

MASTER PLAN



CRAWFORD COUNTY
MICHIGAN
2022

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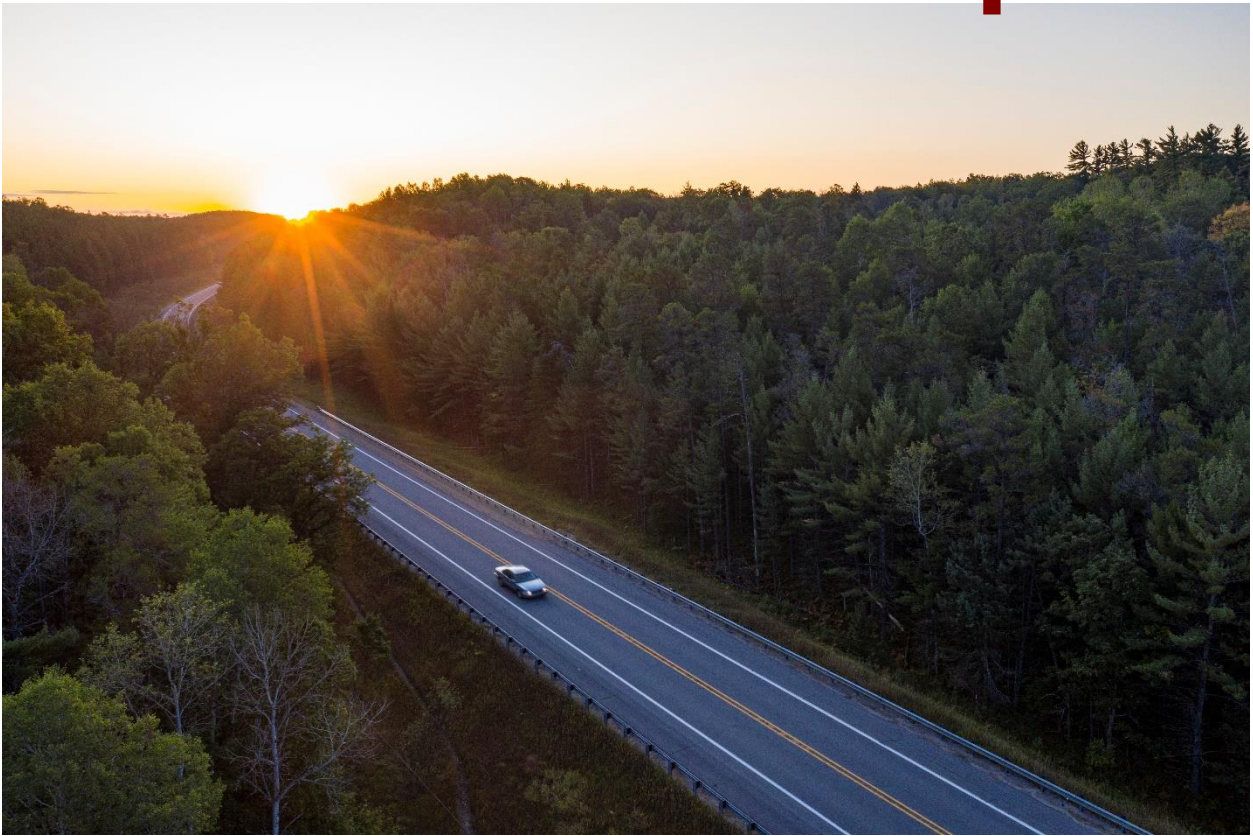
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Chapter 1



Introduction

Chapter 1 – Introduction

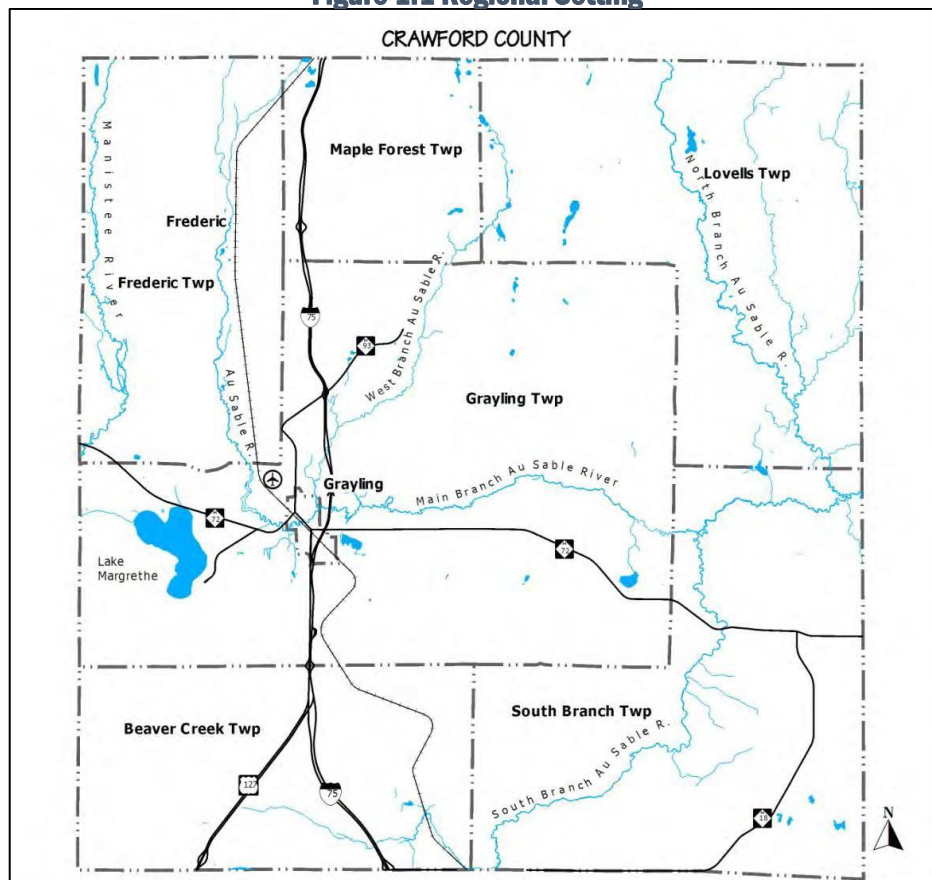
Regional Setting

Crawford County is located in the north central Lower Peninsula of Michigan. The county is composed of six townships: Grayling Township, Frederic Township, Maple Forest Township, Lovells Township, South Branch Township, and Beaver Creek Township. Also located in Crawford County is the City of Grayling, which is the county seat (**Figure 1.1**).

Crawford County is approximately 35 miles from Lake Michigan and approximately 55 miles from Lake Huron. It is bordered on the east by Oscoda County, on the south by Roscommon County, on the west by Kalkaska County, and on the north by Otsego County. Crawford County has a land area of 556 square miles and a population of 12,988. Its population density is 23.3 people per square mile.



Figure 1.1 Regional Setting



Purpose and Planning Process

The Crawford County Planning Commission was formed under County Planning Act 282 of 1945, and under that law commenced updating the Master Plan. In 2008 the Michigan Planning Enabling Act, P.A. 33 of 2008, replaced the County Planning Act. In accordance with the Planning Enabling Act, a county may adopt, amend, and implement a master plan. The Michigan Planning Enabling Act states: *The general purpose of a master plan is to guide and accomplish, in the planning jurisdiction and its environs, development that satisfies all of the following criteria:*

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

The Northeast Michigan Council of Governments (NEMCOG) assisted the Crawford County Planning Commission in preparing the 2022 Master Plan Update, which is based in large part on the 2014 Master Plan. Since Crawford County no longer administers zoning in unincorporated areas of the county, this master plan does not address future land use in detail. Future land use planning is addressed at the township and city level in their respective master planning processes, and those local future land use maps are compiled and included in this 2022 Master Plan Update. This plan presents background information on social and economic data, natural resources, existing community services and facilities, and existing land use. The background information is used to identify important characteristics, changes, and trends in the county. Community zoning maps and future land use maps were compiled to form composite maps that were reviewed and analyzed for consistency and boundary conflicts. As part of the 2022 Master Plan Update, a public input session was held to gain an understanding of the issues and concerns of county residents, landowners, and local officials. Based on this information, the County Planning Commission developed and refined goals and recommendations. The final component involved an analysis of public lands that may be appropriate for transfer into private ownership and would benefit the county and local communities.

Chapter 2



Social & Economic Conditions

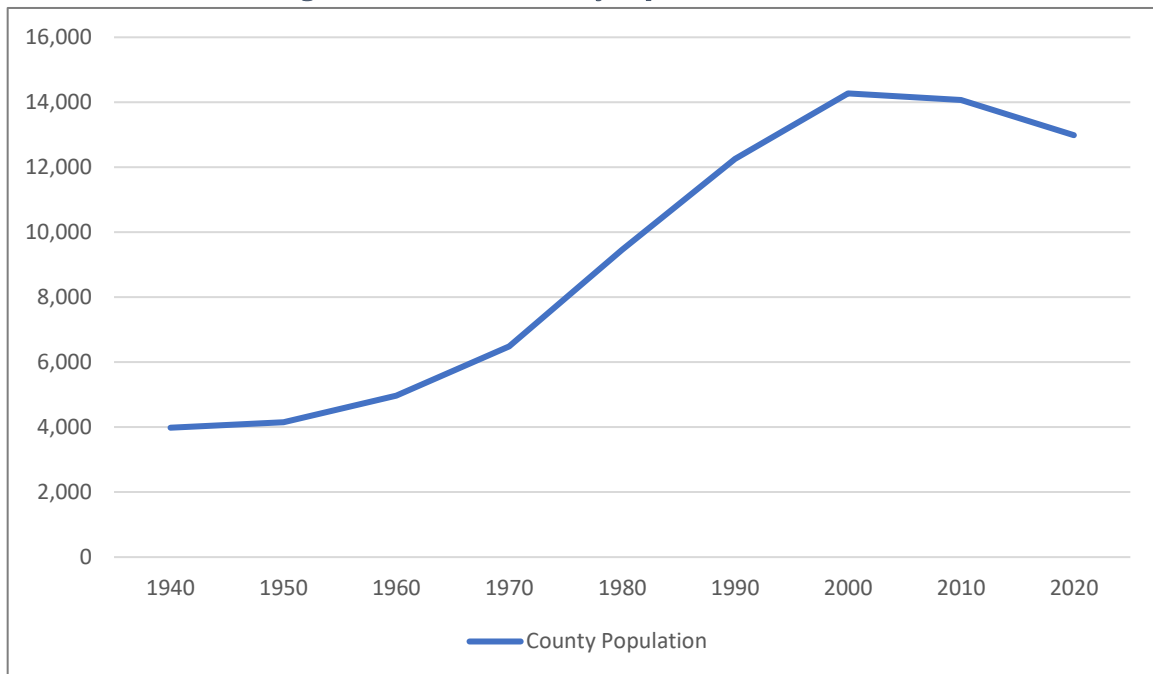
Chapter 2 - Social & Economic Conditions

Population

The 2020 Census showed that Crawford County had population of 12,988, which equated to a 7.7% decline in population from the 2010 U.S. Census. Prior to this, Crawford County had experienced 50-year trend of population gains and a steady growth in population until the latter part of the 2000's, as seen in **Figure 2.1**. Population is concentrated in the City of Grayling and Grayling Township area with other population centers located in South Branch, Beaver Creek, and Frederic Townships.

Further examination of the demographics shows Crawford County's population is aging at a higher rate than the state and nation. Shifting population bases create new demands on community services and emergency response.

Figure 2.1 Crawford County Population 1940-2020

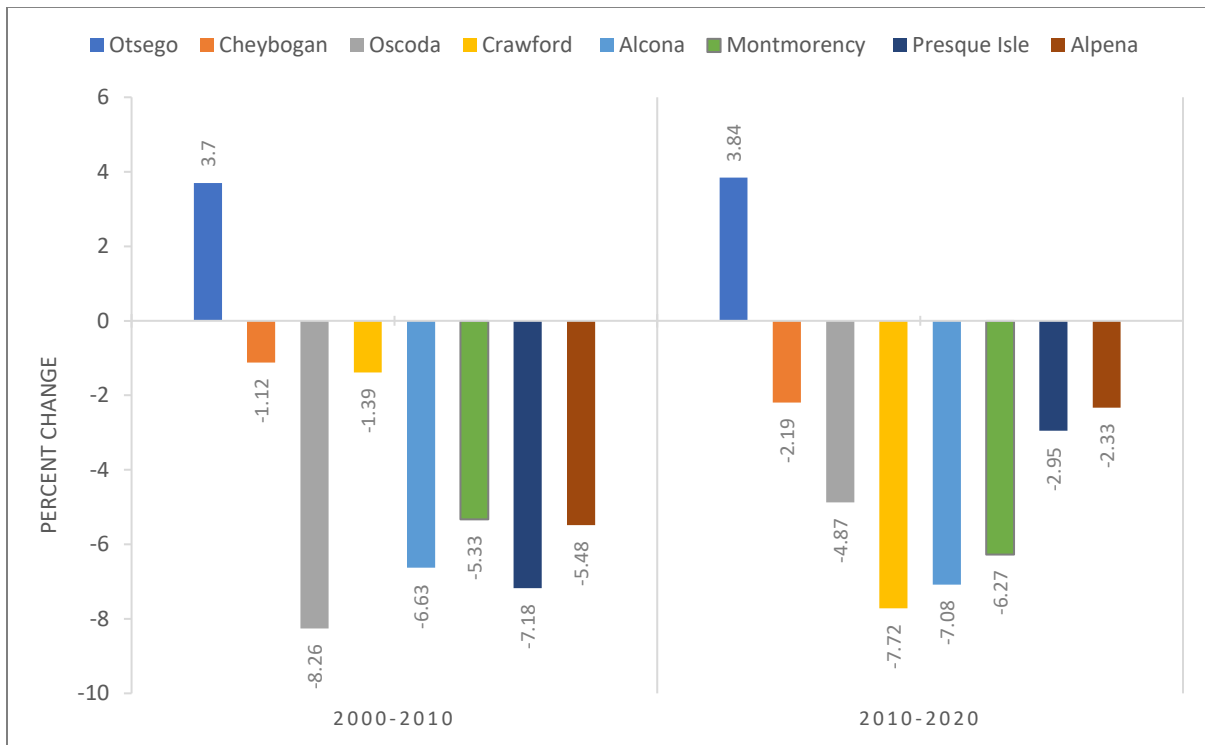


Source: U.S. Census Bureau 2020

The population density for the county averages 23.3 persons per square mile, although 55 percent of the county population is located in Grayling Township or the City of Grayling.

Similar to the majority of the eight counties that make up the Northeast Region, Crawford experienced considerable population decline during the last decade. With the exception of Otsego County, all the counties in the region between 2010 and 2020 experienced population decline that ranged from 1 to 7 percent. See **Figure 2.2** for a comparison of the population changes by county from 2000 to 2010 and from 2010 to 2020.

Figure 2.2 Population Change Northeast Region 2000-2010 and 2010-2020



Population by Municipality

Beaver Creek, Frederic, Grayling, Lovells, Maple Forest, and South Branch Townships experienced population decline over the past decade. The City of Grayling experienced a slight population growth and resulted in the county as a whole showing a population loss over the past decade. **Table 2.1** shows population trends for communities in the county.

Table 2.1 Population For Crawford County & Municipalities, 2010-2020

Municipality	2010	2020	Percent	Numeric
Crawford County	14,074	12,988	-7.72	-1,086
City of Grayling	1,844	1,867	1.25	23
Beaver Creek Township	1,736	1,515	-12.73	-221
Frederic Township	1,341	1,161	-13.73	-180
Grayling Township	5,827	5,642	-3.17	-185
Lovells Township	626	567	-9.42	-59
Maple Forest Township	653	598	-8.42	-55
South Branch Township	2,007	1,638	-18.39	-396

Source: U.S. Bureau of the Census, 2010 Census, 2020 Census

Seasonal Population

Obtaining accurate numbers of seasonal residents and tourists is difficult. Because the U.S. Census is conducted each decade in April, the numbers only reflect those persons who live in the county on a year-

round basis. Tourism and annual events can provide large increases in population on any one weekend. The AuSable River Canoe Marathon in July can attract as many as 50,000 people to area.

A rough estimate of the number of county seasonal residents can be calculated by multiplying the number of county seasonal housing units by the county's average number of persons per household. The 2020 Census showed that there were 4,511 vacant housing units in the county and an average household size of 2.45 persons. When the seasonal population estimate is combined with the U.S. Census Bureau's population figure the county's population becomes approximately 24,040 persons. Unfortunately, this estimate does not include an additional influx of seasonal visitors or tourists staying in area motels, campgrounds, or family homes. For example, the Au Sable River Marathon is known to attract as many as 50,000 visitors to the county who are not accounted for in the estimates. These spikes in populations are currently identified in hazard mitigation strategies.

Age Distribution

According to the 2020 Census, Crawford County's year round population was 12,988 persons. This figure represents a loss of 1,086 persons or 7.72 percent from the 2010 Census. The following data uses the most current 2019 American Community Survey (ACS) to analyze age distribution in Crawford County.

Even with the population decline, the age group of 65 years and older gained population, increasing by 533 persons (18.2% increase), with slight increase in population of age 20-24 increasing by 67 persons (11.6% increase) from 2010. However, the county experienced losses in age groups that represent young families. Youth age group (19 years and younger) lost 344 persons (11% decrease) and the adult age group (25-64 years of age) declined by 438 persons (5.8% loss) from 2010. See **Figure 2.3**, and **Table 2.2**.

The median age of the county has increased from 40.6 years in 2000, to 47.7 years in 2010, and to 50.8 years in 2019. At the same time, the state's median age increase from 35.5 to 39.7 years. The difference in median age between the county and state increased from 2000 to 2019 as the county's population make-up "ages" at the faster rate.

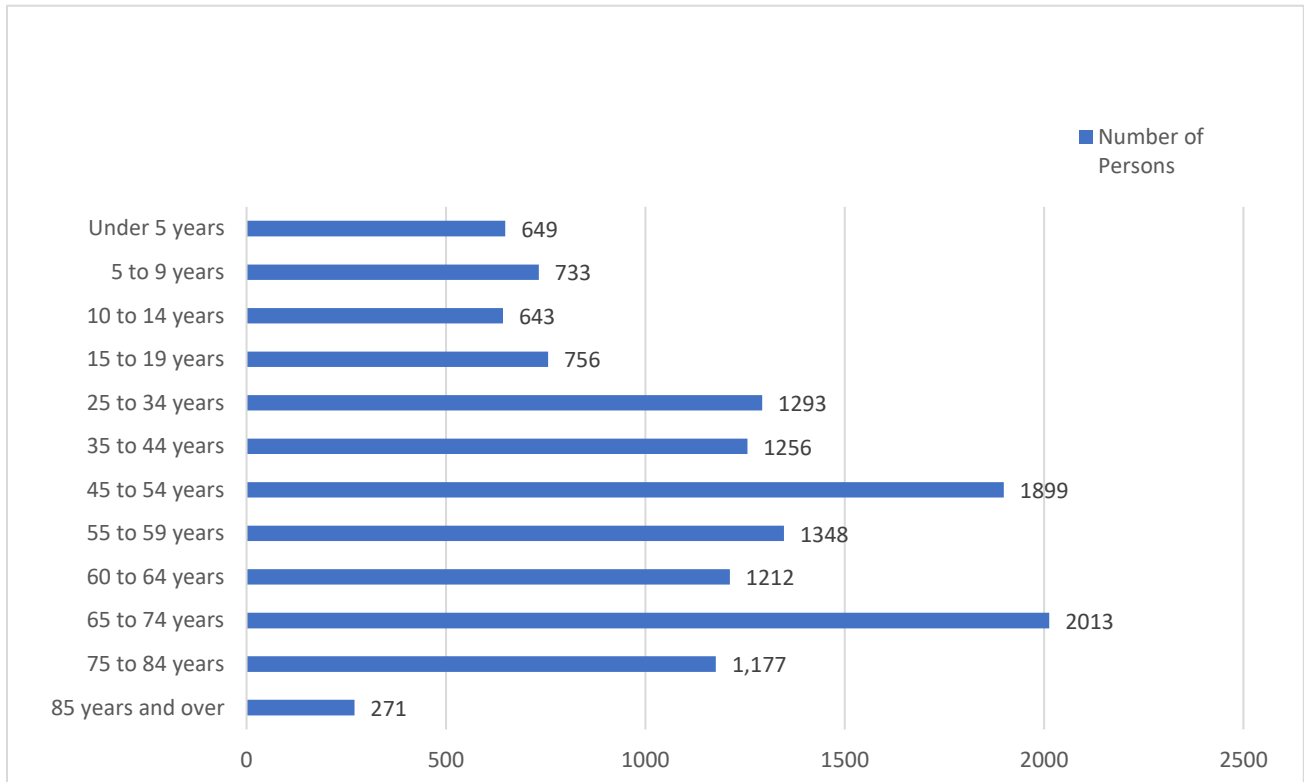
In conclusion, shifts in the county's demographic make-up are changing the population structure. Long term trends in the increase in median age continue at the faster rate than the State of Michigan and U.S. The rate has increased with the down turn in the economy, as young families move to other areas for employment. An aging population needs access to social and medical services. The county's emergency response services will experience an increase in demands.

Table 2.2 Age Distribution By Municipality For Crawford County - 2019

MUNICIPALITY	< 5 Yrs.	%*	5-19 Yrs.	%*	20-24 Yrs.	%*	25-44 Yrs.	%*	45-64 Yrs.	%*	65 Yrs. & >	%*	Median Age
City of Grayling	156	7.9%	396	20.1%	138	7.0%	445	22.4%	463	23.4%	383	19.3%	37.4
Beaver Creek Twp	61	3.8%	199	12.3%	75	4.7%	240	14.9%	594	36.9%	439	27.3%	53.3
Frederic Twp	40	3.5%	123	10.7%	86	7.5%	165	14.5%	427	37.3%	301	26.3%	54.5
Grayling Charter Twp	352	6.1%	880	15.4%	155	2.7%	1,186	20.7%	1,774	30.9%	1,392	24.2%	49.9
Lovells Twp	7	1.0%	87	12.0%	20	2.8%	92	12.7%	282	38.8%	239	32.8%	60
Maple Forest Twp	10	1.3%	172	21.5%	56	7.0%	130	16.2%	279	34.9%	152	19.1%	48.7
South Branch Twp	23	1.2%	275	14.6%	112	5.9%	291	15.3%	640	33.7%	555	29.2%	53.8
Crawford County	649	4.7%	2,132	15.3%	642	4.6%	2549	18.4%	4,459	32.1%	3,461	25%	50.8

Source: U.S. Bureau of the Census, American Community Survey (ACS) 2019

*Figure shows the percentage each age grouping represents of the local unit's total population.

Figure 2.3 Crawford County 2019 Population Age Groups

Race and Ethnic Composition

Information found below on (Table 2.3) shows that Crawford County has a very small minority population, and that statistic has changed relatively little over the last several decades. The respondents were given the opportunity to choose more than one race category.

Table 2.3 Population By Race And Ethnicity For Crawford County 2020

	Number of Persons	% of Total Population
White	12,140	93.5%
Black or African American	57	0.4%
American Indian and Alaska Native	89	0.7%
Asian	55	0.4%
Native Hawaiian and Pacific Islander	4	<0.1%
Other Race	67	0.5%
Two or More Races*	576	4.4%
Total	12,988	100.0%

Source: U.S. Bureau of the Census, 2020 Census

Education

Since 2000, Crawford County has continued to make increases in educational attainment as shown by **Table 2.4**. The percentage of people in Crawford County age 25 and older who have earned a high school diploma or higher has increased from 80.8 percent in 2000 to 89.9 percent in 2019. There were also significant increases in the number and percentage of persons with associates, bachelors, graduate, or professional degrees.

Table 2.4 Crawford County Educational Attainment 2000 & 2019

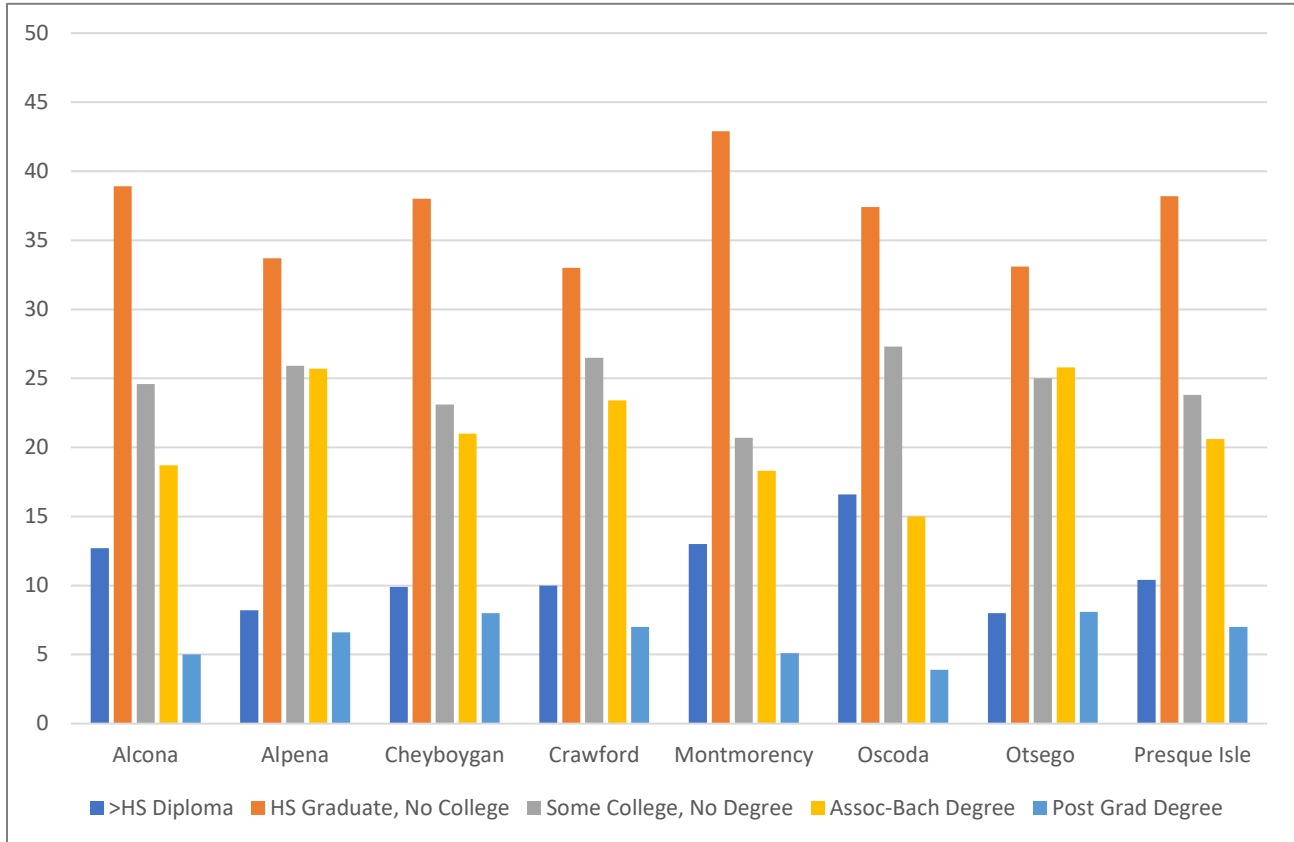
	2000		2019	
	Number	Percent	Number	Percent
Less than 9 th grade	436	4.4	214	2.0
9 th to 12 th no Diploma	1,457	14.8	841	8.0
High School Diploma	3,715	37.6	3,460	33.0
Some college no degree	2,342	23.7	2,775	26.5
Associates	643	6.5	1,149	11.0
Bachelors	845	8.6	1,300	12.4
Graduate or Professional	433	4.4	730	7.0

Source: U.S. Bureau of the Census 2000 and American Community Survey 2019

Other encouraging news shown by the 2019 census the numbers of persons who only completed 9th to 12th grade and had no diploma and those who had less than a 9th grade has continued to decrease.

On a regional scale, post-secondary educational attainment is more likely to be found in the counties of Alpena, Cheboygan, Crawford, and Otsego than in the other Northeast Michigan counties (**Figure 2.4**). This is not surprising, given the fact that community colleges are located in or very near these four counties. Access to four-year colleges and advanced training opportunities are also more readily available in these counties, as are jobs in the manufacturing sector. Some of these jobs require post- secondary education or training.

Figure 2.4 Regional Educational Attainment 25 and older, 2019



Both **Figure 2.5** and **Table 2.5** show the educational attainment of Crawford County and its individual municipalities as compared to the state and national level. Both Michigan and the U.S. have a higher percentage of people with an associate degree or higher. There are higher levels of people with some college experience in the county than the state, and nation. On average, the percentage of people with only 9th-12th grades or a high school education is greater in Crawford County and its municipalities than Michigan and the U.S. Of all the municipalities, Grayling Township & Lovells Township appear to have the highest level of education attained. However, the overall education level post High School is lower in the county than in the Michigan or the U.S.

Figure 2.5 Educational Attainment 25 and Older Comparing Municipality, State & Nation

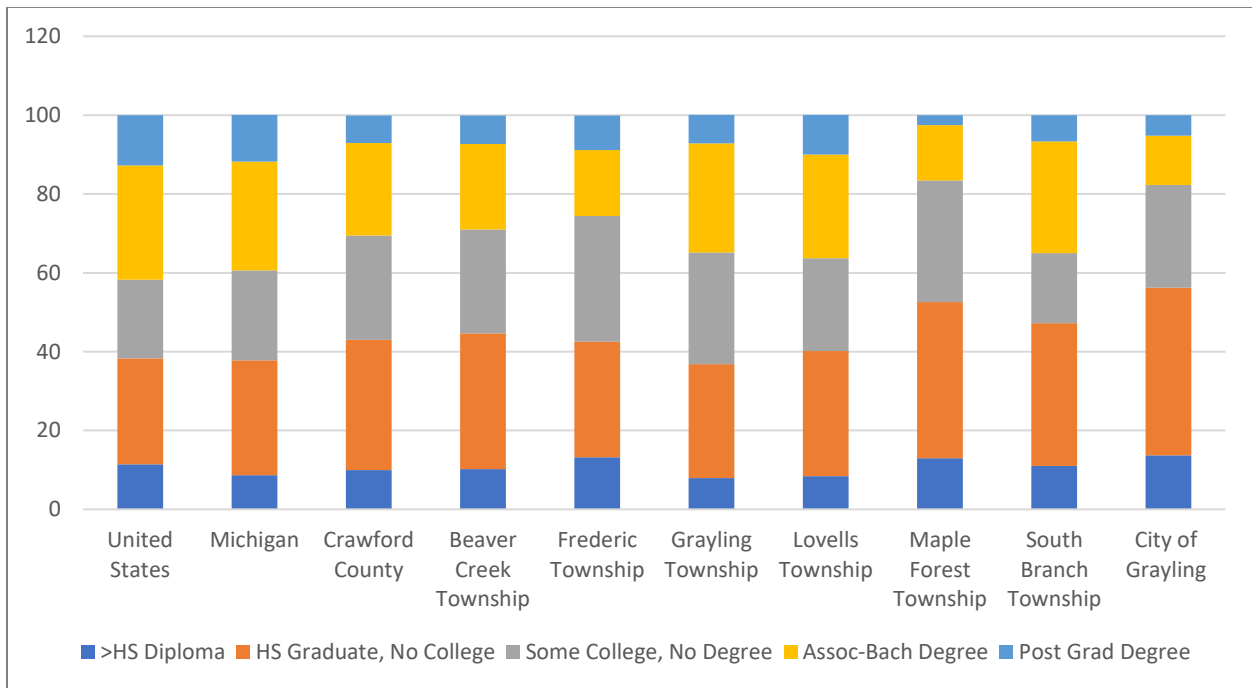


Table 2.5 Education Attainment – U.S., Michigan, Crawford County, and Municipalities

Governmental Unit	Less than 9th Grade	9th - 12th Grade	High School Graduate	Some College	Associate Degree	Bachelor's Degree	Graduate/ Professional Degree
United States	5.1	6.9	27.0	20.4	8.5	19.8	12.4
Michigan	2.9	6.3	28.9	23.4	9.4	17.7	11.4
Crawford County	2.0	8.0	33.0	26.5	11.0	12.4	7.0
Beaver Creek Township	1.7	8.5	34.4	26.4	10.4	11.3	7.2
Frederic Township	2.2	11.0	29.3	31.9	7.1	9.5	8.8
Grayling Township	1.6	6.3	28.9	28.4	11.7	15.9	7.3
Lovells Township	0.2	8.2	31.8	23.5	7.5	18.8	10.1
Maple Forest Township	3.4	9.6	39.6	30.8	7.5	6.6	2.5
South Branch Township	1.6	9.4	36.2	17.8	18.0	10.3	6.7
City of Grayling	4.6	9.1	42.5	26.1	6.8	5.7	5.2

Source: American Community Survey 2019

Economic Overview

As with much of northern Michigan, Crawford County has long been an area of high poverty, low incomes, and unemployment. This problem is due largely to the lack of high paying, year-round employment for local residents. Although less obvious in Crawford County, Michigan's economic boom during the 1990's did bring positive economic results. The retail and service sectors have grown, particularly in health care and tourism related fields. Crawford County has become better known in the state as a recreation and retirement destination. Favorable land prices have helped draw new residents and seasonal visitors to the area. The county's high quality of life, including an abundant natural resource base, has helped sustain the local economy.

Income and Poverty

Income and poverty statistics for Crawford County show that, although median income in the county has increased by 25.5 percent, it is still considerably lower than the state. The gap has narrowed over the last few decades to less than 17 percent (**Table 2.6**). From 2000 to 2019, the poverty rate in Crawford County had modest declines in most categories (**Table 2.7**). The poverty rate for families with children had only a small increase of 0.5 percent. The rate for families with a female householder with no husband present increased by 4.8 percent. The poverty rate of all individuals dropped by 2.2 percent.

Table 2.6 Median Family Income For Crawford County & State: 2010 & 2019

Year	Crawford County	Michigan
2010	\$47,500	\$60,895
2019	\$59,651	\$72,600

Source: American Community Survey 2019

Table 2.7 Poverty Status For Crawford County: 1990, 2000 & 2019

Category	1990	2000	2019
	Percent	Percent	Percent
Individuals	14.6%	12.7%	10.5%
Families	10.8%	10.0%	10.5%
Families, no husband present	35.8%	31.3%	36.1%
Individuals 65+	11.8%	7.6%	4.2%

Source: U.S. Bureau of the Census and American Community Survey 2019

Employment and Unemployment

Figure 2.7 shows that the county's unemployment rate is again increasing after a period of decline from 1994 to 2000. The unemployment rate peaked in 1994 at 10.3 percent and declined steadily until 1998. The rate remained more or less steady at about 6 percent until 2000. Between 2000 and 2002 the rate rose 2 percent, peaking at 6.9 percent unemployment rate. As was the case with the state and most of the Country, a slowing national economy exacerbated by the terrorist attack of September 11 were the primary causes for Crawford County's .9 and 1.2 percent rise in the unemployment rate this time period. These increases were the largest in nine years, and unemployment rose to its highest level since 1995. Following this period, the unemployment rate gradually increased to 7.1 percent by the year 2005. Current data indicates that the jobless rate increased to a recent annual average high of 13.8 percent in 2010, but the

annual average rate had improved to 7.9 percent by 2015. Crawford County's unemployment rate has historically been 3 to 4 percent higher than the state and has mirrored the state's trend. Most recent trends show the highest single year increase in unemployment rate since the 2008-2009 housing market crisis. Between 2019 and 2020 Crawford County had a 4.9 percent increase in unemployment in part due to the COVID-19 related economic shutdowns. **Table 2.8** tracks labor force and employment from 2005.

Table 2.8 Employment Information Crawford County 2005 - 2021

Year	Civilian Labor Force	Number Employed	Number Unemployed	Unemployment Rate
2021	5,359	4,981	378	7.1%
2020	5,589	4,975	614	11.0%
2019	5,599	5,285	314	5.6%
2018	5,534	5,202	332	6.0%
2017	5,410	5,037	373	6.9%
2016	5,368	4,963	405	7.5%
2015	5,271	4,857	414	7.9%
2014	5,337	4,830	507	9.5%
2013	5,375	4,760	615	11.4%
2012	5,368	4,736	632	11.8%
2011	5,498	4,793	705	12.8%
2010	5,631	4,832	799	14.2%
2009	6,390	5,527	863	13.5%
2008	6,459	5,864	595	9.2%
2007	6,655	6,120	535	8.0%
2006	6,811	6,274	537	7.9%
2005	6,800	6,313	487	7.2%

Source: Michigan Bureau of Labor Market Information and Strategic Initiatives

Employment in Crawford County is most likely to be found in the retail sector, government, or services. The top job producers in Crawford County are much the same as found in other Northeast Michigan counties: Management, Business, Science & Art, and Service sectors comprise (approximately 56%), followed by retail employment and manufacturing, construction, and maintenance sectors at approximately 22 percent and 10 percent, respectively. The smallest sector of the county's economy is employment in education, legal, and media at approximately 7 percent.

Job Inflow/Outflow

The following table shows a detailed breakdown of jobs and workers within Crawford County. **Table 2.9** shows job inflow and outflow within the county. It should be noted that only 1,920 people both live and are employed within the Crawford County. **Table 2.10** shows where county residents are employed and **Table 2.11** shows where workers employed in Crawford County live.

Table 2.9 Inflow/Outflow

Crawford County Labor Market Size (All Jobs)		
Employed in Crawford County	4,416	100.0%
Living in Crawford County	4,800	108.7%
Net Job Inflow (+) or Outflow (-)	-384	-
In-Area Labor Force Efficiency (All Jobs)		

Living in Crawford County	4,800	100.0%
Living and Employed in Crawford County	1,920	40.0%
Living in Crawford County but Employed Outside	2,880	60.0%
In-Area Employment Efficiency (All Jobs)		
Employed in Crawford County	4,416	100.0%
Employed and Living in Crawford County	1,920	43.5%
Employed in Crawford County but Living Outside	2,496	56.5%
Outflow Job Characteristics (All Jobs)		
External Jobs Filled by Residents	2,880	100.0%
Workers Aged 29 or younger	698	24.2%
Workers Aged 30 to 54	1,406	48.8%
Workers Aged 55 or older	776	26.9%
Workers Earning \$1,250 per month or less	748	26.0%
Workers Earning \$1,251 to \$3,333 per month	1,147	39.8%
Workers Earning More than \$3,333 per month	985	34.2%
Workers in the "Goods Producing" Industry Class	464	16.1%
Workers in the "Trade, Transportation, and Utilities" Industry Class	735	25.5%
Workers in the "All Other Services" Industry Class	1,681	58.4%
Inflow Job Characteristics (All Jobs)		
Internal Jobs Filled by Outside Workers	2,496	100.0%
Workers Aged 29 or younger	430	17.2%
Workers Aged 30 to 54	1,425	57.1%
Workers Aged 55 or older	641	25.7%
Workers Earning \$1,250 per month or less	460	18.4%
Workers Earning \$1,251 to \$3,333 per month	794	31.8%
Workers Earning More than \$3,333 per month	1,242	49.8%
Workers in the "Goods Producing" Industry Class	432	17.3%
Workers in the "Trade, Transportation, and Utilities" Industry Class	409	16.4%
Workers in the "All Other Services" Industry Class	1,655	66.3%
Interior Flow Job Characteristics (All Jobs)		
Internal Jobs Filled by Residents	1,920	100.0%
Workers Aged 29 or younger	393	20.5%
Workers Aged 30 to 54	994	51.8%
Workers Aged 55 or older	533	27.8%
Workers Earning \$1,250 per month or less	476	24.8%
Workers Earning \$1,251 to \$3,333 per month	778	40.5%
Workers Earning More than \$3,333 per month	666	34.7%
Workers in the "Goods Producing" Industry Class	388	20.2%
Workers in the "Trade, Transportation, and Utilities" Industry Class	308	16.0%
Workers in the "All Other Services" Industry Class	1,224	63.8%

Source: U.S. Census On the Map, 2019

Table 2.10 Where Workers are Employed Who Live in Crawford County

	#	%
Grayling City, MI	1,082	22.5%
Gaylord City, MI	178	3.7%
Roscommon Village, MI	169	3.5%
Traverse City City, MI	127	2.6%
Lansing City, MI	65	1.4%
Houghton Lake CDP, MI	54	1.1%
Petoskey City, MI	48	1.0%
Gladwin City, MI	37	0.8%
Midland City, MI	33	0.7%
Alpena City, MI	31	0.6%
All Other Locations	2,976	62.0%

Source: U.S. Census On the Map, 2019

Table 2.11 Where Workers Live Who are Employed in Crawford County

	#	%
Grayling City, MI	326	7.4%
Roscommon village, MI	72	1.6%
Houghton Lake CDP, MI	42	1.0%
Prudenville CDP, MI	42	1.0%
St. Helen CDP, MI	40	0.9%
Gaylord City, MI	33	0.7%
Lewiston CDP, MI	20	0.5%
Mio CDP, MI	20	0.5%
Traverse City, MI	17	0.4%
West Branch, MI	14	0.3%
All Other Locations	3,790	85.8%

Source: U.S. Census On the Map, 2019

Housing Stock

Over past decades, Crawford County has experienced a small decline in number housing units, with a high percentage used as seasonal housing. Housing characteristics from the 2020 U.S. Census are presented in **Tables 2.12** and **2.13**. The Census identified 10,174 housing units with 6,141 units occupied and 4,089 units vacant within Crawford County. Crawford County has a large percentage of seasonal housing units, nearly 40 percent. As is a common trend in many other Northern Michigan Communities.

Over past decade, the number of residential housing units in the county decreased by 9 percent (918 units) **Table 2.12** shows that between 2010 and 2020, Crawford County's total number of persons per household decreased from 2.31 to 2.23 persons.

The percentage of occupied housing units which are owner-occupied in Crawford County have remained stable over the last decade at approximately 81 percent. Vacancy data is one measure of the availability of housing in a community. Sufficient housing stock, for both owner-occupied and renter-occupied, must be provided to accommodate an expanding population base. According to the Census, Crawford County's housing market vacancy rate was remarkably low in 1990 and 2000, but increased in 2010, while most recently seeing a decline in 2020 (**Table 2.12**). Throughout the county, owner and renter vacancy rates increased between 2010 and 2020. Typical normal vacancy rates of owner-occupied housing are nationally about 10 percent. Crawford County's high percentage indicates a disproportionate supply of available units for new residents.

As in many areas of northern Michigan, townships in Crawford County have a large percentage of seasonal housing units, often located on rivers and lakes, and can vary from excellent to substandard. Many lots platted in the 1920's or 1930's are substandard in size, have private wells and use outdated or inadequate wastewater practices.

Table 2.12 Crawford County Housing Characteristics (2010 - 2020)

Housing Characteristics	2010	2020	% Change
Total Housing Units	11,092	10,174	-9.0%
Total Occupied Units	6,016	6,141	2.0%
Owner-Occupied (#)	4,939	4,986	>1.0%
Owner-Occupied (%)	82.1%	81.2%	-1.0%
Renter-Occupied (#)	1,077	1,099	2.0%
Renter-Occupied (%)	17.9%	18.8%	>1.0%
Total Vacant Units	5,076	4,089	-24.0%
Persons Per Household	2.31	2.23	

*Includes units that are vacant, for sale or rent; does not include seasonal units

Source: U.S. Bureau of the Census, American Community Survey 2014-2019 5-Year Estimates

When analyzing the county's housing stock, it is important to look at the age of the housing units. Typically, after 30 years, homes need upgrade, repair, and/or replacement of major systems such as roofs, heating, plumbing, and electrical. As illustrated in **(Table 2.13)**, 15.2 percent of all housing units in Crawford County were built in the last 20 years and 46.2 percent of the housing units in the county were built between 1940 and 1979. Houses built during these decades will exceed 40 years old over the course of this decade. Over 80 percent of the housing units in the county were constructed before 1999.

The American Community Survey (2010-2019) estimates that the large majority of homes in Crawford County (83.2%) are single family detached stick built structures. Mobile homes and other types (*i.e. cabins*) are a popular housing option in the county and are estimated to make up 8.6 percent of the housing units in the county. Multi-family dwellings are estimated to be 8.2 percent of the housing units.

Table 2.13 Age of Occupied Housing Structures in Crawford County

Year Structure Built	Number	Percent
2014 or later	30	<1%
2010 to 2013	68	1.1%
2000 to 2009	843	13.7%
1980 to 1999	1,838	29.9%
1960 to 1979	1,870	30.4%
1940 to 1959	968	15.8%
1930 or earlier	524	8.5%
Total	6,141 ^{[DC1][ES2]}	100%

Source: American Community Survey 2015-2019 5-Year Estimates, U.S. Census Bureau

State

Equalized Value (SEV)

Table 2.14 Crawford County Assessed Value: 2016-2022

Year	Agricultural	Residential	Commercial	Industrial	Personal Property	Real + Personal Property
	\$	\$	\$	\$	\$	\$
2022	0	680,419,210	54,563,500	97,503,300	55,455,000	887,812,115
2021	0	633,145,300	51,388,000	96,536,700	49,267,750	830,337,750
2020	0	604,909,325	49,579,300	95,813,400	51,603,100	801,905,125
2019	133,500	566,353,880	48,238,000	95,195,700	53,245,000	763,166,080
2018	226,300	535,209,675	48,049,500	42,849,200	62,799,050	689,133,725

2017	225,600	527,846,000	46,467,600	23,098,300	46,443,450	644,080,950
2016	225,700	501,570,169	42,302,200	19,048,300	49,059,810	613,405,479

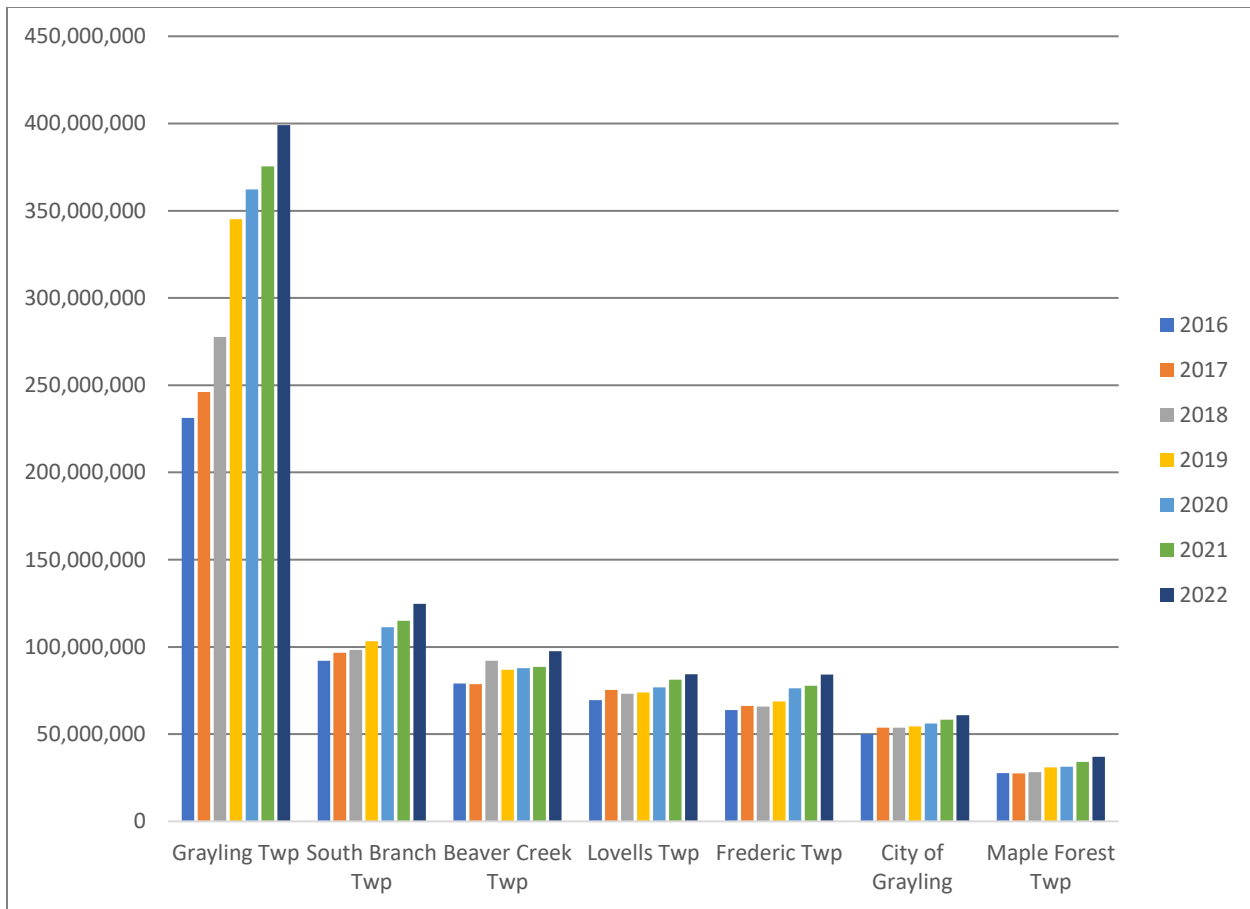
Source: Michigan Department of Treasury

Table 2.15 Crawford County Assessed Value: 2016-2022

	2016	2017	2018	2019	2020	2021	2022
	\$	\$	\$	\$	\$	\$	\$
Grayling Twp	231,319,000	246,096,500	277,700,900	345,087,900	362,138,600	375,375,900	399,085,200
South Branch Twp	92,078,300	96,545,400	98,351,100	103,167,700	111,364,300	115,014,100	124,729,900
Beaver Creek Twp	79,048,100	78,644,750	92,007,700	86,830,300	87,901,425	88,635,650	97,587,900
Lovells Twp	69,482,600	75,330,900	73,225,600	73,891,600	76,753,100	81,224,800	84,349,700
Frederic Twp	63,740,169	66,260,900	65,832,025	68,744,580	76,281,000	77,700,300	84,096,010
City of Grayling	50,062,800	53,627,800	53,706,800	54,400,600	56,167,000	58,250,600	60,931,900
Maple Forest Twp	27,674,510	27,574,700	28,309,600	31,043,400	31,299,700	34,136,400	37,031,505
Crawford County	613,405,479	644,080,950	689,133,725	763,166,080	801,905,125	830,337,750	887,812,115

Source: Michigan Department of Treasury

Figure 2.6 Crawford County Municipalities SEV 2016-2022



Crawford County Finances

Munetrix (www.munetrix.com) is an online system which displays fiscal data for local units of government in order to provide transparency and an understanding of local unit finances to the public. The Munetrix "Stress Meter" provides an overview of Indicator Scores used to calculate the financial stress of a municipality. The Indicator Score gives an overall picture of the soundness of local governments, the trend of stability over time, and allows the identification of local units that are most in need of help. Scores are generated based on the criteria of population growth, real taxable value growth, large real taxable value growth, general fund expenditures as a percent of taxable value, general fund operating deficit, prior general fund operating deficit, size of general fund balance, fund deficits in current or previous year, and general long-term debt as a percent of taxable value. The lower the number the more fiscally sound a local unit is determined to be. **Figure 2.7** shows the indicator scores for municipalities within Crawford County. As can be seen, with the exception of 2013, 2014, and 2015, most municipalities in Crawford County are in extremely low fiscal stress. **Table 2.16** shows Crawford County has maintained a low fiscal stress score. **Figures 2.9 through 2.17** give more details about the finances of the county.



Figure 2.7 Crawford County Municipal Stress Chart

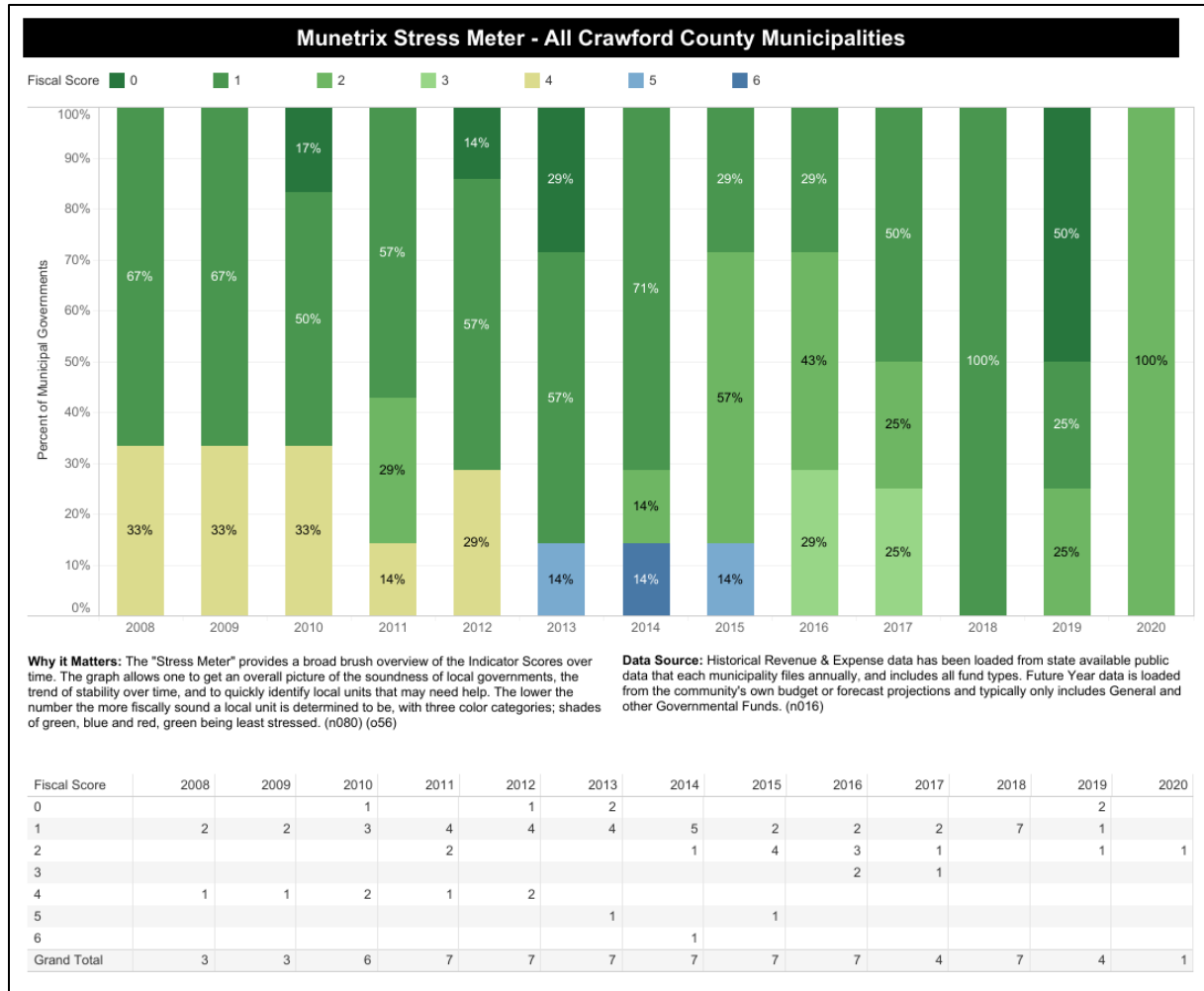


Table 2.16 Financial Health Overview – Crawford County

Year	Indicator Score	Population	Revenues	Expenditures	Fund Balance	Long Term Debt	Taxable Value
2022	1	12,988	\$5,877,341	\$5,877,341	\$815,212	\$5,930,000	\$596,226,626
2021	1	13,904	\$6,284,196	\$6,059,539	\$1,037,813	\$6,435,000	\$657,214,957
2020	1	13,904	\$5,979,357	\$5,602,473	\$779,373	\$10,014,368	\$640,446,705
2019	1	13,892	\$5,588,706	\$5,870,568	\$405,613	\$6,740,000	\$560,315,834
2018	1	13,836	\$5,817,749	\$5,919,009	\$690,127	\$7,195,000	\$573,879,536
2017	2	13,821	\$5,618,939	\$5,573,660	\$797,098	\$7,679,764	\$541,871,467
2016	3	13,840	\$5,521,051	\$5,494,896	\$752,720	\$7,987,402	\$533,749,372
2015	2	13,895	\$5,443,647	\$5,411,480	\$729,487	\$1,010,000	\$542,956,485

Source: Munetrix LLC 2019

Figure 2.8: Where the Money Comes From

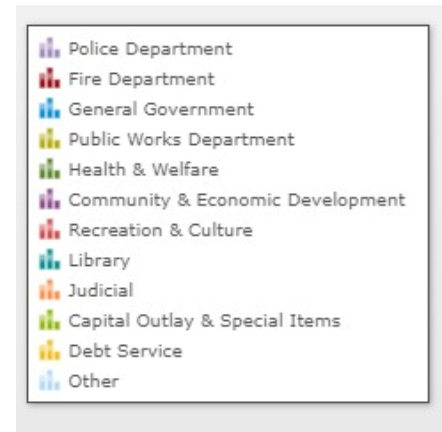
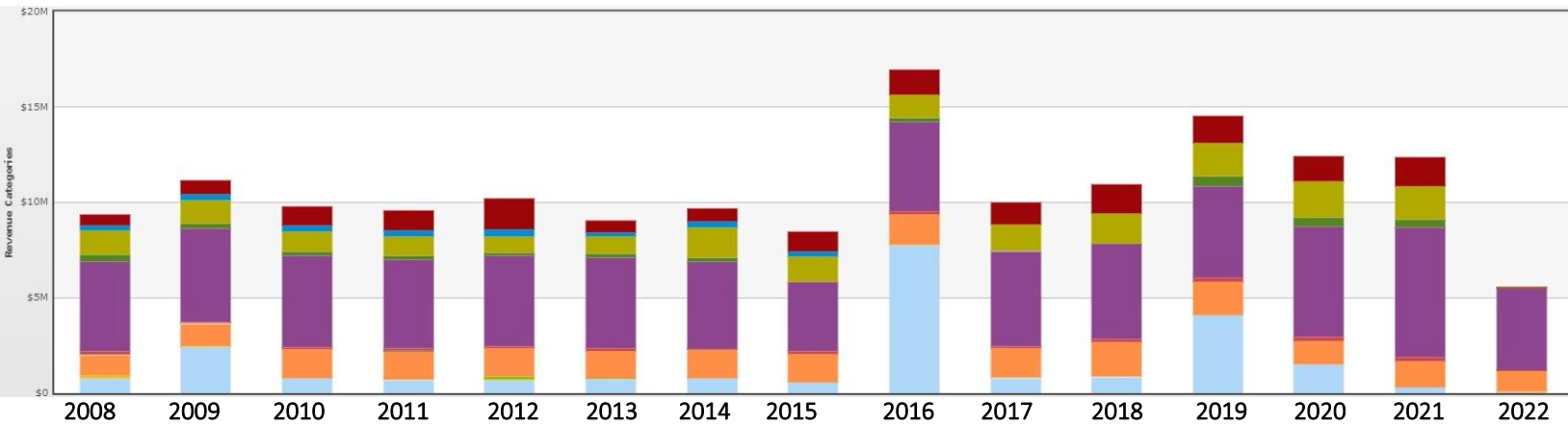


Figure 2.9: How the Money Is Spent

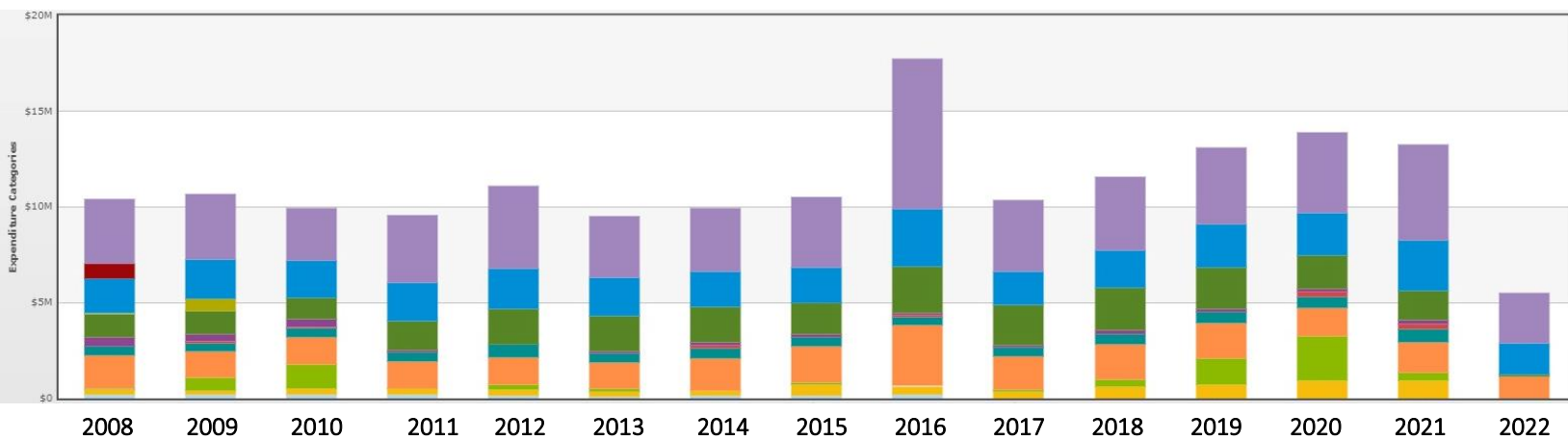


Figure 2.10: Available Reserves as a Percent of Total Expenditures

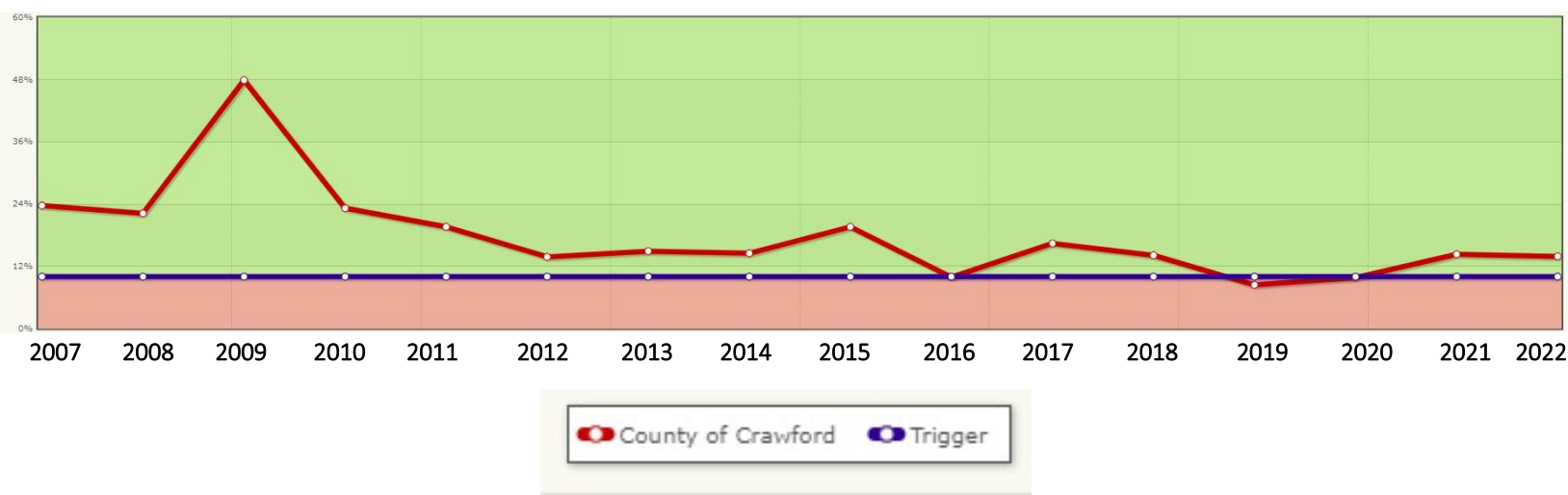


Figure 2.11: How We Have Managed Our Resources

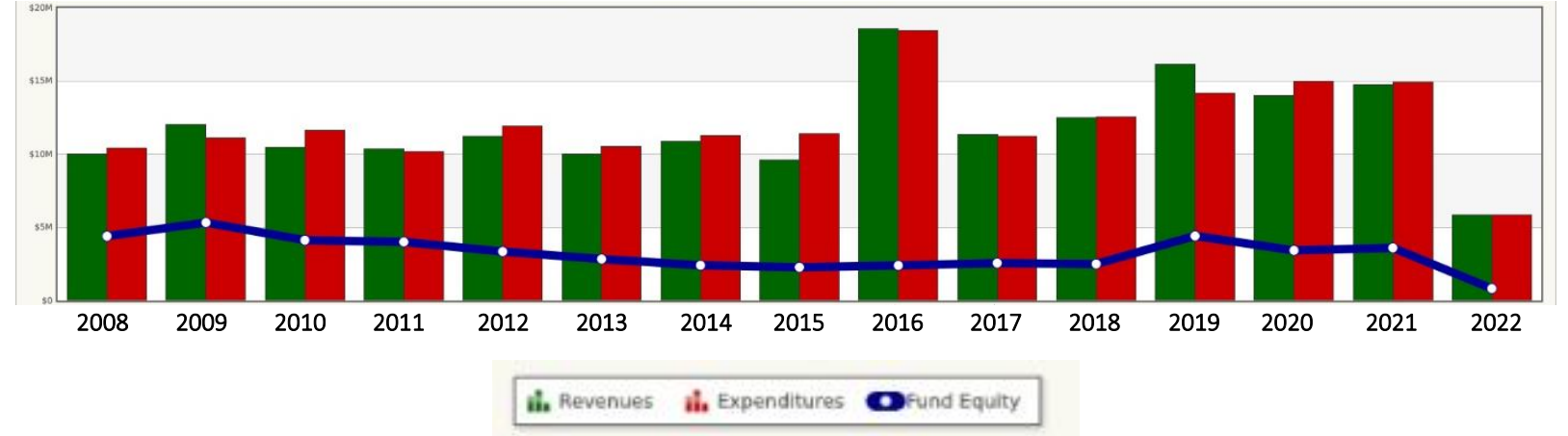


Figure 2.12: General Fund Balance as Percent of Fund Revenues

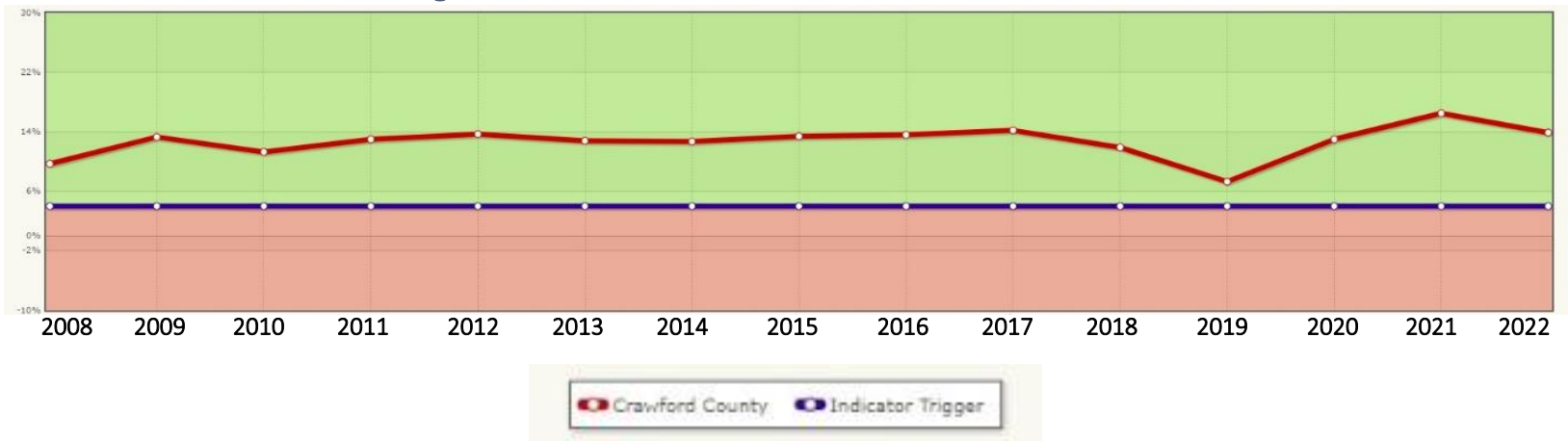


Figure 2.13: Taxable Value Trends

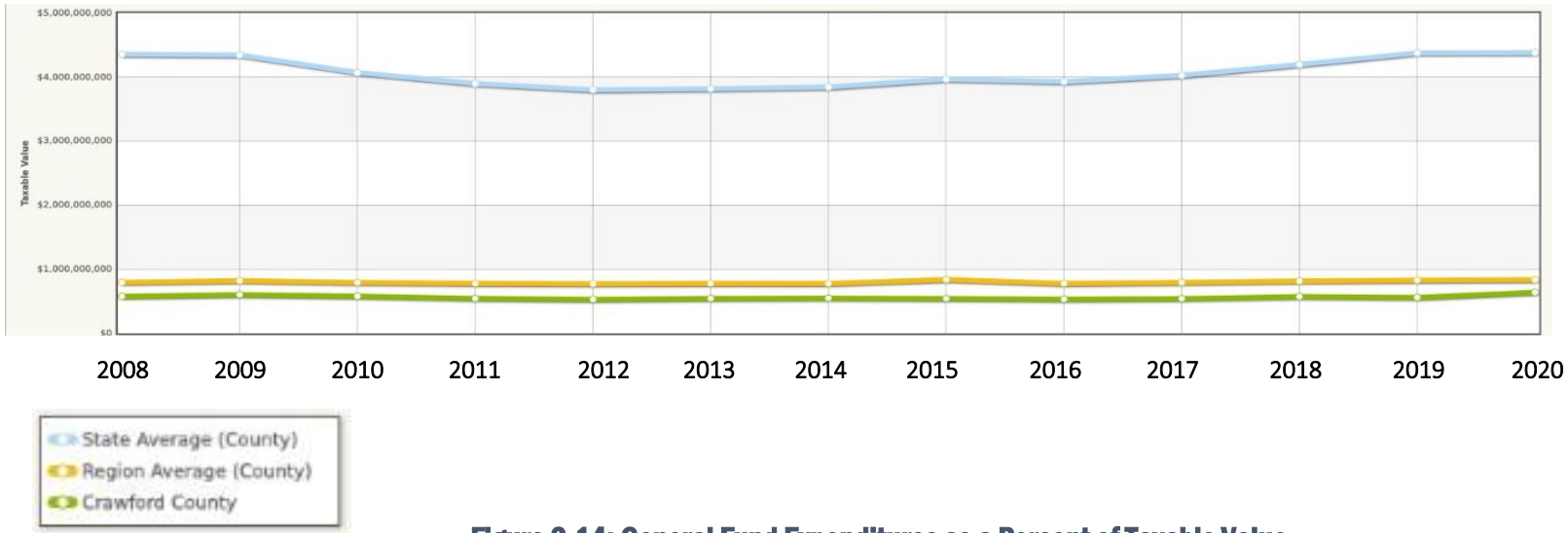


Figure 2.14: General Fund Expenditures as a Percent of Taxable Value

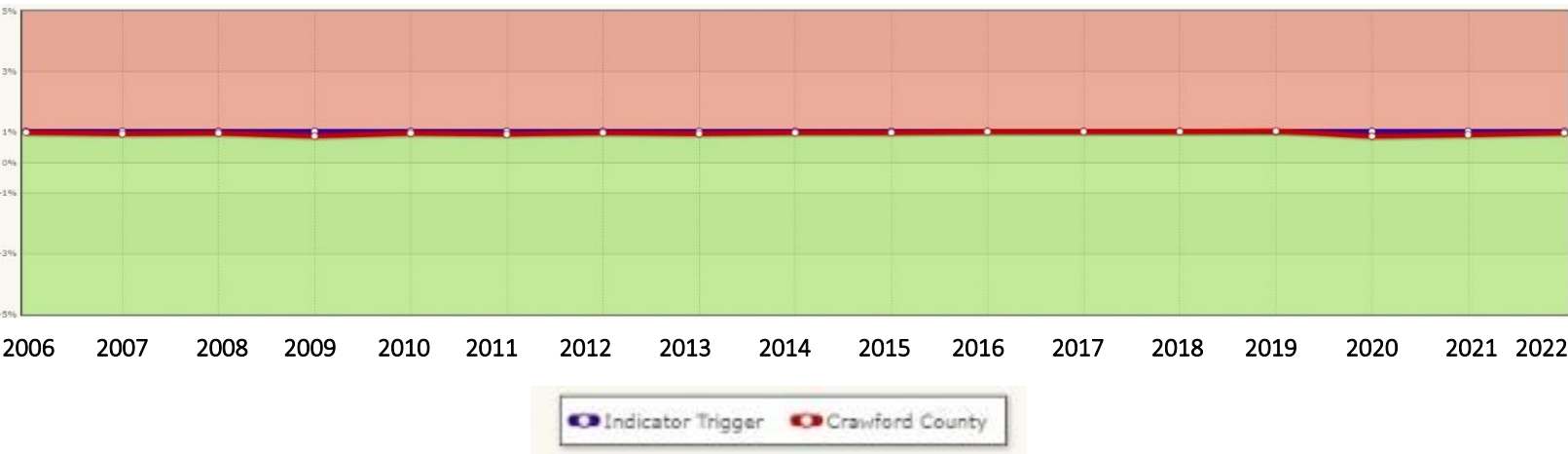


Figure 2.15: Change in Taxable Value (percent change from prior year)

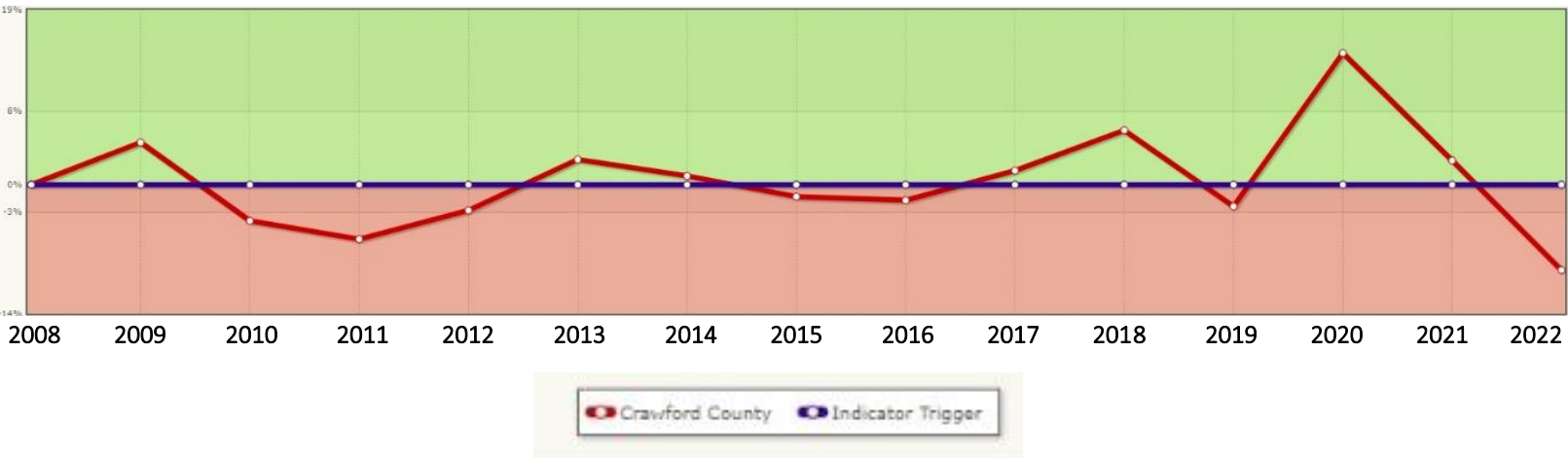


Figure 2.16: General Fund Operating Results (Revenues - Expenses/Revenues)

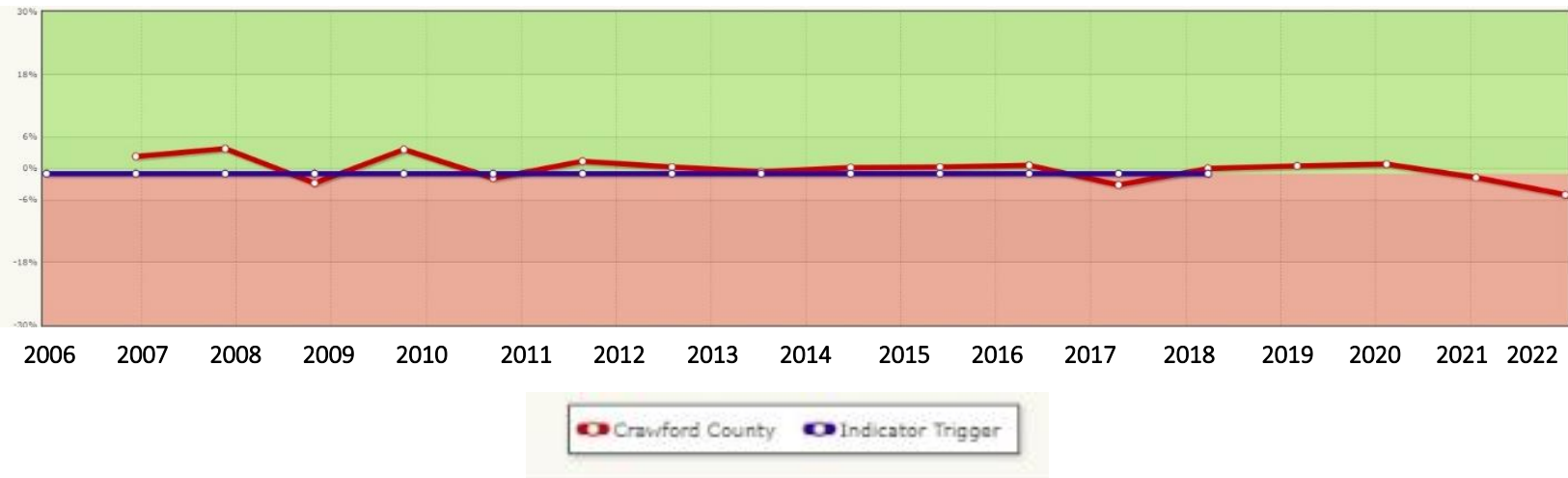
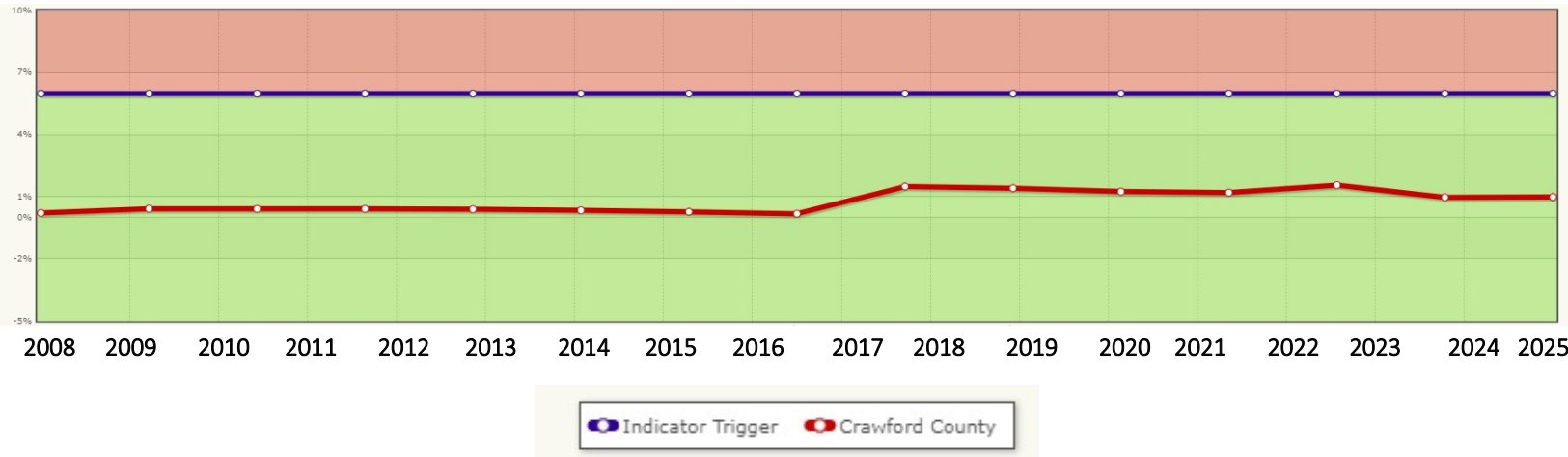


Figure 2.17: Long-Term Debt as a Percent of Taxable Value



Crime & Traffic Crashes

Data related to crime and traffic crashes is also tracked through the online Munetrix system. Data from **Figure 2.18** indicates that crime rates have remained fairly steady over the years. Society crimes are typically the highest percentage of crime in the county. **Figure 2.19** shows that most crashes within the county are non-injury crashes.

Figure 2.18: Crime Statistics

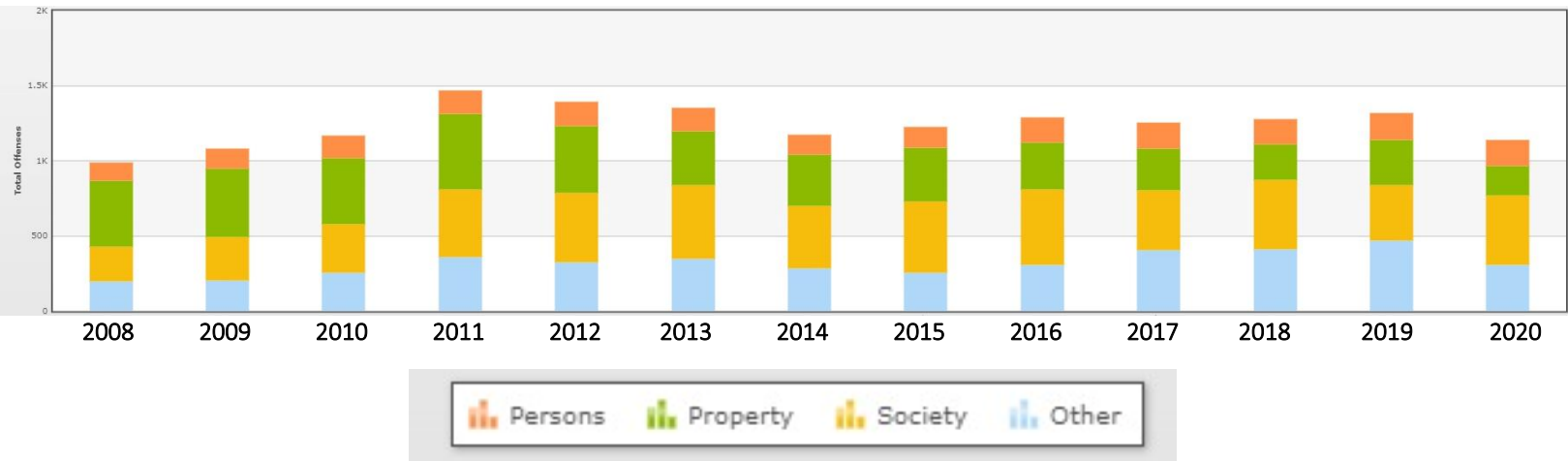
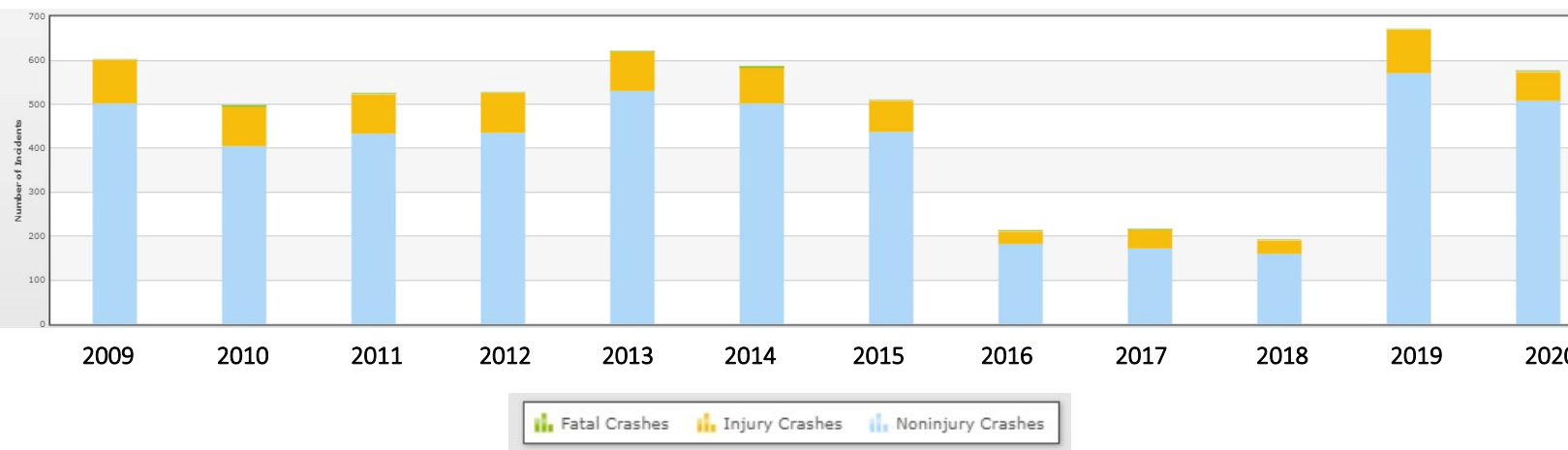


Figure 2.19: Crash Analysis



Chapter 3



Community Services & Facilities

Chapter 3 - Community Services & Facilities

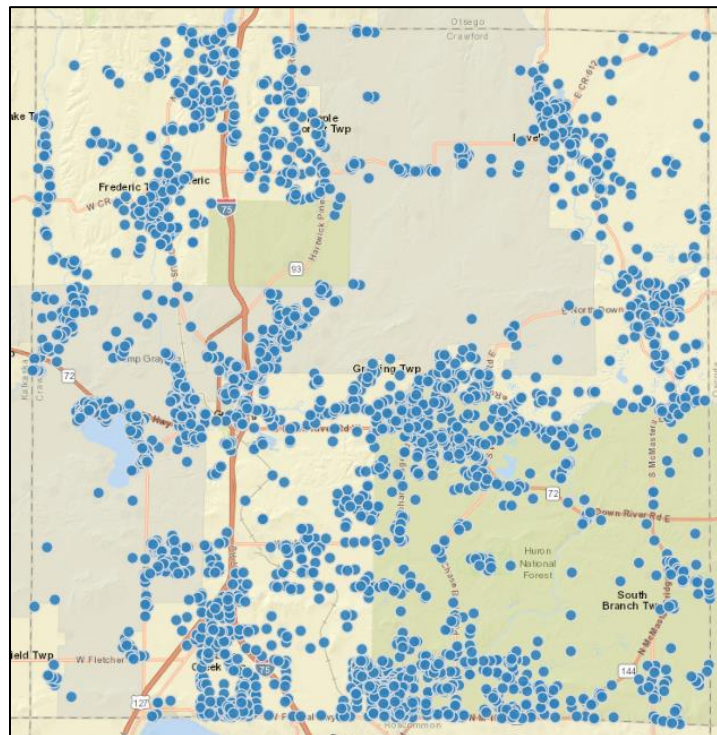
Public Water Supply

The Department of Environment, Great Lakes, and Energy (EGLE) has primary enforcement authority in Michigan for the Federal Safe Drinking Water Act under the Michigan Safe Drinking Water Act. The DEQ has regulatory oversight for all public water supplies including approximately 1,400 community and 10,000 non-community water supplies. The program also regulates drinking water well drilling for approximately 15,000 new domestic wells drilled each year. Michigan has over 1.12 million households served by private wells, more than any other state. Like most of northern Michigan, Crawford County's only source of drinking water is groundwater. Public water supply for the county is summarized below:

Private Wells

Most of Crawford County's land area is served by private wells and 3,121 of these wells supply water to county residents. If drinking water comes from a private well, the owner is responsible for the water's safety. EPA rules do not apply to private wells, but the agency recommends that well owners have their water tested annually. **Figure 3.1** below shows well locations and concentrations within Crawford County.

Figure 3.1: Well Locations within Crawford County



There is concern about perflouroctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) contamination of groundwater and drinking water in the wells for Camp Grayling the surrounding community. Currently, the installation and maintenance of water filters on contaminated wells is being used to remove PFOA and PFOS from the water. More information about perflouroctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) contamination can be found in Chapter 4.

Community Water Systems

Community water systems serve the population year-round, such as in private residences or businesses. There are five active community water systems active in Crawford County, serving a total of 2,082 persons. This figure includes the City of Grayling community system, which supplies drinking water to 1,884 city residents and is maintained by the City of Grayling Department of Public Works.

Grayling Charter Township co-owns and operates a municipal water system with Beaver Creek Township. The system includes water and sewer and is located on 4 Mile Road. The system can pump 1,100 gallons per minute and has a 750,000 gallon storage tank. The system was designed with additional capacity to accommodate future expansion.

Non-Transient Non-Community Water Systems

Non-transient water systems serve the same population, but not year-round (for example, schools that have their own water system). There are nineteen such water systems active in Crawford County. A Non-Community water supply is a water system that provides water for drinking or potable purpose to 25 or more persons at least 60 days per year or has 15 or more service connections.

Transient Non-Community Water Systems

Transient non-community water systems are systems that do not consistently serve the same population. Rest stops, campgrounds, gas stations, motels, and convenience type stores not hooked into a community water supply would be included in this category. Most of the wells in the county that are not considered private wells fall into this group. Seventy-eight such wells are found in the county, serving approximately 20,000 persons.

Sewage Disposal

The City of Grayling Department of Public Works provides sewer services to the City of Grayling. Residents and business owners in the remainder of the county must rely on private onsite septic systems for wastewater disposal. Currently there are approximately 7,641 households and businesses using these private systems throughout the county. There are several septage haulers located in Crawford County. The method of disposal used by the haulers is land application. The District Health Department regulates and maintains a permitting system for private wells and septic systems and is responsible for inspection of the septage-hauling operation.

A very limited portion of Beaver Creek Township on the North side of Higgins Lake, part of Camp Curnalia, is served by sewer system operated by the Higgins Lake Utility Authority, which was completed in 2009. Currently the system serves 405 households, 9 of which are in Beaver Creek Township. The system was designed with additional capacity to accommodate future expansion, including potential future connection by Higgins Lake North State Park.

Solid Waste

Collection of residential and commercial solid waste in Crawford County is accomplished by commercial haulers and by individuals transporting their own waste to the landfill or one of the transfer stations located in many of the townships across the county. Private hauling companies provide residential and commercial service pick-up throughout the county through private agreements with customers, as well as servicing the township transfer stations. Waste Management, Inc. operates the primary solid waste disposal facility for the county, located in Maple Forest Township. Waste Management and GFL handle

the bulk of solid waste disposal in Crawford County. It continues to be an on-going challenge to provide affordable solid waste disposal and provide recycling choices for individuals and businesses.

Recycling

A recycle council moderates all aspects of recycling in the county. The council membership consists of a representative from the city, county, each of the townships, and Camp Grayling. The council serves as an advisory board to the county, city, and each of the townships within the county. Residents can recycle certain materials through the use of recycling stations at transfer stations located in the City of Grayling, as well as Beaver Creek, Frederic, Grayling Charter, Lovells, and South Branch Townships. Most of the recyclable materials are then transferred to the GFL single stream recycling plant in Traverse City, Michigan. The council may also look to South Branch Township as a model for recycling, having some of the highest recycling rates within the county. South Branch Township owns its own recycling containers. In an effort to reduce recycling costs, South Branch Township recently added cardboard-only containers which has cut recycling costs in half.

Utility Services

Due to the large amount of public land and internal parcels (parcels in the center of a section that does not abut a public road), utility services are lacking in some areas of the county. Costs of providing telephone service and high speed internet services to these isolated residences can be prohibitively high. Since these landowners must pay the cost of running the lines, some have chosen not to bear the expense, instead relying on cellular telephones and alternative internet services.

Gas and Electricity Providers

DTE Energy or MichCon provides natural gas service for the county; several sections in the northeast portion do not have natural gas service. Areas of natural gas services may be limited by pricing and other factors. Consumer Energy and Great Lakes Energy provide electricity to developed areas within the county. Three-phase service is throughout the county. Three-phase power is needed to support some types of commercial and industrial activities, particularly in businesses that operate heavy machinery or equipment.

Telephone and Internet Service

Frontier, Verizon, and AT&T provide telephone service to the largest geographic area of the county, although there are pockets of un-served areas in the county. Additionally, there are a variety of internet, wireless, and cellular telephone services available in Crawford County.

Schools and Libraries

Most of Crawford County is within the Crawford AuSable School District located on 1135 N. Old US 27, Grayling, MI 49738, Phone: (989) 344-3500. South Branch Township and a portion of Beaver Creek Township are located in the Roscommon Area Public School District located at 299 W Sunset Dr., Roscommon, MI 48653, Phone: (989) 275-6600. **Table 3.1** provides a summary of school districts and schools servicing Crawford County.

Table 3.1 Crawford County Schools

Crawford AuSable School District		
School Name	Address	Students and Staff
Grayling Elementary-AuSable Primary School Phone: 989-344-3655	306 Plum Street Grayling, MI 49738	Students: 506 Teachers: 41

Grayling Middle School Phone: (989)-344-3558	500 Spruce St. Grayling, MI 49738	Students: 405 Teacher: 28
Grayling High School-Adult Ed Phone: (989)-344-3508	1135 N. Old-27 Grayling, MI 49738	Students: 397 Teachers: 23
Roscommon Area Public Schools		
School Name	Address	Students and Staff
Roscommon Elementary School (989)-275-6610	175 W. Sunset Dr. Roscommon, MI 48653	Students: 189 Teachers: 15
Roscommon Middle School Phone: (989)-275-6640	299H W. Sunset Dr. Roscommon, MI 48653	Students: 247 Teachers:18
Roscommon High School Phone: (989)-275-6675	10600 Oakwood Dr. Roscommon, MI 48653	Students: 351 Teachers:22
Source: National Center for Education Statistics 2020-2021(NCES)		

The area is served by Kirtland Community College, as well as the M-TEC and University Center in Gaylord for local post-secondary education.

The Devereau Memorial Crawford County Library system has four branches to serve the communities of Crawford County. The main branch of the library is located on Plum Street in the City of Grayling and offers a wide variety of services and programs including internet service, inter-library loans, children's activities, and specialized book sections. The three satellite branches include the Frederic Library, located on Manistee Street in the Frederic Township Governmental Offices and Community Center, the Beaver Creek Library located in Beaver Creek Township on South Grayling Road, and the Lovell Library located in Lovell Township on Twin Bridge Rd.

Public Safety

Law Enforcement

Crawford County has two local law enforcement agencies, the Sheriff Department, located at 200 W. Michigan Avenue in Grayling and the City of Grayling Police Department located at 1020 City Blvd. in Grayling. The County 911 system is co-located in the Sheriff Department as well as the Crawford County Jail. The county receives Michigan State Police support assigned to the Houghton Lake Post and the Kalkaska Detachment. There are troopers that are assigned to Crawford County that start and end their shifts at the Michigan State Police Crime Lab located on the I-75 business loop in Grayling. Camp Grayling will provide some law enforcement to Crawford County if needed.

Emergency Medical Services

Crawford County maintains Emergency Medical Services (EMS) throughout the county. Mobile Medical Response (MMR) units are located in Beaver Creek Township and the City of Grayling. Frederic and South Branch Townships maintain local Emergency Medical Services (EMS).

Fire Services

Crawford County has seven community fire departments providing fire protection to all areas of the county. In addition, while Camp Grayling has no structural fire department, they do aid with wildland firefighting.

There are a total of seven Fire Departments located in Crawford County consisting of:

Frederic Township FD, a combination partially paid and full-time fire department covering 108 square miles. It is located on 6547 Frederic Street, Frederic, MI. The Frederic FD provides fire and advanced life support (ALS) ambulance services to Frederic and Maple Forest Townships. The mailing address is PO Box 79, Frederic, MI 49733. Phone (989)-348-8190.

Grayling Department of Public Safety (DPS), a combination of partially paid and full-time firefighters covering 180 square miles. It is located on 1041 City Blvd., Grayling, MI. The mailing address is 1041 City Blvd., P.O. BOX 549, Grayling, MI 49738. Phone (989)-348-6319. Grayling DPS provides medical first response along with MMR and Station 1- Frederic EMS. Water sources are located at Pollack Bridge, Euclid Bridge/Portage Creek, Stephan Bridge, Wakeley Bridge, Wilcox Bridge, and Lake Margrethe ½ mile west of Danish Landing Rd.

Lovells Township FD, a volunteer fire department covering 108 square miles. It is located on 8405 Twin Bridge Rd., Grayling, MI. The mailing address is 8405 Twin Bridge Rd., Grayling, MI 49738. Phone (989)-348-9215. The Lovells Township FD provides fire and first responder services township- wide. The water sources are the lakes in the township.

South Branch Township FD, a combination partially paid and full-time fire department covering 108 square miles. It is located on 5245 N. M-18 Roscommon, MI. The mailing address is 5245 N. M-18, Roscommon, MI 48653. Phone (989)-275-8232. The township also provides emergency medical ambulance service within the Fire Department.

Beaver Creek FD, a partially paid and full-time fire department covering 72 square miles. It is located on 8972 S. Grayling Rd., Grayling, MI. The mailing address is 8972 S. Grayling Rd., Grayling, MI 49738. Phone (989)-275-8548. Mobile Medical Response operates in Crawford County with their primary station located in the City of Grayling and uses the Beaver Creek station as a full time satellite station.

Camp Grayling and Grayling Army Airfield: Fire suppression has been funded through the military. The Camp contracts with the Grayling Department of Public Safety for structural fire suppression and has a seasonal crew for first response on wildfire suppression on military property from March to November.

DNR Roscommon Customer Service Center is located at 8717 North Roscommon Rd, Roscommon. The southern one third of the county is covered out of the Roscommon Field Office.

Medical Facilities

Crawford County has numerous health service establishments. Most of the facilities are located in or near the City of Grayling. The largest medical facility in Crawford County is Munson Hospital Grayling, located on 1100 East Michigan Avenue in Grayling. Troop Medical Clinic located within Camp Grayling addresses troop related medical issues. The Clinic has minimal staff much of the year and is only fully staffed during troop training. Northern Lakes Community Mental Health of Traverse City provides support services to developmentally disabled persons as well as persons needing mental health services. District Health Department #10 is often able to fill health care needs of the community. The Crawford County Main Branch is located at 501 Norway Street Suite #1 in Grayling. Programs offered by the Health Department fall into three categories: home health care services, environmental health services, and personal health services.

Transportation

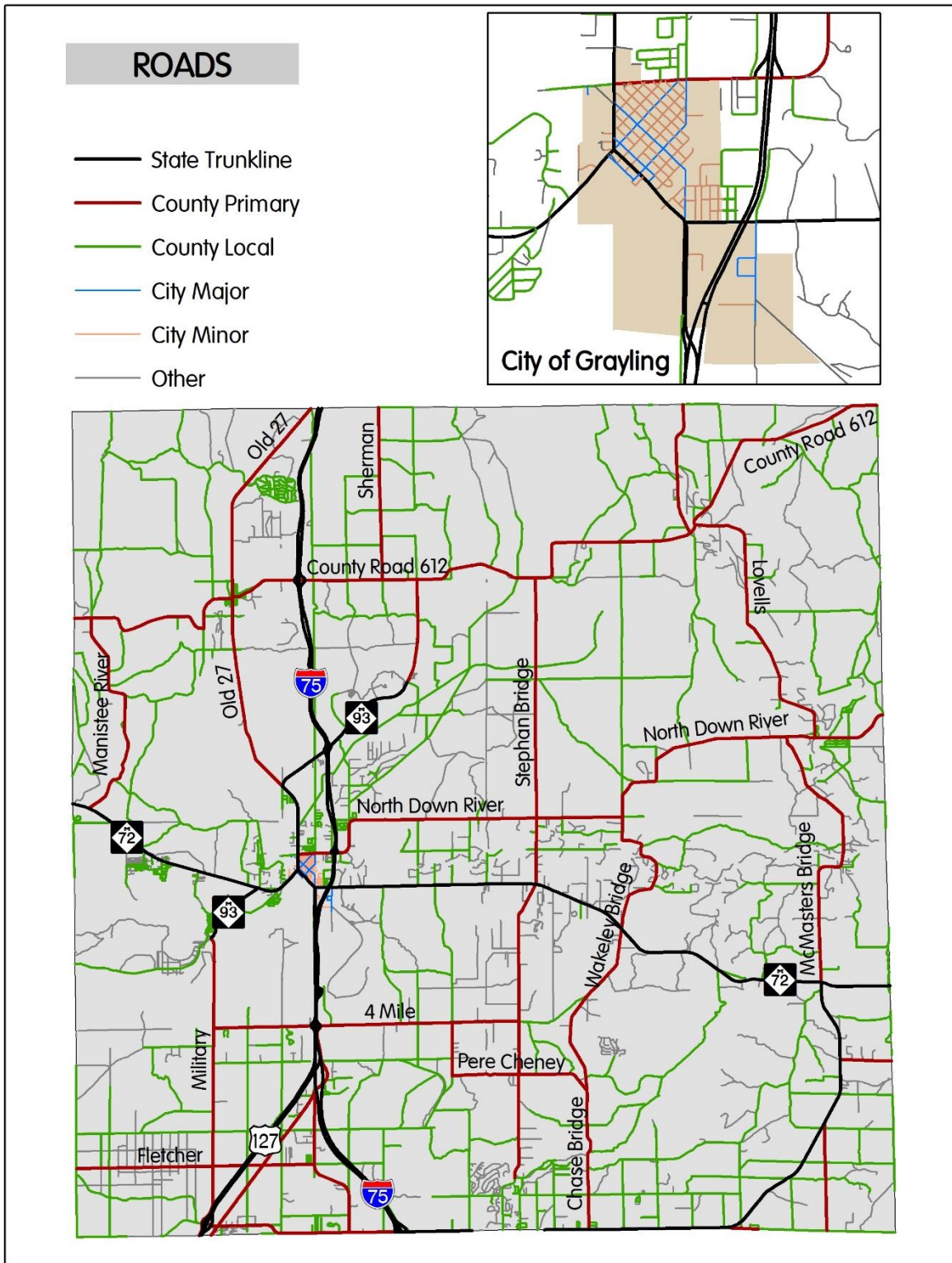
Roads

The transportation network consists of 1,296 miles of roads including an interstate highway, county primary and secondary roads, seasonally maintained, unimproved public roads, private roads, and military roads. I-75 traverses the county in a north-south direction. South of Grayling, U.S.-127 joins I-75. M-72 traverses the county in an east-west direction while M-93 connects to Camp Grayling southwest of the city and Hartwick Pines State Park northeast of the city. **Table 3.2** lists the types of roads in Crawford County, and **Figure 3.2** shows the roads by ownership type.

Table 3.2 Types of Roads

Road Type by Ownership	Miles
State Trunkline	125
County Primary Roads	179
County Local Roads	539
City Major	4
City Minor	10
Road Type by Functional Classification	Miles
Interstate	56
Other Freeway	14
Other Principal Arterials	9
Minor Arterials	56
Major Collectors	153
Minor Collectors	31
Local	537
<i>Source: NEMCOG</i>	

Figure 3.2: Roads



Public Transit

The Crawford County Transportation Authority (CCTA) provides affordable public transportation services to Crawford County. The CCTA is a demand-response Dial-A-Ride service with a fleet of sixteen wheelchair-lift equipped buses and three vans. It serves Grayling, and the outlying areas of Roscommon and Frederic, Maple Forest, Beaver Creek, and South Branch Townships.

The Roscommon County Transportation Authority (RCTA) provides affordable public transportation services within the southern portion of Crawford County. The RCTA is a demand response service fleet. Please note county transfers may occur and buses will charge their own fares based on your trip request details.

Munson Healthcare also provides transportation for medical or non-medical appointments, transfers home after hospital discharge, and to and from skilled nursing facilities, outpatient appointments, family events and other non-medical transportation. Munson Healthcare Transportation manages its own fleet with each vehicle having the ability to transport up to two wheelchairs.

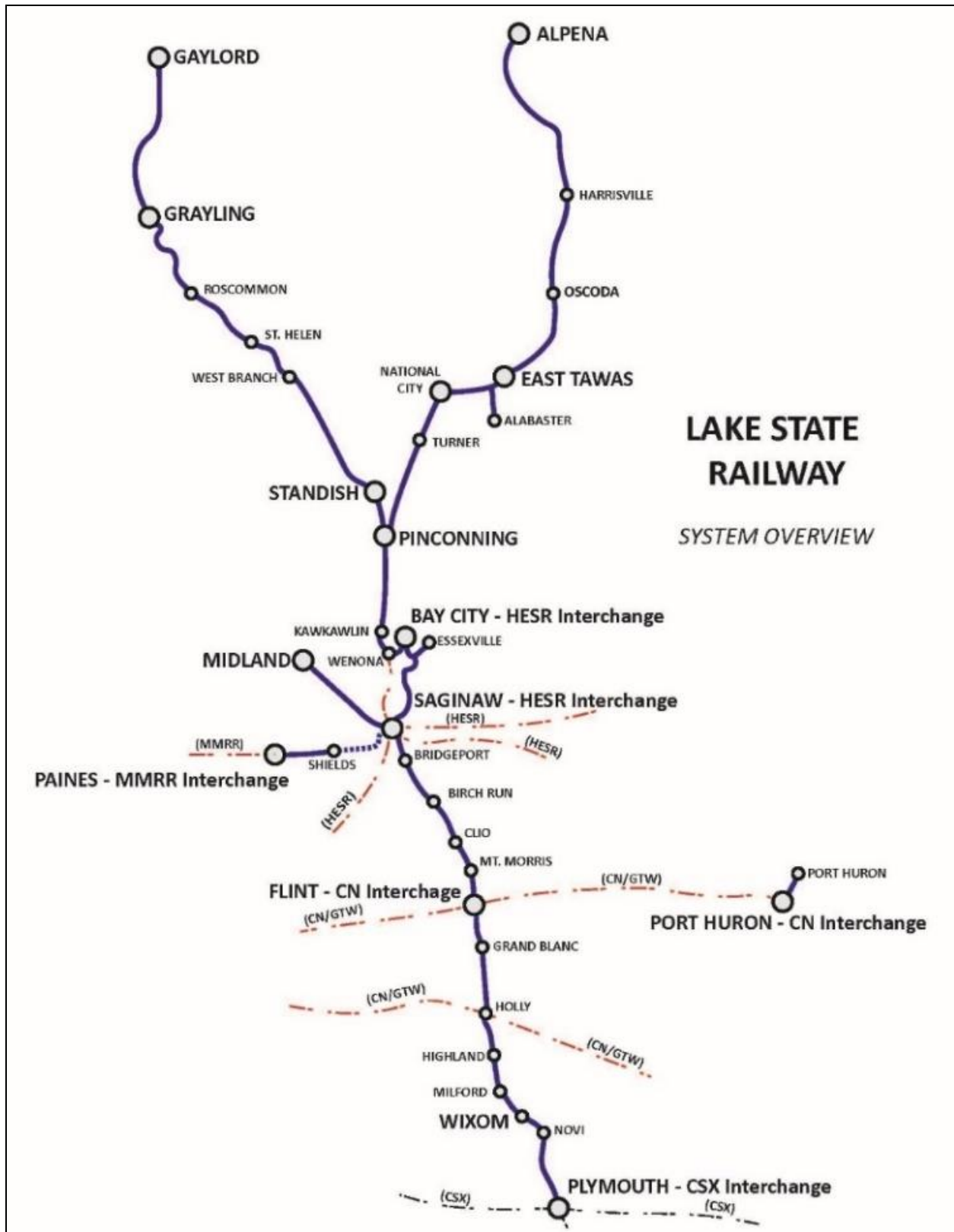
Air Travel

Regional air service is available at Pellston Regional Airport in Pellston and Cherry Capital Airport in Traverse City. In addition, Gaylord and Grayling have airport facilities for private planes.

Railroad

Lake State Railway Company (LSRC) operates an active freight railroad that traverses through Beaver Creek Township, Grayling Township, the City of Grayling, Frederic Township, and Maple Forest Township. The rail line connects to LSRC's 400-mile system, which has Class I railroad connections at Plymouth (CSX) and Flint (CN) for national rail access. LSRC operates a 24 acre transload (truck-to-rail and rail-to-truck reload) facility in Gaylord on Milbocker Road that allows for freight rail uses to load or unload railcars if they do not have a rail spur serving their property or facility directly. Common commodities include liquid and dry bulk, as well as various forest products such as lumber and pulpwood. Infrastructure can be installed or constructed to allow for reloading of other commodities as well. LSRC's Grayling Yard at Four Mile Road in Beaver Creek Township can also allow for transloading of certain commodities. **Figure 3.3** illustrates the LSRC railways.

Figure 3.3 Railway System



Recreational Facilities

CRAWFORD COUNTY & GRA RECREATIONAL FACILITIES				
Name	Classification	Description	Accessibility	Size
Hanson Hills Recreation Area	Large Urban Park	Large Park/Open Area that is located on state Land. Area is close to town, with bordering neighborhoods. Consists of Ski Lodge, Downhill Ski run, Nordic Ski trails, and Tubing Hill. Mt. Bike and Hiking Trail System. Includes Playground Area, Softball and Soccer Fields, Archery Facility, Disc Golf Course, Fishing Pond, and Picnic Area.	2	277 Acres (Leased)
	Natural Resource Area			1500 Acres approx.
	Sports Complex			(Special Use Permit)
Grayling Fish Hatchery	Special Use	Fish Hatchery Located in town, Bordering numerous residential areas. Includes Trout fishing tanks, Museum building, Picnic Area.	3	50 Acres
Crawford County Sportsplex (fairgrounds)	Sports Complex	Concession stand and ball fields	2	30 acres
Wakeley Bridge Canoe Launch	Mini-Park	Canoe access	1	½ acre
Township Park		Park leased to Grayling Township on 99 year lease		

Source: Crawford County Parks & Recreation Plan 2022-2026

Camp Grayling

Camp Grayling is the largest military training center in the country. It supports a wide cross-section of military personnel, including active-duty and National Guard forces. It provides a large ground training area, an air-to ground range, and a large airspace all in the same complex. Nonmilitary organizations as well as international partners also use the ranges and other facilities there. The following description of Camp Grayling was taken from the Camp Grayling/Alpena CRTC Joint Land Use Study (2018):

The Alpena CRTC and Camp Grayling JMTC are vital and irreplaceable components of the U.S. military. They are physically separated but operationally inseparable. Camp Grayling acts as the local garrison component of the range complex while Alpena CRTC oversees and controls training operations and management of the entire complex stretching from the eastern border with Canada to the western edge of the camp including the supporting special use air- space (SUA) complex. While Alpena CRTC is a Michigan Air National Guard installation, Camp Grayling JMTC is owned and operated by the MIARNG.

Camp Grayling JMTC is directly accessible from interstate highways and has its own railhead for equipment delivery. This training complex provides units from all branches of service under the DOD opportunities to train and qualify at nearly every activity necessary for national defense. It provides for joint, intra-service operational training, which is imperative in today's asymmetrical battlefield. Its massive footprint is among only a small few in the nation that can support mission command across extended distances and the ability to synchronize joint attack maneuvers to maximize the most effective use of the battle space while retaining freedom and flexibility of action, protecting against fratricide, and integrating joint and multinational forces in a dynamic, decisive operating environment. It provides realistic and simulated environments and four-season capability to train for military operations in all conditions.

This includes simultaneous integration of ground forces (both on foot and vehicular), ground-to-air (including artillery, mortar, and small arms fire), air (including rotary wing, fixed wing, fighters, bombers, reconnaissance, communications, and unmanned aerial systems [UAS]), air-to-ground (strafing, door gunnery, aerial bombing, missiles, close air support [CAS], medical evacuation [MEDEVAC], electronic detection and prevention, and laser targeting), and space assets (including intelligence, surveillance, and reconnaissance [ISR], and communications satellites and receivers).

Camp Grayling JMTC comprises a few component features:

Range 30 Complex

Includes 65,000-acre heavy and light maneuver areas, small arms firing ranges for training and qualification, sniper ranges, convoy training, improvised explosive device (IED) awareness training, military operations on urban terrain (MOUT) mock villages, a heavy multipurpose range complex, rocket launching

for training and qualification on all current firearms, infantry squadron battle course, mortar and grenade ranges, light demolition range, fire movement range, and known distance ranges.

Operational Readiness Training Complex at Camp Grayling

Includes 8,000 transient bed spaces, 53 officers' quarters, 45 mess halls, seven maintenance buildings, seven classrooms, and two distance-learning centers. It has over 220,000 SF of warehouse storage space, bulk fuel storage for aircraft and ground equipment, munitions storage facilities, and a wide variety of recreational support facilities.

Grayling Army Airfield (AAF)

Includes an area large enough to support up to a combat aviation brigade including 60 helicopter tie-downs, housing to support 300 troops plus an additional 300 person bivouac area, dining facilities, training and administrative facilities, educational and operations facilities, two paved runways (both 5,000 feet long by 150 feet wide) capable of landing a fully loaded C-17, a control tower overseeing Class-D controlled airspace, aircraft maintenance hangars, a launch and recovery runway for RQ-7B Shadow UAS, and Shadow UAS simulators. The airfield is owned and operated by the Army but is open to the public. Grayling AAF supports slightly more overall activity than Alpena County Regional Airport but fewer military flights.

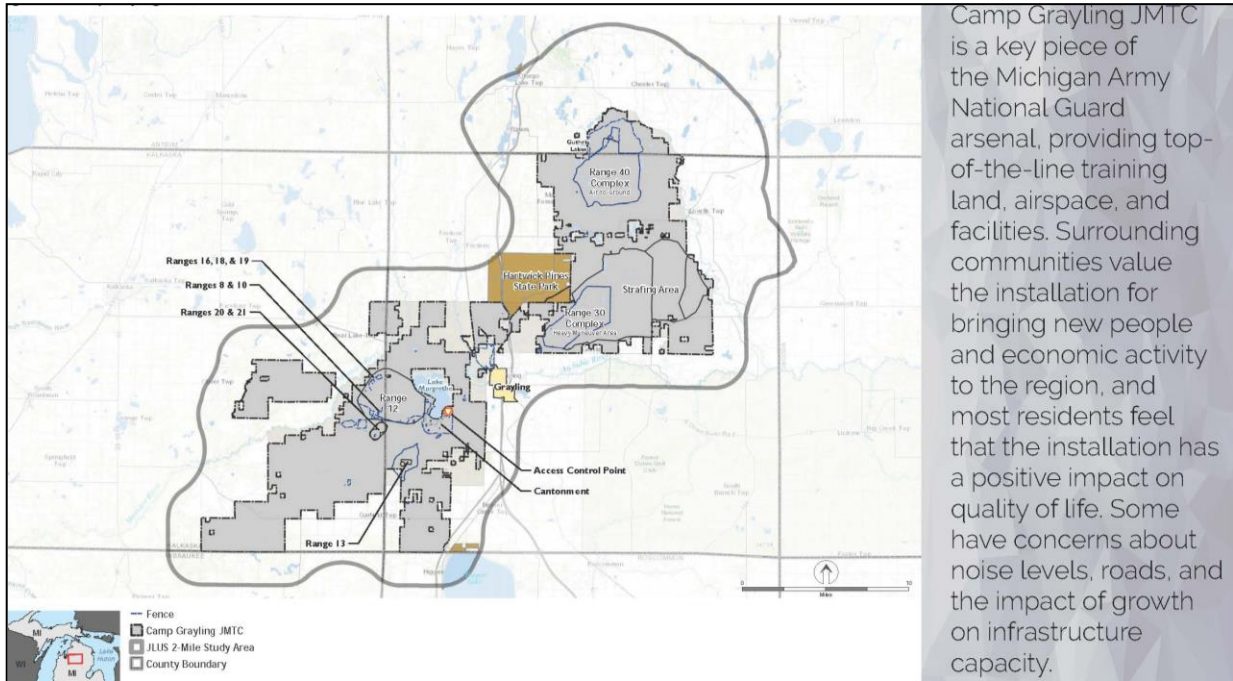
Special Use and Protected Airspace

One of the largest airspace complexes in North America, including approximately 18,000 square nautical miles of low-altitude (below 18,000 feet MSL) and high-altitude (above 18,000 MSL) SUA, some extending as high as 45,000 feet MSL and as low as 300 feet over Lake Huron. It includes approximately 935 square nautical miles of protected airspace for dangerous activities like tactical flight maneuvering, air interdiction,

aerial denial, chaff and flare release, aerial gunnery, and bombing designed to protect nonparticipating aircraft.

The training activities at Camp Grayling JMTC bring as many as 250,000 personnel through the area per year. The installation supports 44 Army National Guard personnel, 54 state employees, and 20 contract employees with an additional 56 temporary employees during training events.

Figure 3.4: Camp Grayling



Camp Grayling JMTC is a key piece of the Michigan Army National Guard arsenal, providing top-of-the-line training land, airspace, and facilities. Surrounding communities value the installation for bringing new people and economic activity to the region, and most residents feel that the installation has a positive impact on quality of life. Some have concerns about noise levels, roads, and the impact of growth on infrastructure capacity.

Chapter 4



Natural Resources

Chapter 4 - Natural Resources

Introduction

The woodlands, open spaces, wildlife, water, and rolling hills are several key resources that draw people to both recreate and live in the county. Abundant public lands offer access to thousands of acres of recreational lands for hunting, hiking, wildlife viewing, and snowmobiling. Lakes, rivers, creeks, and streams - especially the Manistee and Au Sable Rivers - provide opportunities for fishing, boating, and water sports. Special recreation areas such as the Mason Tract and Hanson Hills are additional draws to the county.

A rural landscape, abounding with views of forestlands and wetlands, typifies the community character of Crawford County. Forestlands are important to the local economy; recreational use and production of forest goods bring dollars into the Community. Many long-time visitors decide to move to the area upon retirement. These renewable yet priceless resources warrant special considerations when planning for future growth.

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

Climate

The climate is yet another reason people are drawn to the area. Typical of northern Michigan, the distinct four seasons offer an ever-changing landscape. Long snowy, cold winters; and moderately warm summers are separated by a cool, green spring and a cool colorful fall. Located in the north central part of the northern lower peninsula, the county is approximately 35 linear miles inland from Lake Michigan and 55 linear miles inland from Lake Huron. Given this geographic location, with the exception of lake effect snowfall, the weather is not significantly influenced by the lake moderating effect of both Great Lakes. Temperatures within the Jack Pine Forests and long the Au Sable River can be over 20 degrees cooler than the average weather temperatures recorded at weather station in the area.

Table 4.1 shows the average temperature and precipitation by month calculated over a 40-year period. Moderately warm temperatures dominate summers. The warmest days occur in the month of July and between the years of 1981-2021, there was an average of six days per year that exceeded the 90-degree mark. There were no temperatures over 100 degrees in the 40-year period and temperatures in the high 80's has occurred as early as April and as late as October. Normal temperatures for the area range from the high 70's to the low in the high 40's in the summer and from the high 20's to single digits in the winter. The following temperature extremes for the station in Crawford County are: maximum, 104 F, recorded July 12, 1936; minimum, -42 F, recorded February 3, 1898; warmest monthly mean, 75.5 F recorded in July of 1921; and coldest monthly mean, 2.5 F was recorded February 2015.

Table 4.1 Temperature and Precipitation Summary 1981-2021

Period	Temperature Averages (Degrees Fahrenheit)			Precipitation Averages (Inches)	
	Maximum	Min	Mean	Precipitation	Snow
January	26	8.4	17.1	1.71	18
February	28.6	8.1	18.3	1.30	20
March	38.8	15.7	27.4	1.75	15
April	52.4	28.6	40.8	3.09	3
May	66.6	39.8	53.2	3.29	<1
June	76.1	49.7	62.9	3.58	0.0
July	80.3	54.4	67.3	3.34	0.0
August	78	52.6	65.3	3.61	0.0
September	70	44.4	57.2	3.62	0.0
October	56.3	34.5	45.4	3.95	15
November	42.7	25.7	34.3	2.58	28
December	30.9	16.6	23.6	1.99	38
Annually	53.9	31.5	42.7	33.8	81

Source: Midwestern Regional Climate Center, Champaign IL, Station 203391 Grayling MI

In the summer, precipitation comes mainly in the form of afternoon showers and thundershowers. Most precipitation occurs in the months of April-October, which received an average of 24.48 inches or 72 percent of the average annual total for the 1981-2021 period. During this same period, the average wettest month was October that averaged 3.95 inches, while the average driest month was February which averaged 1.30 inches. The average seasonal snowfall was 81 inches.

During the 1981-2021 period, 100 days per season averaged one inch or more of snow on the ground but varied greatly from season to season. The greatest one-day precipitation total was 5.02 inches, recorded August 8-9, 1965; greatest monthly total, 12.51 inches, recorded September 1986. The least monthly total, 0.00 inches, was recorded April 1889. Soil moisture replenishment during the fall and winter months plays an important role in the success of agriculture for this area. While drought occurs periodically, the Palmer Drought Index indicated drought conditions reached extreme severity only two percent of the time.

Based on the 1981-2010 period, the average date of the last freezing temperature in the spring was May 30, while the average date of the first freezing temperature in the fall was September 17. The freeze-free period, or growing season, averaged 110 days annually.

Geology

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

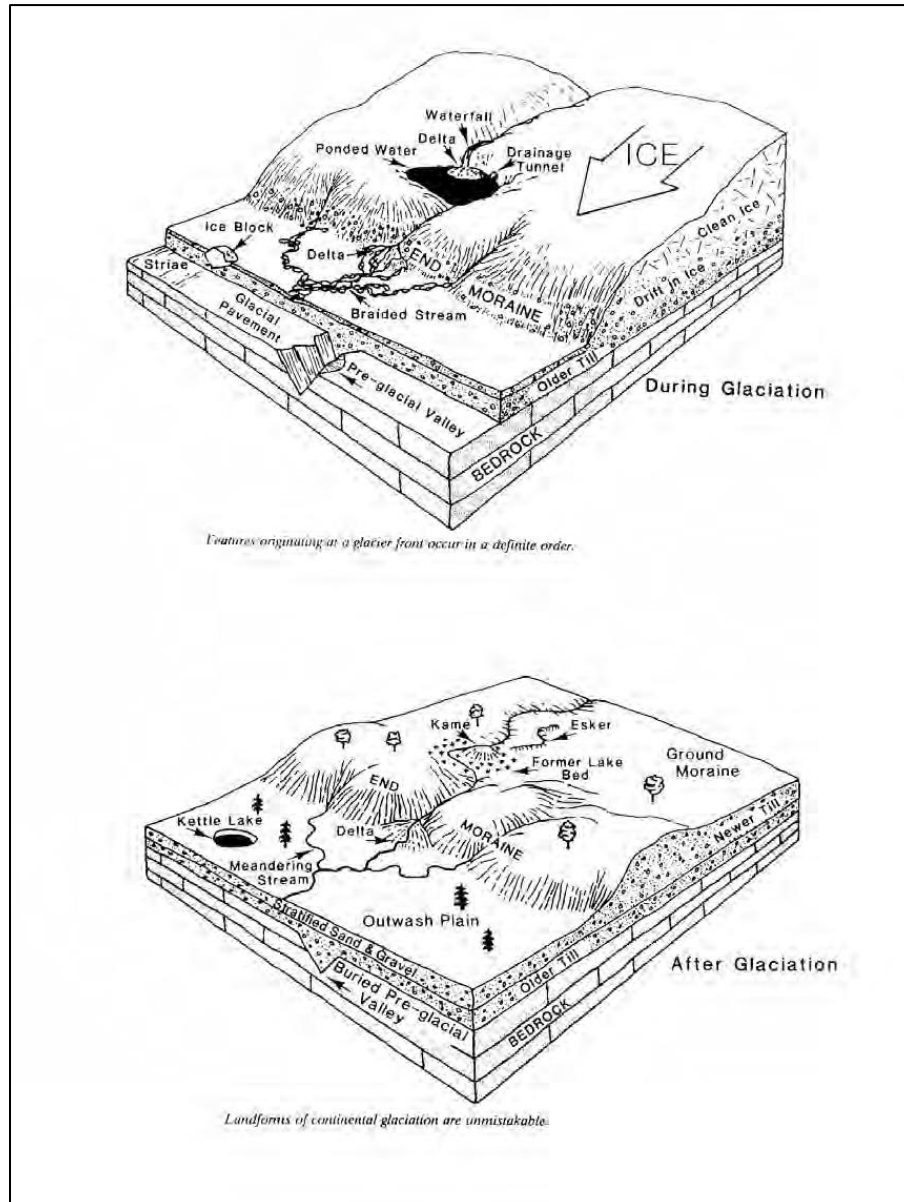
Starting some 2 million years ago, during the Pleistocene era, continental glaciers formed in the Hudson Bay area. Several times, over this two-million-year period, the massive sheets of ice built up and inched their way south across what is today Michigan. The massive ice sheets, more than one mile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

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

According to the USDA Crawford County Soil Survey, the county has three main physiographic regions. The northwestern and north-central parts of the county are characterized by a series of four high plateau-like remnant moraines that were dissected by glacial meltwater. The remnant moraine landforms have a north-south linear orientation and are referred to as the Grayling fingers. The second landform region is located in the central and northeastern parts of the county. These areas are characterized by nearly level to gently sloping outwash plains. The mainstream and north branch of the Au Sable River is located in this region. The streams have cut shallow valleys in the outwash materials. The third landform region, located in the south part of the county, consists of a near level to gently sloping plain that is interrupted by a series of high kame moraines. Much of the gently sloping plain is over washed with sand. The kame moraines have a general east-west orientation. Some of the highest elevations in the county are found on these kames. There are several small postglacial lake plains, dominated by loam and clay, in the county.

At the front of the massive retreating glaciers, large streams originated from the melting ice. The debris laden water carved through moraines creating wide drainageways and outwash channels. The Au Sable River and Manistee River further to the west are located in the glacial drainageways. These areas are dominated by sands and organic muck soils. As the continental glaciers melted, huge blocks of ice became separated from the retreating ice front. The ice blocks became embedded in the glacial debris deposited by the retreating glacier. The embedded ice blocks eventually melted and left depressions (kettle holes) which are today's inland lakes, associated wetlands, and bogs.

Beneath the glacial deposits, some 200 to 300 feet below the surface, is sedimentary bedrock that was created during the Late Mississippian ages of the Paleozoic Era. The bedrock was formed in ancient seas, which covered the area some 310-345 million years ago. The shallow marine seas deposited layers of silt, clay, sediments, marine animals, plants, coral, and other calcareous materials. These deposits formed shale, sandstone, and limestone bedrock. According to the 1987 Bedrock Geology of Northern Michigan map, prepared by the Geological Survey Division of the Michigan Department of Environmental Quality, the upper layer of bedrock is Coldwater shale. Other bedrock formations beneath the glacial overburden include the Michigan Formation and Marshall Formation. Natural gas deposits have been discovered in the Michigan and Marshall formation. Recent proposals to explore for gas adjacent to the Mason Tract have caused concerns with many groups. Concerns are the proposed drilling and associated road widening, flow line/pipeline burying, and constructed facilities (if needed) would reduce the quality of the outdoor recreation experience of visitors to the Mason Tract. The U.S. Forest Service completed an Environmental Assessment in the fall of 2004 and authorized drilling adjacent to the Tract. The authorization is being appealed.

Figure 4.1: Glacial Landforms

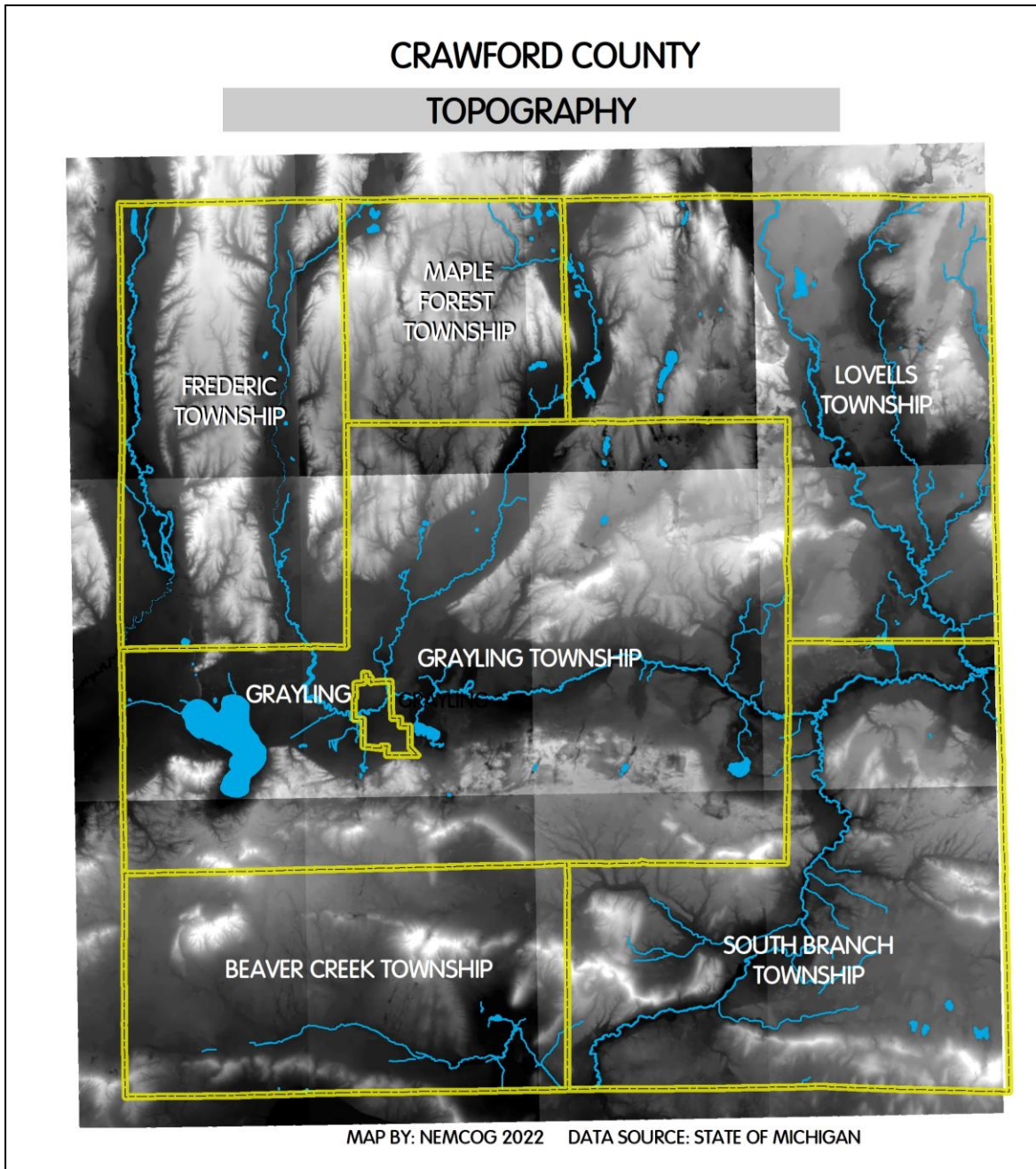
Topography

Most of the county is nearly level or gently rolling. Local differences in elevation are slight, in a few places exceeding 100 feet, although the hills and plateau-like ridges appear to rise above adjacent sand plains when viewed from a distance. Slopes of hilly land are both long and expansive or, where the relief is choppy, smooth and rounded. There are no steep slopes except along watercourses.

As shown in **Figure 4.2**, the northern part of the county consists of three broad highland plateaus, having a general north-south direction, three complementary broad sand valleys, and a wide sandy plain on the east. The central part, from eastern to western boundaries, is a wide level sand plain through which the AuSable River and its tributaries have cut valleys. Several detached swells or ridges, irregular in outline but having general east to

west trends, characterize the southern part of the county. Here the general relief is gently rolling or moderately hilly. Level sand plain and swamps intervene between masses of higher land. The highest elevation, ranging from 1,300 to 1,480 feet above sea level, can be found on kame moraines in the southeastern parts of the county. The lowest elevation of 1,010 feet above sea level, noted on USGS quadrangle maps, is located in the eastern edge of the county where the main branch of the Au Sable River flows into Oscoda County.

Figure 4.2 Topography



Soils

The soils of Crawford County are generally sandy with low fertility and low moisture-holding capacity. Few loamy soils are found in the northwest portion of the county. Portions of the county have building limitations due to poor filtration of septic effluents. The two predominant soil associations in Crawford County are: Grayling-Rubicon (nearly level to undulating, well drained sandy soils on outwash plains); and Grayling-Graycalm- Montcalm (rolling to hilly, well-drained sandy soils, on uplands). Found in the northwest portion of the county are significant beds of a third association, Kalkaska-Blue Lake (sloping to steep, well-drained sandy soils, on the side of ridges and escarpment-like features enclosing upland valleys).

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

The Natural Resource Conservation Service completed a detailed soil survey of Crawford County. A digital or computerized version of the soil survey maps was acquired from the Michigan Department of Natural Resources, MIRIS program. Using information contained within the published soil survey book, a series of maps are presented that depict hydric soils, steep slopes, soils with building limitations, and soils with septic system limitations.

Figure 4.3 is a color thematic map that classifies hydric soils and soils on steep slopes. Lower density and less intensive development should be directed to these areas with severe building constraints. Hydric soils are saturated, flooded, or ponded during part of the growing season and are classified as poorly drained and very poorly drained. Hydric soils have poor potential for building site development and sanitary facilities. Wetness and frequent ponding are severe problems that are difficult and costly to overcome. Sites with high water tables may be classified as wetlands and a wetlands permit would be required to develop these areas.

Less than ten percent of the county is mapped as hydric soils with a high potential for wetlands. The hydric soils are mainly located adjacent to streams and lakes. The largest concentrations are found in the central portions and northern portions of the community. Note the green areas or hydric soils are typically drained by creeks and streams that in turn empty in the major rivers. This connectivity of riparian wetlands and surface water features can be seen throughout the landscape.

Hills and steeply rolling terrain may provide opportunities for spectacular views of the landscape. However, steeply sloped sites have severe building constraints, are more difficult and costly to develop. Maintenance costs tend to be higher on steeply sloped terrain. Special design standards such as erosion control measures, limiting size of disturbed areas, retaining natural vegetation, revegetation, slope stabilization, and on-site retention of water run-off from impervious surfaces would all serve to minimize resource impacts. According to information presented in the Crawford County Soil Survey areas with slopes 18 percent and greater are minimal. Of greatest concern are steeply sloping hillsides adjacent waterways. Steeply sloped areas are depicted in red on **Figure 4.3**. Note the large area mapped as steep slopes in the northern part of the county. This anomaly is related to the bombing range of Camp Grayling.

Building Site Development

The USDA soil survey of Crawford County rates soils for various uses such as building site development and identifies the limiting factors such as steep slopes or high-water table. The rating system is slight, moderate, and severe limitations. Using the rating system developed by USDA, soil limitations for buildings without basements have been mapped and are displayed in **Figure 4.4**. Areas with well drained soils and slopes less than 10 percent tend to have slight limitations for building development. Areas with steep slopes, high water tables and organic soils have severe limitations. Lands with severe constraints are scattered throughout the county but tend to be more prevalent near streams and in the northeast and southeast parts of the county. Due to the prevalence of sandy soils in Crawford County large areas have slight to moderate limitations for buildings.

Septic Systems

Using a computer mapping system soils maps have been color coded to show areas with slight to severe septic system limitations as defined by the USDA Natural Resource Conservation Service. Criteria include depth to water table, wetness, filtering capacity and ability to perc water. **Figure 4.5** is a septic system limitations map. Much of the county is classified as having severe limitations. Clearly the greatest limiting factor is the prevalence of sandy soils with severe limitations due to poor filtration of septic effluents. This is a critical issue when the water table is close to the surface or when high density development occurs. Limiting types and density of development or making public water and sewer available for high density development are likely the best options for protecting the groundwater resources.

Figure 4.4 Buildings Without Basements

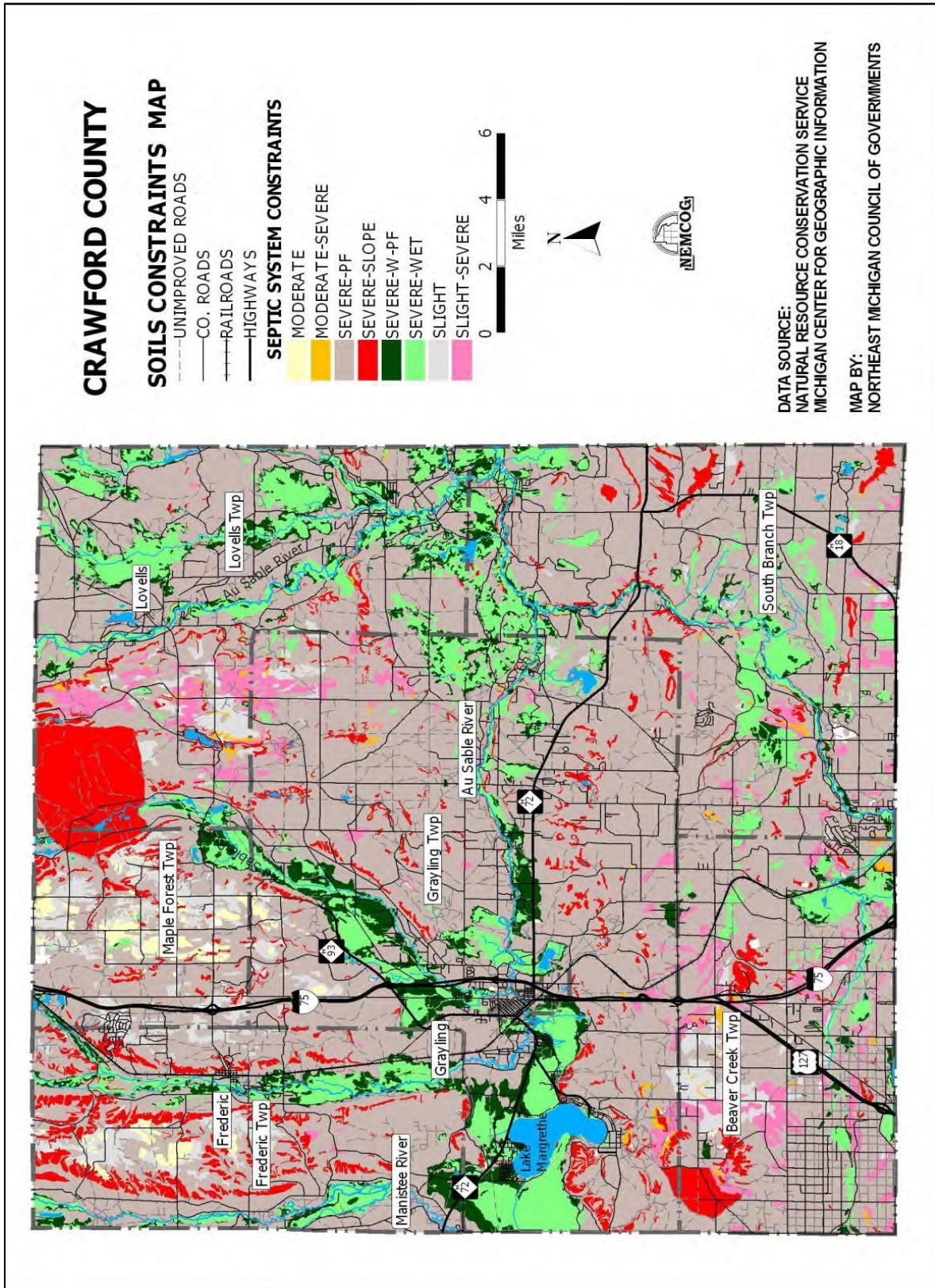
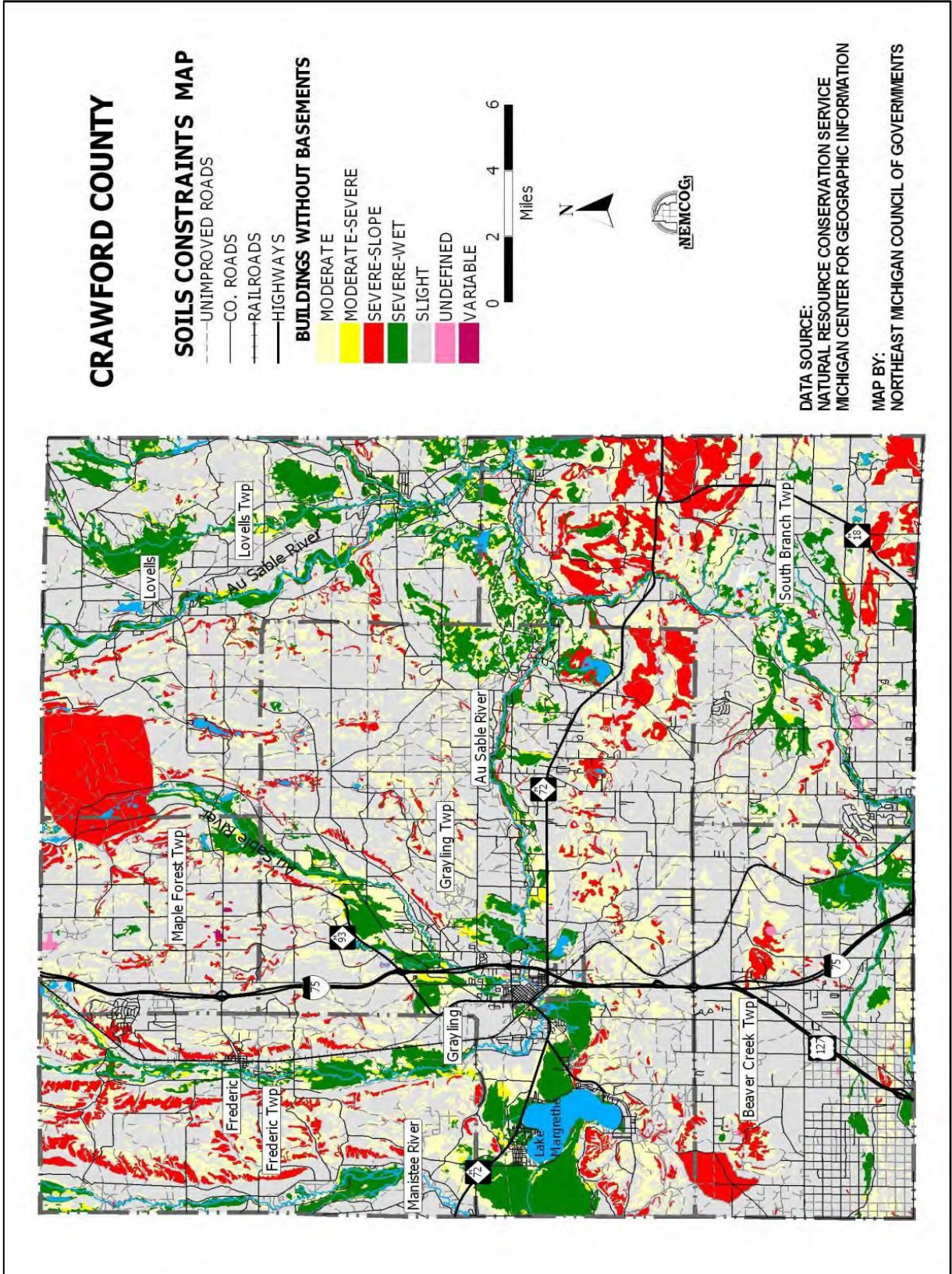


Figure 4.5 Septic Systems Constraints



Forestry

A large amount of land in Crawford County is in public ownership in the form of the Huron National Forest and the Au Sable State Forest. According to the DNR, forestland and wetlands covers approximately 164,714 acres of state land.

Forest Cover Types

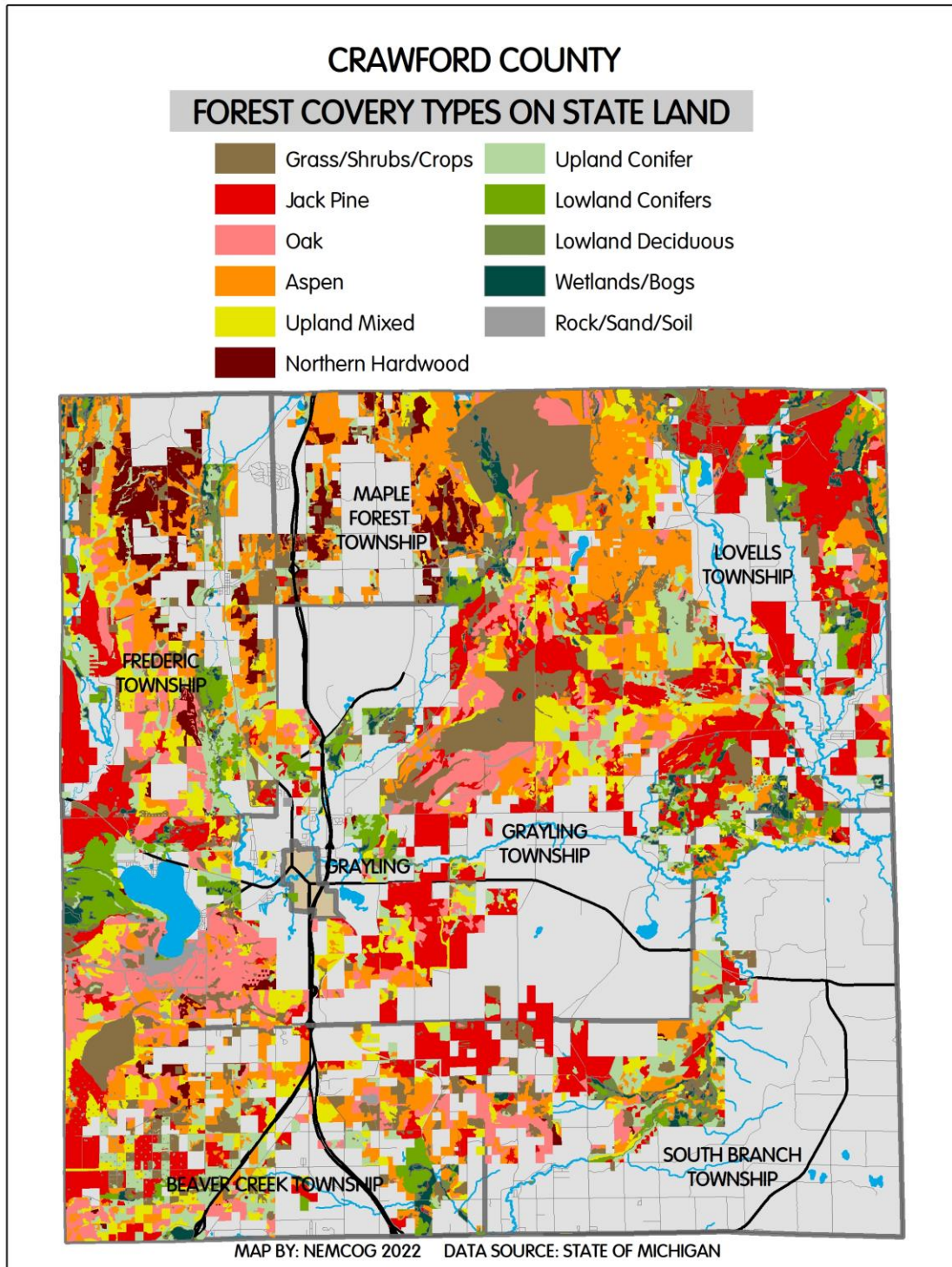
Table 4.2 shows that the major forest species found in the county are Jack Pine, Aspen, and Oak. **Figure 4.6** shows the forest types on state land in the county. The abundance of Jack Pine and Oak forests dramatically increase the wildfire hazard for Crawford County. Note the predominance of pine and oak depicted on the map. In addition, note the prevalence of northern hardwoods in Maple Forest Township and northern Frederic Township.

Table 4.2 Forest Cover Types on State Land

Cover Type	Acres
Jack Pine	38,223
Aspen	35,370
Grass/Shrubs/Crops	30,269
Oak	21,880
Upland Mixed	21,044
Upland Conifer	20,940
Lowland Conifer	10,068
Northern Hardwood	8,443
Wetlands/Bogs	6,161
Rock/Sand/Soil	3,347
Lowland Deciduous	2,585
Source: State of Michigan DNR 2022	

The majority of forestland in the county is in public ownership. Most of these lands are managed under a multi-use concept, which is directed toward recreation. The use of military forestland is not geared toward commercial forest production. Some areas have been determined as refuge areas for the endangered Kirtland's Warbler.

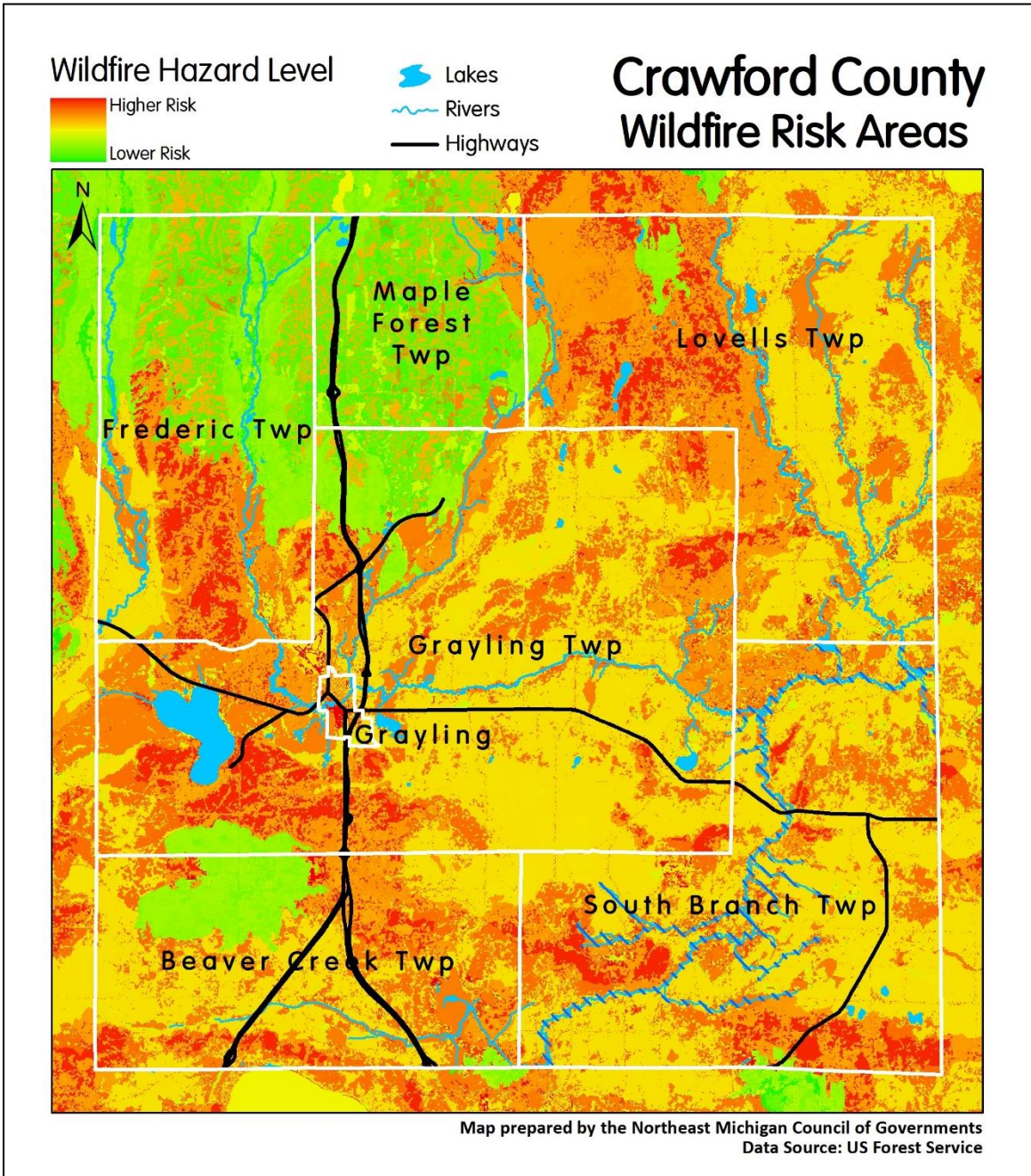
Figure 4.6 Forest Cover Map on State Land



Wildfire Risk Areas

Figure 4.7 shows data provided by the U.S. Forest Service on wildfire risk throughout the county. High wildfire risk areas can be found in Frederic Township (south portion), Lovells Township (west portion), Grayling Township (west portion), Beaver Creek Township (east portion), and South Branch Township (west and southeast portion). The City of Grayling also has a high wildfire risk in the south half of the city. Moderate wildfire risk areas can be found throughout most of the county. The only areas with low wildfire risk are Maple Forest Township, a portion of northwest Beaver Creek Township (and a small portion of southwest Grayling Township), and the north half of Frederic Township.

Figure 4.7 Wildfire Risk



Groundwater Resources

Groundwater can be found in the deep glacial deposits of sand and gravel throughout the county. The availability of groundwater appears consistently good, ranging from 400 to 500 gallons per minute from wells ten inches in diameter. Ground water provides the only source of potable water for the county. Because of the deep sand and gravel underlying the county, the aquifer is quite vulnerable to contamination from surface and subsurface discharges.

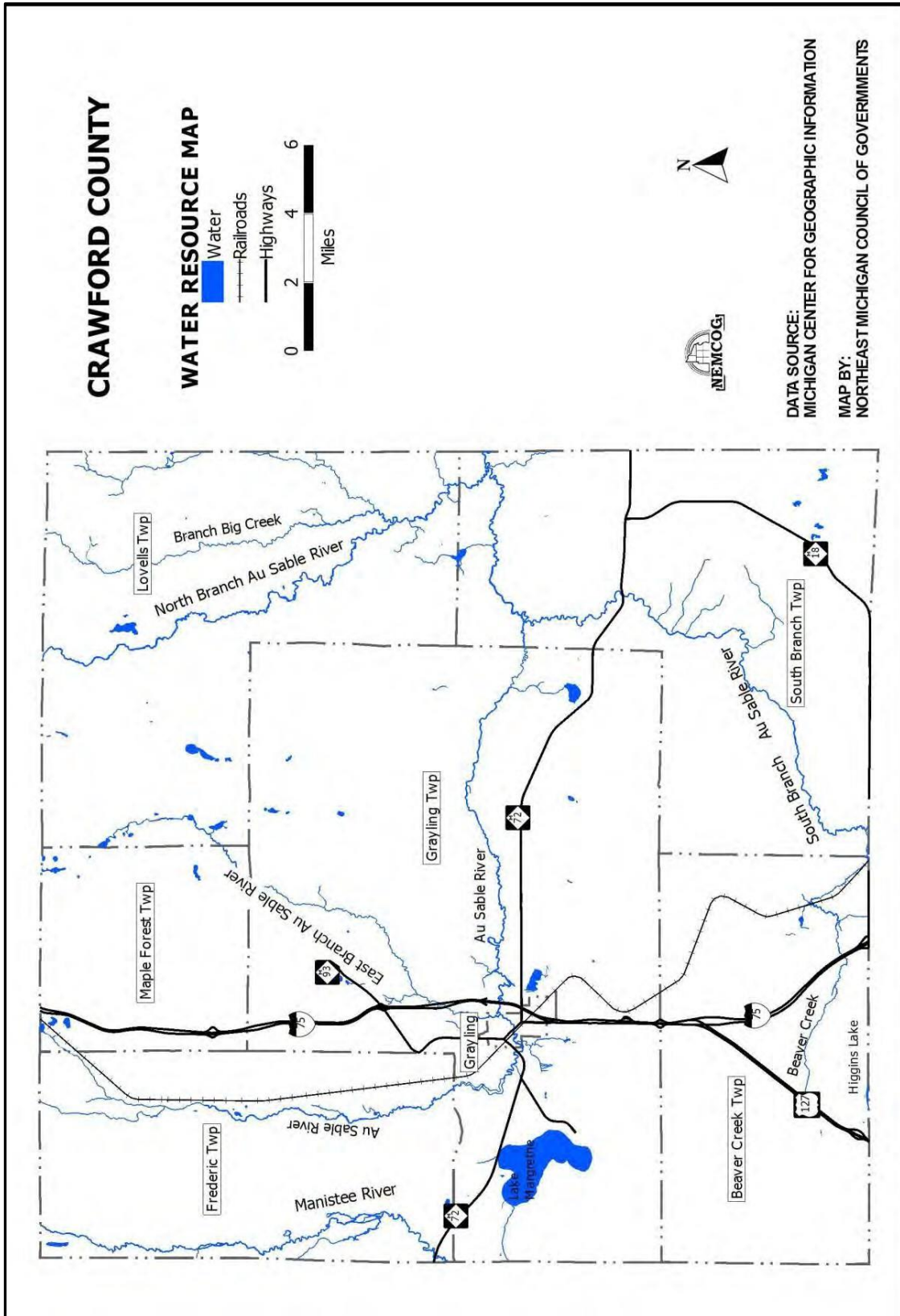
Surface Water Resources

Crawford County has an abundance of lakes and streams (**Figure 4.8**). The county has a total of 53 lakes that are one acre or larger. The largest body of water in the county is Lake Margrethe, with a surface area of 1,928 acres, an average depth of 16 feet and a maximum depth of 65 feet. A portion of Higgins Lake (approximately 24 acres of surface water and one mile of shoreline) is located within the county. Seven lakes are over 100 acres. The large majority of the lakes are less than 50 acres in size. The county is predominantly within the Au Sable watershed. The Manistee River drains the western portion of the county. There are 45 miles of inland shoreline in Crawford County with approximately 25 miles open to the public. Almost all of the lakes and streams provide good fishing and many tourists come to the county to fish. The lake is at the headwaters of the Manistee River watershed and is a popular recreational and tourist area in the county. Other significant lakes in the county include Shupac Lake, Shellengarger Lake, and Jones Lakes. Smaller lakes are quite numerous. The lakes and streams in the county are popular tourist attractions and are heavily used in the summer and winter months. Canoeing and fishing are very popular on the rivers, with swimming and boating being popular on the larger lakes.

The Au Sable River watershed drains approximately 1,932 square miles within portions eight counties. The main branch enters the county in the northwest corner and flows out of the southeast corner. An eight mile stretch of the Main Branch of the Au Sable, east of Grayling, from Burton's Landing downstream to Wakely Bridge, is designated flies-only, no-kill water. This segment is known as "the Holy Water." The East Branch, North Branch, and South Branch all flow into the Crawford County and empty into the main stream as it traverses the county. The Au Sable is rated as a "Blue-Ribbon" world-renowned trout stream and is designated as a Michigan Natural River. Since 1947, the Au Sable River Canoe Marathon, a yearly 120 mile (190 km) pro-am canoe race, runs the river from Grayling to Oscoda.

The Upper Manistee River watershed drains 565 square miles and covers portions of five counties. The Upper Manistee River flows through the western edge of the county. The stretch of the River in Crawford County supports an excellent trout fishery with fishing landmarks such as Deward, Cameron Bridge, and Goose Creek Camp. It is a state designated "Blue Ribbon Trout Stream" from Deward downstream through the county. The Au Sable River and Upper Manistee River are designated Natural Rivers under the Michigan Natural Rivers Act (Part 305 N.R.P. Act (1994 PA 451)). The Michigan Department of Natural Resources enacted natural rivers zoning ordinances for each river. The ordinances are administered by local communities in the county.

Figure 4.8 Water Resources



Fish and Wildlife

The predominance of forested land and surface water makes Crawford County the home to many species of fish and wildlife. The recreational opportunities linked with these resources are many. With over 3,000 acres of lakes and streams, the county has an abundance and variety of fish habitat. Many of the streams in Crawford County are suitable for trout fishing. Three branches of the AuSable River are designated Blue Ribbon Trout Streams. Brook, rainbow, and brown are established singly or in combination in these streams. Many of the deeper lakes in the county also contain trout, including Glory, Bright, Sandhill, and Kneff Lake. Other lakes in the county support populations of rock bass, yellow perch, blue gills, small mouth bass, largemouth bass, tiger muskie, northern pike, and walleye. Lake Margrethe, the largest lake in the county, has a wide variety of pan fish and sports fish. In 2006, the Department of Natural Resources established guidelines to develop a process to create quality fishing lakes by designation. Based on the newly developed criteria, Jones Lake has been placed into the 'Quality Lakes' designation.

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

Unfortunately, large deer populations, combined with indiscriminate feeding practices, were contributing factors to the spread of Bovine Tuberculosis (TB) 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.

While 87% of the Bovine TB infected deer came from five counties in northern Michigan (Alpena, Alcona, Montmorency, Oscoda, and Presque Isle), the impact of this disease has been nonetheless felt in Crawford County. As of the 2022 testing season, no deer have tested positive for TB in the county.

The effort to eradicate the disease has led to an aggressive TB testing campaign and the creation of a 42 county surveillance area and a seven county Deer Management Unit (DMU) that is subject to special regulations. Hunters in the surveillance area are asked to submit deer heads for testing, in DMU 452 (the core area covering portions of the four counties directly east and northeast of Crawford County) testing was mandatory until 2002, but testing is now on a voluntary basis. While Crawford County had been included in the seven county DMU area in 2005, as of 2010 Crawford County was not included in the multi-county DMU. The situation continues to be monitored and as of 2022 Crawford County is still excluded. Efforts to eradicate the disease has led to changes in deer feeding rules, quota increases, extension of the number of hunting days and the banning of new deer or elk farms. As the eradication effort continues, more changes in hunting and feeding rules can be expected.

Endangered Species

Crawford County is also home to a number of different plants and animals that are threatened, endangered or is of special concern. **Table 4.3** presents the Endangered (E) or Threatened (T) plant and animal species of Crawford County, which are protected under the Endangered Species Act of the State of Michigan (Public Act 203 of 1974 as amended). This list also includes plant and animal species of Special Concern (SC). While not afforded legal protection under the act, many of these species are of concern because of declining or relict populations in the state. Should these species continue to decline, they would be recommended for Threatened or Endangered status. Protection of Special Concern species before they reach dangerously low population levels would prevent the need to list them in the future by maintaining adequate numbers of self-sustaining populations.

The primary summer nesting area of the very rare songbird, Kirtland's Warbler, is found in the immediate vicinity of Crawford and Roscommon counties. This Warbler winters in the Bahamas and migrates to northern Michigan nesting areas in young jack pine forests. Bird watches from all over the world come to the area to view and study this scarce bird. Kirtland's Warbler habitat is young jack pine forests that are 5 to 20 years old. The habitat is managed by cutting older jack pine stands and replanting with millions of new seedlings each year. Protection of this habitat is critical to insure future preservation of the Kirtland's Warbler.

Table 4.3 Crawford County Threatened and Endangered Species

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS*	STATE STATUS**
<i>Accipiter gentilis</i>	Northern goshawk		SC
<i>Agoseris glauca</i>	Prairie or pale agoseris		T
<i>Alasmidonta viridis</i>	Slippershell		T
<i>Appalachia arcana</i>	Secretive Locust		SC
<i>Atrytonopsis hianna</i>	Dusted skipper		SC
<i>Botrychium mormo</i>	Goblin moonwort		T
<i>Brachionycha borealis</i>	Boreal brachionyncha		SC
<i>Brychius hungerfordi</i>	Hungerford's crawling water beetle	LE	E
<i>Buteo lineatus</i>	Red-shouldered hawk		T
<i>Calypso bulbosa</i>	Calypso or fairy slipper		T
<i>Cambarus robustus</i>	Big water crayfish		SC
<i>Cirsium hillii</i>	Hill's thistle		SC
<i>Coregonus artedi</i>	Lake herring or cisco		T
<i>Corispermum pallasii</i>	Pallas' Bugseed		SC
<i>Dalibarda repens</i>	False violet		T
<i>Emydoidea blandingii</i>	Blanding's turtle		SC
<i>Erynnis martialis</i>	Mottled duskywing		SC
<i>Falcipecten canadensis</i>	Spruce grouse		SC
<i>Festuca Scabrella</i>	Rough fescue		T
<i>Gavia immer</i>	Common loon		T
<i>Glyptemys insculpta</i>	Wood turtle		SC
<i>Haliaeetus leucocephalus</i>	Bald eagle		SC
<i>Hesperia metea</i>	Cobweb skipper		SC
<i>Incisalia henrici</i>	Henry's elfin		T
<i>Juncua vaseyi</i>	Vasey's rush		T
<i>Lasmigona compressa</i>	Creek heelsplitter		SC
<i>Lasmigona costata</i>	Flutedshell		SC
<i>Lithobates palustris</i>	Pickerel Frog		SC
<i>Lycopodiella subappressa</i>	Northern appressed clubmoss		SC
<i>Microtus pinetorum</i>	Woodland vole		SC
<i>Myotis lucifugus</i>	Little brown rat		SC
<i>Opheodrys vernalis</i>	Smooth green snake		SC
<i>Panax quinquefolius</i>	Ginseng		T
<i>Pandion haliaetus</i>	Osprey		SC
<i>Physella magnalacustris</i>	Great Lakes physa		SC
<i>Physella parkeri</i>	Broadshoulder physa		T
<i>Potentilla canadensis</i>	Canada cinquefoil		SC
<i>Prunus alleghaniensis var davisii</i>	Alleghany or sloe plum		SC
<i>Pygus wyandot</i>	Grizzed skipper		SC
<i>Setophaga kirtlandii</i>	Kirtland's warbler	LE	SC
<i>Sistrurus catenatus</i>	Eastern massasauga	LT	SC
<i>Solidago houghtoni</i>	Houghton's goldenrod	LT	T

Sphaerium fabale	River fingernail clam		SC
Sporobolus heterolepis	Prairie dropseed		SC
Stagnicola contracta	Deepwater pondsnail		E
Stellaria crassifolia	Fleshy stitchwort		E
Trichophorum clintonii	Clinto's belrush		SC
Viola novae-angliae	New England violet		T

*LE= Listed endangered, C = Candidate, LT = Listed threatened

** E = Endangered, T = Threatened, SC = Special concern

Source: Michigan Natural Feature Inventory, Michigan State University, MSU Extension

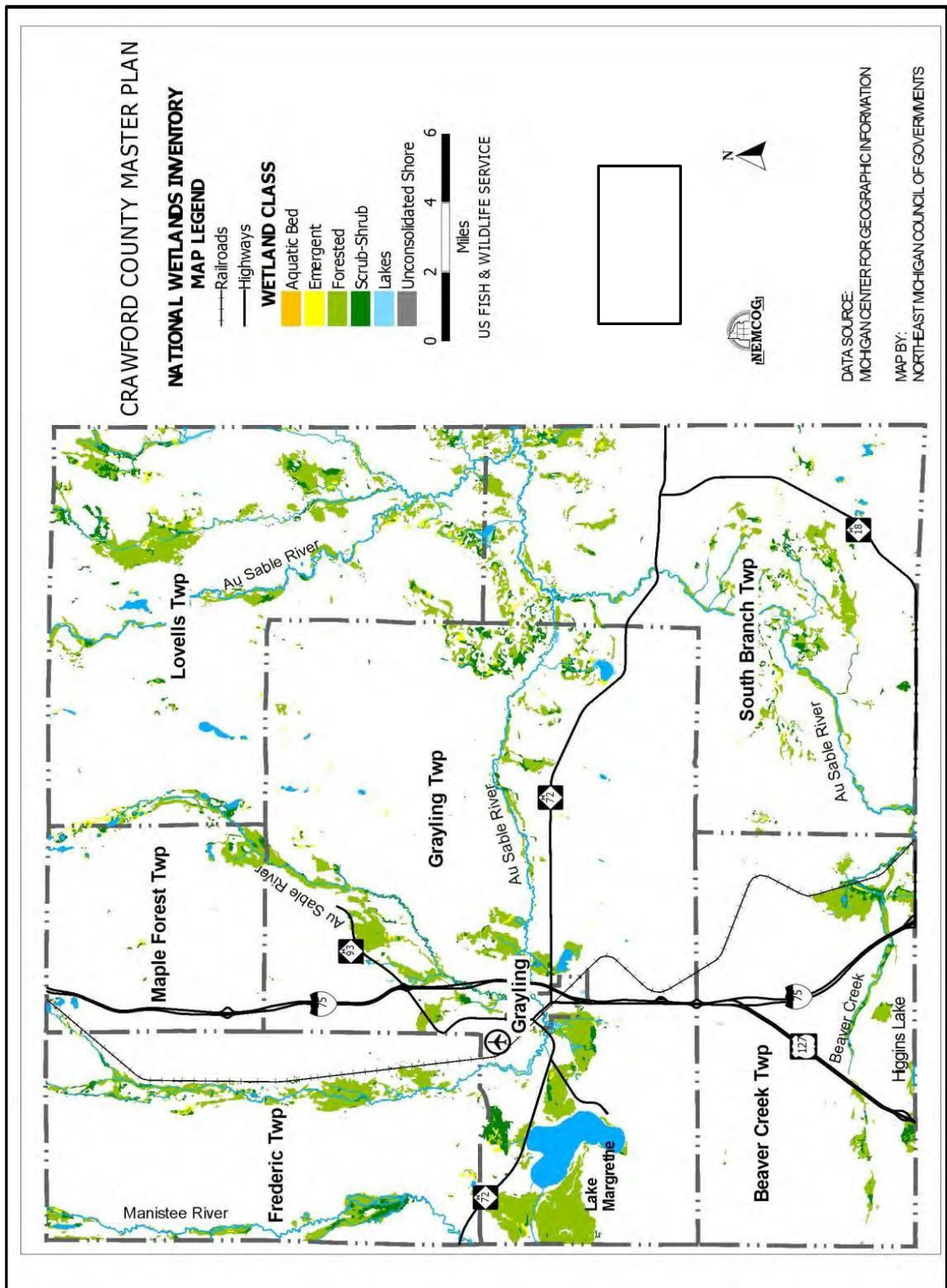
National Wetlands Inventory

A wetland is found where water is found, either on the surface or near the surface, at any time during the year. Poorly drained soils and water-loving vegetation also may be present. Wetlands are often referred to as marshes, swamps, or bogs. Residents of Michigan are becoming increasingly more aware of the value of wetlands. Beyond the 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.

Poorly drained, lowland areas support northern white cedar, tamarack, balsam fir, black spruce, eastern hemlock, white pine, balsam poplar, trembling aspen, paper birch, black ash, speckled alder, and shrub willows. Northern white cedar dominates the wetland areas where there is good lateral water movement and the soils are high in organic content. Lowland forests are typically located adjacent to water features and function as riparian forests and water quality buffers. The network of lowland forests, associated with rivers and creeks, also function as wildlife corridors and are the backbone of large regional ecological corridors. Lowland forests adjacent to rivers and streams may be prone to flooding during the spring snowmelt, particularly when combined with heavy spring rains. Forested and non-forested wetlands are a finite resource in the county. Land use planning activities should focus on protecting and preserving these limited and critical resources.

The U.S. Fish and Wildlife Service developed national wetlands inventory program in the 1980's. Through this effort, a national wetlands inventory map was compiled for Crawford County. The digital data was acquired from the Center for Geographic Information, State of Michigan, and used to compile **Figure 4.9**. The map depicts forested and non-forested wetlands.

Figure 4.9 National Wetland Inventory



Pre-Settlement Vegetation

The Michigan Department of Natural Resources has compiled pre-settlement vegetation maps of counties in Michigan. The maps were generated from information contained in the first government land survey notes in the 1800's along with information such as current vegetation, land forms and soils, **Figure 4.10**. A review of the pre-settlement vegetation map of Crawford County shows extensive areas were covered with jack pine- red pine forest, pine barrens, and pine-oak barrens. This clearly shows a long history of wildfires in the area. The map delineates jack pine-red pine forest, white pine-red pine forest, pine barrens, pine-oak barrens, pine-oak forests, and northern hardwood forests. In the late 1800's extensive logging and subsequent wildfires altered the forest make-up, yet still today as noted on the 1978 forest vegetation map, jack pine covers large parts of the county. **Figure 4.11** shows historical vegetation and interpolated fire observations from General Land Office Survey Notes. This map again supports that jack pine and wildfires have long been a part of life in this part of the state. Today, the concern lies in residential development within these historic fire prone areas.

Figure 4.10 Historical Vegetation

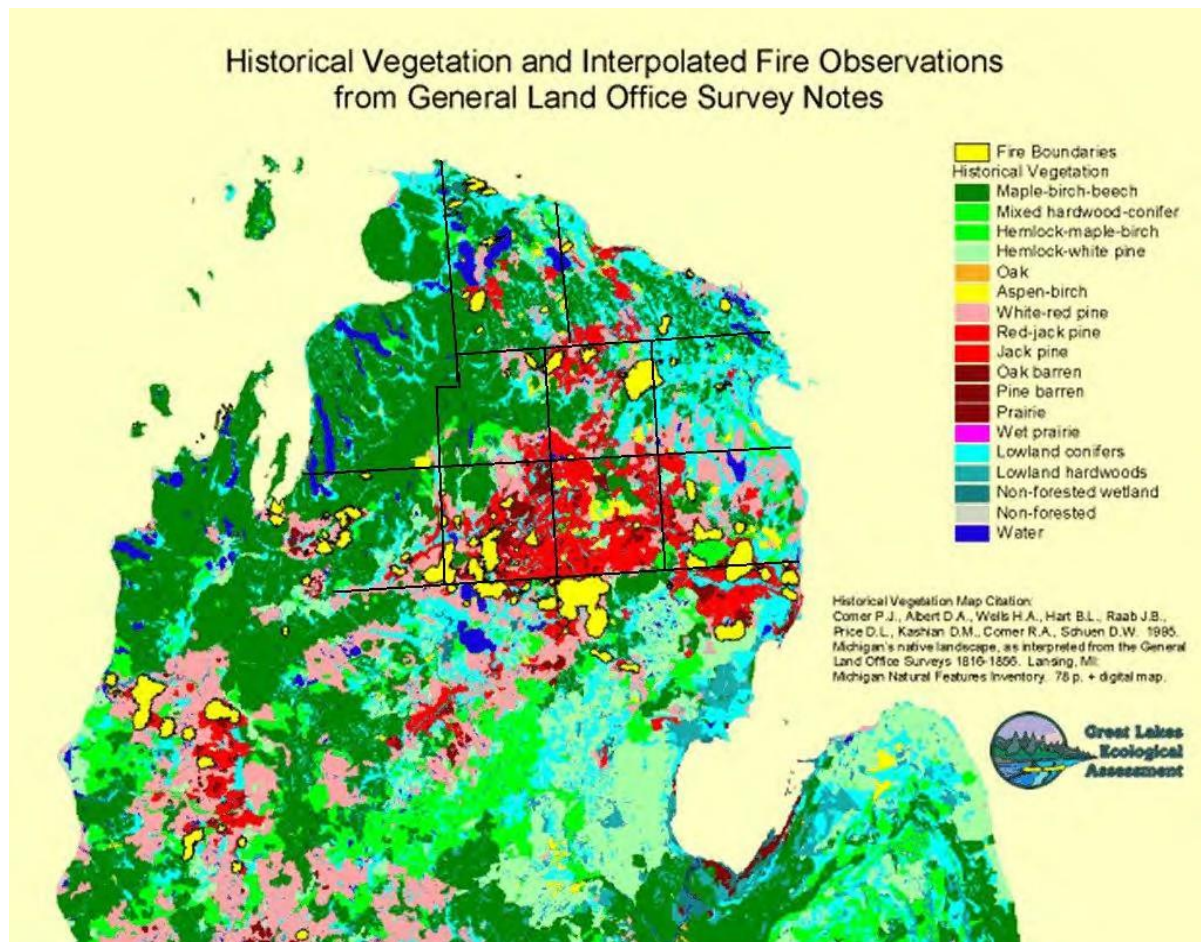
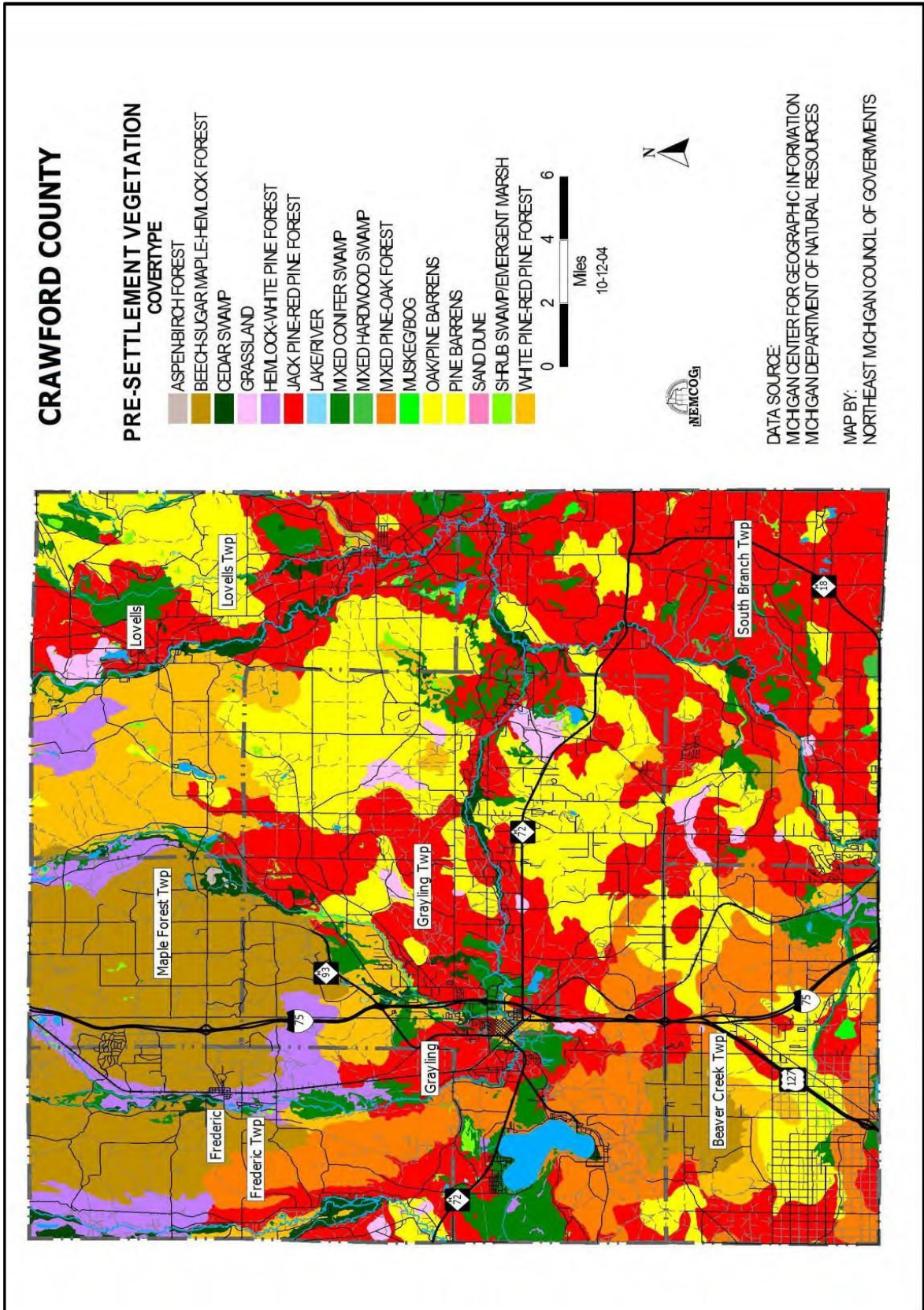


Figure 4.11 Pre-Settlement Vegetation



Sites of Environmental Contamination

Part 201 Sites

The Part 201 (Environmental Response) of Natural Resources and Environmental Protection Act (P.A. 451 of 1994), as amended, provides for the identification, evaluation, and risk assessment of sites of environmental contamination in the state. The Department of Environment, Great Lakes and Energy (EGLE) is charged with administering this law. A site of environmental contamination, as identified by EGLE, is “a location at which contamination of soil, ground water, surface water, air or other environmental resource is confirmed, or where there is potential for contamination of resources due to site conditions, site use or management practices”. The agency publishes a list of environmentally contaminated sites by county showing the sites by name, pollutant(s), and site status (Table 4.4). There are currently 41 Part 201 sites in Crawford County (Figure 4.12)

Surface Water and Air Discharge Permits

NPDES Permits: Anyone discharging, or proposing to discharge, waste, or wastewater into the surface waters of the state is required to obtain a National Pollutant Discharge Elimination System (NPDES) permit. The NPDES program is intended to control direct discharge into the surface waters of the state by imposing effluent limits and other conditions necessary to meet state and federal requirements. The NPDES program regulates pollutants discharged directly into waterways from wastewater sources. According to the EPA Consolidated Database, as of November 2021 there are four active NPDES permits issued in Crawford County.

Air Discharge Permits: There are four categories of review or permits in the State of Michigan for air discharges: Maximum Achievable Control Technology (MACT) determinations; New Source Review (NSR); Renewable Operating Permit (ROP); and Acid Rain Permits. MACT determinations are required under the Clean Air Act. The U.S. EPA is required to develop standards for industrial categories of "major" sources of hazardous air pollutants that require the application of MACT. This is done on a case-by-case basis by the Air Quality Division. NSR requires a person to obtain a permit prior to the installation of any potential source of air pollution unless the source is exempt from the permitting process. The ROP program is a national permitting system, administered by each state. Each major source of pollution is subject to the program. A "major source" is a facility that is capable of emitting more than certain amounts of air contaminants. Acid Rain Permits may be required for electric generating units which sell electricity to the grid and burn fossil fuel. Table 4.5 lists the current Air Discharge (renewable operating permits) permits issued to businesses in Crawford County as of October 2021. Additionally, within Crawford County, only CMS Generation, Grayling Generating Station has submitted a renewal application for a permit under the EPA Clean Air Interstate Rules regulations (CAIR).

Table 4.4 Crawford County Contamination Sites (Part 201)

Site ID	Site Name	Address	Description
20000002	1. Camp Grayling Bulk Fuel Facility	North I-75 BL	Interim Response in progress
20000004	2. Frederick Township (Former Leng's Garage	6636 AuSable Street (Old 27)	Risks Present but not Immediate
20000007	3. Modular Engineering	Rt #1, 7 Mile Rd.	Interim Response in progress
20000009	4. South Branch Twp M18 Res Well (See the W	5453 M-18 Hwy	Risks Present but not Immediate
20000010	5. Barbara St GW Contam	123 Barbara Street	Inactive - no actions taken to address contamination
20000028	6. Al Bennett Ford		Interim Response conducted - No further activities anticipated
20000029	7. Res Well Madsen Street	600 Madsen Street	Risks Present but not Immediate

20000031	8. Camp Grayling Airfield	I-75 Business Loop B.L. I-75 or Old U.S.- 27	Risks Present but not Immediate
20000058	9. Shepan Fuel Oil Spill	106 Jonassen	Interim Response conducted - No further activities anticipated
20000060	10. Straits Wood Treating	2459 Industrial Drive	Remedial Action in Progress (may incl. use restrictions, O&M and/or monitoring)
20000064	11. Crawford County Jail Property	200 West Michigan Ave.	Interim Response conducted - No further activities anticipated
20000065	12. Mills Cottage Fuel Oil Spill	9851 Beech Terrace Drive	Inactive - no actions taken to address contamination
20000066	13. Old Mill Property	308 Huron Street (M-72)	Risks Present but not Immediate
20000073	14. Fred Bear Archery Former	N. Down River Rd. & Stephan Bridge Rd.	Risks Present but not Immediate
20000075	15. Grayling Industries	4364 North Down River Road	Interim Response in progress
20000076	16. Lovells Hardware	6039 E. Co. Rd. 612	Interim Response conducted - No further activities anticipated
20000078	17. Camp Grayling MLRS	No Address Entered	Interim Response in progress
20000081	18. Camp Grayling Small Arms Ranges	Camp Grayling M-93	Risks Not Determined
20000082	19. Former Bear Archery Factory	5671 M-72 West	Evaluation conducted
20000084	20. Camp Grayling/Various Ranges	Camp Grayling	Risks Not Determined
20000085	21. Derenzy Fuel Spill	5887 Rosemary Lane	Risks Present but not Immediate
20000090	22. Former Grayling Reel	4622 Young Street	Inactive - no actions taken to address contamination
20000091	23. 758 Isenhauer Road	758 Isenhauer Road	Interim Response conducted - No further activities anticipated
20000093	24. Verizon N. James Street	412 N. James Street	Evaluation in progress
20000094	25. Scheer Motors	Scheer Motors 829 South I-75 Business Loop	Risks Not Determined
20000095	26. Superior Metal Recycling	2023 and 2051 North M-18	Inactive - no actions taken to address contamination
20000096	27. 6530 E County Road 612	6530 East County Road 612	Inactive - no actions taken to address contamination
20000097	28. Scrubboard Laundromat	104 Charles Street	Risks Not Determined
20000098	29. Knight K-70 (0-0021408)		Risks Not Determined
20000099	30. Grayling Area PFAS	Grayling Township / Northern Grayling	Risks Present and Immediate
20000100	31. Camp Grayling - Lake Margrethe	Lake Margrethe and surrounding shoreline	Risks Present and Immediate
20000101	32. Grayling Northern Market	2059 I-75 Business Loop	Risks Not Determined
20000705	33. Enbridge Energy - Lewiston Station	11584 County Road 612	Risks Controlled
20000706	34. Grayling Sawmill	104 and 102 Michigan Avenue	Risks Present but not Immediate
20000711	35. 112 Burton Court	112 Burton Court	Risks Present but not Immediate
20000712	36. MATES/Range 30	2450 W North Down River Rd	Risks Not Determined

20000713	37. Commercial Property	103 East Michigan Avenue	Risks Present but not Immediate
20000714	38. 103-105 I-75 Business Loop	103-105 I-75 Business Loop	Risks Not Determined
20000718	39. 409 Chestnut Street	409 Chestnut Street	Risks Present but not Immediate
20000719	40. I 75 Business Loop	I 75 Business Loop	Risks Present but not Immediate
20000720	41. 2252 South I-75 Business Loop	2252 South I-75 Business Loop	Risks Present but not Immediate

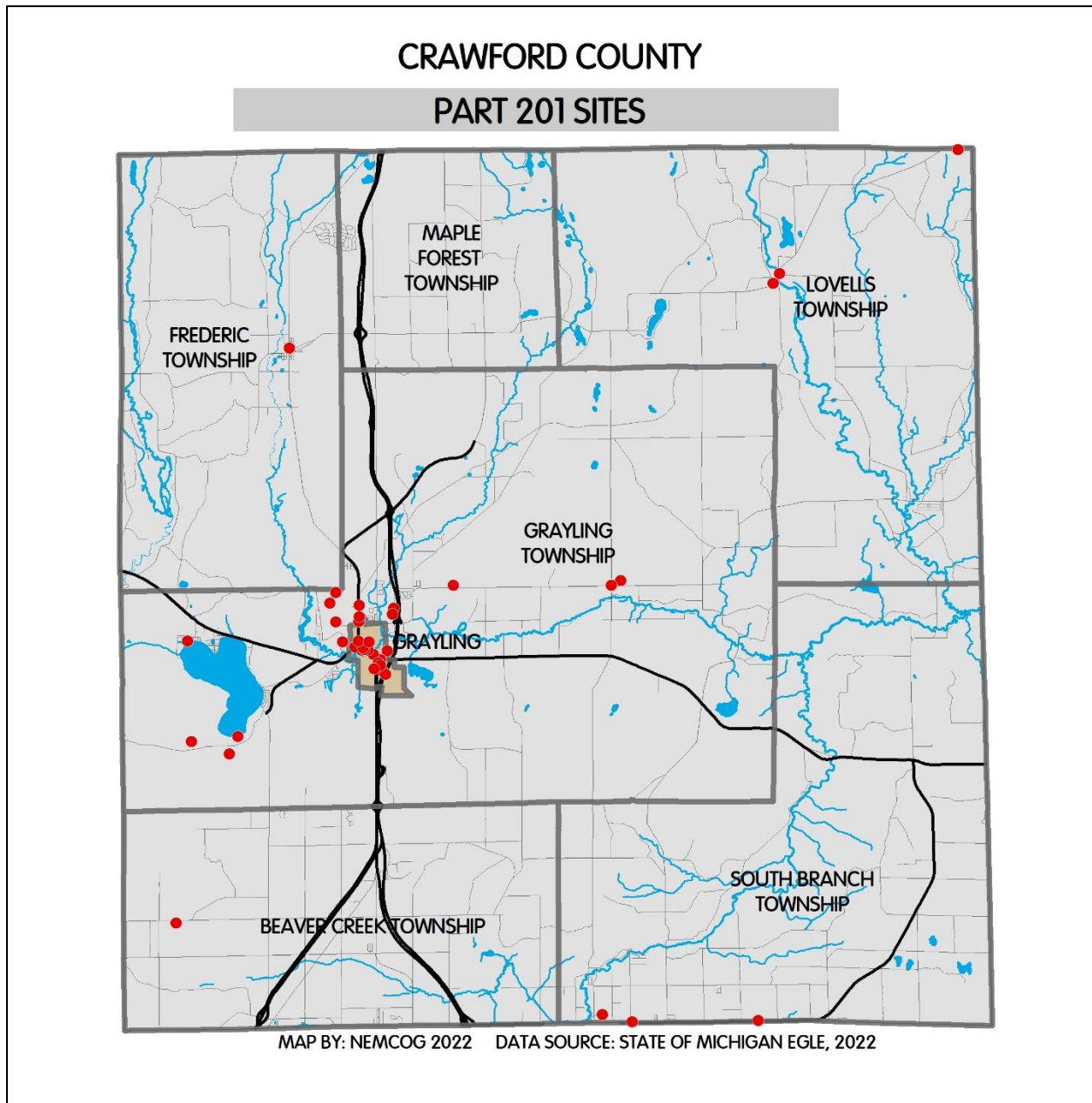
Source: EGLE, 2022

Table 4.5 Air Discharge Permits in Crawford County, October 2021

Company	Location
Arauco	Grayling
Jaguar Energy – Frederic 15 Gas Plant	Frederic
Weyerhaeuser NR Company	Grayling
Grayling Generating Station Limited Partner	Grayling
City Environmental Services Inc. of Waters	Frederic

Source: Environment Great Lakes & Energy EGLE

Figure 4.12 Part 201 Sites



PFAS/PFOA

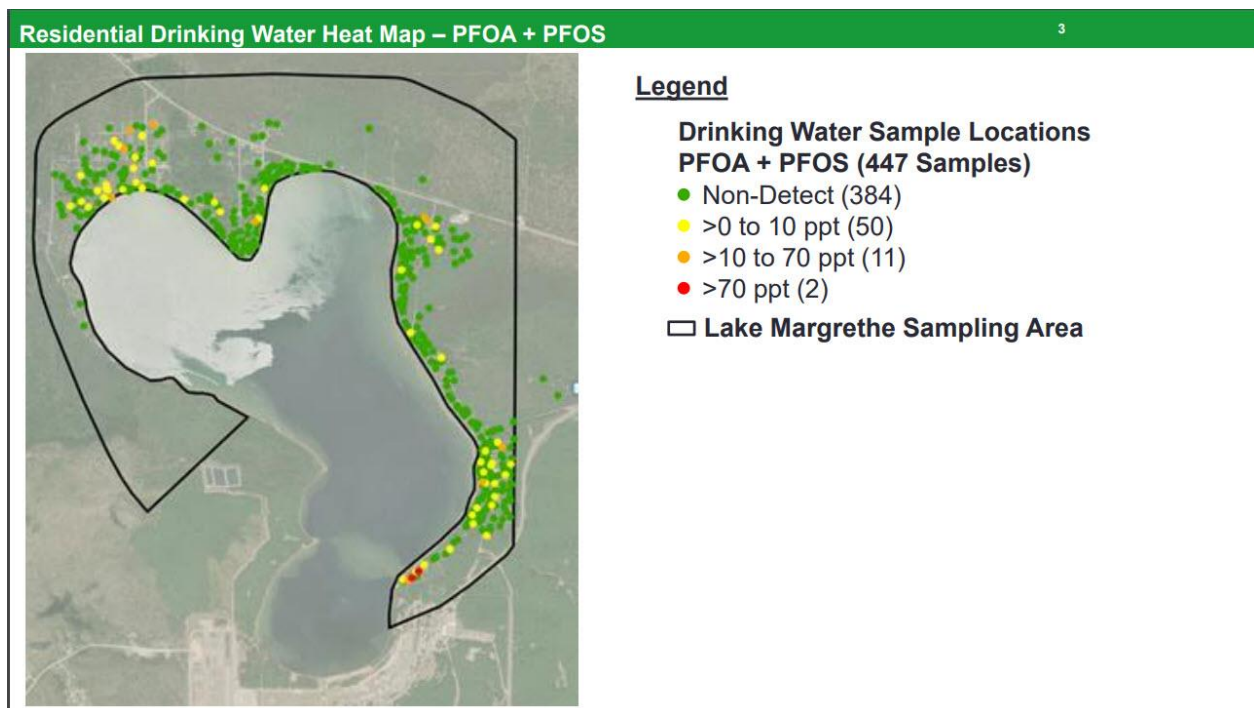
The following is an excerpt from the Grayling Charter Township Master Plan: Contamination of groundwater and drinking water from wells from perfluoroalkyl and polyfluoroalkyl substances (PFAs, also known as PFCs), is an environmental concern for Camp Grayling and the surrounding community. The principal contamination source in the Camp Grayling area is considered to be perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) contamination from use of now discontinued aqueous film forming foam (AFFF) fire suppressants. On the national level, PFA/PFC compounds are emerging unregulated contaminants of concern with suspected but unknown negative human health effects.

Information about the contaminants, forms to request well testing, and options for homeowners whose wells have been found to contain the substances, may be found on the state web site: <https://www.michigan.gov/pfasresponse>. PFAS reports are routinely given to the Camp Grayling Restoration Advisory Board - a stakeholder group that meets regularly to discuss environmental restoration.

The following PFAS sites in Crawford County are listed on the PFAS Response Website:

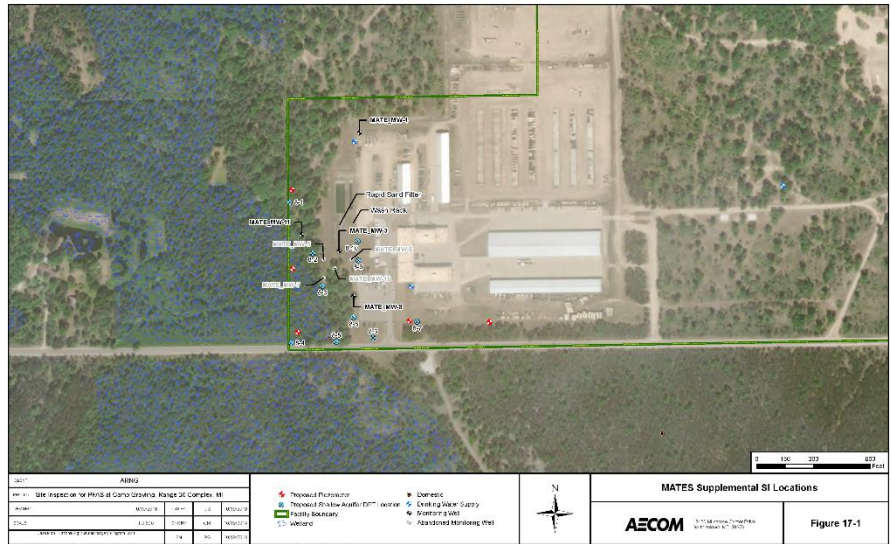
Camp Grayling – Lake Margrethe: This site area is residential and recreational, with the Camp Grayling Joint Maneuvering Training Center on the south end of the lake (**Figure 4.13**). A sampling program involved residential wells, groundwater, and surface water. Round 1 of residential well sampling is nearing completion. Households with detections have been provided filters and replacement cartridges by District Health Department #10. AECOM is continuing to monitor new residential well sampling requests and will prepare a Phase II Remedial Investigation Report.

Figure 4.13 Lake Margrethe



Camp Grayling – MATES at Range 30: The Camp Grayling – Maneuver Area Training Equipment Site (MATES) at Range 30 is located approximately 2.5 miles northeast of downtown Grayling and is part of the 147,000-acre Camp Grayling property (Figure 4.14). The official address is 2450 W. North Down River Road. According to the Army National Guard (ARNG), the Preliminary Assessment Report and associated interviews did not identify any releases of Aqueous Film Forming Foam (AFFF) at the MATES facility, therefore no timeframes or quantities can be determined.

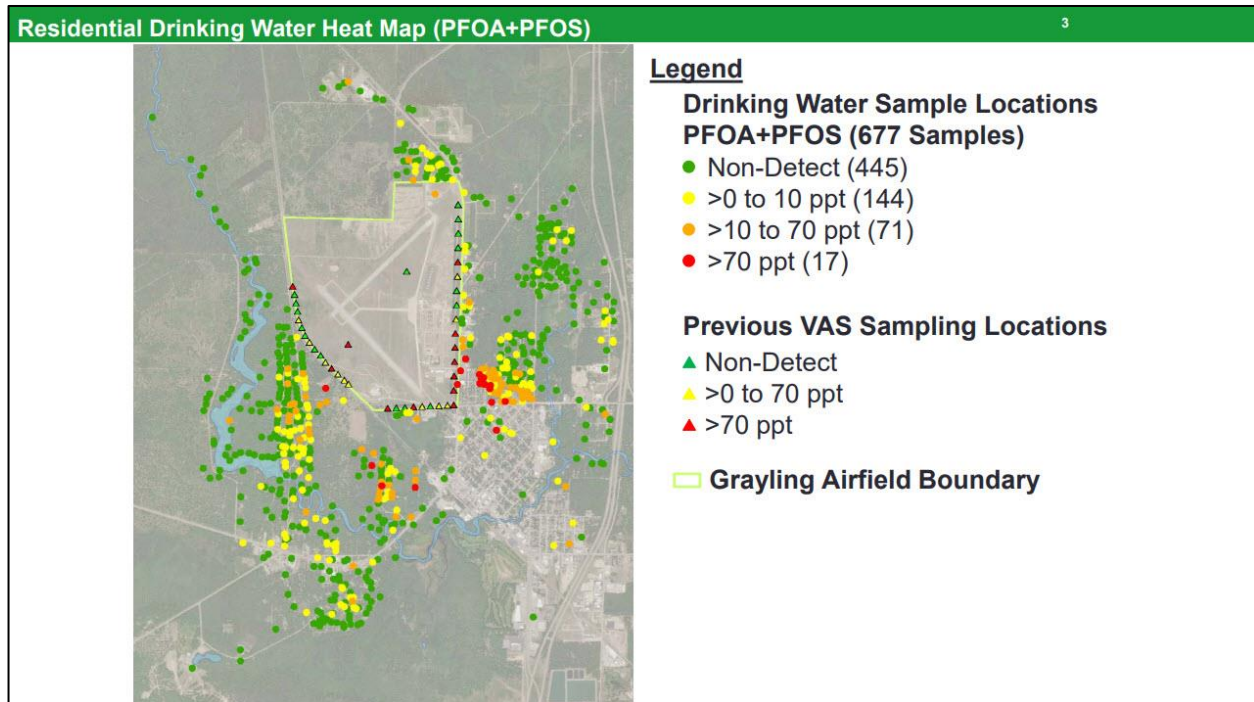
Figure 4.14 Camp Grayling



The site has 12 previously existing monitoring wells that were sampled for PFAS in August 2018 by the ARNG. A total of 23 private residential drinking water wells (closest receptors near the MATES facility) were sampled between November 8, 2018, and February 28, 2019. To date, results from all 23 residential well samples have been received. To date, residential well results indicate no exceedances of the USEPA Lifetime Health Advisory (LHA) level of 70 ppt PFOS+PFOA. Groundwater flow is generally south to southeast towards the Au Sable River, located one mile south of the MATES facility.

Grayling Army Airfield: Grayling Army Airfield is a 923-acre area owned by the United States Army where aqueous film forming foam (AFFF) was used and stored (Figure 4.15). The area is just outside the northern boundary of Grayling and is surrounded by residential and commercial properties. In May 2017, the MDMVA notified the Michigan Department of Environment, Great Lakes, and Energy (EGLE) that groundwater samples on the Grayling Army Airfield tested positive for PFOA/PFOS. Households with detections of PFAS have been provided point of use filters and replacement cartridges by District Health Department #10. All residential well testing has been conducted by EGLE. DHHS is nearing completion of round 1 of residential resampling. They are compiling data and will be sending out results letters. EGLE will continue to monitor new residential sampling requests and call residents to set up sampling dates and times. AECOM will prepare a Phase II Remedial Investigation Report.

Figure 4.15 Grayling Army Airfield



Grayling Wastewater Treatment Facility Discharge Fields Grayling: The City of Grayling operates the Grayling Wastewater Treatment Facility (WWTF). The WWTF is an approximately 35-acre wastewater treatment system that went into operation in 1990. The WWTF includes 5 wastewater lagoons that are lined with a PVC membrane and underlain by geosynthetic clay liner. The wastewater lagoons discharge to irrigation fields approximately 145 acres in area and three-quarters of a mile east of the WWTF at the south end of Industrial Street. The irrigation fields have monitoring wells that are sampled biannually in accordance with the groundwater discharge permit issued by EGLE's Water Resources Division (WRD). The results of the analyses are submitted to WRD as required. Historically, analyses required by the groundwater discharge permit have not included PFAS.

On June 11, 2020, at the request of EGLE's Remediation and Redevelopment Division (RRD), the City of Grayling allowed EGLE contractors to sample the groundwater using two of the WWTF's monitoring wells at the northern end of the irrigation fields. RRD's request was based upon recent reports of foam on Shellenbarger Lake and the possibility that Grayling Army Airfield (MPART site) contamination was making its way into the sanitary system.

The sampling results identified PFOA, PFOS, and other PFAS compounds in the two groundwater monitoring wells. PFOA and PFOS were identified at concentrations exceeding newly adopted Part 201 Drinking Water Cleanup Criteria for PFOA and PFOS at 8 ppt and 16 ppt, respectively.

Shallow groundwater flows to the north toward Shellenbarger Lake, while the deeper groundwater aquifer is estimated to flow in a more northeasterly direction. EGLE is working with the City of Grayling Department of Public Works to identify potential sources in the sanitary sewer system and to identify receptors downgradient of the discharge fields.

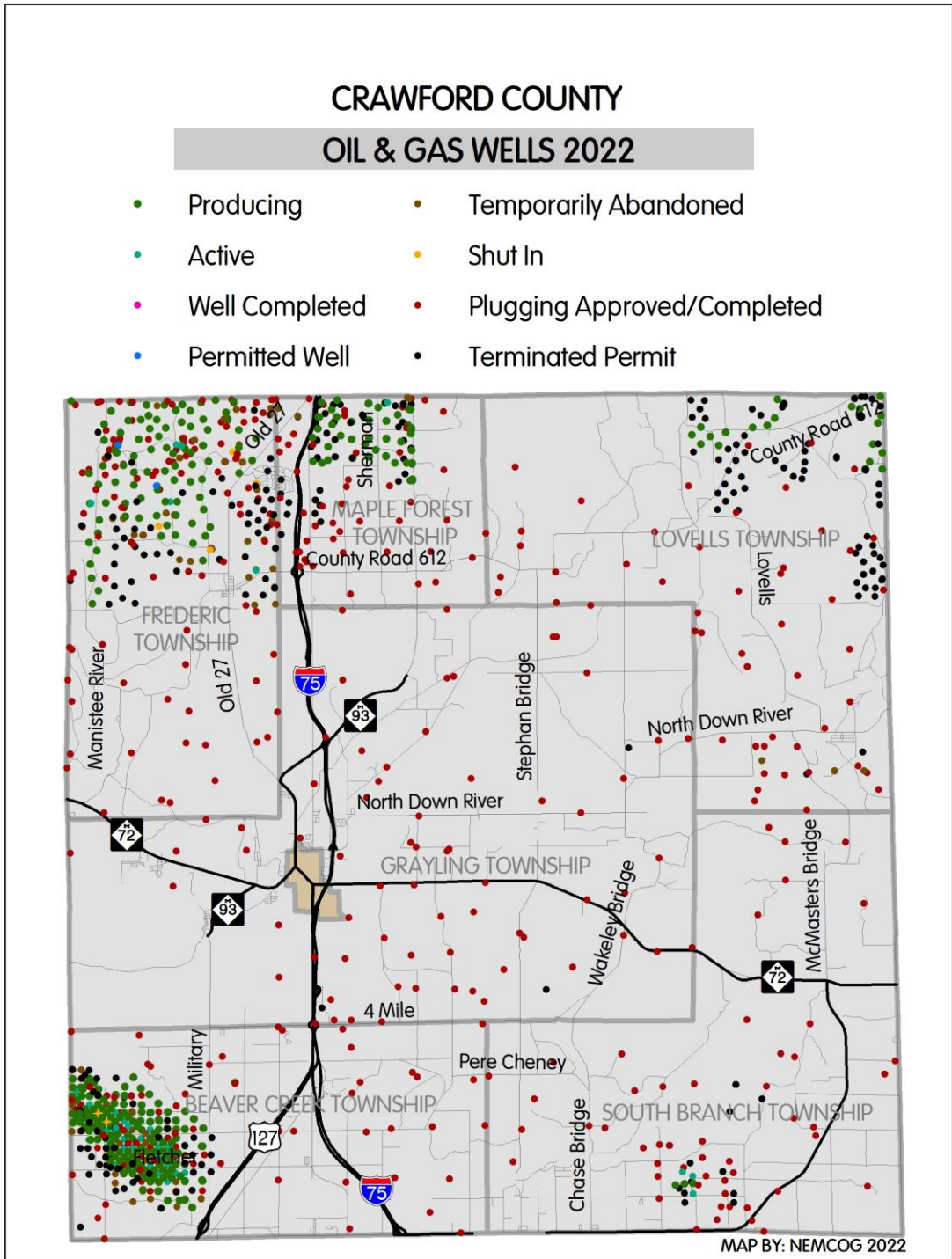
EGLE representatives and the City of Grayling are in the process of developing a sanitary sewer sampling plan to identify source(s) of PFAS contamination. Sampling is expected to begin in the fall of 2020. EGLE will continue to

work with Michigan Department of Health and Human Services and the local health department as data is received to determine if additional residential wells need to be sampled.

Oil and Gas Wells

Figure 4.16 shows the current wells in Crawford County (source: Michigan Department of Environment, Great Lakes and Energy). Of 1,851 total wells in the county, there are 902 producing/active wells and 506 wells that are classified as plugging approved or plugging completed.

Figure 4.16 Oil & Gas Wells



Chapter 5



Existing Land Use

Chapter 5 - Existing Land Use

Existing Land Use Statistics

According to the U.S. Bureau of the Census, Crawford County's land area is 563 square miles. The map of existing land use, shown as **Figure 5.1**, illustrates the distribution of land uses within the county. **Table 5.1** breaks down the percent of the county in each land use category. The existing land use map was derived from an analysis of parcel data from the Crawford County Equalization Department, tax classifications, and aerial photo interpretation by the Northeast Michigan Council of Governments.

Table 5.1 Crawford County Existing Land Use

Land Use	Acres	Percent
State of Michigan	112,716	31.15%
Camp Grayling	94,490	26.12%
Residential	59,591	16.47%
Vacant	41,383	11.44%
Federal Land/National Forest/Grayling Army Airfield	40,013	11.06%
Institutional (Private Recreation, Clubs, Religious, Education)	4,301	1.19%
Commercial	2,476	0.68%
Water	3,745	1.04%
Industrial (includes some utility and extractive)	1,683	0.47%
Land Owned by the County, Townships, and City	1,416	0.39%
Total	361,814	100.00%

*Total acreage is slightly larger than the actual acreage because some water features are included in the water category in addition to being included in the state and residential land categories in the Crawford County parcel layer.

Residential

As can be seen from Table 5.1, the amount of land being used for residential purposes is 16.5% percent of the county. The location and pattern of residential development within the county is shown in Figure 5.1. While residential uses are located throughout the county, clusters can be found in specific areas in the county including in the central portions of Grayling Charter Township, Lovells Township, Maple Forest Township, and Beaver Creek Township. It is also clustered in the northeastern and central portions of Frederic Township and the southwest portion of South Branch Township. Additionally, small tract land divisions continue to occur along many of the roads. While small lot development is prevalent throughout the county, there are also a large number of large parcels that are being used for residential. It should be noted that large parcels were counted as residential if a residence is present even if the majority of the parcel is made up of forested or open land.

Commercial

Table 5.1 shows that the amount of land developed as commercial in Crawford County is 0.7 percent and, as shown in Figure 5.1, the commercial uses are primarily clustered in the City of Grayling and Grayling Charter Township. In addition, pockets of commercial uses are scattered in the more rural areas of the county.

Industrial/Utility/Extractive

Table 5.1 shows a combined percent for industrial, utility, and extractive uses. As of 2021 this land category makes up 0.5 percent of the county. The locations of the industrial uses and extractive uses are shown in Figure 5.1. The majority of industrial uses are found south of the city limits and east of I-75/along 4 Mile Road.

Institutional/Private Recreational

This land use category totals approximately 1.2 percent of the county. Land uses in this category include the VFW, churches, land own by educational entities such as the Crawford Au Sable School District, Kirtland Community College and Michigan State University, and clubs/organizations such as game clubs and sportsmen's clubs. Recreational uses on State and Federal land are counted within the Public Land category.

Public Land

The two largest land uses in the county are the State of Michigan (this includes land not within the Camp Grayling boundary) at 31 percent followed by Camp Grayling at 26 percent. Land owned by the U.S. Government makes up 11 percent of the county. These three entities have large areas of contiguous undeveloped land, and, in the case of the state-owned and Forest Service-owned land, much of the acreage is currently being maintained for recreation, conservation, and educational purposes.

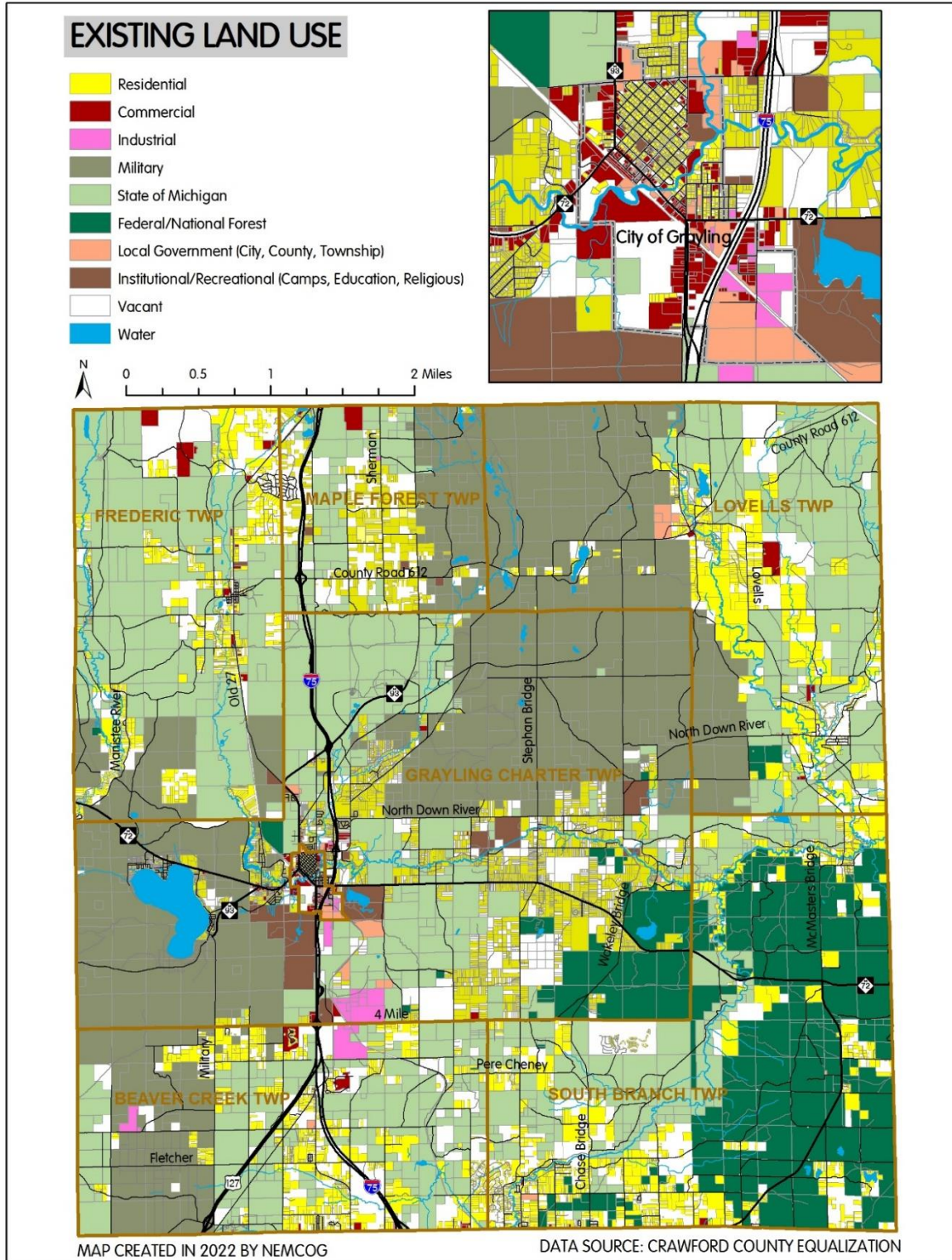
Camp Grayling is the largest military training center in the country. It supports a wide cross-section of military personnel, including active-duty and National Guard forces. It provides a large ground training area, an air-to-ground range, and a large airspace all in the same complex. Nonmilitary organizations as well as international partners also use the ranges and other facilities there. The area mapped as Military land use category in Figure 5.1 is the area which is developed and/or actively used for military operations or owned by the Military. The military land category comprises 26 percent of the total land use in the county. Some of this area is available for public recreational use when maneuvers are not being conducted.

Within the county, land owned by local units of government totals 0.4 percent.

Water

The water land category consisting of the lakes and rivers within the county comprise one percent and includes water bodies over 100 acres in size like Lake Margrethe, Shellenbarger Lake, Wakeley Lake, KP Lake, and Shupac Lake, many smaller lakes, and river systems such as the Au Sable River and Manistee River.

Figure 5.1: Existing Land Use



Chapter 6



Planning, Zoning & Future Land Use

Chapter 6 – Planning, Zoning & Future Land Use

Introduction

The Crawford County Planning Commission serves as a coordinating and reviewing body regarding planning and zoning activities within the county with zoning ordinances adopted and administered by the local units of government. Thus, this chapter compiles the planning, zoning, and future land use information from the most recently adopted master plans of the local units of government and presents each communities planning, zoning, and future land use information for more accessible information of what is planned for the future of the entire county.

Community Future Land Use Plans

A key element of the community master plan is the future land use plan. This is the culmination of the planning process that entails an analysis of existing conditions, public input, and goal setting, and finally establishing the community's desired future. Community future land use plan depicts where the community envisions types and densities of development. As well, the plan may address crucial resource areas to protect. Accompanying text describes future land use categories, compatible uses, incompatible uses, and development densities. Special issue areas may include utility service areas, roads, open space development and waterfront development. The future land use plan is a policy document designed to guide land use decisions over a given planning horizon, usually twenty years. By comparison, the zoning ordinance and zoning map is a local law that regulates how property can be developed today. The most recent future land use map is provided for each community.

Communities place public lands into low intensity development categories such as forest recreation, resource conservation, or public lands. Most townships have identified select areas of public land for private development such as residential, commercial, or industrial.

Planning and Zoning

Planning and Zoning are the principal tools that local communities have to manage growth, preserve community character, protect property values, and enhance the economic viability of the area. Planning helps establish and focus the desired future of the community and zoning ordinances are used as one of the primary ways to implement the community master plan and achieve the goals of the community. All zoning is administered at the local level.

The purpose of this chapter is to present the status of planning and zoning in Crawford County. The goal is to give county officials an insight in what a local community is doing to plan for their future. It is not the intention to compare the strengths and weaknesses of zoning regulations among the various zoning ordinances, but to give a general perspective on planning and zoning in the county.

Table 6.1 presents the status of planning in Crawford County. The City of Grayling and all the townships have adopted master plans. All of the communities administer their own zoning ordinance.

Table 6.1 Crawford County Planning and Zoning Status

Municipality	Master Plan (year adopted)	Zoning Ordinance (year of last amendment)
Beaver Creek Township	2019	2021
Frederic Township	2021	2019
Grayling Township	2022	2019
Lovells Township	*	2012
Maple Forest Township	2022	2022
South Branch Township	2021	2018*
City of Grayling	2015	2017
Crawford County	2014	NA

** Updates in process--anticipated 2022*

The following pages describe each community's zoning districts and details lot and structure standards and setbacks. Also, included are each communities Future Land Use Maps.

Beaver Creek Township Zoning

Beaver Creek Township administers its own zoning ordinance. The township ordinance was adopted February 10, 2021 and took effect March 4, 2021. There are eight zoning districts in the Ordinance. The mobile home district is not listed in this document due to the fact that there is no land zoned for the mobile home district.

The following are the land use categories within which the seven zoning districts in Beaver Creek township are organized.

RD - Resource Development District

The purpose of this district is to provide for the arrangement of land uses that are compatible with the conservation and preservation of large tracts of land presently having a most desirable natural environment that should not be disturbed, except minimally, for natural habitat for wildlife, forests, and other native flora, natural water features including extensive wetlands and high water table soils, and other extensive land uses which retain the natural character of the area. Dwelling units and limited non-residential uses on exceptionally large lots will be provided for. This area will normally remain unserved by public sewer and water systems.

Lot & Structure Standards	
Lot Area	20 acres 2 acres for single family-dwelling
Lot Width (min)	200ft
Setbacks	
Front (min.)	50 ft from road right-of-way line
Side (min.)	25 ft interior side; 50 ft where the side yard abuts a road right-of-way
Rear (min.)	50 ft
Additional Development Standards: Access, Accessory Buildings, Screening, Fences, Signs, Parking, Private Residential Pools, Dwelling Standards, Additional Permitted Accessory Uses	

AR – Agriculture Residential

The purpose of this district is to provide for the compatible arrangement and development of parcels of land for residential building purposes in a pastoral, agricultural, forest, or open land setting, which will remain unserved by public water distribution and wastewater disposal systems in the foreseeable future, but which are suitable for large lot residential purposes, which can accommodate healthful on-site water supply and wastewater disposal, but which reserves and conserves that land which is most adaptable for present and future agricultural, forest, natural resource, and other extensive land uses.

Lot & Structure Standards	
Lot Area	20 acres 2 acres for single family dwellings
Lot Width (min)	Residential: 200ft at required setback line Non-Residential; 600ft at required setback line
Setbacks	
Front (min.)	50 ft from the road right-of-way
Side (min.)	20 ft interior side; 50 ft where the side yard abuts a road right-of-way
Rear (min.)	50 ft
Additional Development Standards: Access, Accessory Buildings, Screening, Fences, Signs, Parking, Private Residential Pools, Dwelling Standards, Additional Permitted Accessory Uses	

LDR -Low Density Residential

The purpose of this Low Density Residential Zoning District is to provide for single-family housing neighborhoods free from other uses, except those which are (1) normally accessory to and (2) compatible with, supportive of, and convenient to the various types and compositions of families living within such residential land use areas. The size of lots and parcels should be planned to be of such area and width so that they can sustain healthful and sanitary on-site water supply and wastewater disposal.

Lot & Structure Standards	
Lot Area	(1) One (1) acre, if lot or parcel does not have public water or sewer available (2) 20,000 sq ft for single family residential lot with public or common sewer and water.
Lot Width (min)	150 ft at setback line for (1) above 100 ft at setback line for (2) above
Setbacks	
Front (min.)	35 ft from the road right-of-way
Side (min.)	20 ft interior side
Rear (min.)	50 ft
Additional Development Standards: Access, Dwelling Standards, Accessory Buildings, Screening, Fences, Signs, Private Residential Pools, Parking	

MDR – Medium Density Residential District

It is the purpose of the Medium Density Residential District to provide for single-family residential uses at reasonable densities. It is further the purpose to require lot areas large enough to protect groundwater from pollution due to an over-concentration of septic tank systems, particularly in areas adjacent to surface water bodies and in inland areas where groundwater needs to be protected because of on-site or off-site human use.

Lot & Structure Standards	
Lot Area	(1) 20,000 sq ft, if lot or parcel does not have public sewer or water available (2) 10,000 sq ft with public or common sewer and water.
Lot Width (min)	100 ft at setback line for (1) above 80 ft at setback line for (2) above
Setbacks	
Front (min.)	35 ft from the road right-of-way
Side (min.)	20ft interior side; 35ft where the side yard abuts a road right-of-way
Rear (min.)	50 ft
Additional Development Standards: Access, Dwelling Standards, Accessory Buildings, Screening, Fences, Signs, Private Residential Pools, Parking	

CSC – Community Service Commercial District

This district has the intent of providing areas wherein retail trade and service outlets can be located which are convenient to the residents of several neighborhoods and the owners, employees, guests, and customers of office, other commercial, industrial, forestry, and agricultural uses and activities.

Lot & Structure Standards	
Lot Area	(1) One (1) acre (2) 10,000 sq ft if lot is served by public or common water supply system and public wastewater sewerage and treatment system.
Lot Width (min)	150 ft at setback line for (1) above 80 ft at setback line for (2) above
Setbacks	
Front (min.)	50 ft from road right-of-way
Side (min.)	10 ft for 1 side yard, but a total of 25 for both
Rear (min.)	50 ft
Additional Development Standards: Access, Accessory Buildings, Screening, Fences, Signs, Outdoor Storage, Parking	

HSC – Highway Service Commercial District

The "HSC" Highway Service Commercial District is designed to provide for servicing the needs of highway traffic at the major interchange or intersection areas of public roads and highways facilities. The avoidance of undue congestion on public roads, the promotion of smooth traffic flow at major interchange and intersection areas and on the highways, and the protection of adjacent properties in other districts from the adverse influences of traffic are prime considerations in the location of the district.

Lot & Structure Standards	
Lot Area	(1) One (1) acre (2) 10,000 sq ft if lot is served by public or common water supply system and public wastewater sewerage and treatment system.
Lot Width (min)	150 ft at setback line for (1) above 80 ft at setback line for (2) above
Setbacks	
Front (min.)	50 ft from the road right-of-way line, including the area for the frontage access road.
Side (min.)	20 ft for each side yard
Rear (min.)	50 ft
Additional Development Standards: Access, Accessory Buildings, Screening, Fences, Signs, Outdoor Storage, Parking, Barriers	

I – Industrial District

It is the intent of this district to provide for the development of sites for industrial plants for the manufacture of goods in the form of finished or semi-finished products or the assembly, compounding, or treatment of product parts or ingredients in order to create finished or semi-finished goods for sale to other industrial manufacturers or to bulk or wholesale commercial purchasers. It is the further intent of this district to permit only those industrial manufacturing uses having use, performance, or activity characteristics which emit a minimum amount of discernible noise, vibration, smoke, dust, dirt, glare, toxic materials, offensive odors, gases, electromagnetic radiation, or any other physically adverse effect to the extent that they are abnormally discernible beyond the lot lines of the parcel or site upon which the industrial manufacturing activity is located.

Lot & Structure Standards	
Lot Area	(1) Two (2) acres (2) 40,000 sq ft if lot is served by a public or common water supply system and public wastewater sewerage and treatment system.
Lot Width (min)	200 ft at the setback line for (1) above 120 ft at the setback line for (2) above
Setbacks	
Front (min.)	50 ft from the road right-of-way

Side (min.)	20 ft for 1 side yard, but a total of 50 ft for both side yards
Rear (min.)	50 ft
Additional Development Standards: Access, Accessory Buildings, Screening, Fences, Signs, Outdoor Storage, Parking, Toxic Waste Disposal, Accessory Use	

Figure 6.1: Beaver Creek Township Zoning Map

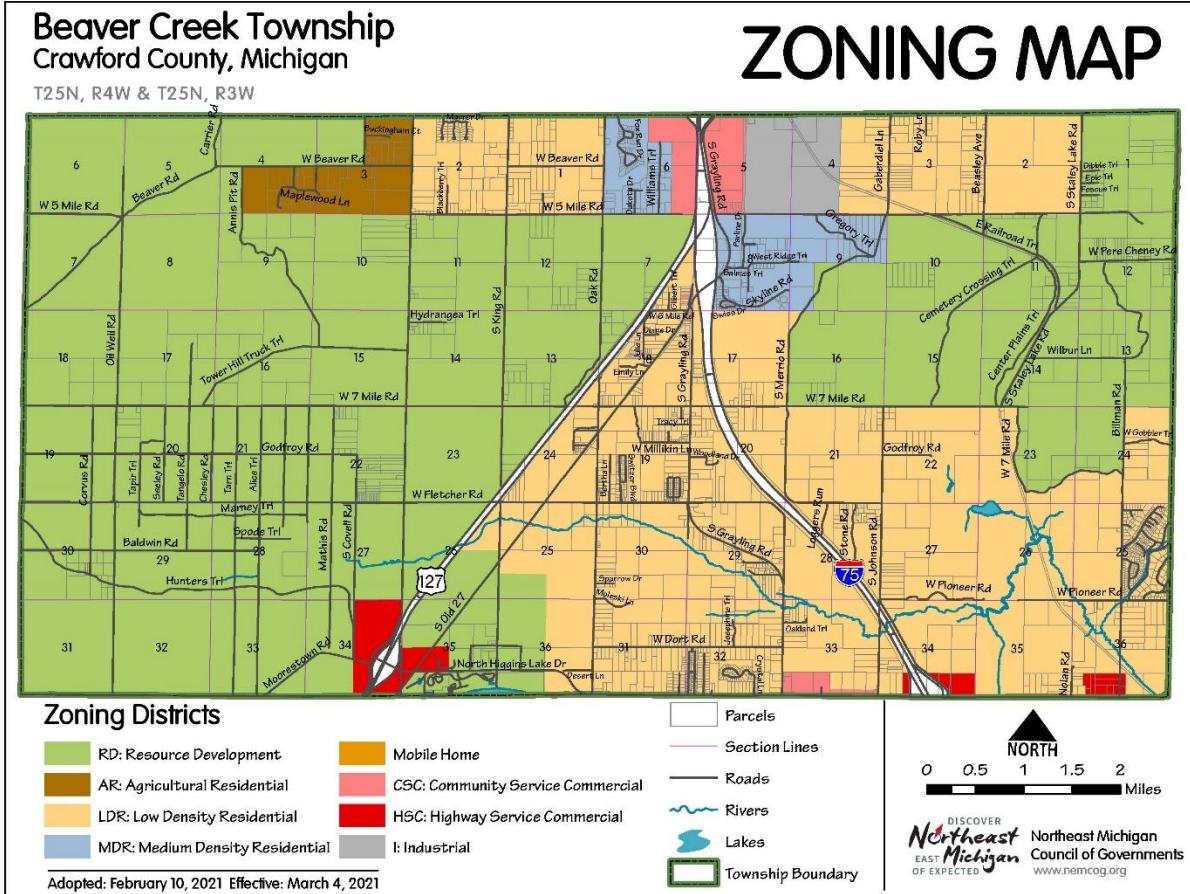
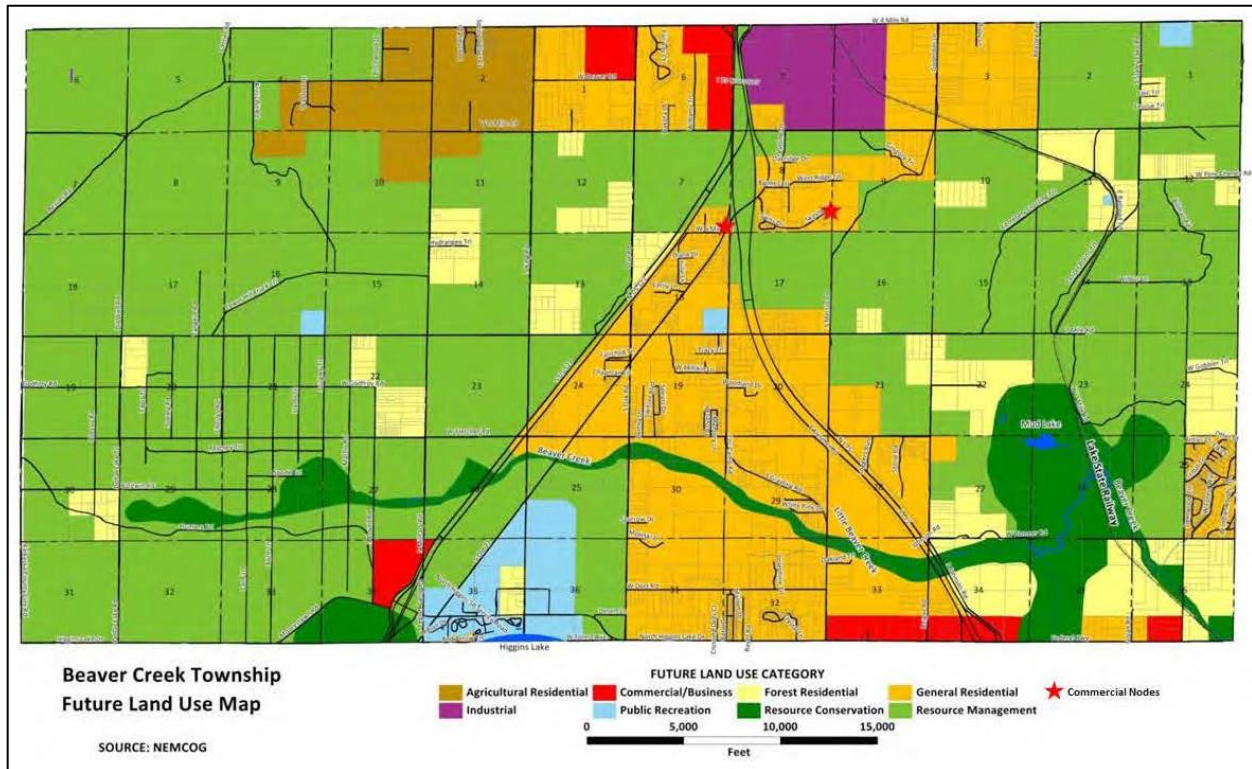


Figure 6.2: Beaver Creek Township Future Land Use Map



Frederic Township Zoning

Frederic Township administers its own zoning ordinance. The township ordinance was adopted September 10, 2019 and took effect September 19, 2019. There are eight zoning districts in the Ordinance.

R- General Residential District

To establish and preserve medium density residential neighborhoods, free from other uses except those which are compatible to the residents of this district.

Lot & Structure Standards	
Lot Area	20,000 sq ft
Lot Width (min)	100 ft
Setbacks	
Front (min.)	35 ft
Side (min.)	10 ft
Rear (min.)	10 ft
Side – street side – corner lot (min.)	35 ft
Additional Development Standards: Accessory Buildings, Screening, Fences	

MU – Mixed Use District

To provide a compatible mix of commercial and residential uses. The requirements are intended to protect and stabilize the basic qualities of the District, and to provide suitable and safe conditions for family living and small commercial businesses.

Lot & Structure Standards	
Lot Area	20,000 sq ft
Lot Width (min)	100 ft
Setbacks	
Front (min.)	35 ft
Side (min.)	10 ft
Rear (min.)	10 ft
Side – street side – corner lot (min.)	35 ft
Additional Development Standards: Accessory Buildings, Screening, Fences	

C – Commercial District

To establish and preserve a district for light commercial use along with those industrial uses which are more compatible with light commercial than with other industrial uses.

Lot & Structure Standards	
Lot Area	26,000 sq ft
Lot Width (min)	175 ft
Setbacks	
Front (min.)	50 ft
Side (min.)	50 ft
Rear (min.)	25 ft
Side – street side – corner lot (min.)	50 ft
Additional Development Standards: Accessory Buildings, Screening, Fences	

R-F – Recreational-Forest District

To establish and promote the proper use, enjoyment and conservation of the forest, water and land particularly adapted for agricultural, recreational, low density, single family residential and other specialized rural uses requiring large tracts of land, which are compatible to the residents.

Lot & Structure Standards	
Lot Area	40,000 sq ft
Lot Width (min)	150 ft
Setbacks	
Front (min.)	50 ft
Side (min.)	25 ft
Rear (min.)	10 ft
Side – street side – corner lot (min.)	35 ft
Additional Development Standards: Accessory Buildings, Screening, Fences	

I – Industrial District

To establish and preserve a zone for necessary industrial and related uses to serve the general industrial needs of the community provided that the industry will be isolated from other types of land uses and not causing undesirable emissions and/or offensive odors. All uses in the industrial district are subject to special use permit.

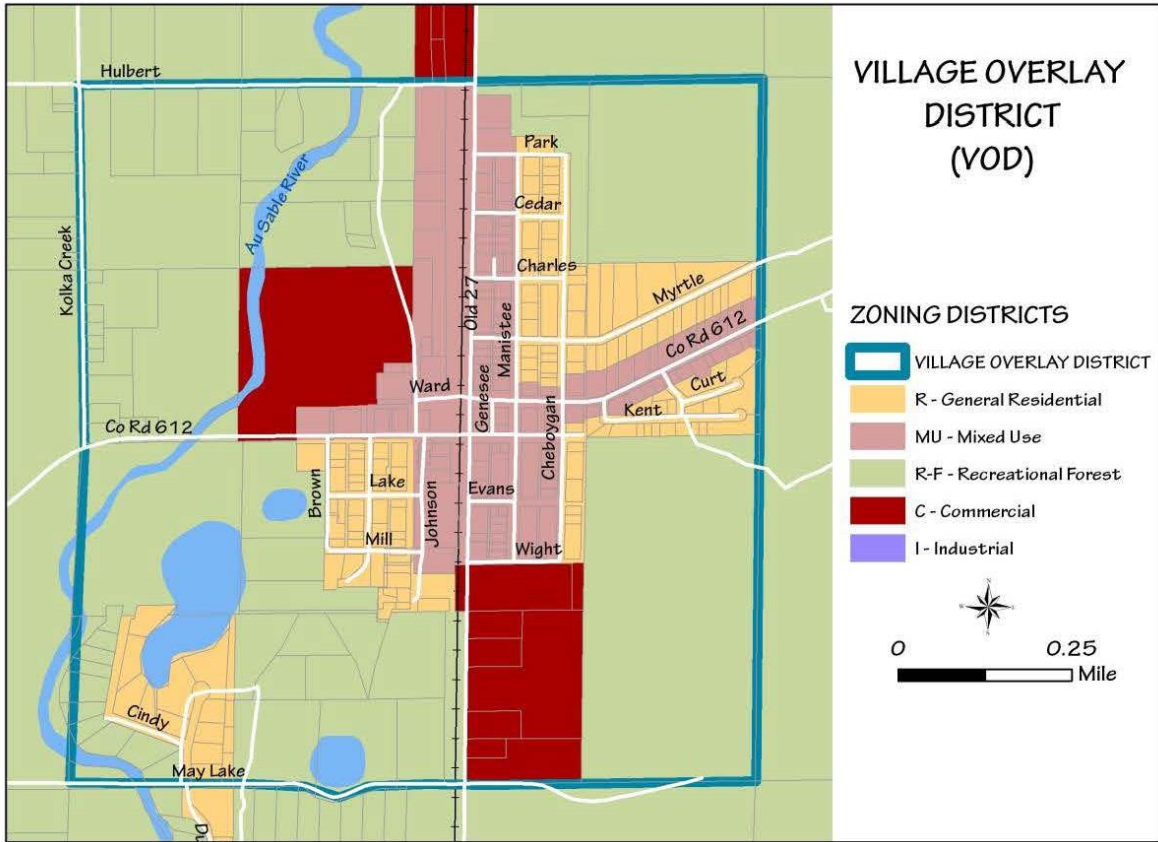
Lot & Structure Standards	
Lot Area	5 acres
Lot Width (min)	400 ft
Setbacks	
Front (min.)	50 ft
Side (min.)	50 ft
Rear (min.)	25 ft
Side – street side – corner lot (min.)	50 ft
Additional Development Standards: Accessory Buildings, Screening, Fences	

VOD – Village Overlay District

The intent of the Village Overlay District is to provide reduced setbacks and other standards within the community of Frederic in order to accommodate development on small lots and to encourage a more compact and appropriate development pattern. Unless modified by the Village Overlay District, the underlying zoning district regulations shall apply.

Lot & Structure Standards	
Lot Area	Pursuant to underlying district
Lot Width (min)	Pursuant to underlying district
Setbacks	
Front (min.)	35 ft
Side (min.)	10 ft
Rear (min.)	10 ft
Side – street side – corner lot (min.)	20 ft
Additional Development Standards: Accessory Buildings, Screening, Fences, Semi-Trailers, Fowl (chickens, roosters, etc.)	

Figure 6.3: Frederic Village Overlay District



ARD- Au Sable River District

To promote the public health, safety, and general welfare; to prevent economic and ecological damage due to misuse, unwise development patterns, overcrowding and overuse within the Au Sable River District and the Manistee River District; and to preserve the natural resources and habitat of the Au Sable River District and the Manistee River District (MRD) for the benefit of present and future generations.

Lot & Structure Standards	
Lot Area	<p>50,000 sq ft</p> <p>Any “common area” or bottomlands shall not be used in any calculations of minimum lot are.</p> <p>Parcel shall have sufficient depth and upland area to accommodate the required setback</p>
Lot Width (min)	<p>Main Stream: 200 ft of river frontage unless a riverfront “common are” subject to a conservation easement being established</p> <p>For parcel that does not have river frontage, this dimension shall be measured from the</p>

	<p>point of the parcel closest to the river and shall be at least 200' wide at the setback line.</p> <p>All other tributaries: 150ft of river frontage on all other tributaries unless a riverfront "common area" subject to a conservation easement being established.</p> <p>For a parcel that does not have river frontage, this dimension shall be measured from the point of the parcel closest to the river and shall be at least 150' wide at the setback line.</p>
Setbacks	
Front (min.)	<p>200 ft on Au Sable main stream</p> <p>The river side setback shall be reduced to 100 feet on all designated tributaries.</p> <p>The setback may be decreased by 1 foot for every 1 foot rise in bank height to a minimum of 150 feet from the ordinary high-water mark on the main stream and to a minimum of 75 feet from the ordinary high-water mark on all other designated tributaries.</p> <p>A dwelling shall be set back not less than 25 feet from the top of a bluff on the noncutting edge of a stream and not less than 50 feet from the top of a bluff on the cutting edge of a stream.</p>
Side (min.)	50 ft
Rear (min.)	10 ft
Side – street side – corner lot (min.)	50 ft
Additional Development Standards: Accessory Buildings, Fences, Accessibility, Building Activities	

MRD – Manistee River District

To promote the public health, safety, and general welfare; to prevent economic and ecological damage due to misuse, unwise development patterns, overcrowding and overuse within the Au Sable River District and the Manistee River District; and to preserve the natural resources and habitat of the Au Sable River District and the Manistee River District (MRD) for the benefit of present and future generations.

Lot & Structure Standards	
Lot Area	<p>5080,000 sq ft</p> <p>At least ½ acre of contiguous buildable upland area must be located landward of the minimum building setback line.</p>

	<p>Any “common area” or any bottomlands shall not be used in any calculations of minimum land area.</p> <p>If a parcel does not have river frontage, and the front line of the parcel is greater than 150 feet from the river’s edge at all points, this subdivision does not apply, and the minimum parcel width will be measured at the front lot line.</p> <p>Parcel shall have sufficient depth and upland area to accommodate the required building setbacks</p>
Lot Width (min)	
Front (min.)	<p>100ft measured from ordinary high water mark of main stream or designated tributaries</p> <p>Additionally, structures must be located at least 50’ from crest of the bluff of the main stream and not less than 25’ from crest of bluff for any tributary</p>
Side (min.)	10 ft
Rear (min.)	50 ft
Side – street side – corner lot (min.)	50 ft
Additional Development Standards: Accessory Buildings, Fences, Accessibility, Building Activities	

Figure 6.4: Frederic Township Zoning Map

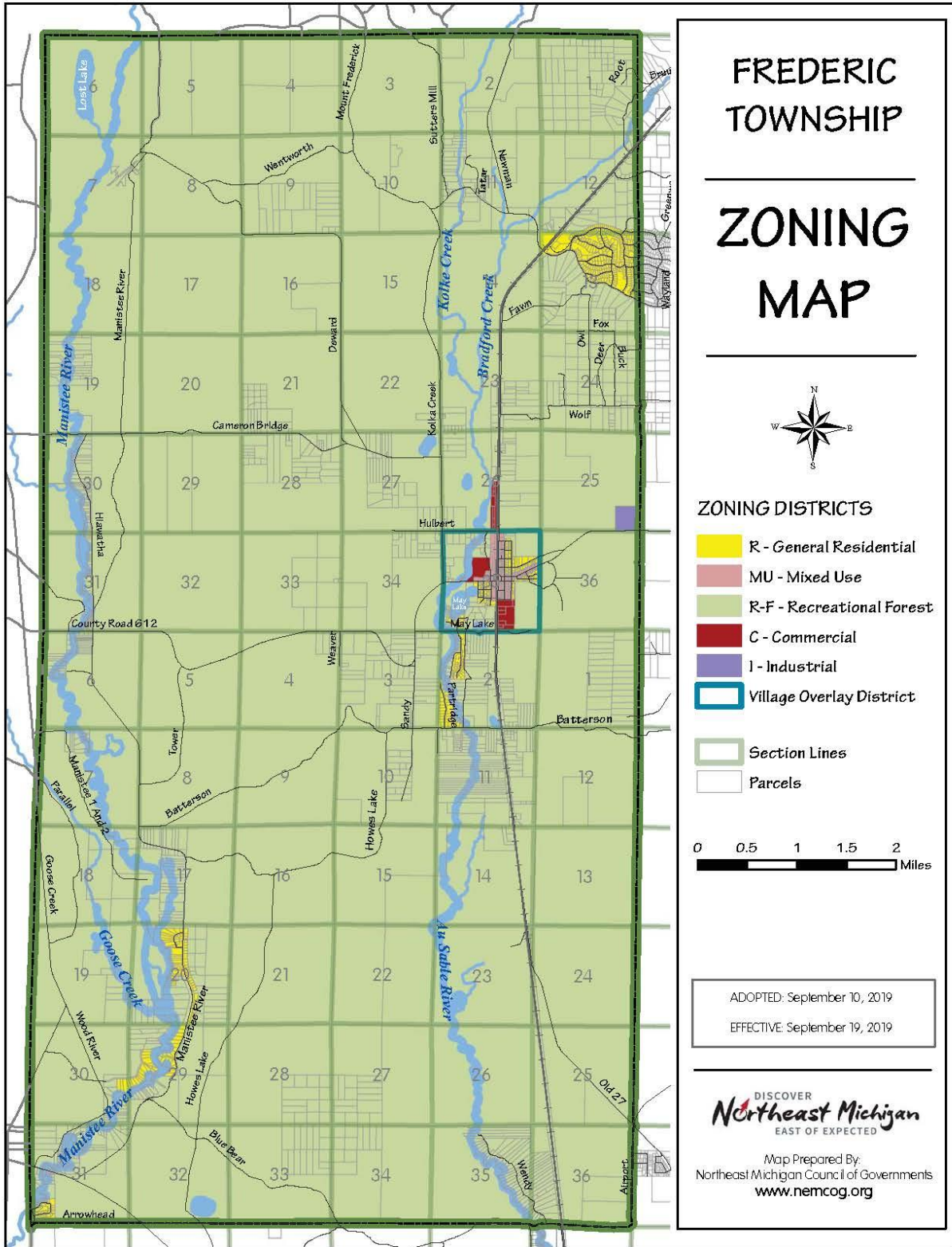


Figure 6.5: Frederic Township Zoning Map - Downtown

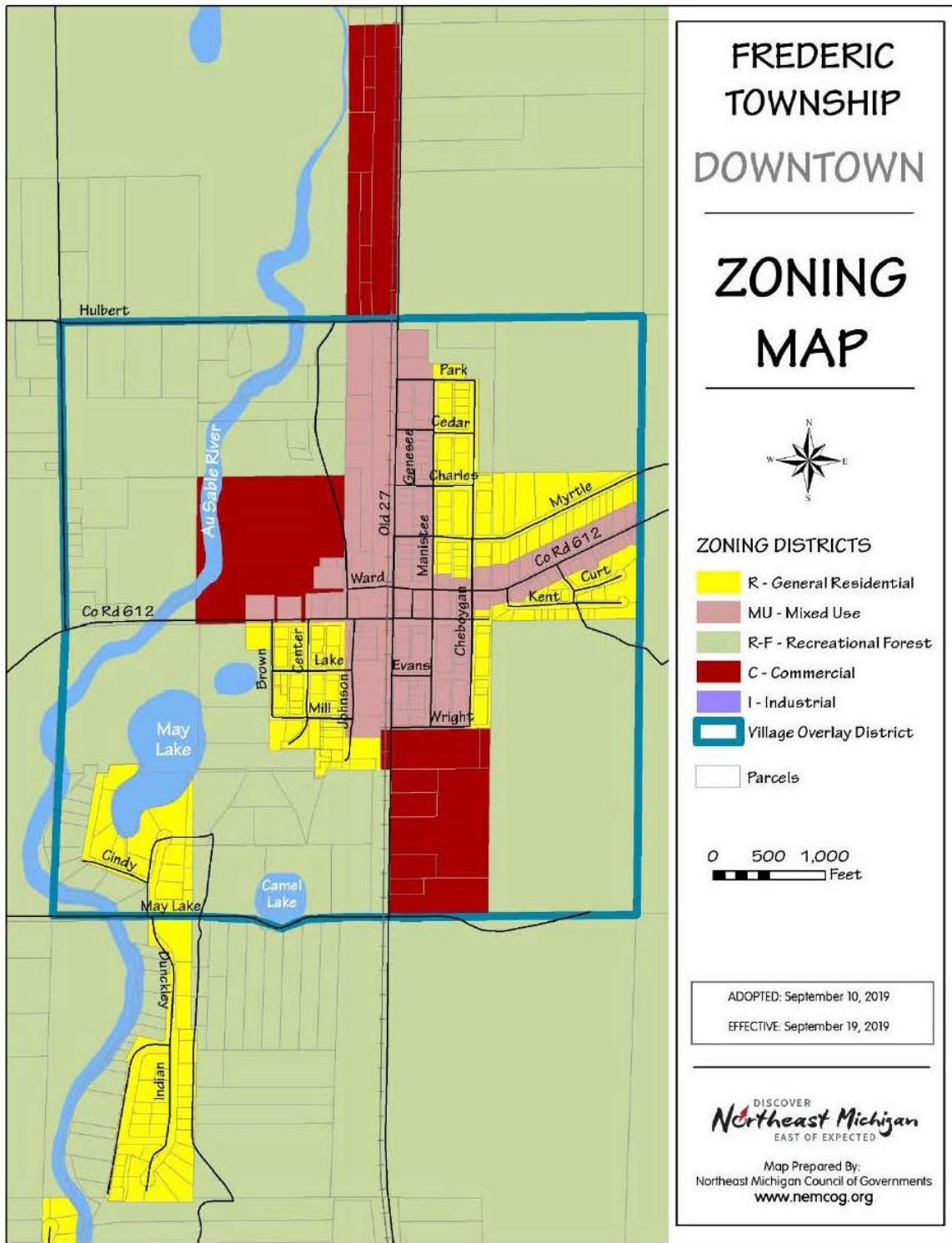


Figure 6.6: Frederic Township Future Land Use Map

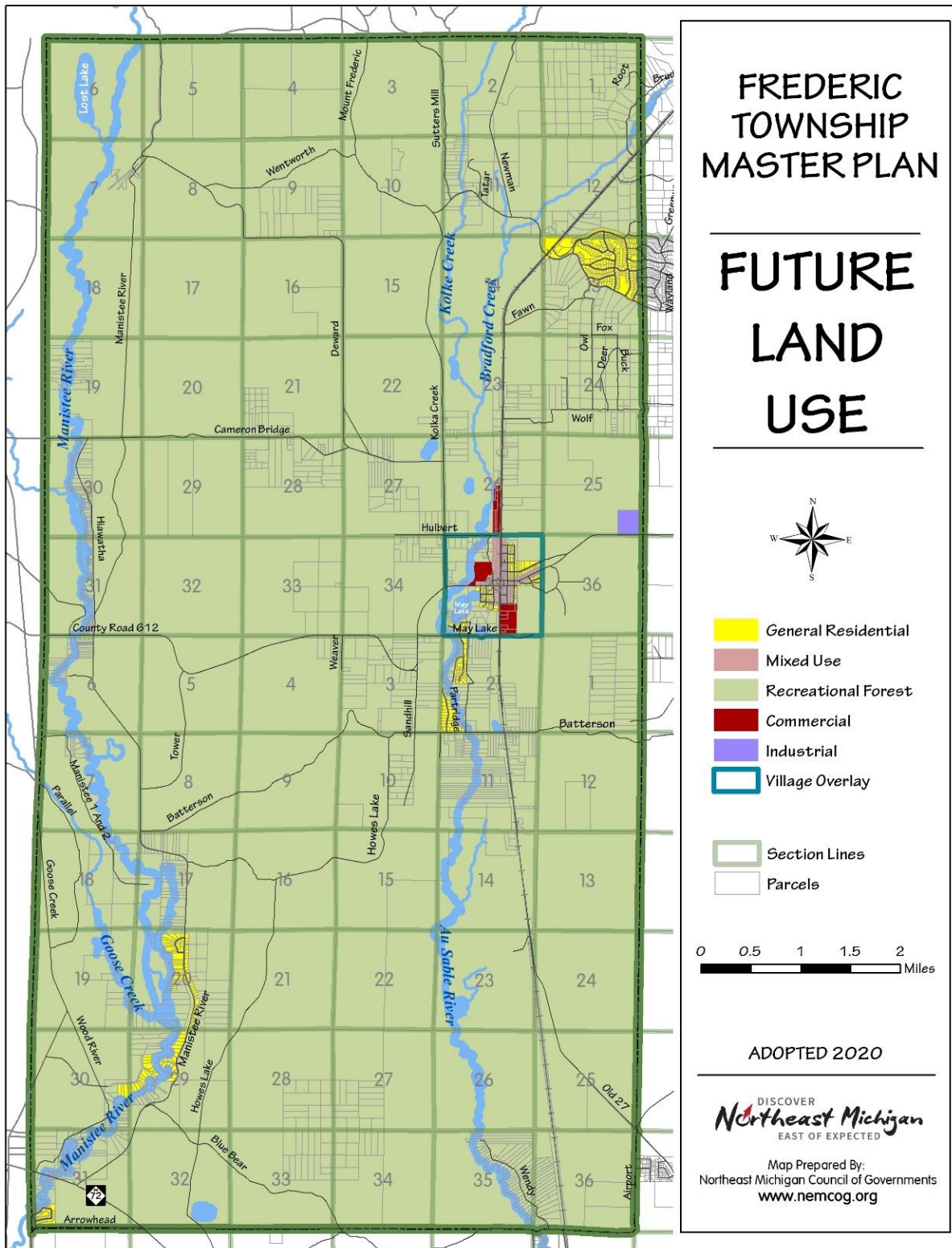
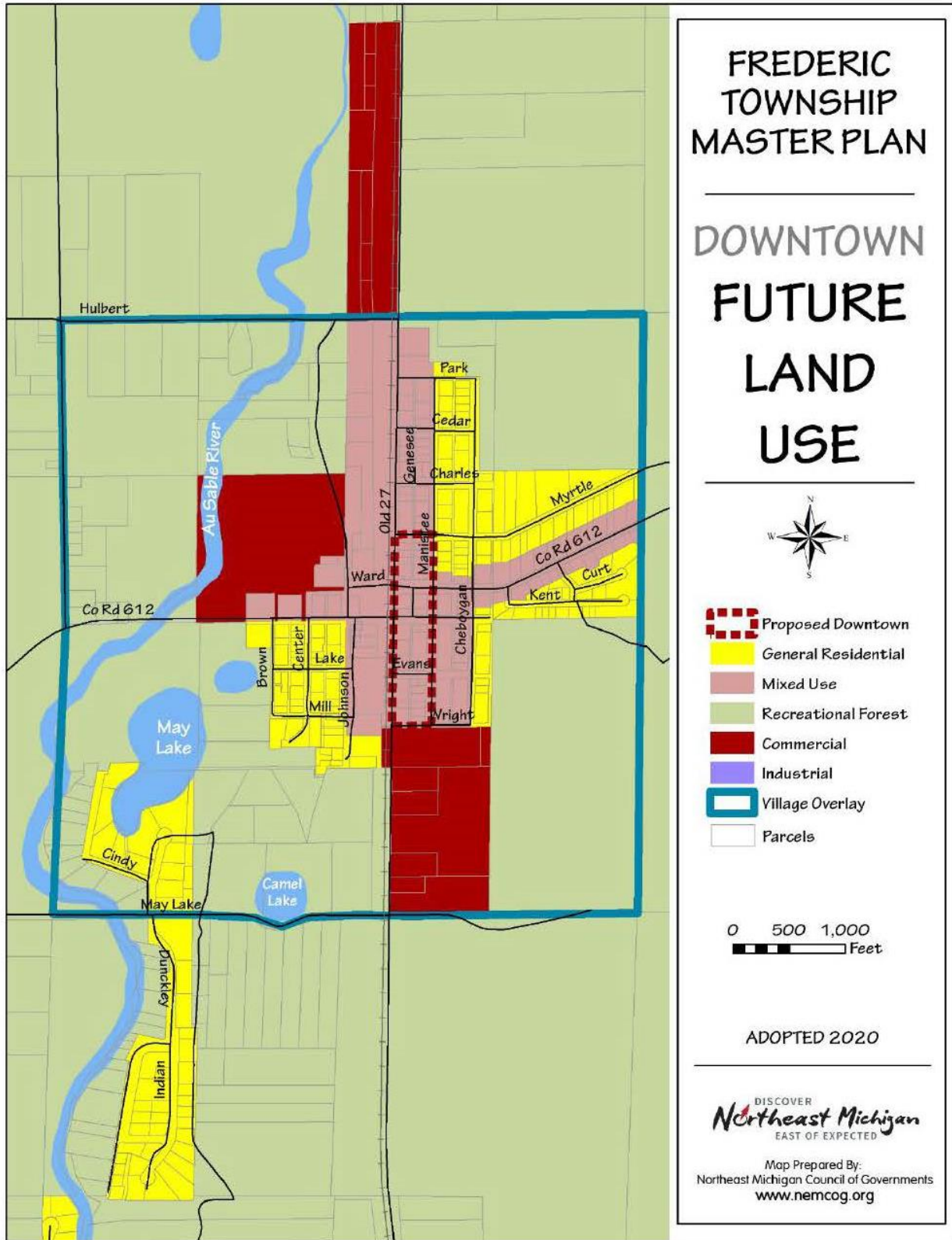


Figure 6.7: Frederic Township Future Land Use Map - Downtown



Grayling Township Zoning

Grayling Township administers its own zoning ordinance. The township ordinance was adopted December 19, 2018 and took effect January 10, 2019. There are twelve zoning districts in the Ordinance.

R-1 – Single Family Residential District

The intent is to establish and preserve quiet, desirable neighborhoods of detached single-family dwellings with a low to medium density. This district shall be free from other uses which are not compatible with the residents of the district.

Lot & Structure Standards	
Lot Area	12,000 sq ft
Lot Width (min)	80 ft Depth shall not exceed 3 times the width of the lot
Setbacks	
Front (min.)	30 ft
Side (min.)	10 ft
Rear (min.)	40 ft
Side – street side – corner lot (min.)	30 ft
Additional Development Standards: Accessory Building, Screening, Fences, Decks, Porches & Patios, Wildlife Plan	

R-2 - General Residential District

The intent is to establish and preserve medium density residential neighborhoods, free from other uses except those that are compatible to the residents of this district.

Lot & Structure Standards	
Lot Area	12,000 sq ft for single family uses and duplexes 15,000 sq ft for multiple-family uses and attached single family uses
Lot Width (min)	80ft for single family uses 100ft for multiple family uses and attached single family uses Depth shall not exceed 3 times the width of the lot
Setbacks	
Front (min.)	30 ft
Side (min.)	10 ft
Rear (min.)	40 ft
Side – street side – corner lot (min.)	30 ft
Additional Development Standards: Accessory Building, Screening, Fences, Decks, Porches & Patios, Native Protection Strip, Wildlife Plan	

R-3 – General Residential Association District

The intent of the R-3 zoning is to establish and preserve medium density residential neighborhoods in cooperation with an established subdivision association, free from other uses except those that are compatible to the residents of the district. To qualify for R-3 zoning, a subdivision must have at least two hundred (200) individual lots or occupy at least two hundred (200) acres. A request for R3 zoning must originate from the association board through the association president to the Grayling Township Planning Commission.

Lot & Structure Standards	
Lot Area	40,000 sq ft Lot splits shall not be allowed
Lot Width (min)	100ft Depth shall not exceed 3 times the width of the lot
Setbacks	
Front (min.)	50 ft
Side (min.)	30 ft
Rear (min.)	50 ft
Side – street side – corner lot (min.)	30 ft
Additional Development Standards: Accessory Building, Screening, Fences, Decks, Porches & Patios, Native Protection Strip, Wildlife Plan	

R-F - Recreation-Forest District

The intent is to establish and promote the proper use, enjoyment and conservation of the forest, water and land particularly adapted for agricultural, recreational, low density residential and other

Lot & Structure Standards	
Lot Area	2.5 acres Lot splits less than the required 2.5 acres may be approved by the Planning Commission, provided the resulting parcels are not less than 1.25 acres and do not cause existing structures to become nonconforming in regards to yard setback
Lot Width (min)	165ft Depth shall not exceed four (4) times the width
Setbacks	
Front (min.)	50 ft
Side (min.)	30 ft
Rear (min.)	50 ft
Side – street side – corner lot (min.)	30 ft
Additional Development Standards: Accessory Building, Screening, Fences, Decks, Porches & Patios, Wildlife Plan	

C-1 – General Commercial District

The intent is to establish and preserve a general commercial zoning district containing uses which include services and retail sale or combination retail/wholesale of commodities catering to the entire community and the needs of highway and tourist traffic.

Lot & Structure Standards	
Lot Area	12,000 sq ft
Lot Width (min)	60 ft
Setbacks	
Front (min.)	50 ft
Side (min.)	10 ft
Rear (min.)	10 ft
Side – street side – corner lot (min.)	30 ft
Additional Development Standards: Accessory Building, Screening, Fences, Decks, Porches & Patios, Wildlife Plan	

C-2 – Heavy Commercial District

The intent is to establish and preserve a district for heavy commercial uses, which are more compatible with light industrial uses.

Lot & Structure Standards	
Lot Area	30,000 sq ft
Lot Width (min)	150 ft
Setbacks	
Front (min.)	50 ft
Side (min.)	10 ft
Rear (min.)	10 ft
Side – street side – corner lot (min.)	30 ft
Additional Development Standards: Accessory Building, Screening, Fences, Decks, Porches & Patios, Wildlife Plan	

I – Industrial District

The intent is to establish and preserve a zoning district for necessary industrial and related uses to serve the general industrial needs of the community provided that the industry will be isolated from other types of land uses and not causing undesirable emissions and/or offensive odors.

Lot & Structure Standards	
Lot Area	30,000 sq ft
Lot Width (min)	150 ft
Setbacks	
Front (min.)	50 ft
Side (min.)	10 ft
Rear (min.)	10 ft
Side – street side – corner lot (min.)	10 ft
Additional Development Standards: Accessory Building, Screening, Fences, Decks, Porches & Patios,	

Performance Standards, Wildlife Plan

MU-RC – Mixed Use Recreational-Forest and Commercial Overlay District

The intent of the Mixed Use Recreational-Forest and Commercial Overlay District is to establish a zoning district which allows for an appropriate and compatible mix of residential and commercial uses along M-72 west and along M-93 north. The Mixed Use Overlay District extends on each side of the road for five hundred (500) feet measured from the centerline.

- Lot & Structure Standards & Setbacks pursuant to underlying district

MU-CC – Mixed Use Commercial District

The intent of the Mixed Commercial District is to establish a zoning district which allows for all uses allowed within the C-1 and C-2 Districts.

- Lot & Structure Standards & Setbacks pursuant to underlying district

MU-CI – Mixed Heavy Commercial and Industrial

The intent of the Mixed Commercial and Industrial District is to establish a zoning district which allows for all uses allowed within the C-2 and I Districts.

- Lot & Structure Standards & Setbacks pursuant to underlying district

MU-CCI – Mixed General/Heavy Commercial and Industrial District

The intent of the Mixed General/Heavy Commercial and Industrial District is to establish a zoning district which allows for all uses allowed within the C-1, C-2 and I Districts.

- Lot & Structure Standards & Setbacks pursuant to underlying district

NRD – Natural River District

The AuSable River Natural River District includes an area beginning at the middle thread of the river and extending in a perpendicular direction to the high water mark of adjacent river banks and continuing away from the high water mark to a distance of four hundred (400) feet wide on each side of and parallel to all channels of the mainstream and East Branch. Land elevations, including river bank heights, are not to be used in calculating the outside boundaries of the NRD. ESTABLISHMENT OF THIS DISTRICT IN NO WAY IMPLIES A “TAKING” OF THESE LANDS BY THE TOWNSHIP OR OPENING THEM UP TO PUBLIC USE. PRIVATE LANDS REMAIN PRIVATE AND ARE SUBJECT TO THE RIGHTS OF PRIVATE OWNERSHIP.

Lot & Structure Standards	
Lot Area	80,000 sq ft
Lot Width (min)	200 ft on the main stream of the Au Sable 150 ft on the East Branch and other flowing bodies of water that ultimately drain into the mainstream

	Depth of any lot in R-F shall not exceed 3 times width
Setbacks	
Front (min.)	<p>Main Branch of the Au Sable:</p> <ul style="list-style-type: none"> A. New buildings and appurtenances will be required to be setback a minimum of two hundred (200) feet from the ordinary high water mark. B. The setback may be decreased one (1) foot for every one (1) foot rise in bank height to a minimum of one hundred fifty (150) feet from the ordinary high water mark. C. New buildings and appurtenances must be setback at least twenty five (25) feet from the top of a bluff on the non-cutting edge of the stream. D. New buildings and appurtenances must be setback at least fifty (50) feet from the top of the bluff on the cutting edge of a stream. E. No building shall take place on land that is subject to flooding or in any wetland area. F. The natural contour of the face and crest of the bluff shall not be altered. G. The land between the crest of the bluff and the minimum building setback line shall not be altered except for minor landscaping activities. <p>East Branch and other flowing bodies of water that ultimately drain into mainstream. New buildings and appurtenances will be required to setback a minimum of one hundred (100) feet from the ordinary high water mark of the tributary provided that no building shall take place on land that is subject to flooding.</p> <p>The setback may be decreased by one (1) foot for every one (1) foot rise in bank height to a minimum of seventy five (75) feet from the ordinary high water mark.</p>
Side (min.)	40 ft

Rear (min.)	50 ft
Side – street side – corner lot (min.)	50 ft
Additional Development Standards: Accessory Building, Screening, Fences, Decks, Porches & Patios, Performance Standards, Wildlife Plan	

Figure 6.8: Grayling Charter Township Zoning Map

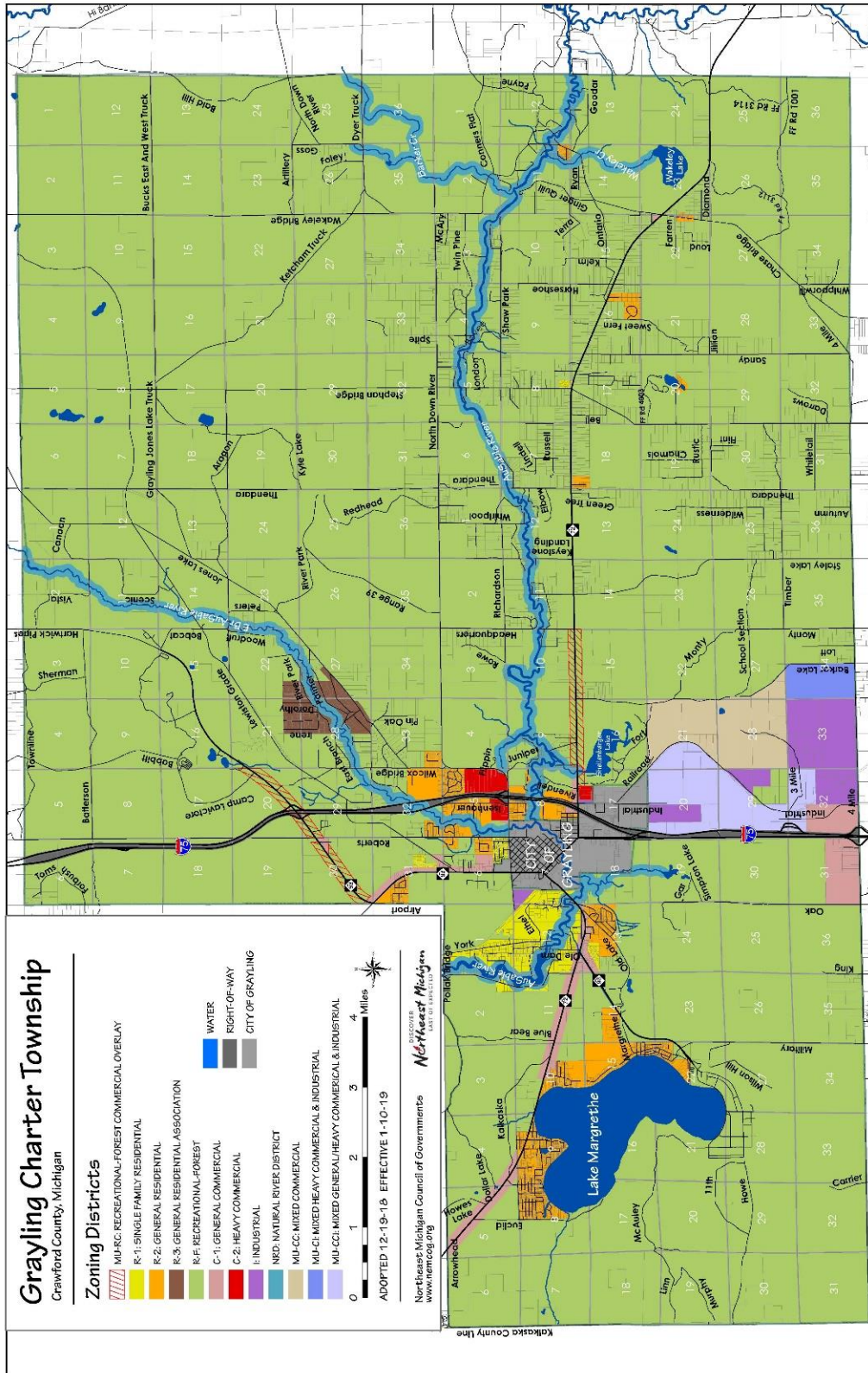
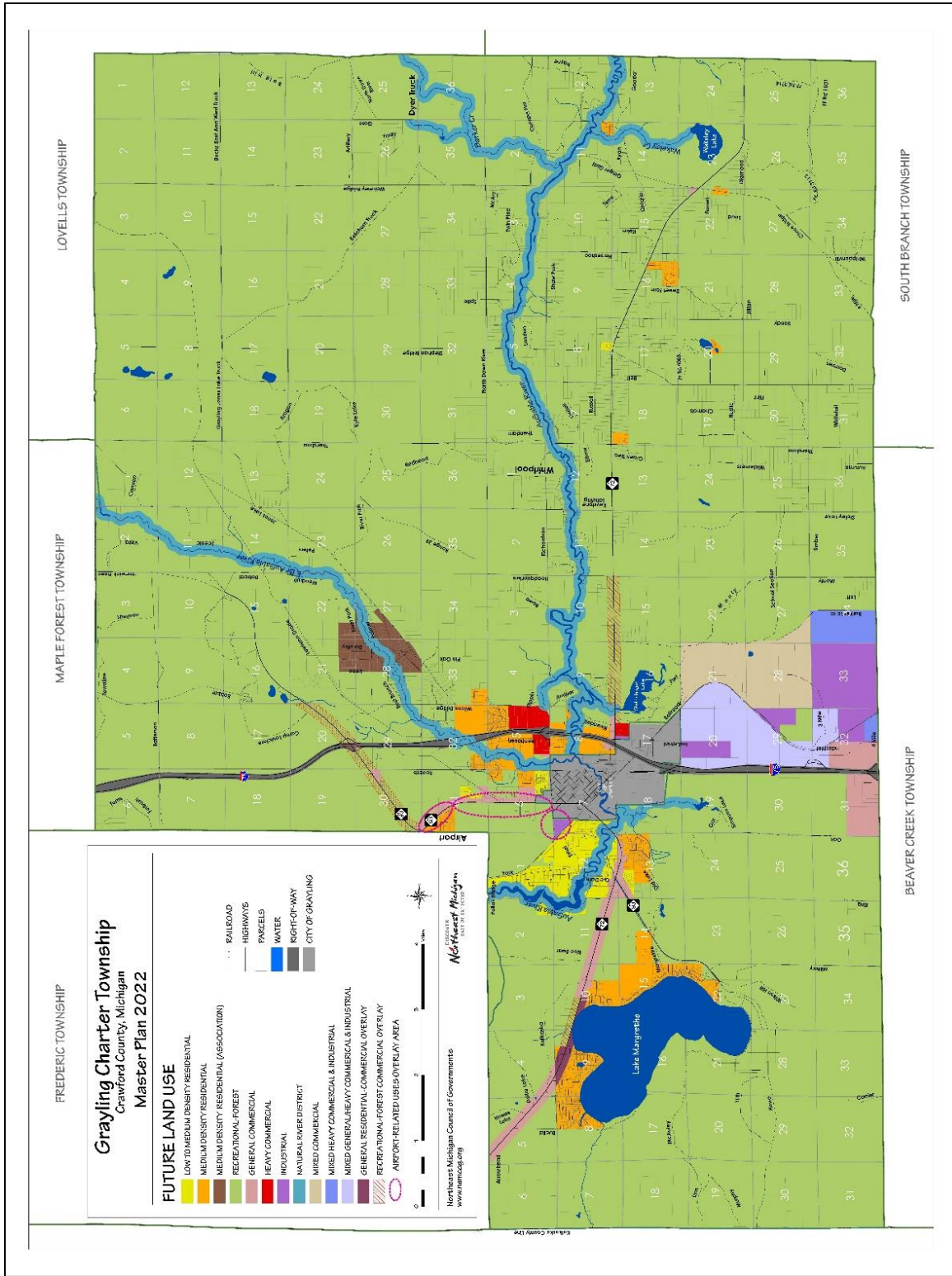


Figure 6.9: Grayling Charter Township Future Land Use Map



Lovells Township Zoning

Lovells Township administers its own zoning ordinance. The township ordinance was adopted September 14, 2003 and took effect October 6, 2003. There are five zoning districts in the Ordinance.

G-B – Greenbelt District

The purpose of this district is to provide for the preservation and enhancement of waterways, through regulation of uses and activities of land within four hundred (400) feet of lakes, rivers, and streams.

In 1987, the Michigan Department of Natural Resources (DNR) designated the Au Sable River and specific tributaries as "a natural river" under the authority of the Natural River Act (P.A. 231 of 1970), now Part 305 of the Natural Resources and Environmental Protection Act (P.A. 451 of 1994). The Natural River Act is administered by the DNR. The Act allows for local governments to adopt waterfront protection measures, which are compatible with the DNR requirements. In situations where there is no local zoning or the zoning authority does not provide waterfront protection regulations in the zoning ordinance, the DNR will administer the rules of the Act.

In addition to the protection of the Au Sable and designated streams, Lovells Township also wishes to include waterfront protection regulations around the township's lakes for their enhancement and protection.

The Green Belt District includes four hundred (400) feet on both sides of the East Branch of the Au Sable River, the North Branch of the Au Sable River, the West Branch of Big Creek, the Middle Branch of Big Creek, the East Branch of Big Creek and around all lakes in Lovells Township.

Lot & Structure Standards	
Lot Area	60,000 sq ft
Lot Width (min)	200ft, measured at ordinary high water mark
Setbacks	
Front (min.)	<p>A. Along the North Branch of the Au Sable River, structures may be constructed no closer than two hundred (200) feet from the ordinary high water mark, except that for every foot of ground elevation above the elevation of the ordinary high water mark, one (1) foot may be subtracted from the setback to a minimum of one hundred fifty (150) feet.</p> <p>B. Along all other streams in the district, structures may be constructed no closer than one hundred fifty (150) feet from the ordinary high water mark, except that for every foot of ground elevation above the elevation of the ordinary high water mark, one (1) foot may be subtracted from the setback to a minimum of one hundred (100) feet.</p>

	<p>C. On all lakes, buildings may be constructed no closer than one hundred (100) feet from the ordinary high water mark, except that for every foot of ground elevation above the elevation of the ordinary high water mark, one (1) foot may be subtracted from the setback to a minimum of fifty (50) feet.</p> <p>D. New buildings and structures must be setback not less than fifty (50) feet from the top of the bluff on the cutting edge of the stream.</p> <p>E. New buildings and structures must be setback not less than twenty five (25) feet from the top of the bluff on the non-cutting edge of the stream.</p>
Side (min.)	30 ft
Road Right-of-Way	50 ft
Additional Development Standards: Limitation on Funnel Development, Accessory Structures, Guest Homes, Natural Vegetation Strip, Use of Pesticides, Herbicides and Fertilizers, Land Alteration, Sanitary Waste System.	

R-R – Recreational & Residential District

The intent is to establish and promote the proper use, enjoyment and conservation of the forest and land particularly adapted for agricultural, recreational, low density residential and other specialized rural uses requiring large tracts of land, which are compatible with the residents.

Lot & Structure Standards	
Lot Area	101,640 sq ft
Lot Width (min)	165 ft
Setbacks	
Front (min.)	30 ft
Side (min.)	30 ft
Rear (min.)	50 ft
Additional Development Standards: Accessory Structures, Farming Specialization	

R – Residential District

The intent is to establish and preserve quiet desirable neighborhoods of detached single family dwellings with a low to medium density. This district shall be free from other uses except for uses, which are compatible with the residential uses of the district.

Lot & Structure Standards	
Lot Area	14,000 sq ft
Lot Width (min)	100 ft

Setbacks	
Front (min.)	30 ft
Side (min.)	10 ft
Side – Corner Lot (min.)	25 ft
Rear (min.)	10 ft
Additional Development Standards: Accessory Structures	

C-B – Commercial & Business District

The intent is to establish and preserve a general commercial zoning district containing uses which include services and retail sale or combination retail/wholesale of commodities catering to the entire community and the needs of highway and tourist traffic.

Lot & Structure Standards	
Lot Area	NA
Lot Width (min)	NA
Setbacks	
Front (min.)	100 ft
Side (min.)	15 ft Where Commercial abuts GB,R or R-R side setback shall be 25 ft
Rear (min.)	25 ft Where Commercial abuts GB,R, or R-R rear setback shall be 50 ft
Additional Development Standards: Properties with Au Sable River Frontage, Sign	

I – Industrial District

The intent is to establish and preserve a zoning district for necessary industrial and related uses to serve the general industrial needs of the community provided that the industry will be isolated from other types of land uses and not causing undesirable emissions and/or offensive odors.

Lot & Structure Standards	
Lot Area	NA
Lot Width (min)	NA
Setbacks	
Front (min.)	50 ft
Side (min.)	10 ft Where Commercial abuts GB,R or R-R side setback shall be 25 ft
Rear (min.)	25 ft Where Commercial abuts GB,R, or R-R rear setback shall be 50 ft
Additional Development Standards: Smoke, Dust, Dirt, and Fly Ash, Open Storage, Glare and Radioactive Materials, Fire and Explosive Hazards, Groundwater Protection, Buffer Strip, Sign	

Figure 6.10: Lovells Township Zoning Map

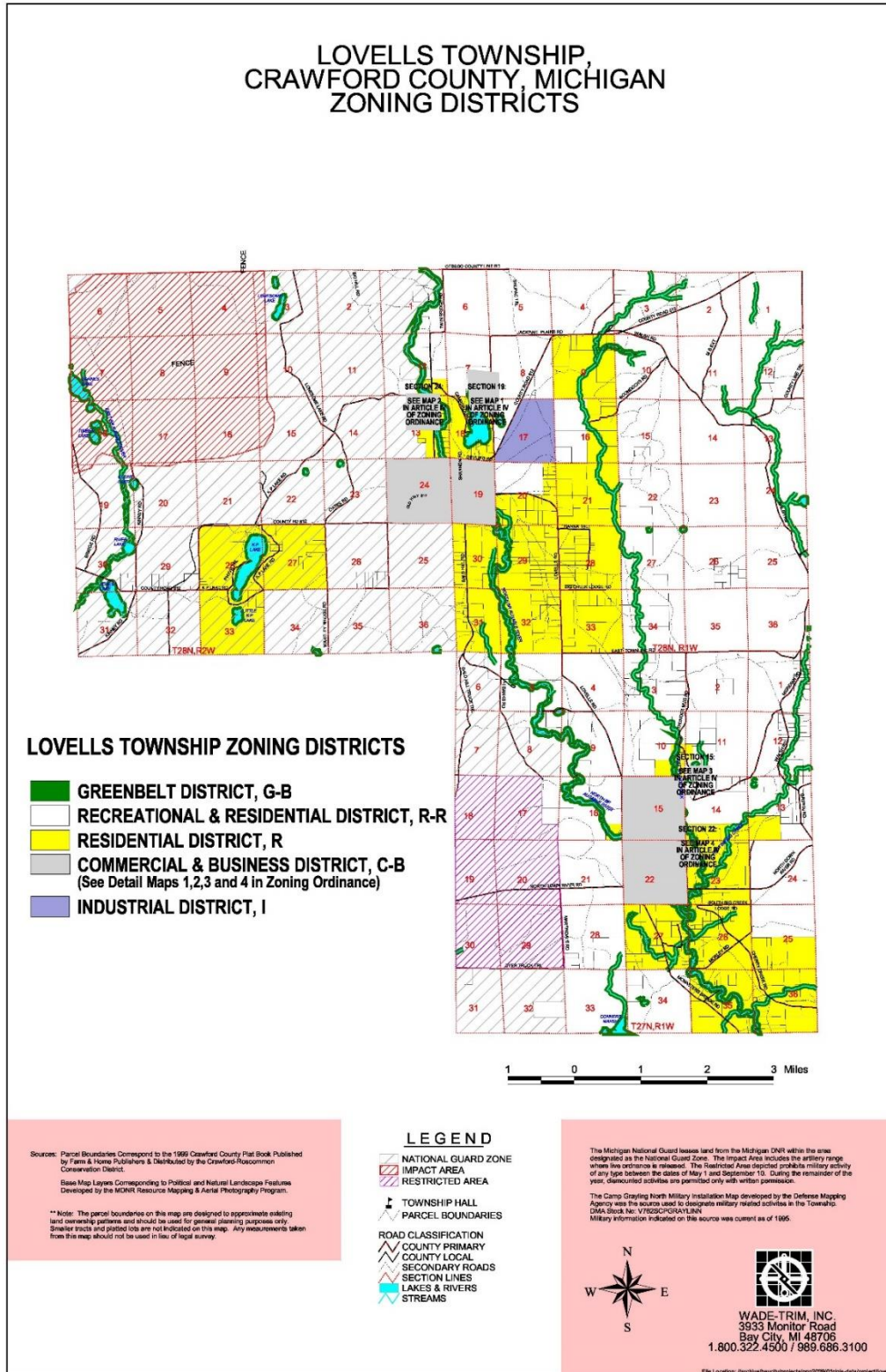
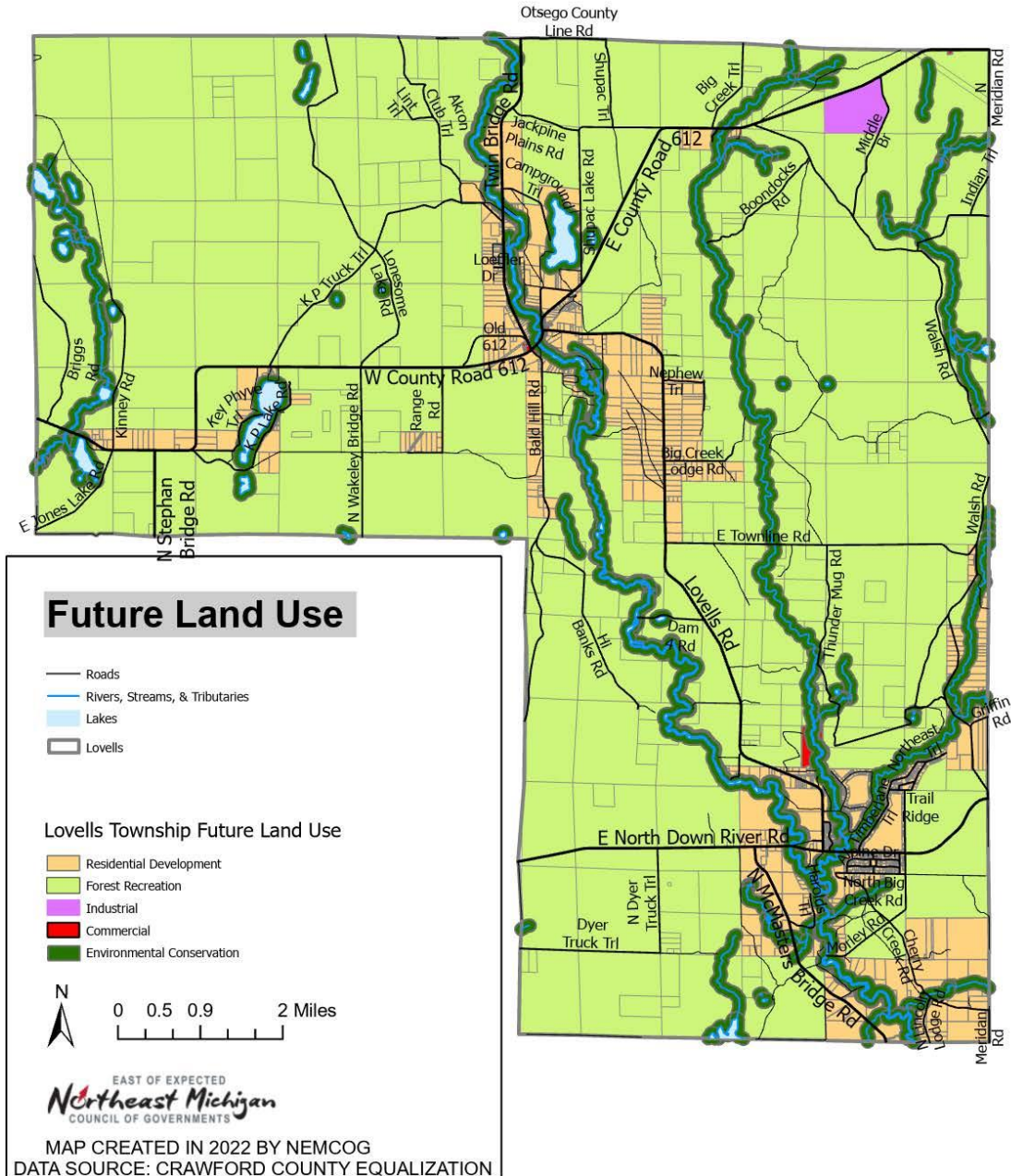


Figure 6.11: Lovells Township Future Land Use Map

LOVELLS TOWNSHIP MASTER PLAN



Maple Forest Township Zoning

Maple Forest Township administers its own zoning ordinance. The township ordinance is expected to be adopted 2022. There are ten zoning districts in the Ordinance. [OC3]

FF – Farm Forest District

Lot & Structure Standards	
Lot Area	2 acres
Lot Width (min)	200 ft
Setbacks	
Front (min.)	50 ft (measured from the road right-of-way, except for waterfront parcels where the front yard is defined as the waterfront side and the front yard setback is measure from the ordinary high-water mark)
Side (min.)	20 ft for each side (50 ft where side yard abuts a road right-of-way)
Rear (min.)	50 ft
Additional Development Standards: Accessory Buildings, Screening, Fences & Walls, Decks & Patios, Signs, Parking, Outdoor Storage	

RC – Resource Conservation District

Lot & Structure Standards	
Lot Area	10 acres
Lot Width (min)	200 ft
Setbacks	
Front (min.)	50 ft (measured from the road right-of-way, except for waterfront parcels where the front yard is defined as the waterfront side and the front yard setback is measure from the ordinary high-water mark)
Side (min.)	25 ft for each side (50 ft where side yard abuts a road right-of-way)
Rear (min.)	50 ft
Additional Development Standards: Accessory Buildings, Screening, Fences & Walls, Decks & Patios, Signs, Parking, Outdoor Storage	

LDR – Low Density Residential District

The intent is to provide for single-family housing neighborhoods free from other uses, except those which are (1) normally accessory to and (2) compatible with, supportive of, and convenient to the various types and compositions of families living within such residential land use areas. The size of lots and parcels should be planned to be of such area and width so that they can sustain healthful and sanitary on-site water supply and wastewater disposal.

Lot & Structure Standards

Lot Area	1 acre
Lot Width (min)	150 ft
Setbacks	
Front (min.)	50 ft (measured from the road right-of-way, except for waterfront parcels where the front yard is defined as the waterfront side and the front yard setback is measure from the ordinary high-water mark)
Side (min.)	20 ft for each side (50 ft where side yard abuts a road right-of-way)
Rear (min.)	50 ft
Additional Development Standards: Accessory Buildings, Screening, Fences & Walls, Decks & Patios, Signs, Parking, Outdoor Storage	

MDR – Medium Density Residential District

The intent is to provide for single-family residential uses at reasonable densities. It is further the purpose to require lot areas large enough to protect groundwater from excessive pollution due to an over-concentration of septic tank systems, particularly in areas adjacent to surface water bodies and in inland areas where groundwater needs to be protected because of on-site or off-site human use.

Lot & Structure Standards	
Lot Area	20,000 sq ft
Lot Width (min)	100 ft
Setbacks	
Front (min.)	20 ft (measured from the road right-of-way, except for waterfront parcels where the front yard is defined as the waterfront side and the front yard setback is measure from the ordinary high-water mark)
Side (min.)	10 ft for each side (20 ft where side yard abuts a road right-of-way)
Rear (min.)	20 ft
Additional Development Standards: Accessory Buildings, Screening, Fences & Walls, Decks & Patios, Signs, Parking, Outdoor Storage	

HDR – High Density Residential District

The intent is to provide for single-family residential uses at higher densities on smaller lots in select areas of the township.

Lot & Structure Standards	
Lot Area	10,000 sq ft
Lot Width (min)	50 ft
Setbacks	
Front (min.)	10 ft (measured from the road right-of-way,

	except for waterfront parcels where the front yard is defined as the waterfront side and the front yard setback is measure from the ordinary high-water mark)
Side (min.)	10 ft for each side
Rear (min.)	10 ft
Additional Development Standards: Accessory Buildings, Screening, Fences & Walls, Decks & Patios, Signs, Parking, Outdoor Storage	

NB – Neighborhood Business District

The intent is to give the township a Business District that is somewhat more selective than a General Business District, to provide for the establishment of neighborhood shopping areas, personal services, and professional office areas that are compatible with and of service to township residential uses. Tourist services are also included as being in character with the district. This district also allows residential uses making it a mixed use district.

Lot & Structure Standards	
Lot Area	40,000 sq ft
Lot Width (min)	100ft
Setbacks	
Front (min.)	25 ft (measured from the road right-of-way, except for waterfront parcels where the front yard is defined as the waterfront side and the front yard setback is measure from the ordinary high-water mark)
Side (min.)	10 ft for each side (Side yards shall be increased where adjacent to any residential district. In such cases the adjacent district side yard setback regulations shall apply)
Rear (min.)	20 ft
Additional Development Standards: Accessory Buildings, Screening, Fences & Walls, Decks & Patios, Signs, Parking, Outdoor Storage	

CB – Commercial & Business District

The intent is to provide for a general commercial district containing uses which include services and retail sale or combination retail/wholesale of commodities catering to the entire community and the needs of highway and tourist traffic. The avoidance of undue congestion on public roads, the promotion of smooth traffic flow at major interchange and intersection areas and on the highways, and the protection of adjacent properties in other districts from the adverse influences of traffic are prime considerations in the location of the district.

Lot & Structure Standards	
Lot Area	1 acre
Lot Width (min)	150 ft
Setbacks	

Front (min.)	50 ft (measured from the road right-of-way, except for waterfront parcels where the front yard is defined as the waterfront side and the front yard setback is measure from the ordinary high-water mark)
Side (min.)	10 ft for each side (Side yards shall be increased where adjacent to any residential district. In such cases the adjacent district side yard setback regulations shall apply)
Rear (min.)	50 ft
Additional Development Standards: Accessory Buildings, Screening, Fences & Walls, Decks & Patios, Signs, Parking, Outdoor Storage	

I-1 – Light Industrial District

The intent is to primarily accommodate heavy commercial and light industry, wholesale activities, warehouses, and other industrial operations whose external physical effects are restricted to the area of the district and do not affect in a detrimental way any of the surrounding districts. The Industrial District is so structured as to permit, along with any specified uses, the manufacturing, compounding, processing, packaging, assembly, and/or treatment of finished or semi-finished products from previously prepared material. It is the further intent of this district to permit only those industrial manufacturing uses having use, performance, or activity characteristics which emit a minimum amount of discernible noise, vibration, smoke, dust, dirt, glare, toxic materials, offensive odors, gases, electromagnetic radiation, or any other physically adverse effect to the extent that they are abnormally discernible beyond the lot lines of the parcel or site upon which the industrial manufacturing activity is located. Since this area is not anticipated to be served by public water or sewer systems in the foreseeable future, development standards will consider groundwater protection.

Lot & Structure Standards	
Lot Area	2 acre
Lot Width (min)	200 ft
Setbacks	
Front (min.)	50 ft (measured from the road right-of-way, except for waterfront parcels where the front yard is defined as the waterfront side and the front yard setback is measure from the ordinary high-water mark)
Side (min.)	20 ft for each side
Rear (min.)	50 ft
Additional Development Standards: Accessory Buildings, Screening, Fences & Walls, Decks & Patios, Signs, Parking, Outdoor Storage	

I-2 – Industrial District

The intent is to primarily accommodate heavy commercial and light industry, wholesale activities, warehouses, and other industrial operations whose external physical effects are restricted to the area of the district and do not affect in a detrimental way any of the surrounding districts. The Industrial District

is so structured as to permit, along with any specified uses, the manufacturing, compounding, processing, packaging, assembly, and/or treatment of finished or semi-finished products from previously prepared material. It is the further intent of this district to permit only those industrial manufacturing uses having use, performance, or activity characteristics which emit a minimum amount of discernible noise, vibration, smoke, dust, dirt, glare, toxic materials, offensive odors, gases, electromagnetic radiation or any other physically adverse effect to the extent that they are abnormally discernible beyond the lot lines of the parcel or site upon which the industrial manufacturing activity is located. Since this area is not anticipated to be served by public water or sewer systems in the foreseeable future, development standards will consider groundwater protection.

Lot & Structure Standards	
Lot Area	2 acre
Lot Width (min)	200 ft
Setbacks	
Front (min.)	50 ft (measured from the road right-of-way, except for waterfront parcels where the front yard is defined as the waterfront side and the front yard setback is measure from the ordinary high-water mark)
Side (min.)	20 ft for each side
Rear (min.)	50 ft
Additional Development Standards: Accessory Buildings, Screening, Fences & Walls, Decks & Patios, Signs, Parking, Outdoor Storage	

SC- Stream Corridor Overlay District

The intent is to provide for the preservation and enhancement of waterways, through regulation of uses and activities of land within four hundred (400) feet of rivers and streams designated as “Natural Rivers”. In 1987, the Michigan Department of Natural Resources (DNR) designated the Au Sable River and specific tributaries as “a natural river” under the authority of the Natural River Act (P.A. 231 of 1970), now Part 305 of the Natural Resources and Environmental Protection Act (P.A. 451 of 1994). The Natural River Act is administered by the DNR. The Act allows for local governments to adopt waterfront protection measures, which are compatible with the DNR requirements. In situations where there is no local zoning or the zoning authority does not provide waterfront protection regulations in the zoning ordinance, the DNR will administer the rules of the Act.

Lot & Structure Standards	
Lot Area	50,000 sq ft Any “common area” or any bottomlands shall not be used in any calculations of minimum lot area. If a parcel does not have river frontage, and the front line of the parcel is greater than 150 feet from the river’s edge at all points, this subsection does not apply, and the minimum parcel width will be measured at the front line.

	Parcel shall have sufficient depth and upland area to accommodate the required building setbacks.
Lot Width (min)	150ft of river frontage unless a riverfront “common area” subject to a conservation easement is established For a parcel that does not have river frontage, this dimension shall be measured from the point of the parcel closest to the river and shall be at least 150’ wide at the setback line.
Setbacks	
Front (min.)	100ft The setback may be decreased 1 foot for every 1 foot rise in bank height to a minimum of 75 feet from the ordinary high-water mark. A dwelling shall be set back not less than 25 feet from the top of a bluff on the noncutting edge of a stream and not less than 50 feet from the top of a bluff on the cutting edge of a stream.
Side (min.)	30 ft for each side
Rear (min.)	50 ft
Additional Development Standards: Accessory Buildings, Screening, Fences & Walls, Decks & Patios, Signs, Parking, Outdoor Storage	

Figure 6.12: Maple Forest Township Zoning Map

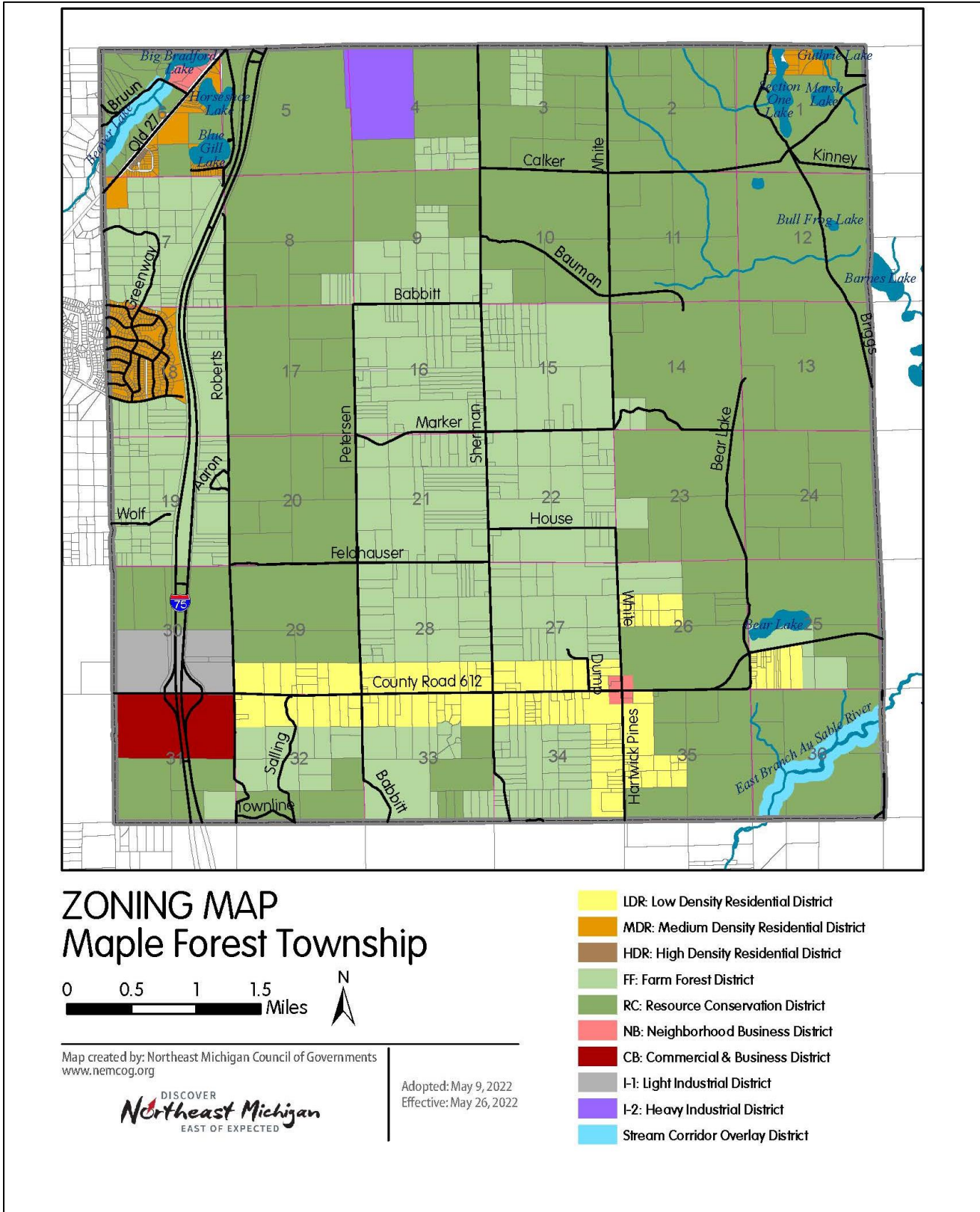
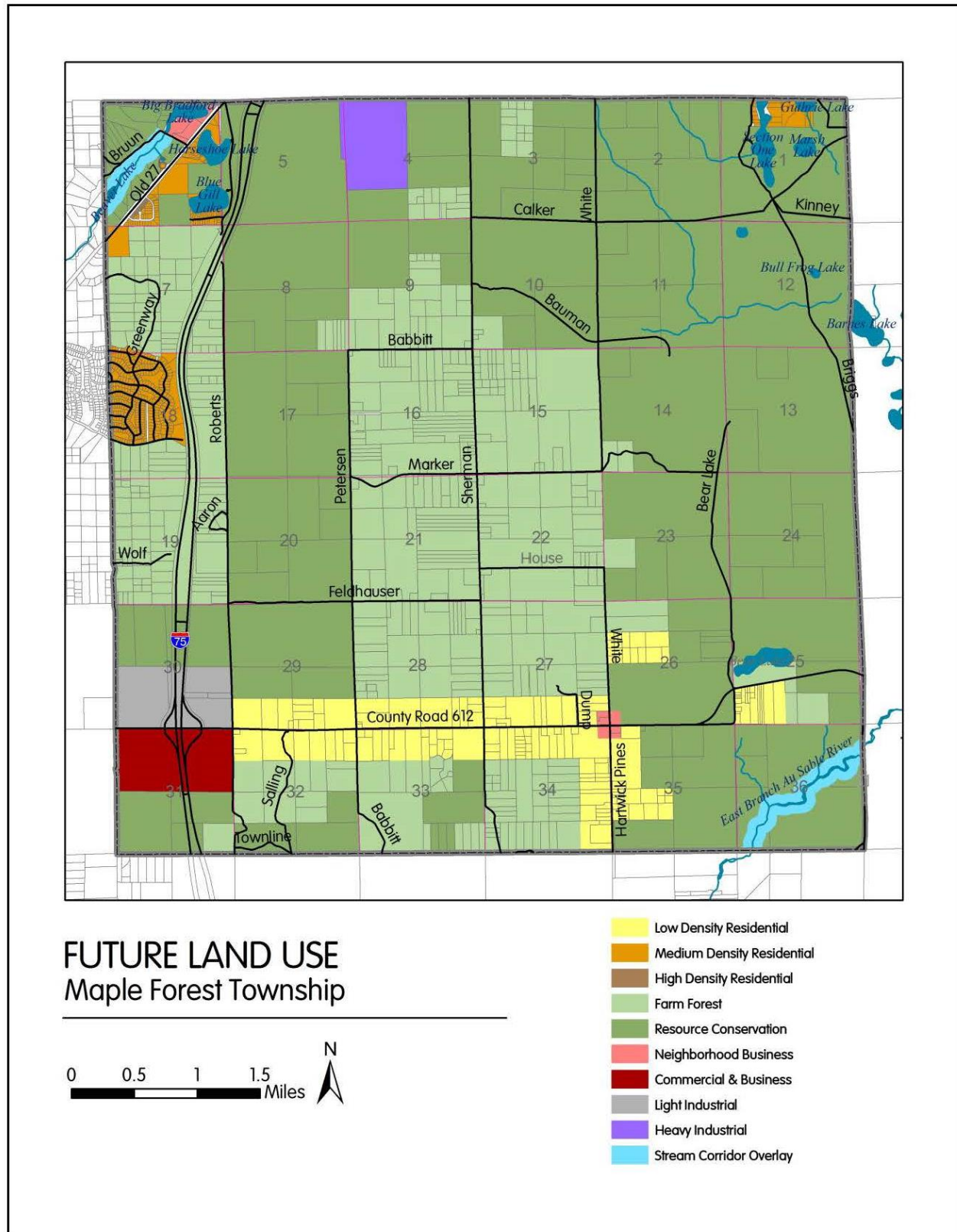


Figure 6.13: Maple Forest Township Future Land Use Map



South Branch Township Zoning

South Branch Township administers its own zoning ordinance. The township ordinance was adopted March 11, 2008 and the last update took effect September 27, 2018. There are six zoning districts in the Ordinance.

RC – Resource Conservation District

The Resource Conservation District is designed to provide for the arrangement of land uses that are compatible with the conservation and preservation of large tracts of land presently having a most desirable natural environment that should not be disturbed, except minimally, by land uses which retain the natural character of the area. Single-family homes on large lots will be provided for if the spacing of such homes is great enough to adequately handle on-site septic tanks and wells. This area is not anticipated to be served by public water or sewer systems in the foreseeable future.

Lot & Structure Standards	
Lot Area	20 acres
Lot Width (min)	200 ft
Setbacks	
Front (min.)	50 ft
Side (min.)	25 ft Where a side yard abuts a road right-of-way the minimum shall be 50 ft
Rear (min.)	50 ft

FF – Farm Forest District

The Farm Forest District is designed to promote the use of wooded and rural areas of the township in a manner that will retain the basic attractiveness of the natural resources and provide enjoyment for both visitors and the community at large. These areas will not be served by public water distribution and wastewater disposal systems in the foreseeable future. The district will accommodate large lot residential development purposes, which can support on-site water supply and wastewater disposal. The intent of the district is to retain the rural township areas for agriculture and forestry purposes and to allow some multiple uses of marginal farm forest lands.

Lot & Structure Standards	
Lot Area	5 acres
Lot Width (min)	200 ft
Setbacks	
Front (min.)	50 ft
Side (min.)	20 ft Where a side yard abuts a road right-of-way the minimum shall be 50 ft
Rear (min.)	50 ft

LDR – Low Density Residential District

The Low Density Residential District is designed to accommodate and encourage single family residential development and associated uses, in keeping with the residential goals and objectives specified in the

South Branch Township Master Plan. The permitted uses are intended to provide for residential and related uses and those compatible with such, with the intent to keep residential areas relatively quiet and free from detrimental influences.

The provisions of this section also recognize with the gradual extension of other property uses into the district, such as those provided for under the “Uses Subject to Special Use Permit”; there is a need for careful consideration based on sound standards as provided for through the Special Use Permit process.

Lot & Structure Standards	
Lot Area	2ac
Lot Width (min)	150 ft
Setbacks	
Front (min.)	50 ft
Side (min.)	20 ft Where a side yard abuts a road right-of-way the minimum shall be 50 ft
Rear (min.)	50 ft

MR – Mixed Residential District

The Mixed Residential District is designed to accommodate and encourage higher density residential development through a mix of residential structures and associated uses, including both one-family and multiple family dwelling structures, in keeping with the residential goals and objectives specified in the South Branch Township Master Plan. The uses permitted are intended to promote land uses for residential and related uses and those compatible with such, with the intent to keep residential areas relatively quiet and free from detrimental influences.

Lot & Structure Standards	
Lot Area	20,000 sq ft
Lot Width (min)	100ft
Setbacks	
Front (min.)	30 ft
Side (min.)	10 ft Where a side yard abuts a road right-of-way the minimum shall be 30 ft
Rear (min.)	30 ft

CB – Commercial Business District

The Commercial & Business District is designed to provide for a general commercial district containing uses which include services and retail sale or combination retail/wholesale of commodities catering to the entire community and the needs of highway and tourist traffic. The avoidance of undue congestion on public roads, the promotion of smooth traffic flow at major interchange and intersection areas and on the highways, and the protection of adjacent properties in other districts from the adverse influences of traffic are prime considerations in the location of the district.

Lot & Structure Standards	
Lot Area	1 acre

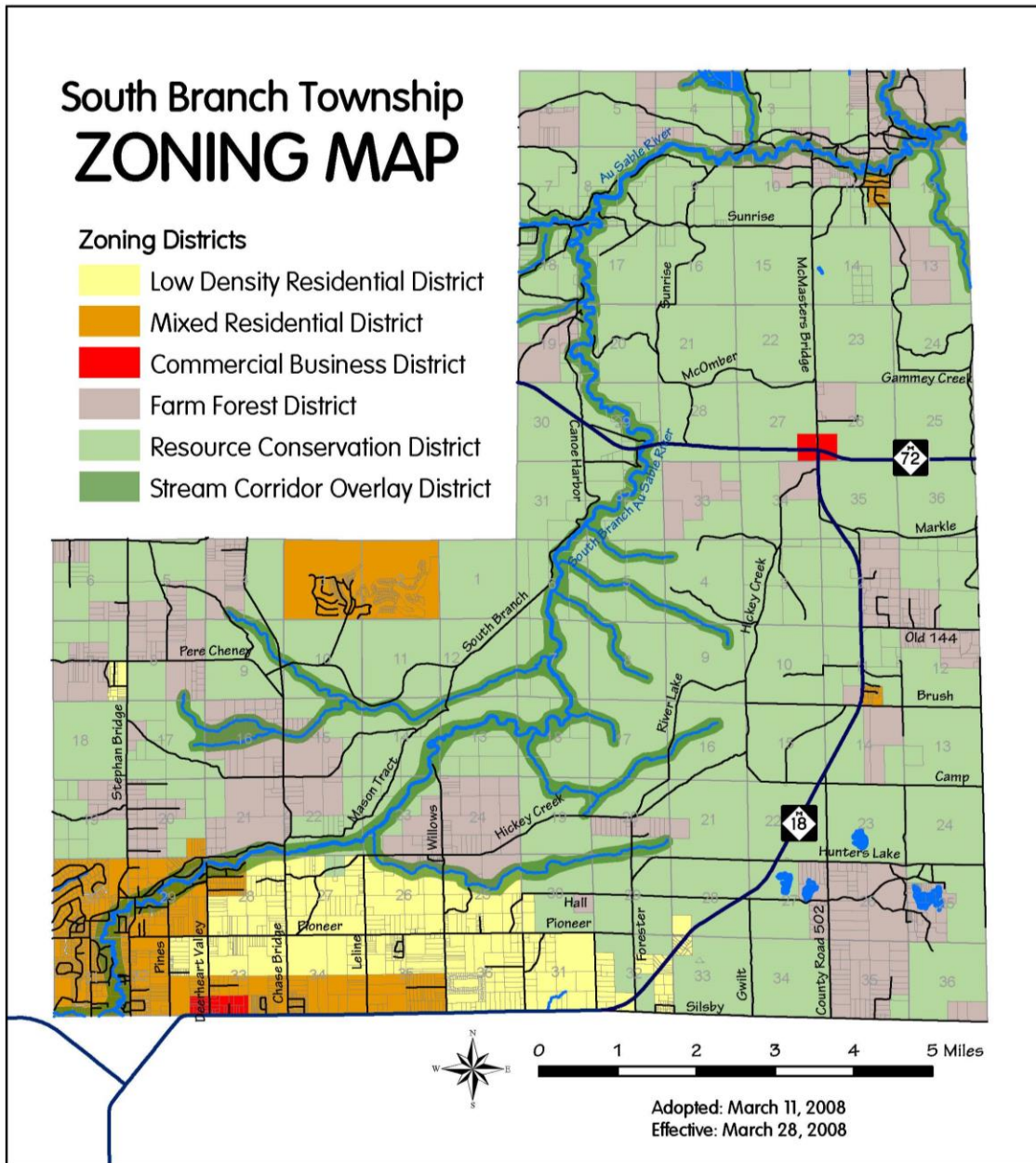
Lot Width (min)	150 ft
Setbacks	
Front (min.)	50 ft
Side (min.)	10 ft Setbacks in the covenants shall apply
Rear (min.)	50 ft

SC - Stream Corridor Overlay

The purpose of this district is to provide for the preservation and enhancement of waterways, through regulation of uses and activities of land within four hundred (400) feet of rivers and streams designated as “Natural Rivers”. In 1987, the Michigan Department of Natural Resources (DNR) designated the Au Sable River and specific tributaries as “a natural river” under the authority of the Natural River Act (P.A. 231 of 1970), now Part 305 of the Natural Resources and Environmental Protection Act (P.A. 451 of 1994). The Natural River Act is administered by the DNR. The Act allows for local governments to adopt waterfront protection measures, which are compatible with the DNR requirements. In situations where there is no local zoning or the zoning authority does not provide waterfront protection regulations in the Zoning Ordinance, the DNR will administer the rules of the Act.

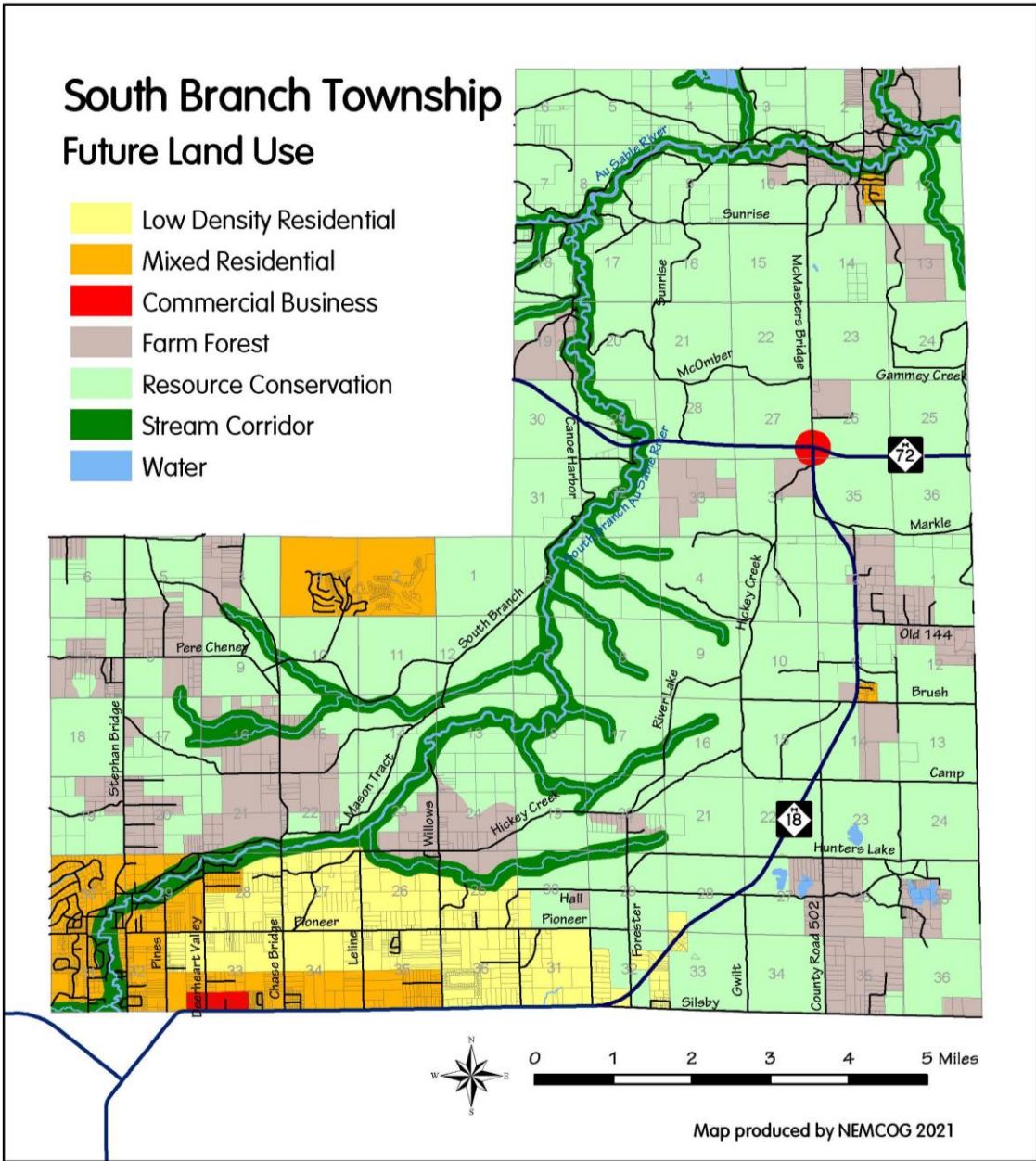
Lot & Structure Standards	
Lot Area	50,000 sq ft
Lot Width (min)	200 ft
Setbacks	
	200 ft
Front (min.)	Properties located on lakes and streams; the front yard is defined as the waterfront. For the South and North Branches of the Au Sable or the main stream, the setback shall be two hundred (200) feet from the ordinary high water mark, except that for every foot of ground elevation above the elevation of the ordinary high water mark, one (1) foot may be subtracted from the setback to a minimum of one hundred and fifty feet. For the tributary streams, the front setback shall be one hundred (100) feet from the ordinary high water mark, except that for every foot of ground elevation above the elevation of the ordinary high water mark, one (1) foot may be subtracted from the setback to a minimum of seventy-five (75) feet. The elevation above the high water mark shall be measured at the point of the proposed structure that is closest to the water.
Side (min.)	30 ft
Rear (min.)	25 ft

Figure 6.14: South Branch Township Zoning Map



Map produced by NEMCOG 2022

Figure 6.15 South Branch Township Future Land Use Map



City of Grayling Zoning

City of Grayling administers its own zoning ordinance. The City ordinance was adopted July 31, 2017 and took effect. There are eleven zoning districts in the Ordinance.

RC – Recreation District

This District is composed of those areas of the city whose principal use is and ought to be residential areas and recreationally-related uses. The regulations of this District are designed to provide for single-family detached and attached dwelling units and to encourage development on the Au Sable River.

Lot & Structure Standards	
Lot Area	7,200 sq ft
Lot Width (min)	60 ft
Setbacks	
Front (min.)	10 ft minimum, 20 ft maximum
Side (min.)	5 ft
Side – Corner Lot (min.)	10 ft
Rear (min.)	25 ft
Additional Development Standards: Water/Sewer, Setback Averaging, Accessory Buildings, Screening, Decks, Porches & Patios, Walkways/Docks	

R-1A - Single-Family Residential, Low Density District

This District is composed in those areas of the city served by a public water supply system and a public sanitary sewer system where the principal use is intended to be single-family dwellings developed at a lower density. In addition to the dwellings permitted in this Zoning District, there are certain non-residential and public uses which may be permitted through the conditional approval of the city.

Lot & Structure Standards	
Lot Area	10,800 sq ft
Lot Width (min)	90 ft
Setbacks	
Front (min.)	10 ft
Side (min.)	10 ft
Side – Corner Lot (min.)	10 ft
Rear (min.)	25 ft
Additional Development Standards: Water/Sewer, Setback Averaging, Accessory Buildings, Screening, Decks, Porches & Patios, Walkways/Docks	

Riverfront Lots	
Front (Riverfront)	15ft minimum if no public easement along riverfront exists
Rear (Street)	If a public easement along the riverfront exists, may build to easement. 10ft minimum
Additional Development Standards: Water/Sewer, Setback Averaging, Accessory Buildings,	

Screening, Decks, Porches & Patios, Walkways/Docks
--

R-1B – Single-Family, Medium Density District

This District is composed of those areas of the city served by a public water supply system and public sanitary sewer system where the principal use is intended to be single-family dwellings on moderately sized lots. In addition to the dwellings permitted in this Zoning District, there are certain non-residential and public uses which may be permitted through the conditional approval of the city.

Lot & Structure Standards	
Lot Area	7,200 sq ft
Lot Width (min)	60 ft
Setbacks	
Front (min.)	10 ft
Side (min.)	5 ft
Side – Corner Lot (min.)	10 ft
Rear (min.)	25 ft
Additional Development Standards: Water/Sewer, Setback Averaging, Accessory Buildings, Screening, Fences, Decks, Porches & Patios	

R-2 Multiple-Family Residential District

This District is composed of those areas of the city where the principal use is intended to be single- and multiple family dwellings. Areas zoned R-2 shall be served by public water supply system and a public sanitary sewerage system, and abut or are adjacent to such other uses, buildings, structures, or amenities which support, complement, or serve a multiple-family density. In addition to the dwellings permitted in this Zoning District, there are certain non-residential and public uses which may be permitted through the conditional approval of the city.

Lot & Structure Standards	
Lot Area	7,200 sq ft
Lot Width (min)	60 ft
Setbacks	
Front (min.)	10 ft
Side (min.)	5 ft
Side – Corner Lot (min.)	20 ft
Rear (min.)	25 ft
Additional Development Standards: Water/Sewer, Setback Averaging, Accessory Buildings, Screening, Fences, Decks, Porches & Patios	

CBD – Central Business District

This District is designed to provide for a variety of office, business service, entertainment and retail uses which occupy the prime retail frontage, by serving the comparison, convenience, and service needs of the market area which includes the city and surrounding townships. The regulations of the CBD District are designed to promote convenient pedestrian shopping and the stability of retail development by

encouraging a continuous retail frontage and by prohibiting automotive-related services including gasoline retail outlets and non-retail uses which tend to break up such continuity.

Lot & Structure Standards	
Lot Area	NA
Lot Width (min)	NA
Setbacks	
Front (min.)	NA
Side (min.)	NA
Rear (min.)	NA
Property abuts C-1, R-1A or R-1B	Shall have a minimum set back of 10ft
Additional Development Standards: Water/Sewer, Setback Averaging, Accessory Buildings, Screening, Parking, Decks, Porches & Patios	

C-1 – Local Service District

The District is designed primarily for the convenience of persons residing in the city by providing office, limited retail, and business service uses that serve the adjacent and surrounding neighborhoods. It is the purpose of these regulations to permit development of the enumerated functions in a manner which is compatible with uses in the surrounding area. To these ends, certain uses are excluded which would function more effectively in other districts.

Lot & Structure Standards	
Lot Area	5,000 sq ft
Lot Width (min)	60 ft
Setbacks	
Front (min.)	6 ft
Side (min.)	NA, unless abutting residential use 10ft minimum
Rear (min.)	NA, unless abutting residential use 10ft minimum
Additional Development Standards: Water/Sewer, Setback Averaging, Accessory Buildings, Screening, Parking, Decks, Porches & Patios	

Riverfront Lots	
Front (Riverfront)	15 ft minimum if no public easement along riverfront exists
Rear (Street)	6 ft minimum
Additional Development Standards: Water/Sewer, Setback Averaging, Accessory Buildings, Screening, Decks, Porches & Patios, Walkways/Docks	

C-2 – Medical Cottage Industry/Professional Office/Mixed Use District

The District is designed primarily for the convenience of persons residing in the city by providing office, medical, limited retail, and business service uses that serve the adjacent and surrounding neighborhoods.

It is the purpose of these regulations to permit development of the enumerated functions in a manner which is compatible with uses in the surrounding area. To these ends, certain uses are excluded which would function more effectively in other districts.

Lot & Structure Standards	
Lot Area	7,200 sq ft
Lot Width (min)	60 ft
Setbacks	
Front (min.)	10 ft
Side (min.)	5 ft unless abutting residential use 10ft
Rear (min.)	NA, 10 ft minimum for single family detached dwelling units or uses abutting residential use
Rear – Corner Lot (min.)	10 ft
Additional Development Standards: Water/Sewer, Setback Averaging, Accessory Buildings, Screening, Parking, Decks, Porches & Patios	

C-3A – General Commercial District

This District is intended to accommodate office, business service, and retail uses that serve a larger market than C-1 District including the city and portions of the surrounding townships. It is the purpose of these regulations to permit development of the enumerated functions in a manner which is compatible with uses in the surrounding area. To these ends, certain uses are excluded which would function more effectively in other Districts.

Lot & Structure Standards	
Lot Area	NA
Lot Width (min)	NA
Setbacks	
Front (min.)	10 ft 20 ft maximum, Planning Commission may approve greater front yard setback on case by case basis.
Side (min.)	NA (10 ft abutting residential use)
Rear (min.)	NA (10 ft abutting residential use)
Additional Development Standards: Water/Sewer, Setback Averaging, Accessory Buildings, Screening, Parking, Decks, Porches & Patios, Walkways & Docks	

Riverfront Lots	
Front (Riverfront)	15 ft minimum if no public easement along the riverfront exists. If public easement along the riverfront exists, may build to public easement.
Rear (Street)	10 ft minimum 20 ft maximum
Additional Development Standards: Water/Sewer, Setback Averaging, Accessory Buildings, Screening, Parking, Decks, Porches & Patios, Walkways & Docks	

C-3B – General Commercial – South Town District

This District is intended to incorporate larger developments among general commercial facilities that primarily serve the motoring and tourist needs of the community. It is the purpose of these regulations to permit development of the enumerated functions in a manner which is compatible with uses in the surrounding area. To these ends, certain uses are excluded which would function more effectively in other Districts.

Lot & Structure Standards	
Lot Area	NA
Lot Width (min)	NA
Setbacks	
Front (min.)	10 ft
Side (min.)	NA (10 ft abutting residential use)
Rear (min.)	NA (10 ft abutting residential use)
Additional Development Standards: Water/Sewer, Setback Averaging, Accessory Buildings, Screening, Parking, Decks, Porches & Patios	

I – Industrial District

This District is designed to provide the location and space for all manner of industrial, wholesale, and industrial storage uses. It is the purpose of these regulations to permit the development of certain functions, to protect the surrounding areas from incompatible industrial activities, to restrict the intrusion of non-related uses such as residential, retail business and commercial, and to encourage the discontinuance of uses presently existing in the District, which are non-conforming by virtue of the type of use. To these ends, certain uses are excluded which would function more effectively in other Districts and which would interfere with the operation of the uses permitted in this District.

Lot & Structure Standards	
Lot Area	NA
Lot Width (min)	NA
Setbacks	
Front (min.)	25 ft
Side (min.)	10 ft (20 ft if abuts residential use or district)
Rear (min.)	10 ft (20 ft if abuts residential use or district)
Additional Development Standards: Water/Sewer, Setback Averaging, Accessory Buildings, Screening, Parking, Decks, Porches & Patios	

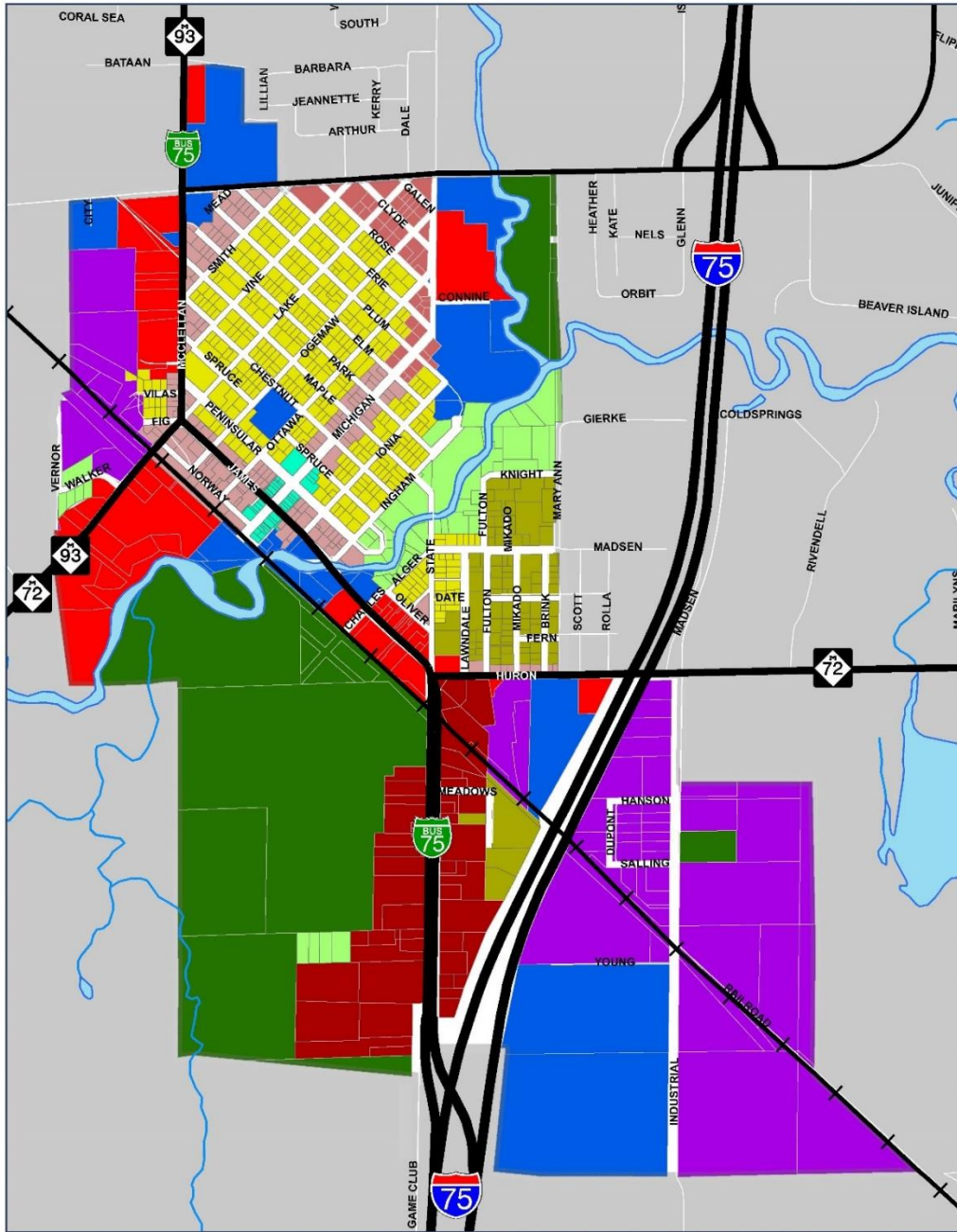
G – Government District

The Government District (G) and regulations are intended to provide an appropriate zoning classification for specified governments, civic and recreational facilities where a separate zoning district is deemed appropriate. This Article is also intended to protect public and quasi-public facilities and institutions from the encroachment of certain other uses, and to insure compatibility with adjoining residential uses. Several of the public facilities addressed in this section are also Permitted or Conditional Uses in one or more of the other zoning districts. Governmental agencies which are exempted from Zoning by state and

federal statute shall be responsible for complying with the standards of this section to the greatest extent possible.

Lot & Structure Standards	
Lot Area	NA
Lot Width (min)	NA
Setbacks	
Front (min.)	20ft
Side (min.)	5ft
Side – Corner Lot (min.)	20ft
Rear (min.)	25ft
Additional Development Standards: Water/Sewer, Setback Averaging, Accessory Buildings, Screening, Parking, Decks, Porches & Patios	

Figure 6.16: City of Grayling Zoning Map



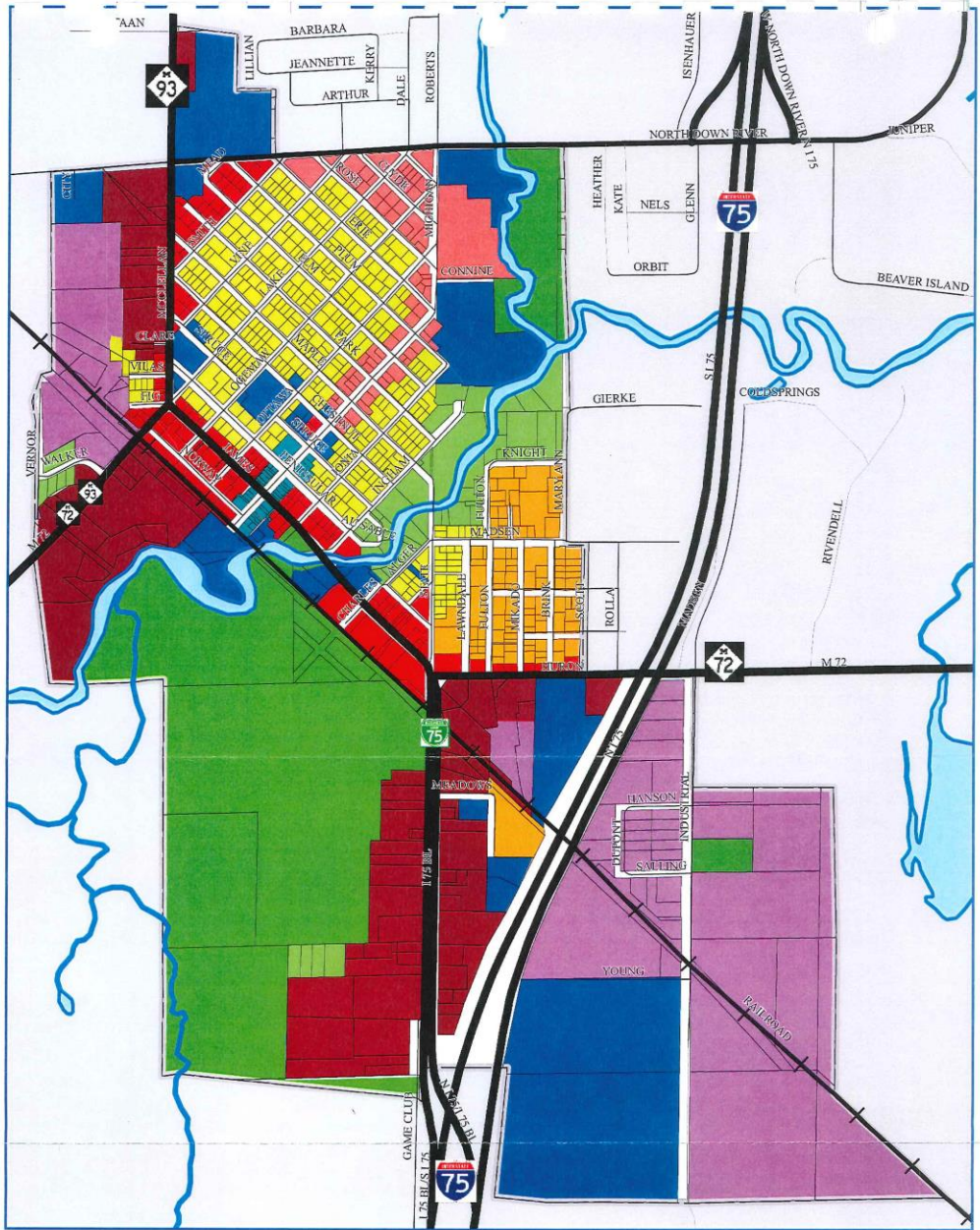
RC: Recreation	C-2: Medical Cottage Industry/Office/Mixed Use
R-1A: Single-Family (Low Density)	C-3A: General Commercial
R-1B: Single-Family Mod Density	C-3B: General Commercial - South Town
R-2: Multiple-Family Residential	I: Industrial
CBD: Central Business	G: Government
C-1: Local Service	


November 2008
 Amended 7/31/17 Effective 8/18/17
 (Lots on Michigan from Chestnut to Elm rezoned from C-2 to C-1 and R-2 and R-3 combined to R-2 only)

0 500 1,000 2,000 Feet

The City of Grayling
 Crawford County, Michigan
Map created by Northeast Michigan Council of Governments

Figure 6.17: City of Grayling Future Land Use Map



Map Seven

Future Land Use

City of Grayling Master Plan

- | | |
|--|--|
| ■ Residential Low Density | ■ Central Business District |
| ■ Residential Medium Density | ■ Medical Cottage Industry |
| ■ Residential High Density | ■ Industrial |
| ■ Commercial Neighborhood | ■ Institutional |
| ■ Commercial General | ■ Recreational |



April 2008

Data Sources: MCGI, Crawford County GIS



LSL Planning, Inc.
Community Planning Consultants

Chapter 7



Goals & Objectives

Chapter 7 – Goals & Objectives

Introduction

This chapter of the County’s Master Plan will set forth goals and recommendations. These are written to have a countywide perspective, though they may address common local issues. It is not the intention of the Crawford County Planning Commission for these goals to replace goals and objectives found in township or city master plans; but to bring forth a multi-jurisdictional approach to addressing common community needs and issues. It is hopeful these goals and recommendations will not only provide guidance to Crawford County government, but also encourage a coordinated approach to planning and zoning at a local level.

Public Input Session

There have been a number of “Input Session” efforts completed in recent years. These include goal-setting Master Plan input sessions conducted most recently by the County Planning Commission as a part of their master planning process. All of these efforts were reviewed and used to develop goals and recommendations for the master plan.

There are a number of common themes that surface in Master Plan input session.

- 1) People live in and visit Crawford County because of the abundant natural resources, which include forests, lakes, streams, clean air, wetlands, wildlife, and fish.
- 2) People like the county because of its rural character and friendly atmosphere.
- 3) Development pressures are increasing. Growth needs to be managed to preserve the very reasons people live here. However, this should be done without over regulating landowners.
- 4) There is a need for ongoing education on land use planning geared at both the general public and local decision makers.
- 5) There is a lack of good paying jobs within the county. A coordinated effort, by communities and organizations, must continue and expand to improve the economic health of Crawford County.
- 6) Communities need to invest in the infrastructure such schools, roads, water and sewer, public facilities and parks, downtown business districts, public transit, industrial parks, and recreational trails.
- 7) There needs to be more commercial and retail opportunities for residents of the county.
- 8) There is a general consensus that, where appropriate, the transfer of public lands into private ownership would benefit the county and local communities.

During the 2022 Master Plan Update, the Planning Commission reviewed the past input and the above themes and determined that the input was still relevant. Based on the past input, additional input received during the update process as well as the information from the most recent Crawford County Wildfire Protection Plan, the Planning Commission prepared the following goals with supporting objectives and recommendations.

Goals

Wildfire Protection Goal

GOAL:

To protect human life and reduce property loss due to catastrophic wildland fires in Crawford County.

OBJECTIVES & RECOMMENDATIONS:

1. Encourage adequate fire prevention, fire-safe construction, and pre-suppression activities on private lands in Wildland Urban Interface areas (WUI) using Firewise Landscaping and Construction standards. The foundation of this objective will be building partnerships with the county, local units of governments, MDNR, USFS, MSUE, Camp Grayling, and other interested organizations.
2. Continue to assist and encourage communities within the county to participate in the Community's Wildfire Protection Plan.
3. Fuel Management: manage forests to maintain fuel loads within the range of natural specific ecosystem variability in order to minimize adverse effects to ecological and socioeconomic values.
4. Promote Firewise planning and zoning strategies at the local level. Implementation of action items under this objective are the responsibility of each individual community to incorporate into their planning and zoning. Furthermore, it is understood that each local unit of government will need to determine which action items will be acceptable and enforceable under their current program administration.
5. Work to implement the recommendations of the current Crawford County Wildfire Protection Plan.

Natural Resource Goal**GOAL:**

Preserve the natural environment by protecting groundwater, surface water, forests, wetlands, clean air, fisheries and wildlife.

OBJECTIVES & RECOMMENDATIONS:

1. Work cooperatively with communities, agencies and organizations to develop studies and institute programs to address watershed, woodlands, wildlife and ecosystem management.
2. County departments will continue to work cooperatively with local units of government to effectively administer and enforce county ordinances, such as soil erosion and sedimentation control.
3. Encourage and support community organizations to identify critical resources, wildlife habitat, ecological corridors, scenic areas, vistas, and existing protected areas to more effectively work with local communities to implement strategies to protect such resources.
4. Establish (or maintain) on-going open dialog with the Michigan Department of Natural Resources (DNR), U.S. Forest Service, and Camp Grayling representatives to monitor future potential public land transfers.
5. Promote or facilitate community educational forums on topics which could impact the locally important natural resources, such as hydrologic fracturing (fracking), large volume water withdrawal, threats from invasive species, purchase of development rights and conservation easements.
6. Continue to monitor any fracking activity proposed and/or active in the area.
7. Promote on-going groundwater testing in such areas to assess any impacts to the water quality in order to protect the natural resources.
8. Provide assistance to local communities by providing or facilitating educational opportunities related to current planning & zoning topics.

Land Use Goal**GOAL:**

Encourage a coordinated, locally administered approach to regulating land uses in order to protect the natural, social, cultural, and economic resources in each jurisdiction.

OBJECTIVES & RECOMMENDATIONS:

1. Address cross-jurisdictional issues when reviewing and commenting on local (or adjacent) community master plans and zoning ordinances.
2. Provide information and assistance to local communities to address current planning and zoning issues and foster improved communication.
3. Support or facilitate land use education programs for county and local officials.
4. Continue to fund and support the Crawford County Planning Commission to provide county level planning coordination and review services.
5. Improve public awareness and effectiveness of the Crawford County Planning Commission through the coordination, facilitation, and promotion of local educational opportunities and assistance for local communities.
6. Promote communication between local planning commissions and recognize outstanding local planning and zoning efforts.
7. Explore opportunities for some common zoning provisions (for adoption locally) across the county.

Economic & Business Goals

GOALS:

Improve the competitiveness of the county's economy while enhancing the employment opportunities for residents and the profitability of businesses and industries.

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

OBJECTIVES & RECOMMENDATIONS:

1. Work cooperatively with Kirtland Community College to promote the development of on campus infrastructure and educational services.
2. Promote economic development opportunities in Crawford County and coordinate efforts with existing organizations.
3. Continue to work with economic development organizations, local communities, and Regional Chambers of Commerce to promote the area for natural resource based recreational tourism, and as a prime location to live, work and play!
4. Promote Trail Town initiative county-wide to promote the area for the recreational trails: water, hiking, biking, skiing, snowmobiling and ORV.
5. Work with Chambers of Commerce and local businesses to develop and/or promote a shop local program.
6. Continue to pursue broad band and high speed internet services throughout the county.
7. Work with local businesses and organizations, with support from regional and state organizations to enhance the economic prosperity of Crawford County.
8. Encourage local communities to support existing commercial centers and direct new commercial development to locate in designated hubs and corridors.
9. Recommend local communities incorporate sound planning and zoning techniques to support local commercial business, such as clustering, shared parking, access management and landscaping standards.

Infrastructure & Public Service Goals

GOALS:

Maintain and improve the transportation systems, community facilities, and programs consistent with the community needs, and the ability to finance the improvements.

Work cooperatively with townships, the City of Grayling, and applicable agencies to implement strategies to improve the disaster preparedness of all communities within the county.

Improve access to medical and human services, as well a public safety services.

OBJECTIVES & RECOMMENDATIONS:

1. Continue to work with MDOT to explore opportunities for a reconstructed I-75 interchange to improve access to and from Grayling.
2. County Road Commission should continue to work closely with communities to implement road improvements consistent with the priority list and funding ability and utilize Asset Management System to enhance planning for maintenance and improvements of the local road network.
3. Continue to support the local emergency services through 911 emergency services.
4. Monitor and explore the needs for water, sewer, and natural gas services as more development occurs.
5. Pursue expansion of high-speed communications throughout the county.
6. Establish and maintain on-going communication with local communities regarding planned projects in order to facilitate joint projects, such as road improvements where wider shoulders could facilitate a cooperative and coordinated bicycle connector route.
7. Pursue the development of a comprehensive network of both non-motorized and motorized trails, including initially mapping & reviewing existing trails to promote opportunities to establish connections.

Residential Goal

GOAL:

Encourage a variety of suitable housing opportunities to meet the lifestyle needs of all, regardless of economic circumstances or age.

OBJECTIVES & RECOMMENDATIONS:

1. Encourage communities to designate areas appropriate for all types of residential housing including single family, multi-family, condominium, low to moderate-income rental complexes, and extended care facilities, especially near community facilities and shopping areas.
2. Continue to support and promote the Crawford County Housing Commission and Michigan State Housing Development Authority (MSHDA) programs to rehabilitate substandard housing and to provide needed moderately priced housing in the county.
3. Encourage all communities to preserve the integrity of existing residential areas by protecting them from intrusion of incompatible uses.

Recreational & Public Lands Goal

GOAL:

Preserve and improve access to public lands and water, recreation trails, public parks, and recreation facilities for the safe enjoyment by residents, visitors, and future generations.

ADDITIONAL COMPONENT GOALS:

1. Pursue improvements to recreational opportunities within Crawford County.
2. Ensure public recreational facilities and activities are open and accessible to all.
3. Work cooperatively with appropriate agencies and units of government to develop and maintain an extensive network of trails and the necessary support facilities for each, including but not limited to hiking, biking, horseback riding, cross-country skiing, snowmobiling, and ORV.
4. Work cooperatively with appropriate agencies and units of government to establish and maintain access sites for canoeing, kayaking, tubing, stand up paddle boarding, and Au Sable River boats for use and fishing access, and promote the local water trails.
5. Work cooperatively to promote recreational opportunities in the area and the related economic benefits for the region, including providing support for the Trail Town initiative.

(See Crawford County Recreation Plan for goals and action items)

Camp Grayling (Joint Land Use Study)

GOAL:

Promote civilian and military communication and collaboration to promote public health, safety, quality of life, and the economic viability of the region.

BACKGROUND:

A Joint Land Use Study (JLUS) for Camp Grayling and the surrounding communities was completed in 2017-2019. The study was funded by the United States Department of Defense with matching funds from the State of Michigan and administration was provided by the Northeast Michigan Council of Governments. Joint Land Use studies have been funded across the country to address compatible land use issues between the military and local communities. The study was completed through a cooperative effort between Camp Grayling, the Alpena CRTC, local units of government, local housing and environmental groups, and local, regional, and state agencies.

The purpose of the study was to promote civilian and military communication and collaboration and promote public health, safety, quality of life, and the economic viability of the region. The study analyzed detailed information on the communities, military operations, land use, and zoning. The following strategies were identified as recommendations to address the issue areas identified during the JLUS process.

STRATEGIES:

1. Participate in the Camp Grayling Community Council to work collaboratively with the camp, surrounding communities, and state, federal and local agencies toward the strategies identified in the JLUS, if appropriate (summarized below):

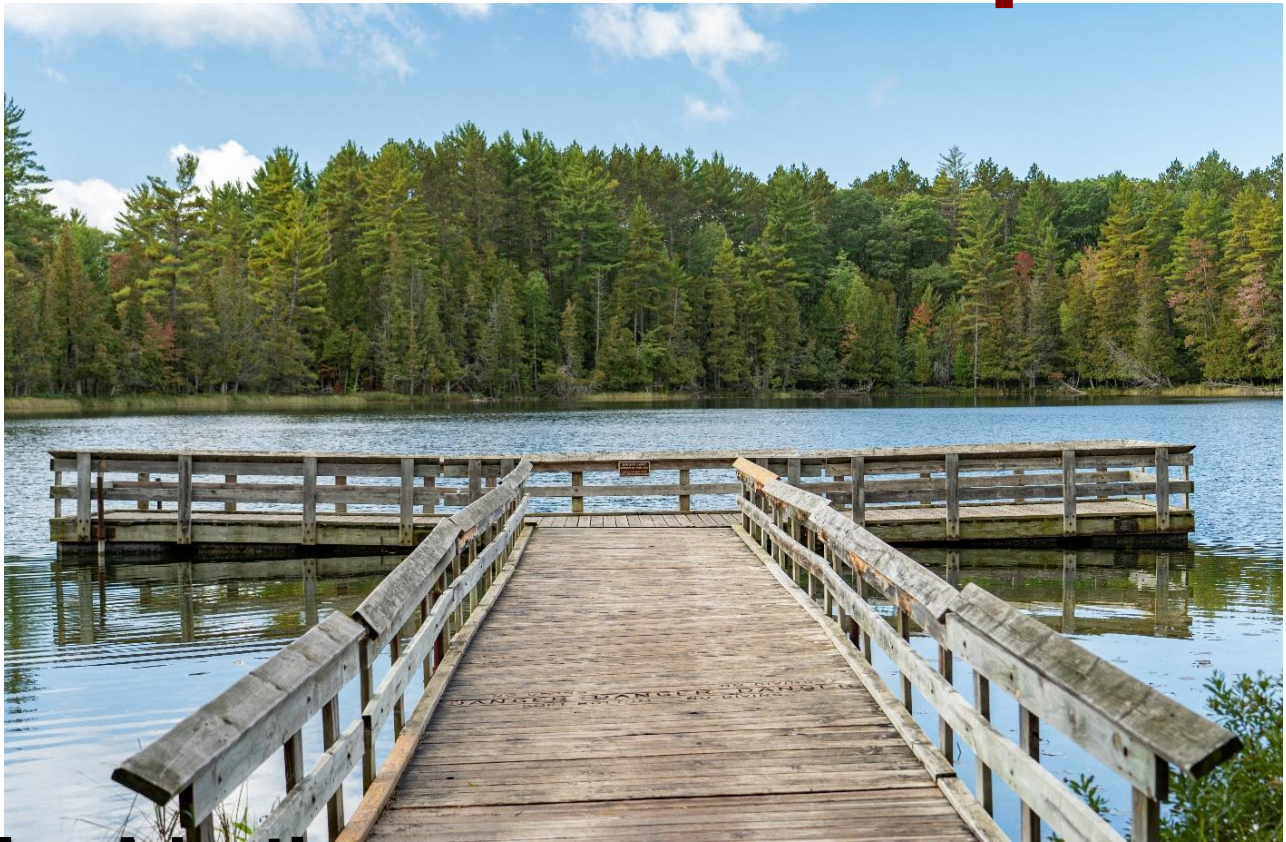
	Issue	Recommendations
Noise	Impact of aircraft noise on communities	<ol style="list-style-type: none"> 1. Conduct a noise study. 2. Educate the public on residential sound attenuation. 3. Establish no-fly zones over sensitive areas. 4. Conduct analysis of property ownership under restricted airspace and near the airfield. 5. Noise reduction for buildings within 65 ADNL noise area.
	Tree cutting reduces noise buffer	<ol style="list-style-type: none"> 1. Plant trees in areas where it is appropriate and allowed. 2. Assess and publicize timber harvest effects on noise attenuation.

		3. Enhance public awareness of forestry management plans, operations, and impacts.
Military Operations	Issue	Recommendations
	Flight paths over homes	<ol style="list-style-type: none"> 1. Create sensible military overlay zones around Camp Grayling JMTC. 2. Educate the public on existing established flight paths.
	Noise/vehicular disruption - MATES	<ol style="list-style-type: none"> 1. Educate the public on traffic routes and needs.
	Noise and vibration from night training	<ol style="list-style-type: none"> 1. Educate and inform the public about night training. 2. Identify specific locations where night training is particularly disruptive and identify alternatives. 3. Confine military arms testing and range use to areas adjacent to state-owned lands.
	Population growth may encroach on the mission	<ol style="list-style-type: none"> 1. Establish zoning regulations that prevent encroachment, particularly near potentially dangerous and noise-generating activities. 2. Purchase land around installations to control growth.
Environmental	Issue	Recommendations
	PFOS and PFOA contamination of groundwater	<ol style="list-style-type: none"> 1. Improve public outreach and access to information.
	Impacts on groundwater/drinking water	<ol style="list-style-type: none"> 1. Provide information to the public on groundwater contamination.
	Impacts and effects on surface water systems: lakes, rivers and streams, and wetlands	<ol style="list-style-type: none"> 1. Control runoff and support bioassessment surveys to monitor ecological and aquatic community health. 2. Support water quality and aquatic ecology communications.
	Effects on the health of wildlife populations	<ol style="list-style-type: none"> 1. Ongoing ecological assessment and community outreach and engagement.
	Wildfire management	<ol style="list-style-type: none"> 1. Increase public awareness of ongoing wildfire management efforts and gather public input.
	Resource use and sustainability	<ol style="list-style-type: none"> 1. Public outreach to increase awareness of sustainability measures at Camp Grayling JMTC. 2. Consider the creation of a recycling/sorting station.

	Issue	Recommendations
Transportation and Infrastructure	Effects of growth on utilities	1. Continue to monitor capacity and community growth.
	Improve internet access	1. Encourage the growth and use of high-speed internet services.
	Poor cellular reception	1. Grow cellular services.
	Traffic and road network	1. Streamline Camp Grayling traffic. 2. Improve traffic flow and safety throughout the Grayling area. 3. Improve the I-75/North Down River Road interchange. 4. Create a landmark and a symbolic entrance to Camp Grayling JMTC.
	Recreational access	1. Ensure appropriate recreational access and increase public outreach.
	Poor road condition	1. Improve road network. 2. Increase funding for road projects and maintenance.
Community Partnerships	Communications/education	1. Document a comprehensive standard operating procedure (SOP) for communications/community relations at Camp Grayling JMTC. 2. Use Blarney Broadcasting as a model for expanding media reach. 3. Develop a public education program on UXO. 4. Ensure web resources include access to Camp Grayling contact information and resources.
	Public relations/community involvement	1. Inform community partners on process to request Camp Grayling JMTC tours and participation in community events. 2. Expand Camp Grayling JMTC community relations staff. 3. Develop an interpretative visitors' center/history center at Camp Grayling JMTC. 4. Revise zoning ordinances for governmental entities within the APZ. 5. Collaborate on joint use conference/community center.

Economic Development	Issue	Recommendations
	Effect on property value mostly perceived as neutral or positive	<ol style="list-style-type: none"> 1. Develop communication materials that highlight the potential impacts from Camp Grayling JMTC for future home buyers.
	Significant contributor to local economy	<ol style="list-style-type: none"> 1. Conduct a fire protection services needs study. 2. Set local purchasing goal for Camp Grayling JMTC. 3. Expand public transportation from Camp Grayling JMTC to surrounding communities to support military tourism. 4. Expand commercial and/or general aviation uses of the Grayling AAF.
	Economic incentivizing and monitoring	<ol style="list-style-type: none"> 1. Implement economic tracking and reporting mechanisms to quantify annual military tourism impact. 2. Create economic incentives to generate military tourism.

Chapter 8



Plan Adoption

Chapter 8 – Plan Adoption

Public Notice

Pursuant to the Michigan Planning Enabling Act, (PA 33 of 2008, as amended), the Crawford County Planning Commission sent a written notice explaining that they intended to prepare a county master plan update. This notice requested the recipients' cooperation and comment on the plan. The notice was sent to the planning commissions (or if no planning commission to the legislative body) of each city, village or township located within or contiguous to Crawford County. It was also sent to all county planning commissions (or if no planning commission to the county board of commissioners) for each county located contiguous to Crawford county. It was sent to each public utility company, transportation agency, and railroad company operating within the county. The Crawford County Planning Commission approved the draft "Crawford County 2022 Master Plan Update" for distribution at their August 31, 2022 meeting. They forwarded the draft plan to the Crawford County Board of Commissioners. The Crawford County Board of Commissioners approved the draft plan for distribution at their September 8, 2022, meeting. Copies of the draft plan were mailed to the required recipients on September 27, 2022. A copy of the draft plan was also posted on the Crawford County web site. Comments were taken on the draft plan up until the date of the formal public hearing. A notice of the public hearing was printed in the Crawford County Avalanche newspaper on September 22, 2022. The formal public hearing took place on December 14, 2022.

Plan Adoption

After considering comments made by the public through the public comment period and those made at the public hearing, the Crawford County Planning Commission approved the "Crawford County 2022 Master Plan Update" at their December 14, 2022, meeting, and recommended the plan to the Board of Commissioners for adoption. The Crawford County Planning Commission then forwarded the final plan to the Crawford County Board of Commissioners.

Legal Transmittals

Once the final plan was approved by the Crawford County Board of Commissioners at their December 15, 2022 meeting, copies of the approved plan were mailed to all of the recipients as required by law.

Appendix

Notice of Intent to Update Master Plan



Northeast Michigan Council of Governments

80 Livingston Blvd Suite U-108 | PO Box 457 | Gaylord, MI 49734 | Voice: 989.705.3730 | Fax: 989.705.3729 | nemcog.org

Notice of Intent to Update Master Plan: Crawford County (Michigan)

August 16, 2021

Crawford County has begun working with the Northeast Michigan Council of Governments (NEMCOG) to update their Master Plans & Recreation. The project will result in a Master Plan & Recreation Plan for Crawford County including elements such as the public input survey.

As required by Public Act 33 of 2008, as amended, the Michigan Planning Enabling Act, notification is being sent to all geographically adjacent governmental entities, utilities, and transportation agencies to request cooperation and comment.

ADJACENT GOVERNMENTAL UNITS: Prior to and after adoption of the Master Plan, draft and final copies of the plan will be sent to all adjacent governmental units, as defined in the Michigan Planning Enabling Act, for review and comment. The plan will be transmitted via email unless the governmental unit requests a printed copy (please fill out and return the enclosed sheet to notify us of the preferred email address or to request a printed copy).

UTILITIES, RAILROADS & PUBLIC TRANSPORTATION AGENCIES: Utilities and public transportation agencies must request copies and may be charged for copies, and postage (please fill out and return the enclosed sheet to request a copy of the Master Plan update). Note: there will be no charge to utilities and public transportation agencies that choose to receive the plan via email.

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

Sincerely,

Regional
Cooperation
Since
1968

Eric Szymanski, Regional Planner
Northeast Michigan Council of Governments (NEMCOG)

Alcona * Alpena * Cheboygan * Crawford * Emmet * Montmorency * Oscoda * Otsego * Presque Isle

An
Equal Opportunity
Employer

Please complete and return to NEMCOG:

FOR GOVERNMENTAL UNITS ONLY:

_____ Please send a copy of the Crawford County Master Plan and correspondence pertaining to the preparation of the plan **electronically via email:**

Please provide preferred e-mail address: _____.

_____ We do not have the ability to review digital documents, so please send a **printed copy** of the Crawford County Master Plan and all correspondence pertaining to the preparation of the plan by first class mail.

FOR PUBLIC UTILITIES, RAILROADS AND TRANSPORTATION AGENCIES:

_____ Please send a copy of Crawford County Master Plan and correspondence pertaining to the preparation of the plan **electronically via email:**

Please provide preferred e-mail address: _____.

_____ Please send a **printed copy** of the Crawford County Master Plan; therefore, **according to the law, we agree to pay for postage and copies of the Master Plan.**

Please provide the following contact information:

Contact Name _____

Agency/Organization _____ Phone _____

Address _____

E-mail _____

Return to:
Eric Szymanski
80 Livingston Blvd (PO Box 457)
Suite U-108
Gaylord, MI 49735

or
eszymanski@nemcog.org

Regional
Cooperation
Since
1968

Alcona * Alpena * Cheboygan * Crawford * Emmet * Montmorency * Oscoda * Otsego * Presque Isle _____ An
Equal Opportunity
Employer

Crawford County Affidavit of Mailing Notice of Intent

AFFIDAVIT OF MAILING NOTICE OF INTENT TO UPDATE MASTER PLAN – CRAWFORD COUNTY

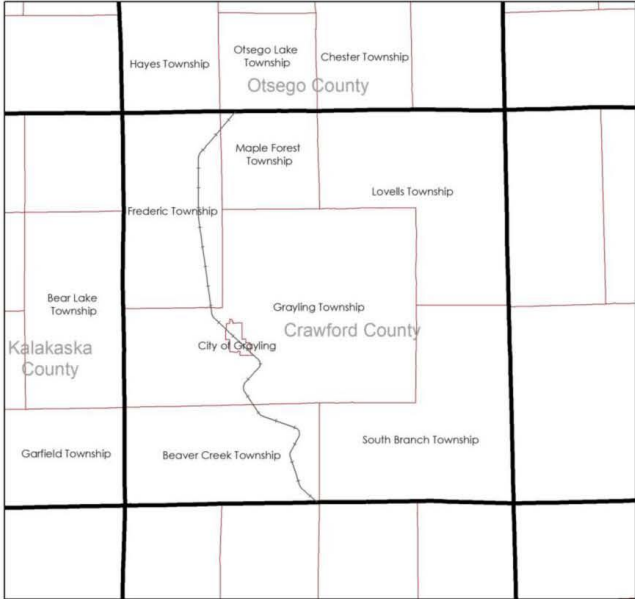
I, Eric Szymanski, certify that the communities and agencies on the attached list were notified of Crawford County's intent to update the Master Plan. The notification was sent on August 16, 2021, by first-class mail and in accordance with Public Act 33 of 2008, as amended.

1. **Otsego County Planning Commission**
1322 Hayes Rd, Gaylord, MI 49735
2. **Hayes Township Planning Commission**
7200 Hayes Tower Rd, Gaylord, MI 49735
3. **Otsego Lake Township Planning Commission**
P.O. Box 99 Waters, MI 49797
4. **Chester Township Planning Commission**
1737 Big Lake Rd, Gaylord, MI 49735
5. **Charlton Township Planning Commission**
P.O. Box 367, Johannesburg, MI 49751
6. **Kalkaska County Planning Commission**
890 Island Lake Rd, Kalkaska, MI 49646
7. **Blue Lake Township Planning Commission**
10599 Twin Lake Rd NE, Mancelona, MI, 49659
8. **Bear Lake Township Planning Commission**
198 E. Bear Lake Rd SE, Kalkaska, MI 49646
9. **Garfield Township Planning Commission**
0466 W. Sharon Rd SE, Fife Lake, MI 49633
10. **Roscommon County Planning Commission**
500 Lake St, Roscommon, MI 48653
11. **Lyon Township Planning Commission**
P.O. Box 48, Higgins Lake, MI 48627
12. **Gerrish Township Planning Commission**
2997 E. Higgins Lake Dr., Roscommon, MI 48653
13. **Village of Roscommon Planning Commission**
P.O. Box 236, Roscommon, MI, 48653
14. **Higgins Township Planning Commission**
P.O. Box 576 Roscommon, MI 48653

15. **Au Sable Township Planning Commission**
9181 N Keno Rd, St. Helen, MI 48656
16. **Oscoda County Planning Commission**
P.O. Box 399, Mio, MI 48647
17. **Greenwood Township Planning Commission**
4030 Williams Rd, Lewiston, MI 49756
18. **Big Creek Township Planning Commission**
1175 W. Ryno Rd, Luzerne, MI 48636
19. **Crawford County Planning Commission**
200 West Michigan Avenue, Grayling, Michigan 49738
20. **Fredric Township Planning Commission**
P.O. Box 78, Frederic, MI 49733
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28. **Crawford County Road Commission**
500 Huron Street Grayling, MI 49738
29. **Crawford County Transportation Authority**
P.O. Box 307 Grayling, Michigan 49738
30. **Lake State Railway**
750 N. Washington Ave
Saginaw, MI 48607
31. **DTE**
One Energy Plaza Detroit, MI 48226
32. **Great Lakes Energy**

P.O. Box 70 Boyne City, MI 49712-0070

33. Consumers Energy
One Energy Plaza Jackson, MI 49201-2276



Crawford County Master Plan Public Input Session Newspaper Notice

6B – CRAWFORD COUNTY AVALANCHE – Thursday, April 7, 2022

Legal Action

Public Notice

The Crawford County Planning Commission will hold a Public Input Session to gather public input for the Crawford County Master Plan. The following details the Meeting:

Location: Crawford County Emergency Operations Building, 200 W Michigan Ave, Grayling, Mi, 49738

Next to the Courthouse

Date: April 18, 2022

Time: 1pm

This notice is posted in compliance with the Open Meetings Act, Public Act 267 of 1976, as amended, MCL 41.72(2) and (4), and the Americans with Disabilities Act.

Crawford County Newspaper Publication for 63-Day Review Period & Public Hearing

Legal Action

CRAWFORD COUNTY BOARD OF COMMISSIONERS BUDGET HEARING NOTICE

THE CRAWFORD COUNTY BOARD OF COMMISSIONERS WILL HOLD A BUDGET HEARING AT THE CRAWFORD COUNTY COURTHOUSE, 200 W.MICHIGAN AVE., GRAYLING, MICHIGAN ON THURSDAY, SEPTEMBER 22, 2022 AT 10:00 A.M. THE PROPERTY TAX MILLAGE RATE PROPOSED TO BE LEVIED TO SUPPORT THE PROPOSED BUDGET WILL BE A SUBJECT OF THIS HEARING. A COPY OF THE PROPOSED 2022-2023 BUDGET IS AVAILABLE FOR PUBLIC INSPECTION BEGINNING MONDAY, SEPTEMBER 12, 2022 AT THE COUNTY CLERK'S OFFICE DURING NORMAL BUSINESS HOURS (8:30 A.M. TO 4:30 P.M.).

SANDRA MOORE, COUNTY CLERK
SEPTEMBER 13, 2022

(9/22)

Crawford County Master Plan Public Hearing

On September 8, 2022 the Crawford County Commissioners approved the Crawford County Master 2022 Master Plan for 63-day review period. The Crawford County Planning Commission will hold a Public Hearing to adopt the proposed Master Plan on Wednesday, December 14, 2022 at 1pm at the Crawford County EOD Building at 200 West Michigan Ave, Grayling, MI, 49738.

The draft Master Plan is available for review at the Northeast Michigan Council of Governments website:

http://www.districtnortheastmichigan.org/downloads/crawford_county_master_plan_final_8_19_22_1.pdf

Written comments may be submitted to:

Eric Szymanski – eszymanski@nemcog.org or mailed to 200 West Michigan Ave, Grayling, MI, 49738.

(9/22)

Public Notice

City of Grayling Zoning Amendment Notice of Adoption

Ordinance #2 of 2022 amending the Zoning Map was adopted by the Grayling City Council on September 12, 2022. The amendment shall take effect on the 8th day after this publication. The full text of the amendments is available at the Grayling City Offices, 1020 City Blvd, online at <https://www.cityofgrayling.org> or by contacting Erich Podjaske at 989-348-2131. A summary of the amendment is as follows: Amend the zoning map to change parcel #'s 070-008-010-006-01 & 070-008-010-004-00 on Knight Street from the R-1A District to the R-2 District (split into three 60' X 120' lots).

(9/22)

Public Notice

City of Grayling Zoning Amendment Notice of Adoption

Ordinance #3 of 2022 amending the Zoning Map was adopted by the Grayling City Council on September 12, 2022. The amendment shall take effect on the 8th day after this publication. The full text of the amendments is available at the Grayling City Offices, 1020 City Blvd, online at <https://www.cityofgrayling.org> or by contacting Erich Podjaske at 989-348-2131. A summary of the amendment is as follows: Section 4.12.2 (Central Business District - Uses Permitted by Right and Special Uses) and Section 4.15 (Table of Permitted and Special Land Uses) – add "Dry Cleaning & Laundry Services (cleaning equipment is used to service only the premises at which it is located) – only in the 300 block in the CBD" as a permitted use in the Central Business District.

(9/22)

PUBLIC NOTICE

**Deadline for submission of Legal,
Public & Bid Notices is
5 p.m. the Friday prior to publication.**

**Please submit all notices via email to
legals@crawfordcountyavalanche.com**

Transmittal Letter Draft Plan



Northeast Michigan Council of Governments

80 Livingston Blvd Suite U-108 | PO Box 457 | Gaylord, MI 49734 | Voice: 989.705.3730 | Fax: 989.705.3729 | nemcog.org

September 27, 2022

Re: Crawford County Draft Master Plan

Crawford County is submitting copies of its draft master plan for your review and comment. The County participated in a coordinated public input process to complete its plan. The draft is being submitted to you pursuant to Section 41 of Public Act 33 of 2008, as amended. Your municipality/agency has a maximum of 63 days from the receipt of these draft plans to submit comments. Please forward this to your Planning Commission (for municipalities) or the person responsible for reviewing it, if applicable. The plan can be downloaded at the following address:

www.discovernortheastmichigan.org/downloads/crawford_county_master_plan_final_8_19_22_1.pdf

Please submit comments to:
 Eric Szymanski, Northeast Michigan Council of Governments
 PO Box 457, Gaylord Mi, 49734
 Or via e-mail at eszymanski@nemcog.org

The draft master plan was submitted to the following:

- | | |
|--|---|
| 1. Otsego County Planning Commission | 17. Greenwood Township Planning Commission |
| 2. Hayes Township Planning Commission | 18. Big Creek Township Planning Commission |
| 3. Otsego Lake Township Planning Commission | 19. Crawford County Planning Commission |
| 4. Chester Township Planning Commission | 20. Fredric Township Planning Commission |
| 5. Chariton Township Planning Commission | 21. Maple Forest Township Planning Commission |
| 6. Kalkaska County Planning Commission | 22. Lovells Township Planning Commission |
| 7. Blue Lake Township Planning Commission | 23. Grayling Township Planning Commission |
| 8. Bear Lake Township Planning Commission | 24. City of Grayling Planning Commission |
| 9. Garfield Township Planning Commission | 25. Beaver Creek Township Planning Commission |
| 10. Roscommon County Planning Commission | 26. South Branch Township Planning Commission |
| 11. Lyon Township Planning Commission | 27. Michigan Department of Transportation – North Region Office |
| 12. Gerrish Township Planning Commission | 28. Crawford County Road Commission |
| 13. Village of Roscommon Planning Commission | 29. Crawford County Transportation Authority |
| 14. Higgins Township Planning Commission | 30. Lake State Railway |
| 15. Au Sable Township Planning Commission | |
| 16. Oscoda County Planning Commission | |

Thank you for your cooperation, and we look forward to your comments. If you have any questions, please don't hesitate to contact me at the e-mail address above.

Sincerely,

Regional
 Cooperation
 Since
 1968

Eric Szymanski
 Regional Planner
 Northeast Michigan Council of Governments (NEMCOG)

Alcona * Alpena * Cheboygan * Crawford * Emmet * Montmorency * Oscoda * Otsego * Presque Isle

An
 Equal Opportunity
 Employer

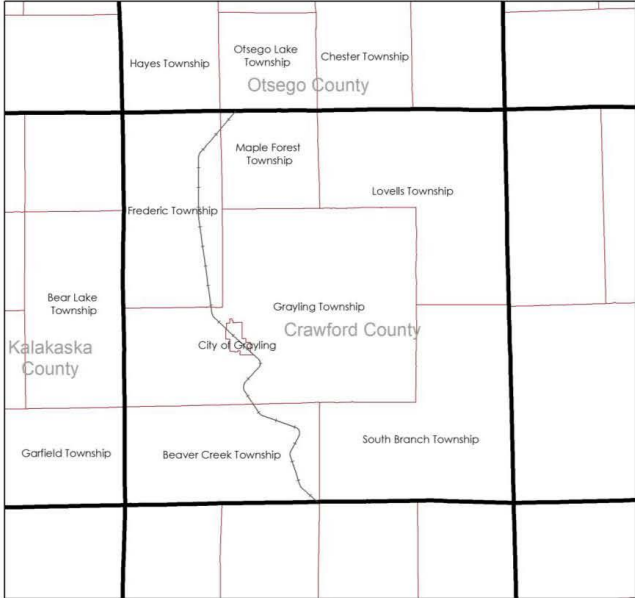
**AFFIDAVIT OF MAILING
NOTICE OF DRAFT MASTER PLAN – CRAWFORD COUNTY**

I, Eric Szymanski, certify that the communities and agencies on the attached list were notified of Crawford County's Draft Master Plan. The notification was sent on September 27, 2022, by first-class mail and in accordance with Public Act 33 of 2008, as amended.

1. **Otsego County Planning Commission**
1322 Hayes Rd, Gaylord, MI 49735
2. **Hayes Township Planning Commission**
7200 Hayes Tower Rd, Gaylord, MI 49735
3. **Otsego Lake Township Planning Commission**
P.O. Box 99 Waters, MI 49797
4. **Chester Township Planning Commission**
1737 Big Lake Rd, Gaylord, MI 49735
5. **Charlton Township Planning Commission**
P.O. Box 367, Johannesburg, MI 49751
6. **Kalkaska County Planning Commission**
890 Island Lake Rd, Kalkaska, MI 49646
7. **Blue Lake Township Planning Commission**
10599 Twin Lake Rd NE, Mancelona, MI, 49659
8. **Bear Lake Township Planning Commission**
198 E. Bear Lake Rd SE, Kalkaska, MI 49646
9. **Garfield Township Planning Commission**
0466 W. Sharon Rd SE, Fife Lake, MI 49633
10. **Roscommon County Planning Commission**
500 Lake St, Roscommon, MI 48653
11. **Lyon Township Planning Commission**
P.O. Box 48, Higgins Lake, MI 48627
12. **Gerrish Township Planning Commission**
2997 E. Higgins Lake Dr., Roscommon, MI 48653
13. **Village of Roscommon Planning Commission**
P.O. Box 236, Roscommon, MI, 48653
14. **Higgins Township Planning Commission**
P.O. Box 576 Roscommon, MI 48653
15. **Au Sable Township Planning Commission**

9181 N Keno Rd, St. Helen, MI 48656

16. **Oscoda County Planning Commission**
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17. **Greenwood Township Planning Commission**
4030 Williams Rd, Lewiston, MI 49756
18. **Big Creek Township Planning Commission**
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19. **Crawford County Planning Commission**
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500 Huron Street Grayling, MI 49738
29. **Crawford County Transportation Authority**
P.O. Box 307 Grayling, Michigan 49738
30. **Lake State Railway**
750 N. Washington Ave
Saginaw, MI 48607



Resolution of Adoption Crawford County Planning Commission

Crawford County Planning Commission 2022 Master Plan Resolution

WHEREAS, Crawford County Planning Commission, established a Planning Commission under State of Michigan Public Act 33 of 2008, as amended, and;

WHEREAS, Crawford County 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 withing the County;

WHEREAS, Crawford County Planning Commission in accordance with Section 39(2) of Act 33, distributed the final draft to adjacent communities and transit agencies for review and comments and;

WHEREAS, the master plan was presented to the public at a public hearing held on December 14, 2022, before the Planning Commission with notice of the hearing being published in the Crawford County Avalanche on September 22, 2022, in accordance with Section 43 (1) of Public Act 33;

NOW THEREFORE IT BE RESOLVED THAT,

The content of this document, together with all maps attached to and contained herein are hereby adopted by the Crawford County Planning Commission as the Crawford County Mater Plan 2022 on this day of the 14th day of December, 2022.

Motion: Rick Wright

Second Gayle Desprez

Ayes: 8

Nays: 0

Absent: 2

Certification

I hereby certify that the above is a true and correct copy of the resolution adopted at the December 14, 2022, meeting of the Crawford County Planning Commission.

Crawford County Planning Commission Chair
Clerk

Signature: Chris Edward Jones

Crawford County Planning Commission

Signature:

Crawford County Board of Commissioners Resolution to Adopt

RESOLUTION ADOPTING THE 2022 CRAWFORD COUNTY MASTER PLAN 12152022 - MP

WHEREAS, the Crawford County Planning Commission adopted the Crawford County Master Plan at its meeting on December 14, 2022, and recommended the plan to the County Board of Commissioners for adoption as well; and

WHEREAS, the Crawford County Planning Commission has noticed and conducted a public hearing in accordance with the requirements of the Michigan Planning Enabling Act (PA 33 2008, as amended);

NOW, THEREFORE, BE IT RESOLVED, that the Crawford County Board of Commissioners hereby approves the Crawford County Master Plan and all associated charts and maps on December 15, 2022.


APPROVED AS TO FORM

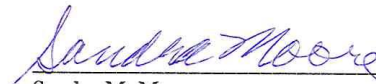
Commissioner Jamison	Yes	Commissioner McClain	Yes
Commissioner Gray	Yes	Commissioner Powers	Yes
Commissioner Pinkelman	Yes	Commissioner Jansen	Yes
	Commissioner Lewis	Absent	

ADOPTED DATE: December 15, 2022

I, Sandra Moore, Clerk of the Crawford County Board of Commissioners and Clerk of the County of Crawford, do hereby certify that the above Resolution was duly adopted by the said Board on December 15, 2022.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seal of said County and Court at Grayling, Michigan, on this 15th day of December, 2022.


 Shelly Pinkelman, Chair
 Crawford County Board of Commissioners


 Sandra M. Moore
 Clerk/ROD

Notice of Mailing Final Plan

AFFIDAVIT OF MAILING FINAL ADOPTED PLAN – CRAWFORD COUNTY

I, Eric Szymanski, certify that the communities and agencies on the attached list were notified of Crawford County's final adopted Master Plan. The notification was sent on January 26, 2022, by first-class mail and in accordance with Public Act 33 of 2008, as amended.

1. **Otsego County Planning Commission**
1322 Hayes Rd, Gaylord, MI 49735
2. **Hayes Township Planning Commission**
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3. **Otsego Lake Township Planning Commission**
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4. **Chester Township Planning Commission**
1737 Big Lake Rd, Gaylord, MI 49735
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One Energy Plaza Detroit, MI 48226
- 32. Great Lakes Energy**
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33. Consumers Energy
One Energy Plaza Jackson, MI 49201-2276

