good-Poor	Moderate-Severe Moderate Severe Severe-Very Severe Moderate-Severe	Slight-Severe Slight Very Severe Slight-Severe	1. Droughtiness. 2. Low natural fertility. 3. Soil blowing.	1. Sloping areas. 2. Erosion and sediment damage. 3. Possible pollution of ground water supplies by effluent. 4. Seasonal high water table. (Roscommon, Tawas)		

See Footnotes on last page of this table

INTERPRETATIONS OF GENERAL SOIL MAP
ALCONA COUNTY, MICHIGAN 1/

MAP SYMBOL	BRIEF DESCRIPTION OF SOIL ASSOCIATION	MAJOR SERIES & APPROXIMATE PERCENT EACH 2/	DOMINANT SLOPE	SUITABILITY FOR			DEGREE OF LIMITATIONS FOR		MAJOR MANAGEMENT PROBLEMS IN THE SOIL ASSOCIATION	
				GENERAL FARMING 3/	FORESTRY 4/	RECREATION 5/	RESIDENTIAL DEVELOPMENT 6/	FIELD CROPPING	RESIDENTIAL DEVELOPMENT	
3.	These are mainly undulating to hilly, well drained sandy soils on uplands. Enclosed valleys, benches, and plateau-like areas are included. Small lakes and muck-filled depressions also occur at random throughout the areas. Major soils in this association formed in deep sand, in places containing small amounts of loamy material or gravel. These soils have moderately low to low natural fertility and low available water capacity. Permeability is rapid. This soil association accounts for about 16 percent of the county or 67,000 acres.	Grayling - 30% Graycalm - 30% Montcalm - 25% Associated poorly drained and very poorly drained soils - 10% Roscommon Tawas Greenwood (Rating for Soil Association)	2 - 18% 6 - 25% 2 - 12%	Poor Fair-Poor Fair Poor Fair-Poor	4/ Poor Good Good Poor Good-Poor	5/ Moderate-Severe Moderate-Severe Slight-Moderate Severe-Very Severe Moderate-Severe	6/ Slight-Severe Moderate-Severe Slight-Moderate Severe-Very Severe Slight-Severe	1. Droughtiness. 2. Low natural fertility. 3. Water erosion.	1. Sloping areas. 2. Erosion and sediment damage. 3. Sidehill seepage from onsite sewage facilities.	
4.	These are undulating to rolling sandy and loamy soils on uplands. Typical areas have broad smooth slopes with locally steeper areas bordering drainage channels. Major soils are well drained or moderately well drained. Small depressions and swales, occupied by darker colored more poorly drained soils are also included. Soils in this association have medium to moderately high natural fertility, and available water capacity. Permeability ranges from moderately rapid to moderately slow. This soil association occupies about 7 percent of the county or 29,000 acres.	Emmet - 45% Onaway - 30% Associated somewhat poorly to very poorly drained soils - 20% Mackinac Angelica Carbondale (Organic) (Rating for Soil Association)	2 - 12% 2 - 12%	Good-Fair Good-Fair Good-Poor Good-Fair	Good Good Good-Poor Good	Slight Slight-Moderate Severe-Very Severe Slight-Moderate	Slight Moderate Severe-Very Severe Slight-Moderate	1. Soil blowing. 2. Water erosion.	1. Erosion and sediment damage. 2. Restricted permeability. 3. Sidehill seepage from onsite sewage facilities.	

INTERPRETATIONS OF GENERAL SOIL MAP
ALCONA COUNTY, MICHIGAN 1/

MAP SYMBOL	BRIEF DESCRIPTION OF SOIL ASSOCIATION	MAJOR SERIES & APPROXIMATE PERCENT EACH 2/	DOMINANT SLOPE	SUITABILITY FOR			DEGREE OF LIMITATIONS FOR		MAJOR MANAGEMENT PROBLEMS IN THE SOIL ASSOCIATION	
				GENERAL FARMING 3/	FORESTRY 4/	RECREATION 5/	RESIDENTIAL DEVELOPMENT 6/	FIELD CROPPING	RESIDENTIAL DEVELOPMENT	
5.	These are dominantly undulating to rolling, well drained sandy and loamy soils on the uplands that roughly parallel the Lake Huron shoreline. Typical areas have a billow or hummocky surface relief. Locally, steeper areas border drainageways and include the escarpment-like features facing the lakeshore. Soils in this association have medium to moderate low natural fertility and available water capacity. Permeability is moderate to moderately rapid. This soil association accounts for slightly less than 2 percent of the county or about 7,000 acres.	Rousseau - 30% Alcona - 30% Montcalm - 25% Emmet - 10% (Rating for Soil Association)	2 - 12% 2 - 12% 2 - 12% 2 - 12%	Fair Good-Fair Fair Good-Fair Good-Fair	Good Good Good Good Good	Moderate Slight-Moderate Moderate Slight-Moderate Slight-Moderate	Slight-Moderate Slight-Moderate Slight-Moderate Slight-Moderate Slight-Moderate	1. Droughtiness. 2. Soil blowing. 3. Water erosion.	1. Erosion and sediment damage. 2. Sidehill seepage from onsite sewage facilities.	
6.	This soil association comprises the undulating to steep sandy and loamy soils on complex rolling areas and hills. Enclosed valleys, bench-like features, and upland plateaus occur in places. Local areas are stony or gravelly. Major soils in this association are well drained. They range from medium to moderately low or low in natural fertility and available water capacity. Permeability ranges from moderate to rapid. This soil association occupies about 25 percent of the county or 105,000 acres.	Montcalm - 40% Emmet - 25% Kalkaska - 20% Associated somewhat poorly to very poorly drained soils. - 10% Iosco Brevort Carbondale (Rating for Soil Association)	2 - 25% 2 - 18% 2 - 18%	Fair-Poor Good-Fair Fair Fair-Poor Fair-Poor	Good Good Fair Fair-Poor Fair-Poor	Slight-Severe Slight-Severe Slight-Severe Moderate-Severe Moderate-Severe	Slight-Severe Slight-Severe Slight-Severe Severe-Very Severe Slight-Severe	1. Droughtiness. 2. Soil blowing. 3. Water erosion.	1. Erosion and sediment damage. 2. Sidehill seepage from onsite sewage facilities. 3. Sloping areas.	

INTERPRETATIONS OF GENERAL SOIL MAP
ALCONA COUNTY, MICHIGAN 1/

MAP SYMBOL	BRIEF DESCRIPTION OF SOIL ASSOCIATION	MAJOR SERIES & APPROXIMATE PERCENT EACH 2/	DOMINANT SLOPE	SUITABILITY FOR			DEGREE OF LIMITATIONS FOR		MAJOR MANAGEMENT PROBLEMS IN THE SOIL ASSOCIATION	
				GENERAL FARMING 3/	FORESTRY 4/	RECREATION 5/	RESIDENTIAL DEVELOPMENT 6/	FIELD CROPPING	RESIDENTIAL DEVELOPMENT	
7.	These are nearly level to undulating soils that formed in silty and loamy deposits. These soils occupy broad relatively smooth positions in the landscape. They are generally free of stones and gravel. Small areas consist of 20 to 40 inches of sandy deposits overlying loamy material. Principal soils are well drained to somewhat poorly drained. Included are some slight depressions and drainageways occupied by darker colored, poorly drained soils. Major soils are medium to moderately high in natural fertility and available water capacity. Permeability is moderate to moderately slow. This soil association accounts for slightly less than 1 percent of the county or 3,500 acres.	Bohemian - 30% Brimley - 25% Bowers - 20% Bruce - 10% Menominee - 10% (Rating for Soil Association)	2 - 6% 2 - 6% 2 - 6% 0 - 2% 2 - 12%	Good Good Good Good Fair Good	Good Good Good Fair Good Good	Slight Moderate-Severe Moderate-Severe Severe Slight Slight-Severe	Slight Severe Severe Severe Moderate Severe	1. Wetness. 2. Tilt maintenance. 3. Water erosion.	1. Seasonal high water table. 2. Restricted percolation. 3. Erosion and sediment damage. 4. Unstable material.	
8.	These are nearly level to undulating loamy and clayey soils. The gently sloping higher-lying soils in the landscape are well drained or moderately well drained. Intervening flats, swales, and drainageways are occupied by darker colored, somewhat poorly or poorly drained soils. Included in places are sandy deposits overlying loamy material. Major soils in this association have moderately high natural fertility and available water capacity. Permeability is moderately slow to slow. This soil association comprises about 3 percent of the county or 11,000 acres.	Nester - 30% Kawkawlin - 30% Sims - 15% Iosco - 5% Brevort - 5% (Rating for Soil Association)	2 - 6% 0 - 6% 0 - 2% 0 - 3% 0 - 2%	Good Good Good Fair Fair Good	Good Good Good Fair Poor Good	Slight-Moderate Moderate-Severe Severe Moderate Severe Slight-Severe	Severe Severe Severe Severe Severe Severe	1. Tilt maintenance. 2. Wetness. 3. Water erosion.	1. Erosion and sediment damage. 2. Restricted percolation. 3. Seasonal high water table.	

INTERPRETATIONS OF GENERAL SOIL MAP
ALCONA COUNTY, MICHIGAN 1/

MAP SYMBOL	BRIEF DESCRIPTION OF SOIL ASSOCIATION	MAJOR SERIES & APPROXIMATE PER-CENT EACH 2/	DOMINANT SLOPE	SUITABILITY FOR			DEGREE OF LIMITATIONS FOR		MAJOR MANAGEMENT PROBLEMS IN THE SOIL ASSOCIATION	
				GENERAL FARMING 3/	FORESTRY 4/	RECREATION 5/	RESIDENTIAL DEVELOPMENT 6/	FIELD CROPPING	RESIDENTIAL DEVELOPMENT	
9.	These soils consist of the loamy to clayey soils on the undulating to rolling uplands. Typical areas have relatively broad smooth ridges lying between entrenched drainage channels. The side slopes of these drainage channels are shorter and somewhat steeper. Local areas have 20 to 40 inches of sandy deposits overlying the loamy material. Major soils in this association have moderately high natural fertility. In cultivated areas, increased runoff has resulted in some erosion and loss of fertility and available water capacity. Permeability is moderately slow. This soil association comprises about 7 percent of the county or 32,000 acres.	Nester - 45% Nester - 15% Ubyly - 15% Menominee - 5% Associated somewhat poorly to very poorly drained soils - 20% Kawkawlin Sims Brevort Linwood (Organic) (Rating for Soil Association)	2 - 12% 12 - 25% 2 - 12% 2 - 12%	Good-Fair Fair-Poor Good-Fair Fair	Good Good Good Good Fair-Poor Fair	Slight-Moderate Severe Slight-Moderate Slight-Moderate Severe-Very Severe Slight-Severe	Severe Severe Severe Moderate Severe-Very Severe Severe-Very Severe	1. Water erosion 2. Tilt maintenance. 3. Wetness. (Kawkawlin) (Sims) (Brevort) (Linwood)	1. Sloping areas. 2. Erosion and sediment damage. 3. Restricted percolation. 4. Sidehill seepage from onsite sewage facilities.	
10.	These are nearly level to gently undulating, somewhat poorly drained and poorly drained sandy soils. They have a dark colored surface layer that is high in organic matter. Most areas are underlain by loamy or clayey material at 20 to 40 inches in depth. These soils occupy the low-lying swampy areas bordering the more loamy soils of the till plains. They have moderately low natural fertility and available water capacity. Permeability is rapid in the upper sandy layers and moderately slow in the finer textured underlying material. This soil association accounts for about 5 percent of the county or 21,200 acres.	Brevort - 50% Iosco - 25% Associated poorly and very poorly drained soils - 20% Sims Linwood (Organic) (Rating for Soil Association)	0 - 2% 0 - 4% 0 - 2% 0 - 2%	Fair Fair Fair Fair	Poor Fair Fair-Poor Fair-Poor	Severe Moderate Severe-Very Severe	Severe Severe Severe-Very Severe Severe	1. Wetness. 2. Droughtiness. (When water table is lowered) 3. Soil blowing.	1. Seasonal high water table. 2. Possible pollution of ground water supplies by effluent. 3. Restricted percolation in underlying material.	

See Footnotes on last page of this table

INTERPRETATIONS OF GENERAL SOIL MAP
ALCONA COUNTY, MICHIGAN 1/

MAP SYMBOL	BRIEF DESCRIPTION OF SOIL ASSOCIATION	MAJOR SERIES & APPROXIMATE PERCENT EACH 2/	DOMINANT SLOPE	SUITABILITY FOR			DEGREE OF LIMITATIONS FOR		MAJOR MANAGEMENT PROBLEMS IN THE SOIL ASSOCIATION	
				GENERAL FARMING 3/	FORESTRY 4/	RECREATION 5/	RESIDENTIAL DEVELOPMENT 6/	FIELD CROPPING	RESIDENTIAL DEVELOPMENT	
11.	This soil association consists primarily of nearly level, somewhat poorly and poorly drained deep sandy soils. These soils commonly occupy the borders of lakes and swamps. Typical areas have little surface relief except for random low discontinuous ridges and knolls occupied by some-what better drained sandy soils. Soils in this association have low natural fertility and available water capacity. Permeability is rapid. These soils comprise about 2 percent of the county or 9,800 acres.	AuGres - 35% Roscommon - 35% Croswell - 10% Rubicon - 5% Associated very poorly drained soils - 10% Carbondale Tawas (Rating for Soil Association)	0 - 2% 0 - 2% 0 - 4% 0 - 6% 0 - 2% 0 - 2%	Fair Poor Fair Poor Poor Fair-Poor	Fair Poor Good Good Poor Fair-Poor	Moderate Severe Moderate Moderate Very Severe Moderate-Severe	Severe Severe Severe Slight Very Severe Severe	1. Wetness. 2. Droughtiness. (When water table is lowered) 3. Low natural fertility. 4. Soil blowing.	1. Seasonal high water table. 2. Possible pollution of ground water supplies by effluent. 3. More suitable soils (Rubicon) are limited by size and shape of individual areas.	
12.	Soils in this association are dominantly organic in nature, composed of plant remains from trees, grasses, sedges, and other wetland vegetation. Organic deposits range from 1 to 25 feet or more in depth. These soils occur in drainage channels, marshes, and swamps. They are wet most of the year. A minor acreage of poorly drained sandy soils, bordering these marshes and swamps, are included in this association. These soils are low in natural fertility and presently produce little useable vegetation. Permeability is moderately rapid to rapid. This soil association comprises about 14 percent of the county or 59,000 acres.	Carbondale - 40% Lupton - 30% Linwood - 15% Tawas - 10% (Rating for Soil Association)	0 - 2% 0 - 2% 0 - 2% 0 - 2%	Poor Poor Fair Poor Poor	Poor Poor Poor Poor Poor	Very Severe Very Severe Very Severe Very Severe Very Severe	Very Severe Very Severe Very Severe Very Severe Very Severe	1. Wetness. 2. Soil blowing. 3. Frost hazard. 4. Low natural fertility.	1. High water table. 2. Flood hazard. 3. Unstable material. 4. Uneven settling.	

See Footnotes on last page of this table

FOOTNOTES TO TABLE

1. This map, developed by the Soil Conservation Service, shows generalized soil information and is not suitable for detailed planning. It provides useful information for general planning only.
2. Soil names are subject to change upon correlation and publication of detailed soil surveys. This column may not total 100 percent, as only major soils in each association are rated.
3. Refers to farming operations that may vary in land use, degree of mechanization or intensity of production.
4. Refers to sustained production of marketable timber.
5. Emphasis on intensive recreation activity. Example: Playgrounds, picnic areas, and golf courses.
6. Refers to intensive development common to subdivisions. Onsite sewage facilities are assumed.