

4. Agricultural, natural and cultural resources

This element of the comprehensive plan provides an inventory and assessment of the natural, agricultural and cultural resources of the Town of Marshall. Land development patterns are directly linked to the resource base, therefore, these features need to be considered before making decisions concerning future development in the Town.



Agricultural resources

Agricultural lands play an important part in defining the character of communities in Wisconsin and especially in the Town of Marshall, of which more than 72% (16,579 acres) are devoted to agricultural use. Good planning helps rural communities promote agriculture and its

contribution to rural economies, support appropriate development of land, manage renewable resources, avoid unnecessary conflicts among neighboring land uses, protect community features of special value and encourage appropriate community development.

Farmland trends and a history of farming in the Town of Marshall

As related in the 1983, Rusk County Farmland Preservation Plan, "historically, lumbering preceded farming in Rusk County and in the township by many decades. The earliest farms were often operated in conjunction with lumber camps (and remnants of old logging trails are still visible on the land on the north side of Jump River east of Sheldon). In the wake of lumbering activities many lumber companies



had huge cut-over lands on their hands around the turn of the century. In order to remove this land from their tax roles this land was

advertised for sale as farmland. The railroads also helped to build up declining trade by launching huge campaigns to lure immigrants into the area.” Agriculture then became the dominant economic activity in the county and a significant land use, especially in the Town of Marshall, which to this day, 2010, has had the most acreage in farming of any other township in the county and the most farms (UW Extension, 2009). Most clearing of land for farming occurred during the first half of this century.

Overall in the county and in the township over the past fifty years, the number of farms has declined significantly. The past thirty years alone has seen a decrease of 34 farms in the Township, from 74 in 1980 to 40 in 2010. “This has occurred partly because of mechanization and partly because of higher wages in urban centers which attracted young farmers away from the farm. Some of the medium-sized farms have gone out of existence due to farm consolidation or retirement and passing away of the farmers who originally owned and farmed the land.” Even with the decline of farming in the township over the past thirty to fifty years, the number of acres in agriculture in the Township has actually increased by 743 acres.

“The general trend toward farm consolidation (e.g., fewer farms with greater acreage) can be explained to some extent by the trend away from farming as a family operation passed from one generation to the next. Particularly during the 1950s and 1960s, the children of rural farmers were attracted away from the farm by opportunities in urban areas. Thus, a retiring farmer often sold or rented land to other established farmers who needed to enlarge their operations.”

The average size of Wisconsin livestock farms is 130 animal units and according to Wisconsin’s Environmental Initiative (1999), the

trend in livestock production is toward producers increasing their numbers of animal units. In the Town of Marshall, while larger farms have 170 or more total head of cattle, these farms have on average about 70 dairy cattle. There has been a trend, however, in Marshall toward smaller herds of dairy cattle, probably due to the fact that there has been a large number of Amish farmers in the Township.

While there is a trend across the state in dairy expansion, the perception is that the 100–250 unit size will predominate for the foreseeable future. With concerns about expanding livestock operations, the Wisconsin Department of Agriculture, Trade & Consumer Protection Agency issued a September 17, 2008 memo that states, “*if your town or county has not enacted an ordinance to incorporate the livestock facility siting law, you may want to reconsider your decision.*” In conjunction with dairying expansion, some counties and townships in Wisconsin have moved toward initiating agricultural siting ordinances. While Rusk County currently does not have a local livestock facility siting ordinance, Chippewa County, Barron County and one township in southeastern Taylor County do.

The livestock facility siting law does not require local governments to regulate the siting of individual livestock facilities. This is a local decision. If a local government chooses to continue to regulate or begin to regulate the siting of livestock operations, the law limits how they can do this. A

local government has three basic options:

- control land use through zoning districts (which is a county decision for the Marshall Township);
- issue permits for individual facilities; or
- rely on ordinances unaffected by the siting law.



Findings from the surveys

Town of Marshall survey. Table 4.1 summarizes findings concerning agricultural resources in the Township.

Item	Agree	Disagree	Not sure
Current regulatory efforts to control runoff from existing livestock facilities and farm fields are adequate	65%	20%	15%
I have a concern about the size of farming operations in the Township	23%	60%	18%

Preservation of farmland is important	89%	7%	4%
A neighboring farmer's right to farm is important	97%	3%	
Allowing residential development on prime farmland is acceptable	39%	55%	5%

Town of Marshall responses on Rusk County survey. When asked to rate how farming contributes to quality of life in Rusk County, 92% (24/26) respondents rated it as very important or important. Concerning the overall condition of farmland in Rusk County, 58% of Town of Marshall respondents rated this item as excellent/good, 27% average and 15% poor. Seventy-three percent thought that farmlands and agriculture were very adequately/adequately protected and 23% believed that agriculture was inadequately protected. Other findings concerning agricultural resources are found in the Land Use section of this document.

Discussion of the findings

While some of these findings were discussed earlier under the Land Use section of this document, it is worthwhile to note that agriculture is perceived as important to the quality of life in the Township. Three-quarters of the Rusk County survey respondents believed that farmlands and agriculture are adequately protected, but one-quarter of the respondents felt otherwise. Concerning runoff from existing livestock facilities and farm fields, while 65% of the respondents believed that current regulatory efforts controlling runoff were adequate, 45% either disagreed or were not sure. These findings reveal that a sizeable number of Township residents/landowners are concerned about the state of agricultural resources in Marshall. The

relationship between agriculture and natural resources in the Township is covered more in-depth in the following section of this element.

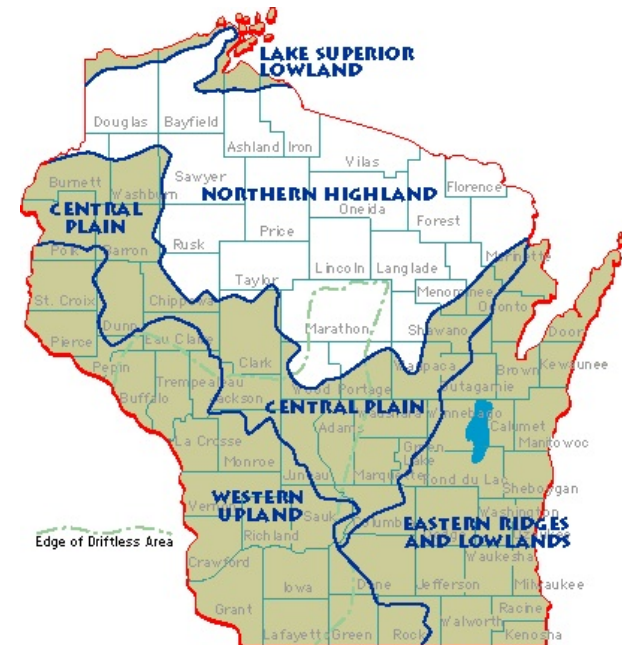
While 60% of respondents (on the Town of Marshall survey) indicated they were not concerned about the size of farming operations in the township, 40% indicated yes and/or had no opinion, which shows that a large number of individuals are concerned and/or not sure about the future of farming in the Township. Several expressed opinions concerning the sizes of farms:

- *“Are there any concerns/issues about someone coming in and having a 4000 cow herd like in the Stetsonville Area?”*
- *“Put more restrictions on big farms.”*
- *“I would prefer family sized farms.”*
- *“The township is primarily agricultural area. Family farms provide a good environment to raise children, and they support local economies and jobs. Before any governmental body considers ordinance/legislation of these enterprises, they should become educated first.”*
- *“Put more limitations on large corporate farms.”*

With increasing numbers of Amish families and farmers moving into the Township and buying what were once originally considered small family farms, it doesn't seem at this point in time that large-scale farming operations are an issue. However, long term development trends are difficult to predict. One outcome of the Comprehensive Planning Process may be to educate the public about the siting ordinance, the implications of large farming operations on the land, roads, and water resources, and to engage Town folk in further discussions concerning large-scale farming operations.

Natural resources

The Town of Marshall lies in the northern highland geographic province of Wisconsin, which covers about one-third of the northern portion of the state. Far back in the geological past, Wisconsin was part of a mountainous region which covered all this state and much territory outside it. There were peaks and ridges similar to those in the Alps. Evidence of this former mountainous condition is from a study of the rocks and the topography of today. The Northern Highland belongs to a great upland area that stretches northward in Canada to Labrador and Hudson Bay.



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Topography and elevation

Glacial deposits cover bedrock throughout the Township. The Town of Marshall lies within an area of recent glaciation; stream valleys are shallow, and drainage is not well established. As a result, the Township is dotted and laced with numerous swamps, several creeks – Main Creek in the northwestern corner with Skunk Creek running into this creek, Little Jump River running from the northeast corner through the central part of the Township northeast corner through the central part of the Town and into the Jump River at the southern part of the Township, Alder Creek running from the mid eastern part of the Township into the Little Jump River, and Shoulder Creek running along the southern part of the township into the Jump River – and the Jump River, which flows through the southern part of Marshall into the Lake Holcombe flowage . The elevation of the Township averages 1128 feet and the latitude is 45.337 degrees north and longitude is 90.985 degrees west.

Soils

Deposits of glacial drift (a mixture of sand, silt, clay and boulders) covers the Township and drainage is not well established, especially in the eastern areas of the county, including Marshall. Depth of glacial drift material varies. As a result, the Township is dotted with numerous swamps. Many depressional areas are filled with peat or muck. Soils throughout the county formed mainly under forest vegetation. Forest soils have a characteristic set of properties, including a leaf litter layer at the surface, a light-colored topsoil, and an increase in clay content in the subsoil. Disturbance may alter vegetation rapidly, but soil properties that indicate past vegetation will remain. Over time, however, soil properties will change to reflect the

influence of the current vegetation. The dark topsoil forms as a result of beneficial agricultural practices, such as crop rotations, soil amendments, and erosion control.

Soil types are defined as the unconsolidated material occurring from the land surface to five feet below the land surface. This is the first material through which water (and accompanying contaminants from the land surface) flow on their way to recharging the groundwater. The soil categories called “associations” have been rated by their ability to restrict the downward movement of water and accompanying pollutants. Important characteristics to consider are soil texture (the amount of sand, silt and clay), organic matter content, permeability and water holding capacity.

Almena-Auburndale. This soil type makes up the majority of the soils in the Town of Marshall and consists of nearly level to gently undulating, somewhat poorly drained to poorly drained, deep silty soils over sandy loam to loam glacial tills. This soil type is good for agriculture, but surface drainage is needed. In their natural condition these soils are acidic and low in fertility, but respond well to lime and fertilizer. Some surface stones and stone pockets exist. This soil type has severe limitations for on-site sewage disposal, due to slow percolation and to wetness. Concerning suitability for forestry, present timber is generally fair to poor northern hardwoods.

Organic-Adolph-Warman. This soil type consists of nearly level, very poorly drained organic and mineral soils. These soils formed in deep and shallow organic deposits as well as loamy and silty deposits over outwash sand and gravel or loamy till. The suitability for agriculture is poor, due to high water table, low natural fertility, frost pockets, and stoniness and acidity; however the mineral soil within this soil type will

make fair to good pasture with drainage and good management. Concerning on-site sewage disposal, this soil type presents severe to very severe limitations due to a high water table. The organic soils are poorly suited for forestry; only tamarack, black spruce and cedar grow on sites with internal water movement, while only swamp brush vegetation and stunted trees grow on sites without internal water movement.

Antigo-Brill-Poskin. This soil type consists of nearly level, well drained to somewhat poorly drained soils. They developed in moderately deep to deep silty deposits over sandy-gravelly outwash. This soil type is good for agriculture but requires lime and fertilizer for high yields. It has severe limitations for on-site sewage disposal due to its poor filtering qualities. It is good for forestry and generally suitable for planting Norway Pine, while wetter areas are more suitable for white spruce.

Maps showing the primary soil types and suitability for agriculture and characteristics of soil regarding permeability are on pages 29 and 30. It is easy to observe on the soils map on page 29 that the Marshall Township appears to have some of the largest expanses of suitable soil for agricultural purposes in the county. The soil characteristics map on page 30, showing the low permeability of most of the soil in the Township, as compared to other townships in Rusk County, explains why newer home construction requires holding tanks or mound septic systems under county zoning regulations.

Forests and woodlands

Forests provide many vital and diverse functions. Forested lands provide for economic productivity (timber products), scenic beauty, recreation opportunities, and wildlife habitat among other things.

Based on the existing land use in the Town of Marshall, a little over 3,100 acres are currently forested. Of this, 120 acres are designated as Forest Crop Land (FCL) and 172 acres as Managed Forest Lands (MFL). These tax assessment programs are available to landowners willing to manage their forests according to sound forestry practices as



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outlined by the Wisconsin Department of Natural Resources.

Concentrations of forest land occur in the southeastern area of Rusk County, which comprises the Town of Marshall. In general, there does not appear to be severe competition between agriculture and forestry; most soil associations are rated better for one of the other and the land is generally used accordingly. The Antigo-Brill-Poskin soil is rated good for both agriculture and forestry. The Aleman-Auburndale soil type is good for agriculture, but only fair for forestry. Although soil map units do not coincide exactly with habitat types, there is a strong correlation between them. Soil moisture and nutrient regimes are key factors determining habitat type occurrence.

Soil Types and Suitability for Agriculture

Rusk County – Soil Characteristics

