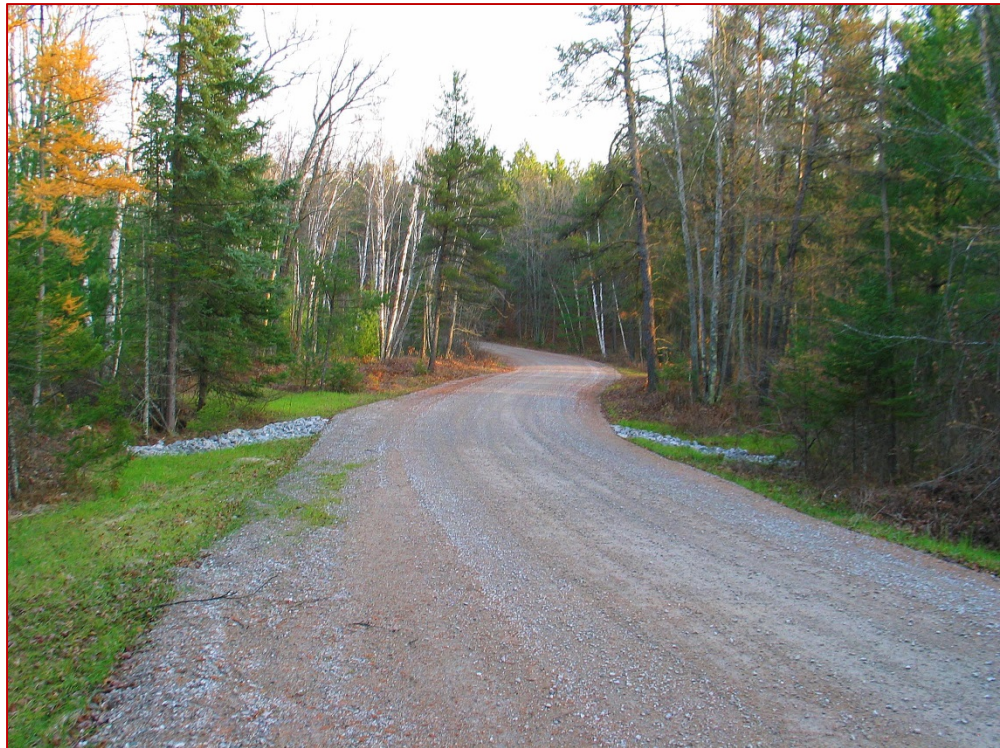


Mikado Township 2017 Master Plan



Mikado Township
Alcona County, Michigan

MIKADO TOWNSHIP 2017 MASTER PLAN

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ACKNOWLEDGEMENTS

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**MIKADO TOWNSHIP
LAND USE MASTER PLAN**

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Chapter 1 - Introduction

Purpose and Planning Process

The purpose of the Mikado Township Master Plan is to provide guidelines for future development within the community, while protecting the natural resources and rural township character. The Michigan Planning Enabling Act, P.A. 33 of 2008, states a Township may adopt, amend, and implement a master plan. The Michigan Planning Enabling Act states: *The general purpose of a master plan is to guide and accomplish, in the planning jurisdiction and its environs, development that satisfies all of the following criteria:*

- A. *Is coordinated, adjusted, harmonious, efficient, and economical.*
- B. *Considers the character of the planning jurisdiction and its suitability for particular uses, judged in terms of such factors as trends in land and population development.*
- C. *Will, in accordance with present and future needs, best promote public health, safety, morals, order, convenience, prosperity, and general welfare.*
- D. *Includes, among other things, promotion of or adequate provision the following:*
 1. *A system of transportation to lessen congestion on streets.*
 2. *Safety from fire and other dangers.*
 3. *Light and air.*
 4. *Healthful and convenient distribution of population.*
 5. *Good civic design and arrangement and wise and efficient expenditure of public funds.*
 6. *Public utilities such as sewage disposal and water supply and other public improvements.*
 7. *Recreation.*
 8. *The use of resources in accordance with their character and adaptability.*

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 Mikado 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 Land Use Master Plan was developed by the Mikado Township Planning Commission with the assistance from the Northeast Michigan Council of Governments (NEMCOG). The 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. Workshops were advertised in the local newspaper as well as the Mikado Township Newsletter. All workshops were open meetings with public welcomed and encouraged to comment on the plan.

Location and Regional Setting

Mikado Township is located in the southern part of Alcona County. The County is located in the northeastern lower peninsula of Michigan. **Figure 1.1** shows the location of the Township and County. Oscoda Township in Iosco County borders Mikado Township to the south, and Curtis Township to the west, Greenbush Township to the east and Gustin and Millen Townships to the north, which are all in Alcona County. The Township geographic area covers nearly 72 square miles (6 x 12 miles). **Figure 1.1** shows a base map of Mikado Township that depicts roads, ownership, state lands and water features.



Brief History

The history of Mikado Township shows a chronological progression from pre-settlement virgin pine and hardwood forests to fairly intense lumbering followed by limited farming; and today a quite rural community with a mix of year round and seasonal residences that provides an abundance of outdoor recreational opportunities. People who live in the township typically work in Harrisville, Lincoln or Oscoda. 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.

Mikado celebrated its centennial in 1986; today the community is 131 years old. This brief account of Mikado history is taken from articles written by Georgia Wissmiller and W.S. Kahn. The article by Wissmiller is based on accounts of B. Daniel L. Bruce, son of Daniel D. Bruce who founded the Village of Mikado. Like in much of northeast Michigan, the virgin timber drew lumberjacks and businessmen to the region. Bruce purchased land west of Greenbush from the U.S. Government. The property, located adjacent to a railroad, was surveyed and mapped in 1884. A map of Bruce Plat and accompanying legal documents were registered that year. The following year, Daniel built the Bruce Hotel and Livery stable. With the influx of lumberjacks and families, the hotel and small community thrived. The young community was called West Greenbush. Mr. Bruce petitioned railroad officials to make the railroad crossing at West Greenbush an official stop. In 1886, with \$360 in hand, he met with railroad officials in Tawas and finally received their assurance the train would stop at the crossing.

That same year, Daniel Bruce wrote to the Postmaster General in Washington D.C. suggesting the name of "Bruce's Crossing" for the new village. There was already a town by that name in the Upper Peninsula, so a different name was chosen by the Assistant Postmaster General. The town was named Mikado after the Gilbert and Sullivan Operetta. Which is how a town in northeast came to have a Japanese name.

The area was inhabited long before the "landlookers" and lumberjacks arrived. An archeological treasure, called the Mikado Earthworks can be found in the western part of the Township. Loggers discovered the earthen remnant of an Indian village-fortification in the 1800's. According to an Article from the Harrisville Review, " Currently, all that is there to be seen is a mound of dirt, that runs in a horseshoe formation with a gully in the center. Post molds, dark stained dirt, where posts once stood, have been found along the top of this prehistoric "foundation." This indicates that the fort was palisaded, enclosed by wooden stakes. The

circumference around the top of the footings is 1000 feet. The earthwork has a total enclosed area of 96,000 square feet."

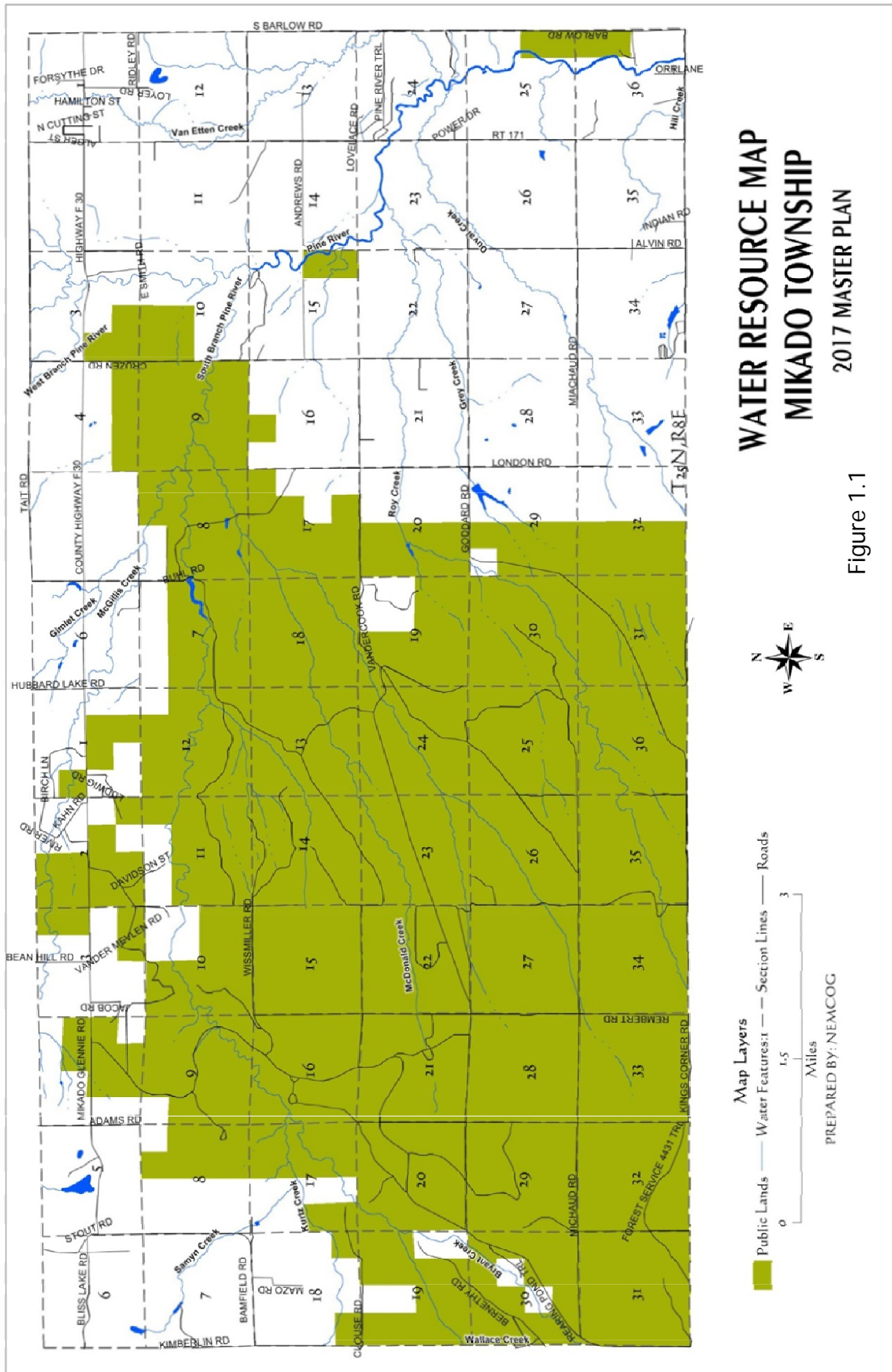
Soils have always played a significant role in the development of the Township. Today, the eastern and western parts of the Township vary greatly in landscape and land cover. The pre-settlement vegetation in the western part was dominated by jack, red and white pine. The sandy droughty soils offered little hope for farming. As a result, after logging in the late 1800's the land reverted to the federal government. Much of this area is now under the jurisdiction of the U. S. Forest Service. . The Pine River Kirtland's Warbler Management Area is located in Mikado Township. This is one of seven Kirtland's Warbler management units in the Huron National Forest.

As farmers followed the loggers into the eastern part of the Township, small family farms spread across the landscape. For many decades, Mikado Township remained a quiet farm community. However, like many small farm communities in northern Michigan, the family farm based economy has transitioned to residents commuting to other communities for employment. With increased mobility and the transition in local employment, many of the small service businesses have closed. Still residents consider Mikado as their village center.

The Status of Planning and Zoning in Mikado Township

Township has exercised its legal right to establish and administer local zoning as authorized by the Township Rural Zoning Act (PA 184 of 1943.) The first zoning ordinance was adopted by the Township Board on April 28, 1966. A major revision was completed and adopted on July 22, 1983. The current zoning ordinance regulating land use activities was enacted by the Mikado Township Board on August 1, 1994. The most recent amendment was adopted on February 9, 1998. For over 18 years, the ordinance has provided guidance in regulating the location, density and standards for local development.

Mikado Township has recognized the importance and need to develop its first Land Use Master Plan. Two key issues are to provide a legal foundation for the Township Zoning Ordinance and to manage for anticipated growth within the Township. By documenting existing conditions such as environment, socio-economic, community services, transportation, recreation, and land use within a master plan, the Township will be able to formulate appropriate land use goals and policies to guide development, and serve as the basis for enforceable zoning. The master plan will in turn be used as a basis for re-examining the Township's zoning districts and land use development controls.



Chapter 2 – Socio-Economic Characteristics

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

Population

The US Census showed that Mikado Township experienced a nine percent decrease of its population (losing 96 year round residents) from 2000 to 2010. In fact, all communities in Alcona County experienced population losses during the past decade, with the county as a whole losing 777 year round residents. **See Table 2.1.** With an area of 71.3 sq. mi., the township has a population density of 13.2 persons per square mile. By comparison, the County has a population density of 15.8 persons per square mile.

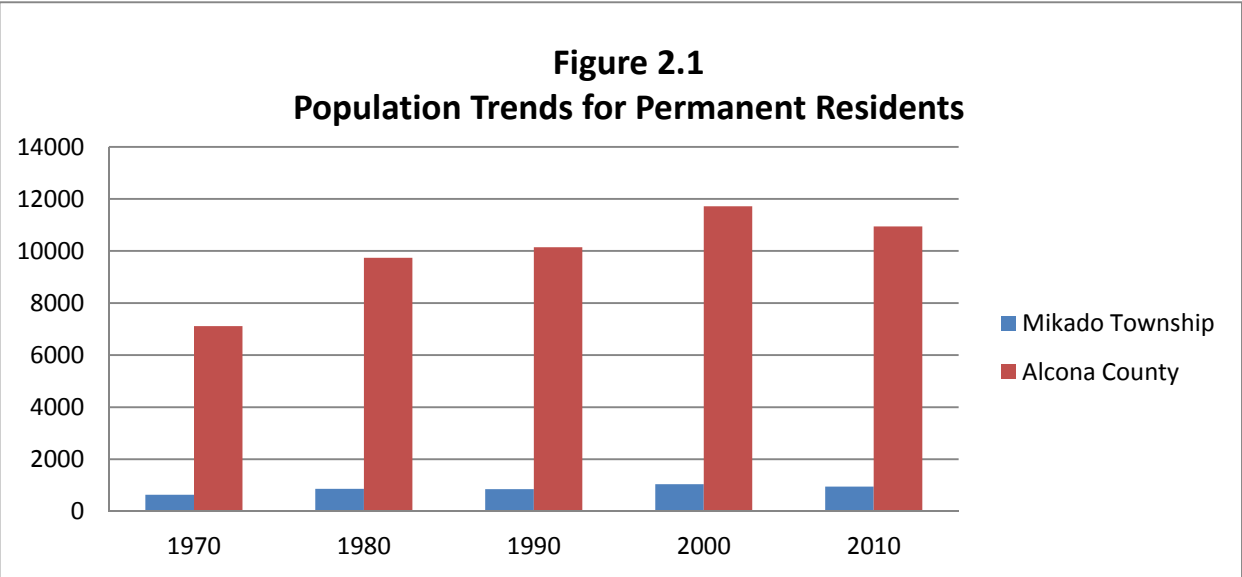
In comparison, the highest percentage losses were experienced by Millen Township (12.7 percent), Alcona Township (11.1 percent), Mitchell Township (11.1 percent), and Curtis Township (10.3 percent). While Curtis Township and Alcona Township lost the highest number of people (142 and 121 respectively). Haynes Township experienced the lowest percentage of population loss of only two people.

Municipality	2000 Population	2010 Population	Percent Change	Numeric Change
Mikado Township	1,043	947	-9.2%	-96
Alcona Township	1,089	968	-11.1%	-121
Caledonia Township	1,203	1,161	-3.5%	-42
Curtis Township	1,378	1,236	-10.3%	-142
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
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				

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 Mikado Township. The figures presented for housing characteristics show that 29.4 percent or 192 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 2.31 persons per household for Mikado Township and the 192 seasonal homes, peak seasonal population

could increase by approximately 400 persons.

Population trends for permanent residents of Mikado Township from 1970 to 2010 are shown in **Figure 2.1**. In 1970, the Township population was 636. By 2000, the population had increased to 1,043, a 64 percent increase over the 1970 population level. However, between 2000 and 2010 the Township experienced a nine percent population loss.



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.

2010 US Census data shows that 60 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 county, State of Michigan and US. The median age of residents in Mikado Township increased from 40.5 to 49.4 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 12 years older than the US.

Governmental Unit	2000	2010
Mikado Township	40.5	49.4
Alcona County	49.0	55.2
Michigan	35.5	38.9
United States	35.3	37.2

Source: U. S. Bureau of the Census

In conclusion, shifts in the township’s demographic make-up are changing the population structure. Long term trends indicate

Mikado Township MASTER PLAN

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.

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 Black or African American, American Indian or Alaska Native, and Hispanic.

Community	< 5 Yrs.	%*	5-19 Yrs.	%*	20-24 Yrs.	%*	25-44 Yrs.	%*	45-64 Yrs.	%*	65 Yrs. & >	%*	Median Age
Mikado Township	27	2.9	174	18.4	32	3.4	165	17.4	342	36.1	207	21.8	49.4
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
Curtis Township	33	2.7	155	12.6	35	2.8	161	13.0	437	35.4	415	33.6	56.4
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
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 407 households in Mikado Township, 107 were reported as householders living alone and 39 householders 65 years and older living alone. The average household size was 2.31 as compared to Michigan where the average household size was 2.49.

U.S. Census data showed a total of 407 households in Mikado Township, of which 273 are family households and 134 are non-family households. A non-family household is a household with one person or a household with non-relatives living together. Some 54.3 percent of Mikado Township's households were classified as husband-wife families, while male household, no wife present accounted for 5.7 percent of households and female household, no husband present accounted for 7.1 percent. Over 23 percent of the households have individuals under 18 years and 34.9 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					
Mikado 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
Mikado Twp.	407	2.31	107	39	142
Alcona Township	496	1.95	158	91	292
Caledonia Twp.	534	2.17	145	85	265
Curtis Township	595	2.08	189	94	285
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
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					

School Enrollment and Educational Attainment

According to the *2010-2014 American Community Survey 5-Year Estimates*, 194 persons in Mikado Township over the age of three years were enrolled in school, 159 in kindergarten to 12th grade, and 35 in college. Of the 802 persons 25 years and older, 89.3 percent were high school graduates, while 6.0 percent attended school into the 9th- 12th grade with no diploma and 1.3 percent had completed less than the 9th grade. Nearly 29 percent had received some college with no degree, 12.8 percent had Associate's degrees, 6.1 percent had earned a Bachelor's degree, and 0.6 percent had earned a graduate or professional degree. Mikado Township has a lower percentage of residents with a bachelor's degree or higher than Alcona County and State as a whole. (Table 2.5).

Table 2.5 Educational Attainment			
	Mikado Township	Alcona County	State of Michigan
Population 25 years and over	802	8,717	6,594,586
Less than 9 th grade education	1.4%	3.5%	3.4%
9 th – 12 th grade, no diploma	9.4%	9.6%	7.7%
High school graduate	41.1%	40.0%	30.4%
Some college, no degree	28.6%	25.8%	24.0%
Associate degree	12.8%	8.0%	8.6%
Bachelor's degree	6.1%	8.1%	15.9%
Graduate or professional degree	0.6%	5.0%	10.0%
Percent high school graduate or higher	89.3%	86.9%	88.9%
Percent bachelor's degree or higher	6.7%	13.0%	25.9%

Source: 2010-2014 American Community Survey 5-Year Estimates

Disability Status

Data shown in **Table 2.6** from the *2010-2014 American Community Survey 5-Year Estimates* gives an indication of disabled people who reside in Mikado 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 Mikado Township and Alcona County than Michigan as a whole. The same is true for the population 18 to 64 years of age. Statistics for 65+ years are comparable for all three entities.

Table 2.6 Disability Status of Civilian Non-Institutionalized Persons					
LOCAL UNIT	% Disabled persons	% Disabled under 5 Years	% Disabled 5-17 Years	% Disabled 18-64 Years	% Disabled 65+ Years
Mikado Twp.	23.9%	--	--	24.3%	49.2%
Alcona County	21.7%	--	7.2%	18.6%	33.9%
Michigan	13.7%	0.8%	6.3%	11.9%	36.5%

Source: 2009-2013 American Community Survey 5-Year Estimates

Housing Characteristics

The US Census reports a wide variety of housing characteristics. Housing characteristics for Mikado Township are found in **Table 2.7**. In 2010, there were 653 housing units in the Mikado Township. Certain characteristics contrast sharply with the State as a whole. For example, 29.4 percent of the housing units in Mikado Township were seasonal as compared to 47.2 percent in Alcona County and only 5.8 percent statewide. Of the occupied housing units 74.5 percent (365 of the 407) were owner occupied as compared to 72.1 percent in the State as a whole. Within the County the percent of seasonal housing units ranged from 18.2 percent in the City of Harrisville to 72.3 percent in Mitchell Township. In Mikado Township, 62.3 percent (407 out of 653) of the total were occupied.

According to the US Census, 8.1% of the housing in Mikado Township was built prior to 1939, and 21.2 percent was built between 1940 and 1959. The decades between 1950 and 2000 saw a steady growth in housing units. The highest growth was during the 1990's when 23 percent of the housing units were constructed. Information reported in the *2010-2014 American Community Survey 5-Year Estimates* found 21.8% percent of the housing units were heated with natural gas, 34.2 percent heat with bottled, tank or LP gas and 3.6 percent heat with electricity and 38.7 percent heat with wood or other fuel. Data from *2010-2014 American Community Survey 5-Year Estimates* found the median house value was \$71,300 in Mikado Township as compared to \$102,800 for Alcona County and \$121,700 for the entire State.

**Table 2.7
Housing Counts and Occupancy Status in Alcona County**

Area Name	2010					
	Total	Occupied	Vacant	Percent Vacant	Seasonal	* Percent Seasonal
Mikado Township	653	407	246	37.7	192	29.4
Alcona Township	1,366	496	870	63.7	806	59.0
Caledonia Township	1,155	534	621	53.8	576	49.9
Curtis Township	1,700	595	1,105	65.0	1,013	59.6
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
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

Income

According to the U.S. Census, American Community Survey, Mikado Township’s median household income is \$37,750, which is higher than the County, but lower than the State. The same pattern can be found for Median Family Income. Per Capita Income for Mikado Township is lower than Alcona County and Michigan. **See Table 2.8.**

Table 2.8			
Median Household Income for Mikado Township, Alcona County & State			
	Mikado Township	Alcona County	Michigan
Median Household Income	\$37,750	\$37,189	\$48,411
Median Family Income	\$50,833	\$45,424	\$60,793
Per Capita Income	\$18,146	\$22,719	\$25,681
Source: 2009-2013 American Community Survey 5-Year Estimates, U.S. Census Bureau			

Poverty

Information from the American Community Survey shows poverty rates in Mikado Township, Alcona County and Michigan (**Table 2.9**). The percent of families, individuals and individuals 65 years and over living in poverty is higher in the township than in Alcona County and Michigan.

Table 2.9			
Poverty Rates: Mikado Township, Alcona County and Michigan			
	Mikado Township	Alcona County	Michigan
Families	14.4%	11.1%	12.0%
Families with female head of household	40.0%	26.4%	34.3%
Individuals	18.8%	15.1%	16.8%
Individuals 65 years and over	8.7%	8.2%	8.2%
Source: 2010-2014 American Community Survey 5-Year Estimates, U.S. Census Bureau			

Labor Force

Employment and Unemployment

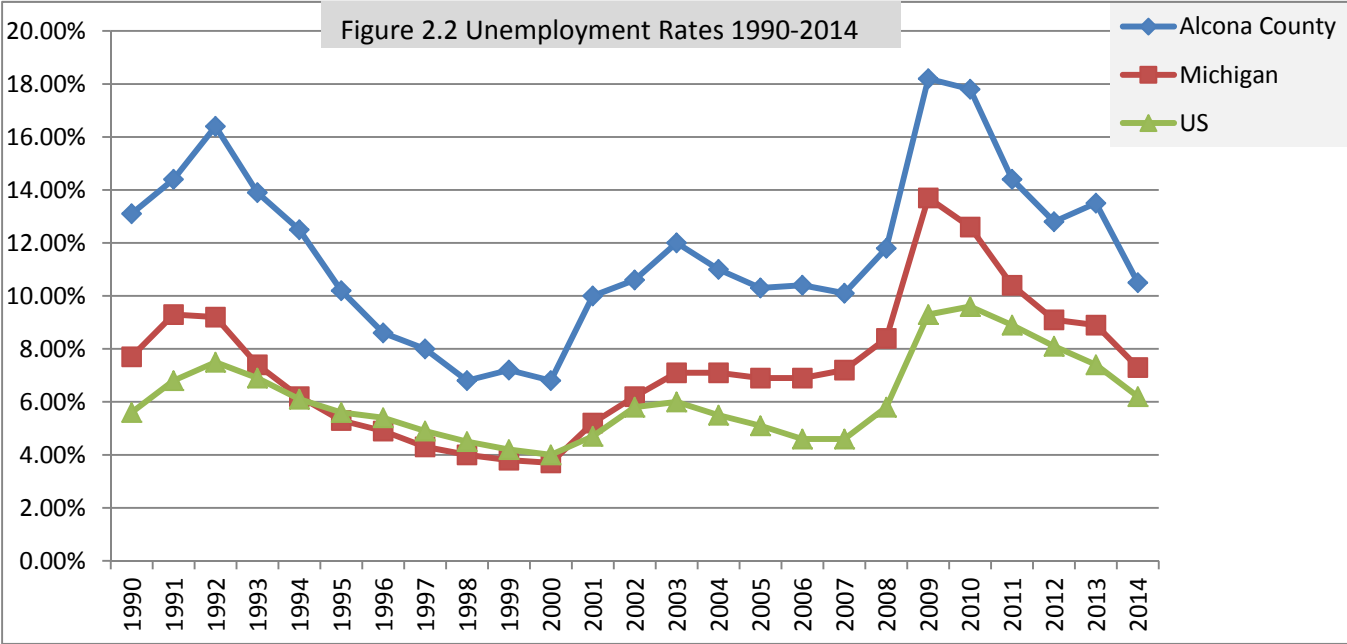
The civilian labor force is defined as all civilian individuals over age 16 who are employed or actively seeking employment. Labor force numbers can change rather quickly in response to economic conditions. During prolonged periods of unemployment, unsuccessful job seekers can drop out of the work force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

Table 2.10 presents information on labor force, employment and unemployment for Alcona County from 2004 to 2014. 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 8.0% in 2015, the labor force and number of person employed has not returned to 2006 levels. As seen in **Figure 2.5**, unemployment rates in Alcona County generally mirror those in the State and U.S., however, they are consistently at a higher level.

Year	Labor Force	Employment	Unemployment	Jobless Rate
2015	3,803	3,500	303	8.0%
2014	3,836	3,435	401	10.5%
2013	3,817	3,303	514	13.5%
2012	3,717	3,242	475	12.8%
2011	3,808	3,260	548	14.4%
2010	3,880	3,188	692	17.8%
2009	4,353	3,563	791	18.2%
2008	4,361	3,845	516	11.8%
2007	4,339	3,901	438	10.1%
2006	4,481	4,013	468	10.4%
2005	4,316	3,871	445	10.3%
2004	4,197	3,736	461	11.0%

Source: Michigan Labor Market Information



Wage and Salary Employment

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 in 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 2.11**).

Table 2.11 Total Employees by Major Employment Type (2014)				
Category	Mikado Township		Alcona County	
	Total	Percent	Total	Total
Agricultural, Forestry, Fishing (SIC Range 01-09)	8	4.28	52	2.04
Mining (SIC 10-14)	0	0.00	4	0.16
Construction (SIC 15-17)	6	3.21	137	5.37
Manufacturing (SIC 20-39)	1	0.53	189	7.41
Transportation and Communications (SIC 40-49)	8	4.28	83	3.26
Wholesale Trade (SIC 50-51)	6	3.21	35	1.37
Retail Trade (SIC 52-59)	15	8.02	542	21.26
Finance, Insurance And Real Estate (SIC 60-69)	1	0.53	124	4.86
Services (SIC 70-89)	125	66.84	942	36.96
Public Administration (SIC 90-98)	15	8.02	423	16.59
Unclassified (SIC 99)	0	0.00	18	0.71
Source: NEMCOG				

Commuting to Work

The vast majority of residents of the Mikado Township drive alone to work (**Table 2.12**). According to the *2010-2014 American Community Survey 5-Year Estimates*, 6.7 percent of workers worked from home, but 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. The mean travel time to job was 23.5 minutes which shows many individuals travel outside the township for work.

Table 2.12 Mikado Township Work Commute		
Mode of Transportation	Number	Percent
Drove Alone	302	81.4%
Carpooled	41	11.1%
Walked	3	0.8%
Worked at home	25	6.7%
Source: 2010-2014 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. The potential location for future development should be analyzed according to the availability of certain utilities, services or facilities. 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.

This chapter will explore the location and extent of existing services. Services are provided in many ways by public or quasi-public agencies or by private enterprise. Each service provider makes the service available to the best of its capabilities. The resulting service levels determine the capacity of a given location to attract various types of land development.

Township Government

The Mikado Township Hall is located at 2291 S. F-41 in Mikado. Current local officials are Jesus Yruegas, Supervisor; Rita Sands, Clerk; Ruth Travis, Treasurer; T.J. Griffin, Trustee; and Wayne Odell, Trustee. The Township has a five member Planning Commission and a three member Zoning Board of Appeals.

Water and Sewage Disposal

Mikado Township does not provide public water or sewage disposal systems for Township residents. The residents and business owners must rely on on-site private wells for domestic drinking water and private on-site septic systems for wastewater disposal. District Health Department # 2 regulates and maintains a permitting system for private wells and septic systems. Two important determinants for siting a septic system are soil types and steepness of slopes. Chapter 4 - Natural Resources discusses the soils of the Mikado Township.

Utility Services

Due to the large amount of public land and internal parcels (parcels in the center of a section that does not abut a public road), utility services are lacking in some areas of the township. Due to the costs of extending telephone line across private lands and large tracts of public lands, areas in the Township do not have telephone service. Since these landowners must pay the cost of running the lines, some have chosen not to bear the expense, instead relying on cellular telephones.

Natural gas service is provided by DTE in more densely populated areas of the Township. Consumer's Energy provides electricity to the Township. Frontier, AllBand and Ameritech provide telephone service. Residents rely on satellite TV or TV antennas. Depending upon location, internet service is available from AllBand, Frontier and satellite service.

Transportation

Roads

The transportation network consists of county primary and secondary roads; seasonally maintained, unimproved public roads; and private roads. The primary road network is made up

of County Road F-41, F-30 (Mikado-Glennie Road) and Kings Corner Road east of F-41. Paved local roads include Cruzen and Wissmiller Roads and segments of Goddard, Alvin, Michaud and Vandercook Roads. The balances of the transportation network are gravel, dirt and two-track roads including public and private roads. Primary and local roads are under County jurisdiction, and are maintained by the Alcona County Road Commission.

Money for maintaining county roads comes from state and local sources. Mikado Township has a 1.5 mil road millage that is used as a match for road upgrades. Typically the Township pays 75-100 percent of the cost of upgrading roads to a paved surface. Since roads don't last forever and routine maintenance is necessary to extend pavement life, there is an ongoing need road projects. There is also a need for maintenance of the gravel road network, which cost primarily fall to the Township. F-41 and East F-30 (from F-41 to US-23) are Class "A" road, while all other roads have seasonal weight restrictions during "spring break-up." There are designated seasonal roads (not maintained from October to May) in the Township. However, sections of a road may be plowed upon special request from landowners.

Another major transportation issue in the Mikado Township is the repair and upgrading of bridges. Eleven of the 13 bridges in the Township have been upgraded or replaced. The Township contributes 20 percent, up to \$20,000 for bridge replacements.

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. Other 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.

Public Lands and Buildings

The Mikado Civic Center and the Township Fire Hall are the only public buildings in the Township. The Mikado Civic Center was dedicated in 1978. The Mikado Area Development Corp. led the efforts to raise needed funds to construct the civic center. The \$80,000 raised locally, combined with considerable donated labor, enabled the Township to construct the building without federal grants, local levied taxes or CETA funds. This is a fine example of a community pulling together to help itself. The amount and uses of the public lands in the Township will continue to play significant roles in the character and future of the community. The township fire department has a smoke training facility for the volunteer firemen.

Mikado Township Master Plan

Approximately 52 percent of the land in the Township is publicly owned. **Figure 3.1** is a map depicting public and private ownership. The largest public landowner is the U.S. Department of Interior. Some 32.7 square miles or 46 percent of the Township are under jurisdiction of the US Forest Service and are part of the Huron-Manistee National Forest. The Huron Shores Ranger Station located in Oscoda oversees management of the U.S. Forest Service land in Mikado Township. The State of Michigan owns 4.5 square miles of land in the eastern one half of the Township. These lands are under the jurisdiction of the Forest Management Division of the Michigan Department of Natural Resources.

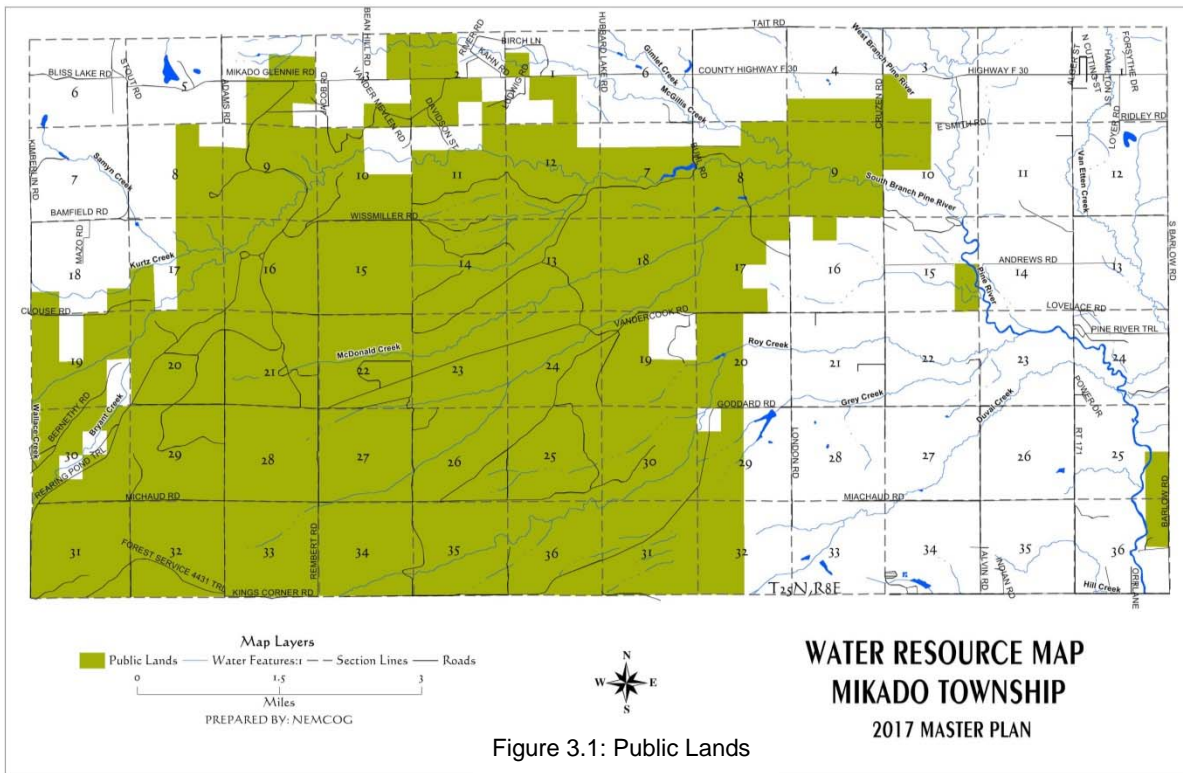


Figure 3.1: Public Lands

Schools Libraries and Museums

Mikado Township is part of two school districts. Students in the Alcona School District attend K-12 classes in Lincoln. The Alcona School District is part of the Alcona Montmorency Alpena Intermediate School District. Students within the Oscoda School District attend classes in Oscoda. The Oscoda School District is located in the Iosco Intermediate School District.

Kirtland Community College (KCC) located in Roscommon and Alpena Community College (ACC) located in Alpena are two-year institutions serving the higher education needs of area residents. Alpena Community College's main campus is located in City of Alpena. ACC's Huron Shores Campus in Oscoda serves in the surrounding area. ACC offers two-year degrees, one-year certificates, and customized training. The college offers Associate in Arts, Associate in Science, Associate in Applied Science and Associate in General Studies Degrees.

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

administration, criminal justice, computers and science. 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.

A full service branch of the Alcona County Library is located in the Mikado Civic Center. The Alcona County Library system is part of the Northland Library Cooperative. The cooperative has a regional book catalog and offers inter-library book loans between member libraries. Reference staff are available at the library cooperative main office to assist users at all member library locations. The Mikado Branch is open Monday thru Thursday: 2:00 pm till 6:00 pm. Along with reading materials, there are four public access computers with high speed internet access and free wireless access available to those with their own wireless devices. All internet access is filtered for content. The township provides space, electricity and heat to the Mikado branch library.

Churches and Cemeteries

The Mikado Township Cemetery is located on F-30 east of Mikado in Section 1 of T.25 N.-R.8E. There is adequate space available on the existing property to expand the cemetery. The St. Raphael's Catholic Church Cemetery is located adjacent to the Mikado Township Cemetery. St. Raphael's Catholic Church and Calvary Baptist Church are located in Mikado Township. Residents also drive to adjacent communities to attend church services.

Public Safety

Law enforcement protection for Mikado Township is the responsibility of the Alcona County Sheriff Department and the Michigan State Police. The Alcona County Sheriff Department is located in Harrisville. State Police Posts are located in Alpena with a substation in Lincoln.

The Mikado Township Fire Department's coverage area is 97 square miles. Along with the entire geographic area of the Township, 18 square miles of Gustin Township is covered through a contractual arrangement. Estimated population served is 1,500. Mikado Fire Department also provides mutual aid with all fire departments in Alcona County, Oscoda Township, Michigan DNR and USFS.

A millage (1.0 mills) generates funds to cover costs associated with operation of the fire department. The Mikado Township Fire Department has a 2005 Kenworth Tanker, 2011 Kenworth Pumper-Tanker, 2003 Toyne Pumper and one brush truck. The Township Fire Department has a 2015 Chevy Pumper Truck used as a 1st responder unit. Along with other emergency responder equipment, the fire department has a Jaws of Life. 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.

Ambulance service is provided by Alcona County, which pays for the costs through the Ambulance Fund millage. There are currently two full time emergency medical service stations operating in Alcona County. Station 1 is located at 2600 E M-72, Harrisville MI 48740. Station 2 is located at 2300 S state, Glennie MI 48737. Both are currently rated at the advanced level. The service area is 694 sq. miles with a population of 10,942.

Medical Facilities

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

Health Services

District Health Department No. 2, including home health care and physical therapy, provides public health care services. Hospice services may be obtained from Hospice of Northeast Michigan in Alpena, and Reverence Home Health Care and Hospice in East Tawas City. Lincoln Haven Health Care Center provides 24-hour nursing care with a family atmosphere. Alcona County Senior Citizens Center in Lincoln provides senior citizen services. Bake Adult Foster Care is located in Mikado.

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.

Recreational Facilities

Bruce Park has handicap accessible bathrooms, picnic tables, benches and history displays. A ball field adjacent to the Mikado Township Civic Center is maintained by Mikado Area Recreation.

The US Forest Service operates a primitive campground on the South Branch of the Pine River. The facility has 11 campsites, pit toilets, hand pump water, and a picnic shelter with grills, tables and parking. The campground is open Memorial Day to Labor Day. There is a nominal fee for camping, day use is free. The countryside nearby is considered prime viewing habitat for the endangered Kirtland Warbler. A snowmobile trail head is located in Section 19 of T.25N.-R.8E. on U.S. Forest Service Property. The trail runs south and west connecting to a larger regional network of state snowmobile trails.

The considerable amount of public land does offer residents and visitors ample area for a wide range of outdoor recreational activities. Persons wishing to pursue the sport of fishing can access the Pine River and its many tributaries such as Van Etten Creek, Duval Creek, Grey Creek, Roy Creek, McDonald Creek, McGillis Creek, Gimlet Creek, Bryant Creek, Wallace Creek, Kurtz Creek and Samyn Creek. There is one privately owned lake in the Township.

Chapter 4 - Natural Resources

Introduction

The woodlands, open spaces, wildlife, water, and rolling hills are several key resource values that draw people to both recreate and live in the Township. Abundant public lands offer access to thousands of acres of recreational lands for hunting, hiking, wildlife viewing and snowmobiling. Several small creeks and the Pine River provide opportunities for fishing, boating and water sports.

A rural landscape, abounding with views of farmland and forestland, typifies the community character of Mikado Township. Farm and forest lands are important to the local economy; recreational use and production of forest and farm goods bring dollars into the Community. Many long time visitors decide to move to the area upon retirement. These renewable yet priceless resources warrant special considerations when planning for future growth.

The protection and wise use of these natural resources is central to maintaining a sustainable community. Along with planning for the built-up infrastructure like roads and utilities, a community needs to plan for the green infrastructure; the forests, wetlands, farmland and water. Development, without consideration of carrying capacity of the land, can have long term negative impacts on the resources. When planning for future growth, the community must identify environmental constraints, such as wetlands, steeply sloped areas, ecological corridors and ground water recharge zones. This chapter will analyze the physical environment to assist local officials in developing the desired future of the Township. Natural resources addressed include climate, geology, topography, soils, water, vegetation and wildlife.

Climate

The climate is yet another reason why people are drawn to the area. 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 Township is less than five miles inland from Lake Huron. Given this geographic location, the weather is influenced by the lake moderating effect of Lake Huron.

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.

Geology

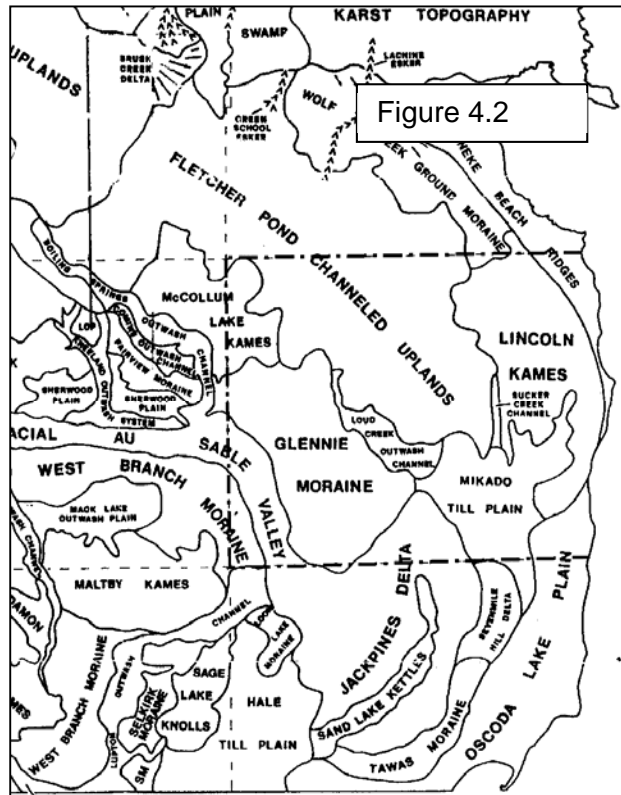
The rolling hills, river valleys, swamps and lakes were created by the retreating continental glacier some 12,000 years ago. Beneath this thick mantle of the glacial deposits lays a foundation of layered sedimentary bedrock. This section will describe the glacial landforms or quaternary geology and the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

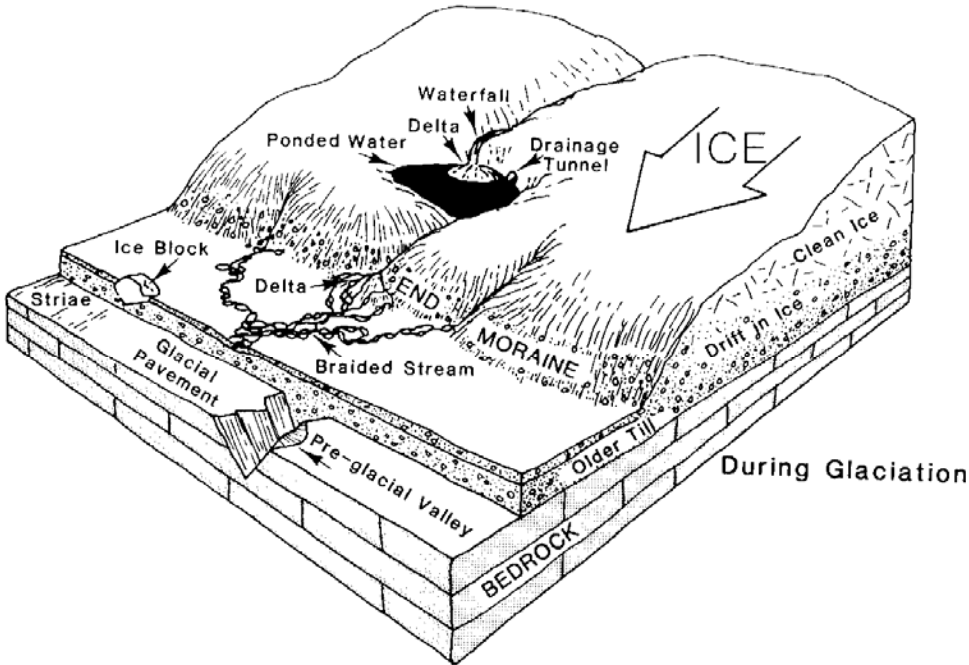
Starting some 2 million years ago, during the Pleistocene era, continental glaciers formed in the Hudson Bay area. Several times, over this two million year period, the massive sheets of ice built up and inched their way south across what is today Michigan. The massive ice sheets, more than one mile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

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

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

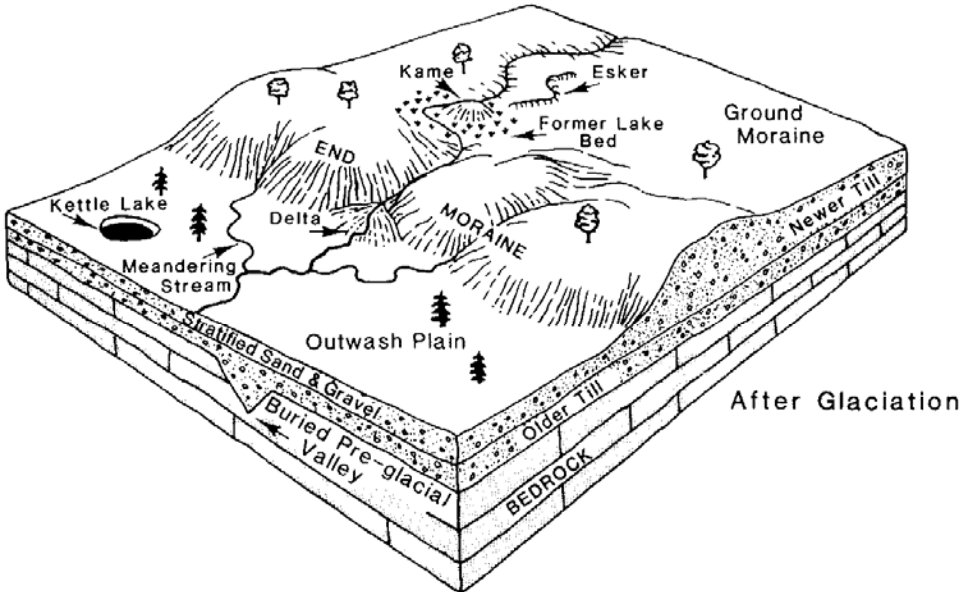
At the front of the massive retreating glaciers, large streams originated from the melting ice. The debris laden water carved through moraines and outwash plains creating wide drainageways and outwash channels. The AuSable River follows one of those large glacial river valleys. As the continental glaciers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





During Glaciation

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

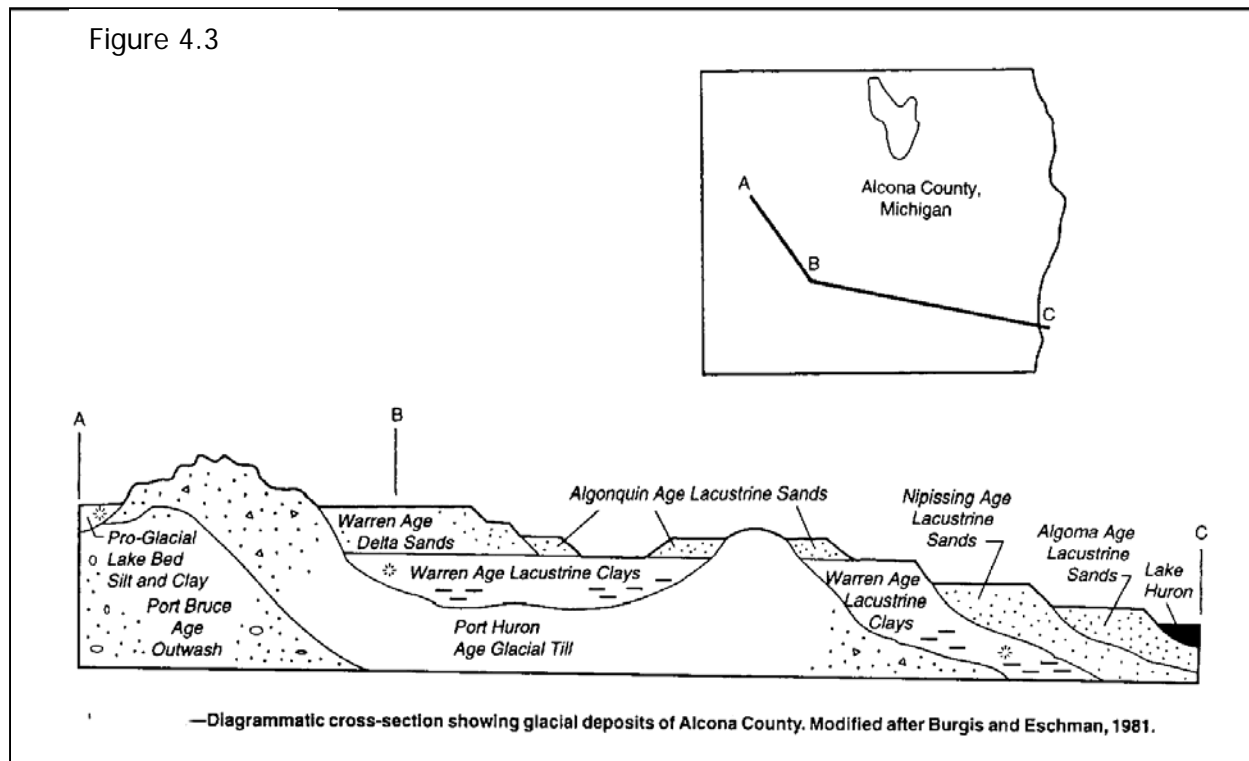


After Glaciation

Landforms of continental glaciation are unmistakable.

Figure 4.1

Figure 4.3 shows the different stages of the glacial great lakes Warren, Algonquin, Nipissing and Algoma. Landforms and soils in eastern Alcona County was 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 Mikado Township.



The west central part of Mikado Township is dominated by a sand delta. The ancient shoreline of Lake Warren was 850 feet above sea level as compared to 577 feet above sea level of Lake Huron. In other words, the lake level of Lake Warren was 273 higher than Lake Huron! As the debris laden meltwaters of the large glacial AuSable River emptied into Lake Warren, the coarse sands settled out first. This created a sand delta called the Jackpines Delta, the one of the largest glacially formed sand deltas in Michigan. This delta extends southward covering much of the north central part of Iosco County. 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.

The eastern part of the Township is called the Mikado Till Plain. When the water slowed to a near standstill in Lake Warren, the fine materials, clays and silts settled to the bottom. According to the Alcona County soil survey, the lake plains are characterized by nearly level to undulating areas dominated by moderately well drained to poorly drained loamy soils. At the transition of the higher sand deltas and the lower lake plains the soils are somewhat poorly drained to very poorly drained sandy and mucky soils.

The Glennie Moraine extends into the northwestern part of Mikado 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 conveyer 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.

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 shale, limestone, and dolomite bedrock. The upper layer of bedrock in the township is Coldwater shale. Other bedrock formations beneath the glacial overburden include Sunbury shale, Berea sandstone, Bedford shale and Antrim shale. Antrim shale contains rich deposits of natural gas. In recent years, intensive exploration has resulted in numerous producing wells throughout the region.

Topography

The topography ranges from nearly level to steeply rolling hills. In the northwest part of the Township, within the Glennie moraine landform, the terrain is rolling to steep, knoblike hills and pothole depressions. The highest elevations (900 feet above sea level) are found in this area. There is a gradual drop in elevation in a south and easterly direction towards Lake Huron. The direction of the flow of water in the rivers is evidence of this general gradient to the east and south. The lowest elevation (600 feet above sea level) is found where the Pine River flows out of the southeast corner of Mikado Township in Section 36.

In the west central part of the Township, in the Jackpines delta landform, the terrain is gently sloping to the east, with elevations ranging from 840 to 800 feet above sea level. Streams and creeks flow in steep sided ravines that cut 70 or more feet into this nearly level sand plain. At the eastern edge of the Jackpines Delta, there is a steep scarp with a 100 feet drop in elevation over a one half mile distance. The elevation changes from approximately 800 feet to 700 feet above sea level. At the base of the slope, begins the Mikado Till Plain. The topography is nearly level to undulating. The elevations range from around 700 feet above sea level to 600 feet above sea level; a drop in elevation of 100 feet in 5 to 7 miles. The stream and creek valleys are wide and do not cut as deep into the landscape as they do in the Jackpines Delta.

The elevations above sea level of the ancient shorelines of Great Lakes Warren, Algonquin and Nipissing are 850 feet, 680 feet and 600 respectively as compared to the 577 feet above sea level of Lake Huron.

Soils

When planning for types and intensity of future 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.

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. Using information contained within the published soil survey book, a series of maps will be presented that depict hydric soils, slopes 18 percent and greater, soils with building limitations and soils with septic system limitations.

Hydric Soils and Steeply Sloped Areas

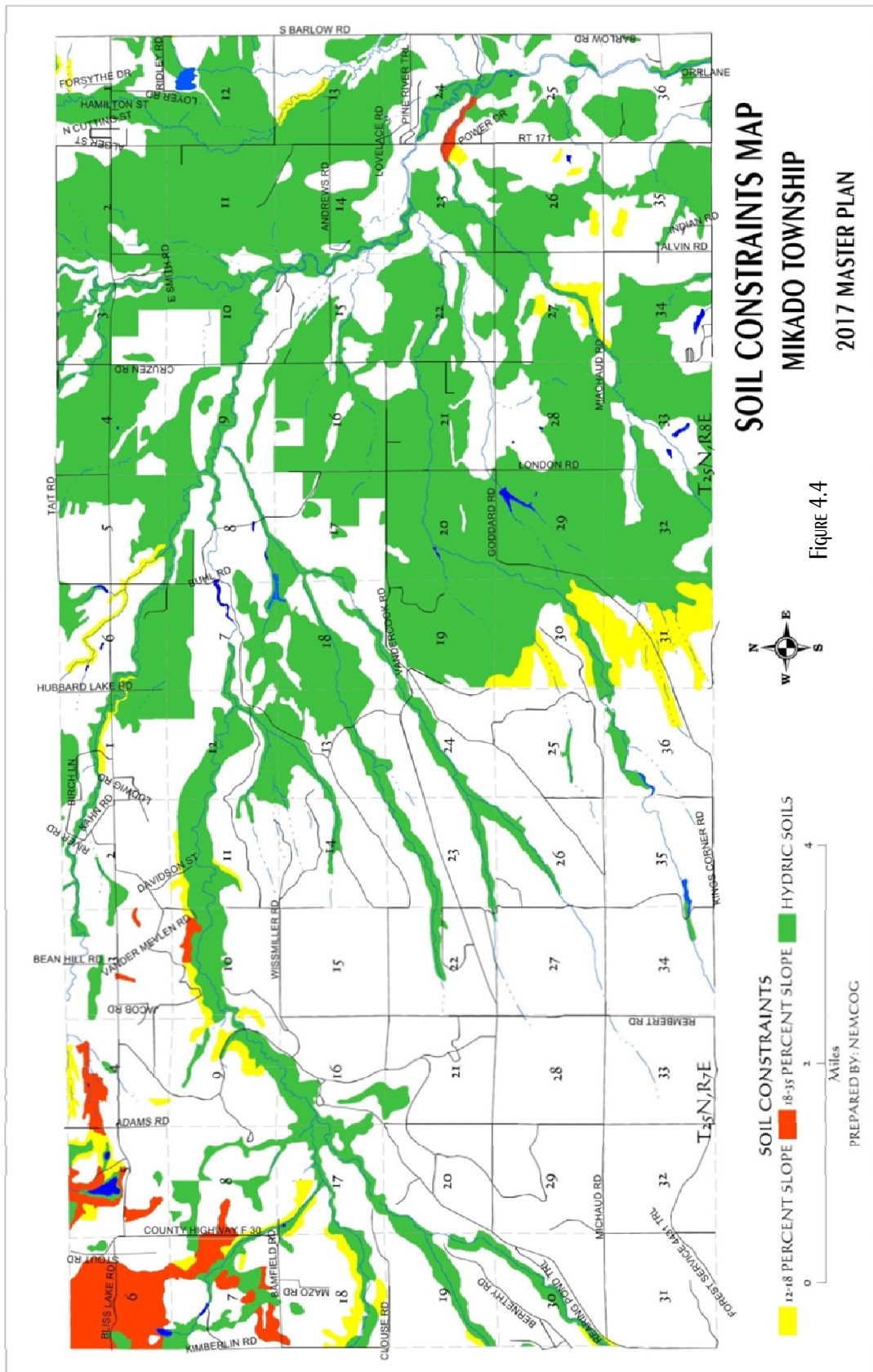
Figure 4.4 is a color thematic map that classifies hydric soils and soils on steep slopes. Lower density and less intensive development should be directed to these areas with severe building constraints. Hydric soils are saturated, flooded or ponded during part of the growing season and are classified as poorly drained and very poorly drained. Hydric soils have poor potential for building site development and sanitary facilities. Wetness and frequent ponding are severe problems that are difficult and costly to overcome. Sites with high water tables may be classified as wetlands and a wetlands permit would be required to develop these areas.

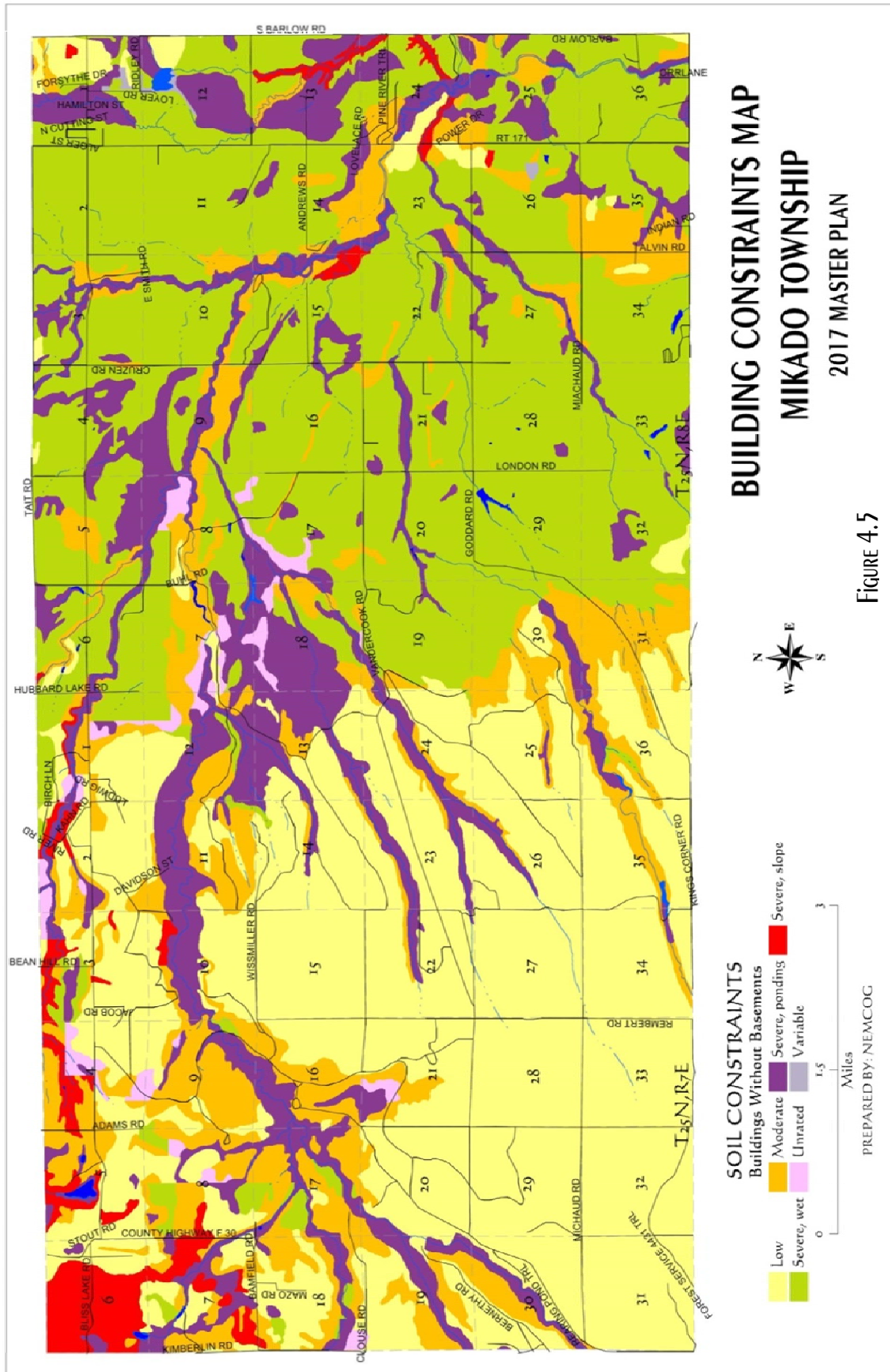
Less than 17 percent of the Township's surface area is mapped as hydric soils with a high potential for wetlands. The hydric soils are mainly located adjacent to streams and creeks. This connectivity of riparian wetlands and surface water features can be seen throughout the landscape. There are extensive hydric soils areas in Sections 12 and 13 of western half and Section 1, 4, 5, 9, 12 and 13 of the eastern half of Mikado Township.

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 minimal and are concentrated in the northwest corner of the Township. Steep slopes can also be found along creek and stream valleys on U.S. Forest Service Lands.

Building Site Development

The USDA soil survey of Alcona County rates soils for various uses such as building site development and identifies the limiting factors such as steep slopes or high water table. The rating system is slight, moderate and severe limitations. Areas with well drained soils and slopes less than 10 percent tend to have slight limitations for building development. Areas with slopes greater than 18 percent, high water tables and organic soils have severe limitations. Based on criteria established by the Natural Resource Conservation Service (NRCS), extensive areas with severe constraints are found in the eastern half of the Township, **Figure 4.5**. Areas with somewhat poorly drained and very poorly drained sandy and mucky soils, and moderately well drained to poorly drained loamy soils have severe constraints. In the western half of the Township lands with severe constraints are located along stream corridors, in wetlands and steeply sloped areas.





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 perk water. **Figure 4.6** is a septic system limitation map. Generally, the western portions of the Township contain 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. The eastern parts of the Township are dominated by clay/loamy soils and high water tables. These environmental factors will often require the construction of mounded septic systems. This has been a particular issue within town of Mikado, where these environmental factors combined with small lot sizes has presented difficulties with siting septic systems.

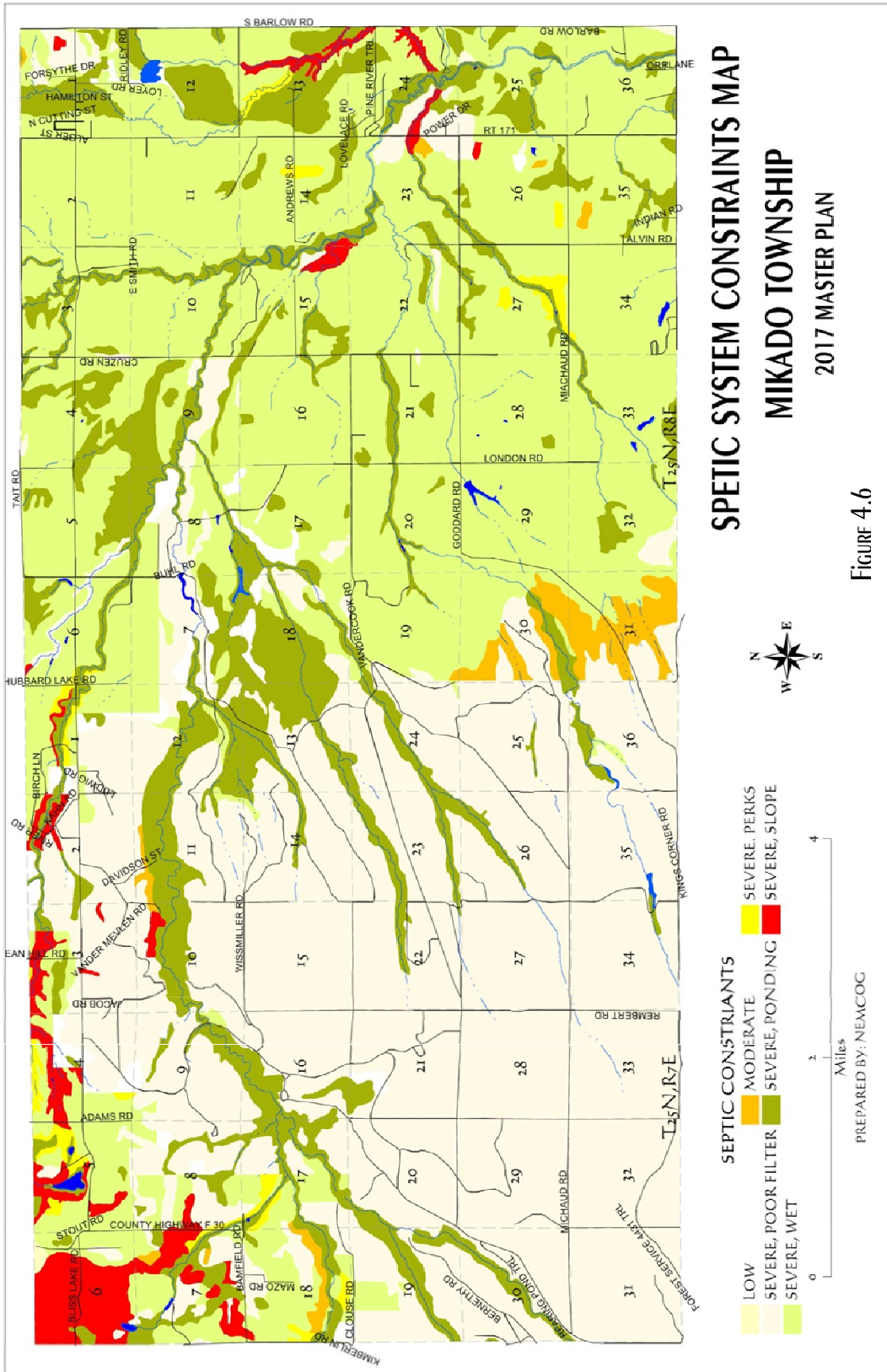
Water Resources

One of the most valuable and most sensitive natural resource in Mikado Township is water. Maintaining high quality groundwater and surface water is vital to the long term sustainability of the community. Residents of the Township must rely on individual wells for drinking water. Streams and lakes provide scenic values and recreational opportunities for residents and visitors. The water resources provide critical habitat components for a wide range of fish and wildlife species. Most importantly, these resources extend far beyond the Township boundaries, as a result, impacts to these resources can have far reaching implications.

Groundwater

Two factors used to evaluate groundwater are the quantity and quality of the water. In much of the Township, the thick mantel of glacial till contains underground aquifers that provide residents with sufficient water quantities. Areas where the underlying glacial deposits are clay to great depths, groundwater availability is a limiting factor in community growth. There have been cases in Sections 27, 28, 33 & 34 in the eastern half of the Township that potable water supplies are not obtainable. In general, Mikado Township has good ground water quality. Though quite variable, high levels of iron and calcium can be found in some wells.

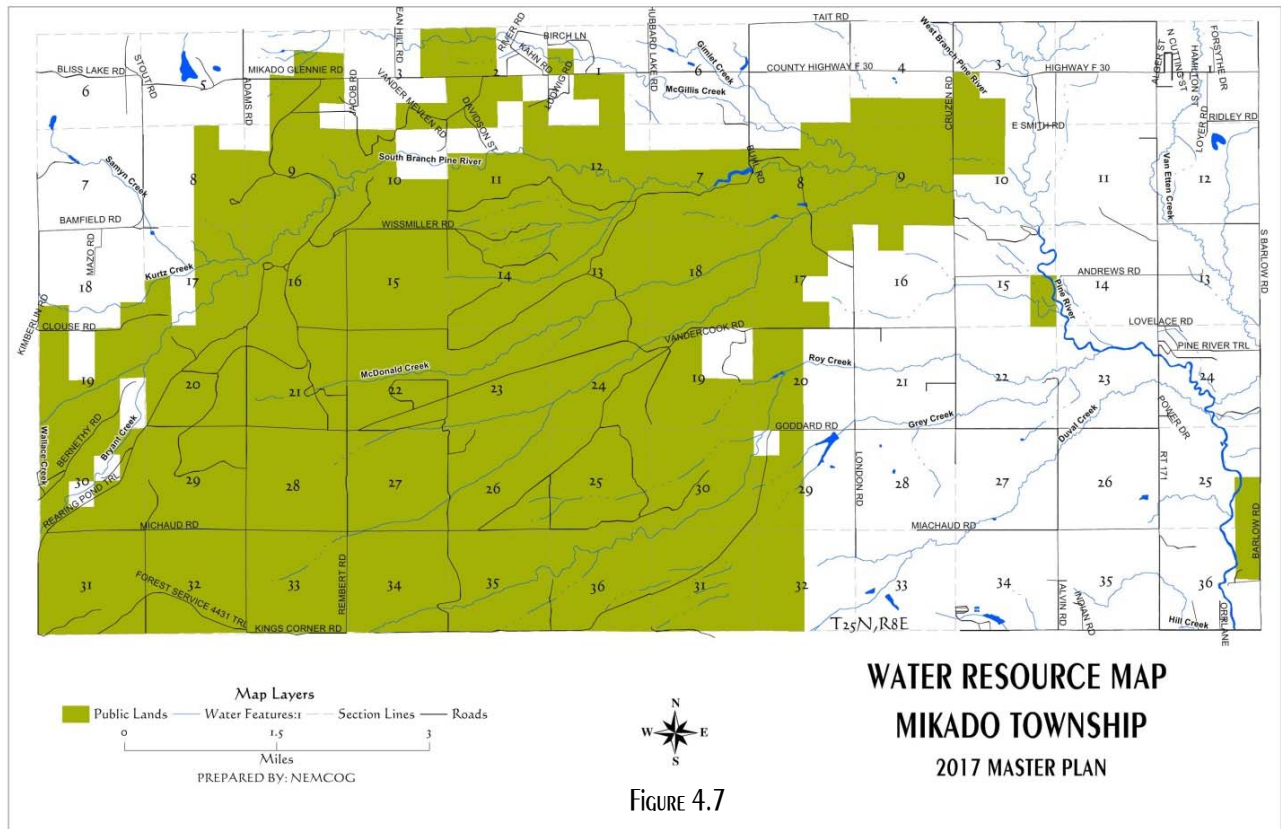
The vulnerability of drinking water aquifers to surface contamination is high in the Township due to highly permeable soils. A review of the *Aquifer Vulnerability to Surface Contamination in Michigan Map* prepared by the Center for Remote Sensing and Department of Geography at Michigan State University shows the vulnerability classification as highly permeable soils over highly sensitive drift lithology within the Jackpines Delta and Glennie Moraine landform areas. The area known as the Mikado Till Plain is classified as moderately and slowly permeable soils over least sensitive drift lithology and moderately permeable soils over unknown drift. Therefore, in Mikado Township, water quality is potentially more of a limiting factor than water supply. For example, the combination of highly permeable soils, shallow wells, on-site septic systems and dense residential development can result in high nitrate levels in drinking water.



Surface Water Resources

In the Great Lakes Region, rivers were the main thoroughfares of the pre-European inhabitants. The indigenous people used the Pine River for long distance trips and transporting large cargoes. These same rivers brought the "landlookers" and lumberman from the Great Lakes coastal communities to the interior of expansive, uncut forests. In turn, these water highways transported the raw materials to the coastal communities and sawmills, hungry for old growth pine logs.

Mikado Township is located in the 187,000 acre Pine River sub-watershed of the AuSable River Watershed. **Figure 4.7** is a map that shows the water resources and watersheds in the Township. The Pine River splits into a south branch and east branch in Section 10 of T.25N.-R.8E. Tributaries of the Pine River include Van Etten Creek, Duval Creek, Grey Creek, Roy Creek, McDonald Creek, McGillis Creek, Gimlet Creek, Bryant Creek, Wallace Creek, Kurtz Creek and Samyn Creek. There is one privately owned lake with no public access.

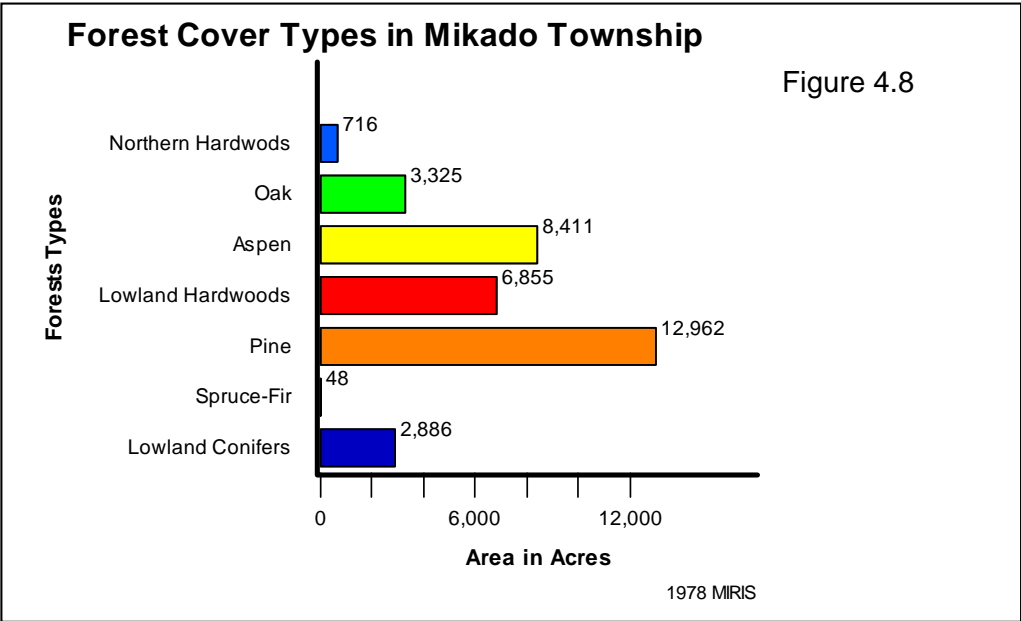


The upper Pine River watershed is plagued by excessive sediment, elevated water temperatures in the "coldwater" streams and unrestricted livestock access to streams. Van Etten Lake experiences annual algae blooms, exotic species invasions, loss of shoreline vegetation and accumulation of sediment. The Pine River-Van Etten Lake (PRVEL) Watershed Coalition was formed in 1999 to address these water quality concerns.

In 2001, the Huron Pines Resource Conservation and Development Council, Inc. was awarded a grant from the Michigan Department of Environmental Quality to develop a nonpoint Source Watershed Plan for the Pine River Van Etten Lake Watershed. In 2006, an additional grant was used to revise the plan to meet the Environmental Protection Agency's standards for watershed management plans. The management plan was developed with a steering committee comprised of a diverse group of stakeholders. The plan contains a set of goals and objectives designed to provide improvements to the overall water resources and related fisheries. The plan recognizes the roles of local units of government in protecting water quality and fisheries. One objective addresses the importance of greenbelts and providing protection within local zoning ordinances. Another objective involves local units of government adopting stormwater management ordinances or incorporating stormwater management into their zoning ordinance.

Forests and Wetlands

Conifer and hardwood forests are the dominant plant communities found in Mikado Township. Approximately 77 percent of the Township is covered with forests. Tree species vary depending upon the soils, moisture and past activities such as logging, fires and land clearing. For example areas with sandy soils and a history of wildfires support dense stands of jack pine; critical habitat for the Kirtland's Warbler. According to the MIRIS Land Cover/Use Inventory, the most prevalent forest type is jack pine, covering 37 percent of the forestland. Aspen forests account for nearly 25 percent of the woodland area. **Figure 4.8** is a chart that depicts the forest types and acreage according to the 1978 MIRIS Land Cover/Use Inventory.



Jack pine forests are the dominant forest type growing on the lacustrine sand delta appropriately called Jakcpines Delta. The draughty, low fertility sand soils supported pre-settlement jack pine forests, that were perpetuated by wildfires. White pine can be found in the creek valleys that dissect the sand delta.

Jack, red and white pine trees are found in the pine forest category. Bigtooth aspen, quaking aspen, white birch, red maple and red oak are the primary tree species found in the aspen-birch

type. Red oak, white oak and northern pin oak are the primary species growing in the oak forests. Northern hardwoods includes species such as sugar maple, red maple, American beech, basswood and yellow birch.

Poorly drained, lowland areas support northern white cedar, tamarack, balsam fir, black spruce, eastern hemlock, white pine, balsam poplar, trembling aspen, paper birch, black ash, speckled alder and shrub willows. Northern white cedar dominates the wetland areas where there is good lateral water movement and the soils are high in organic content.

These lowland forests are typically located adjacent to water features and function as riparian forests and water quality buffers. The network of lowland forests, associated with rivers and creeks, also function as wildlife corridors and are the backbone of large regional ecological corridors. Nonforested wetland types include lowland brush, marshes and bogs. Forested and nonforested wetlands are a finite resource in the township. Land use planning activities should focus on protecting and preserving these limited and critical resources. **Figure 4.9** is a color thematic map prepared from the US Fish and Wildlife Service National Wetlands Inventory that depict emergent, forested and scrub-shrub wetland areas.

Pre-European Settlement Vegetation

The Michigan Department of Natural Resources has compiled pre-European 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 shows the western half of the Township covered with jack pine and red pine forests. The pine forests are growing on the sand delta called the Jackpines Delta, the one of the largest glacially formed sand deltas in Michigan. Most interesting is the nine square mile area (colored yellow on the map, see **Figure 4.10**) that was classified as pine barrens. These barrens were present because naturally occurring, frequent wildfires repeatedly killed trees and created open prairie like habitats. The presence of pine barrens and jack pine forests clearly show wildfires have always been part of the natural ecosystem, even prior to logging and associated wildfires in the late 1800's. As well jack pine forests and the Kirtland's Warbler were very much a part of the landscape long before public land foresters started managing the forests.

The map shows eastern parts of the township were dominated by lowland forest types such as northern white cedar, tamarack, spruce, elm and ash trees. The high water table and clay/loam soils supported these lowland forest species. Some of these areas were cleared for farming, but much is still forested. There were smaller pockets of northern hardwoods in the northwestern and southeastern portions of the Township. These forests were growing on better soils as evidence by fact most of the active farms are located within the pre-settlement northern hardwoods forests.

Wildlife Habitat

Within the Township, there are a variety of wildlife habitats, ranging from upland forests to flowing cold water streams bordered by marshes, lowland brush and floodplain forests. The significance of these resources extends beyond Mikado Township. The U.S. Forest Service manages extensive areas of jack pine forests to provide critical habitat for nesting Kirtland's

Warblers. Habitat for wildlife that require wetlands such as marshes and cedar swamps is extremely limited. Land use planning should focus on protecting the finite resources. As with protecting the forest resources, a three pronged approach using local regulations, technical assistance, and landowner education is the best approach to long term protection of the natural resources in the Township.

The Huron National Forest manages jack pine stands for Kirtland's warbler habitat. The Pine River Kirtland's Warbler Management Area is located in Mikado Township. This is one of seven Kirtland's Warbler management units in the Huron National Forest. Approximately 15,300 acres of Jack Pine are managed in this unit, of which, 8,900 acres are in the western part of the Township. The Kirtland's Warblers require young jack pine stands for nesting cover. The pine, aspen-birch, northern hardwoods and oak forest types provide habitat for a wide variety of wildlife. Whether hunting or enjoying nature, an abundance of wildlife can be found. The land and water interface is a long narrow, sometimes meandering, edge habitat. These riparian forests adjacent to streams and lakes provide critical habitat for many species of wildlife and reptiles.

Ecological Corridors

Prior to logging and land clearing during the late 1800's, this area was covered with old growth hardwood and pine forests. The pre-settlement forests were rich ecosystems that stretched across the northern Lower Peninsula of Michigan. The backbones of these ecological corridors were the many rivers, creeks and intermittent drainages, along with their associated wetlands and riparian forests. The Pine River and its many tributaries are key ecological corridors within the AuSable River Watershed.

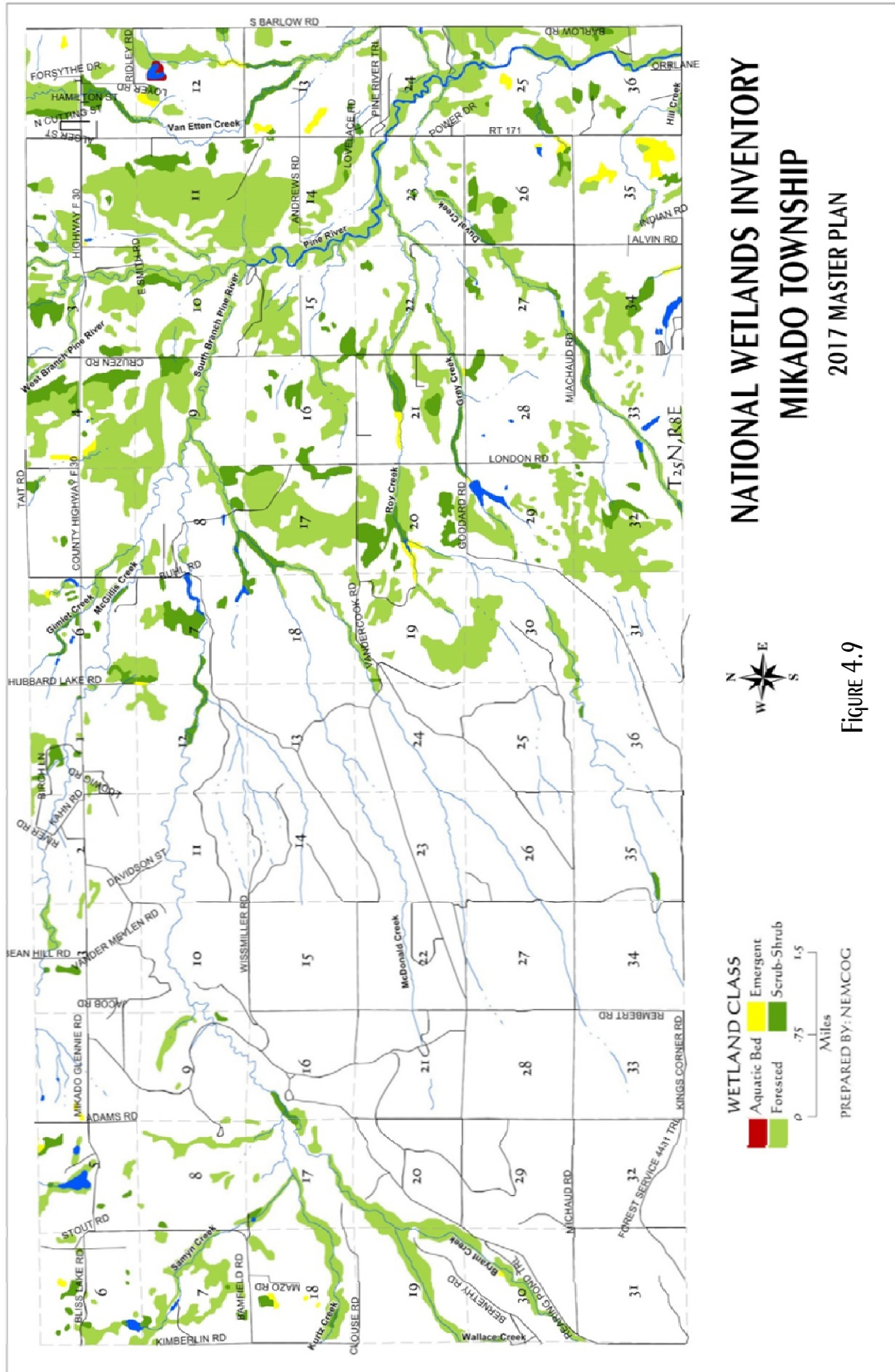
The wetlands and riparian forests adjacent to the rivers and creeks are links in a long green chain, a web of ecological corridors within the Pine River Watershed. These corridors are part of a larger network of ecological corridors consisting of the creeks, streams, wetlands and upland forests within the AuSable River Watershed Ecological corridors or "green infrastructure," can be likened to a highway system. All segments of the highway must be connected and in working order for the highway system to properly function. If segments are degraded or missing then the highway will not function to its fullest potential. The same holds true for ecological corridors, when segments are degraded or fragmented, the system will not function properly. In other words, activities on a given piece of property can have implications that reach far beyond the ownership boundaries.

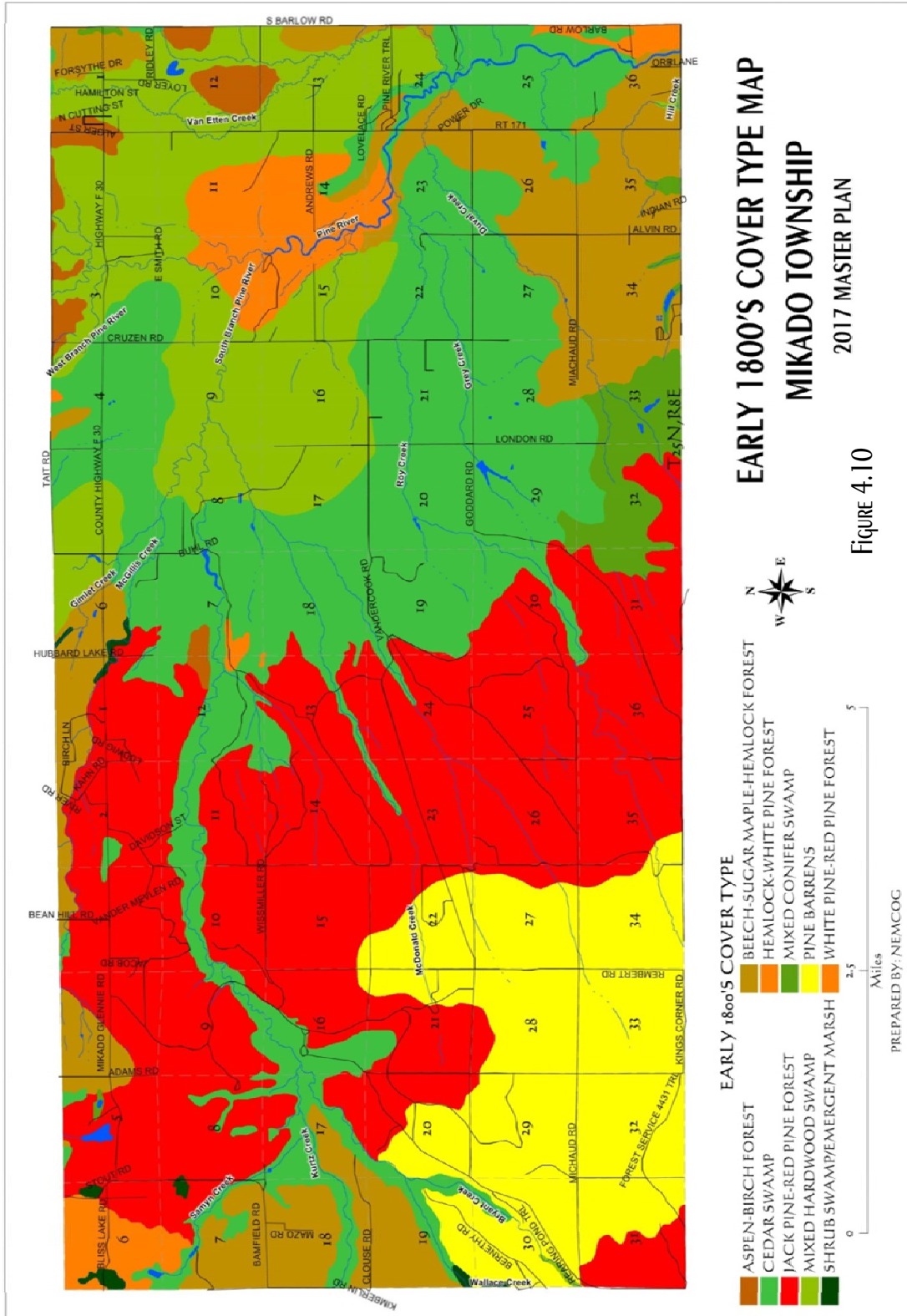
Threatened & Endangered Species

Alcona County is home to a number of plants and animals that are threatened, endangered or 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. **Table 4.1** lists endangered or threatened plant and animal species that 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). Species highlighted in blue have a higher probability of being found within the township. 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.

Scientific Name	Common Name	Federal	State
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 fen	Poor Shrub/herb Fen, Upper Midwest Type		
Prunus alleghaniensis var. davisii	Alleghany 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
dune and swale complex	Wooded		

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.





Hazards and Hazard Analysis

According to the Alcona County Hazard Mitigation Plan identified potential natural, technological and human-related hazards within Mikado Township. Managing these threats, while protecting life and property, are the challenges faced by emergency management officials at all levels of government. The County Hazard Mitigation Plan identifies potential hazards; ranks hazards according to the relative risk to the community; and finally assess the level of vulnerability for each identified hazard.

The hazard identification and vulnerability assessment is a powerful planning tool that enables emergency management officials and local officials to set priorities and goals for hazard mitigation and preparedness activities. Information allows communities to plan for hazard mitigation, preparedness, response and recovery activities. Below is a listing of potential hazards.

Potential Hazards

Natural: Wildfire, riverine flooding, damaging wind, thunder storms and tornadoes, and winter storms.

Technological: Transportation accident, hazardous material spill, structural fire, and industrial accident.

Societal: Bovine TB

The Community Hazards Map, **Figure 4.11**, from the County Hazard Mitigation Plan shows forest types, wetlands, water features, and roads to emphasize areas in the communities with highest risks for wildfire, riverine flooding, shoreline erosion and flooding hazards. Jack pine forests, with a high propensity for wildfires, dominate the landscape in the west. Areas with a high potential for flooding are located along the Pine River and its tributaries; where the soils are fine and less permeable; and are associated with wetland complexes.

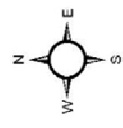
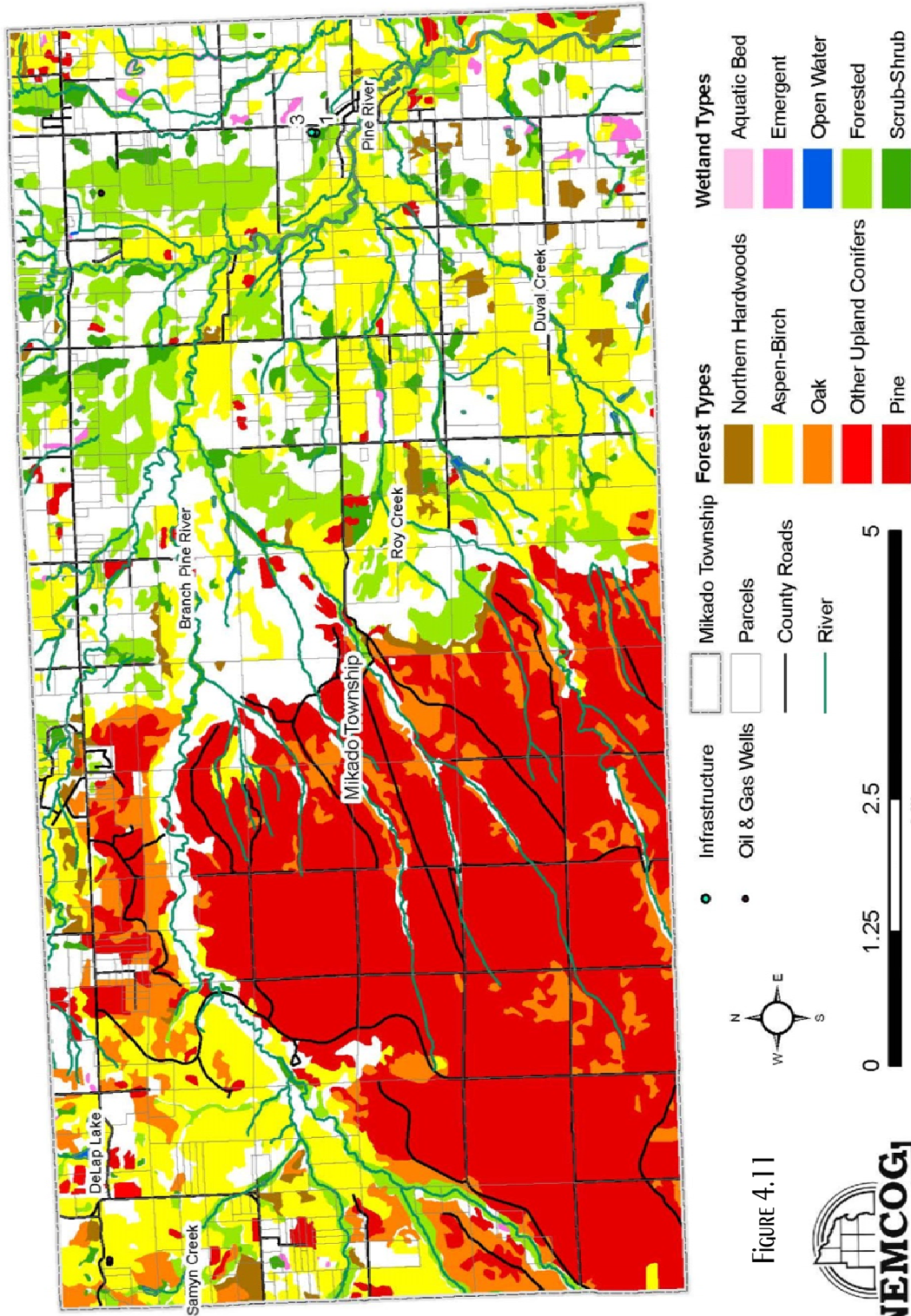
Environmental Permits and Concerns

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. The database has information for sites of environmental contamination (Part 201), Leaking Underground Storage Tanks (Part 213) and Baseline Environmental Assessments (BEAs). The BEA is completed when a property is purchased, leased or foreclosed on for the purposes of documenting contamination and protecting from liability for cleanup of existing contamination on the property.

There are no sites listed as "Sites of Environmental Contamination (Part 201)" in Mikado Township. Paragon Metal Works (formerly known as Mikado Total gas station), located at 2246

Mikado Township Hazards Map



Chapter 5 - Existing Land 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 farmlands, forests, and wetlands. As a result the final map presented in this chapter is a hybrid that combines land cover and land use.

Land Division Patterns

As development occurs, larger tracts of land are generally broken down into smaller parcels. Therefore, studying the existing pattern of land divisions is one way to analyze the status of land use and development. Land division patterns for Mikado Township are discussed below.

Approximately 52 percent of the land in the Township is publicly owned. Some 32.7 square miles (46 percent) of the Township are under jurisdiction of the U. S. Forest Service, while the State of Michigan owns 4.5 square miles of land in the eastern one half of the Township. Most of the private ownership is in tracts that are 20 acres and larger in size. Smaller tracts of private land, 10 acres or less in size, can also be found in Mikado Township. Pine River Estates, Village of Mikado, Minthorn Addition to Village and Four Seasons are four subdivisions located in the township. The Village plats date back to the early 1900's. As with other parts of northern Michigan, private ownership is being divided into smaller tracts of 10 acres or less.

Existing Land Use Characteristics

The NEMCOG mapped existing land use in the Township in July of 2001. The map of existing land use, shown as **Figure 5.1**, illustrates the distribution of land uses throughout the Township. Michigan Resource Information Systems (MIRIS) land cover/use classification categories were used to map the existing land use. The map represents an update of the 1978 MIRIS land cover/use map. The MIRIS map was updated with 1998 aerial photographs and extensive field checking (conducted in July of 2001). The updated information was then computerized to produce the existing land 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 on the Existing Use Map and table, residential use ranks sixth in the amount of land currently in this use. Residential use occupies more than two percent (1,077 acres) of the land in the Township. Residential development is concentrated along county roads in the eastern part of the Township and within the northern tier of sections across the remainder of the community. Single family residential accounts for all of the residential development in the Township.

Mikado Township MASTER PLAN

Commercial

Commercial areas are found in the community of Mikado and are concentrated around the intersection of Mikado-Glennie Road and County Road F41. Most of the commercial uses are service and retail. Lands used for commercial purposes comprise less than one tenth of one percent of the Township's area.

Industrial/Extractive/Transportation

Land in this use category covers less than one tenth of one percent or 28 acres of the Township. This category includes several sand and gravel pits and a private airport (Section 12).

Table 5.1		
Existing Land Use Statistics		
Mikado Township		
Land Use Category	Number of Acres	Percent of Township
Residential	1077	2.4
Commercial	23	Less than 0.1
Industrial/Extractive/Transportation	28	Less than 0.1
Institutional/Recreational	80	0.2
Agricultural	3,510	7.7
Non-forested Uplands	3,477	7.6
Upland Forests	24,973	54.7
Lowland Forests	10,068	22.0
Wetlands	2,365	5.2
Water	79	0.2
TOTAL	45,680	100
Source: Michigan Resource Inventory System and NEMCOG photo interpretation, field verification and map updating.		

Institutional/Recreational

This category includes institutional uses such as churches, Township Cemetery and the Mikado Civic Center. Developed recreational facilities were mapped as part of this category. Recreational facilities are Bruce Park , a ball field adjacent to the Civic Center and ball fields located off Barlow Road, all in section one of the eastern half of the Township . A private recreational facility is located in Section 34 of the eastern half. A U.S. Forest Service campground is located in Section 16 of the western half of the Township. This category accounts for 80 acres or 0.2 percent of the Township area.

As noted earlier, some 52 percent of Mikado Township area is in public ownership. While these areas were not classified as recreational, the considerable amount of public land does offer residents and visitors ample area for a wide range of outdoor recreational activities. For

example, persons wishing to pursue the sport of fishing can access the Pine River and its many tributaries such as Van Etten Creek, Duval Creek, Grey Creek, Roy Creek, McDonald Creek, McGillis Creek, Gimlet Creek, Bryant Creek, Wallace Creek, Kurtz Creek and Samyn Creek.

Agricultural

Agricultural lands currently comprise approximately 3,510 acres or 7.7 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**, 3,477 acres or more than 7.6 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 forested lands are the most predominant land cover in the Township and accounts for 54.7 percent or 24,973 acres of the Township. Of the forested lands, the most prevalent forest type is jack pine. Jack, red and white pine trees are found in the pine forest category. Draughty, low fertility sandy soils in the western half of the Township supported pre-settlement jack pine forests, that were perpetuated by wildfires. Today, the forest type is perpetuated by management activities of the U.S. Forest Service. Other forest types include aspen-birch, oak and northern hardwoods. More information on these forest types can be found in Chapter 4.

Lowland Forests and Wetlands

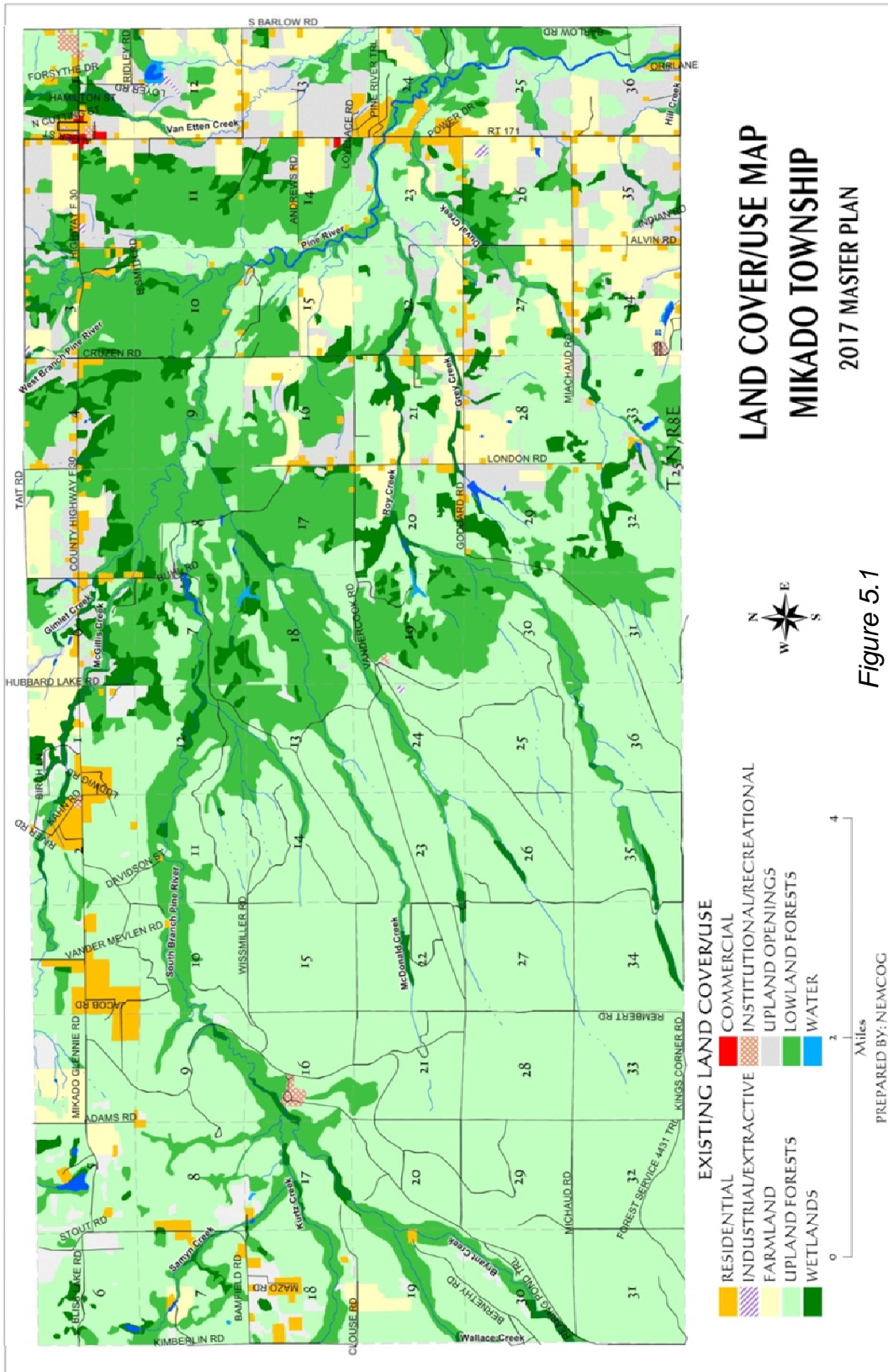
Wetlands include land that has sufficient water at, or near, the surface to support wetland or aquatic vegetation. These areas are commonly referred to as swamps, marshes and bogs. The wetland category comprises non forested types such as lowland brush (tag alder and willow) and wet meadows. Non-forested wetlands account for 2,365 acres or 5.2 percent of the surface area.

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, red maple, ash and aspen species. Lowland forests occupy 10,068 acres or 22 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.

Mikado Township MASTER PLAN

Surface Water

Open water comprises less than 0.2 percent of Mikado Township. Delap Lake as well as several small ponds are included in this category.



Chapter 6 - Goals and Policies

The purpose of this chapter is to establish the goals and policies that will guide future development within Mikado Township. In developing community goals and policies, it is important to analyze existing community characteristics such as: social and economic conditions, services and facilities, environmental conditions, and existing land use. Previous chapters of this master plan have documented the above background information.

An equally important step in developing goals is community input. The Township held a workshop on August 17, 2016 to gather input for establishing long and short term community goals and objectives. Ten people, including planning commission members, participated in the workshop. The group was asked to respond to three questions: 1) What makes our community a great place to live and work? 2) What can the Township do to make the community an even better place to live? 3) What should be the priority for the next five years? The following are lists of comments recorded at the workshop.

What makes our community a great place to live and work?

- Small town where everyone knows each other
- Rural community with lots of open space
- Lots of room, low population density
- Community fire department
- Natural resources, forests, wildlife, fisheries
- State and Federal lands
- Quiet
- Limited government control
- Self-sufficient community
- The people
- High speed internet within the community of Mikado and along F-41
- Road maintenance
- Churches
- Low crime rate, safe place to live
- Cemetery
- Recreational facilities such as ball diamonds, basketball court and tennis court
- Library
- Civic Center
- Mikado Days and parade
- Bruce Park
- Organizations like MAD and Mikado Good Fellows
- Volunteers and commissions

What can the Township do to make the community an even better place to live?

- Need to expand high speed internet
- Expand cable TV
- Expand natural gas
- Upgrades to Fire Hall
- Upgrades to Civic Center/Township Hall
- Make improvements to township parks
- Add exercise facilities to park
- Improvements to public transportation
- Need a gas station
- More businesses in town
- Lower speeds on Goddard Road
- Continued maintenance of roads
- More activities for youth
- Businesses to hire employees
- County agencies need to provide more services to residents
- Upgrades septic substandard septic systems
- Medical building for local services

What should be the priority for the next five years?

- Recreation Plan
- Address issues with foundation of Civic Center/Township Hall
- Continue Emergency services, upgrade building and equipment and provide training
- Remove blight
- Form a “community Pride” group
- Web site/Facebook

Community Goals and Policies

After reviewing the community input and considering the background information, the planning commission established goals and policies. These goals and policies will provide guidance to both Mikado Township Planning Commission and Township Board.

Planning and Community Development

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

Policies:

1. Update the zoning ordinance to implement the master plan and to bring the ordinance language up-to-date with current laws and court rulings.
2. Control the location of new development by designating appropriate areas for new residential, commercial, industrial, and resort/recreational land uses.
3. Through the zoning ordinance, encourage new commercial development to have a consistent appearance, use landscaping and buffers, and share parking with adjacent businesses, and limit access points onto county roads.
4. Enforce all Township ordinances in a consistent and fair manner.
5. Enforce junk/blight ordinance to work towards improving the quality of housing and protecting property values.
6. Review zoning ordinance language that regulates the placement and size of cellular, communication and transmission towers.
7. Review zoning ordinance language that regulates size and location of signs and billboards to minimize clutter, confusion, aesthetic degradation, and limit traffic hazards.
8. Review the site plan review section to assure consistent application of the zoning ordinance.
9. Review landscape requirements for new development, such as appropriate setbacks, retention of green space, buffer zones between differing land uses, screened parking areas and roadside landscaping.

10. Improve regulations and standards to protect the community against high noise levels and exterior lighting glare.
11. Develop open space residential and commercial development design standards to preserve scenic views, rural character, farmland, meadows, woodlands, steep slopes and wetlands with a target of preserving 50 percent of the land within a development.
12. Implement access management standards for commercial development along the primary corridors within the Township which include F-30 and F-41.
13. Consider a waterfront overlay district in the zoning ordinance that will set forth special requirements and standards for development in these sensitive areas adjacent to streams.

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.

Policies:

1. Ensure a responsible fiscal policy and budget process to finance the Township government.
2. Promote the involvement of volunteers in the government process.
3. Promote intergovernmental and regional cooperation on issues of mutual concern.
4. Work with the Township Board:
 - a. to deliver township services in a wise and efficient manner.
 - b. on planning for future issues impacting Mikado Township.
 - c. to ensure continued funding and support for the Mikado Township Planning Commission.
5. Investigate ways to generate economies of scale and cost savings through collaboration and coordination with other local units of government.
6. Explore joint meetings with other local planning commissions to discuss coordination or cooperation.
7. Work cooperatively with adjacent townships in providing guidance and input on zoning decisions that impact the Township.
8. Continue to work with adjacent communities to provide emergency services to Township residents
9. Maintain communication with the Department of Natural Resources and U. S. Forest Service to provide input into the usage and management of the public lands in the Township.
10. Utilize the proactive master planning process as a check and balance on decision-making.
11. Focus on cross-jurisdictional issues when reviewing community master plans and zoning ordinances.
12. Cooperate with county and regional efforts to promote a Community "Fire Wise" education program to protect existing and new development from wildfires

Goal: Communicate effectively with the public.

Policies:

1. Explore development of a Township Website to communicate and provide access to township government activities. This includes posting required forms and permits, publishing Planning Commission and Township Board meeting agendas, notices, and minutes electronically.
2. Set up a Township Facebook page to communicate with citizens.
3. Inform the public about the scope and value of Township services.
4. Encourage public feedback from all residents on issues impacting Mikado Township.
5. Continue to utilize web based surveys to solicit community input on issues facing the township.
6. Provide public education programs regarding existing programs and facilities.

Infrastructure and Community Facilities

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

Policies:

1. Develop a capital improvements plan to address the long term needs for road improvements, fire hall, civic center, and community recreation.
2. Pursue funding sources to design and implement a streetscaping project in the village center that will create a continuity of appearance. Design should consider curbs, designated parking, street lights, landscaping, and sidewalks.
3. Seek grants through federal, state and other funding sources for infrastructure improvements, community recreation, community facility improvements, and economic development projects.
4. Maintain and upgrade the Mikado Township Fire Hall.
5. Support the expansion of the Mikado Library branch of the Alcona County Library.
6. Maintain and make improvements to the Mikado Civic Center, including establishment of a youth center.
7. Continue to maintain and, when necessary, expand the Mikado Cemetery.
8. Encourage the efficient use and maintenance of existing roadways and infrastructure.
9. 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.
10. Direct development to areas with existing infrastructure and where infrastructure is not adequate require developers to fund the upgrading of infrastructure to support proposed new development.
11. Develop standards for private roads and shared road access.
12. Support the expansion of public transit to better serve the needs of senior citizens and other transit dependent Township residents.

13. Encourage utility companies to provide electric and telephone service to township residents.
14. Promote, maintain, and expand bicycle paths, pedestrian walkways, recreational trails and paved shoulders by working with County Road Commission, MDNR, MDOT, and user groups to connect community assets and connect with regional trail systems.
15. Orient public facilities to accommodate and serve retired residents.
16. Support the development of affordable telecommunications options and wireless internet.

Residential Land Uses

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

Policies:

1. Designate areas appropriate for all types of residential development including single family, multi-family, elderly housing, condominium, low to moderate income rental complexes, and extended care facilities.
2. To preserve open space and vital natural resources, encourage the development option of clustered single-family housing, in buildable portions of the Township.
3. 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.
4. Discourage large scale residential development in the absence of documented demand for such development.
5. Encourage existing housing stock and neighborhoods to be kept in good repair, appearance, usefulness and safety.
6. Require adequate buffers and transition areas between residential and non residential uses to maintain property values and visual attractiveness.
7. Preserve the integrity of existing residential neighborhoods by protecting them from intrusion of incompatible uses through the township zoning ordinance.

Commercial Areas and Activities

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

Policies:

1. Support the existing commercial areas. Guide new commercial development into a designated hub, through the master plan and zoning ordinance; while discouraging linear strip development along primary county roads.
2. 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.

3. Increase safety and reduce the visual impact of signs and billboards, by controlling their size, number, illumination, and configuration.
4. Make parking (public and private) needs a consideration for all expansions and new development.
5. Require landscape buffers where commercial uses are adjacent to residential uses.
6. Regulate home occupations and home based businesses to assure compatibility with existing residential areas.

Industrial Land Uses

Industrial parks are located in the adjacent communities of Lincoln and Oscoda. The facilities provide necessary utilities and services, and have sites available for industrial type operations. Furthermore, analysis of soil conditions on the natural resource section found soils to be poorly suited for septic fields. Given existing industrial parks in adjacent communities and the lack of public water and sewer service in Mikado Township, the community does not support large scale industrial development.

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

Policies:

1. Ensure that industrial uses are developed in an environmentally sensitive manner, are harmonious with the existing community and are located in areas identified in the future land use plan.
2. Encourage 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.
3. Require landscape buffers where industrial uses are adjacent to other land uses.
4. Ensure that extractive development takes place in an environmentally sensitive manner. Require landscape buffers around extractive operations to screen adjacent properties and public roadways. Establish criteria for reclaiming extractive areas after the operation is complete.

Recreation and Public Lands

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

Policies:

1. Develop a Township Recreation Plan that identifies and prioritizes needed community recreational facilities.
2. Secure funding to make improvements to recreation facilities adjacent to the Community Center.
3. Facilitate the designation of a snowmobile route connecting the community to the regional snowmobile network by working with the Alcona County Road Commission, Alcona County Sheriff Department, US Forest Service and the Michigan Department of Natural Resources.
4. Support 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.
5. 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.

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.

Policies:

1. Encourage a land use pattern that is oriented to the natural features and water resources of the area. Evaluate 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, greenways and wildlife corridors.
2. Limit and control the density and type of residential and commercial development adjacent to lakes, ponds, streams, and wetlands.
3. Maintain greenbelt areas adjacent to lakes, ponds, streams, and wetlands through development of a greenbelt section in the zoning ordinance.
4. Implement groundwater protection and stormwater management regulations in the zoning ordinance, while encouraging the continued natural use of wetlands as groundwater recharge, stormwater filtering and stormwater holding areas.
5. Limit development on steeply sloped areas. Require erosion control measures where construction is permitted. Require slope stabilization and revegetation on disturbed slopes or in extraction areas.
6. Limit development on poorly drained soils, and soils with severe limitations for septic systems.
7. Consider the adoption of a septic system maintenance ordinance to protect and improve water quality.
8. Preserve topography such as slopes, valleys and hills by limiting the amount of cut and fill during site development.

9. Encourage the integration of wetlands, woodlands and meadows into site development as aesthetic and functional features.
10. 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.
11. Encourage the use of native plant species and naturalized landscape designs, where appropriate, to enhance the communities' existing character.
12. 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.

Farm and Forest Lands

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

Policies:

1. Support and provide for the conservation of public and private forests through the master plan and zoning.
2. Encourage use of best management practices and science based forest and wildlife management activities on public and private lands in the township.
3. Participate in the US Forest Service and Michigan Department of Natural Resources Forestry Planning activities for lands within the Township.
4. Support the retention of agricultural lands, forest lands and ecological corridors through available mechanisms such as open space/cluster development and farmland agreements, forest stewardship programs, and conservation easements, as well as zoning.

Goal: Recognize the importance of agricultural lands as an economic base, heritage, and way of life in Mikado Township.

Policies:

1. Recognize the importance of small family farms in Mikado Township.
2. Discourage the conversion of farmland into other more intensive uses. Recognize farmland as contributing to the scenic and rural character of the Township.
3. Encourage agricultural landowners to work cooperatively with supportive public agencies, such as the local Michigan State University Extension, Presque County Conservation District, USDA, and National Resource Conservation District offices.
4. Educate residents and local officials on Michigan's Right to Farm Act.
5. Consider the use of Generally Accepted Agricultural Management Practices (GAAMPs).

Chapter 7 - Future Land Use Recommendations

According to the US. Census Bureau, there has been a small, but steady growth in population since the 1960's. Development associated with this growth has generally been low-density single family residential. While residential growth is occurring in Mikado Township, according to the 2001 land use inventory, over 97 percent of the land area was classified as forest, farmland, non-forest open space, and wetlands. Less than three percent of the Township's land was used for urban related purposes, including extractive, commercial, industrial, utilities, institutional/recreational and residential development.

The final critical step in completing a Master Plan is to determine the types, location and intensities of development that will occur over the next twenty years. With the establishment of a Future Land Use Plan, Mikado Township intends to ensure that existing land uses such as residential, commercial and industrial can continue; that irreplaceable resources such as water, wetlands and 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 updated the future land use recommendations for Mikado 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.

Land Use Planning Areas

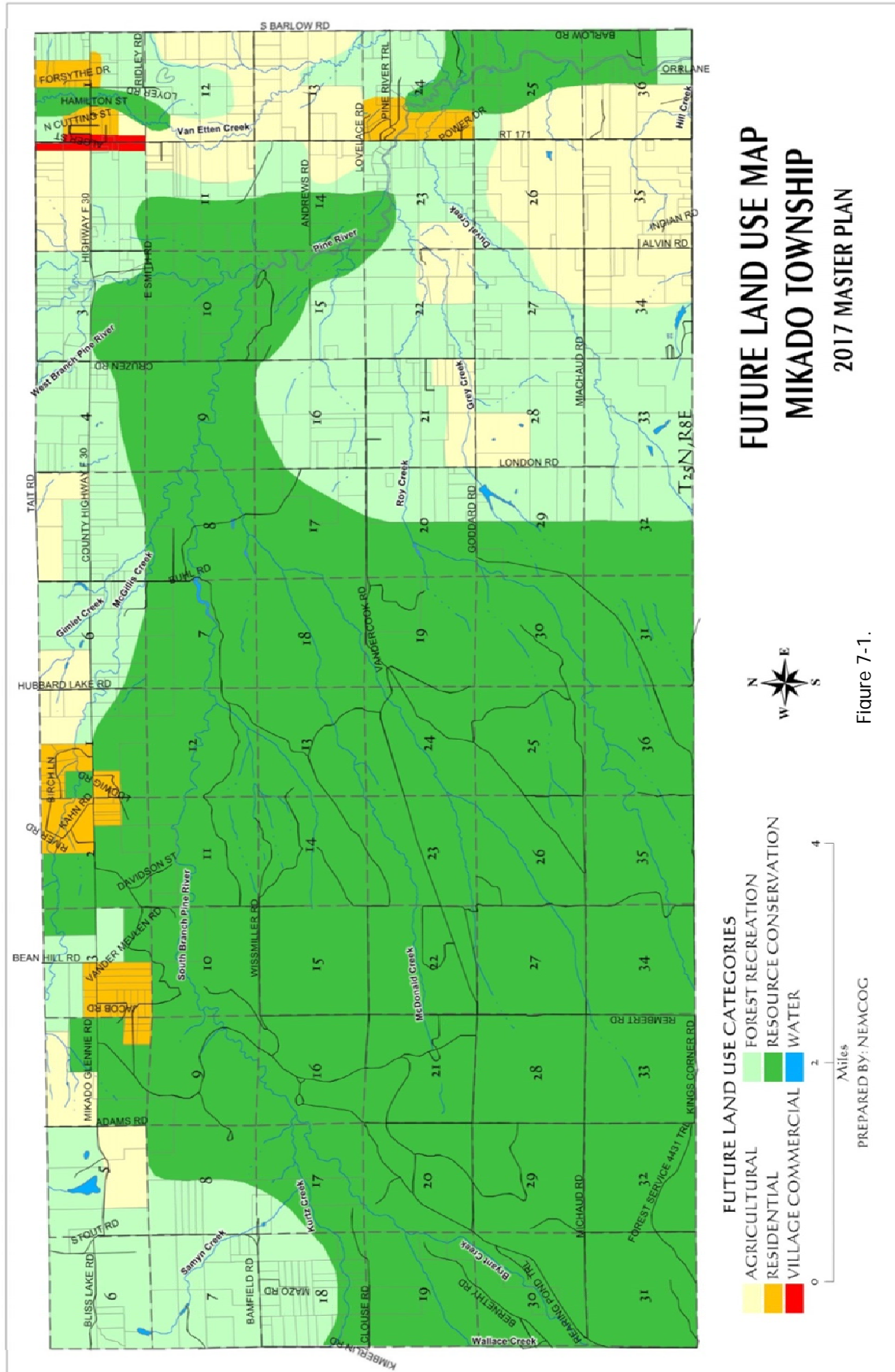
Listed below are the six different future land use planning areas. **Figure 7-1** is the Future Land Use Map of Mikado Township, which depicts the locations of future land use planning areas. This section will provide explanations of each land use planning area, including purpose, recommended development density and, compatible uses.

- Resource Conservation
- Forest Recreation
- Agricultural
- Medium Density Residential
- Village Commercial
- Light Industrial

Resource Conservation

Mikado Township recognizes that the presence of wildlands contributes significantly to the quality of life and the rural character, which is valued by the Township residents. Locations recommended for this category includes much of the western half and approximately one third of the eastern half of the Township.

The Resource Conservation category includes all of the U.S Forest Service and Michigan Department of Natural Resources lands and large tracts of privately owned lands forest lands. Huron National Forest's Pine River Kirtland's Warbler Management Area is located in this area. One of seven Kirtland's Warbler management units in the Huron National Forest, the Pine River Unit covers 8,900 acres in the western part of the Township. Segments of the Pine River and its many tributaries flow through the area. Road access is limited and consists primarily of seasonally maintained county roads.



The Resource Conservation areas should be protected from intense development without denying private property owners reasonable economic use of the land. Primary uses to be encouraged in this category include hunting, fishing, skiing, hiking, camping, wildlife management and forestry management. This plan encourages the retention of 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 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. Low density residential development (one house per 20 acres) would be allowed. Under a special use permit, properties located along primary county roads could have one house for every ten acres. 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.

The plan further recommends incorporating open space development options, river set-backs, native vegetation greenbelts, waterfront overlay zones, access management, and landscaping requirements into the Zoning Ordinance. This future land use plan recognizes that existing parcels within the planning area 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.

Forest Recreation

The Forest Recreation category is the second most extensive land use category recommended for the Township. The areas are concentrated in the eastern half and along the northern border of the Township. Many of the large tracts either have seasonal residences or are vacant. Locations recommended for this category are shown on the future land use map, **Figure 7-1**.

This category encourages the continuation of resource management and wildlands recreation activities. 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.

With the exception of County Roads F 30 and F 41 and portions of Kings Corner, Cruzen, Wissmiller, Goddard, Alvin, Michaud and Vandercook Roads; the transportation network is mainly gravel base, secondary county roads, The Township intends to work cooperatively with the Alcona County Road Commission to maintain and improve the road network. However, there are no intentions on upgrading the gravel road network to a paved road network. No municipal water or sewer service will be available. 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, river set-backs, native vegetation greenbelts, waterfront overlay zones, access management, and landscaping requirements into the Zoning Ordinance

Along with low density residential uses, forestry activities associated with timber and wildlife management would be considered compatible in this area. Other uses include vacation homes, hunting camps, parks, and playgrounds.

Under the special approval process in the Township's zoning ordinance, recreational camps and clubs (recommended on ten acres or more) and golf courses and resorts (recommended on twenty acres or more) would be allowed with site plan approval by the township planning commission. Additionally, gravel pits with site reclamation plans, saw mills, retail commercial enterprises related to recreational activities and home occupations would be allowed under the special approval process, provided the activity is compatible with surrounding neighborhoods.

This future land use plan recognizes that existing parcels within the planning area 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.

Agricultural

Mikado Township recognizes the presence of farmland contributes significantly to the scenic and rural character valued by the Township residents. The Agricultural land use designation is intended to encourage the continued existence of farms in the Township. The nine designated areas are primarily located in the eastern portion and along the northern border of the Township, as shown on the Future Land Use Map, **Figure 7-1**.

This category encourages the continuation of farming in the Township. Farm dwellings and agricultural accessory buildings are allowed, as well as crop production and raising of livestock normally associated with farming activities. The plan recommends this category accommodates single family dwellings at an approximate maximum density of one unit per five to ten acres. Plant nurseries, greenhouses, bed and breakfast inns, churches, and forest and wildlife preserves are also allowed.

Special uses may be allowed if they are designed to be compatible with the primary uses. Where compatible with surrounding uses, private clubs, veterinary services, human care facilities, mobile home parks, golf courses, publicly owned buildings and publicly owned parks would be allowed with an approved site plan under the special approval process.

With the exception of County Roads F-30 and F-41, and portions of Kings Corner, Cruzen, Wissmiller, Goddard, Alvin, Michaud and Vandercook Roads, the transportation network is mainly gravel base, secondary county roads. The Township intends to work cooperatively with the Alcona County Road Commission to maintain and improve the road network. No municipal water or sewer service will be available. 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, native vegetation greenbelts, waterfront overlay zones, access management, and landscaping requirements into the Zoning Ordinance

Medium Density Residential

The Medium Density Residential development category is primarily designed to accommodate single-family dwellings on lots with a minimum size of one half acre. The medium density 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 adjacent to F-30 and F-41.

Principal uses would include single family dwellings and two-family dwellings. Special uses may be allowed if they are designed to be compatible with the residential setting. Other uses to be considered include home occupations contained within the dwelling; mobile home parks; bed

and breakfast facilities; churches and associated structures; parks and playgrounds; schools and libraries; community buildings and publicly owned buildings; public utility buildings; and publicly owned and operated parks. The township should require site plan review and special approval for all uses other than individual single and two family homes. Development regulations within waterfront areas should be designed to address Township residents' concerns regarding water quality and streamside protection.

Older platted subdivision areas contain lots created prior to implementation of the Mikado Township 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. Renovation and redevelopment of existing streamside properties is expected to continue as seasonal residences are replaced by year round homes. The renovation and redevelopment should be sensitive to the protection of native vegetation greenbelts.

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 restricted. 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 compatible with the multiple-family portion of the residential area. 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.

Village Commercial

While much of the commercial services for Mikado Township are met by facilities located in the Harrisville, Oscoda and Lincoln, the Township wishes to set aside an area to accommodate additional local commercial uses. The Township recognizes the importance of maintaining the community identity of Mikado. A small commercial center serving the needs of Township residents, tourists and persons passing through on F-30 and F-41 is important to retaining the community identity. The designated area is located along F-30 and F-41 within the area considered the "Town" of Mikado.

The Village Commercial category is designed to accommodate small scale retail, service and some public service uses. Due to a lack of public water and sewer service, higher density and large scale development is not recommended in the township. This area incorporates existing residential and commercial uses. The existing commercial uses are primarily retail and service types of uses. Allowed uses in commercial zones would include retail and service stores, professional offices, banks, schools, restaurants, taverns, fraternal organizations, and rental units. Use requiring special approval would include gas stations, auto repair businesses, auto sales and service, drive-in food and drink establishments, veterinary service and hospital (not including kennels), motels and residences within a commercial establishment.

Efforts should be undertaken to improve the appearance of the commercial center. The townships intends to pursue funding sources to develop and implement a streetscaping plan. The plan may include tree planting, street lighting, curbs, parking lots, landscaping and

sidewalks. Ordinances to regulate blight and building conditions in the business district should be enforced.

It is recommended the Township adopt regulations for site plan review, access management, sign, billboard and landscaping to maintain traffic safety and minimize any negative visual impacts of development along the main roads. It is further recommended the Township implement zoning that allow for cluster commercial development that would share driveways and parking lots, and create pedestrian friendly environment, while maintaining open space, protecting sensitive areas and minimizing visual impacts.

Light Industrial

Industrial parks are located in nearby communities of Harrisville, Lincoln and Oscoda. The facilities provide necessary utilities and services, and have sites available for industrial type operations. Furthermore, analysis of soil conditions on the natural resource section found soils to be poorly suited for septic fields. Given existing industrial parks in adjacent communities and the lack of public water and sewer service in Mikado Township, large scale industrial development is not accommodated in this plan. The industrial future land use category is designed to provide sites for wholesale activities, warehouses, retail operations that require large outside storage areas, and light manufacturing operations. 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. Light industrial land use area should be located on suitable soils, with proper infrastructure and on county primary roads. It is anticipated these would be located near the community of Mikado close to areas identified as village commercial.

Special Issue Areas

Roads

Money for maintaining county roads comes from state and local sources, including Mikado Township. The Township is working under a four year capital improvements road plan. A 1.5 mil road millage generates funds for road work. The Township pays 50 percent of the cost of upgrading roads to a paved surface. The Township intends to work cooperatively with the Alcona County Road Commission to maintain and improve the road network. However, there are no intentions on upgrading the entire gravel road network to a paved road network.

Another major transportation issue in the Mikado Township is the repair and upgrading of bridges. Eleven of the 13 bridges in the Township have been upgraded or replaced. The Township contributes 5 percent, up to \$15,000 for bridge replacements. Work should continue on upgrading the bridges, setting a high priority for bridges on the critical bridge list.

Waterfront Residential

To preserve the scenic beauty, property value and environmental integrity of areas adjacent to rivers and streams, the plan recommends developing a "Waterfront Overlay Zone" designation along sections of the Pine River and its major tributaries. With such a specialized designation it will be possible to develop residential standards specific to the unique environment found in waterfront areas. Development regulations within the waterfront residential area should be designed to address Township residents' concerns regarding water quality and shoreline protection. Compatible land uses are one single-family dwelling on each lot and parks and playgrounds.

Structures should be sited at least 50 feet from the ordinary high water level of the streams and rivers in the overlay zone. Maintenance of up to 35 feet native vegetation protection strips should be required; landowners on developed lots should be encouraged to re-establish native vegetation greenbelts. The recommended minimum lot size is 30,000 square feet and the minimum lot width on the water is 100 feet. However, many older platted subdivisions in waterfront areas contain lots created prior to implementation of the Mikado Township Zoning Ordinance. These lots are typically 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.

Keyhole development or high-density second-tier development with shared private waterfront access may be allowed with restrictions to limit density and development size. Keyhole development may increase the threat of shoreline erosion, surface pollution, increased noise and conflicts between lake users.

Water and Sewer

According to information obtained from the USDA Soil Survey, much of the township has severe limitations for septic system drain fields. The limitations include depth to water table, wetness, poor filtering capacity and ability to perk water. The analysis of soil constraints can be found in Chapter 4 of this plan. Due to a lack of public water and sewer service, higher density residential uses, such as apartments, nursing homes and manufactured home developments as well as higher density commercial and industrial development should be restricted. If adequately engineered wastewater disposal systems are included as part of the design, higher density development can be considered.

The Master Plan did not include a detailed study of septic systems in the community of Mikado. However, given the high water table and fine soils, localized problems are likely. The cost of developing a public sewer system would be prohibitive. This plan encourages upgrading of individual septic systems to mounded or secondary treatment systems. The Township should also pursue funding sources to assist landowners with upgrading septic systems or possibly developing cluster systems where appropriate.

Streetscape Planning Area

During the visioning workshop and subsequent planning commission workshops, the community identified streetscape as a priority. The area identified as needing streetscape renovation is at the village crossroads covering an area one-quarter mile north and south on F-41 and one mile east and west on F-30. Both the design and implementation of streetscape projects are very costly endeavors. It is recognized the Township could not complete such a project with its current budgetary constraints. In order to complete this needed project; the township will explore supplemental funding sources such as grants, loans, volunteer donations, and special assessments.

Open Space Development

Methods which other communities have employed to help protect and preserve privately held forest and farm lands, while protecting a landowner's economic investment include the Purchase of Development Rights (PDR), conservation open space development standards, clustering requirements for residential uses and tax breaks or incentives for continuing forestry and farming use. The conservation open space residential and commercial development design standards are effective means to preserve scenic views, rural character, farmland, meadows,

woodlands, steep slopes and wetlands with a target of preserving 50 percent of the land within a development. It is recommended that these alternatives be investigated for possible application in Mikado Township, as a way to balance economic rights with wildlands preservation goals.

Community Facilities

With the assistance of community organizations and hundreds of hours of donated time, the Township has been able to develop the Mikado Civic Center and recreational facilities. The strong sense of community and working together for the common good attitude will surely achieve similar feats in years to come. This plan supports community efforts to further develop recreational facilities such as ball fields and community facilities such as a museum or expansion of the library. Mikado Township should pursue state and federal funding to help develop facilities. Grants typically require matching funds, a requirement that will be easy to meet given past fund raising efforts.

Hazard Mitigation

The Alcona County Hazard Mitigation Plan ranked wildfires as the number one hazard, followed by shoreline flooding, riverine flooding, severe winds, and winter weather hazards. Jack pine forests, with a high propensity for wildfires, dominate the landscape in the west. Areas with a high potential for flooding are located along the Pine River and its tributaries; where the soils are fine and less permeable; and are associated with wetland complexes. Where possible the community should work towards minimizing the threats of the identified hazards.

Prevention: Government administrative or regulatory actions or processes that influence the way land and buildings are developed and built. These actions also include public activities to reduce hazard losses. Examples include planning and zoning, building codes, capital improvement programs, open space preservation, and storm water management regulations.

Natural Resource Protection: Actions that, in addition to minimizing hazard losses, also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.

Emergency Services: Actions that protect people and property during and immediately after a disaster or hazard event. Services include warning systems, emergency response services, and protection of critical facilities.

Chapter 8 - Plan Adoption and Implementation

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 Mikado Township Master Plan was sent on April 4, 2016 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 with the assistance of NEMCOG, a draft was transmitted to the Township Board for approval to distribute the plan for review and comment. The draft plan was transmitted on February 15, 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 May 10, 2017 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 April 26, 2017.

Plan Adoption

The Mikado Township Planning Commission formally adopted the master plan on May 10, 2017. The Mikado Township Board passed a resolution of concurrence on June 12, 2017.

Plan Implementation

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

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.

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 Tri-Townships 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: private roads and driveways, access management, signs and billboards, communications towers, antennas and towers, and wind turbines.

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. Agricultural Future Land Use (FLU) areas are generally consistent with Agricultural Zoning Districts in the Township. The Township does not intend to shift boundaries, unless there is a landowner request.

Conservation FLU areas, which includes public lands, and wetlands, lowland forests and flood plains on private properties, is represented by the Resource Conservation zoning district. Private lands fall under Forest Recreation and Agricultural zoning districts. The Forest Recreation future land use is represented by the Forest Recreation and Agricultural zoning districts. The Township does not intend to shift boundaries, unless there is a landowner request.

The Residential FLU category includes existing residential development on smaller lots. The areas are zoned as Single Family Residential with small areas designated for expansion currently zoned Forest Recreation and Agricultural. The master plan supports changing of the non-residential zoning to residential zoning 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.

Village Commercial FLU identifies areas of existing commercial development and allows for expansion of new commercial enterprises. Townships should review and if needed amend general provisions and supplemental regulations to address groundwater protection, noise, lighting, landscaping, screening, signs and access management; especially when development is located along major roadways, within neighborhoods and along community entryways. New development will be directed into the General Commercial FLU areas and the plan would support changing zoning district boundaries.

Presently, there is limited demand for new industrial development. 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 prioritize and budget for capital improvement projects, (such as infrastructure improvements, park improvements, etc.). 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 Township must have a current DNR approved Community Recreation Plan to be eligible for recreation grant funding. Mikado Township is considering developing its first recreation plan. The DNR approved Recreation Plan covers a five year planning period. Grant funds would be pursued for recreation projects identified in the Master Plan and Community Recreation Plan. Project may include improvements to the ball fields, expansion of indoor and outdoor recreation facilities, bike and hiking trails, and public access onto the lakes and streams.

Official Documentation

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

Notice of intent

Workshop flyer

Transmittal of Draft

Legal Notice

Mikado Township Planning Commission minutes from public hearing

Resolution of Adoption

Resolution of Concurrence