

2018 MASTER PLAN

Curtis Township

Alcona County



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Adopted: February 1, 2018

Prepared by:
Curtis Township Planning Commission

With the assistance of:
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CURTIS TOWNSHIP 2018 MASTER PLAN

Curtis Township
Alcona County, Michigan



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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 the Master Plan with 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.

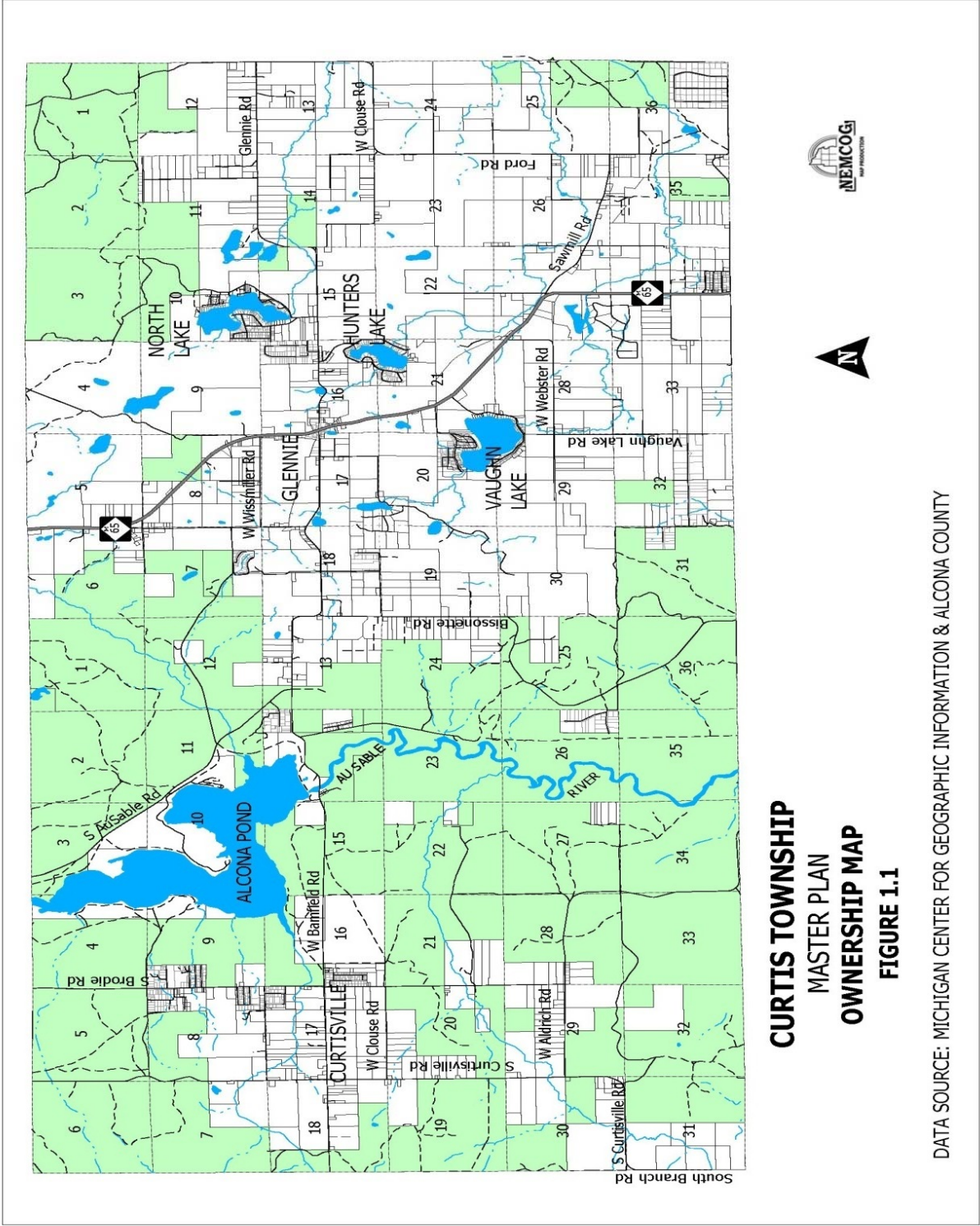
Brief History

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

For decades Curtis Township experienced small but steady growth in year round and seasonal population. Between 1990 and 2000, Curtis Township had a population increase of 22.2%. Growing by 249 persons, the township experienced the fourth highest growth rate in the county. However, the “Great Recession of 2008” had sizable impacts on Northeast Michigan and reversed long term population trends; unemployment rates were some of the highest in the nation; the auto industry in Michigan shed many jobs; and residents moved to other parts of the country in search of employment.

The US Census showed that Curtis Township experienced a ten percent decrease of its population (loosing 142 year round residents) from 2000 to 2010. **See Table 2.1.** With a year round population of 1,236 and an area of 70.8 sq. mi., the township has a population density of 17.5 persons per square mile. By comparison, the County has a population density of 15.8 persons per square mile.

All communities in Alcona County experienced population losses during the past decade, with the county as a whole loosing 777 year round residents. Compared with other communities in Alcona County, the highest percentage losses were experienced by Millen Township (12.7 percent), Alcona Township (11.1 percent), Mitchell Township (11.1 percent), and **Curtis Township (10.3 percent)**. **Curtis Township** experienced the highest population loss of 142 year round residents.

Table 2.1 Population for Curtis Township, Alcona County & Municipalities				
Municipality	2000 Population	2010 Population	Percent Change	Numeric Change
Curtis Township	1,378	1,236	-10.3%	-142
Alcona Township	1,089	968	-11.1%	-121
Caledonia Township	1,203	1,161	-3.5%	-42
Greenbush Township	1,499	1,409	-6.0%	-90
Gustin Township	832	795	-4.4%	-37
Harrisville Township	1,411	1,348	-4.5%	-63
Hawes Township	1,167	1,107	-5.1%	-60
Haynes Township	724	722	-0.3%	-2
Mikado Township	1,043	947	-9.2%	-96
Millen Township	463	404	-12.7%	-59
Mitchell Township	396	352	-11.1%	-44
City of Harrisville	514	493	-4.1%	-21
Village of Lincoln	364	337	-7.4%	-27
Alcona County	11,719	10,942	-6.6%	-777
Source: U.S. Bureau of the Census				

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 the seasonal population of the township. Since the census is taken in April, persons whose primary home is elsewhere are not counted in Curtis Township. The figures presented for housing characteristics show that 59.6 percent or 1,013 housing units are listed as seasonal, recreational or occasional use homes. Therefore, it can be assumed that the Township's resident population can significantly increase during peak periods in the summer months. Using the 2.08 persons per household for Curtis Township and the 1,013 seasonal homes, peak seasonal population could increase by approximately 2,100 persons. Special recreational events, such as opening of deer hunting and spring fishing seasons, greatly increase this transient population.

The seasonal population estimate does not include those seasonal visitors or tourists staying in area motels, campgrounds or family homes. For example, Curtis Township County operates a campground on Alcona Pond in Curtis Township. The 470 sites are rented by the season, so there isn't a constant turnover of campers. Still during the primary camping season, assuming two persons per camp site, the campground results in an increase of around 1,000 persons in the township. This campground alone nearly doubles the size of the Township's year round population.

Age Distribution and Racial Composition

A community should consider the age distribution of its population when planning for community-wide services and special services targeting certain age groups. For example, younger families typically require access to rental housing or affordable housing as first homebuyers. An elderly population may need access to public transportation, senior housing facilities, nursing homes and in-home health care.

The 2010 US Census data shows that 69 percent of the township's population was 45 years old or older. This percentage has increased over the past few decades and is likely to continue as current residents age in place. Combined with an out-migration of younger families and an in-migration of retirees, the median age for the township is increasing at a higher rate than the State of Michigan and US. The median age of residents in Curtis Township increased from 50.4 to 56.4 during the period 2000-2010, (see **Table 2.2**). By comparison, Alcona County increased from 49 to 55.2 and the State's median age increased from 35.5 to 38.9 years during the period 2000-2010. Furthermore, the median age of the township is 19.2 years older than the US.

In conclusion, shifts in the township's demographic make-up are changing the population structure. Long term trends indicate the median age will continue to increase at a faster rate than the State of Michigan and US. The rate has increased with the down turn in the economy, as young families move to other areas for employment. An aging population needs access to social and medical services. The community's emergency response services will likely experience an increase in demands. On the other hand, the number of pre-school and school aged children along with young adults has continued to fall over the past several decades. If these trends continue, the need for facilities and services associated with a younger population will diminish.

According to the 2010 U. S. Census, the racial make-up of the Township and County population is relatively homogeneous. Ninety-eight percent of the Township population was classified as white as compared to 79 percent of the State's population. Other races listed in the census included Hispanic, Black or African American, and American Indian or Alaska Native.

Table 2.2		
Median Age 2000-2010		
Governmental Unit	2000	2010
Curtis Township	50.4	56.4
Alcona County	49.0	55.2
Michigan	35.5	38.9
United States	35.3	37.2
Source: U. S. Bureau of the Census		

Table 2.3 Age Distribution By Municipality For Alcona County - 2010													
Community	< 5 Yrs.	%*	5-19 Yrs.	%*	20-24 Yrs.	%*	25-44 Yrs.	%*	45-64 Yrs.	%*	65 Yrs. & >	%*	Median Age
Curtis Township	33	2.7	155	12.6	35	2.8	161	13.0	437	35.4	415	33.6	56.4
Alcona Township	18	1.9	89	9.2	23	2.4	96	9.9	299	30.9	443	45.8	63.0
Caledonia Township	32	2.8	165	14.2	32	2.8	173	14.9	363	31.2	396	34.2	56.7
Greenbush Township	53	3.8	148	10.5	32	2.3	200	14.1	482	34.2	494	35.0	57.9
Gustin Township	42	5.3	150	18.9	33	4.2	168	21.2	242	30.4	160	20.1	45.3
Harrisville Township	46	3.4	188	13.9	34	2.5	195	14.4	483	35.9	402	29.8	53.8
Hawes Township	31	2.8	168	15.2	35	3.2	182	16.5	378	34.1	313	28.3	52.9
Haynes Township	14	1.9	101	14.0	16	2.2	100	13.8	270	37.4	221	30.6	56.1
Mikado Township	27	2.9	174	18.4	32	3.4	165	17.4	342	36.1	207	21.8	49.4
Millen Township	9	2.2	30	7.4	9	2.2	52	12.9	172	42.5	132	32.6	56.6
Mitchell Township	8	2.3	25	7.0	9	2.6	38	10.8	160	45.5	112	31.9	59.4
City of Harrisville	18	3.7	73	14.9	14	2.8	99	20.1	143	29.0	146	29.7	51.6
Village of Lincoln	18	5.3	57	16.8	23	6.8	78	23.1	74	21.9	87	25.8	43.2
Alcona Co.	331	3.0	1,466	13.4	304	2.8	1,629	14.8	3,771	34.5	3,441	31.5	55.2
Michigan		6.0		20.8		6.8		24.7		27.9		13.8	38.9
*Figure shows the percentage each age grouping represents of the local unit's total population. Source: U.S. Bureau of the Census													

Household Characteristics

Table 2.4 presents information on household characteristics gathered in the 2010 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. According to the 2010 Census, of the 595 households in Curtis Township, 189 were reported as householders living alone and 94 householders 65 years and older living alone. The average household size was 2.08 as compared to Michigan where the average household size was 2.49.

U.S. Census data showed a total of 595 households in Curtis Township, of which 372 are family households and 223 are non-family households. A non-family household is a household with one person or a household with non-relatives living together. Some 51.9 percent of Curtis Township's households were classified as husband-wife families, while male household, no wife present accounted for 2.9 percent of households and female household, no husband present accounted for 7.7 percent. Nearly 16 percent of the households have individuals under 18 years and 47.9 percent of households have individuals 65 years and over. By comparison, in Michigan 31.6 percent of households had individuals under 18 years and 25.4 percent of households had individuals 65 years and over.

Table 2.4					
Townships and Alcona County: Household Characteristics - 2010					
MUNICIPALITY	Total Households	Avg. Household Size	Householder Living Alone	Householder Alone 65 yrs. & Older	Household w/ Individual 65 yrs. & older
Curtis Township	595	2.08	189	94	285
Alcona Township	496	1.95	158	91	292
Caledonia Twp.	534	2.17	145	85	265
Greenbush Twp.	676	2.08	203	112	336
Gustin Township*	339	2.33	108	59	124
Harrisville Twp.	588	2.19	149	71	237
Hawes Twp.*	497	2.22	136	76	215
Haynes Township.	342	2.11	98	50	151
Mikado Twp.	407	2.31	107	39	142
Millen Township	200	2.00	68	28	87
Mitchell Twp.	184	1.91	63	30	79
City of Harrisville	231	1.96	89	47	106
Village of Lincoln	160	2.11	69	37	66
Alcona County	5,089	2.13	1,513	782	2,319
Michigan	-----	2.49	-----	-----	-----
Source: U.S. Bureau of the Census					
* Count includes parts of Lincoln					

Disability Status

Data shown in **Table 2.5** from the *2011-2015 American Community Survey 5-Year Estimates* gives an indication of disabled people who reside in Curtis Township, Alcona County and Michigan. Persons with disabilities include those with a hearing difficulty, a vision difficulty, a cognitive difficulty, an ambulatory difficulty, a self-care difficulty and an independent living difficulty. The percent population of persons with disabilities is much higher for Curtis Township then Alcona County and Michigan. The same holds true for other population groupings.

Table 2.5				
Disability Status of Civilian Non-Institutionalized Persons				
LOCAL UNIT	% Disabled Population	% Disabled under 18 Years	% Disabled 18-64 Years	% Disabled 65+ Years
Curtis Twp.	28.8%	7.7%	22.3%	43.6%
Alcona County	21.9%	3.9%	18.4%	34.6%
Michigan	14.1%	5.0%	12.3%	36.0%
Source: 2011-2015 American Community Survey 5-Year Estimates				

School Enrollment and Educational Attainment

According to the *2011-2015 American Community Survey 5-Year Estimates*, 171 persons in Curtis Township over the age of three years were enrolled in school, 148 in kindergarten to 12th grade, and 23 in college. Of the 979 persons 25 years and older, 84.2 percent were high school graduates, while 11.3 percent attended school into the 9th- 12th grade with no diploma and 4.5 percent had completed less

than the 9th grade. Nearly 19 percent had received some college with no degree, 5.0 percent had Associate's degrees, 4.1 percent had earned a Bachelor's degree, and 1.8 percent had earned a graduate or professional degree. Curtis Township has a lower percentage of residents with post high school degrees than Alcona County and State as a whole. (**Table 2.6**).

Housing Characteristics

The US Census reports a wide variety of housing characteristics. Housing characteristics for Curtis Township are found in **Table 2.7**. In 2010, there were 1,700 housing units in the Curtis Township. Even with the downturn in the economy, the number of housing units increased by 95 units between 2000 and 2010. Certain characteristics contrast sharply with the State as a whole. For example, 59.6 percent of the housing

Table 2.6 Educational Attainment			
	Curtis Township	Alcona County	State of Michigan
Population 25 years and over	979	8,594	6,652,665
Less than 9 th grade education	4.5%	3.0%	3.2%
9 th – 12 th grade, no diploma	11.3%	8.5%	7.2%
High school graduate	54.3%	39.9%	29.9%
Some college, no degree	18.9%	26.0%	23.8%
Associate degree	5.0%	8.4%	8.9%
Bachelor's degree	4.1%	9.0%	16.5%
Graduate or professional degree	1.8%	5.3%	10.5%
Percent high school graduate or higher	84.2%	88.5%	89.6%
Percent bachelor's degree or higher	5.9%	14.3%	26.9%
Source: 2011-2015 American Community Survey 5-Year Estimates			

units in Curtis Township were seasonal as compared to 47.2 percent in Alcona County and only 5.8 percent statewide. In addition, units classified as seasonal housing increased by 89 units from the 2000 US Census. Within the County, seasonal housing units ranged from 18.2 percent in the City of Harrisville to 72.3 percent in Mitchell Township. Of the occupied housing units, 88.1 percent (524 of the 595) were owner occupied as compared to 72.1 percent in the State as a whole. With the downturn in the housing market the 2010 US Census found 5.4 percent of the housing units were vacant, (note this does not include homes classified as seasonal).

According to the US Census, 5.4% of the housing in Curtis Township was built prior to 1939, and 18.9 percent was built between 1940 and 1959. The decades between 1950 and 2000 experienced a steady growth in housing units with 200 or more structures built each decade. . The highest growth was during the 1970's when 22.4 percent (383 units) of the housing units were constructed. Information reported in the *2011-2015 American Community Survey 5-Year Estimates* found 3.3 percent of the housing units were heated with natural gas, 59.6 percent heat with bottled, tank or LP gas and 2.9 percent heat with electricity and 31.7 percent heat with wood or other fuel. Data from *2011-2015 American Community Survey 5-Year Estimates* found the median house value was \$72,700 in Curtis Township as compared to \$102,800 for Alcona County and \$121,700 for the State.

Table 2.7						
Housing Counts and Occupancy Status in Alcona County						
Area Name	2010					
	Total	Occupied	Vacant	Percent Vacant	Seasonal	* Percent Seasonal
Curtis Township	1,700	595	1,105	65.0	1,013	59.6
Alcona Township	1,366	496	870	63.7	806	59.0
Caledonia Township	1,155	534	621	53.8	576	49.9
Greenbush Township	1,496	676	820	54.8	680	45.5
Gustin Township	497	339	158	31.8	94	18.9
Harrisville Township	874	588	286	32.7	205	23.5
Hawes Township	1,071	497	574	53.6	489	45.7
Haynes Township	627	342	285	45.5	240	38.3
Mikado Township	653	407	246	37.7	192	29.4
Millen Township	540	200	340	63.0	314	58.1
Mitchell Township	765	184	581	75.9	553	72.3
City of Harrisville	329	231	98	29.8	60	18.2
Village of Lincoln	236	160	76	32.2	47	19.9
Alcona County	11,073	5,089	5,984	54.0	5,222	47.2
* Percent of total housing - Source: 2010 US Census Bureau						

Economic Characteristics

Alcona County is a rural, sparsely populated county with two small urban centers. The opportunity for year-round higher wage jobs has traditionally not been good in Alcona County. Historically, a large number of Alcona County residents commuted to the Wurtsmith Air Force Base in Iosco County and to Alpena County, where a large number of good paying industrial jobs could be found. Over twenty years ago, Wurtsmith Air Force Base was closed, causing the loss of over 600 government jobs, some of which were held by Alcona County residents. Around the same timeframe, hundreds of industrial jobs were lost in Alpena County due to cut backs and closures of several of their major employers. These job losses impacted Alcona County employment, as well.

Since the 1990's major efforts have been underway in the region to improve and diversify the local economy of each. Re-use of Wurtsmith Air Force Base as an industrial park; an enterprise zone was established at the Alpena County airport; and development of medical and educational facilities have all created job opportunities in the region. The upward trends in the local economy were reversed in 2008 when the "Great Recession" occurred. Unemployment rates experienced significant increases to some of the highest on the nation; the mortgage crisis saw many homes, including second homes, facing foreclosure; a subsequent drop in tourism; and the loss of high paying auto industry related jobs in Southeast Michigan all combined to wield a hard economic blow to the region. The 2010 US Census provides a snapshot of the economic downturn, even though some of the indicators, such as housing values, continued to weaken past 2010. The economic turn-around has been slow but steady, with the region still trying to regain losses associated with the recession.

Income

According to the U.S. Census, American Community Survey, Curtis Township's median household income is \$32,113, which is nearly \$6,000 lower than the County, and \$17,500 lower than the State. Comparison of Median Family Income finds Curtis Township \$10,884 lower than the County and some \$25,617 lower than the State of Michigan. Per Capita Income for Curtis Township is lower than Alcona County and Michigan. **See Table 2.8.**

Table 2.8			
Median Household Income for Curtis Township, Alcona County & State			
	Curtis Township	Alcona County	Michigan
Median Household Income	\$32,113	\$38,033	\$49,576
Median Family Income	\$36,630	\$47,514	\$62,247
Per Capita Income	\$20,641	\$23,933	\$26,607
Source: 2011-2015 American Community Survey 5-Year Estimates U.S. Census Bureau			

The American Community Survey provides breakdown of sources of income and benefits, see **Table 2.9**. Data helps explain the lower income levels in Curtis Township compared to the County and State. A much higher percentage of Township residents rely on Social Security Income and retirement income.

Table 2.9					
Income and Benefits in 2015					
Sources	Curtis Township		Alcona County		Michigan
	Number	Percent	Number	Percent	Percent
With earnings (employed)	237	41.1%	2,532	50.6%	73.7%
With Social Security	358	62.0%	2,798	55.9%	33.5%
With retirement income	231	40.0%	1,946	38.9%	22.7%
With Supplemental Security Income	61	10.6%	363	7.3%	6.2%
With cash public assistance income	28	4.9%	145	2.9%	3.4%
With Food Stamp/SNAP benefits in the past 12 months	86	14.9%	748	15.0%	16.7%
Source: American Community Survey					

Poverty

Information from the American Community Survey shows poverty rates in Curtis Township, Alcona County and Michigan (**Table 2.10**). The percent of families, individuals and individuals 65 years and over living in poverty is comparable in Curtis Township, Alcona County and Michigan.

Labor Force

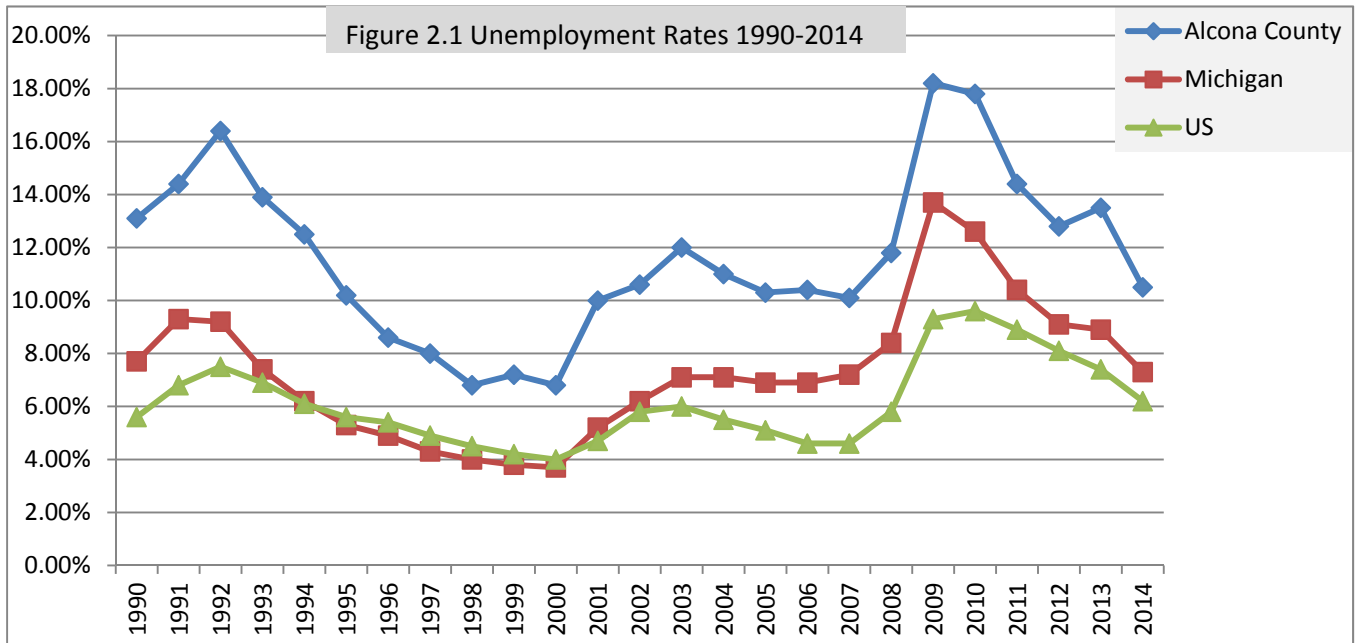
Employment and Unemployment

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 2.10 Poverty Rates: Curtis Township, Alcona County and Michigan			
	Curtis Township	Alcona County	Michigan
Families	9.9%	10.2%	11.9%
Families with female head of household	0.0%	27.3%	34.0%
Individuals	17.0%	15.2%	16.7%
Individuals 65 years and over	8.8%	8.0%	8.1%
Source: 2011-2015 American Community Survey 5-Year Estimates, U.S. Census Bureau			

Table 2.11 presents information on labor force, employment and unemployment for Alcona County from 2004 to 2015. Unemployment rates experienced a significant increase in 2009 as a result of the “Great Recession” in 2008. Jobless rates peaked in 2009 and have dropped to the typical long term rates. The number of persons in the labor force and employed began to fall in 2006. The economic downturn continued to feed this trend. Even though jobless rates have fallen to 7.7% in 2015, the civilian labor force and number of person employed has not returned to 2006 levels. As seen in **Figure 2.1**, unemployment rates in Alcona County generally mirror those in the State and U.S., however, they are consistently at a higher level.

Table 2.11 Employment Information Alcona County 2004 - 2015				
Year	Civilian Labor Force	Number Employed	Number Unemployed	Jobless Rate
2004	4,191	3,734	457	10.9
2005	4,296	3,848	448	10.4
2006	4,461	3,977	484	10.8
2007	4,300	3,858	442	10.3
2008	4,288	3,800	488	11.4
2009	4,127	3,351	776	18.8
2010	3,880	3,188	692	17.8
2011	3,807	3,261	546	14.3
2012	3,721	3,248	473	12.7
2013	3,826	3,314	512	13.4
2014	3,845	3,437	408	10.6
2015	3,842	3,546	296	7.7
Source: Michigan Labor Market Information				



Wage and Salary

For residents of the township and county, the largest employment sectors are retail trade, services and public administration. Note, the information reflects where township residents work, not job located within the township. Services is the number one employment sector for residents of the township. Employment in "other" sectors ("other" includes construction, transportation and communications, wholesale trade, and finance, insurance and real estate accounted for much lower percentages of the wage and salary employment (**Table 2.12**).

Table 2.12				
Total Employees by Major Employment Type (2014)				
	Curtis Township		Alcona County	
	Total	Percent	Total	Total
Agricultural, Forestry, Fishing	4	2.0	52	2.0
Mining	0	---	4	0.2
Construction	13	6.4	137	5.4
Manufacturing	6	3.0	189	7.4
Transportation and Communications	10	4.9	83	3.3
Wholesale Trade	8	3.9	35	1.4
Retail Trade	55	27.1	542	21.3
Finance, Insurance And Real Estate	16	7.9	124	4.9
Services	73	36.0	942	37.0
Public Administration	19	9.4	423	16.6
Unclassified	0	---	18	0.7
Source: NEMCOG				

Commuting to Work

The vast majority of residents of the Curtis Township drive alone to work (**Table 2.13**). The percentage of residents carpooling is slightly higher than the State as a whole, which indicates people are driving to other communities for employment. Supporting this supposition of working outside the community, the mean travel time to work was 29.3 minutes, which is 7 minutes more than mean travel time in Alcona County and 5 minutes more than the state as a whole. According to the *2011-2015 American Community Survey 5-Year Estimates*, 5.0 percent of people worked from home. Due in advancements in technology allowing greater flexibility in worker location in the past decade that number has increased and will likely continue to increase.

Table 2.13		
Curtis Township Work Commute		
Mode of Transportation	Number	Percent
Drove Alone	230	82.7%
Carpooled	26	9.4%
Walked	4	1.4%
Worked at home	14	5.0%
Source: 2011-2015 American Community Survey 5-Year Estimates U.S. Bureau of the Census		

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 seepage 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.

Solid Waste

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 have a public road access), 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. The cost 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.

The Curtisville Civic Association Hall, used for public meetings, is located in the western portion of the Township.

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. Elementary, 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. Students attend Alcona Schools and Hale Area Schools through the "school of choice" program.

Kirtland Community College (KCC) and Alpena Community College (ACC) 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. ACC grants the following degrees: Associate in Arts (AA), Associate in Science (AS), Associate in Applied Science (AAS), and Associate in General Studies (AGS), Bachelor of Science (BS). Non-degree programs lead to a Certificate of Achievement (C). 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's main campus is located in Roscommon and smaller campuses are located in Gaylord, Grayling, and West Branch. KCC offers associate degrees and certificate programs in health sciences, trades, occupational, public safety, art, business, technology 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 former Glennie Elementary school on County Road F-30 in Glennie. The facility includes the following: Public meeting room and public access to Wi-Fi.

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. 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 East Station and 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 Tony Barnes oversees a staff of 14 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 VA Clinics are located in Oscoda and Alpena. For health care services not available at these facilities, residents travel to Mid Michigan Medical Center in Alpena, Munson Healthcare Hospital in Grayling, John Tolfree Memorial Hospital in West Branch, St. Joseph Health Systems 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 covers 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 trunk line 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 by allotting a road maintenance millage of 2 mils.

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. Regional airports are located in Traverse City, Midland, Grand Rapids and Flint. Large aircraft maintenance and air freight service is provided at the Wurtsmith Airport in Oscoda. The Michigan Air National Guard maintains a Combat Readiness Training Center at the airport in Alpena. Air-freight service is provided by United Express, United Parcel Service and Federal Express.

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) is operated by the Glennie Sportsman Club for a shooting range.

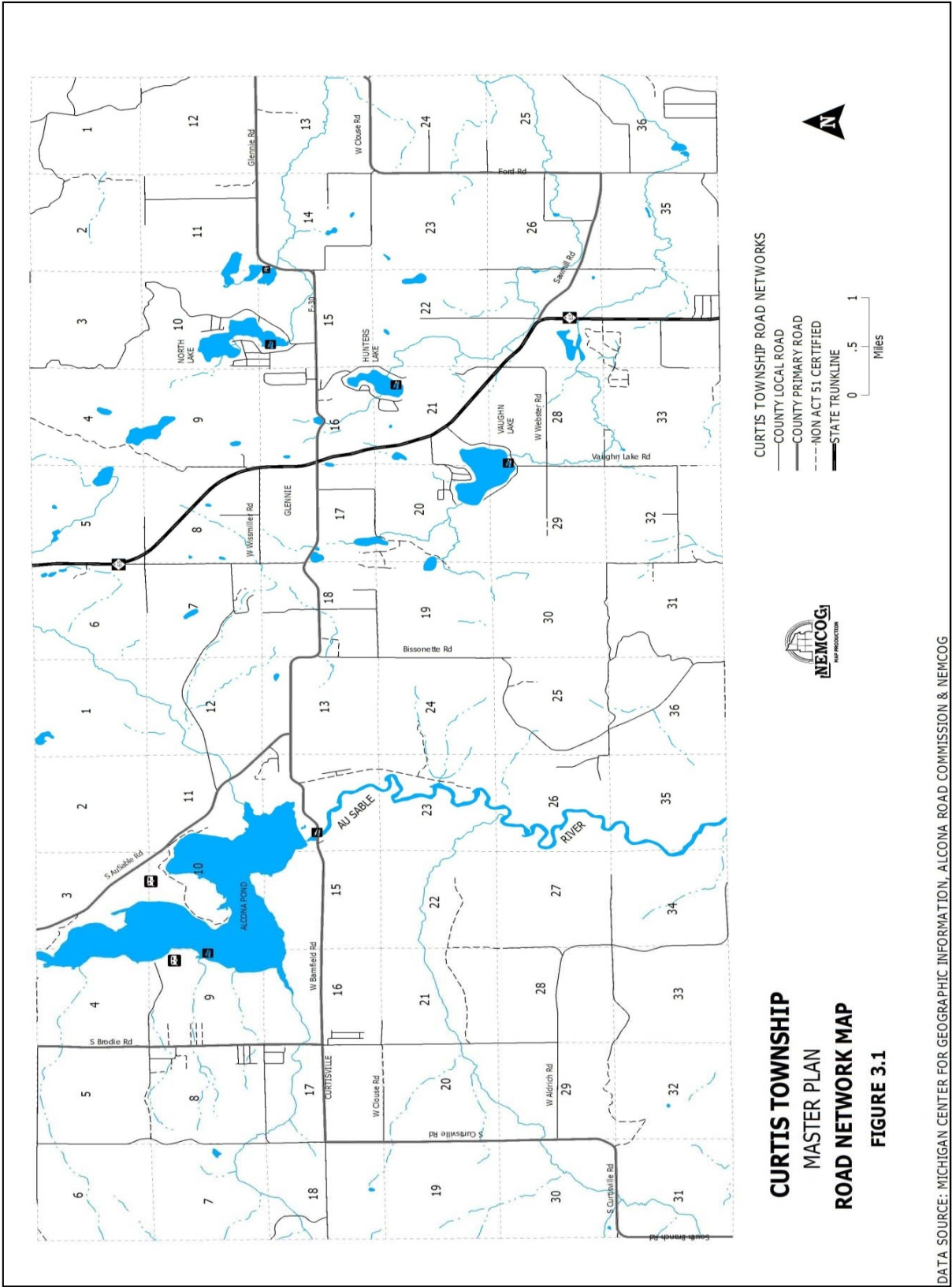
Privately Owned Recreation Facilities

Alcona Canoe Rental and Campground

Eagle Ridge Golf Course

Northern Outpost

Pines B & B



Chapter 4 - Natural Resources

Overview

The predominate land cover in Curtis Township is upland forest, with aspen and pine forest 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 AuSable 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 plains and rolling to hilly moraine areas. Elevations in the Township range from 780 feet above sea level at the outflow of the AuSable 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 AuSable 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 along the western and eastern shoreline of the Alcona Dam Pond; these steep slopes are extremely unstable.

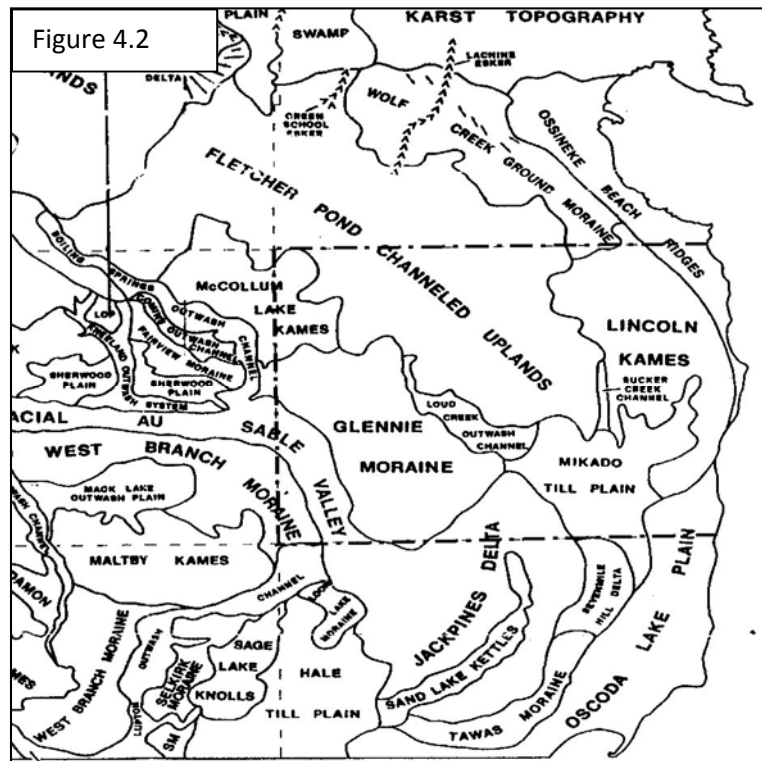
Geology

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 lies a foundation of layered sedimentary bedrock. This section will describe the glacial landforms or quaternary geology and the underlying bedrock geology.

Surface Geology

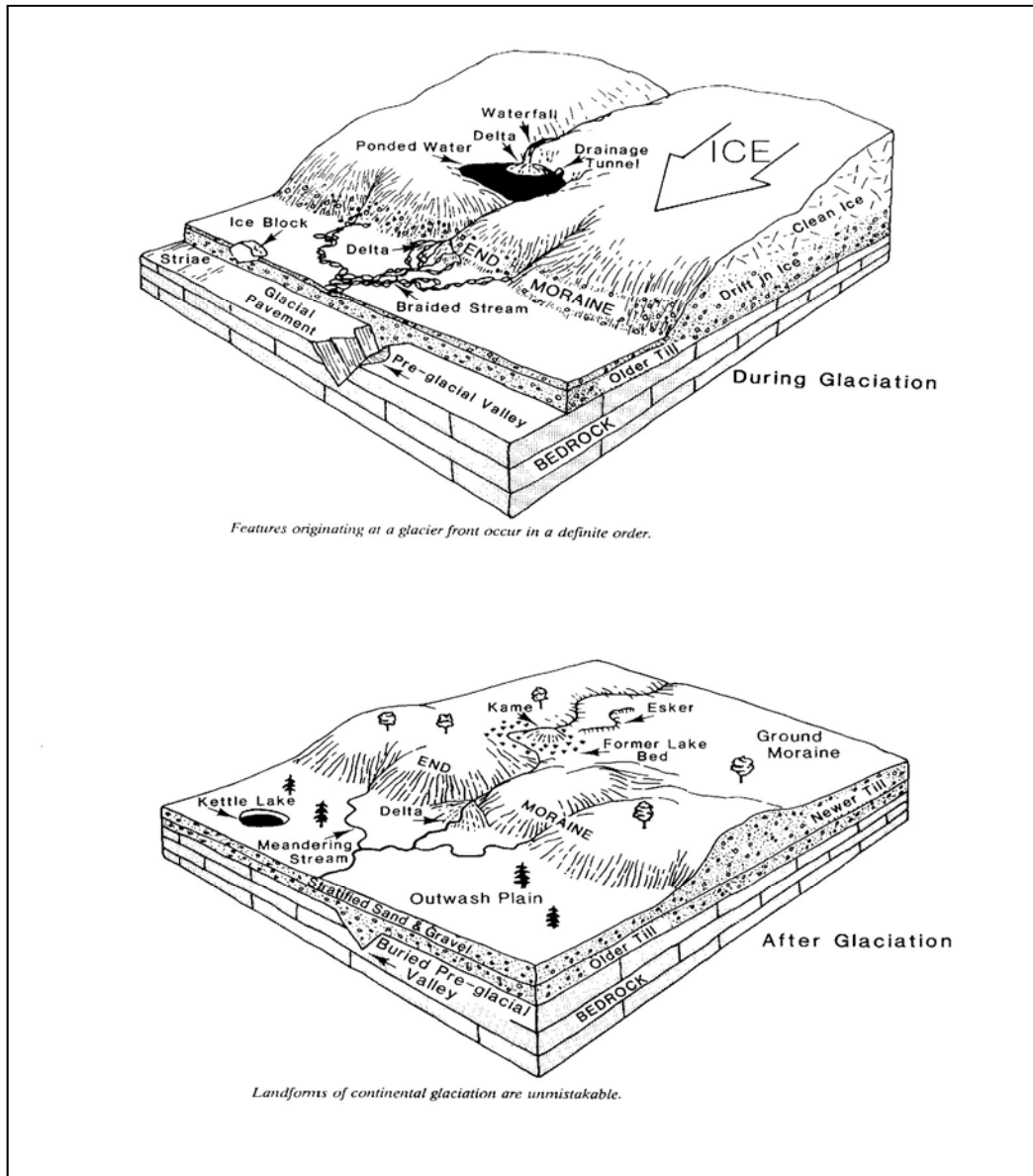
Starting some 2 million years ago, during the Pleistocene era, continental glaciers formed in the Hudson Bay area. Several times, over this two million year period, the massive sheets of ice built up and inched their way south across what is today Michigan. The massive ice sheets more than one mile thick, 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 melt water, settled to the bottom of expansive glacial lakes creating lacustrine clay and slit plains.



(Figure 4.1) on the following page shows how glacial landforms were created.

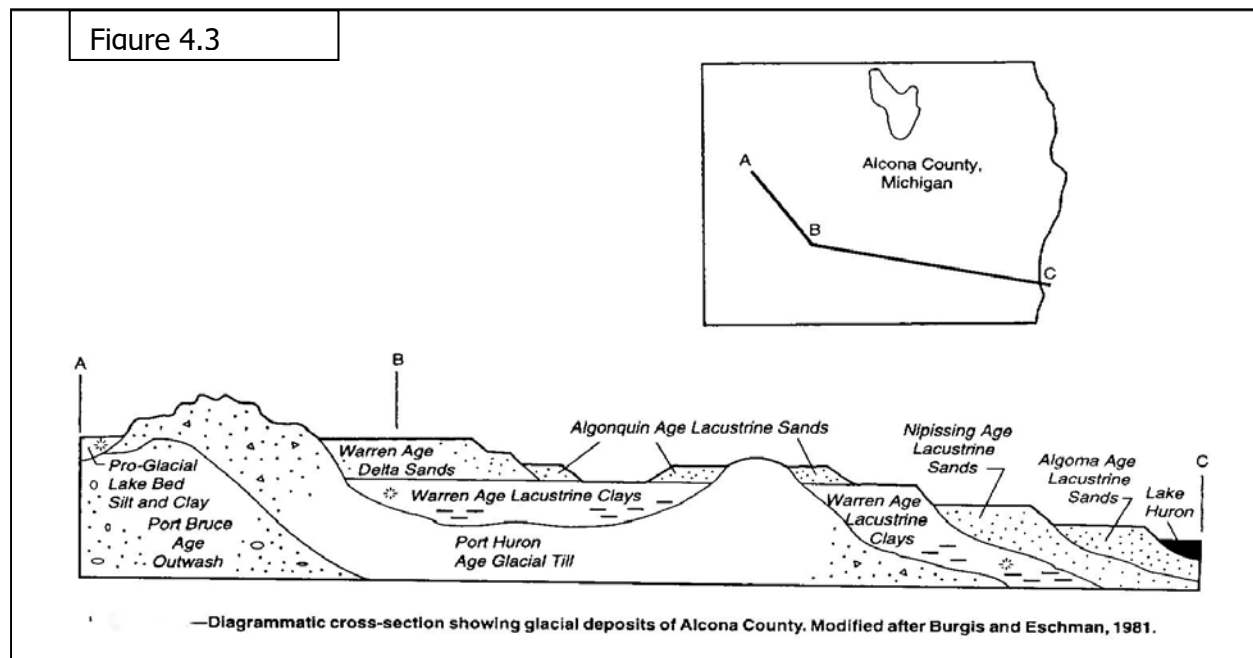
According to a map prepared by W.A. Burgess and D.F. Eschman (**Figure 4.2**), titled Landform Units in “Landform Units in Northeastern Lower Michigan,” Curtis Township is dominated by glacial moraines and a glacial river valley, both created by the glacial melt waters.



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 drainage ways 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 melt waters 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 AuSable River valley clearly shows ancestor of the present day pleasant AuSable 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

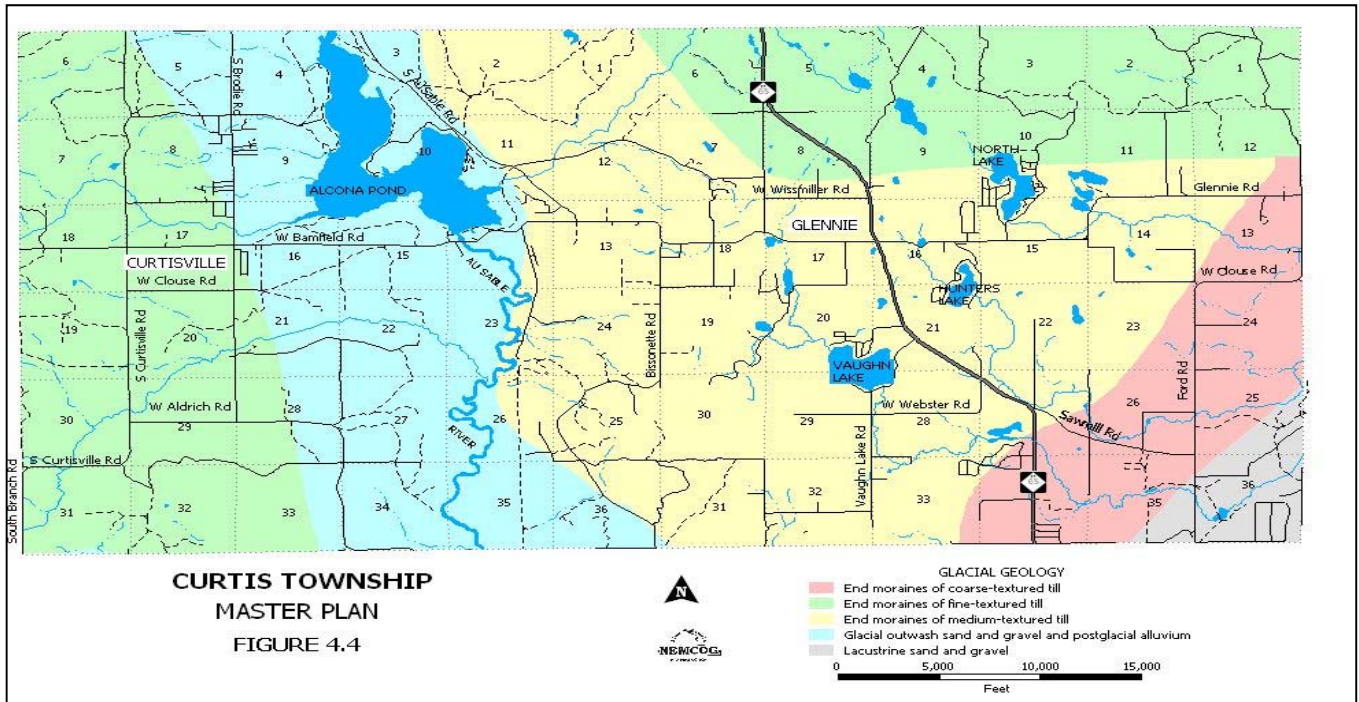


continental glaciers re-advanced southward, and like a huge bulldozer, it pushed the previously deposited materials into larger hills. These are called push moraines. The topography is rolling to steeply sloping. Pine, oak and northern hardwood forests are common in these areas. **Figure 4.4** is a quaternary/glacial 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 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, sub crops the southwestern corner of the county.



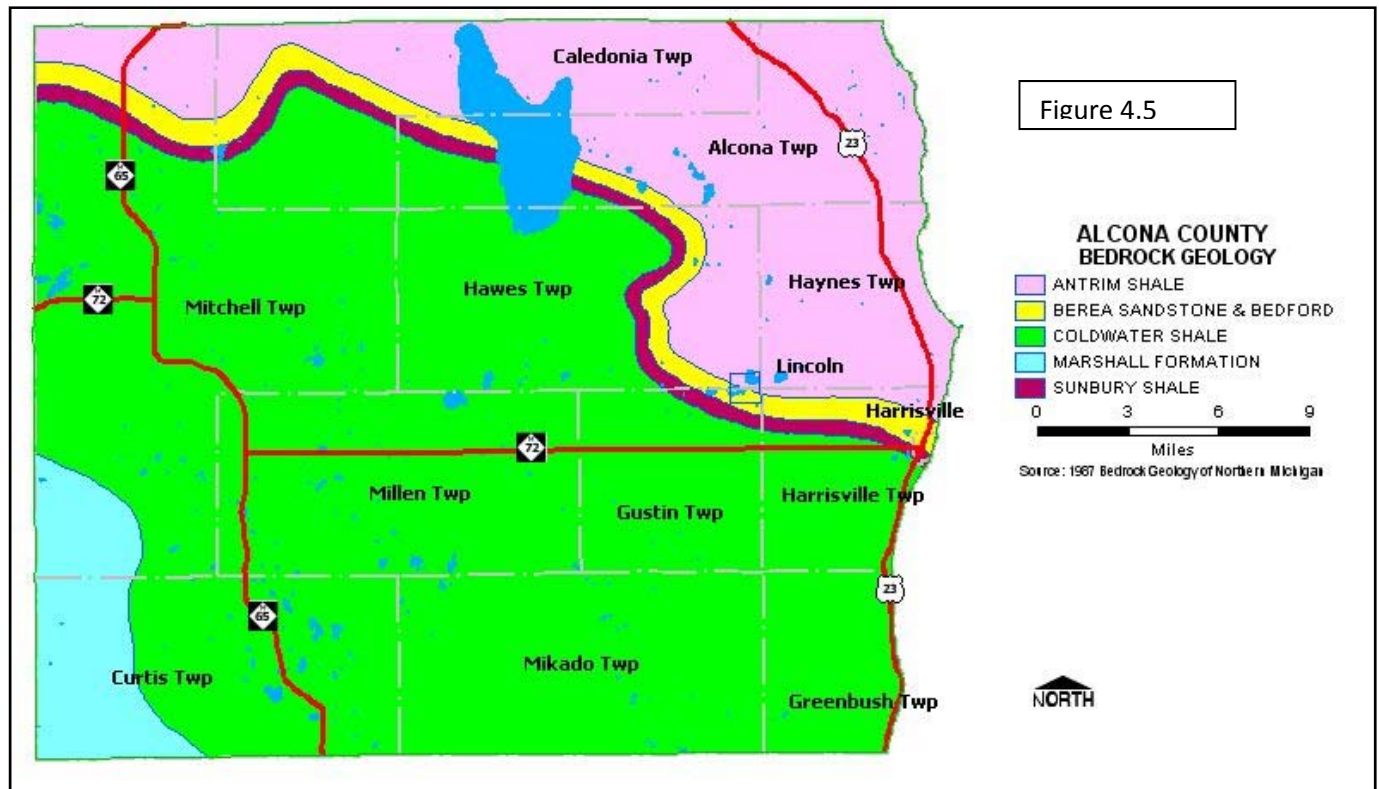
Soils

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 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.

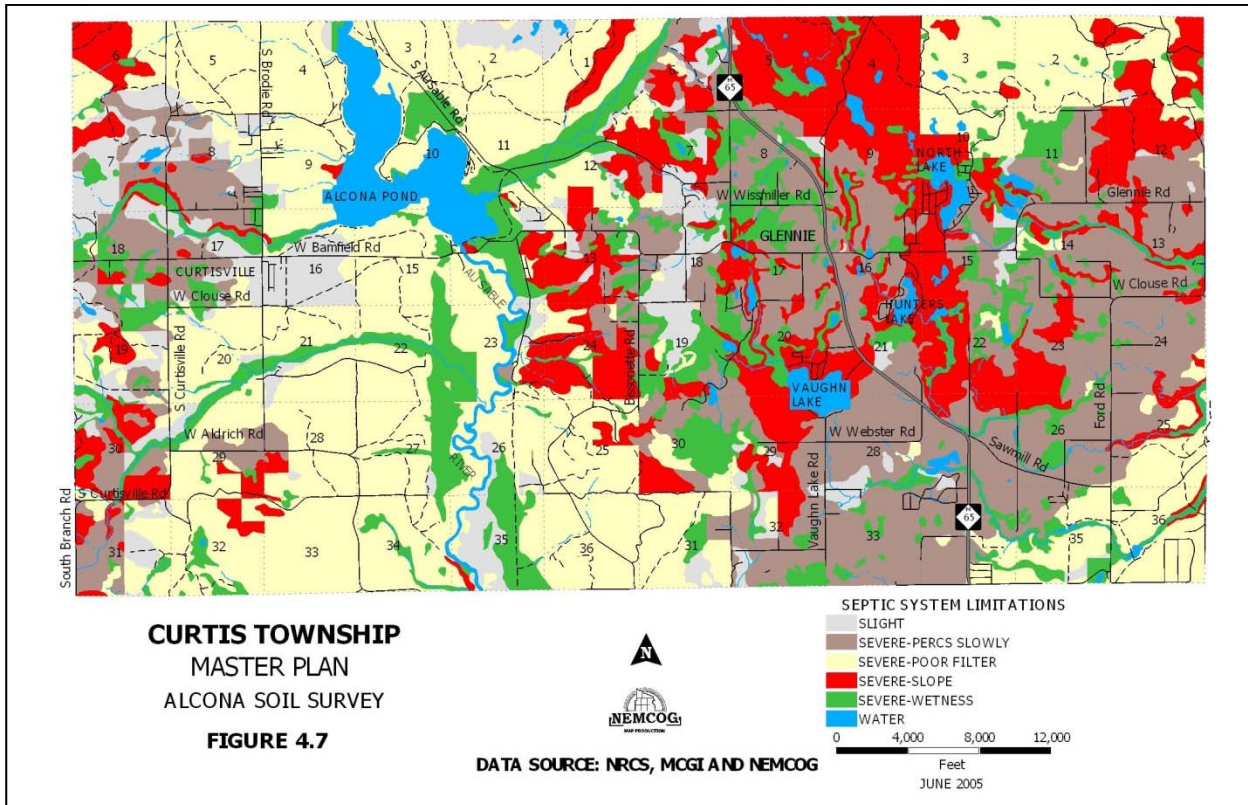
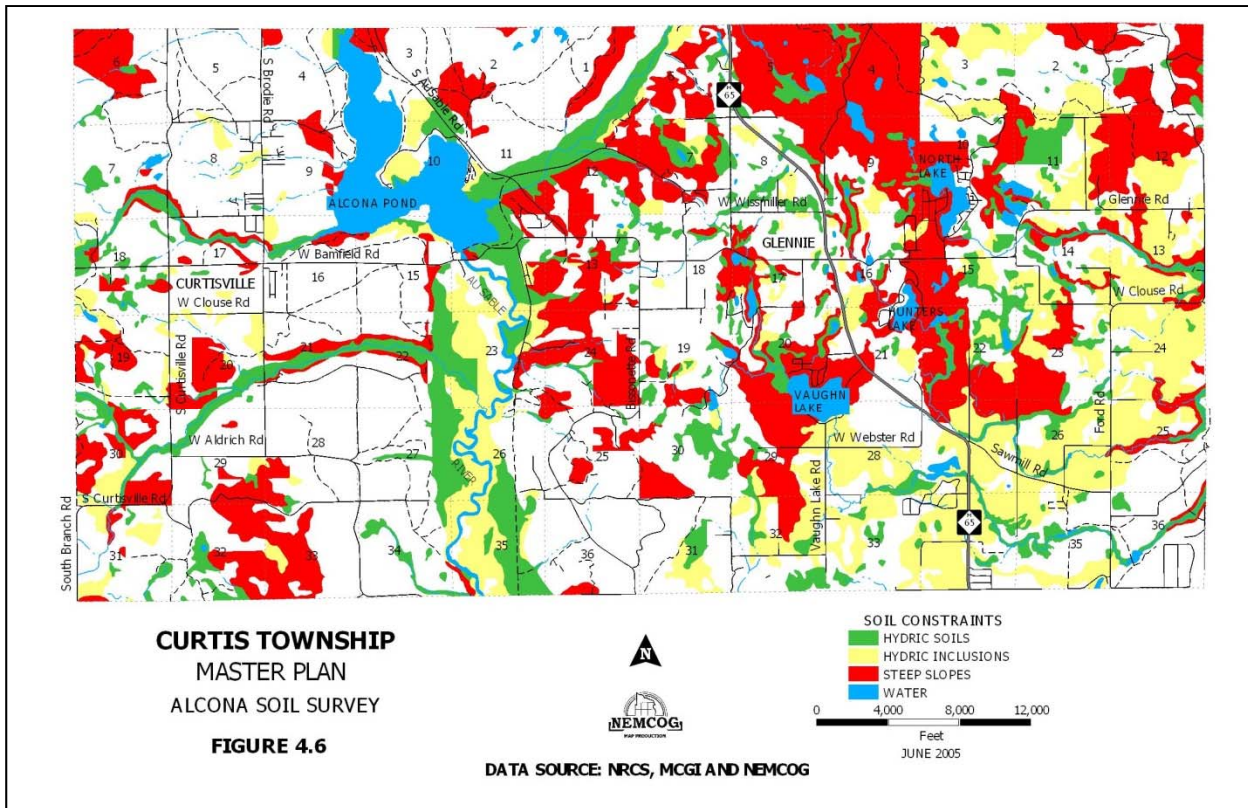


This connectivity of riparian wetlands and surface water features can be seen throughout the landscape. There are extensive hydric soils areas associated with the Au Sable River. Hills and steeply rolling terrain may provide opportunities for spectacular views of the landscape. However, steeply sloped 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

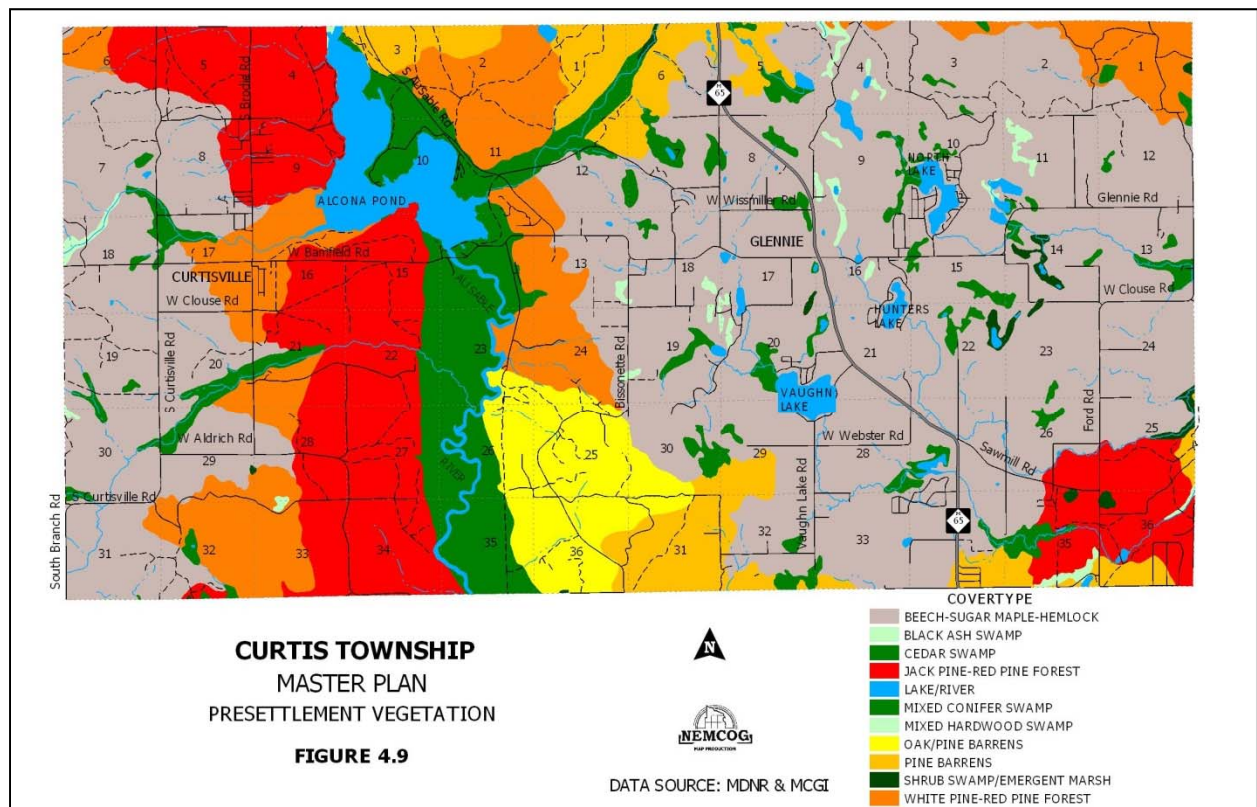
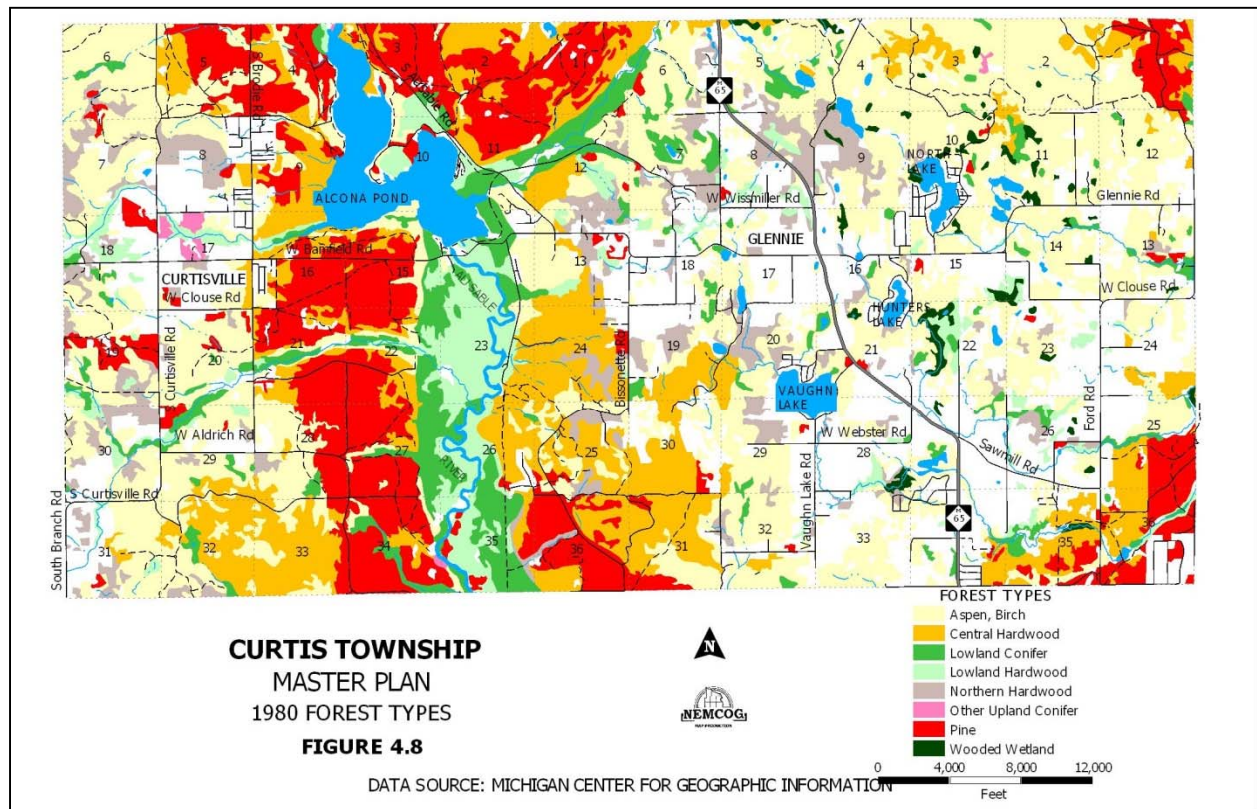
Over 75 percent of the Township is forested and forest fires have been identified as the number one natural hazard in the Alcona County Hazard Analysis Plan. The Michigan Resource Information Systems (MIRIS) 1980 land use inventory compiled land cover maps that depict forest types in the county (**Figure 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 area 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 forest. 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 forest type. However some forest types like 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 bordering the AuSable 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.

Pre-settlement 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 pre-settlement 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 forest 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. Non-forested wetland types include lowland brush, marshes and bogs. Forested and non-forested 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 U.S. 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 AuSable 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 AuSable River watershed. The western half of the Township drains into AuSable River, and the eastern half is drained by several small headwaters creeks in the Pine River Watershed. The Pine River eventually empties into the AuSable River near its mouth. **Figure 4.11** displays the water resources in the Township.

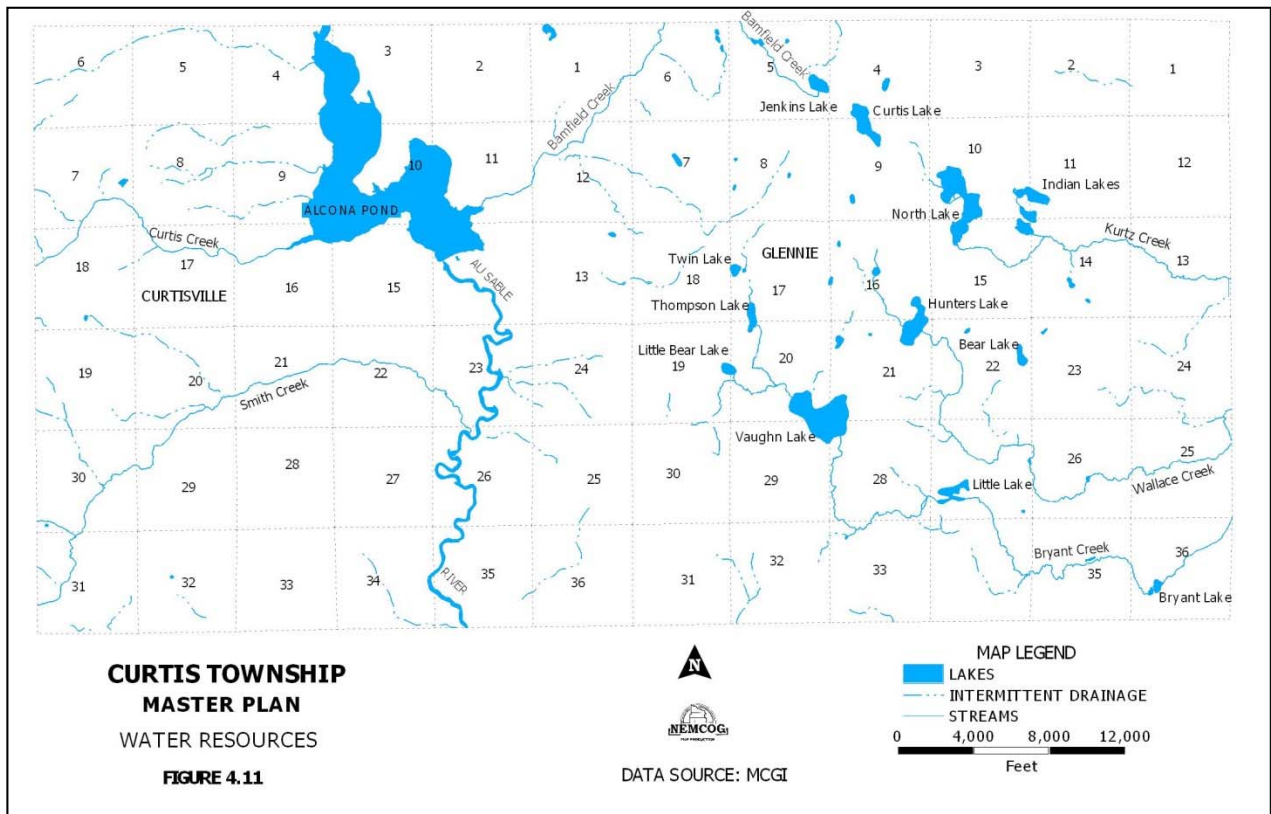
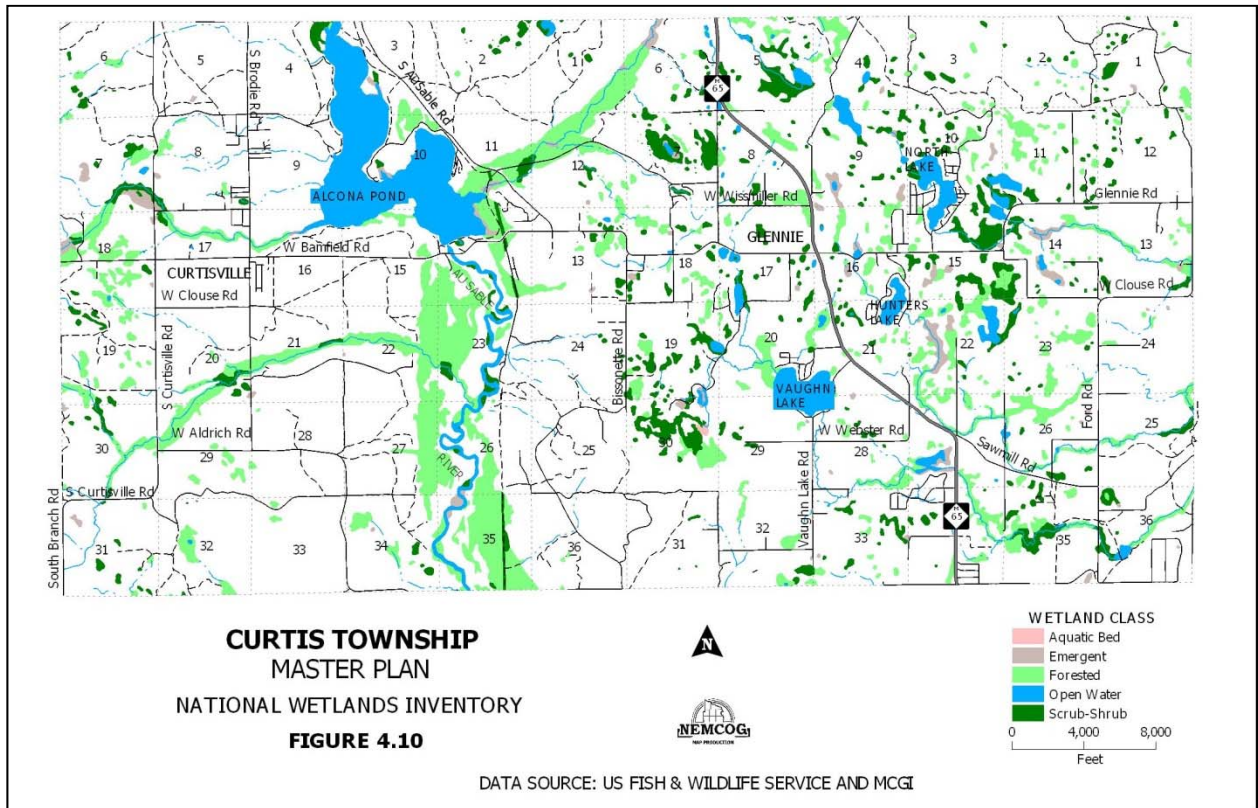
Lakes and river shorelines are continually facing increased pressure from development as more seasonal homes and retirement homes are being built in the County. The recreation industry of Alcona County can be impacted by this development. There are other factors to consider as development occurs near 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 areas 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 12ntlerless 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 water's 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 vile, 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 forest 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 percent 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 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

Status: No Action Take

Alcona County Element List Current as of 6/4/2003			
Scientific Name	Common Name	Federal Status	State Status
Accipiter Cooperii	Cooper's Hawk		SC
Accipiter Gentilis	Northern Goshawk		SC
Buteo Lineatus	Red-Shouldered Hawk		T
Calypso Bulbosa	Calypso or Fairy-Slipper		T
Carex Albolutescens	Greenish-White Sedge		T
Carex Frankii	Frank's Sedge		SC
Carex Nigra	Black Sedge		E
Cirsium Hillii	Hill's Thistle		SC
Cirsium Pitcheri	Pitcher's Thistle	LT	T
Cypripedium Arietinum	Ram's Head Lady's Slipper		SC
Dalibarda Repens	False Violet		T
Dendroica Discolor	Prairie Warbler		E
Dendroica Kirtlandii	Kirtland's Warbler	LE	E
Dry Northern Forest	Dry Woodland, Upper Midwest Type		
Dry Mesic Northern Forest			
Emys Blandingii	Blanding's Turtle		SC
Festuca Scabrella	Rough Fescue		T
Gavia Immer	Common Loon		T
Glyptemys Insculpta	Wood Turtle		SC
Great Blue Heron Rookery	Great Blue Heron Rookery		
Haliaeetus Leucocephalus	Bald Eagle	PS: LT,PDL	T
Hardwood Conifer Swamp			
Panax Quinquefolius	Ginseng		T
Percina Copelandi	Channel Darter		E
Planogyra Asteriscus	Eastern Flat Whorl		SC
Poor Conifer Swamp			
Poor Fan	Poor Shrub/Herb Fen, Upper Midwest Type		
Prunus Alleghaniensis Var. Davisii	Allegheny or Sloe Plum		SC
Pterospora Andromedea	Pine-Drops		T
Rich Conifer Swamp			
Sistrurus Catenatus Catenatus	Eastern Massasauga	C	SC
Sterna Caspia	Caspian Tern		T
Trimerotropis Huroniana	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.			

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 forest 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 the 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 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/Recreational	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	100.0
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 wide range of outdoor recreational activities. For example, persons wishing to pursue the sport of fishing can access AuSable, 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 account for 60 percent of 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) account 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 hardwood 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.

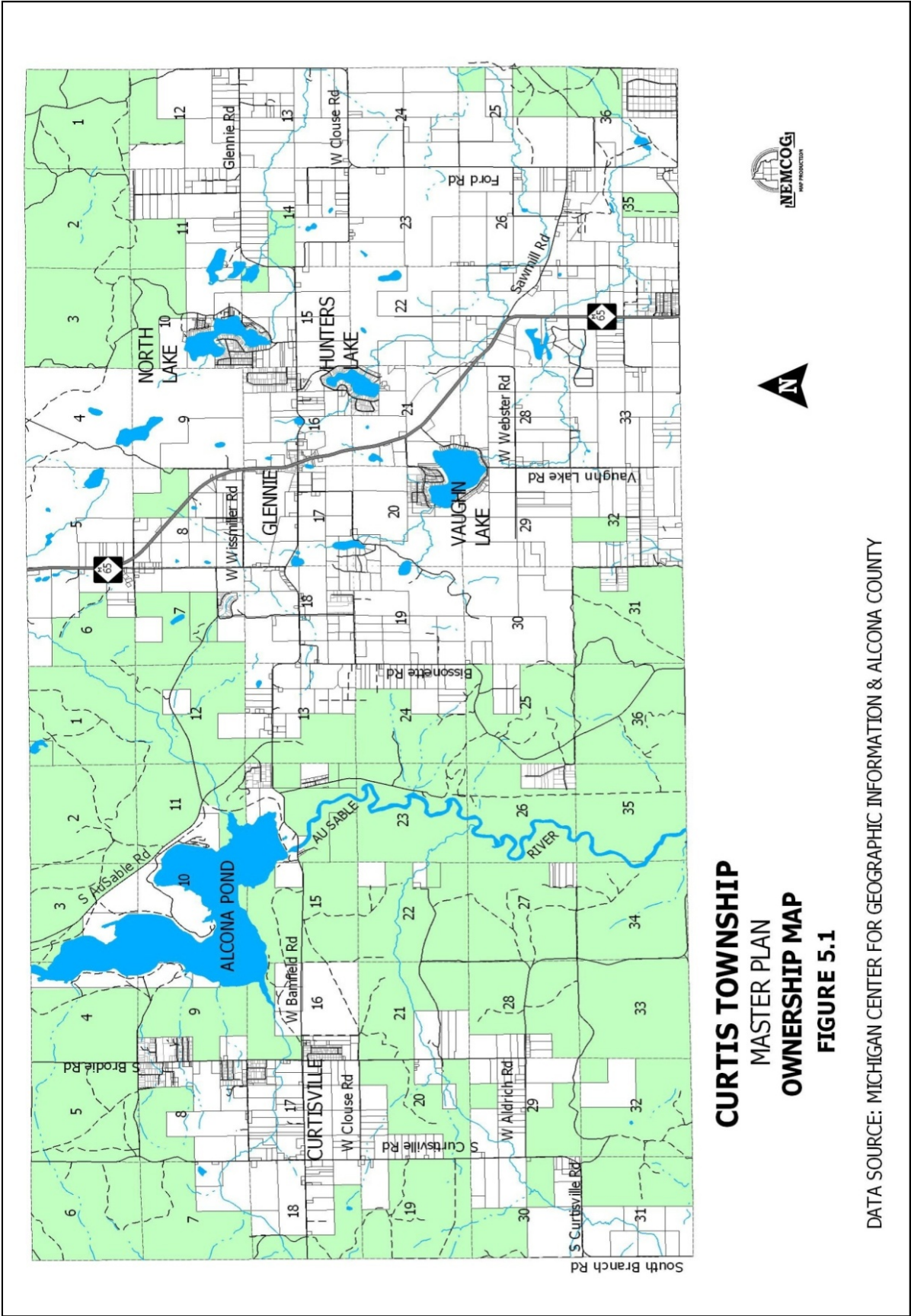
Lowland Forests and Wetlands

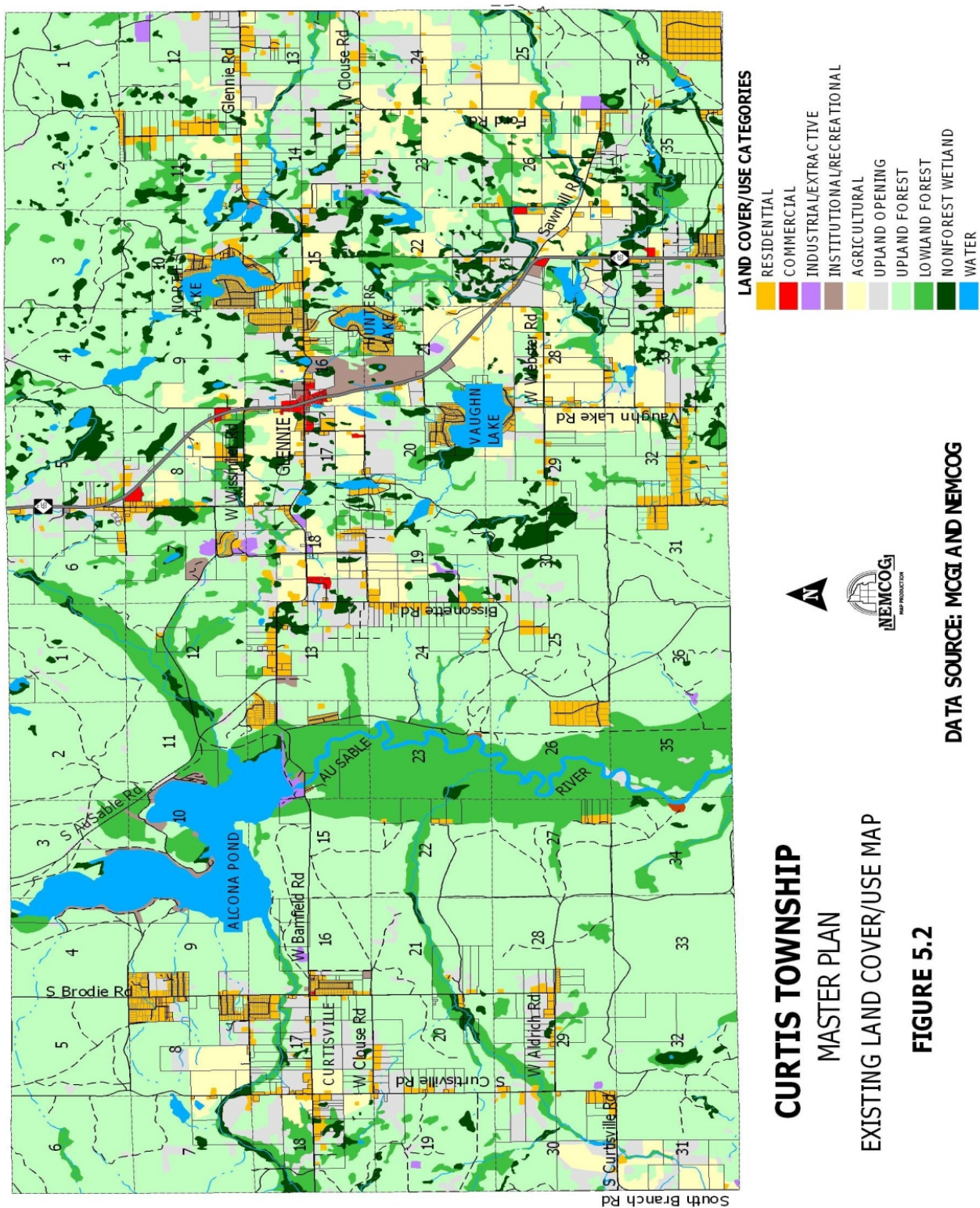
Wetlands are defined as land that has sufficient water at, or near, the surface to support wetland or aquatic vegetation. These areas are commonly referred to as swamps, marshes and bogs. The wetland category comprises non forested types such as lowland brush (tag alder and willow), sphagnum bogs, emergent 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 AuSable 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 workshop was held for the Curtis Township Master Plan development. The workshop was held at the Curtis Township Hall on December 5, 2016 at 6.00 p.m. Six people attended and participated in the workshop. The group identified assets to protect and problems to address in the updated master plan. 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 AuSable 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 a 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. These opportunities are truly assets of the community. Community facilities and services such as the library, fire department and churches 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. 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 forest 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 the 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 (forest, water, open space and farmlands); and community facilities* Curtis Township will be known for its abundance of natural resources and safe rural setting. The AuSable 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 meet the long-term needs of the community.

Objectives:

- Implement the Curtis Township master plan through the township zoning ordinance.
- Manage 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.
- 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 walk able 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 business 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 trunk lines.

- 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.
- 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.
- Encourage the protection of steeply sloped areas. Encourage erosion control measures where construction is permitted. Encourage slope stabilization and re-vegetation 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

For decades Curtis Township experienced small but steady growth in year round and seasonal population. Between 1990 and 2000, Curtis Township had a population increase of 22.2%. Growing by 249 persons, the township experienced the fourth highest growth rate in the county. However, the “Great Recession of 2008” had sizable impacts on Northeast Michigan and reversed long term population trends. The 2010 US Census showed that Curtis Township experienced a ten percent decrease of its population (loosing 142 year round residents) from 2000 to 2010. **See Table 2.1.** With a year round population of 1,236 and an area of 70.8 sq. mi., the township has a population density of 17.5 persons per square mile. The low population density is supported by findings of the 2005 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 MIDOT'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, storm water managements, 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, storm water 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 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. These 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.

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*

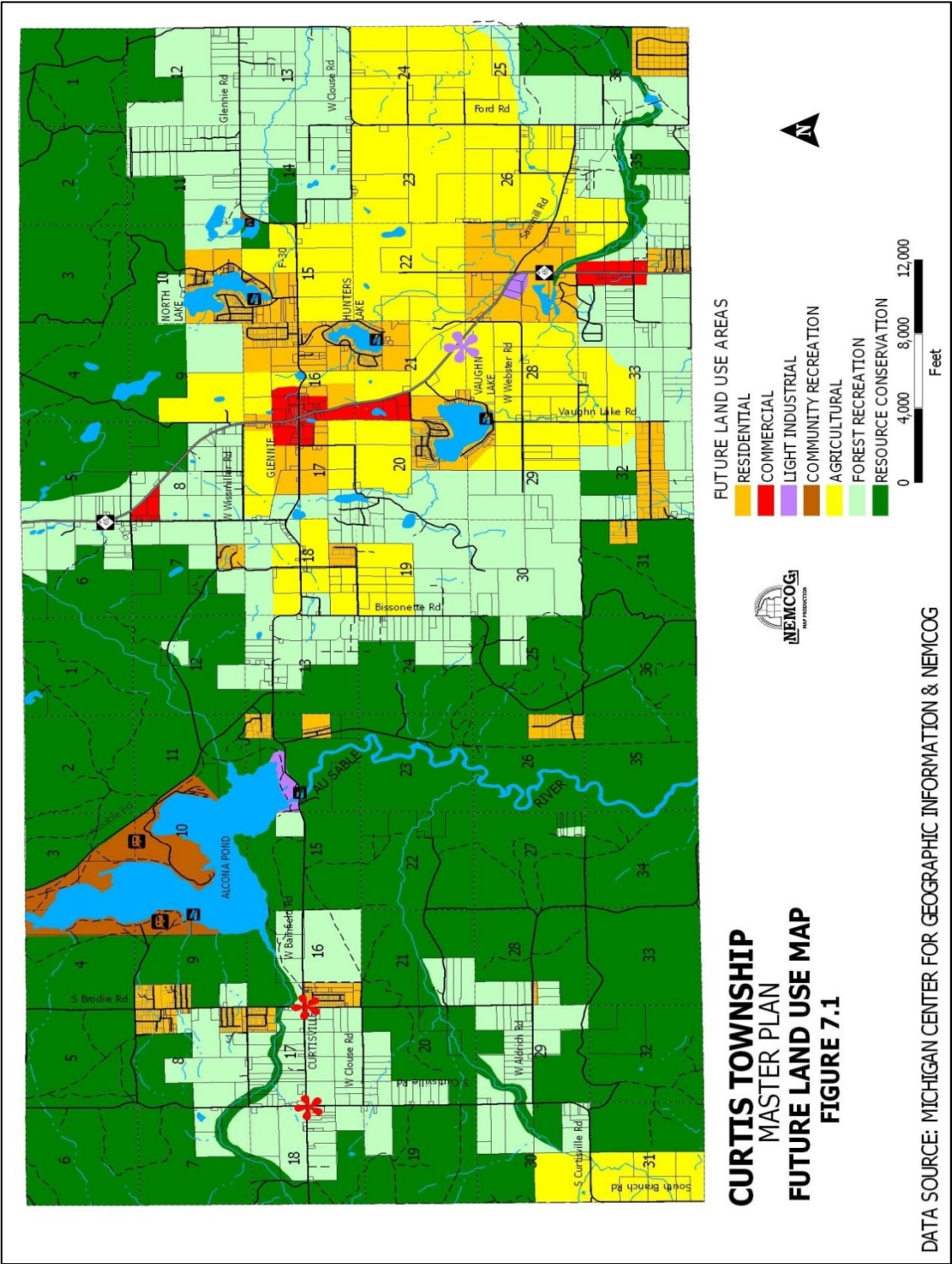
pads, developers can preserve substantial areas of space in each subdivision. Where possible, these preserved open space areas should be made visible from adjacent roads and properties.

Table 7.1: Future Land Use Categories		
Future land Use Category (Development Density)	Compatible Uses	General Locations
Residential (various sizes, with minimum lot size 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.

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, storm water 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-wild lands interface should be encouraged. The plan supports implementation of a community wide Fire Wise 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 the Michigan Planning Enabling Act of 2008 (P.A. 33 of 2008 as amended), notification of intent to update the Curtis Township Master Plan was sent on March 15, 2017 to all adjacent communities and other relevant entities to request cooperation and comment. A copy of the notice letter, affidavit of mailing and entities notified can be found at the end of this chapter.

After the draft plan was completed by the 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 on September 2, 2017 to entities notified at the initiation of the plan development. After the required comment period, a public hearing notice and notice of plan adoption of 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

A public hearing on the proposed Master Plan, as required by the Michigan Planning Enabling Act of 2008 (P.A. 33 of 2008 as amended), was held on February 1, 2018 by the Township Planning Commission. The Act requires that 15 days' notice of the public hearing be given in a publication of general circulation in the community. Notice of the public hearing was published in the Alcona County Review on January 10, 2018.

Plan Adoption

The Curtis Township Planning Commission formally adopted the master plan on February 1, 2018. The Curtis Township Board passed a resolution of concurrence on March 8, 2018.

Plan Implementation

The Master Plan was developed to provide a vision of the Township's future. Along with being the legal foundation of the Township's Zoning Ordinance, the plan 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.

On an annual basis, the Township Planning Commission will review the goals and objectives of the Master Plan and identify objectives to be completed that year. The review will be shared with the Township Board. These identified priority items will be the focus of the Planning Commission's activity throughout that particular year. This will allow the Planning Commissions to work on a proactive basis in order to better accomplish the goals identified in the Master Plan.

Curtis Township Zoning Plan

The Michigan Planning Enabling Act, P.A. 33 of 2008, as amended, requires a Master Plan contains a Zoning Plan – *an explanation of how the land use categories on the future land use map relate to the districts on the zoning map*. The zoning ordinance is the primary tool for implementing the Curtis

Township Master Plan. This plan recommends each Township's 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 of Michigan statutes and court rulings.

Zoning standards and allowable uses will be periodically reviewed and evaluated to determine if changes are needed in order to facilitate orderly development; incorporate innovative approaches; and maintain the desired community character. Chapter 6 contains many objectives that will be achieved through zoning updates. The Township will review their zoning ordinance to determine if the following items are properly addressed: "Firewise" standards in high fire prone areas, signs and billboards, communications towers, antennas and towers, and wind turbines, waterfront overlay districts along designated waterways, and guidelines for development and reclamation of extractive/mining operations.

Chapter 7, Future Land Use Recommendations depicts the locations of future land use planning areas and provides explanations of each land use planning area including purpose, recommended development density, and compatible uses.

Farmland Future Land Use (FLU) boundaries are based on active farmlands and old farm fields. Areas designated for future agricultural area smaller than the current Agricultural Zoning Districts in the Township. The Future Land Use Plan recommends changing zoning district boundaries to accommodate commercial, forest recreation and residential districts. The Township will consider boundary changes when the next major update of the Zoning Ordinance occurs or when a landowner requests a change consistent with the recommendations of the Future Land Use Plan.

Resource Conservation FLU areas, which includes public lands, and wetlands, lowland forests and flood plains on private properties, is the most extensive desired future land use. The Resource Conservation FLU is represented by the Forest Recreation zoning district. It is not the intention of this master plan to create a new zoning district, but rather to recognize natural resource constraints as redevelopment and new development occur.

The *Forest Recreation FLU* is represented by the Forest Recreation and Agricultural zoning districts. The Township will consider boundary changes when the next major update of the Zoning Ordinance occurs or when a landowner requests a change consistent with the recommendations of the Future Land Use Plan.

Community Recreation Future Land Use areas, adjacent to the Alcona Pond and Indian Lakes, are currently zoned Forest Recreation. It is not the intention of this master plan to create a new zoning district, but rather to recognize the importance of recreation to the quality of life for residents and for its importance to the local tourism economy.

The *Residential FLU* category includes existing residential development on smaller lots currently zoned Single Family Residential, Mixed Residential and Rural Residential. The community has designated areas for expansion of residential development on lands currently zoned Agricultural and Forest Recreation in order to accommodate higher density residential developments. It is expected the zoning changes would occur as the demand for new housing on smaller lots increases.

Commercial FLU identifies areas currently zoned Neighborhood Business and Central Business/Corridor Commercial and allows for expansion of new commercial enterprises into areas adjacent to existing commercial development. The community has designated areas for expansion of commercial development on lands currently zoned Agricultural and Forest Recreation. It is expected the zoning changes would occur as the demand for commercial development increases.

Presently, there is limited demand for new industrial development. The *Industrial FLU* category identifies sites with existing extractive and industrial activities, along with including areas for future expansion. The Future Land Use Plan recommends changing the zoning of several parcels from Industrial Zoning to Forest Recreation. Townships should review, and if needed, amend general provisions and supplemental regulations to address groundwater protection, noise, lighting, landscaping, screening, signs and access management in relation to industrial development.

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 be used in the 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. Projects may include improvements and expansion of indoor and outdoor recreation facilities, bike and hiking trails, and public access onto waterways.

Official Documentation

The following pages contain the official documentation of the master planning process.

Notice of Intent to Update Curtis Township Master Plan

Date: March 15, 2017

Curtis Township is in the process of updating its Master Plan. As required by MICHIGAN PLANNING ENABLING ACT, Act 33 of 2008, notification is being sent to Alcona County and all adjacent minor civil divisions; and utilities and other entities who have requested notification.

Prior to, and after adoption of the Master Plan, draft and final copies of the plan will be sent to all governmental units, as defined in the MICHIGAN PLANNING ENABLING ACT, Act 33 of 2008, for review and comment. Utilities and railroads must request copies and in accordance with the planning act, only utilities and railroads may be charged for photo copies and postage.

In accordance with P.A. 33, the township intends to transmit draft and final copies of their Master Plan electronically on a CD.

Thank you for your cooperation.

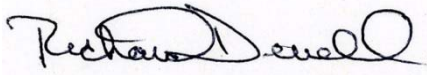
Curtis Township Planning Commission
PO Box 90
Glennie, MI 48737
Phone: (989) 735-4081

Communities that received notice of intent

Mitchell Twp. Planning Commission
Millen Township Planning Commission
Mikado Township Planning Commission
Oscoda Twp. Planning Commission
Plainfield Township Planning Commission
Goodar Township Planning Commission
Mentor Township Planning Commission
Alcona County Board of Commissioners
NEMCOG

Affidavit of Mailing
Notice of Intent to update Master Plan

Richard Deuell certifies communities and utilities on the attached list were sent a Notice of Intent to update the Curtis Township's Master Plan on March 15, 2017. The Notice of Intent was transmitted in accordance with MICHIGAN PLANNING ENABLING ACT, Act 33 of 2008



Name

3/15/2017
Date

Communities Contacted

Mitchell Twp. Planning Commission
Millen Township Planning Commission
Mikado Township Planning Commission
Oscoda Twp. Planning Commission
Plainfield Township Planning Commission
Goodar Township Planning Commission
Mentor Township Planning Commission
Alcona County Board of Commissioners
NEMCOG

Curtis Township Master Plan Transmittal

TO: Local Entities
FROM: Curtis Township
DATE: September 1, 2017
SUBJECT: Draft 2017 Curtis Township Master Plan

Curtis Township has completed their draft Master Plan. As required by the Michigan Planning Enabling Act, a draft of the master plan is being transmitted for your community for review and comment.

According to the act, townships, cities, villages, counties, utilities, railroads and agencies have 63 days to comment on the draft master plan. Those comments must be received within 63 days of date of the transmittal of the draft master plan. Comments should be addressed to the Curtis Township Planning Commission.

Comments should be transmitted to:
Ken Walls, Chair
Curtis Township Planning Commission
PO Box 90
Glennie, MI 48737
Phone: (989) 735-4081
Fax: (989) 735-4081
Email: kawgnw@yahoo.com

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

Communities that received draft

Mitchell Twp. Planning Commission
Millen Township Planning Commission
Mikado Township Planning Commission
Oscoda Twp. Planning Commission
Plainfield Township Planning Commission
Goodar Township Planning Commission
Mentor Township Planning Commission
Alcona County Board of Commissioners
NEMCOG

Affidavit of Mailing

Draft Curtis Township Master Plan

I Richard Deuell certify communities and utilities on the attached list were sent a draft copy of the Curtis Township's Master Plan sent on 9/2/2017. The master plan was transmitted in accordance with MICHIGAN PLANNING ENABLING ACT, Act 33 of 2008



Name

9/2/2017

Date

Communities Contacted

Mitchell Twp. Planning Commission
Millen Township Planning Commission
Mikado Township Planning Commission
Oscoda Twp. Planning Commission
Plainfield Township Planning Commission
Goodar Township Planning Commission
Mentor Township Planning Commission
Alcona County Board of Commissioners
NEMCOG

Public Hearing Notice

Township of Curtis 2018 Master Plan

Curtis Township Planning Commission will hold a public hearing on the 2018 Master Plan at 6 p.m. on February 1, 2018 at the Curtis Township Hall located at 4875 F-30, Glennie, MI 48737. The draft 2018 Master Plan can be viewed at the township hall or on the Curtis Township website, <https://curtistownship.com>. Comments can be submitted to:

Curtis Township Planning Commission

4875 F-30, P.O. Box 90,

Glennie, MI 48737

or emailed to elltenationaltraining@yahoo.com.

**Resolution of Adoption
Curtis Township Planning Commission**

2018 CURTIS TOWNSHIP MASTER PLAN

WHEREAS: Township of Curtis, Alcona County, Michigan re-established a Planning Commission under State of Michigan Public Act 33 of 2008, as amended, and;

WHEREAS: The Curtis Township Planning Commission is required by Section 31 of P.A. 33 of 2008, as amended to make and approve a master plan as a guide for the development within the Township, and;

WHEREAS: The Curtis Township Planning Commission, in accordance with Section 39(2) of the Act, notified the adjacent communities and the Alcona County Board of Commissioners of the intent to develop a plan and, in accordance with Section 41(2) of the Act, distributed the final draft to adjacent communities and the Alcona County Board of Commissioners for review and comment, and;

WHEREAS: The plan was presented to the public at a hearing held on 2-1-18, 2018, before the Planning Commission, with notice of the hearing being published in the Alcona County Review on 1-10-18, 2018 in accordance with Section 43(1) of the Act;

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 Planning Commission as the Curtis Township Master Plan on this 1 day of February, 2018.

Motion: Grabstowicz Second: Sweeney

Ayes: S - Grabstowicz, Sweeney, Gates, Walls, Orefice

Nays: 0

Absent:

Certification

I hereby certify that the above is a true and correct copy of the resolution adopted at the Feb 1st, 2018, meeting of the Curtis Township Planning Commission.

K.D. Walls, Chair

[Signature], Secretary

RESOLUTION OF CONCURRENCE
Curtis Township Board
2018 Curtis Township Master Plan

WHEREAS: Township of Curtis, Alcona County, Michigan re-established a Planning Commission under State of Michigan Public Act 33 of 2008, as amended, and;

WHEREAS: The Curtis Township Planning Commission is required by Section 31 of P.A. 33 of 2008, as amended to make and approve a master plan as a guide for the development within the Township, and;

WHEREAS: The Curtis Township Planning Commission, in accordance with Section 39(2) of the Act, notified the adjacent communities and the Alcona County Board of Commissioners of the intent to develop a plan and, in accordance with Section 41(2) of the Act, distributed the final draft to adjacent communities and the Alcona County Board of Commissioners for review and comment, and;

WHEREAS: The plan was presented to the public at a hearing held on Feb 1st, 2018, before the Planning Commission, with notice of the hearing being published in the Alcona County Review on Jan 10, 2018 in accordance with Section 43(1) of the Act;

WHEREAS: The plan was adopted by the Planning Commission on Feb 1st, 2018;

NOW THEREFORE BE IT RESOLVED THAT,

The Township Board of the Township of Curtis does hereby concur with the action of the Planning Commission by means of passing this resolution on the 8th day of March 2018.

Motion:

Paul Thabestomewicz

Second:

James Cezuski

Ayes:

5 -

Nays:

0

Absent:

0

Certification

I hereby certify that the above is a true and correct copy of the resolution adopted at the March 8, 2018 meeting of the Township Board of the Township of Curtis.

Clerk

TERESA J. PERKINS

March 8, 2018 **CURTIS TOWNSHIP BOARD MEETING (Curtis Township Offices)**

Supervisor Kenyon called meeting to order at 6:00 P.M. Pledge of Allegiance was given

ROLL CALL: Present – Darrell Kenyon-Supervisor, Teresa Perkins-Clerk, Betty Bonner-Treasurer, Jim Czarski-Trustee & Paul Grabstanowicz-Trustee Public Attendance: 10

PERSONS WISHING TO ADDRESS THE BOARD: N/A

APPROVAL of AGENDA: Additions -1) Trustee Grabstanowicz update on the Clouse LLC
2) Glennie Sportsmen Club request for land survey

FIRE REPORT: 0 runs. 2 firefighters did training for ice rescue.

ZONING ADMIN: 0 zoning permit(s) issued, received 8 inquiries pertaining to zoning issues. Received a request for property information pertaining to a new communications tower. Received 1 inquire pertaining to FEMA.

ORD. ENFORCEMENT OFFICER: Received 1 complaint(s) this month.

ROAD COMMITTEE REPORT: 1) Reviewed Annual report for Curtis Township Road Committee. 2) Reviewed the 2018 Curtis Township Dust control policy with **MOTION:** Grabstanowicz/Bonner to accept. Ayes – 5 – Nays – 0 Motion Carried.

PLANNING COMMISSION: 1) Reviewed and adopted the Resolution of Concurrence for the 2018 Curtis Township Master Plan with **MOTION:** Grabstanowicz/Czarski to adopt. Ayes – 5, Nays – 0 Motion Carried. 2) The 2nd Quarterly meeting scheduled for April 5, 2018 is cancelled, will be rescheduled for a later date.

GLENNIE IMPROVEMENT COMMITTEE: Mac McCormick advised the board that it would be the responsibility of the township to pay for any moving/relocation of the “street lamps” service located at the 4 corners. The GIC NEEDS MORE MEMBERS!!! PLEASE contact Mac McCormick if you are interested in helping this committee.

UNFINISHED BUSINESS: 1) BS&A purchase of the assessor software required by the State of Michigan.

MOTION: Perkins/Grabstanowicz to purchase Roll Call: Ayes 4 - Grabstanowicz, Czarski, Bonner, Perkins & Kenyon Motion Carried. 2) Trustee Grabstanowicz update into the Clouse LLC request – The Curtis Twp Zoning Administrator and Curtis Twp Assessor has sent all necessary documents and paperwork to Clouse LLC. At this point the township has done all that can be done to assist them. 3) The Glennie Sportsman’s Club has presented the board with a property use agreement stating that they would pay \$450 with the township paying \$1500 for a land survey for parcel # 031-007-300-005-00 (5690 Body Rd) with **MOTION:** Grabstanowicz/Czarski to authorize the land survey. Roll Call: Ayes – Grabstanowicz, Czarski, Bonner & Kenyon. Nays – Perkins. Motion Carried.

NEW BUSINESS: N/A

CORRESPONDENCE: N/A

PUBLIC COMMENT: Gary Wnuk, Alcona County District 5 Commissioner gave an update on the county happenings.

MOTION: Bonner/Perkins to adjourn the Curtis Township Meeting at 6:45 p.m. - Ayes -5 -- Nays – 0 Motion Carried. Motion carried. Respectfully submitted, Teresa Perkins, Curtis Township Clerk

Minutes subject to Board Approval at the next Township Board Meeting.

Public Meeting minutes

MASTER PLAN 2018 PUBLIC MEETING

FEBRUARY 1ST, 2018

Meeting called to order - 6:00 pm

Pledge of Allegiance

Roll Call - Ken Walls - Chairman, Jerome Orefice - Vice Chair, Thomas Gates, Ira Sweeney, Paul Grabstanowicz - Township Liason - All present

Public attendees - 2

Chairman Walls read the changes from the original Master Plan and the changes the planning commission made to the update

The meeting was open to the public for comment:

Jim Czarski had numerous changes and corrections. The planning commission listened and reviewed each change individually and there was a motion to make the agreed upon changes - Motion Grabstanowicz second Walls 5 ayes 0 nays - approved

* There was a motion to send the Master Plan to the Township board for a resolution to adopt the master plan. Motion Grabstanowicz Second Sweeney

Resolution was voted on - 5 ayes, 0 nays - Approved.

Motion to adjourned - Grabstanowicz, Second Gates

Adjourned at 7:15 pm

Curtis Township Master Plan Transmittal

TO: Local Entities
FROM: Curtis Township
DATE: April 3, 2018
SUBJECT: Curtis Township 2018 Master Plan

Curtis Township has completed its Master Plan update. As required by the Michigan Planning Enabling Act, the adopted 2018 Master Plan is being transmitted for your records.

Ken Walls, Chair
Curtis Township Planning Commission
PO Box 90
Glennie, MI 48737
Phone: (989) 735-4081
Fax: (989) 735-4081
Email: kawgnw@yahoo.com

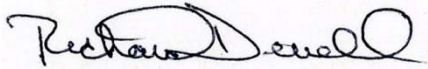
Communities that received draft

Mitchell Twp. Planning Commission
Millen Township Planning Commission
Mikado Township Planning Commission
Oscoda Twp. Planning Commission
Plainfield Township Planning Commission
Goodar Township Planning Commission
Mentor Township Planning Commission
Alcona County Board of Commissioners
NEMCOG

Affidavit of Mailing

Curtis Township 2018 Master Plan

I Richard Deuell certify communities and utilities on the attached list were sent a copy of the Curtis Township's Master Plan sent on 4/3/2018. The master plan was transmitted in accordance with MICHIGAN PLANNING ENABLING ACT, Act 33 of 2008



Name

4/3/2018

Date

Communities Contacted

Mitchell Twp. Planning Commission
Millen Township Planning Commission
Mikado Township Planning Commission
Oscoda Twp. Planning Commission
Plainfield Township Planning Commission
Goodar Township Planning Commission
Mentor Township Planning Commission
Alcona County Board of Commissioners
NEMCOG

Appendix A

A public input workshop was held for the Curtis Township Master Plan at the Curtis Township Hall on February 1st, 2018 at 6:00 p.m. Two 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 through 2025. 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. Rural Open Spaces
10. Golf Course
11. Clean Air
12. Wildlife
13. Two tracks in the Woods
14. No Traffic
15. Library
16. Fire Department
17. Continue with Maintenance of Roads
18. Diversity of Activities for Tourists
19. Churches
20. Road Commission does a Good Job
21. Youth
22. Friendly People
23. Business – New Stores
24. Credit Union
25. Community Organizations – Non –Profit
26. Local Newspaper

Curtis Township Vision for 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 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. Describe the 2025 future that you envision.

Comments

1. Still very rural
2. Ghost Town
3. More retirees, More Residences
4. Churches Growing
5. Still have Gardens
6. Fire Department in Curtisville
7. More Employed young People
8. Youth Centers for Kids
9. Expansion of business – More business
10. New Streetscape, Water / Sewer/ Business Face Lifts
11. Change in attitudes
12. More Junk Problems
13. Developed in Rational Well Thought Out Manner – Land Use Consensus
14. On M65 – A little Chapel
15. Small Park in Town (Glennie)
16. New Community Center with Park and Playground
17. Large Recreation Park Michigan Adventure
18. Large Hotel with Pool / Sauna
19. Well Run Government
20. Au Sable River – More Important Than Now
21. Local Transportation for Seniors
22. Blight Cleared and Clean
23. Sprinkler Park
24. More Businesses Providing Basic Services
25. New Businesses Have Been Encouraged
26. Clean Overnight Accommodations
27. Young People Have Work Ethics
28. Abundant Natural Resources
29. Businesses That Cater to Vacations Around Natural Resources

- 30. Small Shops
- 31. Tennis Courts
- 32. Mini Golf
- 33. United Community
- 34. Fast Food Restaurants
- 35. Community Municipal Airport
- 36. Snowmobile/ Horse / Rest Station
- 37. Large American Flag – Like Over the Town Offices

Problems to Address

Please list what you feel are the problems to address or what you would like to change within Curtis Township.

Problems to Address within Curtis Township

1. Limited Areas for New Business
2. Unemployment
3. Lack of Amenities for Tourist – Hotels and Restaurants
4. Fragmentation of agricultural Lands
5. No Stop Light on M65 and F30 Bamfield
6. Location sign – M65 and Sawmill Road
7. Septic Systems in Closely Developed Areas Around Lakes
8. Lack of Youth Programs
9. No Drug Store
10. Lack of Job Opportunities For Young People
11. Fuel Costs
12. Need More Variety of Businesses
13. Blight and Junk Around Homes
14. No Medical Facility with Doctor
15. Welfare
16. Need to Improve Look of Existing Businesses
17. Downtown Area has no Distinct Character
18. Need Community Center
19. Lack of Community Planning
20. M65 at South of Sawmill by Bryant Creek – Speeds are Too High
21. Aging Community
22. Cutting Large Tract of Forest
23. Drainage Problems Causing Floods
24. Need More Police Protection
25. Need More Youth and Family in the Community
26. Long Drive to Schools
27. No Cell Tower in Curtisville



CURTIS TOWNSHIP 2018 MASTER PLAN

Curtis Township
Alcona County, Michigan

Adopted on: February 1, 2018