

## **CHAPTER 5      Agricultural, Natural and Cultural Resources Element**

### **Section 5.1      Introduction**

The natural and cultural resources of the Town of Hull are an important reason why most people choose to live here. Substantial natural woodlands and wetlands, rivers and creeks, and abundant wildlife all come together to create a pleasing environment.

The residents of the Town of Hull recognize the value of their unique landscape and understand that it supports and sustains a way of life they are proud of. This section of the chapter will describe the existing agricultural resources inventory in the Town. The chapter will conclude with a summary of findings and make recommendations for the long and short term management of those natural and cultural resources that are important to the Town of Hull residents.

### **Section 5.2      Agricultural Inventory**

#### **A.      Highly Productive Agricultural Soils**

Highly productive agricultural soils in the Town of Hull have been identified, with the assistance of the county conservationist, based on highest productivity and lowest degree of limitations for farming (Map 5.1, Highly Productive Agricultural Soils). Slopes greater than 6% were excluded from the “highly productive” designation (due to severe hazard for water or wind erosion), along with stony, rough, and eroded sites.

#### **Highly Productive Soils:**

Dancy sandy loam  
Dunnville very fine sandy loam, 2-6%  
Dunnville very fine sandy loam, mottled variant subsoil, 1-3%  
Meehan loamy sand, 0-3%  
Mosinee sandy loam, 2-6%  
Rockers loamy sand, 1-3%  
Point sandy loam, 1-3%

#### **B.      Farming Systems, Demographics, and Land Tenure**

The Town is located on the northwestern edge of the large irrigated plain known as the “golden sands” region of Wisconsin. This area, situated between Amherst and the Stevens Point, sustains higher intensity vegetable production that includes: potatoes, beans, corn, and peas. There are few producers who have scattered vegetable operations within the Town. The presence of pivot irrigation rigs is one key indicator of vegetable production. There were 2 irrigation pivots in Hull in 2000. Vegetable production is not the only type of agricultural operation in Hull.

There are several active dairy farms in the Town of Hull. Wisconsin Department of Agriculture 2002 permit information list two (2) active grade-A dairy farms operating in the Town. To the west in Carson there were thirty-nine (39), to the north in Dewey there were four (4), to the east in Sharon there were twenty (20), and Stockton there were twenty-four (24).

There were 46 persons employed in an agriculturally related field in the Town of Hull in 2000 (Table 1.9, Issues and Opportunities section). This represented 1% of employment for the Town. This is down only slightly from the 1980 figure of 62 persons (1.2%). Hull had a lower percentage of agriculture related employment in 2000 when compared to the Portage County town average of 6.9%. Decreasing farm employment is not a unique trend by any means. Farm numbers are down, while acreage per farm is up. Farm consolidation is a common practice in this industry.

The amount of land dedicated to agricultural production does change regularly from year to year. In 2000, the Portage County Planning and Zoning Office analyzed aerial photography for the Town of Hull to identify active farmland within the Community. The land in farms was broken down by presence of irrigation (773 acres), use for row crops or hay, (1,875 acres) and permanent pasture, (8 acres). Total agricultural acres identified for 2000 were 2,656.

#### C. Farm Economy and Infrastructure

Because of the lack of farm economy information available at the town level, a detailed discussion of the farm economy at the town level is not practical. Please see the complete discussion of the Portage County farm economy in the Agriculture, Natural and Cultural Resource element of the Portage County Comprehensive Plan.

#### D. Other Local Influences on Agriculture

The Hull area continues to experience increased pressure for the development of residential properties due to its proximity to Stevens Point. Portions of the Town are likely to be identified as growth areas for the City of Stevens Point, and as such, loss of land base through annexation remains likely through this planning period.

### **Section 5.3 Natural Resources**

Natural resources in the Town of Hull serve as the foundation for residents physical and economic well being – from groundwater quality to land suitability for agricultural, residential, or commercial development. According to the results of the 2001 Comprehensive Planning Survey, Town residents favored managing the natural resources that support and sustain them.

This section will describe the existing natural resources inventory in the Town.

#### A. Geomorphology

The present Portage County landscape primarily reflects the last or Wisconsin stage of the Pleistocene or glacial epoch (Holt, 1965). The glacial ice transported large amounts of rock debris known as drift. The drift is called till if deposited directly by the ice, and outwash if placed by glacial meltwater.

As the ice melted and the end moraines were formed, large amounts of ice-transported materials were removed by the meltwaters. This glaciofluvial (outwash) material was deposited between the moraines and in a large area to the west. The deep sand and gravel deposits of the sand plain province were formed in this way. The sand and gravel is well sorted and contains only small amounts of silt and clay. Deeper gravel deposits are found adjacent to the end moraines. The sands are generally finer further from the moraine. The thickness of outwash deposits ranges from less than 30 feet northeast of Stevens Point to over 200 feet near the outer moraine. They average about 100 feet.

Map 5.1: Highly Productive Agricultural Soils

Map 5.2: Soils

Map 5.3: Topography

Glacial presence is less noticeable in the drift-crystalline rock province in the northwestern portion of the County. Although this area is mapped as part of the driftless or unglaciated area of Wisconsin, there are thin, heterogeneous till and outwash deposits of clay, silt, sand, and gravel from an earlier glacial period. The average thickness is only four feet. The topography is controlled primarily by the shallow granitic bedrock, and soil properties reflect the underlying bedrock residuum and the loamy, silty nature of the unconsolidated materials.

Areas identified as alluvium are post-glacial deposits of materials eroded from uplands and accumulated in lower areas such as marshes (organic-rich clay, silt, sand, and peat) and stream valleys (well-sorted silt, sand, and gravel). These alluvial deposits range from a few feet to over 60 feet in thickness.

The topography of the Town of Hull is generally flat to slightly rolling and includes many lowland wet areas (Map 5.3). The depth to bedrock varies greatly throughout the Town, ranging from 0 – 50 feet in the western half, and 51 – 100 feet in the eastern half.

## B. Soils

Soils in the Town (Map 5.2) can be grouped into four soil associations, as follows:

Point-Dancy-Mosinee association: Well-drained to somewhat poorly drained, nearly level to gently sloping soils that formed in loamy deposits and the underlying loamy residuum from igneous rocks. These soils are found in the northeastern portion of the Town and are used primarily as pasture or woodland. Point soils are saturated with water at a depth of less than 3 feet and Dancy soils at a depth of less than 1 foot during periods of wetness.

Plainfield-Friendship association: Excessively drained and moderately well drained, nearly level to sloping soils that formed in deep sandy deposits. These soils are found in the northeastern and central portions of the Town and are used primarily as crops, woodland, and pasture. Plainfield soils have a rapid permeability with a low available water capacity. Friendship soils are saturated with water at a depth of 3 to 5 feet during periods of wetness.

Roscommon-Meehan-Markey association: Somewhat poorly drained to very poorly drained, nearly level soils that formed in deep sandy deposits or, in places, in organic deposits that overlie the sand. These soils are found in the east-central portion of the Town and are used primarily as pasture or woodland. Ponding is common in undrained areas and saturation occurs at a depth of less than 3 feet during periods of wetness.

Alluvial land, wet-Dunnville association: Well drained to very poorly drained, nearly level soils that formed in river or stream transported deposits. These soils are found along the Wisconsin River where most of the alluvial land is subject to flooding, while areas of Dunnville soils not subject to flooding have moderate limitations for septic drainfields and basements.

## C. Surface Water, Wetlands, and Flood plains (Map 5.4)

The major surface water bodies that are present in the Town of Hull are the Wisconsin River, Hay Meadow Creek, the Plover River, and Jordan Pond. The Wisconsin River flows from the north to the south-southeast and serves as the western boundary for the Town. Hay Meadow Creek starts in the Dewey Marsh, in the Town of Dewey, and flows south into the Town of Hull.

It then flows in a southwest direction into the Wisconsin River. Areas surrounding Hay Meadow Creek are subject to flooding from major storm events and meltwater from the spring thaw. The Plover River flows south along the northeastern border until it forms the Jordan Pond due to an impoundment at STH 66. From there, it meanders to the southwest until it joins the Wisconsin River in the Village of Whiting.

Other surface water features in Hull include Jordan Pond, 83 acres in size, which is located in the northeast part of Hull, Lost Creek, which flows into the east-central part of the Town, Moses Creek, located in the eastern half of the Town, and Beaver Run Creek, by St. Casimir's Church. There are also other intermittent and ephemeral waterways that drain into Hay Meadow Creek and the Wisconsin River.

The majority of the Town of Hull is located in the Little Eau Claire River, Plover, and Little Plover River watersheds. A watershed can be defined as an interconnected area of land draining from surrounding ridge tops to a common point such as a lake or stream.

Wetlands 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 shorelands and providing essential wildlife habitat, flood control and groundwater recharge. Wetlands within the Town of Hull include three general types: forested, scrub or shrub, and emergent/wet meadow.

1. Forested wetlands are the predominant type, including bogs and forested floodplain 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. These wetlands are located primarily along the edge of the Wisconsin River floodplain, along Hay Meadow Creek, and in the south-central portion of the Town, just north of the City of Stevens Point.
2. Emergent/wet meadow is the second most numerous type of wetland and consists of 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, milkweed, sneezeweed, mint and several species of goldenrod and aster. These types of wetlands are found in the north central portion of the Town, north of Hay Meadow Creek, and also in the south-central portion of the Town, also just north of Stevens Point.
3. Scrub/shrub wetlands, the third most abundant type include bogs and alder thickets, are characterized by wood shrubs and small trees such as: tag aster, bog birch, willow and dogwood. These are also found primarily along Hay Meadow Creek and along the Wisconsin River.

A floodplain is defined as that area which has been or may be covered by floodwater during the regional flood. The flood plain includes the floodway and floodfringe areas. A 100-year Flood is defined as a flood event having a one percent chance of reaching the 100-year flood elevation in any given year. Contrary to popular belief, it is not a flood occurring once every 100 years. A 100-Year Floodplain then is the area adjoining a river, stream, or watercourse covered by water in the event of a 100-year flood.

Floodplains provide many benefits including natural flood and erosion control, water quality maintenance, groundwater recharge, and fish and wildlife habitat. Some of these areas are also desirable for residential development due to aesthetic reasons and agricultural development due to the presence of nutrient rich soils. If development in these areas increases, the benefits listed above will decrease, restrictions on buildings are necessary.

Map 5.4: Surface Water, Wetlands, and Floodplains

Map 5.5: Groundwater

#### D. Groundwater (Map 5.5)

The primary source of water for residents in Hull is found in aquifers of varying depths and is obtained via private wells. The groundwater aquifer refers to a saturated, permeable geologic formation that yields significant quantities of water. The northwest part of the Town of Hull, which is comprised of a shallow layer of glacial till overlying granite bedrock, contains only limited groundwater supplies. The southeast part of the Town is comprised of a deep layer of sand and gravel overlying bedrock, which contains abundant groundwater. This critical aquifer provides the potable water supply for the city of Stevens Point and the majority of residents in the Town of Hull, as well as providing a high-yield water supply for agricultural irrigation. Potential pumping yield rates for groundwater range from over 1000 gallons per minute in the southeast portion of the Town to less than or equal to 20 gallons per minute in the western two-thirds of the Town.

Groundwater quality has become a major concern in the Town of Hull and throughout Portage County. There are many potential sources of groundwater pollution, including: agricultural activities, such as the use of fertilizers, pesticides and herbicides, as well as animal waste storage; residential activities, such as the use of septic systems and the fertilization of lawns; the use of underground petroleum storage tanks, runoff from parking lots and land spreading of various industrial wastes; and municipal activities, such as the use of road salt, land spreading of wastewater treatment sludge, and landfilling of solid wastes.

Local geologic and soil conditions increase the potential for groundwater pollution. In the northwest part of the Town, the combination of shallow soil depths and a high water table provide a lesser degree of natural protection against groundwater contamination than other areas. The sandy soils in the southeast part of the Town are also vulnerable to groundwater contamination because of their coarse-textured, highly permeable nature, which allows pollutants to leach downward into the groundwater.

Perhaps the most common groundwater problem in the Town and County involves the presence of elevated levels of nitrates in some private wells. Within the Stevens Point Urban Area, nitrate contamination of municipal wells has occurred in the Villages of Whiting and Plover, requiring the use of costly denitrification systems. While groundwater contamination has been most evident in areas immediately adjacent to pollution sources, more distant parts of the aquifer, lying down gradient from pollution sources, are also susceptible to contamination due to the transfer of pollutants via groundwater movement. State and Federal regulations advise that nitrate levels in drinking water not exceed 10 parts per million (ppm) for health reasons. According to Portage County records, 987 private drinking wells have been sampled in the Town for nitrates dating back to 1980. During that time 175 wells were found to have nitrate levels above 10 ppm.

The Portage County Groundwater Management Plan indicates that proper lot size is a critical factor in preventing groundwater pollution from private sewage systems. The traditional 1/2 acre lots used in many parts of the Town and County in previous years have been found to provide insufficient area to prevent degradation of groundwater quality. Lot sizes of 2 acres or more were found to be needed to minimize potential groundwater problems. However, It is important to note that the 2 acre lot size is considered to be a minimal protection standard. Two acre lots may be insufficient to protect groundwater quality where extensive areas are developed at such densities.

## 1. Atrazine Prohibition Areas

The U.S. Environmental Protection Agency (EPA) is researching the health effects of atrazine in water. Drinking water that contains atrazine will not cause an immediate sickness or health problems (acute toxicity). However, consuming low levels of atrazine over time may cause health problems (chronic toxicity). The EPA is also concerned that atrazine may be an endocrine disruptor which can cause unintentional hormone-like activity in the body.

The Wisconsin Department of Agriculture, Trade and Consumer Protection is responsible for protecting Wisconsin's groundwater from contamination by pesticides and fertilizers. Their authority to restrict the use of a pesticide that is contaminating groundwater at levels above health-based standards is found in the Wisconsin Groundwater Law, Chapter 160 of the Wisconsin Statutes, and by department rule in ATCP 31, Groundwater Protection Program.

The rules for restricting the use of atrazine and other pesticides in Wisconsin are part of ATCP 30 - Pesticide Product Restrictions and the county maps showing the location of the prohibition areas can also be found in the rule in ATCP 30 - Appendix A.

No atrazine has been detected in wells within the Town of Hull and because of this, no prohibition area has been defined within the community.

## E. Wildlife Habitat and Forested Areas

When people think about wildlife, birds, fish, and mammals most likely come to mind. It is important, however, to consider all organisms that make up an ecosystem in order for that system to continue providing the maximum benefit to humans and the environment. Town residents recognize the fact that human beings play a role in protecting or restoring, as well as, degrading or destroying wildlife and its habitat. They also recognize that it will be very difficult to preserve all ecosystems in the Town from human encroachment or interaction, therefore, it is the desire of residents to protect wildlife habitat where practicable.

The biggest threats to wildlife are loss of habitat quality and quantity. These threats can be attributed primarily to fragmentation, invasive species, and pollution. Fragmentation refers to the loss of large, contiguous sections of land through subdivision into smaller parts. These subdivisions can lead to an alteration and possible degradation of the native plant and animal communities. Invasive species, both plant and animal, tend to out compete or prey on native species also altering the native ecosystem. Pollution can lead to habitat degradation and cause birth defects and increased mortality rates in animal species.

Habitat areas are important for providing food and cover for nesting, brooding, and sheltering. Farmland is one type of habitat that also provides food, as well as, travel corridors between wetlands and woodlands.

Woodlands or forested lands comprise 47% of the land area in Hull (Map 5.6) while wetlands make up 22%. According to 2001 County survey data, 84% of residents felt that an effort should be made to identify and protect woodlands, and 79% felt the same about wetlands and floodplains. Woodlands present in the Town are due primarily to an inability to sustain successful agricultural practices. Loss of these habitat types can threaten the viability of certain species.

Map 5.6: Forested Land

The Plover River basin provides a relatively natural/undisturbed, environmental corridor connecting Jordan County Park and Iverson city Park. Recognizing the environmental importance and recreational potential of this corridor, the Hull Town Board, the Portage County Board and the Stevens Point Common Council initiated action in 1975 to restrict new development in an area at least 100 feet landward of the highest river bluff, through the application of the Conservancy Zoning District and related setbacks. This Conservancy District boundary was introduced in areas of existing development, to avoid creating nonconforming situations. In other areas, however, the boundary extends well beyond the 100 foot standard, where straight survey lines were used as a reference and did not closely follow the curvilinear bluff line.

The County Outdoor Recreation Plan identifies the Plover River corridor for preservation, either through County acquisition or through the use of scenic easements. Acquisition is contingent upon the availability of funds and the willingness of the landowners to sell. Although the primary interest in preservation/acquisition has focused on the river segment between Jordan and Iverson Parks, the County is interested in preserving the entire Plover River corridor, including the segment north of Jordan Park.

#### 1. Threatened and Endangered Species

Known rare and endangered animal species identified by the Wisconsin Natural Heritage Inventory (NHI) that are located within the Town of Hull, Village of Park Ridge, and City of Stevens Point include: Red-Shouldered Hawk, Osprey, Least Darter, Redfin Shiner, Pugnose Minnow, Barrens Snaketail (dragonfly), Arctic Shrew, Pigmy Shrew, Water Shrew, Woodland Jumping Mouse, Prairie Vole, and Franklin's Ground Squirrel. Rare and endangered plant types include: Northern Sedge Meadow, and Shrub-Carr wetland communities. These elements should be taken into consideration when development and protection measures are considered. A more detailed description of each species can be obtained by contacting the WI DNR.

#### F. Air Quality

The following information comes from the WI DNR and the U. S. Environmental Protection Agency:

A few common air pollutants are found all over the United States. These pollutants can injure health, harm the environment and cause property damage. The Environmental Protection Agency calls these pollutants **criteria air pollutants** because the agency has regulated them by first developing health-based **criteria** (science-based guidelines) as the basis for setting permissible levels. These pollutants include: ozone, nitrogen dioxide, sulfur dioxide, carbon monoxide, particulate matter, and lead.

One set of limits (**primary standard**) is designed to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly; another set of limits (**secondary standard**) is intended to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. A geographic area that meets or does better than the primary standard is called an **attainment area**; areas that don't meet the primary standard are called **nonattainment areas**.

All of Portage County, including the Town of Hull, is listed as an attainment area by WI DNR.

## **Section 5.4 Cultural Resources**

How can you know where you're going if you don't know where you've been? 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 Town is constrained due to limited financial and human resources.

### **A. Cultural and Historic Resources Inventory**

A wide range of historic properties have been documented that help create Wisconsin's distinct cultural landscape. Descriptions of existing locations are identified on the list of historic places by the Wisconsin Historical Society. Keep in mind many of the properties included in this inventory are privately owned and not necessarily open to the public, so please respect the rights of private property owners. At this time, there are fourteen listings in Hull, which include houses, buildings, barns, churches, school houses, dams, bridge, and a power plant. Among the more conspicuous sites include:

- Jordan Dam – a dam located on the Plover River, near the intersection of State Highway 66 and Brilowski Road.
- Jordan Power Plant – a power plant at the intersection of State highway 66 and Brilowski Road.
- St. Casmir's Church – a Romanesque Revival style brick church constructed in 1913 located on the south side of Casmir Rd.
- St. Casmir's School - a one to six room brick school house constructed in 1888 located on W. Casmir Rd.
- St. Casmir's Rectory – a Queen Anne style brick rectory located on the south side of Casmir Rd.
- Cranking Crane Archeological Site – A Native American archeological site where people lived for thousand's of years along the Wisconsin River.

*“St. Casmir's Church is located three miles north of Stevens Point, near Highway 51. The parish was organized in 1871 by Father Joseph Dabrowski, pastor of Sacred Heart Church at Polonia. There was no Polish Catholic church at Stevens Point at that time. The present highway 51 was a Pony Express road. Indian trails were used for travel and people walked as many as 20 miles to get to church. So Father Dabrowski asked Bishop Henni of Milwaukee to allow him to build a church at this location. With permission granted, the erection of a little church was started in 1871, to be known as ‘The Little Chapel.’ Father Dabrowski attended this little chapel on horseback. The locality became known as Casimir.*

*A meeting held in December, 1886, is the parish's oldest record. At this meeting the parish decided to build a school. The foundation for the school was laid in 1886. The school was finished in October, 1888, and Lucas Dziekan, a parishioner, was hired to teach for \$20 a month,*

*beginning Nov. 5, 1888. In 1894 the congregation voted to change the name of the parish from Hull to St. Casimir, Portage County, Wis.*

*In February, 1896, Father Nicodemus Kolasinski succeeded Father Grabowski. We have no records of what took place during his pastorate. In the minutes of a meeting held by the parish, it is stated that by order of His Excellency, Bishop Messmer, the records were destroyed.*

*In October, 1898, Father T. Malkowski became the successor of Father Kolasinski with Torun attached as a mission. Four months later he was succeeded by Father Kula. In October, 1904, Father B. Polaczyk succeeded Father Kaspera.*

*The present rectory was built during his pastorate. In 1916 the wooden church was destroyed by fire. A new brick structure, costing about \$5,000 was built and dedicated in November of the same year.” (reprinted from an article written by Fr. James E. Noonan, O.M.T. and printed in the La Crosse diocesan newspaper in 1955)*

Another source of information comes from the National and State Register of Historic Places. There are currently fourteen sites listed throughout Portage County, however, none are located in the Town of Hull.

There are four cemeteries located in the Town. See the Utilities and Community Facilities Chapter for locations.

Although the Plover River is not listed as a historic place, town residents value it as a resource worthy of protection. The Town of Hull Plan commission identified the Plover River Corridor as a cultural resource that helps identify the character of the Town. They hope that elevating the importance of protecting this unique resource will encourage adjacent municipalities to do likewise.

## **Section 5.5 Agricultural, Natural, and Cultural Resources Conclusions**

### **A. Summary of Findings**

1. At one time Hull was primarily farmland. Today only a few working farms exist and there is not a significant amount of prime agricultural land in the Town of Hull.
2. Groundwater quality is very important to Hull citizens.
3. Subdivision development and lot size have important impact on natural resources.
4. The Plover River is a crucial natural resource in Hull and must be protected. It runs through Hull from Jordan Park to Iverson Park in Stevens Point.
5. The Wisconsin River is major natural resource for Hull and must be protected.
6. St. Casimir Church is an important historical and cultural resource in the Town of Hull.
7. There is a significant amount of wetlands, along with other natural constraints to development such as shallow depth to groundwater or bedrock.

### **B. Issues Outstanding**

1. The continuing need to protect groundwater.  
*What can the Town do to ensure the continued protection of groundwater resources?*
2. The need to plan for subdivision development including appropriate lot sizes.  
*What standards will the Town develop in planning new subdivisions and lot sizes?*

3. The need to protect the Plover River from detrimental impacts.  
*How can the Town of Hull protect the Plover River from detrimental impacts?*

C. Long Term Goals (Goals)

1. Review measures to protect the quality of groundwater.
2. Plan subdivision growth taking into account population trends and protection of natural resources.
3. Review the current practices and policy to protect the Plover and Wisconsin Rivers. Hull could work with the Wisconsin and Plover River Alliances.

D. Short Term Goals (Objectives)

1. Review the impact of subdivision development and specific lot sizes have on natural resources and agricultural land in the Town of Hull.
2. Recognize significant cultural, historical and natural resources including but not limited to St. Casimir Church, the Plover River and Jordan Dam.

E. Action Plan (Policies)

1. The Hull Plan Commission should review current groundwater protection practices and suggest additional measures. A report will be presented to the Hull Town board for review and action.
2. The Hull Plan Commission should develop a land use plan identifying areas for subdivision growth. The plan will be presented to the Hull Town Board and Portage County for review and approval.
3. The Hull Plan Commission should identify current policies and practices to protect the Plover River. A report will be submitted to the Hull Town Board for approval.