

7.0 AGRICULTURAL, NATURAL & CULTURAL RESOURCES

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7.0 AGRICULTURAL, NATURAL AND CULTURAL RESOURCES

Introduction

This chapter provides an inventory of existing agricultural, natural, and cultural resources in the Town of Nekimi. In addition, issues associated with these resources are discussed and a vision, with supporting goals and objectives, is presented.

Agricultural, Natural & Cultural Resources Vision

IN 20 YEARS, THE TOWN OF NEKIMI HAS SUCCESSFULLY MAINTAINED 70 PERCENT OF THE FARMLAND THAT EXISTED IN 2002. THIS ACHIEVEMENT WAS THE RESULT OF DEDICATED FARMERS, THE ACTIONS OF TOWN GOVERNMENT, THE CONSOLIDATION OF SEVERAL SMALL FAMILY FARMS, AND THE USE OF CONSERVATION SUBDIVISIONS. FARMING OPERATIONS IN THE TOWN OF NEKIMI CONSIST OF A BALANCE OF FAMILY FARMING OPERATIONS, RENTED CROPLAND, AND LARGER CORPORATE FARMS. CONTIGUOUS AREAS OF WOODLANDS, WETLANDS AND OTHER NATURAL AREAS IN THE TOWN OF NEKIMI HAVE ALSO BEEN PERMANENTLY PROTECTED FROM DEVELOPMENT. THE TOWN'S FARMLAND AND NATURAL AREAS ENHANCE THE RURAL CHARACTER OF THE COMMUNITY BY MAINTAINING OPEN VISTAS AND PROVIDING BUFFERS BETWEEN RESIDENTIAL AREAS TO MAINTAIN THE LOW, RURAL DENSITY OF DEVELOPMENT DESIRED BY RESIDENTS.

AS HAS BEEN THE TRADITION, CULTURAL AND ENTERTAINMENT VENUES ARE EASILY ACCESSIBLE IN NEARBY URBAN CENTERS VIA USH 41, STH 26 AND STH 44.

RESIDENTS OF THE TOWN OF NEKIMI ENJOY CONVENIENT ACCESS TO COUNTY, CITY, AND TOWN PARK FACILITIES. IN ADDITION, A NETWORK OF MULTIPLE-USE TRAILS PROVIDE YEAR-ROUND RECREATIONAL BENEFITS TO TOWN RESIDENTS. HUNTING OPPORTUNITIES ARE ABUNDANT.

Agricultural Resources

The Town of Nekimi has a rich farming tradition. Farming operations support the local economy and help to define the rural character of the town. Therefore, preservation of farming is an important priority for future development. In their community survey¹, Town of Nekimi residents indicated that farmland preservation was a high priority. Overall, approximately two thirds (67.16%) ranked farmland preservation very important, and more than a fifth (22.88%) gave it a rating of somewhat important.



¹ University of Wisconsin-Extension for Winnebago County (1997). Town of Nekimi Resident Survey.

*Soil Associations*²

Primary farmlands are best understood based on soil types. Soils support the physical base for development and agriculture within the town. Knowledge of their limitations and potential difficulties is important in evaluating crop production capabilities and other land use alternatives, such as residential development.

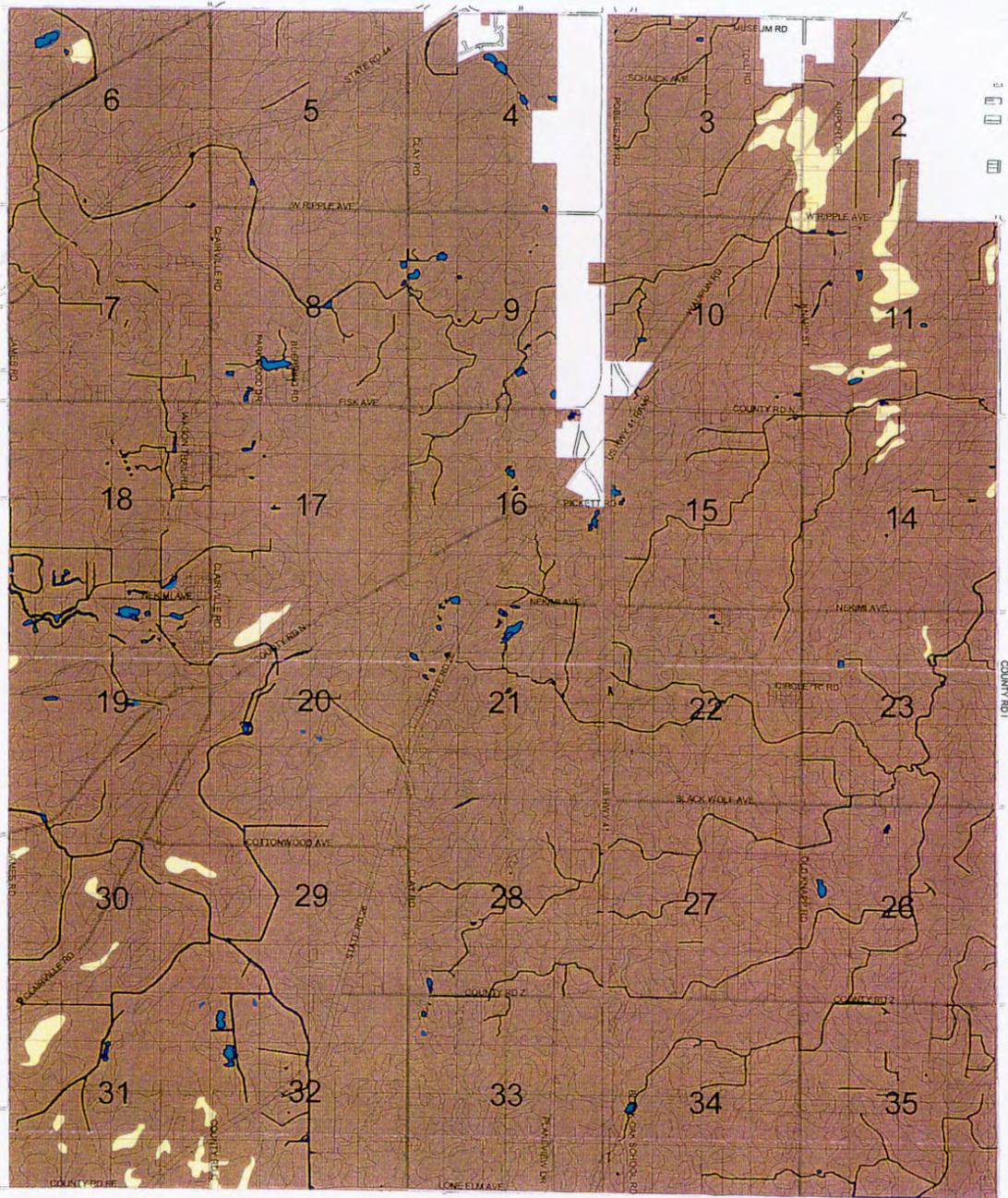
In identifying soils that have severe limitations for development, the criteria considered by the National Resources Conservation Service (NRCS) include wetness, shrink-swell potential, bearing strength, susceptibility to flooding, depth to bedrock, slope steepness, and frost action. Severe soil limitations do not necessarily indicate areas that cannot be developed, but indicate more extensive construction measures must be taken to prevent environmental and property damage.

The *Soil Limitations for Building Site Development Map* identifies areas within the Town of Nekimi that are suitable for development. Building site limitations are for buildings with basements, buildings without basements and small commercial buildings. A single classification indicates that all three building types were categorized the same. A combination classification (i.e. Moderate Severe) indicates that two (2) classifications were used for the three (3) building types. Among the criteria considered by the Soil Conservation Service in establishing a "severe" rating are soil wetness, shrink-swell potential, bearing strength, susceptibility to flooding, depth to rock, slope steepness, and frost action. A "severe" limitation for building site development indicates that one or more soil properties or site features are so unfavorable or difficult to overcome that a major increase in construction effort, special design, or intensive maintenance is required. For some soils rated as "severe", such costly measures may not be feasible. The majority of Nekimi is identified as having severe limitations for building site development.

The *Agricultural Productivity Map* identifies productive agricultural soils. Agricultural productivity refers to *capability to produce high yields of crops that are typically grown in the county under a high level of management*. *Highly Productive Agricultural Soils* are considered to be those which are capable of producing an average of 4 tons per acre of grass-legume hay and 90 bushels per acre of corn. *Moderately Productive Agricultural Soils* are considered those which are capable of producing an average of 3 or more tons per acre of grass-legume hay and 50-89 bushels per acre of corn. The Soil Conservation Service considered a "high level of management" to include provisions for adequate drainage, appropriate tillage, planting and seeding with high yielding varieties, control of weeds, diseases, insects, optimum fertilizer application and timely, efficient harvesting techniques. **About 95% of the town's soils are classified as productive agricultural soils.**

² The information presented in this section is based on information from the *Winnebago County Soil Survey* and the *Winnebago County Land and Water Management Plan*.

AGRICULTURAL PRODUCTIVE SOILS TOWN OF NEKIMI



<p>1 SYSTEMS DRIVE APPLETON, WI 54914 (920) 735-6900 FAX (920) 830-6100</p>	<p>PROJECT NO. E1544A00 DATE: 02-02-01 DRAWN BY: DLH REVISED: 05-11-01</p>
	<p>SOURCE: WINNEBAGO COUNTY GEOGRAPHIC INFORMATION SYSTEM (MUNIS DATA) WINNEBAGO COUNTY LAND & WATER CONSERVATION DEPARTMENT F:\ENGINE\1544A00\GSDRAWINGS\WNEKIMMAP111750LSZ.APR</p>

LEGEND	
	RIGHT-OF-WAY
	STREAMS/RIVERS
	HIGHLY PRODUCTIVE
	MODERATELY PRODUCTIVE
	OPEN WATER



Two soil associations are present within the Town of Nekimi. Soil associations *are a grouping of individual soil types based on geographic proximity and other characteristics*. The majority of the soils in the town are of the **Kewanee-Manawa-Hortonville** association. Kewanee soils are gently sloping and sloping and are well drained or moderately well drained. Manawa soils are nearly level and gently sloping and are somewhat poorly drained. Hortonville soils are gently sloping and sloping and are well drained. Seasonal wetness, poor tilth, and erosion are the main concerns for farming in this soil association. The potential is poor for septic tank absorption fields because many of the soils have a seasonal high water table or restricted permeability.

The other soil association found in the town is the **LeRoy-Ossian-Lomira** association. Both LeRoy and Lomira soils are gently sloping and are well drained. Ossian soils are nearly level and poorly drained. The well-drained soils of this association have good potential for residential and other urban uses. The upland soils have good potential for septic tank absorption fields because they are well drained and moderately permeable. Their potential is good for woodland and recreational uses as well.

The Changing Farming Dynamic³

The loss of farms and farmland is a problem that affects all Wisconsin communities.

However, the pace and severity of agricultural decline varies considerably across the state. Between 1990 and 1997, the Town of Nekimi lost between 4% and 7% of farmland from the tax roll. However, Nekimi still has an average of 1-2 dairy farms per square mile (1999). The mean value of agricultural land sold in the Town of Nekimi is between \$1,500 and \$2,000 per acre.

This is higher than the mean value of farmland sold in the neighboring towns to the south, east and west (\$500 to \$1,000 per acre).



The major livestock sectors – poultry, hogs, dairy and beef – have been at the leading edge of change in U.S. agriculture. In recent decades, four trends in the national livestock industry have been particularly striking:

- 1) Dramatic rates of decline in the numbers of all types of livestock producers;
- 2) The emergency of “industrial-type” confinement systems that permit extremely large scales of production;
- 3) Increased reliance on hired labor rather than family labor; and
- 4) A new emphasis on contraction relationships among producers, suppliers and buyers.

³ This section is based on several studies and documents produced by the Program on Agricultural Technology Studies. The program is a joint program of the Departments of Rural Sociology and Agricultural and Applied Economics at UW-Madison and UW-Cooperative Extension. Additional information is available on-line at www.wisc.edu/pats

Reflecting nationwide trends, Wisconsin has lost substantial numbers of livestock farms over the past two decades. Overall livestock numbers and sales in Wisconsin have also declined. While modest-scale family farms continue to be the mainstay of Wisconsin agriculture, there has been growing debate about the desirability of expanding existing farms or creating new larger scale enterprises to restore or boost livestock production levels.

The Town of Nekimi understands the challenges associated with modern farming operations. To support a strong local farm economy, the Town of Nekimi will:

- ✓ Support the a local farmers “Right to Farm”;
- ✓ Direct new residential development away from rural farmland areas in order to minimize the potential for land use conflicts;
- ✓ Support the establishment of agri-businesses to support local farming needs;
- ✓ Provide farmers with information about private (i.e. land trusts), state, and federal assistance programs available to farmers;
- ✓ Form a local Agricultural Committee to serve as the primary contact for distribution of information to farmers and help to mitigate disputes between farmers and neighboring land owners.

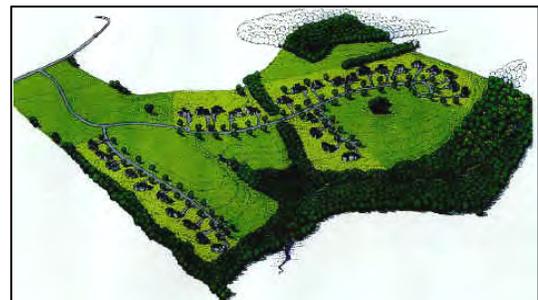
Farm Ownership

The primary issue with farmland preservation in the Town of Nekimi is that much of the remaining farmland is owned by a very small group of individual farmers. Faced with development pressures, retirement needs, and a worsening farm economy, farmers see the sale of their land for development as an attractive financial opportunity. There seems to be an endless supply of urban dwellers that want to fulfill their dream of living in the “country”. In order to maintain open areas of farmland in the township, which are large enough to support either a small family farming operation or serve as rental fields, creative development options must be explored.



Conservation Subdivisions **– A Tool To Protect Farmland**

One method to protect farmland, while minimizing conflicts with residential development, is the use of conservation subdivisions. Conservation subdivision designs encourage the preservation and protection of open space, natural areas and farmland resources. In a conservation subdivision, homes are “clustered” together on smaller lots so that a greater proportion



of the land is protected from development. Innovative sewer treatment systems permissible through COMM 83 (See Chapter 6.0 for more info) may make this clustering possible.

Typically, a conservation subdivision will require at least 50% of a site be protected from further development. Protection and maintenance of the conserved area can be accomplished through a conservation easement with an appropriate conservation organization, land trust, neighborhood association or government body, or through deed covenants. The areas to be conserved must be protected in perpetuity. The land designated for protection should either be left as natural habitat, open space, or farmland. In conservation subdivisions, the development of walking and bicycle trails is encouraged, particularly to provide limited access to protected natural areas.

Land Trusts

Another option available to landowners seeking to protect natural areas and farmland is through the activities of land trusts. Land trusts provide landowners with advice on protection strategies that best meet the landowner's conservation and financial needs. Land trusts accept lands donated by landowners for conservation purposes. Land trusts can also work with landowners to establish conservation easements.

A conservation easement is a voluntary legal agreement between a landowner and a land trust or government agency that limits present and future development of a parcel. The landowner retains ownership of the land (within the terms of the easement – i.e. only for farmland or natural space, not for development) and the land trust takes the responsibility for protecting the land's conservation values. Donated conservation easements that meet federal tax code requirements can provide significant tax advantages to landowners because their land will be taxed as undevelopable land, which is a much lower rate than developable land.

The Right to Farm

Wisconsin has a right-to-farm law protecting farms from nuisance lawsuits related to typical farm noise and odors. As residential development expands into farmland areas, it is inevitable that these issues develop. Often the issues relate to manure spreading and storage. Another common farm practice is plowing and harvesting at night, which also creates some concerns for residents living nearby. People who move to rural areas near farmland are not aware of these and other potential nuisances. To minimize conflicts, education is strongly recommended. By educating new landowners about potential conflicts, "surprise" nuisances can be avoided.

How is a Conservation/Cluster Subdivision Created?

- 1. Develop a Yield Plan.** This plan essentially shows how many homes could be developed if a traditional subdivision layout were used.
- 2. Identify Primary And Secondary Conservation Areas.** Primary conservation areas include: poor soils, steep slope, wetlands, waterways and floodplains that are not conducive to development. Secondary conservation areas include other areas of local importance targeted for protection (i.e. farmland, woodlands, scenic views, etc.).
- 3. Locate the Home Sites.**
- 4. Include Roads, Sidewalks and Trails.**
- 5. Draw the Lot Lines.** This is usually the first step in a traditional approach.

Concentrated Animal Feeding Operations (CAFOs)

Concentrated Animal Feeding Operations (700+ cattle), or mega farms, are increasing in number in Wisconsin. In 1985, there was 1 such operation in the state. By 1990, 24 operations and by 2000 there were 77 mega farms in Wisconsin. Generally, CAFOs locate in rural areas where conflicts with neighboring property owners can be minimized.



The Town of Nekimi has one CAFO located on Lone Elm Road 1/2 mile into the township. The CAFO is permitted for up to 800 animals. During its operation the facility reached 400-500 animals. Nearby Black Wolf residents will likely oppose operation of this facility, particularly if new owners want to expand.

The Town of Nekimi supports the continued operation of this CAFO and welcomes future similar operations, provided all required Winnebago County Zoning and WDNR permit approvals are received. Moreover, the town is finding that local CAFOs support other area farmers who have moved away from dairying to cash cropping. CAFOs supply manure for fertilizing which supports these cash cropping farming operations.

Natural Resources And Environmental Concerns

Preservation of natural areas and open spaces ranked relatively high by town survey respondents. More than half of the respondents (60.89%) gave this land use issue a ranking of very important, and 28 percent gave it a ranking of somewhat important.

The natural resources in an area help to determine the potential for land development. Likewise, environmental characteristics indicate the ability of the land to support various types of development. Topography, drainage patterns, floodplains, soil characteristics, and groundwater properties are among the natural and environmental features, which determine if an area is physically suitable for specific types of development.

Topography and Drainage

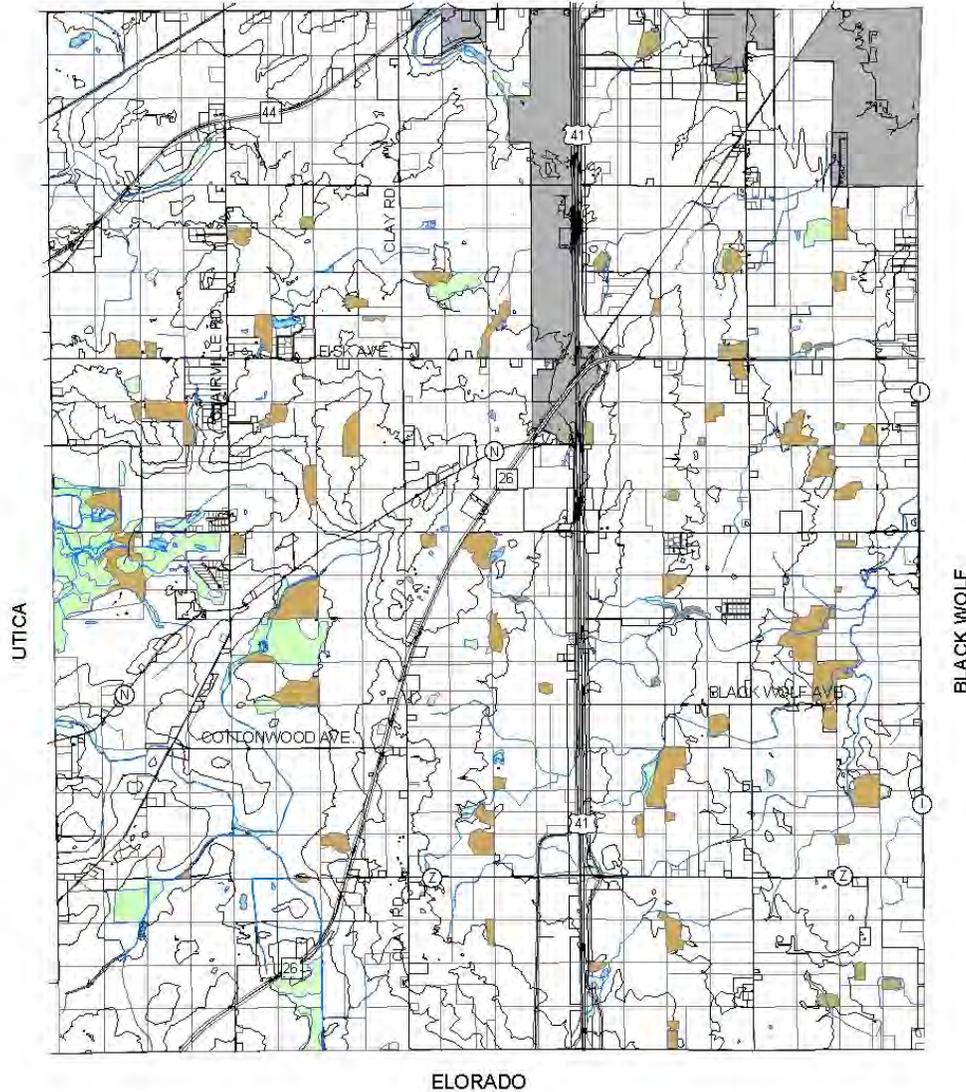
The topography within Winnebago County is primarily **nearly level or gently sloping**. An estimated 96 percent of the county contains slopes less than six percent.

All of Winnebago County lies within the Lake Michigan drainage system. The two major watersheds present are the Wolf River watershed, which includes the northwest corner of the county, Lake Poygan and Lake Winneconne, and the Fox River watershed including Lake Butte des Morts, Little Lake Butte des Morts and Lake Winnebago.

NATURAL FEATURES

TOWN OF NEKIMI

ALGOMA



OMNI
ASSOCIATES

PROJECT # M1050A01
DATE: 5/30/2002
DRAWN BY: KAL
REVISED:

3105 SYSTEMS DR • EAU CLAIRE, WISCONSIN
PH: 608.785-4882 FAX: 608.785-4143

Location: F:\MUNICIPAL\J095\M1050A01\GIS\Nekim\Natural_Features_11x17.mxd
Source: WINNEBAGO COUNTY GEOGRAPHIC INFORMATION SYSTEMS (WINGS DATA)
WINNEBAGO COUNTY LAND AND WATER CONSERVATION DEPARTMENT

Legend

- CITY OF OSHKOSH
- WOODLANDS
- WETLANDS
- WATER
- COUNTOURS
- ROADS
- RIVERS & STREAMS



1"=3,000'

Surface Waters (Navigable Waters)

There are **no rivers or lakes** in the Town of Nekimi. There are several drainage ways, streams and wetland areas located in the town. The Town of Nekimi is in close proximity to several larger surface water bodies in Winnebago County.

Winnebago County has more surface acres of water than any other county in Wisconsin. About 23 percent of the county, or 84,000 acres, is water. Lake Winnebago is the largest lake in Winnebago County and the State of Wisconsin. It forms most of the eastern boundary of Winnebago County. About 28 miles long and 10 ½ miles wide, Lake Winnebago covers 137,708 acres. Its maximum depth is 21 feet. The other significant water feature in the area is Lake Butte Des Morts. Lake Butte des Morts has a maximum depth of 11 feet and covers 4,505 acres.

The Winnebago Pool System of lakes, rivers, and streams is one of Wisconsin's most significant water resources, representing 17% of the State's total surface water acreage. Given the abundant water resources in the area, water-based recreation is a major industry in Winnebago County. Recreational use for fishing, boating, swimming, hunting and trapping are common. In addition, some aquatic plants are harvested commercially from the lakes and an active commercial setline fishery for catfish also exists in the county. In Winnebago County, Lake Winnebago alone provides drinking water to over 100,000 people in the cities of Oshkosh, Neenah and Menasha. Therefore, quality surface water resources are important to the economic well being of the county.

The surface water in the Winnebago System has historically been fertile, and can best be described as highly rich in nutrients which cause excessive growth of aquatic plants, especially algae. This is the direct result of runoff from nonpoint pollution sources (i.e. lawn fertilizer). Excessive nutrient and sediment delivery into the surface waterways from agricultural and urban sources contributes towards massive algae blooms that occur with increasing frequency. The algae and sediments increase turbidity, hinder growth of beneficial aquatic plants, and deplete important fish spawning areas. It also significantly increases the treatment costs for potable and industrial use water.

The Winnebago County Land and Water Conservation Department and the Wisconsin Department of Natural Resources work together to protect the quality of surface water in the county. The town supports water-based habitats, such as marsh areas. The town believes water quality is important in order to ensure recreational activities such as fishing and duck hunting can continue.

Groundwater & Aquifers

Groundwater is the source of water for the residents of the Town of Nekimi. The main water supply aquifer in the area is the St. Peter sandstone aquifer. Lesser quantities of groundwater are found in the overlying Platteville-Galena dolomite.

Recharge to the sandstone aquifer percolates through the glacial drift and semi-permeable dolomite from above, and also enters the sandstone from areas northwest of the town, since the sandstone dips to the southeast. The shallow groundwater in the Town of Nekimi is split into two groundwater drainage areas. Groundwater in the eastern half of

the town flows to the east into Lake Winnebago, while groundwater in the western half of the town flows to the west into wetlands and eventually Rush Lake.

The overall quality of groundwater in the Town of Nekimi is generally considered to be of good quality. Groundwater from the St. Peter Sandstone aquifer is very hard throughout the town.

Elevated arsenic levels have been found in groundwater samples from the town. It is strongly suspected that these concentrations are associated with the mineralogy of the upper St. Peter sandstone. The DNR has established an Arsenic Advisory Area in Outagamie and Winnebago Counties, which encompasses the far western portion of the Town of Nekimi. The DNR recommends that supply wells within the Arsenic Advisory Area be cased through the upper portion of the St. Peter sandstone, and that water be sampled, and treated, if necessary.

As more development occurs, the potential for arsenic in wells increases. Private well owners in the town can take several steps to reduce their exposure to arsenic.

- First and foremost, wells should be tested regularly – at least once per year and anytime a change in watercolor, taste or odor is noticed.
- If the test exceeds 10 parts per billion for arsenic, water from the well should not be used for drinking or cooking.
- In these situations, residents can buy bottled water, rebuild their well to more stringent specifications than required under current well codes, or pursue a treatment option.

The Wisconsin Department of Commerce has approved two categories of devices for the removal of arsenic – **Point of Use (POU)** and **Point of Entry (POE)**.

- POU devices are used to treat water at the point of use such as a single tap. Distillation units provide safe water in batches while Reverse Osmosis (RO) units can be installed on a single tap.
- POE treatment systems treat all water entering the home. Either type of system must be properly installed and maintained to reliably remove the arsenic from drinking water.

Contamination risks from land use practices are also a threat to groundwater resources. Potential contaminant sources include old, unregulated landfills, nitrates from failed septic systems or farm runoff, pesticides, leaking underground storage tanks, and road salt. All of these sources are presently regulated or are being addressed through ordinances or technical assistance services by various county and state agencies.

Over-pumping of the aquifer does not seem to be an issue. The City of Oshkosh to the north draws its water from Lake Winnebago.

Watersheds⁴

The Town of Nekimi is included in the Upper Fox River Basin and three watersheds (Lake Butte des Morts, Fond du Lac River and Fox River/Rush Lake)). What follows is a profile of each watershed. The locations of the water basins and watersheds are depicted on the *Town of Nekimi Physical Features Map* provided in this chapter.

The **Lake Butte des Morts Watershed** encompasses much of the northwestern portion of the Town of Nekimi. The entire watershed encompasses approximately 73 square miles. The most dominant land use is agriculture, but this watershed is rapidly urbanizing due to its close proximity to the City of Oshkosh.

The **Fond du Lac River Watershed** includes areas primarily east of USH 41 in the Town of Nekimi. This watershed includes 209 square miles in Fond du Lac County and 41 square miles in Winnebago County. The Winnebago County portion encompasses the lower half of Van Dyne Creek and several other smaller intermittent tributaries to Lake Winnebago. This watershed also includes the southern half of the City of Oshkosh. Cropland accounts for more than 70% of the total land area in this watershed, but again, portions of this watershed in Winnebago County are urbanizing.

The **Fox River/Rush Lake Watershed** includes areas in the southwestern portion of the Town of Nekimi. The entire watershed encompasses 125 square miles and is easily the largest watershed in Winnebago County. Omro, Waukau, Eueka, Pikett, Ring and Rush Lake are all found within this watershed. 52% of this watershed is cropland, and nearly 28% is wetland.

Additional information about the care, management, and plans for the watersheds is available from the Winnebago County Land and Water Conservation Department. The department has adopted a *Land and Water Resource Management Plan* to address habitat, water quality, and other issues in these watersheds.

Shorelines

As is previously mentioned in this chapter, the Town of Nekimi does not have any lake or river shoreline areas. There are some creeks and drainage ways in the town. The Shoreland/Wetland Ordinance adopted by Winnebago County regulates shoreland uses and development within 1,000 feet from the ordinary high water mark of a lake, pond or flowage, and within 300 feet from the ordinary high water mark of a river or stream. The Wisconsin Department of Natural Resources (WDNR) regulates the stabilization and fill of shorelines in the town. The WDNR has a strong history of working well with residents on these issues.

Wetlands

Wetlands in the town are shown on the *Town of Nekimi Physical Features Map*. According to the Department of Natural Resources (DNR), most of the wetlands are found along the stream banks that are scattered throughout the town. The two largest

⁴ Source: Winnebago County Land and Water Resource Management Plan, 1998. Copies are available from the Winnebago County Land and Water Conservation Department.

groupings of wetlands greater than five (5) acres in size are located in the western portion of Nekimi. Approximately 667 of 18,617 total acres of land in the Town of Nekimi are classified as wetlands.

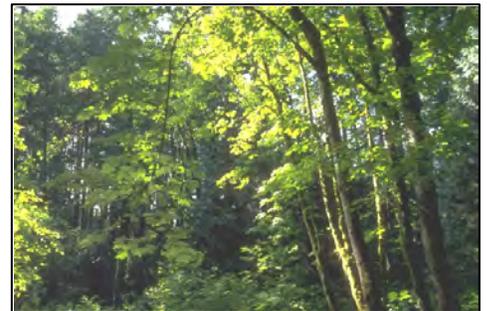
The Shoreland/Wetland Ordinance adopted by Winnebago County regulates shoreland uses and development within 1,000 feet from the ordinary high water mark of a lake, pond or flowage, and within 300 feet from the ordinary high water mark of a river or stream. The Army Corps of Engineers has authority over the placement of fill materials in virtually all wetlands of five-(5) or more acres. The U.S. Department of Agriculture incorporates wetland preservation criteria into its crop price support programs. Prior to placing fill or altering wetland resources, the appropriate agencies must be contacted to receive authorization.

BENEFITS OF WETLANDS

- Wetlands act as a **natural filtering system** for sediment and nutrients such as phosphorus and nitrates.
- Wetlands serve as a **natural buffer**, protecting shorelines and stream banks from erosion.
- Wetlands are also essential in providing **fish & wildlife habitat, flood control, and groundwater recharge**.

Woodlands

Winnebago County falls within the southern floristic province that is composed largely of southern hardwood and oak savanna forests. Southern forests generally contain oak forests on hills and exposed sites, a dense forest of mixed hardwoods like sugar maple, and a floodplain forest of elm, ash, and silver maple along major streams. In the Town of Nekimi, 692 of the 18,617 total acres are classified as woodlands (less than 4% of the total land area).



Fragmentation is the primary threat to forested areas across Wisconsin. By breaking up forested tracks into smaller parcels both the economic and environmental benefits of forests are lost or greatly diminished. Small forest tracks are difficult to manage. As a result, small, isolated forests often lose their ability to go through some natural processes. To preserve the town's rural character and the forested areas that remain, it is important for the residents to be good land stewards with the remaining acreage while encouraging residents to replant other areas. Areas of marginally productive farmland or sensitive areas near streams and wetlands could be reforested. Also areas that are part of the open space in a conservation subdivision could be reforested.

The Managed Forest Law Program (see box at right) is one way of protecting forested areas within the town, but currently only one forested area (12 acres) is enrolled in the program. Although the Managed Forest Law can help to reduce some development that could occur in forests it rarely has been successful in doing so. If the town is going to be successful in protecting the forests it will need to use all of the options available such as cluster developments rather than developing the forests. In addition to the Managed Forest Law program which helps protect existing

The WDNR **Managed Forest Law** provides opportunities for conservation of contiguous woodland environments for wildlife and plants inhabiting these areas. For more information visit : www.dnr.state.wi.us/org/land/forestry/publications/.

woodlands other programs such as the Conservation Reserve Program and the Wisconsin Forest Landowner Grant Program can help with the re-establishment of forests.

Because woodlands are an important scenic natural feature and recreation area for residents, the remaining woodland areas should be protected from future encroachment through the use of conservation subdivisions, land trust activities, private stewardship and other the programs outlined in this section.

Wildlife Habitats

Resident observation is the best available local resource to identify wildlife habitat areas. Primary wildlife habitat areas correspond to the forested areas, wetland areas and shorelines shown on the *Physical Features Map*. These areas provide food for deer, raccoons, fox, herons, bald eagle and other small creatures common in the area. The local farm fields also serve as a food source for deer, geese, sandhill cranes and turkeys in the area. Farmland is also a very important local wildlife habitat that provides travel corridors between waterways, woodlands and grasslands. Farmland also provides cover opportunities and large contiguous open spaces needed by wildlife.



The remaining areas of the town (i.e. residential areas, road corridors, and other developed areas) are not classified as primary wildlife habitat areas - though certainly animals do wander into these areas.

An integral part of the wildlife habitat is wildlife corridors. These areas provide vital connections between habitat areas. The Town of Nekimi considers wildlife corridors an important part of the natural environment and supports efforts to maintain these areas.

Exotic and Invasive Species

Non-native, or exotic, plant and animal species have been recognized in recent years as a major threat to the integrity of native habitats and species, as well as a potential economic threat (damage to crops, tourist economy, etc). The WDNR requires that any person seeking to bring a non-native fish or wild animal for introduction in Wisconsin obtain a permit. The town can help combat exotic species by educating residents about non-native species and encouraging residents to use native plants in landscaping.

Threatened and Endangered Species

There are many threatened and endangered plant and animal species in Winnebago County. Unfortunately, there is not a specific list available for the Town of Nekimi. The WDNR is attempting to identify and catalog endangered plant and animal species across

WILDLIFE HABITAT FRAGMENTATION

A primary threat to wildlife is **fragmentation** -- the breaking up of larger habitat areas into smaller sections.

Fragmentation decreases wildlife population sizes, isolates habitat areas and creates more edges – where two dissimilar habitats meet (i.e. grassland and residential subdivisions).

the state. For a complete, up-to-date list of endangered plant and animal species in the Town of Nekimi, refer to www.dnr.state.wi.us.

Metallic and Non-Metallic Mining Resources

The geologic and glacial history of the county is reflected in its mineral resources that provide a substantial volume of total aggregate material used in construction activities throughout the county and the region. Some of the best quality limestone is found in Winnebago County. This material is an excellent source of rock riprap that is used extensively for shoreline and stream bank protection throughout the county.

There are two non-metallic mining operations in the Town of Nekimi. There are no metallic mining operations in the Town of Nekimi.

The **Vulcan Materials Company Quarry** is located at the southeast corner of the intersection of Fisk Avenue, CTH N and Old Knapp Road. The quarry includes two parcels. The Town of Nekimi and the Vulcan Quarry have a detailed operation plan in effect to regulate the extraction of materials from the site.

Michaels also owns a quarry in the Town of Nekimi. This quarry is located in Section 32 on the corner of CTH C and STH 26. Michaels owns many quarries in Northeast Wisconsin. Michaels uses this quarry on a limited basis as jobs arise in the vicinity to make extraction from this location convenient. It is anticipated that the quarry operation will continue on this site over the duration of the plan period.

As part of **NR 135**, Wisconsin Administrative Code, adopted in December 2000, any community in Wisconsin could adopt an ordinance to establish requirements for reclamation of non-metallic mines, such as gravel pits and rock quarries. If a town decided not to develop its own ordinance, a county could develop which would also regulate operations in the town. Likewise, regional planning agencies could develop ordinances for counties within their region. The ordinances must establish reclamation requirements to prevent owners and operators of quarries and gravel pits from abandoning their operations without proper reclamation of the mines.

The East Central Wisconsin Regional Planning Commission (ECWRPC), under an agreement approved in July, 2001 will be the Regulatory Authority for administering five individual, county-adopted, Non-Metallic Mining Reclamation Ordinances for Winnebago, Calumet, Outagamie, Waupaca and Shawano Counties. This agreement transfers permit issuance and reclamation plan review/approval authority to the ECWRPC for the program, however, the individual counties will still be responsible for the actual enforcement of the ordinance requirements should any problems arise with a site/operator/landowner. It is important to understand that the ECWRPC only oversees the reclamation aspect of active sites in these counties as it relates to the NR-135 requirements. Zoning or other operational issues of sites are still handled by the counties, including Winnebago, under their existing zoning regulations.

The process of siting a mine continues to be a local matter governed under existing zoning procedures by local authorities. The new reclamation requirements through NR 135 add to the status quo but do not replace or remove any other current means of regulation. The requirements neither regulate active mining process nor have any effect upon local zoning decisions like those related to the approval of new mine sites.

Under the law, any landowner of a demonstrated “marketable non-metallic deposit” may register the site for mining. Local zoning authority can object to the application if the zoning does not permit it. Registration expires after a 10-year period and may be extended for a single 10-year period if it is demonstrated that commercially feasible quantities continue to exist at the property.

Towns (on their own and through the use of county zoning) rezoning property in a manner consistent with a Comprehensive Plan are not required to permit non-metallic mining operations that are inconsistent with the plan

Air Quality

The following information is from the Wisconsin Department of Natural Resources:

“A few common air pollutants are found all over the United States. These pollutants can injure health, harm the environment and cause property damage. EPA 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. One set of limits (**primary standard**) protects health; another set of limits (**secondary standard**) is intended to prevent environmental and property damage. A geographic area that meets or does better than the primary standard is called an **attainment area**; areas that don't meet the primary standard are called **nonattainment areas**.”

Winnebago County is an attainment area. This situation is not expected to change in the future. County, state and federal air quality protection standards are in place to maintain and improve the local air quality. The nearest air quality monitoring station is located in the City of Oshkosh.

Cultural Resources



Bethesda Church

Cultural resources, like natural resources, are valuable assets that should be preserved. Unfortunately, the Town of Nekimi has not completed a comprehensive inventory of its cultural resources. This inventory should be completed as soon as possible in order to establish priorities for protection of cultural resources located within the town. Some examples of cultural

Did You Know?

The Bethesda Church in Ring is the oldest church in Winnebago County. It has had a congregation since before Wisconsin was a state. The original church building burned in 1855. The existing church was built in 1856. In 2002, the church was restored to its original grandeur, including the replacement of the original steeple.

resources found in the Town of Nekimi include the Town Hall, historic homes and farms, cemeteries, and churches.

Since the Town of Nekimi is a rural community, the number of cultural resources located within the town are limited. However, town residents have easy access to a wide variety of cultural resources, including libraries, museums, and theaters available in the City of Oshkosh and other Fox Valley communities.

Churches

There are two churches located in the Town of Nekimi

- Bethesda Church, Ring, WI
- St. John Lutheran Church, southwest corner of CTH I and CTH Z

Historic Properties

The **Wisconsin Architecture and History Inventory (AHI)** has several listings, particularly for older homes and historic farms, in the Town of Nekimi. Properties listed in the AHI are part of the State of Wisconsin official historic catalogue. The AHI is comprised of written text (and some photographs) of each property, which document the property's architecture and history. Most of the properties became part of the AHI as a result of systematic architectural and historical surveys. Inclusion in the AHI conveys no special status or advantage; it is merely a record of the property. The AHI inventory is housed at the **State Historical Society** of Wisconsin in Madison and is maintained by the Society's Division of Historic Preservation. The most prominent historical buildings in the town are the Black Oak School and the Bethesda Church. For a complete list of catalogued historic sites in the Town of Nekimi, visit the AHI on the Internet at www.shsw.wisc.edu/ahi/.

Current Policies/Trends

Farming has experienced its share of changes and pressures in recent decades. Government policies and poor markets have kept crop and milk profits low. To be more competitive, family farms are being converted into "mega" farming operations - catering to 1,000 cows or more. Compounding the problems facing the farming industry, as farmers age, they find that their children are more enticed by job opportunities that provide benefits and retirement than the life offered by farming. The combination of these factors and others are placing great stress on family farming as we know it today.

Advocates of farmland preservation typically emphasize how the community benefits from vibrant farm operations and an open agricultural landscape. Economically, while few communities depend exclusively on the farm sector anymore, farming and the processing of farm products can still be a significant local source of income and employment. In an increasingly urban society, many citizens support farming as a unique occupation that embodies many traditional American values. From a fiscal standpoint, agricultural lands generally provide significant revenues to local governments and demand relatively few services in return – particularly in contrast to residential land uses that often cost more than they pay in taxes. Though difficult to quantify, the rural and

open character of agricultural landscape also provides the community with attractive views, an increased quality of life, and makes Wisconsin a more desirable place for people and businesses to move and live (Douglas Jackson-Smith, Co-Director of the Program on Agricultural Technology Studies, UW-Madison, 2000).

Given that large portions of the Town of Nekimi are considered prime agricultural lands, efforts to protect these areas are important. Tools and strategies for preservation are available at the town, county and state level. What follows is a description of several programs that are either in place or being considered.

Conservation Subdivision Ordinance

One strategy adopted by the town to protect agricultural lands from residential development pressures is the Town of Nekimi Subdivision Ordinance. Included in the ordinance are provisions for cluster and conservation subdivisions to protect natural areas, scenic views and farmland in the Town of Nekimi. The ordinance also encourages larger lots to be developed in the southern areas of the town, which are much more rural and accommodate many farms, while higher density development is encouraged adjacent to the City of Oshkosh (for more information refer to Chapter 3.0 Housing Profile and Chapter 9.0 Land Use).

County Zoning

The Town of Nekimi, like many other towns in Winnebago County, is regulated by the Winnebago County Zoning Ordinance. Therefore, land uses within the town, including agricultural and natural areas must adhere to the zoning requirements (bulk, height, density, etc.) stipulated in the Winnebago County Zoning Ordinance (Refer to *Zoning Map* provided in Chapter 9.0).

The Town of Nekimi does have village powers under WI Stats. Chapter 60, Sec. 60.62. This allows the town to adopt its own regulations, provided they are more restrictive than the provisions of the Winnebago County Zoning Ordinance. The town used its village powers to develop its own subdivision ordinance.

Farmland Preservation Plan/Exclusive Agricultural Zoning

Winnebago County has a Farmland Preservation Plan. The exclusive agricultural zoning district is used to enforce the provisions of the plan and protect agricultural areas. The farms under exclusive agricultural zoning have recently expressed concerns about the program due to changes in the property assessment laws. Under the plan, farmers with prime agricultural land are able to receive significant tax credits for keeping their land in agricultural use. However, given that property is now assessed based on actual use instead of highest and best potential use, the value of farmland, from a tax standpoint, has been significantly decreased. In addition, the tax credits available from the state have also been reduced. As a result, the incentive to remain in the program for many farmers is gone. However, rezoning property out of the exclusive agricultural zoning classification, in order to permit some development, has proven to be very difficult.

Shoreland/Floodplain Zoning

Shorelands and floodplains are often viewed as valuable recreational and environmental resources. These areas provide for storm water retention and habitat for various type of wildlife. Development that is permitted to take place in these areas may have an adverse effect on water quality, wildlife habitat and stormwater drainage. In addition, it may also result in increased development and maintenance costs when providing for protection from the occurrence of flooding and high water, increased flood insurance premiums, extensive site preparation, and maintenance and repairs of roads and sewers.

As a result, the State of Wisconsin requires every county adopt a shoreland/floodplain zoning ordinance to address the problem associated with development in these areas. Development in shoreland areas is generally permitted, but specific design techniques must be considered. Development in floodplain areas is strictly regulated and in some instances, not permitted. The authority to enact and enforce these types of zoning provisions is set forth in Ch 59.97 Wis. Stats. and Wisconsin Administrative Codes NR115.116 and 117, and is established in the Winnebago County Zoning Ordinance.

Winnebago County is currently administering its Shoreland/Floodplain Ordinance in unincorporated areas of the county. The ordinance regulates shoreland and navigable waters of the county that are 1,000 feet from the normal high water elevation of a lake, pond, or flowage; and 300 feet from the normal high water elevation of a river or stream, or to the landward side of a 100 year floodplain boundary.

Winnebago County Land and Water Resource Management Plan

The Winnebago County Land and Water Resource Plan was developed in 1998 in accordance with Chapter 92.10 Wis. Stats. The plan:

- Serves as a guide for resource management planning and decision making
- Assesses land and water resource conditions
- Identifies problems and priorities

Coordination with Other Comprehensive Plan Elements

The development of the Agricultural, Natural and Cultural Resources Element required coordination with all of the required plan elements. For example, when considering economic development strategies, the future role of agricultural operations in the town, as well as the importance of natural resources, was important to consider. Below is a description of the critical issues addressed with respect to the Transportation, Land Use and Housing Elements. These elements are profiled because their coordination with the Agricultural, Natural and Cultural Resources Element is critical to the success of the plan.

Issues & Opportunities

The Issues and Opportunities Element includes visions for each of the required plan elements. The Agricultural, Natural and Cultural Resources vision is provided at the beginning of this chapter. In addition, the Issues and Opportunities Element includes population projections for the next 20 years. This information is important because it will determine the amount of new housing needed in the town. Likewise, new housing

development competes directly for farmland areas. Therefore, the population projection information was considered during the development of this chapter as well as the Land Use Element.

Housing

Housing, if not carefully located and planned for can have a severe impact on natural resources and farming operations. Housing development can fragment farming operations and wildlife habitat areas. If not carefully planned, additional traffic, people, and services associated with housing development can quickly destroy rural character. The Town of Nekimi desires a rural development pattern that protects natural resources and farmlands, while still accommodating some residential development. To achieve this, the use of conservation subdivisions and other non-traditional techniques are encouraged in the town. This strategy for housing development is reflected in the *Future Land Use Maps*.

Transportation

Additional development requires additional roads. Inversely, transportation improvements may result in additional development. As a result, transportation improvements may lead to impacts on wildlife habitats as more people move into the town. It will be important for the town to monitor this situation to minimize the impact on wildlife habitat areas when transportation projects are considered.

The town should also consider development techniques that offer greater environmental protection (i.e. conservation subdivisions, easements, mixed use development, managed roadway access, etc.). These types of development seek to offset the impact of dispersed development patterns that force people to make more automobile trips each day. The increased vehicle trips generate pollutant emissions, greenhouse gas emissions and noise.

Land Use

Residents of the town have clearly indicated through the community survey and at public meetings that the preservation of agricultural operations and the protection of natural resources is a priority. As a result, when the *Future Land Use Maps* were developed special consideration was given to these two priorities. Likewise, the implementation element will help to ensure that through the enforcement of desired planning and zoning requirements, natural resources and farming operations are protected in the Town of Nekimi.

Intergovernmental Cooperation

Wetlands, woodlands, wildlife habitats and other natural amenities extend beyond the town limits. These features have not regard for municipal boundaries. As such, intergovernmental coordination, particularly with neighboring towns, WDNR and Winnebago County is important to ensure that natural resources are protected.

Economic Development

Agriculture is paramount to the strength of town economy. It represents the primary economic activity within the town limits. Therefore, preservation of farmland is an

important future priority. Similarly, supporting state, county and regional programs and policies that make farming easier is also an important priority for the Town of Nekimi.

Agricultural, Natural and Cultural Resources Goals & Objectives

It is the vision of the Town of Nekimi that the community will retain its rural character by continuing to enjoy a mix of scenic, open, natural, undeveloped areas and farming operations over the next 20 years and beyond. Natural resources will be protected and serve as an environmental, recreational, and economic asset to the town. Residential and commercial development will be in harmony with the town's natural environment. The Town of Nekimi will support the continued efforts of neighboring communities, school districts, Winnebago County, and the State of Wisconsin, to provide cultural and historic resources that can be used by residents of the Town of Nekimi. The town will also work, in accordance with the Intergovernmental Coordination Element of the Wisconsin "Smart Growth" Law, with neighboring communities, Winnebago County, the East Central Wisconsin Regional Planning Commission and the State of Wisconsin to ensure that natural resources are adequately protected for future generations.

AGRICULTURAL, NATURAL AND CULTURAL RESOURCES GOALS

1. The Town of Nekimi will preserve the capacity of productive agricultural areas.
2. Preserve natural areas, open spaces and wildlife habitat.
3. Protect environmentally sensitive lands.
4. Establish additional park and recreation facilities in the town.

AGRICULTURAL, NATURAL & CULTURAL RESOURCES OBJECTIVES

1. Educate local farmers and builders about the potential for conservation subdivisions, cluster development and mixed-use development in the Town of Nekimi.
2. Continue to support effective farmland preservation programs at the county and state levels.
3. Support the efforts of Winnebago County to enforce stream and lake setback requirements by enforcing local zoning requirements and policies established in the Winnebago County Land and Water Resource Management Plan.
4. Educate developers and landowners about the "right-to-farm." Coordinate with local realtors and builders associations to disseminate information. Possibly develop a brochure. If, in the future, the town decides to develop a web page or town newsletter include information there as well.

5. Continue to coordinate with local quarry operators to ensure that operations adhere to the requirements of NR 135.
6. Participate in the planning efforts of Winnebago County to ensure that the county comprehensive plan represents the interests, visions, and expectations of the Town of Nekimi.
7. To protect wildlife habitat areas in the town, beyond regulated wetlands and floodplains, identify natural areas and grasslands in the town seeking assistance from the WDNR and its wildlife biologists. Using this information:
 - a. Seek grant- funding sources available through the WDNR and other agencies to help protect wildlife habitat areas for future generations to enjoy.
 - b. Consider revisions to the conservation areas and *Future Land Use Maps* to reflect these areas.
 - c. Build partnerships with local habitat conservation organizations (ducks unlimited, trout unlimited, etc.) to help with wildlife protection and education.
8. Establish a town park facility.
9. When available, review the results of the 2002 Agricultural Census for the Town of Nekimi.
11. Coordinate with the WDNR to obtain copies of local Concentrated Animal Feeding Operation Permits for town records.

POLICIES

It is the policy of the Town of Nekimi to support local farmers and protect farming operations from development pressures.

It is the policy of the Town of Nekimi to protect farmland, natural resources and wildlife habitats by directing development away from these areas and utilizing conservation-based residential development designs.