# Agricultural, Natural and Cultural Resources

## 1. Chapter Overview

**Chapter Contents**



As in most of Wisconsin, agriculture in Winnebago County is a vital part of the local economy and an enduring part of our cultural heritage. Despite its importance, agriculture faces many challenges.

Winnebago County also has a diverse assortment of natural, archeological, cultural and historic resources that are critical to its economic base, quality of life, environmental health and the well-being of its citizens. The preservation of these resources will foster a sense of pride in a community, improve quality of life, contribute to the preservation of rural character, encourage low-impact tourism, and provide an important sense of social and cultural continuity between the past and the future.

The information and policy recommendations in this plan are not intended to replace more detailed planning documents covering the county's environmental resources, such as the Winnebago County Land and Water Management Plan.

## 2. Agricultural Resources

### Land Capability Classification

Soils in the county have been mapped and classified in terms of suitability for most kinds of field crops. There are eight classes in this classification system, designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use.

The vast majority of the soils in the county are either Class 2 or 3 (Table 5-1 and Map 22). While not the most productive, the soils in the county support many viable farming operations.

The Winnebago County Land & Water Conservation Department uses the soils information and related data extensively in determining soil erosion estimates and sediment load calculations. Under most cropping situations with the proper cultural practices soil erosion rates are easily maintained below the tolerable soil loss.

**Table 5-1. Land Capability Classification; Winnebago County**

| Class/Description | | Acres | Percent of Total |
|---|---|---|---|
| Class 1 | Soils have slight limitations that restrict their use. | 0 | 0 |
| Class 2 | Soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices. | 208,779 | 76.2 |
| Class 3 | Soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both. | 50,238 | 18.3 |
| Class 4 | Soils have very severe limitations that restrict the choice of plants or that require very careful management, or both. | 8,953 | 3.3 |
| Class 5 | Soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat. | 1,929 | 0.7 |
| Class 6 | Soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat. | 378 | 0.1 |

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**Table 5-1. Land Capability Classification; Winnebago County - continued**

| Class/Description | | Acres | Percent of Total |
|---|---|---|---|
| Class 7 | Soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat. | 0 | 0 |
| Class 8 | Soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes. | 3,812 | 1.4 |
| | Total | 274,089 | 100 [1] |

Source: Winnebago County GIS Department
Notes:
1. Total may not equal 100 due to rounding

## AGRICULTURAL TRENDS

Since 2002, agriculture in Winnebago County has transitioned from predominantly cash grain to both a cash grain and dairy feed production. Many producers are providing feed and receiving manure for larger dairies in the area. The number of dairy cows in the county has increased since 2005,

**Table 5-2. Farm Size: 2002, 2007, and 2012**

| Farm Size | 2002 | 2007 | 2012 |
|---|---|---|---|
| 1 to 9 acres | 60 | 90 | 125 |
| 10 to 49 acres | 254 | 306 | 417 |
| 50 to 179 acres | 395 | 357 | 340 |
| 180 to 219 acres | 176 | 167 | 168 |
| 500 to 999 acres | 53 | 59 | 51 |
| 1,000 acres and up | 25 | 22 | 18 |
| Total farms | 963 | 1,001 | 1,117 |
| Total acres | 170,404 | 164,014 | 155,520 |

Source: 2002, 2007, and 2012 Census of Agriculture (Table 1)

The number of farms has also increased due mainly to the exodus of urban dwellers into the rural landscape and the esablishment of small farmettes. Table 5-2 highlights this trend in 2002, 2007, and 2012. The acres in farms however continue to decline due to the ever-increasing demand for land to development. Economic, political, and social factors will continue to impact farmland and related rural areas. Production agricultural farms within Winnebago County are growing in size and decreasing in number and animal numbers are being concentrated on fewer and larger operations.

It is expected that over time, as the ownership matures, the number of production agricultural farms in the county will continue to decline, while the size of the farms will increase. If the dairy industry continues to struggle we could see the number of cows begin to level off and even start to decline. It will be interesting to observe the interaction/coexistence between the urban and rural sector, and witness the impacts of the Ag-Performance Standards, the Livestock Siting Rule and the Working Lands Initiative on agriculture in the coming years.

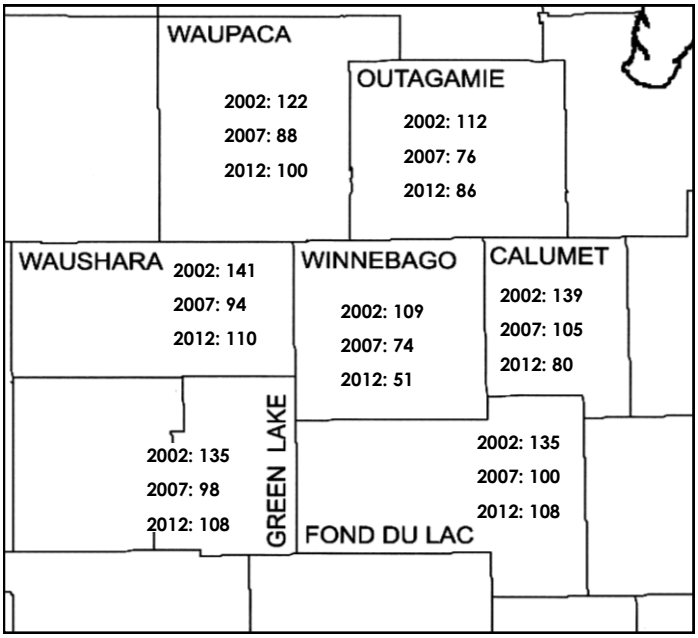
## AGRICULTURAL LAND

According to the 2012 census of agriculture, there were 1,117 farms in Winnebago County in 2012, compared to 1,001 in 2007 representing an increase of 9 percent. Although the number of farms increased during this period, the number of acres of farmland declined from 164,014 in 2007 to 155,520. This data translates into a 7 percent decline in the average farm size – from 177 acres in 2002 to 164 acres in 2007. From 2007 until 2012 a similar increase in farm number and decrease in size occurred. Exhibit 5-1 indicates that median farm size has increased slightly in all six counties surrounding Winnebago County. Winnebago has the smallest median farm size of the region and is the only county in this sample that's median farm size declined from 2007 to 2012.

This trend is indicative of the trend of each end of the spectrum in agriculture -- a smaller number of, but significantly larger farms, over 1,000 acres and very small farmettes.

Table 5-3 breaks down how the acreage dedicated for farm use in 2002, 2007, and 2012. More than 8 of 10 acres are devoted to growing crops. There was a decline in woodland and pasture and an increase in land devoted to farm buildings, ponds, and access roads over that period.

**Exhibit 5-1. Median Farm Size (acres): Winnebago and Surrounding Counties: 2002, 2007, and 2012**




Source: 2002, 2007 and 2012 Census of Agriculture (Table 1)

**Table 5-3. Farm Use: 2002, 2007, and 2012**

| | 2002 | | 2007 | | 2012 | |
|---|---|---|---|---|---|---|
| | Acres | Percent of Total | Acres | Percent of Total | Acres | Percent of Total |
| Cropland | 137,752 | 80.8 | 133,342 | 81.3 | 126,153 | 81.1% |
| Woodland | 13,561 | 8.0 | 11,888 | 7.2 | 10,702 | 6.9% |
| Permanent pasture | 4,380 | 2.6 | 3,477 | 2.1 | 3,332 | 2.1% |
| Farmstead, buildings, ponds, roads, etc. | 14,711 | 8.6 | 15,307 | 9.3 | 15,333 | 9.9% |
| Total | 170,404 | 100 [1] | 164,014 | 100 [1] | 155,520 | 100 [1] |

Source: 2002, 2007, and 2012 Census of Agriculture (Table 8)
Notes:
1. Total may not equal 100 due to rounding

## AGRICULTURAL OPERATORS

More than one half of all farms in 2012 were operated by those who have another primary occupation (Table 5-4). This suggests that farming is becoming less of a means of financial support as it is a way of life.

As is generally true in other areas of the state and the country as a whole, the average age of farm operators in the county is older than the general population. Operators in Winnebago were predominantly male and white.

## AGRICULTURAL OPERATIONS

It becomes more important to refine the analysis of agricultural land uses in the county. This analysis should include not only the number, size and locations of farms in the county, but also the type of farm operations, and their economic linkages to other farms, markets and farm infrastructure. This involves

not only the type of crops, whether conventional or specialty, but how the farms depend on feed operations and other input sources, custom work, contracting, later processing stages and ultimate markets. Larger trends in agricultural economics and agricultural land use at the international and regional scale would also be a useful part of the planning discussion as these trends may impact the future nature, scope, location and focus of local agricultural production. Examples of trends might include farm consolidation, product type and processing chains, input types and sources, changes in ownership and the age of operators, and competition of other uses for farm acreage.

**Table 5-4. Operator Characteristics: 2012**

| Characteristic | Quantity | Percent of Total |
|---|---|---|
| Principal operators by primary occupation | | |
| Farming | 438 | 39.2 |
| Other | 679 | 60.8 |
| Principal operators by sex | | |
| Male | 951 | 85.1 |
| Female | 166 | 14.9 |
| Average age of principal operator (years) | 58.2 | -- |
| All operators by race | | |
| American Indian or Alaska Native | 1 | <0.1 |
| Asian | - | - |
| Black or African American | 1 | <0.1 |
| Native Hawaiian or Other Pacific Islander | - | - |
| White | 1,662 | 99.7 |
| More than one race | 2 | <0.1 |

Source: 2012 Census of Agriculture

Identification and analysis of the economic generators in the county, including information on employment, wage rates and average per capita income by industry sector, can help to outline economic conditions in the county. As a part of this analysis, consider information about planned or potential areas for agricultural related business development, not just commercial uses in general. Look at existing commercial and industrial areas to assess where and how to focus further development in order to best avoid farmland preservation areas and cluster ag-related businesses near to farmland.

It is also useful to consider off-farm employment and commuting patterns as these may contribute heavily to decisions of what type of farming is engaged in and are often a major source of farm family income and health and retirement benefits. An inventory of trends in the number, composition, skill levels, seasonality, and wage levels of jobs in the regional labor market is also relevant to the discussion of maintaining farm operations and growing agricultural businesses.

From the data below you will be able to see that the agricultural economy is very important to Winnebago County. Because the county has a relatively small land area, it is not typically in the top tier of agricultural production in the state of Wisconsin. This highlights the need to preserve the already limited areas of agricultural production for the economy and for the additional environmental protection that these agricultural areas provide for the important natural resources in Winnebago County.

**Table 5-5. Top Crops: 2007 and 2012**

| Item | 2007 | | | 2012 | | |
|---|---|---|---|---|---|---|
| | Acres | State Rank | U.S. Rank | Acres | State Rank | U.S. Rank |
| Corn for grain | 40,810 | 33 | 666 | 33,458 | 38 | 759 |
| Soybeans for beans | 27,809 | 17 | 720 | 31,589 | 19 | 770 |
| Forage, hay, silage, and greenchop | 24,311 | 47 | 872 | 22,562 | 45 | 855 |
| Wheat for grain | 13,269 | 6 | 610 | 11,457 | 8 | 637 |
| Corn for silage | 9,050 | 32 | 148 | 12,013 | 30 | 140 |

Source: 2007 and 2012 Census of Agriculture
Notes:
There were 72 counties in Wisconsin and 3,079 counties in the United States

**Table 5-6. Top Livestock Inventory: 2007 and 2012**

| Item | 2007 | | | 2012 | | |
|---|---|---|---|---|---|---|
| | Number | State Rank | U.S. Rank | Number | State Rank | U.S. Rank |
| Cattle and calves | 33,372 | 42 | 953 | 35,196 | 41 | 808 |
| Layers | 33,035 | 11 | 562 | 1,783 | 50 | 1,391 |
| Pullets for laying flock replacement | 30,715 | 5 | 381 | - | - | - |
| Broilers and other meat-type chickens | - | - | - | 1,839 | 26 | 786 |
| Pheasants | 2,760 | 27 | 208 | D | 15 | 101 |
| Colonies of bees | D | 8 | D | D | 9 | D |

Source: 2007 and 2012 Census of Agriculture
Notes:
There were 72 counties in Wisconsin and 3,079 counties in the United States

**Table 5-7. Market Value of Agricultural Products Sold: 2007 and 2012**

| Item | 2007 | | | 2012 | | |
|---|---|---|---|---|---|---|
| | Value (1,000) | State Rank | U.S. Rank | Value (1,000) | State Rank | U.S. Rank |
| Crops including nursery & greenhouse | $30,871 | 37 | 1,190 | $52,283 | 43 | 1,133 |
| Livestock, poultry, and their products | $70,892 | 34 | 532 | $74,290 | 39 | 654 |
| Total all agricultural products sold | $107,762 | 37 | 826 | $126,573 | 39 | 943 |

Source: 2007 and 2012 Census of Agriculture
Notes:
There were 72 counties in Wisconsin and 3,079 counties in the United States

**Table 5-8. Value of Sales by Commodity Group: 2012**

| Item | Value | State Rank | U.S. Rank |
|---|---|---|---|
| Grains, oilseeds, dry beans, and dry peas | $46,295,000 | 31 | 876 |
| Tobacco | - | - | - |
| Cotton and cottonseed | - | - | - |
| Vegetables, melons, potatoes, and sweet potatoes | $693,000 | 48 | 974 |
| Fruits, tree nuts, and berries | $207,000 | 47 | 1,070 |
| Nursery, greenhouse, floriculture, and sod | $2,204,000 | 27 | 731 |
| Cut Christmas trees and short rotation woody crops | $1,000 | 67 | 1,417 |
| Other crops and hay | $2,882,000 | 41 | 1,014 |
| Poultry and eggs | $152,000 | 42 | 1,282 |
| Cattle and calves | $13,193,000 | 39 | 1,111 |
| Milk and other dairy products from cows | $60,023,000 | 33 | 136 |
| Hogs and pigs | $142,000 | 42 | 1,166 |
| Sheep, goats, and their products | D | 65 | D |
| Horses, ponies, mules, burros, and donkeys | $214,000 | 22 | 1,190 |
| Aquaculture | $13,000 | 38 | 914 |
| Other animals and other animal products | D | 32 | D |

Source: 2012 Census of Agriculture

Notes:
D = Withheld by source to avoid disclosing data for individual farms
There were 72 counties in Wisconsin and 3,079 counties in the United States

**Table 5-9. Special Agricultural Products: 2012**

| Description | Farms | Sq. Ft. Under Glass or Other Protection | Acres in Open | Value of Sales |
|---|---|---|---|---|
| Aquatic plants | 2 | D | D | D |
| Bulbs, corms, rhizomes, and tubers – dry | 1 | | D | D |
| Cuttings, seedlings, liners and plugs | 1 | D | - | D |
| Floriculture crops | 14 | 125,058 | 16 | $923,517 |
| Greenhouse vegetables and fresh cut herbs | 5 | 20,900 | - | 22,610 |
| Nursery stock | 11 | - | D | $432,700 |
| Sod | 1 | - | D | D |

Source: 2012 Census of Agriculture (Table 34)

D = Withheld by source to avoid disclosing data for individual farms

**Table 5-10. Value of Sales: 2002, 2007 and 2012**

| | 2002 | | 2007 | | 2012 | |
|---|---|---|---|---|---|---|
| Value of Sales | Quantity | Percent of Total | Quantity | Percent of Total | Quantity | Percent of Total |
| Less than $1,000 | 391 | 40.6 | 383 | 38.3 | 404 | 36.2 |
| $1,000 to $2,499 | 55 | 5.7 | 47 | 4.7 | 102 | 9.1 |
| $2,500 to $4,999 | 56 | 5.8 | 53 | 5.3 | 70 | 6.3 |
| $5,000 to $9,999 | 63 | 6.5 | 66 | 6.6 | 78 | 7.0 |
| $10,000 to $19,999 | 71 | 7.4 | 66 | 6.6 | 65 | 5.8 |
| $20,000 to $24,999 | 29 | 3.0 | 34 | 3.4 | 18 | 1.6 |
| $25,000 to $39,999 | 53 | 5.5 | 46 | 4.6 | 54 | 4.8 |
| $40,000 to $49,999 | 25 | 2.6 | 38 | 3.8 | 30 | 2.7 |
| $50,000 to $99,999 | 79 | 8.2 | 76 | 7.6 | 72 | 6.4 |
| $100,000 to $249,999 | 88 | 9.1 | 99 | 9.9 | 104 | 9.3 |
| $250,000 to $499,999 | 36 | 3.7 | 59 | 5.9 | 66 | 5.9 |
| $500,000 or more | 17 | 1.8 | 34 | 3.4 | 54 | 4.8 |
| Total | 963 | 100 [1] | 1,001 | 100 [1] | 1,117 | 100 [1] |

Source: 2002, 2007 and 2012 Census of Agriculture (Table 2)
Notes:
1. Total may not equal 100 due to rounding

## AGRICULTURAL ECONOMY

Because the agricultural land use within Winnebago County is in close proximity to important surface waters and other natural resources, it is important to both preserve the agriculture for its ability to buffer these natural resource areas, and implement conservation compliance standards to ensure that the practice of agricultural land use is always sensitive to these important natural resources. What this means is that farmers in Winnebago County must do more with less land. The best way to accomplish this is by adding value to their products, or collaborating with other operations to seek out economies of scale. Value added should work well in Winnebago County because of the large urban population and proximity of the farmland to these urban centers. These agricultural land uses also provide a rural character in close proximity to urban centers. It also keeps the agricultural land use in close proximity to the urban population.

This does bring a lot of eyes and ears into the rural areas. These eyes and ears can become critics, or supporters, but especially markets for agriculture. This makes it very important that agriculture is preserved in a manner that is positive and provides the commodities that are in demand locally. Ag enterprise areas would enhance the value added,

**Exhibit 5-2. Agriculture by the Numbers**

- Agriculture provides 2,625 jobs or about 2.2 percent of the workforce.
- Every job in agriculture generates an additional 0.44 jobs in the county.
- Agriculture generates $528.6 million in business sales, 2.9 percent of total sales.
- Every dollar of sales from agriculture products generates an additional $0.27 of business sales in other parts of the county's economy.
- Agriculture accounts for $145.2 million in the county's total income, 1.9 percent of the total.
- Economic activity associated with Winnebago County farms and agriculture-related business generates $11.2 million in local and state taxes.
- On-farm milk production generates $67.0 million in business sales and milk processing accounts for another $121.1 million.
- Each dairy cow in the county generates $3,467 in on-farm sales to producers.

Source: "Value & Economic Impact of Agriculture, Winnebago County 2011" University of Wisconsin-Extension

and the collaboration portions of this economic section. By creating important rural agri-business partnerships, the agricultural economy in Winnebago County should flourish.

Exhibit 5-2 documents the importance of agriculture in Winnebago County in terms of employment, generation of tax revenue, and positive impact on the local economy.

## AGRICULTURAL INFRASTRUCTURE

Historically good transportation routes have been the most important infrastructure for agriculture. Winnebago County has continued to repair, maintain, rebuild and install good highways for commercial and agricultural travel. There continues to be a deterioration of other available infrastructure in the form of creameries, implement dealers and such because of the reduction of farm acres and farm numbers. It becomes a longer travel time to find these sources of infrastructure, which will continue to deteriorate if farmland is not preserved in Winnebago County. This infrastructure will continually change and adapt as the markets and use of agricultural land continue to change. With the proliferation of custom operators, machinery is maintained and sold on a more regional basis. More farmers markets and local food sale has continued as the trend towards sustainability continues. Of note, much of the mapped agricultural infrastructure is within the urbanized areas of Winnebago County. This important relationship between urban and rural land use must be acknowledged, supported, and even further developed to continue to improve the economy for agriculture in Winnebago County.

**Table 5-11. Dairy Plants: 2014**

| Number | Name | Location |
|---|---|---|
| 53-469 | Galloway Company | 601 S Commercial Street (Neenah) |
| 53-654 | Grande Cheese (Oshkosh Cheese Sales and Storage) | 1110 Industrial Avenue (Oshkosh) |
| 53-1113 | Union Star Corp | 7742 County Rd II (Fremont) |

Source: *2014-2015 Wisconsin Dairy Plant Directory*, Wisconsin Department of Agriculture, Trade, and Consumer Protection

**Table 5-12. Food Processing Plants: 2010**

| Name | Location | Description |
|---|---|---|
| Asiana Management Group | | Packing/Packaging |
| Catch 5 Breading | 2370 Meadow Heights Circle (Neenah) | Spices & seasonings |
| Colleen's Tough Times | 765 Oak Street (Neenah) | Salad dressings, sauces, condiments |
| Fox River Brewing Company & Fratello's Cafe | 1501 Arboretum Drive (Oshkosh) | Brewery |
| Gluten Free Treasures | 1811 Lakeshore Drive (Menasha) | Bakery, pizza |
| Grandmas Pickled Products | 5816 County Road N (Oshkosh) | Pickled products, relishes, salsa |
| Hydrite Chemical Co. | 191 West 28th Avenue (Oshkosh) | Packing/Packaging |
| Mineral Spring Water | 3027 Jackson Blvd (Oshkosh) | Bottling |
| Oaks Incorporated | 1206 Oregon Street (Oshkosh) | Confectionery |
| Old Man Charley's | 1359 Maricopa Drive (Oshkosh) | Canning |
| Pepsi Cola General Bottlers | 2541 W 20th Avenue (Oshkosh) | Soda, water |

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**Table 5-12. Food Processing Plants: 2010 - continued**

| Name | Location | Description |
|---|---|---|
| Rogge's Sausage | 178 Alder Drive (Omro) | Fish products |
| Sunrise Farms Inc. | 1331 Gillingham Road (Neenah) | Vegetables, sprouts, nuts, seeds, grains, legumes |
| Serv-Ice | 2175 W 20th Avenue (Oshkosh) | Ice |
| The Chocolate Rose | 1516 Kingswood Drive (Neenah) | Bakery and confectionary |
| Todays Health Superstore | 607 W Lincoln Avenue (Oshkosh) | Bottling |
| - | 8598 River Lane (Fremont) | Fish products |
| - | 8790 Banner Hill Road | Packing and packaging |
| - | 9639 Clayton Avenue | Bakery |
| - | Tillman Street | Bakery |
| Valley Popcorn Company | 6172 Dixie Road (Neenah) | Popcorn |

Source: Wisconsin Department of Agriculture, Trade, and Consumer Protection

**Table 5-13. Food Warehouses: 2010**

| Name | Location | Description |
|---|---|---|
| Oshkosh Storage Company | 1110 Industrial Avenue (Oshkosh) | Dry merchandise, dairy, frozen foods, refrigerated foods |
| WOW Logistics Company | 2690 Badger Avenue (Oshkosh) | Dry merchandise, canned goods |
| Second Harvest of Wisconsin | 1436 Progress Lane (Oshkosh) | Canned goods, dry merchandise, dairy, frozen foods, refrigerated foods, soda, bottled water |
| TCFC | 355 Byrd Ave | Canned goods and dry merchandise |
| Apria Healthcare | 2412 Industrial Drive (Oshkosh) | Canned goods |
| H. Derksen & Sons Company | 250 Industrial Drive (Oshkosh) | Canned goods, dry merchandise, dairy, frozen foods |
| Kopie's | 4720 Island View Drive (Oshkosh) | Dairy, frozen foods, and refrigerated foods |
| Black Tie Transportation & Logistics | 1367 Planeview Drive (Oshkosh) | Dry merchandise, dairy, refrigerated foods |
| Step Industries | 1010 Strohmeyer Drive (Neenah) | Dry merchandise |
| Arctic Glacier Wisconsin | 2040 American Drive (Neenah) | Frozen foods |
| Pyramid Foods | 1600 Breezewood Lane (Neenah) | Dry merchandise, dairy, frozen foods, refrigerated foods |
| Lee Beverage of Wisconsin | 2850 S Oakwood Road (Oshkosh) | Canned goods, soda, bottled water, alcohol beverages |
| Miles Kimball Company | 2155 S Oakwood Road (Oshkosh) | Dry merchandise |
| American Bottling Company | 2110 Harrison Street (Oshkosh) | Soda/bottled water |
| Old Dutch Foods | 1018 W South Park Avenue (Oshkosh) | Dry merchandise |

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**Table 5-13. Food Warehouses: 2010 - continue**

| Name | Location | Description |
|---|---|---|
| Warehouse Specialists | 845 Specialists Avenue (Neenah) | Dry merchandise |
| Warehouse Specialists | 1097 Ehlers Road (Neenah) | Dry merchandise |
| Warehouse Specialists | 2240 Harrison Street (Neenah) | Dry merchandise |
| General Beverage Sales Co. | 2855 Oregon Street (Oshkosh) | Alcohol beverages |

Source: Wisconsin Department of Agriculture, Trade, and Consumer Protection

**Table 5-14. Meat Establishments: 2015**

| Number | Name | Location |
|---|---|---|
| 29-39 | Tia Maria Pizza | 1685 CTH A (Neenah) |
| 29-137 | Village Pub Pizza company | 374 S Keller Street (Oshkosh) |
| 29-449 | Chef Fresh Pizza | 204 Manitowoc Street (Menasha) |
| 29-524 | Fox Valley Specialty Meats | 1302 Oshkosh Avenue (Oshkosh) |
| 29-685 | Kountry Pride Farms | 8899 State Road 21 (Omro) |
| 29-746 | Beck's Meat Processing | 519 Clairville Road (Oshkosh) |
| 29-814 | Beck's Meat Processing | 1003 N Main Street (Oshkosh) |

Source: *2015-2016 Wisconsin Meat Establishment Directory*, Wisconsin Department of Agriculture, Trade, and Consumer Protection and local sources

**Table 5-15. Food Processors: 2011**

| Name | Location | Description |
|---|---|---|
| Aunt Gussie's Goody Company | 3295 Vinland Road (Oshkosh) | Fudge, cheesecake, and roasted nuts |
| Cloverleaf Cheese | 2006 Irish Road (Neenah) | Cheese producer |
| Fox River Brewing Company & Fratello's Italian Café | 1501 Arboretum Drive (Oshkosh) | Microbrewery |
| Hostess Brands | 215 Minnesota Street | Wholesale bakery |
| Old Man Charley's Brat Sauce | 1359 Maricopa Road (Oshkosh) | Meat sauces |
| Oshkosh Cheese Sales & Storage | 1110 Industrial Avenue (Oshkosh) | Sales and storage of bulk cheese |
| Oshkosh Cold Storage | 1110 Industrial Avenue (Oshkosh) | Cold storage of food products |
| Silver Creek Specialty Meats | 153 W 28th Avenue (Oshkosh) | Meat processing facility |
| Village Pub Pizza Manufacturing | 100 Tower Road | Wholesale pizza |

Source: Wisconsin Department of Agriculture, Trade, and Consumer Protection

**Table 5-16. Agricultural Support Businesses: 2015**

| Name | Location | Description |
|---|---|---|
| Dolata Tractor | 8561 State Rd 91 | Farm equipment |
| L&L | 2054 Irish Road (Neenah) | Contract harvesting |
| Olson's Mill (Olson's Mill Acquisition Company) | 2550 Clairville Road (Oshkosh) | Grain elevator |
| Robert Kesler | W6265 Old Highway Road (Menasha) | Farm equipment |
| Rogers Haven Farms | 4336 Spring Road (Omro) | Farm equipment |
| Sunrise Farm Equipment | 5315 Angle Road (Oshkosh) | Farm equipment |
| Tanner Equipment | 9295 Eureka Lock Road (Omro) | Farm equipment |
| Town Line Tractor | 4880 9th St Road (Oshkosh) | Farm equipment |

## SPECIALTY AGRICULTURE

Diversity in agriculture can provide a community with added value in agribusiness with more choices for consumers, greater economic sustainability due to more resiliency to market and environmental fluctuations, and growth potential due to diversification and differentiation in the market. The following are examples of specialty agriculture markets:

- Christmas tree farms
- Pumpkins, gourds, etc.
- Ginseng
- Mushrooms
- Organics
- Specialty grains
- Tree nuts
- Dried fruit products
- Floriculture
- Wildlife and fish farming
- Specialty fruits and vegetables
- Specialty meats and cheese

In 2015, there were five nursery growers in the county (Table 5-17) and one Christmas tree grower (Table 5-18).

**Table 5-17. Nursery Growers: 2015**

| Name | Location | License Number |
|---|---|---|
| Fernau's Greenhouse | 2975 County Road A (Oshkosh) | 106107 |
| Marty's Blue Sky Nursery and Landscaping | 3175 County Road E (Eureka) | 106300 |
| Roe Nurseries | 72 W Waukau Avenue (Oshkosh) | 105970 |
| Schroeder's Forevergreens | 706 Main Street (Neenah) | 106872 |
| Wildlife Nurseries | 904 Bauman Street (Oshkosh) | 106292 |

Source: Wisconsin Department of Agriculture, Trade, and Consumer Protection website (as of April 1, 2015); site accessed April 20, 2015

**Table 5-18. Christmas Tree Growers: 2015**

| Name | Location | License Number |
|---|---|---|
| Schroeder's Forevergreens | 706 Main Street (Neenah) | 244058 |

Source: Wisconsin Department of Agriculture, Trade, and Consumer Protection website (as of April 1, 2015); site accessed April 20, 2015

In 2015, there were five pick-your-own farm operations (Table 5-19).

**Table 5-19. Pick-Your-Own Farms: 2015**

| Name | Location | Description |
|---|---|---|
| Oakridge Farms | 125 County Road CB (Neenah) | Strawberries and raspberries |
| Prellwitz Produce | 476 County Road E (T. of Nepeuskun) | Strawberries and raspberries, vegetables |
| Rasmussen's Apple Acres | 3871 STH 21 (Oshkosh) | Apple orchard |
| Roo's Apple Orchard | 7219 County Road D (Omro) | Apple orchard |
| Schroeder's Orchard | 9458 STH 76 (Neenah) | Apple orchard |

## BIOENERGY PRODUCTION

Fox River Valley Ethanol, formerly Utica Energy, is located in the Town of Utica just west of Oshkosh on STH 91. The plant began producing ethanol fuel and other related byproducts in 2003 and was expanded in 2004. It now produces 52 million gallons of ethanol fuel per year. The site also features a 250/ton per day liquid CO2 plant that helps to reduce CO2 emissions produced by the plant while creating another high quality by-product.

**Fox River Valley Ethanol**

The facility can store 3.5 million bushels of corn and 6 million gallons of ethanol. Raw materials and ethanol and byproducts are received and distributed by rail and semi truck.

Fox River Valley Ethanol also operates a drying facility in Pickett, approximately 7 miles away from the ethanol plant. The drying facility converts wet distiller's grains into dry form and is shipped to customers around the state, country, and world.

The role Fox River Valley Ethanol plays in providing a valuable market for locally grown corn cannot be overstated.

**Key Terms Related to BioEnergy**

***Biodiesel –*** An alternative to petroleum diesel that is made from vegetable oils and animal fats through a process called transesterification. Biodiesel can be used as a pure fuel or blended with petroleum and can be used in any diesel engine with little or no engine modifications.

***Biofuels –*** Liquid, solid, or gaseous fuels produced by the conversion of biomass. Examples include bio-ethanol from corn or sugarcane; bio-gas from anaerobic (in the absence of air) decomposition of wastes; and biodiesel from materials such as soybean oil.

***Biomass –*** An organic matter (e.g., plant material, vegetation, agriculture waste, forestry waste) used as a fuel or source of energy.

***Biorefinery –*** A facility that functions like a petrochemical refinery, producing transportation fuels and high-value chemicals, but that uses plant matter as the raw material instead of petroleum. The plant matter would be any number of things, including corn, wheat, barley, switchgrass, crop residues or waste wood.

***Energy crop –*** Any crop grown specifically for their value as a fuel. Examples of energy crops include corn, sugarcane, poplar trees and switchgrass.

***Ethanol –*** A liquid fuel that is produced by the fermentation of plant sugars. Currently, one bushel of field corn will yield approximately 2.7 gallons of fuel ethanol.

***Feedstock –*** Any material which is converted to another form or product. It is the raw material required for an industrial purpose. Biomass feedstock can include everything from soybeans and corn to prairie grasses and trees.

Source: Wisconsin Office of Energy Independence

## 3. Environmental Resources

To fully understand the importance of natural resources to Winnebago County and the surrounding region, it is essential to recognize that, in addition to the countless environmental benefits they provide the resources generate millions of dollars in revenue to local communities throughout the county each year. That revenue comes primarily from industry, along with the vast array of recreational users of the resources. While it is difficult to place a specific dollar value on these resources, common sense tells us that we absolutely cannot afford to waste them and must do all we can to protect them, for present and future generations. Map 24 shows the geographic arrangement of various environmental resources in Winnebago County.

### Geology & Topography

The entire landscape of Winnebago County reflects the influences of glacial activity. The most recent glacier to cover the county occurred about 10,000 years ago. The topography is nearly level or gently rolling with slopes of 6 percent or less over 90 percent of the terrain. Two escarpments run northeasterly across the county ranging from 750 to about 950 feet above sea level providing land relief on the order of about 200 feet.

The most prominent features are the broad expanses of lakes and adjacent marshes. Topographic features are controlled by the subsurface geology, which is mainly sandstone and limestone positioned equally throughout the western and eastern parts of the county. A varying thickness of glacial till overlies the irregular surface of these rock formations. The glacial material over the limestone formation is, however, much thinner than the material over the sandstone.

### Mineral Resources

The geologic and glacial history of the county is reflected in its mineral resources that provide a substantial volume of the total aggregate material used in construction activities throughout the county and surrounding region. It is estimated that 5,500 acres have limestone, 6,000 acres have sand and gravel, and 3,000 acres have mason sand, all within 5 feet of the surface. These mineral resources

are distributed throughout the county. Winnebago County has high quality limestone. This material is used extensively for rip rap on shoreline and streambank protection projects throughout the region.

In 2014, there were 41 active permitted extraction sites with reclamation plans encompassing 740 acres.

Some of the old inactive pits and quarries have filled with water and provide unique fish and wildlife habitat. Unfortunately they also provide a conduit for surface water to enter groundwater unchecked, which can, and has, created contaminated groundwater issues.

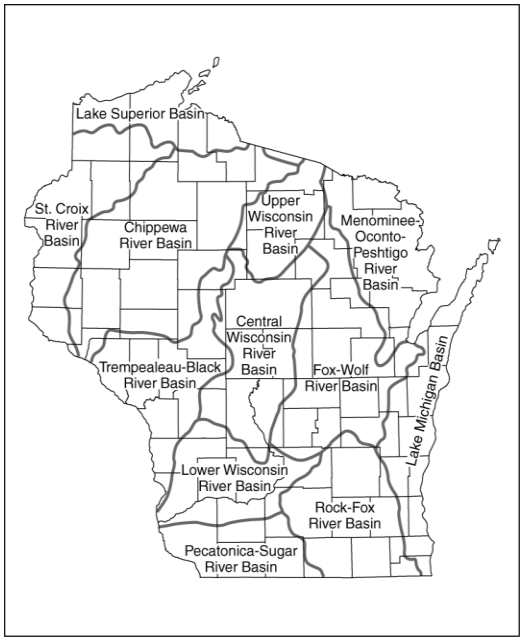
## Soil

Individual soil types, with specific and unique characteristics, directly influence land uses. There are 74 different soil types found throughout Winnebago County. These are grouped into seven major soil associations that have distinctive soil patterns, relief, and drainage features.

## Surface Water Resources

The county is located entirely in the Fox-Wolf River Basin (Exhibit 5-3) and contains 84,000 acres of surface water (Map 25). Its network of lakes, rivers, and streams make up the major portion of what is known as the Winnebago System, which includes the Pool Lakes of Winnebago, Butte des Morts, Winneconne, and Poygan along with the main tributary waters of the Upper Fox and Wolf rivers.

**Exhibit 5-3. Major River Basins of Wisconsin**




Water levels of the lakes are controlled by dams located at each of the two outlets of Winnebago at Neenah and Menasha. These two dams date back to the 1850's, and raised the water levels of the lakes 2.5 to 3.0 feet to form what is known as the Winnebago Pool. The dams were originally constructed to manage water levels for commercial navigation because the system was an important trade and exploration route for early settlers.

The Fox River enters Winnebago County near Eureka, flows northeasterly through Lake Butte des Morts and Lake Winnebago, over the dams at Neenah and Menasha, and continues down through Little Lake Butte des Morts. It outlets into Green Bay 39 miles downstream from Lake Winnebago after it follows a meandering course with a vertical drop of 168 feet. Lake Winnebago divides the Fox River into the Upper and Lower Fox.

The Wolf River enters the county in the northwestern corner, flows southeasterly through Lakes Poygan and Winneconne, and then converges with the Fox River at the west end of Lake Butte des Morts. The Wolf River accounts for approximately 60 percent of the combined inflow to the Winnebago Pool from the Fox and Wolf rivers.

Two lakes in the County that are not located in the Pool are Rush Lake and Little Lake Butte des Morts. Both of these lakes receive direct runoff from much of the surrounding agricultural watershed through streams and man-made drainage ditches. Little Lake Butte des Morts is listed as a 303(d) impaired waterbody by the USEPA. The 15,000-acre Neenah Slough watershed also outlets into the south end of the lake downstream from the dam at Neenah.

The Winnebago System is one of Wisconsin's most significant water resources, representing 17 percent of the state's total surface water acreage (137,700 acres). It is located within 75 miles of over 2 million people and receives heavy recreational use for fishing, boating, swimming, hunting, and trapping. In

addition, Lake Winnebago provides drinking water to over 200,000 people in the communities of Oshkosh, Neenah, Menasha, Appleton, Sherwood, and Waverly.

Shoreline and streambank erosion is an on-going problem in most areas of the system where wetlands once flourished and helped to buffer erosive forces. Given the natural characteristics of the Winnebago System, it is likely that the waters were always fertile; however, they are now described as being highly eutrophic and are included in the 303(d) list of impaired waters. This is the direct result of impacts from nonpoint pollution. Excessive nutrient and sediment delivery into the Winnebago System from urban, but primarily agriculture sources contributes towards massive algae blooms that frequently occur. The algae and sediments increase turbidity, hinder growth of beneficial aquatic plants, and deplete important fish spawning areas.

## DAMS

According to a statewide inventory maintained by the Wisconsin Department of Natural Resources, there were 28 regulated dams in Winnebago County (Table 5-20 and Map 26). There were 4 large dams, 21 small dams, and 3 were unclassified. Three of the dams (DNR #5728, #5832, #6076) did not have sufficient information as to a precise location and were not mapped.

**Table 5-20. Regulated Dams; Winnebago County: 2014**

| DNR ID Number | Official Name | Owner Name | Ownership | Classification | Hazard Ranking |
|---|---|---|---|---|---|
| 601 | Neenah | Neenah & Menasha Power Co. | Utility | Large | High |
| 757 | Menasha | Daen NCC | Private | Large | High |
| 1591 | Eureka | Wisconsin DNR | Public | Large | High |
| 1592 | Rush Lake | Town of Nepeuskun | Public | Small | n/a |
| 1593 | Sawyer Creek | Westhaven Golf Course | Private | Small | n/a |
| 2307 | Bridges, R.C. NO.1 | Unknown | Private | Small | n/a |
| 2308 | Bridges, R.C. NO.2 | Unknown | Private | Small | n/a |
| 3056 | Water Treatment Basin | Winnebago County | Public | Small | n/a |
| 3427 | Huelster, Michael | Michael Huelster | Private | Small | n/a |
| 3583 | Waukau Creek | Winnebago County | Public | Unclassified | n/a |
| 3610 | Landig | Paul and Sherri Landig | Private | Small | n/a |
| 4873 | Winnebago County Comm. Park | Winnebago County | Public | Unclassified | n/a |
| 4877 | Zacher | Skip Zacher | Private | Small | n/a |
| 4920 | Walleyes for Tomorrow | Walleyes for Tomorrow | Private | Small | n/a |
| 4987 | Sippel | Keith Sippel | Private | Small | n/a |
| 5149 | Wiesner | Ken Wiesner | Private | Small | n/a |
| 5301 | Rush Lake Wings | Wisconsin DNR | Public | Small | n/a |
| 5322 | Foote Dam | Wisconsin DNR | Public | Small | n/a |
| 5467 | Koch, John | John Koch | Private | Small | n/a |
| 5468 | Speigelberg | Wisconsin DNR/DOT | Public | Small | n/a |

continued on next page

**Table 5-20. Regulated Dams; Winnebago County: 2014 - continued**

| DNR ID Number | Official Name | Owner Name | Ownership | Classification | Hazard Ranking |
|---|---|---|---|---|---|
| 5562 | Pelz Dam | Unknown | Unknown | Small | n/a |
| 5669 | Baer Dam | Rissel Baer | Private | Small | n/a |
| 5728 | Honey Creek Dam | Honey Creek Development Corp. | Public | Small | n/a |
| 5832 | Uihlein Marsh | Fish & Wildlife Service | Public | Unclassified | n/a |
| 5880 | Borgardt | Ruben Borgardt | Private | Small | n/a |
| 5881 | Borgardt | Ruben Borgardt | Private | Small | n/a |
| 5958 | Oshkosh Wetland Mitigation site | WisDOT | Public | Small | n/a |
| 5959 | Oshkosh Wetland Mitigation site | WisDOT | Public | Small | n/a |
| 6076 | Wetland Restoration Dam | Unknown | Unknown | Unclassified | n/a |
| 6122 | Demke | Unknown | Unknown | Unclassified | n/a |
| | Armory Detention Basin | City of Oshkosh | Public | Large | Unknown |

Source: Wisconsin Department of Natural Resources, Dam Safety Program database accessed December 6, 2014
Database updated October 2014

## FISHERY RESOURCES

Despite the losses of aquatic habitat within the Winnebago System, it continues to be known throughout the Midwest for its excellent walleye, northern pike, and white bass populations, as well as its world-class population of lake sturgeon.

The lower 125 miles of the Wolf River and 37 miles of the upper Fox River contain the spawning and nursery grounds for the Winnebago Pool sturgeon and walleye populations. In addition to lake sturgeon, walleye, northern pike, and white bass, the major species of the Winnebago Pool fisheries community include freshwater drum, sauger, yellow perch, largemouth and smallmouth bass, panfish, trout, perch, and emerald shiner. The recreational fishing opportunities supported by this diverse fishery provides over one million angler hours and $234 million to the local economy.

## GROUNDWATER RESOURCES

There are three aquifers that supply potable groundwater. The sandstone aquifer is the most extensive and the only one of the three that can sustain high capacity pumping wells for municipal and industrial uses. The Platteville-Decorah-Galena aquifer is composed primarily of dolomite, which is present in the eastern third of the county and provides adequate private water sources. Local problems in this aquifer include high sulfate, iron, and arsenic concentrations along with hardness that results from the geochemistry of the dolomite formation. The water table aquifer is composed of varying thicknesses of glacial sediments, primarily sand and gravel, whose seams transmit adequate amounts of water for private wells.

All of the groundwater in the county originates from local precipitation that infiltrates through the soil into recharge areas of the aquifers. Contamination risks from land use practices are the greatest threat to groundwater resources. The potential sources of contaminants are from old unregulated landfills, old and operating quarries, underground storage tanks, on-site waste disposal systems, livestock waste handling, application and storage, and septic disposal. All of these sources are presently regulated or are being addressed through ordinances, State rules and/or technical assistance services provided by various county and state agencies.

Winnebago and its surrounding counties are expected to see a significant population increase by the year 2030. Based on this information, East Central Wisconsin Regional Planning Commission projects an additional pumping need of approximately 2 billion gallons in the next 25-year period. This region's population growth, rate of development, and agricultural land uses will directly impact the future needs of municipal water utilities. If groundwater recharge areas are not protected, a greater need to find alternative potable water resources will intensify.

The Village of Sherwood (Calumet County) has recently contracted with the City of Appleton (which pumps water from Lake Winnebago) to purchase potable water. Sherwood chose this contract alternative because the groundwater found in their test wells is limited and of poor quality. Winnebago and its surrounding counties fall within the Great Lakes Basin and therefore are eligible to pump water from Lake Michigan to meet future potable water needs. Should this alternative come to fruition, the volume of water pumped from Lake Michigan will adversely impact the near shore health of the lake.

A 2008 study indicates that pumping large water-supply wells in Wisconsin and Illinois has lowered ground water levels in the area, increasing water treatment, pumping costs as well as levels of harmful contaminants such as radium and arsenic. Elevated levels of radium, arsenic, nitrates, and bacteria have adversely impacted a significant portion of Winnebago County's groundwater. These elevated contaminant levels are related to over pumping some aquifers and land use in unprotected recharge areas[1]. The Groundwater Recharge Modeling study will hopefully influence policy to strengthen land use ordinances and land protection policies and change current storm water policies and practices to encourage infiltration by alternative storm water best management practices.

### ARSENIC IN GROUNDWATER

Arsenic is an element that occurs naturally in soil, bedrock, groundwater, and ocean water. High levels of inorganic arsenic, the most toxic form, have been found in hundreds of private drinking water wells in Wisconsin. Arsenic is being released into the groundwater because the demand for water use has increased. The water table then drops, thus allowing oxygen to get into the aquifer, creating chemical reactions that release the arsenic. Most of the impacted wells are located in or near the St. Peter Sandstone formation in Outagamie, Winnebago, and Brown counties.

Between 1990 and 2000 approximately 10,000 new wells were drilled in Winnebago and Outagamie counties. Of these, over 20 percent contain unhealthy levels of arsenic.

To address the issue, the Wisconsin Department of Natural Resources (DNR) has delineated an Arsenic Advisory Area in northeast Wisconsin. Most of Winnebago County is located in the advisory area which encompasses the St. Peter Sandstone formation and a 5-mile buffer Map 27.

In 2002, the U.S. Environmental Protection Agency established a new arsenic standard of 10 parts per billion for public water systems. The old standard was 50 parts per billion.

In 2004, the DNR created a "Special Well Casing Depth Area" which includes all of Outagamie and Winnebago counties. As of October 1, 2004 all new wells drilled within these counties must be constructed, grouted, and disinfected according to more stringent standards.

In general, the DNR has expressed concern that water drawn from aquifers near the St Peter Sandstone are not reliable sources of drinking water, as development continues into the future. Land use policies that address development activity in these areas are a consideration that communities should pursue to ensure that the reliance on drinking water within these areas is minimized.

[1] Groundwater Recharge in East Central Wisconsin, ECWRP, 2010.

### WASTE DISPOSAL SITES

To address some of the potential concern regarding groundwater contamination from landfill and waste disposal sites (abandoned and existing) the Wisconsin DNR published an inventory of sites which was known as the Historic Registry of Waste Disposal Sites. That document has been periodically updated since it was first published in 1999. The last statewide update occurred July 2013.

The DNR is now in the process of posting that information online in a searchable database referred to as the Solid & Hazardous Waste Information Management System (SHWIMS). The print version of the registry is still available because some information in the registry has not yet been reviewed and incorporated into a database.

In April 2015, there were 1,029 sites in Winnebago County that are regulated by the Wisconsin DNR Waste and Materials Management (WMM) program. Activities include landfill operation, waste transportation, hazardous waste generation, wood burning, waste processing, sharps collection and many more.

The DNR regulates private wells and development activity on or near landfills as follows:

- Wells - Chapter NR 812 prohibits drilling a private well for drinking water within 1,200 feet of a landfill. A DNR variance is required if a well is desired to be drilled within the 1,200-foot setback.

- Development on landfills – Chapter NR 500 prohibits the disturbance of a landfill cap. Disturbance includes construction of any building, excavation of the cap, and planting of agricultural crops. A DNR exemption is required for development of historic landfills.

### WETLAND RESOURCES

Approximately 44,380 acres of wetland still exist in Winnebago County. This is less than half of the total wetland acreage that existed in the county prior to the late 1800's. Most of the wetlands are located in the western and northern parts of the county. The largest areas are associated with Lake Poygan, Rush Lake, Rush/Waukau Creek, and the Fox, Rat, and Wolf rivers.

As the result of high water levels along with draining and filling in the system, the greatest and most rapid loss of wetlands has occurred during the past 75 years, although, there were extensive areas of wetlands that were lost during the late 1800's and early 1900's. The primary causes for wetland destruction in the county have been seasonably high lake levels coupled with filling for urban development. This has resulted in degraded water quality, loss of natural filtration and storage areas, increased localized flooding, and loss of important fish and wildlife habitat.

There are three wetland habitat types found in Winnebago County: emergent wetland, scrub-shrub wetland, and forested wetland. Each of these represents a unique ecosystem based on hydrologic conditions, vegetation, and location in relationship to other wetlands, drier upland areas, or adjacent water bodies. In addition to providing habitat for fish, waterfowl, and other wildlife species, the remaining wetlands are important for the recharge of aquifers and the protection of groundwater quality. They are extremely efficient at trapping and filtering out nutrients and sediments contained in stormwater runoff and they provide highly effective flood storage areas. It is critical that the remaining wetland resources in Winnebago County be protected from further destruction. In addition, for the protection of wetlands adjacent to lakes and rivers, technical and financial resources need to be expanded.

### WILDLIFE RESOURCES

The lakes, marshes, rivers, and adjacent uplands in Winnebago County have provided prime waterfowl habitat for centuries. Sharp declines in waterfowl populations during the 1970's and 80's coincided with the loss of important aquatic food sources, such as wild rice and celery. In recent

years, DNR, LWCD, and local sporting clubs have been working cooperatively to restore these plants in Lake Poygan and Rush Lake. Waterfowl hunting, as always, remains an important recreational activity in the county.

Other important wildlife, providing hunting opportunities in the county, includes deer, pheasant, rabbits, turkey and fur baring animals. Because Winnebago County is located in what was formerly one of the best regions of the state for duck and pheasant production, the Department of Natural Resources initiated the Glacial Habitat Restoration Area (GHRA) project in the southwestern part of the county. This project is designed to restore wetlands and grasslands on private and public lands to benefit waterfowl, pheasants, and grassland songbirds.

Winnebago County also has the State Acres for Wildlife Enhancement (SAFE) program in designated townships within the GHRA that allows landowners to enroll blocks of cropland in a USDA, CRP contract to provide grassland habitat.

### Woodland Resources

Prior to settlement, the vegetation in the county was mostly forest and oak savannas. Sedge meadows and prairie grass in the northern and western parts of the county covered the balance of the land. Most of the forests were cleared for agricultural crops and today approximately 28,000 acres are still in woodland cover according to the 2008 forest inventory, which is about 5 percent of all of the land in the county. Nearly all of this land is held by private landowners and is widely distributed across the county. The amount of forested land has increased from about 20,000 acres in 1996. Most of this gain in forested acres is due to the planting of young tree seedlings by private landowners.

Programs such as the Conservation Reserve Program and the Wisconsin Forest Land Owner Grant Program have provided some financial incentives for tree planting. In addition to these programs the Managed Forest Law (MFL) program provides a tax break for landowners to manage their land for timber products. Currently 2,213 acres are enrolled in the MFL program. Oak/hickory forests make up the bulk of the forested land with 15,000 acres in total. Ash/ elm forests comprise 4,100 acres of the total forested land in the county while maple, pine and aspen forest types comprise the remaining acreage. In Winnebago County the forest products and processing industrial output is 19.4 percent of the total county industrial output and accounts for 6.6 percent of the total employment.

Although the woodland acreage of the county is relatively small it provides a considerable source of timber and related products for private use. The woodlands are also very important in terms of providing habitat for a variety of wildlife species. More importantly, from an agricultural perspective, are the soil conservation benefits from wind and water erosion reduction. Improved woodland management will be necessary in order to maintain these benefits.

Future trends in forest lands continue to show problems with increasing amounts of parcelization, large deer populations, and problems with invasive species.

An important invasive insect in Wisconsin is the Emerald Ash Borer (EAB). This pest arrived from China via Michigan. Since that time it has devastated large areas of ash in Michigan, Ohio, Indiana, and Ontario. It has been found in several areas in Wisconsin. Because EAB bores into the trunk of a tree it is extremely difficult to find and control. This insect has the potential to devastate the ash stands in Winnebago County. Continuation of forest assistance and incentive programs to encourage the planting of new trees and proper management of existing forests are critical to the future of these forested lands.

### Federal and State Conservation Land Ownership and Easement Programs in Winnebago County

- WDNR Ownership – State owned lands purchased for conservation benefits and public recreation. These lands are generally open to public use such as hiking, hunting, and bird

watching.

- WNDR Conservation Easement - A State easement program aimed at enhancing the conservation benefits of certain lands. These are privately owned lands, open to public use only with permission from the landowner. Certain rights were purchased from the landowner by the Department to enhance conservation of the property and these may include development rights, vegetation management rights, water management rights, and other conservation related rights.
- WDNR Managed Forest Law (MFL) Lands- Privately owned forested lands where the landowner gets a tax break in exchange for creating a Forest Stewardship Plan for the property. These contracts last either 25 or 50 years and preclude development of the property during the contract period. The property may be open or closed to public, with a higher tax break going towards land that is open for public use. As part of the Stewardship Plan, 5% of the profits from forest harvest returns to the State.
- Federal Wetland Reserve Program (WRP) Easements- A Federal easement program aimed at restoring previously drained wetlands. These are privately owned lands, open to public use only with permission from the landowner. The Federal government has purchased the development rights and the water and vegetation management rights to these properties. These properties are managed in the best interest of wetlands and their associated wildlife.
- Federal Waterfowl Production Areas (WPA's)- Federally owned lands purchased and managed for waterfowl wetland and nesting habitat along with all other associated wildlife. These lands are open for public use such as hiking, hunting, and bird watching.

## 4. Cultural and Historic Resources

### Historic Preservation Commissions

Historic Preservation Commissions and Archeological Review Boards are part of local governments and established through local preservation ordinances. A commission's size, responsibilities, and authority depend on local laws and the needs of its community. The general aim is to preserve and enhance the national, state and local historic, architectural, archaeological and aesthetic heritage found in the area and to promote and enhance its historic and aesthetic attraction to tourists and visitors.

Winnebago County has six active commissions that serve this purpose:

- Algoma Community Affairs Commission
- Appleton Historic Preservation Commission
- Menasha Landmarks Commission
- Neenah Landmarks Commission
- Oshkosh Landmarks Commission
- Winneconne Historic Preservation Commission

### Architectural Resources

The Wisconsin Architecture and History Inventory (AHI) is a digital source of information on more than 133,000 historic buildings, structures and objects throughout Wisconsin. The items represented in this database reflect Wisconsin's distinct cultural landscape. The AHI categorizes the properties into location, year, architectural style, historic use, and property type. This inventory may not represent all of Wisconsin's buildings and structures and is maintained on a volunteer basis and partially by Wisconsin Historical Society staff.

There were 4,965 sites in Winnebago County listed on the AHI as of April 20, 2015. Most of the sites (1,775) were located in Oshkosh, followed by Neenah with 1,220 sites.

## State and National Register of Historic Places

The Wisconsin Historical Society's Division of Historical Preservation (DHP) is a clearing house for information related to the state's cultural resources including buildings and archeological sites. The primary responsibility of the DHP is to administer the State and National Register of Historic Places programs. The National Register is the official national list of historic properties in the United States that are worthy of preservation. The program is maintained by the National Park Service in the U.S. Department of Interior. The State Register is Wisconsin's official listing of state properties determined to be significant to Wisconsin's heritage. Both listings include sites, buildings, structures, objects, and districts that are significant in national, state, or local history. Sites are chosen based on the architectural, archeological, cultural, or engineering significance.

In 2015, there were 91 properties/districts in Winnebago County listed on the State and National Register of Historic Places (Table 5-21).

**Table 5-21. State and National Register of Historic Places, Winnebago County: 2015**

| Jurisdiction | Number |
|---|---|
| Algoma, town | 1 |
| Clayton, town | 1 |
| Menasha, city | 12 |
| Neenah, city | 29 |
| Nekimi, town | 1 |
| Omro, city | 4 |
| Oshkosh, city | 36 |
| Rushford, town | 2 |
| Vinland, town | 1 |
| Winneconne, village | 3 |
| Wolf River, town | 1 |
| Total | 91 |

Source: Wisconsin Historical Society website, accessed on April 20, 2015

The National Register is not a static inventory. Properties are constantly being added, and, less frequently, removed. It is, therefore, important to access the most updated version of the National Register properties. This can be found by accessing the agency's website.

## Museums

Museums protect valuable historic resources for community enjoyment and add to the local economy. In 2015 there were 17 museums (Table 5-22). Winnebago County is home to many museums, exhibits and galleries with the Experimental Aircraft Association AirVenture Museum one of the biggest attractions in the region.

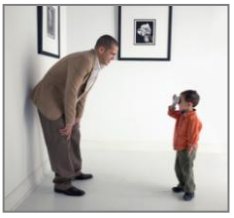


**Table 5-22. Museums: 2015**

| Name | Location |
|---|---|
| Barlow Planetarium | University of Wisconsin - Fox Valley, 1478 Midway Road (Menasha) |
| Bergstrom-Mahler Museum of Glass | 165 N. Park Avenue (Neenah) |
| Doty Cabin | Doty Park, located at 701 Lincoln Street ( Neenah) |
| EAA AirVenture Museum | 3000 Poberezny Road (Oshkosh) |
| Morgan House | 234 Church Avenue (Oshkosh) |
| Military Veterans Museum and Education Center | 4300 Poberezny Road (Oshkosh) |
| Octagon House | 343 Smith Street (Neenah) |
| Oshkosh Public Museum | 1331 Algoma Blvd (Oshkosh) |
| Paine Art Center and Gardens | 1410 Algoma Blvd (Oshkosh) |
| Pencil Museum | (Winneconne) |
| Pioneer Airport - EAA | 3000 Poberezny Road (Oshkosh) |
| R. Harder Gallery of Gems and Minerals | 24 Jewelers Park (Neenah) |

continued on next page

**Table 5-22. Museums: 2015 - continued**

| Name | Location |
|---|---|
| Tayco Street Bridge Tower Museum | Tayco & Main Streets (Menasha) |
| Velte History Room | City Hall (Neenah) |
| Weis Earth Science Museum | University of Wisconsin - Fox Valley, 1478 Midway Road (Menasha) |
| Winnebago County Historical and Archaeological Society | 234 Church Avenue (Oshkosh) |
| Winneconne Historical Society Museum | (Winneconne) |

## WISCONSIN HISTORICAL MARKERS

Wisconsin historical markers identify, commemorate, and honor important people, places, and events that have contributed to the state's rich heritage. According to the Wisconsin Historical Society, there were 12 historical markers or plaques located in Winnebago County in 2013 (Table 5-23).

**Table 5-23. Wisconsin Historical Markers in Winnebago County: 2013**

| Number | Name | Location |
|---|---|---|
| 27 | Knaggs Ferry | Rainbow Park (Oshkosh) |
| 30 | Wisconsin Central Hotel | Menahsa Hotel, Main Street and Mills Street (Menasha) |
| 40 | Butte des Morts | Fritsie Park (Menasha) |
| 48 | Poygan Paygrounds | WI-B, 7 miles west of Winneconne |
| 183 | University of Wisconsin-Oshkosh | UW-Oshkosh Campus (Oshkosh) |
| 211 | S.J. Wittman-Aircraft Designer, Race Pilot, Inventor | Wittman Field Airport (Oshkosh) |
| 217 | Coles Bashford House | 1619 Oshkosh Avenue (Oshkosh) |
| 225 | Samuel N. Rodgers, Sr. Soldier of the American Revolution | Town of Winchester Cemetery |
| 334 | Fox-Irish Cemetery | 9088 Clayton Avenue (Menasha) |
| 347 | Edgar Sawyer House | Oshkosh Public Museum, 1331 Algoma Blvd (Oshkosh) |
| 412 | Wisconsin Avenue Commercial Historic District | 135 W Wisconsin Avenue (Neenah) |
| 456 | Historic Omro | Scott Park, 515 East Main Street (Omro) |

Source: Official List of Wisconsin's State Historic Markers (Last revised 9/16/2013)

## ARCHAEOLOGICAL SITES

The State Historical Society maintains an inventory of known archeological sites across the state. Archaeological sites are added to the inventory as they are discovered, an ongoing process. Due to the sensitive nature of archaeological site, information is only distributed on a need-to-know basis.