

## *AGRICULTURAL, NATURAL, AND CULTURAL RESOURCES*

This chapter presents an inventory and analysis of the agricultural, natural, and cultural resource base of the Town of Eagle. Included is descriptive information pertaining to climate, air quality, physiography, bedrock geology, topography, soils, groundwater resources, surface-water resources, wetlands, woodlands, natural areas and critical species habitat sites, park and open space sites, environmental corridors, historic and cultural resources, and agricultural lands.

The agricultural and natural resource base of the Town of Eagle influences the development potential of the Town, as well as adding recreational, aesthetic and economic value. Preserving and protecting these important assets is key in supporting various forms of suburban and rural development, without deterioration or destruction of that underlying and sustaining base.

This element of the comprehensive plan was created by identifying the strengths, concerns, and weaknesses related to Natural and Cultural Resources in the Town of Eagle. The full Chapter 4 text further details the strengths, weaknesses, and concerns of Natural and Cultural Resources within the community. Retaining the “Rural Atmosphere” was a key point in community surveys.

### **RESOURCE INVENTORY**

The dominant physiographic and topographic feature in the Town is the Kettle Moraine, an interlobate glacial deposit formed between the Green Bay and Lake Michigan lobes of the continental glacier that moved in a generally southerly direction from its origin in what is now Canada. Geologic properties can influence the manner in which land is used, and any planning program needs to examine not only how land is developed, but how the geologic resources can best be protected and managed. Town elevations range between 700 and 1,200 feet above sea level. There are 7 significant geological sites in the Town of Eagle as surveyed by the University of Illinois and the Illinois State Geological Survey:

Scuppernong Pitted Outwash	A large, pitted outwash plain
Eagle Esker	Good example of an esker with a local relief of between 40 feet and 65 feet
Eagle Kettle Hole	Deepest kettle hole in the Town (approximately 90 feet deep)
Stark Road Quarry	Exposed wall of small, old quarry containing good exposure of Niagara Escarpment
Brady's Rock	Natural rock bluff along west edge of Kettle Moraine representing some of the southernmost exposures of Niagara Escarpment in Wisconsin
Scuppernong Glacial Lake	Eastern edge of extensive glacial lake
Jericho Creek Outcrop	Natural outcrops of Mayville Dolomite along banks of Jericho Creek, first studied by Increase Lapham in 1840s

## **SOILS**

The major soil associations within the Town of Eagle planning area are loamy deposits over glacial outwash, and organic material, which are found in three-quarters of the Town. These soils are well-drained, have sub-soils of clay loam, and are moderately deep over sand and gravel. Most areas in the Town of Eagle present few problems for on-site and septic sewage disposal systems and mound systems.

## **AGRICULTURAL RESOURCES**

Historically, agriculture has been a major element of land use and economic activities in the Town, however, recent farm operations have declined due to economic pressures. To retain the rural character of the Town, it is in the Town's interest to encourage farm operations, promote locally grown food sources, community supported agriculture, and the rural atmosphere of the Town. The recognition of agriculture lands is critical to the Town's Comprehensive Plan. It is noted that some soil features in the Town present potential limitations for land development, including depth to water table and bedrock and steep slopes.

## **GROUND WATER RESOURCES**

In general, the Town has an adequate supply of groundwater to support its population, agriculture, business and manufacturing. The importance of groundwater as a source of water supply in the Town and Southeastern Wisconsin can be shown by analyzing water-use data. All of the Town's water supply has historically been obtained from the shallow aquifer groundwater system. Average precipitation in the Town amounts to about 32 inches of water to the surface area of the Town. It is estimated that approximately 80 percent of that total is lost by evapotranspiration. Of the remaining water, part runs off in streams and part becomes groundwater.

## **GROUNDWATER VULNERABILITY TO CONTAMINATION**

Most of the Town exhibits moderate to high potential for contamination of groundwater in the shallow glacial drift and Niagara aquifers. Generally, the areas of the Town most vulnerable to groundwater contamination are where both Niagara dolomite and the water table are near the surface. In most of the Town of Eagle, there is no confining impermeable layer of rock between the glacial drift and the sandstone aquifer. This is cause for concern in planning for the future development of these areas, because suburban development adversely affects both the quantity and quality of recharge water, especially where the aquifer is overlaid by outwash, end moraine, or other highly permeable glacial material.

## **SURFACE WATER RESOURCES**

Surface water resources constitute an extremely valuable part of the natural resource base of the Town. Surface waters are a focal point of water-related recreational activities and provide an attractive setting for properly planned residential development. Surface waters, particularly in a major lake, also provide substantial economic benefits. Lakeshore properties, which generally have high-assessed valuations, also serve to enhance the property tax base of the Town. In addition, surface waters greatly enhance the aesthetic and scenic characteristics of the natural environment. Because surface water quality is highly susceptible to deterioration from pollutant runoff, both suburban and rural land uses must be carefully managed to maintain water quality. Surface water resources in the Town, consisting of lakes and streams as seen on Map 4-7 are described below. A lake, river, stream and floodland inventory is detailed in Chapter 4.

## ENVIRONMENTAL, NATURAL RESOURCE and WILDLIFE

An abundance of environmental resources is one of the Town's most outstanding characteristics. The dominant resource is the Kettle Moraine State Forest. Other resources, some within the Forest, include: Eagle Spring Lake (280 acres), Beaver Dam Lake (36 acres), woodlands (4,170 acres), wetlands (4,193 acres), prairies (335 acres) and 17 linear miles of Jericho Creek, Paradise Spring, Scuppernong River, Mukwonago River, and its headwaters in Section 32 of the Town of Eagle. The most important elements of the natural resource base of the Town, are the remaining woodlands, wetlands, prairies, wildlife habitat, surface water and associated shorelands and floodlands, and related features, including existing park and open space sites, scenic views, and natural areas and critical species habitat sites. In the 1994 SEWRPC Inventory, the Town of Eagle had perhaps the greatest concentration of known natural areas in Waukesha County, and perhaps in southeastern Wisconsin. The Town is committed to preserving its environmental and natural resources. Significant resources are listed below:

<b>Wetlands</b> existing in 2000 cover 4,194 acres scattered throughout the Township.
<b>Prairie</b> segments in Eagle, outside of DNR lands, include the Mailman Road Railroad prairie and the Road X Railroad Prairie.
<b>Woodlands</b> covered 4,173 acres of the Township. Oak Savannahs of note include those at Eagle Centre, the former Eagle Dump and along Jericho Creek (in 2000)
<b>Wildlife</b> in the Town of Eagle includes species habitat for the critical herptile species of Blanchard's Cricket Frog, Blanding Turtle, Pickerel Frog, Queen Snake, Western Ribbon Snake, and, as well as the special concern mammal species of Bobcat.
<b>Bird</b> Habitat sites include, Eagle Spring Lake, the Malek Wetland, and the Old World Wisconsin Marsh.
<b>Plant</b> Species habitat Sites include the Domon Prairie remnant, Eagle Dump Oak Opening, and the Holtz Oak Openings.

## CULTURAL RESOURCES

Old World Wisconsin, which provides a history of Wisconsin's immigrants and pioneers, is the only cultural based facility located in the Town of Eagle. Over 500 historic and prehistoric archaeological sites have been identified in the County, and 5 of these sites have been listed on the National Register of Historic Places. However, none of them is located in the Town of Eagle. The complete list of sites can be found in the Waukesha County Comprehensive Development plan in Chapter 3, Table III-7.

### Historic Sites

The Town is mindful of its historic and architecturally significant structures. The following five National Register Historical Sites or Structures have been identified as requiring preservation: the Ahira R. Hinkley House at W354S7910 STH 59, the Koepsel House, the Christian Turck House, and the Ward District #3 Schoolhouse in Old World Wisconsin, and Residence at site #7244 at W77S10766 Betts Road. The following sites have been locally designated: the A.C. Clark/A.O. Smith House at W345 S10503 CTH "E", the Edward Hinkley House at W364S7310 STH 67, the Stute/Welch Farm east of CTH "Z", and the Palestine Grade School at W351S7510 STH 59. The Town and County also recognize the significance of the Jonathan Parsons House and the Frederick Von Rueden House, which warrant more study.

## **AGRICULTURAL, NATURAL, AND CULTURAL RESOURCES**

**OBJECTIVE NO. 1** The preservation of agricultural land.

**OBJECTIVE NO. 2** A distribution of the various land uses which maintains biodiversity and which will result in the preservation and sustainable use of the natural resources of the Town, including inland lakes and streams, groundwater, wetlands, woodlands, prairies, and wildlife

**OBJECTIVE NO. 3** A distribution of land uses and specific site development designs which protects or enhances the surface and ground water resources of the Town.

**OBJECTIVE NO. 4** The preservation and provision of open space to enhance the total quality of the Town environment, maximize essential natural resource availability, give form and structure to suburban development, and provide opportunities for a full range of outdoor recreational activities.

**OBJECTIVE NO. 5** A distribution of the various land uses which maintains biodiversity, and clean air, and will result in the protection and wise use of the natural resources of the Town, including its soils.

**OBJECTIVE NO. 6** Encourage an appreciation and understanding of the importance of historic sites, which will result in the preservation, maintenance, and sustainable use of existing historical sites.

### **IMPLEMENTATION RECOMMENDATIONS, IN *SUMMARY FORM***

- Address groundwater supply and recharge issues
- Review the river and watershed planning objectives when the Mukwonago River Watershed Protection Plan is completed
- Assure that land use categories direct development away from areas with seasonally high groundwater and discourage development of below grade structures on soils with groundwater limitations
- Apply more stringent site design and enforce storm water management requirements
- Provide lists of historical sites that are eligible for historic designation to the Eagle Historical Society
- Assure that the planned land use map and appropriate zoning codes and maps reflect lands identified as prime agricultural areas
- Encourage the preservation of high quality agricultural and environmental lands, maintain the rural character of the Town, and discourage residential development on agriculturally productive and environmentally sensitive areas.