**Natural, Agricultural, & Cultural Resources**

**Introduction**

This element includes an inventory and analysis of the natural, agricultural, and cultural resources in the Town of Mercer. Within the following narrative, various components of the community resource base are examined at a broad level or “planning scale”. The purpose of this examination is to provide the community with the necessary information to make informed decisions about future growth and development.

The protection of sensitive natural resources is necessary for the welfare of people and the environment. By allowing natural processes, such as the hydrologic cycle/system, to function without impediment, property, water supply, and environment are protected. The protection of natural resources also preserves important ecological communities. Certain natural resources have more than merely aesthetic and recreational activity values. They are essential to long-term human survival and the preservation of life, health, and general welfare. As such, the protection and/or management of these natural resources clearly are in the public interest. Thus, the analysis of those natural resources found within the study area is done for the purpose of directing development away from specific areas not intrinsically suitable for a particular use and given the physical characteristics found within the study area, to at least guide development in a direction that is least disruptive.

**Topography & Slope**

The Town of Mercer is located within the northern highland geographic province, a region characterized as a pitted outwash plain of heavily forested terrain with many lakes, potholes, and wetlands. The topographic features of the town are resultant from the last glacial age that occurred about 15,000 years ago. As the ice retreated, large blocks of ice broke off and became buried in the drift and melted forming deep pits or kettles. The town contains a significant number of lakes, most of which are of kettle origin.

Topographic relief varies from a low of 1,512 feet above sea level at the Flambeau River to a high of 1,771 feet one mile south of Lake Six in section 7, T43N R2E. Topography and elevation are represented in Map 5.X.

Steeply sloping lands are generally characterized as those in excess of 15-20% (vertical rise /horizontal run x 100). Slope analysis is an important development consideration as steep slopes are potentially unstable. Development in these areas may destabilize these slopes, causing increased runoff and accelerating erosion, which negatively impacts water quality. Steep slopes can require costly engineering and site preparation/mitigation measures to minimize these potential adverse impacts. Slope evaluation should be used in conjunction with the examination of other physical factors such as geology, soils, and local drainage patterns to determine the most suitable areas for development. Information related to slope was obtained through the United States Geological Survey (USGS).

As depicted in Map 5.X, slopes in the Town of Mercer are generally less than 15%. An area of elongated ridgelines containing 30-40% slopes is found in the Wilson Lake area. Steep slopes occur in other isolated areas throughout the town.

**Soils, Geology and Land Types**

An understanding of local soils is a critical component of land use planning. Soil factors such as wetness, drainage capacity, strength, and depth to bedrock all influence soil suitability for land uses. In order to properly evaluate soil suitability, criteria for each use must be well defined and the suited soil regions must be identified.

Limited soil information is currently available for Iron County. Generalized soil characteristics are described under the corresponding land type association or LTA. The LTA classification is a mid-level ecological unit, part of a larger, broader ecological landscape (EL). LTAs are important to land managers and planners to understand the patterns and processes that dominate the landscape. These units are classified and mapped based on the associations of biotic and environmental factors that include climate, physiography, water, soils, air, hydrology, and potential natural communities. Information related to the LTAs in Iron County was obtained through the Wisconsin Department of Natural Resources (WDNR).

***Ecological Landscape → Land Type Association***

*Increasing detail and specificity*

The Town of Mercer is located within two broad scale ecological landscapes, the North Central Forest and the Northern Highlands ecological landscapes (Map 5.X). The North Central Forest EL in the Town of Mercer is comprised of the Glidden Drumlins LTA (212Xa01), the Chequamegon Washed Till and Outwash (212Xa03), the Valhalla/Marenisco (McDonald) Moraines (212Jc05) and the Winegar Moraines LTA (212Jc02). There are three component LTA’s as part of the Northern Highlands landscape in the Town of Mercer, including the Northern Highland Outwash Plains LTA (212Xb01), the Vilas-Oneida Outwash Plains LTA (212Xb03), and the Vilas-Oneida Sandy Hills LTA (212Xb02).

**LTA Descriptions**

***Valhalla/Marenisco (McDonald) Moraines***

This LTA encompasses the northwestern and north-central portions of the town. Within the Valhalla/Marenisco (McDonald) Moraines LTA, the characteristic landform pattern is rolling collapsed moraine. This LTA encompasses much of the central portion of the Town of Knight. Soils are generally moderately well drained and well drained loamy and sandy soils with a fine sandy loam surface over non-calcareous sandy loam till, gravelly sand outwash, or loamy/sandy lacustrine, along with very poorly drained nonacid organic deposits. Soil associations within this LTA include the Gogebic-Padus-Annalake-Lupton Associations.

***Glidden Drumlins***

This LTA encompasses a large portion of the western part of the town. The characteristic landform pattern within this LTA is rolling drumlins and inter-drumlin outwash plains and swamps. Drumlins are large mounds of glacial debris that have been shaped into features that are streamlined parallel to ice flow. Soils are generally moderately well drained and well drained loamy soils with a fine sandy loam surface over non-calcareous loamy sand till or gravelly sand outwash, along with very poorly drained nonacid organic deposits. Characteristic soil associations include the Argonne-Sarwet-Lupton-Padus Associations.

***Chequamegon Washed Till and Outwash***

This LTA encompasses part of the southwestern corner of the town, west of the Turtle-Flambeau Flowage. The characteristic landform pattern is rolling collapsed moraine and outwash plain complex. Soils are predominantly well drained and moderately well drained loamy and sandy soils with a sandy loam surface over non-calcareous loamy sand till, along with very poorly drained nonacid organic soils. Soil Associations include the Padus-Keweenaw-Sarwet-Pence-Lupton, Worcester-Manitowish-Vilas-Croswell, Rosholt-Cress-Antigo Associations.

***Winegar Moraines***

This LTA encompasses the northeastern corner of the Town of Mercer. The characteristic landform pattern is rolling collapsed moraine with swamps and lakes abundant. Soils are moderately well drained and well drained loamy and sandy soils with a fine sandy loam or silt loam surface over non-calcareous sandy loam till, gravelly sand outwash, or loamy/silty lacustrine, along with very poorly drained nonacid organic deposits. Soil associations include the Gogebic-Pence-Lupton-Fence Associations.

***Northern Highland Outwash Plains***

This LTA encompasses most of southeastern Iron County, and a large portion of the lakes region of Vilas, Oneida, and Lincoln Counties. It is the component LTA for much of the central portion of the Town of Mercer. The characteristic landform pattern within this LTA is undulating pitted and unpitted outwash plain with swamps, bogs, and lakes common. Soils characteristics include well-drained, moderately well drained, and somewhat poorly drained loamy and sandy soils with a sandy loam surface over non-calcareous gravelly sand outwash, along with very poorly drained acid and nonacid organic soils. Soil associations include Padus-Pence-Loxley-Seelyeville-Manitowish-Worcester, Vilas-Rubicon-Croswell Associations.

***Vilas-Oneida Outwash Plains***

This LTA encompasses the southeastern corner of the Town of Mercer. The characteristic landform pattern is nearly level pitted and unpitted outwash plain with bogs and lakes common. Soils are generally excessively drained, somewhat poorly drained, and moderately well drained sandy soils with a sand surface over non-calcareous sand outwash, along with very poorly drained acid organic soils. Soil associations include the Rubicon-AuGres-Croswell-Loxley, Padus-Pence Associations.

***Vilas-Oneida Sandy Hills***

The characteristic landform pattern is rolling collapsed outwash plain with bogs common. Soils are generally excessively drained and well drained sandy soils with a loamy sand, sand, or sandy loam surface over non-calcareous gravelly sand or sand outwash or loamy sand till, along with very poorly drained acid organic soils. Soil associations include Sayner-Karlin-Rubicon-Loxley-Keweenaw-Pence Associations.

**Town of Mercer Soil Characteristics**

The soils of Mercer have been chiefly derived from the weathering of glacial deposits. The most extensive soil group is the rolling gray-brown loams that cover about three-fifths of the region. Organic soils are prominent and are found along stream courses, in low, poorly drained depressions between morainic ridges and in the ground moraine. The generalized soil survey for Iron County indicates that the vast majority of the soils present have moderate to severe limitations for many development criteria such as dwellings and septic absorption fields. The construction of such developments may lead to the pollution of ground and surface water if not properly installed and maintained.

Soils may have a profound influence on water fertility. Most soils in Mercer are acid and deficient in nutrients. As a result, many lakes are acid and infertile, particularly those that are landlocked (seepage).

Soil associations in Iron County have been mapped by the Natural Resources Conservation Service (NRCS). Soil associations are landscapes that have a distinctive proportional pattern of soils. They provide a generalization of soils found within a large geographic area and are not suitable for site-specific analysis. More detailed mapping of county soils is currently being compiled by the NRCS. Map 5.X depicts the generalized soils found in the Town of Mercer.

**Town of Mercer Soil Associations**

Descriptions of Soil Associations in the Town of Mercer (Generalized Soil Areas, USDA-SCS, 1972).

***Gogebic-Washburn Association, (Go-Wa), 6-20% slopes***

Sloping and moderately steep well-drained stony soils that are sandy loam or loamy sand throughout. Terminal moraines are the major landforms. Few gently sloping and very steep areas are included. There are many surface stones. Wet spots and sidehill seeps are common. Few bedrock outcrops are included. Present vegetation is northern upland hardwoods. This soil association occupies about 12% of the county. About 50% is Gogebic soil, 30% is Washburn soil, and the remaining 20 percent is minor soils. The well-drained, moderately steep Washburn soils are on ridges and complex hilly topography. There is a weak thin fragipan. They have loamy sand glacial till within 20 to 30 inches of the soil surface. There are many surface stones. The surface layer is black twig and leaf litter about 2 inches thick. The subsoil is dark reddish brown, reddish brown and brown loamy sand or sandy loam about 65 inches thick. They are underlain with cobbly reddish brown loamy sand. The sloping and moderately steep, well drained Gogebic soils are on hills and ridges. They have firm fragipans. Surface stones are common to many. The surface layer is dark brown loam about 4 inches thick. The subsoil is reddish brown and dark reddish-brown loam or sandy loam about 60 inches thick. The underlying material is cobbly sandy loam glacial till. The minor soils are either wet during some seasons of the year or are underlain with fine sandy sediment. Most of the soi1s in this association are used for woodland and pasture. They are well suited for woodland and wildlife.

***Gogebic-Pleine Association (Go-Pl), 0-6% slopes***

Nearly level and gently sloping well drained, somewhat poorly drained and poorly drained loam and sandy loam soils. Ground moraines and till plains are the major land forms. Few sloping areas are also included. Wet spots are common and a few sidehill seeps are present. Present vegetation is northern hardwoods or cultivated crops. This association occupies about 15% of the county. About 35% is Gogebic soil, 35 percent is Pleine soil, and the remaining 30% is minor soils. The gently sloping Gogebic soils are well drained. These soils are on convex hillside slopes. They have firm fragipans. Surface stones are common. The surface layer is dark brown loam about 4 inches thick. The subsoil is reddish brown and dark reddish-brown loam or sandy loam about 60 inches thick. The underlying material is cobbly sandy loam glacial till. The nearly level Pleine soils are poorly drained. These soils are in depressions and drainageways. The surface layer is black well-decomposed organic material about 6 inches thick. The subsoil is mottled blue-gray, gray, and brownish gray sandy loam about 17 inches thick. They are underlain with reddish brown loam glacial till. There are many surface stones. Occasional flooding occurs along drainageways. The minor soils are either gently sloping with a seasonal high water table or nearly level poorly drained sandy soils along drainageways. These soils are used for farming, woodland, and wildlife. They are well suited for woodland. Well drained areas are suited for residential development and farming.

***Cable-Monico Association (Ca-Mo), 0-3% slopes***

Nearly level poorly drained and gently sloping somewhat poorly drained sandy loam soils are in this association. Ground moraines, narrow stream flood plains and till plains are the major landforms. Sandy flood plains and drainageways are common. There are many surface stones and wet pockets. Present vegetation is mixed lowland hardwoods and conifers. This soil association occupies about 12% of the county. About 50% is Cable soil, 30% is Monico soil and the remaining 20% is minor soils. The nearly level poorly drained Cable soils have formed in loam or sandy loam. These soils are in drainageways and depressions. The surface layer is black loam or sandy loam about 6 inches thick. The subsoil is mottled reddish gray, dark reddish gray and dark gray loam or sandy loam about 14 inches thick with yellowish red mottles. They are underlain by cobbly reddish brown sandy loam and loamy sand glacial till at 24 to 40 inches. The gently sloping Monico soils have a seasonal high water table. These soils are adjacent to drainageways and depressions. They have formed in loam and sandy loam that is underlain by cobbly sandy loam and loamy sand glacial till. The surface layer is black loam or sandy loam about 2 inches thick. The subsoil is reddish brown and brown sandy loam with yellowish red or gray mottles. It is about 32 inches thick. They are underlain by reddish brown sandy loam that has few yellowish red mottles. The minor soils are either poorly drained sandy soils or organic soils. Some gently sloping, well-drained, sandy loam soils on low ridges are included. These soils are used for woodland and wildlife. They are well suited for wildlife and flowage development.

***Organic Soil Association (Or), 0-2% slopes***

Nearly level poorly drained organic soils and poorly drained fine sandy alluvial soils are in this association. Lake basins, lake beaches, and broad flood plains are the major landforms. Potholes, oxbows, and narrow sandy ridges are common. Present vegetation is lowland hardwoods, sedges, and alderbrush. This soil association occupies about 15% of Iron County. About 70% is organic soil and the remaining 30% is minor mineral soils.

The nearly level poorly drained organic soils have formed in more than 20 inches of partially decomposed organic material. These soils are on broad, nearly level lake basins. The organic material is woody or sedge plant remains. They are very acid to neutral. The minor soils in the association are either poorly drained mineral soil on flood plains or gently sloping somewhat poorly drained sandy ridges adjacent to floodplains. These soils are used for wildlife, recreation, and commercial wild rice production. They are well suited for wildlife and recreation.

***Vilas-Pence Association (Vi-Pe), 0-12% slopes***

Nearly level to gently sloping somewhat excessively drained sandy soils. Pitted outwash plains, remnant lakeshore beachlines and eskers are the major landforms. Wet depressions are steep-sided and common. Few drainageways are present. Surface water rapidly infiltrates into the soil. Surface stones are common on eskers. Present vegetation is mixed northern upland hardwoods and conifers. This soil association occupies about 6% of the county. About 60% is Vilas soil, 20% is Pence soil and the remaining 20% is minor soils. The gently sloping Vilas soils have formed in acid sandy outwash with very few stones. The surface layer is black loamy sand about 1 inch thick. The subsoil is dark reddish brown and reddish-brown loamy sand or sand about 20 inches thick. They are underlain by light reddish-brown sand. The rooting zone is shallow. Vilas soils are on pitted outwash plains and remnant beachlines. The sloping and moderately steep Pence soils have formed on sandy and gravelly eskers. Stones and cobblestones are common. The surface layer is dark reddish-brown loam or sandy loam about 3 inches thick. The subsoil is reddish brown and dark reddish brown sandy loam and loamy sand about 35 inches thick. They are underlain by reddish brown sand and gravel. The minor soils are either gently sloping or sloping sandy soils that are underlain with fine sand, silt and clay, steep-sided drainageways or depressions with seasonal high water tables. These soils are used for woodland and wildlife. The nearly level and gently sloping soils are well suited for farming. Steeper soils are well suited for woodland. Vilas soils are good sources of sand. Pence soils are a good source of sand and gravel.

***Iron River-Padus Association (Ir-Pa), 6-20% slopes***

Sloping and moderately steep. Well drained loam and sandy loam soils with loamy sand or sand and gravel in the substratum. Ground moraines and outwash plains are the major landforms Nearly level and gently sloping wet soils and steep ridges are included. Surface stones are few to common. Few wet depressions are included. Present vegetation is mixed northern hardwoods and conifers with some areas of cultivated crops. This association occupies about 14% of Iron County. About 60% is Iron River soil, 30% is Padus soil and the remaining 10% is minor soils. The sloping to moderately steep Iron River soils are well drained. These soils are on low ridges and rolling uplands with convex slopes. Cobblestones and surface stones are common. The surface layer is gray or black sandy loam or loam about 3 inches thick. The subsoil is dark brown and reddish-brown sandy loam and loamy sand about 56 inches thick. They are underlain by reddish brown loamy sand. Small pockets of sand and gravel are included in the substratum. Padus soils are well drained and sloping. The surface layer is dark reddish-brown loam or sandy loam about 3 inches thick. The subsoil is brown, dark brown or reddish-brown loam or sandy loam about 35 inches thick. They are underlain by reddish brown sand and gravel at 20 to 40 inches below the soil surface. There are few surface stones. Some of the minor soils are wet during some periods of the year. Other soils are steep and gravelly or are sloping and underlain with fine sandy sediments Most commonly used for woodland. These soils are well suited for woodland and limited residential development.

**Town of Mercer Geologic Characteristics**

The underlying bedrock geology has a significant influence on local topography, hydrology, and soil conditions. The Town of Mercer is generally underlain by a precambrian basement complex consisting of metamorphic and igneous formations of massive granite, quartzite, and traprock. The Penokean and Keweenawan Thrust Faults bisect the town. Map 5.X represents the generalized bedrock geology within the Town of Mercer.

**Legacy Places**

Legacy Places are Wisconsin’s most important areas in meeting the state’s conservation and recreation needs for the next 50 years. The Wisconsin Department of Natural Resources defined 228 legacy places statewide in the 2002 “Wisconsin Land Legacy Report: An Inventory of Places Critical in Meeting Wisconsin’s Future Conservation and Recreation Needs”. Within the Town of Mercer, the WDNR has identified the Moose Creek Hemlock Woods, the Northern Highland-American Legion State Forest, and the Turtle-Flambeau Flowage as Legacy Places.

The Moose Creek Hemlock Woods is a small area situated adjacent to the Turtle-Flambeau Flowage and the Iron County Forest. This unique forest community is part of the 1,113-acre Moose Lake State Natural Area. This resource is listed as a Legacy Place for numerous reasons including:

* High quality forest with several patches of old-growth hemlock
* Presence of rare plants
* Opportunity to have large block of unbroken old growth forest
* Important warbler breeding area

The Northern Highland-American Legion State Forest is the largest State Forest in Wisconsin, covering over 236,000 acres in Vilas, Oneida, and Iron Counties. This public resource is classified as a Legacy Place because of the numerous lakes (over 900 within the forest boundary), recreational opportunities, and abundance of wildlife present.

The Turtle-Flambeau Flowage is a 19,000-acre reservoir with 212 miles of predominantly wilderness shoreline. The flowage is a popular recreation destination for those seeking fishing and wilderness camping experiences. The environmental and recreational values associated with the flowage are primary reasons this resource is classified as a Legacy Place, specifically the flowage:

* Is one of northern Wisconsin’s most popular backcountry areas;
* Is surrounded by an abundance of public land;
* Provides habitat for numerous wildlife species;
* Provides old-growth hemlock and pine habitats in surrounding woodlands; and
* Provides many recreational opportunities (boating, fishing, camping) to the public.

The protection of legacy places is critical from both a local and statewide perspective. The ties between demand for recreational opportunities and the quality of the natural environment are strong. Local economies in Iron County are strongly dependent upon these resources to provide the recreational opportunities needed to generate revenue within the community. Local policy, planning, and the development of appropriate strategies for the future will ensure that these resources remain viable for future generations.

**Land Cover**

A green leaf on a white background

Description automatically generatedTown of Mercer land cover was obtained through analysis of the Wiscland 2.0 dataset. The dataset represents land cover throughout Wisconsin as of 2016 and can be used for forest management, conservation, and land use planning. Land cover is depicted in Map 5.X.

Forestland is the dominant land cover type in the Town of Mercer, with 52.4% of the town classified as forest (Figure 5.1 and Table 5.1). Wetlands are also a significant land cover type within the community, comprising 17.4% of the landscape (Figure 5.1).

**Figure 5.1: Town of Mercer Land Cover**

Source: Wiscland 2.0

**Table 5.1: Forest Land Cover (Including Forested Wetlands)**

|  |  |
| --- | --- |
| **Land Cover** | **% of Acres** |
| FOREST: aspen | 13.74% |
| FOREST: jack pine | 3.27% |
| FOREST: maple | 2.96% |
| FOREST: mixed deciduous/coniferous | 8.73% |
| FOREST: mixed/other broad-leaved deciduous | 7.24% |
| FOREST: mixed/other coniferous | 4.71% |
| FOREST: red pine | 1.15% |
| FOREST: sugar maple | 10.59% |
| FORESTED WETLAND: broad-leaved deciduous | 2.09% |
| FORESTED WETLAND: coniferous | 5.06% |
| FORESTED WETLAND: mixed deciduous/coniferous | 11.54% |
| Source: Wiscland 2.0 |  |

Iron County is one of the most extensively forested counties in the State of Wisconsin. The county’s public forest resources are managed for timber, wildlife, and recreational uses. The diverse range of forest cover types and habitats support and sustain many wildlife species, including several threatened and endangered species.

Forests provide a range of benefits including wildlife habitat, forest products, recreational opportunities, aesthetics, and other benefits. They are also very important to protect and enhance water quality. Wisconsin’s Forestry Best Management Practices for Water Quality is a DNR program that promotes environmentally sound forestry practices. These practices minimize soil exposure and compaction in order to protect ground vegetation.

Nearly 54% of the Town of Mercer is public land as part of the Iron County Forest, or state-owned lands as part of the Turtle-Flambeau Flowage or the Northern highland American Legion State Forest. Public lands are multiple use lands that support both motorized and non-motorized forms of recreation. These lands are under increasing pressure to provide additional recreational opportunities. It is important that the community considers the potential impacts and conflicts of multiple uses on these public lands when planning for the future.

Figure 5.2: Historic Land Cover

A map of different colored squares

Description automatically generatedForest products and processing are vital components of the local economy. According to the Wisconsin Department of Natural Resources 2020 Forest Economy Fact Sheet for Iron County, the forest products industry ranked first in terms of both number of employees and industry output in the county. Every 10 jobs in the forest products industry supported additional 3jobs in the county. The forest products industry had $36.52 million in industry output (total value of production by the industry in the given year), employed 226 people, and accounted for $8.99 million in labor income (sum of employee compensation and proprietor income).

**Historic Land Cover**

Historic land cover was derived from “Finley’s Presettlement Vegetation” GIS coverage for Wisconsin (Figure 5.2). The presettlement landscape consisted primarily of swamp conifer wetlands interspersed with mixed coniferous-deciduous forest. Boreal forest conditions could also be found in some areas of the town. In many parts of the community, presettlement vegetative conditions are still existent.

Source: Wisconsin Department of Natural Resources

**Surface Water Resources**

Diagram of a river with water and snow

Description automatically generated with medium confidenceWater resources are an important component of the natural landscape. These dynamic resources provide many benefits to both humans and wildlife. Lakes, rivers, streams, and groundwater aquifers are part of a natural cycle called the hydrologic cycle, in which water is cycled through the environment via natural processes (Figure 5.3).

Figure 5.3: Hydrologic Cycle

The quality and quantity of these resources is strongly dependent upon how land is used. Activities on the landscape can introduce sediments and pollutants, affecting the usability of water for drinking and harming wildlife. Activities that disrupt the natural flow of water systems, such as dams and diversions, can alter natural processes and cause habitat loss.

Source: NOAA

Arguably, the most significant concern facing northern lakes is overuse and development. Continuing pressures are being placed on water resources and the number of people using these resources continues to grow annually. See Map 5.X for Town of Mercer Waster Resources.

Figure 5.4: Watershed

A diagram of a mountain

Description automatically generated

The Wisconsin Department of Natural Resources takes a watershed approach to planning, because it focuses stakeholders on what a particular lake, river, or wetland needs and what they can do collectively to meet that need. By definition, *a watershed is an interconnected area of land draining from surrounding ridge tops to a common point such as a lake or stream confluence with a neighboring watershed* (Figure 5.4).

The Town of Mercer lies within two major drainage basins, the Lake Superior and Mississippi River Basins (Figure 5.5). These broad hydrologic units are comprised of several individual watersheds. Within Mercer, there are portions of five watersheds. Map 5.X identifies the geographic location of the five watersheds located in the town.

Source: The Watershed Project

|  |  |
| --- | --- |
| Lake Superior Basin | Mississippi River Basin |
| ***Montreal River Watershed*** | ***Flambeau Flowage Watershed*** |
|  | ***Upper North Fork of the Flambeau River*** |
|  | ***Manitowish River*** |
|  | ***Bear River*** |

**Figure 5.5: Iron County Basins and Watersheds**

Source: Wisconsin Department of Natural Resources

**Basins**

A map of the state of mississippi

Description automatically generated

**Watersheds**

A map of the state of utah

Description automatically generated

***General Quality of Surface Waters***

Section 303(d) of the federal Clean Water Act requires the State of Wisconsin to publish a list of all waters not meeting water quality standards. These are water quality limited lakes, rivers, and streams that are not attaining water quality standards that do not yet have a restoration plan in place. This list is updated by the Wisconsin Department of Natural Resources every two years. Within the Town of Mercer, the following lakes were classified as 303(d) waterbodies in 2024:

|  |  |
| --- | --- |
| North Bass Lake | Trude Lake |
| Six Lake | Turtle-Flambeau Flowage |

All four waterbodies have a listed impairment (observed effect of a pollutant) of mercury contaminated fish tissue. This is the result of a high concentration of mercury entering the lake through atmospheric deposition (dust, rain, snow). Mercury is a toxic metal released by both natural and human-caused processes. Although it does occur naturally, human activities have greatly increased its concentration in the environment. Mercury is able to travel great distances in the atmosphere contaminating lakes far removed from the source. Each of these waterbodies has been assigned a fish consumption advisory by the Wisconsin Department of Natural Resources.

In addition, the Turtle-Flambeau Flowage also has a listed impairment of and excess algal growth due to total phosphorus. In appropriate quantities, phosphorus can be used by vegetation and soil microbes for normal growth. However, since phosphorus generally occurs in small quantities in the natural environment, even small increases can negatively affect water quality and biological condition.

Surface water resources have been evaluated and rated for water quality, fish, wildlife, and aesthetic values by the WDNR. Many of the state’s highest quality waters have been designated as either Outstanding Resource Waters (ORWs) or Exceptional Resource Waters (ERWs), which are surface waters that provide outstanding recreational opportunities, support valuable fisheries and wildlife habitat, have good water quality, and are not significantly impacted by human activities.

ORWs and ERWs share many of the same environmental and ecological characteristics. They differ in the types of discharges each receives, and the level of protection established for the waterway after it is designated. ORWs typically do not have any point sources discharging pollutants directly to the water (no industrial sources/municipal sewage treatment plants), though they may receive runoff from nonpoint sources. ERWs exhibit the same high quality resources values as ORWs but may have existing point sources at the time of designation.

In the Town of Mercer, Catherine Lake, Cedar Lake, and the Turtle-Flambeau Flowage are classified as ORWs, and the Manitowish River is classified as an ERW.

***Lakes***

Lakes are vital components of the community natural resource base. These resources provide unique habitats for wildlife, including a number of threatened and endangered species and communities. Lakes are also important, recreational, social, and economic resources that characterize the very essence of northern Wisconsin. Like much of the state, lakes in Iron County are under ever increasing development pressure.

Most lakes in the Town of Mercer are kettle lakes. These lakes formed when gigantic blocks of ice broke free from a retreating continental ice sheet and were left behind in the rock debris and gravel moraine. As the ice blocks melted, they filled the depressions, or "kettles," in which they sat, creating the lakes. Most town lakes are classified as “seepage” lakes, indicating that they do not have an inlet or an outlet, and only occasionally overflow. The primary source of water for these lakes is precipitation or runoff, supplemented by groundwater from the immediate drainage area.

The Town of Mercer has 101 named, and about 100 additional unnamed lakes. Lakes cover almost 11% of the total land area, or about 10,700 acres. Mercer lakes are popular recreational destinations, and many support outstanding fisheries. Table 5.2 identifies some of the major characteristics of lakes in Mercer.

**Table 5.2: Lake Characteristics (Named Lakes)**

| **Name** | **T** | **R** | **S** | **Area (Acres)\*** | **Miles Shoreline\*** | **Max Depth (Feet)** | **Lake Type†** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Allen | 43 | 4 | 33 | 6.2 | 0.5 | 10 | D |
| Altman | 42 | 2 | 11 | 2.8 | 0.3 | 27 | S |
| Bear | 43 | 3 | 14 | 23.0 | 1.0 | 6 | D |
| Beaver | 43 | 4 | 10 | 19.4 | 0.9 | 30 | D |
| Belding | 43 | 4 | 27 | 7.3 | 0.6 | 14 | D |
| Bluegill | 43 | 3 | 26 | 19.0 | 0.9 | 25 | S |
| Brandt | 42 | 3 | 10 | 10.9 | 0.6 | 27 | S |
| Brandt | 42 | 4 | 10 | 11.0 | 1.5 | 10 | D |
| Brush | 43 | 4 | 32 | 32.5 | 1.0 | 16 | S |
| Catherine | 43 | 4 | 11 | 117.5 | 4.7 | 11 | D |
| Cedar | 43 | 4 | 14 | 192.6 | 4.4 | 21 | D |
| Cille | 43 | 3 | 14 | 1.7 | 0.3 | 20 | SP |
| Courtland | 43 | 3 | 4 | 2.3 | 0.3 | 25 | S |
| Cramer | 43 | 3 | 11 | 30.8 | 1.0 | 4 | S |
| Creeds Flowage | 41 | 2 | 30 | 34.0 | 1.6 | 5 | D |
| Crystal | 43 | 3 | 34 | 97.3 | 2.3 | 43 | S |
| Davis | 43 | 3 | 32 | 7.7 | 0.5 | 16 | S |
| Dead Horse | 42 | 3 | 18 | 14.3 | 1.4 | 30 | S |
| Deer | 42 | 3 | 10 | 35.2 | 1.0 | 18 | S |
| Deer Tail | 43 | 4 | 5 | 9.7 | 0.6 | 20 | S |
| Dollar | 43 | 3 | 29 | 7.1 | 0.7 | 23 | D |
| DuPage | 43 | 4 | 27 | 32.4 | 1.2 | 31 | S |
| East Twin | 43 | 4 | 1 | 20.3 | 0.9 | 20 | D |
| Echo | 43 | 4 | 25 | 219.7 | 3.5 | 25 | D |
| Feeley | 43 | 3 | 33 | 21.5 | 1.0 | 49 | S |
| Fierek | 42 | 3 | 4 | 1.5 | 0.2 | 10 | S |
| First Black | 43 | 2 | 36 | 16.0 | 0.7 | 19 | D |
| Flambeau Flowage | 42 | 2 | 34 | 13,545.0 | 211.0 | 50 | D |
| Flannagan | 42 | 3 | 2 | 1.9 | 0.3 | 15 | S |
| Fox | 42 | 2 | 11 | 45.6 | 1.3 | 23 | S |
| Frog | 42 | 4 | 16 | 41.9 | 1.1 | 45 | S |
| Geyser | 43 | 4 | 20 | 1.5 | 0.2 | 13 | S |
| Grand Portage | 43 | 4 | 30 | 143.8 | 3.1 | 31 | D |
| Grant | 42 | 3 | 14 | 107.0 | 2.9 | 10 | D |
| Harper | 43 | 4 | 33 | 4.5 | 0.3 | 14 | S |
| Hay Creek Flowage | 41 | 2 | 29 | 64.0 | 2.3 | 5 | D |
| Hazel | 43 | 3 | 14 | 3.0 | 0.4 | 12 | D |
| Hobbs | 43 | 4 | 19 | 0.9 | 0.2 | 8 | S |
| Island | 41 | 2 | 13 | 56.0 | 1.8 | 5 | SP |
| Jankewitz | 43 | 3 | 9 | 4.0 | 0.3 | 38 | S |
| Judd | 43 | 4 | 21 | 1.8 | 0.2 | 7 | S |
| July | 42 | 3 | 10 | 3.0 | 0.5 | 15 | S |
| June | 42 | 3 | 10 | 2.1 | 0.3 | 17 | S |
| Kelly | 43 | 4 | 34 | 32.0 | 1.2 | 16 | D |
| Kinder | 43 | 3 | 13 | 18.1 | 0.8 | 25 | S |
| Krupka | 43 | 3 | 34 | 2.6 | 0.4 | 28 | S |
| Kyle | 42 | 3 | 7 | 2.4 | 0.3 | 12 | S |
| Lac de Beaumont | 43 | 3 | 16 | 12.0 | 0.9 | 24 | S |
| Lake Nine | 41 | 2 | 9 | 60.1 | 1.2 | 11 | S |
| Lake of the Falls | 43 | 3 | 31 | 302.9 | 6.1 | 20 | D |
| Lake Six | 43 | 2 | 6 | 147.4 | 2.2 | 11 | S |
| Lipp | 42 | 3 | 6 | 1.3 | 0.2 | 3 | S |
| Little Martha | 43 | 4 | 20 | 35.0 | 1.3 | 36 | D |
| Little Moose | 43 | 2 | 11 | 12.7 | 0.9 | 14 | D |
| Little Oxbow | 43 | 4 | 7 | 16.3 | 0.7 | 9 | D |
| Little Pike | 43 | 3 | 35 | 100.2 | 2.4 | 19 | SP |
| Little Turtle | 42 | 3 | 2 | 65.0 | 1.3 | 4 | D |
| Lost | 43 | 3 | 33 | 4.5 | 0.4 | 22 | S |
| Margaret | 43 | 4 | 21 | 34.8 | 1.2 | 34 | S |
| Martha | 43 | 4 | 29 | 146.3 | 3.4 | 55 | SP |
| May | 43 | 3 | 14 | 1.0 | 0.3 | 6 | D |
| Mercer | 43 | 3 | 36 | 183.6 | 4.2 | 24 | D |
| Minnow | 42 | 2 | 29 | 7.5 | 0.7 | 13 | S |
| Moose | 43 | 2 | 3 | 269.2 | 4.3 | 12 | D |
| Net | 43 | 4 | 20 | 23.0 | 0.9 | 24 | S |
| Nokomis | 42 | 3 | 19 | 18.4 | 0.9 | 15 | S |
| North Bass | 43 | 4 | 23 | 179.8 | 2.5 | 9 | S |
| North Grant | 42 | 3 | 13 | 14.3 | 0.8 | 8 | D |
| North Pine | 43 | 4 | 27 | 9.6 | 0.7 | 39 | D |
| Norway Pine | 43 | 4 | 27 | 30.0 | 1.1 | 17 | D |
| One Man | 42 | 3 | 9 | 26.1 | 0.8 | 21 | S |
| Otter | 41 | 2 | 13 | 7.4 | 1.0 | 9 | D |
| Oxbow | 43 | 4 | 7 | 79.7 | 2.8 | 11 | D |
| Paul | 43 | 4 | 19 | 1.5 | 0.3 | 8 | D |
| Payment | 43 | 4 | 21 | 66.1 | 2.2 | 17 | S |
| Pike | 43 | 3 | 28 | 194.3 | 3.3 | 80 | D |
| Plantation | 43 | 4 | 16 | 0.5 | 0.2 | 26 | S |
| Popko | 42 | 3 | 6 | 1.5 | 0.3 | 6 | S |
| Rice | 43 | 3 | 23 | 124.8 | 3.8 | 20 | D |
| Ruth | 42 | 2 | 24 | 4.2 | 0.4 | 12 | S |
| San Domingo | 43 | 4 | 31 | 38.7 | 1.1 | 20 | S |
| Sand | 42 | 3 | 19 | 101.0 | 2.7 | 35 | S |
| Saskatoon | 43 | 4 | 24 | 10.0 | 0.7 | 21 | S |
| Second Black | 42 | 2 | 1 | 59.7 | 1.8 | 21 | D |
| Sells | 43 | 4 | 18 | 1.3 | 0.2 | 14 | S |
| Seven Acres | 43 | 4 | 12 | 8.9 | 0.5 | 7 | S |
| Shay | 43 | 4 | 4 | 8.2 | 0.7 | 23 | S |
| Smith | 43 | 3 | 28 | 2.0 | 0.6 | 6 | S |
| South Bass | 43 | 4 | 35 | 90.1 | 1.6 | 23 | S |
| Spider | 43 | 4 | 17 | 360.6 | 8.1 | 46 | D |
| Spring | 43 | 4 | 17 | 5.6 | 0.4 | 18 | SP |
| Sugar | 42 | 4 | 3 | 48.3 | 1.7 | 35 | SP |
| Tahoe | 43 | 3 | 35 | 37.4 | 1.7 | 32 | SP |
| Tamarack | 43 | 4 | 28 | 14.4 | 0.7 | 10 | S |
| Third Black | 42 | 2 | 1 | 67.7 | 2.2 | 33 | D |
| Trap | 43 | 4 | 12 | 6.3 | 0.4 | 12 | S |
| Trude | 42 | 3 | 18 | 754.3 | 6.4 | 48 | D |
| Twin | 43 | 3 | 11 | 34.0 | 1.9 | 23 | S |
| Vincent | 41 | 2 | 12 | 2.9 | 0.3 | 25 | S |
| Viola | 43 | 4 | 7 | 7.3 | 0.7 | 22 | S |
| Voss | 42 | 3 | 3 | 6.8 | 0.5 | 20 | S |
| Wallace | 43 | 4 | 21 | 7.3 | 0.5 | 16 | S |
| Weber | 43 | 3 | 29 | 34.5 | 1.2 | 16 | S |
| West Twin | 43 | 4 | 2 | 33.0 | 1.2 | 20 | D |
| Wilson | 42 | 3 | 16 | 155.0 | 3.3 | 21 | SP |
| Woodson | 43 | 4 | 33 | 26.5 | 1.4 | 22 | D |
| Source: Iron County Zoning Department  \* These figures represent area acreage and miles of shoreline of entire waterbody, which may cross jurisdictional boundaries.  † Lake Type: D=Drainage, SP= Spring, S= Seepage | | | | | | | |

***Turtle-Flambeau Flowage***

The Turtle-Flambeau Flowage was created in 1926, following construction of the Turtle-Flambeau Dam. The damming of the Flambeau River downstream from its confluence with the Turtle River created nearly 19,000 acres of surface and 212 miles of pristine shoreline. In 1990, the State of Wisconsin acquired over 22,000 acres of surrounding and submerged lands from the Chippewa and Flambeau Improvement Company. This purchase secured the vast majority of the shoreline and surrounding land in public trust. Today, public ownership includes over 27,000 acres, including nearly 300 miles of shoreline and 195 islands within the Turtle-Flambeau Scenic Waters Area.

The remote, wilderness-like setting of the flowage offers a unique experience for visitors. The flowage is an exceptional recreational resource, accommodating activities such as camping, boating, birdwatching, and fishing. The flowage supports a diverse mix of fish species including walleye, muskellunge, northern pike, smallmouth bass, largemouth bass, lake sturgeon, black crappie, bluegill, and rock bass.

The flowage also supports many species of wildlife. Shorebirds and migratory waterfowl are common, as well as loons, bald eagles, and osprey. The adjacent shoreland areas support species such as deer, bear, and timber wolves. Many unique and diverse natural communities are found throughout the area, including old-growth hemlock stands, upland forests and a pattern bog community. The forest surrounding the Turtle-Flambeau Scenic Waters Area is managed to protect fish and wildlife, and to preserve the aesthetic values.

The quality of lake water is highly dependent upon the type of activities that occur within the drainage area, or watershed. People far from the lake can have an effect on the water quality because of their activities on the land. The overall size of the watershed determines how much surface runoff will enter the lake basin. This, in turn, will determine the extent to which sediment and nutrients will impact the lake.

As a general rule, a lake with a large watershed is much more sensitive than one that has a smaller watershed. Table 5.3 identifies the largest lake watersheds in Mercer.

**Table 5.3: Ten Largest Watersheds in the Town of Mercer**

|  |  |
| --- | --- |
| **Lake** | **Watershed (sq/mi)** |
| Cedar | 25.0 |
| Catherine | 28.0 |
| Spider | 66.0 |
| Little Oxbow | 86.0 |
| Rice | 89.7 |
| Echo | 93.0 |
| Pike | 104.0 |
| Lake of the Falls | 139.0 |
| Oxbow | 152.0 |
| Flambeau Flowage | 647.0 |
| Source: Wisconsin Department of Natural Resources | |

***Rivers and Streams***

Like lakes, river and stream resources support a wide range of species and habitats, including many threatened and endangered species and communities. These resources are important natural sediment transport systems that move runoff and materials downstream. Activities on the landscape directly impact the quality and quantity of water in rivers and streams and, ultimately, the water bodies to which they flow.

The Town of Mercer has nearly 130 miles of perennial streams. There are also many unnamed intermittent streams found in the community. Perennial streams flow 365 days a year in a normal year. Intermittent streams have short or lengthy periods of time when there is no flow in a normal year. Intermittent streams are significant to the overall drainage regime, especially following major precipitation events and spring snowmelt. Perennial streams found in the Town of Mercer include:

|  |  |
| --- | --- |
| * Dollar Creek | * Long Lake Creek |
| * Drinkwine Creek | * Lost Creek |
| * Evelyn Creek | * Manitowish River |
| * Flambeau River | * Moose Creek |
| * Fourmile Creek | * Swamp Creek |
| * Hurd Creek | * Turtle River |
| * Little Turtle River | * Weber Creek |

*Requirements*

Under the Public Trust Doctrine, the State of Wisconsin has the responsibility to manage waterways for the benefit of all, and the Wisconsin Department of Natural Resources regulates most activities on navigable waterways within the state. Chapter NR 115 of the Wisconsin Administrative Code requires all counties to zone, by ordinance, all shorelands within their respective unincorporated areas. Shorelands in Iron County are regulated under Iron County Shoreland Zoning Ordinance, which meets the state standards outlined in NR 115.

Iron County last revised the ordinance in 2016 to comply with the new shoreline provisions enacted under Wisconsin Act 55. The Iron County Shoreland Zoning Ordinance applies to areas within 1,000 feet of the ordinary high-water mark of navigable lakes, ponds or flowages and areas within 300 feet of the ordinary high-water mark of navigable rivers or streams, or to the landward side of the floodplain, whichever distance is greater. Wetlands within the shoreland area are also regulated under the shoreland-wetland section on the Iron County Shoreland Zoning Ordinance.

In 2016, Iron County developed and published the *Iron County Shoreland Development Guide*. The guide provides current and prospective shoreland owners in Iron County with information about shoreland zoning, permitting, and resources for shoreland restoration and mitigation projects.

In 2002, the Town of Mercer developed and published a *“Shoreland Development & Management Guide”*. The guide provides current and prospective shoreland owners in the Town of Mercer with information that will help them determine the most environmentally sound development and management practices for their property. **As noted** in the guide and the ***2005 Town of Mercer Comprehensive Plan,*** past and projected development of area lakes, streams, and rivers is expected to continue. It is hoped that the guide will **continue to** assist in protecting and preserving the critical natural resources that exist in the town.

***Trout Streams***

Because trout require cold, clear waters with silt-free bottoms, the presence of these fish is considered an indicator of relatively good water quality. Several rivers and streams in the Town of Mercer are classified by the Wisconsin Department of Natural Resources as trout streams (Table 5.4). The WDNR divides trout waters into three classes based upon the stream’s ability to support the natural reproduction of trout.

Class I

High quality trout waters that have sufficient natural reproduction to sustain populations of wild trout at or near carry capacity. Consequently, streams in this category require no stocking of hatchery trout. These streams or stream sections are often small and may contain small or slow-growing trout, especially in the headwaters.

Class II

Streams may have some natural reproduction but not enough to utilize available food and space. Therefore, stocking is required to maintain a desirable sport fishery. These streams have good survival and carryover of adult trout, often producing some fish larger than average size.

Class III

These waters are marginal trout habitat with no natural reproduction occurring. They require annual stocking of trout to provide trout fishing. Generally, there is no carryover of trout from one year to the next.

**Table 5.4: Trout Streams in the Town of Mercer**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Stream\*** | **Brook** | **Brown** | **Rainbow** | **Class I** | **Class II** | **Class III** | **Municipality** |
| Dollar Creek | n |  |  |  |  |  | Mercer |
| Drinkwine Creek | n |  |  |  |  |  | Mercer |
| Swamp Creek | n |  |  |  |  |  | Carey, Mercer |
| Source: Wisconsin Department of Natural Resources  n = natural  \*Streams may contain segments in different classes. | | | | | | | |

***Northern Rivers Initiative***

The Northern Rivers Initiative (NRI) was a shoreland habitat protection project spearheaded by the Wisconsin Department of Natural Resources in cooperation with over 225 participants from various federal and state agencies, tribal and local units of government, non-profit conservation organizations, industry, educators, and individuals. The mission of the NRI program was to provide protection options for northern Wisconsin streams and rivers that have high ecological significance, outstanding natural scenic beauty, or special recreational values. The program’s goal was to identify streams and rivers with the greatest risk of over-development or other threats and prioritize this list for the purpose of implementing protection options. Nearly 1,500 stream segments within 20 counties of northern Wisconsin were evaluated based on their individual natural resource, recreational, and cultural values. Stream segments were then ranked based on the following scoring evaluation criteria.

***NRI Scoring Criteria***

|  |  |
| --- | --- |
| **Natural Resource Values** | **Recreational Values** |
| 1. Natural condition of the stream corridor (16%) | 1. Fishing (3%) |
| 2. Road density (4%) | 2. Canoeing/kayaking (3%) |
| 3. Dam impacts (6%) | 3. Wildlife viewing (3%) |
| 4. Point source discharge impacts (4%) | 4. Hunting/Trapping (3%) |
| 5. Threatened, endangered, & sensitive species (15%) |  |
| 6. Fish community structure and habitat (15%) | **Cultural Resource Values** |
| 7. Wildlife (9%) | 1. Subsistence harvesting (5%) |
| 8. Scenic quality (9%) | 2. Historic structures & archeological sites (5%) |

The NRI can be used by local units of government to establish local river and watershed protection priorities. Table 5.5 shows NRI listed streams in the Town of Mercer. In the table, the segment heading identifies that portion of the stream which was selected and ranked based on specific data and subjective analysis related to the stream’s biological integrity, scenic and recreational values, and potential threats. The basin rank heading indicates the stream ranking within a particular basin (Lake Superior or Upper Chippewa[[1]](#footnote-1)\* in Iron County). There were 210 identified streams within the Lake Superior Basin and 301 in the Upper Chippewa Basin. The heading titled overall rank indicates the stream’s relative ranking among the 1,493 streams identified within 20 counties in northern Wisconsin. The total score is the sum of the individual value scores under each of the three headings (natural resource, recreational, and cultural). The full individual scoring report for each stream can be found in the publication titled “*Northern Rivers Initiative: An Integrated Ecosystem Management Project for Shoreland Habitat Protection*”, produced by the Wisconsin Department of Natural Resources.

**Table 5.5: NRI Streams in Town of Mercer**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Stream** | **Segment** | **Basin Rank** | **Overall Rank (1,493)** | **Total Score** | **Basin** | **Municipalities** |
| Flambeau River | T-F Flowage to Upper Park Falls Flowage | 7 | 27 | 74.86 | UC | Sherman, Mercer |
| Little Turtle River | All | 91 | 484 | 52.25 | UC | Mercer |
| Manitowish River | Rest Lake Dam to T-F Flowage | 18 | 55 | 71.43 | UC | Sherman, Mercer |
| Swamp Creek | All | 63 | 302 | 57.08 | UC | Carey, Mercer |
| Turtle River | All | 39 | 196 | 61.13 | UC | Oma, Mercer |
| Flambeau River | T-F Flowage to Upper Park Falls Flowage | 7 | 27 | 74.86 | UC | Sherman, Mercer |
| Source: Wisconsin Department of Natural Resources | | | | | | |

**Groundwater**

Groundwater is fresh water from rain or melting ice and snow that soaks into the soil and is stored in tiny pores between rocks and particles of soil. Groundwater is the primary source of all household water in the Town of Mercer.

***Groundwater Quantity***

Under natural conditions, a balance existed between the volume of water entering an aquifer and the volume of water being discharged from an aquifer. With the development of water wells, the natural balance between recharge rates and discharge rates was disrupted. In Wisconsin, the overall groundwater supply has been changed due to increased discharge. Natural fluctuations in groundwater supply can occur due to droughts or natural seasonal precipitation fluctuations. See Figure 5.6 for depth to water table.

***Groundwater Quality***

The quality of natural groundwater varies by location. As groundwater passes through natural sediments, naturally occurring chemicals may become deposited in the water. While naturally occurring groundwater contamination is generally mild, human-induced contaminants can make groundwater supplies unusable. The quality of groundwater is directly related to land use activities. The application of fertilizers, chemical spills, runoff, and non-point pollution can contribute to decreased quality of groundwater reserves. See Figure 5.7 for groundwater contamination susceptibility.

A map of the united states

Description automatically generatedA map of a red and yellow area

Description automatically generatedAverage groundwater depths in the Town of Mercer range between 0 and 50 feet. Groundwater flow is generally south to southwesterly through the town and into Price County. Susceptibility to groundwater contamination is generally moderate to high. This condition is due, in part, to relatively shallow groundwater depths and/or poorly drained soils.

Figure 5.7: Groundwater Contamination Susceptibility

Figure 5.6: Depth to Water Table

**Wetlands**

In 1978, the Wisconsin State Legislature officially defined wetlands as “an area where water is at, near, or above the land surface long enough to be capable of supporting aquatic or hydrophytic (water-loving) vegetation and which has soils indicative of wet conditions.”

Nearly 35% of the Town of Mercer’s 118,000 acres is classified as forested or non-forested wetlands. These environments sustain a diverse range of plants and animals, including several threatened, endangered, and sensitive species. These areas are significant habitat resources for migratory waterfowl and are primary nesting and breeding areas for species such as mallard, black duck, wood duck, blue winged teal, and green winged teal. Wetlands are also habitat for furbearing mammals such as beaver, muskrat, mink, and otter.

Wetlands provide a variety of important ecological “services”, such as water quality improvement through sediment and contaminant removal. Wetlands also absorb and store excess water by releasing water more slowly than they gain it, reducing costly flood damage from storms, snowmelt, and runoff. Wetlands also stabilize shorelines and reduce erosion by reducing the impact of wave action.

The Wisconsin Department of Natural Resources categorizes wetlands into five prominent types: aquatic bed, marshes, sedge or wet meadows, scrub/shrub, and forested wetlands.

* **Aquatic Bed:** Plants growing entirely on or in a water body no deeper than six inches. Plants may include pondweed, duckweed, lotus, and water lilies.
* **Marsh:** Characterized by standing water and dominated by cattails, bulrushes, pickerelweed, lake sedges, and/or giant bur-reed.
* **Sedge or "Wet" Meadow:** These wetlands may have saturated soils rather than standing water, more often than not. Sedges, grasses, and reeds are dominant but may also contain blue flag iris, marsh milkweed, sneezeweed, mint, and several species of goldenrod and aster.
* **Scrub/Shrub:** Bogs and alder thickets are characterized by woody shrubs and small trees such as tag alder, bog birch, willow, and dogwood.
* **Forested:** Bogs and forested floodplain complexes are characterized by trees 20 feet or more in height such as tamarack, white cedar, black spruce, elm, black ash, green ash, and silver maple.

The Wisconsin Wetland Inventory (WWI) was completed in 1985. The inventory identified all wetland areas in Iron County larger than two acres. The WWI indicates that 31.8% of Iron County is classified as a wetland, the third highest of any Wisconsin County. Table 5.6 lists the Town of Mercer Wetland Inventory by class and acres and Map 5.X represents WWI wetlands in the Town of Mercer.

**Table 5.6: Town of Mercer Wetland Inventory**

|  |  |
| --- | --- |
| **Class** | **Acres** |
| Forested | 28,016.3 |
| Scrub/shrub | 11,558.2 |
| Emergent/wet meadow | 992.5 |
| **Grand Total** | **40,612.0** |
| Source: Wisconsin Department of Natural Resources | |

***Requirements***

The use and development of wetlands in Wisconsin is regulated under local, state, and federal requirements.

Iron County

Wetlands in Iron County are regulated under the Iron County Shoreland Zoning Ordinance (W-2 Shoreland-Wetland District). This district is comprised of shorelands that were designated as wetlands (five acres and greater) on the Wisconsin Wetland Inventory maps adopted by Iron County.

State of Wisconsin

*NR 115 and 117*: *Shoreland and wetland zoning regulations* provide wetland protection requirements for lands within 1,000 feet of the ordinary high water mark of a lake, pond or flowage and 300 feet from a river or stream or to the landward side of the floodplain, whichever distance is greater.

*NR 300 and 351: Waterway and wetland protection requirements* regulate waterway and wetland regulatory decisions including exemption, permitting, and enforcement as well as wetland mapping, identification, and confirmation.

*NR 103 and 299: Water quality certification standards* which the Wisconsin Department of Natural Resources uses to approve or deny permits after the Army Corps of Engineers approves them.

*Wisconsin Act 6: Isolated Wetland Protection Law* authorizes the WDNR to administer the water quality certification program for projects in those isolated wetlands that are currently not protected under the Clean Water Act.

Federal

*Section 404 of the Clean Water Act* “regulates the discharge of dredged or fill material into all waters of the United States, including wetlands.”

*Section 10 of the Rivers and Harbors Act of 1899* “requires approval prior to the accomplishment of any work in, over or under navigable waters of the United States, or which affects the course, location, condition, or capacity of such waters.”

**Floodplains**

Areas that are subject to periodic inundation by water are considered floodplains. The physical floodplain boundaries were determined by the Federal Emergency Management Agency (FEMA) and are portrayed in the National Flood Insurance Program (NFIP) maps.



Physical development within designated floodways is strongly discouraged. However, some uses within this zone are appropriate. Agricultural practices, parks, and open space are generally considered to be appropriate uses within these areas. Within the flood fringe (exterior limits of the floodplain) more intensive uses are generally permitted.

FEMA has determined areas of flood susceptibility in the Town of Mercer. The Flood Hazard Boundary Map (FHBM) series for Iron County depicts these flood zones as shaded areas, referred to as the Special Flood Hazard Area (Zone A). Areas labeled as Zone A are subject to inundation by a 100-year flood. Because detailed hydraulic analyses have not been performed, no base flood elevation or depths are depicted. Federal Law mandates that federally connected lending institutions require flood insurance on loans involving buildings on property located partially or wholly within these areas.

Floodplains in the Town of Mercer are mapped on series numbers 550182 0007A, 550182 0008A, and 550182 0009A. Flood hazard areas are defined along the mainstem of several rivers and streams. Additional flood hazard areas are mapped which correspond to large wetland complexes associated with lakes and streams.

**Named Rivers and Streams with Mapped Floodplains**

|  |  |  |
| --- | --- | --- |
| Dollar Creek | Flambeau River | Fourmile Creek |
| Little Turtle River | Moose Creek | Weber Creek |
| Lost Creek | Swamp Creek |  |
| Manitowish River | Turtle River |  |

**Lakes with Mapped Floodplains**

|  |  |  |
| --- | --- | --- |
| Bear Lake | Flambeau Flowage | Pike Lake |
| Beaver Lake | Grant Lake | Rice Lake |
| Brandt Lake | Klitch Lake | Sand Lake |
| Catherine Lake | Lake of the Falls | Second Black Lake |
| Cedar Lake | Little Martha Lake | Spider Lake |
| Cramer Lake | Little Moose Lake | Tank Lake |
| Crystal Lake | Little Pike Lake | Third Black Lake |
| Deer Lake | Martha Lake | Trude Lake |
| Dollar Lake | Mercer Lake | Twin Lakes |
| Echo Lake | Moose Lake | Viola Lake |
| First Black Lake | One Man Lake |  |
| Fisher Lake | Oxbow Lake |  |

Section 87.30 Wisconsin State Statutes and Chapter NR 116 of the Wisconsin Administrative Code define the state regulations with respect to floodplains. Iron County adopted a Floodplain Zoning Ordinance which regulates all areas shown on the Flood Insurance Rate Maps (FIRMs) produced by the Federal Emergency Management Agency (FEMA). The current effective Iron County FIRMs maps are dated May 23, 2023. The ordinance regulates uses within county floodplains. Determination as to whether a building site is located in a floodplain must be made through county zoning office review of floodplain maps or through field verification of flood boundary.

Digital Flood Insurance Rate Maps (DFIRMs) are available for the Town of Mercer. These maps show areas at risk to flooding overlain on aerial photos. DFIRMs are available for download at FEMA’s Map Service Center: <https://msc.fema.gov/portal/home>. It is recommended that the town plan commission, town board, and county land & zoning committee have access to the maps.

**Northwest Wisconsin Flood Impact Study**

On July 11-12, 2016, multiple rounds of severe thunderstorms impacted seven counties in northwest Wisconsin, including Ashland, Bayfield, Burnett, Douglas, Iron, Sawyer, and Washburn Counties, as well as the Bad River Band of the Lake Superior Chippewa. During a 24-hour period, there was historic heavy rainfall, with 8 to 12 inches of precipitation falling in some areas. The heavy rainfall caused flash flooding and widespread and severe damage to roads and infrastructure, homes, businesses, and public facilities. Regionwide, the flood event impacted over 350 homes and left behind tens of millions of dollars in public sector damage. On July 12, 2016, a state of emergency was declared for the affected counties. On August 9, 2016, Presidential Disaster Declaration DR-4276 for public assistance was granted for the counties of Ashland, Bayfield, Burnett, Douglas, Florence, Iron, Sawyer, and Washburn, and the Bad River Band of the Lake Superior Chippewa.

In 2018, the Northwest Wisconsin Flood Impact Study was completed by the Northwest Regional Planning Commission (NWRPC) for the counties impacted by DR-4276. The full Northwest Wisconsin Flood Impact Study and links to interactive 100-year and 500-year flood event maps are located on the project webpage available at <https://nwrpc.com/986/Map-Servers>.

The study area included the counties of Ashland, Bayfield, Burnett, Douglas, Iron, Sawyer, and Washburn. NWRPC prepared a Level 2 (customized) flood inundation analysis for the affected counties using FEMA’s HAZUS software to demonstrate the potential impacts of historic flood events, pre-identify likely impact areas, and assess the economic impacts to communities, businesses, and residents. The study focused on building community economic resiliency through a broad range of strategies and mechanisms needed to reduce risk and vulnerability. The study is also incorporated into the Iron County Hazard Mitigation Plan and serves as a point of reference to guide flood mitigation activities across the county.

Through this analysis, two tables were generated, one table representing 100-year flood loss estimates (**Table 5.7**) and the other representing 500-year flood loss estimates (**Table 5.8**). The flood inundation analysis concluded that 22 structures in the Town of Hunter would be impacted in both a 100-year scenario and a 500-year scenario flood. A 100-year flood has an annual exceedance probability of 1%, meaning it’s likely to occur once every 100 years. The annual exceedance probability of a 500-year flood is 0.2%, meaning an event at this magnitude is likely to occur once every 500 years.

**Table 5.7: 100-Year Flood Loss Estimates - Iron County**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Municipality** | **Structures Impacted** | **Estimated Building Losses** | **Estimated Content Losses** | **Estimated Inventory Losses** | **Debris Generated (tons)** |
| C. Hurley | 15 | $161,962.00 | $313,406.00 | $55,712.00 | 221 |
| C. Montreal | 1 | $1,440.00 | $353.00 | $- | 12 |
| T. Anderson | 1 | $6,840.00 | $52.00 | $- | 15 |
| T. Carey | 1 | $2,806.00 | $1,407.00 | $- | 11 |
| T. Gurney | 1 | $5,669.00 | $1,662.00 | $- | 14 |
| T. Kimball | 4 | $91,227.00 | $121,798.00 | $57,969.00 | 286 |
| T. Mercer | 12 | $123,583.00 | $138,339.00 | $- | 67 |
| T. Oma | 10 | $5,856.00 | $2,634.00 | $- | 56 |
| **Total** | **45** | **$399,383.00** | **$579,651.00** | **$113,681.00** | **682** |
| Source: Northwest Wisconsin Flood Impact Study 2018 | | | | | |

**Table 5.8: 500-Year Flood Loss Estimates - Iron County**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Municipality** | **Structures Impacted** | **Estimated Building Losses** | **Estimated Content Losses** | **Estimated Inventory Losses** | **Debris Generated (tons)** |
| C. Hurley | 5 | $33,748.00 | $28,770 | $9,924.00 | 62 |
| C. Montreal | 1 | $5,660.00 | $1,936.00 | $- | 12 |
| T. Anderson | 1 | $- | $- | $- | 7 |
| T. Carey | 1 | $- | $- | $- | 7 |
| T. Gurney | 4 | $9,031.00 | $3,900 | $- | 70 |
| T. Kimball | 3 | $14,200.00 | $8,079.00 | $- | 86 |
| T. Mercer | 20 | $159,628.00 | $144,041.00 | $- | 131 |
| T. Oma | 14 | $27,397.00 | $10,231.00 | $- | 75 |
| **Total** | **48** | **$249,664.00** | **$196,964.00** | **$9,924.00** | **443** |
| Source: Northwest Wisconsin Flood Impact Study 2018 | | | | | |

**Threatened, Endangered, and Sensitive Species and Communities**

*Wisconsin’s National Heritage Inventory (NHI)* focuses on locating and documenting occurrences of rate species and natural communities, including state and federal endangered and threatened species. NHI data is exempt from the Wisconsin Open Records Law due to the vulnerable nature of these sensitive resources. Determination of the specific locations of sensitive resources within the Town of Mercer will require coordination between the town and the Wisconsin Department of Natural Resources. NHI protection categories designated by the DNR are as follows:

* END = Endangered
* THR = Threatened
* SC = Special concern
* SC/P = Protected wild animal
* SC/N = No laws regulating the use, possession, or harvesting
* SC/M = Fully protected by federal and state laws under the Migratory Bird Act

***Iron County (Countywide NHI Data***

*Bold items indicate those found in the congressional (Town-Range) townships which comprise the Town of Mercer. Some elements found within these areas are too sensitive to display at the town level.*

|  |  |  |
| --- | --- | --- |
| Bee | Mussel | Community |
| **Confusing Bumble Bee - SC/N** | Eastern Elliptio - SC/P | Alder Thicket |
| **Yellowbanded Bumble Bee - SC/N** | **Elktoe - SC/P** | **Black Spruce Swamp** |
|  |  | Boreal Forest |
| Beetle | Plant | Boreal Rich Fen |
| **A Predaceous Diving Beetle - SC/N** | **Algae-Leaved Pondweed - THR** | **Emergent Marsh** |
|  | Broad-Leaved Twayblade - THR | Lake - Deep, Soft, Seepage |
| Bird | Brown Beak-Rush - SC | **Lake - Deep, Very Soft, Seepage** |
| American Goshawk - SC/M | Braun’s Holly-Fern - THR | **Lake - Shallow, Soft, Drainage** |
| **American Bittern - SC/M** | Calypso Orchid - THR | **Lake - Soft Bog** |
| **Bald Eagle** | **Climbing Fumitory - SC** | **Lake - Spring** |
| **Black-Backed Woodpecker - SC/M** | **Giant Rattlesnake- Plantain - SC** | Moist Cliff |
| **Black Tern - END** | Large-Leaved Sandwort - END | **Muskeg** |
| **Boreal Chickadee - SC/M** | Little Goblin Moonwort - END | Northern Dry Forest |
| **Canada Jay - SC/M** | Maidenhair Spleenwort - SC | **Northern Dry-Mesic Forest** |
| **Connecticut Warbler - SC/M** | New England Sedge - SC | **Northern Hardwood Swamp** |
| **Evening Grosbeak - SC/M** | **Northeastern Bladderwort - SC** | **Northern Mesic Forest** |
| Henslow’s Sparrow - THR | Pale Green Orchid -THR | **Northern Sedge Meadow** |
| LeConte’s Sparrow - SC/M | **Robbin’s Spike-Rush - SC** | **Northern Tamarack Swamp** |
| **Olive-Sided Flycatcher - SC/M** | Small Yellow Pond Lily - SC | Northern Wet Forest |
| **Ruby-Crowned Kinglet - SC/M** | Smith’s Melic Grass - END | **Northern Wet-Mesic Forest** |
| **Spruce Grouse - THR** | Swamp Bedstraw -SC | **Open Bog** |
| **Swainson’s Thrush - SC/M** | Sweet Colt’s-Foot - THR | Patterned Peatland |
|  | **Vasey’s Pondweed - SC** | **Poor Fen** |
| Butterfly |  | **Shrub-Carr** |
| West Virgina White - SC/N | Salamander | Stream - Fast, Hard, Warm |
|  | Four-Toed Salamander - SC/H | **Stream - Slow, Hard, Cold** |
| Caddisfly |  | **Stream - Slow, Hard, Warm** |
| A Caddisfly - SC/N | Snail | **Submergent Marsh** |
| A Humpless Caddisfly - SC/N | Appalachian Pillar - SC/N |  |
|  | Boreal Top - SC/N |  |
| Dragonfly | Cherrystone Drop - THR |  |
| **Mottled Darner - SC/N** |  |  |
| Sphagnum Sprite - SC/N | Stonefly |  |
| Subarctic Darner - SC/N | A Perlodid Stonefly - SC/N |  |
|  |  |  |
| Fish | Turtle |  |
| **Lake Sturgeon - SC/H** | Wood Turtle - THR |  |
| **Pugnose Shiner - THR** |  |  |
|  | Other |  |
| Frog | Bat Hibernaculum - SC |  |
| Mink Frog - SC/H | **Ephemeral Pond** |  |
|  |  |  |
| Grasshopper |  |  |
| **Scudder’s Short-Winged Grasshopper - SC/N** |  |  |
|  |  |  |
| Lichen |  |  |
| Fringed Rosette Lichen - SC |  |  |
| Naked Kidney Lichen - SC |  |  |
|  |  |  |
| Mammal |  |  |
| **American Marten - END** |  |  |
| Big Brown Bat - THR |  |  |
| Little Brown Bat - THR |  |  |
| **Northern Flying Squirrel - SC/P** |  |  |
| Northern Long-Eared Bat - THR |  |  |
| **Woodland Jumping Mouse - SC/N** |  |  |

**Wildlife Resources**

Wildlife resources and the habitat that supports wildlife are vital components of the community natural resource base. The health and abundance of these resources is intimately linked to nearly all other facets of community development. As part of the planning process, it is important for the community to recognize the significance of these resources and strive to protect and enhance them. Wildlife resources are important components of natural ecological processes. These resources are important from a recreational standpoint, by providing opportunities for viewing and hunting. Local revenue generated by expenditures related to wildlife is important to the local economy. Finally, wildlife resources are important cultural and spiritual resources, promoting sanctity, health, and well-being.

There are three primary issues of concern related to wildlife habitat planning: fragmentation, invasive species, and pollution.

Fragmentation is the breaking up of large contiguous tracts of habitat into smaller pieces. Fragmentation increases the amount of linear edge areas. These areas favor species that prefer edge habitat such as whitetail deer and ruffed grouse. An increased amount of edge habitat is accompanied by a variety of negative impacts including increased predation/competition among species and increased range of invasive species. Heavy browsing by expanding population of whitetail deer can alter the types of plant species that grow in some areas. As a result, some desirable or rare plant species may become threatened. Deer are thriving in many parts of Wisconsin because humans have created large amounts of edge habitat. Core species such as wolves and interior songbirds can be negatively impacted by the loss of interior habitat.

Invasive species pose serious threats to wildlife populations. These species, once established, can decimate native species by outcompeting them for food and/or habitat. Because invasives are not part of the native ecosystem, they often have no natural (local) predators, thus may become prolific once established.

An invasive species of concern for Iron County is the Gypsy Moth, which has been steadily progressing westward since its introduction to the United States in 1869. It has spread into parts of north central Wisconsin, including Iron County. Other invasive species of concern in Iron County include the mute swan (bird), zebra mussel (mussel), purple loosestrife (plant), and Eurasian watermilfoil (aquatic plant).



Pollution is also a major concern for wildlife populations. The introduction of contaminants such as mercury, sulfur dioxide (associated with acid rain), and ozone can have local, regional and even global impacts.

Contaminants in the environment may also cause reproductive harm to wildlife species and may even cause direct mortality. Environmental contaminants can also travel to the local community from sources located outside of the area via rain, dust, and wind.

Wildlife habitat is abundant in the Town of Mercer. The relative abundance of forests, lakes, rivers, and wetlands provides opportunities for many species to thrive. A diversity of quality habitats sustains a wide range of wildlife species. One indicator of species diversity is the number of NHI species and habitats identified in the preceding section. The large public land base also serves to support wildlife.

Protecting habitat is critical to species preservation. The preservation of habitat not only benefits wildlife, but also provides benefits to humans, including: the preservation of open space, recreational opportunities, aesthetic benefits, and improved air/water quality. Several planning principles for habitat protection could be used in planning for future activities throughout Mercer. A list of planning principles is listed below.

**Planning Principals for Habitat Protection**

* Maintain Large, Intact Patches of Native vegetation by preventing Fragmentation of those Patches by Development.
* Establish Priorities for Species Protection and Protect Habitats that Promote the Distribution and Abundance of those Species.
* Protect Rare Landscape Elements. Guide Development Toward Areas with More Common Landscape Elements.
* Maintain Connections among Wildlife Habitats by Identifying and Protecting Corridors for Movement.
* Maintain Significant Ecological Processes such as Fires and Floods in Protected Areas.
* Contribute to the Regional Persistence of Rare Species by Protecting Some of their Habitat Locally.
* Balance the Opportunity for Public Recreation with the Habitat Needs of Wildlife.

**Metallic and Nonmetallic Minerals and Mining**

***Metallic***

Iron County has a rich mining heritage. The Penokee-Gogebic Range in north-central Iron County was a major source of iron ore from the 1880’s through the 1960’s. Evidence of the county’s mining history can be seen in the several abandoned prospects and past producing mines located throughout the highlands of the range. According to the US Geological Survey Mineral Resources Data System database, there are no existing or former metallic mining sites in the Town of Mercer.

Regulations

A metallic mine in Wisconsin is subject to many rules and regulations. Before a mine can be developed, Wisconsin requires a metallic mining permit and approved plans for environmental monitoring, mining, and reclamation, a risk assessment, and a contingency plan. An Environmental Impact Statement (EIS) must be prepared by the WDNR in order to assess the potential impacts of the proposed mine. The WDNR is also responsible for monitoring construction, mining, and reclamation activities.

The Wisconsin mining statutes state that the local municipality within which a metallic mine site is located has zoning approval authority over a proposed metallic mine. Before a proposed metallic mine can receive approval from the state, the local municipality must have granted its approval under its zoning or land use ordinances or have entered into a legally binding agreement with the mining proponent.

***Non-metallic Mineral Resources***

Non-metallic mining in the Town of Mercer includes 14 surface pit sand and gravel operations (name/number/NR 135 identifier).

|  |  |
| --- | --- |
| * Steve Jacobs (1) 55-051-004 | * Town of Mercer (2) 55-051-019 |
| * Steve Altman (2) 55-051-006 | * A. Luppino Inc. (1) 55-051-024 |
| * Pitlick & Wick (4) 55-051-011 | * ICHD (Highway) (1) 55-051-034 |
| * Joe Kohegyi (2) 055-051-017 | * ICFD (Forestry) (1) 55-051-036 |

Regulations

Chapter NR 135 of the Wisconsin Administrative Code requires that all counties develop and adopt a non-metallic mining reclamation ordinance. NR 135 ensures that all non-metallic mining sites are reclaimed in compliance with the uniform statewide reclamation standards by providing detailed requirements and reclamation standards for local ordinances. Article VII, Section 9.7.2 and 9.7.3 of the Iron County Zoning Ordinance also regulates quarries and mines as special uses.

**Land Management**

Land ownership has a significant impact on the natural resource base by influencing development patterns, land use, management, policy, and public use/access.

Most of the Town of Mercer’s land base is public owned as part of the Iron County Forest, Turtle-Flambeau Flowage, or the Northern Highland American Legion State Forest (Map 5.X). Public lands are important economic and social assets to local communities. Some of these lands generate revenue for local units of government through the harvest of timber and other forest products. They also support recreation and tourism activities such as hunting, fishing, snowmobiling, ATVs/UTVs, and fall color tours, which also generate local revenue.

**Forest Crop Law**

*Program Highlights*

* Law passed in 1927, enrollment closed in 1986
* Current statewide enrollment of 1.4 million acres
* Required at least 40 acres of adjoining forestland
* Public access
* Management schedule

**Managed Forest Law**

***Program Highlights***

* Enacted in 1985
* 25 or 50 year contract period
* Requires at least 10 acres of contiguous forestland
* Productive capacity requirements
* Cutting and reporting requirements

***Program Benefits***

* management plan
* protection against overcutting
* protection against annual tax hike
* low property tax
* deferred tax until harvest
* landowners' right to close up to 80 acres of their lands to the public
* technical assistance
* permits rollover from FCL through January 1, 1998
* predictable taxes
* long-term investment
* encourages woodland expansion

*\*\*(NWRPC will update #s as part of mapping updates)*

Overall Land Base **118,148** acres

County Forest 32,440 acres

State Lands 30,992 acres

FCL Lands 2,009 acres

MFL Lands 12,732 acres

In the Town of Mercer there are 12,732 acres of land enrolled in the Managed Forest Law (MFL) program and an additional 2,009 acres enrolled in the Forest Crop Law (FCL) Program as of February 7, 2024. Acreage enrollment in both programs encompasses 18.5% of the overall land base.

**Agricultural Resources**

Agricultural land comprises a very small portion of the overall land base in the Town of Mercer. According to land cover estimates, about 0.6% of the 168 square mile land base is used for agriculture. There is a very limited amount of traditional farming activity within the Town. However, there are several cranberry bogs in production within the town.

Throughout Iron County there were only an estimated 57 farms in 2022 and 49 in 2017. The 2022 Statement of Assessments (Wisconsin Department of Revenue) indicates that 56 acres of land were assessed for agricultural purposes.

Agricultural suitability within the Town of Mercer is limited due to soil, environmental and economic conditions. Specific factors limiting agriculture include public land, soil conditions, short growing season, and proximity to markets. The 2017 Iron County Farmland Preservation Plan identified few areas within the town as farmland preservation areas. Maps of the farmland area to be preserved are included in the appendix.

**Cultural and Historic Resources**

A blue and white logo

Description automatically generatedCultural and historic sites and features are important community resources. These resources provide a critical link between the present and the past. The Town of Mercer values its cultural and historic resources and is committed to work to retain their intrinsic value for future generations to enjoy.

**The Wisconsin Historical Society (WHS) was instrumental in the development of the Cultural and Historic Resources section of the Town of Mercer Comprehensive Plan. The following information was provided courtesy of WHS.**

The official historic resource catalog for the State of Wisconsin is the Wisconsin Architecture and Heritage Inventory (AHI). The AHI is a search engine that contains documentation of more than 151,000 properties in the State of Wisconsin. The Wisconsin Historical Society, based in Madison, Wisconsin, maintains this database.

It is important to note that the AHI is not a comprehensive listing of Wisconsin’s historic resources. It is likely that other historic properties and resources exist within the Town of Mercer but have yet to be identified or published. Table 5.9 identifies properties and structures listed in the AHI. The list is not given any special status or increased level of protection.

**Table 5.9: Town of Mercer Historic Structures**

|  |  |  |
| --- | --- | --- |
| **Historic Name** | **Number of Structures** | **Location** |
| Al Koshak's Resort | 19 | 6168 Downey RD |
| Art Schmidt's Musky Camp | 1 | 1030 Hiawatha RD |
| Art Schmidt's Musky Lodge | 18 | 1030 Hiawatha RD |
| Beaver Lodge | 11 | 2010 Beaver Lodge Circle |
| Boyington's Resort | 16 | 6300 O'meara RD |
| Camp Buckhorn Lodge | 1 | 6365 O'meara RD |
| Chicago & Northwestern Depot | 1 | Lakeview AVE and Railroad ST |
| Holst's Log Cabins Resort | 9 | 2510 Martha Lake RD |
| Logging Camp | 1 | In State Forest |
| M.E. Brandt Super Market | 1 | 3179 Lakeview AVE |
| Mercer Town Hall | 1 | 3164 Highway 51 |
| Mohapp's Resort | 7 | Arrowhead Drive at Rice Lake |
| Musky Point Lodge & Resort | 9 | 4720 Lake of the Falls RD |
| Popko's Resort | 10 | 2130 Popko Circle |
| Russell Brothers Resort | 10 | 4514 Lake of the Falls RD |
| Shamet's Cottages | 9 | 6505 O'meara RD |
| The Wampum Shop | 1 | Highway 51 and Lakeview AVE |
| Tomek's Old Log Inn | 1 | 955 county highway ff |
| Retail Building | 1 | NW Corner of Main Commercial ST and USH 51 |
| Mercer Ranger Station | 4 | 3291 Statehouse Circle |
| Existing structures -*Gateway Lodge* | 8 | 2725 Popko Circle |
| Existing structures - *Joe Millers Cottages* | 14 | 6600 Miller RD |
| Existing structures – *Birch Point Lodge* | 8 | 2129 Popko Circle |
| **Total Structures** | **167** |  |
| Source: Wisconsin Historical Society |  |  |

**Archaeological Resources**

The Office of the State Archaeologist maintains the Wisconsin Archaeological Site Inventory (ASI). This database serves as the state’s official register of archaeological sites, mounds, unmarked cemeteries, marked cemeteries, and cultural sites. Listing sites within this register does not convey special legal rights or status. However, Wisconsin’s Burial Law (ss. 157.40) prohibits unauthorized disturbances to burial sites. Similar to National and State Historic Register listings, these sites must be protected from the effects of projects that have federal, state, or local government involvement.

It is important to note that the ASI is not a complete inventory of archaeological sites in Wisconsin. It is estimated that less than one percent of existing sites have been identified.

**Archaeological Sites and Cemeteries**

Our lives are influenced by what we learn from our own experiences and by the events that have shaped the communities we live in and the institutions and organizations we encounter. Our history gives us a sense of place and a framework to understand the world. It provides continuity and meaning in our lives, and it can be a basis for economic development through preservation programs and heritage tourism.

People have been living in the area for as long as anyone can remember, with hunting, fishing, farming, and forestry playing a central role in people’s lives. This story of agriculture, resource use, and land stewardship is preserved in archaeological sites, buildings, landscapes, written accounts, photographs, governmental records, and the thoughts and ideas people remember and pass along by word of mouth. Planning can play a critical part in protecting these resources and in learning from this wealth of experience. Land-use planning and land-use decisions will directly impact historic buildings, archaeological sites, and cemeteries.

***Archaeological sites*** include places where people lived, where they worked, and where they worshipped. These sites were made by the people who lived at a settlement, farm, or logging camp located just down the road. Archaeological sites occur figuratively and literally under our feet. Archaeology is well suited for providing important information about the lives of people who are not well represented in the written record. Archaeological sites are nonrenewable resources and once a site is destroyed, either by natural or human related activities, it cannot be reclaimed.

The Archaeological Sites Inventory (ASI) is the database of information maintained by the State Archaeologist for all identified archaeological and burial sites, unmarked cemeteries, marked cemeteries and cultural sites. The ASI is part of the Wisconsin Historic Preservation Database and is the most comprehensive list available in Wisconsin. The ASI does not include all of the sites and cemeteries present in the state, however. It includes ONLY those sites that have been reported to the Wisconsin Historical Society. The information for each entry varies widely and WHS has not been able to verify all of the entries. Few of these sites have been evaluated for their importance. The ASI is changed and updated on a daily basis and recommendations about site importance may change, as new information becomes available. The site list found in Table 5.10 will become quickly out of date and a procedure for updating the list should be developed.

This ASI information is confidential and is not subject to Wisconsin’s open records law (Wis. Stats. §§ 44.48 and 157.70). Federal law (Section 304 of the National Historic Preservation Act, Section 9(a) of the Archaeological Resources Protection Act of 1979) also protects this information. This caution not only helps protect archaeological sites but also protects landowners since private landowners own the majority of archaeological sites in the town.

Under Wisconsin law, Native American burial mounds, unmarked burials, and all marked and unmarked cemeteries are protected from intentional disturbance. If you have any questions concerning the law, please contact the Wisconsin Burial Sites Preservation Board.

**CAUTION**

*It is not uncommon to find evidence of American Indian villages and other earlier settlements in the form of houses, storage areas, burials, and other undisturbed deposits underneath the tilled layer in farm fields or in urban settings.*

**Table 5.10: Town of Mercer Archaeological Sites and Cemeteries**

|  |  |  |  |
| --- | --- | --- | --- |
| **State Site # /**  **Burial Code #** | **Site Name / Type** | **Cultural Study Unit** | **Town-Range-Section** |
| IR-0003 | Goodenough   1. Campsite/village | 1. Late Woodland | 42, 2, E, 25 |
| IR-0005 | Meyer   1. Campsite/village | 1. Unknown | 43, 3, E, 24 |
| IR-0001 | Unnamed Site   1. Campsite/village | 1. Historic Indian | 43, 3, E, 25 |
| IR-0002 | Unnamed Site   1. Mound(s) - Conical 2. Cache/pit/hearth 3. Corn hills/garden beds | * 1. Unknown Prehistoric | 43, 3, E, 25  43, 3, E, 25 |
| IR-0007 | Unnamed Site   * + 1. Campsite/village | * + - 1. Unknown | 43, 3, E, 25 |
| IR-0009 | Unnamed Site   * + - * 1. Campsite/village | Historic Indian | 43, 4, E, 30 |
| IR-0004 | Lake Of The Falls Site  Campsite/village |  | 43, 3, E, 31 |
| IR-0010 | Unnamed Site  Campsite/village |  | 43, 4, E, 30 |
| BIR-0006 | Mercer Cemetery   1. Cemetery/burial | 1. Historic Euro-American | 43, 3, E, 36 |
| IR-0030 | Camp 8- Roddis Line   1. Logging camp | 1. Historic Euro-American | 42, 2, E, 32 |
| IR-0031 | Nelson Camp 1-Roddis Line   1. Logging camp | 1. Historic Euro-American | 42, 2, E, 32 |
| IR-0034 | Nelson Camp 5- Roddis Line   1. Logging camp | 1. Historic Euro-American | 42, 2, E, 4 |
| IR-0035 | Nelson Camp 6- Roddis Line   1. Logging camp | 1. Historic Euro-American | 42, 2, E, 11  42, 2, E, 11 |
| Source: Wisconsin Historical Society | | | |

**Archaeological Sites and Cemeteries in the Town of Mercer**

Since only a small portion of the town has been surveyed for the presence of archaeological sites and cemeteries, the sites listed in the inventory (Table 5.10) represent only a fraction of the sites that are actually present. Local residents and American Indian communities who have and do live and work in the area possess much additional information on other archaeological sites and cemeteries. Steps should be taken to have this information incorporated into the comprehensive plan.

Up to this point in time, 13 archaeological sites and cemeteries have been reported for the town. The following types of sites have been identified: cemeteries, including, unmarked graves, mounds; campsite/village; corn hills / garden beds; and logging camps.

The evidence of early farming –the corn hills and garden beds—is unusual. Clearly this sample of sites does not reflect the rich history of the area. Many more sites are present in the area. No sites are listed on the National and State Register of Historical Places, but many sites in the Town certainly may be eligible and important.

**Where are archaeological sites going to be located?**

Using the results of archaeological surveys, relevant historical and environmental data, the following high priority areas were designated: higher, dryer areas adjacent to rivers, streams, creeks, lakes, wetlands; higher, dryer areas adjacent to older abandoned rivers, streams, creeks, lakes, wetlands; rock outcrops and upland ridges; areas adjacent to older historic features such as trails, early roads, rail corridors, and earlier communities.

**Cemeteries, Burial Mounds, and Other Burials**

Cemeteries and burial areas have been set aside as special areas throughout Wisconsin history and they have been given special protection under the law. Under Wisconsin law, Native American burial mounds, unmarked burials, and all marked and unmarked cemeteries are protected from intentional disturbance. If anyone suspects that a Native American burial mound or an unmarked or marked burial is present in an area, the Burial Sites Preservation Office should be notified. If human bone is unearthed during any phase of a project, all work must cease, and the Burial Sites Preservation Office must be contacted to be in compliance with Wis. Stat. 157.70 that provides for the protection of all human burial sites. Work cannot resume until the Burial Sites Preservation Office gives permission. If you have any questions about human burials, mounds, and cemeteries, contact [burialsites@wisconsinhistory.org](mailto:burialsites@wisconsinhistory.org).

At the present time, a total of 2 cemeteries and burials have been identified in the Town. Since a systematic survey of the county has not been completed, additional cemeteries and burials may be present. As part of the planning process all cemeteries and burials in the Town should be cataloged under Wis. Stat. 157.70 to provide for the maximum protection of these important sites and to clearly define their boundaries.

**How do we know which archaeological sites need preservation?**

Under Wisconsin law Native American burial mounds, unmarked burials, and all marked and unmarked cemeteries are protected. An addition to these, a wide variety of archaeological sites may be worthy of preservation. Through the use of the State and National Register of Historic Places a procedure for identifying important sites is available. The criteria include a good local example of an architectural style and period; association with a person important in our past; represent an important period, movement, or trend in local, state, or national history; or have the potential to yield important information about our past through archaeological investigations.

**Protecting Important Archaeological Sites**

The wide variety of methods used to protect natural resources can also be used to protect archaeological sites. For example, land purchases, easement purchases, zoning, and a tax exemption program for property owners.

With the 1991 changes to Wis. Stats. 70.11 [see 70.11(13m)], it became possible to provide a property tax exemption for owners of archaeological sites listed in the national or state register of historic places. To obtain the tax exemption, the landowner has to agree to place a permanent protective covenant for the site area in the deed for the property. The tax exemption program makes the landowner and subsequent owners stewards of Wisconsin's past. The intent of the program is not to discourage all use of the property containing a site, but to encourage land use planning that protects sites.

Under Wisconsin law, Native American burial mounds, unmarked burials, and all marked and unmarked cemeteries are protected from intentional disturbance.

**How are archaeological sites and cemeteries identified and evaluated?**

Archaeological identification and evaluations are required for a variety of projects that receive Federal or State funding, licenses, or permits. These projects are automatically forwarded to the Wisconsin Historical Society for review. Local residents frequently report sites and cemeteries.

**Recommendations**

* The development of a strong cultural resource component will allow residents to identify valuable sites and locations and clarify the important role they play in the present and in planning for the future. This can provide a variety of rewards such as heritage tourism, economic development, and other community enrichments.
* Local residents and American Indian communities who have or do live and work in the area possess much additional information on the history of the town and steps should be taken to have this information incorporated into the plan or recorded to the state.
* As part of the planning process, all cemeteries and burials in the town should be cataloged under Wis. Stat. 157.70 to provide for the maximum protection of these important sites and to clearly define their boundaries.
* Archaeological investigations should be completed at the locations of known archaeological sites to assess the impacts of projects on these resources and archaeological investigations should be completed at high potential areas as identified through research.

**Resources for Historic Preservation**

Several resource groups or organizations can assist the town or citizens in providing or gathering historical and cultural information.

Iron County Historical Society

The Iron County Historical Society (ICHS) is the prominent authority on local history. The ICHS Office is located at 303 Iron Street in Hurley.

Gogebic Range Genealogy Society

The Gogebic Range Genealogical Society has developed a historical database of residents of the Gogebic Range of Iron County, Wisconsin and Gogebic County, Michigan. This organization provides access to historical resources through a subscription-based webpage.

Northern Wisconsin Heritage Council

The Northern Wisconsin Heritage Council is a member-based organization open to local history organizations, chambers of commerce, libraries, and heritage groups across northern Wisconsin.

The Wisconsin State Historical Society

The WHS is both a state agency and a private membership organization. The state office is located in Madison. By state statute, the WHS is responsible for collecting, advancing, and disseminating knowledge of Wisconsin.

Wisconsin Historical Society History Center and Archives (HCA)

The Wisconsin Historical Society has a satellite operation located in the Northern Great Lakes Visitor Center offering a history center and genealogy services. The HCA is part of a statewide network of Area Research Centers and is managed by the Society's Division of Historic Sites.

**Natural, Agricultural, and Cultural Resources Programs**

The Town of Mercer in the implementation of this comprehensive plan may use the following list of programs. This list is not comprehensive; and many other local, state, and federal programs may also exist. It should be noted that many of the natural resource protection programs could also be applied to agricultural resources.

**Natural Resource Programs**

***Surface Water Grant Program***

The Wisconsin Department of Natural Resources administers the surface water grant program which provides cost-sharing grants for surface water protection and restoration. Funding is available for education, ecological assessments, planning, implementation, and aquatic invasive species prevention and control.

***Runoff Management Programs***

The Wisconsin Department of Natural Resources administers two grant programs to support both the implementation of source-area controls to prevent runoff contamination and the installation of treatment systems to remove pollutants from runoff.

The Targeted Runoff Management Program provides competitive grants for local governments for the control of nonpoint source pollution. Grants reimburse costs for agricultural or urban runoff management practices in targeted, critical geographic areas with surface water or groundwater quality concerns.

The Urban Nonpoint Source & Storm Water Management Grant Program provides competitive grants to local governments for the control of pollution from diffuse urban sources that is carried by storm water runoff. Grants reimburse costs of planning or construction projects controlling urban nonpoint source and storm water runoff pollution.

***Wisconsin Forest Landowner Grant Program***

The Wisconsin Department of Natural Resources administers the Wisconsin Forest Landowner Grant Program to assist private landowners in protecting and enhancing their forested lands, prairies, and waters. The program allows qualified landowners to be reimbursed up to 50% of the eligible cost of eligible practices. A landowner is eligible if they own at least 10 contiguous acres of non-industrial private forest but not more than 500 acres within Wisconsin.

***Knowles-Nelson Stewardship Program Grants***

Knowles-Nelson Stewardship funds support several DNR-administered grant programs. Available to local governments and nonprofits, Stewardship grants fund recreational development and conservation land purchases statewide.

***Conservation Reserve Program (CRP)***

This federal program, administered by FSA, with WDNR input, provides a yearly rental payment to farmers enrolled in the program who agree to remove environmentally sensitive land from agricultural production and plant species that will improve environmental health and quality. Contracts for land enrolled in CRP are from 10 to 15 years in length. The long-term goal of the program is to re-establish valuable land cover to help improve water quality, prevent soil erosion, and reduce loss of wildlife habitat.

***Forest Land Enhancement Program (FLEP)***

This federal program, administered by the USDA Forest Service, with WDNR input, encourages the long-term sustainability of non-industrial private forestlands by providing financial, technical, and educational assistance by state forestry agencies to assist private landowners in actively managing their land. The maximum FLEP cost-share payment for any practice may be up to 75%.

***Managed Forest Law (MFL)***

This state program is entirely administered by the WDNR and is a landowner incentive program that encourages sustainable forestry on private woodland. In exchange for following sound forest management, the landowner pays reduced property taxes. Enrollment is open to all private owners of forested land. To qualify for MFL designation, a parcel of land must be at least 20 contiguous acres under the same ownership or be at least 10 contiguous acres and be connected by a tract of land under the same ownership to at least one other parcel of at least 10 contiguous acres. At least 80% of each parcel must be productive forest.

***Environmental Quality Incentives Program (EQIP)***

This federal program, administered by NRCS with WDNR input, provides technical and financial assistance to agricultural producers and forest landowners to address natural resource concerns. Farmers, ranchers, and forest landowners who own or rent agricultural land are eligible.

**Agricultural Resource Programs**

***Working Lands Initiative***

Implemented in 2009, the Working Lands Initiative is a cooperative state and local government and private effort to save farmland, protect the environment, and minimize land-use conflicts. The program creates new incentives and tools for local communities and landowners to protect farmland. Key aspects of the program include:

* Preserving agricultural lands on which the future of Wisconsin farming depends
* Minimizing land use conflicts that threaten agricultural enterprises
* Providing enhanced, simplified tax incentives for farmers to keep land in agricultural use, and adopt soil and water conservation practices
* Maintaining the legitimate rights and prerogatives of landowners
* Recognizing current agricultural practices, infrastructure needs, and land use realities
* Providing new tools that will allow farmers to supplement income and realize tax savings, while protecting farmland
* Providing greater predictability and certainty, to facilitate farm investment decisions
* Focusing and coordinating agricultural preservation and development efforts

***Tax Credits***

The Wisconsin Working Lands Initiative provides participating landowners with an opportunity to claim farmland preservation tax credits. The tax credits are income tax credits that are applied against tax liability. Landowners must be residents of Wisconsin and must meet other eligibility criteria to claim the credit, including compliance with state soil and water conservation standards.

* **$5.00/Acre** for landowners with a farmland preservation agreement signed after July 1, 2009, and located in an agricultural enterprise area, or for landowners who have modified an agreement initially signed before July 1, 2009.
* **$7.50/Acre** for landowners in an area zoned for farmland preservation.
* **$10.00/Acre** for landowners in an area zoned for farmland preservation and in an agricultural enterprise area with a farmland preservation agreement signed after July 1, 2009, or in an area zoned for farmland preservation and with a farmland preservation agreement modified after July 1, 2009.

**Cultural and Historic Resource Protection Programs**

***Wisconsin Historic Preservation Fund Subgrants***

Historic Preservation Subgrants are funded through the Historic Preservation Fund, which is distributed to the states by the National Park Service, U.S. Department of the Interior. The allocation to Wisconsin is administered by the Wisconsin Historical Society, State Historic Preservation Office. Funds may be provided for surveys to identify and evaluate historical, architectural, and archaeological resources, nominating properties to the National Register of Historic Places, and for carrying out a program of historic preservation planning and education.

***Public Humanities Program Grants***

The Wisconsin Humanities Council offers grants of up to $10,000 for projects that explore any topic from the perspective of one or more of the humanities disciplines.

***Tax Credit for Historic Income-Producing Buildings***

Owners of historic income-producing properties in Wisconsin may be eligible for two income tax credits that can help pay for their building's rehabilitation:

The Federal Historic Preservation Tax Credit Program returns 20% of the cost of rehabilitating historic buildings to owners as a federal income tax credit.

The Wisconsin Historic Preservation Tax Credit Program returns 20% of the cost of rehabilitating historic buildings, up to $3.5 million per parcel, to owners as a Wisconsin income tax credit.

***Tax Credits for Historic Homes***

Owners of historic residences in Wisconsin may be eligible for income tax credits that can help pay for their home's rehabilitation. The Homeowners' Tax Credit program returns 25% of the cost of approved rehabilitation (of eligible historic homes) as a Wisconsin income tax credit.

***Wisconsin Coastal Management Grants Program***

The Wisconsin Department of Administration administers grants in collaboration with the Wisconsin Coastal Management Council and the Office for Coastal Management, U.S. Department of Commerce, through funding provided under the Coastal Zone Management Act of 1972.The Program has approximately $1.5 million available to enhance and restore coastal resources. Historic preservation projects are an eligible use of program funds.

***Jeffris Family Foundation Grants***

The Jeffris Family Foundation administers the Jeffris Heartland Fund, which provides matching grants for advanced planning studies for historic preservation projects preparing for a capital campaign and a restoration project. Capital Campaign Challenge Grants are made available to invited projects which have completed their planning and are ready to launch a capital campaign. The Foundation also occasionally funds special projects and initiatives it finds of interest.

**Natural, Agricultural, & Cultural Goals, Objectives, & Actions**

A set of recommended goals, objectives, and actions have been developed to assist the town in the conservation and promotion of effective management of the local natural, agricultural, and cultural resources.

**Natural and Agricultural Resources**

Goal 1: Protect, conserve, enhance, and maintain a high level of environmental quality of land and waters in Mercer **through applicable town, state and county regulations**.

Objective 1:Protect the quality of both surface water and groundwater.

*Action 1: ~~Encourage~~* ***Ensure*** *compliance with state best management practices (BMP’s) for town construction projects.*

*Action 2: Reduce threats to groundwater by providing property owner education.*

***Action 3: Encourage grant-funded projects to mitigate brownfields and other debased areas.***

Goal 2: Preserve the natural and scenic qualities of lakes and shorelines in the Mercer area.

Objective1: Protect and balance the environmental and aesthetic qualities of the Town of Mercer, while promoting responsible stewardship of private property when planning for future development.

*Action 1: Develop and adopt town ordinances that reflect the concerns of the Agricultural and Natural Resource goals.*

*Action 2: Encourage the use of shoreland buffers and vegetative planting to reduce the impact of surface runoff.*

*Action 3: Champion the retention of Iron County forestland.*

*~~Action 4: Encourage the use of shoreland buffers and vegetative planting to reduce the impact of surface runoff.~~*

*Action 4: Cooperate with other townships and governmental bodies regarding shared responsibility for natural resources.*

1. Protect valuable wetlands, and lake, river, and stream shorelines in the Mercer area for the benefit of current residents and visitors, as well as future generations.

*Action 1: Support and ~~encourage~~* ***ensure*** *the enforcement of* ***Town of Mercer******Ordinances and*** *Iron County Zoning Ordinances.*

*Action 2: Support the activities and address the concerns of Mercer Area Lake Associations.*

1. Create and maintain green spaces throughout the town proper.

*Action 1: Delineate these green spaces (park and recreation areas) on the Town of Mercer Future Land Use Map.*

**Cultural Resources**

Goal: Preserve historical resources and provide cultural opportunities for all age groups.

**Objectives**

1. Support cultural events and activities in the Mercer area.

*Action 1: Donate financially or through volunteerism for the support of local events and activities.*

1. Support current and future Town of Mercer clubs and organizations.

*Action 1: Encourage use of community facilities for local clubs and organization functions.*

***Action 2: Actively sponsor grants applied for by nonprofit groups.***

1. Encourage the identification, evaluation, and preservation of historic, archaeological, and cultural resources.

*Action 1: Support the work of the Mercer Area Historical Society* ***and Mercer******Public Library*** *in its preservation efforts.*

***Action 2: Cooperate with neighboring municipalities in preservation efforts.***

1. \* The Upper Chipper Basin is a WDNR Water Management Unit (WMU), a hydrologically based subdivision of the larger Major Bain. The Upper Chippewa is a subdivision of the Mississippi River Basin. [↑](#footnote-ref-1)