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## CHAPTER 3: AGRICULTURAL, NATURAL & CULTURAL RESOURCES

### INTRODUCTION

Agricultural, natural, and cultural resources give definition to a community and strongly affect quality of life. Outside the urban areas of Winnebago County, a tapestry of working farms interwoven with stands of woodlands dot the landscape and shape the area's identity and culture. While agricultural acreage and the number of farms have been on the decline in Winnebago County, it is still an important component of the area economy. Natural features such as topographic relief, lakes, streams, wetlands and soils also have significant bearing on historic and contemporary land use and development patterns. Understanding the relationship between environmental characteristics and their physical suitability to accommodate specific types of activities or development is a key ingredient in planning a community's future land use.

### GOALS

**GOAL, OBJECTIVE AND STRATEGY STATEMENTS TO BE ADDED HERE AFTER REVIEW AND DISCUSSION BY THE PLAN COMMISSION**

### AGRICULTURAL RESOURCES

Farming and the processing of farm products is still an important source of income and employment in the Town and in Winnebago County. Since agriculture is a necessary component of the county's economy, the protection of farmland is critical. However, as is occurring elsewhere in rural Wisconsin, new developments are encroaching on productive farmland.

#### ***Farm and Farmland Loss***

Farm and farmland losses are the result of economic pressures within agriculture as well as competition for agricultural lands from residential, commercial, industrial, and other development.

**Approximately 34 acres of farmland are converted to other uses per year within the Town of Algoma.** Over the past twenty to thirty years, a substantial amount of farmland has been converted to more urban land uses. Based on the 2015 land use inventory (Chapter 7), a total of 1,960 acres of non-irrigated farmland existed within the Town of Algoma. In 2000, a total of 2,474 acres existed, meaning that 513 acres of farmland were lost during that 15 year period, or 34 acres per year.

Within Winnebago County as whole in 2007, there were about 1,001 farms (defined as any place producing at least \$1,000 or more of agricultural products were produced and sold, or normally would have been sold, during the census year). There was a net increase of 116 farms or 11.6 percent countywide between 2007 and 2012 (Table 3-1). While the number of farms increased from 2007 to 2012, the amount of land in farms and average size of farms decreased

when measured in acres. Land in farms decreased 5.2% and average size of farms decreased 15.2%.

**Table 3-1: Winnebago County Trends in Farm Numbers, 2007 and 2012**

	2007	2012	Percent Change
Number of farms	1,001	1,117	11.6%
Land in farms (acres)	164,014	155,520	-5.2%
Average size of farm (acres)	164	139	-15.2%

Source: USDA Census of Agriculture. Data accessed 11/21/16.

**Future growth will result in the conversion of agricultural land to more intensive uses.**

The major growth areas in the Town of Algoma are from Leonard Point Road south to Witzel Avenue. Commercial growth may occur along the south side of STH 21 at the intersection of future Clairville Road extended. The conversion of agricultural lands into other land uses has long-term economic implications and environmental effects. Agricultural land generally requires very little from a municipality in terms of services. Once developed, the demand for services increases dramatically.

**Farmland Soils**

Prime farmland are generally defined as “land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and that is available for these uses. It has the combination of soil properties, growing season, and moisture supply needed to produce sustained high yields of crops in an economic manner if it is treated and managed according to acceptable farming methods”. This includes the following classifications (1) All areas are prime farmland; (2) Prime Farmland, if drained; (3) Farmland of Statewide Importance; and (4) Not Prime Farmland if drained. Soil data from the NRCS-USDA Web Soil Survey (WSS), accessed in 2015, was used to determine prime farmland.

**A majority of the Town’s soils are highly suitable for agriculture.** Map 3-1 and Table 3-2 show areas of Prime Farmland for the Town of Algoma based on NRCS soils classifications. The soils in much of the developed portions of Algoma are either Class 1 or Class 2 Farmland. Much of the land in Algoma Sanitary District #1 is classified as Class 2 Farmland, with some Not-Prime-Farmland on both sides of Highway 21, west of Leonard Point Road. Land that is currently used for agricultural purposes within the Town of Algoma is mostly devoted to crop production.

**Table 3-2: Important Farmland Classes**

Soil Classification	Acres	Percent
All Areas Prime Farmland	4,567	86.2%
Farmland of Statewide Importance	570	10.8%
Prime Farmland if Drained	82	1.5%
Not Prime or Statewide Importance	77	1.5%
Total	5,296	100%

Source: NRCS-USDA Soil Data, Accessed in 2015

### **Urban Farming - Community Gardens**

**The Town does not have any community gardens established at this time.** Community gardens provide access to local food and allow people without access to land to grow their own food, and to share knowledge and skills. Some people find that gardening relieves stress, encourages social interaction, increases physical activity and encourages people to eat more vegetables and healthy foods.

### **Urban Farming - Beekeeping and Poultry**

Beekeeping and the raising of chickens in urban settings has become popular in recent years. Bees' aide in pollination of garden plants and backyard orchards and provide a source of locally produced honey. As of drafting this document, the Town of Algoma does not allow for either of these uses within residential or commercial zoned areas.

## **NATURAL RESOURCES**

The natural resources of the Town of Algoma play an important role in the potential physical and economic uses of the land. The management and preservation of these resources are important for sustaining economic uses of the land and maintaining the quality of life enjoyed by Town of Algoma residents. Environmental characteristics, including topography, drainage patterns, floodplains, wetlands, and soil properties are among the features that determine whether or not an area is suitable for a specific type of development. Development in wetlands or woodland areas can destroy the important environmental benefits these areas provide to the community, including, for example, the filtering of stormwater runoff and the provision of habitat for wildlife.

### **Geology**

The structure of the City's bedrock and historic glacial events is largely responsible for the City's landscape. After the recession of glaciers about 11,000 years ago, Winnebago County was left with its current topography shaped by mounds of glacial till with flatter areas where limestone and sandstone bedrock often lie not far from the surface. Within the Town of Algoma, generally elevations rise away from the shores of Lake Buttes des Morts, which is situated along the northern border of the Town.

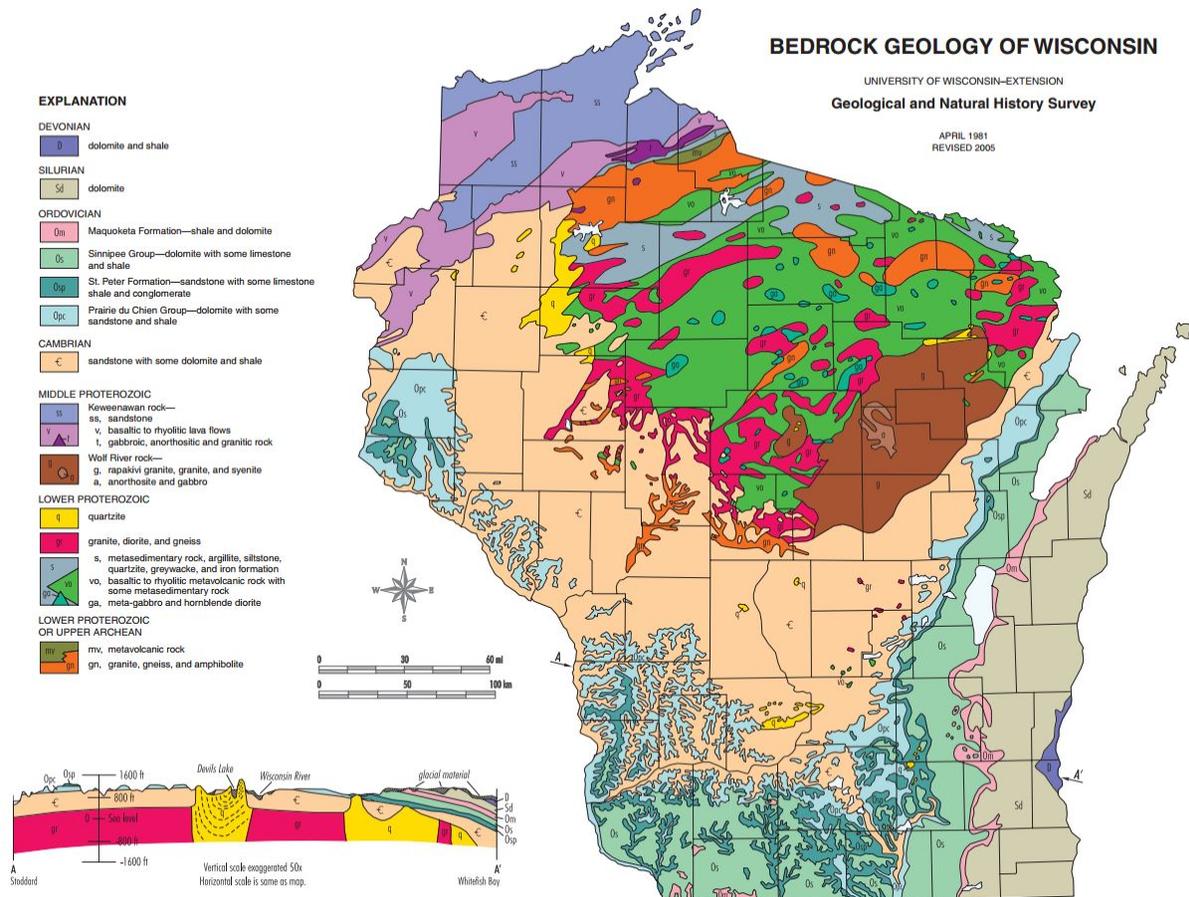
**The bedrock geology (Figure 3-1) of the Town is made up of two distinct formations that divide the area<sup>1</sup>.** These bedrock formations are:

- The **Sinnipee Group** is comprised of dolomite with some limestone and shale formations. This group stretches west from the Lake Winnebago Shoreline.
- The **St. Peter Formation** is a thin layer that runs north and south through the area comprised of sandstone, some limestone shale and conglomerate.

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<sup>1</sup> Bedrock Geology of Wisconsin, 2005; University of Wisconsin-Extension Geological and natural History Survey

**Figure 3-1 Bedrock Geology of Wisconsin**



**High Bedrock & Metallic and Nonmetallic Mineral Resources**

Map 3-2 illustrates two areas of bedrock in the Town of Algoma, both being in the vicinity of Leonard Point Road. The first area is obvious due to a very large seventy-acre non-metallic quarry (Sheppard Quarry, a division of Michael’s Pipeline Inc.), along with land west and north of the quarry that contain high bedrock.

The Sheppard Quarry filed an NR-135 Reclamation Plan, in accordance with the Winnebago County Non-Metallic Mining Reclamation Ordinance, with ECWRPC on April 1, 2004. The Reclamation Plan outlines ultimate discontinuance of the Sheppard Quarry in ten to fifteen years, with a passive recreational area (52 acre lake) surrounded by residential housing sites. The Town of Algoma’s Future Land Use Plan reflects the type of land use anticipated in this reclamation plan.

The second major location of high bedrock lies between Leonard Point Road and Lake Butte Des Morts, and is a private park in the Bell Haven Subdivision. Winnebago County regulates gravel pit and quarry operations through the extraction provisions (17.19) of the Winnebago County Zoning Code.

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### **Soil Suitability for Sand and Gravel**

**The only area of high suitability is located along Leonard Point Road which is nearly completely developed, therefore this resource can no longer be accessed.** Soil suitability for sand and gravel is shown on Map 3-2 and typically can be used as guidance to where to look for probable sources based on the probability that soils in a given area contain sizeable quantities of sand or gravel.

### **Soils**

Soils provide the physical base for urban development. Knowledge of the limitations and potentials of the soil types is important in considering the construction of buildings, the installation of utilities, or other uses of the land. Some soils exhibit characteristics such as slumping, compaction, and erosion, which place limits on development. Severe soil limitations do not necessarily indicate areas that cannot be developed, but, rather, those where more extensive construction measures may be necessary to prevent environmental and/or property damage. Such techniques increase the cost of utility installation and land development.

**According to the Soil Survey of Winnebago County, prepared by the Natural Resources Conservation Service of the United States Department of Agriculture, the major dominant soils group in the Town of Algoma is the Kewaunee-Manawa-Hortonville association.** The Kewaunee-Manawa-Hortonville soils are found on glaciated uplands where the soils form a thin layer of sandy or silty windblown material over reddish glacial till, which are loamy to clay subsoils. This association generally has high water tables and is moderately drained. Kewaunee soils are moderately well-drained with moderately slow permeability. Manawa soils are somewhat poorly drained and are slowly permeable. Hortonville soils are usually well-drained and moderately permeable. Map 3-3 illustrates the specific soil classifications within the Town.

Map 3-4 shows the soils in the Town of Algoma and the surrounding area classified by their limitations for building homes with basements. Where the potential is very low, one or more soil properties or site features are so unfavorable or difficult to overcome that a major increase in construction effort, special design, or intensive maintenance is required. Medium is where soil properties and site features are unfavorable, but the limitations can be overcome or minimized by special planning and design. The best potential or very high is where soil properties generally are favorable and limitations are minor and easily overcome. Much of the area that has not developed in Algoma Sanitary District #1 is classified as either having high or somewhat limited soil properties for new homes with basements, with a small amount not limited classifications.

### **Water Resources**

Water resources are an important part of any community as this resource can provide drinking water, habitat and recreational opportunities. This section provides an overview of water resources within the Town of Algoma, however; it is worth noting that there are numerous restrictions associated with the development of property near, or adjacent to, water features that cannot be covered in detail in this plan. It is highly recommended that the various agencies mentioned in this section be contacted prior to undertaking any type of development, and that the applicability of the various regulations be determined through field verification.

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## **Watersheds**

The Town of Algoma falls entirely within the Upper Fox River Basin<sup>2</sup> and the Lake Butte des Morts Watershed. Both are within the Lake Michigan Basin.

- **Lake Butte de Morts Watershed (UF04).** The Lake Butte Des Morts Watershed is located entirely within Winnebago County. The watershed is 50,973 acres in size and contains 128 miles of streams and rivers, 85 acres of lakes and 1,498 acres of wetlands. The watershed is dominated by agriculture (59%) and open water (16%) and is ranked high for nonpoint source issues affecting streams and groundwater.<sup>3</sup> The Town is located along Lake Butte Des Morts, a lake where the Fox and Wolf Rivers merge into one river (Fox), which then flows through the City of Oshkosh and into Lake Winnebago.

The nonpoint sources of pollution in this watershed are agricultural related, with upland erosion being the primary source of sediment. The Winnebago County Land and Water Resources Plan contains two goals and objectives that are aimed at reducing urban sediment and phosphorus loading. This plan will incorporate these goals and objectives.

## **Surface Water and Stream Corridors**

Surface water and stream corridors play an important role in the Town of Algoma. As shown in Map 3-5, Lake Butte Des Morts is the dominant surface water feature in the Town of Algoma. It provides both recreational opportunities and a visual focal point for the community. There is one named stream, one locally named stream and unnamed ditches and drainage ways throughout the Town.

- **Lake Butte des Morts.** Lake Butte des Morts is 8,581 acres and is part of the Winnebago Pool Lakes. It is currently considered impaired due to agricultural runoff.
- **Sawyer Creek.** Sawyer Creek and several branches of Sawyer Creek is a clear, hard water stream tributary to the Fox River. All but the lower one mile of stream is intermittent. The lower mile contains water but has no measurable flow at low water stages. This portion lies within the City and is a catch-all for trash and litter. The fishery is minimal but bullheads and panfish are known to exist. Wildlife values are minimal. Even though much of the stream is intermittent, Sawyer Creek carries tremendous volumes of water during peak runoff periods. Minor flood damage often occurs along the stream.<sup>4</sup>
- **Honey Creek (local name)** Honey Creek is a 3.41 mile waterway that traverses throughout the Town. This waterway is managed for fishing and swimming and is currently not considered impaired.<sup>5</sup>

The protection of the Lake Butte Des Morts shoreline and navigable streams in the Town of Algoma is extremely important as the view from lakefront properties draws home construction and tax base to the community. Most of the frontage along Lake Butte Des Morts is privately owned and developed at this point. The Shoreland District (17.20), Floodplain Zoning District (17.21), and Wetland District (17.22) of the Winnebago County Zoning Ordinance regulates the

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<sup>2</sup> WDNR, <http://dnr.wi.gov/water/basin/upfox>

<sup>3</sup> WDNR Gateway to Wisconsin's Basins and Watersheds;  
<https://dnr.wi.gov/water/watershedDetail.aspx?code=UF04&Name=Lake%20Butte%20Des%20Morts>

<sup>4</sup> WDNR, <https://dnr.wi.gov/water/waterDetail.aspx?key=11003>

<sup>5</sup> WDNR, <https://dnr.wi.gov/water/waterDetail.aspx?key=3997248>

use of all wetlands in the Town of Algoma that are five acres or more; identified on the Wisconsin Final Wetland Inventory Map; are within one thousand (1,000) feet from the ordinary high water mark of navigable lakes, ponds or flowages; and are within three hundred (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. The State of Wisconsin prohibits the construction of buildings and structures, including paving, within 75 feet of the ordinary high water mark of a navigable body of water.

### **Floodplains**

The floodplain of Lake Butte Des Morts in the Town of Algoma is largely concentrated in the marshy areas east of N. Oakwood Road as well as along Sawyer Creek, west of Clairville Road (See Map 3-5). There are approximately 282 acres of floodplains within the Town of Algoma.

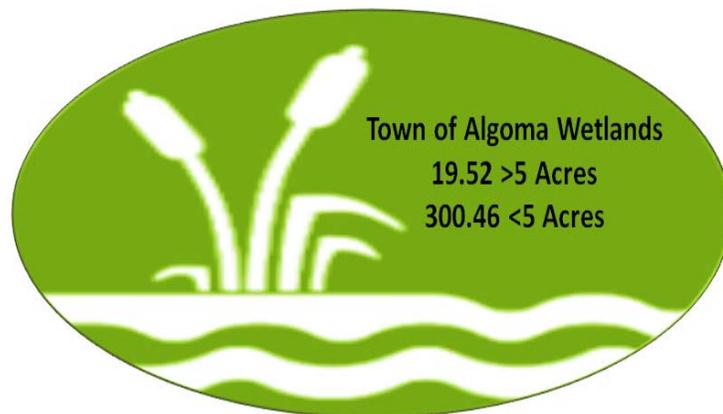
Floodplains provide several important functions. They store floodwaters, reduce the amount of floodwaters downstream, and reduce flood peaks. Floodplains also play a role in ground water recharge, fish and wildlife habitat, and water quality. The Winnebago County Floodplain Ordinance that covers the Town of Algoma is designed to help protect the natural resources within the floodplain from development, and existing development in the floodplain from damages that can be caused by flooding.

Winnebago County has also developed a Natural Hazard Mitigation Plan. This was the first step in making flood-prone areas in Winnebago County eligible for the State's Hazard Mitigation Grant Program. The plan identifies structures that are in the floodplain, the potential impact of a 100-year flood on the structures, and actions and strategies to mitigate damages. Winnebago County web site where the plan may be found is: [www.co.winnebago.wi.us/EmergencyMgt/EmerMgtIndex.htm](http://www.co.winnebago.wi.us/EmergencyMgt/EmerMgtIndex.htm)

### **Wetlands**

Wetlands in the Town of Algoma are identified by the Wisconsin Department of Natural Resources on its Wisconsin Wetland Inventory Maps (see Map 3-5). The major areas are in the Town of Algoma's floodplain (marshy area) east of N. Oakwood Road, "pockets" on the north and south sides of STH 21, and a large piece south of Witzel Avenue.

The State of Wisconsin defines wetlands as those natural areas where water is at, near, or above the land surface long enough to be capable of supporting aquatic vegetation, and which have soils indicative of wet conditions. Protection of wetlands in the Town of Algoma is important because they serve several vital environmental functions, including flood control, water quality improvement, groundwater recharge, and habitat for fish, birds and other wildlife.



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Winnebago County's Shoreland-Wetland Zoning Ordinance describes permitted uses of wetlands, some of which include development of public and private parks and the cultivation of agricultural crops. The ordinance applies to wetlands that are five acres or larger and shown on the Wetland Inventory.

The DNR has authority over all wetlands. The U.S. Corps of Engineers has authority over the placement of fill materials in virtually all wetlands. The U.S. Department of Agriculture incorporates wetland preservation criteria into its crop price support program. In general, the most restrictive regulations apply in situations where development is being proposed.

### **Groundwater**

Groundwater is an invisible but very important resource. Many activities, including failing septic systems, use of pesticides and insecticides, underground storage tanks, and spills of chemicals, can affect the quality of groundwater. While groundwater quality is an issue that has been addressed for decades, the quantity of groundwater has only recently become a concern. As the demand on groundwater aquifers has increased due to development, the level of groundwater has been dropping, requiring wells to be drilled deeper and deeper. This is not a local issue, but a regional one that will require many units of government to come to together to address.

Another area of concern is the interrelationship between shallow groundwater levels and development. Areas of high groundwater should be avoided for development because of the potential negative impact on the quality of the groundwater and the cost of mitigating the impacts of high groundwater levels on building foundations.

**A total of 43% (2,884 acres) of the Town of Algoma has high groundwater levels** (see Map 3-2). The largest area of high groundwater in the Town of Algoma is where there is a concentration of wetlands. Groundwater levels should be considered when deciding where to encourage future development. Where development does occur in areas of high groundwater, mitigation measures should be considered to help maintain and improve water quality, and to help mitigate the impact of high groundwater on structures.

### **Groundwater Recharge Potential**

According to a report prepared by the Wisconsin Geological and Natural History Survey<sup>6</sup>, a large portion of the Town has high (4-8 inches/year) infiltration rates which are estimated to become stream base flows or continue down and eventually become groundwater recharge. (Table 3-3). Protecting infiltration areas from impermeable development will help to safeguard the surrounding area's drinking water supply and will help safeguard the quality and quantity of Lake Winnebago surface water in the long-term.

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<sup>6</sup> Groundwater Recharge in Calumet, Outagamie, and Winnebago Counties, Wisconsin, Estimated by a GIS-based Water-balance Model, 2011; University of Wisconsin-Extension Wisconsin Geological and Natural History Survey (Open-File Report 2001-05)

**Table 3-3 Potential Groundwater Recharge**

MCD	Potential Recharge (inches/year)								
	Low (0-2)		Medium (2-4)		High (4-8)		Very High (>8)		Total Acres
	Acres	%	Acres	%	Acres	%	Acres	%	
Town of Algoma	3	0.0%	183	2.7%	4,941	73.2%	159	2.4%	6,747

Source: University of WI-Extension, WI Geological Survey, 7/27/2011.

**Groundwater Contamination Susceptibility**

The ease that pollutants can be transported from the land surface to the top of the groundwater or “water table” defines a groundwater’s susceptibility to pollutants. Materials that lie above the groundwater offer protection from contaminants. However, the amount of protection offered by the overlying materials varies, depending on the materials.

The WDNR, in cooperation with UW-Extension, the Wisconsin Geological and Natural History Survey and USGS, evaluated the physical resource characteristics that influence sensitivity in order to identify areas sensitive to contamination. Five resource characteristics were identified: depth to bedrock, type of bedrock, soil characteristics, depth to water table and characteristics and characteristics of surficial deposits. Each of the five resource characteristics was mapped, and a composite map was created. A numeric rating scale was developed and map scores were added together.

An index method was used to determine susceptibility; however this method of analysis is subjective and includes quantifiable or statistical information on uncertainty. This limits the use of the information for defensible decision making. Therefore, while groundwater contamination susceptibility maps can be useful, this level of uncertainty must be kept in mind. Map 3-6 and Table 3-4 illustrate the groundwater susceptibility.

**Table 3-4: Groundwater Contamination Susceptibility**

MCD	Very High		Somewhat High		Moderate		Somewhat Low		Very Low		Total Acres
	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	
	Town of Algoma	1,317	20%	0	0%	4,936	73%	0	0.0%	494	

Source: WDNR

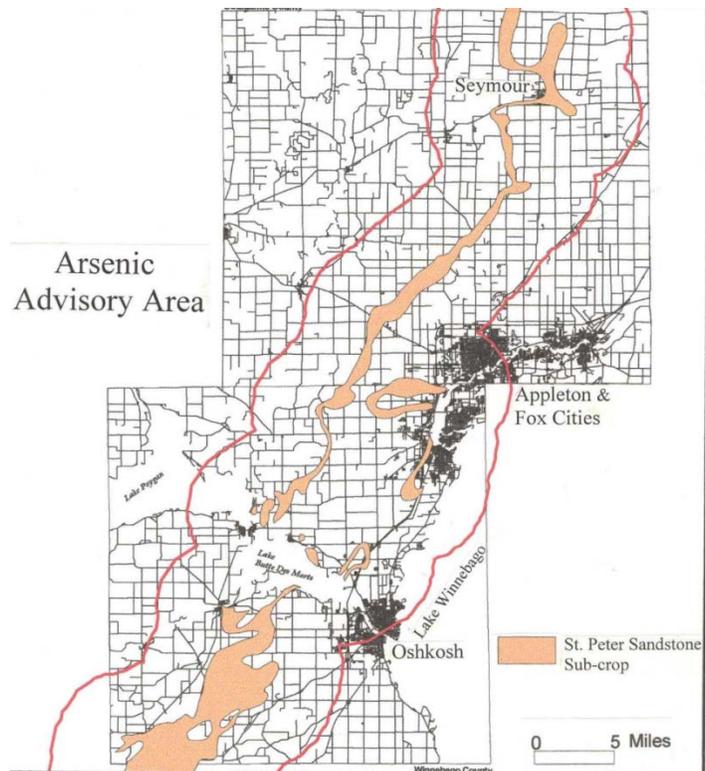
**Water Supply and Wellheads**

The Town of Algoma’s public water supply comes from one well dug in 2004 and a second well dug in 2005. The first well is located just north of Witzel in the vicinity of Zachery Rd. The second well will be drilled adjacent to 2nd Addition to Butte Des Morts Meadows plat, east of Leonard Point Road. These wells were dug to provide a public water system because of concerns with groundwater quality due to potential high levels of arsenic in the St. Peter Sandstone. Most of the Town of Algoma lies within a WDNR’s Arsenic Advisory Area, which is a five-mile boundary surrounding the St. Peter Sandstone (see Figure 3-2).

In 2001, the US EPA lowered the arsenic drinking water standard from 50 to 10 parts per billion (PPB), due to convincing data that found a relationship between consumption and deterioration in health. The DNR replaced its Arsenic Advisory Area Map in 2004 with a more stringent set of regulations that apply to the Special Well Casing Depth Area (SWCDA). The regulations require new wells in Outagamie and Winnebago County to meet construction, grouting, and disinfection standards that have proven to lower arsenic levels to safe levels for human consumption. Required well construction specifications are determined by town quarter section

**While both of the Town of Algoma's wells are well below the St. Peter Sandstone, this is an issue that should be monitored.** The federal Safe Drinking Water Act (SDWA) was amended in 1986 to include a nationwide program to protect groundwater used for public water supplies. The amendment established wellhead protection (WHP) programs. The goal is for communities to prevent the contamination of their wells by delineating and protecting the land area that contributes water to their wells. Under the requirements of section NR 811.16(5) of the Wisconsin Administrative Code, all new municipal wells installed after May 1, 1992, must have a Department of Natural Resources approved wellhead protection plan (WHP) prior to placing the well into service. Algoma Sanitary District #1 adopted a Water Utility Ordinance on December 11, 2003, which regulates well abandonment and cross connections from existing wells to a public water system. On February 2, 2004, the DNR approved the Sanitary District's Wellhead Protection Ordinance. More information

**Figure 3-2: WDNR Arsenic Advisory Area**



on wellhead protection is at: <http://www.dnr.state.wi.us/org/water/dwg/qw/Wellhead.HTM>

### **Stormwater, Erosion and Nonpoint Source Pollution**

As growth continues in the Town of Algoma with the construction of buildings, streets, and parking areas, the management of the stormwater that flows from these impervious surfaces takes on additional importance. The ability of the land to absorb the runoff diminishes and the need to control and direct the runoff becomes essential. During the conversion of the land from a natural state to a developed state, soil erosion becomes a concern.

In 1999, the Town of Algoma contracted with Strand Associates, Inc. in 1999 to produce a Stormwater Management Plan (SMP). The Honey Creek watershed and areas draining directly to Lake Butte des Morts were studied to determine the peak flows at various locations. The recommendations and conclusions of the Plan, drove the Town to take a variety of actions which can be summarized as follows:

- The Town of Algoma had enacted a stormwater management and erosion control ordinance incorporating the performance standards recommended in the SMP.
- The Town of Algoma retained the services of an engineer having expertise in stormwater management to review all new development plans for compliance with Town of Algoma stormwater management standards.
- The Town of Algoma has developed a uniform policy to address localized flooding issues, and maintains a record of these flooding issues.

Additional needs still exist pertaining to this study. The following items have not yet been conducted, but were recommended as part of the Honey Creek Watershed Plan. If these recommendations have not been achieved, they need to be taken into consideration and incorporated into a five-year Capital Improvements Plan to make sure they are addressed.

- The Town of Algoma needs to perform a study to identify limits of the future Honey Creek floodplain.
- The Town of Algoma needs to consider replacement of the existing culvert with a larger one under Oakwood Road.
- The Town of Algoma needs to consider preserving adequate space to construct regional detention basins at locations identified in the Plan to minimize the effects of future development on peak flows along Honey Creek.

### Environmentally Sensitive Areas

**Environmentally sensitive areas and limiting environmental conditions do not significantly limit development in the Town of Algoma.** Map 3-7 shows that in the Oshkosh Sewer Service Area, the environmentally sensitive areas of the Town of Algoma are adjacent to the east and west branches of Honey Creek.

The East Central Wisconsin Regional Planning Commission (ECWRPC) identifies environmentally sensitive areas as part of its regional land use and water quality planning process. Environmentally sensitive areas are those where development should be limited, and are comprised of the following:

- Lakes and streams shown on the United States Geographic Survey maps
- Wetlands shown on the Wisconsin Department of Natural Resources Wisconsin Wetland Inventory Maps
- Floodways as delineated on the official Federal Emergency Management Administration (FEMA) Flood Boundary and Floodway Maps

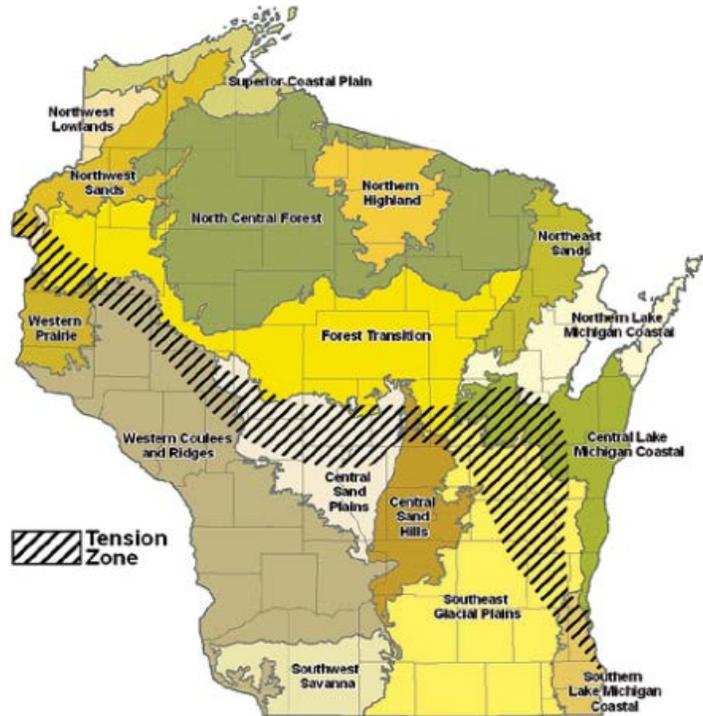
In addition to the designations of environmentally sensitive, other areas with natural characteristics that could impact environmental quality or development potential have been identified by ECWRPC. These are said to have "limiting environmental conditions", and include areas with seasonal high groundwater (within one foot of the surface), floodplain areas, and areas with steep slopes (twelve percent or greater). Unlike environmentally sensitive areas, development is not excluded from land with "limiting environmental conditions." The primary purpose for identifying these areas is to alert communities and potential developers of environmental conditions, which should be considered prior to the development of such areas.

### Wildlife Habitat and Threatened and Endangered Species

Woodlands covered much of Winnebago County before settlement. At one time, the area was primarily covered with deciduous hardwood forest. The Fox Valley's reliance on the paper industry attests to the regions' forested history.

**Figure 3-4: Wisconsin's Tension Zone**

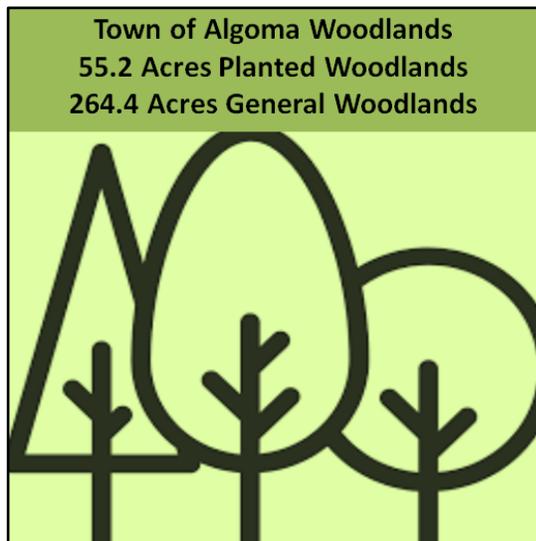
The tension zone (Figure 3-4) is a wide corridor running from northwestern to southeastern Wisconsin that marks the pre-settlement dividing line between northern and southern native plant species. The tension zone has characteristics of both northern and southern Wisconsin climates, and therefore, species from both areas.



The United States Department of Agriculture has also divided the country into plant hardiness zones. Those zones contain characteristic plant species that are hardy in that region. Generally speaking, plants from any particular zone are hardy in that zone and those to the south, but not to the north unless they are protected from the severe climate of that zone.

Winnebago County and the Town of Algoma are at the juncture of two different plant communities. They are generally described as the boreal element and the prairie element. Characteristics typical of both the Conifer-Hardwood Forest and the Southern-Hardwood Forest can be seen locally.

**Figure 3-5: Woodlands in the Town of Algoma**



**A total of 311.6 acres of woodlands exists within the Town.** Two woodland areas are located on either side of the east-west portion of Leonard Point Road, (see Map xxx, Existing Land Use) one is on the Town of Algoma line between STH 21 and Leonard Point Road, and the largest is between STH 21 and Witzel Avenue, west of Clairville Road extended. Woodlands provide both aesthetic and practical benefits, such as wildlife habitat, and should be preserved whenever possible.

The Town of Algoma has locations that provide habitat for birds, mammals, fish and other animals. Scattered woodlands provide a safe place, although their fragmented arrangements eliminate the ability for most animals to travel from one habitat to another. Grasslands, wetlands, and edges between

differing natural areas are particularly effective as habitats. As development occurs and agricultural and open areas are converted to paving and lawns, these habitats tend to disappear. Implementing a parks and trails system in the Town of Algoma will protect and maintain wildlife habitat.

**Rare, Threatened and Endangered Species**

The Wisconsin Department of Natural Resources maintains a database of rare, threatened and endangered species and natural communities in Winnebago County. In order to protect these species and communities, the exact location is not available to the public; however, Winnebago County does have a copy of this database. Whenever a request comes into the County for development, this database is consulted prior to granting approval.

The Wisconsin DNR Natural Heritage Inventory (NHI) maintains an online database which provides statewide inventory of known locations and conditions of rare and endangered species, by Town. A review of the NHI Township Search Tool for the Algoma database revealed a total of seven animals, two plants and one community type (Table 3-5). This database is incomplete since not all areas within the state have been inventoried. Thus, the absence of a species within this database does not mean that a particular species or community is not present. Nor does the presence of one element imply that other elements were surveyed for but not found. Despite these limitations, the NHI is the state’s most comprehensive database on biodiversity and is widely used.

**Table 3-5: WDNR Natural Heritage Inventory**

Scientific Name	Common Name	WI Status	Federal Status	Group
Cuscuta polygonorum	Knotweed Dodder	SC		Plant
Emergent marsh	Emergent Marsh	NA		Community
Emydoidea blandingii	Blanding’s Turtle	SC/P	SOC	Turtle
Erimyzon sucetta	Lake Chubsucker	SC/N		Fish
Falco peregrinus	Peregrine Falcon	END		Bird
Glyptemys insculpta	Wood Turtle	THR		Turtle
Luxilus chrysocephalus	Striped Shiner	END		Fish
Notropis anogenus	Pugnose Shiner	THR		Fish
Sterna forsteri	Forster’s Tern	END		Bird
Thalictrum revolutum	Waxleaf Meadowrue	SC		Plant

Source: WDNR NHI Township Search, updated July 18, 2017;  
<https://dnr.wi.gov/topic/NHI/data.asp?tool=township>

**Exotic and Invasive Species**

Non-native aquatic and terrestrial plants and animals, commonly referred to as exotic species, have been recognized in recent years as a major threat to the integrity of native habitats and the species that utilize those habitats. Some of these exotic species include purple loosestrife, buckthorn, garlic mustard, multi-colored Asian lady beetles, Eurasian water milfoil, emerald ash borer, and gypsy moths. They displace native species, disrupt ecosystems, and affect citizens’ livelihoods and quality of life. The invasive species rule (Wis. Adm. Code Ch. NR40) makes it illegal to possess, transport, transfer, or introduce certain invasive species in Wisconsin without a permit.

## Waste and Pollution

### Solid and Hazardous Waste Sites

According to SHWIMS, there is one operating site listed for The Town of Algoma. The Solid and Hazardous Waste Information Management System (SHWIMS) provides access to information on sites, and facilities operating at sites, that are regulated by the Wisconsin Department of Natural Resources' (WDNR) Waste and Materials Management (WMM) program. The SHWIS on-line database activity information is shown on Table 3-6, including:

- Engineered and licensed solid waste disposal facilities;
- Older unlicensed waste disposal sites (e.g. town dumps);
- Licensed waste transporters;
- Hazardous waste generators; and
- Composting sites, wood-burning sites, waste processing facilities and more.

**Table 3-6: Waste Management Facilities, Town of Algoma, 2018**

Status	Facility Name	Address	Municipality	FID
UNKNOWN	RASMUSSEN #2 PROPERTY	OMRO RD & LEONARDS POINT RD	ALGOMA	471193030
CLOSED	BRUNSWICK CORP- MERCURY MARINE DIV LF	2300 S OAKWOOD RD - OSHKOSH	ALGOMA TN	471019230
CLOSED	FABER QUARRY	1601 KNAPP	ALGOMA TN	471175980
CLOSED	KIENAST QUARRY	871 W 17TH	ALGOMA TN	471176090
CLOSED	OSHKOSH STONE QUARRY	925 FLORIDA	ALGOMA TN	471175870
OPERATING	SERVICE OIL INC	2531 OMRO RD	ALGOMA TN	471071920
UNKNOWN	B R MILLER & SONS (STEINERT PROPERTY)	ABRAHAM LN	ALGOMA TN	471162560
UNKNOWN	RUSCH CONST CORP	3807 HWY 21	ALGOMA TN	998326340
UNKNOWN	TIDDENS MANAGEMENT CORP	W END OF VULCAN QUARRY PROP	ALGOMA TN	471162670

Source: WDNR, <http://dnr.wi.gov/sotw/BasicSearchAction.do>

### Air Quality

Air quality, especially good air quality, is often taken for granted. Clean air is vital to maintain public health. Sound local and regional planning can minimize negative impacts to the air. Development patterns can impact automobile use, which in turn impacts air quality. Emissions from certain industries can also impact air quality. As development patterns become more spread out, the location of jobs and housing become more segregated and distant from one another.

Since alternative modes of transportation are, at present day, less viable or unavailable in some instances, people rely more on the automobile to get around. Changing lifestyles are also a major factor. Two income families are causing people to find housing that splits the difference between the two employment locations. Since vehicle travel generates air pollutant emissions, greenhouse gas emissions, and noise, local decisions about what types, where and how new development occurs can have an impact on air quality.

The closest ozone air quality monitoring site is located at the Thrivent facility at 4432 Meade Street in Appleton (Outagamie County). The primary and secondary National Ambient Air Quality standard for ozone is 0.075 ppm.<sup>7</sup> Monitored values of ozone represent ground level ozone, which is not directly emitted into the air. Ozone concentrations typically reach higher levels on hot sunny days in urban environments; it can be transported long distances by wind. The 8-hour design values (ppb) were not exceeded at the Outagamie County site between 1997 and 2012.<sup>8</sup> Particulate matter (PM) is a mixture of solid particles and liquid droplets. It includes acids, organic chemicals, metals, soil or dust, and allergens. According to the Wisconsin Air Quality Trends, 2014, Outagamie County did not exceed the primary and secondary National Ambient Air Quality Standard for particulate matter between 2001 and 2013.

## **CULTURAL RESOURCES**

Cultural resources, like natural resources are valuable assets which should be preserved. These resources define a community's unique character and heritage. Included in this section is an inventory of historic buildings, sites, structures, objects, archeological sites and districts.

### **Historical Resources**

#### **State and National Register of Historic Places**

The State Historical Society of Wisconsin's Division of Historic Preservation (DHP) is the clearinghouse for information relating to the state's cultural resources: its historic buildings and archaeological sites. A primary responsibility of the DHP is to administer the State and National Register of Historic Places programs. The National Register is the official list of historic properties in the United States that are worthy of preservation. The National Park Service in the U.S. Department of the Interior maintains the program. The State Register is Wisconsin's official listing of state properties determined to be significant to Wisconsin's heritage, and is maintained by the DHP. Both listings include sites, buildings, structures, objects and districts that are significant in national, state or local history, architecture, archaeology, engineering and culture. (For ease of discussion, "National Register" is used generally to refer to both programs. In Wisconsin, if a property is listed on the National Register, then it is typically listed on the State Register as well.)

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<sup>7</sup> Primary standard limits are set to protect public health, while secondary standards are set to protect public welfare.

<sup>8</sup> Wisconsin Department of Natural Resources, *Wisconsin Air Quality Trends*, April 2015.

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**At this time, there is only one Town of Algoma listing in the National Register.** A noteworthy cultural resource in the Town of Algoma is the Bell Site Indian Burial Grounds located on lands once occupied by a Fox Indian Village. Located between Leonard Point Road and Lake Butte Des Morts in the Bell Haven Subdivision, this cultural resource has been identified as a Native American burial site. This site is listed on the national and state register of historic places and as such, cannot be disturbed.

The National Register is not a static inventory. Properties are constantly being added and, less frequently, removed. It is, therefore, important to access the most up-to-date list of the National Register properties. They can be found at:

[www.wisconsinhistory.org/histbuild/register/index.html](http://www.wisconsinhistory.org/histbuild/register/index.html), or by contacting the DHP at (608) 264-6500.

### **Architecture & History Inventory**

In order to determine which sites are eligible for inclusion on the National Register, the DHP frequently funds historical, architectural, and archaeological surveys of municipalities and counties within the state. Inclusion in this inventory conveys no special status, rights, or benefits to owners of these properties. It simply means that some type of information on these properties exists in the collections of the DHP. AHI is primarily used as a research and planning tool for those interested in preserving and rehabilitating older properties.

### **A total of 57 properties within the Town of Algoma are shown on the Wisconsin AHI.**

Inclusion in this inventory conveys no special status, rights, restrictions, or benefits to owners of these properties. It simply means that some type of information on these properties exists in the DHP's collections. AHI is primarily used as a research and planning tool. Like the National Register, this is not a static inventory. Properties are constantly being updated. Information can be found on the DHP web site (<http://www.wisconsinhistory.org>). Like the National Register, AHI is not a static inventory. Properties are constantly being added and, less frequently, removed. It is therefore important to use the most up-to-date list of properties within a given area.

### **Wisconsin Historical Markers**

**There are no historical markers located in the Town at this time.** Wisconsin historical markers identify, commemorate and honor important people, places, and events that have contributed to the state's rich heritage. The Wisconsin Historical Markers Program is a vital education tool, informing people about the most significant aspects of Wisconsin's past. The Society's Division of Historic Preservation administers the Wisconsin Historic Markers Program. Applications are required for all official State of Wisconsin historical markers and plaques

## **MAJOR FINDINGS**

The following list summarizes key issues and opportunities identified in the element. The reader is encouraged to review the "Inventory and Analysis" portion of the element for more detail.

1. Agricultural land within and near the Town of Algoma will eventually be converted to a more intensive use such as residential, commercial, or industrial.
2. Soils and geology in the Town of Algoma do not present serious obstacles to development.
3. Water is a very important resource for the Town of Algoma. Lake Butte Des Morts is the

dominant surface water feature. It provides recreational opportunities and a visual focal point for the Town of Algoma.

4. Surface water, stream corridors, floodplains, and wetlands are highly regulated resources. Local, state and federal regulations and ordinances need to be thoroughly reviewed when development is proposed for property that is in or near any of these resources.
5. The Arsenic Advisory Area covers most of the Town of Algoma. Private and public wells in this advisory area have the potential of being contaminated.
6. Addressing water quality through the management of stormwater is a priority of federal and state regulators. Consideration should be given to developing a stormwater management plan and possibly forming a stormwater utility.
7. Woodland areas in the Town of Algoma provide both aesthetic and practical benefits, and should be preserved whenever possible.
8. Environmentally sensitive areas, including navigable streams and wetlands, as mapped by the East Central Wisconsin Regional Planning Commission as part of the sewer service area planning process should be preserved from development.
10. Federal and state records provide general information on wildlife habitat and threatened and endangered species, and should be consulted as part of the review process for new development projects.
11. The Town of Algoma's government and business leaders should be active in supporting quality of the air issues in whatever way they can.
12. The Town of Algoma contains 57 historically significant structures, as reflected in the Architecture & History Inventory for the State of Wisconsin. The Town of Algoma should take pride in the existence of these sites and support their continued maintenance.

## **POLICIES AND PROGRAMS**

Policies and programs related to the Issues and Opportunities element can be found in Appendix D.