

Alpena Township 2017 Master Plan



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2017 MASTER PLAN

**Alpena Township
Alpena County, Michigan**

Alpena Township Planning Commission Resolution of Adoption: August 21, 2017

Alpena Township Board Resolution of Concurrence: August 28, 2017

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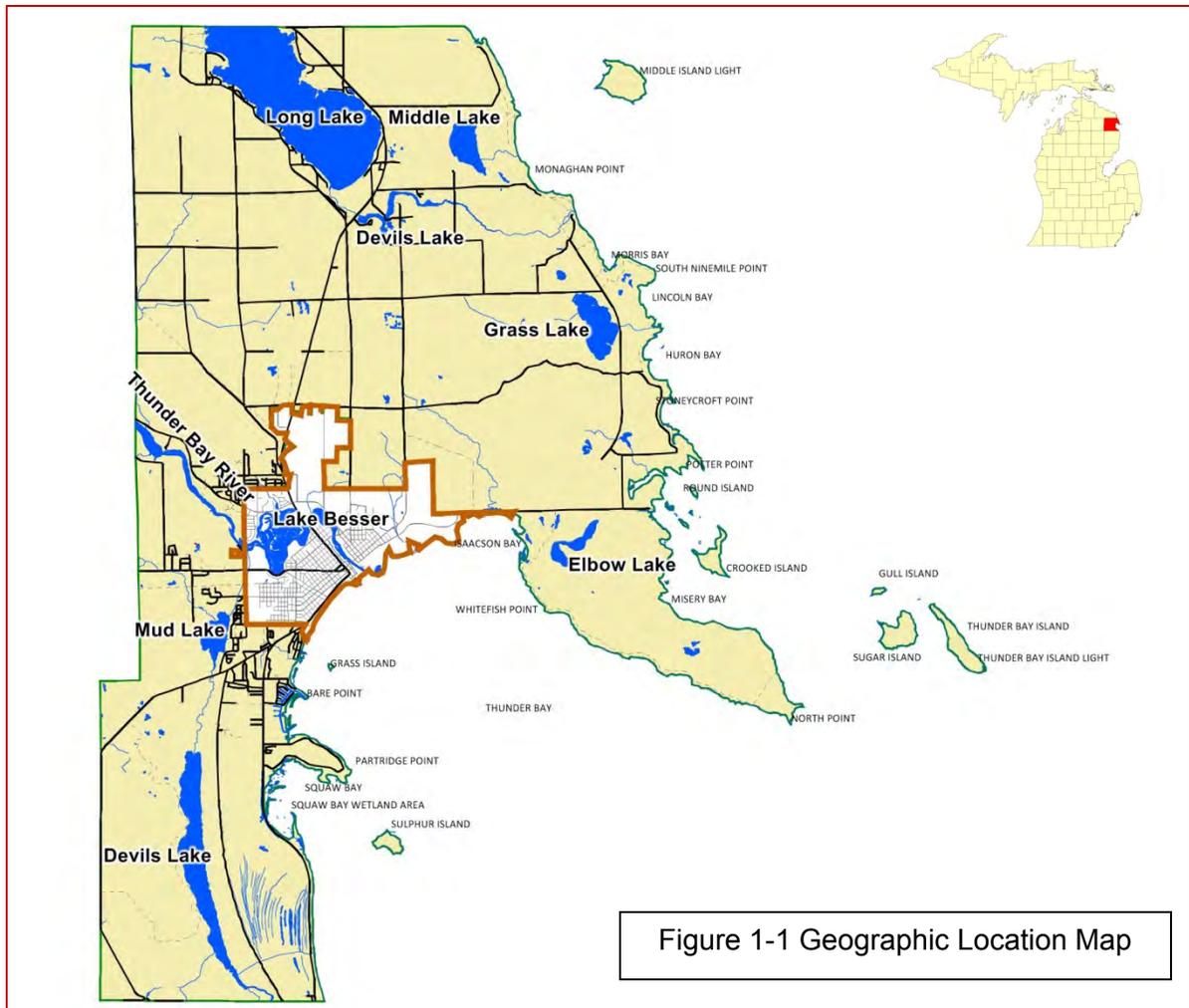
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Location and Regional Setting

Alpena Township is located in the northeast corner of Alpena County, which is situated in the northeast region of Michigan's Lower Peninsula. Alpena Township comprises 104.9 square miles of the County's 574.2 square miles. Geographically, the Township contains all or part of seven government survey townships. The distance from the north boundary to the south boundary is approximately 18 miles, with the east to west distance at approximately 15 miles. The Township also includes several offshore islands in Lake Huron's Thunder Bay.

The Township is bounded on the north by Presque Isle County, on the west by Maple Ridge and Wilson Townships, on the south by Sanborn Township, and on the east by Lake Huron. The City of Alpena, which is centrally located in the Township on the Lake Huron side, is a separate political unit. For reference, a location map is provided as **Figure 1-1**.



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History

As in most of Northeast Michigan, Alpena Township's early history was closely related to the lumbering industry that flourished from the mid-1800s to the turn of the century. As the resources for the white pine lumbering industry were used up, the Township's population declined. By 1920, the population had dropped to 701 persons, down from 1,173 persons at the turn of the century.

From 1930 to 1980, Alpena Township's population increased steadily. Historically, the Township's growth has been intertwined with the City of Alpena. The City provided the necessary commercial and industrial opportunities, while the Township served as a residential community for persons employed in the City. However, the trend over the past 50 years indicates that the Township has become more independent of the City, as commercial and industrial development occurred in the Township. Today, Alpena Township is a community where people can live, work and play.

Planning and Zoning in Alpena Township

Comprehensive planning and zoning are not new to Alpena Township. Increased growth and problems associated with that growth during the 1950's and 1960's resulted in the adoption of zoning in 1970. However, the zoning ordinance was not backed by a comprehensive plan until January of 1979. The zoning ordinance was revised in 1983.

The Alpena Township Planning and Zoning Commission was established in September of 1977. The initial objective of the Commission was to develop a comprehensive plan. Working with the Northeast Michigan Council of Governments (NEMCOG), the Commission developed a plan during the following year. That plan was adopted in January of 1979 and served as a guide until 1993.

Beginning in February of 1992, Alpena Township retained the services of professional community planner, Mary Ann Heidemann, Ph.D., to assist the Planning and Zoning Commission with the comprehensive plan update, which was adopted in March of 1993. No plan can continue to accurately guide a community without periodic review and update. As a community changes, so must its plan change to reflect evolving social and physical changes of the community. With this in mind, the Alpena Township Planning and Zoning Commission began discussing the need for a comprehensive plan update to the 1993 plan. In 2002, the Township retained the professional planning services of Wade-Trim, Inc. to update the 1993 plan, which was completed in 2004.

Alpena Township is once again updating this plan to reflect its vision for the future; with long-range goals and objectives for all activities that affect this community. This document is the result of the joint effort among, the Planning Commission, the Township Board and Richard L. Deuell, Resource and Community Planning Consultant.

Chapter 2: Social & Economic Characteristics

Population

According to the 2010 U.S. Census, Alpena Township's 9,060 residents (4,415 male - 4,645 female) make up nearly one-third of Alpena County's population. Both the Township and the County experienced slight population decreases of approximately half a percent since the 2000 U.S. Census was conducted. **Table 2-1** below illustrates population trends for both the Township and the County from 1900 to 2010. As the table shows both governmental units experienced population growth each decade between 1930 and 1980, but the Township figures indicate a much faster growth rate than the County. Over the past 100 years, the 1980 population was the highest for both units. A two percent increase occurred for both units at the 2000 census count.

Table 2-1 Population Trends Alpena Township and Alpena County, 1900-2010				
Year	Alpena Township		Alpena County	
	Population	% Change	Population	% Change
1900	1,173	---	18,254	---
1910	928	-20.9%	19,965	+9.4%
1920	701	-24.5%	17,869	-10.5%
1930	813	+16.0%	18,574	+3.9%
1940	1,675	+106.0%	20,766	+11.8%
1950	2,932	+75.0%	22,189	+6.9%
1960	6,616	+125.6%	28,556	+28.7%
1970	9,001	+36.0%	30,708	+7.5%
1980	10,152	+12.8%	32,315	+5.2%
1990	9,602	-5.4%	30,605	-5.3%
2000	9,788	+1.9%	31,314	+2.3%
2010	9,060	-7.4%	29,598	-10.8%

Source: U.S. Census Bureau.

Although Alpena County experienced a small population decrease over the last decade, it remains the most populous county in the eight-county Northeast Michigan Region. Neighboring Presque Isle County also noted a decrease (-7.2 percent). Other counties showing population decreases were Cheboygan at -1.1 percent, Oscoda at -8.3 percent, Crawford at -1.4 percent, Alcona at -6.6 percent, and Montmorency at -5.3 percent. Otsego showed a small population increase at 3.7 percent.

When comparing population density for all governmental units in Alpena County, the Township ranks second with 86.4 persons per square mile. The City of Alpena has 1,233.3 persons per square mile, while the County as a whole shows a population density of 51.5 persons per

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square mile. Land area comparisons for governmental units in Alpena County show Alpena Township with 104.9 square miles, which is second only to and slightly smaller than Ossineke Township with 106 square miles of land mass. Refer to **Table 2-2** below for an illustration of land area and population density comparisons for 2000 and 2010.

Governmental Unit	Land Area in Square Miles	Persons per Square Mile	
		2000	2010
Alpena County	574.2	54.6	51.5
City of Alpena	8.5	1,329.9	1,233.3
Alpena Township	104.9	93.3	86.4
Sanborn Township	43.8	49.1	48.3
Maple Ridge Township	51.9	33.0	32.6
Wilson Township	79.5	26.1	25.5
Long Rapids Township	54.7	18.6	18.5
Ossineke Township	106.0	16.6	15.8
Green Township	71.4	16.9	17.2
Wellington Township	53.4	5.5	5.7

Source: U.S. Census Bureau, 2000 and 2010.

Seasonal Population

In discussing the population for Alpena Township, it is important to note that the figure presented by the 2010 Census does not reflect the actual number of persons residing in the community during the summer months. This situation can be seen throughout much of Northern Michigan. The Census tally, taken on April first, does not count residents who winter elsewhere. Respondents are asked to declare a permanent residence different from their April location, if more than six months are spent at the alternate address. However, many fail to do so for reasons of misunderstanding or for tax purposes.

In reviewing the social and economic information derived from the 2010 Census data, the figures presented for housing characteristics show 558 units or 11.4 percent of the total housing units are listed as seasonal, recreational or occasional use homes in Alpena Township. For Alpena County that figure is 12.2 percent. With this in mind, it can be assumed that the Township's resident population increases by approximately 10 percent during the summer months. In addition, many summer visitors stay at private lodging places, campgrounds, or at the homes of family or friends. It would be impossible to obtain an accurate count of the number of tourists who visit the area. However, the influence that tourists have on the local economy is significant. The percentages of Alpena Township and Alpena County housing units that are seasonal in nature are much less than neighboring counties.

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Age Distribution and Racial Make-Up

Age distribution comparisons for the Township, the County, and the State are presented as **Table 2-3**. In general, Alpena Township is experiencing an aging population, as is most of Northern Michigan. The median age for Alpena Township increased from 41.9 years in 2000 to 48.4 years in 2010. For Alpena County, median age increased from 40.4 years in 2000 to 46.7 years in 2010, as compared to an increase of 35.5 years in 2000 to 38.9 years in 2010 for the State of Michigan.

Age Group	Alpena Township		Alpena County		State of Michigan	
	Number	Percent	Number	Percent	Number	Percent
Under 5 years	448	4.9%	1,508	5.5%	596,286	6.0%
5-9 years	455	5.0%	1,656	6.2%	637,784	6.5%
10-14 years	508	5.6%	1,792	7.3%	675,216	6.8%
15-19 years	544	6.0%	1,969	7.6%	739,599	7.5%
20-24 years	391	4.3%	1,444	4.9%	669,072	6.8%
25-34 years	754	8.0%	2,891	10.2%	1,164,149	11.8%
35-44 years	942	10.4%	3,233	16.3%	1,277,974	12.9%
45-54 years	1,596	17.6%	5,020	14.0%	1,501,033	15.2%
55-59 years	789	8.7%	2,313	5.8%	683,186	6.9%
60-64 years	628	6.9%	1,982	5.2%	568,811	5.8%
65-74 years	1,085	12.0%	2,978	9.0%	724,709	7.3%
75-84 years	714	7.9%	1,977	5.9%	444,940	4.5%
85 years and over	206	2.3%	810	2.2%	191,881	1.9%
Median Age	48.4 years		45.6 years		38.9 years	

Source: Table DP-1, Profile of General Demographic Characteristics, 2010 U.S. Census.

Of the 9,060 Alpena Township residents at the time of the 2010 Census, 97.4 percent were White, 0.2 percent were African American, 0.6 percent were Native American, 0.1 percent were Asian, less than 0.0 percent were Native Hawaiian or Pacific Islander, and 0.1 percent were of some other race.

Households

Census data from 2010 shows Alpena Township has an average household size of 2.25 persons per household, as compared to 2.27 persons per household in Alpena County and 2.49 persons per household for the State of Michigan. In general, household size has decreased nationwide over the past several decades. **Table 2-4** demonstrates the decrease in household size. **Table 2-5** compares household types for both the Township and the County over the past two decades.

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Table 2-4 Average Household Size (Persons per Household) Alpena Township, Alpena County, State of Michigan – 2000 & 2010					
Alpena Township		Alpena County		State of Michigan	
2000	2010	2000	2010	2000	2010
2.39	2.25	2.40	2.20	2.56	2.54

Source: Table 5, Summary Population and Housing Characteristics, 2000 U.S. Census. Table DP-1 Profile of General Demographic Characteristics, 2010 U.S. Census.

Table 2-5 Household Comparisons Alpena Township, Alpena County - 2000 & 2010				
Household Type	Alpena Township		Alpena County	
	2000	2010	2000	2010
Total Households	4,037	3,976	12,818	12,791
Family Households	2,857	2,671	8,694	8,164
With own children under 18	1,165	1,585	3,767	3,004
Married Couple	2,373	2,155	7,093	6,401
With own children under 18	885	606	2,791	2,010
Female householder, no husband present	331	366	1,151	1,252
With own children under 18	188	211	698	714
Nonfamily Households	1,180	1,305	4,124	4,627
Householder living alone	1,010	1,117	3,557	3,935
Householder 65 years & over	459	503	1,710	1,738

Source: Table 5, Summary Population and Housing Characteristics, 2000 U.S. Census. Table DP-1 Profile of General Demographic Characteristics, 2010 U.S. Census.

Income and Employment

Three measures of income (median family, median household, and per capita) are illustrated in **Table 2-6**, comparing Township, County, and State. As in the previous decade, income statistics presented for the 2010 Census show Alpena Township income indicators at approximately 77 percent of the State figures. Alpena Township poverty status for families has increased since 2000 yet is lower than the State.

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Table 2-6 Income and Poverty Statistics Alpena Township, Alpena County, State of Michigan, 2010						
Income Type	Alpena Township		Alpena County		State of Michigan	
	2000	2010	2000	2010	2000	2010
Median Family Income	\$46,181	\$46,575	\$42,366	\$38,081	\$53,457	\$60,895
Median Household Income	\$39,889	\$42,722	\$34,177	\$38,081	\$44,667	\$48,669
Per Capita Income	\$18,779	\$25,377	\$17,566	\$21,867	\$22,168	\$25,482
% Families Below Poverty	5.5%	12.1%	7.7%	17.1%	7.4%	15.7%

Source: Table 9, Census of Population and Housing 2000 U.S. Census. Table DP-3, Profile of Selected Economic Characteristics, 2010 U.S. Census.

Alpena Township's economic base is so intertwined with that of the City of Alpena that it would be difficult to separate the two. Since most major employers in the County are located either in the City or the Township, no attempt has been made to differentiate between the two in the next table. **Table 2-7** includes a listing of major economic base employers and local government employers located in Alpena County and the number of persons employed by each. Northeast Michigan Council of Governments prepared information shown on the table.

Table 2-7 Alpena County Major Employers, 2000 and 2010			
Employer	Type of Industry	# Employees 2000	# Employees 2010
Alpena Public Schools	Education	1,000	461
MidMichigan Medical Center	Medical Care	897	950
Besser Company	Concrete Block Making Machines	500	97
Lafarge Corporation	Cement	265	265
DPI (formerly LPC)	Hardboard Manufacturing	250	300
Alpena County	Government	200	160
Devere	Global Construction Design	125	150
NEMROC	Sheltered Workshop	180	115
Alpena Community College	Education	147	441
NEMSCA	Social Service	150	150
Tendercare Alpena	Nursing and Convalescent Home	150	150

Source: Northeast Michigan Council of Governments.

According to the 2010-2014 American Community Survey, 88.6 percent of the civilian labor force in Alpena Township was employed (**Table 2-8**). Additionally, the data shows nearly 44 percent of the population 16 years and older is not in the labor force. This group includes students, retirees, disabled individuals, and persons no longer seeking employment. **Table 2-9**

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shows that nearly 38 percent of the civilian labor force was management, business, science, and arts occupations. The next largest sector, at 28 percent, was sales and office occupations.

Employment Status	Estimate	Percent
Population 16 years and over	7,596	
In labor force	4,260	56.1%*
Civilian labor force	4,239	55.8%*
Employed	3,754	88.6%
Unemployed	485	11.4%
Armed Forces	21	0.3%*
Not in labor force	3,336	43.9%*

Source: U.S. Bureau of the Census – 2010-2014 American Community Survey
* percent of the total population 16 years and older

Occupation	Number	Percent
Civilian employed population 16 years and over	3,754	
Management, business, science, and arts occupations	1,412	37.6%
Service occupations	637	17.0%
Sales and office occupations	814	21.7%
Natural resources, construction, and maintenance occupations	512	13.6%
Production, transportation, and material moving occupations	379	10.1%

Source: U.S. Bureau of the Census – 2010-2014 American Community Survey
*of the civilian employed population 16 years and older

Commuting to Work

According to the 2010 Census, the vast majority (86.7 percent) of Alpena Township workers (16 years and over) commute to work by driving alone, while 7.6 percent carpool, 0.3 percent use public transportation, 1.3 percent walk to work, 1.1 percent use some other means, and 2.8 percent work at home. For Alpena Township workers, the mean travel time to work is 14.3 minutes.

Education

Education is an important factor in analyzing the capabilities of the local work force and the economic vitality of a community. Of the 9,060 persons in Alpena Township 25 years of age and over (according to the 2010 Census), 90.7 percent have attained an education of high school graduate or higher (up from 85.1 percent in 2000), while 17.2 percent have attained a bachelor's degree or higher (up from 14.8 percent in 2000). This level of education achievement

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is somewhat higher than the County, with 83.1 percent (83.1 percent in 2000) of the population having earned a high school diploma and 13.2 percent (13.2 percent in 2000) earned a bachelor's degree or higher. The Township and County educational levels are compared to the State levels of 83.4 percent (83.4 percent in 2000) and 21.8 percent (21.8 percent in 2000) for high school and bachelor's degree, respectively.

Disability Status

For tracking disability status, the 2000 U.S. Census was broken into three different age categories for the non-institutionalized population: 5 to 20 years, 21 to 64 years, and 65 years and over. For Alpena Township, there are 2,050 persons in the 5 to 20 age group, and 229 persons (11.2 percent) are disabled. In the 21 to 64 age group, 1,087 of the 5,555 persons (19.6 percent) are disabled. However, 46.4 percent of the disabled in this age group are employed. Of the 1,633 persons in the 65 and over age group, 833 persons (47 percent) have a disability.

For Alpena County comparable statistics from the 2010 U.S. Census show 8.2 percent in the 5 to 17 age group have a disability. In the 18 to 64 age group, 14.8 percent are disabled, but 51.5 percent of the disabled are employed. Of the 4,614 persons in the 65 and over age group, 61.2 percent have a disability.

Housing Stock and Property Values

Over past decades, Alpena County has experienced a steady increase in number housing units. However, new housing starts dropped in 2008 with the down turn in the U.S. economy. Housing characteristics for all communities in the county from the 2010 US Census are presented in **Table 2-10**. The 2010 Census puts the total number of housing units in Alpena Township at 4,907, as compared to 4,757 units in 2000; 4,414 housing units in the 1990 Census and 4,293 at the time of the 1980 Census. The table shows that 931 housing units were vacant, with 558 or 11.4 percent classified as recreational, seasonal or occasional use. In the 1990 Census, there were 557 housing units (12.6 percent) classified as recreational, seasonal or occasional use, which indicates over the last 20 years vacation homes are being converted to year-round housing. Seasonal homes tend to be concentrated along Lake Huron shoreline, lakes, and rivers.

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Table 2-10 Housing Counts and Occupancy Status in Alpena County						
Area Name	2010					
	Total	Occupied	Vacant	Percent Vacant	Seasonal	* Percent Seasonal
Alpena Township	4,907	3976	931	18.97%	558	11.4%
Green Township	922	508	414	44.90%	318	34.5%
Long Rapids Township	574	418	156	27.18%	107	18.6%
Maple Ridge Township	904	665	239	26.44%	184	20.4%
Ossineke Township	1102	706	396	35.93%	322	29.2%
Sanborn Township	1,083	845	238	21.98%	146	13.5%
Wellington Township	247	127	120	48.58%	98	39.7%
Wilson Township	1036	812	224	21.62%	158	15.3%
City of Alpena	5,278	4734	544	10.31%	70	1.3%
Alpena County	16,053	12,791	3,262	20.32%	1,961	12.2%
* Percent of total housing Source: US Census Bureau						

Table 2-11 compared median housing values for the Township, County and State. Similar to the State of Michigan, housing values have increased since 1990, however the trend of housing values being lower than the state as a whole still continues today. Since the US Census no longer gathers information on housing values during the decennial Census, only data available for 2014 is the US Census Bureau’s 2010-2014 American Community Survey 5-Year Estimates, The 2014 estimate shows the median housing values for Alpena Township as \$112, 800, Alpena County \$94,900 and State of Michigan \$120,200.

Table 2-11 Median Housing Values Alpena Township, Alpena County and State of Michigan – 1990 & 2000	
Jurisdiction and Census Year	Value of Specified Owner-Occupied Units
Alpena Township, 1990	\$47,600
Alpena Township, 2000	\$88,200
Alpena County, 1990	\$41,600
Alpena County, 2000	\$78,100
State of Michigan, 1990	\$60,600
State of Michigan, 2000	\$115,600
Source: Table 9, Summary Population and Housing Characteristics, 1990, U.S. Census. Table DP-4, Profile of Selected Housing Characteristics, 2000, U.S. Census.	

Chapter 3: Natural Resources Inventory

It is important to begin an assessment of the community with a description of its natural resources. This chapter presents a description of the geologic features, topography, soils, water resources, fisheries, wildlife, wetlands and woodlands, as well as environmental information such as site of environmental contamination and water discharge permits.

Climate

Information about the local climate is helpful in understanding building code requirements, utility depths, planning for agricultural growing seasons and energy usage needs. Alpena Township's climatic conditions are similar to those across northern Lower Michigan, long cold winters and moderate warm summers. However, the proximity to Lake Huron serves to moderate temperature extremes in comparison to inland communities. The Great Lakes tend to cool the air in the spring and early summer, while fall and early winter tends to be warmed. Because of lake effect, the Township typically experiences the first frost four to six weeks after it occurs further inland in communities like Hillman and Atlanta. The average date of the first killing frost for the Alpena area in the fall is October 4.

The Midwest Climate Data Center in Champaign, Illinois has collected weather data from 1971 to 2012 for locations across the central United States. The annual climate summary of the Alpena Township area is summarized in **Table 3-1**. The climate information was recorded from a weather station located at Alpena Wastewater Treatment Plant in the City of Alpena. Summer months are usually mild with considerable sunshine. The average annual total precipitation for the township is 28.4 inches. Most of the summer precipitation consists of rain and thunderstorms which normally occur during the months of June, July and August. Winter months are generally cloudy with frequent light snow flurries. Nearly all of the precipitation in winter is in the form of sleet and snow, usually accumulating in sufficient amounts to form a ground cover for summer grasses and winter grains.

In a typical year, there will be seven days with temperatures above 90 °F and 17 days with temperatures below 0 °F. On average, January is the coldest month with a mean temperature of 17.8 °F and July is the warmest with a mean temperature of 66.7 °F. The average annual precipitation, including melted snowfall, is 28.43 inches. The average annual snowfall is 56.0 inches. The mean annual temperature for Alpena is 43.8° F. The lowest one-day temperature on record is minus 37° F on February 18, 1979. The highest recorded summer temperature is 106° F on June 20, 1995, July 7, 1988, and August 25, 1948.

Geology

The geology of Alpena Township, as well as the entire northern Lower Peninsula, can be described in terms of the surface geology (glacial landforms created thousands of years ago) and bedrock geology (sedimentary bedrock laid down over 300 million years ago). The hills, valleys, wetlands, forests, lakes and rivers all attribute their presence and location in the

Alpena Township Master Plan

township to the surficial and bedrock geology. This section will describe the quaternary geology (glacial and postglacial landforms) and the underlying bedrock geology.

January average minimum temperature	12.0° F
January average maximum temperature	26.7° F
July average minimum temperature	59.4° F
July average maximum temperature	76.7° F
Mean temperature for the year	43.8° F
Average annual precipitation	28.43 inches
Average annual snowfall	56.0 inches
Source: Midwestern Regional Climate Center, Weather Reporting Station at Alpena Wastewater Treatment Plant, MI.	

Bedrock Geology

The foundation of the Lower Peninsula, hidden beneath a mantle of glacial deposits, consists of sedimentary bedrock formed in ancient seas between 200 and 500 million years ago. Alternating layers of silt, clay, sediments, marine animals, plants, coral, and other calcareous materials were deposited in the shallow marine seas of the Michigan Basin. Subsequently, these layered deposits were compressed and formed shale, sandstone, limestone, and dolomite bedrock. The upper layers of bedrock within the Township are from the Middle and Late Devonian geological period, formed between 360 and 400 million years before present. Much of the Township is underlain with sedimentary bedrock called the Traverse Group, which is primarily limestone with minor deposits of shale. Antrim Shale that is primarily black shale with secondary deposits of limestone is found in the southern quarter of the township. La Farge continues to quarry limestone deposits to produce cement at their facility in Alpena. Many other quarries, located adjacent to the northern Lake Huron coast, mine the rich limestone and dolomite deposits. These operations are important to local and regional economies.

Karst features such as swallow holes, earth cracks, porous stone aquifers, sinkholes and bedrock lakes can be found in portions of the Township where bedrock is at or near the surface. One important feature of the regional bedrock is the occurrence of sinkholes and underground streams. As groundwater flows through cracks and fissures in the bedrock, the limestone gradually dissolves. Over a long period of time underground caverns formed and the ceilings become thinner. The ceiling collapses when it becomes too thin to support the weight above, thus forming a sinkhole. "Karst" is the scientific term used to describe a type of topography this is formed over dissolved limestone, dolomite or gypsum and is characterized by sinkholes, cave and underground drainage. Karst is also a term used to describe a very distinct terrain as well

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as the process by which it formed. **Figure 3-1** illustrates how a typical limestone sinkhole is formed.

Karst features are present in several northern Michigan counties, but are most prevalent and have the greatest number of exposed features in Presque Isle and Alpena Counties. As **Figure 3-2** shows, the northeastern portion of Alpena Township has numerous karst features. Several sinkholes, most of which are on private property, are located in the area south of Long Lake¹.

In addition to providing interesting geographic features, sinkholes are home to unique plant communities. The relatively moist terrain with bedrock at or near the surface and the partially subterranean shaded location provide an environment, which sustains vegetation not found in the surrounding surface areas. Acting as a direct conduit to fractured and porous limestone bedrock that underlies the area, sinkhole areas are

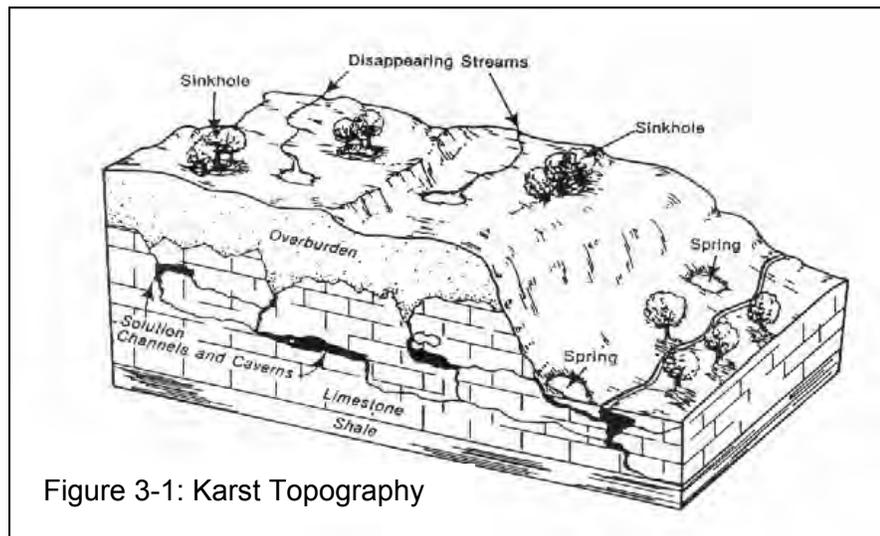


Figure 3-1: Karst Topography

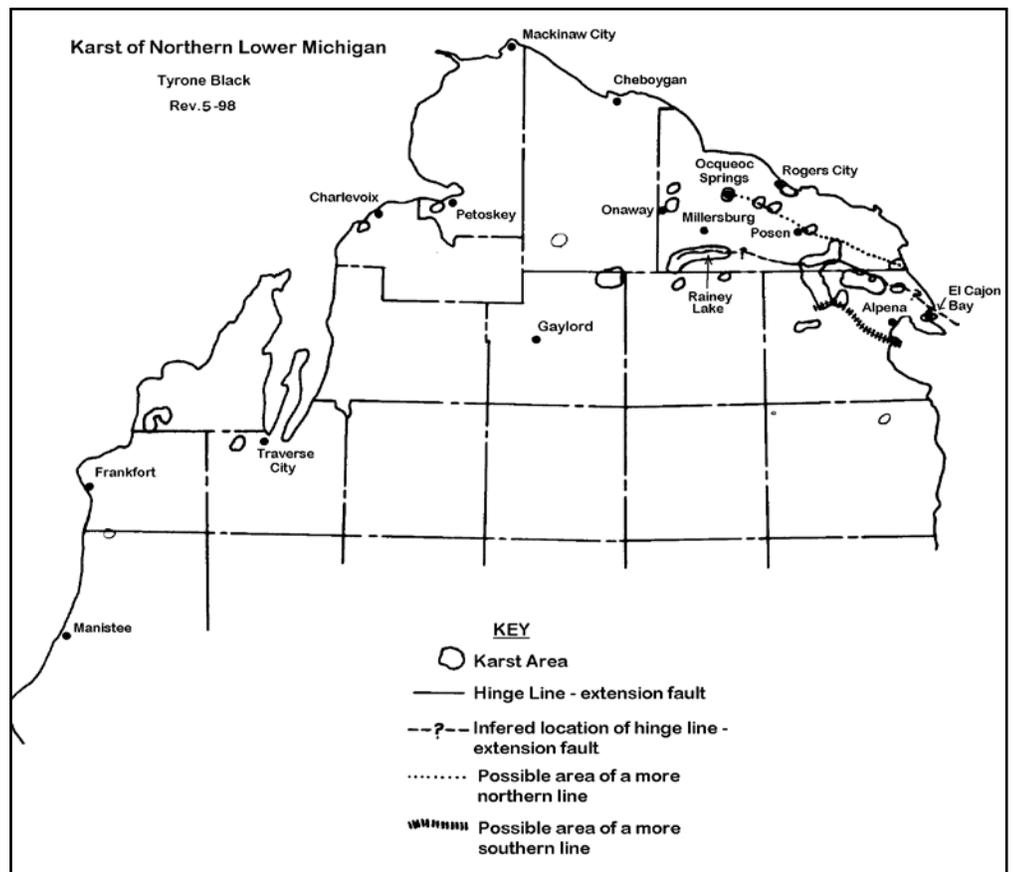


Figure 3-2
Surface Karst and Hinge Line Locations

¹ Tectonics, Structure and Karst in Northern Lower Michigan, Michigan Basin Geological Society, 1983 Field Conference

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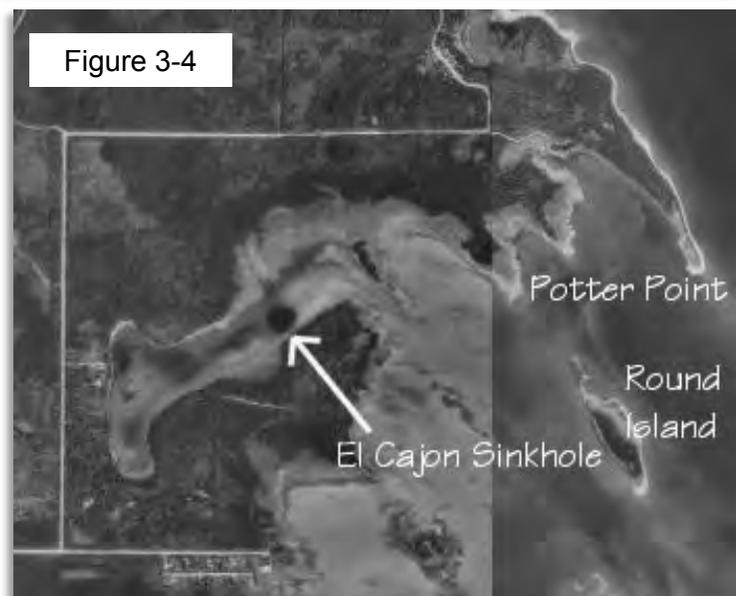
especially vulnerable to pollution. Past practices of using sinkholes as dumps have been eliminated. Local citizens and organizations such as the Michigan Karst Conservancy have supported clean-up efforts and preservation through acquisition of sinkholes.

The Fletcher Creek Watershed Study, completed in 2000, documented how limestone bedrock at or near the surface greatly influences the surface drainage both by impeding water percolation into the ground; by rapidly draining water through bedrock cracks; or even by discharging water to the surface. Bedrock cracks at the surface are called swallow holes. Large volumes of water can drain into these swallow holes, entering the limestone bedrock aquifers of cracks and porous stone. Field observations indicated bedrock has a greater influence than would be expected from the soil survey information. The study recommended development of a comprehensive multi-community stormwater management program and working through the Drain Commissioner to establish drainage districts to address ongoing drainage and flooding issues. While the study focused on a small part of the community, these same bedrock conditions are found in other parts of the township as well as the northeastern part of the northern lower peninsula of Michigan.

Many other interesting and unique ecological features related to sedimentary bedrock can be found in Alpena Township. Most prominent are the Thunder Bay Island group and Middle Island off the coastline. Stubborn remnants of limestone and dolomite bedrock, that were not scoured and broken up by glacial activity during the Pleistocene Epoch, form the foundations of these islands. Bedrock is most evident on the eastern shoreline of Thunder Bay Island where the alvar or limestone bedrock pavement is kept exposed by wave action, see **Figure 3-3**²

El Cajon Bay is another unique bedrock related geographic feature, see **Figure 3-4**. The bay itself was formed by the collapse of the upper layers of bedrock; and earth cracks are common around the bedrock rim of the bay. A large sink hole in the bay is the outlet of an underground

² Photo by Don Beem

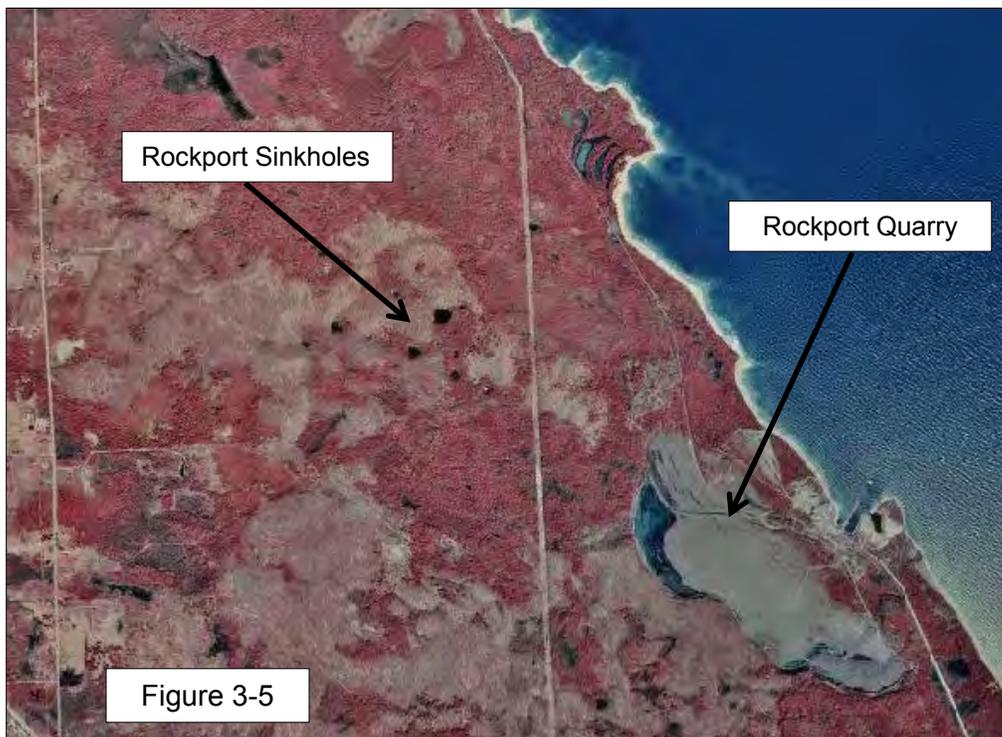


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stream. Water discharge from the outlet empties into Lake Huron, and due to the constant flow and warmer temperature of water, the sinkhole never freezes over. When water levels in Lake Huron are high, the El Cajon sinkhole is submerged, but still visible on aerial photos. During low water levels one can walk up to the edge of the sinkhole. The sinkhole discharge water has a different chemical composition than surface water of the bay and has a noticeable sulfur-like aroma. Other sinkholes are located in Misery Bay and north in the Rockport area.

"Flow in the bedrock aquifers of Northeast Michigan area is generally toward one of two different drainage routes. The most obvious of course is directly toward Lake Huron. The other is toward a cavernous system along a major fault line which in turn drains to Lake Huron. One can easily trace this system through a series of sinkholes and valleys from the Shoepac Lake area to Kelsey Lake and Sunken Lake to Misery Bay by Alpena. There are other faults and probably cavernous systems that branch off of the major system which also act as drains in their areas of influence. This influence is mostly limited to the ground water at the base of the drift deposits and may not have a significant effect on ground water flow closer to the surface." Ty Black

Fitzgerald Lake, along with Trapp and Mindack Lakes (located in Krakow Township) are karst solution lakes. Several smaller unnamed lakes in the vicinity are likely formed in the same fashion. A grouping of sinkholes can be found in Rockport State Park. **(Figure 3-5)** The old Rockport quarry and harbor are within Alpena Township, while the sinkholes are located in Presque Isle Township. The largest sinkhole forms a small lake, deep enough to support a fish population of pan fish and bass.



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Surface Geology

Alpena Township is located in a two to sixteen mile wide lake plain, formed from lacustrine sand and gravel deposits, that runs along the coastal areas of Alpena County. Created after the last continental glacier receded and post glacial great lakes inundated the landscape. Starting some 2 million years ago, during the Pleistocene Epoch, continental glaciers formed in the Hudson Bay area. Four times, over the two million year period, massive glaciers advanced south across what is today Michigan. The advancing glaciers scraped and broke apart bedrock of the Canadian Shield to the north and sedimentary bedrock of the Michigan Basin. The glacial ice, one to two miles thick, incorporated rocks and soil into the debris laden ice and like a huge bulldozer pushed unincorporated materials in front of it. Each advance and retreat of these continental glaciers took approximately 100,000 years. Time periods between glacial activities, interglacial periods, were much warmer and lasted over 400,000 years.

The last glacial period, called the Wisconsinan Period, created our landscape of hills, valleys, rivers, lakes, swamps. When the debris laden glacial ice melted, boulders, rocks, cobble, sand, gravel, silt, clay and loam were deposited across the landscape. 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. In the case of Alpena Township, post glacial great lakes reshaped the landscape when the coastal areas were flooded several times over thousands of years, resorting and redistributing glacial deposits to form sand dunes, old shorelines, fens and marshes.

As the continental glaciers melted, water flowed across the landscape creating landforms and pooling into the expansive pre and post glacial lakes. These emerging lake basins were the beginnings of our Great Lakes. During different periods, the glacial great lakes were both much higher and lower than the lake levels we have grown accustomed to in recent times. Subsequent to the glacial ice melting from Alpena Township, it was inundated by high waters of Lake Algonquin (11,800 to 10,500 years ago), Lake Nipissing (6,000 to 4,000 years ago) and Lake Algoma 3,000 years ago. For reference terms the elevation of Lake Huron is 577 feet above sea level and the post glacial Lake Nipissing (605 feet above mean sea level) and Lake Algoma (595 feet) stages.

Alpena Township is part of the Devils Lake Karst Topography, a landform characterized by fractured limestone bedrock, overlain with a relatively thin mantle of lacustrine sand and gravel. Lacustrine sand and gravel formed beaches and near-offshore deposits in glacial great lakes. These deposits are primarily quartz sands with a calcium carbonate component ranging from minimal to a maximum of 40 percent. Beds of small gravel, rich in igneous and metamorphic rocks, along with deposits of muck, silt loam and sandy loam soils can be found in these lacustrine deposits. The veneer of lacustrine deposits is discontinuous ranging from several feet thick to nonexistent. Limestone bedrock is at or near the surface with occurrences of alvar (limestone pavement), earth cracks, outcrops and sinkholes.

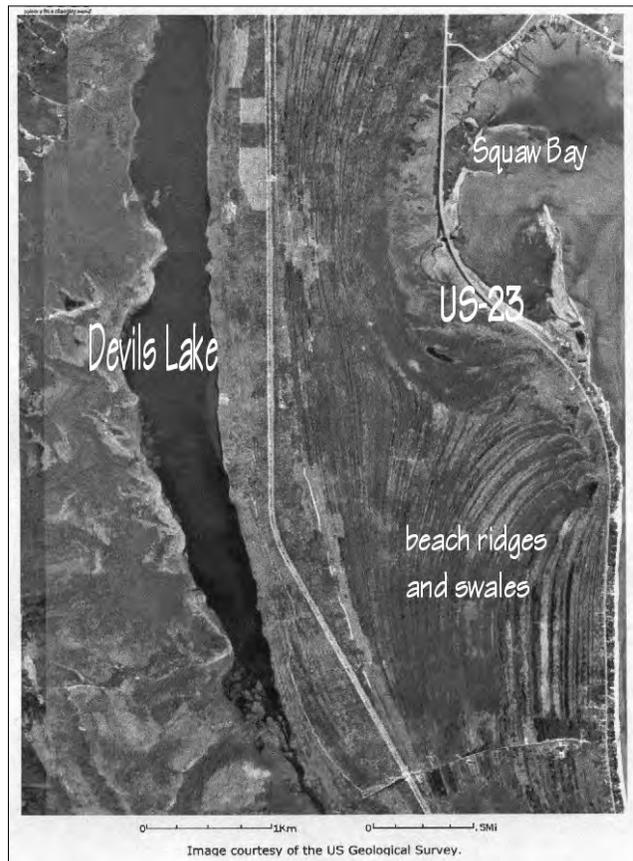
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Wooded Dune and Swale Complexes

Receding post glacial Great Lakes created landforms known as dune and swale complexes. These landforms are restricted to the Great Lakes coastline and are quite rare, only 95 have been identified with 70 of those being located in Michigan. Some of the best examples of ancient glacial great lake shorelines can be found in coastal regions of Alpena and Alcona Counties within an area classified as the Ossinekie Beach Ridges (**Figure 3-6**). Dune and swale complexes are a series of alternating upland beach ridges and low wet areas that generally parallel the present day shoreline. These complexes, which can extend up to two miles from the coastline, took many hundreds of years to form.

Figure 3-6

The Ossinekie Beach Ridge landform, though outside the study area, is an excellent example of a well formed dune and swale complex. The complex runs over a mile inland, ending at a large ancient sand dune. This sand dune can be traced from the community of Black River in Alcona County, through Negwegon State Park and Ossinekie continuing north into Alpena Township and City of Alpena. Sandhill Road in Alcona County as well as Piper Road in Alpena County follow this dry sandy ridge. The wide sand ridge extends into Alpena Township and the City crossing Werth Road at Hobbs Road, following the west edge of Mud Lake, continuing in a northeasterly direction, crossing the Thunder Bay River and eventually ending northeast of the Thunder Bay Recreation Center.



The wooded dune and swale complex is considered a distinct natural community in the Michigan Natural Features Inventory. Adjacent to the lakeshore, low dunes support open herbaceous plant communities, successive inland ridges support shrubs and trees. The width of the ridges and associated swales is dependent upon the underlying geology and length of time in which the lake levels receded. The distance between old beach ridges can range from less than 100 feet to a mile or more. A large complex associated with Squaw Bay, extends south into the coastal areas of Alpena Township.

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Devil's Lake in the southern portion of the Township was formed by the process of glacial lake recession. Sand dunes along the newly abandoned shorelines created a dam that impeded surface drainage reaching Lake Huron. As well the bedrock was scoured by the glacier creating shallow long, narrow depressions in the surface. The trapped water eventually formed Devil's Lake, whose elongated crescent shape is testimony to the region's glacial history. Lakes of similar origin (Cedar, Sunrise, and Tawas Lakes) can be found along the coast of Alpena, Alcona and Iosco Counties.

There are several areas along the coast classified as dune sand, which consists of fine to medium sand deposits, chiefly quartz with some heavy minerals. These were created by wind action during the post glacial Lake Nipissing (605 feet above mean sea level) and Lake Algoma (595 feet) stages. The continental glacier provided the source, along-shore water currents and wave actions moved sands on shore and wind action piled the sands into low dunes. This process is still occurring today along undisturbed sections of the shoreline. Oak, aspen and pine forests are common on these old sand dunes.

A wide sandy ridge, one to two miles inland from the Lake Huron shoreline, runs from the community of Black River in Alcona County, through Negwegon State Park and Ossineke, continuing north into Alpena Township and City of Alpena. This ancient shoreline was created when the receding lake levels stabilized for a period of time; enabling wind and wave actions to build up the high sandy ridge. (**Figure 3-7**) Sandhill Road in Alcona County and Piper Road in Alpena County follow this dry sandy ridge. There is another prominent old shoreline/sand dune further inland around three to five miles. Indian Reservation Road and the Phelps-Collins Airbase are located on this old sandy shoreline. As can be seen on the map, the South Branch of the Thunder Bay River's eastward journey is diverted northward to connect to the main branch. One can surmise at one time this river flowed from the uplands and ground moraines in southwestern Alpena County and emptied directly into the post glacial great Lake Nipissing.

Topography

Alpena Township's topographic features show only minimal variation. The approximate mean lake elevation of Thunder Bay is 580 feet above sea level, with the elevation in the City of Alpena ranging from 590 feet to 600 feet. For reference, a topographic map can be seen as **Figure 3-8**. The elevation of the Township increases slightly in the northwesterly direction, ranging from a low of 600 feet to a peak of 750 feet. The mean lake elevation of Long Lake in the northwest portion of the Township is 649 feet above sea level.

In the northeastern portion of the Township, the elevation varies from 600 feet to 680 feet with wetlands dispersed throughout the forested regions. Located in the northeast portion of the City of Alpena and just outside the city boundary is a large pit used in the limestone mining operations of Lafarge Corporation. In Alpena Township, the quarry comprises nearly all of Section 13 of T31N-R8E. The pit has been excavated to an elevation of 520 feet or 60 feet below the mean lake elevation of Thunder Bay and 80 feet below the surrounding surface elevation.

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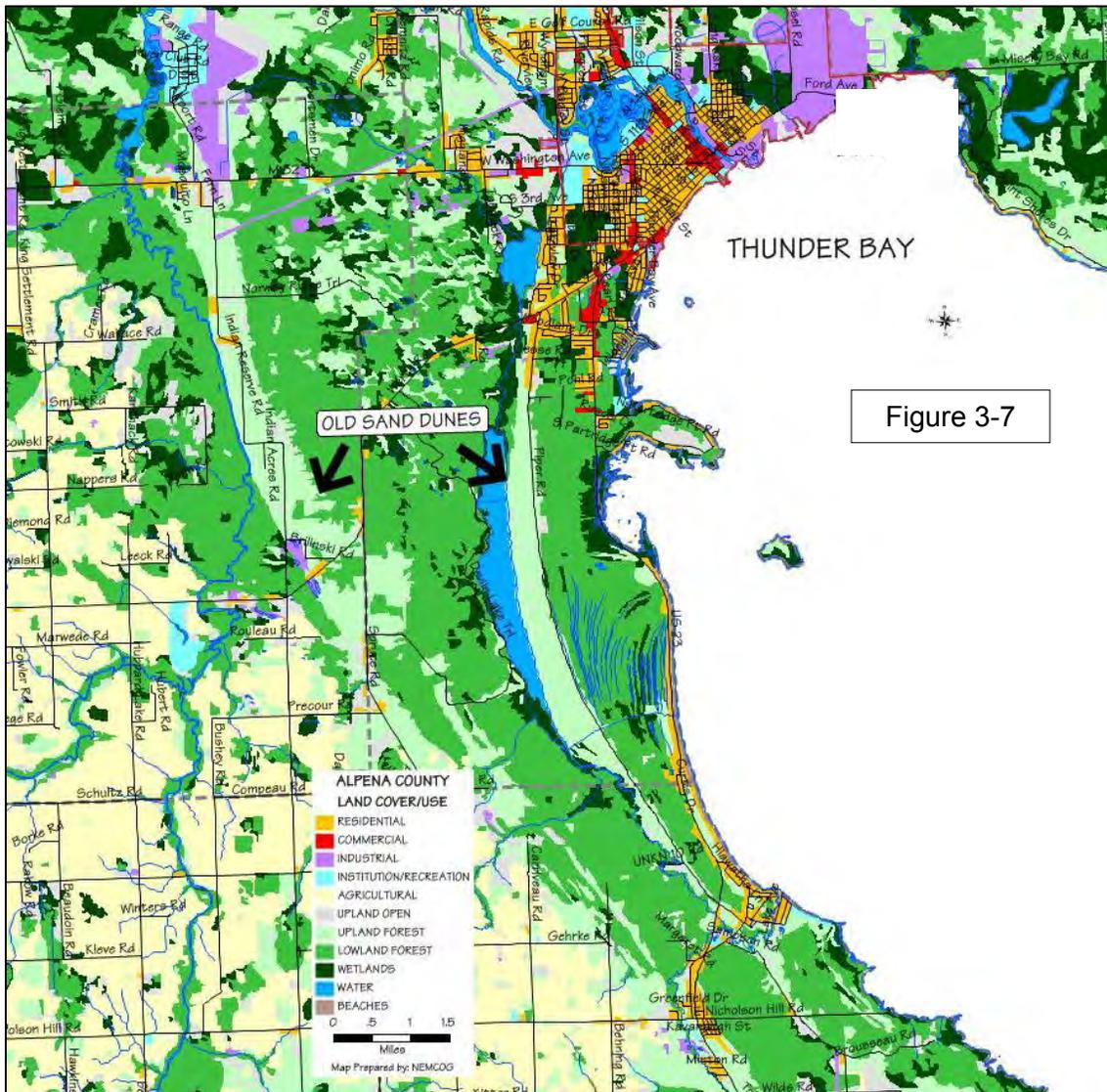


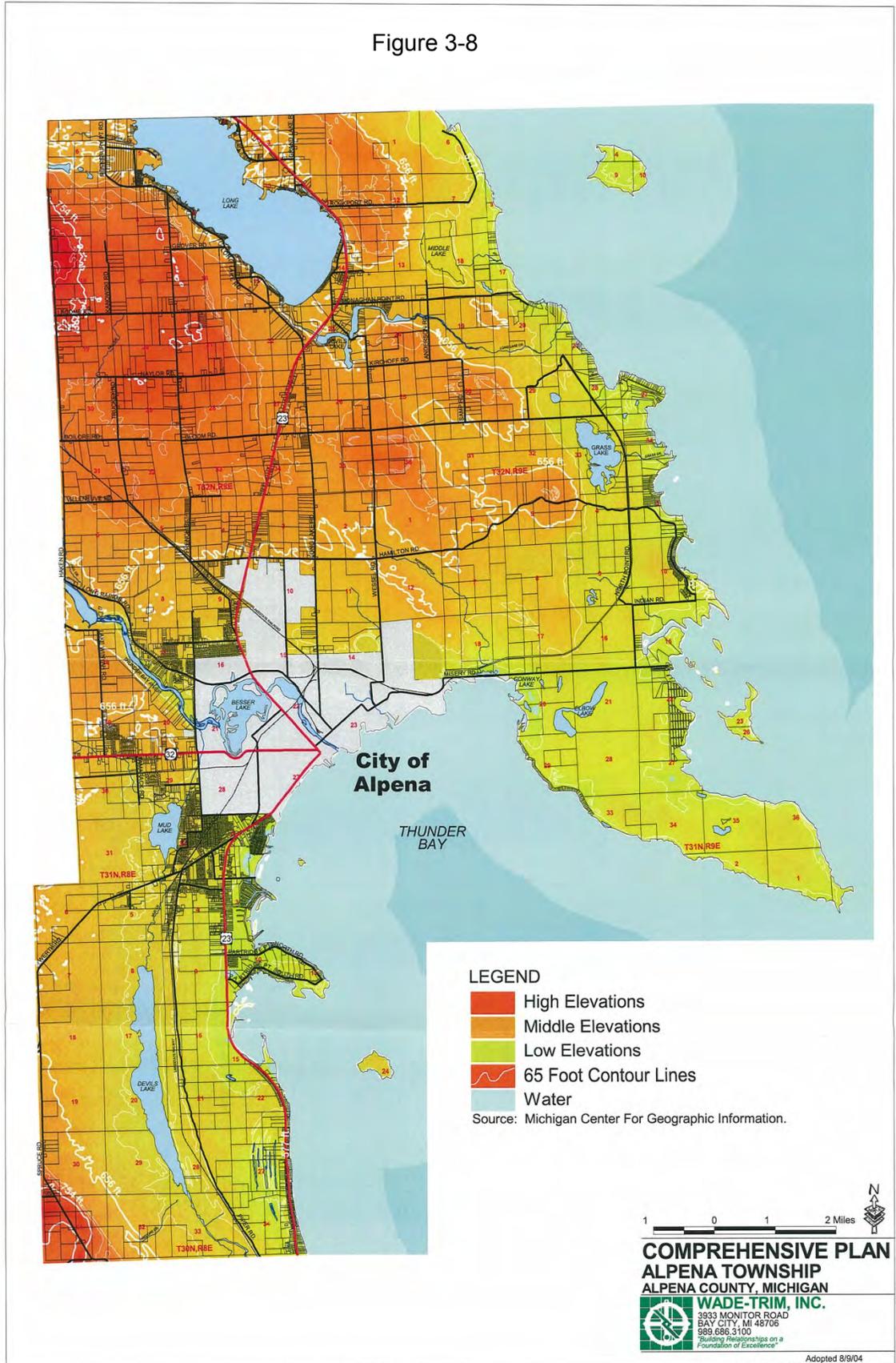
Figure 3-7

The elevations in the southern part of the Township are generally lower than the northern section, with the lowest elevation noted along Lake Huron's Squaw Bay. The highest elevation of 750 feet can be noted in a very small area in the southwestern corner of the Township.

Soils

Soil characteristics help to define the land's capacity to support certain types of land uses. Soils most suitable for development purposes are well drained and are not subject to a high water table. Adequate drainage is important to minimizing stormwater impacts and the efficient operation of septic drainfields. Adequate depth to the water table is necessary to prevent groundwater contamination from septic systems or other non-point source runoff. A high water table also limits the construction of basements. Though civil engineering techniques can be employed to improve drainage and maintain adequate separation from the water table, such techniques are expensive to construct and maintain.

Figure 3-8



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Figure 3-9 illustrates specific soil conditions, which may pose constraints to building construction. The map shows hydric or wetland type soils scattered throughout the Township and in areas generally adjacent to the certain water bodies such as Mud/Sunset Lake, Devil's Lake, and Squaw Bay. Some of these areas may be considered unbuildable. Hydric soils cover more than 25,000 acres in Alpena Township. Although very limited, soils with slopes greater than six percent are noted on the map, because they may present development challenges.

While soil condition information discussed in this report can be used for general guides for the planning process, it should not be used for development of specific sites. More detailed soil and vegetation information for specific sites may be obtained from *Soil Survey of Alpena County, Michigan* by contacting the Natural Resources Conservation Service for Alpena County.

Woodlands

In addition to the scenic characteristics of woodlands, forested areas provide habitat for wildlife, protect the soil from erosion, and act as a buffer from noise on heavily traveled highways. State forestland in Alpena Township encompasses more than 10,000 acres. More than 60 percent of the state land in the Township is located in the southern portion in T30N-R8E, in the vicinity of Devils Lake. In addition, privately owned forested lands, some of which are used for hunting purposes, can be found throughout the Township.

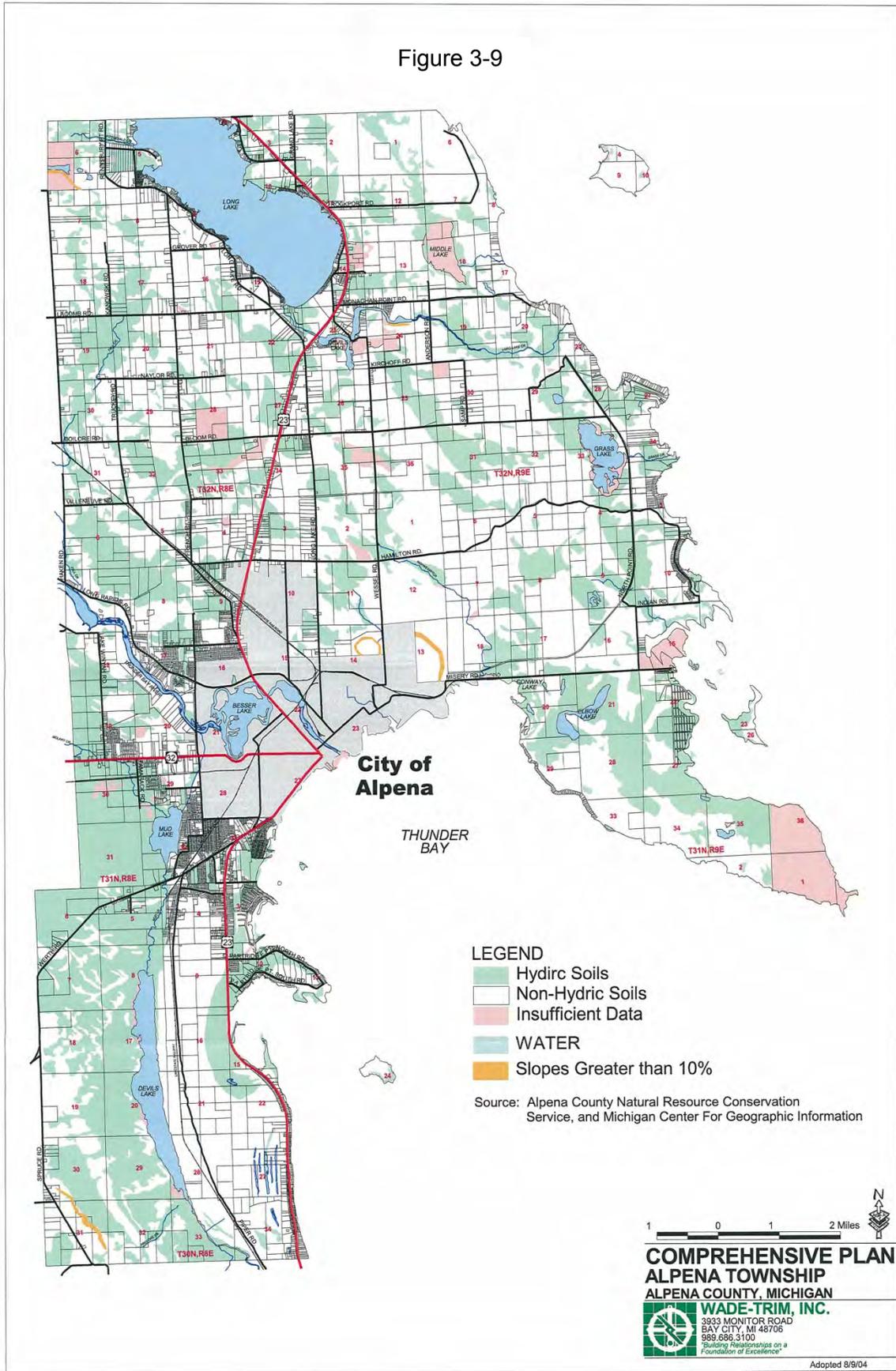
Forested areas, including both upland forests and lowland forests, are mapped on the Environmental Resources Map shown as **Figure 3-10**. The dominant upland forest associations in Alpena Township are aspen/white birch, pine (white and red), northern hardwoods (sugar maple, beech and basswood), and oak (red and white). Upland forests cover more than 19,600 acres of land in Alpena Township. Lowland forest species include lowland conifers such as northern white cedar, black spruce, and eastern tamarack and lowland hardwood such as black ash, slippery elm and red maple. Lowland forests cover nearly 29,000 acres of land in the Township.

Wetlands

Alpena Township has an abundance of forested wetlands. Smaller areas of non-forested wetlands can be found inland and along the coast. Isaacson and Squaw Bays are considered coastal wetlands of regional importance. and lakes and streams and Wetlands are often referred to as marshes, swamps or bogs. The US Army Corps of Engineers defines wetlands as "those areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Residents of Michigan are becoming more aware of the value of wetlands. Beyond their aesthetic value, wetlands improve water quality of lakes and streams by filtering polluting nutrients, organic chemicals and toxic heavy metals. Wetlands are closely related to high groundwater tables and serve to discharge or recharge aquifers. Additionally, wetlands support wildlife, and wetland vegetation protects shorelines from erosion.

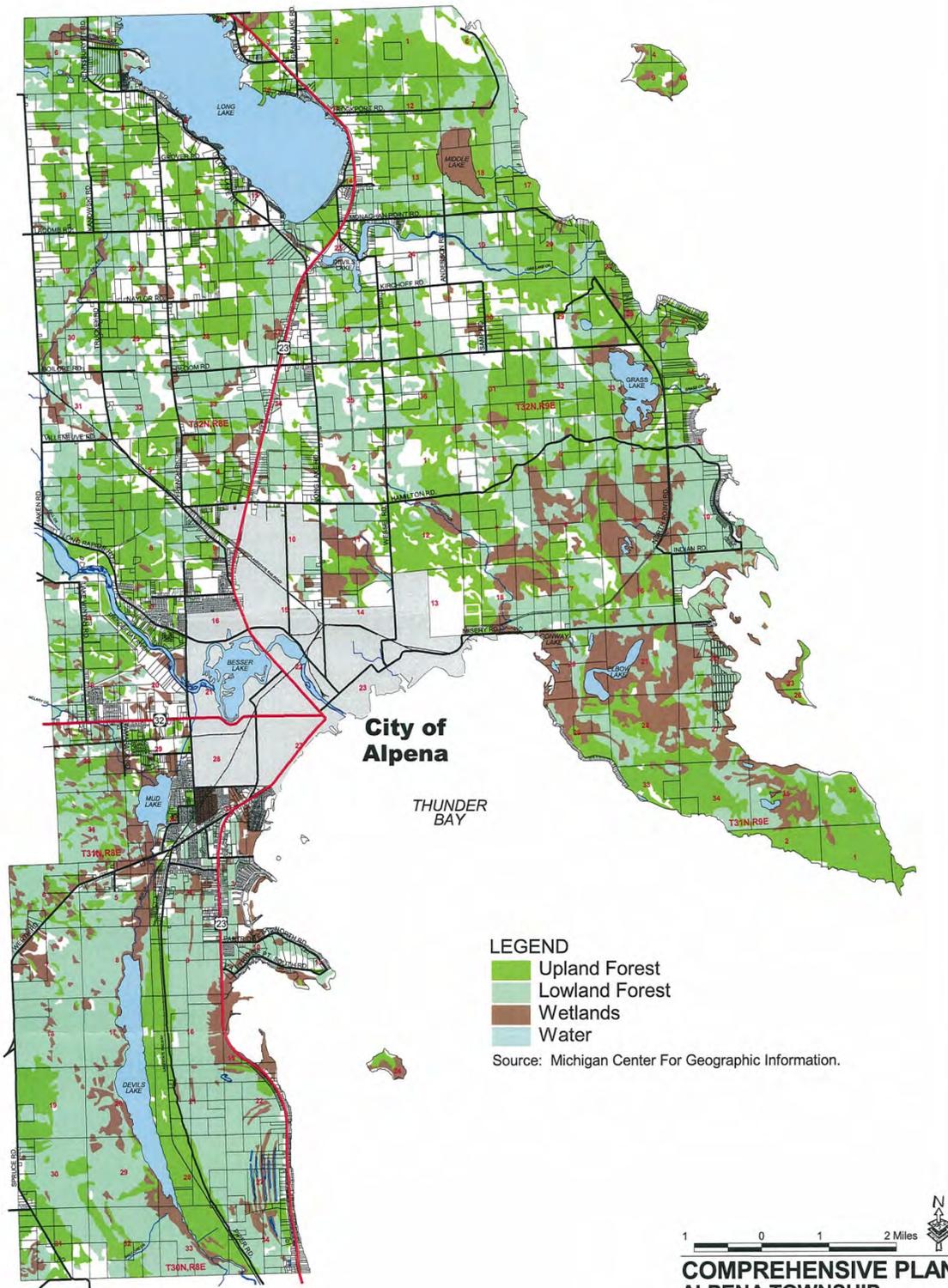
Alpena Township Master Plan

Figure 3-9



Alpena Township Master Plan

Figure 3-10



COMPREHENSIVE PLAN
ALPENA TOWNSHIP
ALPENA COUNTY, MICHIGAN

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National Wetlands Inventory

The U.S. Fish and Wildlife Service developed National Wetlands Inventory (NWI) program in the 1980's. The data provide consultants, planners, and resource managers with information on wetland location and type. The purpose of this survey was not to map all wetlands and deepwater habitats, but rather, to use aerial photo interpretation techniques to produce thematic maps that show, in most cases, the larger types that can be identified by such techniques. The objective was to provide better geospatial information on wetlands than found on the USGS topo-quads. A national wetlands inventory map was compiled for Alpena Township using digital data acquired from the Center for Geographic Information, State of Michigan. **Figure 3-11** is a map depicting forested and non-forested wetlands.

Wetland areas in Alpena Township are typically associated with old glacial drainageways, and can be noted near or adjacent to Devil's Lake/Devil's River, Mud Lake/Mud Creek, Grass Lake, Elbow Lake, Norwegian Creek, McLary Creek, Fitzgerald Creek and Fall Creek. Because of the abundant emergent wetland vegetation, Middle Lake in the northern portion of the Township is depicted as "emergent wetland" on the National Wetlands Inventory Map (**Figure 3-11**). Extensive coastal wetlands are found along the Lake Huron shoreline at Squaw Bay and Isaacson Bay.

Forested wetlands are the most common wetlands type. The NWI classified 26,868 acres of forested wetlands that are located primarily in the eastern coastal regions of Alpena Township. Poorly drained, lowland areas support northern white cedar, tamarack, balsam fir, black spruce, eastern hemlock, white pine, balsam poplar, trembling aspen, paper birch, black ash, speckled alder and shrub willows. Northern white cedar dominates the wetland areas where there is good lateral water movement in organic soils and shallow soils over limestone bedrock. 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 the backbone of large regional ecological corridors. Lowland forests adjacent to rivers and streams may be prone to flooding during the spring snow melt, particularly when combined with heavy spring rains. The NWI identified some 1,490 acres of shrub-scrub wetlands and 2,416 acres of emergent wetlands. It is important to note, with the low lake levels, emergent wetlands are increasing along the Lake Huron shoreline. Land use planning activities should focus on protecting and preserving these limited and critical resources.

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Natural Features Inventory

The following table is the Alpena County Element List from the Natural Features Inventory. According to the Natural Features Inventory, “The lists include all elements (species and natural communities) for which locations have been recorded in MNFI’s database. Information from the database cannot provide a definitive statement on the presence, absence, or condition of the natural features in any given locality, since much of the state has not been specifically or thoroughly surveyed for their occurrence and the conditions at previously surveyed sites are constantly changing. The County Elements Lists should be used as a reference of which natural features currently or historically were recorded in the county and should be considered when developing land use plans. Included in the list are scientific name, common name, element type, federal status, and state status for each element.” Of the 49 elements listed in Alpena County, 30 have been found in the Misery Bay area. This supports past research that has found Great Lakes coastal areas to be biologically rich with the high number of species and communities of special interest (rare, special concern, threatened and endangered).

Table 3-2 Natural Features Inventory			
Scientific Name	Common Name	Federal Status	State Status
Acipenser fulvescens	Lake sturgeon		T
Adlumia fungosa	Climbing fumitory		SC
Ammodramus henslowii	Henslow's sparrow		E
Ammodramus savannarum	Grasshopper sparrow		SC
Armoracia lacustris	Lake cress		T
Asplenium rhizophyllum	Walking fern		T
Botrychium hesperium	Western moonwort		T
Buteo lineatus	Red-shouldered hawk		T
Cacalia plantaginea	Prairie indian-plantain		SC
Calypso bulbosa	Calypso or fairy-slipper		T
Carex scirpoidea	Bulrush sedge		T
Charadrius melodus	Piping plover	LE	E
Chlidonias niger	Black tern		SC
Cirsium pitcheri	Pitcher's thistle	LT	T
Coregonus artedi	Lake herring or Cisco		T
Crataegus douglasii	Douglas's hawthorn		SC
Cypripedium arietinum	Ram's head lady's-slipper		SC
Dorydiella kansana	Leafhopper		SC
Dryopteris filix-mas	Male fern		SC

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Table 3-2 Natural Features Inventory			
Scientific Name	Common Name	Federal Status	State Status
<i>Emydoidea blandingii</i>	Blanding's turtle		SC
<i>Flexamia delongi</i>	Leafhopper		SC
<i>Gavia immer</i>	Common loon		T
<i>Glyptemys insculpta</i>	Wood turtle		SC
<i>Haliaeetus leucocephalus</i>	Bald eagle		SC
<i>Iris lacustris</i>	Dwarf lake iris	LT	T
<i>Lanius ludovicianus migrans</i>	Migrant loggerhead shrike		E
<i>Notropis anogenus</i>	Pugnose shiner		E
<i>Nycticorax nycticorax</i>	Black-crowned night-heron		SC
<i>Pandion haliaetus</i>	Osprey		SC
<i>Percina copelandi</i>	Channel darter		E
<i>Pinguicula vulgaris</i>	Butterwort		SC
<i>Prosapia ignipectus</i>	Red-legged spittlebug		SC
<i>Pterospora andromedea</i>	Pine-drops		T
<i>Salix pellita</i>	Satiny willow		SC
<i>Sistrurus catenatus catenatus</i>	Eastern massasauga	C	SC
<i>Somatochlora hineana</i>	Hine's emerald dragonfly	LE	E
<i>Spiza americana</i>	Dickcissel		SC
<i>Sterna caspia</i>	Caspian tern		T
<i>Sterna hirundo</i>	Common tern		T
<i>Tanacetum huronense</i>	Lake Huron tansy		T
<i>Trichostema brachiatum</i>	False pennyroyal		T
<i>Trimerotropis huroniana</i>	Lake Huron locust		T

Source: Michigan Natural Features Inventory (Current as of 12/10/10)
 Codes: E = Endangered, T = Threatened, LE = Listed Endangered, LT = Listed Threatened, C = Species being considered for federal status, SC = Special Concern

Misery Bay was identified as an area of exceptionally high ecological values in the 1998 State of the Lakes Ecosystem Conference paper entitled Biodiversity Investment Areas, Near shore Terrestrial Ecosystems. The bay is one of only 20 such sites identified across the entire Great Lakes Region. One of the exceptional ecological features of Misery Bay is El Cajon Bay. The long narrow "boot shaped" bay contains a large sinkhole that is an outlet to an underground stream. Alpena Township purchased a 133 acre tract of land including 9,632 feet of Lake Huron shoreline along

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the south shore of El Cajon Bay. The property has karst geologic features, woodlands, conifer swamps, Great Lakes marsh and endangered plant species.

Water Resources and Water Quality Issues

Surface water resources in Alpena Township are abundant. The Township is located in a band of smaller coastal watersheds, which include many small streams like Devil's River, Grass Creek, Norwegian Creek, and Long Lake Creek all of which are part of the larger Lake Huron drainage basin. Lake Huron is the second largest of the five Great Lakes in surface area (23,000 square miles). However, due to its many islands and inlets, it has the greatest length of shoreline at 3,827 miles, over 1,000 miles more than Lake Superior, which is the largest in surface area. Water quality, lake levels, and fisheries continue to be in flux as numerous stressors impact the lake, with two primary factors being climate change and invasive species.

Lake Huron and its rugged coastline are clearly a major part of the community's sense of place. The Township's history is closely tied to Lake Huron, from early Great Lakes shipping and passenger transportation to lighthouses, commercial fishing and shipwrecks. Today, recreational boating, kayaking, sport fishing and diving on shipwrecks are activities pursued by residents and visitors. As for the importance of the coastline, nearly 55 percent (57 miles) of the Township's boundary is Lake Huron! Islands account for an additional 24 miles of shoreline. Therefore, according to data from the Michigan's Center for Geographic Information the total shoreline for the Township would be 103 miles. Unlike inland townships, Alpena can describe its boundary by geographic features such as El Cajon Bay, Misery Bay, Squaw Bay, Thunder Bay, Monaghan Point, Partridge Point, Potter Point, Thunder Bay Island and Middle Island.

Major inland waters in the Township include Long Lake, Thunder Bay River, Devil's Lake and Mud Lake. Although there is no indication that the name of Mud Lake has ever officially been changed, local residents refer to the water body as Sunset Lake. Minor waterways include Fitzgerald Lake, Elbow Lake, Conway Lake, Grass Lake, Middle Lake (emergent wetland), Devil's River, Mud Creek, Long Lake Creek, Grass Creek, Norwegian Creek, Fall Creek and McLary Creek. Water resources are noted on the Environmental Resources Map (**Figure 3-10**).

Long Lake

The southern half of Long Lake is located in Alpena Township, while the northern half is in Presque Isle County's Presque Isle and Krakow Townships. Information regarding Long Lake is referenced from a water quality study prepared in 2001 by Dr. Wallace E. Fusilier of Water Quality Investigators. Long Lake has a surface area of 5,652 acres and has a shoreline length of nearly 29 miles. The maximum depth is 25 feet with a mean depth of 12.5 feet. Long Lake is 7.8 miles in length at its longest dimension, and the elevation of the lake is 649 feet above sea level. The size of the Long Lake drainage area, including the lake, is approximately 52 square miles. Water samples were collected during the spring and summer of 2001 at five different sampling stations. Tests performed included total phosphorus, total nitrate nitrogen, total alkalinity, pH, conductivity, chlorophyll, Secchi disk depth, temperature, and dissolved oxygen. Analysis of the factors tested was presented in graphic form showing the total Lake Water Quality Index (LWQI). On a scale of 0-100, Long Lake's LWQI scores ranged between 94 and

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98, depending on the time of year and location where the test samples were collected. According to Dr. Fusilier's study, these scores indicate Long Lake has excellent water quality.

Thunder Bay

Lake Huron's Thunder Bay is the location of several islands and is the final resting place of numerous known and unknown shipwrecks. According to the *Thunder Bay National Marine Sanctuary* study, a total of 126 vessels were lost in the Thunder Bay vicinity. Because of the many species of fish, variety of aquatic vegetation, geologic formations and cultural resources, Thunder Bay is a popular recreation site for boaters, sport fishermen and divers.

In 1981, Thunder Bay was designated as the first State of Michigan Underwater Preserve. In 1991, Thunder Bay became an active candidate as a national marine sanctuary. In October of 2000, a 448-square mile area of Lake Huron received the designation of Thunder Bay National Marine Sanctuary and Underwater Preserve. The Sanctuary boundary was expanded in 2015 to cover 4,300 square miles; and now includes the waters of Lake Huron adjacent to Alcona, Alpena, and Presque Isle counties to the international border. The Sanctuary and Preserve is jointly administered by National Oceanic and Atmospheric Administration (NOAA) and the State of Michigan. The goals and objective of the Sanctuary and Preserve are to provide education, recreation, research, exploration, resource protection and community involvement.

Thunder Bay River

The Thunder Bay River Basin covers portions of five northeast Michigan counties: Alpena, Montmorency, Alcona, Oscoda and Presque Isle. Approximately four miles of the river's main branch pass through Alpena Township. The river basin is the location of a hydroelectric power project, consisting of six dams and four power plants. One dam and power plant are located in Alpena Township, about four miles west of the City of Alpena, thus the name, Four-Mile Dam. The site includes a 72' x 72' concrete and masonry powerhouse containing three turbines and generators and a 445' long spillway section. A canoe portage has been developed around one end of the dam. The site was originally used at the turn of the 20th century by Fletcher Paper Company as a pulp mill.

Devil's Lake

Long, narrow and crescent-shaped Devil's Lake is located in the southern portion of Alpena Township. The 900-acre lake was formed by the process of glacial lake recession. The lake is undeveloped, and the surrounding area within the Mackinaw State Forest is used as a wildlife flooding area and for snowmobile trails. The water level is regulated for environmental purposes.

A water quality survey conducted in 1979 by NEMCOG indicates the lake with a mean depth of about three feet is covered with emergent vegetation. Some confusion may persist about the location of Devil's Lake, since there is also a Devil's Lake in the northern portion of the Township. In Sections 23 and 24 of T32N-R8E, a wide Y-shaped section of Long Lake Creek is noted as Devil's Lake on all maps in this plan. The site is also referred to locally as "The Narrows."

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Mud Lake/Sunset Lake

Sunset Lake is often referred to as Mud Lake, and local residents understand either name. The 190-acre lake is located in Sections 29 and 32 of T31N-R8E. The north and east sides of the lake are developed for residential use, while no development occurs on the swampy south and west sides. NEMCOG's 1979 water quality study rated the lake as moderately enriched. With a maximum depth of about five feet, abundant aquatic plants inhibit recreational use.

Fishery Resources

The predominance of forests, wetlands and surface water makes Alpena Township home to many species of fish and wildlife. The Lake Huron fisheries have undergone significant shifts over the last century. Construction of the Wellington Canal in 1919 both opened the Great Lakes to ocean going vessels and opened the door to aquatic non-native and invasive species. First, the sea lamprey decimated native species such as lake trout, lake whitefish, chub, and lake herring, which were already under stress from over fishing and pollution. Loss of these predators allowed alewives, another invasive species, to explode in population and further upset the lake's ecosystem by negatively impacting other native species. Introduction of salmon into the Great Lakes brought the alewives population under control and reestablished an important sport and commercial fisheries. The numerous salmon tournaments and charter fishing businesses on Lake Huron were a testament to this high quality fishery.

However as new stressors have been introduced into Lake Huron, the food web has once again been altered. Continued introduction of aquatic invasive species, such as zebra mussels, quagga mussels and round goby, from ship ballast water caused the collapse of plankton, alewives, perch, brown trout and salmon populations during the last decade. The lake's most productive zones have shifted from historic offshore to nearshore areas. This shift combined with critical habitat protection, habitat restoration and efforts to rehabilitate native species has resulted in increased populations of perch, whitefish, lake trout smallmouth bass and walleye. In the short term, commercial and sport fishing shows promise, but what the future may bring is still uncertain. Continued introduction of aquatic invasive species from ship ballasts or worse introduction of Asian carp through connected waterways will continue to have negative impacts on the fisheries.

Long Lake

The Fisheries Division of Michigan Department of Natural Resources periodically conducts fish collections in order to determine the species population numbers and the size and health of fish in inland waters. Long Lake is managed under the MDNR's Large Lakes Program. The most recent work for Long Lake and nearby Grand Lake was completed in 2004-2005. The following information includes excerpts from MDNR reports available on their web site.³

³ Status of the Fishery Resource Report, Long Lake, Alpena/Presque Isle Counties, Tim A. Cwalinski, Senior Fisheries Management Biologist, Michigan DNR. SR54 - The Fish Community and Fishery of Grand Lake, Presque Isle County, Michigan in 2004-05 with Emphasis on Walleye, Northern Pike, and Smallmouth Bass, Patrick A. Hanchin, May 2011.

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Fish community surveys and observations are noted for Long Lake dating back to the 1920s. Field investigations in 1925 and 1926 found a fish community similar to what is found in Long Lake today. Bluegills were noted as rare, while some sunfish (pumpkinseeds) were present. Rock bass, northern pike, walleyes, and yellow perch were common. Interestingly, reports of lake whitefish spearing were noted. Overall, the fish community of Long Lake has displayed consistent species composition over the last eighty years. In our spring 2004 survey, we likely caught more large, mature fish of several species than would normally be caught in surveys that have historically been conducted later in spring or summer. This includes spring spawners such as walleyes, northern pike, white sucker, and smallmouth bass. Additionally, because of the mesh-size bias, smaller fish were not represented in our sample in proportion to their true abundance in the lake.

The size structure of walleyes in our spring survey (86% legal size) was above the average of legal-size walleyes (69%) in spring surveys for 14 populations surveyed under the Large Lakes Program. Based on past surveys and the current survey, walleyes in Long Lake rarely attain lengths much greater than 25 inches. The size structure of northern pike in our spring survey (35% legal size) was near the average (28%) of legal-size northern pike in spring surveys for thirteen populations surveyed under the Large Lakes Program. While we did not collect a large number of northern pike, the number of large (≥ 36 inch) fish was notable, and northern pike in Long Lake have the potential to reach trophy size. The size structure of smallmouth bass in our spring survey (66% legal size) was similar to the average percentage (65%) of legal-size smallmouth bass in spring surveys for twelve populations surveyed under the Large Lakes Program. Currently, smallmouth bass in Long Lake are likely to attain lengths of 18 inches and have the potential to reach 20 inches.

Angler Survey: Summary.—The fishery of Long Lake is dominated by yellow perch and smallmouth bass, which comprised 93% of the total annual harvest. The open-water period accounted for 74% of the annual yellow perch harvest, and harvest was highest in September/October. Smallmouth bass were harvested primarily during the open-water period, and provided consistent catch rates throughout the year. Walleye and northern pike contributed to the fishery of Long Lake, but to a much lesser extent than yellow perch and smallmouth bass. Walleyes were harvested throughout the year, but most readily from July through October. Catch rate for walleye was highest in September/October and overall it was low. Overall, the fishery of Long Lake is not very diverse, especially in the winter when yellow perch, walleye, and northern pike were the only species harvested. A few other species provide angling opportunity throughout the year, though not to any large degree.

Walleyes are the second most abundant large predator in Long Lake. However, the walleye fishery in 2004–05 was below-average with respect to other large lakes in Michigan. Northern

SR53 - The Fish Community and Fishery of Long Lake, Presque Isle and Alpena Counties, Michigan in 2004-05 with Emphasis on Walleye, Northern Pike, and Smallmouth Bass Patrick A. Hanchin and Tim A. Cwalinski, May 2011.

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pike had the lowest abundance of the three predator species targeted in this survey. The population in Long Lake has an average density of legal-size northern pike, but a low density of adult northern pike.

Contrary to the walleye and northern pike fisheries, the smallmouth bass fishery in Long Lake is exceptional.

Stocking does not appear to be necessary to maintain any of the fish populations or fishery in Long Lake even though both the walleye and northern pike populations are currently at low densities. It would appear that the predator population could tolerate augmentation given the relatively high abundance of prey such as yellow perch and white suckers; however, the only predator species with distinctly above-average growth is northern pike. Thus, augmenting the northern pike population would be the most biologically sound option, though the social acceptance of this action would need to be assessed. If walleye stocking were considered as a management option, it should be kept at a level that will prevent potential harmful effects from density-dependent interactions such as increased competition for food or cannibalism.

Michigan Department of Natural Resources is generally responsible for stocking and monitoring fish resources in Lake Huron and surrounding waters. In some cases, they allow local groups or individuals to oversee fish management projects. Long Lake Stocking of walleye since 2004 1,637,500 Most of the fish were planted by the state when 1,550,000 walleye fry were planted in May of 2006. The Long Lake Association has sponsored a number of fall plantings of fingerlings. Schalks Creek Pike Marsh, connected to Grand Lake, is used to supplement natural production of pike in the lake by enhancing natural production. Essentially, a volunteer who for decades helps some of the naturally running northern pike get up Schalks Ck into the manmade (flooded) spawning marsh.

Lake Huron and Thunder Bay

The Michigan Department of Natural Resources (MDNR) is responsible for stocking and monitoring fish resources in Lake Huron and surrounding waters. Since 2010, state and federal plantings of fish have totaled 3,078,285, of which 99% were lake trout. Brown trout and Lake herring were last planted in 2011. In addition to open water plantings, the MDNR has been planting fish in the Thunder Bay River below Ninth Street Dam. Since 2010, a total of 235,642 rainbow trout, Atlantic salmon and brown trout have been planted in the river.

Wildlife Resources

Deer, rabbit, grouse and woodcock are abundant in the Township. Bear, coyote, bobcat, fox and turkey have small to moderate populations that are growing. Wildlife is a resource that brings in hunters and tourists. October and November bring many hunters to the Township for small game hunting, bear and bow season (deer), peaking sharply in mid-November with the opening day of deer (rifle) season.

In 1994, a Bovine Tuberculosis (TB) infected deer was killed by a hunter in Alpena County. Unfortunately, large deer populations combined with indiscriminate feeding practices were

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contributing factors to the spread of Bovine Tuberculosis (TB) in Alpena County and across northern Michigan. TB is a serious disease caused by bacteria attacking the respiratory system. There are three main types of TB - human, avian and bovine. Human TB is rarely transmitted to non-humans, and avian TB is typically restricted to birds. Bovine TB, also known as 'cattle TB', is the most infectious of the three and is capable of infecting most mammals. Although primarily found in hoofed animals and not considered a health risk to humans, humans can and have contracted Bovine TB. The disease has been found in coyotes, raccoons, black bear, bobcat, red fox and opossum.

In 2011, bovine tuberculosis (TB) was found in 17 wild white-tailed deer from five counties in Michigan: Alcona, Alpena, Montmorency, Oscoda and Presque Isle. Statewide 6,021 deer were tested. Since 1995, a total of 703 deer have been found positive from 195,061 deer sampled in Michigan. As a part of Michigan's strategy to eliminate TB in deer and elk, hunting regulations in the six-county area (DMU 487), which includes Alcona, Alpena, Iosco, Montmorency, Oscoda and Presque Isle counties, have been designed to reduce the deer population, which will help decrease possible transmission of the disease. Feeding and baiting deer and elk also remains illegal in the six-county bovine TB zone or DMU 487.

The diverse assortment of upland hardwoods and pines, lowland hardwood forests, conifer swamps, coastal marshes, fens, cobble beaches, swamps, bogs, streams and lakes provide endless opportunities for viewing birds, waterfowl, reptiles, and even insects. Thompson's Harbor State Park and Rockport State Park are popular birding sites. Coastal fens and marshes are great areas for amateur entomologists, especially those looking for dragonflies. Migrating songbirds follow the coastline in the spring and rely on a unique food source to sustain their energy for the long flight further northward. Conifer forests along the shoreline, warmed by the spring sun, produce massive hatches of midges (a small flying insect), which the song birds feast upon. The richness in biodiversity of the coastal regions is demonstrated in the following section on rare species.

Islands

Grass Island
Crooked Island
Middle Island
Sugar Island
Round Island
Thunder Bay Island
Sulphur Island
Gull Island

Limestone and dolomite bedrock forms the foundation of the Thunder Bay Island Group; organic deposits, sand and gravel further define their size and shape. Their size fluctuates, becoming larger as lake levels fall. In the case of Round Island and Crooked Island, during low water cycles, exposed bottomlands form land bridges attaching them to the mainland.

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Due to difficult access and private ownership, it was not possible to visit all of the islands. Based on observations made on a trip to Thunder Bay Island and examination of aerial photos and ancillary data, wetlands, sand, cobblestone and alvar beaches, interior mixed hardwoods, balsam fir, and white cedar are present on the other islands. Islands range from less than one acre in size to 214 acres. Below is a list of larger islands, their owners and size.

Thunder Bay Island is the largest island and is publicly owned. The island was once home of a small fishing village and the first settlement in Alpena County. The Thunder Bay Island Lighthouse, put into service in 1832, was the third lighthouse built on Lake Huron. Today, it is the second oldest lighthouse remaining in Michigan. A U.S. Life-Saving Service Lifeboat Station was established in 1876 on the southwest shore of the island. It was built on the site of an abandoned fishing village. ⁴ *"This station was one of the first five stations established on Lake Huron after their construction was authorized by a 1874 Act. The Life-Saving service joined with the Revenue-Marine Service to establish the U.S. Coast Guard in 1915. The Lighthouse Service was added to the U.S. Coast Guard in 1939. The last log book for the Thunder Bay surfboat station ended in August of 1941. The U.S. Coast Guard remained on the Island until 1983 when the light became automated. All of this took place over a span of 130-140 years."*

Today only the lighthouse, attached keepers residence and fog horn generator building are all that remain. The Thunder Bay Island Lighthouse Preservation Society is in the process of restoring the structures. Additionally, Alpena Township is working towards acquiring the property around the structures to augment the group's efforts to restore the lighthouse.

Thunder Bay Island is a rare, distinctive, alvar ecological community with a little bluestem alvar grassland, alvar pavement, and a limestone bedrock lakeshore. Forests species found on the islands include northern white cedar, white spruce, balsam fir, white pine, quaking aspen, white birch, balsam poplar and American elm. Willow, buffalo-berry, highbush cranberry, sand cherry and dogwood shrubs are common in open areas. According to a "Thunder Bay Island" web site, developed by the MSU Extension in Iosco County, there over 250 different species of plants on the island. This web site contains a listing and photos of many plants found on the island. <http://www.msue.msu.edu/iosco/thunderbayisland.htm>

Gull Island is owned by the Michigan Nature Association and preserved as the rookery. Islands in the bay are part of the Shiawassee Wildlife Refuge managed by the US Fish and Wildlife Service.

⁴ "Archaeological Survey of the Commercial Fisheries, Life-Saving Station, and Lighthouse Complex on the Thunder Bay Island Group, Lake Huron, MI" by Erin Williams, Michigan State University

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NAME	OWNER	ACRES
Thunder Bay Island	US Government	169.3
	Alpena Township	43.7
Sugar Island	Thomas Parker	191.7
Gull Island	Michigan Nature Association	14.6
Crooked Island	CIA USA LLC	125.3
Round Island	Kenneth Kolasa	9.6

Chapter 4: Public Utilities and Services

One of the primary contributors to the quality of life in a community is the type and variety of services available to both local residents and visitors to the area. The more populated the community, the greater the variety of public, semi-public, and private services made available to residents. This chapter of the Master Plan will identify the types and extent of services now available to residents and businesses in Alpena Township. Even though 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 in the future.

Water and Sewer

More densely populated portions of Alpena Township are served with public water and sewer. Some areas have both public water and sewer, while other areas have either water or sewer. The Township purchases water and sewer services from the City of Alpena and employs a Department of Public Works whose duties include maintaining these utility distribution systems.

Figure 4-1 shows the extent of existing water service along with projections for ten-year and twenty-year expansions. Likewise, **Figure 4-2** is presented showing the existing sewer service areas along with ten- and twenty-year expansion projections.

Residents not served by public water and/or sewer must rely on on-site private drinking water wells and septic systems. District Health Department #4 is the permitting agency for private wells and septic systems. Older small lot residential development located along lakes and streams can provide special challenges to providing on-site private drinking water and septic systems. As well, this type of development can directly affect the surface and ground water quality due to the potential for pollutants from improperly designed or inadequately maintained septic systems.

Careful consideration should be given to protecting the community's water resources from potential impacts associated with residential, commercial and industrial development. Redevelopment of waterfront lots should include an evaluation of existing septic systems to determine if the system meets current design standards and can accommodate proposed redevelopment. New developments should include provisions for handling household waste efficiently and adequately.

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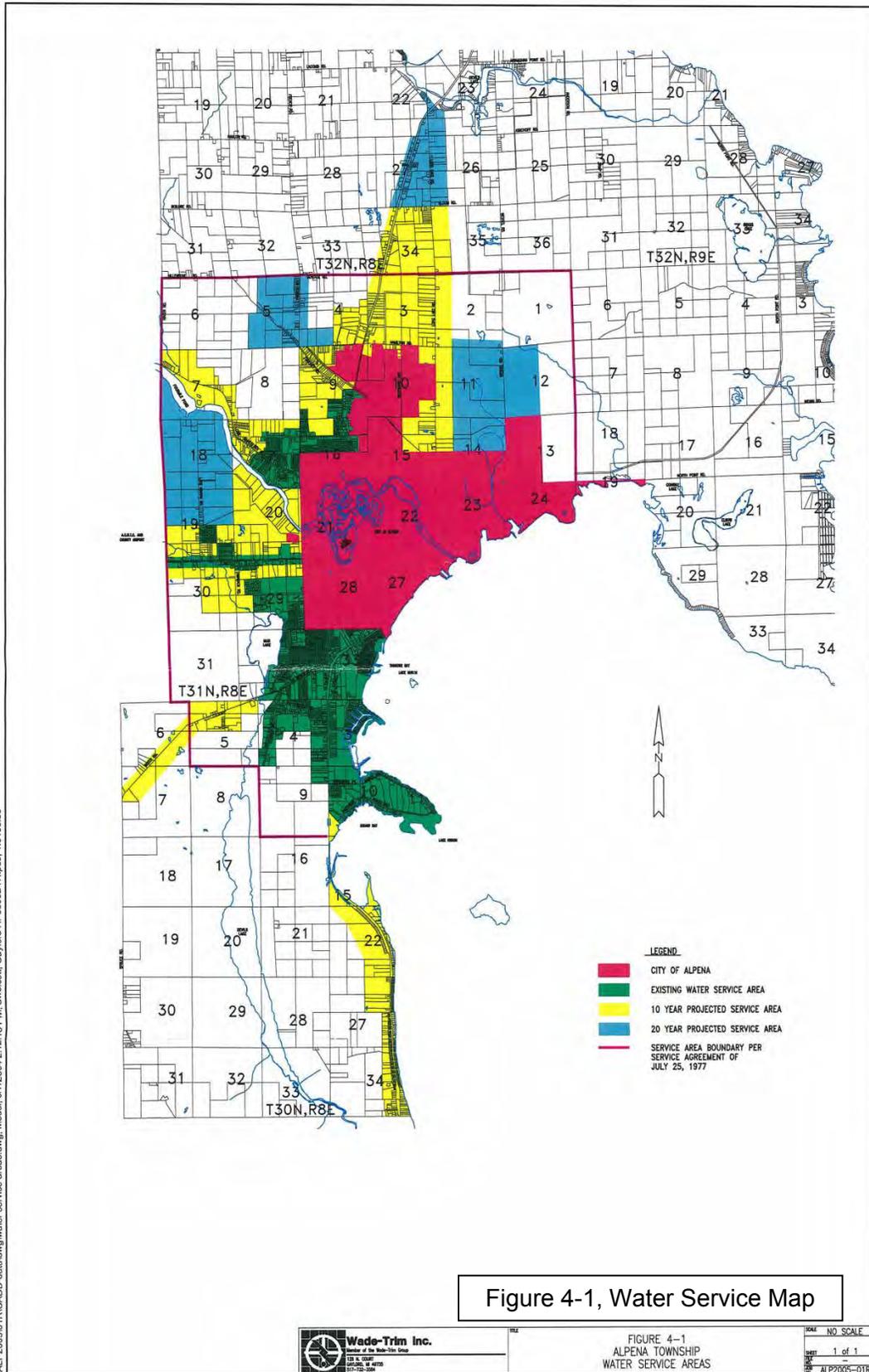
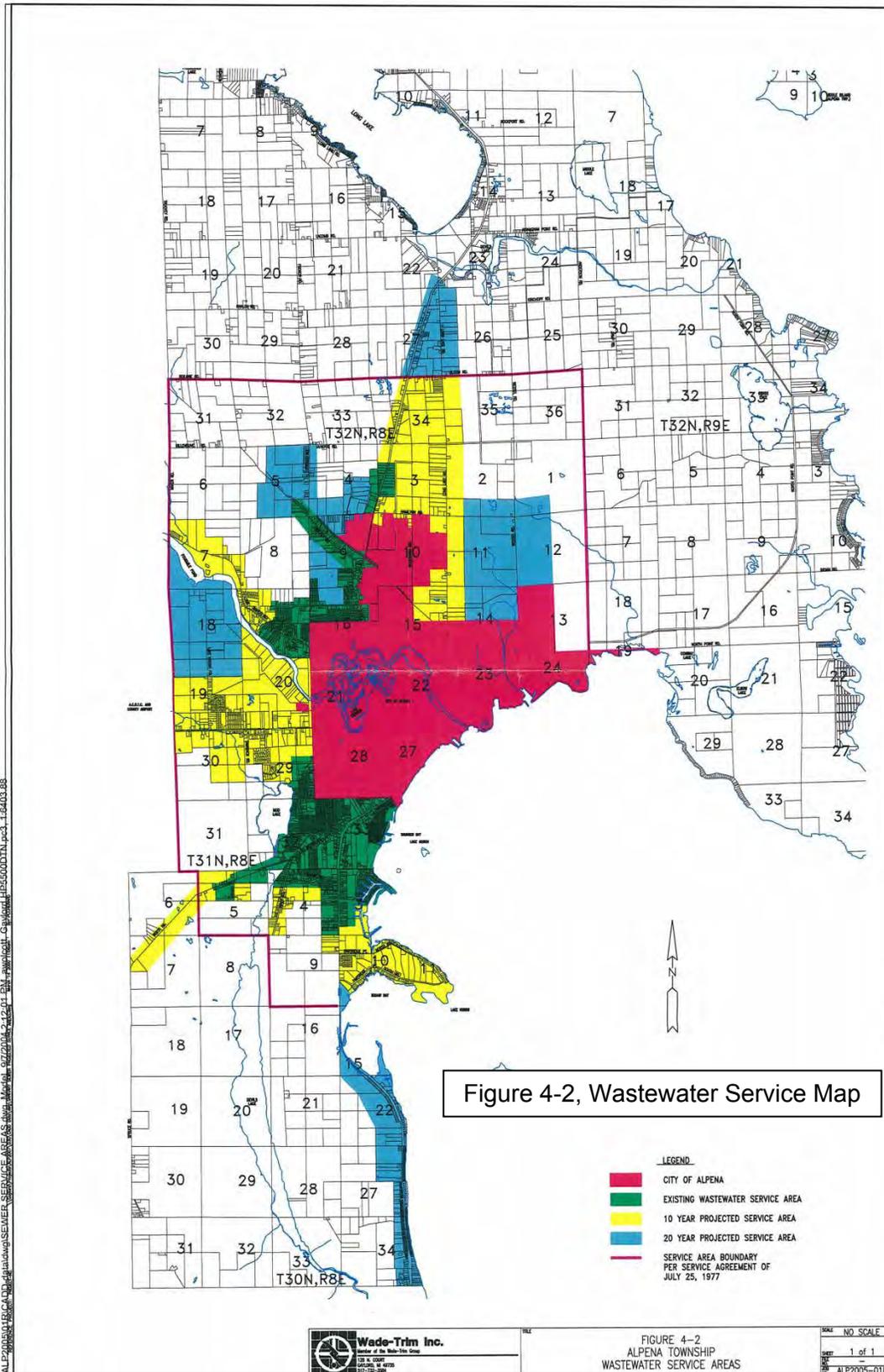


Figure 4-1, Water Service Map

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Transportation

Roads and Highways

Alpena Township's major highway system includes north-south U.S. 23 and east-west M-32. These two major highways provide access to Alpena Township and the City of Alpena. The Alpena County Road Commission maintains them through an agreement with the Michigan Department of Transportation (MDOT). Maintenance costs for the remainder of the local roads and streets are shared by the Township and the County.

In a cooperative effort, communities and MDOT with assistance from Northeast Michigan Council of Governments (NEMCOG) prepared the *Alpena Areawide Comprehensive Transportation Plan*. The plan studied existing traffic patterns and problems; and suggests implementation measures to improve some of the problems associated with additional development, especially on M-32 West and Bagley Street. The Planning and Zoning Commission recommends that the implementation measures of the *Transportation Plan* be included in the transportation goals of this *Comprehensive Plan Update*. Communities are in the process of updating the transportation plan. As a reference, intermodal transportation services for the Alpena area are discussed in great detail in the *Alpena Area-Wide Comprehensive Transportation Plan*.

Railroads

Passenger rail service to the Alpena area is not available. Railway freight service for the Alpena area is provided by Lake State Railway Company, formerly Detroit & Mackinac Railroad (D&M). Former D&M employees formed Lake State Railway Company (headquartered in East Tawas) in 1992, when D&M ceased operations for financial reasons. Much of the freight rail traffic is aggregate products such as gravel and stone, as well as potash for mixing into concrete produced by Lafarge at the Alpena plant. Alpena is the end of the rail line and has one in-bound and one out-bound train per day Monday through Saturday.

Air Transportation

Regional air service is available at Alpena County Regional Airport. The 14,031 feet concrete runway with state of the art communications and radar systems can accommodate any type of commercial or military aircraft. The airport is also home to the Combat Readiness Training Center (CRTC) of the Michigan National Guard. Passenger service is provided by SkyWest Airlines and charter services are provided by Aviation North. Air freight service is provided by FED-EX and UPS. Medivac services are provided by North Flight of Traverse City, Wings of Mercy and Life Flight. The airport is administered by the Airport Manager, as a department of the County. The CRTC jointly maintains the airport by sustaining a crash-rescue unit and maintaining tower operations (08:00-16:00 Mon-Fri). CRTC also assists in snowplowing operations. Available fuel includes 100 LL and Jet-A for most types of aircraft.

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Transit

Thunder Bay Transportation Authority was formed by the City of Alpena, Alcona County and Montmorency County in 2006 to deliver the service formally provided by the Thunder Bay Transportation Corporation and City of Alpena Dial-A-Ride system. Construction of a new facility, located at the intersection of Hamilton Road and US-23 North, will be completed in 2017. Indian Trails provides statewide public transportation services on a daily basis. The bus route follows US-23 through Alpena County. Buses operate seven days a week, with a southbound run in the morning and northbound run in the afternoon. This system serves as a daily link between select cities and allows people to travel outside the area to other parts of the state and country.

Days/Hours of Operations:	M-F 7:00 a.m. - 7:00 p.m. SAT 8:00 a.m. - 7:00 p.m. SUN 9:00 a.m. - 6:00 p.m.
Total vehicles:	35
Lift-equipped vehicles:	31
Population Served:	51,411 (Alpena, Alcona & Montmorency counties)
Employees:	55
FY 2011 System Data	
Miles:	614,989
Vehicle Hours:	34,867
Passengers:	124,041
Total Eligible Expenses:	\$2,231,925
Source: Alpena County Hazard Mitigation Plan	

Marine Facilities

The Alpena area has two channels used for Great Lakes shipping. One is for the Port of Alpena and the other is for the Lafarge Corporation, both are located in the City of Alpena. Cement and concrete are the major commodities being shipped out of Alpena with the major receipts being coal, lignite, crude materials, and nonmetal minerals. The City of Alpena Marina operates a full-service marina, which is the only public or private marina in the area. The marina can accommodate both seasonal and transient boats, of a variety of sizes. The City of Alpena Marina contains approximately 177 slips, with full power and water services, launch ramps, courtesy docks, a fuel station, boater restrooms and shower facility, a fish cleaning station, a pump-out station, a marine store, maintenance facilities, and office building. Winter storage and boat launching services are also available.

Energy Suppliers

The majority of Alpena Township residents receive electric service from Alpena Power Company, while Presque Isle Electric and Gas Cooperative of Onaway supplies electricity on

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Haken Road, Lake Winyah Road, and one mile of M-32 from the Township's west boundary to Tamarack Road.

DTE Energy/Michigan Consolidated Gas Company provides natural gas where available. Fuel oil and liquefied petroleum may be purchased from numerous local suppliers, while some residents elect to heat with wood.

Communications

Local telephone service is provided by Frontier, while residents have the option of choosing long distance service from several long distance providers. A wide range of cellular telephone services are available throughout the area, and several communications towers are located in Alpena Township to enhance reception. Charter Communications, Inc. supplies cable television, phone and internet services in the more densely developed areas of the Township.

Public Safety

Law enforcement protection for Alpena Township is primarily the responsibility of the Alpena County Sheriff Department. The department operates the county jail, maintains 24-hour road patrol, court services, marine patrol, animal control, and emergency dispatch. The Michigan State Police from the Alpena post on M-32 provide patrols of state highways U.S. 23 and M-32 and provide additional support to the Sheriff Department as necessary. Countywide enhanced 911 emergency services receive calls for fire, emergency medical services and law enforcement.

Alpena Township maintains three fire stations, conveniently located to the north, south and west ends of the community. The Alpena Township Fire Department consists of five paid full time firefighters and 24 paid on-call firefighters. One full-time person is on duty at each station at all times. Countywide ambulance service, operated from the City of Alpena's public safety facility and through a contract with the City, is available for all county residents through an approved millage. Both the City and Township provide long distance medical transport, and emergency helicopter medical transport is available at MidMichigan Medical Center. The U.S. Coast Guard provides marine emergency service during the boating season, along with the sheriff department boat patrols.

Solid Waste Disposal

Under the provisions of the Natural Resources and Environmental Protection Act, PA 451 or 1994, Part 115, each county is required to have a Solid Waste Management Plan approved by the Michigan Department of Environmental Quality (DEQ). The *Alpena County Solid Waste Management Plan* identifies that the County's solid waste may be received primarily at the Montmorency-Oscoda-Alpena Sanitary Landfill in Montmorency County's Loud Township. The County's industrial solid wastes are taken to the Waters Landfill in Crawford County.

In a collaborative approach between Alpena County, City of Alpena and Townships established a recycling program and resource recovery facility. The program is established under Public Act 138 OF 1989, whereby residents pay a surcharge each year to help cover

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costs of operating the program. Residents can opt out of the program and not pay the surcharge. Drop-off sites are located around the county, where residents recycle plastics, paper, cardboard, tin and aluminum. The Alpena County *Solid Waste Management Plan* encourages residents to compost yard waste, but the County does not have a formal composting program. For Alpena Township, composting is expected to remain the responsibility of the individual.

Educational Facilities

The entirety of Alpena Township is incorporated within the Alpena Public School District, serving the K-12 population. Hinks Elementary School on U.S. 23 North serves the northern portion of Alpena Township. Elementary-aged school children in other parts of the Township attend the nearest school, located either in the City of Alpena or in another township. The district's new junior high school campus is located on Third Street just outside the city limits, and the high school is located just inside the city limits on the corner of Third and Bagley. Busing is available to transport all students to the appropriate school facility. A limited number of parochial elementary schools are available for those who choose private education. The public school district also provides busing to the parochial schools.

Alpena Community College (ACC), a two-year institution, serves the higher education needs for the region's population. ACC grants the following degrees: [Associate in Arts \(AA\)](#), [Associate in Science \(AS\)](#), [Associate in Applied Science \(AAS\)](#), and [Associate in General Studies \(AGS\)](#), [Bachelor of Science \(BS\)](#). Non-degree programs lead to a [Certificate of Achievement \(C\)](#).

ACC offers several associate degree programs, career and technical training, liberal arts and transfer programs, and has a center for economic and human resource development. The Madeline Briggs University Center at Alpena Community College houses offices of accredited four-year institutions that are cooperating with ACC to make completion programs for selected bachelors and master's degrees available in Northeast Michigan. The University Center houses offices of Northwood University and Ferris State University.

Medical Facilities

Mid-Michigan Medical Center of Alpena serves local residents' health care needs and has received the federal designation as a rural regional referral center for northeast Michigan. The full service facility maintains a complete staff of 800 employees and 250 volunteers. Additionally 80 physicians are on staff including specialty medicine professionals. In addition to 24-hour emergency service, comprehensive in-patient, and a wide range of out-patient care, services offered by AGH include: behavioral health, blood clinic, cardiopulmonary, cardiac rehabilitation, community health education services, dialysis, dietary laboratory, pharmacy, pain clinic, radiology, rehabilitation services, sleep disorders, and surgical care. In June of 2001, the Medical Center, in partnership with the University of Michigan, opened a regional cancer treatment center.

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District Health Department # 4 is often able to fill health care needs of the community, which are not available or affordable elsewhere. The Health Department service area includes Alpena, Cheboygan, Presque Isle and Montmorency Counties. Programs offered by the agency fall under three categories: home health care, environmental health, and personal health. Several private nursing homes and nursing services are also available in the local area, including Tendercare, a long-term extended care facility.

Recreational Facilities

Alpena Township's Community Recreation Plan contains a complete inventory of recreation sites and facilities in and near the Township. Facilities owned or operated by Alpena Township are described in detail in that document. The railroad grade between Alpena and Cheboygan has been converted to a winter snowmobile trail and summer bike trail. Additional information on the North East Michigan State Trail can be found in the Recreation Plan. Below is a list of Alpena Township recreational facilities.

1. Alpena Township Hall and Alpena Huron Shores Babe Ruth League Fields
2. Alpena Township Nature Preserve – Misery Bay
3. Forty-Acre Parcel
4. Old Piper School
5. VanWormer Field
6. Bi-Path Sections: US-23 south to Bare Point Road; US-23 north to Sunset Boulevard; and M-32 west to Highland Court
7. Thunder Bay Island Lighthouse – 43.7 acres of the island

Chapter 5: Existing Land Use

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

General 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. Large undivided tracts of land can be found in the southern portion of the Township, mainly on the west side of Devils Lake. This land is state owned and part of the Mackinaw State Forest. Large privately owned tracts of land include Lafarge Corporation property northeast of the City along the northern shore of Thunder Bay. The state owned Rockport Property is located in the northeast part of the Township.

Privately held tracts of 40, 80 and 120 acres or greater occur mainly in the northern and western portions of the Township, but a few can also be seen between U.S. 23 South and the railroad right-of-way in the southern half of the Township. Parcels of between 10 and 40 acres are dispersed throughout the Township, but can be found primarily in the northern portion. Subdivisions and small tracts occur near the City of Alpena on the south, west and northwest sides. They can also be found along the north shore of the Thunder Bay River, U.S. 23 South, U.S. 23 North, Long Lake, and the Lake Huron shoreline where development is possible.

Land Cover and Use

According to the US Census Bureau, Alpena Township has a total area of 141.2 square miles, of which 104.4 square miles is land and 36.8 square miles is classified as water (near-shore waters of Lake Huron, various inland lakes, and a stretch of the Thunder Bay River). The distance from the north boundary of the Township to the south boundary is approximately 18 miles, with the east to west distance at approximately 15 miles. Because of the extensive Lake Huron shoreline (nearly 58 miles) which makes up the eastern boundary, the Township is geographically dispersed and covers all or part of seven government survey townships.

A previous land cover/use analysis and map, based on the Michigan Resource Information System (MIRIS) land cover data, was used as a basis in developing existing land cover/use information. Utilizing a computer mapping system or Geographic Information System (GIS) a digital copy of the 1995 land cover/use map was updated with 2014 digital aerial imagery acquired from the USDA. Ancillary digital map data including parcels, soils, national wetlands inventory and 1998 color infrared aerial photographs were used to refine the update. Updated information was computerized to produce the existing land cover/use map and statistics. **Table 5-1** presents the land uses, showing the number of acres and percent of the Township in each

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of the land use categories. Each of the land use categories is discussed later in this chapter. The map of existing land cover/use, shown as **Figure 5-1**, illustrates the distribution of land uses throughout the Township.

Table 5-1 Existing Land Use/Land Cover Statistics Alpena Township, 2016		
Land Use/Cover	Number of Acres	Percent of Township
Residential	7,223	8.6%
Commercial	773	0.9%
Industrial/Extractive	2,279	2.7%
Institutional/Recreational	374	0.4%
Agricultural	1,127	1.3%
Upland Open Areas	3,818	4.5%
Upland Forests	19,663	23.3%
Lowland Forests	38,660	45.8%
Non-Forested Wetlands	5,626	6.7%
Water	4,513	5.3%
Beaches	419	0.5%
Total	84,476	100.0%
Update completed by Richard Deuell, Planning Consultant		

Residential

The majority of the residential development in Alpena Township is single-family homes. However, several multiple-family complexes and mobile home parks exist in the Township. As can be seen in **Table 5-1**, 8.6 percent of the Township's total area is used for residential purposes. Residential development generally corresponds with the location of the numerous subdivisions and small tract land divisions are described above in the pattern of land division discussion, see **Figure 5-1**. Residential development along the Lake Huron shoreline north of the City occurs at Monaghan Point, South Nine Mile Point, Lincoln Bay, Huron Bay, El Cajon Beach, Misery Bay and North Point Shores, and south of the City at Bare Point, Partridge Point, north shore of Squaw Bay and along U.S. 23 south of Squaw Bay.

In addition to the Lake Huron shoreline development, residential land use in the northern portion of the Township is noted in several subdivisions near the City, Long Lake shoreline, U.S. 23 North, Long Lake Road, French Road, Truckey Road, Hamilton Road, Haken Road, LaComb Road, Naylor Road, Bloom Road, Monaghan Point Road and Weiss Road. On the west side of the City of Alpena, residential development occurs in several subdivisions accessible from M-32 West and Bagley Street, and on Long Rapids Road along the northern shore of the Thunder Bay River. Residential development south of the City can be seen in several subdivisions on the west side of U.S. 23 South, extending to Sunset Lake (Mud Lake) and nearly to Mud Creek. These areas include the Werth Road and Piper Road neighborhoods.

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Commercial

Table 5-1 shows 0.9 percent of the Township's total land area is categorized as commercial use. The Township's commercially used land tends to be concentrated near the City of Alpena along the major transportation corridors, U.S. 23 North and South, M-32 West, and Bagley Street. These locations, shown in red on **Figure 5-1**, allow for easy access to public services and transportation.

Industrial/Extractive

For the purpose of this existing land use analysis, industrial, transportation, utilities and extractive land use were combined into one category, shown as light purple on the map. Together, they cover 2,279 acres and make up 2.7 percent of the Township's total area. Alpena Township's industrial properties are located just north of the City's industrial park on Werth and Piper Roads; on the corner of French Road and Hamilton Road; on the east side of U.S. 23 South behind commercial development; and at locations along U.S. 23.

Extractive industry is very important to the region's economy. The geologic make-up of the region makes the area a good source of quality limestone. Mining and extractive uses account for 2,048 acres of the category. Much of the Township's mined property is owned by the Lafarge Corporation, whose operation also includes property in the City. An area in the northeast corner of the Township, locally referred to as Rockport, is no longer mined, and is now owned by the State of Michigan. Several gravel pits are found in the northern half of the Township, as well as the west central sector.

Institutional/Recreational

Other urban land includes institutional land uses, such as schools, churches, governmental buildings, and fraternal/civic buildings. It also includes parks, golf courses, cemeteries and outdoor recreational areas. This land use category makes up 0.4 percent of the Township's total land area. These land uses are shown in dark blue on **Figure 5-1**.

Forests and Wetlands

For the purpose of this Comprehensive Plan update, forested lands were mapped into two categories, upland forest and lowland forest. The existing land use/land cover depicts upland forests in light green and lowland forests in darker green. Upland forests, which include upland hardwoods and conifers, account for 23.3 percent of the Township's land. Lowland forests are the most predominant land cover in the Township, covering more than 45.8 percent of the total. Much of the lowland forest areas would be classified as wetlands and are dispersed throughout the Township.

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 or bogs. It is important to note that the existing land use/land cover map used in this report is based on MIRIS maps. Wetland information was not verified by field inspection when these maps were compiled. Thus, the areas shown as wetlands by MIRIS may not actually meet State and Federal criteria for legally regulated wetlands.

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Wetland areas in Alpena Township make up 6.7 percent of the land. Heavy wetland areas occur in the southern portion of the Township, on the west and north sides of Devils Lake, around Squaw Bay, and on the west side of Sunset Lake (Mud Lake). Wetlands occur in many locations throughout the Township, which have not been built up. These areas are generally mixed with lowland forested and non-forested land covers. The wetland category is shown as dark brown on **Figure 5-1**.

Non-forested Land

Non-forested land and open land makes up over nearly 4.5 percent of the community. These areas are scattered throughout the northern and western portions of the Township, and are mixed with forests and wetlands.

Agricultural

Farmland in the Township covers 1,127 acres or 1.3 percent of the total, with scattered areas occurring in the northwest and north central sectors. Two other farmland locations can be found in the southern sector; northwest of Devils Lake and southwest of Devils Lake.

Water

Over five percent of the Township is covered with surface water (light blue on **Figure 5-1**). Alpena Township lakes include: Long Lake, the Narrows, Devils Lake, Sunset (Mud) Lake, Fitzgerald Lake, Elbow Lake, Conway Lake, Grass Lake and Middle Lake. Rivers and streams in the Township are: Thunder Bay River, Devils River, Mud Creek, Long Lake Creek, Grass Creek, Norwegian Creek, Fall Creek and McLary Creek.

Worth noting are the seven named islands located just off the mainland. Round, Crooked, Sugar and Thunder Bay Islands are located in Misery Bay. Grass and Sulphur Islands are located in Thunder Bay. Middle Island, near the northern coast of the township, has a lighthouse. Another lighthouse, located on Thunder Bay Island, is now owned by Alpena Township.

Beaches

Beaches along the Lake Huron were delineated on the land cover use map. The width and therefore acreage of beaches can vary greatly, depending upon the rise and fall of Lake Huron. There are a range of beach types, which include sand, cobble stones and bedrock. A more detailed discussion of shorelines and fluctuating lake levels can be found in Chapter 3, Natural Resources.

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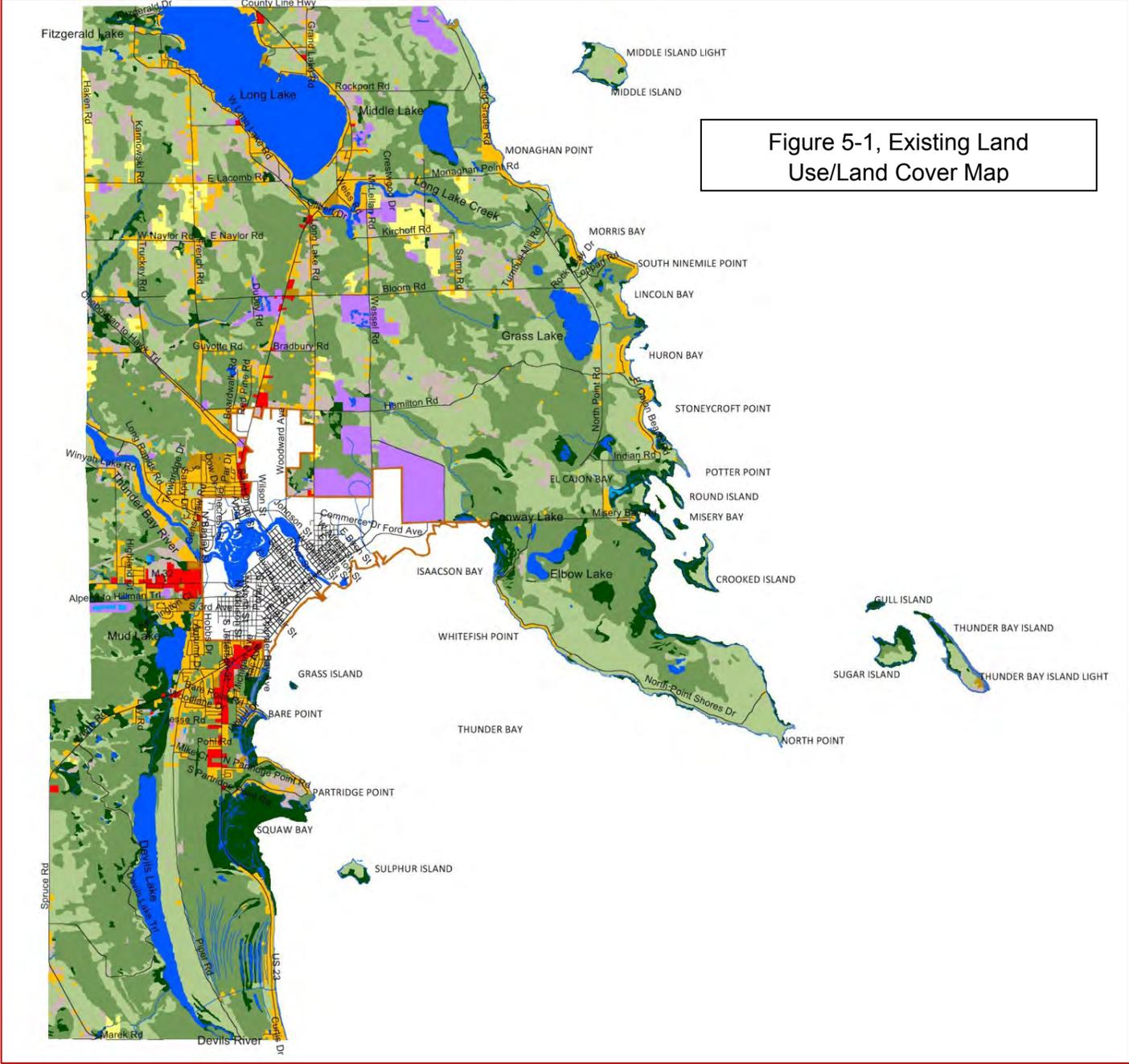


Figure 5-1, Existing Land Use/Land Cover Map

Chapter 6: Community Goals and Objectives

Public Input

The purpose of this chapter is to set forth Alpena Township's goals and objectives to guide future development. In developing community goals and objectives, it is important to analyze existing community characteristics, such as social and economic conditions, environmental resources, available services and facilities, and existing land use. In addition to examining existing characteristics and future trends, it is importance to gather public input. Alpena Township chose to gather input by holding a community input session and running a web based community survey.

On March 14, 2016 Alpena Township conducted a community input session to identify community issues relevant to the planning process. During the session participants were asked to identify what they value about the community and what changes they like to see in the future. Additionally they were asked to identify the most important issues facing Alpena Township over the next 5-10 years.

A. What do you value about Alpena Township that you do not want to see change?

- | | |
|--|---|
| 1. Good roads | 21. NOAA Sanctuary |
| 2. Township parks | 22. Thirty-five miles of Lake Huron shoreline |
| 3. Access to hospitals and shopping | 23. Shipwrecks |
| 4. Friendly population | 24. Alpena Community College |
| 5. Multi-use trails for walking, hiking, biking, skiing and snowmobiling | 25. Sportsplex and Ice Arena |
| 6. Fire protection | 26. Thunder Bay Theater |
| 7. Public water and sewer | 27. Fairgrounds |
| 8. Golf course | 28. Churches |
| 9. Boating on inland lakes, river and Lake Huron | 29. 150 subdivisions |
| 10. Water activities | 30. Tourism |
| 11. Kayaking | 31. Local talent |
| 12. Lakes and streams | 32. Music community |
| 13. Fishing and hunting | 33. Festivals |
| 14. Lighthouses on islands | 34. Marina in the city |
| 15. Rockport State Park | 35. Sports through schools |
| 16. Airport | 36. Ball diamonds |
| 17. Dinning | 37. Museums and Planetarium |
| 18. Railroad | 38. Close knit community |
| 19. Jobs | 39. Giving community |
| 20. Cancer center at hospital | 40. Good public court systems and jail |
| | 41. Law enforcement |
| | 42. Many service clubs |

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43. Good government

44. Media - newspaper, radio and television

B. What changes would you most like to see in Alpena Township in the future?

1. More and better jobs
2. More operating funds for the township
3. Local roads need attention challenge is 2/3 match
4. Need better roads
5. Better cooperation with other units of governments
6. More opportunities for shared services
7. Better access to water, especially Lake Huron and Misery Bay
8. Better use of outdoors
9. New park at 45th parallel
10. Gateway signs at major entries
11. More shopping and dining
12. Ball diamonds behind township hall
13. Breakwater and handicap access at Thunder Bay Lighthouse
14. Improvements to nature preserves – implement plan
15. Organize and present historic information about the area
16. More multifamily and condos
17. Address drug, alcohol, child and spouse abuse
18. Better trained and educated workforce
19. Address mental health issues in community
20. Consider corridor improvement authority
21. Improve air and water quality
22. Address flooding around the township
23. Consider some types of incentives to entice businesses
24. Look at creative zoning districts
25. Land banks
26. Grant writing
27. Target Alpena participate and consider increasing due as budgets allow
28. Explore public/private partnerships
29. Need millage to support growing community needs

B. What are the most important issues facing Alpena Township over the next 5-10 years?

1. Keeping people here, especially young adults and families
2. Quality education
3. Retention of educated youth
4. Aging population
5. More professional medical services
6. Elder housing
7. Taxes – township funding for the next 5 years
8. Water and sewer services with the city – consider Authority
9. Township hall – long term
10. Need more fire department space
11. More space in township hall as new employees are added
12. Redevelopment of commercial corridors, especially south US-23
13. Address traffic issues through implementing area transportation plan
14. Drainage and flooding problems are ongoing and need to be fixed
15. Update zoning to address new types of development
16. Enforcement of current ordinances
17. Encourage green incentives in development and buildings

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Community Web Survey

Alpena Township decided to use a newer approach by running a web based survey. Notice of the web based community survey was sent with the summer tax bill statement. Citizens were directed to the township's web site to complete the survey; which was hosted on the site called "Survey Monkey." Citizens without internet access were able to obtain printed copies from the township. A total of 515 surveys were completed. The survey had questions that focused household characteristics, community character, natural resources, township government, land use & development, roads and transportation, community services, and economy & business. Respondents were also given the opportunity to list, "What makes our community a great place to live and/or work? What changes should occur to make our community an even better place to live?" Copies of the survey results, in digital format are available from the township.

Over 80 percent of those who responded were year round residents and 50 percent have lived in township 20 or more years. There was a good response from "younger" age groups with 16 percent of the responses in the 20-44 year age group. Additionally, 41 percent were 45-64 years and 43 percent were 65 years and older. When asked "How satisfied are you with the Township as a place to live or own property?" 28 percent are very satisfied and 57 percent are satisfied.

According to the survey, the community wants to have high quality lakes and streams, and to protect groundwater and air quality. People value fish and wildlife, forests and farmlands, wetlands and floodplains, and greenbelts and water quality buffers. Seventy-eight percent of the respondents feel the township government should help protect the above resources.

In relation to future development the survey shows people would like to see more development, including residential, commercial, industrial and recreational. Residents show a high level support for redevelopment of main highway corridors including US-23 South, US-23 North and M-32 West. Sixty-eight of those surveyed said blight is a problem township-wide. Residents are satisfied with fire, police, and emergency medical and 911 services. There is a higher level of dissatisfaction with public water and sanitary sewer service, particularly related to rate increases. The survey shows residents want the Township to work collaboratively with other units of government and to pursue a long term agreement for water and sewer service with the City of Alpena.

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Goals and Objectives

After reviewing the community input and considering the existing conditions and trends, the planning commission established goals and objectives. These goals and objectives will provide guidance to the Alpena Township planning commission and board.

Quality of Life

Goal: Maintain and enhance the overall quality of life of Alpena Township.

Objectives:

1. Strive to balance future growth and development in the Township while maintaining its small town and rural character.
2. Promote the quality of life in Alpena Township in order to recruit new families to the Township.
3. Implement a place-based approach to planning and development.
4. Encourage public feedback regarding ongoing efforts to improve the Township's quality of life.
5. Work cooperatively with agencies and organizations:
 - a. To establish community social programs and events oriented towards different age groups.
 - b. To establish educational programs for local residents (gardening, homemaking, carpentry, etc.).
 - c. To provide a variety of community recreational facilities and programs for both seasonal and year-round residents.
 - d. To promote public safety programs.
 - e. To involve residents in local landscape and gardening programs.
 - f. To provide for multi-modal transportation to meet the daily needs of all residents regardless of age or income levels.

Planning, Zoning and Community Development

Goal: Guide new development in a manner that preserves community character and environmentally important resources yet meets the long-term needs of the community.

Objectives:

1. Implement the Alpena Township master plan by updating the Township zoning ordinance.
2. Consider the character of the Township in applying the existing site plan review process under the Zoning Ordinance.
3. Require buffers such as the construction of berms or vegetative screening to shield residential properties from traffic noise, dust, glare and other conditions deemed necessary or appropriate.
4. Encourage creative design and planning techniques, which produce visual harmony while preserving special features and protecting natural resources.
5. Balance the rate of land development with the availability of public facilities and services, such as streets, sewer and utilities.

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6. Utilize a planning process as a check and balance on decision making.
7. Encourage planned land uses in coordination with public utility, facility and service improvement programs.
8. Initiate and maintain proactive conversations with private property owners regarding preferred future land uses.
9. Revise landscape requirements for new development, such as appropriate setbacks, retention of green space, buffer zones between differing land uses, screened parking areas, roadside landscaping, berms and fences.
10. Use open space residential, commercial and industrial development design standards to preserve scenic views, rural character, farmland, meadows, woodlands, steep slopes and wetlands with a target of preserving up to 50 percent of the land within a development.
11. Review regulations and standards to protect the community against high noise levels, pollution, dust, blight, aesthetics and exterior lighting glare.
12. Concentrate new commercial and service uses along US-23 and M-32.
13. Concentrate more dense residential development such as single family subdivisions, multi-family residential and elder housing complexes adjacent to populated areas of the community. These areas with higher density developments should be served by water and sewer service, parks and non-motorized facilities.
14. Update standards that regulate the placement and size of cellular towers, communication towers, transmission towers and wind turbine generators.
15. Review blight ordinance and consistently enforce to work towards improving the quality of housing and protecting property values.
16. Enforce all ordinances in a consistent and fair manner.
17. Promote walkable communities by developing trails, sidewalks and safe pedestrian crosswalks in developed areas of the Township.
18. Increase safety and reduce the visual impact of on-site and offsite signs and billboards, by controlling their size, number, illumination, and configuration.
19. Cooperate with county and regional efforts to promote a Community "Fire Wise" education program to protect existing and new development from wildfires
20. Apply access management standards along major transportation corridors including US-23 and M-32.
21. Develop standards for new private roads and shared road access.

Goal: Implement effective blight and nuisance controls within the Township.

Objectives:

1. Work with the Township Board to implement and enforce effective regulations to control blight and nuisances.
2. Implement a civil infraction ordinance to address blight and nuisance violations.
3. Investigate the feasibility of multiple local units of government adopting and enforcing uniform blight and nuisance control regulations.
4. Increase public awareness regarding the need for blight and nuisance regulations.

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Residential Areas

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

Objectives:

1. Designate areas appropriate for all types of residential development including single family, multi-family, elderly housing, condominium, low to moderate income housing, handicapped accessible and ADA compliant housing, and extended care facilities.
2. Encourage the maintenance of the existing housing stock and residential neighborhoods in good repair, appearance, usefulness and safety.
3. Match allowable residential densities to the characteristics and available services of proposed sites.
4. Site new residential development in a manner that protects the rural character and scenic views by maintaining proper setbacks and providing landscaping and screening as appropriate.
5. Preserve the integrity of existing residential neighborhoods by protecting them from intrusion of incompatible uses.
6. Encourage the removal of conflicting or undesirable land uses from residential areas through code enforcement and other means.
7. Encourage the removal of unsanitary or unsafe housing through code enforcement and other means.
8. Identify funding sources available for residential improvements and make property owners aware of such rehabilitation programs.
9. Require adequate buffers and transition areas between residential and non-residential uses to maintain property values and attractiveness.
10. Require the layout of new residential developments to be a logical extension of existing neighborhoods. This should apply to lot layout, road extensions, and open space plans.
11. To preserve open space and vital natural resources, provide the development option of clustered housing in buildable portions of the Township.

Commercial Areas

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

Objectives:

1. Encourage commercial development, especially retail and personal services, in locations where compact and coordinated development can occur without impacting residential neighborhoods.
2. Discourage the establishment of multiple access points for commercial uses. Require the use of shared access and service drives.

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3. Review commercial architecture, landscape designs and signage to ensure that such uses are integrated into the Township's landscape.
4. Require the establishment of transitional uses and/or landscape screening between commercial and residential uses.
5. Develop and utilize planning and zoning techniques, such as clustering, shared parking, access management, and landscaping to regulate commercial development along primary county roads, M-32 and US-23.
6. Make parking (public and private) needs a consideration for all expansions and new development.
7. Require landscape buffers where commercial uses are adjacent to other land uses.
8. Regulate home occupations and home based businesses to assure compatibility with existing residential areas.
9. Improve safety and reduce the visual impact of signs, especially billboards, by controlling their size, number, illumination, and configuration.
10. Work with county and regional organizations to develop strategies for marketing the area as a tourism destination with recreational, cultural and historic components.

Industrial Land Use and Development Areas

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

Objectives:

1. Ensure that industrial uses are developed in an environmentally sensitive manner, are harmonious with the existing community and are located near access to state trunk lines.
2. Locate light industries and high tech industries that do not pollute the air, soil, or water nor offend because of noise, odor, or visual impact, in industrial zoned areas within the Township.
3. Industrial development should be located where essential infrastructure such as water, sewer, high speed internet, 3-phase electric and Class-A roads can be provided.
4. As the township's residential development increases, minimize conflicts between residential activity and extractive and industrial activities.
5. Strictly regulate any industry's impacts on the environment in regards to air quality, water quality, noise level, and traffic generation.
6. Require buffers and screening, such as landscape, fences, and berms, where industrial uses are adjacent to other land uses.
7. Develop guidelines to ensure that extractive development takes place in an environmentally sensitive manner.
8. Require landscape buffers around extractive uses to screen adjacent properties and public roadways.
9. Establish criteria and require reclamation extractive areas after the operation is complete.

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Infrastructure, Public Services, Recreation and Transportation

Goals:

Improve and maintain the transportation systems, multi-use pathways, community facilities, programs and public utilities to accommodate the needs of residents, visitors and commercial enterprises.

Maintain the infrastructure and provide essential services that meet the community's needs while being fiscally responsible.

Objectives:

1. Participate in intergovernmental planning efforts to assure the representation of Alpena Township in regional decision-making.
2. Work cooperatively with other public agencies and communities to facilitate the improvement or construction or extension of public facilities, such as water, sewers, streets, multiuse pathways and public transit.
3. Work with the City of Alpena to control increases in water and sewer rates.
4. Make improvements to the water and sewer system, as necessary, to provide adequate water and sewer services to users at a reasonable rate.
5. Seek grants through federal, state and other funding sources for infrastructure improvements, community facility improvements, and economic development projects.
6. Support a cooperative relationship with Alpena County Sherriff Department, Michigan State Police, City of Alpena and surrounding townships in the provision of fire and safety services.
7. Maintain and when necessary upgrade Township Hall and fire station. Investigate outside funding sources such as grants, donations, low interest loans and foundations.
8. Develop a capital improvements plan to address the long term needs for road improvements, water and sewer, township hall maintenance, fire protection, emergency services, and community recreation.
9. Continue implementation and expansion of recycling.
10. Support development of corridor planning and improvements for US-23 North & South and M-32. Work cooperatively with neighboring communities, Michigan Department of Transportation, Alpena County Road Commission, landowners and businesses to address corridor planning and improvements.
11. Enhance streetscapes to include pedestrian-friendly features such as trees, street furniture, trash receptacles, pedestrian-scaled lighting and public art.
12. Investigate a wayfinding program designed to enhance tourism opportunities and promotion.
13. Work with the Alpena County Road Commission and Michigan Department of Transportation to plan for upgrading of roads, maintaining existing roads, and addressing vehicular and pedestrian safety at intersections and on roadways. Evaluate local funding options for funding roads and pathways. .
14. Encourage the continued efficient use and maintenance of existing roads.

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15. Plan for safe access and circulation of vehicles as well as bikes, wheelchairs pedestrians.
16. As part of this *Comprehensive Plan Update*, adopt the improvement strategies and recommendations of the *Alpena Area-Wide Comprehensive Transportation Plan*, which pertain to Alpena Township, including route improvement needs.
17. Encourage the continuation and expansion of public transit to better serve the needs of senior citizens and other transit dependent Township residents.
18. Encourage the placement of utilities underground within developed areas; and utility construction or improvements to coincide with development.
19. Require developers to manage stormwater to reduce flooding, non-point pollution and impacts to neighboring properties.
20. To eliminate run-off impacts to adjacent properties, site plans should show existing ground elevations and proposed filling required for site development.
21. Paving projects should be reviewed for drainage impacts.
22. Address flooding and stormwater management issues by conducting a study, and pursuing public and private funding options to make improvements.
23. Design public facilities to be handicapped accessible and ADA compliant, and to accommodate and serve retired residents.
24. Support the development of affordable telecommunications options and wireless internet.

Economic Development

Goal: Provide for economic growth that creates a diversified economic base and improves the competitiveness of the community's economy by enhancing employment opportunities for residents and the profitability of businesses and industries, while maintaining the community character and environment.

Objectives:

1. Strive to balance economic development with the rural character of the Township.
2. Encourage a diverse mix of new businesses.
3. Work with TARGET Alpena to improve existing business retention programs.
4. Continue to investigate and implement methods to develop high speed telecommunication service in rural areas, while maintaining a rural character.
5. Work with TARGET Alpena to encourage economic expansion through the promotion and attraction of new businesses.
6. Ensure reasonable land use and development regulations and the development of infrastructure and facilities necessary to support economic development in a planned and managed way.
7. Cooperate with regional economic development organizations to explore ways that help promote and develop all of Northeast Michigan.
8. Support the expansion of infrastructure required to make the Township attractive to commercial, industrial, and home-based business.

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Government

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

Objectives:

1. Promote intergovernmental and regional cooperation on issues of mutual concern.
2. Investigate ways to generate economies of scale and cost savings through collaboration and coordination with other local units of government.
3. Ensure a responsible fiscal policy and budget process to finance the Township government.
4. Promote the involvement of volunteers in the governmental process and establish a clear policy for soliciting volunteers.
5. Maintain communication with the Department of Natural Resources to provide input into the usage and management of the public lands and parks within the Township.
6. Explore joint meetings with other local planning commissions to discuss coordination or cooperation.
7. Work with the Township Board:
 - a. to deliver township services in a wise and efficient manner.
 - b. on planning for future issues impacting Alpena Township.
 - c. to ensure continued funding and support for the Alpena Township Planning Commission.
8. Focus on cross-jurisdictional issues when reviewing community master plans and zoning ordinances.

Goal: *Communicate effectively with the public.*

Objectives:

1. Continue to use the 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. Inform the public about the scope and value of Township services.
3. Encourage public feedback from all residents on issues impacting Alpena Township.
4. Continue to utilize web based surveys to solicit community input on issues facing the township.
5. Support public education programs regarding existing programs and facilities.

Natural Environment

Overall Goal:

Preserve, protect and maintain environmentally sensitive areas, open space, public parks and the ecological, visual, forest, wetland, water and scenic resources for the enjoyment of residents, tourists and future generations.

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Collaboration

Goal: Use a collaborative approach to protecting and managing natural systems by forming partnerships with local, regional, state and federal agencies, adjacent units of governments, county government, and resource organizations.

Objectives:

1. Participate in organized efforts to manage and protect the community's natural and water resources including, state forest lands, Rockport State Park, private forest lands, Thunder Bay River, Long Lake, and Lake Huron. Organizations include Negwegon, Rockport & Thompson's Harbor (NRTH) Citizens Advisory Committee, Rockport State Park, Friends of Rockport State Park, Friends of U.S. Fish and Wildlife Service, Michigan Coastal Management Program (MDEQ), Huron Pines RC&D Council and Thunder Bay River Restoration Committee.
2. Encourage local organizations, businesses, government agencies, educators and private citizens to become active participants in natural resource protection in the community through voluntary conservation programming.
3. Work with state agencies, conservation groups and private individuals to preserve unique natural areas.
4. Support studies that identify ways to protect critical resources, wildlife habitat, water resources, ecological corridors, scenic areas and vistas, and other important ecological resources.
5. Establish an informal watershed based community collaboration planning committee with the adjacent townships of Krakow and Presque Isle to discuss common resource related issues, and work towards more consistent planning and land use regulations related to water resource protection. The three communities have waterfront on Long Lake.
6. Invite guest speakers (MDNR, Michigan State University Extension, US Fish and Wildlife Service, NOAA, Natural Resource Conservation Service, Alpena Conservation District, Northeast Michigan Council of Governments, Huron Pines RC&D Council, Audubon, Chamber of Commerce, Thunder Bay River Restoration, etc.) to lecture or hold discussions on all aspects of the natural environment.

Resource Conservation

Goal: Develop planning & zoning strategies that recognize the land's environmental constraints; consider level of infrastructure available/needed; support concept of sustainable development.

Objectives:

1. Plan for a land use pattern that is oriented to and respects the natural features and water resources of the area by evaluating:
 - a. type and density of proposed developments based on soil suitability;
 - b. slope of land;
 - c. potential for ground water and surface water degradation and contamination;

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- d. compatibility with adjacent land uses;
 - e. and impacts to sensitive natural areas including shoreline, wetlands, wildlife habitat, wildlife corridors, water quality and wooded areas.
2. Review model ordinance language in the DEQ Filling the Gaps publication and consider use of resource overlay zones; environmental assessment requirements; fees for professional reviews; sensitive areas protection, PUD/cluster development, conservation cluster residential development; site plan review standards; shoreline protection provisions; recommended setback distances; stormwater management guidelines; greenbelt provision language; groundwater protection standards; and coordinated permit review and approval procedures.
 3. Consider zoning and development design standards to supplement State and Federal laws pertaining to wetlands and water resource protection.
 4. Evaluate the environmental impact of all new development through the site plan review process.
 5. Encourage the use of native plants for reforestation, wildlife habitat, street and neighborhood trees, landscaping, parks and roadside corridors, by providing a list of recommended native plants.
 6. Enact guidelines for, and encourage the use of cluster development that follows a creative design, retains open areas, indigenous vegetation, and other natural features.

Goal: Support the long term conservation the natural environment by protecting groundwater, surface water, environmentally sensitive areas, shorelines, and highly erodible areas; and supporting proper management of woodlands, wetlands, open space, fish and wildlife.

Objectives:

1. 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.
2. Preserve topography such as slopes, valleys and hills by limiting the amount of cut and fill during site development.
3. Integrate wetlands, woodlands and meadows into site development as aesthetic and functional features.
4. 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.
5. Use natural/native plant landscaping, where appropriate, in community parks and around public facilities.
6. 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.
7. Work with county departments to assure enforcement of regulations such soil erosion and sedimentation control.

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8. Due to negative impact to groundwater and surface water resources, discourage the establishment of large Confined Feeding Operations (CFOs).
9. Encourage the preservation, enhancement and restoration of important ecological corridors and critical wildlife habitat for resident and migratory wildlife species.
10. Identify and protect desirable open space areas, scenic vistas and environmentally sensitive lands, such as the karst features in the northern portion of the Township and the Lake Huron shoreline.
11. Support efforts to preserve priority conservation areas through Voluntary Conservation, Conservation Easements, Purchase of Development Rights (PDR) and Fee Simple Purchase.
12. Pursue outside funding sources, such as grants, for land acquisition of sensitive areas.
13. Direct development away from wetlands, environmentally sensitive areas and high risk erosion areas.
14. Attend workshops that focus on water quality, woodlands, wetlands, threatened and endangered species, and wildlife habitat.
15. Support continued efforts to document presence of threatened and endangered species and plant communities and to develop strategies that conserve those finite resources.
16. Encourage education programs to increase public awareness about invasive species.

Water Resource Protection

Goal: Preserve and improve surface water and groundwater resources that are essential to the Township's short-term and long-term economic viability and the overall quality of life for Township residents.

Objective:

1. Regulate the density and type of development adjacent to lakes, ponds, streams, and wetlands.
2. Improve greenbelt areas adjacent to lakes, ponds, streams, and wetlands by reviewing and updating the greenbelt section in the zoning ordinance.
3. Evaluate the establishment of a waterfront overlay districts that will set forth consistent special requirements and standards for development along designated waterfronts.
4. Adopt area-wide stormwater management ordinances to regulate the conveyance, containment and treatment of stormwater run-off.
5. Coordinate with the Health Department in implementing regulations to require regular inspection and maintenance of septic tanks and other environmental alterations.
6. Preserve the scenic and fragile nature of waterfront property from the negative impacts caused by intensive development and provide areas for public access and enjoyment.
 - a. Consider development of a zoning district specific to waterfront properties in the Township.
 - b. Develop zoning restrictions that recognize the unique character and sensitive nature of waterfront property.
 - c. Encourage conservation easements on waterfront properties considered to hold scenic shoreline views.
 - d. Evaluate keyhole development regulations for waterfront areas.

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7. Inventory and enforce all Township owned easements and alleys designated for the public use.
8. Encourage the use of land and construction of new buildings in ways that protect groundwater from contamination by ensuring storage and use of hazardous substances occurs only in places with adequate secondary containment, separation from wells, and away from drains that discharge into soil.
 - a. Review and if necessary amend the zoning ordinance standards related to groundwater protection.
 - b. Protect groundwater from pollution by addressing secondary containment, drain discharge location, and setback from wells in Site Plan Review standards.
 - c. Provide educational materials to citizens and stakeholders on protecting groundwater and on the outcome of groundwater monitoring.
 - d. The Planning Commission and Zoning Administrator will coordinate the Site Plan Review, and compliance inspections with the Health Department and Drain Commissioner.

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.

Objectives:

1. Support and provide for the conservation of public and private forests through 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 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 Alpena Township.

Objectives:

1. Recognize the importance of farms in Alpena 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).

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Recreation and Public Lands

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

Objectives:

1. Keep the Township Recreation Plan updated to identify and prioritize community recreational needs.
2. Pursue outside funding sources, such as grants, for land acquisition and/or recreational improvements, as outlined in the *Alpena Township Recreation Plan*.
3. Construct recreational facilities that are handicapped accessible and ADA compliant in order to accommodate persons with disabilities.
4. Support the Historic Structures Report (HSR) recommendations for Thunder Bay Island.
5. Work in partnership with Thunder Bay Island Preservation Society (TBIPS) Bureau of Land Management (BLM), National Oceanic and Atmospheric Administration (NOAA), Michigan Department of Natural Resources (MDNR) Michigan Department of Transportation (MDOT), Alpena County Road Commission, and the State Historical Preservation Office (SHPO) to develop the Township owned historic property into a day use park.
6. Retain, and where appropriate, acquire public water access sites.
7. Implement the Alpena Township Nature Preserve Plan. Given the plan was developed in 2008, it might be necessary to update the management plan. It would be possible to pursue grant funding to update the plan.
8. Focus on maintaining and improving existing, and where possible 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.
9. Support cooperative recreational planning and development between the Township, City of Alpena, Alpena County, schools, non-profits, civic and church groups, and private entities.
10. Work with the regional, state and federal agencies to create and expand recreation trails such as water, x-country skiing, hiking, biking, horse riding, ORV and snowmobile trails in the area.
11. Maintain communication with the Department of Natural Resources to provide input into the usage and management of the public lands within the Township.
12. Support the Department of Natural Resources activities related to improvements to Rockport State Park, such as additions to the park, recreational facilities, trails and trail connectivity consistent with the management plans developed for those facilities.
13. Through zoning and review procedures, proposed subdivisions, site condominiums, planned unit developments, commercial and industrial developments should be encouraged to provide or participate in the development of neighborhood parks and open space.
14. Encourage creative design and planning techniques such as PUD's, clustering and

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conservation easements, for all new development so as to maintain open space and scenic vistas.

15. Encourage the establishment of a "Friends of the Preserve" support group to help develop and maintain the Alpena Township Nature Preserve.

Summary

The goals and objectives enumerated above by the Planning and Zoning Commission are guidelines for the future development of the community. It is essential that these goals and objectives be seriously considered. They will help maintain an orderly, prosperous and attractive development pattern in Alpena Township. As the planning process progresses, the goals and objectives may be altered and new ones formed. Thus, these recommendations are flexible and need constant attention. It is the recommendation that the goals and objectives be reviewed and updated as necessary on an annual basis. However, the Michigan Planning Enabling Act of 2008 requires the plan to be reviewed every five years to determine whether to commence the procedure to amend the plan or adopt a new plan.

Chapter 7: Future Land Use Plan

The Planning Commission updated the future land use recommendations for this *Alpena Township Master Plan Update* with assistance from the professional planning consultant. Recommendations are based on an analysis of several factors including: existing land use patterns, social and economic characteristics, environmental conditions, available community services and facilities, existing land division patterns, property ownership, existing zoning, and community goals and objectives. Because the Planning Commission feels that the major land use recommendations from the previous plan were accomplished, this future land use plan varies only slightly from existing zoning and does not recommend major changes.

Comparisons were also made to existing land use, existing zoning, and future land use recommendations from communities adjacent to Alpena Township's boundaries. In addition to the Planning and Zoning Commission participation, the planning process included the Township Board, Township Zoning Board of Appeals and the Zoning Administrator.

The recommended future land use plan identifies locations for eight different land use classifications: conservation, forest/recreation, agricultural, waterfront residential, single-family residential, mixed residential, commercial, and industrial/extractive. **Figure 7-1**, Future Land Use Map, illustrates the distribution of future land uses by category. Activities anticipated within each of these land use categories are discussed below.

Environmental Conservation

Several areas with unique or fragile environmental characteristics were identified during the planning process. These areas are intended to be protected from potential dense development by appropriate zoning restrictions. This future land use plan does not restrict privately owned parcels from all development; rather, the intent is to restrict the density of development. Conservation areas are noted in dark green on **Figure 7-1**. One large conservation area is the ridge and swale area near Devil's Lake at the Township's south end. This area is the remnant of a Lake Huron shoreline during glacial times. Both the topography and the vegetation make the area unique, and the intermittent wetlands make the area difficult to develop. A good portion of this area is in state ownership and is part of the Mackinaw State Forest. The extensive wetlands associated with Squaw Bay (east and west of US-23) are recommended for conservation status. The Nature Conservancy has secured a large parcel adjacent to the bay for protection.

Several areas on the North Point peninsula, El Cajon Bay, and Misery Bay are included in the conservation category, as recommended by the *Misery Bay Initiative*, an extensive environmental study of the area conducted by Northeast Michigan Council of Governments (NEMCOG) with funding from the Environmental Protection Agency (EPA). The study's overall goal is "to protect and enhance the physical, chemical, and biological integrity of the Misery Bay ecosystem." The Alpena Township Nature Preserve is located El Cajon Bay along the Lake

Huron Coastline in eastern Alpena County. The property covers 133 acres including 9,632 feet of Lake Huron shoreline along the south shore of El Cajon Bay and is located in Section 15 of T.31N.-R.9E.

The Rockport property spans the county line covering parts of Alpena and Presque Isle Townships. In 2012 the Michigan Department of Natural Resources established the Rockport State Park, which encompasses 4,237-acres (17.15 km²). The park contains limestone formations, sinkholes, miles of beaches and an old limestone quarry. The park is located along the Lake Huron Flyway. Several ship wrecks can be found off-shore in the Thunder Bay National Marine Sanctuary including the Portland and the Portsmouth. Other state owned land and the off-shore islands are also included in the conservation category.

Forest/Recreation

Forested land is the most predominant land use currently existing in the Township (more than 60 percent), and the future land use plan recommends the preservation of these areas as much as possible. This category covers a large number of properties between the developed U.S. 23 North corridor and the Lake Huron shoreline, which are remote from existing development or paved roadways. The forest and recreation area includes areas used for timber harvesting, as well as extensive hunting and recreational lands.

In areas within the forest/recreation development category, privately owned lands may be used for single-family residences (both year-round or seasonal), hunting camps, forest products harvesting, recreational uses, and farming where soil conditions are suitable. The protection of forested land, wetlands and nonforested open space is critical to preserving the rural character of this portion of the Township. Land recommended for the forest/recreation category is shown on the future land use map as light green.

Agricultural

Alpena Township has a number of productive agricultural areas located on good farm soils, although actual farming has decreased in recent years due to economic reasons. The Planning and Zoning Commission recommends keeping these areas in farm use where soils are suitable. A large concentration of farmland lies southwest of Long Lake and extends to the western boundary of the Township. Two other farmland clusters lie east of U.S. 23 North. The larger of the two is located in the vicinity of Kirchoff and Bloom Roads. A small area of active agricultural land lies at the far southwest section of the Township adjacent to Spruce Road. Uses recommended for the agricultural category are crop production, livestock, plant nurseries, orchards, tree farming, single-family residences, farm buildings, kennels, and small scale agricultural products processing. The future land use map shows the agricultural category as tan in color.

Waterfront Residential

Due to the Township's large supply of waterfront property, a good portion of the existing residential development has occurred near waterways. To preserve the scenic beauty, property values and environmental integrity of waterfront areas, this future land use plan recommends

the continuation of existing “Waterfront Residential” zoning designation. However, a change in zoning is recommended for an area at Misery Bay. The platted but never developed Prospect Park Subdivision has been identified by the *Misery Bay Initiative* as an environmentally sensitive area and not suitable for residential development. Most of the lots in the subdivision have reverted to state ownership, and there are no roads into the area. The future land use plan supports the change of zoning from “Waterfront Residential” to “Conservation” for Prospect Park. The future land use map show the waterfront residential category as blue in color.

Single-Family Residential

Residential development, primarily designed to accommodate single-family dwellings on a range of lot sizes, is shown as yellow on the future land use map. Community uses such as parks, churches, schools, libraries, cemeteries, golf courses, and child care facilities may also be allowed in this area if designed to be compatible with the residential setting. Home-operated businesses are also recommended in these areas provided the residential character of the neighborhood is preserved.

The single-family residential designation 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. In addition to areas identified for residential development on the future land use map, this document recognizes that rural residential development has occurred and will continue to occur in certain locations within the forest/recreation areas of the Township.

Mixed Residential

This category is shown as orange on the future land use map and generally includes areas that are currently zoned “R-3 Mixed Residential District” where uses include those in the single-family residential areas, as well as multiple-family dwellings, elderly housing, long-term care facilities, hospitals and similar uses.

Commercial Development

Three primary areas are designated for commercial development, and each of these areas is partially developed for commercial purposes at the present time. These areas are shown in red on the future land use map and include U.S. 23 South corridor to Partridge Point, U.S. 23 North corridor to Bradbury Road, and M-32 West corridor to the Township boundary. Recommended uses for commercial areas designated on the future land use map include: retail stores, business and personal services, professional offices, food service, lodging facilities and similar uses. The “Office Service” zoning designation is recommended to continue on the east side of U.S. 23 North at the Hamilton Road intersection.

A small neighborhood commercial center is proposed around the intersection of U.S. 23 and Long Lake Road to serve the Long Lake residential community. Although a number of commercial enterprises are currently scattered on the U.S. 23 North corridor between Long Lake and Bradbury Road, further strip commercial development in this area is not

recommended. However, these future land use recommendations are intended to encourage the continuation of existing commercial uses in this area.

An “urban service limit line” is suggested to avoid urban sprawl, and concentrate more intensive land uses closer to the Alpena urban core. It is recommended that any development needing public sewer and water services and other urban amenities be located within the urban service limit area. **Figures 4-1** and **4-2** show the public water and sewer service areas.

Industrial/Extractive

Industrial and extractive areas are shown on **Figure 7-1** as purple. The areas generally include land where industrial or mining activities currently exist or where land is zoned for that purpose. Uses such as the following are recommended for this land use category: manufacturing or assembling establishments, wholesale commercial businesses, machine shops, wood products industries, contractors’ storage yards, and extractive industries. Commercial activities compatible with an industrial setting are also recommended for the industrial development area. Uses established in this area should be environmentally friendly, and a landscape buffer or fencing should be provided between the industrial use and any non-industrial adjacent property. As in the commercial development recommendations, this plan does not advocate the interference with existing industrial activities operating in outlying areas surrounded by other predominant land uses.

Transportation

The *Alpena Area-Wide Comprehensive Transportation Plan* was recently completed with assistance from NEMCOG. The plan studied existing traffic patterns and problems, especially those related to the M-32 West and Bagley Street vicinity. This update of the *Alpena Township Comprehensive Plan* recommends incorporating the implementation measures of the *Transportation Plan* pertaining to Alpena Township into the future land use recommendations of this chapter.

A private airport (Silver City Airpark) is located at the southwest corner of the U.S. 23 North and Bloom Road intersection. The Michigan Aeronautics Commission has adopted an *Approach Protection Plan* for this site. **As required by recent legislation, the plan must be included in a community’s master plan. It is included as Appendix A.**

U.S. 23 is being proposed as a State designated “Heritage Route”. The *Alpena Township Comprehensive Plan* supports the recommendations for Alpena County. Section 3-Action Plan (Goals, Objectives and Priority Tasks) of the *US-23 Sunrise Side Coastal Highway Management Plan* is attached as Appendix C for reference.

Special Issue Areas

Parks and Community Recreation

The community survey found residents are interested in maintaining and expanding recreational opportunities, and recognizes the importance of outdoor recreation to the local economy.

Rockport State Park, public access sites and waterways are key assets. The community also supports the development of non-motorized trails along the US-23 Corridor and within the Township. This plan recommends Alpena Township work with adjacent communities, MDNR and MDOT to develop these trails. Alpena Township has acquired property on Thunder Bay Island that includes the lighthouse/keepers house and fog horn building. The community supports the development of a day-use park on Thunder Bay Island by working with TBIPS, BLM, SHPO, NOAA, MDNR, and MDOT. In 2008, the Township developed a management plan for their Nature Preserve on Misery Bay. The community has not worked to implement recommendations in the management plan. Since nearly ten years has passed, it would be advisable to update the plan by re-examining the property and stated goals and objectives.

Resource Protection and Management

The community survey, conducted for this master plan update, clearly shows the rural landscape of forests, wetlands and farms is highly valued in the township. This plan supports the retention of forestlands, farmlands and wetlands in the township. The Township should work with organizations such as Michigan Department of Natural Resources, Michigan Department of Environmental Quality, Michigan Coastal Management Program, Great Lakes Restoration Initiative, U.S. Fish and Wildlife Service, Huron Pines RC&D Council and Thunder Bay River Restoration Committee. Timber management and regeneration of mature stands are keys to reducing fuel build-up and threats to wildfires. A technique for maintaining a forested atmosphere is to hide development from adjacent roads and properties. Arranging lots and internal subdivision roads to use hills and ridges on the site is an effective way to hide homes, outbuildings, and lawns. Use of woodlands and existing native vegetation may also make very effective screens for all types of development.

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

Corridor Redevelopment

There are three primary highway corridors in Alpena Township: US-23 South, US-23 North, and M-32. As older development ages and new approaches to corridor development become available, the community should support redevelopment activities to improve the overall quality. This can be done by conducting corridor studies, building coalitions with landowners and business, developing corridor overlay zoning districts, mixed use zoning, PUD's and seeking alternative funding sources.

Landowners and business owners along US-23 South have organized to support corridor improvements and have developed the South Bay Corridor Plan. The plan recommends

improvements that include the following: 1) **Business revitalization** to include new construction, reuse of existing structures, and the demolition of deteriorated buildings. 2) **Building of multi-family housing** to include condominiums, townhouses, apartments, row houses, and so on. 3) **Addition of new parks with amenities** to include picnicking, walking trails, fishing, kayaking, and so on appropriate to the location. 4) **Addition of non-motorized trails** linking to the regional trail system to include walking trails/bike paths.

Roads

Money for maintaining county roads comes from state and local sources. The Township pays part of the cost of upgrading roads. The Township intends to work cooperatively with the County Road Commission to implement a coordinated asset management program to maintain and improve the road network. However, there are no intentions on upgrading the entire gravel road network to a paved road network. To address safety, maintenance and possible conversion to public ownership, it is recommended the Township adopts driveway, private road and access management standards.

Hazard Mitigation

The Alpena County Hazard Mitigation Plan ranked the following six hazards as priority concerns: dam failure, infrastructure failures, fixed site hazardous materials, structural fires, winter weather hazards, and transportation accidents. Other concerns included: transportation of hazardous materials, riverine flooding, tornados, extreme temperatures, severe winds and wildfires. Hazard Mitigation actions can be grouped into six broad categories: Prevention, Structural Projects, Public Education and Awareness, Natural Resource Protection, Emergency Services and Property Protection.

The Township has a primary role in implementing the hazard mitigation plan, in particular the following three action categories.

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 minimize 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.

Parts of Alpena Township have ongoing issues related to flooding. In 1999, the Fletcher Creek Watershed Study, funded by the Economic Development Administration (EDA), identified

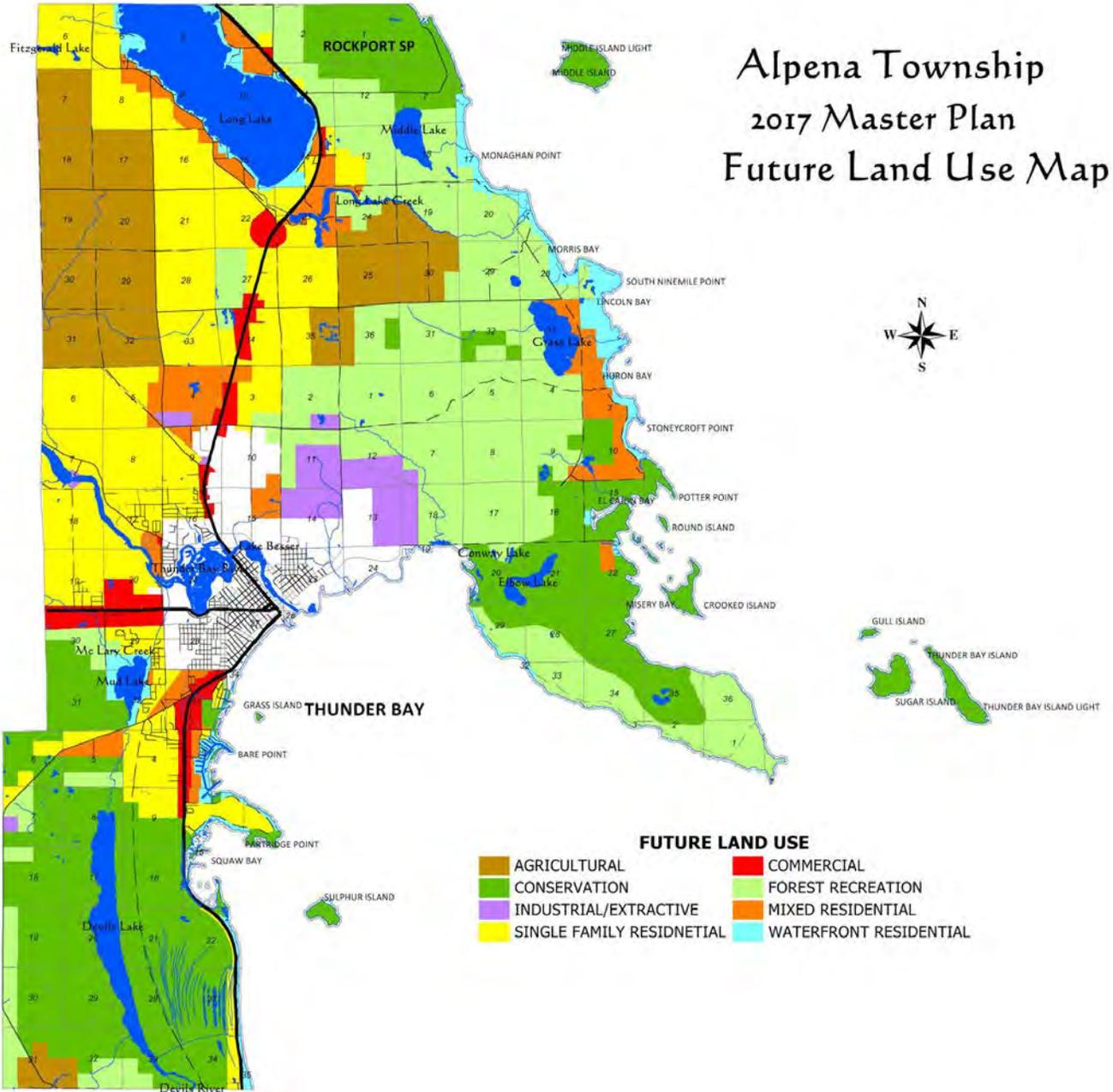
stormwater problems, and developed proactive and remedial measures to prevent flooding of the Fletcher Creek watershed. Funding has been the main limitation to implementing study recommendations. Alpena Township has since talked with the Army Corps of Engineers to develop a more detailed study; however, funding for the study is not currently available. For long term community sustainability, it is important to address existing flooding problems and follow stormwater management standards for new development.

Open Space Development

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

Methods 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. It is recommended that these alternatives be considered in Alpena Township as a way to balance economic rights with wildlands preservation goals. Incorporating open space requirements into Planned Unit Development zoning is a means of achieving this goal.

Figure 7-1, Future Land Use Map



Chapter 8: Implementation and Adoption

Plan Coordination and Review

As required by the Michigan Planning Enabling Act of 2008 (P.A. 33 of 2008 as amended), notification of intent to update the Master Plan was sent on January 25, 2017 to all adjacent communities and other relevant entities to request cooperation and comment. A copy of the notice letter, affidavit of mailing and entities notified can be found at the end of this chapter.

After the draft plan was completed by the Planning Commission, a draft was transmitted to the Township Board for approval to distribute the plan for review and comment. The draft plan was transmitted on April 4, 2017 to Presque Isle Township, Krakow Township, Maple Ridge Township, Wilson Township, City of Alpena, Sanborn Township, Ossineke Township, Alpena County, Presque Isle County and NEMCOG. After adoption the master plan was transmitted to all required entities.

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 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. Notices of the public hearings were published in the Alpena News on August 4, 2017, 2017. The Planning Commission held a public Hearing on the Master Plan on August 21, 2017. Copies of the public hearing notice are reproduced at the end of this chapter.

Plan Adoption

The Alpena Township Planning Commission formally adopted the master plan on August 21, 2017. The Alpena Township Board passed a resolution of support the master plan on August 28, 2017.

Plan Implementation

The Master Plan was developed to provide a vision for Alpena Township. 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 Planning Commission will review the goals and objectives of the Master Plan and identify objectives to be completed that year. Those objectives 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

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implementing the Tri-Township Master Plan. This plan recommends the Township's zoning ordinance be reviewed to ensure the regulations 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 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 Planning Commission will review the zoning ordinance to determine if the following items are properly addressed: signs and billboards, access management, open space, waterfront greenbelts, mixed use neighborhoods, landscaping and screening, stormwater management, home-based businesses, groundwater protection, keyhole or funnel development, agricultural uses, and outdoor lighting. The planning commission will consider incorporating supplemental site development standards and highway corridor overlay zones for US-23 and M-32.

Using Michigan Department of Environmental Quality's, "Filling the Gaps" publication, the Planning Commission will consider use of resource overlay zones; environmental assessment requirements; fees for professional reviews; sensitive areas protection, PUD/cluster development, conservation cluster residential development; site plan review standards; shoreline protection provisions; recommended setback distances; stormwater management guidelines; greenbelt provision language; groundwater protection standards; and coordinated permit review and approval procedures.

Chapter 7, Future Land Use Plan 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, however, the map shows some areas will transition to residential or forest recreation uses.

Conservation FLU areas include public lands and private lands with extensive wetlands, lowland forests and flood plains. The future land use map recommends expanding the Conservation zoning district boundaries to include public lands within Rockport State Park and privately owned lands that are environmentally sensitive on North Point and Misery Bay.

The Forest Recreation Future Land Use is consistent with the Forest Recreation zoning district. The future land use map supports adjustments to zoning district boundaries whereby some areas would be transitioned to Conservation zoning and other areas currently zoned for other uses would transition to Forest Recreation zoning.

General Commercial FLU identifies areas of existing commercial development and allows for expansion of new commercial enterprises. Township should review and if needed amend general provisions and supplemental regulations to address groundwater protection, noise, lighting, landscaping, berms, 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.

The Industrial Future Land Use category include areas zoned Light Industrial and Mixed Industrial. The maps supports expanding the industrial zoning to be consistent with existing land uses such as extractive in Sections 11, 12, 13, & 14 in T.31N.-R.8E. Additionally, there are

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areas south on M-32 and adjacent to Piper Road currently zoned Light Industrial that would change to other zoning. Township 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.

The Residential FLU category includes areas zoned as R-1 and R-2. The maps expansion of areas zoned as residential. The Mixed Residential Future Land Use category includes currently zoned as R-3. The future land use plan supports changing boundaries of the Mixed Residential Zoning District.

The Waterfront Residential FLU category covers shorelines of Lake Huron, Long Lake and Sunset Lake. The future land use plan supports changing district boundaries to reflect current development patterns and environmental constraints. Regulations related to water quality protection will be reviewed as indicated above.

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 or County must have a current DNR approved Community Recreation Plan to be eligible for recreation grant funding. Alpena Township has an approved plans. 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.

Official Documentation

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

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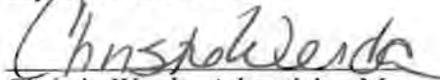
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State of Michigan)
County of Alpena) ss:

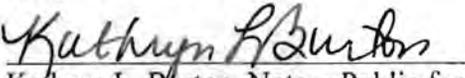
Personally appeared before me,
Christie Werda, Advertising Manager of
Alpena Newspapers Publishing
A newspaper printed, published and
circulated in said county, and that he
knows of his own Knowledge that the

Alpena Township – Master Plan

Made solemn oath that the attached
notice was inserted for 1 time(s) in said
newspaper; and that the first of said
publication was on the 4th day
AUGUST 2017 and the last of said
Publication was on the 4th day of
AUGUST 2017. And further
deponent saith not.



Christie Werda, Advertising Mgr.
Sworn to before me and signed in
my presence, this 4th day of
AUGUST 2017.



Kathryn L. Burton, Notary Public for
Alpena County, Acting in Alpena County.
Notary Expires: 9/3/19.

**PUBLIC HEARING
NOTICE**

**ALPENA TOWNSHIP 2017
MASTER PLAN**

The Alpena Township Planning
Commission will hold a public
hearing on its 2017 Township
Master Plan at 7:00 p.m. on August
21, 2017, at the Alpena Township
Hall located at 4385 U.S. 23 North,
Alpena, MI 49707. The draft
Master Plan can be viewed on the
Township's Web Site: [http://
www.alpenatownship.com/](http://www.alpenatownship.com/)

Written comments may be
mailed to: Alpena Township
Planning Commission, 4385 U.S.
23 North, Alpena, MI 49707; or
emailed to:
alprwn@alpenatownship.com
August 4, 2017

ALPENA TOWNSHIP PLANNING COMMISSION

MINUTES - Regular Meeting

Monday, August 21, 2017

MEETING COMMENCED: 7:00 PM

PLEDGE OF ALLEGIANCE

THOSE PRESENT

Secretary Lisa Brendle, Larry Dehring, Chairperson Tom Hilberg (arrived at 7:20), Chuck LeFebvre, Norm Poli, Ann Marie Rich and Vice-chairperson Fred Sterns

ABSENT

None

OTHERS PRESENT

T. Juergen Thusat - 139 Outer Dr
Susan Skibbe - 130 Channel Rd #2
Julie Goldberg - 6651 US 23 N
Jake & Cari Stenz - Applicants
Rudolph Wilke - 5700 Ratz Rd
Tim Carr - 2278 Diamond Pt
Kim Stenz - 1013 Lockwood

Matthew & Christina Klimczak - 153 Outer Dr
Leonard Rospeirski - 120 Russell Ct
Donald Rospeirski - 120 Russell Ct
Dennis Bowen - 111 Russell Ct
Barbara Bowen - 111 Russell Ct
Lee Blanchard - 1720 Lakeview Ct
Asa Blanchard - 1720 Lakeview Ct

ADOPTION OF AGENDA

N. Poli made a **motion** to adopt the agenda, **supported** by C. LeFebvre. *Motion passed.*

PUBLIC MEETING PARTICIPATION RULES

APPROVAL OF MINUTES

L. Dehring made a **motion** to approve the July 31, 2017 minutes, **supported** by N. Poli. *Motion passed.*

CORRESPONDENCE

- A. Letter Regarding Notice of Revocation of Site Plan for T. O'Connor - Denise Burke
- B. Report for Case #P-03-17 - R. Deuell
- C. Master Plan - Proposed Additions - S. Skibbe

PUBLIC COMMENT

PUBLIC HEARING - 2017 Alpena Township Master Plan

Public Hearing on Master Plan was opened. Public comments were then opened. S. Skibbe reviewed her written comments regarding proposed additions to the Master Plan. Those additions related to Chapters 6 and 7. T. Thusat spoke to Chapter 6, page 6-6, policies 5 and 6, relating to preserving the integrity of existing neighborhoods and encouraging the removal of conflicting land uses. After opening and then closing public comment, the commission deliberated. After closing the public hearing, A. Rich made a **motion** to incorporate attached changes as a result of public input, **supported** by L. Dehring.

Roll call vote: L. Brendle-aye; L. Dehring-aye; T. Hilberg-absent; C. LeFebvre-aye; N. Poli-aye; A. Rich-aye; and F. Sterns-aye. **Motion passed.**

NEW BUSINESS

1. **Resolution of Adoption - 2017 Alpena Township Master Plan**

N. Poli made a **motion** to pass Resolution of Adoption, **supported** by C. LeFebvre.

Roll call vote: L. Brendle-aye; L. Dehring-aye; T. Hilberg-absent; C. LeFebvre-aye; N. Poli-aye; A. Rich-aye; and F. Sterns-aye. **Motion passed.**

2. **Transmission of Adopted 2017 Alpena Township Master Plan to Township Board**

A. Rich made a **motion** to have the Alpena Township Planning Commission, in accordance with Michigan Planning Enabling Act (P.A. 33 of 2008, as amended), transmit the adopted Alpena Township Master Plan to the Township Board for their consideration, **supported** by C. LeFebvre.

Roll call vote: L. Brendle-aye; L. Dehring-aye; T. Hilberg-absent; C. LeFebvre-aye; N. Poli-aye; A. Rich-aye; and F. Sterns-aye. **Motion passed.**

TABLED CASE

a. **Case #P-02-17**, John Ruczynski requested a SPECIAL APPROVAL USE for vehicle detailing. Property is located at 1399 Jesse Road, Parcel No. 011-004-000-520-02 in a One-Family Residential (R-1) zone district.

F. Sterns made a **motion** to table case for one (1) month, **supported** by L. Dehring.

Roll call vote: L. Brendle-aye; L. Dehring-aye; T. Hilberg-aye; C. LeFebvre-aye; N. Poli-aye; A. Rich-aye; and F. Sterns-aye. **Motion passed.**

NEW CASE

1. **Case #P-03-17**, Jake & Cari Stenz requested a SITE PLAN REVIEW/SPECIAL APPROVAL USE for a wrestling club. Property is located at 110 Russell Ct, Parcel No. 018-085-000-043-01 in a One-Family Residential (R-1) zone district.

A signed petition by the property owners in Burk Manor opposing the Special Approval Use request was presented to the commission consisting of thirteen (13) signatures. Property owners stated that the wrestling club is in operation and not conforming to the days/hours as stated in the application. Also noted was the wrestling club status as a not for profit organization. No documentation had been provided regarding a non-profit status.

A. Rich made a **motion** to deny this case, **supported** by N. Poli. Reasons for denying case are:

1. The use, location and size of use, and the nature and intensity of operations will be such as to disrupt the orderly and proper development of the district as a whole, and be in conflict with, or discourage the principal permitted uses of adjacent or neighboring lands and buildings.

2. The use will increase traffic hazards and/or cause congestion on the public highways and streets of the area.
3. It has not been determined that the water supply and sewage disposal system is adequate for the proposed use.
4. Uses by special permit are objectionable to nearby properties by reason of traffic, noise, vibrations, dust, fumes, smoke, glare, flashing lights or disposal of waste than the operation of any principal permitted use.

Roll call vote: L. Brendle-aye; L. Dehring-aye; T. Hilberg-aye; C. LeFebvre-aye; N. Poli-aye; A. Rich-aye; and F. Sterns-aye. Motion passed.

WORKSHOP - Alpena Township Zoning Ordinance

The Board of Trustees agrees that the zoning ordinance needs to be rewritten. T. Hilberg will get with Supervisor Nathan Skibbe to find out if NEMCOG could do a presentation detailing the process involved with updating the zoning ordinance. The Zoning Board of Appeals should also be involved in the process.

NEXT MEETING - September 11, 2017

ADJOURNMENT

Meeting was adjourned at 8:45 by Chairperson Hilberg.

Respectfully submitted,

Lisa Brendle
Secretary

/ldt

**Resolution of Adoption
Alpena Township Planning Commission**

2017 ALPENA TOWNSHIP MASTER PLAN

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

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

WHEREAS: The plan was presented to the public at a hearing held on August 21, 2017, before the Planning Commission, with notice of the hearing being published in the Alpena News on August 4, 2017 in accordance with Section 43(1) of the Act;

NOW THEREFORE BE IT RESOLVED THAT,

The content of this document, together with all maps attached to and contained herein are hereby adopted by the Alpena Township Planning Commission as the Alpena Township Master Plan on this 21st day of August, 2017.

Motion: N. Poli Second: C. LeFebvre

Ayes: L. Brendle, L. Dehring, C. LeFebvre, N. Poli, A. Rich and F. Sterns

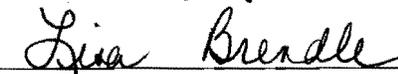
Nays: None

Absent: T. Hilberg

Certification

I hereby certify that the above is a true and correct copy of the resolution adopted at the August 21, 2017, meeting of the Alpena Township Planning Commission.


_____, Chair
Tom Hilberg


_____, Secretary
Lisa Brendle

RESOLUTION OF CONCURRENCE
Alpena Township Board
2017 Alpena Township Master Plan

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

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

WHEREAS: The plan was presented to the public at a hearing held on August 21, 2017, before the Planning Commission, with notice of the hearing being published in the Alpena News on August 4, 2017 in accordance with Section 43(1) of the Act;

WHEREAS: The plan was adopted by the Planning Commission on August 21, 2017;

NOW THEREFORE BE IT RESOLVED THAT,

The Alpena Township Board of Trustees does hereby concur with the action of the Planning Commission by means of passing this resolution on the 28th day of August, 2017.

Motion: Trustee Matt Dunckel

Second: Trustee Norm Poli

Ayes: Trustee Dunckel, Trustee Poli, Trustee Thomson, Clerk Bleau, Treasurer Ellery-Somers, Supervisor Skibbe

Nays: None

Absent: None

Certification

I hereby certify that the above is a true and correct copy of the resolution adopted at the August 28, 2017 meeting of the Alpena Township Board of Trustees.



Karie K. Bleau, Clerk