

CHAPTER 5 Agricultural, Natural and Cultural Resources Element

Section 5.1 Introduction

The agricultural, natural and cultural resources of the Town of New Hope are likely the single most important reason why most people choose to live here. Rolling hills, substantial natural woodlands and wetlands, varied and abundant wildlife and productive farms and farmland all come together to create a landscape unique in Portage County.

The residents of the Town of New Hope 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 important industry. The identification and protection of the historical and cultural resources of the community will also help sustain a rich quality of life that is enjoyed by all who settle here.

Section 5.2 Agricultural Inventory

A. Highly Productive Agricultural Soils

Highly productive agricultural soils in the Town of New Hope 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. Highly Productive Soils in New Hope include:

Rosholt loam, 2-6% slopes

Rosholt loam, loamy substratum, 0-2% slopes

Wyocena sandy loam, 2-6% slopes

Mecan sandy loam, 2-6% slopes

Billett sandy loam, 0-2% slopes

Richford loamy sand, 2-6% slopes

B. Farming Systems, Demographics, and Land Tenure

The agricultural landscape of the Town of New Hope can best be described as a mix of rolling fields and forests that border 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 lists thirteen (13) active grade-A dairy farms operating in the Town of New Hope. To the south in Town of Amherst, there were sixteen (16) farms, to the west in Town of Stockton there were twenty-four (24), in Town of Sharon there were twenty (20), and to the north in Town of Alban there were eleven (11).

The second farming region that New Hope borders is that of fresh vegetable production. The irrigated sands of the “golden sands” region of central Wisconsin lay between Amherst and Stevens Point, and south into Waushara County. New Hope is on the northeast edge of this large irrigated plain, where the presence of pivot irrigation rigs is one key indicator of vegetable production. Even though, based on aerial photography, there were no irrigation pivots in 2000, there was an abundance of fields that were farmed (7,494 acres).

The amount of land dedicated to agricultural production does change regularly from year to year. In 2000, Portage County Planning and Zoning Department staff analyzed aerial photography across the County to help identify active farmland within each community. The land shown in agricultural use in New Hope was broken down by presence of irrigation, 0 acres; use for row crops or hay, 7,494 acres; permanent pasture, 143 acres; and confined animal operations, 99 acres. Total agricultural acres identified for 2000 were 7,736.

There were 30 persons employed in an agriculture-related field in the Town of New Hope in 2000 (Table 1.9, Issues and Opportunities chapter). This represented 7.8% of employment for the Town. This was down substantially from the 1980 figure of 77 persons (35.2%). However, New Hope does have a slightly higher 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 down where ever you look, while acreage per farm is up. Farm consolidation is a common practice in this industry.

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 Agricultural, Natural and Cultural Resource element of the Portage County Comprehensive Plan.

D. Other Local Influences on Agriculture

The New Hope area has not experienced the same pressure for the development of rural residential land compared to the surrounding Towns of Stockton and Amherst. However, with the upgraded USH 10 facility now open through the Town of Amherst, there is the potential for increasing interest in the Town of New Hope, especially in the southern part. Other factors that may have an impact on the continuance of agricultural practices in the Town include an overall aging population (retiring baby boomers may desire to ‘live in the country’) and an increasing age of agricultural operators.

E. 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.

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.

Map 5.1 Highly Productive Agricultural Soils

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 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 of 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

The following agricultural issues were identified through the planning process:

- There is preference to discourage large animal herd operations. To what extent can the Town direct large agricultural operations toward areas more suitable for that type of use?
- To what extent can the Town encourage agricultural and residential practices that are not harmful to water quality?
- Due to changing economies of scale, it will be difficult to predict the economic viability of small agricultural operations within the Town, which have historically been the cornerstone of agricultural uses.
- To what extent should productive agricultural lands in the Town be protected?

Section 5.4 Agricultural Goals, Objectives and Policies

Goal 1: Preserve productive agricultural land in the Town of New Hope.

Objective 1.1: Identify productive agricultural lands in the Town.

Policies:

Use the Exclusive Agricultural and Primary Agricultural Zoning Districts to help ensure the protection of productive agricultural lands.

Direct residential development away from areas that are most conducive to agricultural practices.

Goal 2: The agricultural community is economically viable for the mutual benefit of the farmers and residents of New Hope.

Objective 2.1: Maintain the agricultural land base.

Objective 2.2: Minimize conflict between farm and non-farm uses.

Policies:

Work with local government and non-government organizations to provide educational materials to the public regarding the operations and activities of the agriculture community.

Recommend that new development be sited in a manner that limits conflict, through the use of spatial and/or vegetative buffers.

Goal 3: Environmentally sensitive agricultural practices are used that protect air, soil, water, and wildlife resources.

Objective 3.1: Promote a scale of agriculture that is appropriate with existing topography and preservation of natural resources.

Policies:

Recommend against the siting of new or expanding 'large' livestock operations in the Town.

Consider the creation of a local ordinance relating to the siting of new or expanding livestock operations based on state standards that are currently being developed.

Encourage farm operators to work with appropriate organizations to develop and use Best Management Practices (BMPs). (information regarding BMPs can be obtained from the County Land Conservation Department)

Section 5.5 Natural Resources

Natural resources in the Town serve as the foundation for the physical and economic well being of its residents. 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 New Hope Plan Commission and Town Board.

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.

The Town of New Hope is located in a geologic province known as the drift province. The drift province covers the eastern 1/3 of the County and is comprised of a series of end moraines that represent the accumulation of ice-transported debris that piled up at the forward edge of the ice sheet. The hills and ridges are composed of sandy till.

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 and in a large area to the west of the moraines. 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 and averages about 100 feet. Depth to bedrock in the southwest part of New Hope varies from 0 – 100 feet along the Tomorrow River and lower Poncho Creek corridors and is greater than 100 feet throughout the rest of the Town.

The topography of the Town of New Hope is generally rolling and includes many lowland wet areas, lakes, and rivers. The elevation throughout the Town ranges from 1,100 to 1,170 feet above sea level (Map 5.2). The higher elevations in the Town are located along the Elderon Morainic System. One branch of this moraine runs along the western edge of the Town, and the other branch starts in the northcentral part of the Town and runs slightly southeast, ending in the southeastern corner of New Hope.

B. Soils

New Hope's soils (Map 5.3) can be grouped into three soil associations, as follows:

- Wyocena-Rosholt Association: Well-drained, gently sloping to very steep soils that formed in loamy deposits and sandy glacial till or outwash sand and gravel. These soils can be found throughout most of the Town. Many of the less sloping areas are used for crops while the steeper areas are used for pasture or woodland. Erosion is a potential hazard on steeper slopes.
- Richford-Rosholt-Billett Association: Well drained, nearly level to gently sloping soils that formed in sandy and loamy deposits and outwash sand and gravel. These soils are found in the south-central and southwest parts of Town and are used primarily for crops. Corn, small grain, and alfalfa are the principal crops, while some specialty crops are grown in irrigated areas. These soils are subject to wind and water erosion.
- Markey-Seeleyville-Cathro Association: Very poorly drained, nearly level soils that formed in organic deposits over sandy and loamy deposits. These soils are found along the Tomorrow River corridor, north of Rolling Hills Rd., and in the very northeast portion of the Town and are used primarily for pasture or wildlife habitat. This association has very severe limitations for septic drainfields and basements.

Soil testing by a certified soil tester is strongly recommended for more detailed, site specific information.

C. Surface Water, Wetlands, and Floodplains

The major surface water bodies that are present in the Town of New Hope are: Hintz Lake, Minister Lake, Onland Lake, Reton Lake, Rinehart Lake, Severson Lake, Skunk Lake, and Sunset Lake, all located in the southern half of the Town. The Tomorrow River, which originates in the Town of Sharon, enters New Hope on its western border and flows south-southeast into the Village of Nelsonville.

Other surface water features in the Town include: Poncho Creek, which originates in the northwest part of the Town and flows south into the Tomorrow River; Flume Creek, in the northern portion of New Hope, which flows into the Little Wolf River in Waupaca County.

The Tomorrow River, Flume Creek, Poncho Creek and their tributaries, and Nace Creek below the wetland complex on Johnson Road are listed as Class 1 trout streams by the WI DNR.

New Hope is located at the intersection of three surface watersheds: the Tomorrow-Waupaca River Watershed, the Lower Wolf River Watershed, and the Upper Wolf River Watershed. 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 confluence with a neighboring watershed (WI DNR).

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 include three general types: forested, scrub or shrub, and emergent/wet meadow (see Map 5.4 below).

- 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 the Flume Creek, Poncho Creek, and Tomorrow River, as well as the northeast corner of the Town.
- Emergent/wet meadow, the second most numerous type of wetland within New Hope, 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 interspersed between Sunset and Severson Lakes, along the Nace Creek, and in the northeast corner of the Town.
- 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 also found along the Nace Creek and are scattered throughout New Hope.

A floodplain is defined as that which has been or may be covered by floodwater during the regional flood. The flood plain includes the floodway and flood fringe 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. According to Federal Emergency Management Agency (FEMA) data, areas adjacent to the Flume, Poncho, and Nace Creeks, and Tomorrow River have been designated as a 100-year floodplain (Map 5.5).

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.

Map 5.2 Topography

Map 5.3 General Soils

Map 5.4 Wetlands and Watersheds

Map 5.5 Floodplains

D. Groundwater

All residential water supply and most of the Town's agricultural water supply come from groundwater wells. Therefore, protection of the groundwater resource, with regard to both quantity and quality, is vital. Depth to water table, soil texture, and permeability all play a role in diminishing the negative effects pollutants may have on water quality. Depth to groundwater varies greatly in New Hope, ranging from 10 feet in the northeast corner of the Town to over 150 feet in the southeast portion. Although the depth to groundwater in some areas of the township is of a nature that is more conducive to intercepting pollutants, the sub-surface soil texture is sandy and coarse, allowing liquids a faster rate of travel through the soil column such that pollutants in these strata migrate with relative ease.

Groundwater generally flows in a southeasterly direction through the Town (Map 5.6). The aquifer potential is high, with potential pumping yield rates for groundwater at 500-1000 gallons per minute throughout most of the Town. This rate is consistent with rates found throughout the eastern 1/3 of the County and much higher than rates found in the northwest quarter of the County.

The Town will review any development proposals which would require large scale groundwater extraction with the express guideline of preserving and protecting this important resource.

1. Atrazine Prohibition Areas

The US Environmental Protection Agency (EPA) is researching the health effects of atrazine in water. Drinking water that contains atrazine will not cause 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.

Atrazine has been detected in several wells within the Town of New Hope and because of this, a prohibition area has been defined within the community (Map 5.7, Atrazine Prohibition Areas). The only areas within the Town not in the prohibition area are the northern and western borders and the southeast corner of the Town.

E. Wildlife Habitat and Forested Areas

It is the desire of residents to protect wildlife habitat. 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.

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 account for 46% of the land area in New Hope (Map 5.8) while wetlands make up 9%. According to 2001 County survey data, 88% of respondents felt that an effort should be made to identify and protect woodlands, and 90% felt the same about wetlands and floodplains. Loss of these habitat types can threaten the viability of certain species. Woodlands that exist now are primarily due to an inability to sustain successful agricultural practices.

One option open to all private landowners owning ten or more acres of woodlands is the Managed Forest Law Program. The MFL program is intended to foster timber production in private forests while promoting other benefits that forested lands provide. Participants in this program have the option to choose a 25 or 50-year contract period and pay property taxes at a reduced rate on enrolled lands. A portion of the difference in property taxes is recouped by the state at the time of a timber harvest when a yield tax is imposed based on the volume of timber removed. For more information regarding specific requirements and how to enroll in this program, contact the WI Department of Natural Resources.

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 New Hope include the Osprey. Rare and endangered plant types include: Northern Dry Forest, Northern Dry-Mesic Forest, Emergent Aquatic, Northern Sedge Meadow, and Northern Wet-Mesic Forest communities. These elements should be taken into consideration when development and protection measures are considered. A detailed description of rare and endangered plants and animals can be obtained from the WI DNR.

F. 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**.

New Hope, and all of Portage County, is listed as an attainment area by the WI DNR.

Map 5.6 Groundwater Flow

Map 5.7 Atrazine Prohibition Areas

Map 5.8 Forested Areas

Section 5.6 Natural Resources Issues

The following issues regarding natural resources have been identified during the planning process:

- There is a concern regarding the loss of small, ephemeral wetlands.
- To what extent is groundwater quality being monitored?
- There are no regulations on lawn fertilizer application. What are the impacts of residential uses on groundwater quality?
- How can the integrity of forest land within the Town be maintained?
- There is a concern regarding extraction of groundwater from the local watershed by bottling operations.
- There is a desire to encourage and strengthen protection of lake frontage with regard to natural vegetation and sensitive areas- stronger enforcement of shoreland protection and setback requirement.
- There is a desire to create a database of flora and fauna in the Town. To what extent should the Town get involved in such a project?
- How can the public be better educated as to the consequences to surface waters from removing vegetation down to the shoreline?
- Woodlands are being heavily taxed unless in forest crop program.
- Wildlife
 - There are too many deer. How can the deer herd be better managed?

Section 5.7 Natural Resources Goals, Objectives and Policies

Goal 1: Identify, manage, preserve and protect natural resources throughout New Hope.

Objective 1.1: Encourage agricultural practices that are environmentally sensitive and protect air, soil, water and wildlife resources.

Policy: Promote the use of Best Management Practices to help protect the Town's natural resources.

Objective 1.2: Protect groundwater quality and quantity, including natural springs, within the Town.

Policy: Recommend against the consumptive withdrawal of groundwater resources, especially through the siting of bottling operations in the Town.

Objective 1.3: Maintain the integrity of large areas of contiguous forested land to the greatest extent possible.

Policy: Include large contiguous forested lands in the Natural Areas – Limited Development category.

Policy: Encourage woodland owners to work with the Family Forest Alliance to help with the proper management of forested lands.

Objective 1.4: Properly manage the native flora and fauna of the Town to promote biodiversity.

Policy: Work with government and non-government organizations to create or access databases that inventory flora and fauna within the Town. These databases can be used to help make land use planning decisions.

Policy: Encourage residents to participate in venison donation programs and allow more hunting on private land to help reduce deer herd.

Policy: Use Conservancy Zoning to protect environmentally sensitive areas.

Objective 1.5: Protect the integrity of the Ice Age Trail corridor.

Policy: Include the Ice Age Trail corridor as part of the Natural Areas – Limited Development category on the Town’s Land Use Plan and limit development in this area.

Objective 1.6: Protect the integrity of surface waters within the Town.

Policy: Use findings from the UW-SP lakes study to help educate residents regarding practices to protect surface waters.

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 is constrained due to 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 that these 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 two listings in New Hope, both which are churches. These sites are:

- North New Hope Lutheran Church - a brick Gothic Revival style church constructed in 1925, located on the corner of County Roads MM and T.
- South New Hope Lutheran Church – a clapboard Gothic Revival style church constructed in 1888, located on County Road T, 2 miles south of Cty Rd MM.

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.

There are six cemeteries located in the Town, as identified in the Utilities and Community Facilities chapter of this Comprehensive Plan.

According to local residents, between the 1860's and 1900's there were five school houses, three grocery stores and three creameries within the Town. Some of these buildings are still standing but have been converted to other uses.

B. Early Human Occupation in New Hope Township

(By Raymond P. Reser, Research Archaeologist, Wisconsin Archaeological Survey, November, 2004)

Human prehistory in New Hope Township most likely began with small highly mobile groups of Paleo Indians. These first exploiters of Wisconsin's resources moved into the state from the south west, following the retreating ice fronts and resultant spruce-fir dominated ecosystems. The most secure dates place this occupation at around 11,500 years before present (BP).

The landscape was topographically similar to what we see today, but vegetation and animal communities were quite different. Recently glaciated terrain would have been the norm. Thick blankets of gravel and silt called ground moraines were draped over low rolling hills. Swamps and bogs were extensive, with conifers typical of northern Canada covering the better drained areas of the township. Retreating glaciers left a landscape rich in minerals derived from pulverized bedrock. This natural fertilizer encouraged lush forage for herds of grazing animals such as Woodland Caribou, Bison Antiquus (an extinct form of modern buffalo), and Mammoths. Browsers such as Mastodons also populated the state in more heavily forested regions.

This moveable feast of large animal was expertly and efficiently hunted by the state's early residents. Though neither Portage County nor New Hope have produced butchered remains of these large herbivores, the stone weapons and processing tools associated with these kills have been found. Due to high acidity of most Wisconsin soils, bone preservation over thousands of years is extremely poor. Butchered Mastodons and the remains of bison and caribou have been preserved where conditions were conducive in other counties in Wisconsin.

These early residents appear to have had an in-depth understanding of the landscape, as well as its plant, animal and geologic resources. Because their technology consisted of mostly wood, bone, hide, grass string and stone, little evidence of it survived the ravages of time. Stone was the exception, so tools, weapons, and the debris of their manufacture allow archeologists to construct a limited glimpse into that past. These early groups crafted very distinctive, finely worked blades, easily distinguished from later stone working traditions.

Studies in similar, glaciated areas of the north east have shown that Paleo Indians also routinely butchered large animals, and sank their quartered remains in cold-glacial pot-hole lakes to preserve the meat and keep it from predators. A standard hunting technique was to drive large animals such as bison and mastodon into bogs or marshes and then finish them off. These remains exist as lower legs and ribs where the animal was skinned by splitting the hide along the spine and laying it out on top of the mud on both sides of the animal. Butchering then proceeded down to the mud line, and the rest was left in place. They were also adept at interpreting local geology, locating and utilizing high quality cherts and quartzites from Wisconsin's glacial till, and discarding worn out tools of exotic cherts and chalcedonies collected in Illinois, Iowa, and North Dakota. These scattered surface collections of stone tools have been noted over most of

New Hope Township and nearly all surrounding areas of Portage, Wood, Marathon, Shawano, and Waupaca Counties.

The next tradition of human settlement is known as the Archaic. The tradition began approximately 8,500 years ago when huge environmental changes were taking place in central Wisconsin. Glacial ice was rapidly retreating in the Canadian north and new plant communities were gradually moving in from the south. Deciduous forests were replacing spruce and pine, with elm, hornbeam, basswood, sugar maple and an increasing prevalence of oak. Large grazing animals were becoming extinct or moving north, and more solitary caribou and white-tailed deer provided the main dinner menu along with smaller game. Rabbits, raccoon, beaver, fish and bird bones begin to show up in fire pits excavated in New Hope and surrounding areas, indicating a broader food base. Because smaller animals provide less protein and fewer essential raw materials such as hides for tents and clothing, more time and energy was probably being expended in progressively smaller, local areas. Plant evidence at this stage consists mostly of acorns, which required complex preparation to make them suitable for consumption.

Distinctive side-notched knives and spear points along with native copper tools and ornaments are typical of this time period. These artifacts occur along the Tomorrow River, to the north and east of Sunset Lake, as well as along the modern beach area, and west of Onland (Onneland) Lake. Other areas of the township undoubtedly hold more Archaic materials beneath current woodlots and along marshes which would have held small lakes and ponds 3,000-7,000 years ago. Though a transition in spear points occurs during this time with a proliferation of new, more distinctive styles, it should be noted that these are still true spear points used with a spear thrower and not arrow points. The bow and arrow would not arrive on the scene in Portage County for at least another 1,500 years.

As the Archaic period progressed the climate of central Wisconsin became drier with open savanna type woodlands interspersed with prairie. Browsing animals like elk and deer were more abundant, and a relatively permanent switch to deer as the main staple animal food source likely began. Ground stone tools such as axes and wood-working tools begin to show up on local sites during this stage indicating a more complex stone tool kit and a different focus from simple hunting and foraging across the landscape. As this period drew to a close about 1,000 to 1,500 years ago oak forests with closed canopies became more prevalent indicating a wetter, essentially modern climate.

The next and best-preserved tradition in central Wisconsin and hence New Hope is the Woodland Tradition. This tradition is best defined by three traits: the emergence of pottery, burial mounds, and extensive farming practices. All three are well represented in New Hope Township. Pottery has been found, sometimes in dense concentrations surrounding Onland Lake, Sunset Lake, Rinehart Lake, and again, along the Tomorrow River. Onland Lake especially has produced ceramics that indicate a continuous presence in this area for 400-500 years. Burial mounds have been, or are currently located along the entire south shore of Onland Lake, the north, south, and east shores of Sunset Lake, to the south-east of Rinehart Lake, and most likely existed at one time in close proximity to every water body in the township. Prehistoric farming evidence is a bit more rare as most traces were destroyed with the introduction of the plow and residential development. Still, a large area west of Onland Lake was reported as prehistoric corn hills by early settlers and areas surrounding Sunset Lake were likely utilized in the same manner.

A fairly large, permanent Woodland village existed on the west end of Onland Lake complete with underground storage pits for plant seeds and corn, in-ground, massive 2-3 foot diameter

pots for food preparation, two circular ceremonial dance rings and at least 14 conical burial mounds. At the time this village was inhabited, the area around the lake was probably continuous prairie. Early photos show one small tree on the south shore. A turn of the century archeological survey describes a large field west of the lake completely littered with pottery shards, stone chips and tools, and charcoal mixed with mussel shell. Faunal analyses of animal remains from fire pits within this village indicate a late spring through early winter occupation, based on deer antler development and tooth eruption. Diagnostic side-notched and triangular projectile points (true arrow points) are typical of this tradition, and they are often noted within 50 to 100 yards of lakes in the township. Small seasonal campsites would have been common on sandy ridges overlooking marshes or streams where game was plentiful. Isolated burials on knolls or in sand hills have also been sporadically reported for New Hope since European farming began. Most of these contain large knives of non-local cherts, indicating a certain status for the individual.

In summary, New Hope and central Wisconsin as a whole offered a rich, well-watered environment for prehistoric Native Americans. Their presence is well documented in this area even though relatively little archeological work has been done in the township. In the recent past, much of this evidence has been lost due to residential development and large-scale farming practices. As little was formally known or published about these sites this was probably inevitable. Those sites most desirable for modern habitations held the same attraction thousands of years ago. Burial Mounds are currently protected under the 1986 Burial Sites Law of Wisconsin. Any landowners with such sites on their property should feel privileged to be allowed to care take these remnants of our collective heritage.

C. 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

The following issues/concerns were identified through the planning process:

- There is a desire by some residents to protect cultural resources such as, the Town Hall and Church on Trout Creek Rd.
- To what extent can the Town promote the maintaining of old farm buildings to preserve community character?

Section 5.10 Cultural Resource Goals/Objectives/Policies

Goal 1: Residents are more aware of cultural and historic resources in New Hope.

Objective 1.1: Develop guidelines for identifying and protecting cultural and historic resources in the Town.

Policies:

Work with Portage County Historical Society and other organization to identify and promote the protection of cultural and historic resources.

Create and maintain a map of cultural and historical sites within the Town.