

Bay Township
Master Plan



Adopted December 17, 2020

Resolution

BAY TOWNSHIP BOARD OF TRUSTEES
RESOLUTION 2020-12-01
ADOPTING THE BAY TOWNSHIP MASTER PLAN OF 2020

WHEREAS, the Michigan Planning Enabling Act (MPEA), 2008 PA 33, MCL 125.3801, et seq. requires municipal planning commissions to prepare a "master plan" pertinent to the future development of the municipality; and

WHEREAS, the Bay Township Planning Commission has prepared a draft Master Plan for the Township, to update and replace its previous Master Plan dated May 11, 2006; and

WHEREAS, the Bay Township Board of Trustees adopted a resolution on September 10, 2020 authorizing the distribution of the draft Master Plan to the general public and the various entities as required by the MPEA, for review and comment purposes; and

WHEREAS, the proposed Master Plan was made available to the various entities and the general public as required by the MPEA, and a public hearing thereon was held by the Planning Commission on December 1, 2020 pursuant to notice as required by MPEA; and

WHEREAS, the Planning Commission has found the proposed Master Plan as submitted for the public hearing to be desirable and proper and furthers the land use and development goals and strategies of the Township, and has adopted a resolution recommending that the Township Board of Trustees adopt the proposed Maser Plan.

NOW, THEREFORE BE IT RESOLVED, that the Bay Township Board of Trustees hereby adopts the new Master Plan as recommended by the Planning Commission including all text, charts, tables, maps, and descriptive and other matter therein intended by the Planning Commission to form the complete Master Plan, including the Future Land Use Map. The new Master Plan may henceforth be referred to as the Master Plan of 2020.

Motion by: Simmons

Seconded by: Gaudard

Roll Call Vote:

Ayes: Gaudard, Wehrenberg, Ritter, Moeschke, Simmons

Nays: none

Absent: none

Abstain: none

RESOLUTION DECLARED PASSED



December 17, 2020

Wendy Simmons, Clerk
Bay Township Board of Trustees

Date

CERTIFICATE

I hereby certify the foregoing resolution is a true and correct copy of the resolution approved by a majority of the Bay Township Board of Trustees by a roll call vote at a regular meeting of the Board held virtually on December 17, 2020 in compliance with the Open Meetings Act.



December 17, 2020

Wendy Simmons, Clerk

Date

Acknowledgements

PLANNING COMMISSION

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Stephen Van Dam, Vice Chair
Lynn Maxwell, Secretary
Wendy Simmons, Board of Trustees Rep
Xavier Gaudard, Zoning Board of Appeals Rep
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Planning assistance provided by

B R 
Beckett & Raeder

This Plan updates the Bay Township Master Plan 2006 prepared with assistance by
Tip of the Mitt Watershed Council and Grobbel Environmental & Planning Associates

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Executive Summary

The Bay Township Planning Commission reviewed the 2006 Master Plan in 2018-2020 to ensure the plan is still serving the needs of residents in the Township. Changes to demographics and existing conditions were reviewed and updated. To better understand the current priorities of Township residents, the Planning Commission mailed out a community planning survey (see Appendix A) to all Township residents and property owners.

Overall, key priorities of the Township have remained consistent through the years. Values such as preserving rural character, farmland and open space, forests, and scenic views are still high priorities. Similarly protecting the water quality of Lake Charlevoix and Walloon Lake remain key issues.

To ensure these values are supported with the planning and implementation tools necessary,

the Planning Commission has updated the Township's demographic data and maps. Based on this information and input gathered through community survey, amendments have been made to the goals, objectives, and action plan in Chapter 3 to support the community's vision and to make them more concise and action-oriented. The Future Land Use map still holds very relevant to the goals and protection priorities in the Township; thus, no changes have been made. When possible, specific implementation tools and funding mechanisms have been identified. Finally, a Zoning Plan has been added to Chapter 2 per the Michigan Planning Enabling Act, 2008. The Zoning Plan is based on the recommendations of the Master Plan and is intended to identify areas where existing zoning is inconsistent with the objectives and strategies of the Master Plan, and to guide the development of the Zoning Ordinance.





1

Introduction

THE PURPOSE OF A MASTER PLAN

The Michigan Planning Enabling Act (PA 33 of 2008) enables municipalities to create a Master Plan that embodies a community vision, identifies goals that direct future development to meet current and future needs, to promote the health, safety and welfare of its residents, and the actions necessary to achieve that preferred future. Similar to a good “road-map”, this Master Plan defines a preferred direction, outlining what the residents want the Township to be in the future – and how to get there.

The Master Plan is not designed to promote or prevent growth, but rather to manage growth. The intent of this community planning process is to provide a way for growth to occur, while still preserving the quality of life within Bay Township. While individual rights must be recognized and respected, these interests should be balanced with the community’s needs and future vision when public decisions are made.

Through public input for this plan update and previous plan, residents repeatedly expressed their desires for Bay Township to retain its rural character, water quality and environmental protection, and the conservation of its farms and forests. Reaching these goals is only possible if decisions made by the Bay Township Planning Commission and other public bodies respect and follow the ideas stated

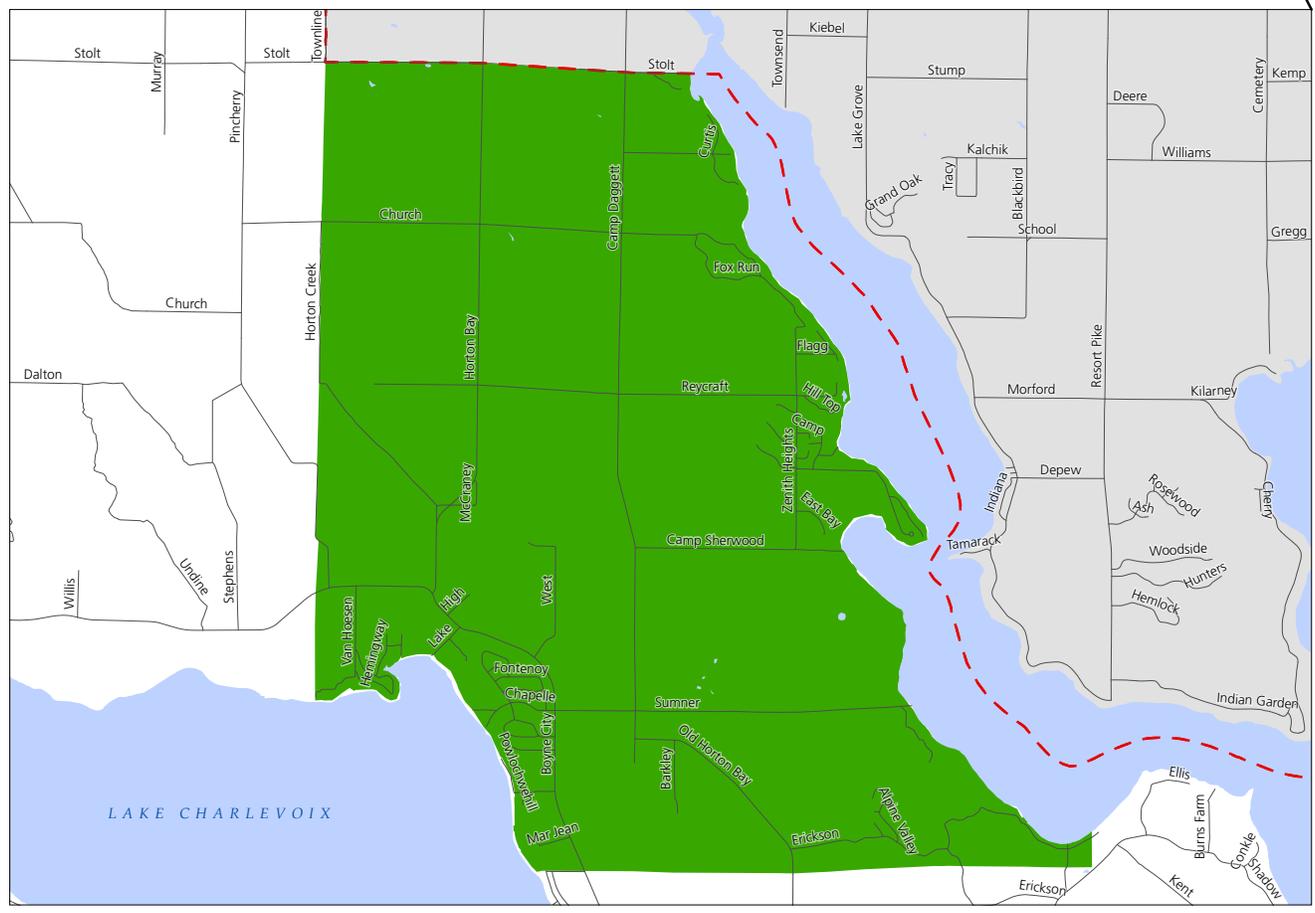
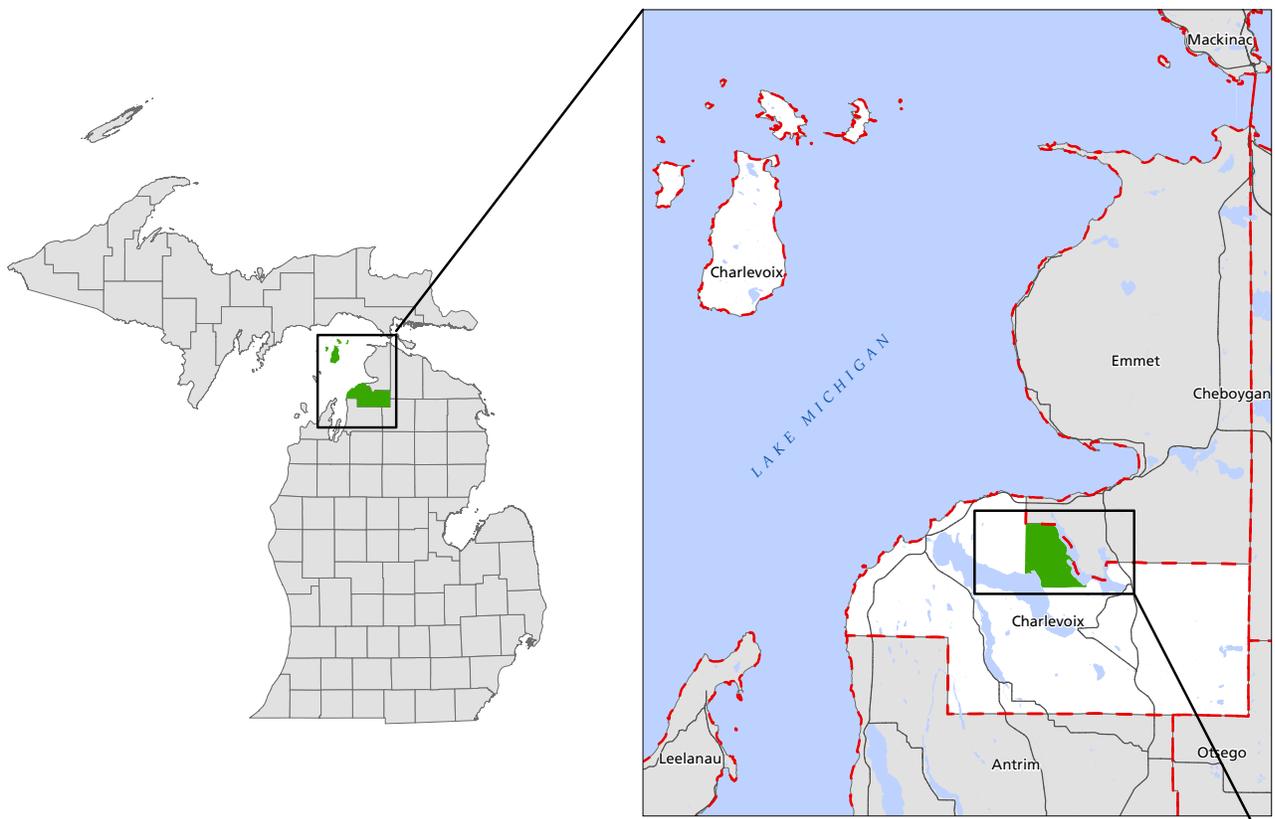
in this Plan. Good communication and cooperation among the various county and township governing bodies is critical to achieve this result.

The adoption of the Bay Township Master Plan is meant to be a highly participatory, proactive process to land use planning. This Plan shall serve as a basis for Bay Township zoning and other regulation and will be used as a guiding tool for decision-makers. The Plan defines the community’s vision of the future and establishes a framework for growth, development, and resource protection for the next 20 years (to be reviewed every five years). This Plan has been written with sustainability in mind, so that future generations will enjoy the same quality of life as today.

REGIONAL CONTEXT

Bay Township is located in Charlevoix County between Lake Charlevoix and Walloon Lake, and within an imaginary triangle formed by the cities of Boyne City, Charlevoix, and Petoskey. Residents of the Township primarily travel to one of these cities for groceries, restaurants, other purchases, and entertainment. Bay Township is approximately fifty (50) miles southwest of the Straits of Mackinac, fifty (50) miles north-northeast of Traverse City, and two hundred (200) miles north of Michigan’s capitol in Lansing.

MAP 1. REGIONAL CONTEXT



COMMUNITY DESCRIPTION

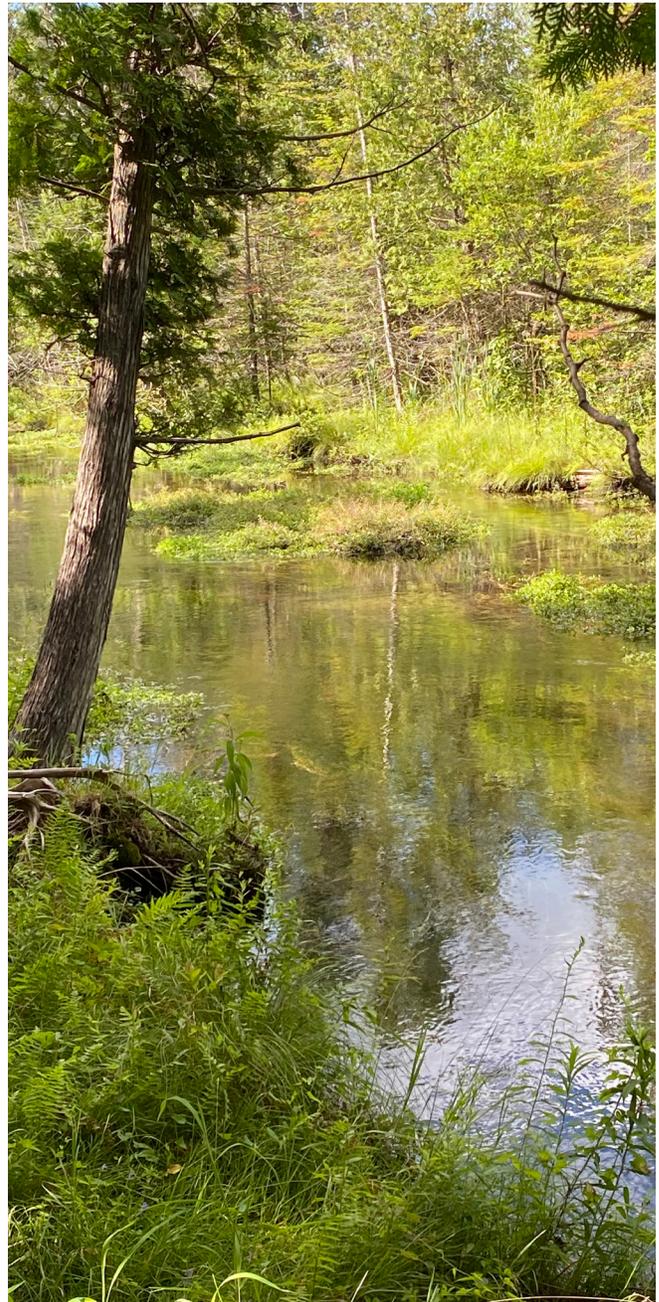
Charlevoix County covers approximately 414 square miles, of which Bay Township occupies 15.5 square miles of land surface area and 3.4 miles of surface water area. Bay Township is rural and striking in its natural beauty, with extensive environmental resources including extensive upland hardwood and coniferous forests, one of Michigan's largest and most well-known lakes - Lake Charlevoix, one of Michigan's deepest, most pristine inland lakes - Walloon Lake, diverse wildlife habitat, rolling hills and meadows, wetlands, and productive farmland. These natural resources contribute to a magnificent rural setting for people to live, work, and recreate within the Township. The close proximity of Bay Township to Lake Michigan, and the extensive shorelines of both Lake Charlevoix (2.25 miles) and Walloon Lake (7.5 miles) within township boundaries are natural attractions to those who enjoy water-based recreation, and seasonal or permanent residence and livelihoods. Lake Michigan is connected to Lake Charlevoix through Round Lake and the Pine River Channel.

In addition, approximately three (3) miles of Horton Creek – one of the largest tributaries to Lake Charlevoix -- is located within Bay Township. Horton Creek drains roughly 11.5 square miles of land, emptying into Lake Charlevoix at Horton Bay. Horton Creek supports a robust population of naturally reproducing brook trout, as well as other fish.

As with many northwestern Michigan communities, summer is accompanied by a significant growth in the number of people residing in or visiting Bay Township. Most visitors and summer residents seek to enjoy the many recreational opportunities afforded by Bay Township's exquisite water resources and vast countryside. Outdoor winter recreation has experienced a large and growing interest, and all sorts of winter activities may be found not far from Bay Township. There are commercial and public ski hills, snowmobile trails, and cross-country ski and snowshoe trails nearby, along with the availability of ice fishing on the nearby lakes.

No incorporated villages or cities exist within the jurisdictional boundaries of Bay Township. The Village of Horton Bay is in fact unincorporated. There are four incorporated villages and cities in

Charlevoix County – Charlevoix, Boyne Falls, Boyne City, and East Jordan. Bay Township residents likely most often frequent Boyne City due to its proximity (depending on where in Bay Township one lives). The quaint hamlet known as Horton Bay is located within Bay Township. The area in and around Horton Bay is likely the busiest gathering spot in the Township. Although historically Horton Bay was a larger settlement due to the lumbering and fishing industries, today the community is centered around the General Store, Red Fox Inn, Town Hall, church, and residences.



Horton Creek - Rufus Teesdale Nature Preserve

COMMUNITY HISTORY

History of Bay Township

The first people settling the area now known as Bay Township (at least 8,000 years before present) were the Paleo-Indians. According to some researchers, the Odawa¹, Ojibway, and Potawatomi migrated from the North Atlantic coast of southern Canada to the Great Lakes area over 1,000 years ago. During the period before European contact in 1650 A.D., these people settled in the Upper and Lower Peninsulas of Michigan. The Odawa are part of the “Three Fires Confederation,” which includes closely-related Ojibwa and Potawatomi peoples together calling themselves the Anishnabek (meaning the Good People or the Real People). The Odawa gradually extended their settlements

¹“Odawa” (pronounced O-dow'-a) more accurately reflects the traditional Indian pronunciation of their tribal name than does the Anglicized word “Ottawa”.

toward the south, along the shore of Lake Michigan. The early North American Indian history of the Township is directly linked to the settlement of the Lake Michigan shoreline and the region’s abundant natural resources including fish, game, fertile lands (including a unique climate for crops), and forests.

Present-day Charlevoix County, which was originally part of a larger territory called Michilimackinac, was acquired by the United States of America in 1836 by the Treaty of Washington. Initially called Keskauko County, Charlevoix County was renamed in 1843 for Pierre de Charlevoix, a Jesuit missionary who lived between 1682 – 1761 and traveled the Great Lakes seeking passage to the Pacific. In 1853 what is now Charlevoix County was attached to present day Emmet County. Charlevoix County was officially organized in 1869 as a Michigan county, comprised from portions of Emmet and Antrim Counties.

MAP 2. HISTORIC CHARLEVOIX COUNTY MAP



Source: “Traverse Bay Region, Historical Descriptive.” 1884.

Charlevoix County today consists of 15 townships. Until 1887, the area that is now Bay Township was a portion of Evangeline Township. Citizens interested in creating a new township made an application to the Evangeline Township Board of Supervisors “to erect and provide for the organization of a new Township to be called the Township of Bay.” Upon approval, a legal description of the present-day boundaries of Bay Township was published in the newspaper and the split became official. The first annual Bay Township meeting was held the first Monday in April of 1888, in Ohle’s Hall in the Village of Horton’s Bay.

The early history of Bay Township was influenced by its location on water as a means of transportation. The earliest European settlers included French voyagers, fur trappers, and Jesuit missionaries. As Europeans explored and later settled the area, immigrants and explorers relied upon boat travel on Lake Charlevoix (then known as Pine Lake) as the primary means of transportation. Ships plied Lake Charlevoix carrying supplies which were traded for furs.

Charlevoix County experienced slow growth until the 1870’s when the Grand Rapids and Indiana Railroad made its way to the banks of Lake Charlevoix, enabling the commercial cutting of the area’s old-growth forests. At the turn of the century, a decline in the timber industry resulted in a decline in the population of Bay Township.

TABLE 1. BAY TOWNSHIP POPULATION 1894 - 1910

Year	Population
1894	548
1900	503
1910	466
Change	-82

In the 1870’s, an upper river was dredged from Pine Lake into Round Lake allowing Lake Charlevoix to drop four or more feet and assume the level of Lake Michigan. This channel was only capable of floating logs and small craft. In 1882, the waterway was opened to large ships through additional dredging. Thereafter, Lake Charlevoix was used to

transport commercial saw logs and lumber from Bay Township and the surrounding area to Chicago and other southern Lake Michigan ports. Logs were brought to Lake Charlevoix by a variety of means, including tram railways and winter skidding. One lumber tram operated near what is now Sumner Road within Bay Township. As the region’s forests were logged off, agricultural activities began to replace the timber industry. The post-lumbering collapse resulted in a massive population drop as jobs declined.

Commercial and sport fishing has also been prevalent within area waters, said by some to be among the best fishing grounds in the world. Bay Township’s geographic setting between Lake Charlevoix and Walloon Lake also influenced the community’s early history. By the mid-1880’s, these waters had become the largest supplier of freshwater fish in the country. The water quality declined, due in part to soil erosion and sedimentation, as well as to wide spread forestry and agriculture, and the type of nets used. These waters were considered commercially “fished out” by 1893. The decline of fish affected the entire Great Lakes regional economy – enough so that the State of Michigan felt the need to start a hatcheries program in 1897.

The region’s tourism industry began in the early 1900’s with visitors staying in large hotels located along rail lines and ports where ships traveling the Great Lakes could dock. With the advent of the automobile and steady improvements in both the railroads and road network, tourists came more frequently to northern Michigan and began to develop the areas that were not actively served by rail. At that time, Bay Township, along with a number of other locations considered too remote in the past, began to develop.

The 1970’s witnessed a dramatic decline of railroad traffic through Charlevoix County, and transportation today is mostly by private motor vehicle. However, several seasonal visitors travel and enjoy the region by private pleasure boat from the Great Lakes. Important to note, from Lake Charlevoix a boater has access to all global waters through the Great Lakes system and St. Lawrence Seaway.

Horton Bay

The Horton Bay area was once a thriving village of 200 people, nestled along a natural bay on Lake Charlevoix where Horton Creek enters the lake. The hamlet of Horton Bay, originally known as "Horton's Bay", was named after the area's first permanent European settler, Samuel Horton. In 1856, at the age of 56, Mr. Horton set sail north from Toledo, Ohio on his boat the "Rover," with passengers Archibald Buttars, John Newman, and Horton's wife and seven daughters. Intending to go to Grand Rapids the passengers and Mr. Horton landed in the shelter of the Pine River channel due to "bad winds for several days", where he ultimately set up residency. For two decades Mr. Horton and his family were the only residents of the area.

Mr. Buttars became a full partner with two other business leaders – Amos Fox and Hiram Rose. Eventually he started several firms in Charlevoix, including its first bank. He also served in the Michigan Legislature as Speaker of the Senate and became Lieutenant Governor in 1885 (in the Alger administration).

Alonzo Stroud arrived in the area in 1876 and built a sawmill on the waterfront in Horton Bay which he operated in partnership with his brother-in-law, William H. Ohle. The town of Horton Bay largely grew up around the mill. He was elected Supervisor of Evangeline Township (which then included present Bay, Melrose and Springvale Townships, and Boyne City). A few years later he led the drive to separate the Horton Bay area from Evangeline Township, and Bay Township was "set apart." Mr. Stroud served as Supervisor of Bay Township, Charlevoix County Sheriff, Probate Judge, and as a Michigan Legislator.

Long-time resident of Bay Township William H. Ohle is responsible for recording much of the history of Bay Township. He has published several books, including "How It Was in Horton Bay." Although possessing a wealth of information, this book is out of print and unfortunately many area libraries have not retained a copy. "How It Was in Horton Bay" was dedicated to Alonzo J. Stroud.

One of the most well-known part-time residents of Horton Bay and the area is the celebrated author Ernest Hemingway. Hemingway set some of his Nick Adams short stories in Horton Bay and vicinity, and he mentions Horton Bay in his book "Up in Michigan." Somewhat surreptitiously, Ernest Hemingway (aged 29 years) married his first wife Hadley Richardson (aged 21 years) of St. Louis, Missouri in Horton Bay. The two married on September 3, 1921 at the Methodist Church, once standing to the west of the present day Horton Bay General Store. It is said that he and his intended bride wed in Horton Bay in an attempt to avoid publicity that would have surrounded the couple had they married in St. Louis or Hemingway's hometown of Oak Park, Illinois.

Up In Michigan

"The town was only five houses on the main road between Boyne City and Charlevoix. There was a general store with a high false front and maybe a wagon hitched out front..."

- Ernest Hemingway, 1923

Like many mill towns in northern lower Michigan, following the lumbering era Horton Bay shrank to its present size. Now a nationally registered historic village, efforts to preserve historic areas and structures deserve special recognition and support. The hamlet includes three sites on the National Register of Historic Places presented on the next page:



Structure/Site: Horton Bay General Store
Location: 5115 Boyne City Rd
National Register Designation: 1991
Historical Significance: architecture, commerce, literature, Ernest Hemingway visit



Structure/Site: Horton Bay House - Red Fox Inn
Location: 5081 Boyne City Rd
National Register Designation: 1995
Historical Significance: industry, literature, entertainment/recreation, fine dining



Structure/Site: Horton Bay School
Location: 4961 Boyne City Rd
National Register Designation: 2001
Historical Significance: education, architecture

THE PLANNING PROCESS

History of Planning

In 1970, Charlevoix County adopted a county-wide Comprehensive Development Plan. A county-wide zoning ordinance was also adopted as a means of implementing the 1970 county plan. However, that document was repealed following a referendum in 1973. As a result of that referendum and in recognition of the need for planning and zoning, many townships adopted portions, or all, of the County zoning ordinance, but incorporated changes of their own. Various regional and county plans were developed that covered a portion or all of Bay Township, including a Regional Sketch and a Lake Charlevoix Management Plan.

The residents of Bay Township, through the Bay Township Planning Commission, drafted their first official planning document, “The Bay Township Comprehensive Plan” in 1981. The Township’s then-existing zoning ordinance was revised in 1987 to be consistent with the 1981 Plan and various state statutes. The Master Plan was again amended in 1995, entitling it “The Bay Township Land Use Plan.” The Township then adopted its current zoning ordinance in 1997, which has been subsequently amended numerous times to address changing needs and to implement the Master Plan.

Beginning in fall of 2003, the Bay Township Planning Commission began updating its master plan with assistance provided by The Tip of the Mitt Watershed Council (TOMWC) to address the many changes that had taken place in the Township and Charlevoix County over the previous decade. A TOMWC planner attended each monthly meeting of the Bay Township Planning Commission, where data and maps were considered, research was planned and reported, and the details of each chapter of the Master Plan were discussed by the Planning Commission. During this process, many opportunities were created for residents to provide input and participate in the planning process. It is with a spirit of cooperation and coordination between Bay Township residents and property owners, governmental jurisdictions, and interested community groups that the Master Plan was prepared.

A survey was distributed in the spring of 2004 to

property owners, who overwhelmingly indicated a high degree of importance on the protection of natural resources, including wetlands, streams, lakes, forests, steep slopes and wildlife. Additional concerns identified included maintaining rural character, preserving views of farms, forests, Lake Charlevoix, and Walloon Lake, protecting water quality, and addressing junk/blight and noise. Adopted in 2006, the Bay Township Community Master Plan was prepared to address the future physical development of the community in response to the changing conditions.

Current Planning Process

In looking back at Bay Township’s various land use planning documents, it is evident that residents and municipal officials have been keenly interested in maintaining and improving the high quality of life within the Township. The quality of life within Bay Township is defined by the natural beauty of the area, its rural landscape typified by rolling topography and farmlands, two large lakes, the ability to see a dark night sky, and peace and quiet. The challenge presented is growth: the Township’s population has grown continuously in the past five decades and this growth trend is expected to continue. A secondary and related challenge is that land and resource consumption, together with demand for public services, will likely continue to grow as the population increases.

In 2018, the Bay Township Planning Commission began the process of updating its 2006 Master Plan to better understand the changing conditions of the Township and plan for a future that addresses the community’s needs and concerns. A survey was mailed to all Township residents and property owners and analyzed as a way of gathering public input. The results of that survey were used to inform and guide the development of this document, with a complete summary of all responses available in the Appendix. This information, along with updated demographics, socioeconomic data, and Township maps were used to create revised goals, strategies and action plan that reflect the community’s desired future, along with a zoning plan to direct the necessary regulatory changes needed to implement the future vision. The changes to the Master Plan that were a result of this process were adopted through the updated Master Plan in 2020.

Existing Plans

In planning for the future of Bay Township, it is important to not only consider the community's past planning efforts, but to also recognize its context in the broader community. The development of adjacent municipalities will impact Bay Township, and vice versa. The Charlevoix County Planning Department created a future land use plan that provides a county-wide future vision and presents the correlation of each communities' land use decisions.

Charlevoix County Future Land Use Plan

The Charlevoix County Future Land Use Plan was developed with assistance by Networks Northwest between 2015 – 2016, with the Board of Commissioners adopting the plan in early 2018. The purpose of the plan was to provide a county-wide vision for land use that promotes the high quality of life in the County, guided by public input and collaboration between the local units of government. Furthermore, the plan was intended to be a source of data to support local planning and zoning efforts, and to guide County leaders in the decision-making of County-owned properties.

The plan evaluated and analyzed a number of different topics relevant to the community. These included current master plans and zoning ordinances, green infrastructure, working lands (farms and forests), public facilities, transportation, population and housing, jobs, and the economy. The history of each topic was presented, along with emerging trends and implications, all backed by the most recent available data. Many trends and issues identified in the County mirror those in the region and state, with exceptions noted in the plan. This information was used to establish a future land use map composed of Urban, Lakefront and Lakeview Residential, Rural Residential, Farms and Forests (working lands), Recreational Lands, Sensitive Lands, and Little Traverse Conservancy Nature Preserves as the future land use categories. The plan further incorporated the principles of "Smart Growth" to prescribe a series of goals, objectives, and actions to support the following themes:

- » Maintain a unique sense of place
- » Protecting the economic vitality of working lands (farms & forests)

- » Protect unique natural features and open space
- » Growth and investment through mixed-use, compact design, and development in existing communities
- » Create a range of housing options
- » Create walkable communities
- » Provide a variety of transportation options
- » Encourage community stakeholder collaboration in development decisions
- » Make development decisions predictable, fair, and cost effective
- » Support economic development activities



Field Behind Horton Bay School

2

Future Land Use & Zoning Plan

FUTURE LAND USE

The Michigan Planning Enabling Act of 2008 requires the inclusion of a future land use map and zoning plan in the Master Plan. The future land use map and land use categories identify a generalized, preferred organization of future land uses in the Township. It is a general framework intended to guide land use and policy decisions within the Township over the next 15-20 years. It guides the development of a Zoning Plan and ultimately influences changes that may be made to the Zoning Ordinance.

The Future Land Use Map is not intended to be used to identify future land use on a parcel by parcel basis, but rather to identify land uses that may evolve within the Township. The Future Land Use Map shows the preferred locations for future preservation and development in Bay Township.



Lavender Hill Farm

Future Land Use Categories

The fundamental purpose of this Master Plan (and the process which created it) is to gather wide ranging community perspectives, data and observed trends related to community economics, employment, demographics, natural resources, physical setting, public and private infrastructure, history, character, land cover/land use, community challenges, etc. to assist in the visioning of what Bay Township could be in 20 years. Taken into account, along with the social, economic, and environmental characteristics of the Township, five future land use categories and two overlay categories have been developed and are as follows:

Farm/Forest/Rural Residential

This future land use category intends to conserve working lands that contribute to the rural and scenic character of the Township. Uses in this district will be limited to primarily agricultural and agritourism, forestry, and low-intensity recreational uses. Residential development in the district should be very low density of one dwelling unit per eight to ten acres. However, in an effort to prevent parcel fractionalization, residential dwelling units may occur on parcels as small as one acre utilizing the minimum equivalent density approach that maintains a density of no more than one dwelling unit per eight to ten acres for the entire parent parcel.

R-1 Residential

The R-1 Residential future land use category includes those areas of the township primarily developed as low density residential. The extent of this category is confined to the shoreline areas of Walloon Lake and Lake Charlevoix. The primary land use in this district should be residential at approximately one dwelling unit per half acre.



Horton Bay Home



Bear Cove Marina

C-1 Commercial

The C-1 Commercial future land use category is confined to the area around Bear Cove Marina and is the only commercial area in the Township. Commercial uses shall be of low intensity and reflect the character of the area such as inns, gift shops, farm markets, art galleries, and professional offices. To prevent an intensity that is out of scale with the surroundings, minimum lot size should be at least two acres.

Village Overlay

The Village Overlay future land use category occupies the hamlet of Horton Bay. Recognizing the import role this area has played in the Township's history, this category intends to allow limited commercial uses such as inns with dining service, non-intensive commercial uses, professional offices, and institutional uses such as museums, religious institutions, and community centers. Given the historical and residential context of the area, careful design standards should be developed to ensure the character of the area is preserved.



The Hamlet of Horton Bay
Source: Rob Maxwell

Waterfront Overlay

The purpose of the Waterfront Overlay future land use category is to maintain and protect one of the community's greatest assets: the high quality resources that exist as lakes, streams, and wetlands. The Waterfront Overlay should create a buffer around these natural resources in which development is limited and natural ecological processes are protected or enhanced. This is best accomplished by establishing a setback of at least 60 feet from the bodies of water and maintaining an effective vegetated buffer of at least 25 feet along the water's edge.



Walloon Lake - Sumner Road



The Bois LeDuc Preserve - Walloon Lake Association & Conservancy

Public

The Public future land use category includes those lands in the southeast corner of the township along Walloon Lake that are mostly owned by the Michigan Department of Natural Resources and the Walloon Lake Association and Conservancy and opened to the public. These lands provide passive recreational uses and the conservation of valuable natural resources such as intact forests and undisturbed shorelines. These parcels should remain intact to provide an opportunity for the public to enjoy the outdoors for generations to come.

Private/Recreation

This land use category encompasses the parcels in the Township currently occupied by Camp Daggett and Camp Michigania. Both camps have occupied the shores of Walloon Lake for a combined 154 years. It is intended for them to continue their long storied tradition in the Township through this future land use category.



Camp Daggett

FUTURE LAND USE MAP

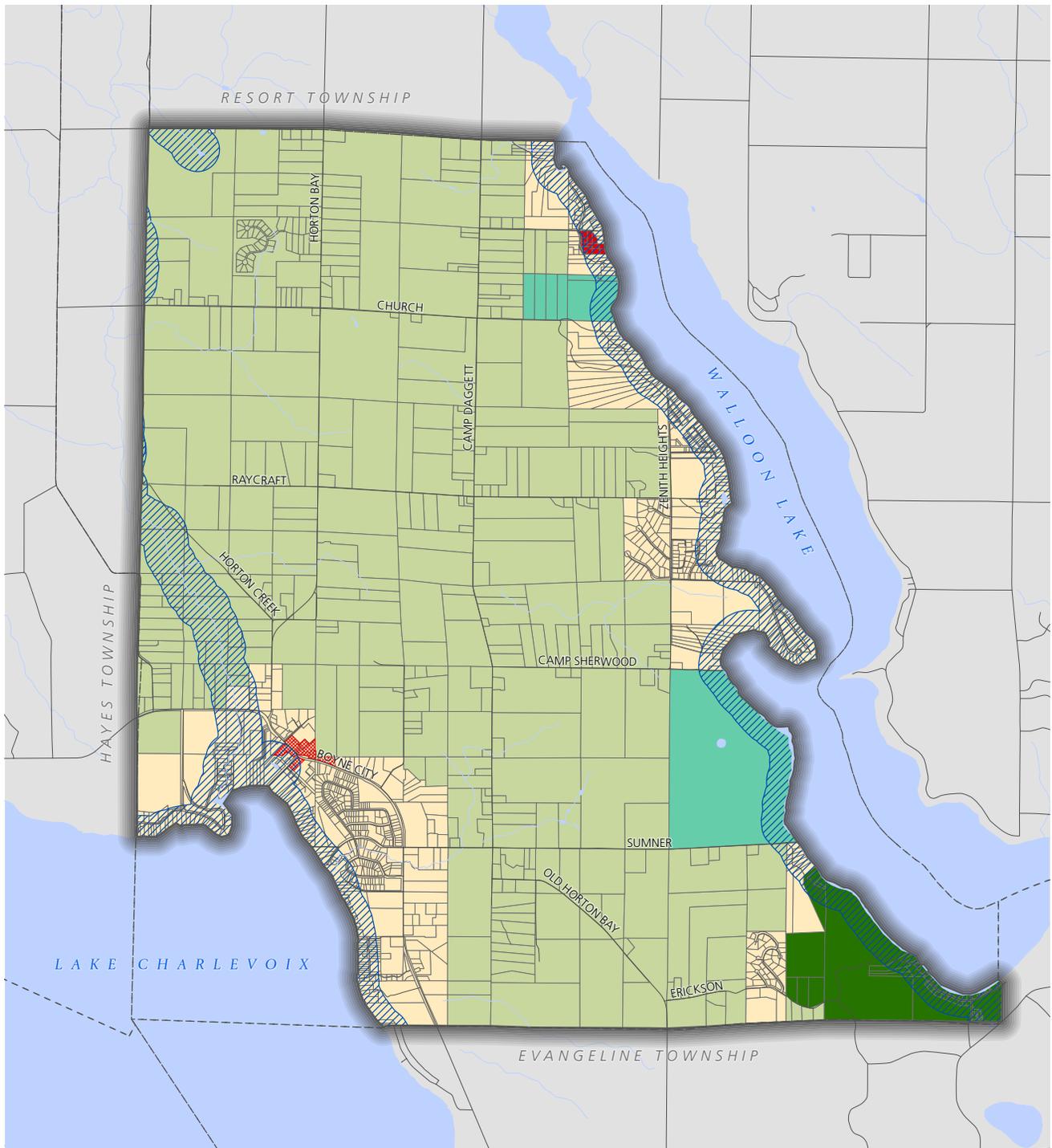
An important part of the master planning process is the creation of a future land use map that embodies the vision to guide future land use decision-making within Bay Township. The Future Land Use Map illustrates the general geographic extent of the future land use categories. Again, the Future Land Use Map is to serve as a policy framework to guide local land use decisions and is not intended to identify specific land uses on a parcel-by-parcel basis. Furthermore, it does not establish zoning classifications, nor does it assign zoning classifications to specific parcels. The Future Land Use Map shows the preferred locations for future preservation and development in the Township.

The Future Land Use Map is often updated by what currently exists in the Township (see Existing Land Use Map) and the current policy framework (see Zoning Map). Both the Existing Land Use Map and the Zoning Map are important influences on the Future Land Use Map, which shows the relative desired locations for residential, agricultural, commercial, and recreational development in the Township. The Future Land Use Map is located on the following page.



Farm Homestead

MAP 3. FUTURE LAND USE



BAY TOWNSHIP Future Land Use

Data Sources: State of Michigan Geographic Data Library, Michigan DNR Open Data Portal

- | | | |
|---------------------------|-------------------------------------|-------------------|
| — Freeways | ■ Farm / Forest / Rural Residential | ▨ Water Overlay |
| — State Trunklines | ■ R-1 Residential | ▩ Village Overlay |
| - - Minor Civil Divisions | ■ C-1 Commercial | |
| ■ Lakes / Ponds | ■ Public | |
| — Rivers / Streams | ■ Private Recreation | |



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ZONING PLAN

According to Section 2(d) of the Michigan Planning Enabling Act (PA 33 of 2008), the Master Plan shall include a Zoning Plan depicting the various zoning districts and their use, as well as proposed changes to these standards. The Zoning Plan serves as the basis for the Zoning Ordinance.

Relationship to the Master Plan

As a key component of the Master Plan, the Zoning Plan is based on the recommendations of the Master Plan and is intended to identify areas where existing zoning is inconsistent with the objectives and strategies of the Master Plan, and to guide the development of the Zoning Ordinance. The Zoning Ordinance is the primary implementation tool for the future development of Bay Township. The following sections detail existing zoning regulations in the Township and proposed zoning changes.

Bay Township Zoning Area, Width, and Setback Requirements

Since there are no considerable changes to the Future Land Use Map or land use categories from the 2006 master plan, this plan recommends maintaining the current dimensional and density standards as prescribed in the Zoning Ordinance and summarized below in Table 2.

Proposed Zoning Changes

The following issues have emerged as zoning priorities in Bay Township. In the coming years, Bay Township plans to explore ordinance amendments to address changing conditions in the Township to better serve its residents and protect its resources.

Permitted & Special Uses

As new desirable land uses emerge and other uses become obsolete, the Township plans to update the list of uses permitted by right and those permitted through a special land use permit in each district. To accomplish this task, the Planning Commission will review, and update, permitted and special uses in each district with input from residents and landowners.

Housing Options

Bay Township plans to review its existing housing requirements and explore new provisions to promote the development of more diverse housing options.

Renewable Energy Standards

As solar and wind energy become increasingly more viable options for energy, Bay Township plans to

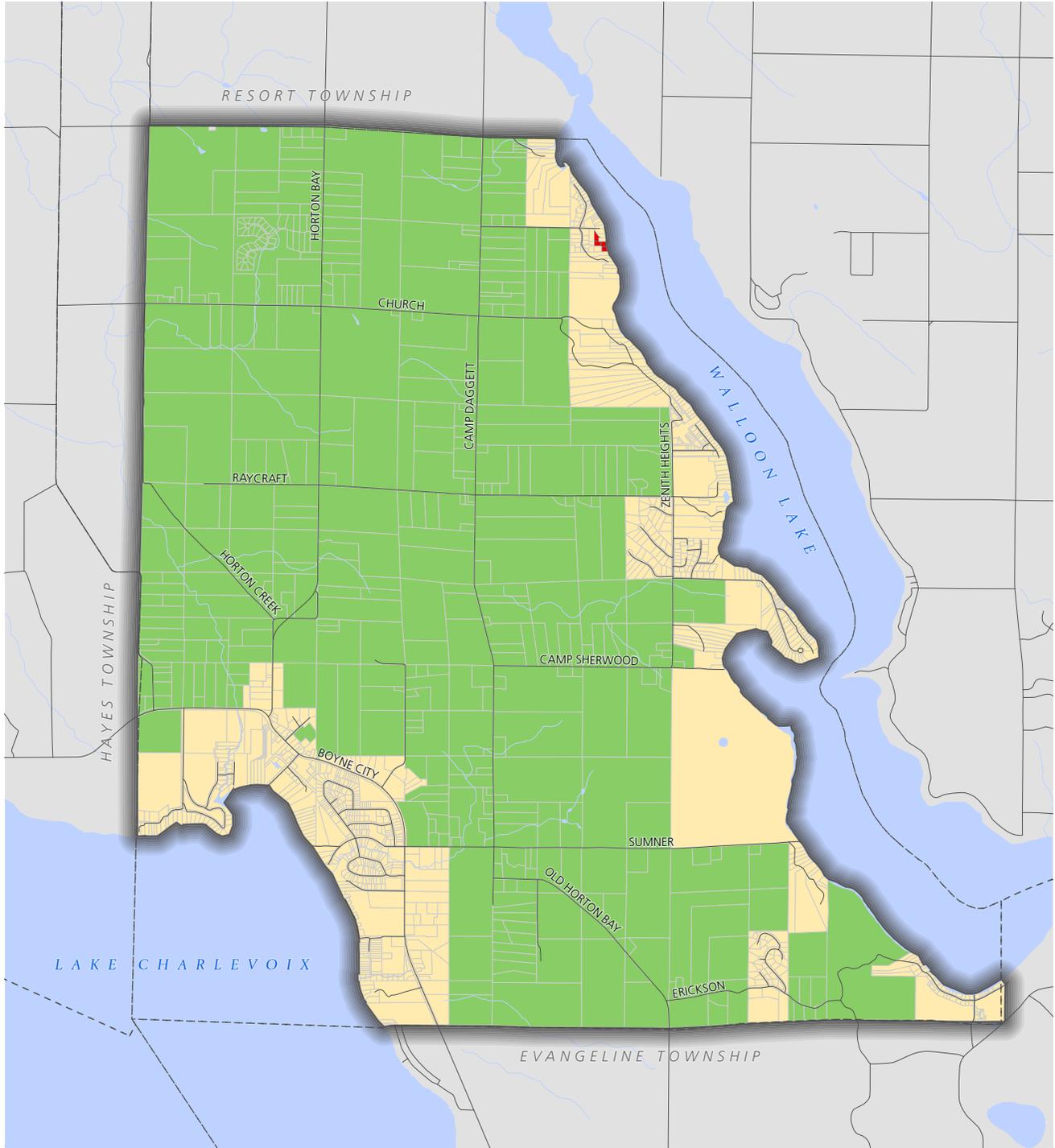
TABLE 2. BAY TOWNSHIP ZONING ORDINANCE DIMENSIONAL STANDARDS

Zoning District	Lot Area (minimum)	Lot Width (minimum)	Lot Depth (minimum)	Maximum Height	Minimum Setback ¹	Minimum Habitable Floor Area
Agricultural	8 acres ²	150'	150'	30'	Front: 65' Side: 15' Rear: 35'	720 sf
Residential	20,000 sf	100'	150'	30'	Front: 35' Side: 15' Rear: 35'	860 sf
Commercial	2 acres	150'	150'	30'	Front: 100' Side: 100' Rear: 100'	---

1. The Waterfront Overlay District requires a front yard setback of 65' measured from the ordinary high water mark.

2. Lots as small as 1 acre may be allowed utilizing the minimum equivalent density method.

MAP 4. ZONING



BAY TOWNSHIP Zoning Map

Data Sources: State of Michigan Geographic Data Library, Michigan DNR Open Data Portal

- Freeways
- State Trunklines
- - Minor Civil Divisions
- Lakes / Ponds
- Rivers / Streams
- Agricultural
- Residential
- Commercial

*The Waterfront Overlay District (WF) provides supplemental regulations for property located between the ordinary high water mark and a line one hundred (100) feet parallel and perpendicular to ordinary high water mark on an inland lake or river/stream bank. The Bay Township Zoning Ordinance Article 6 provides the supplemental regulations for this overlay district.

0 0.5 1 Miles



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review its existing ordinance provisions that apply to siting of these emerging technologies. While wind and solar could both bring about positive impacts in Bay Township, it will be important to make sure the zoning ordinance includes specific provisions to ensure they are located in appropriate zoning districts and constructed at a scale that is appropriate for the Township.

Vacation Rentals

Short-term rentals are growing in popularity across the region. Bay Township plans to explore the possibility of regulating short term rentals in a way that protects the quality of life in residential neighborhoods while still allowing for flexibility in how property owners can use their land.

Village Overlay

The Township plans to explore adopting additional provisions in the Village Overlay District to preserve the historic character and distinct identity of Horton Bay. Design guidelines may also be explored as appropriate provisions.

Water Quality

To promote the protection of water quality, Bay Township plans to explore and identify point and non-point sources of pollution and possible standards to address any threats. These standards may be incorporated into the zoning ordinance or exist as a separate police power ordinance.



Walloon Lake - Sherwood Park



Goals, Strategies, & Action Plan

For the purposes of this Master Plan, policies, goals, and actions have been identified by the Bay Township Planning Commission and community participants in the Master Planning process concerning a number of areas of interest within the Township. Policies are general statements of shared values that assist local decisionmakers in making goals and implementing recommendations and actions. Actions are near-future activities to be undertaken by Bay Township¹. This Master Plan update was completed by the Bay Township Planning Commission in 2020. As set forth in the 2008 Michigan Planning Enabling Act, the Action Plan is developed with citizen input received through the citizen survey.

GENERAL POLICY STATEMENTS

1. Township planning is based upon and undertaken for the protection of the public health, safety, and welfare of residents of Bay Township.
2. The Township will enforce the principles of this plan, as codified within Bay Township zoning ordinance and other ordinance(s). The Township will seek to manage and guide growth to maintain and enhance the quality

¹ Bay Township refers collectively to all the bodies with authority and responsibilities in the Township, such as the Board of Trustees, Planning Commission, Zoning Board of Appeals, and others that may be designated currently or in the future, such as a Parks and Recreation Committee.

of rural life for Bay Township residents and property owners through the implementation of this Master Plan.

3. Within Bay Township the long-term quality and conservation of natural resources, water quality protection, and environmental protection should be considered of significant importance when making land use decisions.
4. Township decision-makers should balance the public interest in sound land planning, as expressed by and embodied within this Master Plan, with the rights and interests of private property owners when considering land use decisions.
5. The Township will consider public input and survey results from this Master Plan when making land use decisions and/or drafting Township regulations.

GOALS & ACTION STEPS

This section outlines the key goals and actions identified by Bay Township. The goals and actions fall into three major themes, as listed below:

- » Infrastructure & Services
- » Natural Resources & Open Space
- » Development

Infrastructure & Services

Goal: Improve and maintain the County's roads within the Township to provide safe access for all users.

- » Maintain good communication with the Charlevoix County Road Commission to ensure efficient transportation policy and future transportation improvement projects.
- » Encourage the county-wide formulation of an access management plan for consolidation and appropriate placement of private drives on roads and highways.
- » When making road investments, work with the County Road Commission to consider the safety and needs of bicyclists, transit users, and other forms of travel.
- » Retain seasonal roads in their existing unimproved condition.
- » Communicate with Township residents regarding varying road maintenance and/or improvement plans.



Sumner Road Approaching Walloon Lake



Public Access Sign

Goal: Provide high quality trails, parks, and other recreational amenities for residents and visitors

- » Collaborate with adjacent municipalities to coordinate connections for non-motorized trail development.
- » Implement the 2019-2023 Bay Township Recreation Plan and consider the recommendations of the Charlevoix County Recreation Plan.
- » Collaborate with the County Road Commission to maintain an inventory of waterfront road ends to ensure they are properly maintained and open to the public and make improvements as necessary.
- » Encourage non-motorized links to parks, open space, and public/semi-public lands.
- » Explore opportunities for better signage and wider shoulder for cyclists to improve the safety for users.

Goal: Support high quality public facilities and services to meet the growing needs of the Township's residents and visitors.

- » Continue to work with providers to improve cellular and high-speed Internet service throughout the Township.
- » Seek co-location and/or clustering of future telecommunication towers.
- » Guide future signage within Bay Township to be low impact and in keeping with the rural character of the Township and historic character of Horton Bay.
- » Explore opportunities to promote recycling and other efforts to reduce blight.

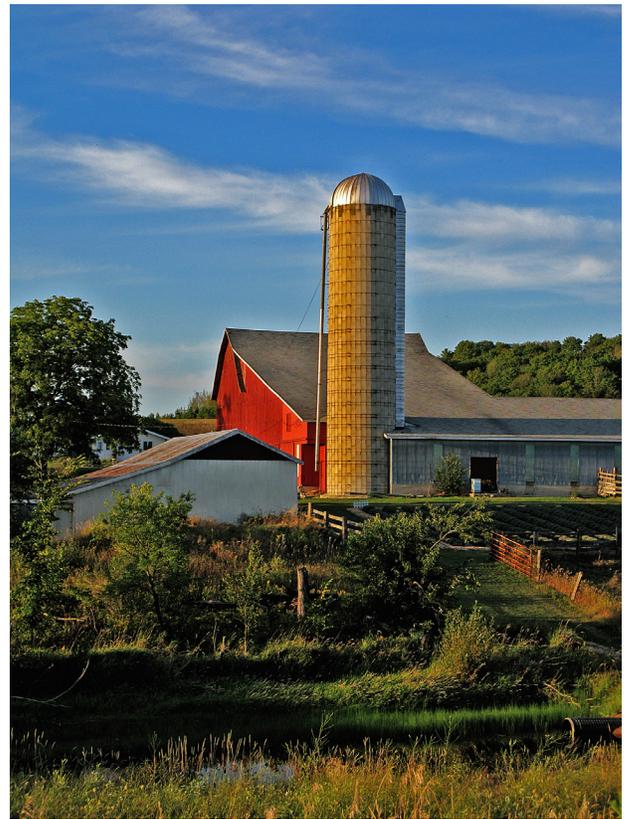
Natural Resources & Open Space

Goal: Protect sensitive environmental resources including, but not limited to, steep slopes, wetlands, wildlife habitat, springs, waterways, and shorelines.

- » Review the existing overlay district to protect water quality and property values along inland lakeshores, streams, and creek banks.
- » Partner with the Lake Charlevoix Association, Walloon Lake Association and Conservancy, and Tip of the Mitt Watershed Council to educate residents and promote best practices in shoreline management.
- » Recognize the dark night sky as an important and fragile natural resource to be protected within Bay Township. Require the use of appropriate lighting with future development.
- » Consider open space conservation and natural buffers when reviewing development applications.
- » Promote the protection of wetlands in maintaining and improving water quality within the Township.
- » Explore opportunities to protect lakeshore water quality from point and non-point sources of pollution.

Goal: Protect and promote the use of agricultural lands and activities within Bay Township.

- » Review and update the permitted and special uses allowed in the agricultural zoning district to encourage value added agricultural activities such as agritourism to make farming more viable.
- » Encourage opportunities for land owners to



Barn in Autumn Sunset
Source: Rob Maxwell

capture the development value of farmland without creating scattered developments through the purchase of development rights (PDR).

- » Encourage the Township's farms to utilize the Generally Accepted Agricultural Management Practices (GAAMPS), as defined by the Michigan Department of Agriculture.
- » Support farmers' diversification of agricultural production, including increasing value-added agriculture (such as on-site processing, sales, and direct marketing), farm stands, agriculture-based tourism and recreation.



Walloon Lake Bottom at Sherwood Park

Development

Goal: Plan for development that preserves the Township’s rural character.

- » Allow small scale business development and appropriate service/retail in line with the Township’s character.
- » Define and formalize the Village Overlay District so the zoning map and zoning standards are consistent.
- » Allow but control home occupations/businesses as viable economic activities without altering the character of neighborhoods and residential areas.

Goal: Encourage a broad range of housing that meets the varying economic, lifestyle, and stage of life needs of the community residents while protecting natural resources.

- » Allow housing options that reflect the Township’s changing demographics and needs.
- » Where appropriate encourage the development of shared septic, water, access road, and/or pedestrian trail infrastructure at future housing developments.
- » Require the retention and maximize the creation of greenbelts and buffers within future development.
- » Support programs to encourage home renovation and rehabilitation through obtaining grants for old water well abandonment, alternative energy, water conservation, and home repair.



Lavender Hill Farm

4

Socioeconomic Characteristics

INTRODUCTION

It is important to consider the demographic composition of Bay Township when planning for the future. Assessed over time, trends emerge, and changes become evident that will most likely affect future land uses and community services. In the following sections, information is reviewed regarding Bay Township’s population by age groups, including senior citizens, employment trends, household size, persons with disabilities, population trends and projections, race and ethnic groups, gender, housing values, mortgage and rent

statistics, and per capita income.

AGE GROUPS

Table 3 compares Bay Township’s population with that of Charlevoix County and the State of Michigan. Bay Township has a lower percentage of preschool, elementary, and secondary school-aged children (20.2% collectively) than Charlevoix County (21.8%) and the State of Michigan (24.7%). This may indicate that families with school aged children are concentrated in other areas of the County or other areas of the State.

TABLE 3. AGE GROUP COMPARISONS

Age Cohort	Bay Township		Charlevoix County		State of Michigan
	Number	Percent	Number	Percent	Percent
Preschool (Under 5 years)	44	3.40%	1,169	4.50%	5.70%
Elementary School (5-14 years)	166	13.00%	2,975	11.40%	12.30%
Secondary School (15-19 years)	49	3.80%	1,548	5.90%	6.70%
Family Forming (20-44 years)	255	19.90%	6,394	24.40%	31.50%
Mature Family (45-64 years)	477	37.20%	6,020	23.00%	16.30%
Retirement Age (65 years and up)	290	22.60%	3,894	14.80%	12.30%
Totals	1,281	-	26,219	-	-
Median	51.3	-	48.1	-	39.7

Source: U.S. Census 2018 - 5 Year Estimates DP05

The percentage of the family-forming age group (19.9%) is also less than Charlevoix County (24.4%) and the State of Michigan (31.5%). The largest age group in Bay Township is mature families (37.2%) followed by the retirement age group (22.6%). Both of these age groups are higher than the percentages at the County and State level. The residents of Bay Township skew towards middle to older age indicating that as Bay Township progresses into the future there will be an increased demand for senior services and a decline in services for children and younger families, provided limited to no immigration of new residents. But because Bay Township has a relatively low total year-round population at 1,281, even a small decline or influx by any age group could significantly alter the Township's age group composition.

159 new residents have come to Bay Township over the eight-year period with the majority of this growth in age groups over 45 years.

Table 4 presents a distribution of Bay Township's population by age for both 2010 and 2018, and the number and percentage change in that eight-year period. The data shows a 14.2% population increase in Bay Township from 2010 to 2018. The only age group that did not see growth over the eight-year time period is preschool aged children.

TABLE 4. BAY TOWNSHIP AGE GROUP COMPARISONS 2010 & 2018

Age Cohort	2010		2018		2010-2018 Change	
	Number	Percent	Number	Percent	Number	Percent
Preschool (Under 5 years)	69	6.10%	44	3.40%	-25	-36.20%
Elementary School (5-14 years)	124	11.10%	166	13.00%	42	33.90%
Secondary School (15-19 years)	58	5.20%	49	3.80%	-9	15.50%
Family Forming (20-44 years)	254	22.60%	255	19.90%	1	0.40%
Mature Family (45-64 years)	378	33.70%	477	37.20%	99	26.20%
Retirement Age (65 years and up)	239	21.30%	290	22.60%	51	21.30%
Totals	1,122	100%	1,281	100%	159	14.20%

Source: U.S. Census 2010 DP05 and 2018 - 5 Year Estimates DP05

POPULATION TRENDS

Table 5 tracks population trends over the roughly 50-year period from 1970 to 2018. It compares population growth trends within Bay Township to Charlevoix County, the Northwest Region of Michigan (including ten counties¹), and the State of Michigan.

Bay Township has experienced consistent growth since 1970 with the population almost tripling over the 48 years. This consistent growth is much higher than the County, Region, and State. Subsequent population growth is indicative of Bay Township’s desirability as a place to live, work and recreate.

TABLE 5. BAY TOWNSHIP POPULATION TRENDS

Community	1970	1980	1990	2000	2010	2018	1970-2018 Percent Change	2010-2018 Percent Change
Bay Township	456	599	825	1,068	1,122	1,281	180.92%	14.17%
Charlevoix County	16,547	19,907	21,468	26,090	26,228	26,219	58.45%	-0.03%
Northwest Michigan Region	158,333	208,286	230,962	281,468	258,595	261,487	65.15%	1.12%
State of Michigan	8,880,812	9,262,078	9,295,297	9,938,444	9,877,574	9,995,915	12.56%	1.20%

Source: Bay Township Master Plan 2006, U.S. Census 2010 DP05, and 2018 - 5 Year Estimates DP05

Table 6 represents demographic trends from 2010 to 2018 within Charlevoix County as a whole. All townships within Charlevoix County are combined into geographic subgroups. Incorporated cities of Charlevoix, Boyne City and East Jordan are listed separately.

Table 6 shows a varying degree of growth in the County. The Southern & Eastern communities all experienced growth between 2010 and 2018. The lakeshore communities experienced limited growth over the same time period and the US 31/Lake Michigan Communities experienced population loss. The City of Charlevoix experienced the most population loss and St. James Township lost the most population relative to their overall population.

This demographic shift suggests that people are moving inland to communities around Lake Charlevoix as opposed to communities along Lake Michigan. Dramatic growth within these townships during the past decade may be attributed to low density residential development.

HOUSEHOLD SIZE

TABLE 6. COUNTY SUB-AREA POPULATION, CHARLEVOIX COUNTY 2010-2018

County Sub-Area	Population by Units		2010-2018 Change		Proportion of County by Percentage	
	2010	2018	Number	Percent	2010	2018
US-31 / Lake Michigan Communities						
Charlevoix Township	1,645	1,687	42	2.6%	6.3%	6.4%
City of Charlevoix	2,513	2,364	-149	-5.9%	9.6%	9.0%
Norwood Township	723	738	15	2.1%	2.8%	2.8%
Hayes Township	1,919	1,809	-110	-5.7%	7.3%	6.9%
Peaine Township	292	270	-22	-7.5%	1.1%	1.0%
St. James Township	365	292	-73	-20.0%	1.4%	1.1%
Subtotal	7,457	7,160	-297	-4.0%	28.4%	27.3%
Lakeshore Communities						
Bay Township	1,122	1,281	159	14.2%	4.3%	4.9%
Evangeline Township	712	781	69	9.7%	2.7%	3.0%
Eveline Township	1,484	1,593	109	7.3%	5.7%	6.1%
South Arm Township	1,873	2,073	200	10.7%	7.1%	7.9%
Marion Township	1,714	1,649	-65	-3.8%	6.5%	6.3%
Wilson Township	1,964	1,861	-103	-5.2%	7.5%	7.1%
Melrose Township	1,403	1,328	-75	-5.3%	5.3%	5.1%
City of Boyne City	3,735	3,750	15	0.4%	14.2%	14.3%
City of East Jordan	2,351	2,341	-10	-0.4%	9.0%	8.9%
Subtotal	16,358	16,657	299	1.8%	62.4%	63.5%
Southern & Eastern Townships						
Chandler Township	248	262	14	5.6%	0.9%	1.0%
Hudson Township	691	716	25	3.6%	2.6%	2.7%
Boyne Valley Township	1,195	1,424	229	19.2%	4.6%	5.4%
Subtotal	2,134	2,402	268	12.6%	8.1%	9.2%
Other	279	0	-279	-100.0%	1.1%	0.0%
County Total	26,228	26,219	-9	0.0%		

Source: U.S. Census 2010 P1, U.S. Census 2018 – 5 Year Estimates.

Note: The populations of Walloon Lake and Boyne Falls are included in their respective township totals.

Table 7 summarizes trends in the size of households from 1980 to 2018. The Township's average number of persons per household has declined since 1980 to a 2018 average of 2.39. This appears to be consistent with the decreasing average family size experienced by Charlevoix County and the State of Michigan.

TABLE 7. HOUSEHOLD SIZE 1980-2018

Community	1980	1990	2000	2010	2018
Bay Township	2.79	2.72	2.49	2.52	2.39
Charlevoix County	2.78	2.59	2.48	2.26	2.28
State of Michigan	2.84	2.66	2.56	2.53	2.49

Source: Bay Township Master Plan 2006, U.S. Census 2010 H13, U.S. Census 2018 - 5 Year Estimates DP02

POPULATION PROJECTIONS

The Michigan Bureau of Labor Market Information and Strategic Intelligence published detailed population projections through 2045 for each Michigan County. While they did not detail the specific projections for county subdivisions, like Bay Township, the projections for Charlevoix County may be emblematic of the future change for Bay Township. Table 8 details the projections through 2045.

Table 8 shows that Charlevoix County is expected to experience limited to no growth for the next 25 years. There are many factors that may influence population growth, although most are not easily quantified. However, based on the fact that Bay Township is nestled within a beautiful, rural lake shore area, approximately four miles to Boyne City, nine miles from the City of Charlevoix, and 10 miles from the City of Petoskey (each of which are population/employment centers), it is reasonable to estimate that Bay Township will continue to grow significantly. The City of East Jordan exists about 12 miles to the south of the southern edge of Bay Township, and the unincorporated hamlet of Boyne Falls and the Boyne USA resort complex is approximately nine miles southeast of Bay Township. These population and employment centers are also considered within commuting distance of Bay Township.



Lavender Fields
Source: Rob Maxwell

TABLE 8. CHARLEVOIX COUNTY POPULATION PROJECTIONS

AGE	2020	2025	2030	2035	2040	2045
0-4	1,137	1,191	1,237	1,242	1,208	1,158
5-9	1,290	1,224	1,297	1,342	1,346	1,297
10-14	1,535	1,409	1,351	1,423	1,468	1,465
15-19	1,449	1,428	1,307	1,248	1,320	1,361
20-24	1,257	1,212	1,213	1,088	1,031	1,075
25-29	1,283	1,300	1,313	1,306	1,172	1,060
30-34	1,278	1,398	1,459	1,466	1,453	1,280
35-39	1,400	1,370	1,518	1,577	1,578	1,541
40-44	1,317	1,478	1,462	1,610	1,666	1,653
45-49	1,238	1,273	1,443	1,428	1,572	1,616
50-54	1,714	1,306	1,357	1,523	1,503	1,629
55-59	2,131	1,851	1,468	1,517	1,678	1,639
60-64	2,397	2,272	2,017	1,644	1,690	1,833
65-69	2,187	2,335	2,225	1,984	1,627	1,663
70-74	1,781	2,002	2,142	2,037	1,817	1,486
75-79	1,292	1,554	1,755	1,875	1,779	1,583
80-84	738	972	1,192	1,352	1,446	1,355
85+	712	786	973	1,191	1,392	1,534
Total	26,137	26,359	26,728	26,853	26,749	26,229

Source: https://milmi.org/Portals/198/publications/Population_Projections_2045.pdf?ver=2019-09-09-122247-547

Given these demographic trends and Bay Township’s geographic setting, it is likely that Bay Township will continue to be an attractive community in which to settle through the year 2040, the scope of this document. Although Bay Township has no public sewer or water services, it possesses a large number of future non-lakeshore home sites and an abundant number of residential lots two acres and larger within the Township’s Agricultural zoning district. Bay Township’s year-round attraction as a prime water- based recreational area also close to ski hills, golf courses, beaches, and other recreational features, as well as full-time employment opportunities, add to its attractiveness for seasonal and permanent housing. Careful planning will be required to guide future development in a manner that blends with and enhances the Township’s rural and waterfront character.

RACIAL AND ETHNIC COMPOSITION

Table 9 shows Bay Township’s racial composition and national origin to be identical to Charlevoix County with 95.1% of the population reported as white, and 4.6% of the population as American Indian and Hispanic/Latino, respectively. The remaining groups make up less than 3% of the total Township population. The census identifies Hispanic/Latino as an ethnicity therefore the percentages may add up to more than 100 because a person may be counted twice, first for race and second for ethnicity. The State of Michigan has a significantly higher percentage of non-white populations.

TABLE 9. RACE & NATIONAL ORIGIN

Race / National Origin	Bay Township		Charlevoix County	State of Michigan
	Number	Percent	Percent	Percent
White	1,218	95.1%	95.1%	78.5%
American Indian and Alaskan Native	33	2.6%	1.5%	0.5%
Black or African American	0	0.0%	0.5%	13.8%
Asian	0	0.0%	0.4%	3.1%
Native Hawaiian and other Pacific Islander	9	0.7%	0.1%	0.0%
Some other Race	0	0.0%	0.6%	1.2%
Two or More Races	21	1.6%	2.0%	2.8%
Hispanic or Latino	26	2.0%	1.9%	5.0%

Source: U.S. Census 2010.

SEASONAL POPULATION

Table 10 shows the percentage of seasonal housing for five Charlevoix County townships and Emmet County’s Resort Township, as well as Charlevoix County and the State of Michigan. Eveline Township, Bay Township, and Melrose Township have relatively high rates of seasonal, occasional, or recreational housing. These homeowners likely possess more than one home and reside in area townships temporarily each year to enjoy seasonal opportunities and/or visit at different times of the year. Of the Charlevoix and Emmet County shoreline communities listed below, Eveline Township has the highest percentage of seasonal housing at 47.2%, followed by Bay Township at 36.5%, and at Melrose Township at 31.6%. All listed townships experience seasonal housing rates

TABLE 10. SEASONAL HOUSING 2018

Jurisdiction	% of Total	% of Vacant Units
Bay Township	36.5%	89.0%
Evangeline Township	28.2%	88.0%
Eveline Township	47.2%	91.5%
Melrose Township	31.6%	89.8%
Hayes Township	29.7%	88.8%
Resort Township	24.0%	81.2%
Charlevoix County	31.7%	89.5%
State of Michigan	6.3%	43.3%

Source: U.S. Census 2018 - 5 Year Estimates

greatly in excess of the 6.3% average for the State of Michigan. Table 11 also shows the number of vacant units that are seasonal units. All the Charlevoix and Emmet County communities have a high percentage of their vacant units due to the seasonal occupancy of the owner. This indicates that these communities have limited available housing stock for new residents. Therefore, any new units will most likely have to be constructed.

In 2014, Networks Northwest published a report titled “Northwest Michigan Seasonal Population Analysis” which was prepared by the Michigan State University Land Policy Institute. This report estimates the seasonal population of Charlevoix County and nine other counties by combining census data with accommodation data. The report found that 19.4% of the population of Charlevoix County is an overnight visitor, tourist, or second/summer home occupant (i.e. 6,265 persons). Averaging just the months of June, July, and August, Charlevoix County’s seasonal population increases to 40,800 persons/month - representing a 36.2% seasonal population increase compared to the month of May. The month of August, at least in 2014, had the highest single monthly county population estimate at 41,333 persons, representing 15,310 seasonal residents and/or visitors and 26,023 permanent residents.

TABLE 11. CHARLEVOIX COUNTY SEASONAL POPULATION

Month	Permanent Population	Second Home Population	Overnight Visitors	Total	% Seasonal
January	26,023	1,353	620	27,996	7%
February	26,023	1,353	965	28,341	8%
March	26,023	2,118	752	28,894	10%
April	26,023	2,118	1,216	29,357	11%
May	26,023	2,118	1,794	29,963	13%
June	26,023	10,910	2,845	39,778	35%
July	26,023	10,910	4,356	41,289	37%
August	26,023	10,910	4,400	41,333	37%
September	26,023	2,986	2,844	31,853	18%
October	26,023	2,986	1,922	30,932	16%
November	26,023	2,986	767	29,776	13%
December	26,023	1,353	591	27,967	7%
Annual Average	26,023	4,342	1,923	32,288	19%

Source: “Northwest Michigan Seasonal Population,” Networks Northwest, October 11, 2014

While Bay Township possesses few tourist-oriented overnight accommodations, it does possess a great deal of seasonal housing, an exquisite natural resource base to attract seasonal visitors and is within a few miles of the Michigan Department of Natural Resources' Young State Park and other resort properties. It is a fair assumption that inland lake waterfront and rural landscapes will continue to be a major attraction for Bay Township residents and visitors alike, and that the demand for seasonal dwellings will continue to increase.

PUBLIC SCHOOLS

Bay Township exists entirely within the Boyne City Public School District. The Boyne City Schools experienced a growth of 8.7% between the 2009-2010 school year and the 2019-2020 school year. As evident in Table 12, the majority of the student growth occurred in the middle and high school with elementary student enrollment declining over the same time period.

A new 120,000 square foot Boyne City Public High School was completed and opened in September 2002. With the addition of the new building, the old high school was remodeled into a middle school, and the old middle school became the Boyne City Public District's Early Childhood Education Center and Administrative Offices.

The new high school was built mainly due to increasing student enrollment. The original plan was to configure four separate school buildings to serve K-2, 3-5, 6-8, and 9-12. However, during the time required to pass a new millage and build the high school, the school district's student enrollment declined to the point that three rather than the planned four buildings were considered sufficient



Boyne City High School

Source: Boyne City Public Schools (boynecity.cyberschool.com/BCHS)

TABLE 12. BOYNE CITY PUBLIC SCHOOLS ENROLLMENT BY ACADEMIC YEAR

School	2009-2010	2019-2020	Number Change	Percent Change
Boyne City Elementary School	460	434	-26	-5.7%
Boyne City Middle School	392	429	37	9.4%
Boyne City High School	350	444	94	26.9%
Morgan-Shaw School	34	37	3	8.8%
Total	1,236	1,344	108	8.7%

Source: MISchoolData Dashboard, Michigan Department of Education

to meet the District’s needs. At present, a process is in the works to develop an Early Childhood Program which will allow the District to keep the former Middle School open without draining too much from the operational millage.

EMPLOYMENT TRENDS

The overall workforce for Bay Township decreased by 5.4% in the period from 2010 to 2018. During this time the unemployment rate for Bay Township decreased by 64.2%. Table 13 lists the Civilian Employment for Bay Township change for the period 2010 to 2018.

Employment trends in Bay Township indicate shifting industries, with the information, finance, and professional services industries experiencing significant growth. Additionally, due to the agricultural and rural nature of the Township the

TABLE 13. BAY TOWNSHIP CIVILIAN EMPLOYMENT POPULATION 16 YEARS & OVER

Industry Sector	2010	2018	% Change
Total in Labor Force	706	668	-5.4%
Agriculture, forestry, fishing and hunting, and mining	12	21	75.0%
Construction	58	56	-3.4%
Manufacturing	107	93	-13.1%
Wholesale trade	25	3	-88.0%
Retail trade	66	51	-22.7%
Transportation and warehousing, and utilities	14	17	21.4%
Information	3	4	33.3%
Finance and insurance, and real estate and rental and leasing	24	33	37.5%
Professional, scientific, and management, and administrative and waste management services	36	49	36.1%
Educational services, and health care and social assistance	191	194	1.6%
Arts, entertainment, and recreation, and accommodation and food services	71	69	-2.8%
Other services, except public administration	8	30	275.0%
Public administration	24	27	12.5%
Unemployed (in civilian labor force)	62	21	-66.1%
Unemployment Rate	8.8%	3.1%	-64.2%

Source: U.S. Census 2010 and 2018 - 5 Year Estimates DP03.

number of people employed in the agriculture sector increased. U.S. Census data in Table 14 also indicates an decrease in median household income² (11.4%) and an increase in median family income³ (12.2%) in Bay Township from 2010 to 2018. This trend is representative of the changes in Charlevoix County and the State of Michigan over the same time period. Table 14 shows that the percentage of families below the poverty line decreased in the Township (35.9%) at a substantially higher rate than the decline of families in poverty in Charlevoix County and the State.

The decline of household incomes and an increase of family incomes in Bay Township are substantially higher than the County and State indicating that families in the Township are becoming wealthier at

TABLE 14. INCOME STATUS 2010 - 2018

	2010*	2018	% Change
Bay Township			
Median Household Income	\$81,358	\$72,054	-11.4%
Median Family Income	\$82,804	\$92,917	12.2%
% of Families below the poverty level	6.4%	4.1%	-35.9%
Charlevoix County			
Median Household Income	\$56,086	\$53,207	-5.1%
Median Family Income	\$65,664	\$67,594	2.9%
% of Families below the poverty level	8.2%	7.6%	-7.3%
State of Michigan			
Median Household Income	\$55,772	\$54,938	-1.5%
Median Family Income	\$69,486	\$69,691	0.3%
% of Families below the poverty level	10.6%	10.4%	-1.9%

Source: U.S. Census 2010 & 2018 – 5 Year Estimates DP03.

* Note: The household and family incomes reported in 2010 are as presented by the U.S. Census Bureau, and are adjusted for inflation or “real” dollars in 2018.

² Employment trends in Bay Township indicate shifting industries, with the information, finance, and professional services industries experiencing significant growth. Additionally, due to the agricultural and rural nature of the Township the number of people employed in the agriculture sector increased. U.S. Census data in Table 14 also indicates an decrease in median household income (11.4%) and an increase in median family income (12.2%) in Bay Township from 2010 to 2018. This trend is representative of the changes in Charlevoix County and the State of Michigan over the same time period. Table 14 shows that the percentage of families below the poverty line decreased in the Township (35.9%) at a substantially higher rate than the decline of families in poverty in Charlevoix County and the State.

³ The U.S. Census Bureau defines median family income as the median of the sum of money received in the previous calendar year by all family members 15 years and over. A family is defined as a group of two people or more (one of whom is the householder) related by birth, marriage, or adoption and residing together; all such people (including related subfamily members) are considered as members of one family. Median income is the amount which divides the income distribution into two equal groups, half having incomes above the median, and half having incomes below the median.

a faster rate than other families in the County and State. Furthermore, nonfamilies in the township are losing wealth at a faster rate than nonfamilies in the County and the State. It should be noted that some people living in Bay Township may travel into adjacent or nearby counties to work, and such statistics are not reflected in Table 14.

The 2020 federal poverty guidelines as established by the Department of Health and Human Services are as follows: family of one income at \$12,760/year; family of two at \$17,240/year; family of three at \$21,720/year; family of four at \$26,200/year; family of five at \$30,680/year; family of six at \$35,160/year; family of seven at \$39,640/year; and family of eight at \$44,120/year. For each additional person per family, federal poverty guidelines suggest adding \$4,480 per annual family income⁴.

DISABLED STATUS OF RESIDENTS

A determination of the disability status of residents is important to gauge the need for or adequacy of community services for the disabled. Table 15 shows population by disability status for Bay Township during the year 2018. Roughly 27% of Township residents over the age of 65 reported a disability with an ambulatory disability (impaired movement) being the most common followed by hearing difficulty. With the limited transit services, transportation for the disabled elderly population is likely difficult.

GROSS RENT

Table 16 summarizes housing rental costs within Bay Township compared to Charlevoix County and the State. Table 16 shows that rental housing costs in Bay Township are higher than the County and the State with median monthly rental costs in the Township \$1,078 (\$12,936).

TABLE 15. 2018 POPULATION DISABILITY STATUS

Disability and Population Counts	
Total Population	1,281
With a Disability	133
Under 18	7
18 to 64	53
Over 65	73
Hearing Difficulty	48
Under 18	0
18 to 64	16
Over 65	32
Vision Difficulty	6
Under 18	0
18 to 64	2
Over 65	4
Cognitive Difficulty	31
Under 18	3
18 to 64	14
Over 65	14
Ambulatory Difficulty	71
Under 18	0
18 to 64	27
Over 65	44
Self-Care Difficulty	18
Under 18	4
18 to 64	11
Over 65	3
Independent Living Difficulty	39
Under 18	N/A
18 to 64	19
Over 65	20

Source: U.S. Census 2018 - 5 Year Estimate S1810

⁴ <https://www.payingforseniorcare.com/federal-poverty-level>

TABLE 16. 2018 GROSS RENT

Income Bracket	Bay Township		Charlevoix County		State of Michigan	
	Number	Percent	Number	Percent	Number	Percent
Less than \$500	0	0.0%	419	21.2%	132,753	12.4%
\$500 to \$999	3	27.3%	1,261	63.7%	585,495	54.6%
\$1,000 to \$1,499	8	72.7%	282	14.2%	268,180	25.0%
\$1,500 to \$1,999	0	0.0%	13	0.7%	57,204	5.3%
\$2,000 to \$2,499	0	0.0%	4	0.2%	16,910	1.6%
\$2,500 to \$2,999	0	0.0%	0	0.0%	5,464	0.5%
\$3,000 or more	0	0.0%	0	0.0%	6,343	0.6%
Median (dollars)	1,078	-	713	-	850	-
No rent paid	13	-	153	-	60,046	-

Source: U.S. Census 2018 - 5 Year Estimates DP04

HOUSING COSTS AS A PERCENTAGE OF HOUSEHOLD INCOME

It is important to understand how much households are paying in household costs to determine if housing costs are above affordable levels. 30% of household income is widely considered the threshold for housing affordability. Only households that own their homes are cost burdened, no households that rent housing are cost burdened. It should be noted that the relatively low number of overall non-seasonal rental units of eleven in Bay Township may significantly skew findings due small changes in renter income status.

TABLE 17. HOUSEHOLD COSTS AS A PERCENTAGE OF HOUSEHOLD INCOME

Percent of Income	Owner (Mortgage)		Owner (No Mortgage)		Rental	
	Number	Percent	Number	Percent	Number	Percent
Total	286	-	215	-	11	-
Less than 10.0%	-	-	133	61.9%	-	-
Less than 15.0%	-	-	33	15.3%	10	90.9%
Less than 20.0%	119	41.6%	21	9.8%	0	0.0%
20.0 to 24.9%	67	23.4%	6	2.8%	1	9.1%
25.0 to 29.9%	31	10.8%	0	0.0%	0	0.0%
30.0 to 34.9%	8	2.8%	8	3.7%	0	0.0%
35.0% or more	61	21.3%	14	6.5%	0	0.0%
Not computed	0	-	12	-	13	-

Source: U.S. Census 2018 - 5 Year Estimates DP04

YEAR STRUCTURE BUILT

Table 18 below summarizes the age of housing stock within Bay Township, Charlevoix County, and the State of Michigan. Table 18 indicates that the largest proportion of housing stock in Bay Township was constructed between 1990 and 1999 (18.0%), followed by 1980 to 1989 (17.1%), 1970 to 1979 (16.8%), and then 1960-1969 (14.2%). From this data, some consideration should be given by Township planners to the adequacy of the older housing stock to meet current and future Township housing needs of residents and consider the exploration of a historic preservation program in Bay Township. Also, important to consider is the affordability of retrofitting and upgrading older housing stock to meet the needs of current and future Township residents.

TABLE 18. 2018 HOUSING AGE

Housing Age	Bay Township		Charlevoix County		State of Michigan	
	Number	Percent	Number	Percent	Number	Percent
Total Housing Units	910	-	17,630	-	4,580,939	-
Built 2014 or later	0	0.0%	103	0.6%	36,909	0.8%
Built 2010 to 2013	10	1.1%	137	0.8%	54,480	1.2%
Built 2000 to 2009	122	13.4%	1,970	11.2%	453,004	9.9%
Built 1990 to 1999	164	18.0%	2,947	16.7%	604,698	13.2%
Built 1980 to 1989	156	17.1%	2,454	13.9%	454,292	9.9%
Built 1970 to 1979	153	16.8%	2,930	16.6%	704,492	15.4%
Built 1960 to 1969	129	14.2%	1,928	10.9%	546,353	11.9%
Built 1950 to 1959	36	4.0%	1,385	7.9%	687,047	15.0%
Built 1940 to 1949	27	3.0%	1,477	8.4%	355,865	7.8%
Built 1939 or earlier	113	12.4%	2,299	13.0%	683,799	14.9%

Source: U.S. Census 2018 - 5 Year Estimates DP04.

YEAR HOUSEHOLDER MOVED INTO UNIT

Table 19 below summarizes when Bay Township householders moved into homes within the Township. Table 19 indicates an increase in home occupation (i.e. home rental, purchases, and/or occupied newly constructed homes) in Bay Township during the 1990s and 2000s. Table 19 also suggests a limited in-migration of new

homeowners since 2014. The Township data suggests that residents are moving into and less frequently than the residents of the County and the State.

TABLE 19. YEAR HOUSEHOLDER MOVED INTO STRUCTURE

Move In Year	Bay Township		Charlevoix County		State of Michigan	
	Number	Percent	Number	Percent	Number	Percent
Moved in 2017 or later	10	1.9%	512	4.5%	174,579	4.5%
Moved in 2015 to 2016	27	5.0%	962	8.5%	455,630	11.7%
Moved in 2010 to 2014	114	21.2%	2,649	23.3%	1,083,327	27.7%
Moved in 2000 to 2009	165	30.7%	2,924	25.7%	941,173	24.1%
Moved in 1990 to 1999	124	23.1%	2,123	18.7%	585,508	15.0%
Moved in 1989 and earlier	97	18.1%	2,209	19.4%	669,292	17.1%

Source: U.S. Census 2018 - 5 Year Estimates DP04.

TOTAL HOUSING UNITS/UNITS IN STRUCTURES

Table 20 summarizes the housing stock within Bay Township in 2018. The majority of the housing stock in the Township is 1-unit detached (92.5%). This is significantly higher than the County and the State indicating a strong preference for the rural character of the Township. More urbanized areas have higher rates of multi-unit dwellings. Multi-unit

TABLE 20. NUMBER OF UNITS IN STRUCTURE

Housing Age	Bay Township		Charlevoix County		State of Michigan	
	Number	Percent	Number	Percent	Number	Percent
Total Housing Units	910		17,630		4,580,939	
1-unit, detached	842	92.5%	14,031	79.6%	3,310,218	72.3%
1-unit, attached	22	2.4%	188	1.1%	208,976	4.6%
2 units	9	1.0%	312	1.8%	107,731	2.4%
3 or 4 units	0	0.0%	577	3.3%	119,258	2.6%
5 to 9 units	0	0.0%	618	3.5%	193,845	4.2%
10 to 19 units	0	0.0%	337	1.9%	162,898	3.6%
20 or more units	0	0.0%	419	2.4%	234,885	5.1%
Mobile home	37	4.1%	1,148	6.5%	242,072	5.3%
Boat, RV, van, etc.	0	0.0%	0	0.0%	1,056	0.0%

Source: U.S. Census 2018 - 5 Year Estimates DP04.

buildings tend to be more affordable for renters but as detailed in Table 17 no renters in the township are housing cost burdened.

For the purpose of Table 20, the U.S. Census Bureau defines a housing unit as a house, apartment, mobile home, trailer, a group of rooms, or a single room that is occupied (or if vacant, is intended to be occupied) as separate living quarters. A mobile home is defined as a trailer designed or equipped with wheels and made to provide a residence for one or more persons. For mobile homes, trailers or other (such as houseboats and other recreational vehicles) the manufacturer’s model year is considered the year-built. “Other” is also considered to include other types of manufactured homes.

The two value ranges that experienced the most growth between 2010 and 2018 were “Less than \$50,000” and “\$1,000,000 or more,” indicating an increasing polarized housing value in the Township.

HOUSING MARKET VALUE

Table 21 summarizes trends in owner-specified housing market values within Bay Township from 2010 to 2018. Table 21 indicates the value of over a quarter of the homes during 2010 in Bay Township was within the “\$300,000 to \$499,999” price range, followed by the “\$200,000 to \$299,000” range. Median housing values decreased between 2010 and 2018 and likely declined more than shown below due to inflation. This data suggests that existing housing stock is staying constant or declining in value.

TABLE 21. BAY TOWNSHIP HOUSING VALUE

Owner Occupied Units	2010		2018		2010-2018 Change
	Number	Percent	Number	Percent	% Change
Total Units	532	-	513	-	-3.6%
Less than \$50,000	3	0.6%	34	6.6%	1033.3%
\$50,000 to \$99,999	31	5.8%	40	7.8%	29.0%
\$100,000 to \$149,999	94	17.7%	51	9.9%	-45.7%
\$150,000 to \$199,999	78	14.7%	93	18.1%	19.2%
\$200,000 to \$299,999	106	19.9%	107	20.9%	0.9%
\$300,000 to \$499,999	140	26.3%	103	20.1%	-26.4%
\$500,000 to \$999,999	51	9.6%	40	7.8%	-21.6%
\$1,000,000 or more	29	5.5%	45	8.8%	55.2%
Median (dollars)	239,000	-	234,400	-	-

Source: U.S. Census 2018 - 5 Year Estimates DP04.

Note: The 2010 median value reported is as presented by the U.S. Census Bureau, and not adjusted for inflation or “real” dollars in 2018.

5

Natural Resources

INTRODUCTION

Throughout lower Michigan and beyond, the population of cities is decreasing, and rural areas are growing at least partly because people want to experience the rural character of the area. As population grows, conflicts between people, land uses, and the environment may increase, impacting Bay Township's natural resources. In turn these trends can threaten Bay Township's rural character, rich with rolling farmland, mature woodlands, beautiful water resources, and spectacular views.

Natural areas not only provide us with economic opportunity, but they provide other important values such as scenic views, wildlife habitat, and provide clean air to breathe and pure water to drink. These areas also provide enormous recreational opportunities, representing important future economic resources within Bay Township. Specifically, such areas are used for economic pursuits such as water-based recreation, farming, forestry, hunting, and tourism. Retention of a high quality, intact natural resource base within Bay Township is not only necessary for economic and aesthetic considerations, but for the protection of the public health, safety, and general welfare. Future development of Bay Township should be carefully guided to fit into and not significantly impact the Township's water quality, rural character, and natural resource base identified in this chapter.

GENERAL CHARACTERISTICS

Bay Township possesses 15.5 square miles of land surface area and 3.4 square miles of surface water area. It is irregular in shape due to its setting nestled between Lake Charlevoix and Walloon Lake. Historically, Bay Township was extensively forested, providing settlers with land to use for

timber production and land to be cleared for farming. At that time, area lakes, streams and other water ways served as the primary sources of transportation, food, and other needs. Bay Township's abundant natural resource base still holds special attraction today.

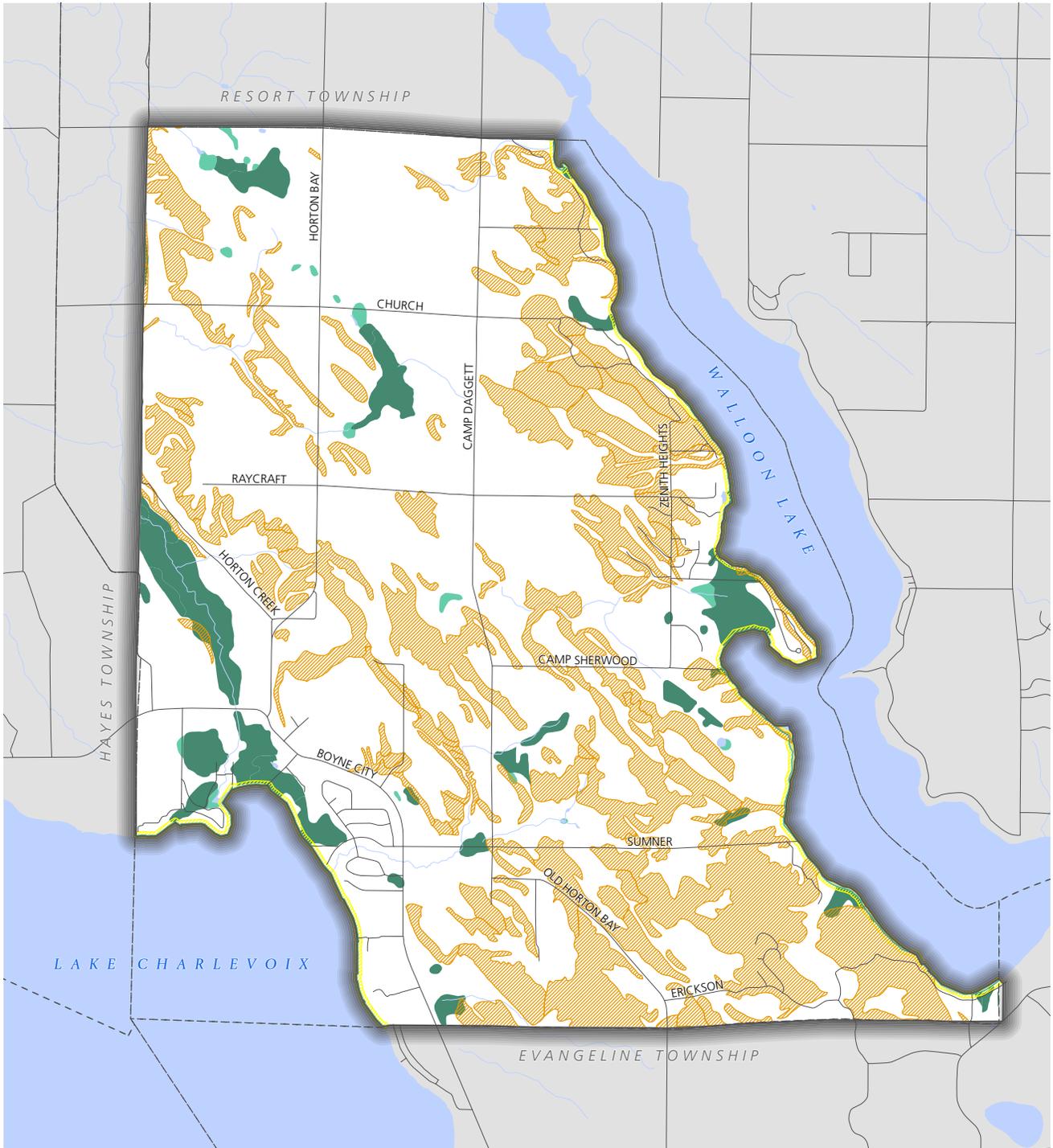
The natural resource base of Bay Township is discussed below to document its location, quality, and special features. The Environmentally Sensitive Areas Map illustrates the location of important environmentally sensitive features that are discussed in this chapter and will require special attention relating to future land use decisions.

GEOLOGIC AND TOPOGRAPHIC SETTING

The Township's geologic and topographic setting has been significantly influenced by massive continental glaciers up to two miles thick that ebbed and flowed across the landscape during the Wisconsin glacial age between 11,000 – 14,000 years ago. These glaciers deposited a fairly even mixture of sediment in the form of sands, silts, and gravels known as till. When deposited beneath the glaciers, these sediments created tear drop shaped hills known as drumlins that are found throughout the interior of the Township. Some of these features extend nearly 400 hundred feet above the elevation of Lake Charlevoix, creating dramatic relief throughout the Township. As the glaciers receded, the meltwater contributed to much of the surface water features present today, and frequent and dramatic variations in lake levels. During periods of higher water levels, bluffs along the lakes were periodically wave cut, creating extremely steep slopes that were eventually forested.

An important consideration of these glacial ridge

MAP 5. ENVIRONMENTALLY SENSITIVE AREAS



BAY TOWNSHIP

Environmentally Sensitive Areas

Data Sources: State of Michigan Geographic Data Library, Michigan DNR Open Data Portal

- Freeways
- State Trunklines
- - Minor Civil Divisions
- Lakes / Ponds
- Rivers / Streams
- Forested / Shrub Wetland
- Freshwater Emergent Wetland
- Shoreline Buffer (100ft)
- Steep Slopes (>18%)



B R I
Beckett&Raeder

features is groundwater hydrology. As a result of the presence of highly porous and highly permeable surface soils in the area, many portions of Bay Township possess relatively few surface water features such as small lakes, wetlands, or large rivers. Rainwater generally infiltrates rapidly through the soil into the groundwater.

Topographic features and hillsides contribute to the striking rolling rural character, exceptional scenic views, and a multitude of recreational opportunities throughout the Township. They can also be restrictive to development as level or moderately sloping sites are preferred for home sites and septic fields. Development that occurs on steeper slopes may require specialized stormwater and erosion control measures, careful grading, and enhanced engineering design.

These features also represent environmentally sensitive areas that can be damaged by inappropriate development unless good planning principles are undertaken and adhered to. Disturbances to hillside through grading, removal of vegetation, and increased impervious surfaces can contribute to increased erosion and decreased ground water recharge. Erosion tends to degrade property values, and can impair surface water quality and wetlands through siltation.

Inactive clay, sand and gravel mining operations can leave behind very steep, non-vegetated slopes susceptible to erosion and/or slumps. Bay Township encourages the restoration, re-contouring and replanting of inactive sand and gravel extraction sites to prevent erosion/sedimentation to adjoining properties, public roadways, and waterways. Human-made waterbodies from clay, sand and gravel operations, if created, should be protected and/or utilized in such a manner as to protect public safety and the environment. Bay Township possesses inactive clay, sand and gravel extraction operations at locations including east of Old Horton Bay Road in Section 32 and east of Boyne City Road in Section 8.

SURFACE WATER RESOURCES

Bay Township is blessed with some of the most impressive surface water resources in the State of Michigan and the nation. Lake Charlevoix forms the Township's southwestern boundary with approximately two miles of shoreline frontage. Walloon Lake forms the Township's eastern boundary contributing an additional seven miles of shoreline. Some small streams exist within the interior of Bay Township, but Horton Creek is the only major stream within its boundaries,



Glacial Deposits

flowing perennially or permanently from wetlands, seeps, and springs from within neighboring Hayes Township. Lake frontage property within Bay Township is highly valued for its scenic beauty, panoramic views, potential for residential development, and access to large interconnected water bodies for recreational opportunities.

Surface waters and shorelines can be degraded by deposition from erosion, algae growth enhanced by nutrients from leaching septic systems and/or from over application of fertilizers, filling or alteration of wetlands, especially along lakefronts, increased loss of native shoreline vegetation, especially for wildlife habitat and water quality protection, and increased storm water runoff from impervious or sealed surfaces, roof tops, driveways, parking areas, and/or manipulated landscapes.

Most the Township's shoreline is primarily residentially developed and inaccessible by County roads. Notable exceptions include seasonal recreational developments along the shores of Walloon Lake, such as the University of Michigan Alumni Association's Michigania and Camp Daggett. Generally, few undeveloped shoreline parcels remain with enough buildable space to easily accommodate new residential development. A recent trend on the shoreline is to replace or significantly remodel smaller cottages with larger homes, and/or to seek to locate home sites on

steep slopes leading to the water's edge. Significant tree removal, large areas of soil disturbance, and construction (including septic systems) on steep slopes associated with golf courses, planned unit and other residential development are similarly of concern in Bay Township. Future changes to shoreline residential and commercial uses can be categorized as a potential threat to water quality if not responsibly developed in respect to these environmentally sensitive contexts.

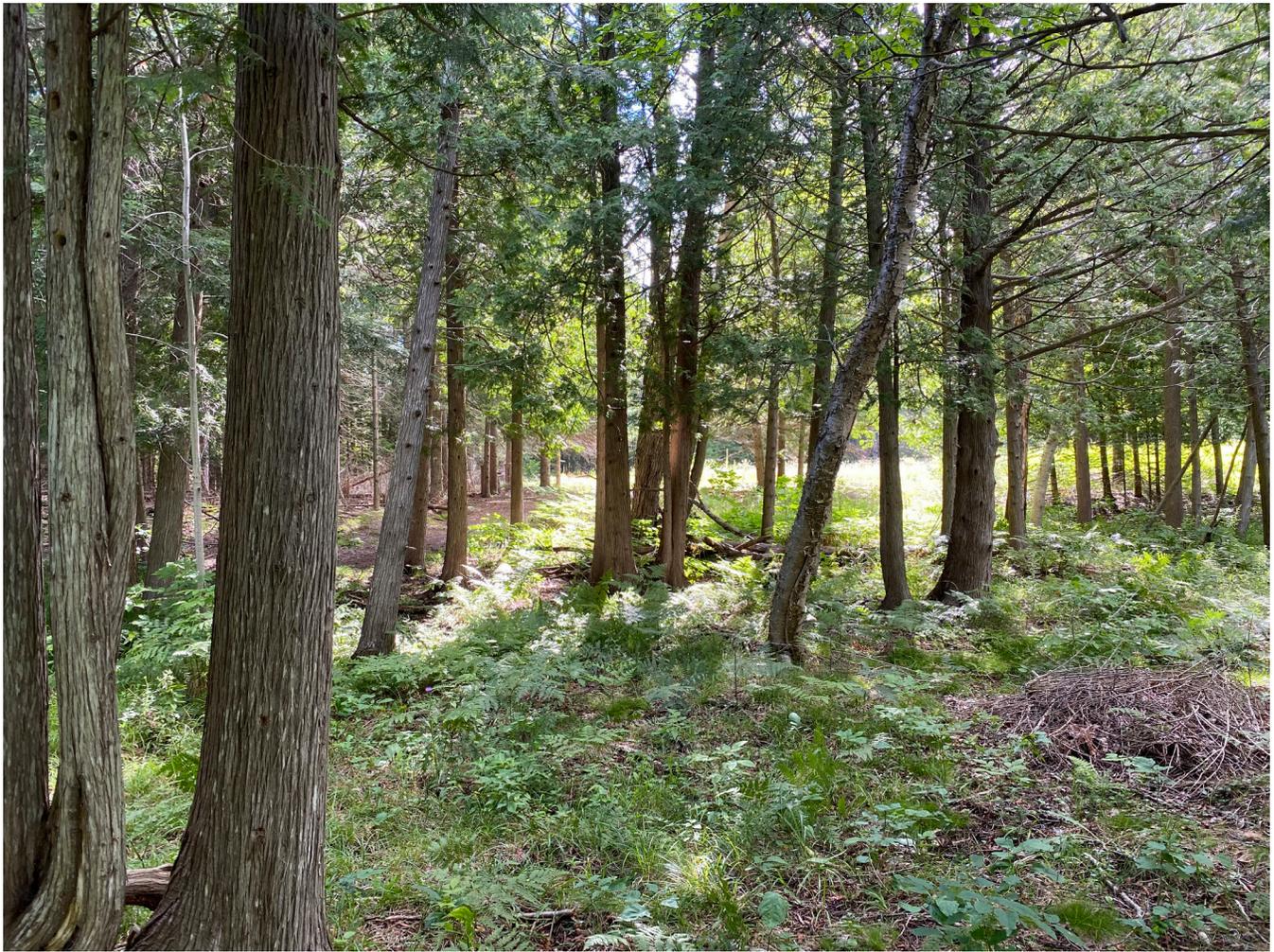
WETLAND RESOURCES

Wetlands as land characterized by the presence of water at a frequency and duration sufficient to support, and under normal conditions does support, wetland vegetation or aquatic life and is commonly referred to as a bog, swamp, or a marsh. These important natural resources provide wildlife habitat, protection of drinking water aquifers, the filtration of pollutants from surface water runoff, recreational values, and assist in the prevention of flooding. Wetlands are sensitive to alteration, biologically diverse, and are ecologically productive places to observe plants and animals in their natural habitat.

Impacts from human activity and development can be highly threatening to wetland ecosystems. Care must be taken to ensure an adequate



Lake Charlevoix, Lake Street Public Access Site



Cedar Swamp, Rufus Teesdale Preserve

balance of water and nutrient inputs and buffers to wetland environments. Even subtle changes in water level or chemistry can irreversibly degrade a bog or other wetland types. Development of land near or hydrologically connected to wetlands are encouraged to use best management practices. These practices include ensuring adequate groundwater and surface water supply and quality, which can be accomplished by requiring hydrogeologic investigation of proposed land uses, combined with innovative on-site storm water treatment and disposal techniques. These techniques also include utilizing green technologies such as vegetated treatment trains, and storm water infiltration structures (swales, rain gardens, etc.) to ensure that wetland functions remain intact.

GROUNDWATER RESOURCES

Groundwater is the sole source of drinking water for residents within Bay Township. Communities within Michigan are increasingly facing groundwater disputes between landowners and proposals for large quantity groundwater extraction operations, such as irrigation systems, mineral extraction, and water bottling facilities. Bay Township planners believe that sufficient scientific study and comprehensive land use planning should be required prior to the approval of large quantity groundwater extraction proposals to protect nearby private properties and waterbodies, and ensure the quality and availability of this necessary natural asset is maintained into the future.

Groundwater is susceptible to contamination through human activities, including certain land use activities. Septic systems can be one such source of contamination and must be sufficiently separated

from drinking water. Furthermore, abandoned agricultural or residential wells should be plugged to prevent aquifer contamination. There are no estimates available of the number of abandoned water wells within Bay Township. Gas stations, auto repair/boat maintenance, and salvage yards are examples of commercial land uses that are potentially hazardous to groundwater due to the nature of chemicals routinely used and the potential for disposal within septic systems. Special care must be taken to prevent accidental spills or the mishandling of chemicals at businesses or other properties that are serviced by private wells and septic systems.

The over-application, accidental spillage, or improper storage of fertilizers, fungicides, pesticides, and herbicides can also represent potential sources of groundwater and surface water pollution. Due to these facts and the hydrogeologic setting of Bay Township, integrated

turf grass management, chemical storage and application management, wildlife management, spill prevention and pollution incident planning, and groundwater and surface water monitoring practices are strongly encouraged at future golf courses, if any, within Bay Township.

Individual homes can also be sources of groundwater contamination. Potential contaminants associated with these land uses include the use, storage, and disposal of garden chemicals, paints, solvents, and many household cleaners. Auto, recreational vehicle, boat, and equipment maintenance can also cause unnoticed pollution and groundwater contamination. Bay Township residents and others have the responsibility to properly handle products in accordance with labeling, and to safely dispose of household hazardous products. Township residents should be encouraged to utilize composting, water conservation, organic fertilization, and integrated



Horton Creek, Rufus Teesdale Nature Preserve

pest management, as well as nontoxic household products to prevent groundwater and surface water contamination problems before they occur. Residents may call the Charlevoix Conservation District to find out when household hazardous waste days are scheduled, and for tips on proper disposal methods for hazardous or potentially hazardous household and agricultural products.

WATERSHEDS

People usually identify the place they live based on political jurisdictions, such as villages, cities, townships, or counties. Natural features, however, extend beyond political boundaries. Viewsheds, productive farmland soils, rivers, streams, lakes, and wetlands may cross many political jurisdictions. Planners and residents should consider such natural features and boundaries when making land use decisions in order to protect the natural resource base within Bay Township.

An example of natural features boundary is a watershed, a geographic area defined by topographic highs within which rain and snowmelt flows down to a common point such as a wetland, lake, river, or stream. Residents within the western portion of Bay Township are located within the Loeb Creek - Lake Charlevoix Sub-Watershed, while remaining Township residents are located within the Walloon Lake – Bear River Sub-Watershed, both of which fall within the Boardman – Charlevoix Watershed. The Watershed Map illustrates the geographic extent of watershed throughout northwest lower Michigan.

Water quality protection is an essential planning element to be cooperatively undertaken within political jurisdictions sharing a common watershed. As the land area included in the Walloon Lake – Bear River Sub-Watershed is comprised of thousands of acres across several townships and two Counties, it is imperative to remember that land use practices we employ can affect the water resources used by many people - locally as well as far downstream. The cool, clean waters of Lake Charlevoix and its tributaries exist entirely within Charlevoix County, but also depends on land use decisions within numerous townships to maintain quality. It is recognized that the high quality of Bay Township and Charlevoix County waters is an important driver of the economy of the Township,

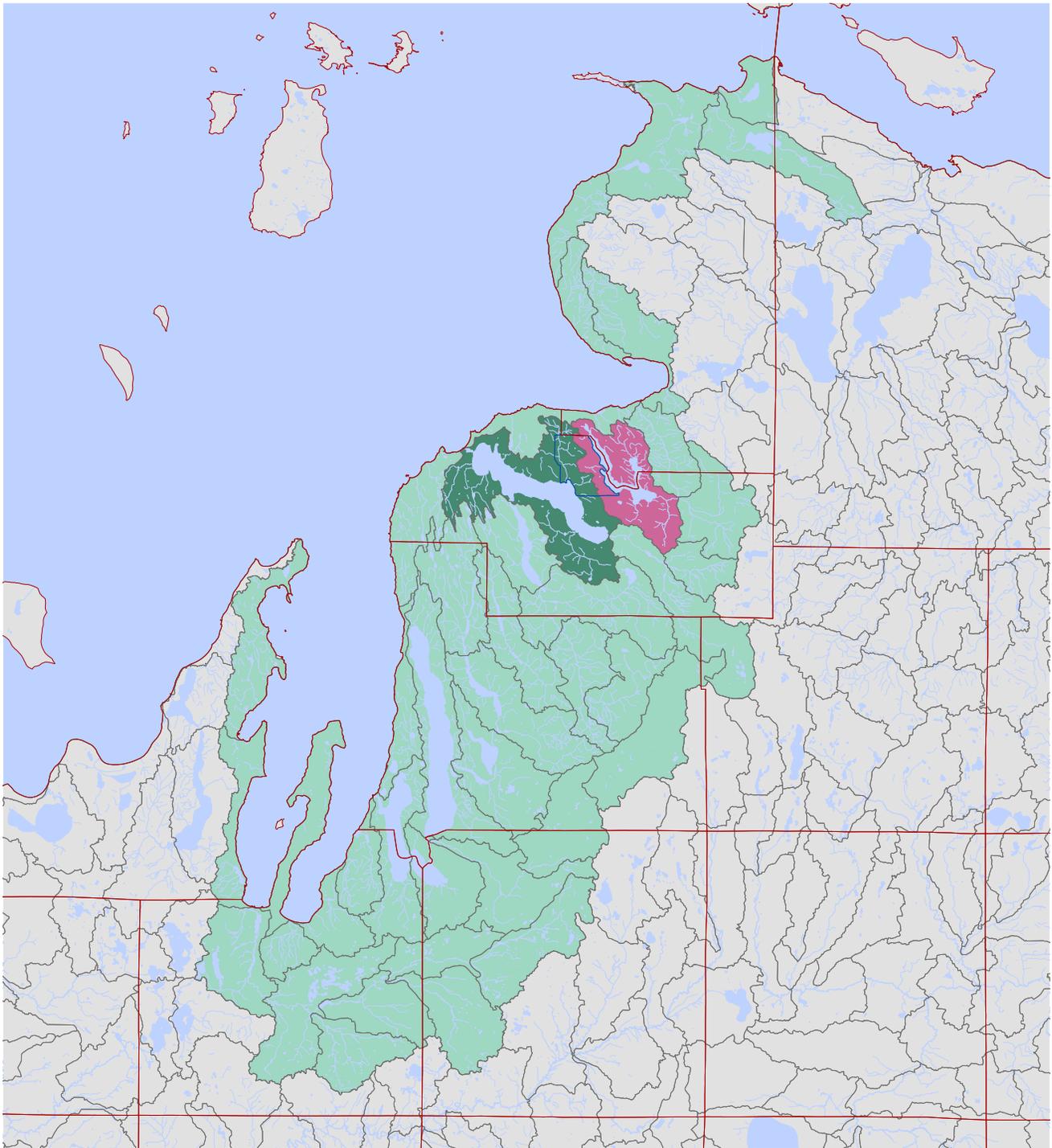
County and the region. Consequently, watershed protection is necessary not just for the health and environmental quality of Bay Township, but also for its future economic well-being.

On a watershed basis, one of the most significant threats to water quality is non-point source pollution. Unlike pollution point sources such as sewage treatment plants, and industrial discharges, etc., pollution from non-point sources is dispersed and includes runoff of agricultural fertilizer and pesticides; debris and contaminants that collect on impervious surfaces such as roads, walkways, and parking lots, lawn chemicals, and soil erosion and sedimentation.

Due to topography and hydrology, Bay Township waters are especially susceptible to non-point pollution sources, and may be addressed as follows:

- » Lawn and garden chemicals should be applied strictly in accordance with label directions.
- » Used oil, antifreeze, paints, and other household and industrial hazardous chemicals should be strictly used in accordance with labeling, disposed of properly at a Charlevoix County hazardous waste collection event, and not discarded in septic systems or on the ground.
- » Greenbelts and buffers consisting of native shrubs, trees and groundcovers should be retained. Native groundcovers, trees, and shrubs should be retained whenever possible and restored where necessary.
- » Soil erosion from construction sites should be appropriately controlled and maintained in accordance with permits and best management practices.
- » Construction should avoid sensitive areas such as steep slopes, dunes, wetlands, seeps and springs, streams and creek corridors, and groundwater recharge areas.
- » Forestry erosion control practices should be required throughout the construction, maintenance, and closure of logging roads and skid trails. Logging activities that do not protect against non-point source pollution should be reported to appropriate county, state, and federal forestry and water quality agencies.

MAP 6. WATERSHEDS



BAY TOWNSHIP Watershed Map

Data Sources: State of Michigan Geographic Data Library, Michigan DNR Open Data Portal



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- Counties
- Sub-Watershed
- Lakes / Ponds
- Loeb Creek - Lake Charlevoix Sub-Watershed
- Rivers / Streams
- Walloon Lake - Bear River Sub-Watershed
- Bay Township
- Boardman - Charlevoix Watershed

- » Drinking water sources should be identified and integrated into land use decision making to protect drinking water for the long-term in Bay Township. Nonpolluting alternative inputs and practices should be explored by Bay Township.
- » Litter should be prevented from washing into waterways from roads, road ends, home sites, beaches, boats, and recreational water activities.
- » Nutrients from livestock, pets, and other animal wastes, leaf and organic material composting and other debris, and storm water runoff should be treated on-site, controlled, and prevented from flowing directly into lakes, rivers, streams, wetlands, and groundwater recharge areas.

SOILS

According to the Michigan Department of Natural Resources, there are a variety of soil associations in Bay Township. A soil association is a pattern of soils, normally consisting of a major and one or more minor soil types within an area and is typically named for the major soil. Each soil type has a characteristic slope, drainage capacity, suitability for construction and septic disposal, water-holding and nutrient filtration capacity, and erosion potential, etc. The examination of soil characteristics is encouraged prior to development within Bay Township to provide information regarding soil suitability for various land uses. While many soil types are suitable for development, others limit development and may be best suited as conservation areas due to their limiting characteristics.

Sandy soils along ridges with slopes of 18% and greater are considered highly susceptible to erosion, especially if vegetative cover is removed. This may result in sediment being deposited in local waterways or adjacent lands, a violation of state statute. Appropriate care and engineering measures must be utilized and maintained in perpetuity to avoid degradation of the steep slopes and when future shoreline development occurs.

Inland soils of the Emmet-Leelanau Association consisting of sands and loams are well suited for farming, residential development, and forestry,

as well as wildlife habitat. Shoreline soils of sandy compositions are generally considered suitable for development. The exception being areas with slopes greater than 18% which present limitations due to the potential for hillside septic seepage.

Soils with high organic, clay, or silt content, low permeability, and excessively wet characteristics such as mucks are considered unsuitable for development. These soils are appropriately managed as conservation areas, woodlands, and wildlife habitat.

The Soils Map on the next page provides the location of the different soil classifications throughout the Township.

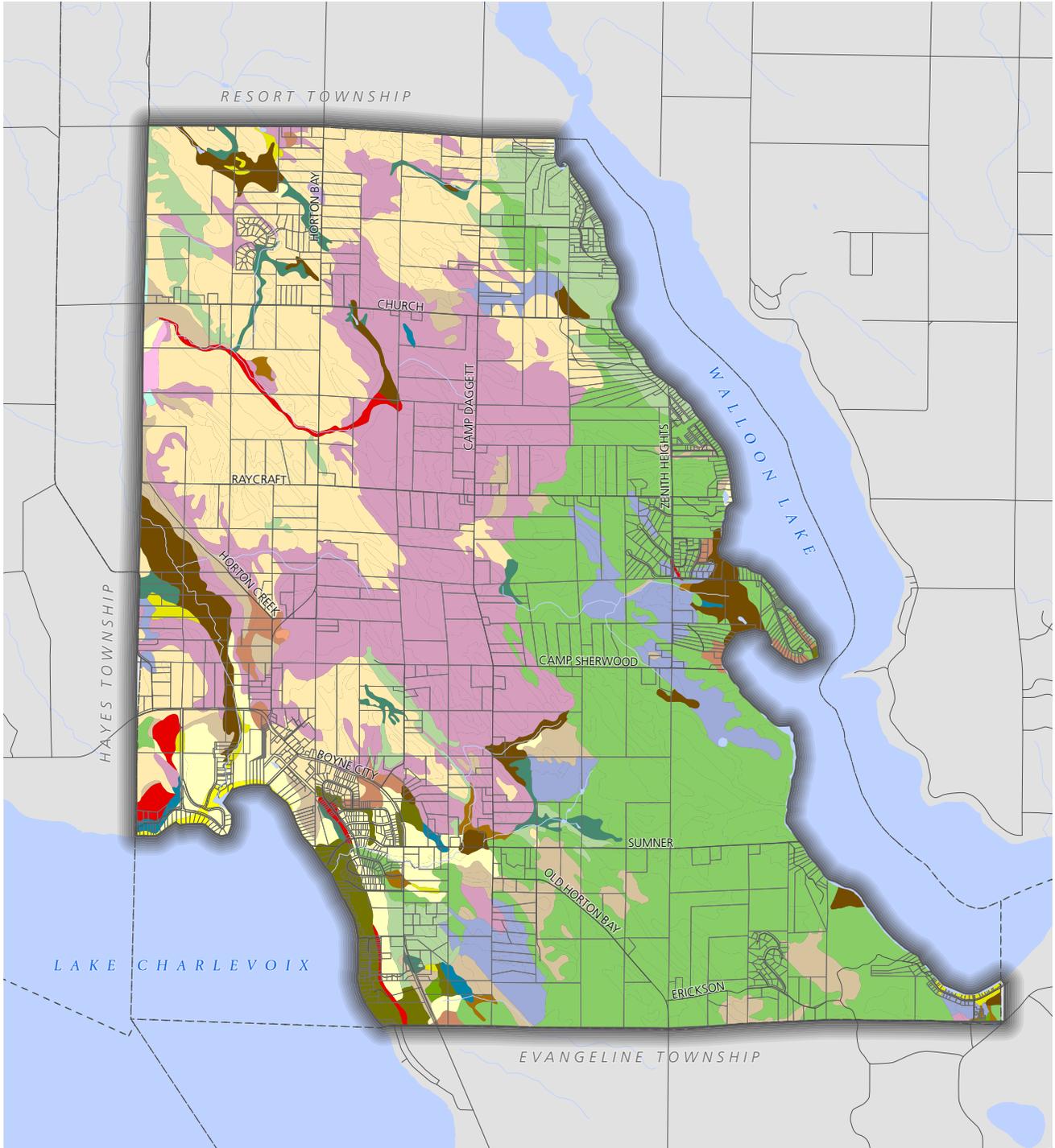
FISH AND WILDLIFE

Fish and wildlife are abundant in Bay Township. It is common to see whitetail deer, wild turkeys, fox, grouse, raccoons, striped skunk, partridge, woodcock, red fox, snowshoe hare, squirrels, opossum, eastern cottontail, porcupines, mink, weasels, and coyote in the Township. Recreational fishing, hunting, boating and the viewing of wildlife are important components of the quality of life in Bay Township. Additionally, these activities contribute to the economy of Bay Township and surrounding areas.

Residents of Bay Township express interest in maintaining these activities. There are a number of animal, plant, and invertebrate species within Charlevoix County, including Bay Township, that are identified as endangered, threatened, or of special concern. Since every species plays an important role in maintaining a healthy, balanced ecosystem, land use planning decision should ensure that necessary habitat is protected for all species and future enjoyment by residents.

The largest threats to fish and wildlife within Bay Township are the loss and breaking-up or fractionalization of habitat. As rural areas of Bay Township are converted to residential uses, habitat loss and fractionalization are inevitable. Conservation planning and low impact development should include inventorying, mapping, and conserving of existing natural resources, including wildlife habitat. Guiding new development, when it occurs, in a manner that retains large and connected tracts of contiguous

MAP 7. SOILS

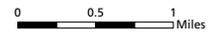


BAY TOWNSHIP

Soils

Data Sources: State of Michigan Geographic Data Library, Michigan DNR Open Data Portal

- | | | | | | | | |
|--|----------------------|--|---------------------|--|------------------|--|--------------|
| | Alpena Sandy Loam | | Emmet-Leelanau | | Menominee Sand | | Other Loam |
| | Au Gres Sand | | Emmet-Onaway | | Nester Loam | | Lake Beaches |
| | Blue Lake Loamy Sand | | Kalkaska Sand | | Rubicon Sand | | Pits |
| | East Lake Loamy Sand | | Leelanau Loamy Sand | | Muck | | Other |
| | Eastport Sand | | Leelanau-Rubicon | | Other Loamy Sand | | |
| | Emmet Sandy Loam | | Mancelona Sand | | | | |



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open spaces (especially wetlands, shorelines and stream corridors) and forest lands will help to conserve wildlife and wildlife habitat as Bay Township continues to grow.

FORESTS

Intact forestlands provide the potential for sustainable timber development, soil erosion and flood control, groundwater recharge, surface water quality improvement and maintenance, wetland and wildlife habitat, aesthetic values and community character, year-round recreational opportunities, noise buffering, climate moderation, and the reduction of air pollution.

The continued parcelization of private forestlands from large parent parcels to smaller and smaller parcels limits forestland potential for sustainable forest development and ecological values. Private landowners are encouraged to enter into forest management plans to foster sustainable forestry practices and environmental protection. Poorly planned or executed forest resource development



White Pine Tree, Rufus Teesdale Nature Preserve

can lead to soil erosion and sedimentation of neighboring lands, streams and wetlands, fragmentation of wildlife habitat and migration corridors, flooding of lakes, adjacent parcels, and public ways, a decrease in nearby land values, and other negative aesthetic impacts. All of which can result in public and private expenditures to prevent and remediate damage from poorly planned or indiscriminate forest cutting.

Sustainable forest management and conservation planning should include the inventorying and mapping of existing forest resources. Conserving large and connected tracts of contiguous forestland will help to retain economic, environmental, and aesthetic values as Bay Township continues to grow.

FARMLANDS

The USDA Census of Agriculture, Charlevoix County lost 3.7%, or 1,137 acres, of its farmland from 1997 to 2017¹. This farmland loss rate compares to a 1.1% farmland acreage loss (108,722 acres) average for the State of Michigan during the same period. Empirical study in Michigan and elsewhere in the Midwest has documented the significant increase in local tax burdens to support rising costs of community services (education, fire, safety, sewer/water, roads, etc.) associated with rapid conversion of farmland to residential uses. Farming on the fringe of residential development is often wrought with conflict between generally accepted farming practices (noise, dust, chemical use, odors, hours of operation, etc.), and the typical expectations of newly established residential landowners.

The gradual loss of farm operations within any locale can lead to the loss of nearby farm support businesses and result in the onset of an impermanence syndrome. Within such an environment, farmers are reluctant to reinvest in farm operations especially in the face of likely increasing land fragmentation and conflict with encroaching non-farm land uses. This trend has been observed throughout Michigan and the nation and can lead to the permanent loss/ conversion of farmland to residential, commercial, institutional, and other land uses. In the short run, farm fields may be taken out of production or left fallow, and eventually sold for their highest

market value, typically residential development. Farms with highly prized views of Walloon Lake, Lake Charlevoix, open fields, and intact forestlands face additional residential development pressure. Sustaining agricultural practices is becoming even more difficult as new farm starts decrease and the price for many farm products has fallen throughout the state of Michigan. Moreover, the average age of farmers in Charlevoix county indicates less young people are entering the industry, with nearly 68% of county farmers being over the age of 55².

Meanwhile, many Bay Township residents support the exploration and establishment of voluntary farmland preservation tools in Charlevoix County and regionally, such as the purchase of development rights, transfer of development rights, leasing of development rights, farmland conservation easements, well-connected conservation/farmland conservation developments,

the promotion of specialty/valued-added agriculture (i.e., small-scale organic, hydroponics, tree/shrub nursery stock, direct marketing, on-site production, and other specialty crops), and improved local markets for locally-grown agricultural products. Farming operations in Bay Township and throughout Charlevoix County have experienced some positive growth through the incorporation of agritourism, such as event spaces and on-site retail direct to the consumer of products produced on site. This brings awareness and appreciation of the local farms to the general public, which often leads to support for their continued operation.

² USDA, National Agricultural Statistics Services, 2017 Census of Agriculture – County Data



Hay Field Located Behind Horton Bay United Methodist Church



Existing Land Use

INTRODUCTION

The following discussion addresses changes in land use and land cover in Bay Township. A land use is the type of human activity that takes place on a developed parcel such as residential, multiple-family, commercial, agricultural, industrial, or other. Land cover refers mostly to the type of vegetation as interpreted from aerial photographs. Some land cover categories include agriculture (active), upland forest, upland field (i.e. inactive agricultural land), open water, wetland, barren, and urban/built-up (typically residential, but also consisting of the lack of other land cover categories).

Generally, land use characterizes human activities while land cover provides a general picture of the effect of human activities on the land, along with resources and vegetation. It is recognized that overlap exists occasionally between land use and land cover when examining changes over time. When planning for the future, each land use and/or natural resource requires unique public services and special consideration. For example, the removal of trees and vegetation for a golf course or housing development requires the implementation of effective storm water control.

LAND USE

Land use data is derived from parcel and assessing data. Each parcel has a classification number that corresponds to land use. Table 22 details all of the land use and corresponding total acreage. The table shows that residential is the dominant land use in the Township, followed by agricultural and exempt. The Existing Land Use Map illustrates how land use is spatially dispersed in the Township.

The map shows that the agricultural land uses are concentrated in the middle of the township and

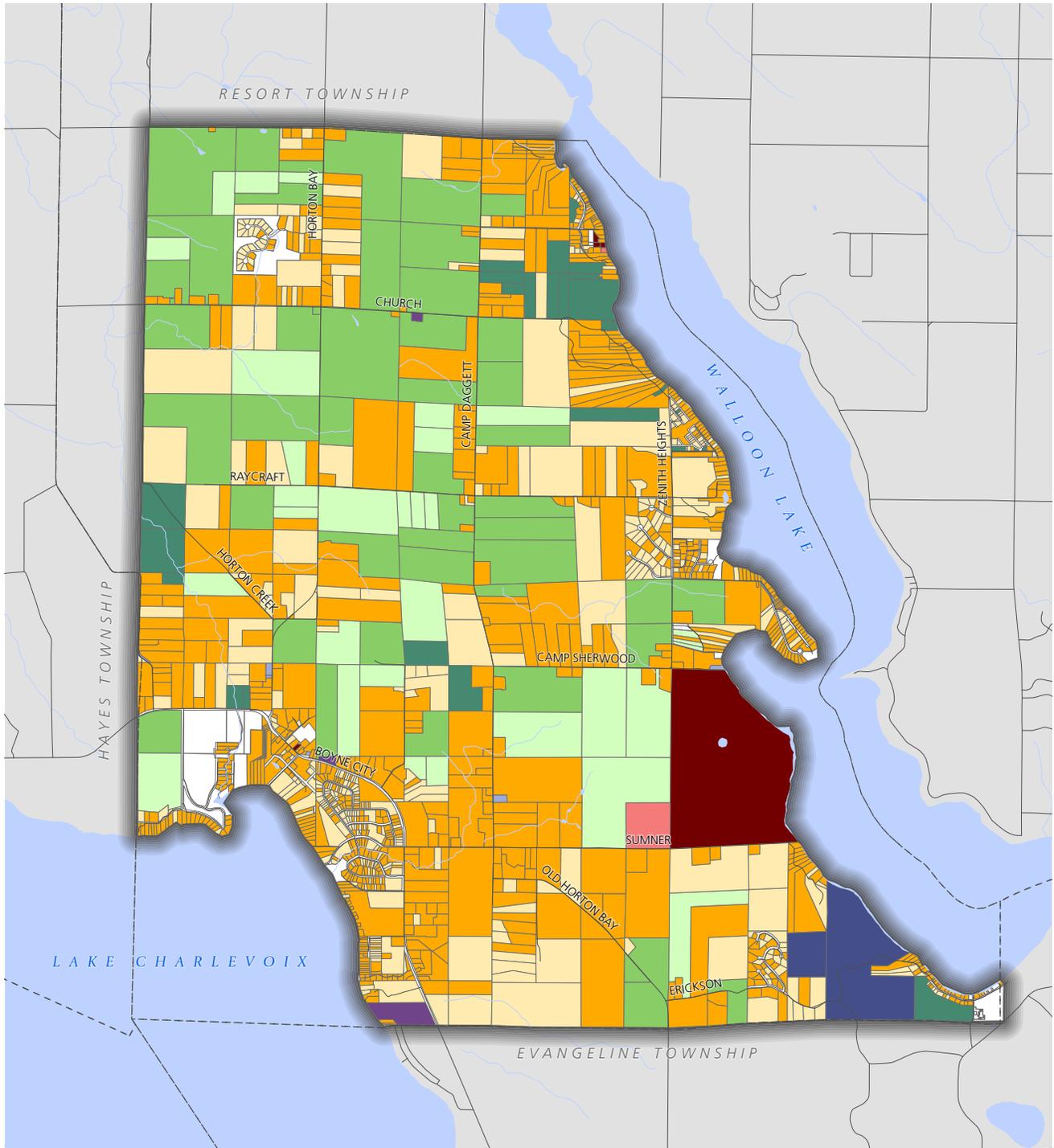
mixed with residential land uses. Given the large size of the residential parcels in the middle of the township these homes are likely to be single family and are considered low density rural residential. The edges of the Township along Lake Charlevoix and Walloon Lake are primarily residential. Given the smaller lot size and the high concentration of small lots, the homes along the water are higher density compared to other areas of the Township. The Township has several vacant lots in planned residential developments, South of Boyne City Rd and along Zenith Heights Rd. To accommodate future growth residential development should be focused in these areas to preserve the agricultural character of the middle Township areas.

TABLE 22. LAND USE

Land Use	Acres	Percent of Total
Agricultural	3329	32.7%
Improved	2293	22.5%
Vacant	1036	10.2%
Commercial	426	4.2%
Improved	384	3.8%
Vacant	42	0.4%
Residential	5547	54.4%
Improved	3560	34.9%
Vacant	1986	19.5%
Exempt	584	5.7%
State	211	2.1%
County / Township	7	0.1%
Religious	28	0.3%
Non-Profit	338	3.3%
Unclassified	307	3.0%

Source: Charlevoix County Equalization Department

MAP 8. EXISTING LAND USE



BAY TOWNSHIP Existing Land Use

Data Sources: State of Michigan Geographic Data Library, Michigan DNR Open Data Portal

- | | | |
|---------------------------|--------------------------|----------------------------|
| — Freeways | ■ Agricultural, Improved | ■ Residential, Vacant |
| — State Trunklines | ■ Agricultural, Vacant | ■ Exempt State |
| - - Minor Civil Divisions | ■ Commercial, Improved | ■ Exempt County / Township |
| ■ Lakes / Ponds | ■ Commercial, Vacant | ■ Exempt Religious |
| — Rivers / Streams | ■ Residential, Improved | ■ Exempt Non-Profit |

□ Unclassified



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Residential Use in the Agricultural District

STATE EQUALIZED VALUE

State Equalized Value or “SEV” is a measure of the dollar value of land. The SEV figure represents one-half of a property’s fair market value at a given time. SEV provides an understanding of how value is distributed within the Township. Table 23 details the total SEV value of each land use and on a per acre basis. Because some parcels are very large, especially agricultural, analyzing SEV on a per acre basis provides a more nuanced understanding of value within the Township.

Table 23 shows that the majority of SEV value in the Township comes from residential properties (91.1%). Despite agricultural parcels comprising 32.7% of the total area in the Township, agricultural properties only account for only 2.7% of the total SEV value. Additionally, residential improved properties have the highest SEV per acre indicating that these properties give the highest tax revenue return relative to the land area they take up.

TABLE 23. LAND USE & STATE EQUALIZED VALUE (SEV)

Land Use	Number of Parcels	Total SEV	Average SEV per Acre
Agricultural	77	\$6,786,750	\$2,621
Improved	46	\$5,563,750	\$3,398
Vacant	31	\$1,223,000	\$1,469
Commercial	7	\$15,767,700	\$317,269
Improved	5	\$15,324,900	\$305,799
Vacant	2	\$442,800	\$345,946
Residential	1,246	\$229,723,400	\$362,891
Improved	851	\$214,094,800	\$507,950
Vacant	395	\$15,628,600	\$50,370
Exempt	40	\$0	\$0
State	2	\$0	\$0
County / Township	7	\$0	\$0
Religious	3	\$0	\$0
Non-Profit	28	\$0	\$0
Unclassified	56	\$0	\$0
Overall	1,426	\$252,277,850	\$318,783

Source: Charlevoix County Equalization Department



Lavender Hill Farm - An agritourism commercial use in the Agricultural District

LAND COVER

Land Cover is derived from the National Land Cover Database, which is a partnership between multiple federal agencies including, the US Forest Service, US Geologic Survey, and the National Oceanic and Atmospheric Administration. The Land Cover, 2016 map shows all of the land covers within the Township. Table 24 details the percentages of each land cover.

Table 24 shows that the majority of the Township is covered by deciduous forest, followed by grassland and then cultivated crops. Developed land uses only account for 7.2% of the total land cover acreage. This underscores the heavily rural nature of the Township. Table 24 in the Land Use section illustrated that residential is the predominate land use of the Township. Combined with the land cover data a more detailed picture emerges. The residential uses that dominate the Township are most likely low-density residential properties with heavily wooded or agricultural land occupying most of the parcel. If the Township had a higher density of housing Table 24 would show a higher percentage of developed land.



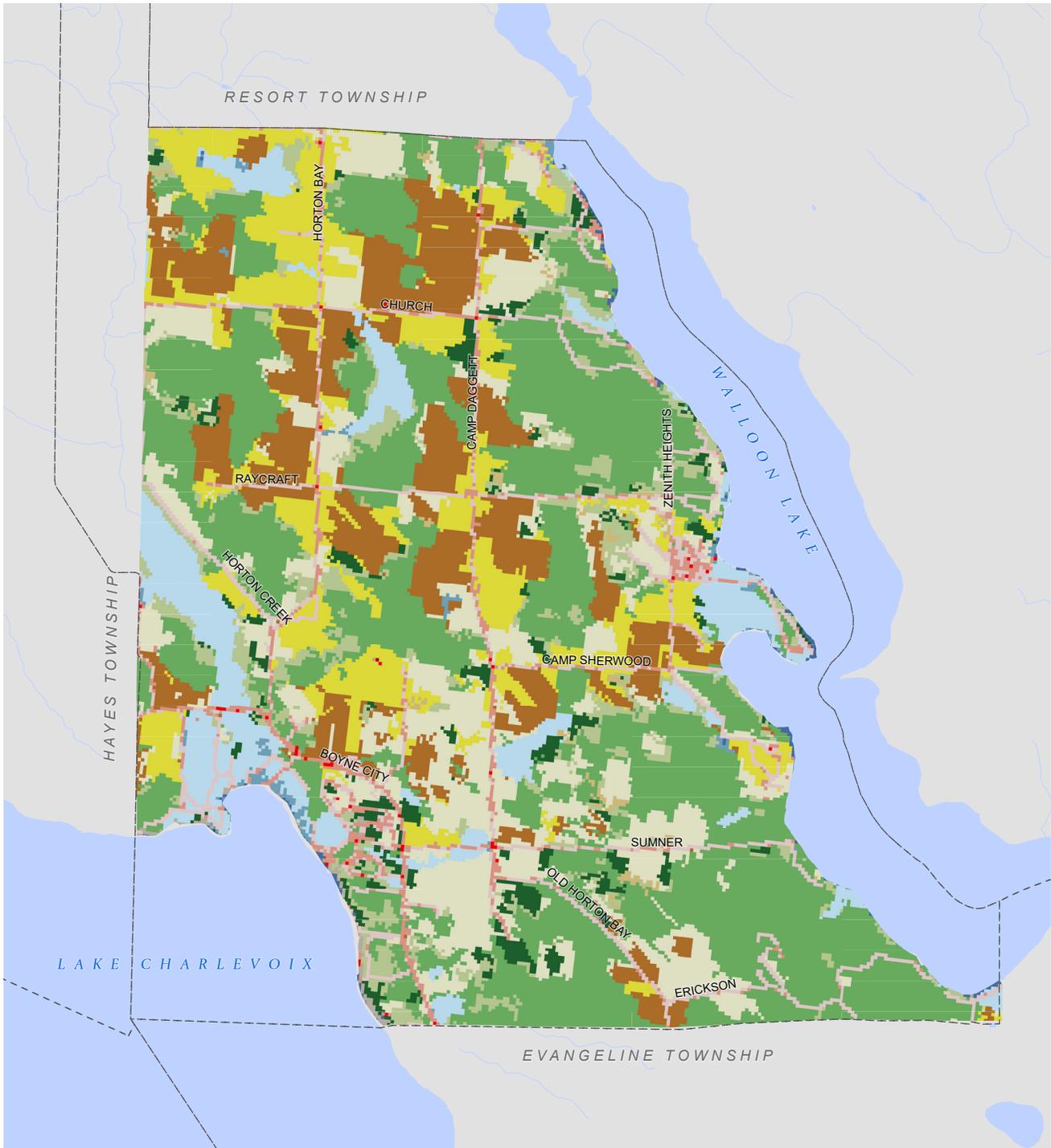
Hay Field Along Boyne City Road

TABLE 24. LAND COVER, 2016

Land Cover	Acres	Percent of Total
Deciduous Forest	3,768.8	35.3%
Grassland	1,551.6	14.5%
Cultivated Crops	1,348.2	12.6%
Pasture/Hay	1,169.9	11.0%
Woody Wetlands	877.7	8.2%
Mixed Forest	711.4	6.7%
Developed, Open Space	485.3	4.5%
Evergreen Forest	302.2	2.8%
Developed, Low Intensity	273.9	2.6%
Emergent Herbaceous Wetlands	76.6	0.7%
Shrub/Scrub	49.5	0.5%
Open Water	26.3	0.2%
Barren Land	19.8	0.2%
Developed, Medium Intensity	11.9	0.1%
Developed, High Intensity	0.2	0.0%

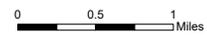
Source: National Land Cover Database

MAP 9. LAND COVER, 2016



BAY TOWNSHIP
Land Cover, 2016

Data Sources: State of Michigan Geographic Data Library, Michigan DNR Open Data Portal, National Land Cover Database



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- | | | | |
|---------------------------|---------------------|--------------------|---------------------|
| — Freeways | ■ Open Water | ■ Deciduous Forest | ■ Cultivated Crops |
| — State Trunklines | ■ Developed, Open | ■ Evergreen Forest | ■ Woody Wetlands |
| - - Minor Civil Divisions | ■ Developed, Low | ■ Mixed Forest | ■ Emergent Wetlands |
| ■ Lakes / Ponds | ■ Developed, Medium | ■ Shrub/Scrub | |
| — Rivers / Streams | ■ Developed, High | ■ Grassland | |
| | ■ Barren Land | ■ Pasture/Hay | |

CHANGES IN LAND COVER 2011 TO 2016

Land Cover is published at intervals of 5 years by the National Land Cover Database. Comparing the acreages of land cover in 2011 and 2016 reveals how development in the Township has impacted the land cover. Table 25 shows the changes of each land coverage type between 2011 and 2016.

Mixed forest land covers experienced the greatest growth in the years between 2011 and 2016, followed by barren land and pasture/hay. The land covers to experience the greatest decline in the same time period were shrub/scrub, cultivated crops, and deciduous forest. While cultivated crops declined by roughly by 1,100 acres, pasture and hay increased by roughly 700 acres. This results in a decline of agricultural land by 400 acres. The shift from cultivated crops to pasture/hay may be due to crop scheduled rotation or changing plantings by Bay Township farmers.



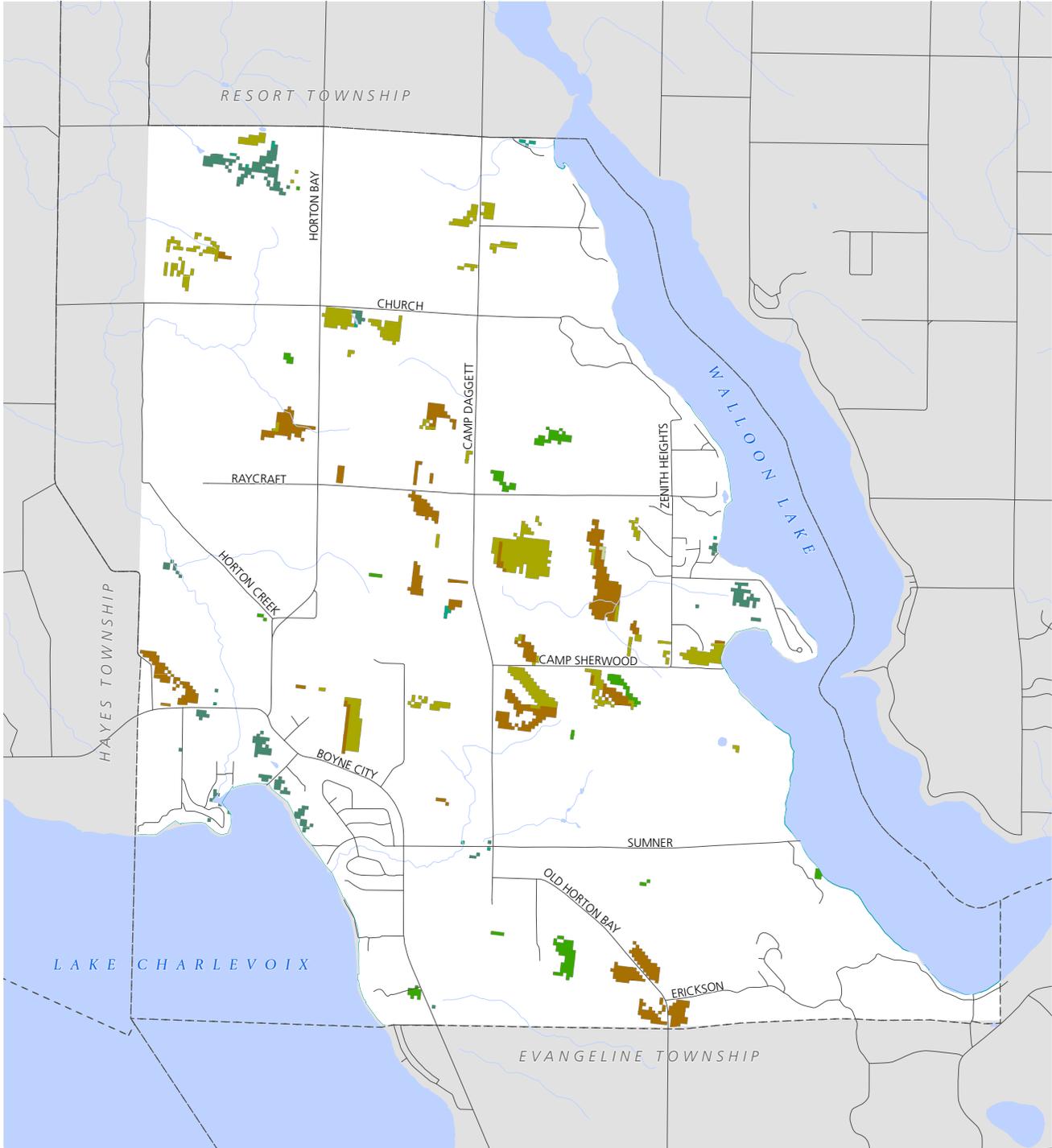
Farm Chickens Along Camp Sherwood Road

TABLE 25. LAND COVER CHANGE, 2011 - 2016

Land Cover	2011 Acreage	2016 Acreage	Percent Change
Shrub/Scrub	180.7	49.5	-73%
Cultivated Crops	2,457.3	1,348.2	-45%
Deciduous Forest	4,237.7	3,768.8	-11%
Developed, Open Space	511.8	485.3	-5%
Developed, High Intensity	0.2	0.2	0%
Evergreen Forest	294.1	302.2	3%
Emergent Herbaceous Wet-lands	73.3	76.6	4%
Developed, Low Intensity	253.8	273.9	8%
Woody Wetlands	787.6	877.7	11%
Developed, Medium Intensity	10.4	11.9	15%
Grassland	1,198.3	1,551.6	29%
Pasture/Hay	475.7	1,169.9	146%
Barren Land	4.8	19.8	317%
Mixed Forest	143.0	711.4	398%

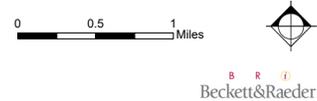
Source: National Land Cover Database

MAP 10. LAND COVER CHANGE, 2013 - 2016



BAY TOWNSHIP
Land Cover Change, 2013-2016

Data Sources: State of Michigan Geographic Data Library, Michigan DNR Open Data Portal, National Land Cover Database



- Freeways
- State Trunklines
- - Minor Civil Divisions
- Lakes / Ponds
- Rivers / Streams
- Urban Change
- Wetland Type Change
- Herbaceous Wetland Change
- Hay/Pasture Change
- Cultivated Crop Change
- Persistent Grass/Shrub
- Barren Change
- Forest Type Change
- Woody Wetland Change

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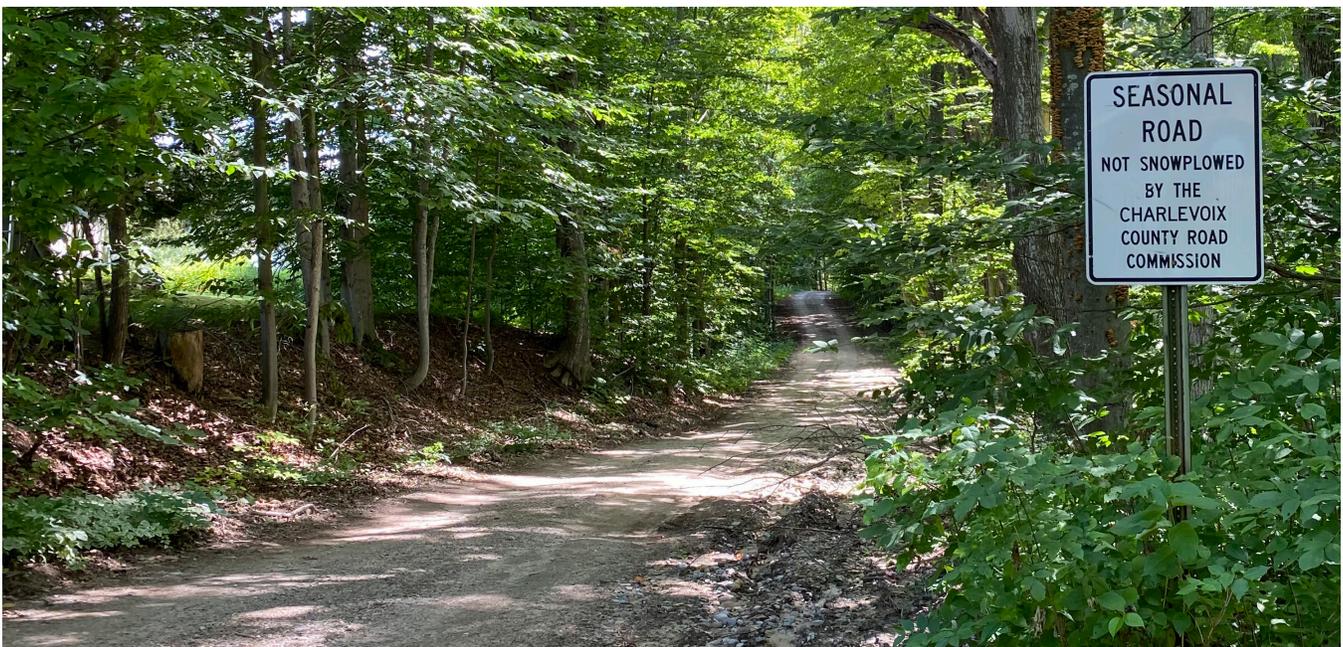
Transportation

INTRODUCTION

The Township's transportation network reflects its rural character and limited population. The primary form of transportation is on County roads, many of which are seasonal. These roads are used for residents to travel to larger neighboring municipalities for goods and services. Public transit if available in a limited capacity and air travel is only accessible at a few regional airports. Non-motorized facilities are essentially non-existent. Nonetheless, the existing transportation system meets the current needs of the residents, with opportunities for incremental improvements moving forward. Future transportation decisions should take into account their effect on the land use pattern and future development of the Township.

ROAD NETWORK

Boyer City – Charlevoix Road and Horton Bay North Road exist as the most heavily traveled roads in Bay Township. Other generally less traveled collector roads, both paved and unpaved, include Camp Daggett Road, Stolt Road, Church Road, Reycraft Road, Sumner Road and Old Horton Bay Road. Smaller paved and/or seasonal drives include St. Louis Club Road, West Road, Erickson Road, Eagle Island Road, Van Hoesen Road, and a section of Pincherry Road. Some seasonal roads, generally unpaved with no winter maintenance, in Bay Township include Horton Creek Road and the section of Reycraft Road, between Camp Daggett and Horton Bay North Roads. There are no state roads or highways located in Bay Township. Similarly, no state designated Scenic Byways exist within Bay Township.



Charlevoix County Seasonal Road



Intersection of Horton Bay Road N and Boyne City Road

TRANSIT

Charlevoix County Transit provides public transportation throughout the County, including on Beaver Island, on a demand/response schedule for work, medical, shopping, banking, errands, as well as school, recreation, and special community events. The service is provided on the mainland Monday through Friday between 6:00 am and 7:00 pm and Saturday between 9:00 am and 4:00 pm. Extended service is offered on Friday and Saturday between 6:00 pm and 11:30 pm in the cities of Boyne City and Charlevoix. The transit system operates a fleet of 13 propane-fueled Cutaway Buses, two MV1 Vans, and two Ford Transit Vans on the mainland, along with one Ford Raised Roof Van and one gasoline-fueled Cutaway Bus on Beaver Island. Charlevoix County Transit provided transportation for 81,239 rides in 2019, covering a distance of 588,000 miles.



WE HAVE THE POWER TO MOVE PEOPLE.

Source: Charlevoix County Transit Facebook Page

AIR

Airports serving the Charlevoix County area include Pellston Regional Airport (PLC), Charlevoix Municipal Airport (CVX), and Traverse City's Cherry Capital Airport (TVC). Pellston Regional Airport is serviced by Skywest offering two daily nonstop flights to and from Detroit Metropolitan Airport. Pellston Regional Airport is located approximately 35 miles north of the City of Charlevoix on US 31. Charlevoix Municipal Airport's primary service is to and from Beaver Island, however, they do offer charter flights to most destinations within the continental U.S. and Canada. Charlevoix Municipal Airport is located one mile southwest of downtown Charlevoix off US 31 on Norwood Rd.

Cherry Capital Airport, located approximately 50 miles southwest of Charlevoix, is the largest full-service commercial airport in northern Michigan. Flights are provided by American, Delta, United and Allegiant airlines, as well as private and charter service. At the peak summer season, the airport offers commercial service to 16 destinations, and serves more than 500,000 business and leisure travelers each year. The economic impact of the airport is estimated at nearly \$1 billion annually to the region. Cherry Capital Airport is currently undergoing a feasibility study to explore expanding the terminal building from six to 12 gates and increasing parking areas to meet the increased air service demand experienced over recent years.



Source: emmettcounty.org



Source: City of Charlevoix Facebook Page



Source: Cherry Capital Airport Facebook Page

NON-MOTORIZED TRAILS

The Boyne City to Charlevoix Non-motorized Trail is a proposed trail that will run parallel to Boyne City Road, including through Bay Township, and is intended for recreation and transportation use. The trail will be primarily a 10-foot wide paved path separated from the road, but within the road right-of-way. The 14 mile trail will connect the two communities, linking with the Little Traverse Wheelway in the City of Charlevoix. This connection will provide non-motorized access to Bay Harbor, Petoskey, and Harbor Springs, as well as provide access to the Petoskey to Mackinaw Trail.

The complete Boyne City Charlevoix Non-motorized Trail will be constructed in five phases as follows:

Phase 1

Completed in 2016 and provides 3.04 miles of trail between the intersection of W Michigan Ave. and Boyne City Rd. in Boyne City, through Young State Park, ending at Springwater Beach Rd. at the Bay and Evangeline Township line.

Phase 2

Completed in 2018 and runs from the Little Traverse Wheelway east of Waller Road in Hayes Township, where it crosses US 31 heading south through a series of private easements to Boyne City Rd. From there a spur to the west provides public access to Lake Charlevoix via Eastern Ave., or continues west along Boyne City Rd. for a total of 2.97 miles where the phase ends at Quarterline Rd.

Phase 3

Will extend the trail from Springwater Beach Rd. through Horton Bay to just east of the Rufus Teesdale Nature Preserve entrance for an additional 2.36 miles. The trail will transition to a bike lane-type design through historic Horton Bay, utilizing the existing six-foot wide paved shoulder. Construction is anticipated to begin in spring 2022.



Boyne City to Charlevoix Trail
Evangeline Township and Bay Township Border

Phase 4

Will extend the trail as a separated facility along the Lake Charlevoix side of the road from the Rufus Teesdale Nature Preserve to Hayes Township Park for an additional 3.30 miles.

Phase 5

Will extend the trail from Quarterline Rd. along the opposite side of the road from Lake Charlevoix to Hayes Township Park, providing an additional 2.69 miles to complete the planned trail. A future trailhead is planned to be established at Hayes Township Park.



Parks, Recreation, & Community Facilities

INTRODUCTION

Inventorying existing public facilities, public land, and quasi-public lands is an important step in the community planning process. Public facilities within Bay Township include state and township-owned land, parks, boat launches, and public accesses to area waterways. Quasi-public lands include lands owned by the Little Traverse Conservancy and the Walloon Lake Association and Conservancy.

approximately five road ends providing limited access to Walloon Lake and Lake Charlevoix.

The Eagle Island Road Access Point, also known as the Lily Pad sits on ¼ acre of land at the north east end of Eagle Road on Walloon Lake and provides public access with a bench. Parking at this location is limited to approximately two vehicles.

PUBLIC & QUASI-PUBLIC LANDS

Public Land & Recreational Facilities

Bay Township presently owns seven separate parcels, which in combination with the DNR site on Walloon Lake provide for a total of 224 ½ acres of public recreation land currently in existence in the Township. Please refer to Table 26 for descriptions of public recreational features and lands within Bay Township. Additionally, the Township owns



Lily Pad / Eagle Island Walloon Lake Public Access Site

TABLE 26. BAY TOWNSHIP RECREATIONAL FACILITIES & PUBLIC LANDS

Bay Township Public Land/Facility	Recreational Facility	Public Land Acres
Eagle Island Road	Public Access	¼ acre
Lake Street Access	Public Access, Boat Launch	¼ acre
Sherwood Park	Beach Access, Restrooms, Picnic Facilities	1 acre
Stolt Road Access	Public Access, Swimming, Boat Launch	¼ acre
Township Hall	Meeting Room	½ acre
Wildwood Drive Access	Public Access, Boat Launch	¼ acre
DNR – Walloon Lake (State-owned)	Swimming, Hunting	222 acres
Sumner Road Access (Walloon Lake)	Public Access, Boat Launch	¼ acre
Franklin Ave Road Access	Swimming, Public Access	¼ acre
Total		225 acres

Source: Bay Township Master Plan 2006

Lake Street Public Access Site - Lake Charlevoix



The Lake Street Access Point sits on ¼ acre of land at the south west end of Lake Street on Horton Bay, Lake Charlevoix, and provides public access and a boat launch. Parking at this location is limited to approximately two vehicles with boat trailers at the boat launch.

Stolt Road Public Access Site - Walloon Lake



The Stolt Road Access Point sits on ¼ acre at the east end of Stolt Road on Walloon Lake, and provides public access, swimming and a boat launch. Parking at this location is intended to accommodate approximately six vehicles with boat trailers at the boat launch.

Sherwood Park sits on one acre of land at the east end of Camp Sherwood Road, adjacent to Walloon Lake. The park provides beach access, public restrooms and picnic facilities. Parking at this location is limited to approximately six vehicles.



Sherwood Park Public Access Site - Walloon Lake

The Bay Township Hall sits on ½ acre of land at the corner of Lake Street and Boyne City Road. The Township Hall has one large meeting room, storage and a restroom. The Township Hall can accommodate approximately 15 vehicles in its parking area.



Bay Township Hall

Franklin Ave Public Access Point - Walloon Lake



The Franklin Avenue road end provides a public access point to Walloon Lake. Owned by the Township, this site is still rather unimproved with no on-site facilities or accessibility improvements.

Wildwood Drive Public Access Point - Walloon Lake



The Wildwood Drive Access Point sits on ¼ acre at the east end of Wildwood Road on Walloon Lake, and provides public access and a boat launch. Parking at this location is limited to approximately two vehicles with boat trailers at the boat launch.

The DNR Walloon Lake Site sits on 222 acres at the east end of Erickson Road. The northeast boundary abuts Walloon Lake, and contains public lake access for swimming. Boat access and parking are not available at this location.



DNR Walloon Lake Site

The Sumner Road access site exists as a road end under the control of the Charlevoix County Road Commission and provides public access to Walloon lake and a boat launch with a concrete pad.



Sumner Road Access Point - Walloon Lake

Quasi-Public Land & Recreational Facilities

Little Traverse Conservancy

The Little Traverse Conservancy (LTC) owns two preserves and holds an easement on one property within Bay Township. The Rufus Teasdale Preserve consists of 10 acres of riparian wetlands and mixed forest (cedar lowlands and mixed hardwoods) located on the north side of Boyne City Road at the intersection of Horton Creek, and is open to the public for hiking, nature study, and access to Horton Creek. The Rufus Teasdale Preserve was purchased by the LTC in 2000.

The Marx Preserve consists of two separate pieces of land totaling 2.9 acres located about 1/8 mile south of the Emmet county line and was donated by Ray and Jean Marx in 1991. The Marx Preserve is not open to the public.

The Little Traverse Conservancy also holds a conservation easement of 80 acres, located near Camp Sherwood Road and Zenith Heights Road. The property is mixed upland forest combined with open fields, farmland and an old spruce plantation, and is almost completely surrounded by active farmland or pasture. This easement was donated in 1994 and the property is not open to the public.



Rufus Teasdale Nature Preserve



Wildflowers - Rufus Teasdale Nature Preserve

The Walloon Lake Association and Conservancy

The Walloon Lake Association and Conservancy (WLAC) owns nine properties and holds five conservation easements in Bay Township, totaling 205.44 acres. The Kirk Preserve consists of 1/3 acre in the north east corner of Bay Township, about 1/4 mile south of the township line on Walloon Lake, and was donated by Mr. and Mrs. Kirk in 1985. The property is open to the public.

The Keenley Preserve consists of four acres about 1/4 mile south of the Kirk Preserve and was donated by Mrs. Ida Edith Keenley in 2003. The property is open to the public.

The Harley Preserve consists of two properties totaling 1 and 1/3 acres, one of which contains Walloon Lake frontage. Both are located in the Zenith Heights area. The Harley Preserve was donated by Mr. and Mrs. Harley in 1995 and is open to the public.

The Church Preserve consists of 26 acres in the west side of Camp Daggett Road south of the intersection with Camp Sherwood Road. This land was donated by Marion Church in 2011 and is open to the public.

The Maplecrest Preserve is near the Church Preserve and consists of 22 acres directly at the end of West Road. It was donated in 2017 by Bob and Maria Lohrman. The preserve is open to the public.

The Bauerle Preserve consists of 26 acres near Zenith Heights and was donated by Mr. and Mrs. Bauerle in 1985. The property is open to the public.

The Borisch Preserve consists of 1/4 acre east of the LTC's Marx Preserve, and was donated by Mr. and Mrs. Borisch in 2002. The property is open to the public.

The Bois LeDuc Preserve consists of 28 acres in the south east corner of Bay Township, abutting the eastern vertical edge of the State owned DNR land, and was donated by Mr. and Mrs. Berringer and Mrs. Shifrin in honor of Thomas LeDuc in 2003. The property is open to the public.

The TOMMBA Trails Preserve contains three acres in Bay Township with an adjacent 35 acres located in Evangeline Township. This preserve was established in 2019, and is open to the public.

The WLAC holds a conservation easement on 28 acres whose southwest corner lies at the intersection of Reycraft Road and Zenith Heights Road and was transferred to the WLAC in 1995. The property is not open to the public.

The WLAC also holds a conservation easement on 89.5 acres south of Camp Sherwood Road. Similarly, this property is not open to the public.

Finally, several private resorts, marinas, and associations exist within Bay Township, totaling 804 1/4 acres.

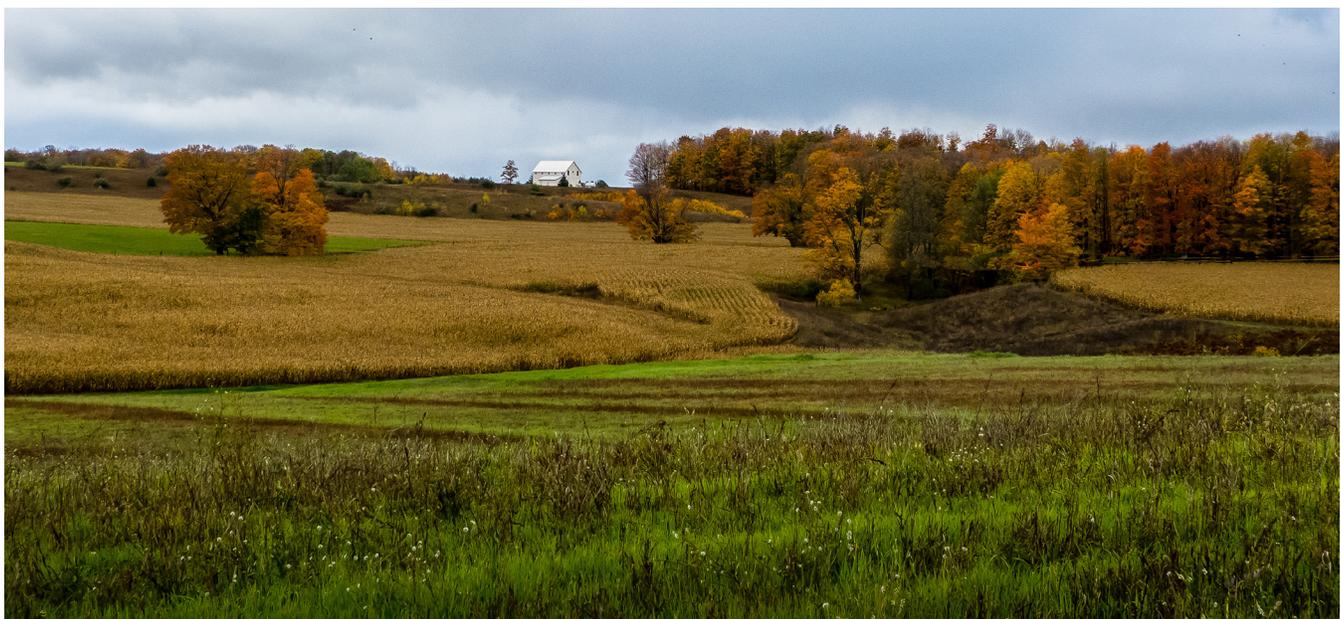


Church Preserve

TABLE 27. LTC AND WLAC LANDS WITHIN BAY TOWNSHIP

Conservation Tool	Conservancy	Acres
Rufus Teesdale Preserve	Little Traverse Conservancy (LTC)	10
Marx Preserve	Little Traverse Conservancy (LTC)	2.9
Conservation Easement (no public access)	Little Traverse Conservancy (LTC)	80
Conservation Easement (no public access)	Walloon Lake Association and Conservancy (WLAC)	71.5
Kirk Preserve	Walloon Lake Association and Conservancy (WLAC)	.33
Keenley Preserve	Walloon Lake Association and Conservancy (WLAC)	44
Harley Preserve	Walloon Lake Association and Conservancy (WLAC)	1.3
Church Preserve	Walloon Lake Association and Conservancy (WLAC)	26
Maplecrest Preserve	Walloon Lake Association and Conservancy (WLAC)	22
Bauerle Preserve	Walloon Lake Association and Conservancy (WLAC)	26
Bois LeDuc Preserve	Walloon Lake Association and Conservancy (WLAC)	28
TOMMBA	Walloon Lake Association and Conservancy (WLAC)	3
Borisch Preserve	Walloon Lake Association and Conservancy (WLAC)	.25
Conservation Easement (no public access)	Walloon Lake Association and Conservancy (WLAC)	28
Conservation Easement (no public access)	Walloon Lake Association and Conservancy (WLAC)	89.5
Conservation Easement (no public access)	Walloon Lake Association and Conservancy (WLAC)	8
Total LTC & WLAC Protected Lands		440.78

Source: Bay Township Master Plan 2006, and WLAC



Farmland in the Fall

Source: Rob Maxwell

Private Recreational Facilities

There are a variety of private recreational facilities and opportunities existing within Bay Township. This includes several private resorts, marinas and associations totaling 804 ¼ acres. Although privately owned, many are open to the public. Table 28 describes these private recreational opportunities.



Bear Cove Marina - Walloon Lake

TABLE 28. PRIVATE RECREATIONAL FACILITIES IN BAY TOWNSHIP

Facility	Description	Location
Bear Cove	Private Marina, 20 slips; ½ acres	On Walloon Lake off of St. Louis Club Rd
Camp Daggett	Non-profit camp; swimming, boating, fishing, hiking, campsites, nature study, kitchen and meeting rooms; 98 acres. No public access.	On Walloon Lake off of Ruffed Grouse Ln
Camp Michigania	Non-profit camp; swimming, fishing, boating, volleyball, tennis, campsites, hiking, kitchen, meeting rooms; 380 acres. No public access.	Walloon Lake at end of Camp Sherwood Rd
Eagle Island Club	Private club; boating, swimming, picnic area; ½ acre. No public access.	End of Eagle Island Rd
Hills of Walloon	Private club; swimming, fishing, boating, tennis; 5 acres. No public access.	NE of Eagle Island and Zenith Heights Roads
Horton Bay Club	Private club; boating, swimming, tennis, hiking trails; 250 acres. No public access.	West of Horton Bay, east of Vanhoesen Road
Sumner Road Easement, Lake Charlevoix	Private; ¼ acre. Limited public access.	West end of Sumner Road on Lake Charlevoix
Villa De Charlevoix	Private; boat launch, docks, swimming, boating, children's playground, picnic sites; 5 acres. No public access.	West of Sumner Road / Boyne City Road intersection on Lake Charlevoix
Walloon View Brae Association	Private; swimming, fishing, boating; 5 acres. No public access.	Southeast corner of Zenith Heights and Reycraft Roads with frontage on Walloon Lake
Wildwood on Walloon	Private; 50' of beach frontage, boat docks; 35 acres. No public access.	Wildwood Dr and Wildwood Harbor Rd on Walloon Lake

Source: Bay Township Master Plan 2006

EDUCATIONAL FACILITIES

There are no public or private school facilities within Bay Township’s political boundaries. School-age children within Bay Township are included within the Boyne City School District and take Boyne City Schools buses to public schools located between 3 and 12 miles away from Bay Township children.

The Boyne City High School (grades 9 through 12) exists at 1025 Boyne Avenue. In the same complex exists the Boyne City Middle School (grades 5 through 8) and the Boyne City Elementary School (grades K through 4). In 1999 voters approved an \$18.8 million initiative to fund construction of the new high school and improvements to the middle and elementary schools. The complex includes computer labs, mini research labs, a full media center and a 600-seat auditorium (with band and choral rooms). The complex also houses a 1,500 spectator gymnasium, all-weather track, baseball diamond and football stadium, and playground for younger students. Finally, the center is also the location of the school district bus transportation office. The administration building is located at the old Middle School, at 321 South Park Street. All Boyne City public schools are located within the incorporated city limits of Boyne City.

EMERGENCY SERVICES PROTECTION

Emergency services are provided to Bay Township through a variety of partnerships. Fire protection is provided by two separate agencies. The Resort/Bear Creek Fire Department, located at 5799 Charlevoix Rd, provides fire protection for the northern portion of the Township, while the Boyne City Volunteer Fire Department, located in downtown Boyne City at 319 N Lake Street, provides fire protection for the southern portion of Bay Township. Both departments have a mutual aid agreement to assist one another if additional resources are needed. Since there is no municipal water system in Bay Township to provide a consistent water supply, both departments rely on a network of over a dozen strategically placed pre-filled tanks and dry hydrants, or direct water sources, that allow water to be pumped out of Walloon Lake and Lake Charlevoix for their fire protection needs. Table 29 provides the location and water source type for emergency purposes.

Provisions for ambulance services are obtained through a contractual arrangement with Boyne City, also located at 319 N Lake Street. Ambulances utilize Charlevoix, Petoskey, and Gaylord Medical centers, depending on distance and patient preference.

TABLE 29. WATER TANKS & DIRECT WATER SOURCES IN BAY TOWNSHIP

Location	Water Source	Contracted Fire Dept.
Horseshoe Meadows Association (intersection of Horseshoe Trail & Buckaroo Trail)	Tank	Resort/Bear Creek
Church Road at Horton Creek located in Hayes Township	Horton Creek	Resort/Bear Creek
Camp Daggett	Walloon Lake	Resort/Bear Creek
Corner of Church Road and Camp Daggett Road	Tank	Resort/Bear Creek
Corner of Camp Sherwood Road and Zenith Heights Road	Tank	Resort/Bear Creek
Dyer Cemetery	Tank	Resort/Bear Creek
Camp Michigania	Tank	Resort/Bear Creek
Horton Creek (at bridge on Boyne City/Charlevoix Rd.)	Horton Creek	Boyne City
Lake Street end at Lake Charlevoix	Lake Charlevoix	Boyne City
N. Fontenoy Road and E. Fontenoy Road (Villa de Charlevoix)	Tank	Boyne City
Sumner Road end at Walloon Lake	Walloon Lake	Boyne City
Sumner Road end at Lake Charlevoix	Lake Charlevoix	Boyne City
Wildwood Dr. at Walloon Lake	Walloon Lake	Boyne City
Erickson Road (1/4 mile north of Old Horton Bay Road on the Right)	Tank	Boyne City

Police services are provided through the Charlevoix County Sheriff's Department, with a satellite office in Boyne Falls. One or two deputies serve Bay Township at any given time, serving on one of three shifts. In addition, the Boyne City Police Department and Michigan State Police provide service when they are the closest unit available.

Central Dispatch and 911 service is obtained as a joint service with Charlevoix, Emmet and Cheboygan counties, and is located in Petoskey off of US 131.

SOLID WASTE DISPOSAL AND RECYCLING

Solid waste disposal and recycling operations for Bay Township are handled by private businesses in accordance with Charlevoix County's Solid Waste Plan. Private curbside trash disposal is currently offered by Waste Management Inc., Republic Services, American Waste Inc., and North Country Sanitation. All operational landfills located within Charlevoix County were closed in the 1990s. Wastes are compacted and transported to landfills in neighboring counties.

There is one operational privately owned class A waste transfer stations in Charlevoix County located on Bells Bay Road in Charlevoix Township. The only class B transfer station available to Township residents is located in East Jordan. Although Township residents may not discard trash at the other class B transfer stations, they may drop off recycling at these locations. Additional sites are available to drop off recycling in both Charlevoix and Emmet Counties. Currently, Bay Township does not provide for regular curbside pickup of large items (appliances, metal, debris, mattresses, couches, etc.), however, evaluates the budget annually to determine if curbside pick-up is possible each year. Residents of the Township are responsible for contracting directly with the private waste collection firms to pick up these items as well as for their normal weekly garbage collection.

Charlevoix County organizes and sponsors county-wide household hazardous waste collection events twice per year at varying locations, and includes electronic component recycling, priced either by pound or allowing a set number of items per person.

CULTURAL & HISTORIC RESOURCES

Historic structures and culturally significant places within Bay Township listed on the National Register of Historic Places include the Horton Bay School; Horton Bay General Store; Horton Bay House-Red Fox Inn in Horton Bay. National Register listed properties may enjoy certain benefits, including but not limited to, a 20% federal tax credit for the substantial rehabilitation of income-producing, certified historic buildings; and federal gift, income, and estate tax deductions for the contribution of properties exclusively for conservation purposes including the preservation of historically important land area(s) or certified historic structure(s). Images and additional information on these sites can be found in Chapter 1 on page 15.

The Horton Bay Cemetery, Dyer Cemetery, North Bay School (School No. 1), North Bay Evangelical Church and Cemetery, Lakeside School, Bay Township Hall, and Evangelical Church are considered structures or locations of local historical importance.

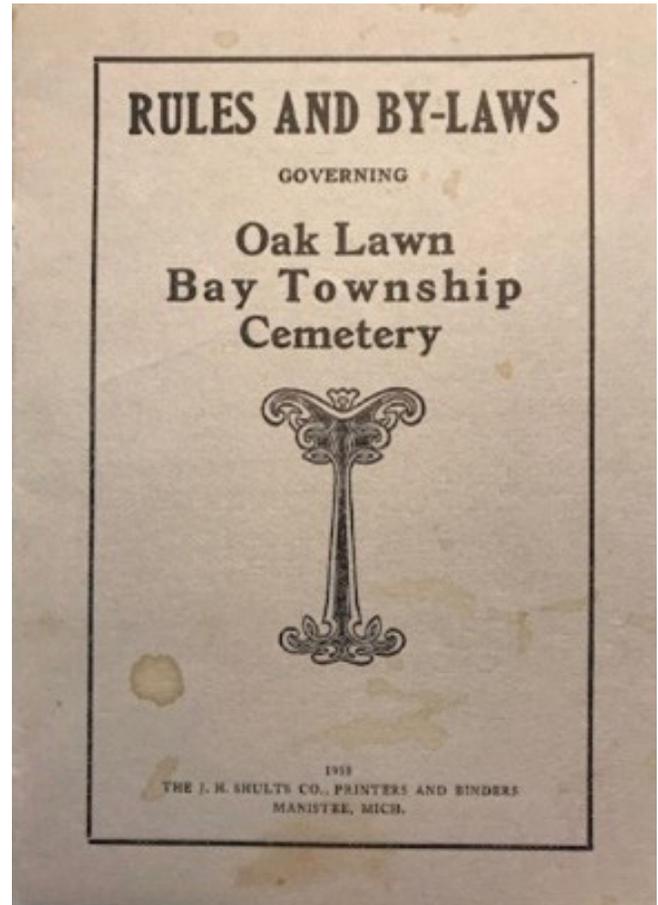


Red Fox Inn Sign
Source: Rob Maxwell

History of Three Cemeteries in Bay Township

Oaklawn Cemetery - Bay Township

Bay Township's Oaklawn Cemetery is located on Horton Bay Road North in Bay Township. This Township-owned cemetery has been referred to as Horton Bay Cemetery or the Koteskey Cemetery in Township records and on death certificates. It contains 9 headstones. No interments have been made since 1975, as no records have been found indexing who is buried there. The original five acre property was deeded "for burial purposes" to Bay Township for \$200.00 by Linetta J. Shaw and recorded on September 23, 1916. A cemetery plat was made and recorded on January 18, 1918 showing 312 burial sites. A special meeting was called by the Township Board of Electors on May 6, 1938, and by a vote of 12 to 0, it was decided to sell Township properties. This included a portion of Oaklawn Cemetery reducing it to its present 1.25 acres. A copy of the original plat and a "Rules and By-Laws governing Oak Lawn Bay Township Cemetery" dated 1918 are in the Bay Township Hall archives room.



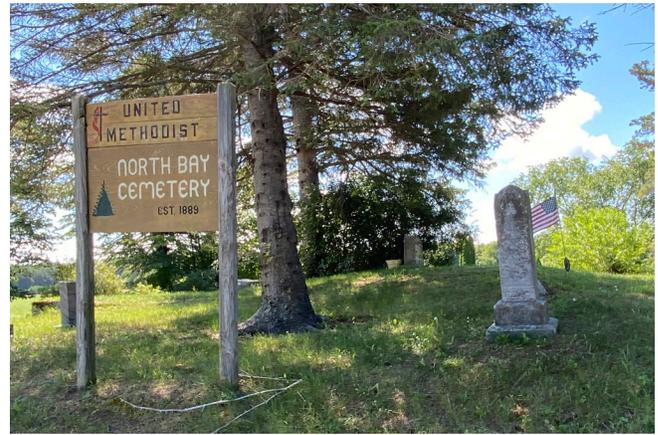
Oaklawn Cemetery Rules & Bylaws



Oaklawn Cemetery Sign



Dyer Cemetery Sign



North Bay Cemetery Sign

Dyer Cemetery - Bay Township

Located on Camp Daggett Road is Bay Township's Dyer Cemetery. This Township-owned cemetery consists of two sections. The older section fronting Camp Daggett Road is closed for burials as no records can be located in township files. In 1985, Supervisor Carl Skornia began corresponding with Willard Cherry of Columbus Grove, Michigan, expressing the Township's desire to establish a functioning cemetery and asking if he would consider selling some of his adjoining property. An agreement was reached and the warranty deed was signed on May 19, 1986. By February of 1988, the 1.5 acres adjacent to the "old" cemetery was annexed and received for county record. The new section contains 179 lots, each consisting of two burial spaces.



Dyer Cemetery Tombstone

North Bay Cemetery - Horton Bay United Methodist Church

The third cemetery in Bay Township is the United Methodist North Bay Cemetery under the care of the Horton Bay United Methodist Church. Located on Church Road, this large cemetery consists of several closed sections (again because no burial records can be located) which contain some of the oldest burials in the township. It was established in 1889 as the North Bay Evangelical Church Cemetery. The open section consists of 266 burial lots.

Each Memorial Day, a Flag Day Ceremony is held at Dyer Cemetery to honor all veterans. Since December 2014, the Cemetery Committee and the Horton Bay United Methodist Church have hosted the international non-profit program Wreaths Across America and place a special honorary wreath on the grave site of every veteran in all three cemeteries.



Memorial Day Flag Ceremony at Dyer Cemetery
Source: Walter Barkley

Historic structures and locations such as churches, cemeteries, schoolhouses, and other historically significant properties, structures and features can be lost or irreparably altered by private-ownership uninformed about or uninterested in preserving or enhancing cultural or historic values. Bay Township supports the exploration and establishment of voluntary historic preservation tools in the Township, Charlevoix County, and regionally, such as historic preservation and conservation easements, the public purchase of historic structures and culturally significant properties, conservation developments that set aside, protect and/or allow some public use of historic structures and culturally significant locales, and seeking private, foundation, and/or government funds to assist in historic structure and cultural preservation projects.

SCENIC VIEWSHEDS

A viewshed is often used to describe views encompassing multiple directions and varied distances. A 2004 resource inventory within Bay Township as part of that Master Plan update process identified 35 scenic viewsheds from public thoroughfares including scenes to Lake Charlevoix, Walloon Lake, and agricultural and forested lands.

Although specific economic value is difficult to ascribe to viewsheds, it is acknowledged that real estate values are dramatically increased if they possess aesthetically pleasing views, and that many tourists traveling to and through Bay Township each year enjoy viewing its rural character, natural



Horton Bay General Store
Source: Rob Maxwell

setting, shorelines, forests, especially autumn color, historic and cultural resources, and panoramic views. Separate decisions made by individual landowners and public agencies can degrade these assets by the large-scale removal of natural vegetation, unscreened structures and lighting, driveways, etc. Bay Township encourages the use of filtered views, appropriate setbacks from ridgelines, the prohibition of construction on steep slopes, and protection of dark night skies.

Bay Township is endowed with extraordinary waterways, and rich natural, scenic, cultural, and historic resources. However, Bay Township residents are aware that, lacking voluntary protection, historic structures within private ownership are vulnerable to significant alteration or destruction.

Further, absent well-crafted, enforced, and fairly applied regulations, water quality, farmlands, and other natural and scenic resources are also at risk.

It is the position of Bay Township and its residents that the quality of life, economic welfare and environmental well-being of the Township are inherently tied to guiding future growth in a manner that will not negatively impact but conserve and/or enhance these resources. Bay Township also recognizes the need for the identification, application, and maintenance of public and voluntary private conservation tools to these important resources.



Scenic View atop the Church Preserve

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Appendix

BAY TOWNSHIP 2018 SURVEY SUMMARY

INTRODUCTION

The following report summarizes the 2018 Bay Township Community Survey results. The Planning Commission developed the 2018 Community Survey to better understand the needs and desires of the residents of Bay Township. The results from the survey will be used to update the Bay Township Zoning Ordinance and will also help identify future land use practices and provide guidance to the Township Board.

METHODOLOGY

In February of 2018, a total of 1,103 surveys were mailed to Township residents. Addresses were compiled from the list of registered voters and from the County Equalization office. Due to the seasonal nature of many Bay Township residents, it was common for residents to receive a copy of the survey at their permanent address and at their Bay Township address. Every effort was made to reach all residents, including renters.

A total of 421 individuals completed the survey. Because one survey was mailed to each household (including seasonal property owners living outside the Township), we can estimate the response rate to be approximately 51%. This is based on the fact that there are 847 housing units in the Township (2016 American Communities Survey 5-year estimates). While 340 of the housing units are classified as vacant, the Census estimates that 92% of all vacant housing units are actually occupied seasonally. The vast majority of the surveys were returned by mail (92%), while 8% of surveys were completed online.

CONTEXT

The Bay Township Planning Commission is continually examining its planning and zoning goals and policies. The Bay Township Master Plan was last updated in 2006. During this update process, the Planning Commission developed a similar survey to inform goals, policies, and objectives for the 2006 Master Plan, and ultimately the Zoning Ordinance. As applicable, results from the 2018 survey are compared with results from the last community survey, which was conducted in 2004.

A full compilation of all long answer responses to the survey questions is available upon request at the Township.

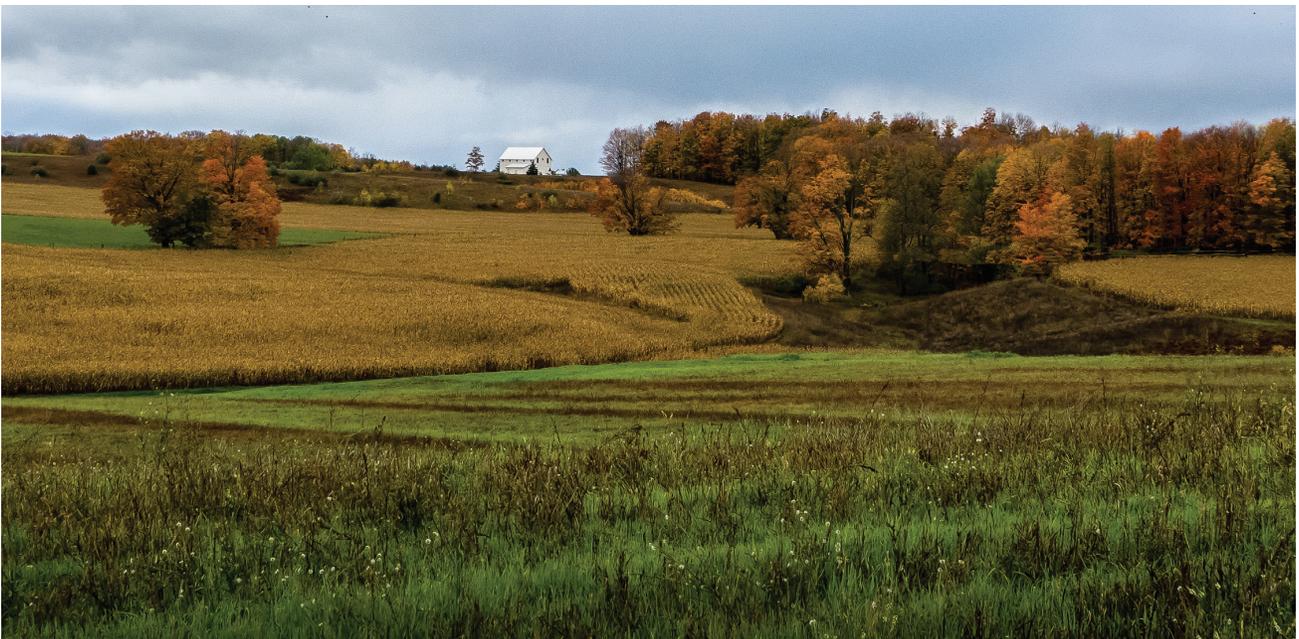
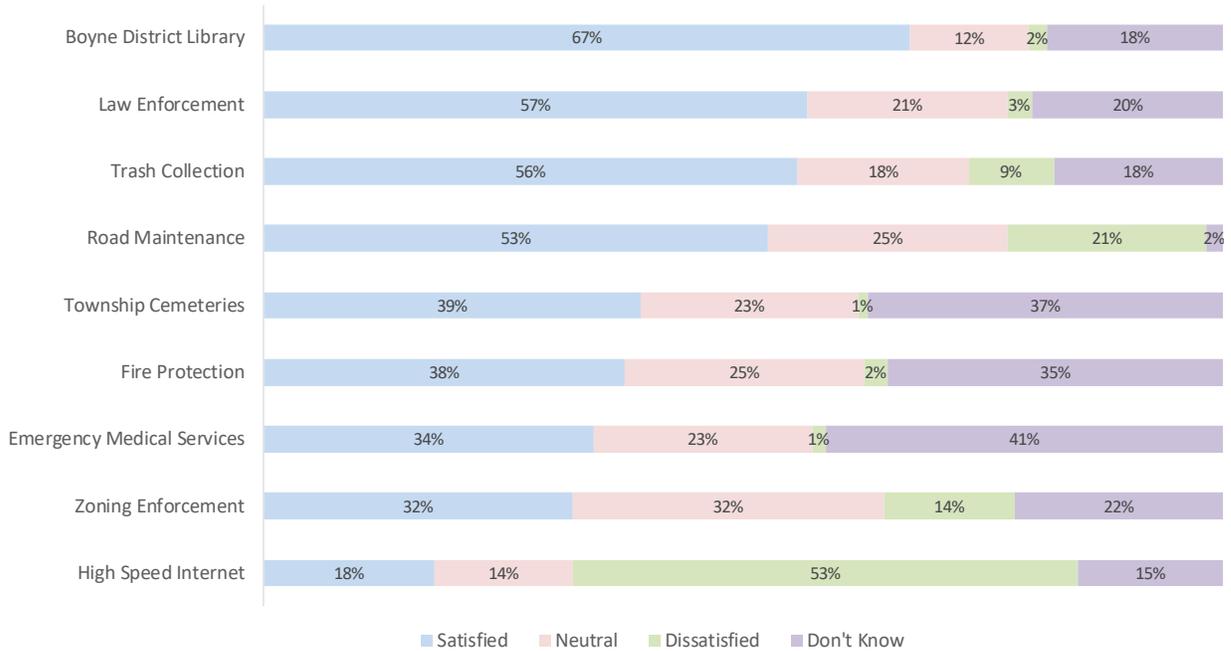
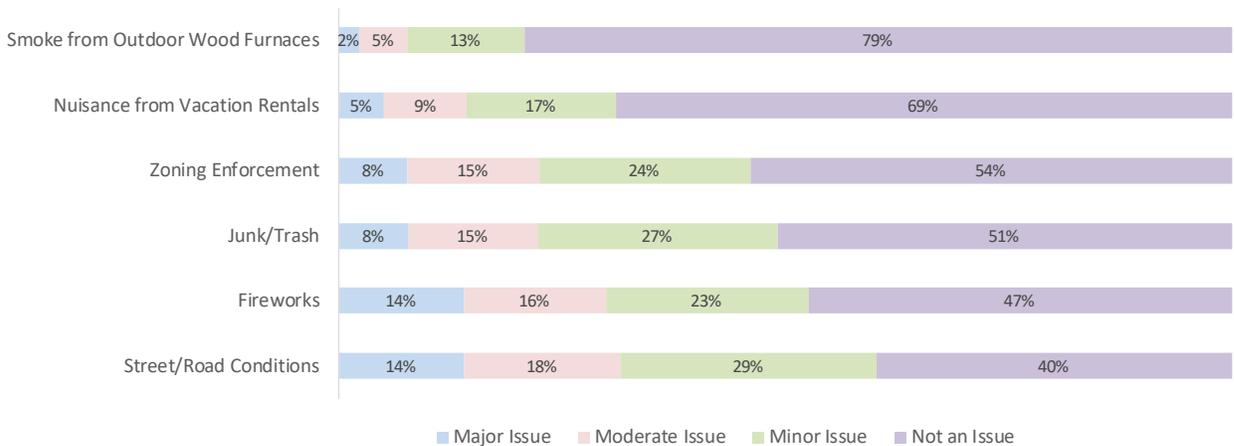


Photo courtesy of Rob Maxwell

Question 1: How would you rate your satisfaction with the following public services?



Question 2: Please rate how much of a problem, if at all, each of the following are in the Township:

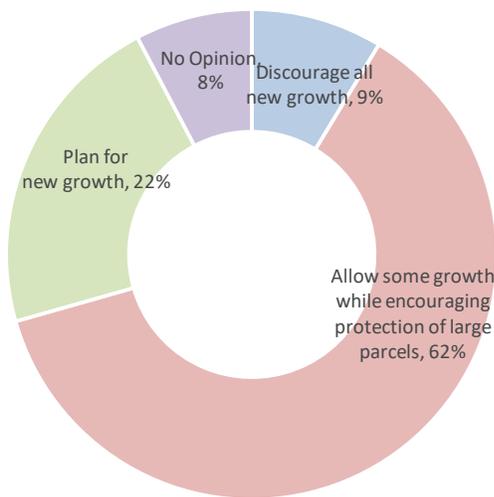


Question 3: Please expand on any items you identified as an issue in Question #2.

- Street/Road Conditions: 67 people provided additional comments about roads. Comments focused on paving County roads that are currently dirt, snow removal, removal of dead/dangerous trees, speed enforcement, culverts and drainage, signage, and general road maintenance.
- Fireworks: 56 individuals provided additional comments about fireworks. The primary concern surrounding fireworks was that they occur well beyond the 4th of July period. People noted that they go off all summer into the late evening hours, causing noise and light pollution, and scaring children and pets. Some people expressed a sentiment that fireworks are simply a part of living in a resort community.
- Junk/Trash: 56 people provided additional comments about junk and trash. Many of these comments were about the importance of the annual junk pick-up, as well as a desire for regular trash collection and recycling services. Numerous comments also focused on areas of the Township with junk in yards, along with poorly maintained structures and properties.

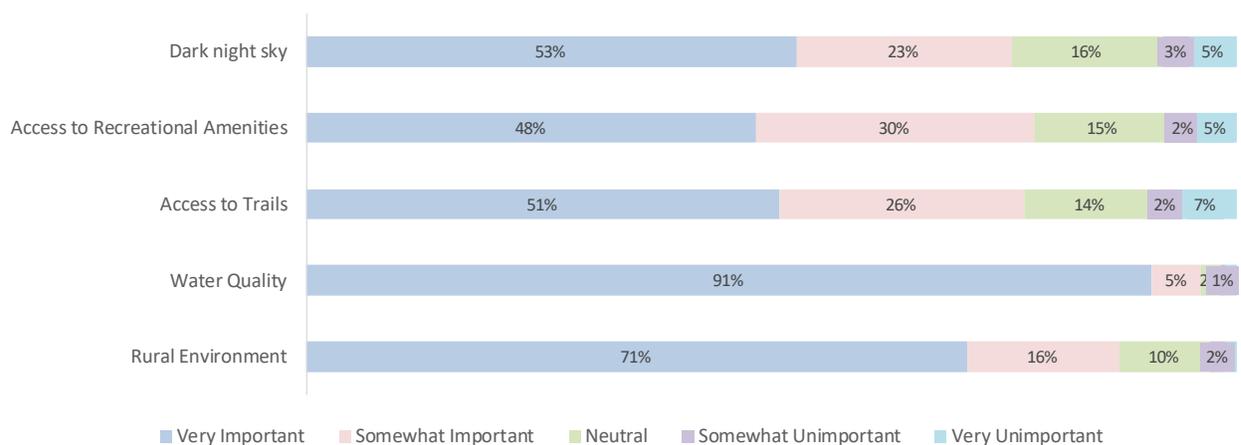
- **Zoning Enforcement:** 27 people provided additional comments about zoning enforcement. These comments focused on the need for enforcement, particularly along the waterfront. Respondents also articulated a desire for more consistent administration of the zoning ordinance.
- **Smoke from Outdoor Wood Furnaces:** 15 people provided additional comments about smoke from Outdoor Wood Furnaces. Four of the responses indicated that it is not a problem, while 11 comments indicated concerns about public health and general nuisances.
- **Nuisance from Vacation Rentals:** 15 people provided additional comments about vacation rentals. Key concerns focused on enforcement, noise, and excessive partying. On the other hand, some people expressed support for people visiting the Township and focused on the economic benefits of vacation rentals.
- **Other:** There were 23 “Other” comments. These comments focused on Internet and cellular services, the bike path and other recreational facilities, taxes, and various aspects of land use control.

Question 4: Please select the one statement below that most closely matches your views on growth and development in the Township. “I would prefer the Township to . . .” (Please choose only one)

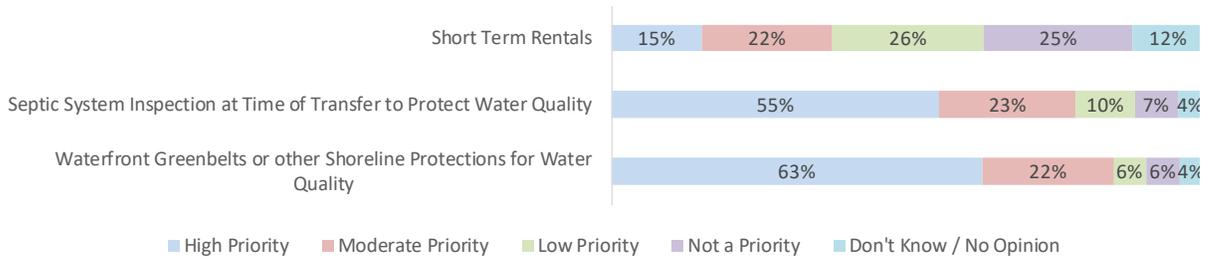


A question very similar to question #4 was posed in the 2004 Community Survey. 57.8% of respondents in 2004 wanted to see limited, controlled growth; which is similar to the 2018 sentiment of 62% of respondents who want to allow for some growth while encouraging protection of large parcels. In both 2018 and 2004, there seems to be a strong desire to protect the Township’s open space and natural resources, while still allowing for controlled growth and development in targeted areas.

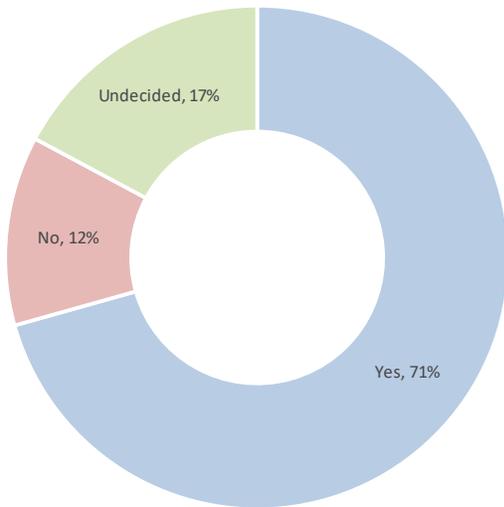
Question 5: How important are the following in Bay Township?



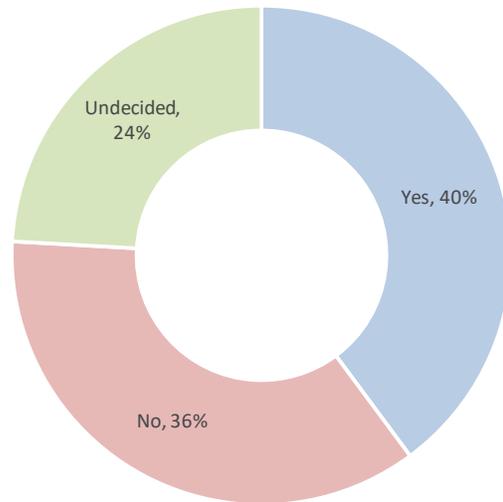
Question 6: Rate each of the following issues as a priority for regulation in the Township.



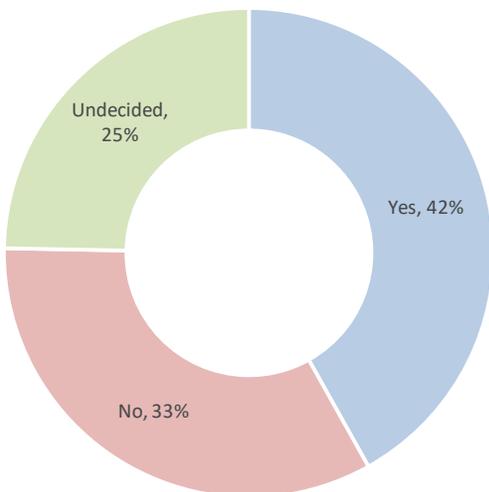
Question 7: Should Bay Township partner with conservancies and others to protect farmland and other important natural features?



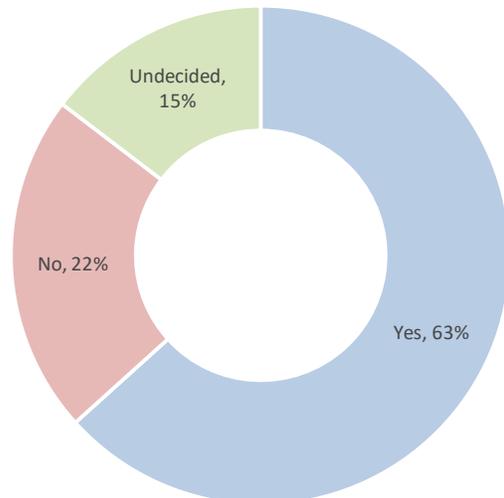
Question 8: Would you support an increased Township millage to repair and upgrade roads in the Township?



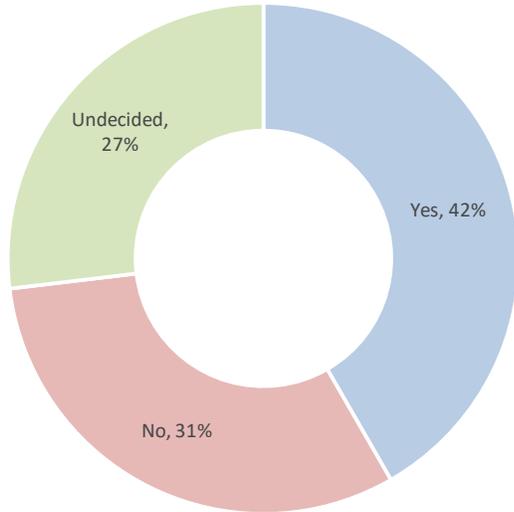
Question 9: Would you support an increased Township millage to support fire and ambulance services in the Township?



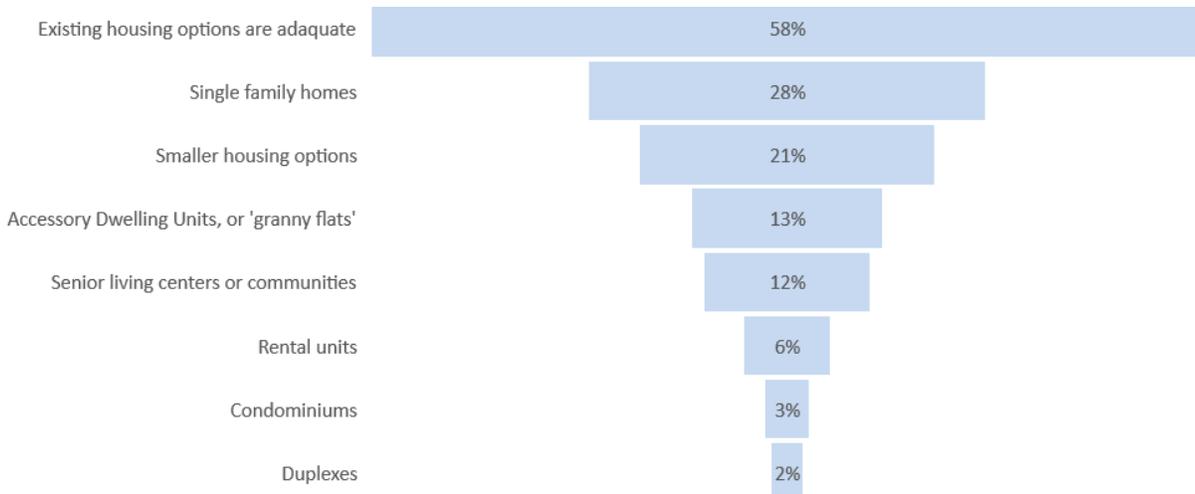
Question 10: Would you be supportive of non-motorized trails and expanded recreational opportunities for Township residents?



Question 11: If you answered yes to Question #10, would you be willing to support these expanded facilities through a Township millage?



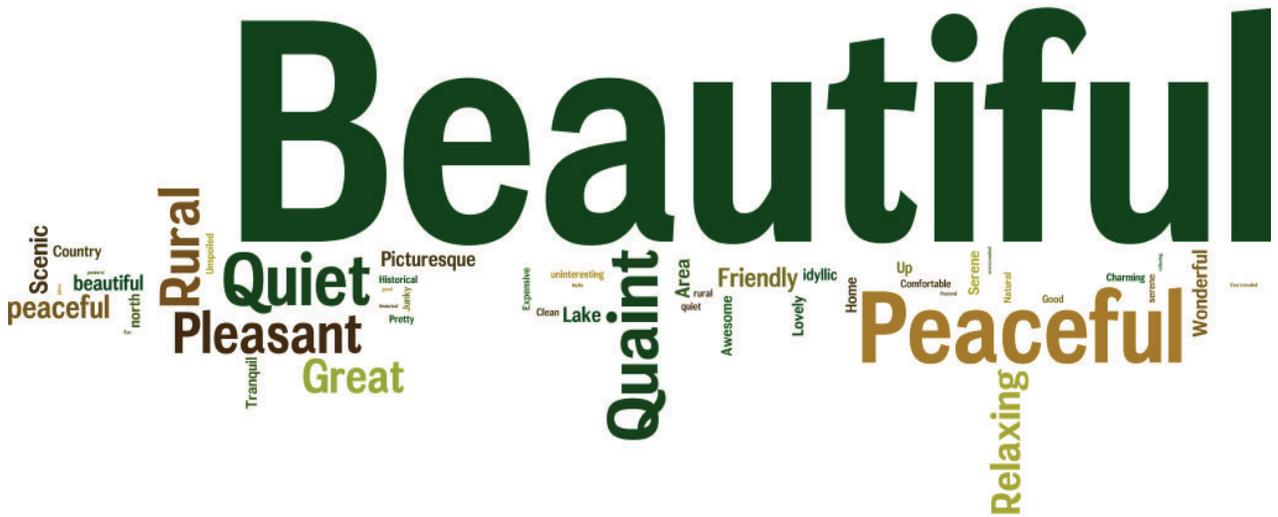
Question 12: What type of housing (if any) does Bay Township need more of? Please check all that apply



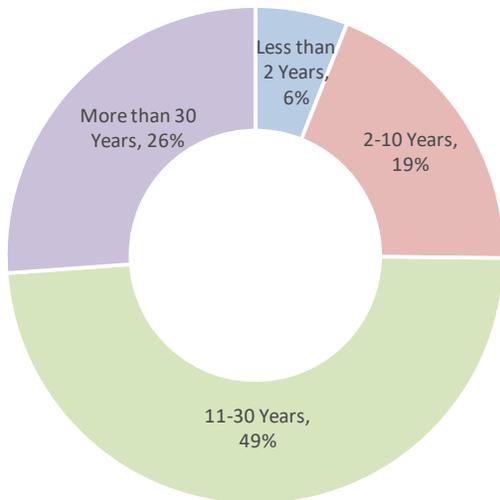
Although the most common responses as to the need of new housing was (1) that existing options are sufficient, and (2) that there is the most support for new single family homes, there seems to be acknowledgment in the Township that there is a place for other types of housing formats. Interestingly, 21% of respondents felt Bay Township would benefit from smaller housing options and 13% were supportive of (more) accessory dwelling units. According to the Census, the average household size has declined in Bay Township by 4% from 2000 to 2010 to 2.41 people. Additionally, demographic research indicates an aging population will likely desire smaller housing formats (missingmiddlehousing.com).

Question 13: What is one word you would use to describe Bay Township to someone planning a visit?

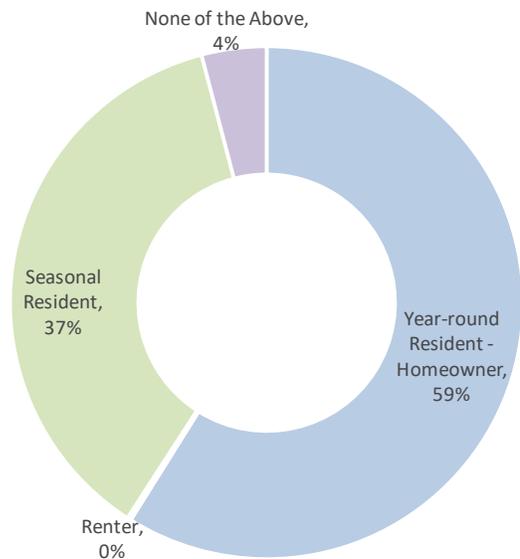
Answers to this question were fairly varied. 63 people chose the word “beautiful,” 25 people chose the word “peaceful,” 16 people chose the word “quiet,” 14 people chose “quaint,” 13 chose “rural,” and 11 chose “pleasant.”



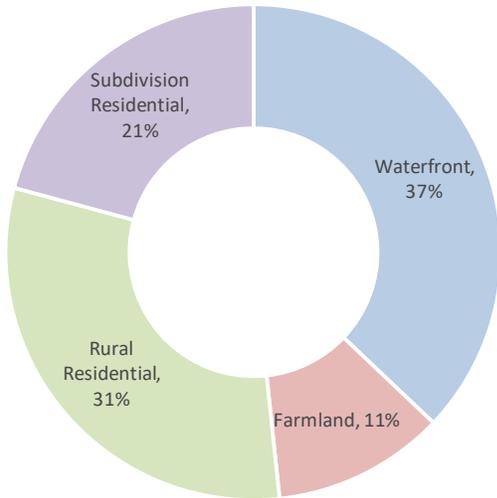
Question 14: How long have you lived in Bay Township?



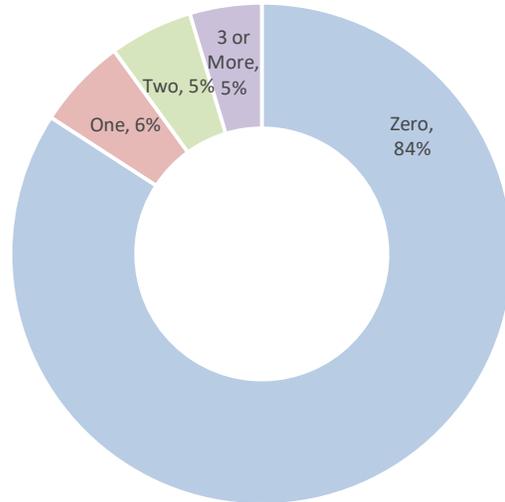
Question 15: Please classify your residency in Bay Township



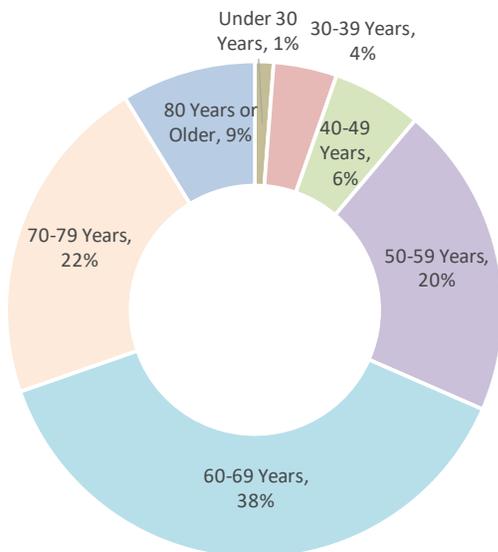
Question 16: Which best describes your property in Bay Township?



Question 17: How many children age 17 or younger live in your household?



Question 19: What category is your age?



It is useful to compare the demographics of survey respondents with the demographics of the general population.

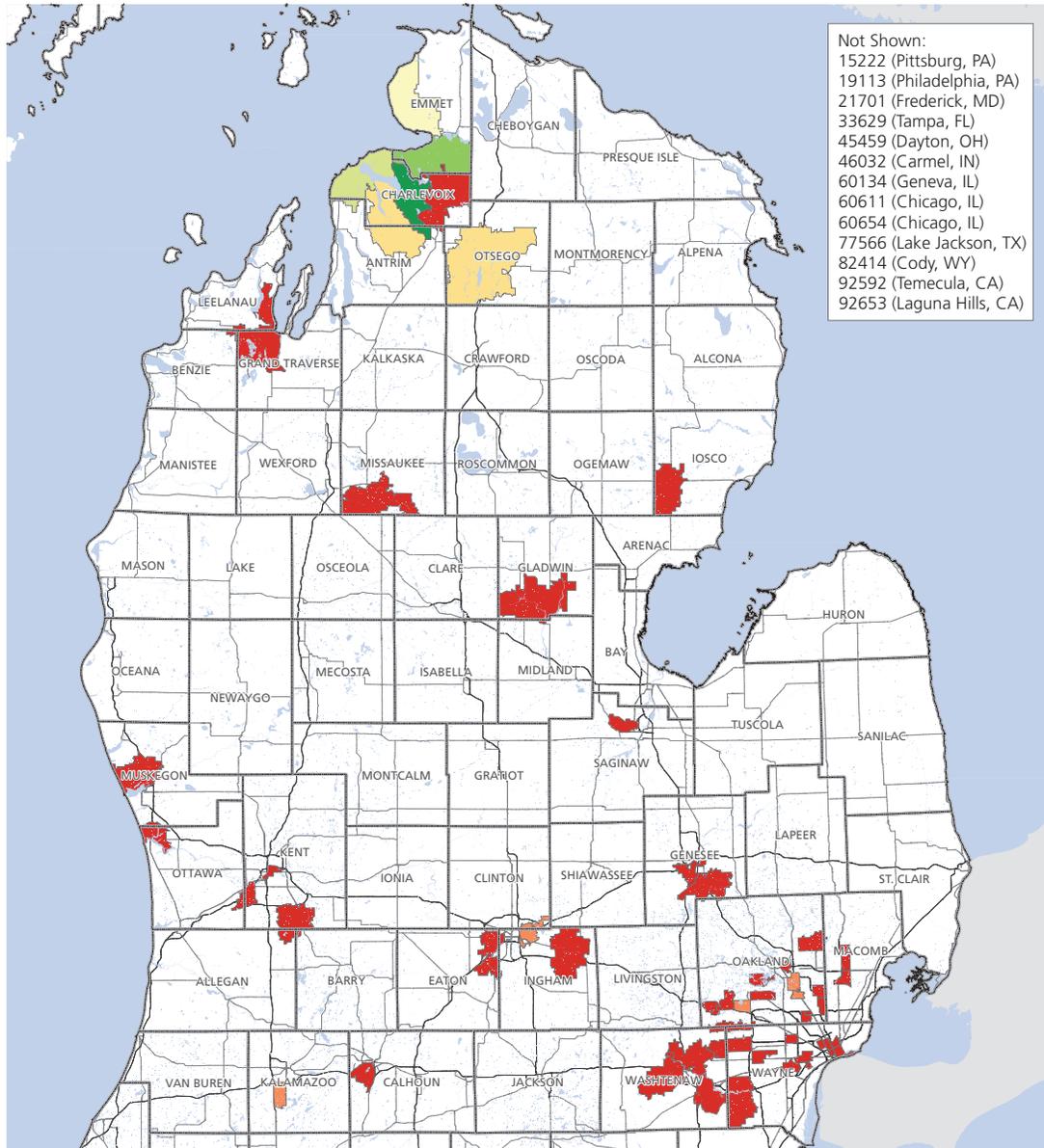
The 2016 American Community Survey estimates that 39% of total housing units in Bay Township are vacant. This is likely due to the fact that most of these housing units are used for seasonal residents. This number mirrors the 37% of surveys respondents who said they are a seasonal residents.

The 2016 ACS estimates that 2.2% of the residential housing units in the Township are renter-occupied. This number is higher than the fraction of one percent (.24%) of survey respondents who identified as a renter. Due to the difficulty of reaching renters, this population was likely underrepresented in the survey results.

Survey respondents appear to be older in general when compared with Bay Township residents. According to the 2010 Census, 27.6% of Bay Township residents are 60 years or older. However, 69% of survey respondents reported being 60 years or older. This discrepancy could partially be attributed to the fact that many of the seasonal residents are older on average.

Question 18: Please indicate the zip code where you work (if applicable).

Of the 421 survey respondents, 71 individuals provided a zip code of employment. As illustrated by the map, places of employment are concentrated in an around Bay Township, although many respondents reported working out of the region and even out of the state. This is likely due to the fact that 37% of respondents are seasonal residents as well as the fact that working remotely is becoming increasing more common.



BAY TOWNSHIP COMMUNITY SURVEY
Place of Employment by Zip Code

Data Sources: State of Michigan Geographic Data Library, Michigan DNR Open Data Portal



- | | | |
|--------------------|--------------------------------|-----------------------------|
| — Freeways | Employment by Zip Code: | 3 Residents (49735 & 49727) |
| — State Trunklines | 59 Residents (49712) | 2 Residents (Multiple) |
| — County Boundary | 44 Residents (49770) | 1 Resident (Multiple) |
| — Lakes / Ponds | 12 Residents (49720) | |
| — Rivers / Streams | 4 Residents (49740) | |

Question 20: Please feel free to comment below regarding any concerns or suggestions you may have that were not addressed in the survey.

A total of 146 individuals provided additional comments. There were a variety of topics covered; ranging from zoning issues, to development, to Township leadership and services. In general, most respondents seem satisfied with the Township's efforts to provide services and communicate with residents.

Many people articulated a desire for high speed Internet service, as well as better cable and cellular services. People noted safety concerns and called for the Township to work with potential private providers to improve services.

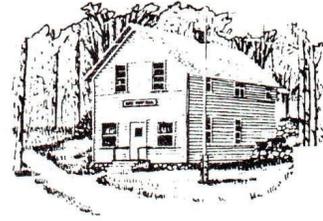
There was a wide variety of opinions expressed in terms of development and zoning regulations. A number of people said they wanted less regulation, while others supported more zoning protections on waterfront property and to protect against blight and trash.

As is the case in most communities, road maintenance and upkeep was an important issue. There was also widespread support for recycling services and more frequent garbage/junk pick-up. Other topics that reemerged from earlier in the survey included the bike path, short-term rentals, outdoor wood burning, and fireworks.



Photos courtesy of Rob Maxwell

The Bay Township Planning Commission is continually examining its planning and zoning goals and policies and would like community input. Your feedback is instrumental in helping the Township update its zoning ordinance to better reflect the needs and desires of all residents. Results from this survey will also help identify future land use practices and prioritize Township services. Please complete this survey by March 16, 2018. This survey can also be completed online at: www.surveymonkey.com/r/baytownship. Your feedback is greatly appreciated. Thank you!



1. How would you rate your satisfaction with the following public services?

	Satisfied	Neutral	Dissatisfied	Don't Know
Emergency Medical Services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fire Protection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Law Enforcement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Zoning Enforcement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Road Maintenance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
High Speed Internet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trash Collection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Boyne District Library	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Township Cemeteries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. Please rate how much of a problem, if at all, each of the following are in the Township:

	Not an Issue	Minor Issue	Moderate Issue	Major Issue
Zoning Enforcement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Junk/Trash	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Street/Road Conditions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Smoke from Outdoor Wood Furnaces	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nuisance from Vacation Rentals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fireworks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. Please expand on any items you identified as an issue in Question #2.

4. Please select the one statement below that most closely matches your views on growth and development in the Township. "I would prefer the Township to . . ." (Please choose only one)

- Discourage all new growth
- Allow some growth while encouraging protection of large parcels
- Plan for new growth
- No Opinion / Don't Know

5. How important are the following in Bay Township?

	Very Important	Somewhat Important	Neutral	Somewhat Unimportant	Very Unimportant
Rural Environment	<input type="radio"/>				
Water Quality	<input type="radio"/>				
Access to Trails	<input type="radio"/>				
Access to Recreational Amenities	<input type="radio"/>				
Dark night sky	<input type="radio"/>				

6. Rate each of the following issues as a priority for regulation in the Township.

	Not a Priority	Low Priority	Moderate Priority	High Priority	Don't Know / No Opinion
Waterfront Greenbelts or other Shoreline Protections for Water Quality	<input type="radio"/>				
Septic System inspection at Time of Transfer to Protect Water Quality	<input type="radio"/>				
Short Term Rentals	<input type="radio"/>				

7. Should Bay Township partner with conservancies and others to protect farmland and other important natural features?

- Yes
- No
- Undecided

8. Would you support an increased Township millage to repair and upgrade roads in the Township?

- Yes
- No

9. Would you support an increased Township millage to support fire and ambulance services in the Township?

- Yes
- No
- Undecided

10. Would you be supportive of non-motorized trails and expanded recreational opportunities for Township residents?

- Yes
- No
- Undecided

11. If you answered yes to Question #10, would you be willing to support these expanded facilities through a Township millage?

- Yes
- No
- Undecided

12. What type of housing (if any) does Bay Township need more of? Please check all that apply

- Condominiums
- Single-family homes
- Smaller housing options
- Duplexes
- Accessory Dwelling Units, or 'granny flats'
- Senior living centers or communities
- Rental units
- Existing housing options are adequate

13. What is one word you would use to describe Bay Township to someone planning a visit?

14. How long have you lived in Bay Township?

- Less than 2 Years
- 2-10 Years
- 11-30 Years

15. Please classify your residency in Bay Township

- Year-round Resident - Homeowner
- Year-round Resident - Renter
- Seasonal Resident - Primary Residence in another Community
- None of the Above

16. Which best describes your property in Bay Township?

- Waterfront
- Farmland
- Rural Residential
- Subdivision Residential

17. How many children age 17 or younger live in your household?

- 0
- 1
- 2
- 3 or More

18. Please indicate the zip code where you work (if applicable)

19. What category is your age?

- | | |
|--|---|
| <input type="radio"/> Under 20 Years Old | <input type="radio"/> 50-59 Years |
| <input type="radio"/> 20-29 Years | <input type="radio"/> 60-69 Years |
| <input type="radio"/> 30-39 Years | <input type="radio"/> 70-79 Years |
| <input type="radio"/> 40-49 Years | <input type="radio"/> 80 Years or Older |

20. Please feel free to comment below regarding any concerns or suggestions you may have that were not addressed in the survey.

Thank you for completing this survey! If you would like to get more involved in the Township, please visit the Bay Township Website at www.baytownshipmi.org



Lake Charlevoix

Source: Rob Maxwell