

CHAPTER 5 Agricultural, Natural and Cultural Resources Element

Section 5.1 Introduction

The agricultural, natural and cultural resources of the Town of Grant play important roles in why most people choose to live here. Substantial natural woodlands and wetlands, varied abundant wildlife, and flat topography that makes for productive farms and farmland all come together to create a landscape rare in Wisconsin.

The residents of the Town of Grant recognize the value of their unique landscape and understand that it supports and sustains a way of life they are proud of. For those who choose to farm the land here, the community supports their efforts and works to minimize barriers that impede this economically viable industry. The residents also understand that the identification and protection of the natural resources of the community will help sustain a rich quality of life that is enjoyed by all who settle here.

Section 5.2 Agricultural Resources

A. Highly Productive Agricultural Soils

Highly productive agricultural soils in the Town of Grant 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 small parcels and stony, rough, and eroded sites

The Town has very little soil listed as prime, however, due to intensive management practices (including drainage, irrigation, fertilizing, and aerial spraying); many areas of the Town have been rendered highly productive. Some of these practices may result in negative consequences such as high nitrate levels in groundwater.

The following soil types have been identified as those of highest productivity in the Town:

- Friendship loamy sand 0-3% slopes
- Meehan loamy sand, 0-3% slopes
- Pearl loamy sand, 1-3% slopes
- Leola loamy sand, 0-2% slopes
- Plainfield loamy sand, 0-2% slopes

B. Farming Systems, Demographics, and Land Tenure

The Town is located in one of the two major farm regions in Wisconsin. The first and most prominent is the dairy region. In Wisconsin, dairying is most concentrated in a belt that begins near Hudson (St. Croix County), heads east to Wausau and Green Bay (Brown County), then turns southwest through Fond du Lac, Madison and ends near Dubuque (Iowa County). Wisconsin Department of Agriculture 2002 permit information list two (2) active grade-A dairy farms operating in the Town of Grant. To the north and west in Plover, there are four (4) farms; to the east; in Pine Grove there are three (3), and in Buena Vista, are twelve (12) farms.

The second farming region in Portage County, which includes Grant, is that of fresh vegetable production. The irrigated sands of the “golden sands” region of Wisconsin lay between the Amherst and Stevens Point area, and south into Waushara and Adams Counties. There were a number of producers who had vegetable operations within the Town, as evidenced by approximately 34 irrigation pivots identified from year 2000 aerial photography. The Town of Grant/southern Portage County area is also home to several cranberry growing operations.

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 Grant to identify active farmland within the Community. The land in farms was broken down by presence of irrigation, 9,531 acres; use for row crops or hay, 4,445 acres; and permanent pasture, 1,246 acres. Total agricultural acres identified for 2000 were 15,222.

There were 34 persons employed in an agriculturally related field in the Town of Grant in 2000 (Table 1.10, Issues and Opportunities section). This represented 3.2% of employment for the Town. This is down slightly from the 1980 figure of 39 persons (6.2%). Grant has a lower percentage of agriculture-related employment when compared to the town average in Portage County of 6.9% for 2000. Decreasing farm employment is not a unique trend by any means. Farm numbers are generally down, while acreage per farm is up. Farm consolidation is a common practice in this industry.

D. 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 Resources Element of the Portage County Comprehensive Plan.

E. Other Local Influences on Agriculture

1. Portage County Drainage District (Map 5.4a)

The Portage County Drainage District was organized in 1903 to develop and maintain a series of drainage ditches that would make agriculture on and near the Buena Vista Marsh possible. Construction began in 1907 and was completed in 1915. Due to such adverse conditions as acid soil, fire, frost, and the high cost of re-dredging, farming became unprofitable. Increased interest in irrigated agriculture for mint, potatoes, hay and pasture led to the re-dredging of the ditches in the late 1960's. Currently, the Portage County Drainage District is the largest active district in the State. (Lake Wazeecha Watershed Inventory Report, 1993)

The Drainage District is approximately 87 square miles in size and contains approximately 93 miles of District operated ditches, 41.5 miles of "private drains" and 5 miles of perennial streams. The construction and maintenance of District operated ditches is regulated by a Wisconsin Department of Natural Resource (DNR) "Maintenance Dredging Agreement" and ATCP 48 of the Wisconsin Administrative Code under Department of Agriculture, Trade, and Consumer Protection (DATCP). (Prototype Management Plan for the Portage County Drainage District, 1994).

The Portage County Drainage District oversees the maintenance of these ditches through statutory authority. A tax is levied against land in the district receiving benefits from the ditches. The taxes are used for maintenance of the ditches. In recent years, the ditches have realized a need for extensive dredging and most ditches require a permit from the Department of Natural Resources. Although some permits have been granted, there have been conflicts between the Drainage District and the DNR concerning authority and jurisdiction over the ditches. The presence of and continued maintenance of the ditches will be necessary to sustain agricultural production.

There are a number of areas in the Town that have serious flooding problems related to ditches that have overgrown plants, fallen trees or siltation. The most noteworthy

Map 5.1 Highly Productive Agricultural Soils

flooding occurs along County Road U, which has also created problems in Wood County. Cooperation with local and State governmental authorities will be necessary to resolve the problems.

2. Adams County Drainage Board, Leola Drainage District

The Leola Drainage District was also created in the early 1900's, similar to when the Portage County Drainage District was created. Approximately 800 acres of this district are located in the southern portion of the Town of Grant (Map 5.4a). This district is under the jurisdiction of the Adams County Drainage Board since the majority of the acreage of the district is located in Adams County.

The Drainage Board levies taxes on lands within the district for projects such as ditch dredging and maintenance.

3. Location

The Grant area is experiencing increased pressure for the development of rural residential properties, especially in the Kellner area. This increased interest in Grant has brought more homes near the agricultural landscape, increasing the potential for conflict, increased the assessed value of non-farm lands, and most importantly, potentially increasing the sale price per acre of land beyond the point of being economically viable for purchase as farmland. The fact that the Town of Grant is centrally located between Wisconsin Rapids and the Stevens Point/Plover area may continue to make the Town a desirable destination for households whose members work in the different urban centers. The Town Plan Commission and Board remain receptive to creative approaches to minimizing farm/non/farm conflicts. See Section 5.5F below for a discussion of "open space" residential development design.

F. Agricultural Programs

- Conservation Reserve Program (CRP)

The Conservation Reserve Program, administered through the Farm Service Agency (FSA), is a voluntary program for agricultural landowners. Through CRP, one can receive annual rental payments and cost-share assistance to establish long-term, resource conserving covers on eligible farmland. Participants enroll in CRP for 10 to 15 years.

- Conservation Reserve Enhancement Program (CREP)

The Conservation Reserve Enhancement Program, also administered through the Farm Service Agency (FSA), is a voluntary program that helps agricultural producers protect environmentally sensitive land, decrease erosion, restore wildlife habitat, and safeguard ground and surface water. Through CREP, one can receive annual rental payments and cost-share assistance to establish long-term, resource conserving covers on eligible farmland. Like the CRP, participants enroll in CREP for 10 to 15 years.

- Environmental Quality Incentives Programs (EQIP)

The Environmental Quality Incentives Program (EQIP) is a voluntary conservation program. It supports production agriculture and environmental quality as compatible goals. Through EQIP, farmers may receive financial and technical help with structural and management conservation practices on agricultural land.

EQIP may pay up to 75 percent of the costs of eligible conservation practices. Incentive payments may be made to encourage a farmer to adopt land management practices, such

as nutrient management, manure management, integrated pest management, and wildlife habitat management.

- Wetlands Reserve Program (WRP)

The Wetlands Reserve Program is a voluntary program to restore and protect wetlands on private property. It is an opportunity for landowners to receive financial incentives to restore wetlands that have been drained for agriculture.

Landowners who choose to participate in WRP may sell a conservation easement or enter into a cost-share restoration agreement with USDA to restore and protect wetlands. The landowner voluntarily limits future use of the land, yet retains private ownership. The landowner and Natural Resources Conservation Service (NRCS) develop a plan for the restoration and maintenance of the wetland. The program offers landowners three options: permanent easements, 30-year easements, and restoration cost-share agreements for a minimum 10-year duration.

- Wildlife Habitat Incentives Program (WHIP)

The Wildlife Habitat Incentives Program (WHIP) is a voluntary program for people who want to develop or improve wildlife habitat on private lands. It provides both technical assistance and cost sharing to help establish and improve fish and wildlife habitat.

Landowners agree to prepare and implement a wildlife habitat development plan. The U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) provides technical and financial assistance to implement the wildlife habitat restoration practices.

Section 5.3 Agricultural Issues and Conclusions

The following agricultural issues have been identified throughout the planning process:

- The Town has significant potential for the expansion of agriculture both for beef raising and field crops. There has been a significant conversion of open lands to field crops since about 1970. Most of the new field cropping relies upon drainage and irrigation.
- The presence of highly permeable soils could possibly result in some high concentrations of nitrates in groundwater supplies due to rapid percolation of fertilizers from the extensive surrounding farmland.
- Much of the land within the Town is high value intensive farmland that would be threatened by significant urban sprawl development in the area. The preservation of this productive resource and the avoidance of land use conflicts constitutes an important justification for Town growth management plans and development controls. “Open space” residential development design should be considered by the Town as a way of preserving agricultural land.

Section 5.4 Agricultural Goals, Objectives, and Policies

A. Goals:

1. Preserve productive agricultural land.
2. Protect people, air, soil, water, and wildlife resources using environmentally sensitive agricultural practices.

B. Objectives:

1. Discourage unnecessary development on productive agricultural land by identifying lands which present the best opportunity for sustainable production based on type of agricultural activity, landscape (soils, groundwater, slope, etc) and relationship to existing uses.
2. Protect the principle use and purpose of the drainage ditches, namely Agriculture.
3. The agricultural community is economically viable.
4. Educate the public about the operations and activities of the agriculture community.
5. Agricultural practices are unencumbered by development.
6. Encourage the incorporation of best management practices suited to the farming activities prevalent in the Town of Grant.

C. Policies:

1. Use A1, Exclusive Agricultural Zoning to protect productive farmland.
2. Continue cooperative working relationship with Portage County and Leola Drainage Districts.
3. Dredging of drainage ditches as necessary town-wide.
4. Develop a cooperative relationship with surrounding Towns with regards to drainage system management.
5. Identify the Town's responsibility for educating and informing developers, land owners and purchasers on the impacts and importance of agriculture in the community.
6. Promote opportunities to educate the public through signage, farm days and other public relations occasions.
7. New development is responsible for providing appropriate buffers from incompatible uses.
8. Conditions resulting from normal agricultural operations, such as dust, noise, odor, spraying, ag equipment traveling on roads, etc. shall not be considered a nuisance as long as they do not harm public health or safety.
9. Work with the Farm Service Agency, UW-Extension, Land Conservation Department, and other organizations to provide information regarding best management practices for agriculture.

Section 5.5 Natural Resources

Natural resources in the Town 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 and Zoning Survey, Town residents favored managing the natural resources that support and sustain them.

This section will describe the existing natural resources inventory and state the issues, goals, objectives, and policies that were identified and adopted by the Town of Grant Plan Commission and Town Board.

A. Geomorphology

The physical environment and geology of the area traces its origin to the effects of the melting glaciers over 10,000 years ago. The area is part of Wisconsin’s “driftless” area, never having glacial deposits or “drift” left behind by glaciers as was the case about 10 miles to the east of the Town where glacial moraine hills were formed by glacial deposits. The surface geology of the Town was formed when the glacial ice sheets started melting and receding, and in the process depositing great depths of out-wash deposits, mostly sand, from the melt-water flowing from the glacier westward to what is now the Wisconsin River Valley. There are no lakes in this area and the few streams present have mostly been converted into a series of inter-connected ditches flowing to the west toward the Wisconsin River. Portions of this plain have a characteristic sand dune topography - small rolling sand mounds and sand blowouts.

These sand deposits extend in excess of 100 feet deep down to bedrock. The Town lies close to or directly over a major bedrock transition zone in the center of the State where deposits of sandstone extending from the south terminates. From this transition point northward, the uppermost bedrock is granite, which also underlies the sandstone to the south. The bedrock slopes from north to south across the County resulting in greater depths of sand in the southern part of Grant than in the northern part.

These deep sand deposits function as an extensive aquifer, which provides a ready supply of good quality water to a large Central Wisconsin region known as the “Golden Sands” area. This aquifer has made possible vast land use and economic changes from idle, non-productive lands to highly productive and valuable farmland by way of high capacity irrigation, which provides needed moisture to the droughty sandy soils. The groundwater is so plentiful that much of the sand plain region, including much of Grant, has a high water table which limits development due mainly to adverse affects on septic waste disposal systems. This high water was a historical limitation to crop production until much of the area had its water table lowered by drainage ditches. This wet soils zone extends across many Towns in Portage County and has been known as the Buena Vista Marsh or Meadow. The moist zone has diversified potential as a wildlife habitat, livestock production and specialty field crops.

The topography of the Town is generally flat and includes many lowland wet areas. The land slopes slightly downward in an east to west orientation with elevation ranging from 1,075 feet to 1,020 feet above sea level (Map 5.2).

B. Soils

Soils in the Town (see Map 5.3) can be grouped into three soil associations, as follows:

Map 5.2 Topography

Map 5.3 General Soil Associations

- 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 southwest corner and along the northern western edge of the Township and are used primarily for crops, pasture, or woodland. Soils are saturated with water at a depth of 3-5 feet during periods of wetness.
- Leola-Pearl association: Moderately well drained and somewhat poorly drained, nearly level soils that formed in outwash sand. These soils are found in the southeast corner of the Town and are used primarily for crops, pasture, or woodland. Soils are saturated with water at a depth of less than 3-5 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 throughout most 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.

Soils vary widely from parcel to parcel across the Town. For more detailed information, consult the Portage County Soil Survey. Soil testing by a certified soil tester is strongly recommended for site specific information.

C Surface Water and Wetlands (Map 5.4)

The major surface water bodies present in the Town of Grant are: streams consisting of Bloody Run, Buena Vista Creek, Four Mile Creek, Fivemile Creek, Tenmile Creek, Twomile Creek, Quinnel Creek, and approximately 31 miles of drainage ditches. The largest navigable surface water body in the Town is Lake Wazeecha, which is a flowage of the Fourmile and Buena Vista Creeks. Most of the Town is within the Portage County Drainage District (Map 5.4a). Many of the Town's ditches were built in the early 1900's for the purpose of lowering the water table of an extensive marshland to accommodate agricultural production. Several of the ditches contain trout and other fish species.

There are number of areas in the Town that have serious flooding problems related to ditches that have overgrown plants, fallen trees or siltation problems. The most noteworthy flooding occurs along County Road U, which has also created problems in Wood County. Cooperation with local and State governmental authorities will be necessary to resolve problems. According to Federal Emergency Management Agency maps, none of the areas surrounding waters in the Town of Grant are designated as floodplains.

The Town of Grant is situated within three watersheds: the Fourteenmile Creek; the Sevenmile and Tenmile Creeks; and the Fourmile and Fivemile Creeks. A watershed can be defined as interconnected areas of land draining from surrounding ridge tops to a common point such as a lake or stream junction with a neighboring land area.

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 Grant include three general types: forested, scrub or shrub, emergent/wet meadow, and drained or filled.

- 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 edges of all the creeks and drainage ditches in the Town.

- Emergent/wet meadow, the second most numerous type of wetland within Grant, consists of areas that may have saturated soils more often than having standing water. Vegetation includes sedges, grasses and rushes 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 throughout the Town, primarily along in the part of the Town within the Portage County Drainage District.
- Scrub/shrub wetlands are the third most abundant type. These wetlands, which include bogs and alder thickets, are characterized by wood shrubs and small trees such as tag aster, bog birch, willow and dogwood. These are found primarily in the part of the Town within the Portage County Drainage District.
- Drained is the fourth type of wetland in the Town of Grant and consists of areas that were formally wetland but have been drained of water mainly for farming purposes. This type of wetland is sporadic throughout the Town, but is mainly in the northern part of the Portage County drainage district area in the Town, and just west of this district.

D. Groundwater

The Town of Grant is located in a geologic province known as the sand-plain province. The sand-plain province is considerably different from the rest of the County in that the basement sandstone bedrock is far from the surface, and the unconsolidated aquifers above it are not very limited. The depth to bedrock generally ranges from 50 - 100 feet with a few isolated areas less than 50 feet, and the depth to groundwater ranges from 5 - 15 feet. Seasonally, depths to groundwater can decrease to less than one foot.

All Town residential water use comes from groundwater sources, therefore, protection of this resource is important. There is generally a thick unsaturated zone, however, given the sandy soil type, there exists little second line defense against pollutants regardless of the nature of the subsurface materials. Possible sources of pollution can include failing septic systems, underground storage tanks, fertilizers, pesticides, improperly abandoned wells, and landfills. Although some of the soils ranked moderate to good in pollution attenuation, this area of the County should be considered vulnerable given the sandy soil type.

Since potable water is obtained primarily from groundwater, consideration should be given to possible sources of contamination, which can include failing septic systems, underground storage tanks, fertilizers, pesticides, improperly abandoned wells, and landfills. Landfills (also formerly known as dumps) have been around as long as people have lived in Portage County, however, the locations of many of the smaller, private dumps are unknown. The amount of materials deposited in these was small, and the toxicities of the materials were likely fairly low as compared to current solid waste. All known landfills, except the current County Landfill located on Cty Rd QQ, have been closed. According to Department of Natural Resources Administrative Code, there must be 1,200 foot separation between a private well or reservoir and the nearest edge of an existing, proposed, or abandoned landfill. However, modifications to this requirement may be granted by the DNR, particularly where a proposed development is upgradient from the landfill site, in terms of direction of groundwater flow. Map 4.1 includes the location of the former Grant landfill and 1,200 foot restricted area.

Map 5.4 Watersheds and Wetlands

Map 5.4a Drainage Districts

Map 5.5 Historic Aquifer Yield Rate

Potential pumping yield rates for groundwater generally ranges from 500-1,000+ gallons per minute throughout the Town. This rate is high when compared to areas west of the Wisconsin River where rates rarely exceed 50 gallons per minute. Water pumping volume data collected from selected private wells within Grant varies greatly across the Town (see Map 5.5). Pumping rates recorded in the Kellner area were as low as 10 gallons per minute. Water availability and potential pumping rates should be taken into consideration as higher density development takes place utilizing private wells.

1. Atrazine Prohibition Areas

The US Environmental Protection Agency 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). Atrazine has not been detected above the Enforcement Standard of 3 micrograms per liter in wells within the Town of Grant 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 Town of Grant is home to the Buena Vista Wildlife Area. Nearly 12,000 acres of this complex provide important wildlife habitat. Two-thirds of the land is owned by the Society of Tympanuchus Cupido Pinnatus, and the other third by the Dane County Conservation League. Smaller parcels are owned by various organizations, trusts, and the state.

Management of this property is controlled by the state consists of developing, improving and maintaining grassland habitat. Common management tools include: mowing, application of herbicides and prescribed burning. Emphasis has also been placed on ensuring a winter food source for wildlife through sharecrop arrangements with local farmers. Forestry/wildlife management practices to encourage aspen growth for ruffed grouse habitat have been implemented on some parcels.

This area is used extensively for by the public for hunting, trapping, berry picking, bird watching, nature study, photography, and dog trialing. Most of the hunting pressure comes during the gun-deer season; however the area is also popular with bow hunters. Forest cover is used by grouse and woodcock hunters. Trapping and hunting of coyote and fox is common on the uplands, whereas trapping for muskrat and mink in the drainage ditches also occurs.

Hundreds of people from throughout the world are guided to observation blinds each year to witness the courtship behavior of the prairie chicken (*Tympanuchus cupido pinnatus*). The grassland habitat also hosts important grassland-dependent songbirds and birds of prey, especially the marsh hawk. Two dog trials are held each September, bringing hundreds of additional visitors from throughout the United States.

At least 25 mammalian species are year-round residents in the Town of Grant. Common game species include: white-tailed deer, red fox, coyote, cottontail, rabbit, raccoon, muskrat, mink,

Eastern gray squirrel, and fox squirrel. Common non game species include: woodchuck, masked shrew, star-nosed mole, red squirrel, striped skunk, eastern chipmunk, and white-footed mouse.

At least 75 species of birds are known to frequent the Town of Grant during the summer months. Common species include: greater sandhill crane, mallard, bluebird, red-tailed hawk, woodcock, mourning dove, tree swallow, Eastern wood peewee, kestrel, Eastern and Western meadowlarks, and various woodpecker and sparrow species. Additional species of birds have been sighted in the area during the fall and spring migration including: whistling swans, common loon, Canada and snow geese, and various duck and shorebird species. Winter residents include the horned lark, northern shrike, snow bunting and occasionally, a snowy owl, great gray owl, and gyrfalcon.

Fish species common within the Town of Grant waters include: Eastern brook trout, brown trout, white sucker, mottled sculpin, pearl dace and blacknose dace. Less common species include: northern pike, hornyhead chub, central mudminnow, brook stickleback, northern redbelly dace, and Johnny darter.

Common reptiles and amphibians include: garter snake, hog-nose snake, red-bellied snake, painted turtle, snapping turtle, American toad, spring peeper, Eastern gray tree frog, and wood frog.

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.

There are two designated State Natural Areas in Grant: the 40-acre Quarry Prairie, a high, dry sand island dominated by native grasses big and little bluestem with scattered Hill's oak, and the 40-acre Buena Vista Meadow/Prairie Chicken Preserve, dominated by introduced grasses with a mixture of sedges and willows. Both are managed by prescribed burning on a four to six year rotation.

Woodlands or forested lands comprise 39% of the land area in Grant (Map 5.6), while wetlands make up 18%. According to 2001 County survey data, 75% of respondents felt that an effort should be made to identify and protect woodlands, and 67% felt the same about wetlands and floodplains. Woodlands that exist in the Town are primarily due to an inability to sustain successful agricultural practices. Loss of these habitat types can threaten the viability of certain species.

1. Threatened and Endangered Species

There are two federally endangered species in the Town of Grant. Both are butterflies: the Karner Blue (*Lycaeides Melissa samuelis*) and the Regal Fritillary (*Speyeria idalia*). There are five State threatened species: Red-Shouldered Hawk (*Buteo lineatus*), Greater Prairie Chicken (*Tympanuchus cupido*), Henslow's Sparrow (*Ammodramus henslowii*), Blanding's Turtle (*Emydoidea blandingi*), and Wood Turtle (*Clemmys insculpta*). There are also two

Map 5.6 Forested Areas

special concern species: the Upland Sandpiper shorebird (*Bartramia longicauda*), and the Great Copper butterfly (*Lycaena xanthoides dione*).

F. Open-Space Residential Design Concept

The intent of the Open Space Design Concept is to support a sustainable rural environment, while permitting limited residential development. Increasing development pressure in rural areas has led to this subdivision design process which would encourage single family development that is more environmentally sensitive and less intrusive upon the existing rural landscape. The Open Space Design Concept allows dwelling units to be grouped onto part of the parcel so the remaining acreage can be preserved as open lands and appropriate separations from agricultural practices and other non-residential uses can be observed. The overall density remains the same as would be found in a traditional development in the existing zoning district.

The open space subdivision design process emphasizes the preservation of agriculture and the natural environment as a basis for the grouping of dwellings. Homes are separated from adjacent property or other groupings of dwellings by the open space that is protected from development.

Figure A shows a finished subdivision using the open space design, while the subdivision on the right (Figure B) depicts a conventionally designed subdivision, splitting the entire parcel into individual lots.

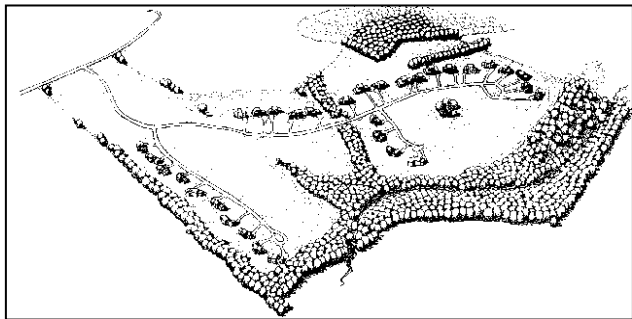


Figure A: Open Space Designed Subdivision

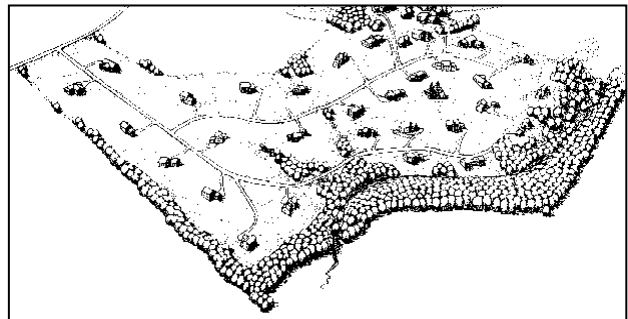


Figure B: Conventional Design Subdivision

The Town of Grant may want to consider using this design concept as another option available to rural landowners.

G. Air Quality

The following information comes from the WI DNR and the 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 **non-attainment areas**.”

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

C. Non-Metallic Mining

The glacial and geologic history of Portage County has made conditions suitable for certain types of non-metallic mining. The eastern portion of the county, along the moraines, has more glacial deposits, resulting in some lands that are desirable for gravel and aggregate extraction. This is in contrast with lands west of the Wisconsin River, where soils are heavier and have higher clay contents. There are significant sand or gravel deposits in Grant, resulting in some extraction pits located in the Town.

Section 5.6 Natural Resources Issues

- Water quality and quantity should be protected for use by residents in the Town of Grant. This includes both ground and surface water resources.

Section 5.7 Natural Resources Goals, Objectives and Policies

A. Goal:

Utilize practices that are environmentally sensitive and protect air, soil, water and wildlife resources.

B. Objectives:

1. Protect the quality of the groundwater aquifer which supplies drinking water to the Town and surrounding area.
2. Development takes into consideration the protection of our natural resources.

C. Policies:

1. Support an educational program for municipal boards and the public related to natural resources issues.
2. Support partnership efforts that result in the preservation and restoration of natural resources.
3. Continue to utilize Conservancy Zoning, as deemed appropriate by the Town Board.
4. Plan and regulate the location and density of residential and non-residential uses in a fashion necessary to avoid groundwater degradation from septic systems in areas not currently sewered (see Map 5.7 below).

Map 5.7: Land Capability for On-Site Waste Systems

Section 5.8 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 of Grant is constrained by limited financial and human resources. This section will provide goals and policies that promote the effective management of historic and cultural 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 seventeen listings in Grant, which include houses, buildings, barns, a town hall, and a church. Among the more conspicuous sites are:

Grant Town Hall - a Gabled Ell clapboard style town hall, constructed in 1904, located on the northeast corner of Kellner Road, on County Road WW and 90th Street.

Moravian Church – a gothic revival style clapboard church constructed in 1909, located on the northeast corner of County Road FF and County Road U.

There is one cemetery located in the Town of Grant: St. John's Lutheran Cemetery, located on Park Road South. 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 of them are located in the Town of Grant.

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 5.9 Cultural Resource Issues

There were no issues or concerns identified by the Town of Grant Plan Commission.

Section 5.10 Cultural Resource Goals, Objectives and Policies

A. Goal: Make the general public more aware of cultural resources.