

CHAPTER 5 Agricultural, Natural and Cultural Resources Element

66.1001 (2)(e) Wis. Stat.:

Agricultural, Natural and Cultural Resources element. A compilation of objectives, policies, goals, maps, and programs of the conservation, and promotion of the effective management of natural resources such as groundwater, forests, productive agricultural area, environmentally sensitive areas, threatened and endangered species, stream corridors, surface water, floodplains, wetlands, wildlife habitat, metallic and non metallic mineral resources, parks, open spaces, historical and cultural resources, community design, recreational resources and other natural resources.

This element will discuss the agricultural landscape and the natural and cultural resources in and around the Village of Amherst Junction.

Section 5.1 Agricultural Resources

A. Agricultural lands

The Village of Amherst Junction has approximately 323 acres of agricultural land within the Village limits (see Table 8.1 and Map 8.1 of the Land Use Element) some of which is leased for irrigated agriculture.

B. Farm numbers, types, and size

The Village of Amherst Junction has no farmsteads located within the Village limits, however, land within the Village is leased for agricultural purposes.

C. Farm Economy and Infrastructure

There are two businesses in the community directly related to the agricultural economy of the surrounding area including:

1. F.S. Fertilizer
2. Farm storage

Section 5.2 Natural Resources

This section will describe the existing conditions of natural resources in the Village of Amherst Junction and surrounding area. Natural resources include: soils, watersheds, lakes, rivers, groundwater, shore lands, floodplains, wetlands, forests, vegetation, and wildlife.

The physical environment and geology of the Amherst Junction area is comprised of gently sloping lands, with areas of slopes greater than 12% (Map 5.1) and potholes in the northeastern and western part of the Village. The Village has an elevation averaging about 1125 feet above sea level. This area is located within the Drift Providence which was formed by glacial moraine made up of glacial sediments ranging from sands to loams and somewhat clayey materials. The providence consists of a thick sandy till and glacial outwash containing sand and gravel with small amounts of silt or clay.

A. Soils

According to Soil Survey of Portage County, Wisconsin (U.S. Department of Agriculture Soil Conservation Service, 1978) the soils within Amherst Junction and surrounding area consist almost entirely of out wash sand or gravel (see Map 5.2). These soils of the Richford-Rosholt-Gillett type are well-drained, nearly level to gently sloping. Soils immediately north of the Village and beginning about one mile south of the Village consist of sandy glacial drift of the Wyocena-Rosholt type which is more loamy and somewhat more hilly.

The most noteworthy limitation which may limit development is the rapid permeability in the “substratum” as reported by the soil survey. This permeability, due to sandy soils, may contaminate groundwater if pollutants are discharged in sufficient concentrations to this soil. This development factor is important since the Village has no sanitary sewer or water system.

The land capability of the Village and surrounding lands is generally quite favorable. Depth to bedrock is reported by the county soil survey as being greater than 20 feet and greater than five feet to groundwater. Under these conditions a septic system, properly installed and maintained, works well. The soil survey, nevertheless, rates these soils as “moderate” for septic systems due to rapid permeability.

B. Groundwater

Groundwater supplies are abundant in the Amherst Junction area, with a maximum aquifer potential rated at 2,000 gallons per minute. Depth of groundwater ranges from about 50 to 100 plus feet in the area. The general direction of groundwater flow for the Amherst Junction area is due east. (Map 5.3)

The recharge area for most residents is a few miles to the west of their private well. The rate at which groundwater travels in the area ranges from 1 to 5 feet per day or approximately 1 mile in three years. Sandy soil conditions in the area allow for rapid infiltration of surface water to the groundwater, which may allow containments to more easily enter the water supply. Water quality data compiled by the Portage County Groundwater Specialist indicates that higher lot densities increase the potential for lower quality groundwater, possibly due to the close proximity of wells to septic systems.

Plentiful groundwater is a natural environmental resource that has been tapped via irrigation technology to increase the crop yields on much of the soils within and around the village.

C. Watersheds/Surface Water

The municipal boundary for the Village of Amherst Junction lies within the Tomorrow/Waupaca River Watershed, a 291-square-mile drainage basin (Map 5.3). Approximately 189 square miles (65%) of the watershed is located in Portage County. The Tomorrow River Watershed is located within in the larger Great Lakes drainage basin. As previously discussed in the introduction to this section, the topography of this area consists of gently rolling hills lying on the edge of a glacial moraine. Over half of the watershed is internally drained, with surface water flowing into potholes, small ponds, and kettle lakes. The majority of the surface drainage in the Amherst Junction area flows into Lake Emily.

Map 5.1 Topography

Map 5.2 Soils

Map 5.3 Surface Waters and Groundwater Flow

Map 5.4 Wetlands

The Village of Amherst Junction does not have any stream corridors or flood plain zones, but may have intermittent drainage or ponding in some areas. Lake Emily is the only surface water located on the Village's west boundary.

1. Lake Emily

Lake Emily, located on the west side of the Village, is a 95 acre, 35 foot deep lake and is a water resource of significant potential within Portage County. Seasonal cottage use, diversified park usage, swimming, and year-round fishing make up the major uses of this lake. The activities generated by this lake lead to spin-off tourism and recreational outlets for Village residents.

2. Tomorrow River

The Tomorrow River, located about one mile east of the Village, originates as an intermittent trickle from Mudhole Lake and gathers clear, hard water to become one of the most scenic and productive streams in Portage County. The Tomorrow River, classified as a class 1 trout stream, is listed in the Department of Natural Resources Statutes (NR) 102 as an "Outstanding Resource Water for the Class 1 trout portions". The Tomorrow River flows through the Village of Amherst into the mill pond and returns to its natural state below the dam. The bottom consists of sand, silt, gravel and boulders, and ranges from 30 to 50 feet wide. Siltation and fluctuating water temperature are the major problems of the River. The major uses of the river in the Amherst area include canoeing and trout fishing.

D. Wetlands

The Village has limited amount of wetlands and wet soils in the Village. The following are the types of wetlands that occur within in the Village and those that are just outside of the Village limits.

1. Wetlands located in the Village of Amherst Junction (Map 5.4) consist of one type:
 - a. Scrub/shrub wetlands: includes bogs and alder thickets; characterized by woody shrubs and small trees such as tag aster, bog birch, willow and dogwood.
2. Other types of wetlands that lie outside of the Village boundaries:
 - a. Emergent/wet meadow: consists of wetland areas that may have saturated soils more often than having standing water. Vegetation includes sedges, grasses and reeds as dominant plants, but may also include blue flag iris, marsh milkweed, sneezeweed, mint and several species of goldenrod and aster.
 - b. Forested wetlands: includes bogs and forested floodplains complexes that are characterized by trees 20 feet or more in height such as tamarack, white cedar, black spruce, elm, black ash, and silver maple.

Wetlands areas are an important part of the watershed, as they act as a filter system for pollutants, nutrients and sediments, along with serving as buffers for shore land and providing essential wildlife habitat, flood control and groundwater recharge for the area.

E. Shore Lands

Shore lands in the Village of Amherst Junction are located along Lake Emily. As of 2003, the Village ordinances required that all buildings and structures shall be set back at least 100 feet from the high water line of any navigable stream. The Village of Amherst Junction Conservation District was established to provide protection to environmentally sensitive lands. Other restrictions for shore lands from the Department of Natural Resources (DNR) and U.S. Corps of Engineers are possible.

F. Floodplains

There are no stream corridor or floodplain zones within the Village

G. Woodlands/Vegetation

Two areas of forest cover exist in Amherst Junction. One is located along the east end of Lake Emily and Lake Emily Park. The other is located in the northern part of the Village which has experienced low density residential development.

There is little timber cover in the Village and corresponding limited wildlife habitat.

H. Wildlife

Endangered Species

The Wisconsin Natural Heritage Inventory (NHI) data files contain records for the following rare species and natural communities in the Town of Amherst: Karner Blue Butterfly, Northern Dry-Mesic Forest, Calcareous Fen, Northern Wet Forest, Spring Pond, Least Darter, and Banded Killfish. These elements should be taken into consideration when development and protection measures are considered. A complete listing of endangered species and descriptions can be found in Appendix H.

Section 5.3 Cultural Resources

Cultural and historic resources often help link the past with the present and can give a community a sense of place or identity. These resources can include historic buildings and structures along with ancient and archeological sites.

Burial sites are one example of a resource that can add to a community's sense of history as well as provide a great deal of genealogical information. Formally catalogued burial sites are protected from disturbance in Wisconsin and are given tax treatment equal to that of operating cemeteries.

Information regarding cultural and historic resources in the Village is constrained by limited financial and human resources.

A. Cultural and Historic Resources Inventory

1. Indian Burial Grounds, located on the north side of Lake Emily's boat landing along the east end of the lake.
2. Lettie W. Jensen Community Center – located on Main Street Amherst, the Jensen Center is home to many facilities and activities for all age groups.

B. Cultural Resource Programs

At the State level, the Wisconsin Historical Records Advisory Board (WHRAB) works in association with the Wisconsin Historical Society. The Board's activity falls primarily into three areas: it provides guidance and assistance to archives and records management programs in Wisconsin, promotes the value of historical records as keys to our cultural heritage and works through partnerships with statewide organizations whose purpose and goals support that end, and to bring federal grant funds to Wisconsin for improving access and preservation of historical records.

Section 5.4 Conclusions

- A. Natural environmental conditions pose no major development problems for the Village. The rural, small town setting and Lake Emily are locally valued as special environmental assets.
- B. The highly permeable soils of the area pose some concern for the possibility of contaminating groundwater from concentrated development. The sandy soils of the area are quite adequate, however, for individual dispersed septic systems.
- C. The soil permeability could possibly cause some high concentration of nitrates in groundwater supplies by facilitating the percolation of fertilizers from the extensive surrounding farmlands.

Section 5.5 Ag/Natural/Cultural Resources Goals, Objectives and Policies

A. Agricultural Resources

- 1. Goal: Sustain a viable agricultural industry.
- 2. Objectives
 - a. Agricultural practices are unencumbered by development.
 - b. Encourage agricultural practices that are environmentally sensitive and protect air, soil, water, and wildlife resources.
 - c. Support the preservation of productive agricultural land county-wide.
- 3. Policies
 - a. Consider existing agricultural operations when reviewing new land development.

B. Natural Resources

As the Village continues to grow, pressure to develop natural areas will increase. The Village should strive to protect environmental resources and maintain the ecological balance of the area.

- 1. Goal: Manage and protect the natural resources of the Village and surrounding area.
- 2. Objectives
 - a. Identify, manage, preserve and protect natural resources.
 - b. Local units of government work together to maintain appropriate public access to natural resources.

- c. Natural resources that provide recreational opportunities on public land are managed to ensure their lasting presence.

3. Policies

- a. The Village of Amherst Junction shall continue to use the Zoning Ordinance as a means of protecting environmentally sensitive and unique areas from urban development.

- C. Cultural Resources

1. Goal: Support identification and protection of historic and cultural resources County wide.