



City Hall  
208 North First Avenue  
Alpena, Michigan 49707  
[www.alpena.mi.us](http://www.alpena.mi.us)

## AGENDA

### City of Alpena Recreation Board/Planning Commission Joint Meeting

Tuesday, November 10 @ 6:00 p.m.

6:00 p.m.

Council Chambers/Virtual

CALL TO ORDER:

ADDITIONS TO AGENDA:

APPROVAL OF AGENDA:

APPROVAL OF MINUTES: JULY 15, 2020

COMMUNICATIONS:

CITIZENS APPEARING BEFORE THE BOARD:

NEW BUSINESS:

1. Introduction of Andrea Kares, Director of Planning & Development
2. Approval of 2021 Meeting Dates
3. Review Recreation Plan – Chapter 1 Community Description Draft

STAFF & PROJECT UPDATES:

MEMBERS' COMMENTS:

ADJOURNMENT:



## MINUTES

City of Alpena Recreation Advisory Board  
Regular Meeting  
July 15, 2020  
Alpena, Michigan

### CALL TO ORDER:

The regular meeting of the Recreation Advisory Board was called to order at 5:00 p.m. by Dave Kuznicki, Recreation Advisory Board Chair.

### ROLL CALL: RECREATION ADVISORY BOARD

Present: Kuznicki, Heath, Dowd, Cupples

Absent: None

Staff: Rich Sullenger (City Engineer), Cassie Stone (Recording Secretary)

ADDITIONS TO AGENDA: None

### APPROVAL OF AGENDA:

Motion made by Dowd, seconded by Heath to approve the agenda as printed.

COMMUNICATIONS: None

CITIZENS APPEARING BEFORE THE BOARD: None

### BUSINESS:

1. Review Mich-e-ke-wis Plan for approval.

Sullenger states that we previously have had several public meetings on the potential improvements to Mich-e-ke-wis Park. Back in 2005 there was a master plan for the entire shoreline running from Bayview Park out through Mich-e-ke-wis. Many improvements at Starlite Beach have since been completed. The city wants to continue the process of improvements to Mich-e-ke-wis area. Since it's been so many years since then an update was needed to the plan. The RV Park was originally in that plan but after much discussion has to be removed. NEMCOG had gathered input from the public and put together a draft for recommendation of approval from the Rec Board Members. The Alpena Art Sculpture should be going up any time now. Sullenger added that there could be some changes coming for the Performance Locker. With the Covid, it has been closed and not sure when it will reopen. The Farmers Market may also move closer to the building. A lot of things are still in limbo and when all is said and done some things might not be exactly as described in the plan going forward once construction starts happening. Examples of such are the volleyball courts because of the current water table situation will not be able to be as close to the water as first anticipated and also talk of elevating the break wall to help as a wind barrier to slow rising water and sand from coming over. Before proceeding, discussions with appropriate groups will happen to assure that the need for the improvement will work for the community. Kuznicki questioned the probability of the Padd's owning access to the water in which Sullenger stated that all research has been done to make

sure that there is no guaranteed access or rights to the property to only them adding that it is all open access to the public.

***Motion made by Dowd*** to accept the Mich-e-ke-wis plan for approval as presented, ***seconded by Heath***.

Ayes: Cupples, Heath, Dowd, Kuznicki

Nays: None

Absent: None

Motion passed: 4-0

## 2. Board Members

***Motion made by Dowd, seconded by Heath***, to allow Kuznicki as Chair of the board.

Sullenger stated that this is a seven member board and there are only four members right now so everyone needs to attend to have a quorum and asked if members are aware of any potential people to add to board.

***Motion made by Heath, seconded by Dowd***, to elect Cupples as the Vice-Chair of the board.

## STAFF & PROJECT UPDATES:

Sullenger stated that there have been many complaints on the poor conditions at Starlite Beach with all the sand over the break wall. DPW dedicated a lot of time to get that area as well as Bayview Park cleaned up before the holiday and then we got the big storm and it looked like we didn't do anything. With the water table as high as it is, the City has had to close the end of Prentiss Street by the Yacht Club to prevent the road from washing out from traffic driving on it.

## MEMBER'S COMMENTS:

None

## ADJOURNMENT:

***Motion made by Heath, seconded by Dowd*** to adjourn the meeting.

There being no further business, the meeting was adjourned at 5:30 p.m. by Chair Kuznicki.



City Hall  
208 North First Avenue  
Alpena, Michigan 49707  
[www.alpena.mi.us](http://www.alpena.mi.us)

---

## **2021 City Of Alpena Recreation Advisory Board Meeting Schedule**

**Location:** All meetings will be the second Wednesday of the following months in the City Council Chambers, Alpena City Hall at 5:00 p.m., unless otherwise noted.

### **Meeting Dates:**

February 10, 2021

May 12, 2021

August 11, 2021

November 10, 2021



## CITY OF ALPENA RECREATION PLAN

### CHAPTER 1: COMMUNITY DESCRIPTION

#### *Extent of Plan Focus*

This Recreation Plan addresses recreational facilities and plans within the boundaries of the City of Alpena. The plan will evaluate the surrounding recreational opportunities as well as the socio-economic status of the City and the surrounding area to determine recreational needs of the population and to plan for improvements which fit those needs.

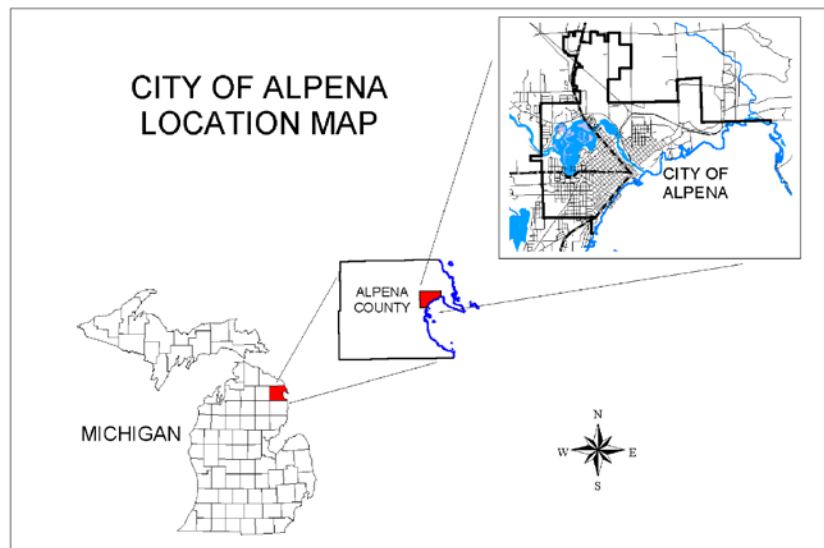
#### *Location*

The City of Alpena is situated along the shore of Lake Huron (Thunder Bay) in Alpena County in Northeastern Lower Michigan. With a population of 10,483 residents (2010 Census), it is the largest city in Northeast Michigan, as well as the only incorporated place within the County. The nearest city of larger population is Bay City, 129 miles to the south. Alpena City is surrounded on three sides by Alpena Township with Thunder Bay situated to the east. Alpena Township, with a population of 9,060 (2010 Census), has a concentration of commercial and residential areas. The City, the Township of Alpena, seven other townships, the unincorporated village of Ossineke, as well as several other unincorporated places combine to make up the County of Alpena with a total population of 29,598.

#### *Background*

The City of Alpena, located in Alpena County in northeastern Lower Michigan has the unique characteristic of having both a lake and a river within the city limits. The Thunder Bay River divides the city which flows through Besser Lake, located in the northwest section of the City (See **Map 1**). The river was influential in the development of the community and continues to be a primary force in the social, economic, and recreational life of the area.

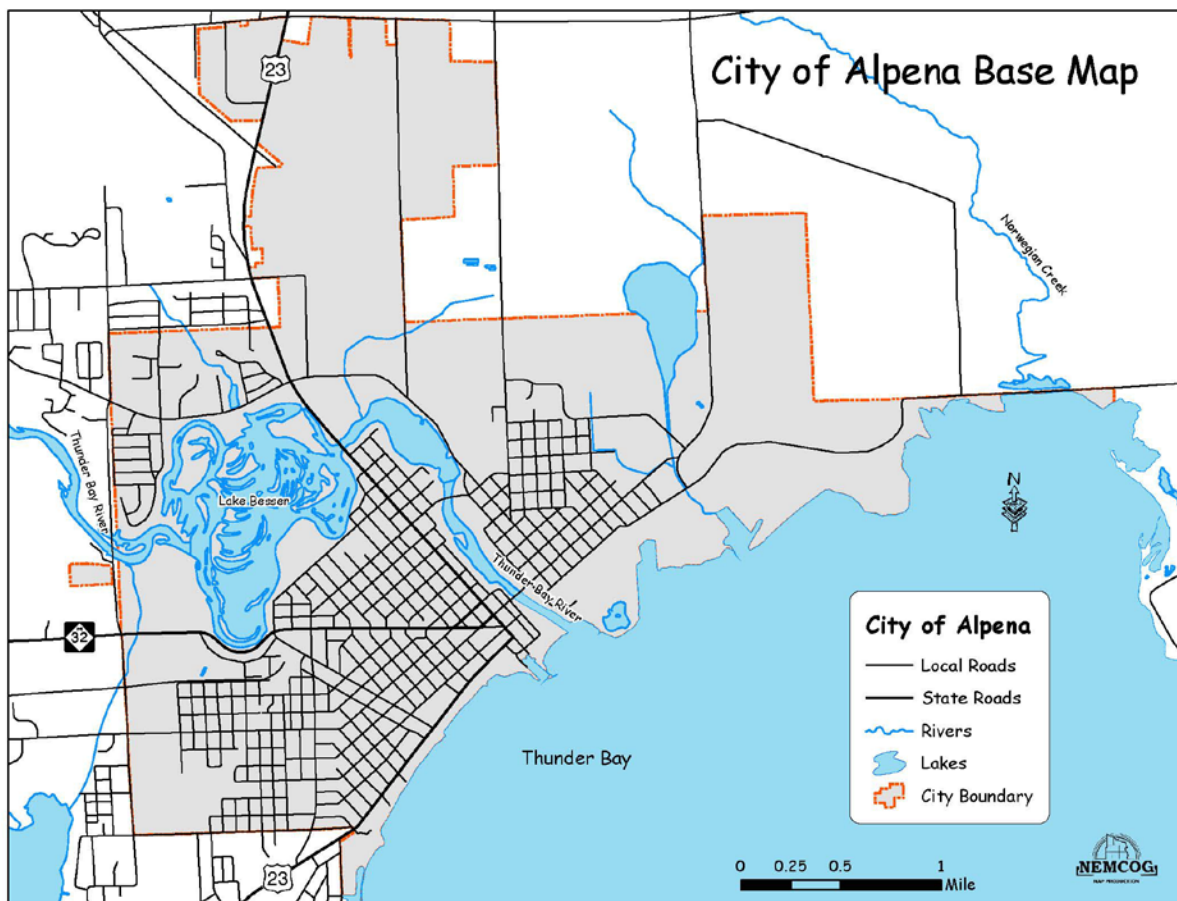
**Map 1**



The City of Alpena is considered a popular destination for visitors of all types. The City's position in northeastern Lower Michigan affords its citizens easy access to four seasons of recreation. The

area offers hunting, camping, hiking, snowmobiling, cross-country skiing, snow shoeing, and golfing for the outdoor enthusiast. Several day-parks offer a pleasant place to relax over a picnic lunch or to take a quick break in the middle of a hectic day. Abundant perch, northern pike, bass, and other pan fish lure avid fisherman to the Thunder Bay River and its many tributaries. Indoor recreational opportunities include bingo, ice skating, roller skating, swimming, movies, and bowling. Stores and businesses located in the City's downtown area offer a wide variety of goods and services, and the major buying opportunities draw shoppers from all over the northeastern Michigan region.

**Map 2**



## *Population*

According to the U.S. Census Bureau, the population for Alpena in 2010 was 10,483 persons. In reviewing the 2010 Census data, the figures presented for housing characteristics show 5,278 total units and 70 units as seasonal, recreational, or occasional use homes. Based on the average household size in Alpena of 2.13, the expected seasonal increase would be approximately 149 persons. However, there are many more seasonal homes within a 30-mile radius of Alpena - many of whom use recreational facilities in the city. In addition, many seasonal or recreational visitors stay at private lodging places or at the homes of family or friends.

## *Land Use Patterns*

In December 1985, a land use inventory of the County was prepared by the Michigan Department of Natural Resources, Division of Land Resource Programs. This data was updated in 2018 using aerial imagery and revealed a total area of 5,741 acres made up the City of Alpena. The land area of Alpena is made up of 5,247 acres, while 494 acres is water. The overall land use pattern for the City of Alpena is closely related to major transportation links and the Thunder Bay River. US-23 forms the City's central spine, carrying traffic north and south through the city. M-32 allows access to the City from the west and intersects US-23 just south of the Thunder Bay River. The Thunder Bay River meanders through the Wildlife Sanctuary in the northwest section of the City, then flows southeast through the City to discharge into Lake Huron. Descriptions of Land Use types found in the City of Alpena are listed below:

### *Urban Land*

Urban and Built-up land comprises 3,660 acres of City land. This category consists of areas of intensive use with much of the land covered by structures. Included in this category are strip developments along highways, transportation, power and communication facilities, and areas occupied by shopping centers, industrial and commercial complexes, institutions, and residential areas. When the land use inventory was updated in 2018, approximately one-quarter of the City's land was used for single and multi-family residential housing.

### *Wetlands*

Wetlands comprise 228 acres within the City. This category consists of areas between terrestrial and aquatic systems where the water table is at, near, or above the land surface for a significant portion of most years. Examples of wetlands include marshes, mud flats, wooded swamps and floating vegetation situated on the shallow margins of bays, lakes, rivers, ponds, streams, and reservoirs. The Thunder Bay River Area, especially Island Park, comprises much of this wetland area. Aerial photography used in the Michigan Resource Information System (MIRIS) mapping reveals wetlands and lowlands in a generalized sense. To determine whether potential construction sites are located within such an area, an EGLE inspection is necessary.

## *Open Land*

Open land makes up 342 acres of the City. This category consists of land and structures used for outdoor cultural, public assembly, and recreational purposes. Examples would be fairgrounds, golf courses, athletic fields, and parks. This category may include incidental buildings such as shelters, toilets, beach change areas and similar supporting structures on these lands. Also included in this category are cemeteries, as well as the chapels, mausoleums, and maintenance building associated with the cemeteries.

## *Forest Land*

Approximately 16 percent (922 acres) of City land is considered forest land. This category is comprised of areas that are at least ten percent stocked by forest trees of any size, or formerly have had such tree cover and are not currently developed for non-forest use.

## *Barren Land*

In the City, 3.8 acres are considered barren land. This land has limited ability to support life and has little or no vegetation. Beaches and riverbanks are included in this category.

## *Water*

Nearly ten percent of City acreage is comprised of water. This category includes rivers, streams, creeks, and other linear bodies of water, as well as lakes.

## *Topography*

The City of Alpena is situated on the northwest shore of Thunder Bay, eight miles from the open waters of Lake Huron. Lake Huron and Thunder Bay lie at an elevation of 580 feet above sea level. Generally, the land slopes up westward from the lake shore to 689 feet at the airport. Farther to the west and southwest the land becomes higher and more rolling. A range of hills with tops 1,000 to 1,350 feet is found northwest to southeast of the City.

## *Climate*

The climate is greatly influence by its topography and its proximity to Lake Huron. Temperature data from the Midwest Regional Climate Center indicates the climate along the immediate Lake Huron shore is semimarine in nature and lacks many of the temperature extremes found only a few miles inland.

Summer months are pleasant with considerable sunshine and a daily average of more than 15 hours of daylight for outdoor activities. Summer temperatures as high as 104 degrees have been recorded but are unusual. The following weather data reflects 30-year average (1981-2010) data



## CITY OF ALPENA RECREATION PLAN

### CHAPTER 1: COMMUNITY DESCRIPTION

#### *Extent of Plan Focus*

This Recreation Plan addresses recreational facilities and plans within the boundaries of the City of Alpena. The plan will evaluate the surrounding recreational opportunities as well as the socio-economic status of the City and the surrounding area to determine recreational needs of the population and to plan for improvements which fit those needs.

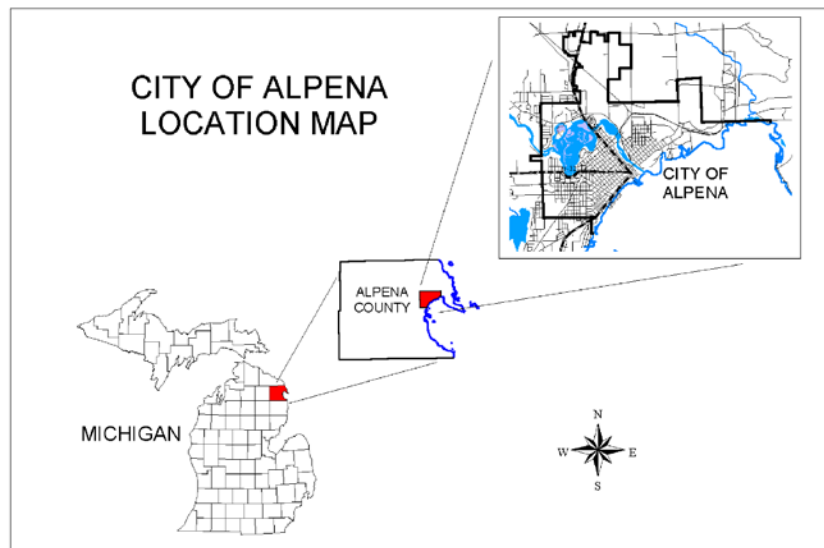
#### *Location*

The City of Alpena is situated along the shore of Lake Huron (Thunder Bay) in Alpena County in Northeastern Lower Michigan. With a population of 10,483 residents (2010 Census), it is the largest city in Northeast Michigan, as well as the only incorporated place within the County. The nearest city of larger population is Bay City, 129 miles to the south. Alpena City is surrounded on three sides by Alpena Township with Thunder Bay situated to the east. Alpena Township, with a population of 9,060 (2010 Census), has a concentration of commercial and residential areas. The City, the Township of Alpena, seven other townships, the unincorporated village of Ossineke, as well as several other unincorporated places combine to make up the County of Alpena with a total population of 29,598.

#### *Background*

The City of Alpena, located in Alpena County in northeastern Lower Michigan has the unique characteristic of having both a lake and a river within the city limits. The Thunder Bay River divides the city which flows through Besser Lake, located in the northwest section of the City (See **Map 1**). The river was influential in the development of the community and continues to be a primary force in the social, economic, and recreational life of the area.

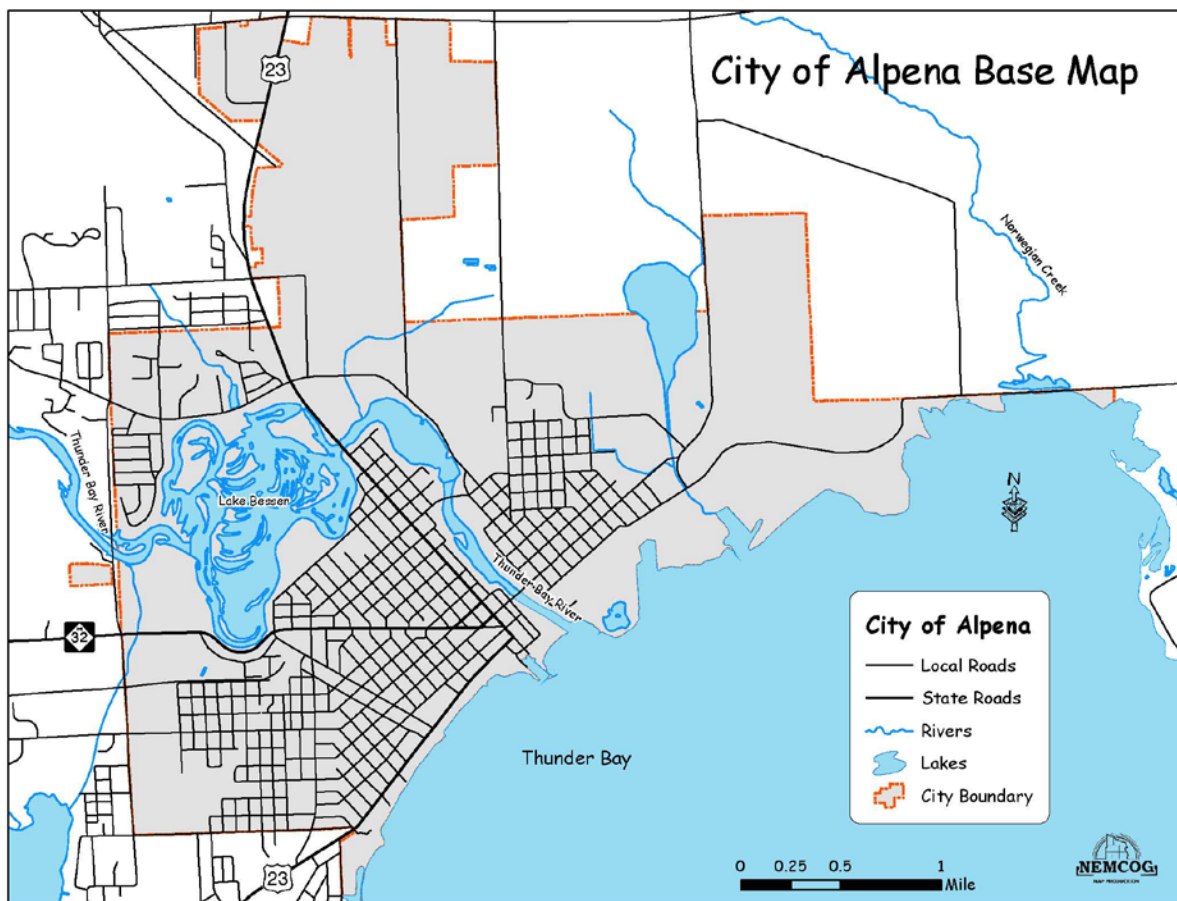
**Map 1**



The City of Alpena is considered a popular destination for visitors of all types. The City's position in northeastern Lower Michigan affords its citizens easy access to four seasons of recreation. The

area offers hunting, camping, hiking, snowmobiling, cross-country skiing, snow shoeing, and golfing for the outdoor enthusiast. Several day-parks offer a pleasant place to relax over a picnic lunch or to take a quick break in the middle of a hectic day. Abundant perch, northern pike, bass, and other pan fish lure avid fisherman to the Thunder Bay River and its many tributaries. Indoor recreational opportunities include bingo, ice skating, roller skating, swimming, movies, and bowling. Stores and businesses located in the City's downtown area offer a wide variety of goods and services, and the major buying opportunities draw shoppers from all over the northeastern Michigan region.

**Map 2**



## *Population*

According to the U.S. Census Bureau, the population for Alpena in 2010 was 10,483 persons. In reviewing the 2010 Census data, the figures presented for housing characteristics show 5,278 total units and 70 units as seasonal, recreational, or occasional use homes. Based on the average household size in Alpena of 2.13, the expected seasonal increase would be approximately 149 persons. However, there are many more seasonal homes within a 30-mile radius of Alpena - many of whom use recreational facilities in the city. In addition, many seasonal or recreational visitors stay at private lodging places or at the homes of family or friends.

## *Land Use Patterns*

In December 1985, a land use inventory of the County was prepared by the Michigan Department of Natural Resources, Division of Land Resource Programs. This data was updated in 2018 using aerial imagery and revealed a total area of 5,741 acres made up the City of Alpena. The land area of Alpena is made up of 5,247 acres, while 494 acres is water. The overall land use pattern for the City of Alpena is closely related to major transportation links and the Thunder Bay River. US-23 forms the City's central spine, carrying traffic north and south through the city. M-32 allows access to the City from the west and intersects US-23 just south of the Thunder Bay River. The Thunder Bay River meanders through the Wildlife Sanctuary in the northwest section of the City, then flows southeast through the City to discharge into Lake Huron. Descriptions of Land Use types found in the City of Alpena are listed below:

### *Urban Land*

Urban and Built-up land comprises 3,660 acres of City land. This category consists of areas of intensive use with much of the land covered by structures. Included in this category are strip developments along highways, transportation, power and communication facilities, and areas occupied by shopping centers, industrial and commercial complexes, institutions, and residential areas. When the land use inventory was updated in 2018, approximately one-quarter of the City's land was used for single and multi-family residential housing.

### *Wetlands*

Wetlands comprise 228 acres within the City. This category consists of areas between terrestrial and aquatic systems where the water table is at, near, or above the land surface for a significant portion of most years. Examples of wetlands include marshes, mud flats, wooded swamps and floating vegetation situated on the shallow margins of bays, lakes, rivers, ponds, streams, and reservoirs. The Thunder Bay River Area, especially Island Park, comprises much of this wetland area. Aerial photography used in the Michigan Resource Information System (MIRIS) mapping reveals wetlands and lowlands in a generalized sense. To determine whether potential construction sites are located within such an area, an EGLE inspection is necessary.

## *Open Land*

Open land makes up 342 acres of the City. This category consists of land and structures used for outdoor cultural, public assembly, and recreational purposes. Examples would be fairgrounds, golf courses, athletic fields, and parks. This category may include incidental buildings such as shelters, toilets, beach change areas and similar supporting structures on these lands. Also included in this category are cemeteries, as well as the chapels, mausoleums, and maintenance building associated with the cemeteries.

## *Forest Land*

Approximately 16 percent (922 acres) of City land is considered forest land. This category is comprised of areas that are at least ten percent stocked by forest trees of any size, or formerly have had such tree cover and are not currently developed for non-forest use.

## *Barren Land*

In the City, 3.8 acres are considered barren land. This land has limited ability to support life and has little or no vegetation. Beaches and riverbanks are included in this category.

## *Water*

Nearly ten percent of City acreage is comprised of water. This category includes rivers, streams, creeks, and other linear bodies of water, as well as lakes.

## *Topography*

The City of Alpena is situated on the northwest shore of Thunder Bay, eight miles from the open waters of Lake Huron. Lake Huron and Thunder Bay lie at an elevation of 580 feet above sea level. Generally, the land slopes up westward from the lake shore to 689 feet at the airport. Farther to the west and southwest the land becomes higher and more rolling. A range of hills with tops 1,000 to 1,350 feet is found northwest to southeast of the City.

## *Climate*

The climate is greatly influence by its topography and its proximity to Lake Huron. Temperature data from the Midwest Regional Climate Center indicates the climate along the immediate Lake Huron shore is semimarine in nature and lacks many of the temperature extremes found only a few miles inland.

Summer months are pleasant with considerable sunshine and a daily average of more than 15 hours of daylight for outdoor activities. Summer temperatures as high as 104 degrees have been recorded but are unusual. The following weather data reflects 30-year average (1981-2010) data

collected at the Alpena Waste Water Treatment Plant. According to the Michigan State Climatologist's Office the 30-year average July temperature is 68.4 degrees Fahrenheit, which is .5 degrees higher than the last 30-year average.

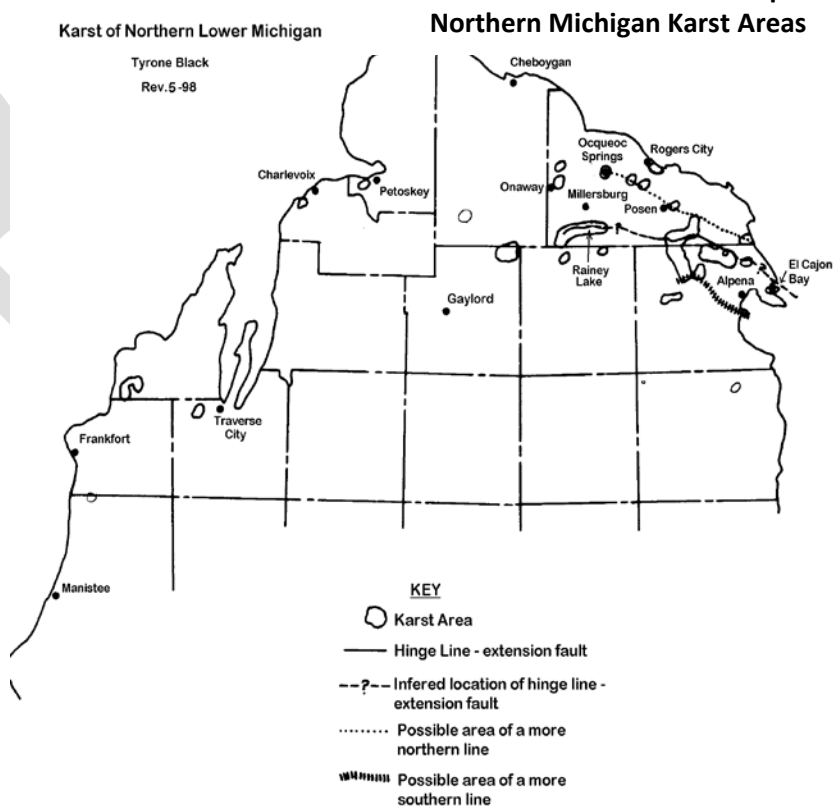
Winters have comparatively uniform day-to-day temperatures. Sub-zero temperatures have been recorded as early as November 22 and as late as April 2 but have their highest frequency during February. Thunder Bay and Thunder Bay River are usually free of ice by the first week in April, but water temperatures remain low enough to produce diurnal sea breezes during the middle of the day with subsequent reduction in maximum temperatures on many days during the spring and summer. The 30-year average January temperature is 20.5 degrees Fahrenheit, which is 0.6 degrees warmer than the last 30-year average.

Precipitation is well distributed throughout the year. Most winter precipitation is in the form of snow. Most of the summer precipitation is the result of showers or thundershowers, which occur most often during the months of June, July, and August. The 30-year annual average precipitation is 30.03 inches which is 1.71 inches higher than the last 30-year average of 28.59 inches. The precipitation includes the snowfall liquid equivalent. The 30-year average annual snowfall is 57.6 inches, which is 9.6 inches less than the last 30-year average. Prevailing winds are from the northwest except for May and June when southeasterly winds predominate. Generally speaking, the climate is getting warmer with more rain and less snow.

## Geology

The Geology of the City of Alpena, Alpena County and, in fact, the entire State of Michigan and surrounding states, was defined by glacial activity. Each advance and retreat of the continental glaciers took tens of thousands of years. This reoccurring process shaped and reshaped the land; first 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.

Map 3



collected at the Alpena Waste Water Treatment Plant. According to the Michigan State Climatologist's Office the 30-year average July temperature is 68.4 degrees Fahrenheit, which is .5 degrees higher than the last 30-year average.

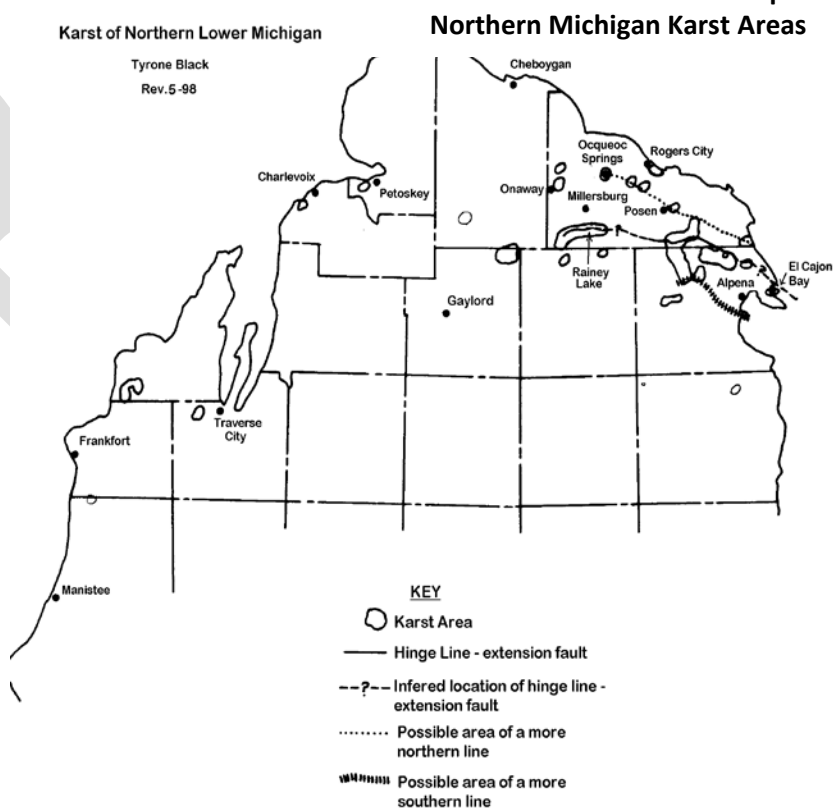
Winters have comparatively uniform day-to-day temperatures. Sub-zero temperatures have been recorded as early as November 22 and as late as April 2 but have their highest frequency during February. Thunder Bay and Thunder Bay River are usually free of ice by the first week in April, but water temperatures remain low enough to produce diurnal sea breezes during the middle of the day with subsequent reduction in maximum temperatures on many days during the spring and summer. The 30-year average January temperature is 20.5 degrees Fahrenheit, which is 0.6 degrees warmer than the last 30-year average.

Precipitation is well distributed throughout the year. Most winter precipitation is in the form of snow. Most of the summer precipitation is the result of showers or thundershowers, which occur most often during the months of June, July, and August. The 30-year annual average precipitation is 30.03 inches which is 1.71 inches higher than the last 30-year average of 28.59 inches. The precipitation includes the snowfall liquid equivalent. The 30-year average annual snowfall is 57.6 inches, which is 9.6 inches less than the last 30-year average. Prevailing winds are from the northwest except for May and June when southeasterly winds predominate. Generally speaking, the climate is getting warmer with more rain and less snow.

## Geology

The Geology of the City of Alpena, Alpena County and, in fact, the entire State of Michigan and surrounding states, was defined by glacial activity. Each advance and retreat of the continental glaciers took tens of thousands of years. This reoccurring process shaped and reshaped the land; first 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.

Map 3



Fine materials, captured in the fast-moving glacial meltwater, settled to the bottom of expansive glacial lakes creating lacustrine clay and silt plains.

The City of Alpena is situated on the northeastern flank of the Michigan Basin; a depressional bedrock feature centered in Gratiot County. The general dip in this area is toward the center of the basin at less than one degree, or 70 feet per mile. The basin consists of over 5,000 feet of sedimentary rocks that formed sediments that were deposited as ancient seas slowly entered and ebbed from the basin some 400 million years ago. Sand, silt, and clays were carried to the seas. Animals took lime from the sea water to make their shells and build reefs. When they died, their shells were added to the lime mud. At times life was scarce and little sediment was brought from the land. The climate was arid and chemical actions caused the deposition of calcium carbonate, dolomite, salt, gypsum, and anhydrite. As layer upon layer of sediments accumulated, they squeezed together and eventually compacted to solid rock; sandstone from the sands; shale's from the silt; limestone and dolomites from the limy muds; as well as mixtures of these various sediments. Thus, the bedrock of Alpena County formed.

Arguably, the most interesting geologic feature of Alpena County is the karst topography. Karst is defined as a type of topography that is formed over limestone, dolomite, or gypsum by dissolving or solution. Karst is characterized by closed depressions or sinkholes, caves, and underground drainage. Sinkholes are perhaps the most dramatic karst features. Sinkholes and sinkhole lakes are found throughout the northeast part of the county. New sinkholes are constantly being formed, taking several decades to appear on the surface. Where underlying rock dissolves more readily than surface rock, underground cavities form. As erosion continues, the roof rock is weakened and eventually collapses into the cavity forming a steep sided collapse sink. Sinkholes in Alpena County range in size from less than ten feet to more than 1300 feet in diameter.

Karst features are most prevalent in the northern portion of the county (**Map 3**). Geologists believe that a hinge-line fault, serving as a pathway for subterranean drainage, interconnects several sinkholes and sinkhole controlled lakes before emptying into Lake Huron at El Cajon Bay.

## *Soils*

In the development of a recreation plan, consideration of soil suitability is an important factor. Soil characteristics help define the lands capacity to support certain types of land uses and the ability to support various types of vegetation. Soils most suitable for development purposes are well drained and not subject to a high water table. Adequate drainage is important to minimizing storm water impacts and the efficient operations of septic drain fields. Adequate depths to the water table are necessary to prevent ground water contamination from septic systems. A high water table also limits the construction of basements. Though civil engineering techniques can be employed to improve drainage and maintain adequate separation from the water table, such techniques are expensive to construct and maintain.

Although some areas in the City of Alpena, especially north and west of Lake Besser are not yet mapped, the following preliminary results have been supplied by the Soil Conservation Office.

The dominant soil type mapped in the City is the “Urbanland-Udipsamments, deep water table, 0 to 3 percent slopes.” The Urban-land part of this map unit consists of impermeable surfaces such as paved areas and buildings. The Udipsamments, deep water table part of these areas are sandy soils that have been altered in some way, usually by leveling. In most places the surface layer is very dark gray sand four inches thick. Below this is brownish yellow fine sand and mottled fine sand and sand to more than 80 inches. The water table is usually between 3.5 to 5 feet below the surface year-round. An escarpment or steep slope is adjacent to the Thunder Bay River in most places.

These soils are found in the most populous areas of the City, both north and south of the River, and to the east of Lake Besser. These same soils are found between Long Rapids Road and northern City boundaries, as well as being the predominant soil found south of Lake Besser, between Ripley and Hobbes. The major limitation of Udipsamments for recreational uses is the sandy characteristic of the entire soil profile. Areas may not withstand intensive usage and traffic.

Some scattered areas of the City have soils differing from those described above. At the Island Park, soil limitations are severe because of slope and the soils being too sandy. An area of approximately 80 acres in the southwest corner of the City is an undeveloped area of “Deford muck.” This soil type has a four to six inch muck surface overlying fine sand to a depth of 80 inches. The water table is between one foot above and one foot below the surface most of the year. The major limitation of this soil for recreation uses is due to the high water table.

## ***Vegetation***

Forests cover approximately 60 percent of the land area in Alpena County and constitute the largest single land use in the county. In addition to using the forest resources for timber and fiber, woodlands are also used for all types of outdoor recreation. Large expanses of different forest types offer habitat for a wide variety of species. Forest types include northern hardwood, aspen-birch, northern white cedar, and white, red and jack pine.

Historically, the predominate forest types in the area that is now the City of Alpena were northern white cedar and aspen-birch. Today these species, along with elm, cottonwood and several species of oak and maple trees can be found scattered throughout the City, particularly in the City's many parks. Wetland areas in the western portion of the city support healthy variety of vegetation. Species here include cattails, bulrushes, sedges, sweetflag, arrowhead and pickerelweed, as well as tamarack and white cedar.



## ***Water Resources***

### *Surface Water*

The most significant surface water resources in the City are Lake Huron, Thunder Bay and Thunder Bay River. A large portion of the City's eastern border follows the shoreline of Lake Huron, which is the second largest Great Lake and the fifth largest freshwater lake in the world. This water resource is used for residential, commercial, and institutional facilities, as well as agricultural operations, industrial processes, electric power generation, sanitation, and recreation. Lake Huron also serves as habitat for fish, waterfowl, and other aquatic organisms, and offers many fishing opportunities. Brown Trout, Lake Trout, and Rainbow Trout are all plentiful. The Small Boat Harbor provides access for boats. Fishing from shore is also possible at this point, as well as from Blair Street Pier. An abundance of boating and other water-related recreation opportunities are also available through this resource. In addition, the portion of Lake Huron adjacent to Alpena County is included in an area that has been designated as *Thunder Bay National Marine Sanctuary and Underwater Preserve*. The preserve runs between South Point and Middle Island and includes all bottomland and water from the ordinary high watermark along the shoreline out to the 150-foot depth contour. The area within the preserve contains about 288 square miles.

Thunder Bay has one of the highest densities of shipwrecks per square mile of any spot on the Great Lakes. This is due, in part, to the numerous rock shoals and islands in the area. The high number of wrecks gives divers many opportunities for exploring. The local dive club has buoyed some diving sites for offshore diving, while dive boat charter service is available to others. Local divers have applied for a grant to increase the number of buoyed sites.

In 1981, the Thunder Bay was designated as the first State of Michigan Underwater Preserve. In October 2000, the preserve was designated a National Marine Sanctuary and Preserve. The responsibility for the management and protection of its underwater cultural resources is being shared equally by the State of Michigan and the National Oceanic and Atmospheric Administration (NOAA). The sanctuary encompasses most of the State preserve lands, with the boundaries extending from the northern to the southern county lines of Alpena County. This area encompasses over 100 shipwrecks. The sculptured limestone bottomland of the Sanctuary forms a complex system of geologic features. A variety of unique birds, fishes, and plants are found there.

In addition to the Lake Huron (including Thunder Bay) shoreline, there are a total of 7.6 miles of Thunder Bay River frontage located in the City. The river is used for recreation and transportation. The greatest use designated for the river is as *parkland*. The next largest use of this river frontage is *residential*, with residential dwellings occupying 12,247 feet. The remaining 15,352 feet are occupied by *institutional*, *industrial*, and *commercial* uses.

According to the City's 1992 River Plan, the water quality of this river can "be considered fair to good and of a quality that will support intensive urban fishing programs and urban recreation."

The Thunder Bay River includes a small impoundment of 45 acres at the Ninth Street Dam known as Lake Besser and another larger area known as the Wildlife Sanctuary. The Sanctuary is actually a bayou or lake surrounded by the Thunder Bay River. It is visually not apparent where the lake ends and the river begins. Long Rapids, Chisholm, Eleventh/Washington Avenues, and Bagley St. bound this water area. Several islands are located here; Island Park, Cow Island, several smaller islands, and a thin strip of land in the river along Washington Avenue shoreline, which extends for almost a mile. The lake area includes approximately 190 water acres, and the river, 160 acres, for an approximate total water area of 350 acres.

The Thunder Bay Power Company currently operates the Ninth Street hydroelectric dam. The power company has converted to a system, which adopts a “run of the river” operation rather than a “peak flow” operation. This type of operation generally keeps a more consistent water level, which benefits recreational usage, such as docks, fishing platforms, and bridges.

### *Groundwater*

In many areas of Alpena County, the depth to groundwater is within a matrix of sand, gravel and clay that is less than 50 feet below the soil surface. Near lakes, streams, and wetlands the depth to ground water is much shallower and commonly can be found a few feet below the soil surface. Because of the abundance of shallow groundwater in the County, many drinking water wells are also shallow; just deep enough to reach the uppermost region of the aquifer. This special combination of factors places the ground water of Alpena County at risk of contamination. For groundwater protection planning it should be assumed that the entire County, including the City of Alpena, is vulnerable to contamination. A wide variety of contaminants have already been discovered in the ground water at sites throughout the County and City, and it is likely that there are a few other sites that have not yet been discovered.

Sinkhole areas are often conduits to groundwater pollution. Historically, many sinkholes have been used as dump sites and some continue to be used in this manner. Agricultural drainage from pastures, feedlots, bean, potato, corn, and small grain fields enters the aquifers through karst features such as swallow holes, sinkholes, and fractures at the ground surface. Water contamination from agricultural byproducts, nitrates, infectious disease, septic systems, and sediment has been documented in this unique karst terrain. These non-point sources of pollution could adversely impact the quality of the City's water in the future and should be monitored closely. The storage and use of pesticides and fossil fuels can also be a threat to groundwater. If stored and used properly, these substances do not pose a serious threat to groundwater. Spills, leaking storage tanks, accidental discharge or misapplication are the greatest concerns. Because of its high solubility in water, road salt is another significant and common threat to ground water. Tons of rock salt are applied to the roads each year. The primary sources of contamination here are from unprotected salt storage facilities and road runoff that infiltrates through recharge zones into ground water.

## *Transportation*

### *Roads*

Alpena County has no interstate highway but is served by US-23 which follows the shoreline of Lake Huron from Mackinaw City to Standish, and by M-32 which runs east-west, connecting Alpena with I-75 and the City of Gaylord. M-65 heads north and south, which bisects the western portion of the County. State and federal highways include approximately 72 miles of M-32, M-65, and US-23. The county also supports approximately 200 miles of local primary roads and 450 miles of local secondary roads.

In and around the City of Alpena, four bridges cross the Thunder Bay River. The bridges are located on Bagley Street, US-23, Ninth Avenue and Second Avenue (**Map 5**, below). The limited number of river crossings in this densely populated area of the county has created heavy traffic volumes on all the bridges but most notably on the Bagley Street Bridge and the US-23 Bridge. These roads are the primary and secondary truck routes through and around the City of Alpena. Significant traffic congestion and delays would develop if one or more of the river crossings were unavailable. The bridges in the County are in better condition than many other Michigan counties. However, the US-23 Bridge restricts the flow of the Thunder Bay River by 3,000 to 4,000 cubic feet per second during river flows of 17,000 cubic feet per second or greater.

### *Air Transportation*

Regional air service is available at Alpena County Regional Airport (Phelps Collins), which is located in Wilson Township. There is a 9,001 foot and a 5,028 foot concrete runway and state of the art communications and radar systems. The airport has the ability to accommodate any type of commercial or military aircraft and is a U.S. Customs Port of Entry. The airport is also home to the Combat Readiness Training Center (CRTC) of the Michigan National Guard. Passenger service connecting to Detroit and Pellston is provided by Skywest an affiliate of Delta. Charter, airfreight and medivac services, as well as flight training and aircraft rentals are available from a variety of companies.

In 2019, construction was completed on the new airport terminal, parking lot, and ramp improvements. The new terminal will be 12,900 square feet and will vastly improve the passenger experience. The new terminal will improve baggage handling, reduce airliner ground time, more efficient TSA screen and baggage x-ray, passenger boarding bridge. The new facility will be energy efficient with all power lines being underground. The former terminal building will be renovated for airport offices and meeting space as well as the airport restaurant.

### *Rail Service*

Freight rail service is provided by the Lake State Railroad Company. Rail service is used to deliver raw materials and products to and from the heavy industrial users in the area. Lake State Railway also services a number of customers via transloading (truck-to-rail and rail-to-truck reloading) at their rail yard in Alpena. No passenger service is offered. Alpena is at the end of the rail line, and Lake State Railroad has only one in-bound and one out-bound train per day, Monday through Saturday. Although the volume of freight is expected to increase, no extension or expansion of the line is anticipated. The rail bridge over the Thunder Bay River was replaced in July 2002, financed partially through a loan from the Michigan Department of Transportation. Additionally, Lake State Railway was a recipient of an FY19 Consolidated Rail Infrastructure & Safety Improvement (CRISI) grant to strategically replace 30 miles of rail on the line. This allows rail users to utilize 286,000 lb. GRL capacity railcars for shipments. Lake State Railway also helps rail customers leverage the Michigan Department of Transportation's Freight Economic Development Program (FEDP) grant, which is a grant program that pay 50% of the costs to construct a rail spur or siding for rail users.

### *Marine Facilities*

The City of Alpena has two channels used for great lakes shipping. One channel is for the port of Alpena, and the other for the Lafarge Corporation. The annual shipping season for Alpena Harbor is from mid-March to mid-December.

### *Transit*

A variety of public transportation options are available in Alpena County and the City of Alpena. Bus transportation is an important service locally for the disabled, as well as other persons needing public transportation. In addition to the public transportation, there are also several automobile rental agencies and charter buses available in the City.

The Thunder Bay Transportation Authority (TBTA) provides scheduled public transportation services to the residents of Alpena, Alcona, and Montmorency Counties, and a small portion of Presque Isle County. The authority operates with a fleet of 40 vehicles and 4 hybrid trolley buses. In 2017, the TBTA completed its new garage and maintenance facility. Alpena Dial-A-Ride Transportation (DART) is operated as an on-demand transportation service by TBTA, which consists of seven wheelchair lift equipped buses.

Indian Trails provides statewide public transportation services on a daily basis. The bus route follows US-23 through Alpena County. Buses operate seven days a week, with a southbound run in the morning and northbound run in the afternoon. Buses are wheelchair lift equipped and have space set aside to accommodate wheelchairs. The Michigan Department of Transportation (MDOT) subsidizes this transportation service for areas in northern Michigan. This system serves as a daily link between select cities and allows people to travel outside the area to other parts of the state and country.

Charter bus service is provided by Country Line Tours. The services provided vary by company.

Car rental companies are located within the Alpena County Regional Airport, Cliff Anscheutz Chevrolet, and Thunder Bay Chrysler. These companies offer local, state and national rentals.

DRAFT

Map 5: Alpena Transportation System

