

ANTRIM COUNTY

20 MASTER PLAN

18



Prepared by the Antrim County Planning Commission
Approved by the Antrim County Board of Commissioners on April 12, 2018
Effective April 12, 2018

The following motion is from the April 12, 2018 Board of Commissioner's regular meeting:

"It was moved by Marcus, seconded by Zelenak that the 2018 Antrim County Master Plan be approved and adopted as presented. Motion carried as follows: Yes – Heeres, Zelenak, Bargy, Boettcher, Smith, LaVanway, Kruger, Marcus; No – None; Absent – Ricksgers."

**The County of Antrim
Planning Commission
Resolution # 1-2018**

March 6th, 2018

Upon motion made by Rick Teague, seconded by Bill Bailey, the following Resolution was adopted.
Motion Carries- Unanimous

WHEREAS, the Michigan Planning Enabling Act, Public Act 33 of 2008, as amended, authorizes the Planning Commission to revise a master plan every 5 years for the use, development and preservation of all lands in the County, and,

WHEREAS, the Antrim County Master Plan was last updated in 2012, and,

WHEREAS, the Antrim County Planning Commission voted to begin the 5 year review process for the Antrim County Master Plan at their February 7th, 2017 meeting, and,

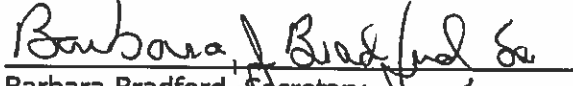
WHEREAS, the Antrim County Planning Commission gave notice of intent on March 24th, 2017 to revise the Master Plan, and,

WHEREAS, the Antrim County Master Plan was sent out for municipality comment on December 18th, 2017 by the Antrim County Board of Commissioners, and,

WHEREAS, the Antrim County Planning Commission held a public hearing on March 6th, 2018,

NOW, THEREFORE BE IT RESOLVED AS FOLLOWS:

1. **Findings of Fact.** The Planning Commission has made the determination based on a review of existing land uses in the County, a review of the existing Master Plan provisions and maps, input received from the surrounding municipalities and public hearing, and with assistance of the County Administration/Planning staff, finds that the new 2017 Master Plan will accurately reflect and implement the Counties goals and strategies for the use, preservation and development of lands in Antrim County.
2. **Adoption of 2018 Master Plan.** The Planning Commission Hereby approves and adopts the proposed 2018 Master Plan, including all of the chapters, figures, maps and tables contained therein.
3. **Adoption Recommendation.** Finally, the Antrim County Planning Commission recommends the Antrim County Board of Commissioners adopt the Antrim County Master Plan.


Barbara Bradford, Secretary
Antrim County Planning Commission

Acknowledgements

2017 Antrim County Board of Commissioners

Ed Boettcher, Chair
Karen Bargo, Vice Chair
Dave Heeres
Scott Kruger
Dawn LaVanway
Christian Marcus
Brenda Ricksgers
Bryan Smith
Melissa Zelenak

Antrim County Planning Commission

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Chapter 1. What is a Master Plan?



Summary

A Master Plan is a comprehensive long-range plan intended to guide growth and development of a community or region. It includes analysis, recommendations, and proposals for the community's population, economy, housing, transportation, community facilities, and land use. It is based on public input, surveys, planning initiatives, existing development, physical characteristics, and social and economic conditions.

A Master Plan is a policy-based document, it does not nor can it regulate land use. A Master Plan is not a zoning document; therefore the recommendations in this plan are only for guidance, not to regulate properties or land use.

A Master Plan is a product of land use planning. Planning is an orderly, open approach to determining Antrim County's needs and goals and developing strategies to address those needs and meet those goals. The planning process involves working through four basic questions, which should be answered with the Master Plan:

1. Where is Antrim County now?
2. How did Antrim County get here?
3. Where does Antrim County want to go?
4. How does Antrim County get there?

While the plan has little direct authority, it is an expression of Antrim County's intention for the future and provides guidance to accomplish that vision. Local units of government, citizen groups, and individuals are encouraged to review this plan and make suggestions.

The benefits for having an updated plan include:

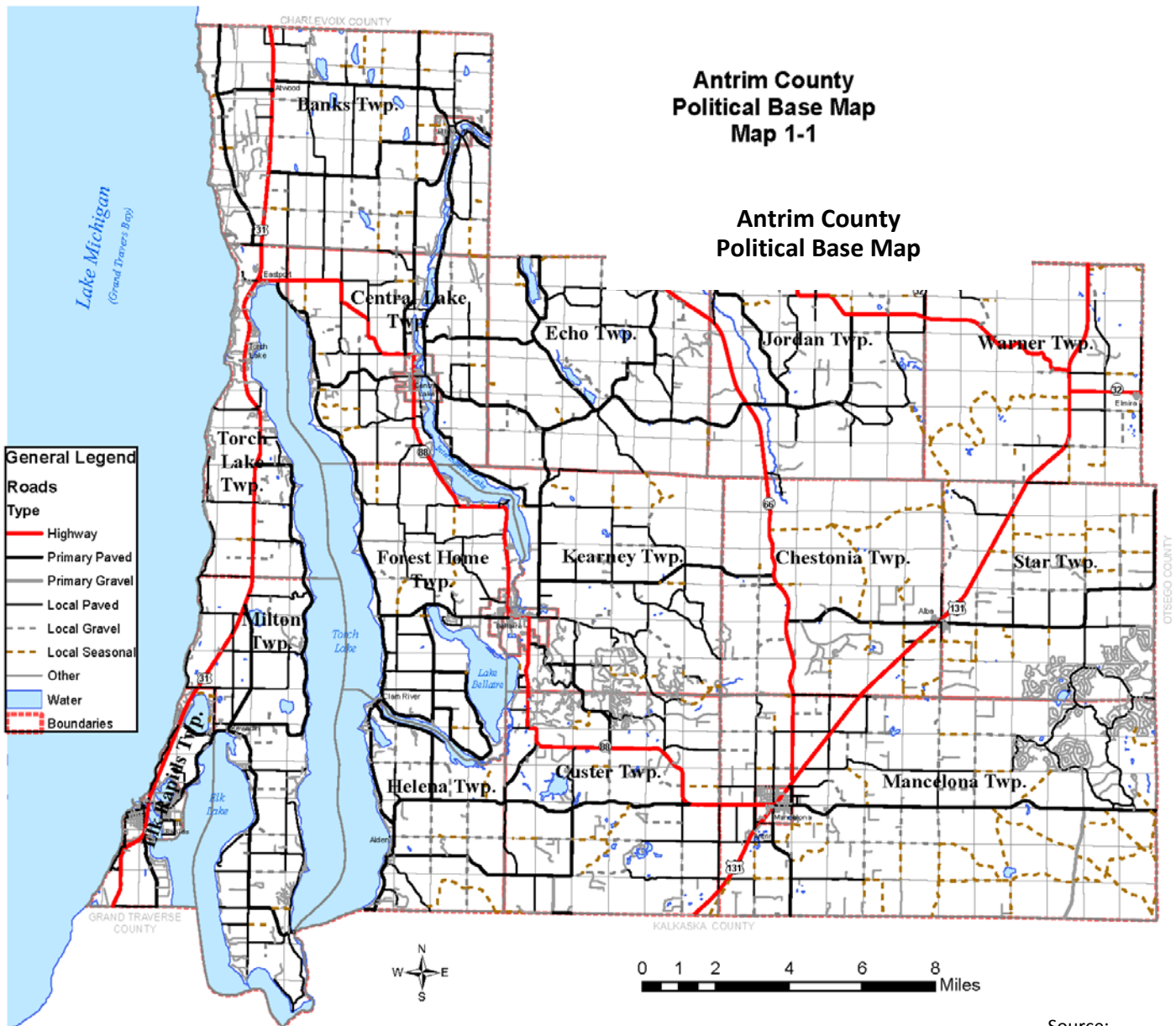
1. **Consistency in decision making** - the plan gives decision makers a steady point of reference for the land use-related actions.
2. **Ability to make informed decisions** - the plan provides facts on existing conditions and trends, enabling decision makers to better understand the impact of their decisions versus relying on a "gut instinct."
3. **Achieve predictability** - the plan describes where and what type of development the community desires. This information allows individuals to plan for the purchase and use of property consistent with community goals.



4. **Wise use of resources** - the plan includes information from different departments and sources. This information can be used in deciding and prioritizing which projects to undertake, such as promoting brownfield redevelopments, buying land for parks, or applying for grants for affordable housing. It also can be used to direct the location of utility extensions and road improvements.
5. **Preserving community character** - the plan describes the county's vision for the

future and establishes its existing and intended growth. It permits the community to identify what is important and how it should be protected.

6. **Produce positive economic development** - planning for a community helps existing residences and businesses better predict the future development of an area. This prediction creates a comfort zone of knowing what to expect on neighboring properties. It also encourages new businesses and



Source:
Antrim County

residential developments because they also know what to expect. In addition, the planning process allows a community to consider workforce, education and local infrastructure capacity, among others, so that appropriate economic development strategies can be developed.

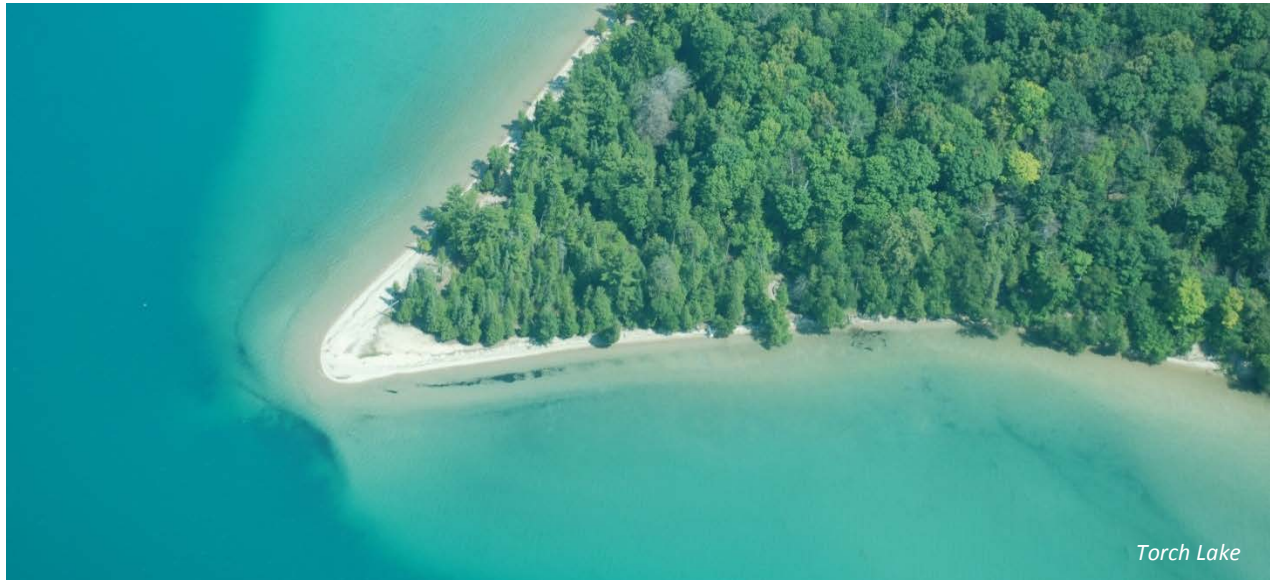
To remain viable, the Master Plan should be flexible and dynamic, not static. It must be able to respond to change and be able to guide. The Michigan Planning Enabling Act, PA 33 of 2008, as amended, requires that master plans be evaluated and amended every five years to keep the plans fresh and current, but each change should be evaluated on its merits (i.e., whether it enhances or detracts from the County's vision).

The Antrim County Planning Commission is charged with interpreting, evaluating, amending, and keeping the Master Plan current. If it

becomes stale, outdated, or is ignored, it will not further the vision of Antrim County.

All County decisions relating to land use, transportation, acquisition of land, and major capital improvements within Antrim County should be reviewed with the Master Plan to ensure compatibility. While the County Board of Commissioners can take action contrary to the Planning Commission's recommendations, the Commission has the authority, according to state law, to evaluate such proposals regarding their consistency with the Master Plan. This gives the Commission the important responsibility of making sure that the Master Plan is current and generally consistent with what the public and decision makers want the County to become in the future.

Chapter 2. Natural Resources and Environment



Summary

Natural features, such as wetlands, woodlands, lakes, and streams help shape community identity. This is especially true in Antrim County. New land developments can significantly impact natural features and consequently impact community character. The purpose of this section is to describe the significant natural features that exist in Antrim County.

This information will help the Antrim County Planning Commissioners recommend development into areas which are the least environmentally sensitive to minimize adverse impacts to these areas.

The natural features discussed in this chapter include: geology, topography, soils, climate, wetlands, lakes, rivers, streams, watersheds, fisheries and wildlife, vegetation, groundwater, extraction sites, the sky, and the environment.

Physical Features *(Surface characteristics that give shape to a community)*

Geology

The surface geology, like much of Northern Michigan, is characterized by upland areas or moraines, coastal areas and lakebeds, dunes

along Lake Michigan, and outwash and glacial channels.

Topography

The surface topography in Antrim County ranges from flat marshy areas to very steep and rolling hilly sections. The highest point in the county is approximately 1,460 feet above sea level, which is located in the extreme southeast corner of Antrim County. The lowest surface elevation is the lake level in Grand Traverse Bay that averages 580 feet above sea level (see map on page 8; “Antrim County Elevations”).

As depicted on page 9 in the map “Antrim County Percent Slope,” there are several areas that have slopes exceeding 15%. These areas are located primarily in Kearney, Forest Home, Echo and Banks Townships. Much of the shoreline along Torch Lake also has steep slopes.

Soils

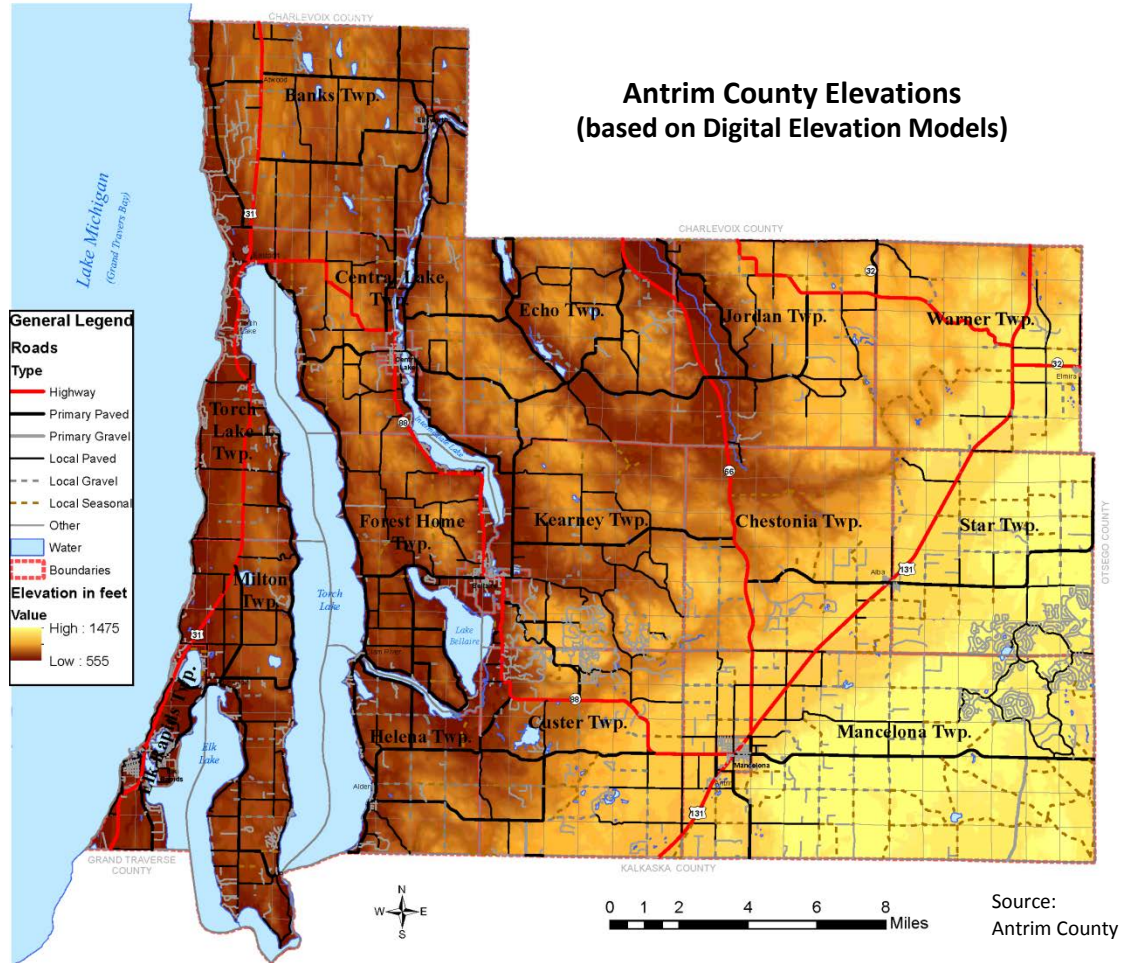
Generally, soils in the area tend to be sand, acidic, and low in fertility. Upland soils are characterized by Kalkaska-Montcalm soils, which are well-drained, nearly level to very steep, sandy soils on hills, ridges, and knolls. According to the 1978 United States Department of Agriculture Soil Survey, soils along rivers, streams and riparian to lakes are often characterized as

Tawas-Ensley-Roscommon soil types that are considered very poorly drained, nearly level, mucky, loamy, and sandy soils in depressions on plains. See “Antrim County Soils” on page 17 and “Antrim County Drainage Classifications” on page 11.

Climate (Michigan Department of Agriculture’s Climatologic Division provided this data)

In winter months, the temperature ranges in the high to mid-20s for an average high and the average low temperature is in the mid-teens. During the growing season, the average highs are about 70 degrees and the lows are near 50 degrees at night. The temperatures are modified in the spring and fall from the lake effects. This “Great Lake effect” provides cooler temperatures in the spring and warmer temperatures in the fall. This temperature modification makes for more ideal conditions for the production of specialty crops such as cherries and grapes.

Growing degree-days are equivalent to the “heat units.” During the month, growing degree-days accumulate by the amount that the average temperature each day exceeds a base temperature (50 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall. The scheduling of pesticide application is also based on degree days.



The total annual rainfall ranges from 30 to 33 inches. Of this rainfall, 18.7 inches usually fall in April through September. The growing season for most crops falls within this period. Evaporation generally exceeds rainfall during the growing season. The average seasonal snowfall, as recorded by the Road Commission in Mancelona, is 151.2 inches and the winter storage of water in the root zone is important for the production of forest and agricultural crops for the upcoming year. Thunderstorms occur on approximately 31 days of each year.

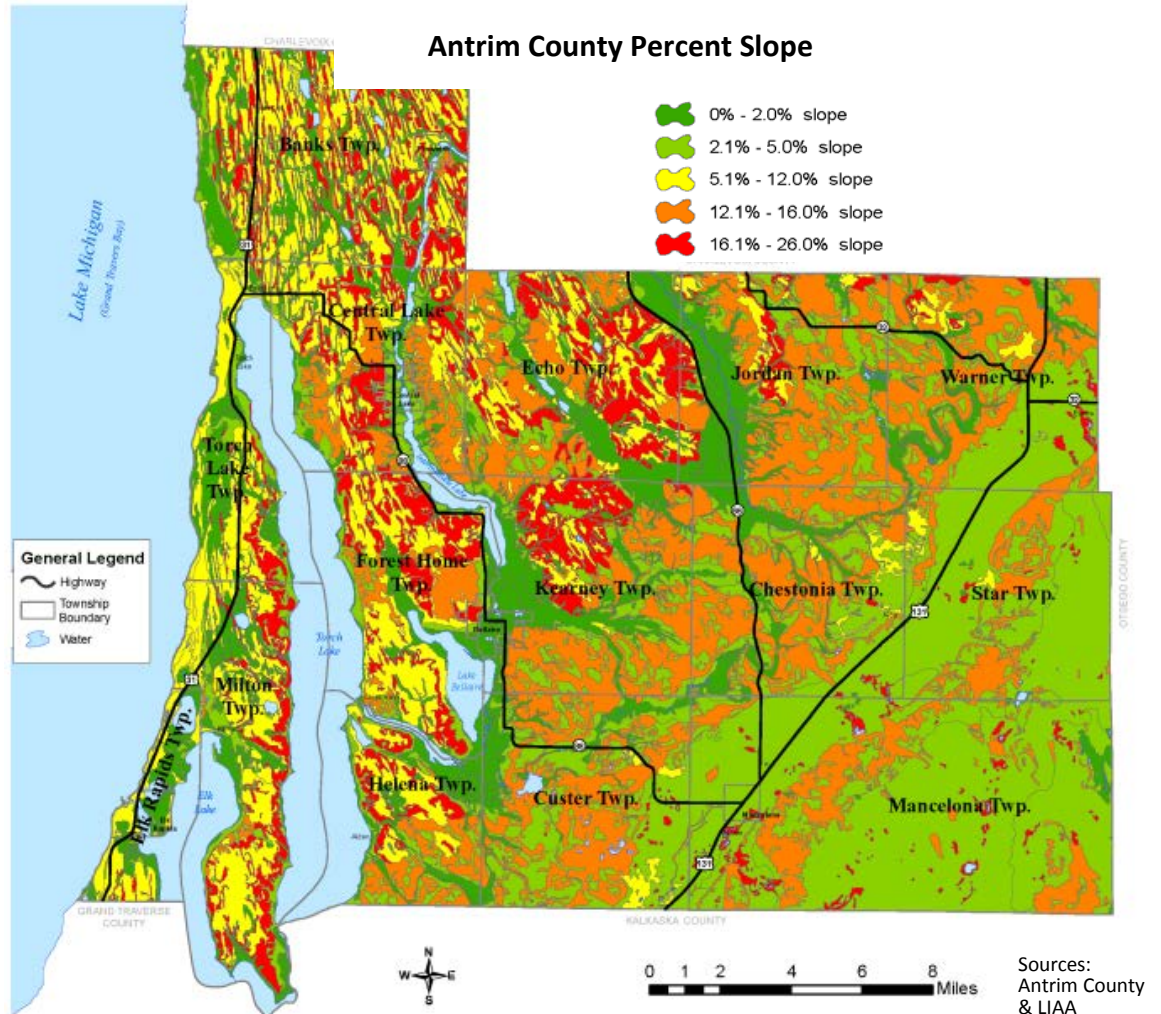
The average relative humidity in mid-afternoon is about 63%. The sun shines 75% of the time possible in summer and 40% in winter. The prevailing wind is from the southwest. Lake Michigan on the western portion of the County impacts the weather for an average distance of 10 to 15 miles inland.

In the west half of the County, the presence of Lake Michigan tends to lessen extremes in temperature and creates a climate favorable to the growing of fruits. The inland lakes and soil conditions of this western area permit such types of agriculture not otherwise feasible at this high latitude. During the summer, the off-the-lake air currents tend to prevent high temperatures and maintain humidity. In the fall, they retain heat and in the spring retard premature growth with the cold retained in the lakes.

Wetlands, Lakes, Rivers, and Streams

Antrim County has more than 31,000 acres of inland water area (lakes, rivers and streams), and more than 6,500 acres of wetlands. Based on the information presented in Land Use Changes 1978 to 1998 section, Antrim County gained 113 acres of water acreage and 130 acres of wetland acreage. Because of the relatively small size these acre changes, it is suspected the gain in acreage may reflect a higher water table in 1998 compared to 1978. Future land studies will allow acreage comparisons as a means of verifying the size of these areas.

It is estimated that wetlands make up 2% of Antrim County (see map on page 18; “Antrim County Wetlands”). Wetlands are a part of



floodwater control, groundwater recharge and discharge, water quality, sediment entrapment, shoreline stabilization, fish and wildlife habitat, and recreation. Although regulated by the 1994 Natural Resources and Environmental Protection Act (NREPA), wetland environments can be impacted by draining and filling practices. Forest fractionalization, residential construction, golf course construction, and roads continue to affect the wetlands in the area.

Wetlands contain many species of plants and animals whose survival depends on this unique environment. However, because they are often associated with lake, river and stream shorelines, they have received considerable attention as the pressure to develop along these shorelines increases.

The Natural Resources and Environmental Protection Act defines a wetland and describes what types of activities are permitted on or adjacent to a wetland. The United States Army Corps of Engineers and the Michigan Department of Environmental Quality (MDEQ) regulate water and wetlands that adjoin the Great Lakes. Permits from these agencies are required prior to development on a property that has a wetland, as defined by the MDEQ and/or Army Corps of Engineers.

There are 76 inland lakes in Antrim County, with more than 25 miles of Great Lakes shoreline. The streams total 264 miles in length and most are high quality fishing streams (see map titled “Antrim County Lakes, Rivers & Streams” on page 12). The lakes and rivers in Antrim County comprise of an area of nearly 20,480 acres.

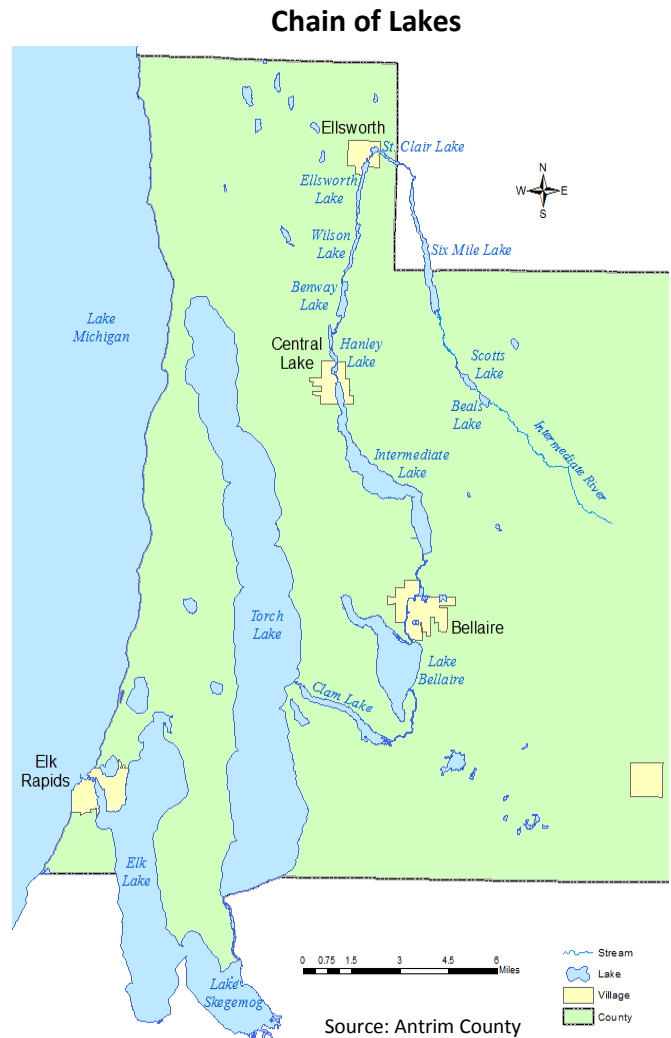
The headwater for the Jordan River is in Antrim County and it flows all but two miles in Antrim County. Over 30,000 acres of state forestlands border this river.

The Manistee River, part of the Upper Manistee River watershed, is located in the northwestern portion of Michigan's Lower Peninsula. It has a drainage area of 590 square miles. The watershed includes parts of five counties: Antrim, Otsego, Crawford, Kalkaska and Missaukee. The mainstream is approximately 78 miles long and originates in southeast Antrim County (approximately six miles from the village of Alba), at an elevation of 1,250 feet.

The Cedar River, a “Blue Ribbon Trout Stream,” flows mostly westward through Antrim County into the Intermediate River in Bellaire. The Cedar River rises in southwest Chestonia Township, near the boundary with Mancelona Township.

Chain of Lakes *(The following information was derived from a publication titled “Fish of the Elk River Chain of Lakes.”)*

A key natural resource in Antrim County is the Chain of Lakes, commonly referred to as the Chain ‘O’ Lakes by the locals. The Chain of Lakes has over 200 miles of shoreline and almost 60 square miles of water. This continual connection of water embraces 14 lakes and interconnecting



streams. In addition, there are more than 200 high quality groundwater fed tributaries (many of which are trout streams such as the Cedar and Rapid Rivers). The 14 lakes include: Beals, Scotts, Six Mile, St. Clair, Ellsworth, Wilson, Benway, Hanley, Intermediate, Bellaire, Clam, Torch, Skegemog, and Elk.

Beals Lake is 41 acres, has a maximum depth of 16 feet, a mean depth of 10.2 feet, and is 0.50 miles long. It is the uppermost lake of the chain and is also the smallest.

Scotts Lake is 63 acres, has a maximum depth of 30 feet, a mean depth of 13 feet, and is 0.70 miles long. At this time, this is the only lake that does not have a public boat launch.

Six Mile Lake is 378 acres, has a maximum depth of 31 feet, a mean depth of 13 feet, and is 4 miles long. This lake has more tributaries than any other lake in the chain; however most of the tributaries are unnamed.

St. Clair Lake is 91 acres, has a maximum depth of 32 feet, a mean depth of 10 feet, and is 1.25 miles long. This lake was once known as Campbell Lake.

Ellsworth Lake is 120 acres, has a maximum depth of 42 feet, a mean depth of 17 feet, and is 1.6 miles long.

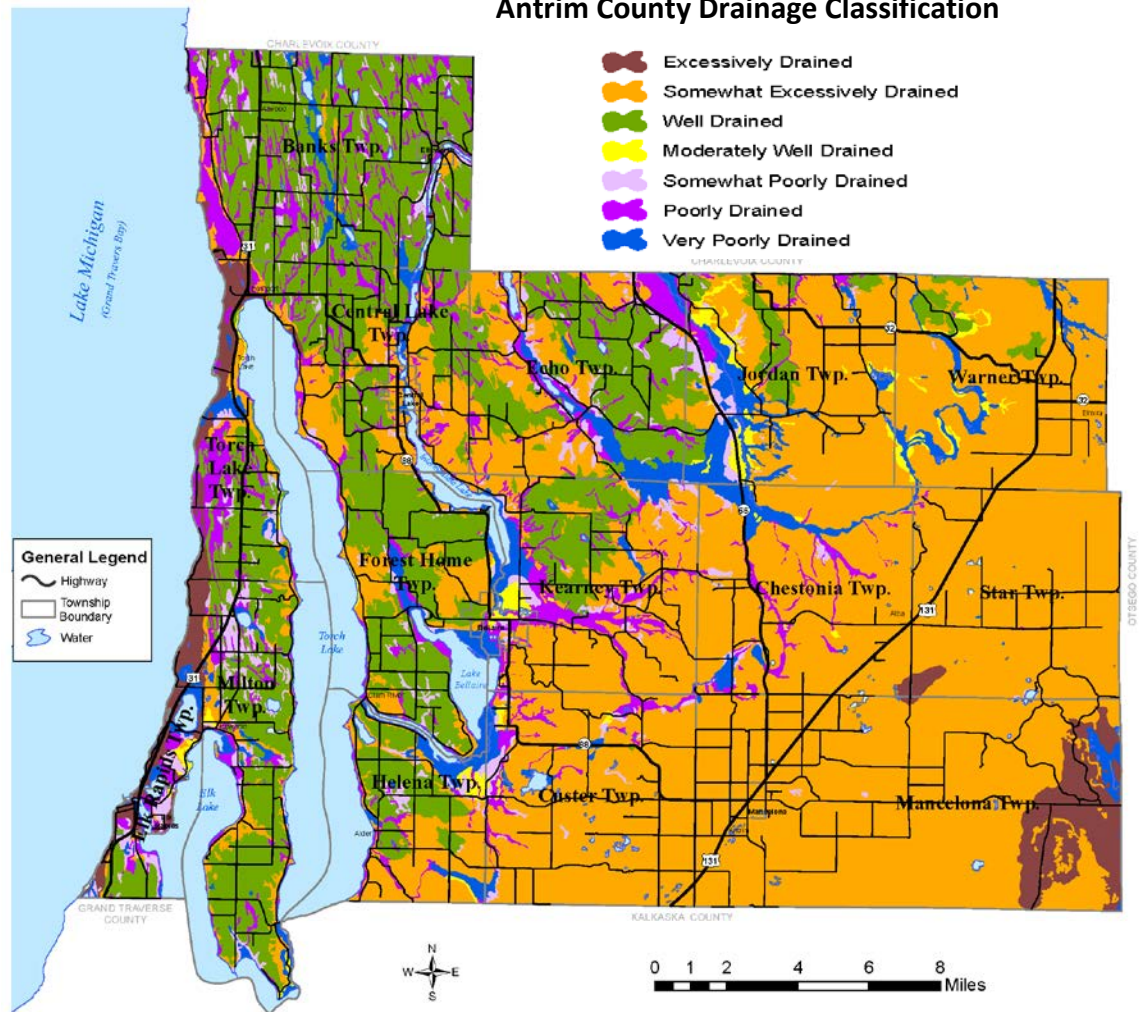
Wilson Lake is 106 acres, has a maximum depth of 48 feet, a mean depth of 11.5 feet, and is 1.4 miles long. Much of the west shore is undeveloped because of a railroad right-of-way that existed until the 1980s.

Benway Lake is 131 acres, has a maximum depth of 42 feet, a mean depth of 15 feet, and is 1.1 miles long. Similar to Wilson Lake, much of the west shore is undeveloped because of a former railroad grade.

Hanley Lake is 93 acres, has a maximum depth of 27 feet, a mean depth of 10.6 feet, and is 1.5 mile long.

Intermediate Lake is 1,520 acres, has a maximum depth of 80 feet, a mean depth of 28 feet, and is 8 miles long. This lake was once known as Central Lake. A 1999 survey found that

Antrim County Drainage Classification



Sources:
Antrim County
& LIAA

this lake's fish population appeared to be in excellent shape. This is a popular fishing and boating spot.

Lake Bellaire is 1,793 acres, has a maximum depth of 95 feet, a mean depth of 42 feet, and is 4.5 miles long. This lake was once known as Grass Lake and has deemed to be moderately productive. This is a popular fishing and boating spot.

Clam Lake is 439 acres, has a maximum depth of 27 feet, a mean depth of 13 feet, and is 3.25 miles long. This is another popular site in Antrim County. The majority of the shoreline is developed with homes, restaurants, and marinas.

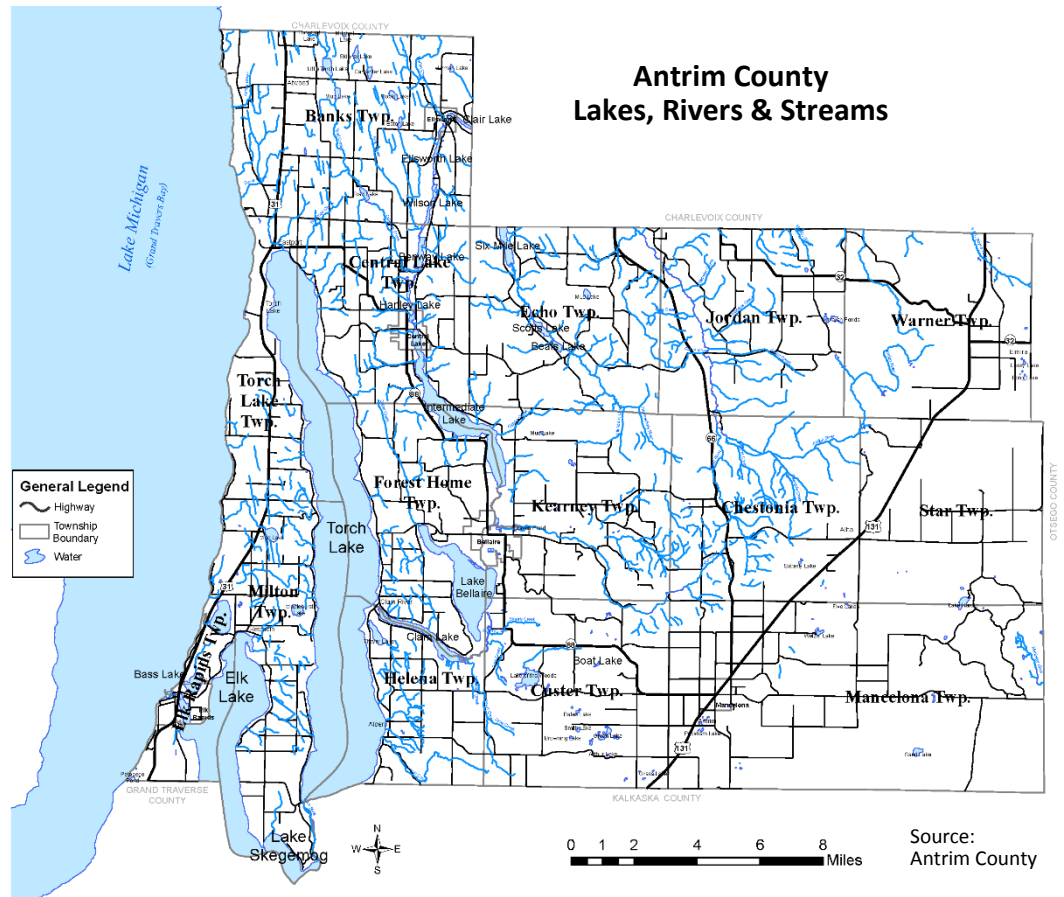
Torch Lake is 18,473 acres, has a maximum depth of 302 feet, a mean depth of 140 feet, and is 18 miles long. It was called “Was-Wah-go-nink” or “lake of torches” by the Native Americans, reference being made by the use of torches in spearing of whitefish and trout. Torch Lake is known as one of the world’s most beautiful lakes.

Lake Skegemog is 2,560 acres, has a maximum depth of 29 feet, a mean depth of 12.4 feet, and is 3.7 miles long. Lake Skegemog the home of the lake sturgeon, muskellunge, and walleye among others, providing fishing and ice fishing activities in Antrim County. Though not in Antrim County, Lake Skegemog is part of the Chain of Lakes watershed.

Elk Lake is 7,730 acres, has a maximum depth of 192 feet, a mean depth of 71 feet, and is 9 miles long. This lake divides the Village of Elk Rapids and is a popular boating spot. It also has a high level of calcium carbonate; therefore, it is nutrient rich, which creates a minimal amount of aquatic plant growth.

Grass River and Grass River Natural Area

The Grass River is 2.5 miles long and connects Lake Bellaire to Clam Lake. Its overall watershed is approximately 175 square miles. It has been deemed one of the most scenic and ecologically significant spots along the Chain of Lakes. It flows through an expansive marsh and dense conifer swamp. Most of the river is undeveloped and is protected by the Grass River Natural Area, a



1,492-acre Antrim County preserve, which, in addition to the river, includes nearly two miles of Clam Lake shoreline, four miles of shoreline along the Grass River and two miles on Lake Bellaire. The Natural Area’s trail guide lists 400 species of plants, 147 species of birds, 35 species of fish, 33 species of reptiles and amphibians, and 49 species of mammals.

The Grass River Natural Area, Inc. administers the area under contract with Antrim County. More information regarding recreational and educational activities is available at www.grassriver.org.

Watersheds

A watershed is a land area, also known as a drainage area, which collects precipitation and contributes runoff to a receiving body of water or point along a water course. In the southern corner of the County is the headwater area of the Manistee River Basin. The Manistee River drains southwesterly to Lake Michigan, and

drains approximately 30-40 square miles of Antrim County.

The Jordan River originates in Antrim County, flows westerly then north into Lake Charlevoix at East Jordan. The Jordan River drains approximately 127 square miles in Antrim and Charlevoix counties.

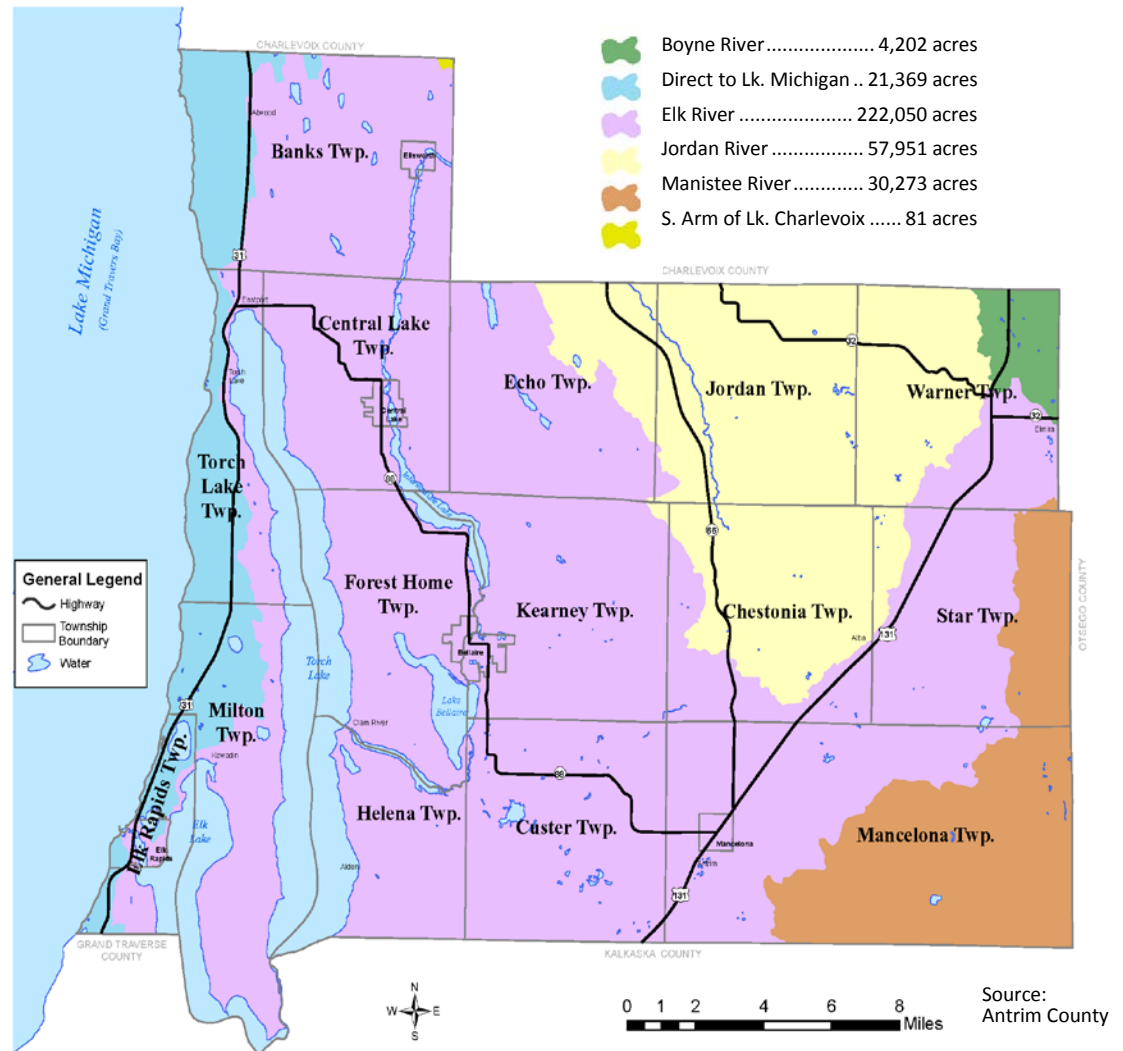
The largest watershed in Antrim County is the Elk River Chain of Lakes Watershed, which supplies 60 % of the water flowing into the Grand Traverse Bay each day. The Elk River Chain of Lakes Watershed covers an area of about 316 square miles or 202,060 acres in Antrim, Charlevoix, and Kalkaska Counties. Over 90 % of the Elk River Chain of Lakes Watershed is in Antrim County. A small area in the northeast corner of Antrim County contains portions of the Boyne River Watershed. There is 81 acres of the South Arm of Lake Charlevoix Watershed in the northern tip. See the map above for their locations.

Over 90 % of the Elk River Chain of Lakes Watershed is in Antrim County. A small area in the northeast corner of Antrim County contains portions of the Boyne River Watershed. There is 81 acres of the South Arm of Lake Charlevoix Watershed in the northern tip. See the map above for their locations.

Fisheries and Wildlife

Antrim County offers the sport fisherman an abundance of fishing opportunities with over 264 miles of quality fishing streams. This area is a focal point for trout and salmon fishing. With the introduction of the salmon into Lake Michigan in

Antrim County Watersheds



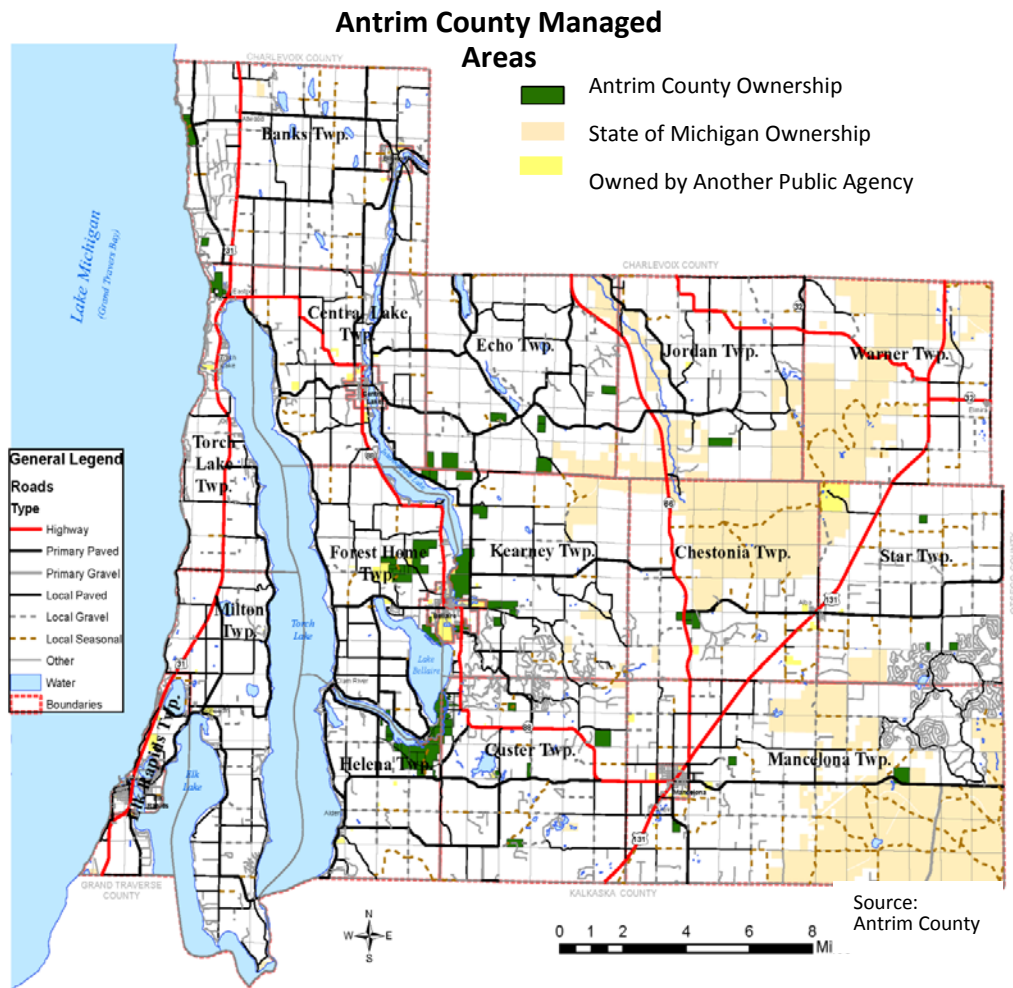
the mid-1960s came a fishery-industry that is unsurpassed in fresh water fishing. Fish and wildlife in the Antrim County area is an important industry, which benefits from maintaining a high level of water quality.

Hunting for whitetail deer attracts many people to the county annually. The Michigan Department of Natural Resources Wildlife Report No. 3639, *Michigan Deer Harvest Survey Report 2016 Seasons*, indicated that Antrim County's 2016 total deer harvest was 3,242, with almost 54% of that total being antlered bucks.

A variety of habitat also provides the hunter with good ruffed grouse, woodcock, squirrel, rabbit,

and turkey hunting opportunities. Other game species of importance to trappers are bear, beaver, otter, muskrat, raccoon, opossum, skunk, red fox, coyotes and weasel.

An environmental review through the Michigan Natural Features Inventory database (MNFI) identified 15 threatened species and 9 species of concern that exist within Antrim County. The MNFI is continuously updating this information.



Vegetation

More than half of Antrim County is forested; 180,000 acres or 282 square miles. Over the past few decades, thousands of acres have become established forestland. This has been a result of a natural ecological succession from grass and shrub land and from the loss of farmland. Most of the forest in Antrim County is privately owned and it is the largest single natural resource.

Commercial Forest Land

Antrim County has 4,526.24 acres enrolled in the Michigan Commercial Forest Act as of 2017. The Commercial Forest Act was enacted in 1925 as a way to encourage management of private forestlands and production of forest products. Landowners interested in long-term forest management can enroll their land through a process administered by the Michigan Department of Natural Resources.

Land enrolled is put on a special tax roll and

annual property taxes are substantially reduced to a flat rate of \$ 1.25 per acre. Land must be 40 contiguous acres or more, have no buildings and not producing any income other than forest products. Land shall be open to public hunting and fishing. It is not otherwise public and users must obey and respect private property rights. There is a withdrawal fee and a substantial penalty to remove lands from listing. Information can be obtained at local DNR offices and on the [DNR website](#) and clicking the “Forestry” tab on the left.

Commercial Forest Land by Township

Banks	80.00 acres
Central Lake	160.00 acres
Chestonia	141.00 acres
Custer	498.00 acres
Echo	671.28 acres
Forest Home	618.66 acres
Jordan	153.86 acres

Kearney	521.74 acres
Mancelona	1,018.90 acres
Star	662.80 acres
Total	4,526.24 acres

Antrim County Owned Forest Lands

Antrim County has approximately 2,867 acres of land classified as Antrim County Forest Land. Antrim County received most of these parcels from the State of Michigan in the 1930s under what is now Public Act 451 of 1994, or the Natural Resources and Environmental Protection Act. Most of the land was considered tax reverted land and deeded to the County to be utilized for “forestry purposes.” It is understood that the term “forestry purposes” relates to the management of these parcels for the production of forest products as well as forestry education within the community.

Additionally, recreational activities such as hunting, fishing, hiking, snowmobile and other low impact uses are permitted on the parcels. Antrim County Forest Lands are administered by the Antrim Conservation District Forester through the Buildings, Lands & Infrastructure Committee under the supervision of the County Commissioners, see the map “Antrim County Managed Areas” on the previous page.

Forest Lands in Antrim County contain the following species:

Northern Hardwood Forest ...	1,804 acres....	63%
Pine Forest	317 acres....	11%
Aspen Forest	249 acres.....	9%
Lowland Conifer Forest	292 acres....	10%
Upland brush/open.....	85 acres.....	3%
Oak Forest	120 acres.....	4%

Subsurface Traits *(Underground elements that impact community design)*

Groundwater/Wells

Groundwater in varying amounts can be found from both glacial drift and in the various kinds of bedrock geology found in Antrim County. The quality of the water from the water-bearing aquifers varies considerably. Some nitrate testing has been completed to determine the movement and possible sources for contamination.

Additional monitoring and sampling should be completed to thoroughly comprehend the complexity of the groundwater resource. Protection of our wellheads should be addressed in all areas of the county to help maintain the integrity of our groundwater.

Surface Water

Surface water has the same concerns as groundwater. Most surface water pollution stems from cleaning products, automotive fluids, paints, and yard products. Old storage tanks for gasoline and other fuels can leak; old dumpsites, and businesses can produce hazardous or toxic substances. With our sandy soils, steep slope concerns, and close groundwater to surface water levels, it is easy to see how such materials can cause major clean-up problems and possibly health issues.

Extraction Sites

Sand pits, gravel pits, mining, and oil and natural gas sites are regulated by the State and subject to local zoning (where applicable). Individual homeowners may sign individually with companies regarding the use of their own private property. Drilling on state owned property produces revenue for the Michigan Natural Resources Trust Fund that provides funds for public recreation development and land acquisition throughout the state.

Above Ground Traits *(Night Sky Visibility)*

The ability to view the stars at night is an essential rural characteristic for Antrim County. An abundance of artificial light from the ground will deter this objective. Antrim County residents have expressed their concerns in preserving this view. Many surrounding communities are now concerned with growth and the growing amount of night illumination to the rural skies and have introduced ordinances to that effect.

Environment

It is worth noting that the Great Lakes states (including Michigan) contain one-fifth of the entire world supply of fresh water. Fresh water is considered by many to be the world’s most

precious resource.

There have been two major groundwater contaminations in Antrim County, Tar Lake and the Wickes Manufacturing Trichloroethylene (TCE) plume. The Environmental Protection Agency invested over fourteen million dollars in the clean-up and removal of more than 46,000 tons of contaminated material from a ground depression on the Tar Lake site and the MDEQ has installed a system to remediate the groundwater moving off the site.

The following is from a document from the MDEQ dated April 18, 2016 and titled *Wickes Manufacturing Trichloroethylene (TCE) Plume: Fact Sheet 2 - TCE in Groundwater in Antrim County*:

TCE Plume History

Mount Clemens Industries, Inc., later known as Wickes Manufacturing, used TCE in vapor degreasers as part of the manufacturing of auto parts in Mancelona from 1947 to 1967. Waste containing TCE was discarded on the ground and in lagoons, where it seeped through the soil and became dissolved into the groundwater. Both companies went out of business many years ago. As a result, DEQ funds have been allocated to address the TCE in groundwater.

Early Response

In order to prevent exposure to TCE in residential wells in the Mancelona area, the DEQ worked with the community to found and fund the Mancelona Area Water and Sewer Authority (MAWSA). MAWSA operates the public water system that now provides safe drinking water to residences affected by TCE.

Implementation (*What should be done next?*)

1. Provide a countywide wetland educational program open to all property owners that would emphasize the legal definitions and uses of these properties.
2. There is a need for a comprehensive study of the water levels of the Chain of Lakes. It is recommended that various agencies of the

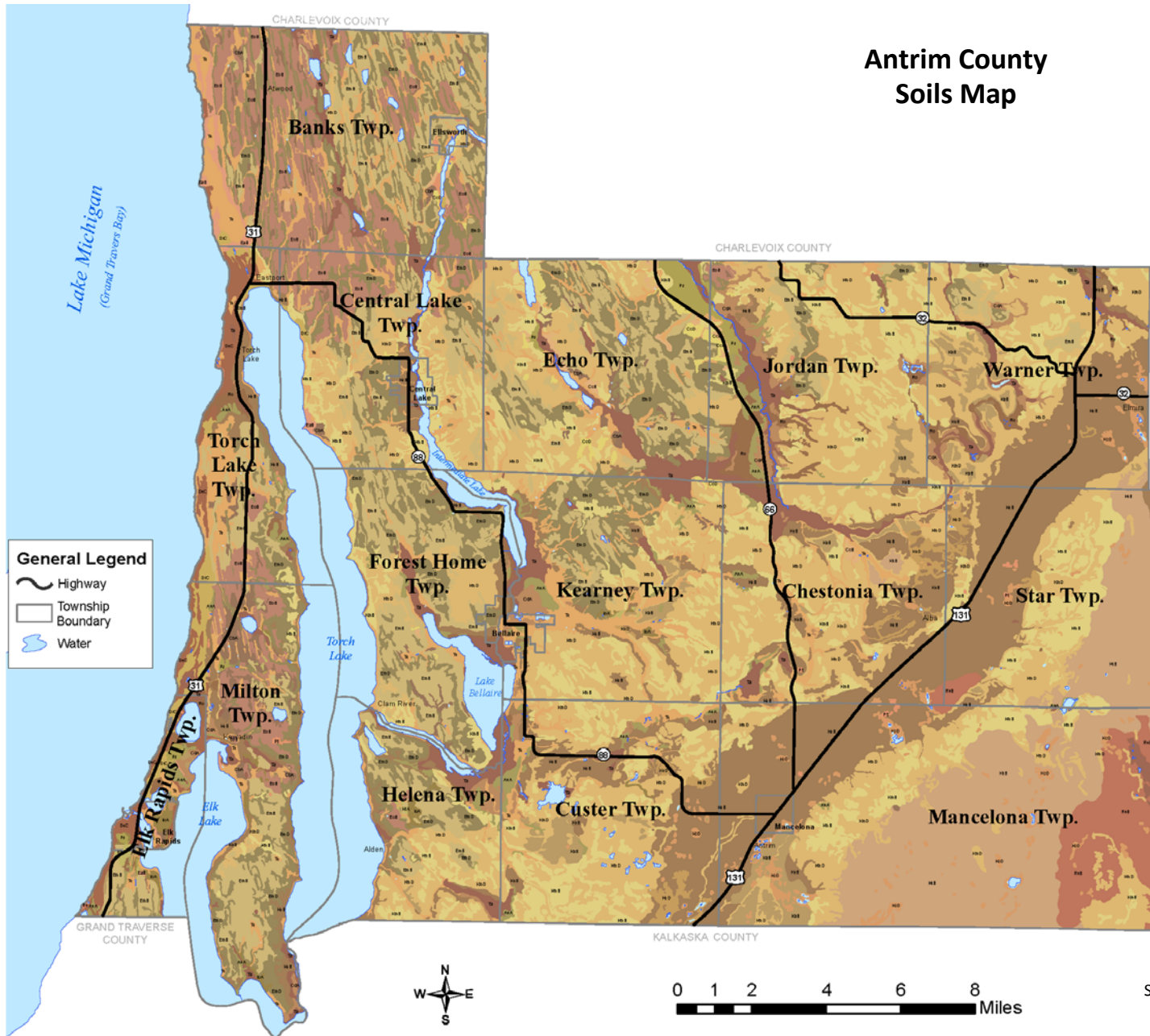
state and federal government should be contacted for financial help and guidance for such a study.

3. Work with the County Forester to develop a tree planting plan. This plan should focus on the environmental, scenic, and financial benefits of hardwood trees to Antrim County. It should also have an outreach component.
4. Encourage the protection of water quality, water wells and the capping of abandoned water wells.
5. Welcome all businesses to the Antrim County Business Park that utilize environmental best practices in the production of their goods and the provision of their services.

Quick Note

In Antrim County, there are over 155 public access sites. The sites provide access for the public to Grand Traverse Bay and most of the County's 76 inland lakes.

Antrim County Soils Map



General Legend

- Highway
- Township Boundary
- Water

Soils - MU Classifications

- AuA, AU GRES-FINCH SANDS, 0 TO 4 PERCENT SLOPES
- Be, BEACHES
- CbA, CHARLEVOIX SANDY LOAM, 0 TO 4 PERCENT SLOPES
- CcB, CHESTONIA SILTY CLAY LOAM, 12 TO 40 PERCENT SLOPES
- CcD, CHESTONIA SILTY CLAY LOAM, 3 TO 12 PERCENT SLOPES
- CdA, CROSWELL SAND, 0 TO 4 PERCENT SLOPES
- DeC, DEER PARK SAND, 2 TO 20 PERCENT SLOPES
- DiC, DEER PARK-ROSCOMMON COMPLEX, 0 TO 20 PERCENT SLOPES
- EaB, EAST LAKE GRAVELLY LOAMY SAND, 0 TO 6 PERCENT SLOPES
- EmB, EMMET-MONTCALM COMPLEX, 12 TO 40 PERCENT SLOPES
- EmD, EMMET-MONTCALM COMPLEX, 3 TO 12 PERCENT SLOPES
- EoB, EMMET-ONAWAY SANDY LOAMS, 3 TO 12 PERCENT SLOPES
- IoA, IOSCO SAND, 0 TO 4 PERCENT SLOPES
- KaB, KALKASKA SAND, 0 TO 6 PERCENT SLOPES
- KcD, KALKASKA SAND, 12 TO 40 PERCENT SLOPES
- KeB, KALKASKA-EAST LAKE COMPLEX, 0 TO 6 PERCENT SLOPES
- KeD, KALKASKA-EAST LAKE COMPLEX, 6 TO 40 PERCENT SLOPES
- KkB, KALKASKA-KARLIN COMPLEX, 0 TO 6 PERCENT SLOPES
- KmB, KALKASKA-MONTCALM COMPLEX, 0 TO 12 PERCENT SLOPES
- KmD, KALKASKA-MONTCALM COMPLEX, 12 TO 40 PERCENT SLOPES
- KsA, KAWKAWLIN SILT LOAM, 0 TO 3 PERCENT SLOPES
- Ps, PICKFORD SILTY CLAY LOAM
- Pt, PITS
- Ro, ROSCOMMON MUCKY SAND
- RuB, RUBICON SAND, 0 TO 6 PERCENT SLOPES
- Ta, TAWAS MUCK
- Te, TAWAS-ENSLEY COMPLEX

Sources: Antrim County & LIAA

Antrim County Wetlands

-  Aquatic Bed
-  Emergent
-  Forested
-  Scrub-Shrub










Aquatic Bed: Includes wetlands and deep water habitats dominated by plants that grow principally on or below the surface of the water for most of the growing season in most regularly flooded, permanently flooded, intermittently exposed, semi-permanently flooded, and seasonally flooded areas.

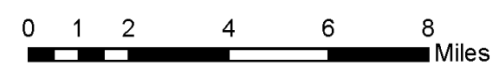
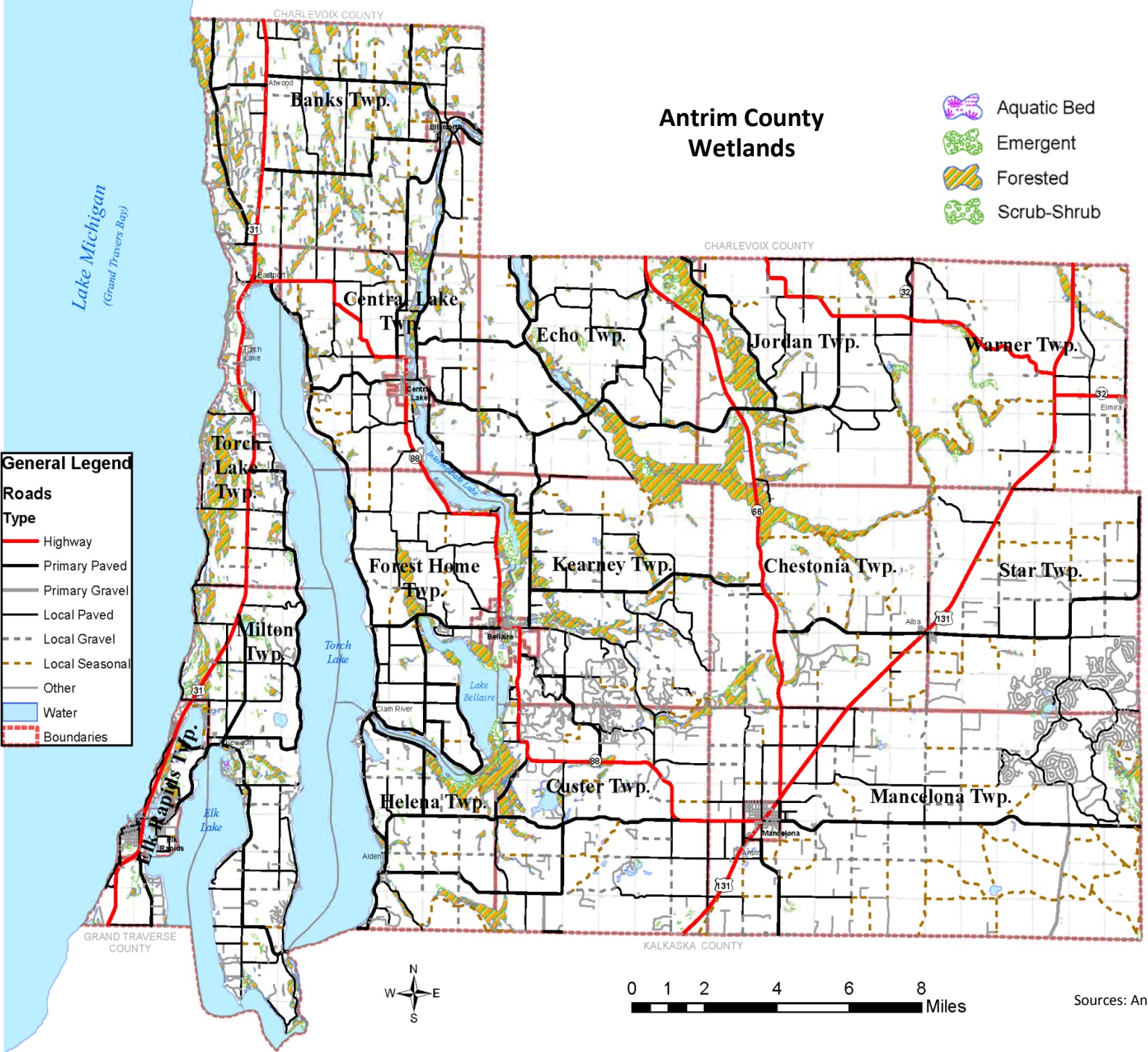
Emergent: Is characterized by erect, rooted, herbaceous hydrophytes, excluding moss and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants. All water regimes are excluded except sub-tidal and irregularly exposed.

Forested: Are most common in the eastern United States in those sections of the west where moisture is relatively abundant, particularly along rivers and in the mountains. They normally possess an over story of trees, an under story of young trees or shrubs, and an herbaceous layer. These names often occur in combination with species names or plant associations such as cedar swamp or bottomland hardwoods.

Scrub-Shrub: May represent a successional state leading to forested wetland, or they may be relatively stable communities.

Source: United States Geographic Survey

- General Legend**
- Roads**
- Type**
-  Highway
 -  Primary Paved
 -  Primary Gravel
 -  Local Paved
 -  Local Gravel
 -  Local Seasonal
 -  Other
 -  Water
 -  Boundaries



Sources: Antrim County & State of Michigan CGI

Chapter 3. Existing Generalized Land Use



Summary

It is important to know and understand the current land uses and development patterns of a community when planning for the future. The physical features such as the rivers, lakes, roadways, and publicly owned land have an impact on the current land use patterns and will continue to do so. Economic and transportation changes will also impact growth.

The information for this generalized map of land use trends (Page 21) in Antrim County was developed through field observation and verification from County officials. It is not meant to be a comprehensive study.

The graphic is divided between primary growth and secondary growth. Primary growth has been areas of the county that have a faster growth rate, while the secondary growth areas have had a smaller growth. This division shows that townships that have a body of water or are in the southern location have had a greater population increase. Townships that do not have these characteristics and/or have a large amount of publicly owned lands have had a smaller increase in population.

Generalized Land Use Categories

Villages

There are five villages in Antrim County. Each of these villages has residential and commercial components.

The *Village of Bellaire* is the county seat and contains government buildings. It is comprised of older buildings built along the street-side and has a defined downtown.

The *Village of Central Lake* is at the north end of Intermediate Lake and has a small but defined downtown.

The *Village of Elk Rapids* acts as an entranceway into Antrim County from the southern area. This is a popular tourist destination and is the most populated village. It has a defined west side downtown and a commercial district on the east side; Elk River traverses the center.

The *Village of Ellsworth* is a small community, forested and very rural in character. Recently, the Village has promoted itself as part of the "Breezeway," connecting the Village with Atwood to the west and East Jordan and Boyne Falls to the east.

The *Village of Mancelona* is the second most populated village and has a defined downtown. Mancelona, on the US 131 corridor, identifies itself as the “Explore 131 North” gateway to Antrim County.

Hamlets

Many think that some of the hamlet areas are villages. Some of the hamlets, such as Alden, Eastport, and Alba appear to look and act as villages, but they are unincorporated. They are locations that have a distinct look. They have a small commercial center made up of commercial buildings in a town setting.

Transportation Infrastructure

The major roadways in Antrim County are US-31 on the west side, US-131 on the east, state highways M-88 and M-66 near the middle, and M-32 in the northeast. They have a symbiotic relationship to the adjacent properties. Land uses are impacted by traffic on the roads, while the view from the roads is impacted by development on the adjacent land. One rail line traverses Antrim County, running parallel to US-131. In addition, there are a number of small airports. These are detailed in Chapter 8: Transportation, Infrastructure, and Community Services.

Waterfront Residential

These are the home sites built along the lakes and rivers. From a visual standpoint, it appears that the majority of the homes are older and smaller than newer buildings.

Recreational Area

These are the public lands that are used for recreation and wildlife management. This area is heavily forested with mature woodlands and rivers.

Resort Recreation

These are home sites built around a recreational amenity such as a ski hill, golf course, or water body.

Active Farming

These are places that are actively being farmed. Farm products include but are not limited to potatoes, corn, wheat, grapes, cherries, and livestock. Some farms have farm markets that sell directly to the public.

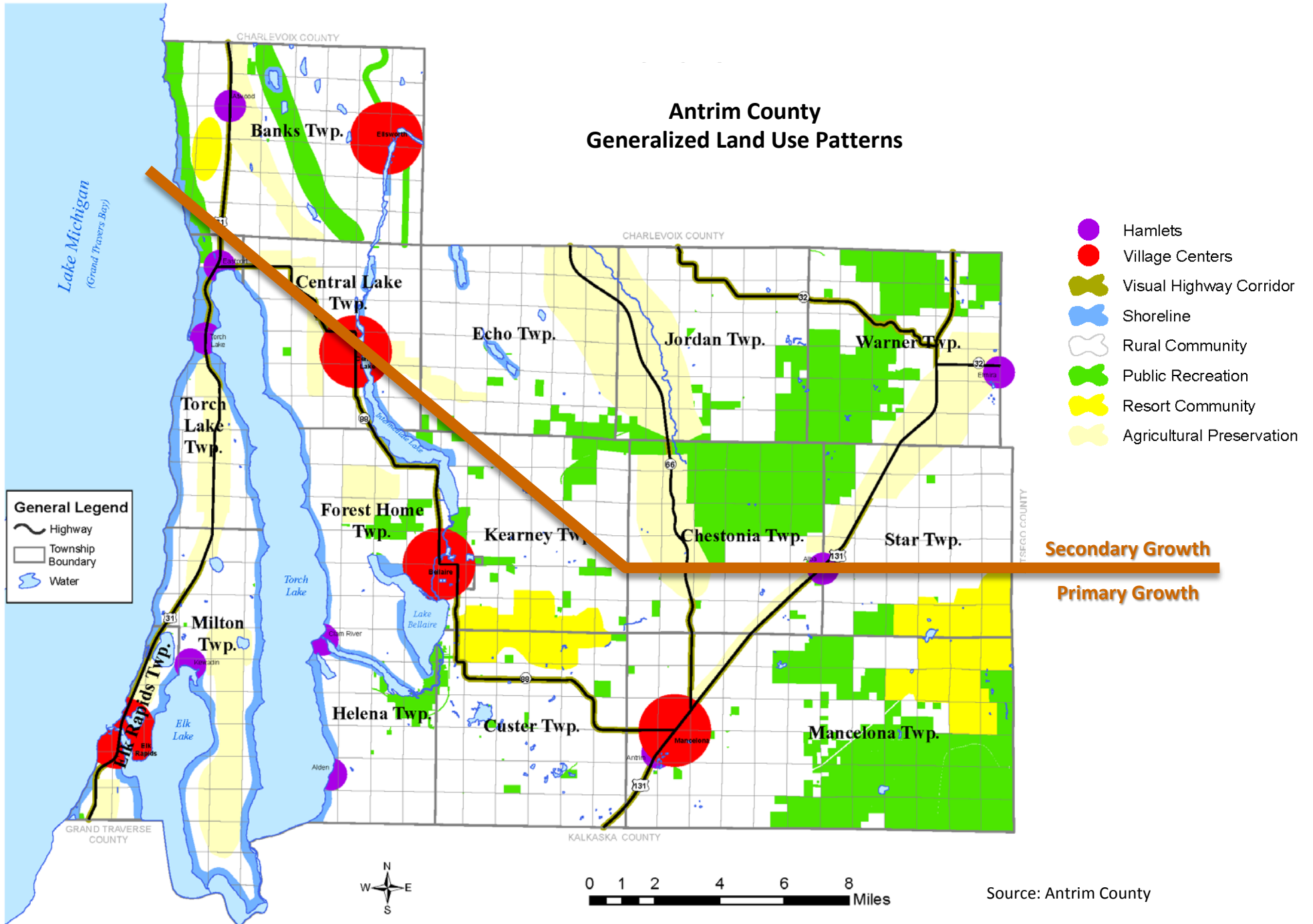
Rural Residential

These locations are rural in nature and the properties are larger in acreage. They have limited infrastructure services such as well and septic.

Manufacturing

Each village, excepting Ellsworth, has one or more light manufacturing businesses, providing local employment opportunities.

Antrim County Generalized Land Use Patterns



Chapter 4. Demographics



Summary

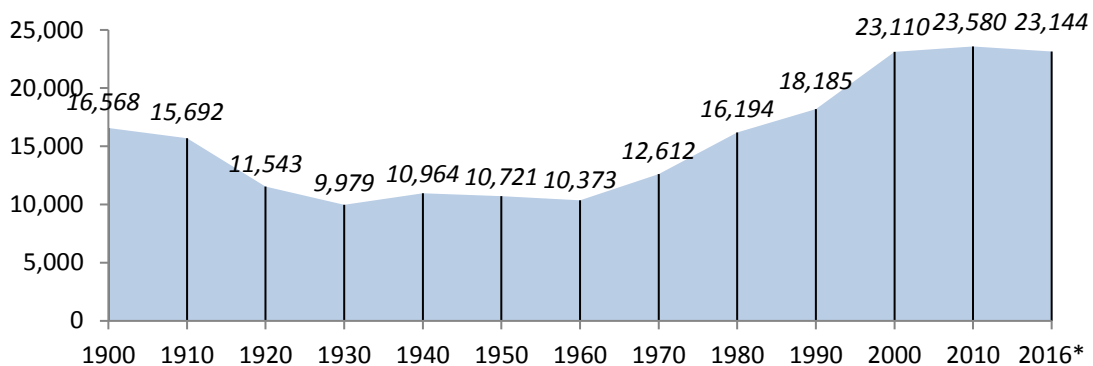
The demographic portion of this master plan provides background data to support the planning of future land uses. When planning for a community, it is important to know who will be affected by the plan and their characteristics. This portion of the master plan is essentially data presentation.

Antrim County's population increased significantly between 1960 and 2000, but has had little overall change since 2000 (see the

chart below titled "Antrim County Population 1900-2016").

The southern portion of the county has the highest population. It is expected that this area will continue to have a majority of the population as it continues to grow. This is important when planning for infrastructure improvements and community building locations, especially for residents older than 65 and younger than 14. Both of these age groups are more dependent on community services.

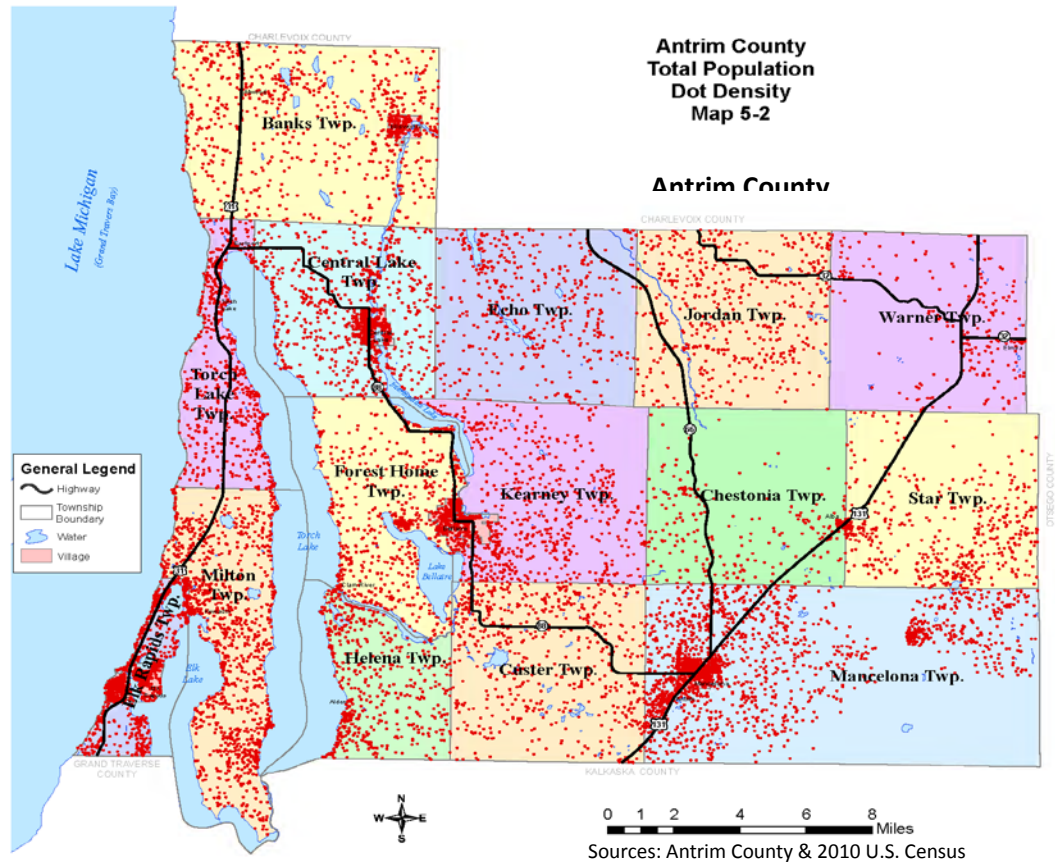
**Antrim County Population
1900-2016**



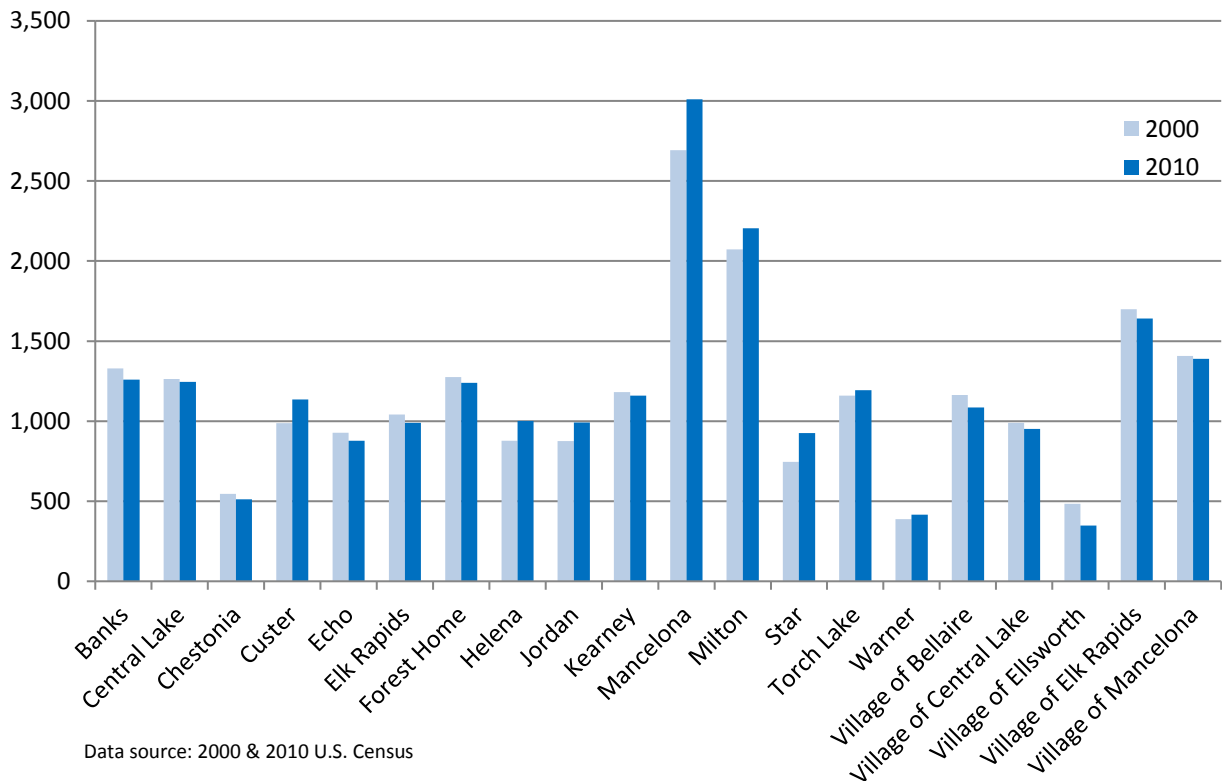
*The 2016 population number was an estimate provided by the U.S. Census Bureau

Community Population *(This is where the people live)*

- Most of the population lives in the southern portion of the County.
- Approximately 23% of the population lives in an incorporated village.
- The publicly-owned land in Warner, Chestonia, and Jordan Townships limit the amount of developable land, which minimizes population growth.
- Although much of Mancelona Township includes the Mackinaw State Forest, it is equivalent in size to two townships and contains the highest population.



Antrim County Population 2000 & 2010 by Township and Village



Household Population (These are the areas that have changed...)

- The U.S. Census definition of a household is all the people who occupy a housing unit, including family and non-family members.
- In 2000, there were 9,222 households in Antrim County; in 2010 there were 9,890.
- The percentage increase in the number of households from 2000 to 2010 was 7.2%.
- The total population change from 2000 to 2010 was an increase of 470 or 2.0%.
- Household data is used to determine population growth projections.
- According to the U.S. Census, the average household size was 2.47 in 2000. In 2010, the average household size was 2.36, a decrease of 4.5%.

Antrim County - Households by Township
(Village households are included in the township numbers)

	1970	1980	1990	2000	2010
Banks	388	507	525	675	641
Central Lake	526	633	733	921	932
Chestonia	101	131	147	199	201
Custer	126	162	232	397	481
Echo	174	241	301	355	351
Elk Rapids	505	782	1,009	1,206	1,218
Forest Home	371	494	574	790	781
Helena	149	312	340	408	473
Jordan	54	141	206	323	378
Kearney	234	420	542	661	694
Mancelona	774	939	1,181	1,511	1,665
Milton	271	465	584	850	955
Star	82	140	204	295	384
Torch Lake	121	276	307	498	589
Warner	52	80	95	133	147
	3,928	5,723	6,980	9,222	9,890

Population Analysis & Projections
(This is how much we expect to grow...)

- The County’s population grew slightly from 2000 to 2010. The Villages shrunk at an average of 8.6%. The Townships grew at an average of 3.0%. Banks Township (-11.3%) and the Village of Ellsworth (-27.7%) lost the most population and Star Township (24.3%) gained the most population and the Village of Mancelona (-1.3%) lost the least population.
- Townships and villages will have different growth rates depending on their current size, location, infrastructure, and amount of publicly owned land, Figure 5-5 shows their growth projection. Please note that the Village numbers are included in the Township numbers.

- U.S. Census 2015 population estimates were not available for the townships; village estimates are noted below:

Antrim County
2000 to 2015 Village Populations

	2000	2010	2015*
Village of Bellaire	1,164	1,086	1,065
Village of Central Lake	990	952	935
Village of Ellsworth	483	349	342
Village of Elk Rapids	1,700	1,642	1,615
Village of Mancelona	1,408	1,390	1,365

Source for population numbers on this page: U.S. Census Bureau

**Antrim County
2020 to 2040 Population Projections**

	Projected Population	% increase
2020	24,949	3.8%
2025	25,745	3.2%
2030	26,425	2.6%
2035	26,980	2.1%
2040	27,388	1.5%

- The population projections shown above were provided by Networks Northwest with a 2012 data source of "The Economic and Demographic Outlook for Michigan Through 2040" as prepared for the Michigan Department of Transportation by the Institute of Research on Labor, Employment, and the Economy at the University of Michigan.

Seasonal Populations

- Like much of Northern Michigan, Antrim County is a tourist destination, therefore it is important to consider seasonal residents in the population projection. The U.S. Census Bureau defines a seasonal home as "a housing unit held for occupancy only during limited portions of the year, such as, a beach cottage, ski cabin, or time-share condominium."
- 2010 U.S. Census data notes that 36.5% (6,514) of the County's 17,824 housing units were reported as for seasonal,

recreational, or occasional use. This is an 18.1% increase from the number of units reported in 2000.

- In 2000, there were a total of 15,090 housing units in the county. Of these, 9,222 or 61% were occupied year round. Representing 34% of housing units, 5,152 were occupied only for seasonal, recreational, or occasional use. The remaining 5% of houses were classified as vacant.
- In 1990 there were 13,145 housing units (either owner or renter). 6,980 were occupied year round and 4,695 were occupied only for seasonal, recreational, or occasional use. In 1990 this was 36% of the housing units.
- From these facts, it seems likely that the number of seasonal homes in Antrim County will continue to increase and will remain approximately 35% of the total number of homes.
- Typically seasonal homes have a higher household size (4 to 6 people).

Antrim County - 2012 Permanent, Seasonal & Transient Residents

	Permanent population	Second home population	Overnight	TOTAL	% Seasonal
January	23,406	1,707	364	25,477	8%
February	23,406	1,707	635	25,748	9%
March	23,406	2,672	462	26,540	12%
April	23,406	2,672	430	26,508	12%
May	23,406	2,672	1,494	27,572	15%
June	23,406	13,762	1,565	38,733	40%
July	23,406	13,762	3,145	40,313	42%
August	24,672	7,546	6,829	39,047	37%
September	24,672	2,327	2,969	29,968	18%
October	24,672	2,327	1,816	28,815	14%
November	24,672	2,327	731	27,730	11%
December	24,672	931	698	26,301	6%

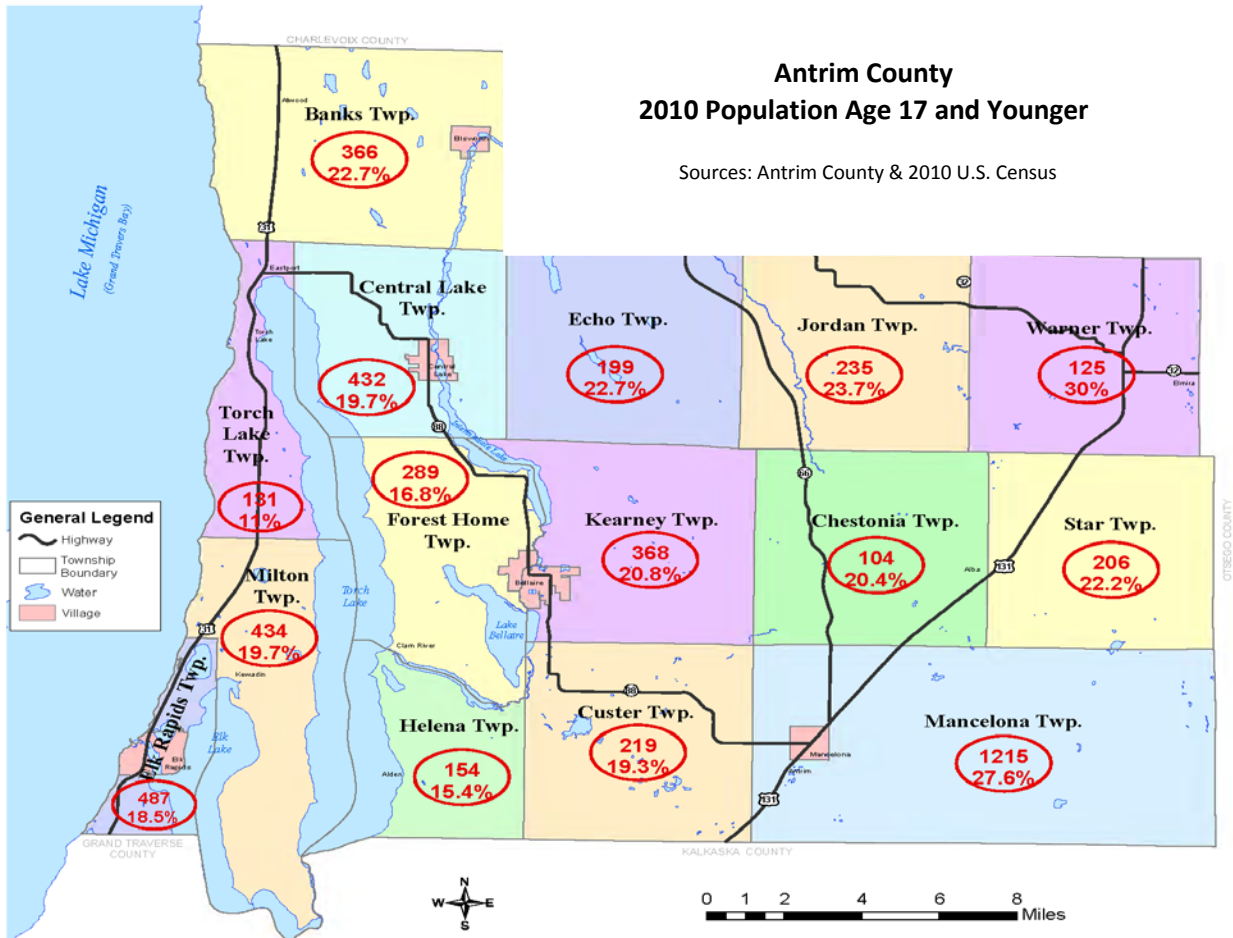
Data source: Northwest Michigan Seasonal Population Analysis, published by Networks Northwest in 2014.

Demographic Data (This is how we described ourselves...)

- Antrim County’s total population in 2010 was 23,580. In that year, 50.5% of the population was female and 49.5% was male. The median age was 47.4 years.
- The adjacent chart shows the demographic shift in age from 2000 to 2010. This shift could be important when considering decisions about community services.
- The map below shows where school age children live and the percentage in the townships population. The map on the following page depicts the different school districts in Antrim County and enrollment. Future school locations should be located in areas that have a high population in this age group.

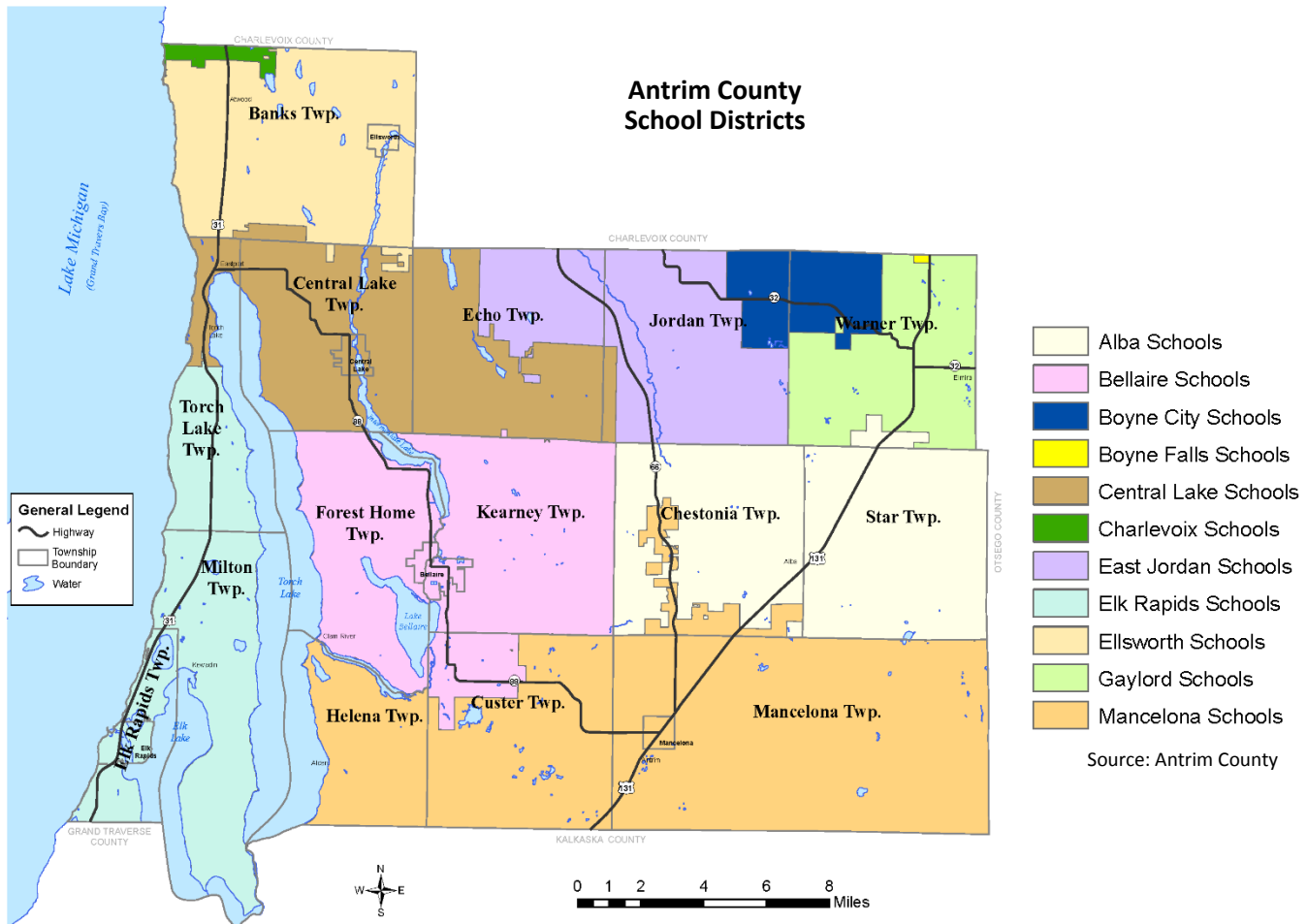
Antrim County - Population by Age

	2000	2010	% change
Total population	23,110	23,580	2.0%
Under 5 years	1,325	1,155	-12.8%
5 to 9 years	1,558	1,387	-11.0%
10 to 14 years	1,746	1,444	-17.3%
15 to 19 years	1,497	1,417	-5.3%
20 to 24 years	969	914	-5.7%
25 to 34 years	2,379	2,033	-14.5%
35 to 44 years	3,464	2,629	-24.1%
45 to 54 years	3,177	3,628	14.2%
55 to 59 years	1,536	1,934	25.9%
60 to 64 years	1,426	1,823	27.8%
65 to 74 years	2,353	3,054	29.8%
75 to 84 years	1,321	1,625	23.0%
85 years and over	359	537	49.6%
Median age	41.1	47.4	



Demographic Data (continued)

- Of the 23,580 residents of Antrim County in 2010, the U.S. Census noted the following reporting of race:
 - 236 were American Indian and Alaska native alone
 - 48 were Asian alone
 - 41 were Black or African American alone
 - 8 were Native Hawaiian and Other Pacific native alone
 - 98 some other race alone
 - 334 were 2 or more races
 - 22,815 (96.76%) were White alone
- Of the County's total 2010 population, 404 residents reported a Hispanic or Latino Origin.
- Of the 15,694 residents of Antrim County who were registered voters in 2010:
 - 7,438 were married
 - 964 were in a relationship noted as Non-Traditional
 - 7,292 were Single or Unknown
- Of the 17,350 residents of Antrim County who were 25 years and older in 2010:
 - 398 had an education less than 9th grade
 - 1,419 had a 12th grade education, but no diploma
 - 6,473 had a high school degree or equivalent
 - 3,863 had some college education, but no degree
 - 1,163 had an associate's degree
 - 2,413 had a bachelor's degree
 - 1,631 had a graduate or higher degree.
- 89.5% of the population over 25 had a high school diploma in 2010; this was an increase over the 2000 census figure of 88.5%.



**Antrim County Household Income
2015 Estimated**

- The 2011-2015 American Community Survey 5-Year Estimates indicated a state-wide high school graduate level of 90.1% for those over the age of 25.
- 23.3% of the County’s 2010 population over 25 had a bachelor’s degree or higher; this was an increase over the 2000 census figure of 22.6%.
- The 2011-2015 American Community Survey 5-Year Estimates noted that the state-wide percentage for those with a bachelor’s degree or higher was 25.3%.
- The following statistics were provided by the 2011-2015 American Community Survey:

	Estimate	Margin of Error
Less than \$10,000	6.1%	+/- 1.0
\$10,000 to \$14,999	5.8%	+/- 1.0
\$15,000 to \$24,999	12.3%	+/- 1.4
\$25,000 to \$34,000	11.6%	+/- 1.1
\$35,000 to \$49,999	17.4%	+/- 1.5
\$50,000 to \$74,999	20.8%	+/- 1.5
\$75,000 to \$99,999	11.1%	+/- 1.2
\$100,000 to \$149,999	8.6%	+/- 0.8
\$150,000 to \$199,999	2.7%	+/- 0.5
\$200,000 or more	3.6%	+/- 0.7

- The estimated 2015 median household income in Antrim County was \$46,845.
- Estimated per capita 2015 income for Antrim County was \$27,155.
- The percentage of 2015 Antrim County residents in poverty was estimated to be 14.2%.
- The percentage of people 16 years old and older in the County’s civilian labor force was estimated to be 54.6% in 2015.

Number of Workers in Antrim County – 2015 Estimates

Industry	Estimated # of workers	%	Margin of error
Civilian employed population 16 years and over	9,528		+/- 262
Agriculture, forestry, fishing and hunting, and mining	320	3.4%	+/- 70
Construction	821	8.6%	+/- 115
Manufacturing	1,533	16.1%	+/- 146
Wholesale trade	148	1.6%	+/- 45
Retail trade	1,131	11.9%	+/- 144
Transportation and warehousing, and utilities	323	3.4%	+/- 65
Information	162	1.7%	+/- 50
Finance & insurance, and real estate and rental and leasing	416	4.4%	+/- 69
Professional, scientific, and management, and administrative & waste management services	702	7.4%	+/- 95
Educational services, and health care and social assistance	1,764	18.5%	+/-160
Arts, entertainment, and recreation, and accommodation and food services	1,269	13.3%	+/- 158
Other services, except public administration	520	5.5%	+/-91
Public Administration	419	4.4%	+/- 94

Data source for the charts on this page:
2011-2015 American Community Survey 5-Year Estimates

Northwest Lower Michigan

(This is how we compare...)

- The population of Northwest Lower Michigan grew by 16,466 residents from 2000 to 2010. The majority of that growth occurred in Grand Traverse County.
- In the ten counties listed in the chart to the right, the only county that lost population was Charlevoix.

Population Comparison by County

County	1990	2000	2010
Antrim	18,185	23,110	23,580
Benzie	12,200	15,998	17,525
Charlevoix	21,468	26,090	25,949
Emmet	25,040	31,437	32,694
Grand Traverse	64,273	77,654	86,986
Kalkaska	13,497	16,571	17,153
Leelanau	16,527	21,119	21,708
Manistee	21,265	24,525	24,733
Missaukee	12,147	14,478	14,849
Wexford	26,360	30,484	32,735
Total	230,962	281,466	297,912

Data source: U.S. Census Bureau

Chapter 5. Economic Development



Summary

Economic trends and climate are major factors impacting overall development and future land uses within the County. These factors influence development and affect land use in population centers, forests, farms, orchards, lakes, and riverfront areas. Demographic changes also influence land use, not only for housing and recreation considerations, but for economic development planning as well.

Currently, Michigan is transitioning from more of a manufacturing-based to a service-based economy; Antrim County is affected by this shift as well. [The Economic Impact of Travel in Michigan](#) reports that 2011 visitors spent under \$77 million in Antrim County, and 2014 visitor spending almost \$87 million. That number is expected to increase in future years due to the many amenities offered in the County, which include [Glacial Hills](#), the [Jordan River](#), ski resorts, many golf courses, and agritourism.

The county is experiencing a major demographic shift; the 55+ population is increasing at a rate approaching 30%, as predicted in previous planning forecasts, while the 20 - 45 year old population is declining at a rate near 20%.

While these factors present challenges, leaders must be diligent in the pursuit of a strong, meaningful economic sector including service,

technical, manufacturing, and agriculture and related strands while striving to support our educational systems, public services, and community infrastructure needs. During this transitional period, planning decisions need to recognize changing service needs of an aging population, with a decline in population among those of working age.

This portion of the master plan analyzes economic trends and demographic patterns related to the regional economy, so that recommendations and positions can be determined to assist local efforts in stimulating economic growth of business, creating opportunities for employment, and preserving the rural charm and character that makes us a desirable destination for work, leisure, and living.

Please note the supporting tables in this document are derived from various sources. Also, the dates of data collection may vary from table to table.

Employment Trends

Number of Employed Workers

Michigan suffered its worst economic collapse since the Great Depression in the six-year period of 2005-2010, with Antrim County residents experiencing a decline of nearly 2,000 jobs across all major employment industry sectors. In 2005,

11,054 of the County's residents were employed compared to 9,100 by 2010 and an estimated 8,950 in December 2016, the most recent figure available for this document. The unemployment rate in December 2016 was estimated as 7.5%.

Employment by Industry

The Bureau of Labor Statistics (BLS) maintains employment figures categorized into 19 different industry types. The most recent estimates available for these industries were for the years 2014 and 2015 and are shown in the table below.

The estimated data shown below is essentially a snapshot of the employment for two different time periods. The margins of error are relatively large, it is not recommended that the data

should be used to make projections or assumptions about employment trends.

The upcoming 2020 U.S. census will provide data with a far smaller margin of error.

Economic Impact of Gained / Lost Jobs

Looking at the period from 2005-2009, it is important to analyze the economic impact of gained/lost jobs. For example, one \$40,000 job

Antrim County # of Employed Workers	
2005	11,054
2010	9,100
2016*	8,950

*December 2016 estimate. Data source: Bureau of Labor Statistics (BLS)

Antrim County Employment by Industry - 2014 & 2015 Estimates

	2014 Estimates	2014 Margin of Error	2015 Estimates	2015 Margin of Error
Agriculture, Forestry, Fishing, Hunting	294	+/- 116.5	256	+/- 55.6
Mining, Quarrying, Oil, Gas Extraction	97	+/- 39.2	64	+/- 33.3
Construction	823	+/- 113.5	821	+/- 113
Manufacturing	1442	+/- 130.9	1533	+/- 136.5
Wholesale Trade	183	+/- 50	148	+/- 44.9
Retail Trade	1046	+/- 144.5	1131	+/- 147.7
Transportation & Warehousing	271	+/- 81	267	+/- 56.4
Utilities	53	+/- 19.7	56	+/- 24.7
Information	137	+/- 41	162	+/- 46.9
Finance & Insurance	267	+/- 57.8	248	+/- 52.7
Real Estate, Rental & Leasing	182	+/- 45.5	168	+/- 45.3
Professional, Scientific, Tech Services	344	+/- 63.7	349	+/- 63.3
Admin, Support, Waste Management Services	383	+/- 76	353	+/- 67.4
Educational Services	549	+/- 96.6	573	+/- 87.1
Healthcare & Social Assistance	1220	+/- 125.2	1191	+/- 132.9
Arts, Entertainment, Recreation	265	+/- 67.6	323	+/- 70.2
Accommodation & Food Service	989	+/- 143.8	946	+/- 135.5
Other Services, Except Public Administration	540	+/- 98.6	520	+/- 76.4
Public Administration	377	+/- 82	419	+/- 88.6

Data sources: Data USA, ACS 5-Year Estimate, U.S. Census Bureau

gain/loss had more economic impact on the local economy than two \$15,000 jobs.

Of the nearly 1,300 fewer jobs in Antrim County from 2005-2009, the lower spendable wages attributable to those jobs equaled \$36.3 million. The average wage loss per job was \$28,291. Lost jobs not only impacted the individual worker, but

they also impacted the local economy since local spending declined.

Projections & Patterns

As noted in “A Framework for Growth & Investment,” a publication from Networks Northwest, Economic Modeling Specialists, Inc.

Projected Change in Jobs by Industry in Northwest Michigan: 2014 to 2023

	2014 Jobs	% Change in # of Jobs, 2009-2014	% Change in # of Jobs, 2014-2023	2014 Avg. Earnings per Job
Agriculture, Forestry, Fishing, Hunting	1,442	4%	30%	\$32,004
Mining, Quarrying, Oil, Gas Extraction	980	23%	-2%	\$84,815
Utilities	613	5%	-19%	\$115,967
Construction	4,985	-3%	2%	\$47,973
Manufacturing	13,985	14%	1%	\$61,284
Wholesale Trade	2,264	8%	13%	\$53,726
Retail Trade	16,115	2%	3%	\$29,720
Transportation & Warehousing	1,584	11%	9%	\$47,892
Information	1,618	-3%	3%	\$64,596
Finance & Insurance	3,483	4%	10%	\$62,304
Real Estate and Rental and Leasing	1,303	21%	12%	\$36,698
Professional, Scientific, and Technical Services	3,583	-2%	17%	\$59,939
Management of Companies and Enterprises	143	96%	-19%	\$80,214
Administrative and Support and Waste Management and Remediation Services	5,592	31%	26%	\$32,207
Educational Services (Private)	1,866	17%	22%	\$32,955
Healthcare & Social Assistance	16,944	7%	21%	\$56,549
Arts, Entertainment, Recreation	1,707	1%	17%	\$27,721
Accommodation & Food Service	15,724	14%	4%	\$19,386
Other Services, Except Public Administration	3,390	8%	15%	\$29,590
Government	18,357	-9%	4%	\$57,308
Unclassified Industry	219		-15%	\$25,229
Total	115,897		9%	\$45,543

Data sources: Economic Modeling Specialists, Inc. (EMSI) and Networks Northwest

(EMSI) has projected that the total number of jobs in Northwest Michigan will increase by 9% in the years 2014 to 2023. The EMSI projections are shown in the table below.

Though the EMSI projection indicate a 9% overall increase in jobs for Northwest Michigan, the State of Michigan has projected a 6.7% increase in jobs for the 2013-2024 time frame (Source: Department of Technology, Management, and Budget ; Bureau of Labor Market Information and Strategic Initiatives). The top occupations by annual openings due to growth are noted as registered nurses, personal care aides, retail sales persons, team assemblers, and food preparation/ food serving workers.

County Business Pattern (CBP) data is collected by the U.S. Census Bureau. A summary of the Antrim County data for the years 2005, 2010, and 2015 is shown in the adjacent table.

There was a significant loss in the total number of establishments in the five-year span from 2005 to 2010, a loss that did not recover in the subsequent five-year span to 2015. It should be noted, however, that the total annual payroll in Antrim County increased significantly from 2010 to 2015, and that the number of paid employees for the March 12 sampling period

also increased from 2010 to 2015.

Estimated annual per capita income in Antrim County increased from \$23,912 in 2010 to \$27,155 in 2015 with margins of error of \$1,150 and \$1,176 respectively. The 2015 estimate places Antrim County in the middle of the ten-county region of Northwest Lower Michigan. The only county in the region to show a decrease in estimated per capita income from 2010 to 2015 was Charlevoix County.

It should also be noted that though the 2010 Antrim County per capita income estimate was lower than the State of Michigan average, the 2015 estimate was higher than the state average.

Antrim County Business Patterns: 2005, 2010 & 2015

	2005	2010	2015
Total # of establishments	654	551	550
# of paid employees for pay period including March 12	5,466	3,430	3,798
First-quarter payroll (\$1,000)	30,840	19,997	26,347
Annual Payroll (\$1,000)	136,336	96,353	120,965

Data source: U.S. Census Bureau

**Estimated 2010 & 2015 Per Capita Income
(in Inflation-Adjusted Dollars)**

	2010 Estimate	Margin of Error	2015 Estimate	Margin of Error
State of Michigan	\$25,135	+/- 103	\$26,607	+/- 97
Antrim County	\$23,912	+/- 1,150	\$27,155	+/- 1,176
Benzie County	\$23,649	+/- 828	\$25,023	+/- 987
Charlevoix County	\$28,403	+/- 1,625	\$28,188	+/- 1,402
Emmet County	\$28,308	+/- 1,104	\$31,109	+/- 2,384
Grand Traverse County	\$27,091	+/- 888	\$28,050	+/- 1,007
Kalkaska County	\$19,770	+/- 934	\$21,320	+/- 1,200
Leelanau County	\$32,194	+/- 1,514	\$34,322	+/- 1,938
Manistee County	\$21,612	+/- 916	\$22,647	+/- 961
Missaukee County	\$19,560	+/- 697	\$20,530	+/- 643
Wexford County	\$19,952	+/- 756	\$20,988	+/- 834

Data source: 2011-2015 American Community Survey 5-Year Estimates

The national per capita estimate for 2010 was \$27,334 with a \$78 margin of error; the national 2015 per capita income was estimated as \$28,930 with a \$76 margin of error.

Unemployment

Unemployment rates report the percentage of people in the labor force who are not employed.

In 2010, approximately 39% of the County population was employed. This does not mean, however, that the other 61% of the County’s populace were unemployed. Significant portions of the County’s population are over the age of 65 or under the age of 16. Neither age group is recognized as part of the labor force and therefore not included in unemployment statistics.

The chart above shows unemployment trends for the State of Michigan and Northwest Lower Michigan. Antrim County’s 16.0% unemployment rate for 2010 was the highest in the 10-county region and 2016’s unemployment rate of 6.8% continues to be one of the highest in the area.

Demographic Trends Related to the Workforce

It is estimated that the total population of Antrim County will increase by 0.7% in the 2000 to 2015 time frame (see the table titled “Population Shift in Antrim County 2000 to Estimated 2015” on the following page). If the 2015 population estimates are correct, the population of the County’s primary workforce, ages 20-59, decreased by 17.0% in that time frame. Significant within this figure, however, is the age groups from 25-44

Unemployment in Northwest Lower Michigan - Annual Averages

	1995	2000	2005	2010	2016
State of Michigan	4.6%	3.6%	6.7%	12.5%	4.9%
Antrim County	8.3%	4.7%	7.8%	16.0%	6.8%
Benzie County	9.1%	4.6%	7.8%	13.5%	6.4%
Charlevoix County	8.4%	4.6%	7.4%	14.0%	5.3%
Emmet County	10.9%	5.6%	8.0%	14.4%	6.2%
Grand Traverse County	5.7%	3.5%	6.0%	11.6%	4.1%
Kalkaska County	8.7%	4.8%	7.6%	15.6%	6.9%
Leelanau County	5.6%	3.1%	5.2%	10.4%	4.7%
Manistee County	11.7%	5.5%	8.0%	13.1%	6.3%
Missaukee County	8.5%	4.6%	7.5%	12.7%	5.7%
Wexford County	11.0%	5.5%	7.7%	14.4%	5.6%

Data source: U.S. Bureau of Labor Statistics

which showed a drop of more than 27%, a loss of 1,586 of the County’s prime workforce age group. Another significant decrease was experienced in the group age 19 and younger, which dropped by 1,520, an almost 19% decline.

Another highly significant demographic trend is the aging of the County’s population. The demographic for residents age 65 and above is estimated to increase by 1,712; a surge of 42% from 2010 to 2015. The population age 55 - 65 is estimated to increase by 932, a 31.5% jump signaling that the aging of the County’s population is a trend that is likely to continue into the next decade. The 2015 estimated population numbers indicate that more than 40% of the County’s population is age 55 or above; if the aging trend continues that proportion will continue to expand.

These changing demographics need to be weighed carefully as the County experiences a reduction in the population of people of working age and an increasing population of retirees. The impact on workforce availability and a potential change in services desired by an aging population, have numerous and significant

ramifications for economic development planning.

Future Economic Planning

The Antrim County Planning Commission has a well-established working relationship with the Antrim County Economic Development Corporation. This partnership advocates a cooperative approach toward supporting and creating economic opportunities throughout the County. Using the data in this Master Plan, the Planning Commission will be able to assist the Economic Development Corporation to proactively plan for economic development.

Both groups agree that the long-term viability of Antrim County will be strengthened by utilizing collective strategies and collaborative partnerships specific to economic and community development efforts consistent with sound planning principles.

In pursuit of economic and community development opportunities, Antrim County will work towards these economic guiding principles:

- Diversify the County’s economy.
- Preserve and protect our natural resources, our rural identity, and our scenic beauty.
- Follow appropriate land use and planning principles.
- Recognize the importance of continued input from all sectors of the community at large.

Based on the economic picture of Antrim County, the outlined economic guiding principles, and

Population Shift in Antrim County 2000 to Estimated 2015

	2000	2010	2015 Estimates	Change from 2000
Total population	23,110	23,580	23,267	0.7%
Under 5 years	1,325	1,155	1,011	-23.7%
5 to 9 years	1,558	1,387	1,075	-31.0%
10 to 14 years	1,746	1,444	1,529	-12.4%
15 to 19 years	1,497	1,417	1,359	-9.2%
20 to 24 years	969	914	996	2.8%
25 to 34 years	2,379	2,033	1,978	-16.9%
35 to 44 years	3,464	2,629	2,279	-34.2%
45 to 54 years	3,177	3,628	3,401	7.1%
55 to 59 years	1,536	1,934	1,903	23.9%
60 to 64 years	1,426	1,823	1,991	39.6%
65 to 74 years	2,353	3,054	3,336	41.8%
75 to 84 years	1,321	1,625	1,791	35.6%
85 years and over	359	537	618	72.1%
Median age	41.1	47.4	49.5	20.4%

Data source: 2011-2015 American Community Survey 5-Year Estimates

demographic data, the Economic Development Corporation outlined the following Goals and Objectives for the County. The Antrim County Planning Commission endorses these goals and will work to support the Economic Development Corporation to implement them.

Implementation Steps (What should be done next?)

Strategies to support the County during and through this transition period should focus on three areas:

- 1) Community & Economic Development
- 2) Education
- 3) Planning and Municipal Considerations

In order to leverage community and economic development resources and opportunities, the County should:

- Maintain and strengthen ties with neighboring counties through associations such as the Northern Lakes Economic Alliance, the Michigan Small Business & Technology Development Center, Networks Northwest (formerly the Northwest Michigan Council of Governments), all local townships and municipalities, and other agencies and entities to assist in facilitating community and economic development.
- Promote balanced economic growth with preservation of rural climate, scenic beauty, and preservation of natural resources in mind.
- Endeavor to establish a business-friendly and entrepreneurial environment.
- Promote utilization of technology to create greater access to new markets, training, education, and access to planning information.
- Promote continued maintenance of a list of currently unused facilities, brownfield sites, and properties for sale as one strategy to leverage brownfield sites and vacant unused facilities to support reuse and redevelopment.
- Promote the network of Business Resource Centers designed to provide support and assistance for business counseling, start-up, expansion, growth, demographic analysis, and planning.
- Promote utilization of technology to create new e-markets, access to training and other resources.
- Take advantage of and optimize regional, state and federal support resources when applicable including Economic Development Planning and Infrastructure Grants, Transportation Economic Development Fund Grants, Brownfield Tax Credits, Historic Preservation Credits, Industrial Facility Property Tax

Abatements, Federal Small Business Administration Loan Program, Rail Loan Assistance, Freight Economic Development Assistance, Revolving Loan Funds, Michigan Economic Development Corporation resources, Community Development Block Grants, HUBZones, Downtown Development Authorities, Tax Increment Financing Authorities, Brownfield Authorities, Economic Development Job Training Programs, and other programs and resources.

The County should endeavor to educate County residents in areas of development by:

- Maintaining and strengthening ties with existing chambers of commerce, K-12 schools and intermediate school districts, charter schools and regional community college partners to assist in expanding educational efforts.
- Encouraging development of collaborative programs that provide training and competitive skills related to regionally identified workforce needs for students and adults.
- Advocating business, self-employment, and entrepreneurship educational programs.
- Promoting growth/expansion of value added agricultural opportunities and use of local products.
- Promote housing that is affordable as an economic development tool and assist local units of government in their efforts to increase the number of affordable housing units in their communities.
- The County should encourage principles of planning among all municipal jurisdictions that promote linking future wind and solar energy production with protection of the long-term viability of agricultural land.
- Preserving the scenic beauty of the region.

- Enhancement of culture and entertainment assets as attractors for additional economic investment.
- Targeted community investments on infrastructure maintenance and improvements to attract business establishment including adequate commercial centers, communication infrastructure, broadband data and internet services, public roads, airport, transit, port, sewer, storm sewer, and water facility.
- Targeted community investments on place-based improvements to attract knowledge workers and their families with a special focus on green infrastructure investments, parks, trails, recreation areas, and bicycle and pedestrian connections throughout the community and with adjoining rural areas.
- Targeted investments in rural communities that support expansion of their natural asset-based economies and provide quality living opportunities to those talented workers who prefer a rural environment and its amenities.

Chapter 6. Human Element



Photo credit: Paddles & Pedals

Summary

Master plans typically center on existing land uses, demographic trends, and aspects of economic development. Social planning—defined as understanding and considering the needs and trends of the human environment—is often overlooked. This chapter focuses on the social aspects of physical planning. When applicable, it references reports or plans (e.g., the Antrim County Solid Waste Plan or the Antrim County Parks, Lands, and Recreation Plan) that cover a specific issue and are thus more comprehensive and detailed.

This chapter looks more closely at areas of human need—affordable housing, elderly care, health care, recreation, and solid waste disposal—all of which involved actions of individuals that can directly impact the physical landscape. Services directed at those various needs are administered by different groups, groups whose decisions can influence land uses in positive or negative ways; for example, constructing a senior housing complex near a park might be more beneficial than siting it in an area lacking recreational opportunities.

These different groups often have similar goals and may need support from one another to fully implement their plans. This chapter, then, identifies and summarizes those issues so that

decision makers can be more aware of them when making land use policies.

Antrim County has a strong history of volunteerism. This not only supports the people who need a little help in the County, but it also greatly impacts the economy. Most agencies in the County rely on volunteers on a daily basis. The following are two examples of how agencies are relying on volunteers to run their operations.

The Commission on Aging alone had 11,410 volunteer hours in 2016. That equates to a significant amount of “in kind” labor costs that the COA would have otherwise had to spend to provide the various services. Grass River Natural Area, Inc. volunteers contributed 2,973 of their hours in 2016 which can be considered to equate to \$70,000.

It is nearly impossible to quantify the economic benefit of volunteerism because some agencies don’t fully document their volunteer hours, but the economic benefit is clear and valuable to the county and region.

Historical Perspective

The area currently known as Antrim County was originally called Meguzee County (meaning Eagle). In 1843, the name was officially changed to Antrim County, after County Antrim in Ireland. In 1863, the Michigan legislature organized Antrim County, attaching the unincorporated

counties of Kalkaska, Crawford and Otsego. During this time, the county seat was renamed from Meguzee to Elk Rapids. In 1879 the county seat was moved to a tract of land in the geographical center of the county. Originally the post office at this point was called Keno but was later renamed Bellaire. The present courthouse was built in 1905.

The original inhabitants of this area were Native Americans. Native American artifacts can be found throughout Antrim County, indicating widespread occupation of the area by hunters and gatherers. European hunters and trappers first settled Antrim County in the latter part of the 1700s. The flow of homesteaders increased after the end of the Civil War.

Lumbering and the processing of Upper Peninsula iron ore were the primary economic forces in the 1800s. These industries altered the landscape drastically, changing large swaths of forests to become open fields. Once the timber industry slowed, agricultural uses were established in the cleared areas. The agricultural industry slowed during the twentieth century as the population declined. In the second half of the twentieth century, the economy became more tourism and recreation based.

Any effort to preserve sites, structures, and/or artifacts from the historic past of Antrim County should take into account the circumstances of those earliest ancestors of Antrim County residents—native and immigrant alike. A single visit to the Antrim City town site in Banks Township will demonstrate that a long-established tradition of re-using building materials seems a part of the Antrim County ethos. Reminders of a once well-established industrial past exist currently in western Antrim County.

More lasting private, public, and civic buildings can be found in vital Antrim County villages. Efforts should be made to preserve them. Dedication of structures as historic buildings can be a method of preserving individual buildings. The designation of Historic Districts is another method that can be used. Various State of

Michigan, Federal and Tribal programs exist which might benefit the preservation of identified and qualified sites.

It is important to note, that some of these programs can bring with them a higher threshold of compliance and expense when structural requirements need to be addressed. In no case, should efforts be made to include buildings and sites into programs without the agreement of affected parties.

Affordable Housing

A simple definition for affordable housing is “housing unit where the occupant is paying no more than 30% of gross income for housing costs, including taxes and utilities.” ([A Planner’s Dictionary](#)). The estimated 2015 median household income for an Antrim County household was \$46,845 according to the American Community Survey ACS. Using the described methodology, the median household should not pay more than \$1,171 a month for their housing costs.

The ACS estimate for median owner costs with a mortgage for 2011-2015 is \$1,154 per month, indicating that almost half of Antrim County residents are living in housing that isn’t considered affordable. The ACS also estimated that 83.6% of housing units in Antrim County for the 2011-2015 time frame are occupied by their owners.

A Housing Needs Assessment for Antrim County that was prepared by Community Research Group, LLC in December of 2003 studied the housing needs in Antrim County. Though that needs assessment was conducted almost 15 years ago, it seems likely that the following conclusions are still valid:

- The amount of household growth in the county (an important indicator of housing demand) is quite large, and widespread throughout the county. Much of the fastest growth is taking place in a small number of areas concentrated around the coastal strip of Torch Lake and Milton Townships, and the

northwestern corner of the county and Custer Township.

- The number of houses in the “starter” category (in terms of affordability to first time, moderate-income homebuyers) is moderately large, and may meet the needs of persons who manage to save enough capital to afford a large down-payment.
- The stock of starter homes that does exist is quite aged, and will require investments to continue its useful economic life.
- Affordable housing is difficult for many types of households to purchase, even though they have income levels that generally have been associated with homeownership. This is due partly to the “fixed” costs of maintaining a household in the area (food, transportation, health care, etc.), and partly to the costs of “starter” stock in the county relative to wages.
- The amount of rental housing is not meeting current demand (in terms of households with income less than that needed to purchase a home); this situation will likely continue to worsen as these households increase in number.
- In the 2000 to 2010 time frame, every township in the county has increased their percentage of household expenses to their income. The percentage of households that paid more than 30% of their income for housing more than doubled, from 15% to 36%. This is seen most prominently in the Central Lake, Alba, Elk Rapids, and Eastport Areas. New affordable housing projects should be located in these areas.
- Current interest in Tiny Housing projects should be considered in future land developments; such interest primarily tends to be from moderate-income homeowners who seek alternate simplified lifestyles and freedoms.

The Michigan State Housing Development Authority has, in recent years, reduced grant awards to many rural counties, including Antrim.

Various groups throughout the county are committed to helping low income families find housing options. These include but are not limited to Antrim County Habitat for Humanity and the Antrim County Housing Program.

Elderly Care

Antrim County’s population of senior citizens (people aged 65 and older) has increased significantly according to the past few Censuses.

While the County’s population grew slightly from 2000 to 2010, the growth was

<p>Quick Note</p> <p>The age group 85 and over is the fastest growing population segment in Antrim County.</p>

only in the 55 and older populations. The 2015 population estimates indicate that this trend is continuing, and that the County’s median age of 41.1 in 2000 increased to 49.5 in 2015. (See table on the following page.)

Private groups are pursuing senior housing strategies to provide them attainable housing. The success or failure of these strategies will in part be determined by the availability of services in reasonable proximity to the senior housing complexes.

It is important that a long range view of senior needs includes planning for transportation services. Currently most of the shopping areas are outside Antrim County. This lack of service can create a hardship for senior citizens who lose their mobility. When this occurs, many of them rely on public transportation or on more mobile friends or neighbors. Transportation is a primary issue when the nearest major shopping is in Traverse City, Charlevoix, Petoskey, or Gaylord. None of these communities are a short commute for most Antrim County senior citizens.

Adult Day Care

One of the inevitable consequences of living longer for senior citizens is that their capabilities may be diminished to the level where they need assistance. Many times that assistance is provided by other family members. However, these family members often have obligations

with their own younger families and employment locations. These responsibilities can limit the time available for senior care. A possible solution would be to encourage the establishment of an adult day care center in Antrim County.

Meadow Brook Medical Care facility is the largest nursing facility in Antrim County. Sometimes referred to as the jewel of Antrim County, it receives wide support from the residents and enjoys strong support from the Antrim County Board of Commissioners.

In 2010, the community as a whole passed a measure to upgrade and expand the facility, a project that was completed in 2015. The renovations are expected to increase the quality of life of many seniors and the community as a whole.

Antrim County Commission on Aging

The mission of the Antrim County Commission on Aging (COA) is to improve the quality of life and maintain the highest level of independence for those persons age 60 and over who reside in Antrim County.

The Commission on Aging offers numerous services to Antrim County residents including information, activities, foot care clinics, blood pressure screenings, flu shots, health screening, home delivered meals, respite care, personal care services income tax assistance, Medicare/Medicaid assistance, a Dining Out program at local participating restaurants, and much more.

The COA relies on millage funding for the majority of its funding. The next largest portion

of income is from individual program donations. The Area Agency on Aging of Northwest Michigan provides federal and state funds for the meal programs in addition to purchasing in-home services through the Medicaid Waiver Program. The COA also receives funding from Medicaid, sales tax, interest, in-kind, memorials, and transportation.

Information and Assistance: The Commission on Aging is an excellent source of information for

Population Shift in Antrim County 2000 to Estimated 2015

	2000	2010	2015 Estimates	Change from 2000
Total population	23,110	23,580	23,267	0.7%
Under 5 years	1,325	1,155	1,011	-23.7%
5 to 9 years	1,558	1,387	1,075	-31.0%
10 to 14 years	1,746	1,444	1,529	-12.4%
15 to 19 years	1,497	1,417	1,359	-9.2%
20 to 24 years	969	914	996	2.8%
25 to 34 years	2,379	2,033	1,978	-16.9%
35 to 44 years	3,464	2,629	2,279	-34.2%
45 to 54 years	3,177	3,628	3,401	7.1%
55 to 59 years	1,536	1,934	1,903	23.9%
60 to 64 years	1,426	1,823	1,991	39.6%
65 to 74 years	2,353	3,054	3,336	41.8%
75 to 84 years	1,321	1,625	1,791	35.6%
85 years and over	359	537	618	72.1%
Median age	41.1	47.4	49.5	20.4%

Data source: 2011-2015 American Community Survey 5-Year Estimates

seniors and is able to answer questions about specific services and how to access programs and agencies throughout the state. Office hours are 8:30 to 4:30 Monday through Friday, phone number 231-533-8703. The physical address is 308 E. Cayuga Street in Bellaire.

Congregate and Home Delivered Meals: There are four nutrition sites located throughout Antrim County. The Bellaire and Mancelona Senior Centers serve meals Monday through

Friday. In addition to lunch, the Bellaire site, at 308 E. Cayuga, serves breakfast Monday through Friday from 8 a.m. to 9 a.m. The Mancelona meal site is located in the Mancelona Senior Center at 122 E. State Street.

The Central Lake meal site, located in the Central Lake Government Building, serves lunch, Monday through Thursday. The Elk Rapids meal site, located at Sacred Heart Church, 143 Charles Street, serves lunch Monday through Thursday. The COA served 23,607 congregate meals in 2016.

In addition to these sites, the COA provides home-delivered meals (Meals-on-Wheels) to eligible homebound seniors who are unable to prepare nutritious meals. The program provides up to five hot meals and nine frozen meals every week. The program is designed to enable individuals to continue to live independently. The COA delivered 22,889 meals in 2016.

Personal Care Services: Certified Nursing Assistants provide in-home assistance with activities of daily living for homebound, frail individuals including ambulation, bathing, dressing, grooming, transferring, toileting, and vital signs. The COA staff provided 1,180 hours of personal care services to 31 individuals in 2016.

Respite Care: As a needed break for the caregiver, a Certified Nursing Assistant (CNA) will provide assistance to mentally or physically disabled and frail elderly in accomplishing daily activities. This also includes companionship, and supervision. The COA provided 3,092 hours of respite care to 25 individuals in 2016.

Homemaker Program: Homemakers provide routine household cleaning to maintain a healthy living environment for individuals with functional limitations. The COA provided 1,431 homemaker hours to 48 individuals in 2016.

Project LifeSaver: The COA, working with the Antrim County Sheriff, recently started the Project LifeSaver Program. This program provides transmitters designed like a wrist watch that can be worn by at-risk walk-aways, i.e. persons with Dementia, Alzheimer's or Autism. On notification of a missing person, the Sheriff Department

dispatches a Deputy to the area. Using a hand-held receiver that can receive the signal from the client's transmitter in up to a mile radius, the missing individual can be located in a very short time.

Activities: The Commission on Aging offers day trips during the spring, summer, and fall. The COA also offers activities at the senior centers including bingo, Wii bowling, yoga, billiards, crafts, cribbage, Mahjong, dances, euchre, exercise classes, picnics, and potlucks.

Loan Closet: The Loan Closet is available to all individuals over the age of 55 who require items such as wheel chairs, hospital beds, canes, walkers, bedside commodes, bath benches, electric mobility carts, bed pads & depends, and Hoyer lifts among other items. There is no charge and loans are based on availability.

HomeChore Program: HomeChore services are able to provide the following: removing and replacement of screens and storm windows, installation of weather stripping, washing walls and windows, trimming low hanging branches, minor repairs to correct health and safety concerns, spring cleanups, summer lawn mowing and fall cleanups.

Health Care

Primary health care facilities are located in the villages of Antrim County, with the exception of Ellsworth. Residents do not have to travel a great distance to receive health care. Northern and far eastern points of the County can respectively access primary health care through Charlevoix, East Jordan, Boyne City, or Gaylord. In essence, primary health care is accessible to all Antrim County residents within reasonable travel distances.

Emergency Services Facilities

While there are no 24/7 emergency rooms in Antrim County, there are many comprehensive facilities that can treat most symptoms. The Otsego Memorial Hospital Medical Group - Boyne Valley has a facility in Elmira at 2572 North US-131. This facility has a walk-in clinic

that provides a range of services that ranges from flu treatments to treating broken bones.

In an emergency, county residents can call an ambulance to provide quick transportation to a major emergency facility such as Traverse City or Petoskey. Any expansion of an existing clinic in the county should have the capability of handling routine emergencies and be fully supported from the County through various incentives.

Specialists

According to the estimates for 2015, the population of Antrim County is 23,267 residents, with 5,745 being senior citizens. Doctors and dentists who are general practitioners are available in Antrim County. There are also several physical therapy locations throughout the county. If medical specialists are needed, choices usually have to be made from specialists in Gaylord, Petoskey, Charlevoix, or Traverse City. This distance of service can create a hardship on the residents, especially the senior population and the disabled. Currently, Antrim County Transportation provides a van service to Traverse City on Tuesday and Thursday for appointments.

Ambulance Service

The majority of the County has ambulance service through the Township Ambulance Authority (TAA), which provides ambulance service to its nine township members and adjacent townships through mutual aid agreements. TAA's two bases of operation are located in Bellaire and Mancelona. The authority is funded by a millage that is a vote of the people in all nine townships. In addition, Munson Health System operates North Flight EMS. North Flight EMS provides Nationwide fixed-wing services, helicopter services throughout the county, ground ambulance services to select townships, and additional services.

Recreation

An important component when planning for a community is understanding the need for recreation facilities and how they improve the mental, physical, and social involvement of individuals. The Antrim County Parks and

Recreation Advisory Board and staff updated the five-year Antrim County Parks, Lands, and Recreation Plan in 2013. This Plan was developed with an in-depth public input process that included a county-wide opinion survey, visioning sessions, and Parks and Recreation forums. The goal setting session ranked trail development; additional parks and recreation resource development; publicity of resources; and public access to water. The results of the planning process were an inventory of every recreational facility in the County and a prioritization of recreation projects for the next five years.

The recreation inventory is detailed in the 2013-2018 Parks, Lands, and Recreation Plan and on the [Antrim County website](#). The Action Program describes maintaining the existing facilities as a main priority. It also describes lake-accessibility as an important objective. Some specific items from the Action Program are listed below:

Grass River Natural Area: With the construction of the Grass River Center, Grass River would like to develop more educational programs to serve more of the public.

Barnes Park: The only large waterfront camping facility in the County will need improvements, including improvements in the 2005 bathhouse, repaving the main road in the park, and replacement of the drain field.

Elk Rapids Day Park: Improve and encourage increased utilization by building a pavilion where the former pavilion stood and installing playground equipment in the park.

Maintenance of County Forest Lands: Maintaining and providing the County with inventories of forestry resources, improving forestry management plans, improving access, timber harvesting, mapping and inventory of the newly purchased Glacial Hills Pathway and Natural Area property, and continued implementation of sustainable forestry/forest improvement cuts.

Other Parks and Recreation Plans: Creation of a Parks Department, developing network of trails strategically in the county to connect existing

trails, and improving public access to all of our lakes including a boat launch on Lake Michigan.

Solid Waste and Recycling

Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act of 1994, PA 451, as amended requires every county in Michigan to have a solid waste management plan. This plan is to assure that all the non-hazardous solid waste generated in the county is collected and recovered, processed, or disposed of for a ten-year period at facilities' which comply with state laws and rules.

The Board of Commissioners adopted a Solid Waste Management Plan in February 2000. This plan listed specific goals and objectives that focused on reducing waste sent to landfills and maximizing resource recovery efforts. These goals and objectives were developed to comply with Michigan's solid waste goal to reduce the amount of material sent to landfills to only "unusable residuals" by 2005.

Currently the Department of Environmental Quality is updating their solid waste management plan requirements. Once the requirements have been updated, Antrim County will begin the process of amending their solid waste plan. The Board of Commissioners appointed a Solid Waste & Recycling Council who will assist with updating and implementing the solid waste plan.

The 2000 County's Solid Waste Plan stresses the importance of recycling and mentioned the

limited number of recycling locations as being a major deficiency. It also discussed the lack of coordination for recycling and composting facilities in the County.

In 1998, the total tons generated from solid waste in Antrim County was 16,850. The 2000 Solid Waste Plan projected that the total number of tons would be 19,197 in 2003 without recycling and composting efforts.

In October of 2009 the County Board of Commissioners created a County-wide drop-off recycling program with eight locations; Alba, Alden, Bellaire, Central Lake, Elk Rapids, Ellsworth, Kewadin, and Mancelona. The Alba site has since been replaced by a site at the Star Township Hall. As of August 31, 2017, the County's recycling program had collected over 11,805 tons of material.

The Michigan Department of Environmental Quality's (DEQ) "Report of Solid Waste Landfilled in Michigan" notes that from October 1, 2008 to September 30, 2009 there were 21,562 cubic yards of waste from Antrim County placed in landfills. From October 1, 2015 to September 30, 2016, the DEQ reported that a volume of 13,242 cubic yards of waste from Antrim County had been landfilled, a reduction in volume of 38.6%.

In August 2016, voters approved a 4-year County-wide millage of up to 0.25 mills to fund the recycling program. Previous to the millage, funding for the recycling program was provided by the County's general fund.

Chapter 7. Agriculture



Summary

A farm consists of land and buildings used in the production of crops and livestock. The U.S. Department of Agriculture defines a farm as generating at least \$1,000 a year in the sale of crops or livestock. According to the [2007 Census of Agriculture](#), the average farm in Antrim County generated \$56,766 in 2007 total sales; the [2012 Census of Agriculture](#) reported the figure as \$50,592.

In 2007, the average Michigan farm generated \$102,710 in total sales; in 2012 that amount was \$166,265. These figures represent the market value of agricultural products sold, which represents the gross market value before taxes and production expenses of all agricultural products sold or removed from the place. It does not include payment received for participation in federal farm programs or income for farm related sources such as woodworking.

Farms typically consist of a farmstead, which includes a farmhouse and buildings used to shelter livestock and store crops, livestock feed, and farming equipment, and land used to grow crops or pasture grazing livestock.

Agriculture plays a significant role in Antrim County through crops, livestock, and agricultural

processing facilities. The top crop items, as reported by the 2012 Census, were the following:

- Forage – land for hay and haylage, grass silage, and greenchop
- Cherries, tart
- Corn for grain
- Vegetables harvested, all
- Potatoes

The top livestock inventory items were:

- Cattle and calves
- Colonies of bees
- Chickens - layers
- Chickens - broilers and other meat-type
- Sheep and lambs

The website of the Michigan Department of Agriculture & Rural Development (MDARD) notes the following:

The Michigan Right to Farm Act, P.A. 93, was enacted in 1981 to provide farmers with nuisance protection. This state law authorizes the Michigan Commission of Agriculture and Rural Development to develop and adopt [Generally Accepted Agricultural and Management Practices \(GAAMPs\)](#) for farms and farm operations in Michigan. These farm management practices are scientifically based and updated annually

to utilize current technology promoting sound environmental stewardship on Michigan farms.

By utilizing GAAMPs, farmers and Michigan residents benefit: through environmental protection of natural resources; sound management of agricultural inputs; and sustaining a strong and stable agricultural industry.

There are eight sets of GAAMPs:

- Manure Management and Utilization
- Pesticide Utilization/Pest Control
- Nutrient Utilization
- Care of Farm Animals
- Cranberry Production
- Site Selection and Odor Control for New and Expanding Livestock Facilities
- Irrigation Water Use
- Farm Markets

Number of Farms

According to the 2012 Census, there were 415 farms in Antrim County, which was an increase from 1997 and 2007. The trend of having more farms occurred throughout northern Michigan from 1997 to 2007 and decreased by 39 in 2012. In 2012 the number of Antrim County farms increased slightly to 415. State-wide, the 2007 Census reported 56,014 farms in Michigan. In 2012, the number of farms decreased by 3,820 to 52,194.

During this time in Michigan, many farmlands were converted to other uses, such as residential developments. The increase in the number of Antrim County farms may be due to smaller farm lots and the increased interest in farming activity

(as a secondary activity not as a primary activity, such as hobby farms).

The average farm size in Antrim County was 164 acres in 2007; in 2012 the average farm acreage was 155 acres. This acreage is similar to other counties in northern Michigan. In the State of

Number of Farms in Northwest Lower Michigan

	1997	2002	2007	2012
State of Michigan	53,519	53,315	56,014	52,194
Northern Michigan	3,016	3,351	3,555	3,516
Antrim County	301	382	411	415
Benzie County	165	181	205	181
Charlevoix County	230	299	336	297
Emmet County	248	274	291	287
Grand Traverse County	485	489	522	504
Kalkaska County	162	175	221	224
Leelanau County	420	429	449	494
Manistee County	330	315	358	324
Missaukee County	377	412	391	433
Wexford County	298	395	371	357

Data source: 2012 Census of Agriculture, Michigan State and County Data, United States Dept. of Agriculture

Michigan, the 2012 average size was 191 acres and the median size was 60 acres.

Sales from Farm Operations

The 2007 and 2012 Census data show that although the average total sales increased for northern Michigan farmers and throughout the State, it decreased for farmers in Antrim County (see table on following page titled “Market Value of Agricultural Products Sold”). It should be noted that the increase in market value can be attributed primarily to the significant increase in Missaukee County.

Market value is the gross market value before taxes and production expenses of all agricultural

products sold or removed from the farm, regardless of who received the payment. It includes sales by the operator(s) as well as the value of any shares received by partners, landlords, contractors, or others associated with the operation. It does not include payment received for participation in other federal farm programs, nor does it include income from farm-related sources such as custom work.

Farm Size

The 2007 Census of Agriculture recorded 67,351 acres in Antrim County that were considered farm land. The 2012 Census noted a decrease in farm land to 64,167 dedicated acres. There are 335,961 total acres in Antrim County, therefore in 2012, 19.1% of the County was considered active farmland, a slight decrease from the 2007 percentage of 20.0%.

Grand Traverse County and Leelanau County have similar farm acreage (54,558 and 59,481 respectively). Kalkaska and Benzie Counties have the smallest farm acreages at 25,819 and 20,646 acres respectively.

The majority of farms in Antrim County range from 50 to 179 acres, as shown on the following page. The median size for a farm in Antrim County was 72 acres in 2012; in 2007 the median size of an Antrim County farm was 78 acres.

Farmland Protection

Farming can be considered part of the region's rural character. A dilemma for many communities is how to promote the preservation

Market Value of Agricultural Products Sold in Northwest Lower Michigan

	Avg. farm value in 1997	Avg. farm value in 2002	Avg. farm value in 2007	Avg. farm value in 2012
State of Michigan	\$69,035	\$70,035	\$101,710	\$166,265
Northern Michigan	\$44,001	\$33,788	\$51,188	\$66,318
Antrim County	\$58,131	\$41,501	\$56,766	\$50,592
Benzie County	\$40,873	\$23,324	\$38,933	\$65,179
Charlevoix County	\$18,818	\$13,349	\$22,762	\$33,390
Emmet County	\$22,848	\$21,412	\$25,600	\$55,383
Grand Traverse County	\$38,744	\$23,243	\$36,865	\$36,202
Kalkaska County	\$33,906	\$32,203	\$27,397	\$39,300
Leelanau County	\$72,863	\$37,268	\$78,628	\$41,485
Manistee County	\$29,072	\$25,494	\$25,732	\$23,544
Missaukee County	\$94,589	\$95,983	\$180,652	\$290,999
Wexford County	\$30,167	\$24,101	\$18,542	\$27,103

Data source: 2012 Census of Agriculture, Michigan State and County Data, United States Dept. of Agriculture

of farmland while addressing the demand for development. If a community wishes to protect their agricultural lands, their focus should be threefold: limiting development in predominantly agricultural areas, providing for development away from prime agricultural lands, and providing an environment that encourages and supports local agriculture's sustainability. A successful program is dependent on having the appropriate planning option that will result in a balanced development pattern.

Sustainable agriculture has been defined as by the National Association of County Agriculture Agents as an integrated, site-specific system of plant and animal production. Over the long term, it will:

Size of Farms in Northwest Lower Michigan - 2007

	1-9 acres	10-49 acres	50-179 acres	180-499 acres	500-999 acres	1,000+ acres
State of Michigan	4,219	20,726	19,206	7,275	2,619	1,969
Northern Michigan	273	1,185	1,431	497	118	51
Antrim County	21	134	171	61	15	9
Benzie County	28	68	81	22	4	2
Charlevoix County	26	115	131	50	11	3
Emmet County	18	91	115	51	14	2
Grand Traverse County	62	215	164	55	20	6
Kalkaska County	15	92	81	28	1	4
Leelanau County	36	134	199	66	10	4
Manistee County	12	101	176	58	11	0
Missaukee County	37	99	148	65	22	20
Wexford County	18	136	165	41	10	1

Data source: 2012 Census of Agriculture, Michigan State and County Data, United States Dept. of Agriculture

Size of Farms in Northwest Lower Michigan - 2012

	1-9 acres	10-49 acres	50-179 acres	180-499 acres	500-999 acres	1,000+ acres
State of Michigan	4,162	18,764	17,634	7,040	2,574	2,020
Northern Michigan	301	1,137	1,393	529	97	59
Antrim County	38	132	159	63	15	8
Benzie County	18	57	79	20	6	1
Charlevoix County	26	83	128	48	9	3
Emmet County	25	70	118	64	7	3
Grand Traverse County	64	200	160	63	12	5
Kalkaska County	23	80	83	30	4	4
Leelanau County	34	155	217	75	8	5
Manistee County	15	99	151	51	4	4
Missaukee County	37	130	144	76	24	22
Wexford County	21	131	154	39	8	4

Data source: 2012 Census of Agriculture, Michigan State and County Data, United States Dept. of Agriculture

- Maintain the economic viability of farm operations.
- Satisfy human foods and fiber needs.
- Preserve environmental quality and the natural resource base farming depends on.
- Make efficient use of non-renewable and on-farm resources.
- Integrate, where appropriate, natural biological cycles and controls.
- Enhance the quality of life for farmer and society as a whole.

Recent studies have shown that providing for farmland preservation in an orderly manner may provide economic benefit to the community. In a study by the American Farmland Trust an example showed that for every \$1 in tax revenue generated by farms and open land in Marshall Township, Calhoun County, only 27 cents was required for associated services. For every \$1 in tax revenue generated from residential development in that township, \$1.47 was required in public services.

The map on page 51 shows the location of the county's prime farmland areas. This map was based on designating the most productive areas for farming. In addition, the farming areas are shown close together and not fragmented over a large area. To assist in Farmland Preservation, the State of Michigan has an active Purchase of Development Rights Program that will pay a farmer for the development rights on a site and allow them to continue farming.

Antrim County joined with Grand Traverse County to have a Bi-County Farmland and Open Space Development Rights Ordinance in 2003 to promote a similar program. The Antrim County Farmland and Open Space Preservation Board consists of six (6) members, appointed by the Board of Commissioners. The Farmland and Open Space Preservation Board administers the County's farmland preservation program and is responsible for:

- Establishing selection criteria for ranking and prioritizing of applications to the program.

- Establishing a points-based appraisal formula for determining the value of the agricultural conservation easements.
- Reviewing and providing oversight in scoring all applications according to the adopted selection criteria.
- Ranking and prioritizing the top scoring applications for acquisition and determining whether the development rights should be purchased.
- Approving the restrictions and permitted uses under the agricultural conservation easement.
- Establishing the price to be offered to the property owner and authorize negotiations for the purchase of development rights and agricultural conservation easement.
- Establishing monitoring procedures and overseeing subsequent monitoring to insure compliance with the agricultural conservation easement. Enforcement of the agricultural conservation easement in the case of non-compliance shall be the responsibility of the respective County Board of Commissioners.

It is a goal of Antrim County to increase activity and growth in the agricultural economic sector and provide an environment that encourages and supports local agriculture's sustainability.

Implementation Steps *(What should be done next?)*

- 1) Work with farm groups and the Michigan State University Extension, Northern Lakes Economic Alliance, and MDARD offices to promote agriculture-related businesses.
- 2) Establish and maintain a healthy "work with farmers" attitude in county and township departments that farmers rely on.

STRATEGY: Departments that recognize agriculture as one of the few true "wealth creating" industries in the county and therefore departments will help producers work through regulations in a way that is helpful, understanding, and seeks to

minimize the negative impacts on farm sustainability.

- 3) Minimize regulations that negatively impact farm sustainability.

STRATEGY: Support local ordinances and master plans that encourage maximum flexibility for farmers including marketing, direct sales, value-added processing, and new product development.

- 4) Grow local, value-added farm enterprises by actively supporting them.

STRATEGY: Provide infrastructure support of farm markets through joint community applications to economic development grants.

STRATEGY: Continue funding of education for value-added farm enterprises and consumers.

STRATEGY: Support local programs (e.g. Project Fresh) that are tied to and support local agricultural production.

- 5) Support the development of industries that support agricultural producers as well as those that process the commodities that Antrim County farms produce for both local consumption and export. These industries are essential for a vibrant agricultural community, just as our farmers are, because they create wealth for the area.

STRATEGY: Work with NLEA and the agricultural community to target needed agriculture support and processing industries for recruitment and assistance in start-ups.

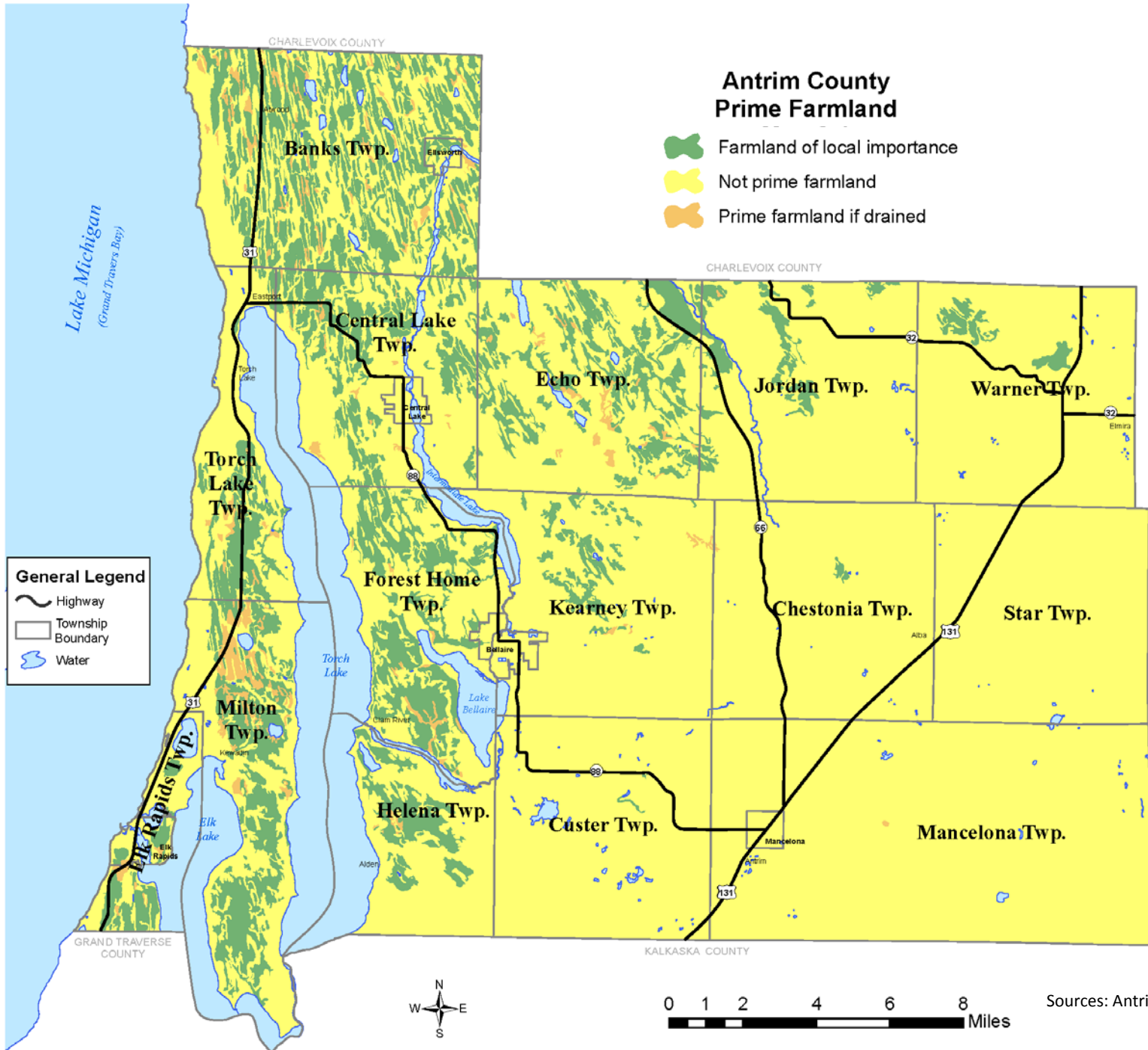
- 6) Make infrastructure investments that benefit agriculture, agribusiness, and the business community as a whole.

STRATEGY: Support the Antrim County Road Commission's investment in roads that allow year-round transport of goods.

STRATEGY: Work with agencies and private utilities to increase investment in technology infrastructure.

STRATEGY: Encourage portions of municipal Master Plans and township zoning ordinances which allow by permit or special use new reliable energy sources.

STRATEGY: Encourage continued funding for agricultural production education.



**Antrim County
Prime Farmland**

- Farmland of local importance
- Not prime farmland
- Prime farmland if drained

General Legend

- Highway
- Township Boundary
- Water

Sources: Antrim County & LIAA

Chapter 8. Transportation, Infrastructure, and Community Services



Summary

Effective transportation and infrastructure systems are critical to maintain the productivity, health, and safety of a region. People travel to work, for pleasure and drive to stores and services. Medical and emergency vehicles are required to reach all areas of the region to provide their services. While the villages in Antrim County are walkable communities, they do not provide all the necessary services families may rely upon. Therefore, people travel to other communities and locations to meet their needs. Since this travel is usually by vehicle, it is important to understand the current road conditions and future plans.

Antrim County is growing in population, but the overall density of that population is not sufficient for improved services such as water and sewer throughout the County. However, many of the denser locations, such as the villages, do provide improved services. The remainder of the County is serviced by well and septic.

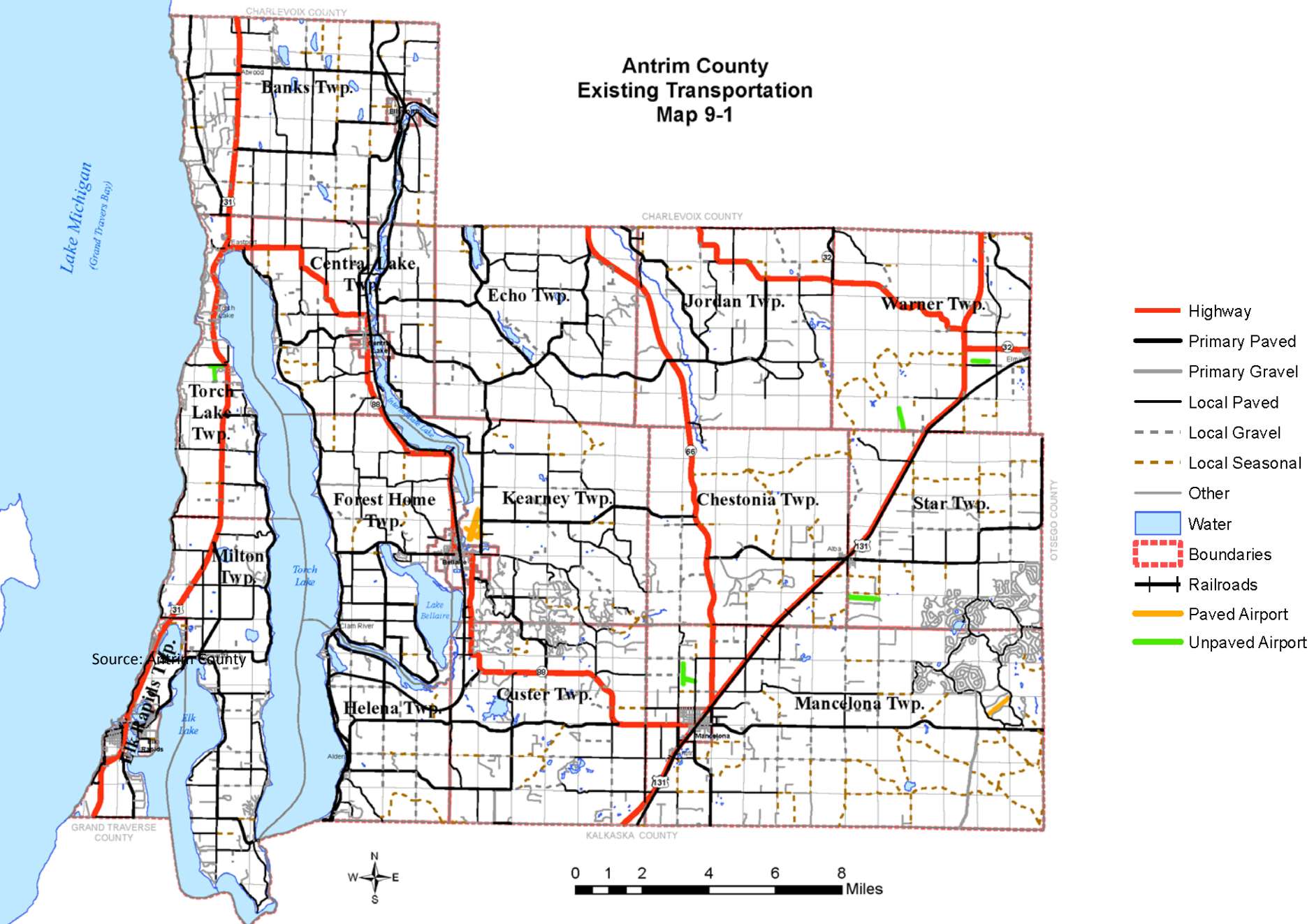
In addition to transportation and infrastructure, community services are equally important to meet the local needs and demands of a community. They are vital in providing a diverse range of recreation, leisure, social, and community services.

Prior to land areas being designated for certain density and uses, the infrastructure capacity should be studied. It would not be advisable for a high intensity use, such as a manufacturing operation to be located on a limited access road with a well and septic field. Nor would it be advisable for a subdivision to have five acre lots when it is serviced by water and sewer. The availability of services will impact future growth in terms of use and rate.

Roadways

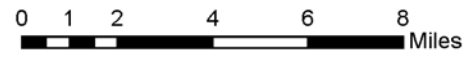
The majority of the roads in Antrim County are paved; however there are many unpaved, less-traveled roads as well. There are many well-developed and direct routes in the County such as Highway 593 which runs from Elk Rapids through Kewadin, Torch River, Alden, Clam River, Central Lake, Ellsworth, and north to Charlevoix. Highway 618 is an east-west connection from Alden to Mancelona. Highway 620 extends from Bellaire through Green River, Alba, and to Otsego County. Highway 624 branches from Michigan Highway 66 to Central Lake. There are a number of other paved County roads that generally provide adequate circulation for development. It should be noted that Torch Lake makes it difficult to have an east-west roadway because it almost completely traverses the County from north to south.

Antrim County Existing Transportation Map 9-1



- Highway
- Primary Paved
- Primary Gravel
- Local Paved
- - - Local Gravel
- - - Local Seasonal
- Other
- Water
- Boundaries
- +— Railroads
- Paved Airport
- Unpaved Airport

Source: Antrim County



There are five State trunk lines traversing Antrim County. The length of US-31 is approximately 24 miles and provides a north-south route through the County. It is located along the western edge and in some locations near Lake Michigan. It passes through Banks, Torch Lake, Milton, and Elk Rapids Townships. US-131 enters the County at the southern edge and travels through Custer, Mancelona, Chestonia, Star, and Warner Townships. It is approximately 18 miles long within the County.

There are three State highways. Michigan Highway M-66 branches north from US-131 in Mancelona Township and provides a fairly direct route to Charlevoix. It is approximately 14 miles long within the County. Highway M-88 also branches from US-131 in Mancelona and travels to US-31 in Eastport. This roadway provides an integral connection in the County and is approximately 26 miles long. State Highway M-32 extends a short distance through the northeast section of Antrim County; it runs through Warner and Jordan Township, north to Highway 66 in Charlevoix County. It is approximately 9 miles long within Antrim County.

According to the Antrim County Road Commission, there are 664 miles of local County roads, 210 miles of primary County roads, and 99 miles of State trunk lines. The Antrim County Road Commission is responsible for the maintenance and snow plowing of these roadways. The Michigan Department of Transportation (MDOT) contracts with Antrim County for the maintenance and snow plowing of the State trunk lines.

The Road Commission receives its funds through taxation, via the Michigan Department of Transportation (MDOT). The Road Commission is

only responsible for publicly owned roads. The Road Commission and MDOT are not responsible for private roads; snow removal and maintenance of these roads are funded privately.

Asset Management

The Antrim County Road Commission (ACRC) maintains 210 miles of primary county roads and 663 miles of local county roads. Also, the Michigan Department of Transportation (MDOT) contracts with the ACRC to perform routine maintenance on 98 miles of state trunk line (M 32, M 66, M 88, US 31 and US 131). In the county system, approximately 700 miles are maintained year round. 556 of those miles are paved, 144 miles are gravel and 173 miles are seasonal roads. Seasonal roads are not open to public travel November through April. The ACRC's primary responsibility is to provide safe roads for the motoring public.

Since 2003, the County's Federal Aid eligible paved roads have been rated annually for surface condition. There are 178 centerline miles of paved roads in Antrim County that are eligible for federal aid. See the chart below for changes in surface road conditions from 2008-2016.

All local and non-Federal aid eligible paved county roads were rated in 2010 and again in 2016 by members of the Antrim County Road Commission, Traverse City Transportation Service, Michigan Department of Transportation, and Networks Northwest. They studied the road surfaces in Antrim County as part of an Asset Management study of the counties in the region. Asset Management involves visually inventorying the county roads and prioritizing any needed improvements. This inventory includes collecting and assessing data about the following characteristics: roughness (ride), surface distress

Antrim County - Federal Aid Eligible Primary County Road Surface Condition Travel

	2008	2009	2010	2011	2012	2013	2014	2015	2016
Poor	6	11	13	13	15	27	27	35	47
Fair	67	69	64	64	62	56	60	50	35
Good	27	21	23	23	23	17	12	15	18

Data source: ACRC 2016 Annual Report to the Antrim County Board of Commissioners

(condition), surface skid characteristics, and structure (pavement strength and deflection). The outcome of the 2016 study showed that 56% of Antrim County's local and non-Federal aid eligible paved county roads were in "fair" condition. 25% were considered "good" and 19% received a rating of "poor."

(Source: [ACRC 2016 Annual Report to the Antrim County Board of Commissioners](#)).

Future Road Plans

The Antrim County Road Commission creates an annual list of paved road needs for the County. This list includes estimated costs but does not provide a prioritization of paving projects or specific dates for projects. The total estimated cost for all paved road needs, as listed in the ACRC 2016 Annual Report is \$47,231,440.

Forest Roads

Public Act 288 of 2016 changed the State of Michigan rules for the following:

- Off road vehicle (ORV) use on state forest roads
- Use of ORVs by hunters for the retrieval of big game animals on all state-owned lands open to hunting including game areas, wildlife areas, state parks and state recreation areas
- Use of pack and saddle animals for the retrieval of big game animals

Public Act 288 also requires the Michigan Department of Natural Resources to inventory and map all state forest roads. This process is scheduled to be completed in Antrim County by Dec. 31, 2017.

PA 288 will allow ORV use of many miles of forest roads following the inventory and mapping, but they were not open at the time of this master plan's publication. At the end of 2017, the DNR will publish maps online to indicate which forest roads are open for use and which ones are not. The maps are scheduled to be updated every year. [Click here for a DNR webpage](#) that provides a link to the Forest Roads Inventory Project.

Private Roads

The majority of newer development is served by private roads. State law encourages the development of private roads during land division. Private roads are privately maintained. At this time, there are no county-wide standards or inventory for private roads.

Alternative Modes of Transportation

Mass Transit

A bus system called Antrim County Transportation (ACT) was established in 1977 and provides public transit services to all citizens in Antrim County. It operates Monday through Friday, 6 am to 6 pm. This operation has 15 vehicles, 14 of which are capable of lifting wheelchairs.

In the 2016 fiscal year, 37,538 riders utilized this service (this number includes the total amount of people on a bus every day; therefore a person riding a bus every day would have been counted every day).

At this time, ACT does not have a descriptive long range plan; however they would like to increase their ridership by focusing on areas that have higher densities. They are also working with surrounding counties to create a more comprehensive transit system. Many of the riders travel to Traverse City, Gaylord, or Petoskey for their services and shops. Eventually, ACT would like to provide consistent travel to these areas.

Commercial Bus Routes

Though there is no commercial bus stop in Antrim County, residents can access Indian Trails lines from Charlevoix, Gaylord, Grayling, Petoskey, or Traverse City. Residents can access Greyhound lines from Charlevoix, Gaylord, Grayling, Petoskey, or Traverse City.

Harbors

There is one public harbor in Antrim County on Lake Michigan. The [Elk Rapids Grace Memorial Harbor](#), located in downtown Elk Rapids, offers multiple amenities including water, electric, WIFI, cable, restrooms, showers, gasoline/diesel, pumping station, courtesy vehicle, dog run, and

laundry. There are 161 seasonal slips, 50 transient slips, and 2 commercial slips. The seasonal dockage typically has a waiting list.

Additionally, there is an inland public harbor on Torch Lake in downtown Alden.

Trails

As the population increases, people become more demanding of services that are offered in higher density areas. One of these services is trails. Although Antrim County has a rustic character, it does not have a comprehensive trail system. There are some organizations that are focusing on providing trails in Antrim County. These projects are preliminary, however if they are built, they will improve the quality of life for residents by offering a different form of transportation and providing additional recreation.

Airports

The Antrim County Airport (airport 1 on the adjacent map) is a vital component to the transportation and infrastructure in Antrim County and Northwest Michigan. The airport is owned and operated by Antrim County and is located ½ mile northeast of the Village of Bellaire in Kearney Township.

Basic Information:

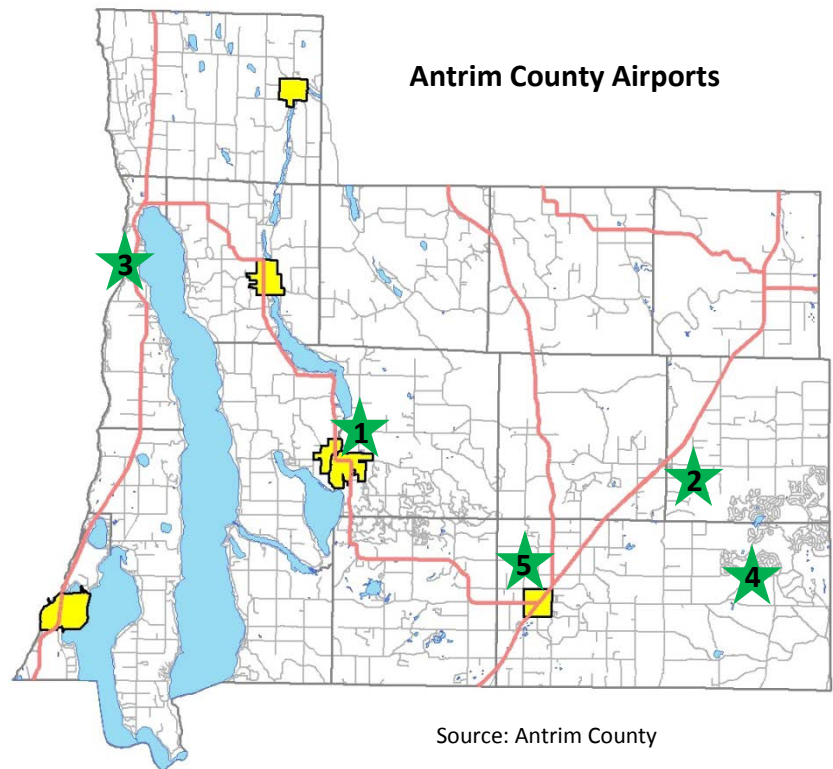
- Airport Reference Point: Latitude 44°59'.32" N, Longitude 085°11'.90" W
- Location ID: ACB
- National Plan of Intergraded Airport System Classification: General Aviation
- Runways: Runway 02/20 is 5,000 feet in length and 100 feet wide
- Pavement: Constructed of bituminous pavement with a gross weight bearing capacity of 55,000 pounds dual wheel main landing gear configuration. Repaved in 2017.
- Landing Aids and Lighting: Rotating beacon, medium intensity runway lights

10% intensity, Precision Approach Path Indicator, Runway End Identifier Lights - Standard Pilot-Controlled Lighting, Common Traffic Advisory Frequency

- Navigational Aids: Instrument Approach Procedure
- The airport is capable of handling corporate jets with hanger space for rent. North Country Aviation provides charter service to and from the airport.

With Traverse City International Airport and the Pellston Regional Airport within 60 miles of Antrim County, a scheduled commuter service is unlikely. There are four other airports in Antrim County. These airports serve mainly private individuals and do not have the capacity to serve the public with regularly scheduled flights. The airports include:

- 2) Alba: Air Park North
- 3) Eastport: Torchport Airpark
- 4) Mancelona: Lakes of the North Airport
- 5) Mancelona: Mancelona Municipal Airport



Infrastructure and Services

Water and Sewer

The majority of County residents are served by well and septic systems. The following locations provide water and sewer to their residents: Village of Elk Rapids, Village of Central Lake, Village of Bellaire, Schuss Mountain, and Shanty Creek Resort. The following locations only provide water to their residents: Village of Mancelona, Mancelona Township, and Village of Ellsworth. Businesses in the Village of Mancelona, Mancelona Township, and Custer Township have access to a public sewer.

Areas serviced by water and sewer are able to have higher density and more intensive land uses.

However, higher densities are needed to fund these improvements. At the current density levels in the County, it is unknown if any other locations will be able to provide improved infrastructure services.

Ambulance Services

Central Lake, Chestonia, Custer, Forest Home, Helena, Kearney, Mancelona, Star and Warner Townships work together to provide ambulance services to their residents through the Township Ambulance Authority.

Antrim County - Public Utility Services								
	Water	Sewer	Electric	Natural Gas	Cable TV	Cell phone coverage	Master Plan	High speed Internet
Villages								
Bellaire	Green	Green	Green	Green	Green	Green	Green	C,W
Central Lake	Green	Yellow	Green	Green	Green	Green	Green	C,W
Elk Rapids	Green	Green	Green	Green	Green	Green	Green	C,D,W
Ellsworth	Green	Red	Green	Red	Green	Green	Green	C,W
Mancelona	Green	Yellow	Green	Green	Green	Green	In Progress	C,D,W
Townships								
Banks	Yellow	Red	Green	Red	Yellow	Green	Green	C,D,W
Central Lake	Yellow	Yellow	Green	Yellow	Yellow	Green	Red	C,W
Chestonia	Red	Red	Green	Green	Green	Green	Green	C,W
Custer	Yellow	Yellow	Green	Green	Green	Green	Green	C,D,W
Echo	Red	Red	Green	Red	Yellow	Yellow	Red	C,W
Elk Rapids	Yellow	Yellow	Green	Green	Green	Green	Green	C,D,W
Forest Home	Yellow	Yellow	Green	Yellow	Yellow	Green	Green	C,W
Helena	Red	Red	Green	Green	Green	Green	Green	C,W
Jordan	Red	Red	Green	Green	Red	Green	Red	D,W
Kearney	Yellow	Yellow	Green	Green	Green	Green	Green	C,W
Mancelona	Yellow	Yellow	Green	Green	Green	Green	In Progress	C,D,W
Milton	Red	Red	Green	Green	Green	Green	Green	C,D,W
Star	Red	Red	Green	Red	Green	Green	Red	C,D,W
Torch Lake	Red	Red	Green	Yellow	Green	Green	Green	C,W
Warner	Red	Red	Green	Red	Yellow	Green	Red	C,D,W

= Service is available, or Yes
 = Partial or limited service is available
 = No service, or No
 C = Cable Internet availability
 D = DSL availability
 W = Wireless availability

Banks, Echo, and Jordan Townships have partnered with the Jordan Valley EMS Authority to provide ambulance services to their residents.

Torch Lake Township provides their own ambulance service. The ambulance needs of Elk Rapids and Milton Townships are serviced by Mobile Medical Response.

Police

The five villages in Antrim County provide some form of police protection. The villages of Elk Rapids, Mancelona, Bellaire, Ellsworth, and

Central Lake all have their own police force but do not provide a 24 hour 7 day a week police force. The Antrim County Sheriff's Office, which patrols the unincorporated areas of the County, also covers these areas when their police forces are not working. In addition, Torch Lake Township and Mancelona Township have Constables.

Fire

Most Townships levy a millage or contract for fire protection services in their township: Banks, Central Lake, Custer, Echo, Elk Rapids, Forest Home, Helena, Jordan, Kearney, Mancelona, Milton, Star, Torch Lake, and Warner. Chestonia Township does not levy a millage for fire.

Other Essential Services

Land-line phone services, cell phone coverage gas, electricity, cable services, and high speed internet are available in most locations in the County. Most cable television, high speed internet, and natural gas is available in the villages, major resort developments, and along M-88 with a few exceptions as shown in Figure 9-1.

At this time, many of the utility lines are above ground.

Community Services

Although private civic organizations in Antrim County are not affiliated with any governmental unit, they are listed in this chapter because of the important services they provide to the County's residents. As shown in the chart on the next page, Antrim County communities have multiple organizations within them. If there is not one in the nearest town, then there is usually one close enough to utilize their services.

Many communities and nonprofits provide services that benefit a particular portion of the community or a community at large. Senior and health services such as the Antrim County Commission on Aging and medical facilities are described in Chapter 6: Human Element.

Various other groups (Boy Scouts, Girl Scouts, and 4-H) are located throughout the county.

Please contact your local school district or the county MSU Extension office for further information.

Implementation

(What should be done next?)

- 1) To compete in a global economy, communities should include in their infrastructure development plans, wireless and broadband technology. Northern Lakes Economic Alliance (NLEA) has undertaken an initiative to bring wireless and broadband technology to this area. The County is encouraged to be an active participant in this process and to include their village and township counterparts as key stakeholders as well. A broad coalition of government, private sector, and providers of these services should be convened, updated, and included in the ongoing efforts of NLEA to bring these technological resources into the local communities countywide.
- 2) The Health Department of Northwest Michigan's "Septage Waste Disposal Committee" was created to work toward a sanitary code implementation strategy intended to address increasing problems related to septage disposal, including water quality and wetlands protection. New and emerging technologies and advanced treatment systems for waste disposal offer tremendous potential for protecting our groundwater, surface water, and wetland resources.

The Health Department approved a revised District Sanitary Code, effective January 30, 2017. It is recommended that the County work closely with the Health Department, environmental advocacy groups, villages, townships, the MDEQ, and the EPA in order to research, develop, and implement decentralized clustered septage disposal systems that take full advantage of cutting-edge technologies that provide for protection and preservation of our freshwater and wetland resources.

- 3) Assist in the development of private road standards. These standards should address design speed, right-of-way width, pavement width, and the proper use of traffic control devices.

Private Civic Organizations in Antrim County

	Alba	Alden	Bellaire	Central Lake	Elk Rapids	Ellsworth	Mancelona	Torch Lake
Alden Volunteers		Yes						
American Legion			Yes		Yes	Yes	Yes	
AmVets					Yes			
Area Seniors			Yes					
Art Rapids					Yes			
Business Association		Yes						
Chamber of Commerce			Yes	Yes	Yes	Yes	Yes	
Educational Foundation							Yes	
Free Masons			Yes	Yes	Yes			
Garden Club		Yes	Yes		Yes		Yes	
Historical Museum	Yes	Yes	Yes		Yes	Yes		Yes
Historical Society	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Lionesses			Yes	Yes	Yes	Yes		
Lions			Yes	Yes	Yes	Yes		
Men's Club		Yes						
Moose Lodge							Yes	
Order of the Eastern Star			Yes		Yes			
Parkside Arts Council			Yes					
Rainbow Girls			Yes					
Rotary			Yes	Yes	Yes		Yes	
Veterans of Foreign Wars				Yes				

Chapter 9. Guiding Principles



Summary

The Guiding Principles in this chapter focus and direct decision-making for future land use, transportation, and public improvements. They express what a community values most and wishes to encourage and/or to preserve as growth occurs.

Each Guiding Principle has been tailored to aid Antrim County in guiding growth. They should be kept in mind when considering projects, regulations, or improvements which could impact the county's future land uses. They should be considered when township master plans and zoning ordinances are reviewed and revised. The Guiding Principles are based on the results from the 2001 Antrim County Community Opinion Survey, 2003 Visioning Sessions, and input from the Planning Commission members and interested public. The following pages describe each Guiding Principle in detail and list a set of policies to be implemented to achieve each Principle. There is no priority assigned to the Guiding Principles, the corresponding numbers are for reference only.

Antrim County's Guiding Principles

- 1) Keep Antrim County rural
- 2) Protect the water
- 3) Promote healthy living
- 4) Direct development towards existing communities
- 5) Provide housing opportunities for everyone
- 6) Retain farming and farmlands
- 7) Promote diverse working opportunities
- 8) Maintain the rural appearance of the highway & road corridors
- 9) Balance property rights with the public interest

1) Keep Antrim County Rural

There are many different ways to define "rural character." The people of Antrim County wish to preserve a rural lifestyle, therefore the following policies are recommended:

- Facilitate development and land use consistent with the rural environment.
- Encourage cooperation with townships, villages, businesses, and community leaders to minimize outdoor lighting. Endorse and promote local lighting ordinances that lessen night time glare.

- Provide education to elected and appointed officials about wildlife protection.
- Promote and educate community leaders about different road designs that fit the rural character of the area.
- Encourage the use of native vegetation; especially in County building projects and in local landscape ordinances.
- When appropriate, work to establish incentives that can be used to encourage the incorporation of desirable views and vistas, woodlands, farmlands, and the protection of ridgelines into development plans. This could include a Purchase of Development Rights program (PDR).
- Coordinate county park projects with open space and protection initiatives by other groups (such as Townships, conservancies, and State government) to create a comprehensive countywide open space and trail network.
- Encourage trees and landscaping along the corridors
- Encourage appropriate signage and signage size along roadways that is consistent with the rural character.

2) Protect the Water

One of Antrim County’s most notable and precious resources is its water resources. Antrim County has approximately 264 total miles of rivers and streams, covering about 28,480 acres. The county also has 27 miles of Lake Michigan shoreline along Grand Traverse Bay. These water resources all provide scenic beauty, wildlife habitat, and recreation. To help them, the following policies are recommended:

- Encourage land uses that could negatively impact water quality to be placed at an appropriate distance from streams, rivers, wetlands, and creeks.
- Encourage land uses to be placed at an appropriate distance from streams, rivers, wetlands and creeks to avoid negative impacts on water quality.

- Help townships and municipalities develop an ordinance to minimize intensive uses on a single lot when the lot is adjacent to a body of water (“key-holing” or “funneling” ordinance).
- Support community wellhead protection plans. Incorporate wellhead delineation maps into County plans.
- Support education programs about septic system maintenance. Encourage this education in the schools.
- Support education on Low Impact Design (LID) storm water techniques.
- Be an active partner with soil erosion control.

3) Promote Healthy Living

Residents responding in the Opinion Survey and Visioning Sessions frequently expressed how much they enjoy living in Antrim County. People want to live here. This is a community where people of all ages can live and thrive. To ensure that this desire continues, the following policies are recommended to address individual health needs:

- Encourage the creation of a healthy living site plan guidebook that promotes development designs for healthier living. Encourage neighborhood designs that are walkable and bicycle-friendly when possible.
- Encourage cluster-housing techniques to establish neighborhoods that are organized around open space areas.
- Encourage road designs that enhance safety for children, bicyclists, and pedestrians. Show community leaders how these designs will improve the community.
- Recommend to community leaders performance standards that minimize noise, visual access, odor, vibration, dust and particulate matter, and the other potential impacts of industrial, commercial, and resource based land uses when they abut residentially zoned areas.
- Work with local school districts to coordinate growth plans.

- Support transit service.
- Encourage recreational planning.
- Encourage access to recreational activities

4) Direct Development towards Existing Communities

Encourage development and investment in communities that possess infrastructure. Directing this development to existing communities increases the efficiency of developed land and infrastructure, and reduces development pressures in rural areas. Promote this growth by:

- Encourage higher density development in the “infrastructured” communities.
- Encourage businesses to locate within “infrastructured” communities.
- Discuss growth strategies with the “infrastructured” communities and assist them when possible.
- Assist each “infrastructured” community in their “placemaking” and promoting their uniqueness.
- Discourage intense development from occurring outside communities with infrastructure.

#5 Provide Housing Opportunities for Everyone

Not everyone will wish to live in the same house for as long as they live in Antrim County, and then have to move away from familiar surroundings when their housing needs change. People need housing that is affordable in reasonable proximity to their jobs. It is the intent of the County to provide opportunities for a variety of housing as follows:

- Encourage a wide range of housing opportunities to satisfy the lifecycle housing needs of residents of all income and age levels.
- Support a range of quality affordable housing types to satisfy the needs of residents.
- Encourage affordable housing throughout the county rather than concentrate it in monotype developments.

- Promote homes on small lots where there is infrastructure.
- Encourage work/live environments in rural areas to allow for home owners to operate small scale businesses from their homes when the impact will be minimal.

6) Retain Farming and Farmlands

Agriculture plays an important role in Antrim County’s history and current character. It is important to think of these areas as perpetually being farmed and not as future residential areas. Once these lands are developed into residential or commercial developments, it is nearly impossible for them to be farmed in the future; therefore, it is important to employ the following:

- Encourage new agricultural activity within the community.
- Think of agriculture as employment locations; work with farmers and interested agencies to develop agricultural related businesses such as U-pick operations, nurseries, and wineries.
- Encourage the sale of agricultural products at farm locations.
- When appropriate, work with farmland preservation groups and land conservancies to retain larger areas of contiguous agricultural lands in the agricultural designated areas.
- Support Purchase of Development Rights program to purchase large farmlands.
- Proactively help farmers continue agricultural operations through the Michigan State University Extension and other USDA offices.
- Encourage the most flexible regulation of farms and farm markets.

7) Promote Diverse Working Opportunities

One of the important components a community needs to be sustainable is a solid job force. This can be accomplished by a mixture of job opportunities, including professional, manufacturing and service oriented. Although it is not the county’s responsibility to create these

job opportunities, the county should encourage viable locations for them.

When appropriate, work with responsible parties to ensure that high-speed internet and wireless communication is available throughout the County.

- Designate areas where small businesses can afford to operate.
- Encourage homegrown businesses and incubator businesses.

#8 Maintain the Rural Appearance of the Highway and Road Corridors

Antrim County has many beautiful, highly visible vantage points. People enjoy these views while traveling. The forest vegetation, open space, and views of Lake Michigan along with all other lakes are magnificent to look at. They are important resources and preserving them is a high priority. These are not just attractive sites, they add to the quality of life and tourism experience. A main objective is to protect these areas from highly visible, inappropriate or ill-suited development such as signage, billboards, multiple access points, and obtrusive building placement.

- Encourage clean highway corridors and encourage businesses along the highway to landscape.
- Work to become a partner with the County Road Commission, Villages, Townships, and MDOT in roadway planning and access management.
- When appropriate, work with community leaders, townships, villages, and businesses to control signage and limit billboards.
- Encourage access management provisions in local ordinances.
- Reduce driveway access points wherever possible.
- Encourage internal connections between business properties.
- Promote alternative access, such as frontage roads.
- Work to keep the long vistas of open space and wooded areas along the roads.

- Encourage compact development, rather than allowing development to “strip” down the roadway.
- Work to become a partner with the County Road Commission, villages, townships, utility companies, and the private sector to improve utility location.
- Assist in the development of private road standards. These standards should address design speed, right-of-way width, pavement width, and proper use of traffic control devices.

#9 Balance property rights with the public interest

The United States Constitution specifically states that a person cannot be deprived of their property without due process. A person’s ability and freedom to own property is essential in the United States. While balancing the rights of property owners and the public interest is always difficult, equal consideration should be given to the benefits a community receives when good public policy is implemented.

It is the intent of the County to carefully balance the rights of property owners with the public interest by:

- Evaluating each public interest and determining if alternative approaches can be used to minimize effects on property rights.
- Ascertain and publicly reveal the facts of any land use issue before making a decision, to the extent possible.
- Making recommendations on the basis of sound land use practice
- Keeping the public informed and involved in key land use issues. The more difficult the issue, the more input should be elicited from the public, including going beyond the normal required public hearing requirements when there is a major issue of concern.
- Encouraging direct citizen engagement in the process.

Chapter 10. Future Land Use



Summary

Planning is defined as, “a method of doing something that is usually in some detail before it is begun and that may be written down in some form....” (Encarta Dictionary). People plan every day, whether it is for vacations or dinner. The people in Antrim County live in a wonderful place: the vegetation, shoreline, small towns, water bodies, and rustic nature make this an area where people want to live.

The goal of this master plan is not to create regulations or zoning. The goal is to simply recognize what is special about Antrim County and provide recommendations that individual units of governments can choose to use to help sustain the quality of life. A thriving community involves many aspects; it goes beyond a person’s house and backyard. It involves a good school system, protection from crime and other disasters, a manageable journey to work, the availability of shops and services and the opportunity for growth. These are all necessary to incorporate a wide spectrum of population including children and the elderly in the community. Livability depends on these things, as well as preserving what is unique: the natural settings, the farmlands, the country roads, the historic villages, and the views and access to the water.

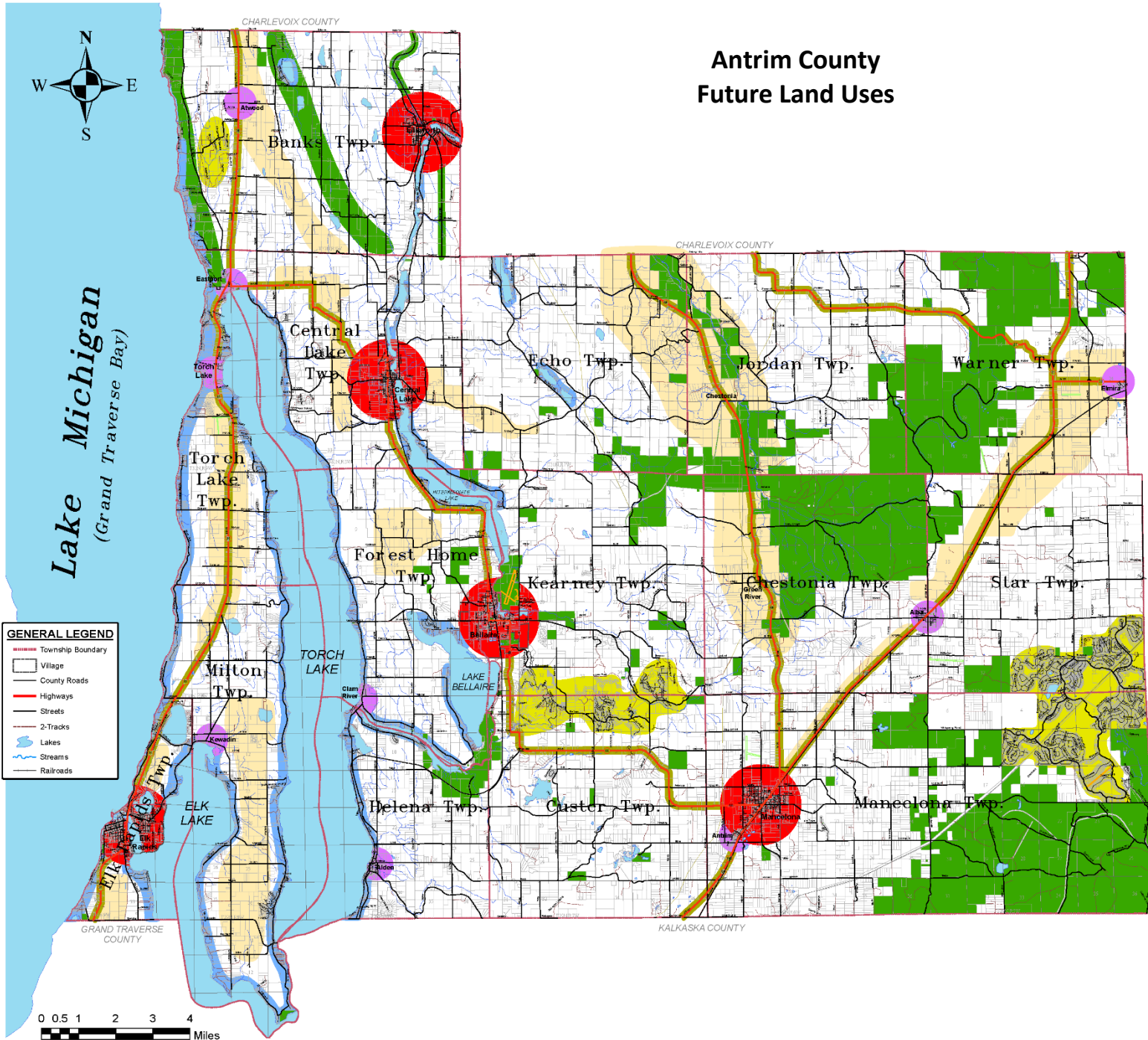
To accomplish these objectives, many different groups, such as school districts, road commissions, business owners, and government agencies have to work together. The Planning Commission’s charge is to recognize what challenges and opportunities exist, what can be changed and what cannot be changed, and work to accomplish what they see is achievable.

The following descriptions are to provide guidance to the Planning Commission to assist them in this charge and are displayed on the Graphic Representation of Future Land Uses. It should be noted that this graphic is very similar to the Generalized Land Use Plan in Chapter 4. The reason for this duplication is that the existing land use patterns are what the populace would like to see in the future. It is a more of a “keep what we have” attitude; therefore the focus is on maintaining the existing characteristics in Antrim County rather than creating new land uses or intensities.

Village Centers

There are five Villages in Antrim County. Each one has a unique character. Some are more developed than others; however, each one has a combination of residential and commercial uses in a small vicinity. This compactness makes them suited for walk-ability, mass transit, and improved services such as water and sewer. It is hoped that these Villages will continue to thrive

Antrim County Future Land Uses



- Village Centers
- Hamlets
- Visual Highway Corridor
- Shoreline
- Rural Country
- Public Recreation
- Resort Community
- Agricultural Preservation

Created by: Gosling Czubak
 Sources: State of Michigan GIS Data Center for Geographic Information, Department of Information Technology, Antrim County

and remain social centers for people living in Antrim County.

These are ideal locations for senior housing, medical services, education centers, and employers. People can travel from their homes to these locations and have their needs met. If they desire to live in these environments, suitable housing can be provided. It is important to help these villages to continue to thrive. This can be achieved by working with the Economic Development Corporation and the Northern Lakes Economic Alliance to provide jobs within these locations; promoting higher density; working with the Antrim County Transportation operations to ensure that each Village has regular public transportation; and communicating with the school boards to build new structures within these areas. It is projected that these Villages will grow in residential and commercial population.

Hamlets

Although these areas resemble villages, they are not incorporated. They serve the nearby populations and traveling public. Like the villages, these locations are mixed use and social centers. It is expected that they will continue to grow, but will not experience any substantial growth due to minimal infrastructure. These areas should be thought of as second tier villages and encouraged to continue their current functions.

Agricultural Preservation

The intent of this classification is to identify the areas that are actively farmed or have characteristics that make them suitable for farming. This identification is to maintain, promote, and encourage existing operations and protect them from incompatible uses. These areas should focus on agricultural operations rather than residential development.

The primary uses of lands in this area should focus on agricultural activities including crops, horticulture, fruit growing, forestry, ranching, beekeeping, poultry and egg production, animal breeding, stabling, kenneling, milk production and similar uses, and the associated storage

relating to these uses and activities permitted by the Michigan Right to Farm Act.

Agricultural related businesses such as value-added agriculture, grazing, wineries, corn mazes, bed and breakfasts, riding stables, and farm markets are attractions for tourists as well as being self-sustaining businesses. In order to encourage and maintain a balanced and diversified economy, these agricultural related enterprises should be encouraged. These are the places where Purchase of Development Rights (PDR) or Transfer of Development Rights (TDR) could be implemented.

The TDR program allows for the purchase of density in one location to be moved to another location. The PDR program involves the purchasing of development rights. In 2003, Antrim County joined with Grand Traverse County in a Bi-County Farmland and Open Space Preservation Program. This program was designed to allow townships to participate in purchasing development rights. Areas that are perceived for potential purchases should have this classification.

Rural Country

People living in Antrim County tend to enjoy a relaxed, rustic lifestyle. People living here take pleasure in having larger size properties and limited infrastructure services such as well and septic. Broadband connections are encouraged to allow for more people to work from home. The plan for this area is to retain rural characteristics and allow individuals to continue their standard of living.

Resort Community

Antrim County is known as a destination recreation area. There are a couple of locations that primarily function as a resort for skiing, golfing, boating or a combination. The majority of the homes in these areas are for individuals who wish to live (either year round or seasonal) in these locations. Homes are sited around the resort amenities, creating a live/play environment. These homes are usually on smaller lots and developments are more concentrated than in the rural country. It is

projected that these areas may increase in population, but will not have a substantial increase in size, resulting in development that is more infill.

Public Recreation

These are the publicly owned lands that offer recreation, wildlife habitat, and visual beauty. These lands are owned by the state, county or township. It is projected that these areas will remain in public ownership. If there is a change, it is desired that the properties will transfer from one government entity to another. If a property is privately obtained, the road and infrastructure services should be studied to ensure any future use of the property will be appropriate.

Visual Highway Corridor

The land areas along the designated roadways in the County are among the most valuable open space visual areas in the region. The majority of these areas are undeveloped and provide spectacular views of the landscape. The views from the roadway reinforce northern Michigan's rural character. People who live here and visit here enjoy this amenity. The majority of these areas are also privately owned. It is recommended that incentives, such as increased density or reductions in development requirements, be given to property owners who design their developments to maintain the visual corridor. Strip development should not be encouraged.

In addition, access management should be recommended to be implemented by the Michigan Department of Transportation or the Road Commission. Access management is a set of techniques that can help reduce traffic

congestion, preserve the flow of traffic, improve traffic safety, prevent crashes, preserve existing capacity, and preserve investment in roads by managing the location, design, and type of access to property.

Access management focuses on the number, location, and design of driveways as they relate to the following elements within the road right-of-way: travel lanes, medians, by-pass lanes, dedicated turn lanes, and signal operations. It is more efficient to apply access management to properties along a roadway prior to development, than retrofitting developed properties. Access management can be achieved by one or more of the following:

- Encourage shared access to parcels and consolidate driveways where possible.
- Encourage passing lanes over road widening.
- Encourage front or rear access driveways (frontage roads) where applicable.
- Promote internal connections and alternative accesses where applicable.

Shoreline

Much of the buildable land areas along Lake Michigan and surrounding the interior lakes have been developed. Most of the development is single family homes on smaller lots. These are desired locations and it is projected that most of the future growth will actually be rebuilding of homes versus building new homes due to the limited amount of developable land.

Communities with these developments should be aware of the environmental constraints these properties may have and work with the owners to minimize negative environmental impacts.

Chapter 11. Implementation



An often overlooked, but important, section of a master plan is the Implementation section. Sometimes, people believe a master plan solely exists as a basis for the zoning ordinance. Although zoning can be an implementation tool for a master plan, there are other means to achieve the goals of a master plan. The Antrim County Planning Commission has chosen not to use zoning as one of their tools, instead they would like to fulfill the master plan's goals using other mechanisms.

The mechanisms are listed as tasks in a timeline, but are not listed by priority. The Planning Commission will determine the priority based on the request from the Board of Commissioners. After an item has been finished, it can be checked off as completed or in progress. The items in the listing were identified as an issue during the master plan process.

Immediate Priorities

- Distribute copies of the Revised Master Plan to the following townships: Banks, Torch Lake, Milton, Elk Rapids, Central Lake, Forest Home, Echo, Helena, Kearney, Custer, Jordan, Chestonia, Mancelona, Warner, and Star. Distribute copies to the following villages: Ellsworth, Elk Rapids, Central Lake, Mancelona, and Bellaire.
- Distribute copies of the Revised Master Plan to the surrounding counties and townships.
- Work with the Economic Development Corporation to assist in their goal implementation.
- When reviewing a township or village master plan, look at the Guiding Principles listed in the Antrim County Master Plan and note areas where the community's master plan could be amended to further implement the Guiding Principles.
- When reviewing a township or village zoning ordinance, look at the Guiding Principles listed in the Antrim County Master Plan and note where the ordinance applies the Guiding Principles.

One To Four Years

- Work with the County Forester to develop a Countywide tree planting plan. This plan should discuss the environmental, scenic, and financial benefits of hardwood trees to Antrim County. It should also have an outreach component.
- Contact the Department of Environmental Quality and environmental consultants to pursue a Wellhead Protection Program.
- Designate an area for an Environmental Green Business Park.

- Encourage the development of a countywide wetland educational program that will emphasize the legal definitions and uses of wetlands.
- Commission a new aerial land use study and compare the findings to the 1978 and 1998 results.
- Provide education on low impact design (LID) storm water techniques.
- Work with farm groups and Michigan State University Extension and Northern Lakes Economic Alliance offices to promote agricultural related businesses.
- Continue to submit applications for grant funding from Michigan Natural Resources Trust Fund.

In Five Years

- Compare development densities with improvements, such as road connections and sewer availability. Use this information when updating the master plan.
- Review this task list to identify projects not accomplished.
- Review this master plan and update where needed.