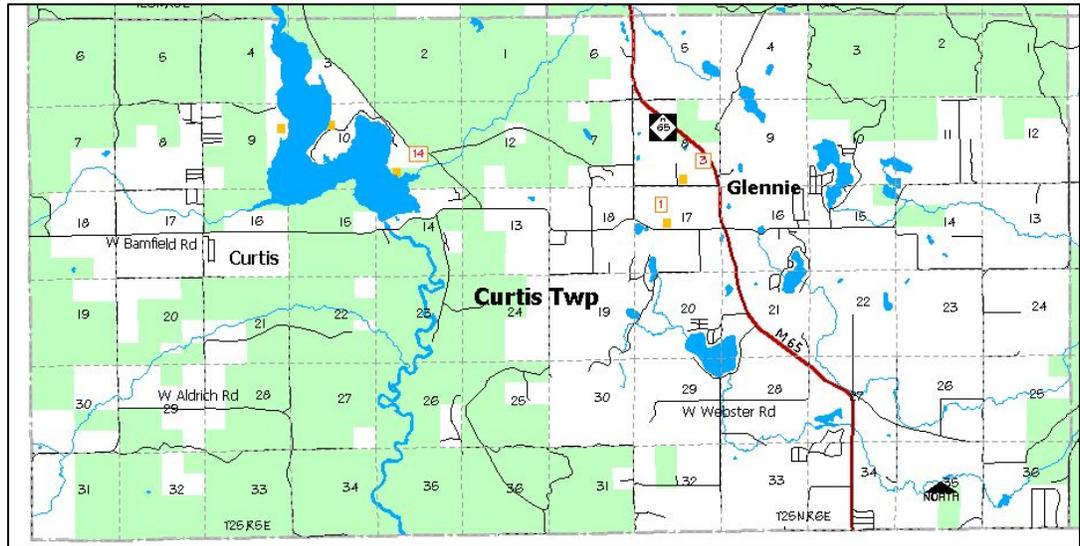


Curtis Township Alcona County



Adopted

Planning Commission: March 21, 2007

Township Board: April 12, 2007

Prepared with the assistance of:
Northeast Michigan Council of Governments
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Gaylord, Michigan 49735



CURTIS TOWNSHIP MASTER PLAN

Curtis Township

Alcona County, Michigan

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ACKNOWLEDGEMENTS

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CURTIS TOWNSHIP
MASTER PLAN

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Chapter 1 - Introduction

Purpose and Planning Process

The purpose of the Curtis Township Land Use Master Plan is to provide guidelines for future development within the community, while protecting the natural resources and rural township character. The master plan provides a legal foundation for the Township Zoning Ordinance. The Township Planning Act 168 of 1959 authorizes townships to develop comprehensive or master plans. As stated in the enabling legislation : The purpose of plans prepared pursuant to this act shall be to promote public health, safety and general welfare; to encourage the use of resources in accordance with their character and adaptability; to avoid the overcrowding of land by buildings or people; to lessen congestion on public roads and streets; to facilitate provision for a system of transportation, sewage disposal, safe and adequate water supply, recreation and other public improvements; and to consider the character of each township and its suitability for particular uses judged in terms of such factors as the trend in land and population development.

This plan presents background information on social and economic data, natural resources, existing community services and facilities, and existing land uses. The background information is used to identify important characteristics, changes and trends in Curtis Township. A special community workshop was held to gather input from residents and landowners. Based on information gathered at this workshop and the background data, the Township Planning Commission developed goals and objectives. These goals and objectives, along with a series of maps including soils, ownership, existing land use, and zoning, provide the basis for the Future Land Use Map. The future land use map recommends locations for various types of future development within the Township.

The Curtis Township Planning Commission developed Master Plan with the assistance from the Northeast Michigan Council of Governments (NEMCOG). This plan looks at a twenty year planning horizon, with suggested revisits every five years or sooner if needed. A series of planning workshops were held over the two year period. All workshops were open meetings with public welcomed and encouraged to comment on the plan.

Location and Regional Setting

Curtis Township is located in the southwestern part of Alcona County. The County is located in the northeastern lower peninsula of Michigan. The adjacent map shows the location of the Township. Iosco County borders Curtis Township to the south, and Oscoda County to the west. Mitchell and Millen Townships border the Township to the north, and Mikado Township to the east, which are all in Alcona County. The Township geographic area covers nearly 71 square miles. Figure 1.1 shows a base map of Curtis Township that depicts roads, ownership, public lands and water features.



Brief History

The history of Curtis Township shows a chronological progression from pre-settlement virgin hardwood and pine forests to fairly intense lumbering followed by farming; and today a quite rural community with a mix of year round and seasonal residences that provides an abundance of outdoor recreational opportunities. Curtis Township was formed and organized in 1881 by the Alcona County Board of Supervisors. The Township was named after Ebenezer Curtis, the areas first settler. At that time Curtis Township was experiencing a lumbering boom. Most jobs within the community were associated with lumbering and processing of forest products. In the early 1930's the timber resources were exhausted and the local economy shifted to farming. However, with the short growing season and marginal soils, the importance of farming in the local economy has waned, while tourism has increased in importance. Year round residents generally work in other communities like Harrisville, Lincoln, Mio, Oscoda, Tawas and West Branch. The seasonal residents are either retirees who spend the summer months in the area or persons who own recreational properties "up north" and may spend weekends and vacations in the area.

The Status of Planning and Zoning

Under the authorization of the Township Planning Act 168 of 1959, Curtis Township developed its first Master Plan in the late 1970's. The plan has not been updated since its adoption. Following adoption of the Master Plan, Curtis Township adopted a zoning ordinance in accordance with the provisions of the Township Act 184 of 1943. The zoning ordinance has been amended a number of times since its initial adoption.

Chapter 2 - Socio-Economic Profile

Overview

One of the most important steps in understanding the future needs of a community is an analysis of population, households, housing, income, education and employment characteristics. Most of the information presented in this chapter is derived from the U. S. Census Bureau.

Population

The 2000 Census showed Alcona County with a population of 11,719. The county population density averages 17.4 persons per square mile, however, higher densities exist within the communities of Harrisville, Lincoln and Lost Lake Woods and around major water bodies such as Hubbard Lake and coastline Lake Huron (**Table 2.1**). The county population has nearly doubled since 1960. The population of the county has increased every decade since 1930. Prior to 1960 the county experienced moderately low growth, growing by less than 500 people each decade. The largest population increase was 36.9 percent (2,627 people) recorded between 1970 and 1980. Since 1990 there has been an increase in population of 15.5 percent (1,574 persons). Although not the fastest growing of the eight counties that make up the Northeast Region, Alcona County did experience a moderate rate of growth during the last decade.

Population by Municipality

Curtis Township had a population increase of 22.2% between 1990 and 2000. Growing by 249 persons, the township experienced the fourth highest growth rate in the county. The township exceeded the overall growth rate of Alcona County by 6.7%.

Seasonal Population

Seasonal populations can have a significant impact on communities. Seasonal residents may include retirees that winter in the south or second home owners. Obtaining accurate numbers of seasonal residents and tourists is difficult. It is important to note the U. S. Census population figures do not include most of the seasonal population of the County. Since the census is taken in April, persons whose primary home is elsewhere are not counted in Alcona County. However, the US Census does report seasonal structures. Curtis Township has a high percentage of seasonal dwellings at 57.6% (924 units). These figures indicate that the township's resident population can significantly increase during peak periods in the summer months. Using the 2.25 persons per household figure for Curtis Township and the seasonal homes number, peak seasonal population could increase by approximately 2079 persons; thereby more than doubling the population of the township. This figure does not include those seasonal visitors or tourists staying in area motels, campgrounds or family homes. Special recreational events such as opening of deer hunting, salmon and trout fishing seasons can greatly increase this transient population.

Municipality	1990 Population	2000 Population	Population Change 1990-2000	Percent Change 1990-2000
Curtis Township	1,129	1,378	249	22.2%
Alcona Township	906	1,089	183	20.2%
Caledonia Township	987	1,203	216	21.9%
Greenbush Township	1,373	1,499	126	9.2%
Gustin Township*	823	832	9	1.1%
Harrisville Township	1,315	1,411	96	7.3%
Hawes Township*	1,035	1,167	132	12.8%
Haynes Township	549	724	175	31.9%
Lost Lake Woods CDP**		339		
Mikado Township	852	1043	191	22.4%
Millen Township	417	463	46	11.0%
Mitchell Township	290	396	106	36.6%
City of Harrisville	470	571	47	9.4%
Village of Lincoln	337	364	27	8.0%
Alcona County	10,145	11,719	1,574	15.5%
Source: U.S. Bureau of the Census				
* Includes parts of Village of Lincoln				
** Count also included in Alcona Township				

Population Projections

Population projections compiled by Northeast Michigan Council of Government (NEMCOG) predict the county's population will grow to 13,220 persons by the year 2010. Population is projected to grow to approximately 14,863 persons by the year 2020. Communities planning for this projected growth should consider natural and manmade hazards when directing location and density of development.

Age

2000 census data shows that 55.5 percent of Alcona County's population was 45 years old or older (**Table 2.2**). The breakdown of the County's population by age grouping shows a loss in numbers of persons in the "under 5 years" and "20-24 years" age groups. The "25-44" and "45-64 years" age groups gained the most persons over the last decade, increasing by 1,184 and 1,024 respectively. There was also a small gain in the "5-19" age group which increased by 105 persons. The median age of residents in Alcona County increased 4.2 years to 49 during the period 1990-2000 (**Table 2.2**). This is a similar increase, but is still 13.5 years older than the median age for the State which increased from 32.5 to 35.5 years. This increase in the median age can be attributed to the existing population getting older and the inward migration of retirees that are selling their primary year round residences and moving "north" to their seasonal homes. All of the County's municipalities had older median age figures than the State. Curtis Township closely resembles the County in terms of median age which are 50.4 and 49 years respectively.

Age	1990	% of Total Pop.	2000	% of Total Pop
Under 5	515	5.1%	505	4.3%
5-19	1822	17.4%	1,927	16.2%
20-24	438	4.3%	330	2.8%
25-44	1,271	22.8%	2,455	20.9%
45-64	2,612	25.7%	3,636	31.0%
65+	2,443	24.1%	2,886	24.5%
Median Age	44.8 years		49 years	
Source: U.S. Bureau of the Census				

Table 2.3 shows age groups and median ages by minor civil division. The distribution of persons by age was relatively uniform throughout the Townships. However, the age distributions of the population within Alcona County contrast significantly with the State as a whole. In Alcona County, the percentage of the preschool and school aged children is lower and the percentage of the population 45 and older is higher than the state wide basis.

Household Characteristics

Table 2.4 presents information on household characteristics gathered during the 2000 US Census. Information includes total number of households, average household size, householder living alone, householder 65 years & older living alone, and households with an individual 65 years & older. The average household size in Alcona County is smaller than the state average.

Curtis Township is among the six communities in the County with more than 500 year round households. The township is also among the four communities in Alcona County with the highest number of persons living alone and among the top five communities with persons 65 years & older living alone.

Race and Ethnic Composition

Information found on **Table 2.5** shows that Alcona County has a very small minority population, a situation that has changed very little over the last several decades. A small increase in the minority population from 1990 to 2000 is mostly attributed to different reporting criteria in the 2000 Census. For the first time, respondents were given the opportunity to choose more than one race category. Excluding the two or more races category, Hispanic or Latino Origin was the largest minority group with 0.7 percent of the population, followed by American Indian at 0.6 percent, and Asian and Black both at 0.2 percent. The minority percentage for Curtis Township reflects the countywide numbers.

**Table 2.3
Age Distribution by Municipality For Alcona County - 2000**

MUNICIPALITY	< 5 Yrs.	%*	5-19 Yrs.	%*	20-24 Yrs.	%*	25-44 Yrs.	%*	45-64 Yrs.	%*	65 Yrs. & >	%*	Median Age
Curtis Twp.	63	4.6	226	16.5	30	2.2	277	20.1	434	31.6	348	25.3	50.4
Alcona Twp.	28	2.6	148	13.6	20	1.8	180	16.6	337	31.0	376	34.5	57.6
Caledonia Twp.	39	3.2	184	15.3	43	3.6	251	20.8	388	32.2	298	24.8	50.5
Greenbush Twp.	71	4.7	212	14.1	30	2.0	292	19.5	491	32.8	403	26.9	51.7
Gustin Twp.*	53	6.4	135	16.2	31	3.7	206	24.8	242	29.1	165	19.8	44.1
Harrisville Twp.	61	4.3	263	18.6	48	3.4	293	20.8	404	28.6	342	24.2	47.0
Hawes Twp.*	42	3.6	208	17.8	20	1.7	274	23.5	374	32.1	249	21.3	46.9
Haynes Twp.	31	4.3	127	17.5	27	3.7	140	19.3	252	34.8	147	20.3	49.0
Lost Lake Woods CDP**	3	0.9	13	3.9	2	0.6	28	8.2	107	31.6	186	54.9	67.1
Mikado Twp	64	6.1	222	21.2	34	3.3	271	26.0	285	27.3	167	16.0	40.5
Millen Twp.	17	3.7	78	16.9	17	3.7	88	19.0	148	32.0	115	24.8	50.3
Mitchell Twp	11	2.8	53	13.4	6	1.5	72	18.2	148	37.3	106	26.8	53.3
City of Harrisville	25	4.9	71	13.8	24	4.7	111	21.6	133	25.8	150	29.2	48.5
Village of Lincoln	20	5.5	62	17.0	10	2.7	89	24.4	95	26.1	88	24.2	45.3
Alcona County	505	4.3	1927	16.4	330	2.8	2455	20.9	3636	31.0	2866	24.5	49.0
State of Michigan		6.8		23.2		6.5		29.8		22.5		12.3	35.5

Source: U.S. Bureau of the Census
 * Count includes parts of Lincoln
 ** Count also included in Alcona Township figures

Table 2.4 Alcona County: Household Characteristics - 2000					
MUNICIPALITY	Total Households	Avg. Household Size	Householder Living Alone	Householder Alone 65 yrs. & Older	Household w/ Individual 65 yrs. & older
Curtis Township	608	2.25	151	66	235
Alcona Township	524	2.08	154	98	260
Caledonia Twp.	535	2.25	129	69	217
Greenbush Twp.	685	2.19	187	112	283
Gustin Township*	358	2.29	99	49	115
Harrisville Twp.	555	2.37	125	63	180
Hawes Twp.*	528	2.20	156	82	183
Haynes Township.	308	2.35	70	38	107
Lost Lake Woods CDP**	189	1.79	59	45	126
Mikado Township	397	2.60	81	38	119
Millen Township	202	2.24	56	28	74
Mitchell Twp.	193	2.05	59	32	79
Village of Lincoln	179	2.03	71	45	73
City of Harrisville	239	1.92	99	54	101
Alcona County	5,132	2.24	1,366	729	1,953
Michigan	-----	2.56	-----	-----	-----

Source: U.S. Bureau of the Census
 * Count includes parts of Lincoln
 ** Count also included in Alcona Township figures

Table 2.5 Population By Race And Hispanic Origin For Alcona County 2000		
	Number of Persons	% of Total Population
Total	11,719	100%
White	11,489	98.0%
Black	19	0.2%
American Indian	73	0.6%
Asian	21	0.2%
Two or More Races*	109	0.9%
Hispanic or Latino Origin**	81	0.7%

* Census 2000 gave respondents the opportunity to choose more than one race category.
 ** Persons of Hispanic or Latino Origin may be of any race.
 Source: U.S. Bureau of the Census

Disability Status

A person was classified as having a disability if they had a sensory disability, physical disability, mental disability, self-care disability, going outside the home disability or an employment disability. The 2000 Census showed there were 2,844 disabled persons in Alcona County (see **Table 2.6**). The largest numbers of disabled persons in Curtis Township were between the ages of 21 - 64 (218 total). Among the persons in that category in the township, between 28.9% were employed. This compares with the State of Michigan as a whole, where 54.8 percent of the disabled population between 21-64 years is employed. The lower percentage Curtis Township and Alcona County is likely attributed to limited employment opportunities, limited public transportation and a high percentage of retirees who were not seeking employment.

In comparison to surrounding counties and the state, Alcona County has a relatively higher percentage of disabled persons (24.2%) than the other counties in the region. In the 8 county northeast region, the average percentage of individuals with a disability between 21 and 64 was 21.8 percent and in the State as a whole it was 18.1 percent. The percent of disabled in that age group is higher in Curtis Township (29.1%) than in both Alcona County and the State.

Educational Attainment

The U.S. Census Bureau tracks educational attainment for persons 25 years of age or older. Since 1990, educational attainment in Alcona County has improved as shown by Table 2.7. The number of people 25 and older who had a high school diploma or higher increased from 68.6 percent in the 1990 Census to 79.7 percent in the 2000 US Census. In Curtis Township, the percentage of persons with high school diplomas or higher increased from 57.1% in 1990 to 72.7 in 2000. Additionally, the number of persons with less than a 9th grade education or 9th to 12th grade (no diploma) decreased over the last decade.

Table 2.6 Alcona County Disability Status* - 2000							
LOCAL UNIT	Disabled persons 5-20	% Disabled 5-20	Disabled persons 21-64	% Disabled 21-64	% of disabled persons 21-64 employed	Disabled persons 65+	% Disabled 65+
Curtis Twp.	27	11.2%	218	29.1%	28.9%	156	45.9%
Alcona Twp.	12	7.8%	124	23.1%	40.3%	118	31.9%
Caledonia Twp.	18	9.8%	164	23.2%	50.0%	115	40.2%
Greenbush Twp.	13	6.0%	178	22.9%	33.1%	161	39.0%
Gustin Twp.	37	25.0%	109	22.3%	33.0%	67	37.9%
Harrisville Twp.	34	12.6%	150	21.3%	50.0%	76	29.0%
Hawes Twp.	5	2.2%	148	23.2%	32.4%	100	41.7%
Haynes Twp.	11	8.1%	95	24.2%	44.2%	64	39.8%
Mikado Twp.	15	6.3%	142	24.4%	38.7%	90	50.0%
Millen Twp.	16	19.5%	55	24.3%	38.2%	52	54.2%
Mitchell Twp.	4	10.8%	55	25.3%	5.5%	56	45.2%
City of Harrisville	2	2.8%	75	30.7%	25.3%	82	44.6%
Village of Lincoln	11	16.9%	38	20.2%	31.6%	51	56.0%
Alcona Co.	194	9.7%	1513	24.2%	36.5%	1137	40.1%

Source: U.S. Bureau of the Census
 *Disability of civilian non-institutionalized persons.

Table 2.7 Educational Attainment 1990 & 2000								
Degree	Alcona County				Curtis Township			
	1990		2000		1990		2000	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Less than 9 th grade	883	12.0%	504	5.6%	134	15.3%	69	6.5%
9 th to 12 th no Diploma	1,434	19.5%	1,310	14.6%	242	27.6%	223	20.9%
High School Diploma	2,910	39.5%	3,750	41.9%	350	39.9%	487	45.6%
Some college no degree	1,100	14.9%	1,880	21.0%	79	9.0%	186	17.4%
Associates	376	5.1%	537	6.0%	22	2.5%	50	4.7%
Bachelors	425	5.8%	589	6.6%	30	3.4%	29	2.7%
Graduate or Professional	239	3.2%	388	4.3%	20	2.3%	24	2.2%

Source: U.S. Bureau of the Census

Housing Characteristics

The US Census reports a wide variety of housing characteristics. In 2000 there were 10,584 housing units in Alcona County. The total number of units includes single and multiple family housing types. Single family, detached housing accounts for 84.6 % of the total. There were 1,385 mobile homes reported in the 2000 Census. Thirty-five percent of the structures were built prior to 1960. Since 1960 between 1,200 and 2,300 units have been built each decade, with greatest number built in the 70's (2,335 units). Actually, the post war housing boom in the 1940's saw the greatest number of structures built in a decade (2,362). In general these figures match what is occurring in Curtis Township where the number of housing units has grown modestly over the decades and the increase in single-family units has outstripped increases in multi-family structures.

Information reported on occupied housing units at the County level found 28.3 percent of the housing units are heated with natural gas, a 47 percent increase from 1990. Some 45.8 percent heat with bottled, tank or LP gas and 12.3 percent heat with wood. Four percent or 222 homes use electricity and 9.2 percent use fuel oil. Other data show 0.7 percent of the structures lack complete plumbing and 0.4 percent lack complete kitchen facilities. Some 2.2 percent or 114 occupied units have no phone service. In Curtis Township, nearly three-quarters (73.4 percent) of the homes are heated with bottled, tank, or LP gas while 13.3 percent use wood and 11.5 percent use fuel oil or kerosene. Also in the township, 1.8 percent of the homes lack complete plumbing service and 2.1 percent are without telephone service.

Housing characteristics for Alcona County are found in **Table 2.8**. Certain characteristics contrast sharply with the state as a whole. For example, 48 percent of the housing is seasonal as compared to 5.5 percent in the state. Within the County the percent of seasonal housing units ranges from 16.3 percent in the Village of Lincoln to 72.0 percent in Mitchell Township. Curtis Township has a seasonal housing rate of 57.6 percent.

In the County, 89.9 percent of the occupied housing units are owner occupied as compared to 73.8 percent in the state as a whole. The percent owner occupied housing in Curtis Township is even higher at 91.9 percent. Throughout the county, owner vacancy rates are fairly low, with the vacancy rates between 0.7 percent in Haynes Township and 4.9 percent in Curtis Township. The renter vacancy ranges from 0.0 percent in Haynes to 18.2 percent in Hawes Township.

Table 2.8								
Alcona County: Housing Characteristics – 2000								
MUNICIPALITY	Total Housing Units	Total Occupied Housing Units	% Owner Occupied	% Renter Occupied	Total Seasonal Housing Units	% Seasonal *	Total Vacant % Owner	Total Vacant % Renter
Curtis Township	1605	608	91.9%	8.1%	924	57.6%	4.9%	9.3%
Alcona Township	1313	524	94.5%	5.5%	748	57.0%	3.3%	9.4%
Caledonia Twp.	1074	535	92.9%	7.1%	513	47.8%	2.0%	11.6%
Greenbush Twp.	1453	685	90.2%	9.8%	733	50.4%	2.2%	10.7%
Gustin Township**	483	358	80.2%	19.8%	87	18.0%	2.0%	12.3%
Harrisville Twp.	790	555	90.8%	9.2%	205	25.9%	1.9%	12.1%
Hawes Twp.**	1003	528	91.5%	8.5%	433	43.2%	2.4%	18.2%
Haynes Township.	598	308	93.5%	6.5%	276	46.2%	0.7%	0.0%
Lost Lake Woods CDP***	511	189	98.9%	1.1%	306	59.9%	5.1%	50.0%
Mikado Township	666	397	90.7%	9.3%	229	34.4%	3.2%	5.1%
Millen Township	541	202	91.1%	8.9%	327	60.4%	1.6%	0.0%
Mitchell Twp.	731	193	94.3%	5.7%	526	72.0%	2.2%	8.3%
Village of Lincoln	246	179	74.3%	25.7%	40	16.3%	4.3%	17.9%
City of Harrisville	327	239	64.9%	35.1%	66	20.2%	3.1%	13.4%
Alcona Co.	10584	5132	89.9%	10.1%	5067	47.9%	2.6%	11.0%
Michigan	-----	-----	73.8%	26.2%	-----	5.5%	1.6%	6.8%

Source: U.S. Bureau of the Census
 * Figure shows the seasonal housing units as a percentage of the unit's total housing units.
 ** Count includes parts of Lincoln
 *** Count also included in Alcona Township figures

Economic Characteristics

Alcona County is a rural, sparsely populated county sandwiched between two larger, more urbanized counties (Alpena and Iosco). The opportunity for year-round higher wage jobs has traditionally not been good in Alcona County. For this reason, a large number of Alcona County residents commuted to the Wurtsmith Air Force Base in Iosco County to work. Others commuted to Alpena County, where a large number of good paying industrial jobs could be found. Over the last decade, however, this picture has changed a great deal. In 1992, the Wurtsmith Air Force Base was closed, causing the loss of over 600 government jobs, some of which were held by Alcona County residents. In the late 1980's and early 1990's many hundreds of industrial jobs were lost in Alpena County due to severe cut backs and closures of

several of their major employers. Alpena County was hard hit again in 2000 when the Fletcher Paper Co. closed its doors, leaving 230 employees without jobs. These job losses impacted Alpena County employment, as well.

During the 1990's major efforts have been underway in all three counties with the goal of improving and diversifying the local economy of each. For example, efforts to re-use the Wurtsmith Air Force Base as an industrial park have yielded many new manufacturing jobs. Enterprise zones using State tax incentive tools have been established at the Alpena County airport. Development of medical and educational facilities has also created new jobs. Unfortunately, the recent downturn in the U.S. economy has negatively affected this area again, leading to closures and/or cut-back in some of the newer businesses. Considering the fact that there are available buildings and infrastructure in place, it is hoped that these jobs can be replaced in the not too distant future.

Alpena County's economic development efforts have been aimed at retaining and expanding industrial employment, while attracting employers in other sectors, such as retail and services, especially health care. Alpena County has reinvigorated their Economic Development Corporation (EDC) in order to work on retaining and attracting new private businesses and investment. Alpena County, especially the Harrisville area, has also become better known as an attractive and reasonably priced community for retirees. The influx of new residents has also positively impacted the local economy in that area.

Income

According to the U.S. Census, between 1989 and 1999, Alpena County's median household income increased by a greater percentage than did the State's rate (see **Table 2.9**). During the last decade Alpena County's median family income increased by over one-third (34.2%), while the State's rate only increased by 10.9 percent. This increase shows up at the local level where Curtis Township had an increase of 25.4%. This rise in the area's average income is most likely due to the fact that some financially stable retirees moved into that county during the period. In spite of this healthy boost to the area's overall income, Alpena County's 1999 median household income was still 29.8 percent lower than the State's rate during that year. Curtis Township's median household income was lower than both the state and the county. While the increase from 1989-1999 was higher than the State average, the township did not experience as great an increase as the county as a whole.

	1989	1989 (In 1999 \$*)	1999	% Change**
Curtis Township	\$16,615	\$21,564	\$27,048	25.4%
Alpena Co.	\$18,013	\$23,378	\$31,362	34.2%
Michigan	\$31,020	\$40,260	\$44,667	10.9%

* 1989 income converted into 1999 dollars.
 ** Percent change from 1989 income (using 1999 dollar conversion) to 1999 income.
 Source: U.S. Bureau of the Census

Poverty

Poverty statistics from the U.S. Census show (see **Table 2.10**) that Alcona County percentage rates in nearly all categories are only a few points higher than the State rates (1999 data). For example, the percent of families who fell below the poverty rate in 1999 was 9.1 for the county and 7.4 for the State. Nine percent of individuals 65 years and older fell below the poverty rate in Alcona County, compared to the State's figure of 8.2 percent.

Unfortunately, the percentage of Alcona County female headed households that fell below poverty was much higher than the State's rate in 1999. Nearly one-third (32.3%) of the county's total female headed households fell below poverty during that year, while over one-half (56%) of the female headed households containing related children under five years of age fell below poverty. The State's poverty statistics for female headed households are also alarmingly high, but not as high as the county's figures. In Curtis Township, the poverty rate for female headed households is even higher at 39.1 percent. However, for those with children, the rate is below that of the county as a whole. Overall, the percent of families below the poverty level is several points higher in Curtis Township than in Alcona County and the State. Individuals below poverty level in Curtis Township are also at a higher rate than both Alcona County and the State.

	Alcona County	Curtis Twp		State of Michigan
	Percent	Percent	Number	Percent
Percent of families below poverty	9.1%	11.7%	51	7.4%
Percent with related children < 18 yrs.	15.2%	14.8%	21	11.3%
Percent of female headed households below poverty	32.3%	39.1%	18	24.0%
Percent with related children < 18 yrs.	44.4%	34.3%	12	31.5%
Percent with related children 0 - 5 yrs.	56%	42.9%	6	44.2%
Percent of individuals below poverty	12.6%	15.1%	211	10.5%
Percent 18 yrs. old and >	11.3%	14.0%	155	9.3%
Percent 65 yrs. old and >	9.0%	12.9%	44	8.2%

Labor Force

Employment and Unemployment

The civilian labor force is defined as all civilian individuals over age 16 who are employed or actively seeking employment. Labor force numbers can change rather quickly, in response to economic conditions. During prolonged periods of unemployment, unsuccessful job seekers can drop out of the work force by going back to school, leaving the area in search of work elsewhere or by stopping the search for work.

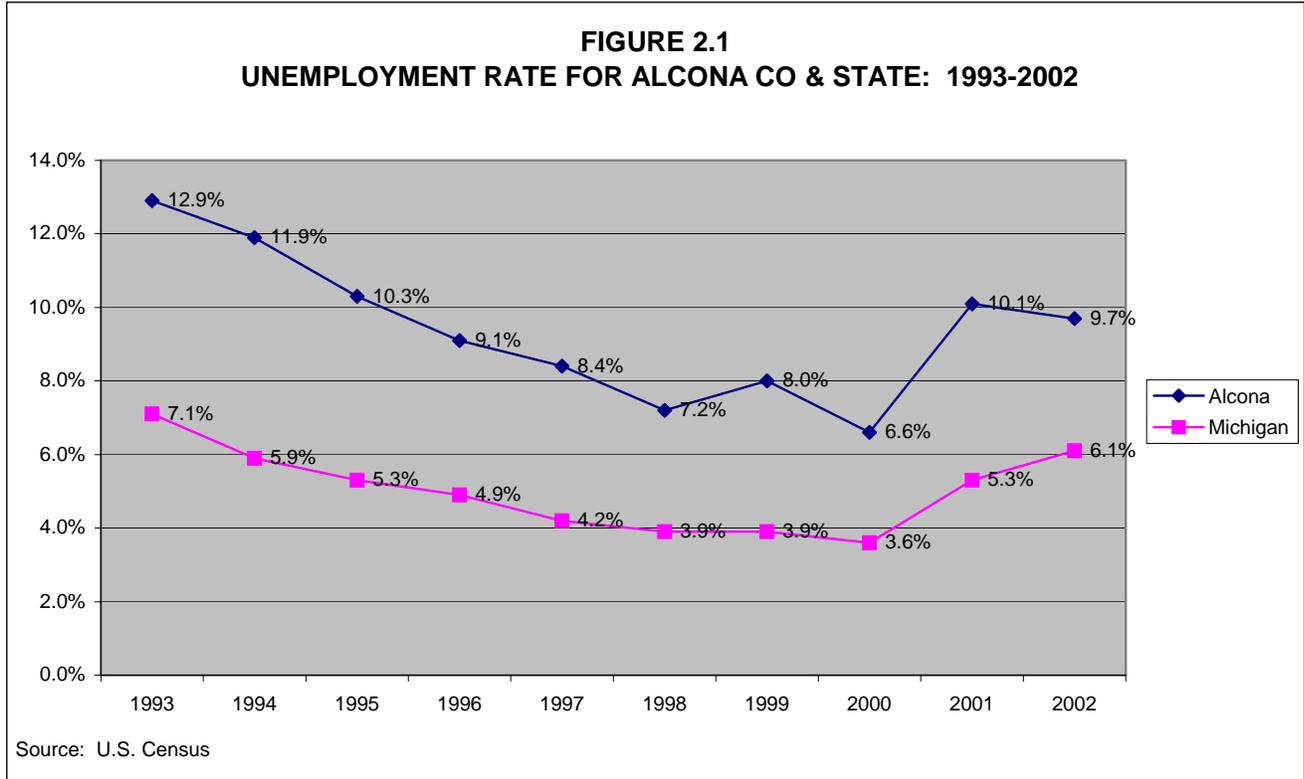
Table 2.11 shows the annual average civilian labor force for Alcona County over the last ten years (1993 - 2002). When comparing 1993 to 2002 it is found that the civilian labor force only increased by 1.7 percent (45 persons) during that time period. Comparing the labor force between 1993 and 1997, however, shows a difference of 675 persons between those two years.

This is a good example of how the labor force numbers can fluctuate from year to year based on the availability of jobs in the area. Looking at the numbers of persons employed in Alcona County between 2002 and 1993, these figures show that there was an increase of 175 persons (+4.5%). The difference in numbers of the unemployed fell between 1993 and 2002 by 125 persons (-21.7%). This trend is reflected in the falling unemployment rates recorded during that time period. In 1993, Alcona County's unemployment rate was a very high 12.9 percent, while it had fallen to 9.7 percent by 2002.

Data found on **Table 2.11** and in **Figure 2.1** shows that over the past ten years Alcona County's unemployment rate has followed the same trend line as the State's rate, except in 1999 and in 2002. During this period the county's annual unemployment rate has been consistently higher than the State's rate by a difference of between three and six percentage points. In the early 1990's, Alcona County's unemployment rate was very high (over 10% annual average rate). This was in response to the job losses in Iosco County (Wurtsmith Air Force Base closure) and in Alpena County, as was discussed earlier in this chapter. During the mid to late 1990's the county's unemployment rate fell nearly every year, until it reached a low of 6.6 percent in 2000. The overall economy for the State and US was very good during those years, which was helpful in boosting the employment opportunities for Alcona County and adjacent Iosco and Alpena Counties.

Table 2.11 Alcona County Civilian Labor Force: 1993 - 2002								
	Civilian Labor Force		Employment		Unemployment		Unemp. Rate	Mich. Unemp. Rate
	#	% Dif*	#	% Dif*	#	% Dif*	%	%
1993	4,450	6.0%	3,925	11.3%	575	-14.8%	12.9%	7.1%
1994	4,850	9.0%	4,275	8.9%	575	0.0%	11.9%	5.9%
1995	4,875	0.5%	4,375	2.3%	500	-13.0%	10.3%	5.3%
1996	5,000	2.6%	4,550	4.0%	450	-10.0%	9.1%	4.9%
1997	5,125	2.5%	4,675	2.7%	425	-5.6%	8.4%	4.2%
1998	5,050	-1.5%	4,675	0.0%	375	-11.8%	7.2%	3.9%
1999	5,025	-0.5%	4,625	-1.1%	400	6.7%	8.0%	3.9%
2000	4,975	-1.0%	4,650	0.5%	325	-18.8%	6.6%	3.6%
2001	4,700	-5.5%	4,225	-9.1%	475	46.2%	10.1%	5.3%
2002	4,525	-3.7%	4,100	-3.0%	450	-5.3%	9.7%	6.1%

* Figure shows percent difference from preceding year.
 Source: Mich. Dept. of Career Dev., Employment Services Agency, Office of Labor Market Information



Unfortunately, in 2001 and 2002 the county's unemployment rate increased sharply taking it into the ten percent range again. The recent national recession was directly responsible for this increase, which is also reflected in the State's unemployment rate for those years. Alcona County's unemployment rate actually decreased by a small amount between 2001 and 2002 (from 10.1% to 9.7%), which may be a hopeful sign that the economic recession will be short lived.

Wage and Salary Employment

Wage and salary employment in Alcona County (and Iosco County) has historically been concentrated in government jobs.¹ (see **Table 2.12** and **Figure 2.2**). Employment in that sector, however, dropped substantially starting in 1992, due to the loss of over 600 government jobs when the Wurtsmith Air Force Base closed in Iosco County.

The largest employment sector found in Alcona and Iosco Counties is now retail employment (24.1% of the wage and salary employment in 2002). Service sector and government employment come in very close to one another at 23.2 percent and 22.3 percent, respectively. Manufacturing employment in 2002 was 16 percent of the wage and salary employment. Employment in "other" sectors ("other" includes transportation, communications & utilities,

¹ Note: Data for Alcona County includes Iosco County. Iosco County numbers overshadow Alcona County because of population differences. However, the economies of the two areas are very closely linked because many people who live in Alcona County work in Iosco County.

wholesale trade & finance, insurance and real estate) accounted for 8.4 percent of the wage and salary employment, while the mining and construction sector was last at 5.8 percent.

Alcona and Iosco Counties combined added 1,025 new jobs between 1993 and 2002 for an overall increase of 10.5 percent total wage and salary employment. Between 2001 and 2002, however, Alcona and Iosco Counties' total wage and salary employment decreased by 1.8 percent (-200 jobs). Most of the job losses were found in the manufacturing and other sectors. The majority of these job losses were in Iosco County, rather than Alcona County. The loss of manufacturing employment was largely due to the closure of the ITT facility, while the loss of jobs in the "other" sectors was mostly related to the closure of TimCo, a transportation firm. In spite of these job losses, however, the Alcona/Iosco County area still has the second largest number of jobs in the manufacturing sector of any area in Northeast Michigan.

**Table 2.12
Alcona-Iosco Counties
Wage and Salary Employment by Sector
1993 - 2002**

	Mining & Const.	Mfg.	Retail	Service	Govt.	Other*	Total**
1993	475	1,950	2,100	1,825	2,500	875	9,750
% Dif***	0.0%	2.6%	-7.7%	1.4%	-19.4%	6.1%	-6.3%
1994	550	2,150	2,400	2,050	2,325	1,025	10,525
% Dif***	15.8%	10.3%	14.3%	12.3%	-7.0%	17.1%	7.9%
1995	550	2,375	2,550	2,175	2,250	1,300	11,125
% Dif***	0.0%	10.5%	6.3%	6.1%	-3.2%	26.8%	5.7%
1996	550	2,500	2,600	2,250	2,225	1,400	11,525
% Dif***	0.0%	5.3%	2.0%	3.4%	-1.1%	7.7%	3.6%
1997	600	2,400	2,625	2,325	2,250	1,600	11,775
% Dif**	9.1%	-4.0%	1.0%	3.3%	1.1%	14.3%	2.2%
1998	625	2,375	2,625	2,400	2,275	1,650	11,950
% Dif***	4.2%	-1.0%	0.0%	3.2%	1.1%	3.1%	1.5%
1999	700	2,400	2,575	2,475	2,325	1,275	11,750
% Dif***	12.0%	1.1%	-1.9%	3.1%	2.2%	-22.7%	-1.7%
2000	725	2,200	2,675	2,525	2,425	1,300	11,850
% Dif***	3.6%	-8.3%	3.9%	2.0%	4.3%	2.0%	0.9%
2001	650	1,875	2,575	2,450	2,425	1,000	10,975
% Dif***	-10.3%	-14.8%	-3.7%	-3.0%	0.0%	-23.1%	-7.4%
2002	625	1,725	2,600	2,500	2,400	900	10,775
% Dif***	-3.8%	-8.0%	1.0%	2.0%	-1.0%	-10.0%	-1.8%

* Other = Transportation, Communications & Utilities, Wholesale Trade & Finance, Insurance & Real Estate.

** Total may not add due to rounding

** Percent difference from preceding year

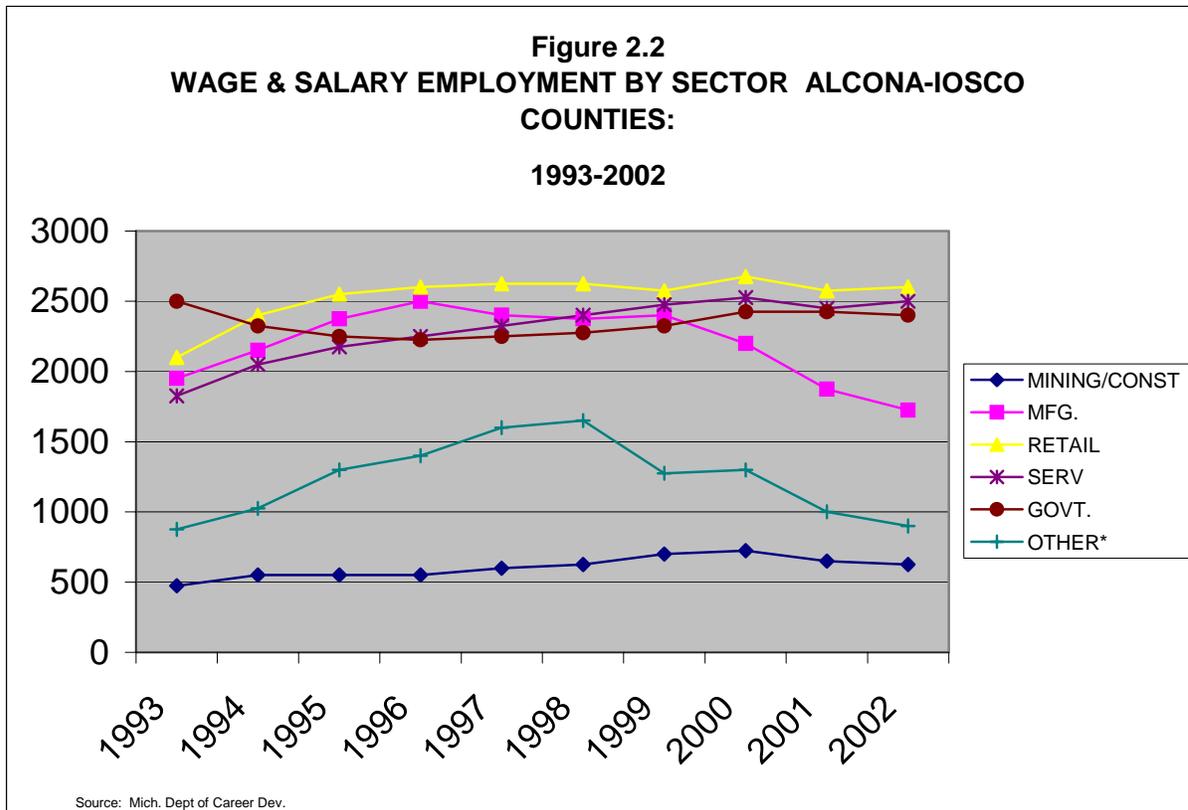
Source: Mich. Dept. of Career Dev., Employment Services Agency

Major Employers

Information found below on **Table 2.13** shows the top ten major employers for Alcona County. Six of the ten shown are either public entities, such as the school system, or are medical facilities such as nursing homes. While many of these employers are located in the county seat of Harrisville, several are located in other communities, such as Lincoln or are in scattered sites throughout the county.

Employer	# of Emp.
Alcona Community Schools	162
Alcona County	120
Lincoln Haven Health Care Center	60
Jammieson Nursing Home	50
Alcona Tool & Machine	50
Alcona Motors	40
Lincoln Precision Carbide	40
Lost Lake Woods Association	38
Alcona County Road Commission	36
Alcona Health Center	35

Source: "2002 Michigan Industrial Directory" and "2002 Michigan Services Directory" by Harris InfoSource and Northeast Michigan Council of Governments



Chapter 3 - Community Services and Facilities

Key factors that contribute to the quality of life of a community are the type and variety of services available to residents and visitors. Unlike more populated communities, smaller rural communities do not have the financial resources to provide many of the services that would normally be considered essential. In the case of fire and ambulance, many rural communities work cooperatively with adjacent communities to provide essential services.

This chapter of the Master Plan will identify the types and extent of services available to residents and businesses in Curtis Township. Although these services may be sufficient for the needs of the current population, future development may increase the demand to upgrade or expand the services and facilities to maintain a satisfactory living environment.

Water Supply

Public drinking water is not available in Curtis Township. Residents rely on on-site private wells for domestic drinking water. Private drinking water wells are regulated by the District Health Department under the Public Health Code. Wells for facilities such as schools or motels serving the public fall under regulations of the Federal and State Safe Drinking Water Acts, where isolation distance, minimum yield and water quality testing requirements are more stringent than for a private residential well.

According to District 2 Health Department, most drinking water wells in Curtis Township are drilled to a depth of 30 to 200 feet in glacial materials. There is a thick layer of clay (around 60 feet thick) at the surface in Glennie. The groundwater aquifer is located below the "protective impermeable" layer in sandy and fine sandy soils. Wells located in unconsolidated sands and gravels generally yield sufficient water for domestic supply. In some areas of the Township, residents experience problems with iron and water hardness. Areas of concern would be shallow wells located in sandy soils, particularly in more compact developments and around lakes. These aquifers are vulnerable to groundwater contamination from septage and chemical spills.

Sewage Disposal

There are no public sewage or wastewater disposal systems in Curtis Township. Residents must rely on private on-site septic systems. Generally, these systems are satisfactory when development is scattered or seasonal in nature. Two important determinants for siting a septic system are soil types and steepness of slopes. In areas with clay soils, steep slopes and small lots, siting and maintaining septic systems can pose problems. For example, commercial development in Glennie, where clay soils and small lots are common, septic systems are expensive to construct and often have a short life span. The same holds true on lakefront properties, where older systems must be upgraded to accommodate increased usage from year round living or building larger homes. In some cases it is not possible to expand septic systems due to small lot sizes, and required isolation distances from water wells and surface water. Chapter 4 - Natural Resources provides color thematic maps depicting soil constraints in Curtis Township. There have been concerns with E. coli in Hunters Lake. An illegal sewage system was discovered along Small creek and corrected in 1998. In 2002 the Department of

Environmental Quality (DEQ) tested water in Small Creek and Hunters Lake. While E, coli was detected, it was not at levels to pose health threats. The lake will be re-tested in 2007.

Solid Waste

Residents use the Curtis Township Transfer site to dispose of their solid waste. The Township operates the site which is located on West Body Road. Hours of operation are Wednesday and Saturday from 10:00 a.m. to 2:00 p.m. Residents can dispose of bagged trash, tires, white goods, refrigerators/freezers, metal scraps and "loose" trash for a fee. Waste Management services the transfer station once per week. Travis Sanitation and Sunrise Disposal provide door to door pick-up for residents and dumpsters for businesses.

Recycle Alcona County (RAC), a non-profit, volunteer-based organization has been offering county residents the opportunity to recycle household waste for approximately ten years. A drop-off service is available the second Saturday of each month at the Lincoln Recreation Center in Lincoln. Donations, along with the sale of recyclable materials, fund the operation of the recycling program. Approximately four tons of recyclable materials are collected and processed each month. The following items are presently collected: #1 & #2 plastics, cans and tin, clear, green and brown glass, Styrofoam, #6 polystyrene, brown paper grocery bags, box board, corrugated cardboard, newspaper, magazines, and white office paper. County residents can dispose of household hazardous waste at a site in Alpena.

Utilities

Due to the large amount of public land and internal parcels (parcels in the center of a section that does not abut a public road), utility services are lacking in some areas of the township. Electricity to Curtis Township is provided by Consumers Energy.

Various private companies deliver home heating oil or LP gas in the area. Cable television service is available in limited parts of Curtis Township and is offered by Charter Communications.

The costs of providing telephone service to isolated residences can be prohibitively high. Since these landowners must pay the cost of running the lines, some have chosen not to bear the expense, instead relying on cellular telephones. CenturyTel provides phone service within Curtis Township.

Other Public Facilities

The Alcona County Courthouse is located in the City of Harrisville at the intersection of M-72 and US-23. Alcona County Sheriff Department and associated facilities are located adjacent to the courthouse. The Alcona County Road Commission offices and garage are located in the Village of Lincoln. There is a DNR field office, which is no longer open to the public, located in Lincoln.

Curtis Township Hall is located on a two-acre lot and is used as a community center. The Alcona County Commission on Aging also uses this building as a nutrition site for senior citizens. Many community activities are hosted in the township fall. The Curtis Township Fire

Hall/Meeting Room is located adjacent to the Township Hall. The Curtisville Civic Association Hall, used for public meetings, is located in the western portion of the Township. The school system allows public access to a baseball field for local leagues. Curtis Township and the school jointly own the Warren Mervyn field and pavilion.

Postal Service

To serve the Township postal service needs, a United States Post Office is located in Glennie.

Schools

Curtis Township is located in the Oscoda Area School District. Middle school and high school facilities are located in the community of Oscoda in Iosco County. The Oscoda School District is located in the Iosco Intermediate School District. This district operates the County Line Alternative Ed program. Glennie Elementary School serves approximately 120 students in grades K-6. Some students attend Alcona Schools and Hale Area Schools through the "school of choice" program.

Kirtland Community College (KCC) located in Roscommon and Alpena Community College (ACC) located in Alpena are two-year institutions serving the higher education needs of area residents. Alpena Community College's main campus is located in City of Alpena. ACC's Huron Shores Campus in Oscoda serves in the surrounding area. ACC offers two-year degrees, one-year certificates, and customized training. The college offers Associate in Arts, Associate in Science, Associate in Applied Science and Associate in General Studies Degrees. Additionally, the World Center for Concrete Technology has an associate degree concrete technology program and the Blockmakers Workshop program at ACC's campus in Alpena. Alpena Community College is also a member of the Michigan Community College Virtual Learning Collaborative and offers selected courses online to students who have difficulty attending classes on campus. The Madeline Briggs University Center at Alpena Community College houses offices of accredited four-year institutions who are cooperating with ACC to make completion programs for selected bachelor's and master's degrees available in Northeast Michigan. These institutions include Spring Arbor University, Central Michigan University, and Northwood University.

Kirtland Community College offers associate degrees and certificate programs in automotive, business, cosmetology, criminal justice, health occupations, industrial technologies, and office information systems as well as associate/transfer degrees in arts, fine arts, business, administration, criminal justice, computers and science.

Libraries

The Curtis Township Library is located east of the Glennie Elementary school on County Road F-30 in Glennie. The facility includes the following: senior reading room, children's corner, internet access, meeting room, and a staff office and work area.

Cemeteries

The Glennie and Curtisville Cemeteries are located in the Township.

Public Safety

There are no municipal law enforcement agencies in Alcona County. The law is enforced by the Alcona County Sheriff's Department and supplemented by the Michigan State Police, Alpena Post. Citizen Watch groups assist by keeping an eye on their neighborhoods and the Michigan State Police added a satellite office in the Village of Lincoln in 1999. The satellite office has one full time trooper assigned.

Advanced life support service is provided by Alcona County EMS. The countywide enhanced 911 emergency service, operated from the Alcona County Sheriff Department, is available for all county residents. Alcona County pays for the costs of ambulance service through the Ambulance Fund millage. There are currently two full time emergency medical service stations operating in Alcona County. The Harrisville Station, or East Station and the Glennie, or West Station are currently rated at the *advanced level*. The West Station is located on M-65, just south of the M-72/M-65 junction, north of Glennie, and the East Station is located at 2600 East M-72, six miles west of the City of Harrisville in Harrisville Township. The West Station Ambulance was completed in 2000 and the East Station Ambulance Barn was completed in 2001.

The Curtis Township Fire Department maintains fire stations in Glennie and Curtisville. Fire Chief John Roberts oversees a staff of 12 volunteer firefighters. The Township owns two NFPA equipped 1000-gallon pumper trucks, a 3200-gallon tanker truck and a 2000-gallon brush truck. Other equipment includes portable pumps, generators, safety fill station, JAWS of Life, foam generators, positive pressure fans, thermal imager, gas detectors, carbon monoxide detectors, and SCBA equipment.

The U.S. Forest Service is responsible for fire protection in the Huron National Forest and the Department of Natural Resources (DNR) is responsible for fire protection on State forested land. Both the Forest Service and DNR work closely with Curtis Township Fire Department whenever the danger of woodland and urban fires is elevated. Additionally, all fire departments in Alcona County have mutual aid with each other. The County has an "all encompassing:" mutual aid agreement with the adjoining counties of Iosco, Alpena, and Oscoda which provides for assistance outside the realm of normal emergency services.

Medical Facilities

There are no medical facilities located in Curtis Township. Clinics, doctor and dentist offices are located in other communities such as Oscoda, Tawas, Harrisville, Lincoln and Alpena. The Alcona Health Center is located in Lincoln and the VA Health Center is located in Oscoda. For health care services not available at these facilities, residents travel to Alpena General Hospital in Alpena, Grayling Mercy Hospital in Grayling, Tolfree Memorial Hospital in West Branch, Tawas St. Joseph Hospital in Tawas City and Munson Medical Center in Traverse City.

District Health Department #2 is often able to fill health care needs of the community, which are not available or affordable elsewhere. The Health Department service area includes Alcona, Iosco, Ogemaw and Oscoda Counties. Programs offered by the Health Department fall under three categories: home health care services, environmental health services and personal health services. Health Department offices are located in Harrisville.

Northeast Michigan Community Mental Health provides support services to developmentally disabled persons as well as persons needing mental health services. The Northeast Michigan Community Mental Health service area covers Alcona, Alpena, Montmorency and Presque Isle Counties.

Roads

M-65, running north/south along the eastern side of Curtis Township, is the only state trunkline in the township. The segment of M-65 through Curtis Township is seven miles long. County primary roads account for more than 26 miles of roads in Curtis Township, while 78 miles are classified as County local roads, see **Figure 3.1**. Alcona County Road Commission is the agency responsible for maintenance, snow removal and improvements. Curtis Township contributes to the cost of local road maintenance.

Public Transit

There is no countywide dial-a-ride bus service available in Alcona County. However, Thunder Bay Transportation, based in Alpena, provides limited specialized transportation services in the County. The Thunder Bay Regional Ride, in cooperation with medical care facilities in the region, provides inter-county transportation for medical and other needs. Limited statewide passenger service is available from Indian Trails Bus Lines. The County is supporting a multi-county transportation authority. The system will function under Thunder Bay Transportation and is designed to provide a higher level of public transportation than currently available in the County.

Air Service

Alcona County's only public airport is located in the City of Harrisville, handling small aircraft. Regional air service is available at Alpena County Regional Airport (Phelps Collins) which is a U.S. Customs Port of Entry. Passenger air service connecting to Detroit and Sault Ste. Marie is offered by Mesaba Airlines as part of the Northwest Airlink service. Regional airports are located in Traverse City, Midland, Grand Rapids and Flint. Aviation North operates charter services from the airport. Air-freight service is provided by United Express, United Parcel Service and Federal Express. The Michigan Air National Guard maintains a Combat Readiness Training Center at the airport in Alpena.

Recreation

The lakes, streams and woodlands provide a remarkable source for recreation activities, such as fishing, boating, camping, hunting and hiking, just to list a few. These activities are important economic factors for the region. A Countywide recreation plan was developed by Northeast Michigan Community Service Agency and approved by the MDNR in 1999. The plan provides a means by which the county and local governments may apply for recreation funding for projects listed in the plan. An inventory of community owned recreation sites for Curtis Township is shown below.

Community Owned Recreation Facilities

Alcona Park - leased by the township from Consumers Energy (camping, fishing, swimming, hiking, boating, skiing, snowmobiling)

Curtis Township Hall (social events, basketball court)

Indian Lakes Park (picnic)

Forty-acre parcel (west of Healy Road and Body Road) is operated by the Glennie Sportsman Club for a shooting range.

Vaughn Lake Public Access (public beach and boat launch)

North Lake (boat launch and snowmobile trail head)

Privately Owned Recreation Facilities

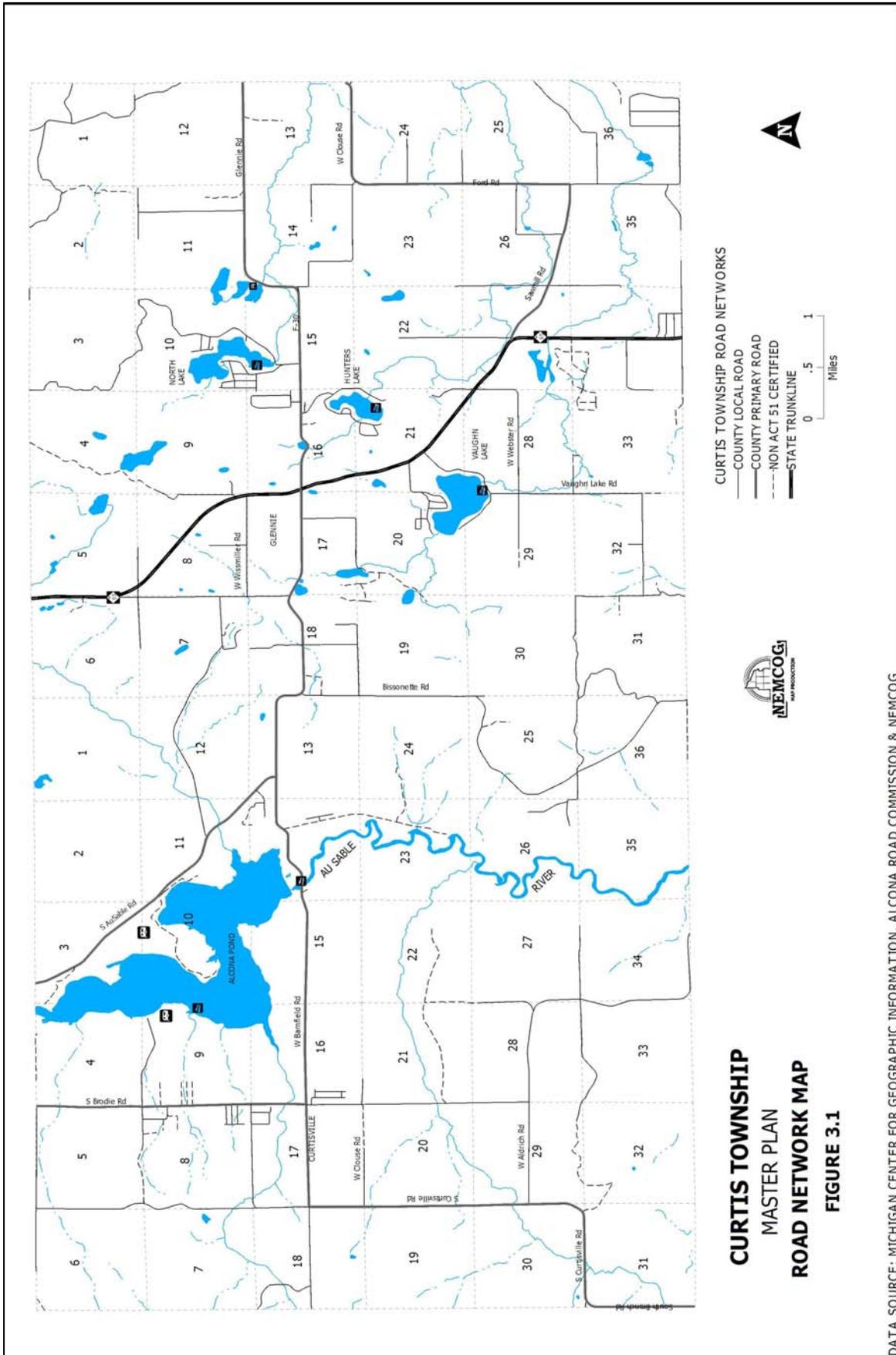
Alcona Canoe Rental and Campground

Middleton's Campground

Eagle Ridge Golf Course

Rocking D Ranch Campground

Pines B & B



Chapter 4 – Natural Resources

Overview

The predominate land cover in Curtis Township is upland forest, with aspen and pine forests being most common. Farming is limited in Curtis Township. As in other parts of the State, there is a downward trend in the number of active farms. The Au Sable River and Alcona Pond are the water resource center pieces of the Township. Numerous smaller streams, creeks, and lakes provide an abundant source of high quality surface water features.

The greatest attraction for the residents and visitors of northern Michigan is the area's environment and the rural nature of this portion of the State. Recreational activities such as hunting, fishing, golfing, snowmobiling, boating and a multitude of other outdoor activities attract people from urban areas of Michigan, as well as from other states. Many long-time visitors decide to move to the area upon retirement. Because of the abundant outdoor recreation opportunities, the natural environment is a major economic base and income generator.

At the same time, the environment places constraints on human activities. Certain critical and sensitive parts of the natural landscape cannot be altered without creating problems that are not easily corrected. Increased flooding and soil erosion due to the indiscriminate filling of wetlands and clearing of land are but two examples. Therefore, it is essential that any future development respect the different characteristics of the natural environment. This is important in preserving the attractiveness of this part of the State, preventing potential hazards related to undue alteration of the land, and maximizing the economic benefits of the tourist and recreation industry.

Climate

Typical of northern Michigan, the distinct four seasons offer an ever changing landscape. Long snowy, cold winters, and moderately warm summers are separated by a cool, green spring and a cool colorful fall. Located in the northeastern part of the northern lower peninsula, the eastern boundary of the County is formed by Lake Huron. Given this geographic location, the weather is influenced by the moderating effect of Lake Huron. The climate along the immediate Lake Huron shore is semi-marine in nature and lacks many of the temperature extremes found only a few miles inland.

According to the USDA Soil Survey of Alcona County, the average annual precipitation is 29.46 inches (includes water equivalent of snowfall). Precipitation is heaviest during the summer months with 60 percent of the annual precipitation from April through September. The average annual snowfall is 49.5 inches. Records show a long term average of 93 days when there is at least one inch of snow on the ground. Of course, the number of days varies greatly from year to year. The average daily temperature ranges from 67.9 °F for the month of July to 20.0 °F during January. The average mid-afternoon relative humidity is 61 percent. Since humidity levels are highest at night, the average relative humidity at dawn is 83 percent.

Topography

Curtis Township's topography is classified as consisting of level and undulating plans and rolling to hilly moraine areas. Elevations in the Township range from 780 feet above sea level at the outflow of the Au Sable River (the southwestern boundary of the Township and climbing to the highest elevation of 1,170 feet above sea level, in Section 3 of T.25N.-R. 6E. The Au Sable

River valley cuts a three mile wide swath through hilly moraine areas located along the western edge and central parts of the Township. Eastern portions of the township are characterized by a level to undulating plain that gradually drops in elevation to the east. Elevations fall drastically, as along the western and eastern shoreline of the Alcona Dam Pond; these steep slopes are extremely unstable.

Geology

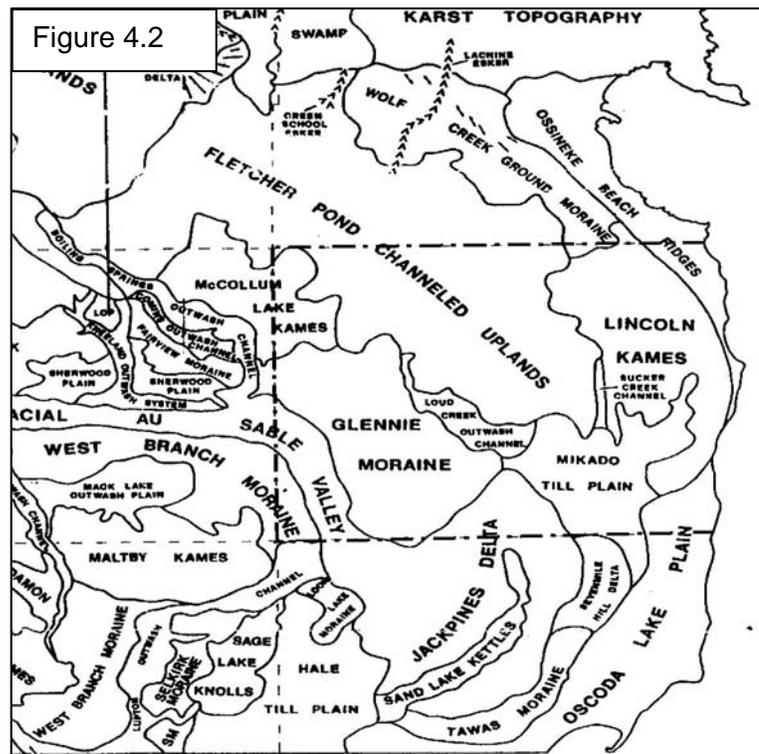
The rolling hills, river valleys, swamps and lakes were created by the retreating continental glacier some 12,000 years ago. Beneath this thick mantle of the glacial deposits lays a foundation of layered sedimentary bedrock. This section will describe the glacial landforms or quaternary geology and the underlying bedrock geology.

Surface Geology

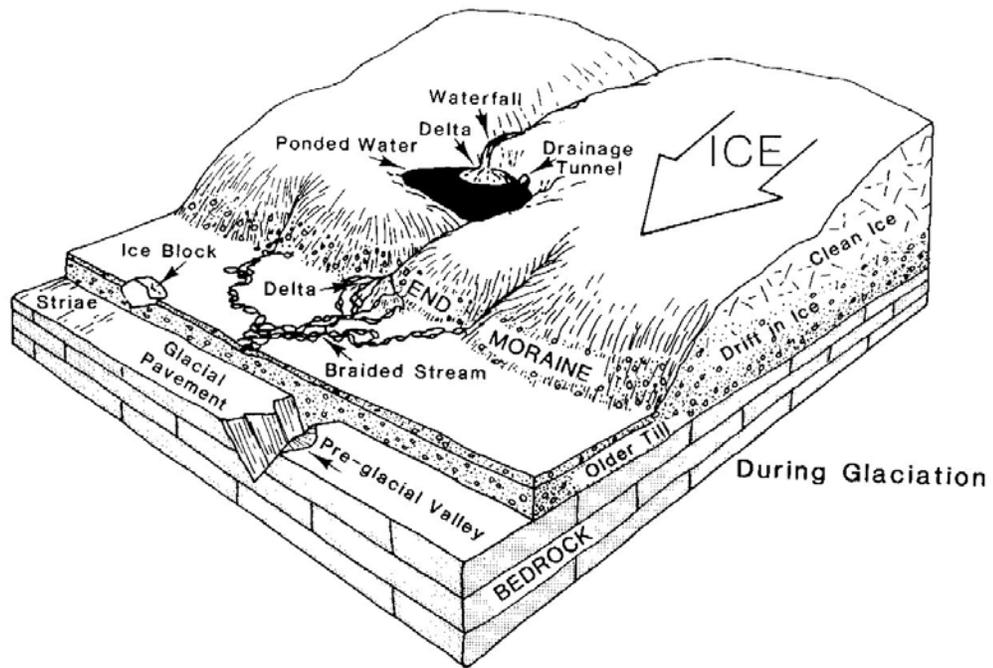
Starting some 2 million years ago, during the Pleistocene era, continental glaciers formed in the Hudson Bay area. Several times, over this two million year period, the massive sheets of ice built up and inched their way south across what is today Michigan. The massive ice sheets, more than one mile thick, advanced in a southerly direction, bulldozing their way across the landscape. The glacier pushed material in front of it, incorporated rocks and soil into the debris laden ice; and scraped, ground and broke apart the sedimentary bedrock of the Michigan Basin.

Each advance and retreat of the continental glaciers took tens of thousands of years. This

reoccurring process shaped and reshaped the land; obliterating and then creating hills, valleys, rivers and lakes, swamps and marshes. The last glacial period, called the Wisconsin era, created the landscape we know today. The glacier left behind boulders, rocks, cobble, sand, gravel, silt, clay and loam. In some areas the material was deposited in unsorted masses called till plains, ground moraines and end moraines. Water flowing from the melting glaciers also sorted materials, creating outwash channels, sand deltas, kames and eskers. Fine materials, captured in the fast moving glacial meltwater, settled to the bottom of expansive glacial lakes creating lacustrine clay and silt plains. **Figure 4.1** on the following page shows how glacial landforms were created.

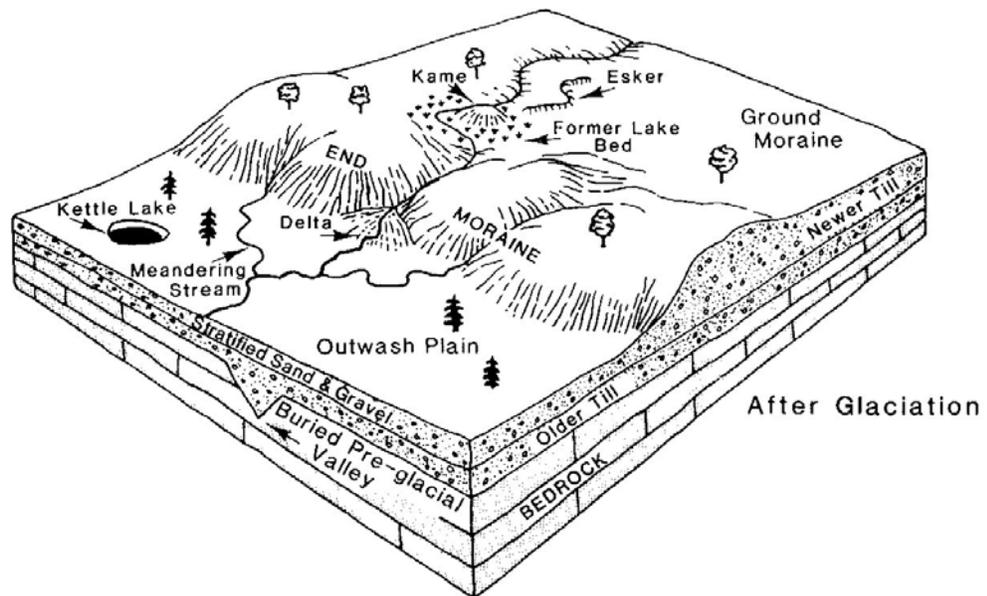


According to a map prepared by W. A. Burgess and D. F. Eschman (**Figure 4.2**), titled "Landform Units in Northeastern Lower Michigan," Curtis Township is dominated by glacial moraines and a glacial river valley, both created by the glacial meltwaters.



During Glaciation

Features originating at a glacier front occur in a definite order.

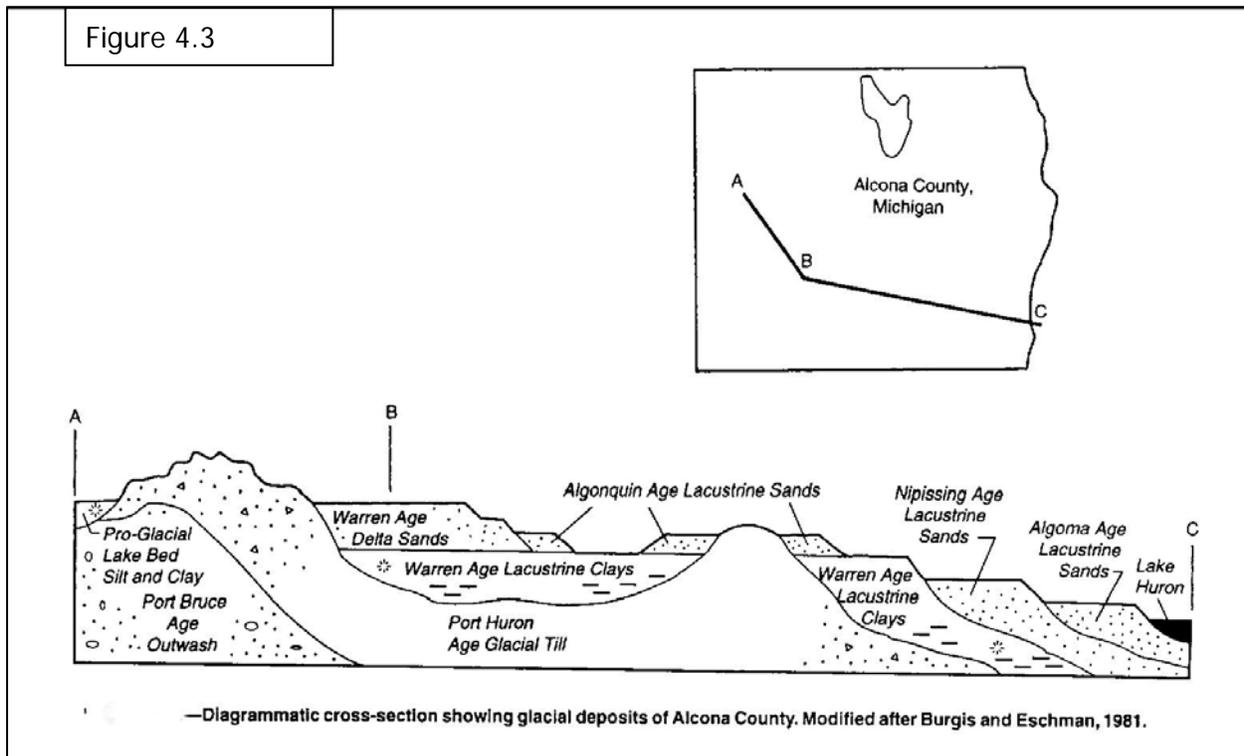


After Glaciation

Landforms of continental glaciation are unmistakable.

At the front of the massive retreating glaciers, large streams originated from the melting ice. The debris laden water carved through moraines and outwash plains creating wide drainageways and outwash channels. The AuSable River follows one of those large glacial river valleys. As the continental glaciers melted, water flowed across the landscape creating landforms and pooling into the expansive post glacial lakes. These emerging lake basins were the beginnings of our Great Lakes. During different periods, the post glacial Great Lakes were both much higher and lower than the lake levels we have grown accustomed to in recent times. Geologists have identified and named the different post glacial great lake stages.

Figure 4.3 shows the different stages of the glacial great lakes Warren, Algonquin, Nipissing and Algoma. Landforms and soils in eastern Alcona County were heavily influenced by these different lake stages. Glacial Great Lake Warren formed at the front of the melting Huron glacial lobe around 12,000 years before present and was the most extensive, flooding much of the land area of Alcona, Haynes, Harrisville, Greenbush, and Mikado Townships.



The ancient shoreline of Lake Warren was 850 feet above sea level as compared to 577 feet above sea level of Lake Huron. In other words, the lake level of Lake Warren was 273 higher than Lake Huron! As the debris laden meltwaters of the large glacial AuSable River emptied into Lake Warren, the coarse sands settled out first. This created a sand delta called the Jack Pines Delta, one of the largest glacially formed sand deltas in Michigan. This delta extends into the southeastern corner of the Township. The delta is characterized by broad, nearly level plains, dissected by widely spaced streams and creeks. The soils are excessively drained to somewhat excessively well drained sandy soils. As noted by its name, the area is dominated by Jack Pine forests, and has a long history of wildfires. The wide glacial Au Sable River valley clearly shows ancestor of the present day pleasant Au Sable River was a large raging torrent that carved a wide valley through the deep glacial deposits. This wide valley, filled with glacial

outwash sand and gravel created perfect conditions for jack pine forests that still dominate the landscape today.

The Glennie Moraine, and West Branch Moraine cover much of the Township. During some periods, the continental glacier's retreat stagnated, that is to say, the ice at the face of the glacier melted as fast as it advanced southward from the polar ice cap. The debris laden, glacial ice then deposited large amounts of materials in one locale. Acting like a large conveyor belt, the materials piled up at the front of the glacier forming moraines or glacial hills. There were periods when the retreating continental glaciers re-advanced southward, and like a huge bulldozer, it pushed the previously deposited materials into larger hills. These are called push moraines. The topography is rolling to steeply sloping. Pine, oak and northern hardwood forests are common in these areas. **Figure 4.4** is a quaternary/glacial geology map of Curtis Township.

Bedrock Geology

Beneath the glacial deposits, hundreds of feet below the surface, is sedimentary bedrock that was created during the Late Mississippian ages of the Paleozoic Era. The bedrock was formed in ancient seas which covered the area some 310- 345 million years ago. The shallow marine seas deposited layers of silt, clay, sediments, marine animals, plants, coral, and other calcareous materials. These deposits formed sandstone, shale, limestone, and dolomite bedrock. The uppermost bedrock in Alcona County consists of materials from the upper and lower Mississippian series of the Paleozoic era. Various strata contain minerals of varied importance. In addition to the oil and natural gas which has formed in porous rock or pockets between strata, economic deposits of limestone, gypsum, salt & brine were found. Coldwater Shale bedrock formations subcrop most of the Township, see **Figure 4.5**. Marshall Sandstone, one of the most important bedrock aquifers in the state, subcrops the southwestern corner of the county.

Soils

When planning for types and intensity of land uses, soil types and slopes are two important factors that determine the carrying capacity of land. The construction of roads, buildings and septic systems on steeply sloped areas or areas with organic and hydric soils require special design considerations. In addition, costs for developing these sensitive areas are greater than in less constrained parts of the landscape. If developed improperly, the impacts to natural resources can be far reaching.

Hydric Soils and Steeply Sloped Areas

The Natural Resource Conservation Service completed a detailed soil survey of Alcona County. A digital or computerized version of the soil survey maps was acquired from the Michigan Department of Natural Resources, MIRIS program. The soils range widely in texture, natural drainage, slope and other characteristics. Well drained and moderately well drained soils make up about 68 percent of Alcona County, somewhat poorly drained soils make up about 20 percent, and poorly drained soils make up about 12 percent.

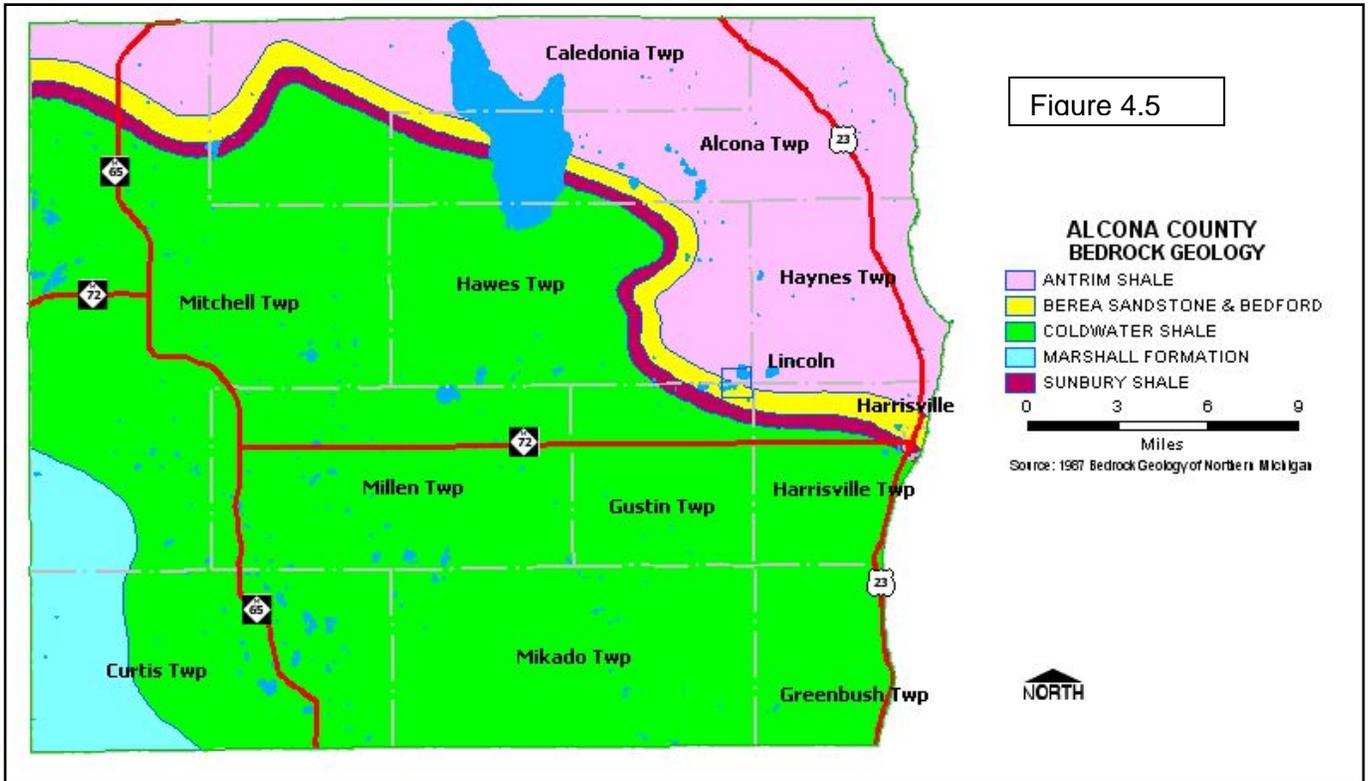
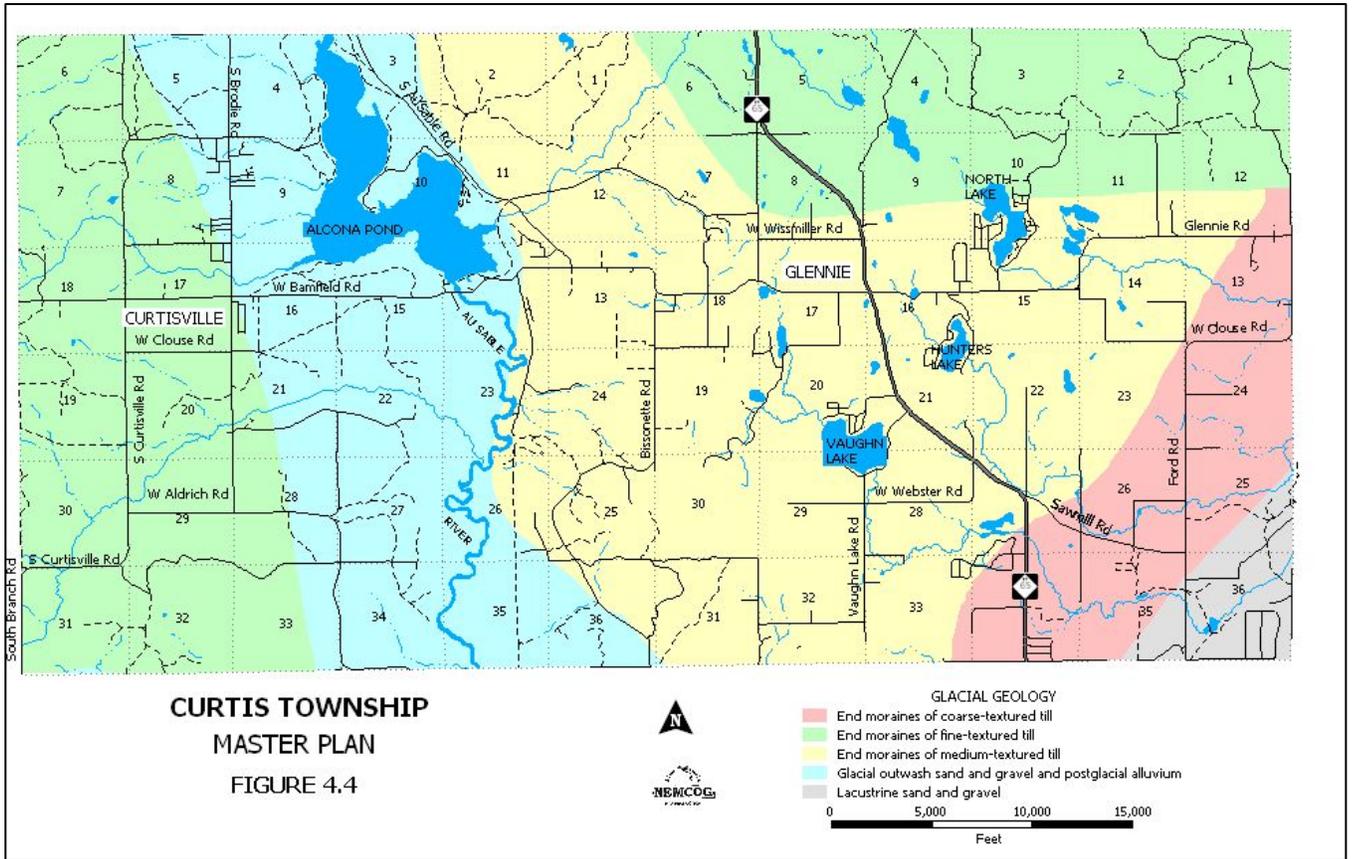


Figure 4.6 is a color thematic map that classifies hydric soils and soils on steep slopes. Lower density and less intensive development should be directed to these areas with severe building constraints. Hydric soils are saturated, flooded or ponded during part of the growing season and are classified as poorly drained and very poorly drained. Hydric soils have poor potential for building site development and sanitary facilities. Wetness and frequent ponding are severe problems that are difficult and costly to overcome. Sites with high water tables may be classified as wetlands and a wetlands permit would be required to develop these areas. The hydric soils are mainly located adjacent to streams and creeks. This connectivity of riparian wetlands and surface water features can be seen throughout the landscape. There are extensive hydric soils areas associated with the Au Sable River.

Hills and steeply rolling terrain may provide opportunities for spectacular views of the landscape. However, steeply sloped sites have severe building constraints, are more difficult and costly to develop. Maintenance costs tend to be higher on steeply sloped terrain. Special design standards such as erosion control measures, limiting size of disturbed areas, retaining natural vegetation, re-vegetation, slope stabilization and on-site retention of water run-off from impervious surfaces would all serve to minimize resource impacts. According to information presented in the Alcona County Soil Survey, areas with slopes 18 percent and greater are concentrated in the western and central-northern parts of the Township.

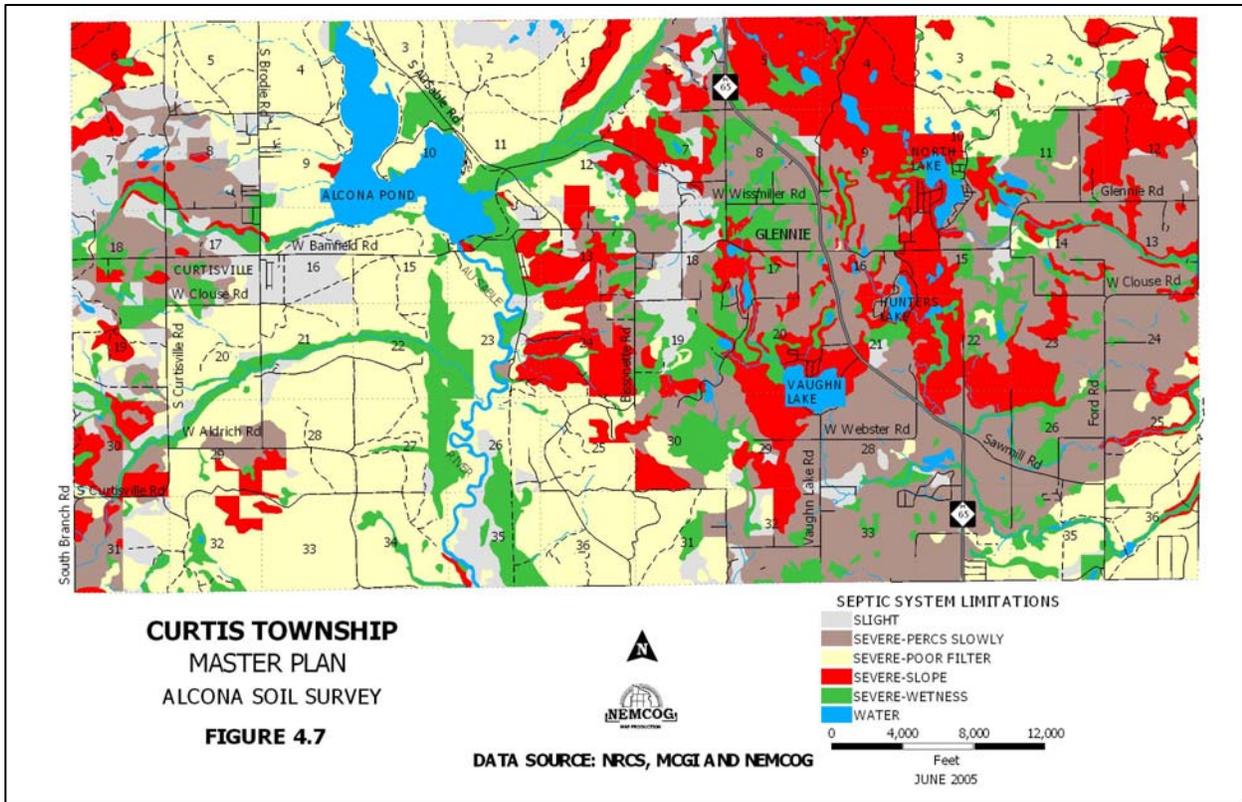
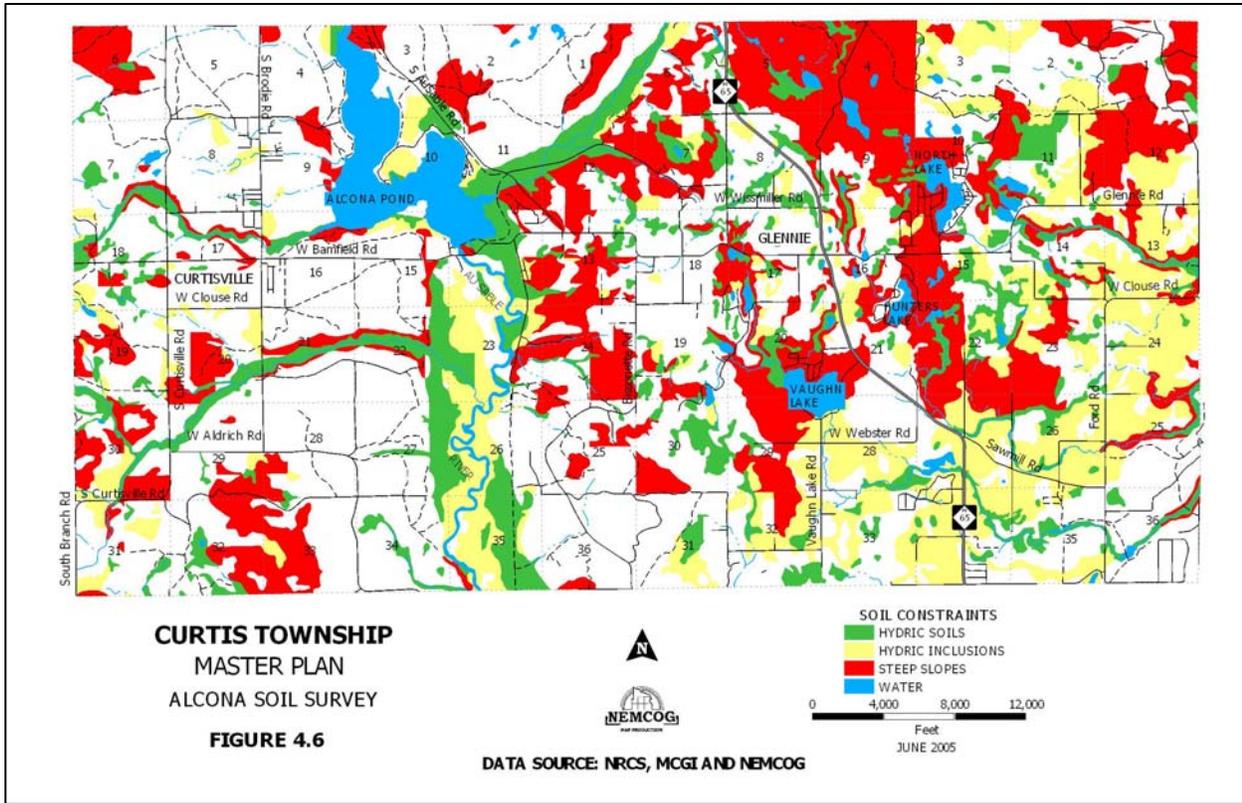
Septic Systems

Using a computer mapping system soils maps have been color coded to show areas with moderate to severe septic system limitations as defined by the USDA Natural Resource Conservation Service. Criteria include depth to water table, wetness, filtering capacity and ability to perc water. **Figure 4.7** is a septic system limitations map. A portion of the Township contains sandy soils with severe limitations due to poor filtration of septic effluents. This is a critical issue when the water table is close to the surface or when high density development occurs. Limiting types and density of development or making public water and sewer available for high density development are likely the best options for protecting the groundwater resources in these areas. Other severe limiting factors include slopes greater than 18 percent and wet soils.

Forests

Over 75 percent of the Township is forested and forest fires have been identified as the number one natural hazard in the Alcona County Hazard Analysis Plan. The Michigan Resource Information System's (MIRIS) 1980 land use inventory compiled land cover maps that depict forest types in the county (**Figure 4.8**). Tree species vary depending upon the soils, moisture and past activities such as logging, fires and land clearing. Aspen-birch, red oak-white oak and jack-red-white pine are the most common forest types.

Bigtooth aspen, quaking aspen, white birch, red maple and red oak are the primary tree species found in the aspen-birch type. The aspen-birch forest type cover the largest are of the township accounting for over 13,000 acres or 41 percent of the forest cover. Red oak, white oak, black oak and northern pin oak are the primary species growing in the oak forests. Northern hardwoods include species such as sugar maple, red maple, American beech, basswood and yellow birch. Northern hardwoods cover approximately seven percent of the forested areas within the Township.



Under dry spring conditions forest fires can occur in any forests type. However some forest types have higher risks. Jack and red pine forests have a high risk for wildfires. Oak and white pine forests have a moderate risk for wildfires. According to the MIRIS Land Cover/Use Inventory, jack pine and red pine forest types cover approximately 18 percent of the forestland. Oak and white pine forests account for another 18 percent. Draughty, low fertility sandy soils, found in outwash plains and channels, supported pre-settlement pine forests that for thousands of years were perpetuated by wildfires. Today, residential development has occurred within the same wildfire prone areas. There is a concentration of pine forest types in boarding the Au Sable River valley and in the southeastern corner of the Township.

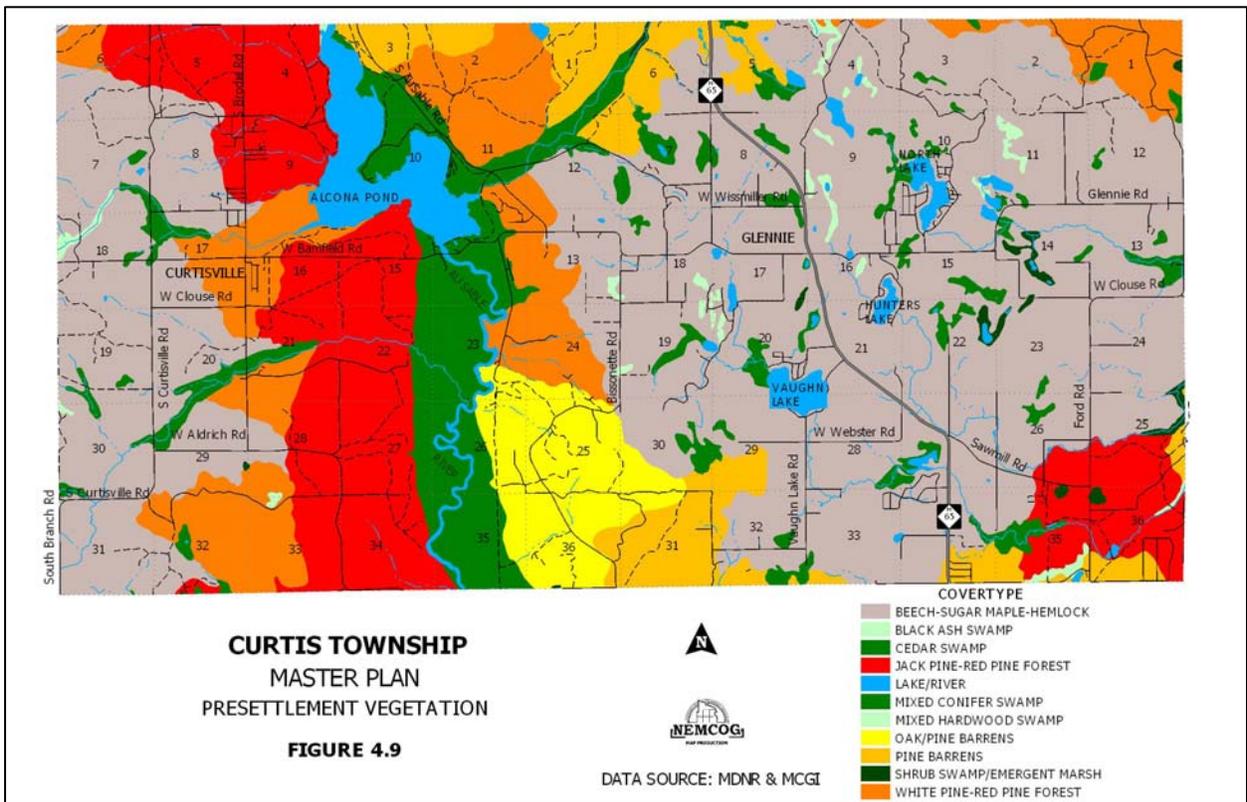
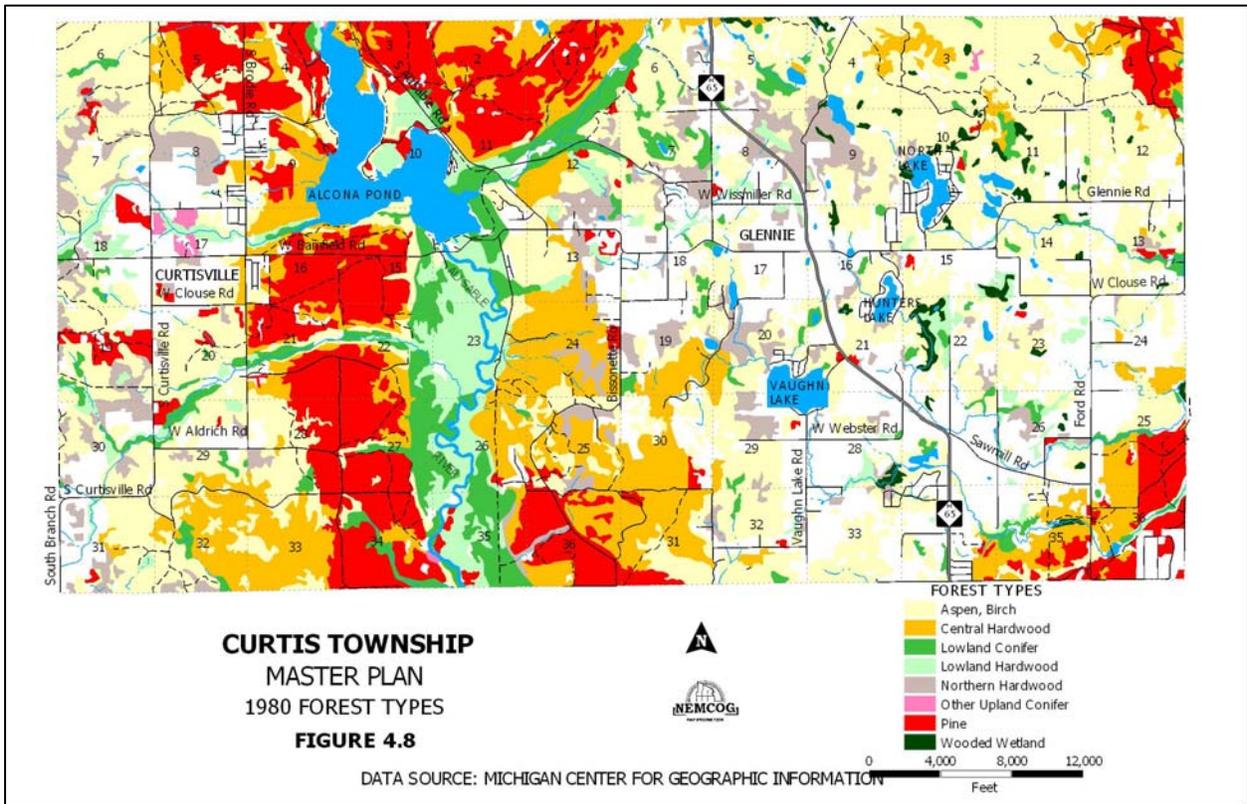
Poorly drained, lowland areas support northern white cedar, tamarack, balsam fir, black spruce, eastern hemlock, white pine, balsam poplar, trembling aspen, paper birch, black ash, speckled alder and shrub willows. Northern white cedar dominates the wetland areas where there is good lateral water movement and the soils are high in organic content. Lowland forests are typically located adjacent to water features and function as riparian forests and water quality buffers. The network of lowland forests, associated with rivers and creeks, also function as wildlife corridors and are the backbone of large regional ecological corridors. Lowland forests adjacent to rivers and streams are prone to flooding during the spring snow melt, particularly when combined with heavy spring rains. Approximately 15 percent of the forest is classified as lowland forest types.

Presettlement Vegetation

The Michigan Department of Natural Resources has compiled pre-settlement vegetation maps of counties in Michigan. The maps were generated from information contained in the first government land survey notes in the 1800's along with information such as current vegetation, land forms and soils. A review of the presettlement vegetation map of Curtis Township shows extensive areas were covered with northern hardwoods, beech, sugar maple and hemlock, see **Figure 4.9**. Logging, land clearing and wildfires have resulted in a conversion of these forests to aspen or open lands. In addition, jack pine-red pine forest, white pine-red pine forest, pine barrens and pine/oak barrens were prevalent vegetation types prior to the logging around the turn of the century. The presence of these forest types over 150 years ago clearly shows a long history of wildfires in the area. In the late 1800's extensive logging and subsequent wildfires resulted in the conversion of white pine-red pine forests to oak and aspen forests. Areas that were once covered with pine forests still have a high propensity for wildfires.

Wetlands

Poorly drained, lowland areas support northern white cedar, tamarack, balsam fir, black spruce, eastern hemlock, white pine, balsam poplar, trembling aspen, paper birch, black ash, speckled alder and shrub willows. Northern white cedar dominates the wetland areas where there is good lateral water movement and the soils are high in organic content. These lowland forests are typically located adjacent to water features and function as riparian forests and water quality buffers. The network of lowland forests, associated with rivers and creeks, also function as wildlife corridors and are the backbone of large regional ecological corridors. Nonforested wetland types include lowland brush, marshes and bogs. Forested and nonforested wetlands are a finite resource in the Township. Land use planning activities should focus on protecting and preserving these limited and critical resources. **Figure 2.9** is a color thematic map prepared from the US Fish and Wildlife Service National Wetlands Inventory. Green areas depict emergent, scrub-shrub and forested wetlands areas.



Water Resources

According to the *Alcona County Resource Plan*, there are 233 bodies of water in Alcona County which, when combined, are over 13,000 acres of surface water. The combined length of all rivers and streams in the county is 301 miles. In addition there are more than 68 miles of Lake Huron shoreline along the Coast of Alcona County.

According to the Michigan Center for Geographic Information hydrographic data set, there are five named creeks in Curtis Township: Wallace Creek, Smith Creek, Kurtz Creek, Curtis Creek, Bryant Creek and Bamfield Creek. The Alcona Dam Pond, an impoundment on the Au Sable River, is the largest body of water covering 1,008 acres. There are a concentration of small lakes and kettle hole wetlands in the eastern portion of the Township. Named lakes include Bear Lake, Bryant Lake, Curtis Lake, Honawan Lake, Hunters Lake, Indian Lakes, Jenkins Lake, Little Bear Lake, Little Lake, North Lake, Thompson Lake, Twin Lakes, and Vaughn Lake. The township is in the Au Sable River watershed. The western half of the Township drains into Au Sable River, and the eastern half is drained by several small headwaters creeks in the Pine River Watershed. The Pine River eventually empties into the Au Sable River near its mouth.

Figure 4.11 displays the water resources in the Township.

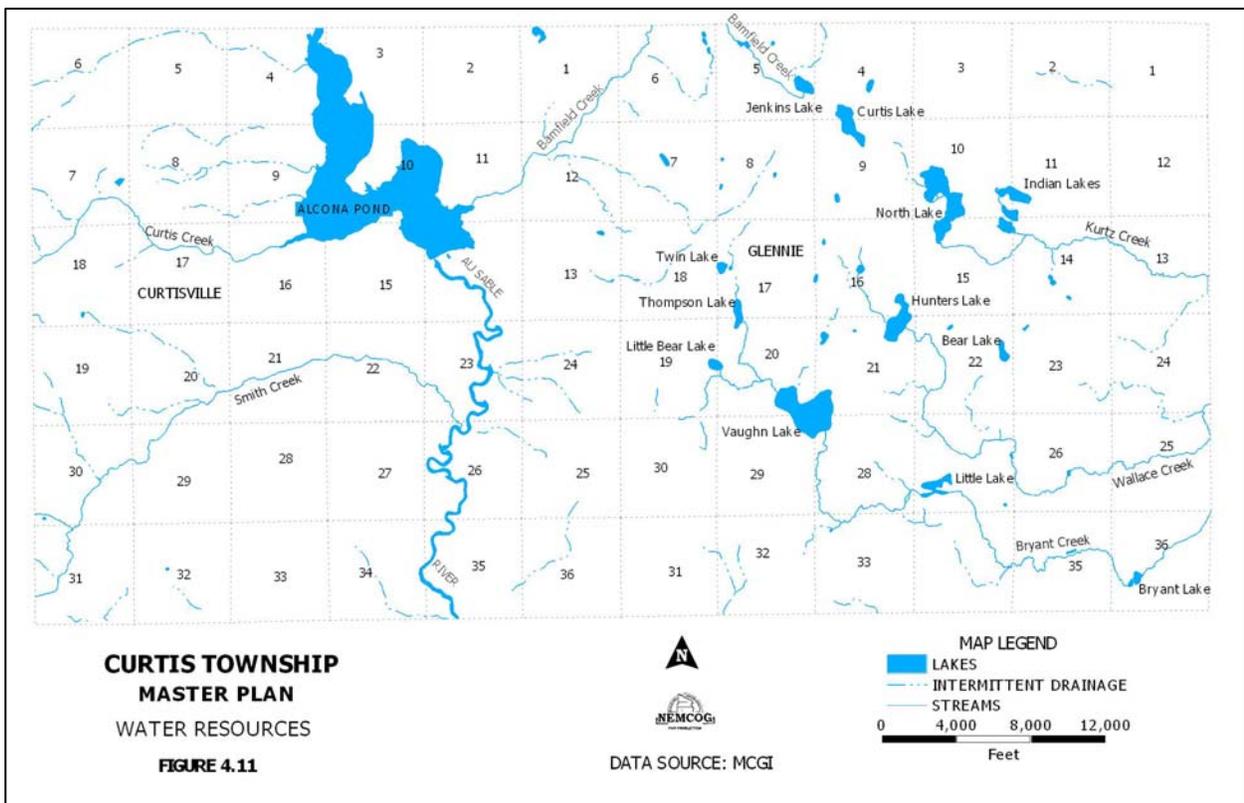
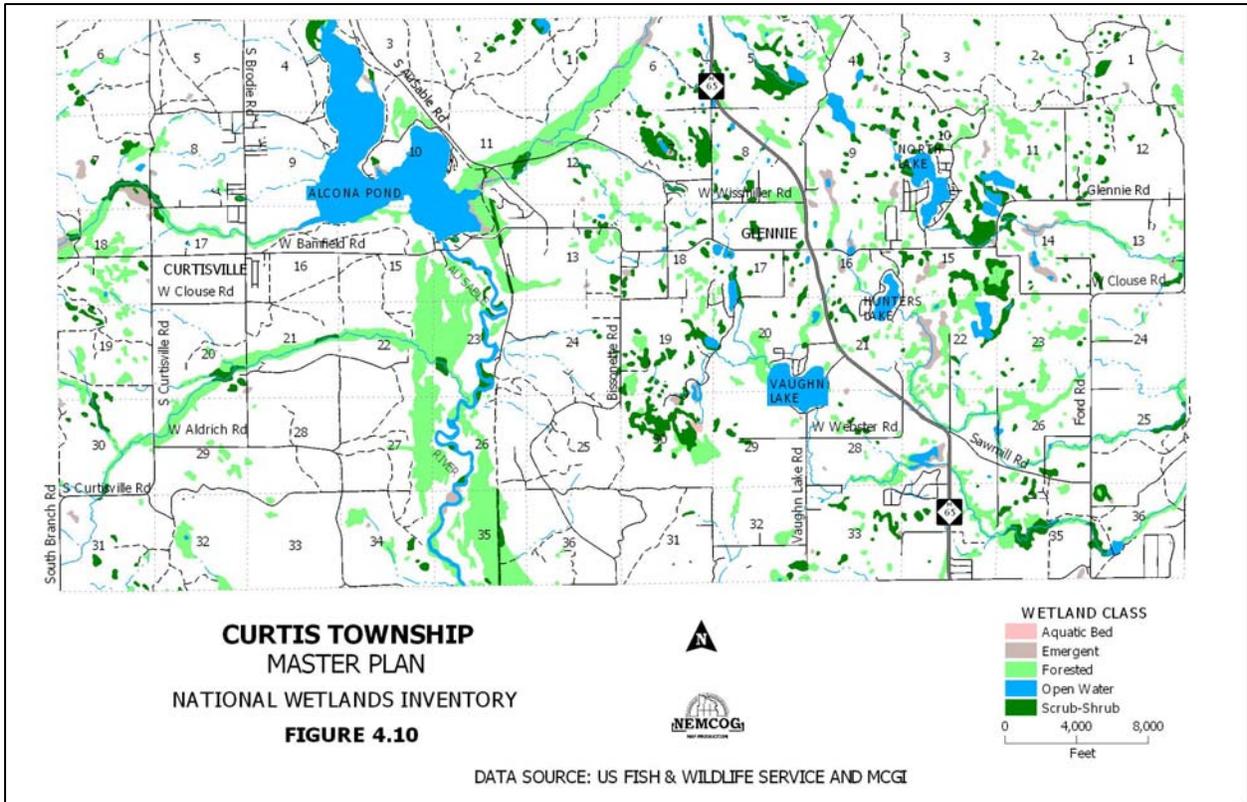
Lakes and river shorelines are continually facing increased pressure from development as more seasonal homes and retirement homes are being built in the County. The recreation industry of Alcona County can be impacted by this development. There are other factors to consider as development occurs near shorelines, such as nutrient delivery rates into lakes & streams, accidental spills of contaminants, erosion control, and even scenic view quality.

Groundwater supplies in the county are very productive in the predominant gravels and sands of the glacial drift. The groundwater aquifers are recharged by precipitation which is readily absorbed by the permeable soils. Individual wells near the lakes and streams are usually quite shallow due to the high water table.

Fish and Wildlife

Alcona County has been known as a good deer range for many years. The large deer herd built up following the wildfires of the 1890's to 1920's, with the herd peaking in the late 1940's to early 1950's. Large areas of public hunting ground and the tremendous deer herd combine to attract a large number of hunters to the County.

Alcona County, along with four other neighboring counties (Alpena, Montmorency, Oscoda, and Presque Isle), is within the area which has been hit by an outbreak of Bovine Tuberculosis (T.B.) in the local deer herd and in other wild animals. The Michigan Department of Natural Resources (DNR) has created a special separate deer management unit to oversee the situation, called DMU452. This allows the DNR to enforce special regulations covering deer hunting and feeding within these counties. Although the incident of Bovine T.B. found in the deer herd of this area has been very low (estimated at under one percent of the population), the DNR and other agencies are trying to manage the situation, prevent it from becoming more wide spread and in the long run to totally eradicate T.B. from the wildlife community. In order to do this, the DNR has been instituting new regulations which will reduce the amount of nose to nose contact (which is how the disease is spread) within the deer herd, through regulations on deer feeding. In an effort to bring down the numbers of deer, they have increased the length of the deer hunting season and are encouraging the hunting of antlerless deer. The long term effect that the Bovine T.B. situation will have on hunting within the area is not known.



In addition to deer hunting, small game hunting is very popular with the local residents of Alcona County, as well as with tourists. Grouse, woodcock, rabbit, waterfowl and squirrel attract these hunters due to excellent hunting conditions.

Riparian forests adjacent to streams and lakes provide critical habitat for many species of wildlife and reptiles. The land and water interface is a long narrow, sometimes meandering, edge habitat. In Alcona County as well as throughout Michigan, natural undeveloped lakeshore habitat is one of the most endangered habitats. There is a continuing trend for lake lot owners to clear brush, aquatic weeds, dead trees and live trees that interfere with a wide-open view of the water. The native vegetation is replaced with well manicured and chemically treated lawns down to the waters edge. This practice not only degrades critical wildlife habitat but also impacts water quality by diminishing the riparian zone's capacity to filter nutrients and its ability to stabilize shoreline erosion.

Birds that use floodplain habitat for feeding and nesting include the red shouldered hawk, barred owl, kingfisher, northern oriole, red-headed woodpecker, pileated woodpecker, woodcock, wood duck and great blue heron. Deer, raccoon, northern flying squirrel, water vole, mink and river otter also frequent these areas. Numerous species of amphibians and reptiles, such as turtles, frogs, snakes, salamanders and newts can all be found in river/flood plain areas.

The rivers and lakes in particular support much of the tourist industry in the County. Canoeing is a popular sport. Fishing for trout is very popular on most streams, with several lakes also having trout populations. The warmer lakes normally have bluegill, bass, perch and pike. Tiger musky have also been stocked in several lakes.

Threatened & Endangered Species

Alcona County is home to a number of plants and animals that are threatened, endangered or are of special concern as identified in Michigan Natural Features Inventory (MNFI) database. Michigan Natural Features Inventory (MNFI) is a program of Michigan State University Extension that works in close cooperation with the Michigan Department of Natural Resources and The Nature Conservancy. The following list presents the endangered or threatened plant and animal species which can be found in Alcona County, and which are protected under the Natural Resources and Environmental Protection Act of the State of Michigan (Part 365 of Public Act 451 of 1994, as amended). This list also includes plant and animal species of special concern. While not afforded legal protection under the act, many of these species are of concern because of declining or relict populations in the State. Should these species continue to decline, they would be recommended for threatened or endangered status. Protection of special concern species before they reach dangerously low population levels, would prevent the need to list them in the future by maintaining adequate numbers of self-sustaining populations.

The most widely known of the endangered species is the Kirtland's Warbler. The warblers utilize only young jack pine stands for nesting. In a natural unmanaged setting, jack pine forests are perpetuated by forest fires. During prehistoric times, wildfires would periodically sweep across the landscape, burning native pine forests and creating favorable seed beds for species like jack pine. In fact, jack pines need fire to open the cones and release seeds. According to the Natural Features Inventory, "The Kirtland's warblers' breeding range currently encompasses ten counties in Michigan's northern Lower Peninsula and four counties in the Upper Peninsula. They primarily overwinter in the 600 mile Bahama Archipelago, although, individuals also have been observed on surrounding island chains (Evers 1994).

The bulk of the breeding population, 93% of the singing males in 2001, resides in the Northern Lower Peninsula counties of Crawford, Ogemaw, Oscoda, Roscommon, and Alcona. During the breeding season, the Kirtland warbler is dependent upon large, relatively homogeneous stands of jack pine (*Pinus banksiana*) with scattered small openings. Warblers will start using a jack pine stand when the height of the tree reaches 5 to 7 feet, or at an average tree age of 5-8 years old. Nests are built on the ground, concealed in the low cover of grasses, blueberries, sweet fern, bracken fern, blackberry, trailing arbutus, and/or wintergreen. Once jack pines reach a height greater than 18 feet (approximately 20 years old), the lower branches begin to die and the ground cover changes in composition, thereby leading to unfavorable nesting conditions. (Evers 1994). Jack pines need fire to open the cones and release seeds. All managed jack pine stands are harvested and planted or seeded mechanically to create warbler nesting habitat. Occasionally, harvested sites may be burned prior to planting or seeding.”

Sites of Environmental Contamination

The Michigan Environmental Response Act (Part 201 of PA 451 of 1994, as amended) provides for the identification, evaluation and risk assessment of sites of environmental contamination in the State. The Environmental Response Division (ERD) is charged with administering this law. A site of environmental contamination, as identified by ERD, is “a location at which contamination of soil, ground water, surface water, air or other environmental resource is confirmed, or where there is potential for contamination of resources due to site conditions, site use or management practices. A search of the Department of Environmental Quality’s web site database found two sites of environmental contamination in Curtis Township.

Site ID: 01000007
Site Name: Glennie Storm Drain
Site Address: Glennie Rd
City: Glennie
Zip Code: 48737
County: Alcona
Source: Unknown
Pollutant(s): Trichloroethene
Score: 20 out of 48
Score Date: 1990-12-10
Township: 25N **Range:** 06E **Section:** 16
Quarter: NW **Quarter/Quarter:** SW
Status: No Action Taken

Site ID: 01000021
Site Name: Ron's Repair
Site Address: 2894 State Street
City: Glennie
Zip Code: 48737
County: Alcona
Source: General Automotive Repair Shop
Pollutant(s): BTEX , -
Score: 31 out of 48
Score Date: 1993-08-30
Township: 25N **Range:** 06E **Section:** 08
Quarter: SE **Quarter/Quarter:** SE

Alcona County Element List Current as of 6/4/2003			
Scientific Name	Common Name	Federal Status	State Status
<i>Accipiter cooperii</i>	Cooper's Hawk		SC
<i>Accipiter gentilis</i>	Northern Goshawk		SC
<i>Buteo lineatus</i>	Red-shouldered Hawk		T
<i>Calypso bulbosa</i>	Calypso or Fairy-slipper		T
<i>Carex albolutescens</i>	Greenish-white Sedge		T
<i>Carex frankii</i>	Frank's Sedge		SC
<i>Carex nigra</i>	Black Sedge		E
<i>Cirsium hillii</i>	Hill's Thistle		SC
<i>Cirsium pitcheri</i>	Pitcher's Thistle	LT	T
<i>Cypripedium arietinum</i>	Ram's Head Lady's-slipper		SC
<i>Dalibarda repens</i>	False-violet		T
<i>Dendroica discolor</i>	Prairie Warbler		E
<i>Dendroica kirtlandii</i>	Kirtland's Warbler	LE	E
Dry northern forest	Dry Woodland, Upper Midwest Type		
Dry-mesic northern forest			
<i>Emys blandingii</i>	Blanding's Turtle		SC
<i>Festuca scabrella</i>	Rough Fescue		T
<i>Gavia immer</i>	Common Loon		T
<i>Glyptemys insculpta</i>	Wood Turtle		SC
Great blue heron rookery	Great Blue Heron Rookery		
<i>Haliaeetus leucocephalus</i>	Bald Eagle	PS:LT,PDL	T
Hardwood-conifer swamp			
<i>Panax quinquefolius</i>	Ginseng		T
<i>Percina copelandi</i>	Channel Darter		E
<i>Planogyra asteriscus</i>	Eastern Flat-whorl		SC
Poor conifer swamp			
Poor fen	Poor Shrub/herb Fen, Upper Midwest Type		
<i>Prunus alleghaniensis</i> var. <i>davisii</i>	Alleghany or Sloe Plum		SC
<i>Pterospora andromedea</i>	Pine-drops		T
Rich conifer swamp			
<i>Sistrurus catenatus</i> <i>catenatus</i>	Eastern Massasauga	C	SC
<i>Sterna caspia</i>	Caspian Tern		T
<i>Trimerotropis huroniana</i>	Lake Huron Locust		T
Wooded dune and swale complex			
Source: Michigan Natural Feature Inventory, MSU Extension. *LE = Listed endangered, LT = Listed threatened, PDL = Proposed delist, PS = Partial status (federally listed in only part of its range), C = Species being considered for federal status. ** E = Endangered, T = Threatened, SC = Special concern.			

Status: No Action Taken

Chapter 5 - Existing Land Cover/Use

Prior to determining future land uses and developing a future land use map, a community must have an accurate assessment of existing land uses. This chapter presents information on both the types and location of existing land uses. The process identifies both urban built-up land uses such as residential and commercial, along with natural land cover types like forests and wetlands. As a result the final map presented in this chapter is a hybrid that combines land cover and land use.

Land Division Patterns

As development occurs, larger tracts of land are generally broken down into smaller parcels. Therefore, studying the existing pattern of land divisions is one way to analyze the status of land use and development. Land division patterns for Curtis Township are discussed below. Approximately 44 percent of the land area is publicly owned. The U.S. Forest Service (USFS) is the largest single owner covering approximately 31 square miles. USFS lands cover much of western half of the Township. **Figure 5.1** depicts ownership types and land divisions.

Most of the private ownership is in tracts that are 10 acres and larger. Large tracts of private ownership, typically farmland and hunt/fish clubs, are scattered throughout the Township. Subdivisions and small tracts are clustered around lakes and near the communities of Curtisville and Glennie.

Existing Land Cover/Use Characteristics

NEMCOG mapped existing land cover/use in the Township in 2005. The map of existing land use, shown as **Figure 5.2**, illustrates the distribution of land uses throughout the Township. Michigan Resource Information System (MIRIS) land cover/use classification categories were used to map the existing land cover/use. The map represents an update of the 1978 MIRIS land cover/use map. The MIRIS map was updated with 1998 digital ortho-photo quads and field checking (conducted in summer of 2005). The updated information was then computerized to produce the existing land cover/use map and statistics. **Table 5.1** presents the land uses, showing the number of acres and percent of the Township in each of the land use categories. Each of the land use categories is discussed later in this chapter. One important land use trend was noted during the MIRIS land cover/use map update. There has been an increase in low density residential development on both large and small tracts throughout the township. These are typically occurring on parcels two acres and larger.

Residential

As can be seen in **Figure 5.2 - Existing Land Cover/Use Map** and **Table 5.1**, residential use ranks fifth in the amount of land under a particular land use. Residential use occupies approximately five percent (2,260 acres) of the land in the Township. Residential development is concentrated near the communities of Glennie and Curtisville, around lakes and long primary roads. Single family residential accounts for all of the residential development in the Township.

Commercial

Commercial development is located in the community of Glennie and along M-65. Lands used for commercial purposes comprise 0.2 percent of the Township's area or 91 acres.

Industrial/Extractive/Utilities

Land in this use category covers three tenths of a percent or 224 acres of the Township. This category includes the Alcona Pond Dam structure and electricity generation facility, community solid waste transfer station, and several sand and gravel pits.

Table 5.1 Existing Land Use Statistics Curtis Township		
Land Use Category	Number of Acres	Percent of Township
Residential	2,260	5.0
Commercial	91	0.2
Industrial/Extractive/Utilities	139	0.3
Institutional/Recreational	291	0.6
Agricultural	3,576	7.9
Non-forested Uplands	3,157	7.0
Upland Forests	27,183	60.0
Lowland Forests	4,650	10.3
Non-Forest Wetlands	2,246	5.0
Water	1,701	3.8
TOTAL	45,295	100
Source: Michigan Resource Information System and NEMCOG photo interpretation, field verification and map updating.		

Institutional/Recreational

This category includes institutional uses such as churches, parks, cemeteries, campgrounds, golf courses and community facilities. Developed public and private recreational facilities are mapped as part of this category.

As noted earlier, some 44 percent of Curtis Township area is in public ownership. While these areas were not classified as recreational, the considerable amount of public land does offer residents and visitors ample area for a wide range of outdoor recreational activities. For example, persons wishing to pursue the sport of fishing can access Au Sable, tributary creeks and several small lakes.

Agricultural

Agricultural lands currently comprise approximately 3,576 acres or 7.9 percent of the Township. Farming activities include hay production, pasture land and row crops. In comparison to the 1978 MIRIS Land Cover Inventory, there is less land being farmed. However, generally the land is converting to a less intensive use of open lands and not being converted to subdivisions and commercial uses.

Non-forested Uplands

The non-forested land category is the fourth most prominent land cover type in the Township. This category consists of herbaceous open and shrub land. As shown in **Table 5.1**, 3,157 acres or 7.0 percent of the Township is in the non-forested category. A majority of the non-forest areas are old farm fields.

Upland Forests

The upland forest lands are the most predominant land cover in the Township and accounts for 60 percent or 27,183 acres of the Township. Of the forested lands, the most prevalent forest type is aspen-birch. The second most common type is oak, followed by pine forest types (jack pine, red pine and white pine trees). Northern hardwoods (sugar maple, beech, basswood) accounts for the smallest acreage. This is in contrast to its prevalence in the landscape prior to logging and land clearing in the early 1900's. According to the pre-settlement vegetation map in Chapter 4, northern hardwoods forests covered much of the township. Land clearing for farming and conversion of the forest type to aspen-birch types resulted in a significant reduction in northern hardwood forests. More information on these forest types can be found in Chapter 4.

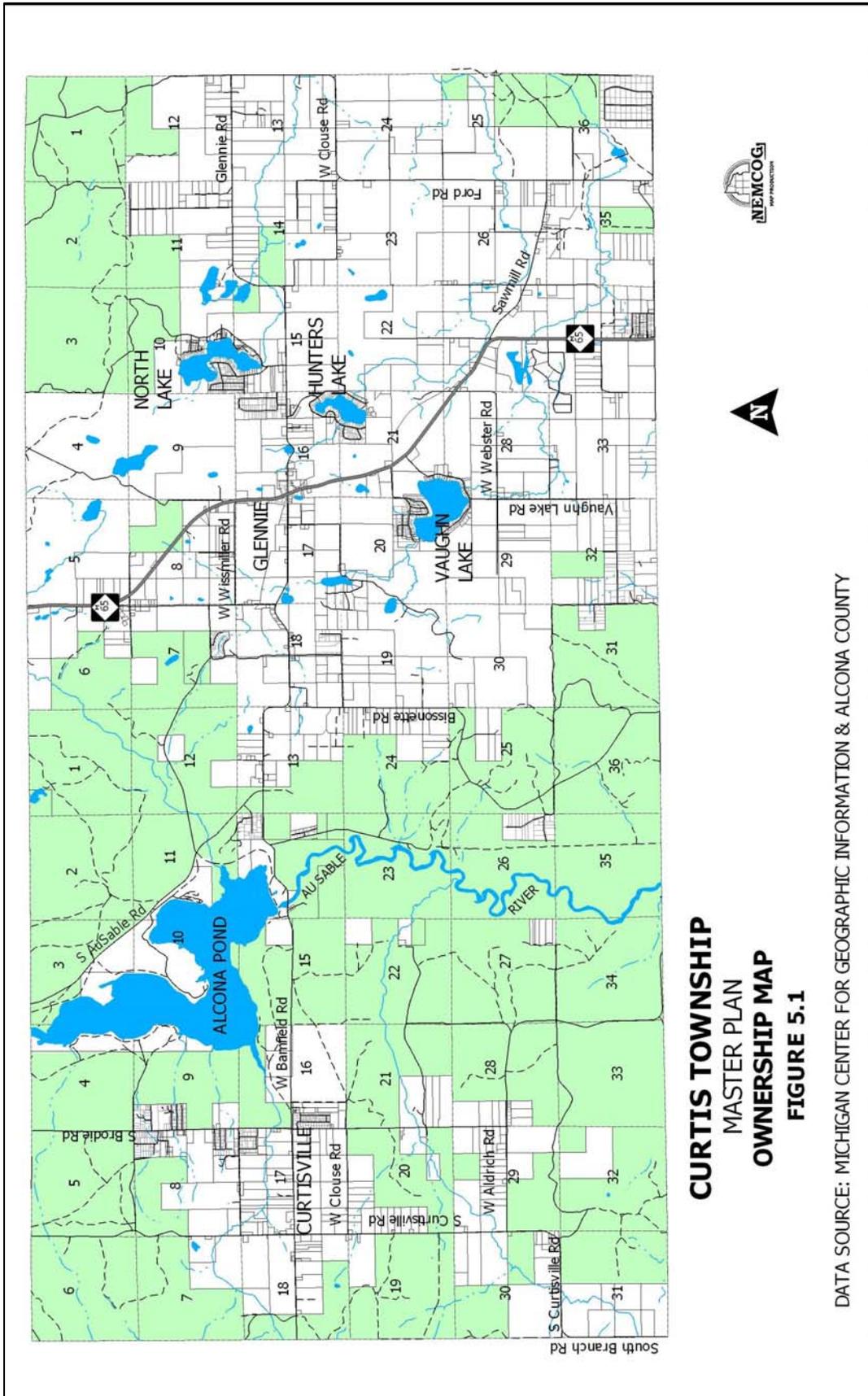
Lowland Forests and Wetlands

Wetlands are defined as land that has sufficient water at, or near, the surface to support wetland or aquatic vegetation. These areas are commonly referred to as swamps, marshes and bogs. The wetland category comprises non forested types such as lowland brush (tag alder and willow), sphagnum bogs, emergent vegetation in lakes and beaver floodings and wet meadows. Non-forested wetlands account for 2,246 acres or 5.0 percent of the Township.

Lowland forests grow on soils with a seasonally high water table and are often classified as wetlands. Lowland forests, include areas that support lowland hardwoods and conifers, such as northern white cedar, black spruce, balsam fir, elm, black ash, red maple, ash and aspen species. Lowland forests occupy 4,650 acres or 10.3 percent of the Township area. Two of the most important functions of wetlands are water quality protection and ecological corridors. As can be noted on the Existing Land Use Map, the major wetland areas are adjacent to rivers and creeks. The network of wetlands receive surface water and subsurface water discharge, creating the many streams and creeks which in turn flow into the area lakes. The interconnected resources exemplify how activities distant from major water bodies can still have an impact on the water quality.

Surface Water

Open water comprises 1,701 acres in Curtis Township. The Alcona Pond is the largest water body. Numerous smaller lakes, small impoundments and the Au Sable River are mapped in this category.



Chapter 6 – Goals and Objectives

The purpose of this chapter is to establish the goals and objectives that will guide future growth and development in a manner that will reflect the natural characteristics of the land and the planned provision of public utilities and services; strive to preserve scenic beauty; encourage the stewardship of natural resources; protect environmentally sensitive areas; conserve productive farm and forest lands; and enhance the rural, scenic character of the Township. In developing community goals and objectives, it is important to analyze existing community characteristics such as social and economic conditions, services and facilities, environmental conditions, and existing land use. Preceding chapters of this master plan have documented the above characteristics.

An equally important step in developing goals is community input. A public input workshop was held for the Curtis Township Master Plan development. The workshop was held at the Curtis Township Hall on September 15, 2005 at 7:00 p.m. Nineteen people attended and participated in the workshop. The group identified assets to protect and problems to address. In addition, the participants were asked to develop a vision of the community 20 years into the future. A full listing of the workshop comments is included in **Appendix A**.

Curtis Township Assets to Preserve

Participants in the workshop noted the community is blessed with an abundance of high quality natural resources. Resources include forests, wetlands, open space, lakes, rivers, wildlife and fish. The resource centerpiece of the Township is the Au Sable River and Alcona Pond. Fresh air, clean surface and groundwater and extensive forests equate into a healthy and safe environment. Reasonable public access to the water and other resources is an important community feature.

The small town-rural character of Glennie and Curtisville form strong community identity for residents and visitors. Extensive forest lands, public lands and low density residential development create a landscape with considerable open space. Whether along the stream banks, within neighborhoods or nestled in forests, it is a safe, quiet, and clean place to live. Businesses provide people with needed goods and services. Residents and visitors enjoy the diversity of recreational opportunities such as hunting, fishing, bird-watching, canoeing, camping, “two-tracking” and golfing. The golf course and associated facilities are truly an asset to the community. Community facilities and services such as the school, library, fire department, first responders, churches, and transfer station are important to the day to day life. It is a community that pulls together to work towards a common good, where people take pride in the area and have hard working ethics. A list of assets to preserve is presented in Appendix A.

Curtis Township Problems to Address

Based on comments from participants of the workshop, it is clear that problems do exist in Curtis Township. Limited employment opportunities make it difficult to attract and keep young families in the area. There is a concern about extensive clear-cutting on public lands and inconsistent reforestation programs on private lands. Community is not involved in resource management decisions on public lands. The community is lacking in several key services and facilities including medical facilities, doctors, dentist, drug store, cell phone service, and

community center. Services to address the needs of the aging community are very limited. The lack of amenities such as hotels and restaurants and limited areas to locate new businesses was identified as a hindrance to growth and development. There is a need to improve the look of existing businesses in Glennie and develop a distinctive, identifiable character of the downtown business district.

Roads need to be better maintained and safety issues addressed such as a stop light at the intersection of M-65 and F-30 (Bamfield Road). Residential development continues in jack pine forests without consideration of "Fire Wise" practices. An increasing demand for community services is putting a strain on local governments' limited budgets. A complete listing of comments can be found in Appendix A.

Curtis Township in the Year 2025

Visioning is a process to help community members imagine, describe and attain a preferred future for their community. Participants were asked to respond to the following visioning exercise. To encourage a free flow of ideas, answers were not constrained by present situations. All participants had opportunities to present their ideas in an open, informal setting. *Think about the changes that have occurred over the last 20 years or even the last 10 years. Now think what could happen over the next 25 years. "Imagine you have friends or relatives visiting in the year 2025. You decide to take them for a tour to show off the wonderful community in which you live. You take a drive through countryside; admire the beauty of the landscape and marvel at the development; you stop at a park for a picnic. Much of what you see and hear pleases you, and some activities surprise you. Describe the 2025 future that you envision. Consider the physical environment (residential, commercial and industrial development); the natural resources (forests, water, open space and farmlands); and community facilities and services.*

Curtis Township will be known for its abundance of natural resources and safe rural setting. The Au Sable River is an ever important community centerpiece. Forests are an important part of the landscape. There are large tracts of undeveloped lands, though most of these are in public ownership. The waters of streams and creeks, as well as groundwater, have not been compromised by development and growth. Residents and vacationers are able to enjoy top quality hunting, fishing, bird watching and numerous other outdoor activities.

People can enjoy the library, parks, a community center, churches, nice restaurants, shops and a nature center, either within the Township or in adjacent communities. The community welcomed demographic trends and by partnering with agencies and businesses, has developed facilities, such as a senior center, affordable housing, senior housing, public transportation, community health center and safe pedestrian facilities, for retired residents. As well, facilities and activities for youth have improved the quality of life for young families. Neighborhoods are neat and safe. An active "Fire Wise" program has reduced the potential for losses from wildfires. Neighbors helping neighbors is still an everyday occurrence.

Infrastructure improvements to the Glennie business district, such as streetscapes and building remodeling, has enhanced the appearance and business environment. There are more businesses providing basic services to residents and visitors. Shops, restaurants, grocery stores, hotels, recreation facilities, service businesses are located in commercial nodes within the Township. The community has been able to accommodate home based businesses, which are a benefit to the local economy. Recreation based businesses thrive, bringing tourism dollars

into the community and providing employment opportunities for residents. Through land use planning and zoning regulations, businesses and light industries are located in non-sensitive areas and while benefiting the Township, they have not negatively impacted the resource base. Bike trails connect residential areas to the communities and parks. There is a new community center with a park, playground and tennis court. Fire departments in Glennie and Curtisville provide fire and first responder protections to residents. Improvements to M-65 have brought more travelers and commerce to the community. Roads are better and there are less seasonal roads.

Community Goals and Objectives

After reviewing the community input and considering the existing conditions background information, the planning commission established goals and Objectives. These goals and Objectives will provide guidance to the Curtis Township planning commission and board.

Planning and Community Development

Goal: Guide future development in a manner that will protect existing development; preserve rural community character; and conserve natural resources and environment, yet meets the long-term needs of the community.

Objectives:

- Implement the Curtis Township master plan through the township zoning ordinance.
- Control the location of new development by designating appropriate areas for new residential, commercial, industrial and resort/recreational land uses.
- Establish landscape requirements for new commercial and industrial development, such as appropriate setbacks, green space, buffer zones between differing land uses, screened parking areas, and roadside landscaping.
- Develop open space residential and commercial development design standards to preserve scenic views, rural character, farmland, meadows, woodlands, steep slopes and wetlands.
- Improve regulations and standards to protect the community against high noise levels and night sky lighting pollution.
- Implement access management standards for commercial development along the primary corridors which include M-65 and F-30.
- Evaluate the establishment of a waterfront overlay district along designated waterways that will set forth consistent special requirements and standards for development in these sensitive areas.
- Research, develop and recommend to the Township Board ordinances that establish placement and size of cellular, communication and transmission towers.

- Consistently enforce blight ordinance to work towards improving the quality of housing and protecting property values.
- Enforce all ordinances in a consistent and fair manner.
- Promote walkable communities by developing trails, sidewalks and safe pedestrian crosswalks in developed areas of the Township.
- Increase safety and reduce the visual impact of on-site and off site signs and billboards, by controlling their size, number, illumination, and configuration.
- Develop standards for shared road access.
- Establish a Community “Fire Wise” education program to protect existing and new development from wildfires.
- Require use of “Fire Wise” strategies for new subdivisions, condominium developments, and multi-family residential complexes, and any development requiring site plan review.

Government

Goal: Provide services in an efficient, environmentally responsible and caring manner to meet the needs of the residents, property owners, business people and visitors.

Objectives:

- Ensure a responsible fiscal policy and budget process to finance the Township government.
- Promote intergovernmental and regional cooperation on issues of mutual concern.
- Continue to work with Alcona County to provide emergency services to Township residents.
- Maintain communication with the Department of Natural Resources and US Forest Service to provide input into the usage and management of the public lands within the Township.
- Promote the involvement of volunteers in the government process.

Residential Land Uses

Goal: Allow for suitable housing opportunities for all income levels and age groups, including year-round residents and seasonal residents.

Objectives:

- Designate areas appropriate for all types of residential development including single family, multi-family, elderly housing, condominium, low to moderate income housing, and extended care facilities.

- To preserve open space and vital natural resources, encourage the development option of clustered housing in buildable portions of the Township.
- Encourage new residential development to be sited in a manner that protects the rural character and scenic views by maintaining proper setbacks and providing landscaping screening as appropriate.
- Encourage existing housing stock and neighborhoods to be kept in good repair, appearance, usefulness and safety.
- Require adequate buffers and transition areas between residential and non residential uses to maintain property values and visual attractiveness.
- Preserve the integrity of existing residential neighborhoods by protecting them from intrusion of incompatible uses.

Commercial Areas and Activities

Goal: Promote a varied business environment, and encourage the development and expansion of businesses to meet the needs of residents and tourists, while preserving the natural environment and rural character of the community.

Objectives:

- Guide commercial development into commercial nodes and community business districts through the master plan and zoning ordinances; while discouraging linear strip development along primary county roads and state highways where it is not zoned for such use.
- Designate areas for future commercial development by expanding existing business districts.
- Seek grants to fund infrastructure improvements to Curtis Township, such as streetscape projects and building renovations.
- Develop and utilize innovative planning and zoning techniques, such as clustering, shared parking, access management, and landscaping to regulate commercial development along primary county roads and state highways.
- Make parking (public and private) needs a consideration for all expansions and new development.
- Require landscape buffers where commercial uses are adjacent to residential uses.
- Work with county and regional organizations to develop strategies for marketing the area as a tourism destination with recreational, cultural and historic components.
- Work towards establishing a community health center in Glennie.

Industrial Land Uses

Goal: Encourage the establishment of new light industries to diversify the local economy and to create more stability and self-sufficiency for the community.

Objectives:

- Ensure that industrial uses are developed in an environmentally sensitive manner, are harmonious with the existing community and are located near access to state trunklines.
- Designate areas for development of light industries and high tech industries that do not pollute the air, soil, or water nor offend because of noise, odor, or visual impact, to locate in zoned industrial areas within the Township. Due to the lack of public water and sewer, these industries should not require high water usage or generate large amounts of septage.
- Require landscape buffers where industrial uses are adjacent to other land uses.
- Develop guidelines to ensure that extractive development takes place in an environmentally sensitive manner.
- Require landscape buffers around extractive uses to screen adjacent properties and public roadways.
- Establish criteria and require reclamation extractive areas after the operation is complete.

Infrastructure and Community Facilities

Goal: Improve the Township's transportation systems, community facilities, and public utilities to accommodate the needs of residents and visitors.

Objectives:

- Work with the Alcona County Road Commission to plan for upgrading of roads, maintenance of existing roads, and vehicular and pedestrian safety at intersections and on roadways.
- Develop a capital improvements plan to address the long term needs for road improvements, township hall maintenance, community center, fire protection and emergency services, and community recreation.
- Continue to support fire departments in Glennie, and Curtisville as well as the Alcona County Emergency Response facility in the Township.
- Construct a new community center/activity area in the community of Glennie.
- Seek grants through federal, state and other funding sources for infrastructure improvements, community facility and service improvements and economic development projects.
- Continue to maintain and, when necessary, expand Curtis Township Cemeteries.

- Support the continuation and expansion of public transit to better serve the needs of senior citizens and other transit dependent Township residents.
- Direct development to areas with existing infrastructure and where infrastructure is not adequate pursue grants with contributions from the developers to fund the upgrading of infrastructure to support proposed new development.
- Educate landowners on the proper maintenance of septic systems.

Recreation and Public Lands

Goal: Preserve and improve access to public lands and water, establish recreational trails and improve public parks for the enjoyment of residents, visitors and future generations.

Objectives:

- Develop a Township Recreation Plan that identifies and prioritizes needed community recreation facilities.
- Pursue grants and funding sources to supplement maintenance, improvements and expansions of community parks.
- Retain and improve public water access sites for residents, seasonal residents and visitors.
- Facilitate the designation of snowmobile routes through the Township to connect community centers to regional trail systems. Work with the Alcona County Road Commission, Alcona County Sheriff Department and the Michigan Department of Natural Resources to accomplish this objective.
- Work with businesses and agencies to develop a snowmobile/horseback riding rest station and trailhead within the community.
- Encourage the expansion and creation of non-motorized recreation trails such as x-country ski trails, bike trails and horse riding trails on both public and private lands.
- Connect parks, community centers and residential areas with bicycle and walking trails.

Through zoning and review procedures, proposed subdivisions, site condominiums, planned unit developments, commercial and industrial developments should be encouraged to provide or participate in the development of neighborhood parks and open space.

Natural Environment

Goal: Protect and preserve the natural environment by protecting groundwater, surface water, environmentally sensitive areas, highly erosive areas, woodlands, wetlands, open space, fish and wildlife.

Objectives:

Encourage a land use pattern that is oriented to the natural features and water resources of the area by evaluating: type and density of proposed developments based on soil suitability; slope of land; potential for ground water and surface water degradation and contamination; compatibility with adjacent land uses; and impacts to sensitive natural areas like wetlands and wildlife corridors.

Encourage the low level density of existing residential and commercial development adjacent to lakes, ponds, streams, and wetlands.

Promote greenbelt areas adjacent to lakes, ponds, streams, and wetlands through development of a greenbelt section in the community's zoning ordinance.

Implement groundwater protection and stormwater management regulations in the community's zoning ordinance, while encouraging the continued natural use of wetlands as groundwater recharge, stormwater filtering and stormwater holding areas.

Encourage the protection on steeply sloped areas. Encourage erosion control measures where construction is permitted. Encourage slope stabilization and revegetation on disturbed slopes or in extraction areas.

Encourage the preservation of topography such as slopes, valleys and hills and discourage large scale cut and fill practices during site development.

- Integrate wetlands, woodlands and meadows into site development as aesthetic and functional features.
- Encourage the retention of agricultural lands, forest lands and ecological corridors through available mechanisms such as open space and farmland agreements, forest stewardship programs, and conservation easements, as well as zoning incentives.
- Encourage the use of native plant species and naturalized landscape designs, where appropriate, to enhance the community's existing character.
- In recognizing the importance of trees in the suburban environment, encourage the retention of existing native trees and the establishment of street and shade trees in residential neighborhoods and commercial developments.

Forest Lands

Goal: Support the retention of the forestry land base as a viable resource and to insure that forestry is a component of the economic diversity of the Township.

Objectives:

- Maintain and provide for the preservation of woodlands where feasible, including tree farming and specialty crop farms.
- Support science based forest and wildlife management activities on public and private lands in the township.
- Participate in the U.S. Forest Service Forestry Planning activities for lands within the Township.
- Discourage the conversion of forestland into other more intensive uses. Recognize forestland as contributing to the scenic, rural character and economy of the Township.
- Due to negative impact to groundwater and surface water resources, discourage the establishment of industrial feedlots.

Farmlands

Goal:

Preserve viable farmlands designated as prime, unique, or of local importance from conversion to and encroachment of non-agricultural uses and to mitigate conflicts between farm and non-farm uses in designated agricultural areas.

Objectives:

- Maintain productive agricultural farmland where feasible.
- Allow for and encourage farmland protection through the "transfer of development rights" and "purchase of development rights". Encourage clustering of non-farm development to minimize agricultural land consumption.
- Support legislative reform measures to assist in retaining farmland.
- Discourage the conversion of farmland into other more intensive uses.

Chapter 7 – Future Land Use

According to the US. Census Bureau, over the last decade Curtis Township experienced a 22.2 percent growth rate, adding 249 persons to its year round population. In percent growth rate, the Township was the fourth fastest growing community in the county. However, the Township had the largest numeric increase in population of any community in the county. Curtis Township accounted for 15 percent of the County's overall population increase from 1990 to 2000. While residential growth is occurring in Curtis Township, according to the current land use inventory, 94 percent of the land area was classified as forest, farmland, non-forest open space, and wetlands. Six percent of the Township's land was used for urban related purposes, including extractive, commercial, industrial, utilities, institutional/recreational and residential development.

The next step in developing a Master Plan is to determine locations for types and intensities of development that may occur over the next twenty years. With the establishment of a Future Land Use Plan, Curtis Township intends to ensure that existing land uses such as residential, commercial and industrial can continue; that irreplaceable resources such as water, wetlands, forestlands and farmlands will be protected; and that reasonable growth can be accommodated with minimal land use conflicts or negative environmental impacts.

The Township Planning Commission with public input and assistance from NEMCOG developed future land use recommendations for Curtis Township. Recommendations are based on an analysis of several factors including: social and economic characteristics, environmental conditions, existing land uses, available community services and facilities, existing patterns of land divisions, current zoning and community goals and objectives.

Master Plan encourages and supports public groups and organizations that promote the preservation, protection and proper development of the township natural resources.

Future Land Use Planning Areas

The community has identified seven categories of land use needed to serve future development needs. These categories are listed below. **Figure 7.1** is the future land use map of Curtis Township that depicts the locations of planning areas. This section will provide explanations of each land use planning area, including purpose, recommended development density and compatible uses. This future land use plan recognizes that existing parcels within future land use planning areas may be less than the recommended minimum lot size. The plan does not intend to restrict the construction of new residences or continued residential use of these existing parcels.

Future Land Use Planning Areas

- Residential
- Commercial
- Light Industrial
- Community Recreation
- Agricultural
- Forest Recreation
- Resource Conservation

Residential

Location and Setting: The Residential category is intended to preserve existing residential development where land has already been subdivided into smaller lots and to expand specific areas for future residential growth. These areas are concentrated within the communities of Curtisville and Glennie, and around Vaughn, Hunters and North lakes. See **Figure 7.1** for locations of residential future land use planning areas.

Uses: Principal uses include single family dwellings and two-family dwellings. Where designed to be compatible with residential uses, other uses to be considered include multi-family dwellings, home occupations contained within the dwelling, neighborhood services, churches, schools and libraries, group homes per state law, utilities, bed and breakfast facilities, parks and playgrounds, community buildings and publicly owned buildings, public utility buildings, and publicly owned and operated parks. The Townships should require site plan review and special approval for all uses other than individual single and two family homes.

Development Density: The Residential development category is primarily designed to accommodate single-family dwellings on lots with a typical size of 12,000 sq. feet. Older platted subdivision areas contain lots created prior to implementation of the zoning ordinance. These lots-of-record are smaller than minimal lot sizes in current residential zoning requirements. Future development regulations should recognize these conditions and provide for the reasonable continuance of their use and character.

Other Development Considerations: Due to a lack of public water and sewer service available, higher density residential uses, such as apartments, townhouses, condominiums, mobile home parks, convalescent or nursing homes and manufactured home developments should be adequately engineered. If adequately engineered wastewater disposal systems are included as part of the design, higher density development can be considered. It is also important to note that under state law, manufactured homes are allowed in any residential area if the structure meets all requirements set for site-built homes. Additionally, a manufactured home development would be allowed in areas zoned RM (Residential Mobile Home Park). However, given the soil limitations for septic system drain field operation, compact mobile home parks could not be accommodated unless adequately engineered wastewater disposal systems are included as part of the design.

Commercial

Location and Setting: At the present time commercial development is limited in the Township. Existing business areas are located within Glennie and Curtisville and along M-65. The community has chosen to direct future commercial development into areas adjacent to existing commercial development. Areas for commercial development include Glennie, areas along M-65 north and south of Glennie and two commercial nodes near Curtisville. Figure 7.1 shows location of commercial future land use planning areas.

Development Density: Commercial lots along major roads with higher traffic volumes and higher speed limits should have widths that can accommodate recommended driveway spacing in MDOT's access management guidebook for local communities. For example, at speed limits of 55 mph, driveways should be spaced at least 455 feet apart. As an alternative, narrower lots would be acceptable if frontage roads or shared driveways are incorporated in development plans. Access management will preserve the safety and efficiency of travel; preserve community

character; advance economic development goals; and protect the substantial public investment in roads and highways.

Uses and Development Considerations: Commercial developments in rural, recreational tourism based townships tend to serve local residents and visitors. Primary uses include retail sales, grocery stores, gas stations/convenience stores, restaurants, personal services, and office uses. Commercial developments require site plans and in some cases a special use permit. Businesses should have adequate buffers separating operations from residential and resource uses. Access management, shared driveways and parking lots, stormwater management, groundwater protection, pedestrian access, landscaping, buffering, signage, billboards, traffic and pedestrian safety, and outdoor lighting should be considered in development plans. Roadside landscaping to maintain traffic safety and minimize any negative visual impacts of development should be required along the main roads. Larger scale commercial development often needs municipal water and sewer or may need a satellite water or sewer system.

Other Considerations: State law grants the authority to regulate billboards along state and federal highways to townships, cities and villages, but not to counties.

Light Industrial

Location and Setting: The community has identified the need to improve employment opportunities and expand the local tax base. Industrial future land use areas are located at nodes along M-65. The southern location shows the approximate geographic extent of light industrial development. The other area is designated with a symbol to indicate the approximate location, but not the extent of future industrial development in the Township. The Township acknowledges there are industrial parks in neighboring communities such as Lincoln and Oscoda. In the short term, industrial uses that require municipal water and sewer should be guided to existing industrial parks.

Uses: The light industrial future land use category is designed to provide sites for wholesale activities, warehouses, major repair operations, retail operations that require large outside storage areas, sawmills, wood processing facilities, and light manufacturing. These more intensive uses require site plans and in some cases a special use permit. Operations are subject to performance standards relative to impacts on the community. This district is compatible with a business district, but not compatible with residential districts without a required buffer.

Development Density: Recommended minimum lots sizes would be two acres.

Other Development Considerations: Development standards should address access management, buffering, signs, stormwater management, groundwater protection and landscaping to maintain traffic safety and minimize any negative visual impacts of development along the main roads. Larger scale development often needs municipal water and sewer or may need a satellite water or sewer system. Manufacturing and warehousing development should be located on all-season roads. State law grants the authority to regulate billboards along state and federal highways to townships, cities and villages, but not to counties.

Community Recreation

Location and Setting: The community recognizes the importance of outdoor recreation to the local economy. Curtis Township operates campgrounds on Alcona Pond. The 470 sites are rented by the season, so there isn't a constant turnover of campers. During primary camping season, the campground results in an increase of over 1,000 persons in the township, nearly doubling the size of the Township's year round population. The future land use designation includes the campgrounds and additional properties for expansion or development for other outdoor recreational activities. The picnic area on Indian Lakes is included in this category.

Uses: Uses such as picnicking, boating, fishing, swimming, camping, biking, bird watching and hiking are considered compatible uses. Encourage the cooperation of groups responsible for maintenance and upkeep of the trail systems in Curtis Township to move towards multiple use of those trail systems.

Other Considerations: This plan supports the continued operation and ongoing capital improvements to the parks. To supplement local expenditures for maintenance and improvements, the plan encourages the Township pursuing grants from federal and state agencies. Public access to lakes and rivers should be maintained and where necessary improved.

Agricultural

Location and Setting: Curtis Township recognizes the presence of farmland as well as wood lots and old farm fields contribute to the community's scenic and rural character. The agricultural future land use designation is intended to encourage the continued existence of farms in the Townships particularly on prime agricultural soils and active farms on large parcels. Designated areas are primarily located in the eastern third of the Township, as shown on the future land use map, **Figure 7.1**.

Uses: Farm dwellings and agricultural accessory buildings are primary uses, as well as crop production, roadside stands, small scale forestry, raising of livestock normally associated with farming activities, and single family residential. Special uses allowed if they are designed to be compatible with primary surrounding uses would include: plant nurseries, greenhouses, parks, bed and breakfast inns, churches, home occupations, golf courses, telecommunication towers, kennels, private clubs, veterinary services, human care facilities, essential service buildings, publicly owned buildings and publicly owned parks would be allowed.

Development Density: The plan recommends this category accommodates single family dwellings at an approximate maximum density of one unit per ten acres .

Other Development Considerations: There are no current plans for providing municipal water or sewer service. Buffers or physical separation from incompatible uses (commercial and industrial) are necessary when agricultural areas are located next to more intensive development. The plan further recommends incorporating open space development options, river set-backs and native vegetation greenbelts requirements into the zoning ordinance.

Forest Recreation

Location and Purpose: The Forest Recreation category is the second most extensive future land use category, covering 33 percent of the township, see **Figure 7.1.** The land cover is a mix of upland forests, lowland forests, old farm fields and low density single family residential. Both seasonal and year round homes are located in this area. This category encourages the continuation of resource management and outdoor recreational activities. Curtis Township recognizes the presence of farmland as well as old farm fields contribute to the scenic and rural character valued by the Township residents. This land use designation is intended to encourage the continued existence of private forestlands. Areas currently zoned as Forest/Residential Resort and Agricultural are included in this category.

Uses: Along with low density residential uses, farming, forestry activities associated with timber and wildlife management would be considered compatible in this area. Other primary uses include seasonal cabins, public and private conservation areas, hunting camps, parks, and playgrounds. If designed to be compatible with surrounding neighborhoods, special uses such as recreational camps and clubs, campgrounds, bed and breakfast operations, home occupations, cottage industries/home based businesses, golf courses and resorts (recommended on twenty acres or more) would be allowed.

Development Density: The plan recommends this category accommodates single family dwellings at an average density of one unit per two to five acres. Larger residential lots provide privacy and tend to maintain ecological integrity of the natural resources. To protect sensitive areas and maintain larger tracts available for other uses, clustering based on density equivalents (one house per two acres) should be encouraged.

Other Development Considerations: Gravel pits with site reclamation plans would be allowed as uses by special approval, provided the activity is compatible with surrounding neighborhoods. No municipal water or sewer service is planned for these areas. Buffers or physical separation from incompatible uses (commercial and industrial) are necessary when Forest Recreation areas are located next to more intensive development. The plan further recommends incorporating open space development options, native vegetation greenbelts, and landscaping requirements into the Zoning Ordinance.

Resource Conservation

Location and Purpose: Curtis Township recognizes extensive areas of forests and wetlands contribute significantly to the quality of life and the rural character, which are valued by Township residents and visitors. The Resource Conservation category includes all of the U.S Forest Service lands and privately owned lands (large parcels, isolated parcels and high quality stream corridors). This category covers 47 percent of the township. Large areas of the Resource Conservation planning areas are only accessible by seasonally maintained county roads. Much of this planning area is currently zoned forest recreation. Locations recommended for this category are shown on the future land use map, **Figure 7.1.**

Uses: This plan encourages the retention of large tracts of lands, contiguous resource areas, river greenbelts, wetlands, scenic areas and wildlife habitat. The Resource Conservation category is designed to provide protection to environmentally sensitive areas, while allowing for very limited and low intensity residential development to occur. Primary uses to be encouraged

in this category include hunting, fishing, skiing, hiking, camping, wildlife management and forestry management

Development Density: The Conservation category is designed to provide protection to environmentally sensitive areas, while allowing for very limited and low intensity development to occur. This development would be consistent with recreational and conservation uses. A development density of one dwelling per 20 acres is recommended for the category. Residential uses are considered compatible with stream corridors in the planning area. On waterfront properties, smaller lots are anticipated with an average lot width of 200 feet.

Other Development Considerations: To protect sensitive areas and maintain larger tracts available for other uses, clustering based on density equivalents (one house per twenty acres) should be encouraged. For waterfront properties in this category, mandatory greenbelts and 75 feet waterfront setbacks should be considered. Additionally, gravel pits with site reclamation plans would be allowed, provided the activity is compatible with surrounding neighborhoods.

Future Land Use Category (Development Density)	Compatible Uses	General Locations
Residential (various sizes, with minimum lot sizes of 12,000 sq. ft.)	Single-family homes, neighborhood services, churches, schools, group homes per state law	Clustered near community centers or along major roads
Commercial (various sizes; width minimums on major roads)	Retail sales, personal services, office use	Existing business areas within Glennie and Curtisville and along M-65
Industrial (various; 2-acre minimum lot recommended)	General commercial, warehousing, storage, and light manufacturing.	Along M-65 south of Glennie
Community Recreation	Campgrounds, picnic areas, hiking trails, and public access.	Around Alcona Pond and adjacent to Indian Lake
Agricultural (10 acre parcels)	Farming, small-scale forestry, farm homesteads, single family residential	Prime agricultural soils, active farm areas on large parcels
Forest Recreation (2 to 5 acre parcels)	Recreation, rural residential, hunting, forestry, controlled extraction	Upland woods, rural and isolated areas away from community centers or major roads.
Resource Conservation (20 acre and larger parcels)	Forestry, recreation, hunting camps, large lot homes, and cabins	Wetlands, lowland forests, flood plains, upland forests on public and private lands

Special Issue Areas

Roads

Money for maintaining county roads comes from state and local sources. The Township pays part of the cost of upgrading roads to a paved surface. This plan recommends the Township consider pursuing a road millage to provide local match and increase amount of work completed on local roads. The plan recommends that the Township Board work cooperatively with the Alcona County Road Commission to implement a coordinated asset management program to

maintain and improve the road network. However, there are no intentions on upgrading the entire gravel road network to a paved road network.

Open Space Development

Concentrations of subdivisions tend to destroy rural character by converting natural and agricultural open spaces to suburban characteristics of homes with manicured lawns. Through the use of clustering homes and limiting the size of improved lawns to smaller *development pads*, developers can preserve substantial areas of space in each subdivision. Where possible, these preserved open space areas should be made visible from adjacent roads and properties.

Community Facilities

Surface and groundwater protection is a primary goal of Curtis Township's long range planning effort. This plan recognizes compact development such as existing development along waterways and older small lot subdivision development may someday require public or common water and sewer facilities. While specific sites have not been identified, the Township wishes to recognize potential future needs and the necessity to pursue grant funding to implement common or community water and sewer facilities.

Resource Protection and Management

This plan supports the retention of managed public and private forest lands in the township. Timber management and regeneration of mature stands are key to reducing fuel build-up and threats to wildfires. The rural forested landscape is valued in the township. A technique for maintaining a forested atmosphere is to hide development from adjacent roads and properties. Arranging lots and internal subdivision roads to use hills and ridges on the site is an effective way to hide homes, outbuildings, and lawns. Use of woodlands and existing native vegetation may also make very effective screens for all types of development.

Wetlands are a limited resource in the Township. The protection and preservation of these plant communities is encouraged. Wetlands can be preserved through use of conservation cluster residential development, conservation easements or fee simple purchase by local and state government. A minimum 50 feet natural vegetation buffer should be maintained around all wetlands. Foot trails used for recreation would be acceptable in this buffer area. Other types of development such as roads, parking lots, buildings, septic systems, stormwater detention facilities and lawns are not considered acceptable uses within the wetlands or associated buffer areas.

Hazard Mitigation

The Alcona County Hazard Mitigation Plan identified wildfires as the number one natural hazard. Given the presence of jack pine and oak forests, Curtis Township is a community at risk. Timber management to reduce fuel buildup at the urban-wildlands interface should be encouraged. The plan supports implementation of a community wide Firewise program. This includes use of supplemental development standards and site plan review through zoning regulations and a landowner education program.

Chapter 8 – Implementation and Adoption

Plan Coordination and Review

As required by 2001 amendments to the Township Planning Act 168 of 1959, notification of intent to develop the Curtis Township Master Plan was sent to all communities and other entities to request cooperation and comment. A copy of the notice letter and entities notified can be found at the end of this chapter.

After the draft plan was completed by the Curtis Township Planning Commission, a draft was transmitted to the Township Board for approval to distribute the plan for review and comment. The draft plan was transmitted to entities notified at the initiation of the plan update. After the required comment period, public hearing and plan adoption the final plan was transmitted to all required entities. A copy of all relevant information can be found at the end of this chapter.

Public Hearing

Public hearings on the proposed Master Plan for Curtis, as required by the Township Planning Act, Act 168 of 1959 as amended, were held on August 31, 2007 and December 7, 2007. Section Nine of the Act requires that thirty days notice of public hearing be given in two publications at least two weeks apart and not less than seven days before the hearing. Notices of the public hearings were published in a local newspaper. Copies of the public hearing notices are reproduced at the end of this chapter.

The purpose of the public hearing was to present the proposed master plan and to accept comments from the public. The public hearing began with a brief explanation of the planning process and plan development by NEMCOG planning staff. During the hearing, maps of existing land use, resource maps and proposed future land use recommendations were presented.

Plan Adoption

The Curtis Township Planning Commission formally adopted the master plan on March 21, 2007. The Curtis Township Board adopted the master plan on April 12, 2007.

Plan Implementation

The Master Plan was developed to provide a vision of the community's' future. It will serve as a tool for decision making on future development proposals. The plan will also act as a guide for future public investment and service decisions, such as the local budget, grant applications, road maintenance and development, community group activities, tax incentive decisions, and administration of utilities and services.

According to the Township Rural Zoning Act, comprehensive planning is the legal foundation of a zoning ordinance. Section Three of the Act states: "The zoning ordinance shall be based on a plan designed to promote the public health, safety and general welfare; to encourage the use

of lands in accordance with their character and adaptability, and to limit the improper use of land; to conserve natural resources and energy; to meet the needs of the state's residents for food, fiber, and other natural resources, places to reside, recreation, industry, trade, service, and other uses of land; to insure that use of the land shall be situated in appropriate locations and relationships; to avoid the overcrowding of population; to provide adequate light and air; to lessen congestion of the public roads and streets; to reduce hazards to life and property; to facilitate adequate provision for a system of transportation, sewage disposal, safe and adequate water supply, education, recreation, and other public requirements; and to conserve the expenditure of funds for public improvements and services to conform with the most advantageous use of land resources, and properties."

Zoning

The zoning ordinance is the primary tool for implementing the Curtis Township Master Plan. This plan recommends the Township zoning ordinance be reviewed to ensure the ordinances are consistent with the goals and the future land use plan. At that same time the zoning ordinance should be reviewed to assure it conforms to current State regulations. Amendments may include redefining zoning districts and district boundaries, changing minimum lot sizes and considering permitted uses and special uses in zoning districts. Amendments to zoning ordinances' general provisions section should consider, but not be limited to: waterfront greenbelts, waterfront setbacks, private roads and driveways, landscaping and screening, parking and loading standards, stormwater management, access management, home-based businesses, groundwater protection, outdoor lighting, and signs and billboards. The Township should consider adding Articles for site plan review, uses subject to special approval (conditional uses), supplemental site development standards, administration and enforcement and zoning board of appeals. Amendments to supplemental site development standards provisions should consider, but not be limited to: bed and breakfast facilities, gasoline-service stations, motel, hotels, Planned Unit Development, open space developments, sexually orientated businesses, telecommunications towers, wind turbine generators, car wash facilities, nursing homes-assisted care facilities, and storage facilities.

Grants and Capital Improvement Plan

The Master Plan can also be used as a guide for future public investment and service decisions, such as the local budget, grant applications and administration of utilities and services. Many communities prioritized and budget for capital improvement projects, (such as infrastructure improvements, park improvements, and roads). A Capital Improvements Program (CIP) typically looks five years into the future to establish a schedule for all anticipated capital improvement projects in the community. A CIP includes cost estimates and sources for financing for each project. It can therefore serve as both a budgetary and policy document to aid in the implementation of a community's master plan.

Recreation Plan

The Townships or County must have a current DNR approved Community Recreation Plan to be eligible for recreation grant funding. Background information presented in this Master Plan update would serve as part of a township recreation plan. Additional work would include developing information on existing recreational facilities within the Township and the region, recreation goals and an action program for existing and proposed facilities. The DNR approved Recreation Plan would cover a five year planning period. Grant funds would be pursued for recreation projects identified in the Master Plan and Community Recreation Plan. Project may include improvements to the ball fields, expansion of indoor and outdoor recreation facilities, bike and hiking trails, and public access onto the lakes and streams.

Affidavit of Mailing

Notice of Intent to Prepare a Master Plan

I Richard Deuell certify communities and agencies on the attached list were notified of Curtis Township's intent to prepare a Master Plan. The notification was sent on 3/29/05 by first class mail and in accordance with P.A. 168 of 1959.

Richard Deuell
Name

3/29/05
Date

Mailing List for Curtis Township Master Plan

Alcona County

Alcona County Board of Commissioners
PO Box 308
Harrisville, MI, 48740

Planning Commission
Mitchell Township
2880 N. Lake Rd.
Curran, MI 48728-9708
Townhall Address: 6849 W. Tower Rd., Curran
Phone: (989) 848-7395

Planning Commission
Millen Township
PO Box 231
Barton City, MI 48705-0231
Townhall Address: 671 Sanborn Rd., Barton City
Phone: (989) 736-6649

Planning Commission
Mikado Township
PO Box 60
Mikado, MI 48745-0060
Townhall Address: 2291 S F-41, Mikado
Phone: (989) 736-7721 Fax: (989) 736-8869

Oscoda County

Planning Commission
Mentor Township
PO Box 730
Mio, MI 48647-0730
Townhall Address: 216 E. 10th St., Mio
Phone: (989) 826-5414 Fax: (989) 826-8194

Iosco County

Planning Commission
Oscoda Charter Township
110 S. State St.
Oscoda, MI 48750-1633
Townhall Address: 110 S. State St. Oscoda
Phone: (989) 739-3211 Fax: (989) 739-3344

Planning Commission
Plainfield Township
PO Box 247
Hale, MI 48739-0247
Townhall Address: 220 N. Washington, Hale
Phone: (989) 728-2811 Fax: (989) 728-6491

Ogemaw County

Township Board
Goodar Township
PO Box 100
South Branch, MI 48761-0100
Townhall Address: 6473 County Line Rd., South Branch
Phone: (989) 257-3455 Fax: (989) 257-4931

Regional Planning Agency

NEMCOG
P.O. Box 457
Gaylord, MI 49734
989-732-3551

Other Agencies

Michigan Department of Natural Resources
Roscommon Operations Service Center
8717 North Roscommon Rd.
I-75 & M-18 South
Roscommon, Michigan 48653

Huron-Manistee National Forest
Supervisor's Office
1755 S. Mitchell Street
Cadillac, MI 49601
800-821-6263
231-775-2421
231-775-5551 fax

CURTIS TOWNSHIP MASTER PLAN

March 29, 2005

Alcona County Board of Commissioners
PO Box 308
Harrisville, MI, 48740

Dear Madam/Sir:

The Curtis Township Planning Commission is working on updating their Township Master Plan. With the character and landscape rapidly changing, it is more important than ever to have a current master plan. A Master Plan can prove to be a valuable planning tool in guiding and promoting responsible development while protecting and conserving natural resources.

As required by 2001 amendments to the Township Planning Act 168 of 1959, notification is being sent to all adjacent counties, townships, villages, area utilities, and other entities to request cooperation and comment.

Prior to, and after adoption of the master plan, draft and final copies of the plan will be sent all governmental units, as defined in the Township Planning Act, for review and comment. Utilities and railroads must request copies and in accordance with the planning act, only utilities and railroads will be charged for photo copies and postage. On the form attached to this letter, please indicate if you wish to have copies of the master plan sent electronically or by first class mail. *In order to minimize the expense of preparing large numbers of the draft and final plan, we are hopeful that adjacent governmental units will request the plan in electronic format, either on CD or via email.*

Please sign, and return the attached form to the Curtis Township Planning Commission, C/O NEMCOG, P.O. Box 457, Gaylord, MI 49734. A self-addressed envelope has been enclosed for your convenience.

Thank you for your cooperation and we look forward to your participation in this important project.

Sincerely,



Richard Deuell, AICP

CURTIS TOWNSHIP MASTER PLAN

Please complete and return in the supplied envelope:

Curtis Township Planning Commission
C/O NEMCOG
P.O. Box 457
Gaylord, MI 49734

For governmental units only:

_____ Please send copies of the Curtis Township Master Plan and all correspondence pertaining to the preparation of the master plan electronically via:

___ CD-ROM ___ e-mail (we have a high speed Internet connection)

If e-mail please give e-mail address: _____

_____ Please send all copies of the Curtis Township Master Plan and all correspondence pertaining to the preparation of the plan by first class mail.

For public utilities, railroads and governmental agencies:

_____ We wish to review or comment on the Curtis Township Master Plan, therefore according to the law, agree to pay for postage and copies of the Curtis Township Master Plan.

Signature _____
Representative

Please provide the following contact information:

Name _____

Agency/Organization _____

Address _____

Phone _____ Fax _____

Email: _____

Notice letter for Curtis Township

Affidavit of Mailing
Draft Township Master Plan

I Patricia Papendick certify communities and agencies on the attached list were sent a draft master plan of Curtis Township for their review and comment.

The notification was sent on 3/23/06, by first class mail and in accordance with P.A. 168 of 1959.

Patricia Papendick
Name

3/23/06
Date



121 E. Mitchell, P.O. Box 457
Gaylord, Michigan 49734
989-732-3551
www.nemcog.org

TO: Communities, Utilities, Railroads and Agencies
FROM: Richard Deuell, AICP
DATE: March 23, 2006
SUBJECT: Curtis Township Draft Master Plan

Curtis Township has completed a draft Township Master Plan. As required by 2001 amendments to the Township Planning Act 168 of 1959, a draft of the master plan has been transmitted for your community's review and comment.

According to the act, Townships, cities, villages, utilities, railroads and agencies have 65 days to comment on the draft master plan. Those comments must be received within 65 days of date on the transmittal of the draft master plan (May 29, 2006). Comments should be drafted to the Curtis Township Planning Commission and sent to NEMCOG. Copies of the comments will be sent to the Township and the Alcona County Board of Commissioners. The County has an additional 30 days beyond the 65 day local community comment period to submit comments to Curtis Township.

Comments should be transmitted to: Curtis Township Planning Commission, C/O NEMCOG, P.O. Box 457, Gaylord, MI 49734.

For the communities that choose to receive the draft plan on a CD, the document is provided in Adobe Acrobat (PDF) format that can be viewed in Acrobat Reader. We have also provided the plan in MS Word. Please note, Curtis Township appreciates those communities who chose to receive digital copies of the plan as this minimizes the expense of preparing large numbers of the draft and final plan. We are hopeful that additional adjacent governmental units will request the final plan in electronic format on CD. **If you would like to receive the final adopted plan in digital format instead of printed format, please notify the Curtis Township Planning Commission at the above address or send an email to Richard Deuell, rdeuell@nemcog.org.**

Copies of the draft plan can be viewed and downloaded from NEMCOG's Web Site: www.nemcog.org. Look under the project button to view the draft master plan.

Thank you for your cooperation and we look forward to your participation in this important process. If you have any questions please contact: Richard Deuell, AICP, 989-732-3551 ext. 14

Mailing List for Curtis Township Master Plan

Alcona County

Alcona County Board of Commissioners
PO Box 308
Harrisville, MI, 48740

Planning Commission
Mitchell Township
2880 N. Lake Rd.
Curran, MI 48728-9708
Townhall Address: 6849 W. Tower Rd., Curran
Phone: (989) 848-7395

Planning Commission
Millen Township
PO Box 231
Barton City, MI 48705-0231
Townhall Address: 671 Sanborn Rd., Barton City
Phone: (989) 736-6649

Planning Commission
Mikado Township
PO Box 60
Mikado, MI 48745-0060
Townhall Address: 2291 S F-41, Mikado
Phone: (989) 736-7721 Fax: (989) 736-8869

Oscoda County

Planning Commission
Mentor Township
PO Box 730
Mio, MI 48647-0730
Townhall Address: 216 E. 10th St., Mio
Phone: (989) 826-5414 Fax: (989) 826-8194

Iosco County

Planning Commission
Oscoda Charter Township
110 S. State St.
Oscoda, MI 48750-1633
Townhall Address: 110 S. State St. Oscoda
Phone: (989) 739-3211 Fax: (989) 739-3344

Planning Commission
Plainfield Township
PO Box 247
Hale, MI 48739-0247
Townhall Address: 220 N. Washington, Hale
Phone: (989) 728-2811 Fax: (989) 728-6491

Ogemaw County

Township Board
Goodar Township
PO Box 100
South Branch, MI 48761-0100
Townhall Address: 6473 County Line Rd., South Branch
Phone: (989) 257-3455 Fax: (989) 257-4931

Regional Planning Agency

NEMCOG
P.O. Box 457
Gaylord, MI 49734
989-732-3551

Other Agencies

Michigan Department of Natural Resources
Roscommon Operations Service Center
8717 North Roscommon Rd.
I-75 & M-18 South
Roscommon, Michigan 48653

did not request

Huron-Manistee National Forest
Supervisor's Office
1755 S. Mitchell Street
Cadillac, MI 49601
800-821-6263
231-775-2421
231-775-5551 fax

did not request

**RESOLUTION HOLD PUBLIC COMMENT PERIOD AND PUBLIC HEARING
BY THE TOWNSHIP PLANNING COMMISSION
Curtis Township Master Plan**

WHEREAS: Curtis Township, Alcona County, Michigan established a Township Planning Commission under State of Michigan Public Act 168 of 1959, as amended;

WHEREAS: The Township Planning Commission is require by Section 6 of the Act to make and adopt a basic plan as a guide for the development of unincorporated portions of the Township;

WHEREAS: The Township retained the services of Northeast Michigan Council of Governments (NEMCOG) as its consultant to assist the Planning Commission in preparing this plan, and;

WHEREAS: The Township Planning Commission is required by Section 8 of the Act to hold a public comment period, and then hold a public hearing, noticed in a local newspaper as required by the Act;

NOW THEREFORE BE IT RESOLVED THAT,

The Curtis Township Planning Commission on this 13TH day of July, 2006 adopts this resolution to make the Master Plan available for public comment and set the public hearing for 7:30 p.m. on August 31ST, 2006, at the CURTIS Township Hall.

Motion: MAX MAIN Second: LORI BARNES

Ayes: MAIN
BARNES
LANSKI

Nays: -0- NONE

Absent: Whitford

Certification

I hereby certify that the above is a true and correct copy of the resolution adopted at the July 13th 2006 meeting of the Curtis Township Planning Commission.

Randy Lanski
R. Lanski Chair
Curtis Twp. Planning Commission

Lori Barnes
Lori Barnes Secretary
Curtis Twp. Planning Commission

**Public Hearing Notice
Curtis Township Master Plan**

**7:30 p.m.
August 31, 2006
Curtis Township Hall
5023 Bamfield
Glennie, Michigan 48737**

The Curtis Township Planning Commission will hold a public hearing on the draft Master Plan at 7:30 p.m. on August 31, 2006 at the Curtis Township Hall located at 5023 Bamfield in the community of Glennie. All interested persons are invited to attend the hearing and comment on the draft plan. For further information call Curtis Township at (989) 735-5331. A copy of the draft Master Plan can be reviewed at the Township Hall and the Curtis Township Library. Also, the Master Plan can be viewed on the web, at: [http://www.nemcog.org/Curtis-Township MP.htm](http://www.nemcog.org/Curtis-Township_MP.htm)

**Public Hearing Notice
Curtis Township Master Plan**

**7:30 p.m.
December 7, 2006
Curtis Township Hall
5023 Bamfield
Glennie, Michigan 48737**

The Curtis Township Planning Commission will hold a public hearing on the draft Master Plan at 7:30 p.m. on December 7, 2006 at the Curtis Township Hall located at 5023 Bamfield in the community of Glennie. All interested persons are invited to attend the hearing and comment on the draft plan. For further information call Curtis Township at (989) 735-5331. A copy of the draft Master Plan can be reviewed at the Township Hall and the Curtis Township Library. Also, the Master Plan can be viewed on the web, at:
http://www.nemcog.org/Curtis-Township_MP.htm

**Resolution of Adoption
of the:
Curtis Township Master Plan Update
by
The Curtis Township Planning Commission**

WHEREAS: Curtis Township, Alcona County, Michigan established a Township Planning Commission under State of Michigan Public Act 168 of 1959, as amended;

WHEREAS: The Township Planning Commission is required by Section 6 of the Act to make an adopt a basic plan as a guide for the development of unincorporated portions of the Township;

WHEREAS: The Township retained the services of Northeast Michigan Council of Governments (NEMCOG) as its consultant to assist the Planning Commission in Preparing this plan;

WHEREAS: The plan was presented to the public at a hearing held on August 31, 2006 before the Planning Commission, with notice of the hearing being published in the Alcona County Review Newspaper on August 9, 2006 and August 23, 2006, in accordance with Section 8 of the Act; In addition, the Planning Commission held a second hearing on December 7, 2006, with notice of the hearing being published in the Alcona County Review Newspaper on November 8, 2006 and November 29, 2006;

WHEREAS: The Township Planning Commission having complied with all known requirements placed upon the Curtis Township Planning Commission;

NOW THEREFORE BE IT RESOLVED THAT,

The Curtis Township Planning Commission on this 21st day of March 2007,

- #1. Adopts the content of this document, together with all maps attached to and contained herein known as the **final draft** of The Curtis Township Master Plan Update as The Curtis Township Master Plan Update

and further that:

- #2. The Curtis Township Planning Commission recommends to the Curtis Township Board, The Curtis Township Master Plan Update for it's adoption.

Date **March 21, 2007**

Moved by: *Max Main*

Seconded by: *Lori Barnes*

Yeas: *Lori Barnes,
Max Main,
Dawn Keyser*

Nays: *None*

Absent: *Randy Lankier
Dewella Whitford*

Signatories

Officers:

Planning Commission Chairman
Darrell R Kenyon

Darrell R. Kenyon

Planning Commission Vice Chair
Max Man

max man

Planning Commission Secretary
Lori Barnes

Lori Barnes

Commissioners:

Randy Lanski *absent*

Dewella Whitford *absent*

Certification

I hereby certify that the above is a true and correct copy of the resolution adopted at the March 21, 2007 meeting of the Curtis Township Planning Commission.

Darrell Kenyon Chair

Darrell Kenyon

Curtis Twp. Planning Commission

Lori Barnes Secretary

Lori Barnes

Curtis Twp. Planning Commission

**RESOLUTION OF ADOPTION
BY THE TOWNSHIP BOARD OF TRUSTEES
Curtis Township Master Plan**

WHEREAS: Curtis Township, Alcona County, Michigan established a Township Planning Commission under State of Michigan Public Act 168 of 1959, as amended;

WHEREAS: The Township Planning Commission is require by Section 6 of the Act to make and adopt a basic plan as a guide for the development of unincorporated portions of the Township;

WHEREAS: The Township retained the services of Northeast Michigan Council of Governments (NEMCOG) as its consultant to assist the Planning Commission in preparing this plan, and;

WHEREAS: The plan was presented to the public at a hearing held on August 31, 2006 before the Planning Commission, with notice of the hearing being published in Alcona County Review Newspaper on August 9, 2006 and August 23, 2006, in accordance with Section 8 of the Act; In addition, the Planning Commission held a second hearing on December 7, 2006, with notice of the hearing being published in the Alcona County Review Newspaper on 11/07, 2006 and 11/29, 2006;

WHEREAS: The Township Planning Commission reviewed the proposed plan, considered public comment and adopted the Curtis Township Master Plan by resolution on March 21, 2007 and;

WHEREAS: The Township Board of Trustees of Curtis Township, by resolution has asserted the right to approve or reject the plan;

NOW THEREFORE BE IT RESOLVED THAT,

The content of this document, together with all maps attached to and contained herein are hereby adopted by the Curtis Township Board of Trustees as the Curtis Township Master Plan on this 12th day of April, 2007.

Motion: Jean Whitford Second: Jessica Perkins
Ayes: Matthew Perkins Betty Bonner
Jean Whitford Jessica Perkins 5 ayes
Linda Kaye
Nays: 0

Absent: 0

Certification

I hereby certify that the above is a true and correct copy of the resolution adopted at the April 12th, 2007 meeting of the Curtis Township Board of Trustees.

Jessica Perkins
Curtis Township, Clerk

Appendix A

A public input workshop was held for the Curtis Township Master Plan at the Curtis Township Hall on September 15, 2005 at 7:00 p.m. _____ people attended and participated in the workshop. The group identified assets to protect and problems to address. In addition, the participants were asked to develop a vision of the community 20 years into the future. A full listing of the workshop comments is found below. Summary of comments can be found in **Chapter 6 – Community Goals and Objectives.**

Assets to Preserve

Please list what you feel are good qualities of your community; the assets, both natural and manmade, that you would like to protect within Curtis Township. Consider topic areas such as the residential, commercial and industrial development; community services and facilities; roadways; community character; zoning; land use; natural resources and aesthetics.

Assets to Preserve within Curtis Township

1. Forest Lands
2. Au Sable River
3. Inland Lakes
4. Alcona Park
5. Quiet
6. Trumpeter Swans
7. Deer
8. Small Town, Rural Character
9. School
10. Rural Open Spaces
11. Golf Course
12. Clean Air
13. Wildlife
14. Two tracks in the Woods
15. No Traffic
16. First Responders
17. Library
18. Fire Department
19. Continue with Maintenance of Roads
20. Diversity of Activities for Tourists
21. Churches
22. Road Commission Does Good Job
23. Youth
24. Friendly People
25. Business – New Stores
26. Credit Union and Bank
27. Community Organizations – Non-Profit

Problems to Address

Please list what you feel are the problems to address or what you would like to change within Curtis Township. Consider topic areas such as the residential, commercial and industrial development; community services and facilities; roadways; community character; zoning; land use; natural resources and aesthetics.

Problems to Address within Curtis Township

1. Limited Areas for New Business
2. Unemployment
3. Lack of Amenities for Tourist – Hotels and Restaurants
4. Dust on Roads – Lack of Road Maintenance
5. Fragmentation of Agricultural Lands
6. No Stop Light on M65 and F30 Bamfield
7. Location Sign – M65 and Sawmill Road
8. Septic Systems in Closely Developed Areas Around Lakes
9. Lack of Youth Programs
10. No Drug Store
11. Lack of Job Opportunities for Young People
12. Fuel Costs
13. Need More Variety of Businesses
14. Blight and Junk Around Homes
15. No Medical Facility with Doctor
16. Welfare
17. Need to Improve Look of Existing Businesses
18. Downtown Area has no Distinctive Character
19. Need Community Center
20. Lack of Community Planning
21. M-65 at South of Sawmill by Bryant Creek - Speeds are Too High
22. Aging Community
23. Enforcement of Township Blight Ordinances
24. Cutting Large Tracts of Forest
25. Drainage Problems Along Roads Cause Floods
26. Problems with Breaking into Homes – Need More Police Protection
27. Need More Youth and Family in the Community
28. Long Drive to School – Middle and High School in Oscoda
29. No Cell Tower in Curtisville
30. Roads not Maintained

Curtis Township Vision for 2025

Visioning is a process to help community members imagine, describe and attain a preferred future for their community. Participants will be asked respond to the following Visioning exercise. To encourage a free flow of ideas, answers should not be constrained by present situations. All participants will have opportunities to present their ideas in an open, informal setting. Remember, there are no wrong answers.

Think about the changes that have occurred over the last 20 years or even the last 10 years. Now think what could happen over the next 25 years. "Imagine you have friends or relatives visiting in the year 2025. You decide to take them for a tour to show off the wonderful community in which you live. You take a drive through countryside; admire the beauty of the landscape and marvel at the development; you stop at a park for a picnic. Much of what you see and hear pleases you, and some activities surprise you. Describe the 2025 future that you envision. Consider the physical environment (residential, commercial and industrial development); the natural resources (forests, water, open space and farmlands); and community facilities and services.

Comments

1. Still Very Rural
2. Ghost Town
3. More Retirees, More Residences
4. Fire Department in Curtisville
5. Churches Growing
6. Still Have Gardens
7. More Employed Young People
8. Youth Centers for Kids
9. High School
10. Expansion of Businesses – More Businesses
11. New Streetscape, Water/Sewer/Business Face Lifts
12. Change in Attitudes
13. More Junk Problems
14. Developed in Rational Well Thought Out Manner – Land Use With Consensus
15. On M-65 – A Little Chapel
16. Small Park in Town (Glennie)
17. New Community Center with Park and Playground
18. Large Recreation Park Michigan Adventure
19. Large Hotel with Pool/Sauna
20. Well Run Government
21. Au Sable River – More Important Than Now
22. Local Transportation for Seniors
23. Blight Cleared and Cleaned
24. Four Lane Highway from 75 to Mackinaw Bridge
25. Sprinkler Park
26. More Businesses Providing Basic Services
27. New Businesses Have Been Encouraged
28. Clean Overnight Accommodations

29. Young People Have Work Ethics
30. Abundant Natural Resources
31. Businesses That Cater to Vacations Around Natural Resources
32. Small Shops
33. Tennis Courts
34. Mini Golf
35. United Community
36. Fast Food Restaurants
37. Community Municipal Airport
38. Snowmobile/Horse/Rest Station
39. Large American Flag – Like Over Community Center