# AGRICULTURE, NATURAL, AND CULTURAL RESOURCES ELEMENT

This element includes an analysis of existing agricultural, natural, and cultural resources in and around the Town of Shelby. The chapter includes existing conditions, goals, objectives, and recommendations for the effective management of resources in the Town. The Town of Shelby Comprehensive Plan survey showed residents considered it a high priority to:

- Protect groundwater
- Protect scenic views and undeveloped hills
- Participate in environmental projects to manage stormwater
- Protect air quality and;
- Support solar energy opportunities

| **GOAL 1** |
| --- |
| Coordinate public and private sector actions and efforts to protect bluffs, floodplains, wetlands, groundwater, woodlands, prime agricultural soils, and the habitats of threatened and endangered species.<br><br>*Objective 1-1:* Protect various environmental resources that help define the Shelby area.<br><br>*Objective 1*-2: Ensure valuable resources, such as groundwater, are protected from the effects of stormwater runoff that may occur with new development.<br><br>*Objective 1*-3: Protect the aesthetic nature of rural Shelby as distinct from the more urbanized areas |
| **GOAL 2** |
| Preserve cultural, historic, and archeological resources within the town.<br><br>*Objective 1-1:* To preserve historic places and structures within the community.<br><br>*Objective 1*-2: To maintain the ongoing historical context of Shelby. |

| **ACTIONS** |
| --- |
| ***Action 1*:** Review existing ordinances to determine their effectiveness.<br><br>***Action 2*:** Promote awareness of voluntary easement programs and direct willing landowners to existing resources.<br><br>***Action 3*:** Promote best management practices (BMPs) and sustainable development that does not substantially alter the character of Shelby.<br><br>***Action 4*:** Encourage active agriculture in select areas throughout the town.<br><br>***Action 5*:** Encourage preservation of natural and historic areas. Work with the La Crosse County Historical Society to identify and record historically significant properties. |

***Action 6:*** Disseminate information on historical preservation tax credits and other programs designed to help property owners maintain their historic property.

***Action 7*:** Encourage local historic societies, Chambers of Commerce, and agencies such as UW-Extension to create a map and database of historical sites.

***Action 8*:** Identify archaeological sites and require deed restrictions and disturbance limitations to protect the archaeological significance of the site.

### *Agricultural Lands*

There are 1,114 acres of agricultural land within the Town of Shelby. This accounts for nearly 6% of all the land within the Town. Farming is part of the local economy and is also a way of life for some residents. Map 5.1 in Appendix C depicts where these land uses are located and how these agricultural lands are utilized.

### *Agricultural Statistics*

With 6,560 acres of farmland and 1,313 acres of pasture, a portion of this land is rented in the Town. Average prices for rent of non-irrigated cropland in La Crosse County in 2020 were $139.00 per acre, $1 above the State average of $138.00 per acre. Average cash rent paid for pasture in La Crosse County in 2020 was $28.50 per acre, below the State average of $35.00 per acre.

In 2019, the overall cost agricultural land averaged $5,253 per acre in the Town. Based on Table 5.1, the number of farms in La Crosse County has decreased by 9.13%. This is more than the State average decline in farms of 7.11%. Though the number of farms has decreased, the overall market value of agricultural land has drastically increased in the County by 52.05%. This is far above the State average increase of 32.22%. The largest changes are in sizes of farms from larger farms (in acreage) to smaller farms.

*Table 5.1 La Crosse County Agriculture Summary*

| | **2012** | **2017** | **% Change 2012-2017** |
|---|---|---|---|
| Farms (#) | 734 | 667 | -9.13 |
| Land in farms (acres) | 158,718 | 144,334 | -9.06 |
| Estimated market value of land and buildings ($) | 709,760 | 1,079,187 | 52.05 |
| Estimated market value of all machinery and equipment ($) | 88,617 | 83,104 | -6.22 |
| Farms by size | | | |
| 1 to 9 acres | 30 | 49 | 63.33 |
| 10 to 49 acres | 147 | 150 | 2.04 |
| 50 to 179 acres | 300 | 218 | -27.33 |
| 180 to 499 acres | 196 | 185 | -5.61 |
| 500 to 999 acres | 63 | 51 | -19.05 |
| 1,000 acres or more | 17 | 14 | -17.65 |
| Total cropland | 671 | 575 | -14.31 |
| Irrigated land (# of farms) | 20 | 26 | 30.00 |

*Source: USDA Ag. Census 2012, 2017*

### *Agricultural Dependency*

There is an estimated 16 people, or less than 1% of the Town population, living on farms, and 15 people, or less than 1% of employed adults within the Town working in agriculture, forestry, fishing, and hunting occupations. This is less than La Crosse County as a whole and the neighboring Town of Medary but more than Town of Campbell.

According to the Wisconsin Agricultural Statistics Service, between 2012 and 2017 the following agricultural land trends occurred in La Crosse County:

- Land in farms decreased 9 percent from 158, 718 to 144,334 acres
- Average size of farms decreased 3 percent from 231 to 223 acres
- Full-time farms decreased 21 percent from 507 farms to 403 farms
- Market value of agricultural products sold decreased 5 percent to $45,758,000 (crop sales accounted for 20 percent of the market value and livestock sales accounted for 80 percent of the market value)
- Average market value of agricultural products sold per farm decreased slightly from $60,843 to $60,287

The State of Wisconsin showed similar agricultural trends during this time period. However, market value of agricultural products sold statewide increased by six percent and average market value of agricultural products sold per farm statewide increased by 10 percent.

### *Soil Types and Capability*

The Town's ridges and bluff tops are predominately overlain by Fayette and Dubuque Silt Loams. Fayette is considered to be a productive agricultural soil, and Dubuque is almost its equal, except in steeper settings. In addition to Fayette Silt Loam, the slopes have soils of the Gale-Hixton Complex which is a somewhat less productive agricultural soil, but with modern soil management techniques is still capable of producing annual crops. The only other significant soil complex on the buildable slopes is the Gale-Hixton Complex, a sandstone derived soil occurring on well drained nearly flat ridge tops to steep slopes.

On the less steep valley sides, in the coulees, and other low areas, the soil mixture becomes more complex. In the valleys, Arenzville Silt Loam and Plainfield Loamy Fine Sand are common. Arenzville is by far the better agricultural soil, being about the quality of Fayette, while the Plainfield series is too prone to wind erosion to produce good yields of row crops. It is better suited for vine-type crops or forage cover crops. The river terrace silt loam soils, Toddville, Richwood, and Judson, are all very productive agricultural soils. These productive agricultural soils are more common in the eastern part of the Town, where erosion has not yet cut down through as many strata. The Fayette and Bertrand soil associations, in the western area of the Town do not quite equal the more naturally productive silt loams in the east. They, however, are certainly quite capable of producing fine crops.

More detailed information on these soil types can be found in the La Crosse County Farmland Preservation Plan 1980. Soil suitability is depicted on Map 5.2 in Appendix C. Soil suitability classes for agriculture range from Class I to Class VIII, with I being most suitable and VIII being the least suitable soils for agriculture

*Table 5.2 Soil Suitability La Crosse County*

| Soil Classification | Acres | Description |
|---|---|---|
| Class 1 | 7,697 | Soils have slight limitations that restrict their use. |
| Class 2 | 35,921 | Soils have moderate limitations that restrict the choice of plants or require moderate conservation practices. |
| Class 3 | 49,246 | Soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both. |
| Class 4 | 43,389 | Soils have very severe limitations that restrict the choice of plants or that require very careful management, or both. |
| Class 5 | 0 | Soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat. |
| Class 6 | 60,189 | Soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat. |
| Class 7 | 74,261 | Soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat. |
| Class 8 | 38 | Soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes. |
| Water | 17,920 | |

Source: USDA Soil Survey 2017

### *Groundwater*

The region's surface waters are among the most popular environmental resources from a recreational and aesthetic perspective. There are few natural inland lakes in La Crosse County, but the adjoining surface waters of the Mississippi River, Black River, Lake Onalaska, and Lake Neshonoc are the biggest contributors to surface water recreation. Collectively, there is 17,920 acres of surface water in the County.

### *Wetlands*

A majority of Town's wetlands are found surrounding the Mississippi River, Pammel Creek, and Mormon Creek.

Wetlands are defined in Wisconsin Statutes 23.32 as areas where water is at, near, or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and which has soils indicative of wet conditions. Wetlands are environmentally sensitive due to the many values and functions they provide, including:

- Filtering and replenishing groundwater.
- Flood protection – wetlands act like sponges by storing and slowly releasing rainfall and runoff, which reduces flood peaks and flood recovery costs.

- Filters for certain kinds of wastes and soluble contaminants generated from runoff, which protects water quality.
- Food and habitat for many plants and animals, which benefits hunting, fishing, sightseeing, and other recreational or tourism interests.
- Shoreline protection – wetlands protect shorelines from erosive wave action and enhance the quality of life by providing spacious and scenic open spaces.

### *Floodplains*

Floodplains in the Town of Shelby are located adjacent to the Mississippi River, Pammel Creek, Mormon Creek and Chipmunk Coulee Creek. The western edge of the Town falls within a 100 year floodplain depicts this area. Floodplains are land areas that have been or may be covered by floodwater during the "regional flood." The regional flood is a flood determined to be representative of large floods known to have occurred in Wisconsin or which may be expected to occur on a particular lake, river or stream. Floodplains are identified and mapped by the Federal Emergency Management Agency (FEMA). The Nation's annual flood recovery costs are high and the human hardship beyond this is immeasurable. It is for this reason that the federal, state, and local governments encourage hazard mitigation planning that discourages floodplain development. Counties, cities, and villages are responsible for administering floodplain zoning in accordance with regulatory standards of Chapter NR 116 of the Wisconsin Administrative Code and the standards of the National Flood Insurance Program.

### *Surface Water*

The Town of Shelby is located within the La Crosse-Bad Axe River Basin. The Mississippi River comprises a major portion of the western border of the Town. Mormon Creek, Pammel Creek and Chipmunk Creek are the major surface water resources within the Town. Mormon Creek has been designated as a Class II Trout Stream. The La Crosse River and 34 other creeks account for the remaining surface waters in the County. In total, the County has 273 miles of stream, or 983 surface acres, excluding any portion of the Mississippi River. The region's surface waters are among the most popular environmental resources from a recreational and aesthetic perspective. There are few natural inland lakes in La Crosse County, but the adjoining surface waters of the Mississippi River, Black River, Lake Onalaska, and Lake Neshonoc are the biggest contributors to surface water recreation. Collectively these waterways cover over 16,460 acres of surface water in the County.

**La Crosse-Bad Axe River Basin**

*Table 5.3 Features within the La Crosse-Bad Axe Basin*

| Basin | Watershed | Water Body |
|---|---|---|
| Water within the La Crosse-Bad Axe River Basin | | |
| | Little La Crosse River Watershed | |
| | La Crosse River | Dutch Creek |
| | Big Creek | Burns Creek |
| | Fish Creek | Adams Creek |
| | Prairie Creek | Lake Neshonoc |
| | Lower La Crosse River Watershed | |
| | La Crosse River | Pleasant Valley Creek |
| | Neshonoc Creek | Botswick Creek |
| | Larson Coulee Creek | Smith Valley Creek |
| | Gills Coulee Creek | Pammel Creek |
| | Coon Creek Watershed | |
| | Berge Coulee Creek | Mormon Creek |
| | Coon Creek | Chipmunk Coulee Creek |

### *Woodlands*

There are over 10,400 acres of woodlands within the Town of Shelby according to the most recent La Crosse County land use records available (2014). Approximate Woodland boundaries can be found on Map 8.1 in Appendix C. The Town and County are located in a region of the country known as the Prairie-Forest Border, which forms the transition zone between the plains to the south and west and the forests to the north and east. Before European settlement and the resulting fire suppression, the vegetation in this region consisted of oak savanna and southern oak forest. The remaining forest cover is generally broad-leaved deciduous forest. Oak is the predominant hardwood with maple replacing some of the oak stands following logging. Extensive stands of bottomland hardwoods such as elm and cottonwood are found in the vicinity of the Black and Mississippi Rivers. The State's Managed Forest Law (MFL) program is available to landowners with 10 or more contiguous acres of forestland. Participating landowners must agree to a forest management plan that includes harvesting at least 80 percent of their forest area. In exchange, their land is taxed at a rate below the state average. There are 2,089 private acres within Shelby enrolled in the program.

Woodlands perform important aesthetic, environmental, and ecological functions. The Town and County's scenic wooded covered hills and coulees are one of the most attractive features of the landscape and have a major impact on residents and tourists alike. Woodlands also provide important settings, backdrops, and screens for homes, businesses, farms, roads, and shorelines. This creates an attractive landscape that benefits the economy and aesthetics of the County. In addition, woodlands generate or contribute to energy, oxygen, nitrogen, and carbon cycles. They also provide essential

habitats for numerous varieties of plants and animals and can mitigate the destructive effects of erosion, pollution, and severe weather.

### *Topography*

The Town and County lie in the heart of the driftless area, which covers southwestern Wisconsin, southeastern Minnesota, and northeast Iowa. This area was missed by the most recent glacial advance but was highly dissected by the glacial melt water created 11,000 years ago by the retreating glacier. The scenic ridges and valleys created by this melt water were named coulees by early French settlers resulting in this area becoming known as the "Coulee Region." Many of the ridges have bluffs of exposed dolomite limestone and sandstone outcroppings.

### *Steep Slopes*

Map 5.3 Slope in Appendix C illustrates areas with slopes of 20 percent or greater. Topography in the Town of Shelby is characterized by steep slopes throughout the Town that range from 20 to 90%, and narrow valleys and ridge tops.

Steep slopes are environmentally sensitive from a water quality perspective because increased erosion potential and stormwater runoff occur when these slopes are developed. The detrimental effect of stormwater runoff from impervious surfaces such as rooftops and driveways increases greatly when such surfaces are constructed on steep slopes. Disturbed vegetation and poorly designed implemented landscape cause profoundly increased erosion and dramatically degrade the water quality of run off. La Crosse County has many creeks, some of which support trout fisheries. All of these creeks, as well as the larger rivers and lakes, are potential receptors of runoff from development on steep slopes. The water quality of these rivers and creeks provides biologic, recreational, and aesthetic benefits. The creeks classified as trout streams, in particular, make handling of runoff from development on steep slopes especially critical if these sensitive aquatic environments are to be maintained or enhanced.

To protect the area's rivers, lakes, and streams from excessive stormwater runoff, the County Land Conservation Department enforces a construction site erosion control ordinance that requires approval of an erosion control plan prior to construction activity taking place. This ordinance also prohibits construction activity from occurring on slopes of 30 percent or greater. Increased erosion control measures are required in this ordinance when slopes of 20 percent or greater are to be disturbed. In addition to erosion, sedimentation, and water quality problems, development on steep slopes can impair the natural beauty and viewsheds in the area. When development occurs on steep slopes, or on ridge tops, the aesthetic or visual character of the area is degraded because the development tends to dominate the viewshed.

### *Wildlife, Rare, Threatened, and Endangered*

There are 6 species in La Crosse County that are currently endangered or threatened. These species include mammals, birds, reptiles, mussels, and insects. Over the last few decades, the communities within the County have experienced changes in the composition of their animal and plant life. Historically most changes occurred through human encroachment and consequent disturbance to the wildlife and its habitat. Land uses that have drastically altered the natural environment such as the cutting of forests, wetland drainage, agriculture, and increased urbanization have resulted in the reduction of the quantity and quality of habitat for many species. This reduction in habitat has also resulted in the near extirpation of some species.

The U.S. government, to protect biological resources, enacted the Endangered Species Act (ESA) of 1973. The Act essentially prohibits the taking of a threatened or endangered species or its habitat.

Wisconsin, in accordance with the ESA, has developed the Wisconsin Natural Heritage Working Lists. The Wisconsin Natural Heritage Working Lists contains species known or suspected to be rare in the state. The list and a map depicting the general location of these rare species can be viewed on the DNR website.

*Table 5.4 Threatened and Endangered Species – La Crosse County*

| Scientific Name | Common Name | Status |
|---|---|---|
| *Mammals* | | |
| Myotis septentrionalis | Northern long-eared bat | Threatened |
| *Birds* | | |
| Grus americanus | Whooping crane | Experimental population |
| *Reptile* | | |
| Sistrurus catenatus | Eastern massasauga | Threatened |
| *Mussels* | | |
| Lampsilis higginsii | Higgins eye pearlymussel | Endangered |
| Plethobasus cyphyus | Sheepnose | Endangered |
| *Insects* | | |
| Bombus affinis | Rusty patched bumble bee | Endangered |

*Source: US Fish and Wildlife Service 2019*

### *Open Spaces, Environmental Corridors, and Environmentally Significant Areas*

Environmental corridors are continuous systems of open space under public or private ownership include environmentally sensitive lands, floodplains, wetlands, and natural resources requiring protection from disturbance and development, and land specifically designated for open space or recreational use. Important environmental corridors that are suitable for preservation include the river and stream corridors, the bluffs, the coulees, and the important wildlife habitats located throughout the Town. Main corridors in the area connect the Town to nearby communities, particularly the Upper Mississippi River Fish and Wildlife Refuge. Over 2,200 acres of this 46,000 acres reserve are within the Town borders. Another corridor that crosses jurisdictions are the bluffs located in the eastern portion of the Town. Those bluffs are unique to this region of the State and create a natural identity for the region.

Open space can be valuable just for its existence, regardless of ownership or public entry and use provisions. The sweeping vistas, wooded hillsides, and rolling hills provide a visual recreation and relaxation that is highly prized by both residents and visitors to the Town of Shelby. The Mississippi River bottom lands, including Goose Island County Park are significant tracts of publicly owned open space. A land use analysis of the Town, with land use data from the La Crosse County Wisconsin Development Plan 2020, shows that approximately 70% of lands in the Town or 12,953 acres are either water, park and recreation, or woodlands, a significant amount considering the Town is often perceived as urban due to its location adjacent to La Crosse.

### *Mining and Non-Metallic Mineral Resources*

There are 15 registered non-metallic mining sites with La Crosse County; there are no active mining sites within the Town of Shelby.

### *Historical Structures and Places*

There are numerous historic properties and sites in the Town of Shelby that are an important part of its historical past. As of 2021, there were five sites listed on the National Register of Historic Places in the Town of Shelby and four sites designated on the State Register of Historic Places.

*Table 5.5 Summary of Registered Historic Places*

| Feature | Location |
|---|---|
| Chamber-Markle Farmstead | 6104 WI 35 |
| Mundstock, Carl August Farm | US 14/16, N side, E of jct. with WI 35 |
| School District No. 1 | US 14/61 of Jct. with WI 35 |
| Overhead Site | Unlisted |
| Oehler Mill Complex | W5539 and W5565 County Rd MM |

*Source: Wisconsin Historical Society's Architecture and History Inventory (AHI) database*

In addition to these sites, there are 52 sites in the Town that are listed as local historic resources in the Wisconsin Historical Society's Architecture and History Inventory (AHI) database. Many of these include barns and farmsteads.

### *Archeological Resources*

Native Americans inhabited the La Crosse County area for twelve thousand years prior to the arrival of the first white settlers. Survey and excavations have documented the presence of Paleoindian and Archaic camps, Woodland villages and mounds, and extensive Oneota agricultural villages. The latter includes cemeteries, long houses, and an elaborate ridge field system. Many of the archaeological sites have been documented by the Mississippi Valley Archaeology Center (MVAC), which has displays open to the public at the University of Wisconsin-La Crosse. As of 2020, over 1,000 archaeological sites have been recorded in La Crosse County, and 24 are listed on the National Register of Historic Places. Under Wisconsin law, Stat. 157.70 all burial sites, including Native American mounds, and both marked and unmarked burials, are protected from encroachment by any type of development. Map 5.4 in Appendix C shows the distribution of archeological sites throughout the County.

### *Cultural Agencies and Programs*

**Wisconsin Historical Society**

The Society serves as the archives of the State of Wisconsin. It collects books, periodicals, maps, manuscripts, relics, newspapers, and audio and graphic materials as they relate to Wisconsin. It maintains a museum, library, and research facility in Madison, as well as a statewide system of historic sites, school services and area research centers. It administers a broad program of historic preservation and publishes a wide variety of historical materials, both scholarly and popular. The historical society can also aid with various state and federal programs.

**National Park Service**

The National Park Service administers the National Register of Historic Places. In addition to honorific recognition, listing in the National Register provides:

- Consideration in planning for Federal, federally licensed, and federally assisted projects
- Eligibility for certain tax provisions
- Qualification for Federal grants for historic preservation, when funds are available

**National Trust for Historic Preservation**

The National Trust for Historic Preservation is a nonprofit organization with more than 200,000 members. The Trust provides leadership, education, and advocacy training to support efforts to save America's historic places.

**Wisconsin Trust for Historic Preservation (WTHP)**

The WTHP, established in 1986, is a private non-profit organization dedicated to the preservation of the historical, architectural, and archaeological heritage of Wisconsin. The Trust advocates for legislation and policies designed to encourage statewide historic preservation. Examples of some of the programs they initiate are:

**Wisconsin Main Street Program**

A comprehensive program designed to revitalize designated downtowns and give new life to historic business districts.

**Heritage Tourism Initiative**

The Heritage Tourism Initiative has helped develop grassroots heritage tourism organizations by encouraging Wisconsin communities to use their unique features to tap into the mushrooming heritage tourism market -- and protect that heritage at the same time.