



# LAND AND WATER RESOURCE MANAGEMENT PLAN



**February 2015**

**Wood County  
Land and Water Resource Management Plan**

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**Wood County  
Conservation, Education and Economic Development Committee**

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# ***WOOD COUNTY LAND & WATER RESOURCE MANAGEMENT PLAN***

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## ***PLAN SUMMARY***

The management of Wisconsin's natural resources has become exceedingly complex. A myriad of environmental rules and regulations exist at all levels of government to protect the health, safety and welfare of our citizens. People will continue to demand that these natural resources remain abundant and available as well as of high quality. There will need to be a coordinated effort between federal, state, and local natural resource managers to ensure that this demand will be met today and well into the future. The Wood County Land and Water Resource Management Plan is a ten-year plan that provides direction to natural resources managers of all levels of government for the protection and improvement of our natural resources.

In 1997, Wisconsin Act 27 and in 1999, Wisconsin Act 9 amended Chapter 92 of the Wisconsin Statutes, requiring counties to develop Land and Water Resource Management Plans. The intent of this change is to foster and support a locally led process that improves decision-making, streamlines administrative and delivery mechanisms and better utilizes local, state, and federal funds to protect Wisconsin's land and water resources. The purpose of the Wood County Land and Water Resource Management Plan is to:

- Identify and prioritize the major natural resources issues and concerns for Wood County.
- Develop a coordinated effort to resolve these issues and concerns.
- Determine the roles of agencies in implementing the plan.
- Develop strategies, goals, objectives, and outcomes for program years 2015-2019.
- Service funding for the management of the natural resource base in Wood County.

To successfully implement the plan, cost-share funding for farmers will be needed for the installation of Best Management Practices that protect and conserve our natural resources. Additionally, the implementation of this plan is dependent upon having available staff hours to assist farmers in meeting the agricultural performance standards and prohibitions, monitoring, compliance and delivering technical assistance. The Wood County Land and Water Resource Management Plan will accomplish the goals set forth through a coordinated effort aimed at improving program effectiveness at all levels of government.

**ABBREVIATED TABLE OF CONTENTS:**

- Chapter 1:** Background, Plan Development and Citizen Participation
- Chapter 2:** County Setting, Natural Resources, and Trends
- Chapter 3:** Land and Water Resource Conditions
- Chapter 4:** Environmental Issues and Concerns
- Chapter 5:** Goals and Objectives
- Chapter 6:** Agricultural Performance Standards and Prohibitions
- Chapter 7:** Coordination with Other Resource Management Plans and Programs
- Chapter 8:** Evaluation and Monitoring
- Chapter 9:** Information and Education Strategy

## **CHAPTER 1: INTRODUCTION**

**Background:** Wood County first developed a Land and Water Resource Management Plan in October of 2000. The plan was revised in 2007 in response to Wisconsin 1997 Act 27 and 1999 Act 9, which amended Chapter 92 to require counties to develop plans.

**Plan Development and Citizen Participation:** Wood County received plan input from agency staff and a selected group representing a cross-section of Wood County.

**Related Resource Management Plans:** Information regarding the natural resources in Wood County was obtained from WDNR Basin Plans and Priority Watershed Implementation Plans.

**Cooperating Agencies and Organizations:** Those groups who assisted with natural resources management in Wood County are listed.

## **CHAPTER 2: COUNTY SETTING, NATURAL RESOURCES AND TRENDS**

**General Characteristics:** Wood County is near the center of Wisconsin. The total area of the county is 516, 544 acres or about 807 square miles. Land use is predominately agriculture and woodland.

**History and Development:** Wood County was created in 1856 from part of Portage County. The vast stands of quality lumber, especially white pine attracted lumbermen. Agriculture soon moved in after the logging activity ceased.

**Climate:** In Wood County, winters are long, cold, and snowy and summers are warm and occasionally humid. Total annual precipitation is about 31 inches.

**Soils:** Most of the soils in Wood County formed in glacial till, residuum, or glacial outwash.

**Woodland:** Approximately 42 percent of the county is classified as woodland making up 215,400 acres.

**Farmland and Agriculture:** There is an estimated 1,067 farms in Wood County with 228,000 acres of farmland. Wood County leads the state in cranberry production.

**Physiography, Geology and Drainage:** Wood County lies in two geographic provinces of Wisconsin. The northern one-third is part of the Northern Highland, and the rest of the county is part of the Central Plain. Powers Bluff is the highest point in Wood County, with an elevation of 1,472 feet.

**Watersheds and Drainage:** Wood County is part of the Upper Wisconsin River Central Sub-basin and the Southern Sub-basin and has ten distinct watersheds.

**Wetlands:** There are 130,725 acres of wetland in Wood County or about 25.8 percent of the total acres in the county.

**Surface Water Resources:** Wood County has a total water surface of 7,250 acres, which includes 13 named lakes, 65 unnamed lakes/flowages and 82 streams.

**Groundwater:** Groundwater is the source of all drinking water in Wood County. Groundwater is generally abundant and of good quality.

**Agricultural and Natural Resource Trends and Outlook:** It is anticipated that farmland trends for Wood County over the next ten years will lead to increased pressure to convert farmland to other uses. Demand for forest products and forests managed for timber harvest are expected to increase.

**Land Use :** Land use in Wood County is predominately agriculture and woodland. The number of larger, confined dairy operations is increasing, but the number of milk cows is decreasing. The number of rural non-farm residences has greatly increased.

**Sediment Delivery:** Transect survey data estimates that 92 percent of cropland fields in Wood County have soil loss rates below tolerable soil loss levels.

**Air Quality:** Outdoor air quality is a concern in Wood County. Contaminants in the air can cause illness including asthma attacks and respiratory illness.

### **CHAPTER 3: LAND AND WATER RESOURCE CONDITIONS**

**Basins/Geography:** Wood County consists of two major drainage basins. They are the Central Wisconsin River Basin and the Black – Buffalo – Trempealeau River Basin.

**Exceptional and Outstanding Resource Waters:** There are no outstanding resource waters listed by WDNR in Wood County. Wood County has 9.5 miles of Class I trout water classified as exceptional resource waters.

**Impaired Waters:** The impaired waters of Wood County include Lake Dexter, Mill Creek, Wisconsin River, Hemlock Creek, Yellow River, and the South Branch O’Neil Creek.

**Watersheds:** There are ten distinct watersheds in Wood County that drain to two major river basins.



## **CHAPTER 4: ENVIRONMENTAL ISSUES AND CONCERNS**

**Local Workgroup:** In 2006 about 20 people representing a broad-cross-section of the county met to identify and prioritize natural resource concerns.

**Other Issues and Concerns:** Additional issues and concerns that face natural resource managers were discussed.

## **CHAPTER 5: GOALS AND OBJECTIVES**

The following goals were established by the Advisory Group to address resource concerns.

- Goal 1: Reduce Sediment Delivery to Surface Waters of Wood County.
- Goal 2: Reduce Animal Waste and Nutrient Delivery to Surface Waters.
- Goal 3: Reduce Crop Damage Caused by Wildlife.
- Goal 4: Protect and Develop Wetland and Uplands for Wildlife Habitat.
- Goal 5: Increase Efforts to Inventory the Water Resources.
- Goal 6: Minimize the Adverse Effects of Urban Sprawl and Land Fragmentation in Rural Wood County.
- Goal 7: Improve Air Quality.
- Goal 8: Improve Woodlands.

## **CHAPTER 6: AGRICULTURAL PERFORMANCE STANDARDS AND PROHIBITIONS**

**Performance Standards:** The Wood County Land Conservation Department will assist landowners in meeting the agricultural performance standards for sheet, rill, and wind erosion, manure storage facilities, clean water diversions, and nutrient management.

**Local Implementation Strategy:** The Wood County Land Conservation Department has developed an information and education strategy as well as a priority farm identification process to inform landowners of the agricultural performance standards and prohibitions. The strategy also describes the methods for compliance determination, enforcement, and appeals.

**Cost-Share Assistance:** Cost-share funds will be made available to landowners through the County's Soil and Water Resource Management Program. Cost-share funds will be available for installing best management practices by DATCP.

## **CHAPTER 7: COORDINATION WITH OTHER RESOURCE MANAGEMENT PLANS AND PROGRAMS**

The Land Conservation Department will utilize plans and programs from county, state, and federal sources.

## **CHAPTER 8: EVALUATION AND MONITORING**

The Land Conservation Department has developed a strategy to evaluate and monitor the goals of the plan including sediment delivery, animal waste and nutrient delivery, crop damage, and protection of wetlands and uplands.

## **CHAPTER 9: INFORMATION AND EDUCATION STRATEGY**

The Land and Water Resource Management Plan will set goals, take actions, and evaluate an information and education strategy.

# ***CHAPTER 1: INTRODUCTION***

## **Background**

1997 Wisconsin Act 27 and 1999 Wisconsin Act 9 (the 2000-2001 Budget Bill), amended Chapter 92 of the Wisconsin Statutes, requiring counties to develop Land and Water Resource Management Plans. The intent of this change is to foster and support a locally led process that improves decision-making, streamlines administrative delivery mechanisms, and better utilizes local, state, and federal funds to protect Wisconsin's land and water resources.

Wood County first developed a Land and Water Resource Management Plan in October 2000 and completed an update in 2007. Since the development of the original Land and Water Resource Management Plan, several significant changes have occurred locally and at the state level that will impact how Wood County will implement its soil and water conservation programs. These changes include:

- Use value assessment has been fully implemented in Wisconsin affecting local land use decisions.
- Passage of NR 151 and ATCP 50 creating Agricultural Performance Standards and Prohibitions.
- Creation of ATCP 51 legislation that regulates the siting of new and expanding livestock operations.
- Revisions to NR 243 that regulates operations with 1,000 animal units or more and for permitted operations that discharge to the waters of the state.
- Wood County is participating in the Conservation Reserve Enhancement Program that affects 13 townships.
- The Land Conservation Department closed out the Upper Yellow River Priority Watershed Project in 2005.
- Wood County passed and is administering a nonmetallic mining reclamation ordinance.
- The trend towards more residences in agricultural areas continues, increasing the potential for land use conflicts.

## **Plan Development and Citizen Participation**

In preparation for the development of the original LWRM Plan, the Wood County LCD invited over 75 resource people to identify and prioritize resource concerns for Wood County in June of 1999. In July of 1999 an invitation was sent to all attendees from the local workgroup inviting them to “focus group” meetings. The public was also invited. In April of 1999 a planning survey was included in the spring LCD newsletter.

This process was again completed for the 2007 LWRM plan revision. No significant changes were made from the original LWRM Plan relative to citizen and natural resource hopes and concerns.

The Plan update initiated in 2014 consisted of consultation with an Advisory Group (Appendix E) conducted by e-mail and U.S. Postal Service on September 3, 2014 to update Plan goals, objectives, and action items for implementation over the next five years. This group included the County Agricultural Committee, Wood County Board, DNR, and Wood County Conservation, Education, and Economic Development Committee.

The Citizens Advisory Committee work group met on December 9, 2014. This group looked at a longer planning document of ten years while reviewing the Plan and expressing their resource concerns.

The Plan was approved by the Wood County Conservation, Education and Economic Development Committee on December 18, 2014. The public hearing was also held December 18, 2014. The Plan was sent to the Land and Water Conservation Board (LWCB) and will be reviewed by the LWCB at their February 2015 meeting. The Plan will be presented to the Wood County Board of Supervisors for approval at their February 2015 meeting.

## **Public Input**

The general public was given opportunities to comment on the Land and Water Resource Management Plan. An article was written in the spring edition of the Land Conservation Department newsletter informing landowners of the plan revision, asking for input and comments to the plan. The newsletter has a circulation of over 2,000 landowners in Wood County.

## **Related Resource Management Plans**

Several resource management plans have been previously developed that have a relationship to this plan. Data from these plans was reviewed in the preparation of the Wood County Land and Water Resource Management Plan. These include:

- The State of the Black-Buffalo-Trempealeau Basin
- The State of the Central Wisconsin River Basin

- Wood County Land and Water Resource Management Plan (2000)
- Upper Yellow River Priority Watershed Project (1992)
- Wood County Farmland Preservation Plan (1982)
- Wood County Land and Water Resource Management Plan (2007)

## ***CHAPTER 2: COUNTY SETTING, NATURAL RESOURCES AND TRENDS***

### **General Characteristics**

Wood County, in the Central part of Wisconsin, has a total area of 516,544 acres. Of this total, 507,428 acres is land and 9,116 are water. In 2010, the population of Wood County was 74,749. Wisconsin Rapids, the county seat in the southeast part of the county had a population of 18,371. Marshfield, the largest city, in the northern part of the county, had a population of 19,090. Twenty-two townships make up the county. Wood County is bordered on the north by Marathon County, on the east by Portage County, on the south by Adams and Juneau Counties, and on the west by Clark and Jackson Counties.

### **History and Development**

The earliest settlement of Wood County began soon after what is now Wisconsin came under the authority of the United States in 1815. Daniel Whitney, with others, erected a sawmill at what is now Nekoosa in 1831.

The vast stands of quality timber, especially white pine, attracted lumbermen, and the lumber industry grew rapidly. The sandy parts of the county were logged first because the trees there were almost entirely pine, which was the only timber cut by the early lumbermen. Settlers followed the lumbermen, but because the sandy areas were poorly suited to farming, the settlers soon moved to the northern part of the county, where soils are finer textured. They frequently burned the hardwood timber to clear the land for farming.

Wood County was created in 1856 from a part of Portage County. Several boundary changes followed until 1872, when the present boundaries were established.

Wheat and rye were the principal crops at first, but about the turn of the century dairying began to increase in importance. Butter was the main dairy product, but cheese soon became more important. In 1925, more than 12 million pounds of cheese was produced in Wood County.

The culture of cranberries began in the early 1870's, and today Wood County is the leading cranberry producing county in Wisconsin.

Paper mills replaced the sawmills as the era of lumbering drew to a close. Numerous sites on the Wisconsin River between Nekoosa and Biron provide waterpower to operate the paper mills. The river supplies the vast quantities of water needed in making paper. Paper is now the principal industrial product in Wood County.

The census of 1860, the first to include Wood County, showed a population of 2,425 people. By 1900 the population was 25,865, of which about one-third was in urban areas. In 1950, 50,000 people lived in the county, and slightly more than half were classified as urban residents.

## **Climate**

The Soil Survey of Wood County Wisconsin (1977) states that Wood County winters are long, cold, and snowy and summers are warm and occasionally humid, and spring and fall are sometimes short and are mixtures of summer and winter.

An average of nine days a year have temperatures of 90° F or higher. An average of 32 days a year have temperatures of 0° F or lower. Heat growth units during the growing season, about 50° F threshold, average 2,240.

Approximately 60 percent of the annual precipitation falls in May through September. Total annual precipitation is about 31 inches. The annual snowfall averages 50 inches, but has ranged from 22 inches in 1958 to 81 inches in 1956.

Prevailing winds are from the west and northwest in winter and from southerly directions in summer. The sun shines an average of 60 percent of the time possible in summer and winter. The average date of the last 32° freeze in spring is May 17, and of the first in fall, September 27.

## **Soils**

The use and management of soil has many impacts on the communities in Wood County. Soil forms the foundation that all other ecosystems depend on – plant life, wildlife, streams, wetlands, and lakes. Soils may also pose limitation to our use of the land in activities such as agricultural production, forestry, building development, and road construction.

The soils in the northern two-thirds of Wood County formed in “two-storied” parent material. That is, the upper 20 to 26 inches of the soils formed in silty wind-laid material, and the lower part of the soils formed either in glacial till or in residuum weathered from underlying bedrock.

If a line were drawn east and west approximately through Wisconsin Rapids, it would roughly separate the loamy soils north of the line from the sandy soils south of the line. The loamy soils have a cap of wind laid silty material that averages about 24 inches in thickness.

In the northwestern part of the county, the soils formed partly in the underlying loamy glacial till. These are soils of the Withee, Marshfield, Santiago, and Mann series.

In the northeastern part of the county, the material below the silty cap is loam residuum weathered from the underlying gneissic rock. Milladore, Eaupleine, and Sherry soils formed in this silt and residuum.

An area north of Powers Bluff in Richfield and Arpin Townships and areas in Sigel, Sherry, and Rudolph Townships have soils that formed partly in underlying clayey residuum weathered from schistose bedrock. These are soils of the Dolph and Altdorf series.

A broad belt across the middle of the county is soils that formed in the silty cap and underlying layers of residuum from weakly cemented sandstone and acid clay shale. These are soils of the Kert, Vesper, Hiles, and Veedum series.

Most of the soils in the southern part of the county formed in sandy material deposited by glacial melt waters along the Wisconsin River or in Glacial Lake Wisconsin. Soils of the Nymore, Plainfield, Friendship, Meehan, and Newson Series formed in these materials.

Some small areas in the southern part of the county are soils that formed in residuum weathered from sandstone. These are soils of the Plainbo, Eleva, and Elkmound series.

Some soils in Wood County formed in organic material that accumulated in depressions. Markey, Cathro, Rifle, Dawson, and Greenwood soils formed in this kind of material.

The USDA-Natural Resources Conservation Service, formerly known as the Soil Conservation Service (SCS) has grouped the soils of Wood County into eleven major soil associations. Their location can be seen on Map 2-1 they include:

#### **Withee – Marshfield – Santiago Association**

The soils of this association are on the glacial ground moraine in the northern and northwestern parts of the county.

- Current land cover: Most of this association is cultivated, but woodlots are common.
- Other important features: In recent years extensive residential development has taken place in parts of this association.

#### **Milladore – Eaupleine – Sherry Association**

The soils of this association are on broad upland plains in the northeastern part of the county and around Rudolph.

- Current land cover: Most of this association is cultivated, but some areas are in woodlots.
- Other important features: Most of the soils of this association have a seasonal high water table. The potential for recreational use is moderate to good.



### **Dolph – Altdorf Association**

The soils of this association are on broad upland plains around Rudolph and Powers Bluff.

- Current land cover: About half of this association is cultivated, and the rest, mostly on wetter sites, is in woodland or native pasture.
- Other important features: Most of the soils of this association have a seasonal high water table and are wet in spring.

### **Fenwood – Rietbrock Association**

This association consists of soils on prominent hills in the north-central and west-central parts of the county.

- Current land cover: Most of this association is in woodland and native pasture.
- Other important features: Potential for recreational use is good.

### **Vesper – Kert Association**

The soils of this association are on the upland plain in a broad belt across the middle of the county.

- Current land cover: About 60 percent of the association is cultivated. The rest is in woodland, native pasture, or wildlife habitat.
- Other important features: Much of this association has good potential for wildlife habitat.

### **Elm Lake – Merrilan Association**

The soils of this association are on the northern edge of Glacial Lake Wisconsin in the area west of Dexterville and in a small area west of Wisconsin Rapids.

- Current land cover: Most of this association is in woodland, but some small areas are cultivated.
- Other important features: This association has moderate potential for woodland and good potential for wildlife habitat.

### **Plainfield – Friendship Association**

The soils of this association are on outwash plains on either side of the Wisconsin River and extend from the vicinity of Wisconsin Rapids southward.

- Current land cover: Most of this association is in woodland.
- Other important features: This association has good potential for irrigated crops.

### **Newson – Meehan Association**

Most of the soils of this association are on nearly level outwash plains and glacial lakebeds east of Wisconsin Rapids and in the southwestern and south-central parts of the county.

- Current land cover: Most of this association is in woodland. Some areas were once cultivated but have been planted to trees or have reverted to woodland.
- Other important features: This association has good potential for wildlife habitat.

### **Markey – Rifle Association**

The soils of this association are on the glacial lake plain in the south-central part of the county and in a small area in the northeastern part of the county.

- Current land cover: Most of this association is in woodland or wildlife habitat. A few small areas are used for native pasture and large areas are in cranberries.
- Other important features: These soils have good potential for use as wildlife habitat.

### **Dawson – Greenwood Association**

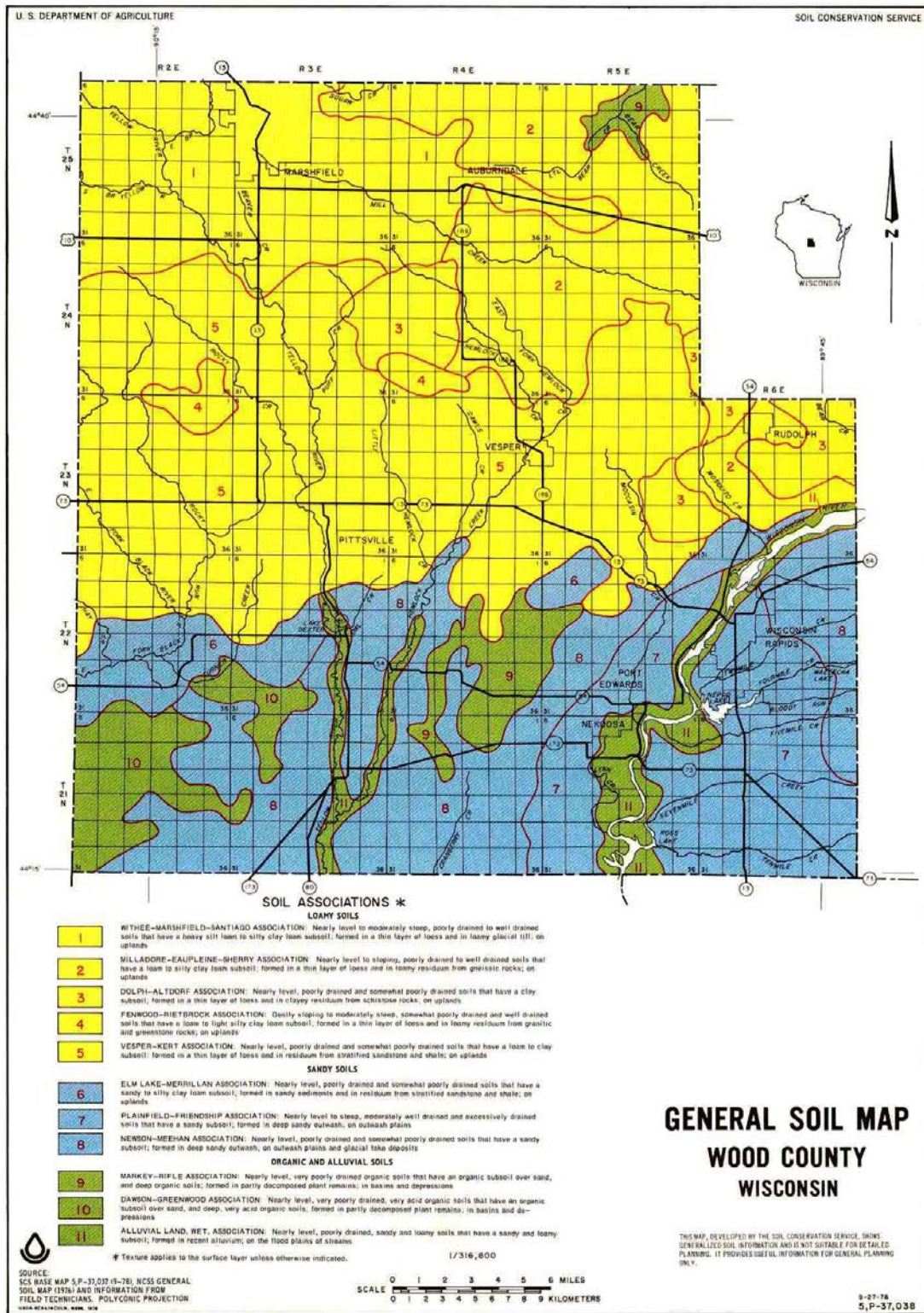
The soils of this association are on the glacial lake plain in the extreme southwest part of the county.

- Current land cover: Most of this association is in woodland or wildlife habitat. Some areas are used for growing cranberries.
- Other important features: These soils have good potential for wildlife habitat.

### **Alluvial land, wet Association**

This association consists of bottomlands, islands, and sloughs along the Wisconsin and Yellow Rivers.

- Current land cover: Most of this association is in woodland and wildlife habitat, but some areas are in native pasture.
- Other important features: Floods are frequent and the water table is high.



## Woodland

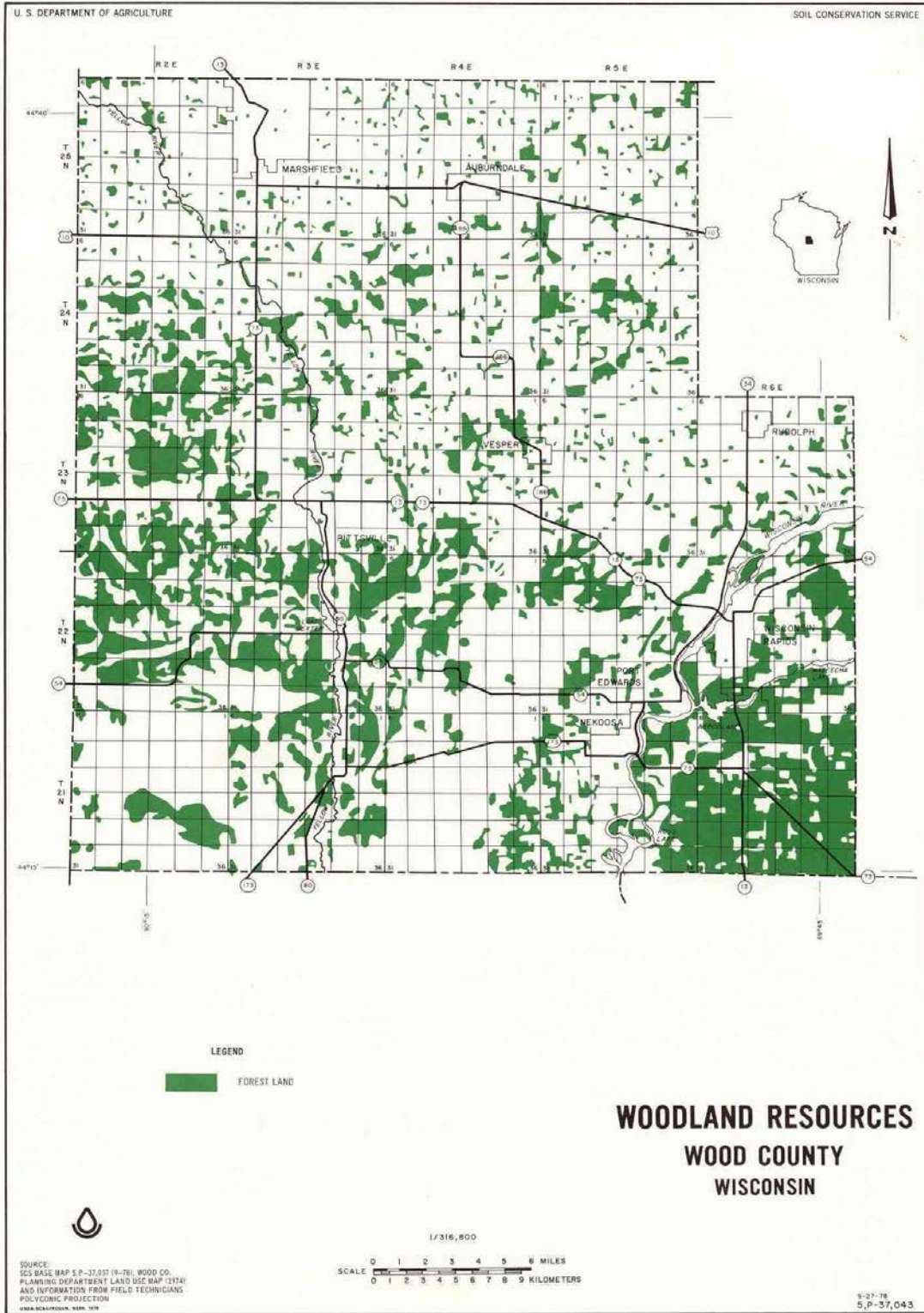
Woodland is one of the most prominent land cover features found in Wood County. Woodlands are important to the county's resource base, culture, and economy. Woodland serves many functions, adds value to both the local economy and quality of life. They provide wildlife habitat, recreational opportunities, timber, and pulpwood.

Woodlands occupy a major portion of the land area in Wood County with aspen, oak, maples, white birch, white pine, and red pine being the dominant species. Much of the forests are used by the paper mills for huge amounts of pulpwood, which is vital for paper production. There are also a significant number of tree farms specializing in Christmas trees located in the southern part of the county. Of the 516,544 acres in the county, 215,400 acres or 42 percent are classified as woodland (see map 2-2). The county forest contains 37,536 acres of woodland. In the 1850's county forests were covered primarily with stands of white pine and tamarack. Between 1850 and the early 1930's when the county first acquired forestland, portions of the county were cutover, drained, burned, and farmed. Because of soil condition many farms failed, leaving tax delinquent lands with acquisitions beginning in the 1930's. The Wood County Forest generates significant revenues for the county, primarily through pulpwood harvests.

An increasing share of the property tax burden continues to shift to forestland owners, primarily due to use-value assessment and the rising assessed value of forestland. Use-value assessment is lowering the property tax burden for owners of agricultural land, thus placing more demand on non-agricultural properties. Rising property taxes for forestland owners have led to a sharp increase in Managed Forest Law (MFL) program enrollment. This WDNR program provides a property tax break for forest owners who agree to adopt a forest management plan.

As one of only 29 counties with county forestland, the Wood County Forest is a unique community resource. The landscape of the county forest supports thriving forest communities and abundant recreational opportunities. Hunting, fishing, hiking, biking, camping, canoeing, kayaking, ATVs, snowmobiles, snowshoeing, boating, cross-country skiing, bird watching, and sight seeing are all important elements of Wood County's culture and economy that are supported by the County Forest.





## Farmland and Agriculture

Farming in Wisconsin has undergone considerable change in the last few decades. U.S. Census statistics suggests that the state lost almost 13 percent of its farms and over 10 percent of its farmland between 1997 and 2012. The decline in farm numbers was particularly severe for mid-sized commercial livestock farms. During this period, the number of hog farms dropped by almost 40 percent, dairy farms fell by 52 percent and farms with any harvested cropland declined by more than 17 percent according to the 2012 Census of Agriculture. Meanwhile, when dairy and hog farm number declines are removed from the equation, census results show that there was actually significant growth in part-time and hobby farm numbers during the same period in Wisconsin.

The most recent Census of Agriculture (2012) reported the top four agriculture commodities in Wood County based on value of sales as follows: 1) crops including nursery and greenhouse crops; 2) livestock, poultry, and their products; 3) milk from cows; and 4) fruits, tree nuts, and berries. Wood County ranks number one in Wisconsin for cranberry production.

## Crop Production

Over the long term, levels of crop production have been relatively stable for the majority of commodities. Crop production and crop acreage for Wood County is reported below:



## Dairy

The 2012 Wisconsin Agriculture Statistics report states that there are 235 dairy herds in Wood County. This represents a decrease from the 2005 report, which shows that Wood County had 291 dairy herds. The following contains additional information regarding cow numbers and production in Wood County.

## **Other Livestock**

Although the dairy industry is the largest in Wood County, other farm operations produce hogs, sheep and horses. The following contains information regarding these other animal types.



## **Agriculture Connections**

Agriculture not only produces food and fiber, but is also linked to many other components of the economy. Agriculture supports equipment and implement manufacturers and dealers, the vegetable and meat processing industries, the construction trade, trucking, veterinary services, genetic research, and many others.

Agriculture is connected to Wisconsin's culture and heritage. Barns, cows, fields, and silos paint the scene that so many define as Wisconsin's rural character. Farm families include some of the earliest settlers of many areas and provide a sense of continuity to a community. Public opinion surveys conducted by the American Farmland Trust, the U.S. Department of Agriculture, the American Farm Bureau, Wisconsin counties, and other local units of government show that Wisconsin citizens place a high value on the presence of agriculture and agriculture lands.

Agriculture has many considerations relative to the natural environment, both positive and negative. Farms provide green space, wildlife habitat, enhanced groundwater recharge, and nutrient recycling. Farms can also be sources of soil erosion, polluted runoff, odors, and damage to riparian areas. Agriculture is connected to other land uses. The interaction between farms and rural residential development has impacted land values, property taxes and the right to farm. The distance from farm related services, markets for farm commodities, processing industries, and other critical land uses can determine the long-term success of an agricultural area.

## **State of Dairy in Wisconsin**

Dairy farming is vital to the total agriculture picture in Wisconsin. Milk sales account for more than half of Wisconsin farm cash receipts. According to the Wisconsin Agriculture Statistics Service, significant trends in Wisconsin's dairy industry include decreasing numbers of dairy farms, decreasing numbers of cows, increasing milk production, and a shift toward large farms and herds. The number of Wisconsin dairy farms has dropped from more than 140,000 in the 1950s to 13,000 in 2013. At the same time the average herd size grew from 20 cows in the 1950s to 98 in 2013. The net result is a decline in the total number of Wisconsin dairy cows, dropping from over 2 million in the 1950s to less than 1.3 million in the 2013.

The State of Wisconsin is now producing more milk with fewer cows. In contrast to the declining numbers of farms and cows, milk production has been on the rise over the long term. Wisconsin's milk production has declined since 2000, most likely due to devastating milk pricing, but since the 1950s, milk production has increased by more than 50%.

The trend toward larger farms and herd sizes has grown out of the need to experience greater scales of economy. Larger dairies are able to produce greater volumes of milk and are therefore able to tolerate a smaller profit margin. The only growth in dairy farm numbers since 1997 has been in farms with more than 100 cows, with the most significant growth in farms with 200 or more cows. Wisconsin had 242 permitted dairies with over 1,000 cows in 2012.

A nation-wide shift in milk production from the Midwest to Western states is continuing to occur. Since the 1970s, Idaho, New Mexico, and Washington have replaced Iowa, Ohio, and Missouri in the top 10 milk producing states. In 2002 the western states (California, Idaho, and Washington) were responsible for 29% of U.S. milk production. By 2011, these states were responsible for 31%. The share of milk production coming from the Midwest experienced the opposite trend. Midwest states in the top 10 for milk production include Wisconsin, Michigan, and Minnesota. These three states were responsible for 24% of U.S. milk production in 1998, 21% in 2002, and 22% in 2011.

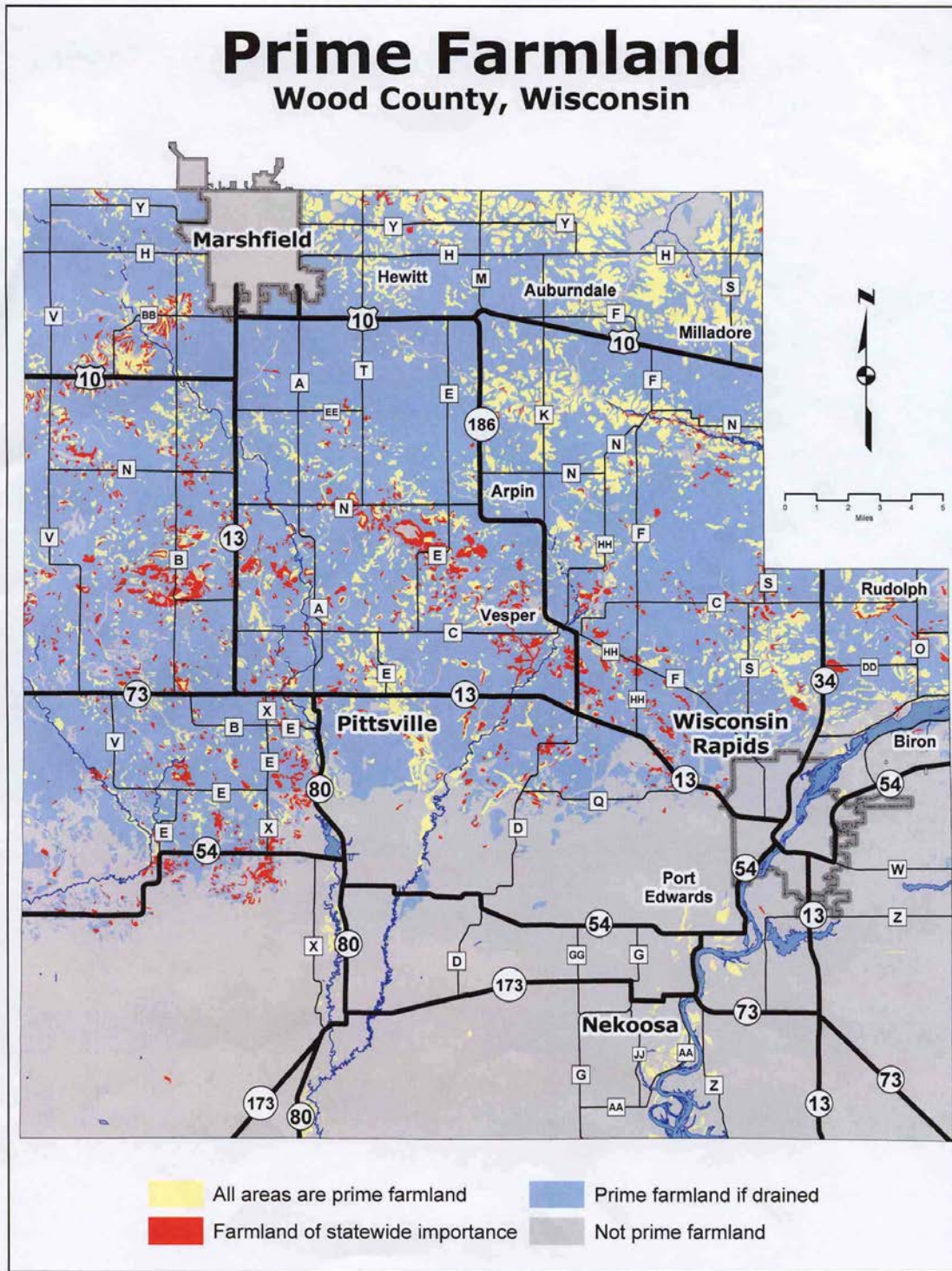
The geographic shift also appears to be influenced by the scale of economies, as Western states have a greater share of the nation's large dairy farms. In 2011, operations with 500 or more cows were responsible for 63% of U.S. milk production. The State of Wisconsin trails both California and Idaho in number of dairy farms with 500 or more cows.

There is a growing risk of losing the Midwest's dairy processing infrastructure with the continued geographic shift in milk production to Western states. On a positive note, Wisconsin continues to lead the nation in the production of most varieties of cheese, organic dairy production, and total cheese. Wisconsin's strengths in retaining its local and regional processing infrastructure include continued growth in the total amount of milk produced each year, close proximity to Eastern U.S. population centers, and a large specialty cheese processing industry.



## **Prime Farmland**

Prime farmland soils (See map 2-3), displays information regarding prime agricultural soils in Wood County. The U.S.D.A. Natural Resources Conservation Service identifies prime farmland soils as those soils with the fewest limitations for agricultural operations. Limitations to agriculture include high erodibility, extreme wetness, low moisture holding capacity and low productivity. Soils characterized, as “prime if drained” would be well suited to agriculture if extreme wetness can be overcome with drainage. Prime farmland soils are mostly found north of a line drawn from Wisconsin Rapids west through Pittsville. However, the greatest concentration of non-drained prime farmland is found north of Auburndale and Milladore in the northeast part of Wood County.



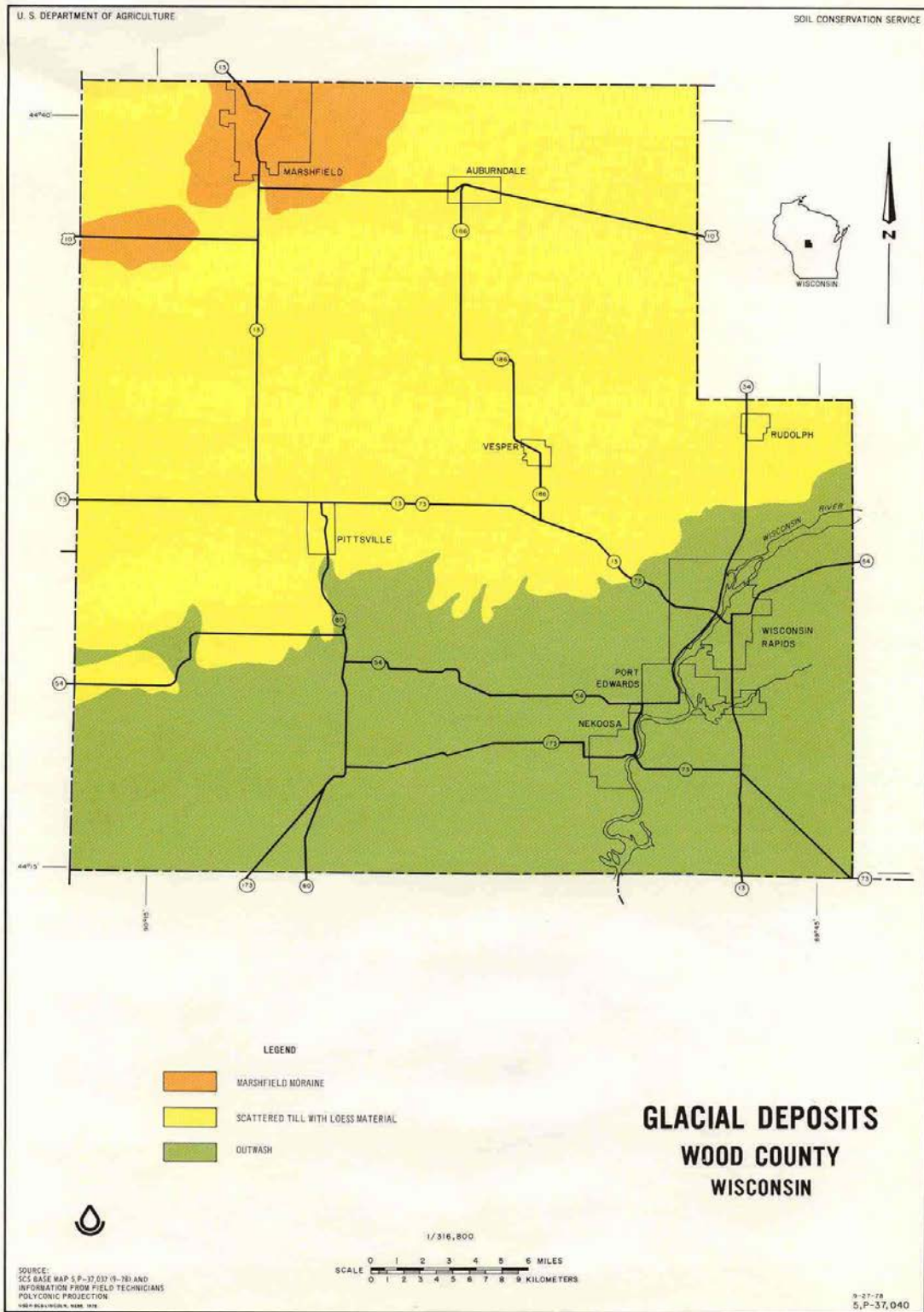
## **Physiology, Geology, and Drainage**

Wood County lies in two geographic provinces of Wisconsin. The northern one-third is part of the Northern Highland, and the rest of the county is part of the Central Plain according to the Soil Survey of Wood County, Wisconsin.

In general, the Northern Highland region has underlying bedrock that consists of Precambrian crystalline rocks. The western half of this region has a mantle of heavy loam glacial till over bedrock. The rest of this region has, over the bedrock, a layer, which varies in thickness; this layer is loamy residuum weathered from Precambrian rock. The entire region was covered by a layer, about two feet thick of wind-deposited silt.

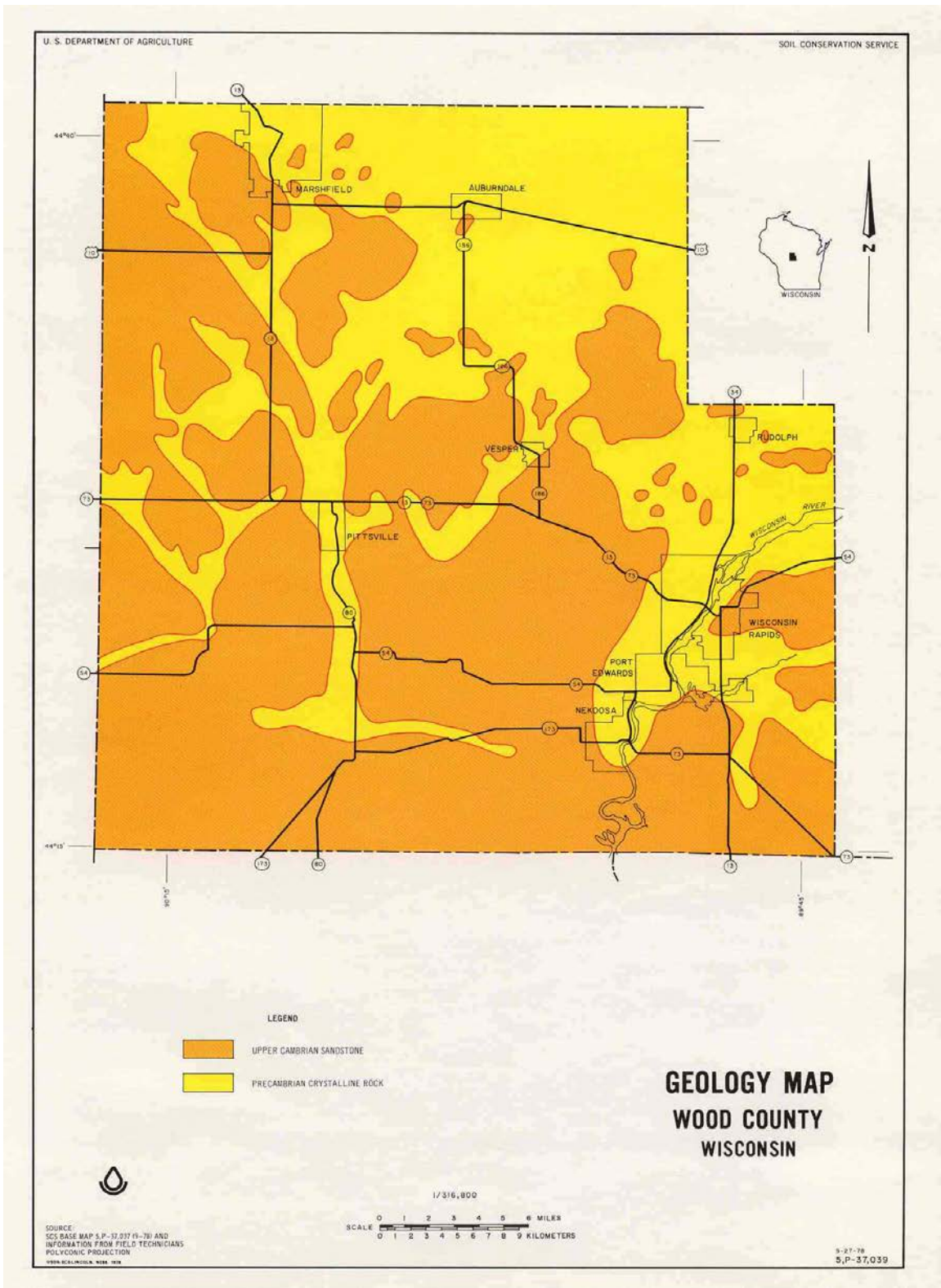
The central plain region has underlying bedrock that consists of Cambrian sandstone interbedded with varying amounts of shale. The shale layers are generally thin or absent in parts of Sigel and Hansen Townships, but are thick and very prominent in the western part of the county. Glacial till covers the sandstone and shale in the northwestern part of the county and on a few broad, low ridges south of Powers Bluff, but the rest of the Central Plain in Wood County is residual. One to two feet of loess cover the entire region except the lake plain and outwash parts. (See maps 2-4 and 2-5).

(2-4)





(2-5)



Wood County is drained by four primary drainage systems. The Wisconsin River flows through the southeastern quarter of the county and intercepts a number of small creeks that drain the eastern part of the county. Mill Creek flows eastward from Marshfield, draining part of northern Wood County. The Yellow River and Hemlock Creek system, which flows southward, drains the central and largest part of the county. The extreme western part of the county is drained by the westward-flowing East Fork of the Black River. A few small creeks in the extreme northern part of the county flow northward into the Little Eau Claire River in adjoining Marathon County. The watershed divides are generally low and ill-defined, as is characteristic of an area of low relief and somewhat poorly drained or poorly drained soils.

## **Watersheds and Drainage**

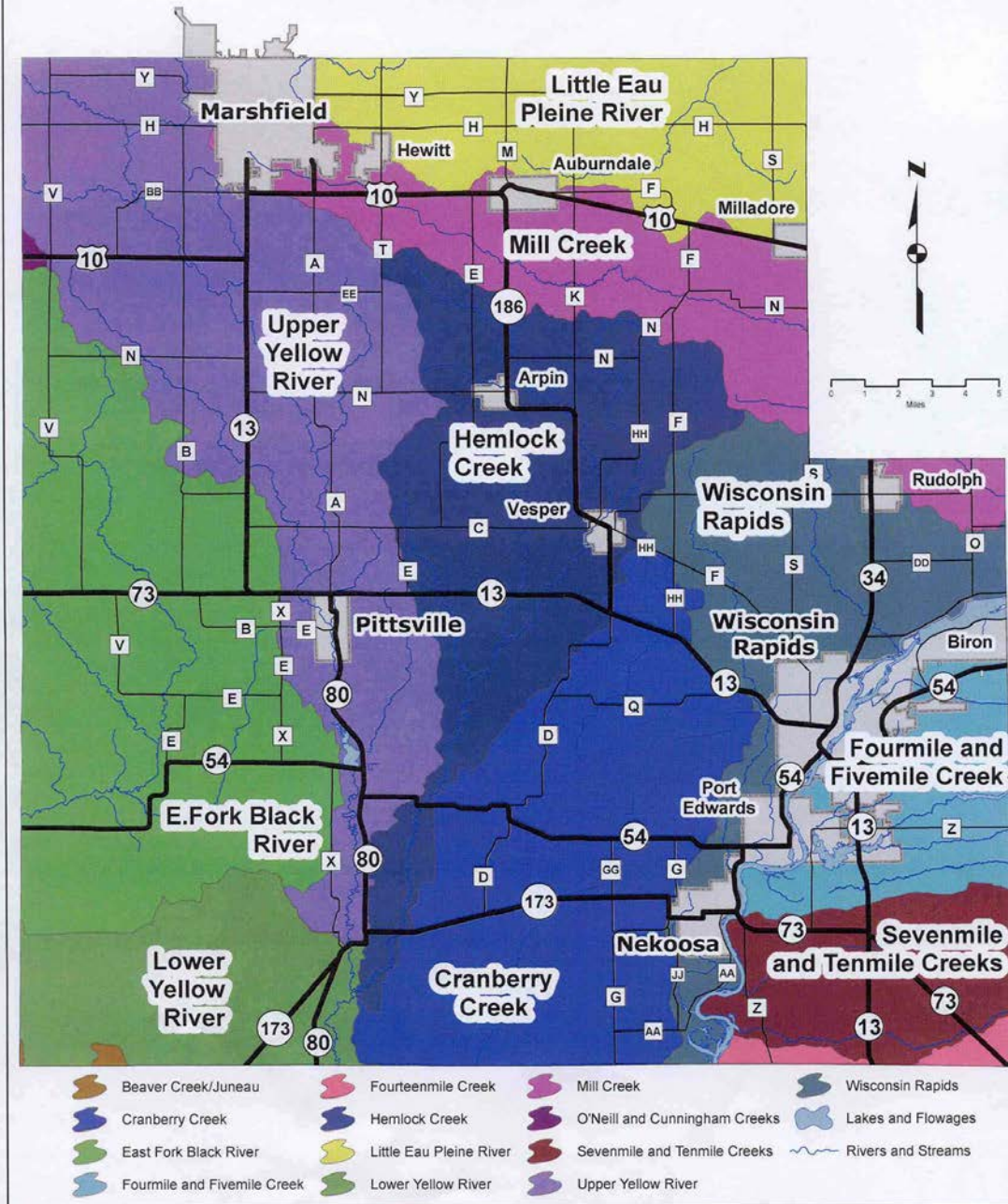
A watershed can be defined as an interconnected area of land draining from surrounding ridge tops to a common point such as a lake or stream confluence with a neighboring watershed. All lands and waterways can be found within one watershed or another. Wood County watersheds are shown in (map 2-6). In Wisconsin, watersheds vary in scale from major river systems to small creek drainage areas and typically range in size from 100 to 300 square miles. River basins encompass several watersheds. There are 32 river basins in Wisconsin, which range in size from 500 to over 5,000 square miles. Wisconsin's 32 river basins are then divided in 23 geographic management units. These units or "GMUs" are the basis for the reorganized DNR and form the nucleus around which programs are implemented in the regions.

Wood County is located within two geographic management units (GMUs) including the Black-Buffalo-Trempealeau, and the Central Wisconsin GMU. Within these GMUs, Wood County is located within two different river basins including the Central Wisconsin River Basin and the Black River Basin. Within these basins, ten distinct watersheds can be found.

(2-6)

# Major Watersheds

## Wood County, Wisconsin



## **Wetlands**

According to Wisconsin State Statutes, Chapter NR 103, wetlands are areas which water is at, near, or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and which has soils indicative of wet conditions.

Wetlands may be seasonal or permanent and are commonly referred to as swamps, marshes, fens or bogs. Wetland plants and soils have the capacity to store and filter pollutants ranging from pesticides to animal wastes. Wetlands provide storage of floodwaters preventing damage to developed areas. Wetlands can make lakes, rivers, and streams cleaner, and drinking water safer. Wetlands also provide valuable habitat for fish, plants, and animals.

As is the case statewide and nationally, Wood County has experienced a decline in the number of quality wetlands. According to the WDNR, there are 130,725 acres of wetland in Wood County or 25.8% of total acres in the county. WDNR mapped wetlands for Wood County are shown in (map 2-7).

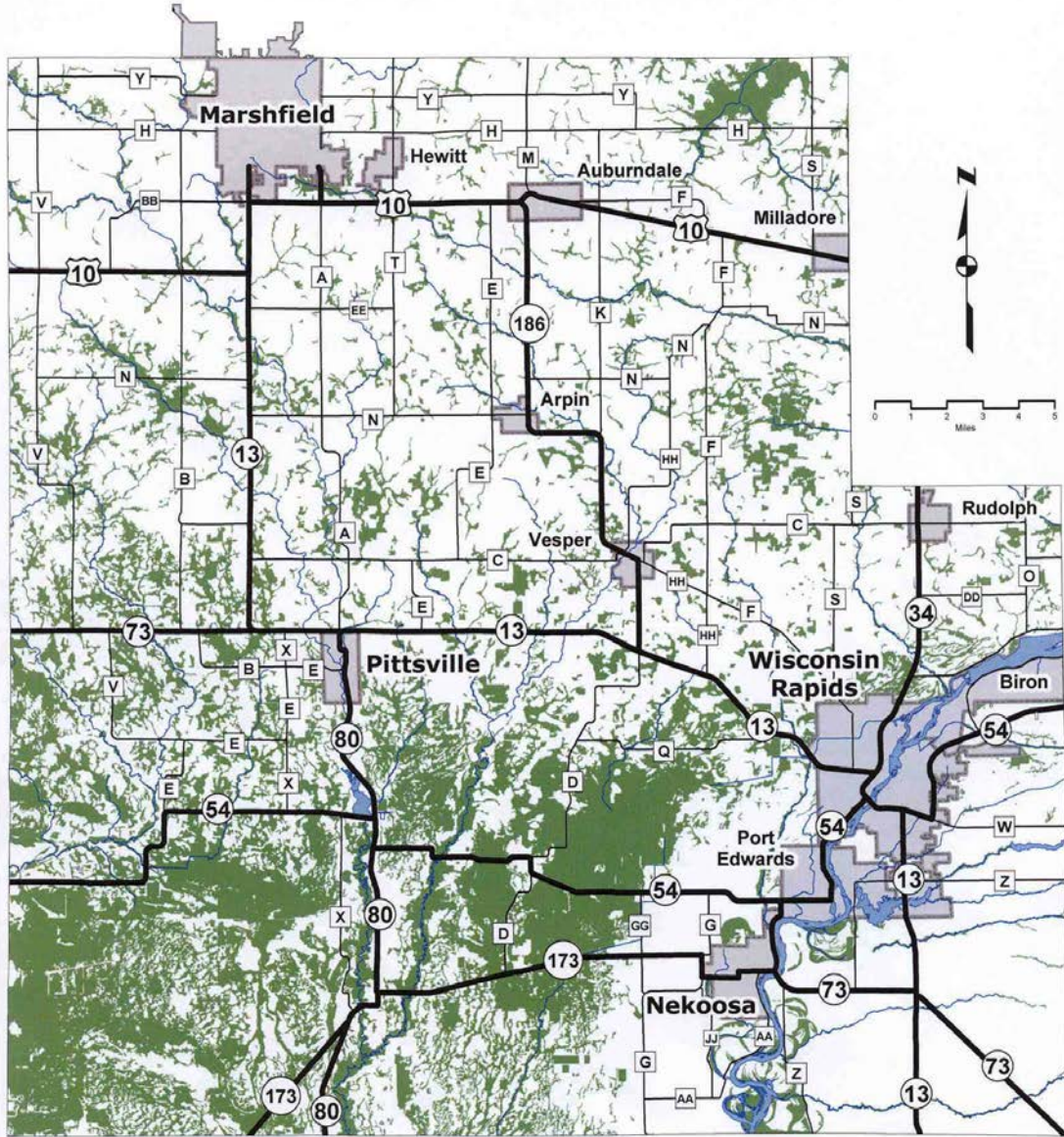
Construction of new and expanded cranberry beds has traditionally been done in wetlands. Now, however, new construction is usually done in upland soil types, avoiding wetlands.

The Wisconsin DNR and the US Army Corp of Engineers require mitigation when natural wetland sites are destroyed. Several mitigations have taken place in Wood County during the past ten years. In many cases, the mitigated wetlands are of lesser quality than the destroyed wetlands.



# WiDNR Wetland Inventory

## Wood County, Wisconsin



~ Rivers and Streams    Lakes    DNR Wetland Inventory

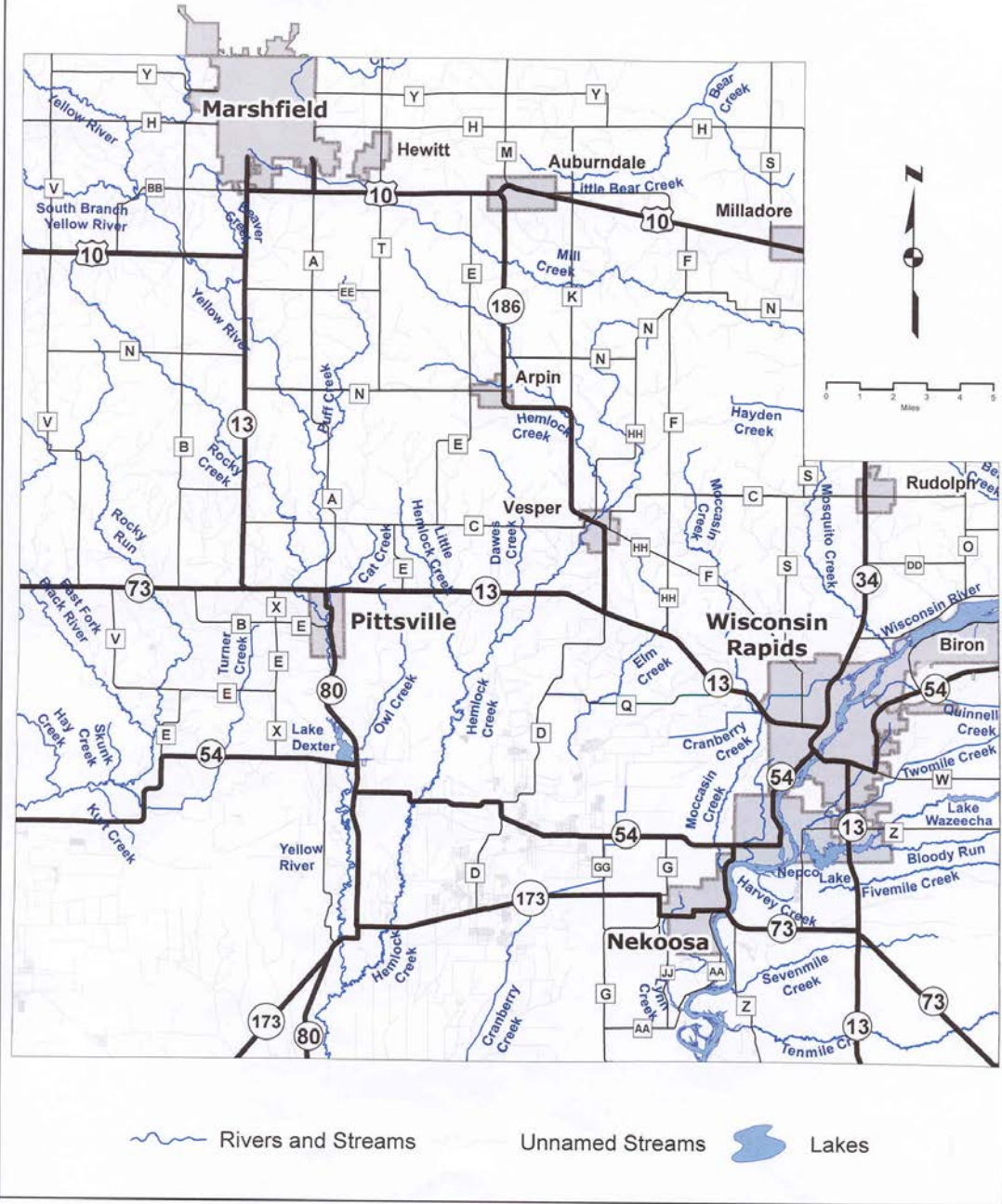
## **Surface Water Resources**

Wood County has a total water surface of 7,250 acres, which includes 13 named lakes, 65 unnamed lakes/flowages and 82 streams. Except for cranberry flowages, Wood County has very few lakes. Major lakes include Lake Wazeecha, Nepco Lake and Dexter Lake. All of these are impoundments.

The total stream length is 389.7 miles. Of this total, 26.4 miles are classified as trout streams. Major rivers in the county include, the Yellow River, Hemlock Creek, Mill Creek, East Fork Black River and the Wisconsin River (see map 2-8).

# Lakes, Rivers and Streams

## Wood County, Wisconsin





## **Impaired Waters**

The listing of waters under the Clean Water Act (s.303(d) must, under current U.S. Environmental Protection Agency (EPA) requirements occur every two years. This list identifies waters which are not meeting water quality standards, including both water quality criteria for specific substances or the designated uses, and is used as the basis for development of Total Maximum Daily Loads (TMDLs) under the provisions of section 303(d)(1)(c) of the Act. The 303(d) list has been characterized as an impaired waters list.

There are six listed impaired water bodies in Wood County, according to the WDNR. These waters are listed within Wisconsin's 303(d) Water-body Program and are managed by the WDNR's Bureau of Watershed Management. They include Lake Dexter, Mill Creek, Yellow River, South Branch O'Neil Creek, and Hemlock Creek.

The Wisconsin River is on the list because of mercury contamination and PCB's. The Yellow River, Mill Creek, Hemlock Creek, and the South Branch of O'Neil Creek are on the list because of total phosphorus. Lake Dexter is on the list because of total phosphorus and E. coli.

## **Outstanding and Exceptional Waters**

Wisconsin has classified many of the State's highest quality waters as Outstanding Resource Waters (ORWs) or Exceptional Resource Waters (ERWs). Chapter NR 102 lists the ORWs and ERWs. The WDNR conducted a statewide evaluation effort in the early 1990's to determine which waters qualified for ORV and ERW classification. By 2006, a significant number of waters were added to Chapter NR 102 as ORWs and ERWs. Wood County has 9.5 miles of Class I trout water classified as exceptional resource waters. This would include 3.2 miles of Bloody Run Creek, 2.0 miles of Five Mile Creek 1.0 mile of Lynn Creek, 0.3 miles of Rocky Creek, and 3.0 miles of Seven Mile Creek.

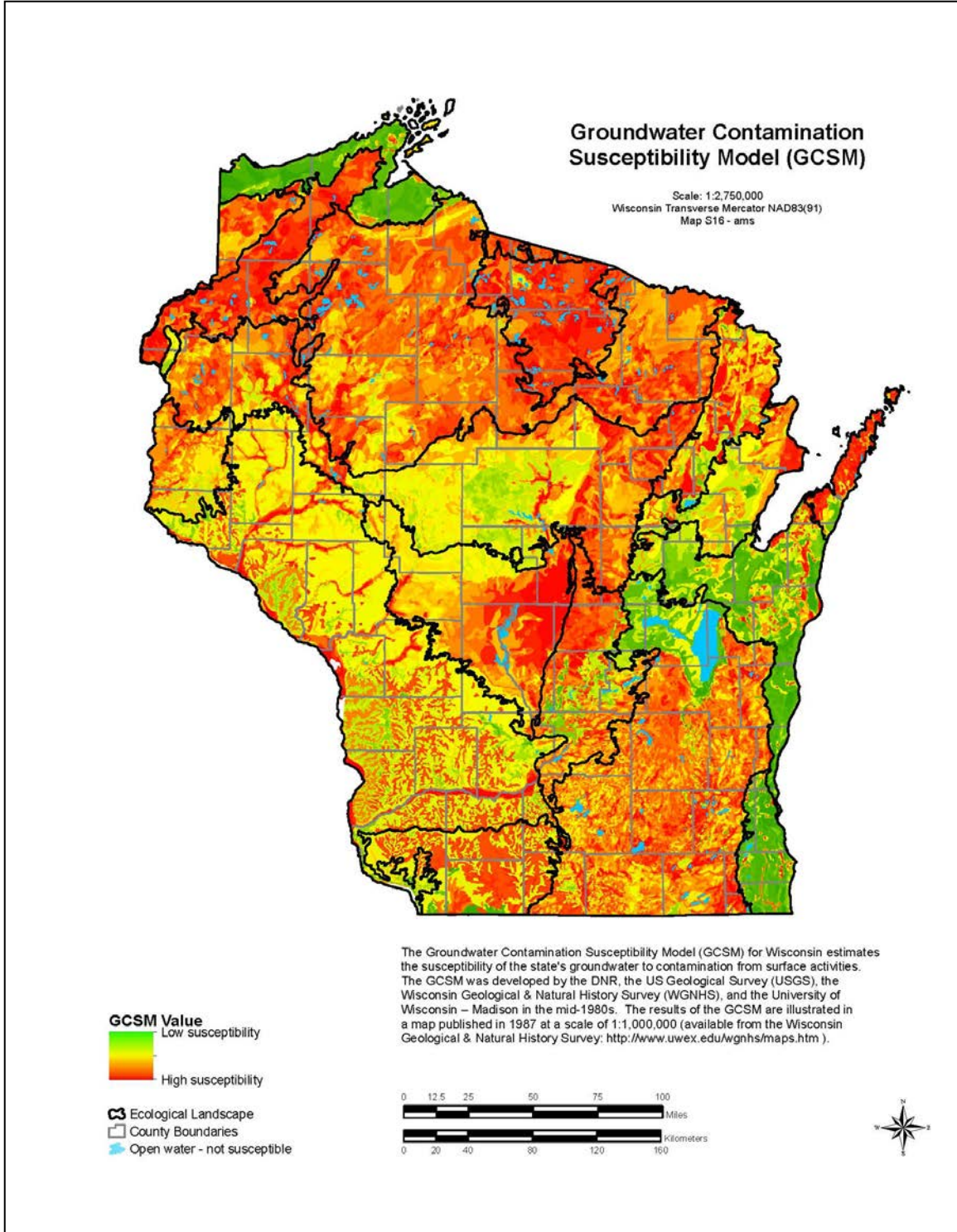
## **Groundwater**

Groundwater is the source of all drinking water in Wood County and supplies many agricultural and industrial processes as well. Groundwater is a limited resource, and both its quality and quantity are important factors. These factors are primarily influenced by local geology and local land use. Groundwater in Wood County is generally abundant and of good quality.

Groundwater contamination is most likely to occur where fractured bedrock is near the ground surface, or where only a thin layer of soil separates the ground surface from the water table. According to WDNR map, Susceptibility To Groundwater Contamination, the northern two-thirds of the county ranked low to medium for susceptibility and the southern one-third of the county generally ranked medium to high for susceptibility to

groundwater contamination (see map 2-9). Potential sources of groundwater contamination include:

- Chemical storage
- Land spreading of sewage treatment plant sludge
- Road salt usage and storage
- Animal feedlots
- Use and spillage of fertilizers and pesticides
- Accidental spills
- Septic tanks and drain fields
- Underground storage tanks
- Underground pipelines and sewers
- Landfills
- Mines, pits, and quarries



## **Animal Waste Management**

Because agriculture is so prevalent in Wood County, one of the most significant potential groundwater contamination sources is animal waste. Both storage and spreading of animal waste can contaminate groundwater if not done properly.

Animal waste storage facilities currently in use range from manure pits dug 50 years ago to newly engineered and installed storage structures. Currently there are 221 animal waste storage facilities in Wood County (see map 2-10). According to Land Conservation Department records, 84 of these structures were designed and installed to meet technical standards and specifications that were in effect at the time they were built. It is estimated that there are 137 manure storage facilities that do not meet any type of technical standards for design and installation. Wood County regulates the location, design, and installation of animal waste through its Animal Waste and Manure Management Ordinance. This ordinance ensures that all new, substantially altered, and abandoned manure storage facilities are completed in compliance with approved standards and specifications. The ordinance also requires that permitted storage facilities submit and follow an annual nutrient management plan.

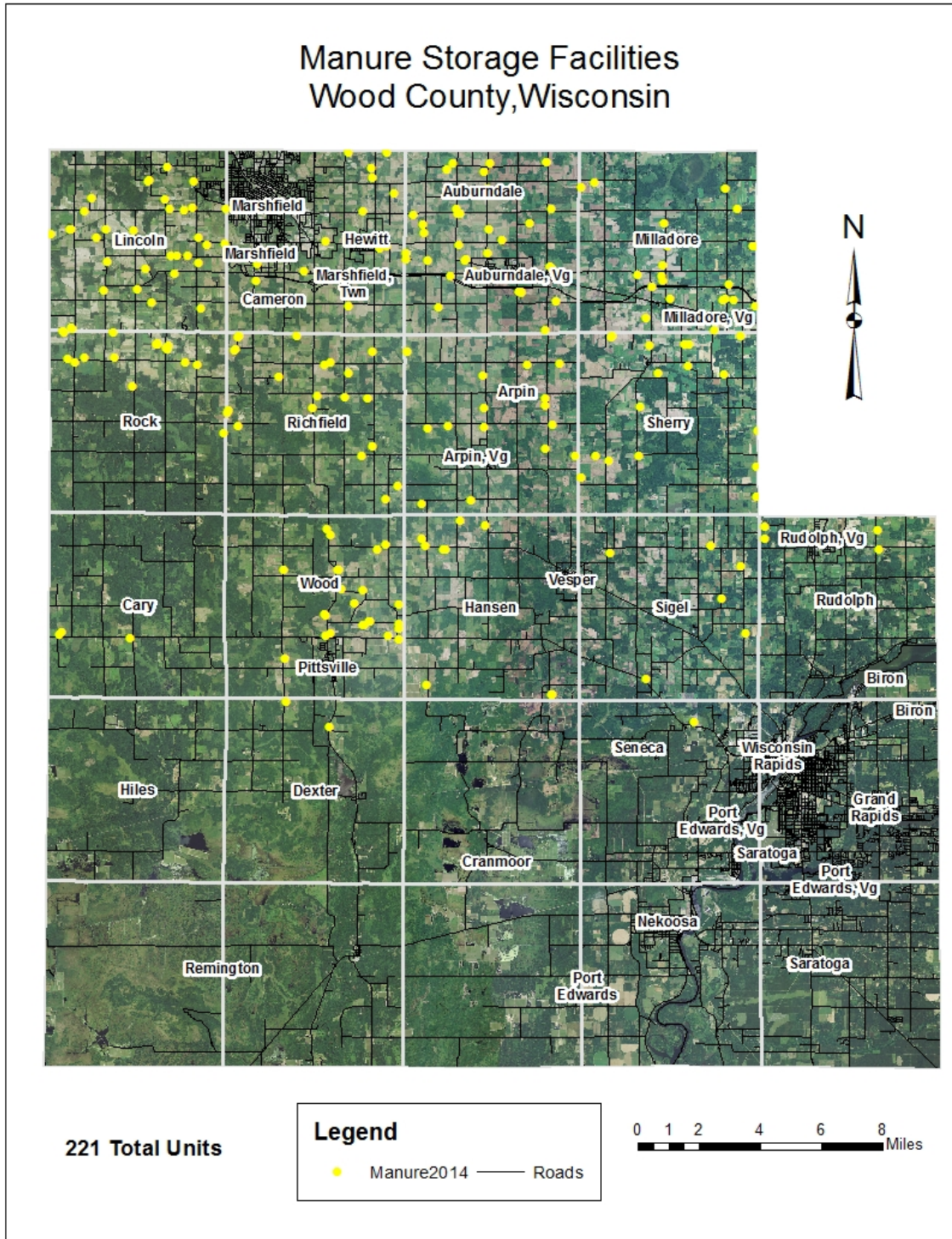
The State of Wisconsin regulates livestock operations with 1,000 animal units or more and those livestock operations with less than 1,000 animal units that have discharges that significantly affect water quality.

The WDNR has also created Agriculture Performance Standards and Prohibitions through Administrative Rule NR 151, State Statutes. The performance standards and prohibitions were created to control polluted runoff from farms, as well as other sources, to help protect Wisconsin's lakes, streams, and groundwater. The agriculture performance standards apply to all farm operations in Wisconsin.



(2-10)

## MAP OF WOOD COUNTY ANIMAL WASTE FACILITIES





## **Agricultural and Natural Resource Trends and Outlook**

The following are anticipated farmland trends for the next ten years in Wood County.

- Increased pressure to convert farmland to other uses.
- The size of the average farm will continue to show moderate increases.
- The number of dairy farms will continue to decline.
- Dairy herd sizes will continue to increase.
- Expect an increase in the number of large dairies that are required to obtain WPDES permits.
- Decreased interest in farmland preservation programs.
- Increased interest in cash cropping.
- Dairy herd production will continue to increase.

The following trends are anticipated with respect to forest resources within the county.

- Demand for forest products is predicted to increase, while forestlands managed for timber harvest are expected to decrease.
- Property tax burden will increase for private forest owners not enrolled in a management program (MFL).
- Interest in voluntary management programs that supply a property tax break including MFL will increase.
- Forestland sales at rising prices for recreational purposes will continue.
- Continued interest in “living in the woods” will lead to additional forest fragmentation.
- The variety of recreational uses requested in the county forest will increase.
- The number of recreation enthusiasts attempting to use the county forest will increase.

The following are other anticipated trends with regard to agricultural, natural, or cultural resources within the county.

- Interest in using water features for recreational purposes will continue.
- The county’s woodlands and highland areas will be desired as residential building sites.
- Demand for sand/frac sand and gravel resources will continue to increase.
- Livestock grazing along waterways will continue.
- Challenges to groundwater resources will grow including increasing quantity of withdrawal and increasing potential contamination sources.

## **Land Use**

As populations continue to grow, more emphasis will be needed on protecting the natural resources. Land use in Wood County is predominately agriculture and woodland. Agricultural land occupies 46 percent of the total area of the county or 240,000 acres. Approximately 77 percent of the farmland is in cropland with corn, oats, hay, and soybeans being the main crops. Cranberries are the next major agricultural crop with 72 marshes in operation; these cranberry marshes total 5,412 acres in some stage of production according to the 2012 census of agriculture.

Woodlands also occupy a major portion of the land area in Wood County with aspen, maple, oak, white birch, white pine, and red pine being the dominant species. Much of the forests are used by the paper mills for huge amounts of pulpwood, which is vital for paper production. There are also a significant number of tree farms specializing in Christmas trees located in the southern part of the county. Of the 516,544 acres in the county, 215,400 or 42 percent are classified as woodland. The County forest contains 37,536 acres of woodland.

The Wisconsin Department of Natural Resources provides forest management assistance to woodland owners in Wood County. The WDNR forester, located in Wisconsin Rapids provides help in tree planting, timber sale establishment, non-commercial thinning and pruning, and general land management planning. The WDNR also administers the forest Stewardship Program, the Wisconsin Forest Landowner Grant Program and provides technical assistance to the Farm Service Agency and the Natural Resources Conservation Service on other forestry cost-sharing program.

## **Sediment Delivery**

The Wood County Land Conservation Department conducts an annual countywide transect survey of cropland to gather information on conservation tillage and soil loss rates. The survey provides a database of reliable information that can be used to monitor trends. These trends can be used to direct program activities. The data from this survey estimates that 92 percent of cropland fields in Wood County have soil loss rates below tolerable soil loss levels. Although soil erosion is not a prominent water quality problem in Wood County, it does provide a means of transporting nutrient rich soil particles and animal waste to lakes and streams. It is important to prevent the migration of nutrients to surface waters by installing best management practices that reduce erosion rates.

## **Air Quality**

In order to evaluate the quality of the air and to protect the public health, a series of National Ambient Air Quality Standards has been developed by the U.S. Environmental Protection Agency as established in Section 109 of the Clean Air Act. According to the Wisconsin Air Quality Report, as prepared by the Wisconsin Department of Natural Resources, the air pollutants affecting Wisconsin include sulfur dioxide, suspended particulate matter, carbon monoxide, ozone, oxides of nitrogen, lead, sulfates, and nitrates. Although wind erosion is not a prominent air quality problem in Wood County, it does provide a means at certain times of the year of displacing topsoil particles into the air causing poor visibility and other air quality issues. It is important that the Wood County Land Conservation Department continues to work with the Central Wisconsin Windshed Partners (CWWP) to assist potato and vegetable growers in the central sands region of Wood County with wind erosion control. The (CWWP) is a cooperative venture of the Wisconsin Potato and Vegetable Growers Association; the Vegetable Processing Industry; the Land Conservation Committees of Adams, Juneau, Portage, Waushara, and Wood Counties; the Golden Sands Resource Conservation and Development Area; the Natural Resources Conservation Service; the University of Wisconsin; and the University of Wisconsin Cooperative Extension Service. The (CWWP) assists growers with wind erosion control by offering a full service windbreak establishment and maintenance program, conducting on-farm conservation tillage demonstrations, and providing education and information to growers.

## **CHAPTER 3: LAND AND WATER RESOURCE CONDITIONS**

### **Basins/Geography**

Wood County consists of two major drainage basins. They are the Black-Buffalo-Trempealeau River Basin and the Central Wisconsin River Basin. Wood County has traditionally managed its natural resources by drainage basins and watersheds. This approach has been successful in developing working relationships with adjoining counties and their conservation staff. It has also brought a coordinated effort in resource management with state agencies such as the Wisconsin Department of Natural Resources and Department of Agriculture, Trade and Consumer Protection. These agencies have used the basin approach of natural resource management for many years. The following is a list of the Wood County River Basins and their watersheds:

Black-Buffalo-Trempealeau Basin

BR07 – East Fork Black River Watershed

Central Wisconsin River Basin

UW02 – Lower Yellow River Watershed

UW03 – Cranberry Creek Watershed

UW04 – Hemlock Creek Watershed

UW05 – Upper Yellow River Watershed

UW08 – Wisconsin Rapids Watershed

UW09 – Seven-Mile/Ten Mile Creek Watershed

UW10 – Four-Mile/ Five Mile Creek Watershed

UW11 – Mill Creek Watershed

UW14 – Little Eau Pleine River Watershed

### **Exceptional and Outstanding Resource Waters**

Wisconsin has classified many of the state's highest quality waters as Outstanding Resource Waters or Exceptional Resource Waters. Currently, Wood County has five resources that are listed as Exceptional Resource Waters. They are portions of Bloody Run Creek, Five Mile Creek, Lynn Creek, Rocky Creek, and Seven Mile Creek. There are no resources in Wood County that are listed as Outstanding Resource Waters.

### **Impaired Waters**

The listing of waters under the Clean Water Act (s.303(d)) are waters, which are not meeting water quality standards. There are six listed impaired water bodies in Wood County. They include Lake Dexter, Mill Creek, the Wisconsin River, Hemlock Creek, Yellow River, and the South Branch O'Neil Creek.

## **East Fork Black River Watershed**

The East Fork Black River is a 90 square mile watershed and has 137 miles of streams. This watershed is located in the western portion of Wood County and is primarily forested with some agriculture. The DNR has ranked the groundwater contamination potential in the East Fork Black River as low to medium.

## **Lower Yellow River Watershed**

The Lower Yellow River is a 243 square mile watershed and has 245 miles of streams. It is located in Juneau, Wood, and Jackson Counties. This watershed was ranked using the Department of Natural Resources Nonpoint Source Priority Watershed Selection Criteria. Based on surface and ground water data, the overall ranking is low. The majority of the watershed streams are ditched. Very little information about current use classification is available. A portion of the watershed lies within the Necedah National Wildlife Refuge. The refuge was established as a breeding ground for migratory birds and other wildlife. Historically the land in and around the refuge was once a vast open peat bog with scattered islands of savanna and woodland. Once settlers arrived, the land use surrounding the refuge drastically changed. Fires from logging slash burned uncontrollably throughout the area. By the 1930's the peat was mostly gone and many farmers were looking for land with richer soils and longer growing seasons. Although agriculture proved economically unsuccessful, more than 94 miles of ditches and intermittent streams were left behind. Today they are used for water control. The groundwater contamination potential ranking for the Lower Yellow River Watershed is medium to high.

## **Cranberry Creek Watershed**

The Cranberry Creek is a 70 square-mile watershed and has 101 miles of streams. It is located in Juneau and Wood Counties, but most of the watershed is located in the south central part of Wood County. This watershed is made up of very diverse habitats ranging from a bombing range to cranberry marshes. This watershed was ranked using the Department of Natural Resources Nonpoint Source Priority Watershed Selection Criteria. Based on surface and ground water data, the overall ranking is low. The DNR also completed baseline stream monitoring in 2004 and used this data to re-rank the surface water in this watershed. Based on data collected this watershed still received a low surface water ranking. As the name implies, Cranberry Creek Watershed is mainly cranberry marshes. There are 17 to 20 cranberry growing operations with over 100 cranberry bogs. The DNR lacks information about water quality impacts as a result of surface water discharges from these marshes. There is a concern that nutrients from fertilizers and pesticides/herbicides discharged from these marshes could be degrading water quality and harming sensitive species of aquatic life. Stream flow in many of the ditches is controlled by structures for cranberry production. Cranberry Creek appears turbid during base flow because of high iron content in the groundwater. Cranberry Creek supports a diverse warm water fishery. Water chemistry sampling in 2005 found total phosphorus concentrations in Cranberry Creek lower than other streams monitored

in the basin that year. The groundwater contamination potential ranking for the Cranberry Creek Watershed is medium to high.

## **Hemlock Creek Watershed**

The Hemlock Creek is a 160 square mile watershed and has 82 miles of streams. It is located in the central part of Wood County running from just north of Arpin in a southerly direction to the county line. This watershed was ranked using the Department of Natural Resources Nonpoint Source Priority Watershed Selection Criteria. Based on surface and ground water data, the overall ranking is high. Cranberry marshes exist within the Hemlock Creek Watershed. The DNR lacks information in regards to water quality impacts that are a result of surface water discharges from the cranberry bogs. There is a concern that contaminants from fertilizers and pesticides are being discharged from various nonpoint sources, which may be degrading water quality and harming sensitive species of aquatic life. Hemlock Creek currently receives point source discharges from the villages of Arpin and Vesper. Additional monitoring is recommended to determine affects of agriculture to this watershed. Soil erosion in the towns of Arpin and Hansen located in the upper portion of the watershed causes impacts to the overall water quality of the watershed. The groundwater contamination potential ranking for the Hemlock Creek Watershed is medium to high.

## **Upper Yellow River Watershed**

The Upper Yellow River is a 224 square mile watershed and has 171 miles of streams. It is located in the counties of Wood, Clark, and Marathon. That portion of the watershed in Wood County is located from northwest of Marshfield and running south to the Dexter Lake dam. This watershed was ranked using the Department of Natural Resources Nonpoint Source Priority Watershed Selection Criteria. Based on surface and groundwater data, the overall ranking is high. The Upper Yellow River Watershed was funded as a Priority Watershed Project by the WDNR in 1993. It was completed in 2005. Animal waste runoff from barnyards or pasturelands occurs on the main tributaries of the Yellow River. Surface water erosion is a problem in the watershed. Biotic index values for those streams sampled indicated fair to poor water quality. The groundwater contamination potential ranking for the Upper Yellow River Watershed is low to medium.

## **Wisconsin Rapids Watershed**

The Wisconsin Rapids Watershed is 116 square miles and has 55 miles of streams. It is located in the counties of Juneau, Wood and Portage. This area is heavily populated and incorporates the towns of Nekoosa, Port Edwards, Rudolph and part of Wisconsin Rapids. This watershed is highly developed with industry and supports several large paper mills within a relatively small section of the Wisconsin River. The Wisconsin Rapids Watershed has an overall Nonpoint Source ranking of low based upon available stream, lake, and groundwater data. The watershed was ranked using the Department of Natural Resources Nonpoint Source Priority Watershed Selection Criteria. The watershed ranked low for NPS pollution impacts on surface water quality. The DNR

completed baseline stream monitoring in 2004 and used this data to re-rank surface water in the watershed from low to medium. The lower reaches of Moccasin Creek and the mid-reaches of Lynn Creek are classified trout waters and should be protected from thermal loading that results from urban development. The groundwater portion of the watershed ranked high for NPS pollution control because of documented groundwater quality impacts. The groundwater contamination potential ranking for the Wisconsin Rapids Watershed is mostly high.

### **Seven-Mile/Ten Mile Creek Watershed**

The Seven-Mile/Ten-Mile creek is a 106 square mile watershed and has 73 miles of streams. It is located in the counties of Adams, Portage, Wood, and Waushara. In Wood County it is located in the southeastern corner. This watershed is a maze of ditches and laterals that were created to drain lowland areas for agricultural activities. There are large sections of land that have been purchased by the state that are being maintained for grassland ecosystems. This watershed was ranked using the Department of Natural Resources Nonpoint Source Priority Watershed Selection Criteria. Based on surface and groundwater data, the overall ranking is high. Maintenance dredging continues on the established ditches in order to remove sediment and vegetation from the channel. A recent decision by the DATCP requires maintenance dredging to go no deeper than the approved profile. The WDNR supports this because over-dredging removes critical in-stream habitat for trout and other aquatic organisms, creates deep, low velocity pools, increases sedimentation and reduces potential spawning areas. The groundwater contamination potential ranking for the Seven-Mile/Ten Mile Creek Watershed is high.

### **Four-Mile/Five-Mile Creek Watershed**

The Four-Mile/Five Mile Creek is a 211 square mile watershed and has 136 miles of streams. It is located in Portage County and in the east central part of Wood County. This watershed was ranked using the Department of Natural Resources Nonpoint Source Priority Watershed Selection Criteria. Based on available surface and groundwater data, the overall ranking is medium. Three cranberry marshes exist along the Wisconsin River northeast of Biron. It is unknown whether these marshes are contributing a significant amount of nutrients to the Wisconsin River. Water drawn from ditches reduces stream depth, decreases adult fish cover, reduces spawning areas for trout, and likely exposes fish redds, and may result in an increase of water temperatures. Discharges from cranberry marshes can adversely affect water temperatures, deposit sediment, and release nutrients to the ditches. Periodic impounding of the ditches to flood marshes prevents fish migration, increases water temperatures and de-waters downstream reaches. The groundwater contamination potential ranking for the Four-Mile/Five Mile Creek Watershed is high.

### **Mill Creek Watershed**

The Mill Creek is a 195 square mile watershed and has 105 miles of streams. It is located in Portage County and in the northeastern part of Wood County running southeasterly

from Marshfield to Portage County. The Mill Creek Watershed was ranked using the Department of Natural Resources Nonpoint Source Priority Watershed Selection Criteria. Based on available surface and groundwater data, the overall ranking is high. Mill Creek is a 47-mile tributary of the Wisconsin River. Mill Creek is listed as an impaired waterbody on EPA's 303(d) list for low dissolved oxygen. The stream is impacted by stormwater runoff from Marshfield, sedimentation, barnyard and cropland run-off, flashy stream flow, streambank erosion, and nutrient enrichment.

The groundwater contamination potential ranking for the Mill Creek Watershed is low to medium. The Wood County Land Conservation Department continues to partner with the "Friends of Mill Creek Watershed, Inc.," to educate the public about natural resources and programs that can help improve the environment and increase the overall value of Mill Creek. The Friends of the Mill Creek Watershed, Inc., is a non-profit organization that brings together community members to improve and conserve the Mill Creek Watershed.

### **Little Eau Pleine River Watershed**

The Little Eau Pleine River is a 264 square mile watershed and has 197 miles of streams. It is located in the counties of Clark, Portage, Marathon, and Wood. In Wood County it is located in the northeast corner. This watershed is one of many watersheds that drain into the DuBay Flowage. This watershed was ranked high using the Department of Natural Resources Nonpoint Source Priority Watershed Selection Criteria. Based on surface and groundwater data, the overall ranking is low. A shallow groundwater table allows unused herbicides, pesticides, and fertilizers to leach into the groundwater without it being filtered out in the soil profile. Water quality problems are intensified by high rates of surface runoff due to the silty soils. The groundwater contamination potential ranking for the Little Eau Pleine River watershed is low to medium.



## **CHAPTER 4: ENVIRONMENTAL ISSUES AND CONCERNS**

### **Basin Water Quality Management Plans**

The Wisconsin Department of Natural Resources (WDNR) prepares “State of the Basin Reports” for the 24 water management units in the State of Wisconsin. The basin plans provide a history and vision for each basin’s land and water resources and lists priority goals and actions for the basins. The basin plans also make recommendations and sets performance measures for what the WDNR can do to improve the health of ecosystems in the basins. The basin plans that impact Wood County include The State of the Black- Buffalo-Trempealeau Basin (2002) and The State of the Central Wisconsin River Basin (2002).

The basin plans were used as guidelines in the development of the Wood County Land and Water Resource Management Plan. Some of the goals from the basin plans have been incorporated into this document. The following is a list of the priority goals for each of the Wood County basins as established by the WDNR.

#### **Black- Buffalo-Trempealeau River Basin**

##### Goals:

- Preserving our unique resources
- Protecting the public’s health and promoting safety
- Improving recreational opportunities
- Managing watersheds to reduce water quality impacts
- Discovering integrated management and partnership opportunities

#### **Central Wisconsin River Basin**

##### Goals:

- Monitor and comprehensively study the Wisconsin River and its tributaries for water quality. The information generated would be used to make management decisions, which would ultimately solve many water quality issues.
- Department staff should oppose construction of dams and encourage removal of existing dams on basin streams.
- Continue to monitor groundwater and surface water consumptive uses and their impacts on surface aquatic life and groundwater level sustainability. Where possible, regulate the withdrawals of both surface and groundwater to protect water dependent natural resources. Where regulations are not adequate, work with local communities to reduce impacts. Encourage conservation measures to minimize these impacts.

- Evaluate impacts to water quality from nonmetallic mining through permit compliance monitoring in Central Wisconsin.
- Watershed staff should continue monitoring surface waters to support the 303(b) report and identify impaired waterbodies for the 303(d) list.
- Continue trout habitat improvements and maintenance on state owned and easement properties.
- Continue to protect sensitive or critical shoreland habitats through easements of acquisition.
- Continue to monitor and address contaminants of concern basin-wide in surface water, sediment groundwater, fish, and other water dependent resources.
- The Drinking and Groundwater staff along with Watershed staff and our partners should continue to collect information, water samples, etc. to document the nonpoint contamination of Central Sands and other aquifers in the basin. This information should be used to develop educational and regulatory strategies to address the source of the contamination.
- Watershed staff should continue efforts to reduce agricultural NPS inputs into waters of the state.
- Basin staff should continue to work with stakeholders to identify and designate sensitive habitat areas.
- Encourage municipal water systems to adopt comprehensive Well Head Protection Plans.
- Encourage Best Management Practices in all agricultural areas designated as vulnerable to groundwater contamination.
- Encourage NRCS to extend their funding program that offers financial assistance to farmers for abandonment of unused wells on agricultural properties.
- Encourage municipal water systems to reduce water losses in their distribution systems and expand water conservation measures by their customers.
- Basin staff shall continue to monitor aquatic and terrestrial exotics, document the distribution, and work with partners to prioritize control efforts to minimize the spread of exotic species on state land and waters within Central Wisconsin River Basin.
- Basin staff shall continue to monitor aquatic and terrestrial communities, and document the distribution and status of endangered, threatened, special concern species and natural communities within the Central Wisconsin River Basin.
- Basin staff should continue to identify and pursue the abandonment of non-complying water supply wells, that serve as conduits for contamination of groundwater.
- Continue to work with local government departments such as health departments and zoning departments; private sector business; and professional associations e.g. Well Drillers, WI Water Well Assoc. (WWWA), WI Rural Water Assoc. (WRWA), Wisconsin Wastewater Operators Assoc. (WWOA), Wisconsin Association of Zoning Administrators, etc., on educational programs and materials addressed to the general public/farmers concerning the protection of all waters of our basin.

## Local Work Group

To initiate the Wood County Land and Water Resource Management Plan revision in 2007, the Land Conservation Department convened a meeting of community leaders to assess the quality of the county's natural resources. The following is a list of the natural resource issues and concerns raised by the Local Work Group:

- Landspreading issues, animal, human, fertilizer, municipal
- Monitoring of surface water quality, municipal discharge, cooperation between agencies affecting quality
- Declining grassland habitat
- Pesticides in groundwater
- Municipal wells-impact on surrounding area
- Woodland management
- Loss of wetlands
- Nonmetallic mining reclamation
- Loss of agricultural land
- Yellow River water quality, runoff
- Soil erosion, agricultural, highways and construction
- Abandoned wells leading to groundwater pollution
- Excessive wildlife
- Air quality
- Improved rural economics through prescribed grazing
- Invasive species
- Decreasing enrollment in land conservation programs (CRP, CREP, etc.)
- Comprehensive land use plan (residential, industry) to protect groundwater
- Water conservation

The Local Work Group was then asked to vote on which issues they thought were most important. The following is the list of priority resource concerns voted upon by the Local Work Group.

<b><u>Rank</u></b>	<b><u>Resource Concern</u></b>
1	Landspreading issues, animal, human, fertilizer, municipal
2	Monitoring of surface water quality, municipal discharge, cooperation between agencies affecting quality.
3	Declining grassland habitat (prairie chicken) fragmentation
4	Loss of wetlands
5	Loss of agricultural land
6	Soil erosion, agricultural, highway, and construction

## **Other Issues and Concerns**

In addition to the prioritized resource concerns, several other resource issues are significant to the quality of Wood County's natural resources. The following are additional issues and concerns facing natural resources management in Wood County:

- There is a growing concern over invasive plant species.
- The management of increasing numbers of bear, wolf, and deer continues to be a concern.
- The loss of prime farmland to non-agricultural uses.
- The loss of farms due to economics.

## **CHAPTER 5: GOALS AND OBJECTIVES**

During the Wood County Land and Water Resource Management Plan revision process, natural resources management professionals as well as county citizens and local officials have agreed that nutrient loading to streams by both sediment and animal waste is the number one resource concern. The following is a list of goals and objectives as established by the Advisory Group and approved by the Wood County Conservation, Education and Economic Committee:

The goals, objectives, and action items will be reviewed by the Advisory Group once every year to evaluate implementation progress and to recommend needed changes to update the Work Plan as a result of annual work planning and a five year review before the Land and Water Conservation Board.

### **Goal 1: Reduce Sediment Delivery to Surface Waters.**

#### **Objectives:**

1. Reduce erosion and sediment delivery from cropland fields.
2. Reduce sediment from non-cropland acres.
3. Administer Nonmetallic Mining Reclamation Ordinance.
4. Reduce sediment from construction sites.

### **Goal 2: Reduce Animal Waste and Nutrient Delivery to Surface Waters and Groundwater.**

#### **Objectives:**

1. Increase the number of cropland acres that have a nutrient management plan.
2. Reduce runoff of winter-spread manure.
3. Administer County Animal Waste Storage Ordinance.
4. Reduce runoff from barnyards and feedlots.
5. Promote proper well abandonment.
6. Implement Chapter 102, Wisconsin Statutes Phosphorus Rule.
7. Reduce high nitrate levels in drinking water.

### **Goal 3: Reduce Crop Damage Caused by Wildlife.**

#### **Objectives:**

1. Administer Wildlife Damage Abatement and Claims Program.

### **Goal 4: Protect and Develop Wetlands and Uplands for Wildlife Habitat.**

#### **Objectives:**

1. Increase and protect wetlands and wildlife habitat.

**Goal 5: Increase Efforts to Inventory the Water Resources of Wood County.**

**Objectives:**

1. Increase water quality monitoring on Wood County Streams.
2. Increase water quality monitoring for groundwater resources in Wood County.

**Goal 6: Minimize the Adverse Effects of Urban Sprawl and Land Fragmentation in Rural Wood County.**

**Objectives:**

1. Maintain prime farmland and reduce housing development in rural areas.

**Goal 7: Improve Air Quality in Wood County.**

**Objectives:**

1. Reduce wind erosion from cropland fields.
2. Increase awareness of Wood County air quality.

**Goal 8: Improve Woodlands in Wood County.**

**Objectives:**

1. Educate landowners on proper forestry management.

## **CHAPTER 6:      **AGRICULTURAL PERFORMANCE STANDARDS AND PROHIBITIONS****

Effective October 1, 2002, NR 151 set forth state minimum performance standards and prohibitions for farms and urban areas. These performance standards and prohibitions were designed to achieve water quality standards by limiting nonpoint source water pollution. It is the landowner's responsibility to meet the agriculture performance standards and prohibitions. The role of the Wood County Land Conservation Department is to assist landowners in planning, designing, installing and approving management plans and practices to meet NR 151 standards. The Department of Natural Resources has developed ten components to NR 151 implementation that identify DNR's role and their expectations of counties for each implementation component. See (appendix C). The following is a list of the Agricultural Performance Standards and prohibitions.

### **Performance Standards**

#### **NR 151.02 Sheet, rill and wind erosion**

All land where crops or feed are grown shall be cropped to achieve a soil erosion rate equal to, or less than, the "tolerable" (T) rate established for that soil.

#### **NR 151.03 Tillage setback**

The purpose of this standard is to prevent tillage operations from destroying stream banks and depositing soil directly in surface waters.

1. No crop producer may conduct a tillage operation that negatively impacts stream bank integrity or deposits soil directly in surface waters.
2. No tillage operations may be conducted within 5 feet of the top of the channel of surface waters. Tillage setbacks greater than 5 feet but no more than 20 feet may be required for this standard.
3. Crop producers shall maintain the area within the tillage setback in adequate sod or self-sustaining vegetative cover that provides a minimum of 70% coverage.

#### **NR 151.04 Phosphorus index**

1. All crop and livestock producers shall comply with this section.
2. Croplands, pastures, and winter grazing areas shall average a phosphorus index of 6 or less over the accounting period and may not exceed a phosphorus index of 12 in any individual year within the accounting period.

### **NR 151.05 Manure storage facilities**

All livestock producers building new manure storage facilities, substantially altering manure storage facilities, or choosing to abandon their manure storage facilities shall comply with this section.

New or substantially altered manure storage facilities shall be designed, constructed and maintained to minimize the risk of structural failure of the facility, minimize leakage of the facility in order to comply with the groundwater standards.

Closure of a manure storage facility shall occur when an operation where the facility is located ceases operations, or manure has not been added or removed from the facility for a period of 24 months. The owner or operator may retain the facility for a longer period of time by demonstrating all of the following conditions are met:

1. The facility is designed, constructed and maintained in accordance with an accepted standard.
2. The facility is designed to store manure for a period of time longer than 24 months.
3. Retention of the facility is warranted based on anticipated future use.

Manure storage facilities in existence as of October 1, 2002, that pose an imminent threat to public health or fish and aquatic life or are causing a violation of groundwater standards shall be upgraded, replaced or abandoned in accordance with this section.

### **NR 151.055 Process wastewater handling**

1. All livestock producers shall comply with this section
2. There may be no significant discharge of process wastewater to waters of the state.

### **NR 151.06 Clean water diversions**

All livestock producers within a water quality management area shall comply with this section. A water quality management area, as defined by NR 151 is the area within 1,000 feet from the ordinary high water mark of navigable waters that consist of a lake, pond or flowage, except that for a navigable water that is a glacial pothole lake, the term means the area within 1,000 feet from the high water mark of the lake; the area within 300 feet from the ordinary high water mark of navigable waters that consist of a river or stream; and a site that is susceptible to groundwater contamination, or that has the potential to be a direct conduit for contamination to reach groundwater.

Runoff shall be diverted away from contacting feedlot, manure storage areas and barnyard areas within water quality management areas except that a diversion to protect private well is required only when the feedlot, manure storage area or barnyard area is located upslope from the private well.



## **NR 151.07 Nutrient management**

All livestock and crop producers that apply manure or other nutrients directly or through contract to agricultural fields shall comply with this section.

Manure, commercial fertilizer and other nutrients shall be applied in conformance with a nutrient management plan. The nutrient management plan shall be designed to limit or reduce the discharge of nutrients to waters of the state for the purpose of complying with state water quality standards and groundwater standards.

Effective for all farms on January 1, 2005 if the farm is located in

1. Watersheds containing outstanding or exceptional waters.
2. Watersheds containing impaired waters.
3. Source water protection areas.

Effective for all other farms on January 1, 2008.

## **NR 151.08 Manure management prohibitions**

All livestock producers shall comply with this section.

1. No overflow of manure storage facilities.
2. No unconfined manure pile in a Water Quality Management Area.
3. No direct runoff from a feedlot or stored manure into the waters of the state.
4. No unlimited access by livestock to waters of the state.

## **NR 151 Local Implementation Strategy**

The following is a description of the procedures that the Wood County Land Conservation Department may use to assist landowners in meeting the Chapter NR 151 Agricultural Performance Standards and Prohibitions. This implementation strategy is based on Land Conservation Department staff and funding availability.

### **Information and Education**

The Wood County Land Conservation Department, along with UW-Extension Service and WDNR, will initiate an information and education campaign to inform all Wood County farmers of the requirements of Chapter NR 151. This effort has been implemented through local press releases and newsletters and will attempt to voluntarily get landowners to comply with NR 151. The Land Conservation Department staff will also make direct contact with landowners during farm visits for other program purposes and inform them of NR 151 requirements.

### **Priority Farm Identification**

With over 1,000 farm operations in Wood County, it is essential that a prioritization process be implemented to address the requirements of Chapter NR 151. Due to limited

staff, the Wood County Land Conservation Department has developed the following priority farm identification strategy over the next ten years:

First Priority - Farms where a valid complaint has been received regarding the violation of the agricultural performance standards or prohibitions.

Second Priority – Farms applying for Farmland Preservation Agreements.

Third Priority – Farms applying for an Animal Waste and Manure Management Ordinance Permit.

Fourth Priority – Farms that receive cost-share assistance under the Land and Water Resource Management program for barnyard runoff control systems.

Fifth Priority – Farms located in watersheds draining to 303(d) waters.

### **Compliance Determination**

On-site evaluations will be the primary means of determining compliance with Chapter NR 151 requirements. On-site evaluations will be completed using the evaluation form included as Appendix C. The information in the evaluation form will be tracked using the county geographic information system. Landowners that have gone through the evaluation process will receive the following:

- A copy of the evaluation report with a landowner signature page.
- A letter with instructions on appeal procedures if the landowner contests the evaluation.
- Recommendations for measures needed to achieve compliance.
- A schedule for achieving compliance with the standards.
- The availability and source of cost-share funds for installing recommended practices.

### **Compliance determinations will be completed based on the following priorities:**

- For any landowner who voluntarily requests a determination.
- For any new farmland preservation program participants.
- For any farm that is requesting a permit under Wood County's Animal Waste and Manure Management Ordinance.
- For any farm that receives a valid complaint regarding a violation of the agricultural performance standards and prohibitions.

### **Enforcement**

Enforcement of actions associated with NR 151.09 and NR 151.095 will be coordinated with the WDNR. If a landowner continues to remain in noncompliance with the state performance standards and/or prohibitions, or should a landowner refuse technical and/or

financial assistance from the Land Conservation Department, the LCD will forward all information corresponding to the infraction(s) to the WDNR and will notify the landowner(s) by registered mail that they are subject to an enforcement action pursuant to NR 151.09 and NR 151.095.

## **Appeals**

Any person aggrieved by a decision of the Wood County Land Conservation Department may file a written appeal of the decision to the Wood County Land Conservation Department, Courthouse, 400 Market Street, Wisconsin Rapids, WI 54495-8095 within 30 days of the department's decision. A hearing on the appeal shall be commenced within 60 days of the date of the appeal.

## **Cost-share Assistance**

The Wood County Land Conservation Department provides cost-share funding assistance to landowners installing best management practices through its Soil and Water Resource Management Program.

To receive financial assistance, landowners must enter into a cost-share agreement with the Land Conservation Department. Cost-share agreements are binding documents that secure funds for installing best management practices. The administration of the cost-share assistance programs is the responsibility of the Wood County Land Conservation Department. The department maintains participating landowner files in accordance with approved methods and practices for accounting and recording keeping. The department is also responsible for the monitoring of best management practices installed with cost-share assistance to ensure proper operation and maintenance during the expected life of the practice.

The Land Conservation Department has also established a cost containment policy to equitably distribute the available cost-share funds. The cost containment policy uses a combination of procedures to accomplish its goal. Bidding, average costs and flat rates as well as maximum cost-share amounts are used to contain project costs. A copy of the Wood County Cost Containment Policy can be found in Appendix D.

## **Best Management Practices**

The following is a list of Best Management Practices listed in ATCP-50 that are eligible to receive cost-share assistance under the Wood County Soil and Water Resource Management Program:

- manure storage systems
- manure storage system closure
- barnyard runoff control systems
- access roads and cattle crossings
- animal trails and walkways

- contour farming
- cover and green manure crop
- critical area stabilization
- diversions
- feed storage runoff control systems
- field windbreaks
- filter strips
- grade stabilization structures
- heavy use area protection
- livestock fencing
- livestock watering facilities
- milking center waste control systems
- nutrient management
- pesticide management
- prescribed grazing
- relocating or abandoning animal feeding operations
- residue management
- riparian buffers
- roofs
- roof runoff systems
- sediment basins
- sinkhole treatment
- streambank and shoreline protection
- stream crossing
- stripcropping
- subsurface drains
- terrace systems
- underground outlets
- waste transfer systems
- wastewater treatment strips
- water and sediment control basins
- waterway systems
- well decommissioning
- wetland development or restoration

## **CHAPTER 7: COORDINATION WITH OTHER RESOURCE MANAGEMENT PLANS & PROGRAMS**

To meet the goals established in this plan, landowners will need to participate in existing as well as new Federal, State, and Local programs. There are numerous programs available to landowners to help them comply with the NR 151 requirements established by the WDNR. Some programs provide technical and planning services while some offer financial assistance. Some programs are regulatory and may require compliance with NR 151 requirements through indirect means. It is the intent of the Wood County Land Conservation Department to utilize all of the following programs to assist county landowners in meeting the compliance requirements of NR 151.

### **Federal Programs**

1. Environmental Quality Incentives Program (EQIP)  
Provides cost-share assistance for the installation of locally selected best management practices that reduce erosion and animal waste concerns. Program administered by the U.S.D.A. Farm Service Agency (FSA) and the Natural Resources Conservation Service (NRCS).
2. Conservation Reserve Program (CRP)  
A FSA and NRCS administered program that provides funding to landowners for setting aside eligible lands for conservation purposes
3. Conservation Reserve Enhancement Program (CREP)  
A multi-agency coordinated program that (DATCP, FSA, NRCS, and Wood County) provides land rent payments to landowners who install buffers along streams and waterways and to landowners who establish or maintain grasslands in the grassland project area.
4. Wetland Reserve Program (WRP)  
A FSA and NRCS administered program that provides cost-share assistance to restore converted wetlands from agricultural use.]
5. Partners for Fish and Wildlife Program  
US Fish and Wildlife Service Program used in Wisconsin to assist in wetland restoration, fish and wildlife habitat improvement, and restoration of habitats of special concern.
6. Agricultural Conservation Easement Program (ACEP)  
Provides funds for the purchase of conservation easements on eligible agricultural lands and wetlands to protect and preserve land and its natural resources.

## **State Programs**

1. Targeted Resource Management Program (TRM)  
Provides cost-share assistance to landowners who install best management practices in designated watersheds or areas. Funding is provided by WDNR.
2. Soil and Water Resource Management (SWRM)  
Provides cost-share assistance and staffing grants to County Land Conservation Departments to implement their Land and Water Resource Management Plans. Funds are provided by Wisconsin DATCP.
3. Lake Management and Planning Grants  
Funds provided by WDNR to protect and improve water quality in Wisconsin lakes.
4. Managed Forest LAW (MFL)  
Provides a tax incentive to landowners who manage their woodlots in accordance with an approved timber management plan.
5. Agricultural Clean Sweep  
Provides funding to local units of government to implement a program for collecting unwanted hazardous wastes.
6. Aquatic Invasive Species Prevention and Control Grants  
Funds provided by the DNR to help prevent and control the spread of aquatic invasive species in the waters of the state.
7. Notice of Intent/Discharge Cost-Share Grants  
Cost-Share funding provided by the DNR to governmental units working with owners and operators of livestock operations to meet pollution control requirements.
8. River Protection Planning Grants  
Funds provided by the DNR to protect or improve rivers and their ecosystems.

## **County Programs**

1. Wood County Animal Waste and Manure Management Ordinance  
Administered by the Wood County Land Conservation Department to regulate the location, design, construction and operation of animal manure storage facilities.

2. Wood County Nonmetallic Mining Reclamation Ordinance  
Administered by the Wood County Land Conservation Department. The Land Conservation Department reviews and approves reclamation plans for compliance with state laws. Recommends erosion control practices to mining operators.
3. Wood County Shoreland Zoning Ordinance  
Administered by Wood County Planning and Zoning Department. Regulates the amount of development that takes place near shore and wetland areas.
4. Wood County Farmland Preservation Plan  
Managed by the Wood County Land Conservation Department. The plan allows farmers to be eligible to receive tax credits under the Wisconsin Farmland Preservation Program. To make the transition into compliance for the FPP participants as painless as possible the Land Conservation Department will work with participants to obtain compliance over the next ten years.
5. Wood County Forest – 15 Year Comprehensive Land Use Plan  
This plan provides extensive background information regarding the Wood County Forest and operating policies and procedures, which Wood County will follow in administration of the forest.

### **Other Active Partners**

1. Wood County sportsmen's clubs and associations.
2. Golden Sands Resource Conservation and Development Area.
3. Local unites of government in Wood County including cities, villages, and townships.
4. Wisconsin State Cranberry Growers Association.
5. Central Wisconsin Windshed Partners.

The Wood County Land Conservation Department will make efforts to coordinate program implementation with other cooperating agencies. This will be especially important when assisting landowners who wish to be in compliance with NR 151 requirements.



## **CHAPTER 8: EVALUATION AND MONITORING**

### **Sediment Delivery**

Like most counties in the state, Wood County is in the process of land records modernization. The development of Geographic Information System (GIS) capabilities greatly enhances evaluation and monitoring capabilities. The GIS will be used to locate farms that have been evaluated for compliance with NR 151 Standards. The evaluation will be linked with parcel identification numbers for future monitoring purposes.

Erosion rates from Wood County crop fields will be evaluated using the transect survey method. The Land Conservation Department will continue to conduct an annual countywide survey of cropland to gather information on tillage methods and soil loss rates.

Annual accomplishment reports will be submitted to the Wisconsin DATCP and DNR. These reports will summarize the number of cropland acres that had conservation plans developed on them in the reporting year. The report will also show the number and type of best management practices that were installed through the Soil and Water Resource Management Program.

### **Animal Waste and Nutrient Delivery**

The Wood County Land Conservation Department will use the GIS to locate and detail the number of animal waste storage facilities that were installed during the year. The GIS will also be used to locate crop acres that have manure-spreading restrictions and nutrient management plans. Also, the GIS will locate properly abandoned manure storage facilities.

An annual accomplishment report submitted to the Wisconsin DATCP and DNR will show the number of manure storage facilities that were built, the number of cropland acres with a conservation plan and the number of acres that have a nutrient management plan. The report will also indicate the number and type of best management practices that were installed through the Soil and Water Resource Management Program.

### **Nonmetallic Mining Reclamation Database**

The Wood County Land Conservation Department will use the GIS database as a current inventory of all active reclamation permits issued by the department. This database can be used to locate and detail each of the nonmetallic mines in the county, both active and reclaimed. Yearly photo documentation, GPS obtained active acres per year, approved reclamation plan and overall site maps can be found in this database. A separate database will track the type and amount of financial assurance for each of the permitted sites.

The annual report submitted to the Wisconsin DNR will summarize the number of currently active permits, newly issued permits, total affected acres, and total acres reclaimed for the year.

## **Water Resources Inventory**

It is the goal of the Land Conservation Department to increase what is known about Wood County's surface and groundwater resources. Increasing the inventory database of these resources will help natural resource managers make better decisions to solve water quality problems. The Land Conservation Department will encourage continued and more water quality monitoring efforts by the WDNR. Annual accomplishment reports submitted to the Wisconsin DATCP and DNR will summarize the number and location of stream and groundwater samples. The Land Conservation Department has a detailed inventory database for applied conservation practices, streamflow, and storm drains in Wood County.

## **CHAPTER 9: INFORMATION AND EDUCATION STRATEGY**

The successful implementation of the Land and Water Resource Management Plan will depend heavily on an aggressive information and education program. This program must be well coordinated and organized to effectively impact change in the way people use their land and other natural resources. To accomplish this task, it is important that the Land Conservation Department form strong alliances with those agencies, departments and individuals who have the knowledge and ability to educate and teach landowners.

The Land Conservation Department is neither trained nor well equipped to provide this level of effectiveness. We will rely heavily on the experience of the UW-Extension Service staff to accomplish this task.

### **Goals**

The focus of the information and education program will be to:

- Create awareness among Wood County farmers and landowners regarding the agricultural performance standards and prohibitions.
- Create awareness among farmers and landowners regarding the services provided by the Wood County Land Conservation Department and other cooperating agencies.
- Create awareness among farmers and landowners regarding the availability of cost-share assistance programs and who to contact regarding those programs.
- Inform citizens about rural and urban sources of runoff pollution.
- Inform municipalities and contractors regarding construction site erosion control and stormwater runoff management.
- Advise farmers and landowners regarding the role and purpose of best management practices.

### **Actions**

The following activities will be utilized as a means of creating public awareness and providing information to Wood County citizens:

<b><u>Activity</u></b>	<b><u>Number</u></b>
Personal Contacts	100 per year
Press Releases	6 per year
Newsletters	12 per year
Workshops	8 per year
Electronic Mailings	25 per year

## Evaluation

The information and education program will be evaluated annually to determine the level of effectiveness achieved. As part of the Land Conservation Department's annual accomplishment report, all information and education activities will be summarized for each reporting year. The Land Conservation Department, Natural Resources Conservation Service and UW-Extension will evaluate levels of effectiveness for these activities. Effectiveness will be measured by:

- Citizen participation at meetings
- Number of cost-share agreements
- Transect survey results
- Assistance requested
- BMP adoption and maintenance

The evaluation of information and education activities will be reviewed annually. Adjustments in program delivery will be made accordingly based on the evaluation results.

The following pages outline the resource goals, objectives, and actions the Conservation, Education and Economic Development Committee plans to address within the next ten years. All high priority activities are highlighted in bold and shaded.

**2015 – 2019 WOOD COUNTY WORK PLAN**

**GOAL #1 – REDUCE SEDIMENT DELIVERY TO SURFACE WATERS OF WOOD COUNTY**

**All high priority activities are highlighted in bold and shaded.**

**Objective:** Reduce erosion and sediment delivery from cropland fields.

<b>Actions</b>	<b>Who</b>	<b>When</b>	<b>Estimated Staff Hours</b>	<b>Estimated Staff Costs</b>	<b>Estimated Other Costs</b>	<b>Outcome</b>
<b>Ensure all soil and water conservation plans are written to meet tolerable soil loss rates using RUSLE II.</b>	LCD NRCS	2015-2019	100	\$ 3,500		Develop 750 acres of conservation plans annually.
Promote reduced tillage, cover crops, and prescribed grazing to farmers as a means to reduce erosion.	LCD NRCS RC&D UWEX	2015-2019	200	\$ 7,000		Conduct field demonstrations and write news articles on the benefits of reduced tillage, cover crops, and prescribed grazing.
Monitor all Farmland Preservation Program participants for compliance with Agricultural Performance Standards.	LCD	2015-2019	200	\$ 7,000		Spot-check ten Farmland Preservation Participants annually.
<b>Provide cost-share funds for the installation of best management practices that reduce erosion and sediment delivery.</b>	LCD NRCS	2015-2019	2,000	\$ 70,000	\$128,750	Provide \$25,750 annually for cost-share assistance.
<b>Implement strategy to remove Mill Creek from DNR’s 303d Impaired Waters list.</b>	LCD	2015-2019	100	\$ 3,500		Develop 500 acres of conservation plans. Apply for a large scale Targeted Runoff Management Grant.
Conduct Transect Survey of cropland to monitor conditions.	LCD	2015-2019	250	\$ 8,750		Reduce county soil loss by 2019.
Assist landowners in meeting Agricultural Performance Standards for sheet and rill erosion.	LCD	2015-2019	750	\$26,250		Certify ten farmers annually to meet Agricultural Performance Standards.

**2015 – 2019 WOOD COUNTY WORK PLAN**

<b>Objective:</b> Reduce sediment delivery from non-cropland areas.						
Actions	Who	When	Estimated Staff Hours	Estimated Staff Costs	Estimated Other Costs	Outcome
Support and promote the use of stream buffers through CREP, CRP, WRP, and Central Wisconsin Grassland Initiative Program.	LCD DNR FSA NRCS RC&D	2015-2019	300	\$ 10,500		Install an additional 750 acres into conserving use programs.
<b>Objective:</b> Administer Wood County Nonmetallic Mining Reclamation Ordinance.						
Assist in the permitting of new nonmetallic mining reclamation operations.	LCD	2015-2019	400	\$ 14,000		Permit two new reclamation operations annually.
Assist mine operators in meeting ordinance regulations.	LCD	2015-2019	1,750	\$ 61,250		Annually inspect all permitted nonmetallic reclamation mines.
Ensure that final nonmetallic mining reclamation meets approved reclamation plan criteria.	LCD	2015-2019	400	\$ 14,000		Approve two nonmetallic mining reclamation plans annually for final certification.
<b>Objective:</b> Reduce sediment from construction sites.						
Educate landowners and contractors regarding stormwater management plans and erosion control practices for construction sites.	LCD DNR UWEX	2016 2019	200	\$ 7,000		Conduct two training sessions for local contractors and landowners.
It is estimated that 6,650 staff hours will be needed to accomplish Goal #1 at a projected cost of \$232,750 for staff salaries and fringes and an additional \$125,000 for cost share assistance.						

**2015 – 2019 WOOD COUNTY WORK PLAN**

**GOAL #2 – REDUCE ANIMAL WASTE AND NUTRIENT DELIVERY TO SURFACE WATERS AND GROUNDWATER OF WOOD COUNTY**

**All high priority activities are highlighted in bold and shaded.**

**Objective: Increase the number of cropland acres that have a nutrient management plan.**

<b>Actions</b>	<b>Who</b>	<b>When</b>	<b>Estimated Staff Hours</b>	<b>Estimated Staff Costs</b>	<b>Estimated Other Costs</b>	<b>Outcome</b>
Continue to require all permitted waste storage facilities submit an approved nutrient management plan annually.	LCD	2015-2019	250	\$ 8,750		Review and approve three nutrient management plans annually.
Continue to require that all permitted facilities maintain and implement a soil and water conservation plan that meets tolerable soil loss levels.	LCD NRCS	2015-2019	500	\$ 17,500		Review and approve ten soil and water conservation plans annually.
Encourage farmers to use EQIP funds or other available cost share programs for plan preparation.	NRCS LCD MSTC UWEX	2015-2019	800	\$ 28,000		Review and approve ten nutrient management plans annually.

**Objective: Reduce runoff of winter spread manure.**

Encourage long-term manure storage as a means to eliminate land spreading during snow covered and frozen ground conditions.	LCD	2015-2019	3,750	\$131,250	\$900,000	Install five long term manure storage facilities annually.
Promote the use of anaerobic digesters.	LCD	2015-2019	500	\$ 17,500		Assist interested farmers in implementation of digester systems.

**Objective: Administer County Animal Waste Storage Ordinance.**

**2015 – 2019 WOOD COUNTY WORK PLAN**

<b>Actions</b>	<b>Who</b>	<b>When</b>	<b>Estimated Staff Hours</b>	<b>Estimated Staff Costs</b>	<b>Estimated Other Costs</b>	<b>Outcome</b>
Assist in the permitting of new, altered, and closed manure storage systems.	LCD	2015-2019	1,000	\$ 35,000		Permit three new manure storage facilities and one closed facility annually.
Assist farmers in meeting the Agricultural Performance Standards and Prohibitions for manure storage facilities.	LCD	2015-2019	750	\$ 26,250		Certify five farmers with Agricultural Performance Standards and Prohibitions.
<b>Objective:</b> Reduce runoff from barnyards and feedlots.						
<b>Implement strategy to remove Mill Creek from DNR's 303d impaired waters list.</b>	DNR LCD NRCS	2015-2019	1,000	\$ 35,000	\$103,000	Install five barnyard runoff control systems in Mill Creek Watershed.
<b>Provide cost-share assistance to farmers that install best management practices that reduce nutrient loading to streams.</b>	LCD NRCS	2015-2019	2,500	\$ 87,000	\$154,500	Provide \$30,900 annually in cost-share.
<b>Objective:</b> Promote proper well abandonment to reduce runoff to groundwater.						
Provide cost-share assistance to landowners that properly abandon wells that reduce nutrient runoff to groundwater.	LCD	2015-2019	100	\$ 3,500	\$2,500	Abandoned one well annually.
Educate and inform landowners on how to properly abandon a well.	LCD	2015-2019	200	\$ 7,000		Provide information on well abandonment to two landowners annually.
<b>Objective:</b> Implement Chapter 102, Wisconsin Statutes Phosphorus Rule.						
Educate and assist any wastewater facility discharger to meet Rule compliance requirements.	LCD & P&Z	2015 – 2019	2,000	\$ 70,000		Write one newsletter article annually. Assist interested wastewater facility dischargers to meet the State Phosphorus Rules.



**2015 – 2019 WOOD COUNTY WORK PLAN**

<b>Objective:</b> Reduce high nitrate levels in drinking water.						
Assist landowners in meeting safe nitrate levels in drinking water.	LCD	2015-2019	120	\$4,200		Write one newsletter article annually.
Make water testing data available to the public.	LCD	2015-2019	400	\$14,000		Create a central database of information.
It is estimated that 13,990 staff hours will be needed to accomplish Goal #2 at a projected cost of \$489,650 for staff salaries and fringes and an additional \$1,160,000 for cost share assistance.						

**2015 – 2019 WOOD COUNTY WORK PLAN**

**GOAL #3 – REDUCE CROP DAMAGE CAUSED BY WILDLIFE IN WOOD COUNTY**

**All high priority activities are highlighted in bold and shaded.**

**Objective: Administer Wildlife Damage Abatement and Claims Program.**

<b>Actions</b>	<b>Who</b>	<b>When</b>	<b>Estimated Staff Hours</b>	<b>Estimated Staff Costs</b>	<b>Estimated Other Costs</b>	<b>Outcome</b>
Assist farmers in implementing abatement measures to reduce damage.	LCD	2015-2019	5,250	\$183,750	\$400,000	Implement abatement measures on 15 farms annually.
Educate farmers on program eligibility and requirements.	LCD UWEX	2015-2019	80	\$ 2,800		Write two newsletter articles annually.
Promote venison donation program as an abatement measure to reduce deer damage.	LCD	2015-2019	200	\$7,000		Assist ten landowners annually on program eligibility and requirements.

It is estimated that 5,530 staff hours will be needed to accomplish Goal #3 at a projected cost of \$193,550 for staff salaries and fringes and an additional \$400,000 for cost share assistance.

**2015 – 2019 WOOD COUNTY WORK PLAN**

<b>GOAL #4 – PROTECT AND DEVELOP WETLANDS AND UPLANDS FOR WILDLIFE HABITAT IN WOOD COUNTY</b> All high priority activities are highlighted in bold.						
<b>Objective:</b> Increase and protect wetlands and wildlife habitat.						
Promote programs available to landowners to protect and develop wetlands and wildlife habitat.	LCD NRCS RC&D	2015-2019	80	\$ 2,800		Write two newsletter articles annually.
Assist schools with invasive species education projects.	LCD RC&D	2015-2019	200	\$ 7,000		Assist one school with purple loosestrife bio-control project annually.
Educate county residents of invasive plants.	LCD RC&D UWEX	2015-2019	100	\$ 3,500		Write two newsletter articles annually.
<b>Actions</b>	<b>Who</b>	<b>When</b>	<b>Estimated Staff Hours</b>	<b>Estimated Staff Costs</b>	<b>Estimated Other Costs</b>	<b>Outcome</b>
<b>Provide cost-share funds for the installation of practices that protect and develop wetlands and wildlife habitat.</b>	NRCS	2015-2019	400	\$ 14,000	\$50,000	Provide \$10,000 annually for cost share assistance.
It is estimated that 780 staff hours will be needed to accomplish Goal #4 at a projected cost of \$27,300 for staff salaries and fringes and an additional \$50,000 for cost share assistance.						

**2015 – 2019 WOOD COUNTY WORK PLAN**

**GOAL #5 – INCREASE EFFORTS TO INVENTORY THE WATER RESOURCES OF WOOD COUNTY**

**All high priority activities are highlighted in bold and shaded.**

**Objective: Increase water quality and quantity monitoring of Wood County streams.**

Petition the WDNR to increase the number and frequency of stream monitoring sites in Wood County.	LCD	2016-2018	300	\$ 10,500		Increase the number of monitoring sites in Wood County watersheds.
<b>Continue to monitor water quality of streams in southeastern Wood County..</b>	LCD DNR Volunteers	2015-2019	500	\$ 17,500		Obtain data on water quality of streams in southeastern Wood County.

**Objective: Increase water quality monitoring of groundwater resources in Wood County.**

Obtain grants to conduct a new countywide groundwater quality study for Wood County.	LCD	2016-2018	600	\$ 21,000		Conduct a groundwater quality study of Wood County.
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It is estimated that 1,400 staff hours will be needed to accomplish Goal #5 at a projected cost of \$49,000 for staff salaries and fringes.

**2015 – 2019 WOOD COUNTY WORK PLAN**

**GOAL #6 – MINIMIZE THE ADVERSE EFFECTS OF URBAN SPRAWL AND LAND FRAGMENTATION IN RURAL WOOD COUNTY**

**All high priority activities are highlighted in bold and shaded.**

**Objective:** Maintain prime farmland and reduce housing development in rural areas.

<b>Actions</b>	<b>Who</b>	<b>When</b>	<b>Estimated Staff Hours</b>	<b>Estimated Staff Costs</b>	<b>Estimated Other Costs</b>	<b>Outcome</b>
<b>Educate and inform farmers on Farmland Preservation Program eligibility, requirements, and benefits.</b>	LCD UWEX	2015-2019	100	\$ 3,500		Write one newsletter article annually and distribute brochures.
<b>Encourage and assist farmers to participate in government conservation programs that maintain the rural landscape.</b>	LCD NRCS	2015-2019	100	\$ 3,500		Write one newsletter article annually and distribute brochures.
Encourage countywide land use planning.	P&Z LCD	2015-2019	40	\$ 1,400		Provide township officials and P&Z Department with results from Natural Resources Planning Survey.
Educate and inform farmers on draining farmland.	LCD UWEX	2015-2019	120	\$ 4,200		Write one newsletter article annually.
Promote land trusts and transfer of development rights to maintain the rural landscape.	LCD UWEX	2015-2019	80	\$ 2,800		Write one newsletter article annually and distribute brochures.

It is estimated that 440 staff hours will be needed to accomplish Goal #6 at a projected cost of \$15,400 for staff salaries and fringes.

**2015 – 2019 WOOD COUNTY WORK PLAN**

**GOAL #7 – IMPROVE AIR QUALITY IN WOOD COUNTY**

**All high priority activities are highlighted in bold and shaded.**

**Objective: Reduce wind erosion from cropland.**

<b>Actions</b>	<b>Who</b>	<b>When</b>	<b>Estimated Staff Hours</b>	<b>Estimated Staff Costs</b>	<b>Estimated Other Costs</b>	<b>Outcome</b>
Provide cost-share to farmers that install field windbreaks that reduce wind erosion.	LCD NRCS	2015-2019	200	\$ 7,000	\$ 5,000	Provide cost-share for one field windbreak annually.

**Objective: Increase awareness of air quality in Wood County.**

<b>Inform landowners and citizens regarding concerns, issues, and solutions of air quality in Wood County.</b>	Health Dept.	2015-2019	120	\$ 4,200		Write one newsletter article annually.
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It is estimated that 320 staff hours will be needed to accomplish Goal #7 at a projected cost of \$11,200 for staff salaries and fringes and an additional \$5,000 for cost share assistance.

**2015 – 2019 WOOD COUNTY WORK PLAN**

**GOAL #8 – IMPROVE THE QUALITY OF WOODLANDS IN WOOD COUNTY**

**All high priority activities are highlighted in bold and shaded.**

**Objective:** Educate landowners on proper forestry management.

<b>Actions</b>	<b>Who</b>	<b>When</b>	<b>Estimated Staff Hours</b>	<b>Estimated Staff Costs</b>	<b>Estimated Other Costs</b>	<b>Outcome</b>
Refer landowners to DNR Foresters.	LCD FSA NRCS	2015-2019	30	\$ 1,050		30 landowners referred.
Educate and promote good forestry management to landowners by holding forestry field days.	DNR LCD RC&D UWEX	2015-2019	100	\$ 3,500		Field day held.
Promote tree programs for the purpose of maintaining productive forestland.	LCD DNR NRCS RC&D	2015-2019	20	\$ 700		Write one newsletter article annually.
Encourage landowners to plant trees where needed.	LCD DNR NRCS	2015-2019	100	\$ 3,500		Provide trees through annual LCD tree and shrub sale. Rent tree planting machines to interested individuals.
Consolidate information on terrestrial invasive species.	LCD DNR NRCS	2015-2019	200	\$ 7,000		Create a website.

It is estimated that 450 staff hours will be needed to accomplish Goal #8 at a projected cost of \$15,750 for staff salaries and fringes.

**2015 – 2019 WOOD COUNTY WORK PLAN**

<b>SUMMARY OF ESTIMATED COSTS OVER FIVE YEARS TO ACCOMPLISH GOALS IN WORK PLAN</b>			
<b>GOAL</b>	<b>ESTIMATED STAFF HOURS</b>	<b>ESTIMATED SALARY &amp; FRINGE</b>	<b>ESTIMATED COST-SHARE</b>
<b>GOAL #1 – Reduce sediment delivery to surface waters of Wood County</b>	6,650	\$ 232,750	\$ 125,000
<b>GOAL #2 – Reduce animal waste and nutrient delivery to surface waters and groundwater of Wood County</b>	13,990	\$ 489,650	\$ 1,160,000
<b>GOAL #3 – Reduce crop damage caused by wildlife in Wood County</b>	5,530	\$ 193,500	\$ 400,000
<b>GOAL #4 – Protect and develop wetlands and uplands for wildlife habitat in Wood County</b>	780	\$ 27,300	\$ 50,000
<b>GOAL #5 – Increase efforts to inventory the water resources of Wood County</b>	1,400	\$ 49,000	N/A
<b>GOAL #6 – Minimize the adverse effects of urban sprawl and land fragmentation in rural Wood County</b>	440	\$ 15,400	N/A
<b>GOAL #7 – Improve air quality in Wood County</b>	320	\$ 11,200	\$ 5,000
<b>GOAL #8 – Improve the quality of woodlands in Wood County</b>	450	\$ 15,750	N/A
<b>Estimated total costs over five years to accomplish goals in plan</b>	<b>29,560</b>	<b>\$1,034,550</b>	<b>\$1,740,000</b>



**Appendix A**

**Wood County Agricultural Performance Standards and Prohibitions Verification Checklist**

Property Description(s): \_\_\_\_\_  
Attach an Air Photo, Plat map or other drawing to clearly delineate the area investigated with this checklist on this visit.

Landowner(s): \_\_\_\_\_

Date Evaluated: \_\_\_\_\_ Acreage (Nutrient Management): \_\_\_\_\_

LCD Staff Member: \_\_\_\_\_

Use with the *Agricultural Performance Standards and Prohibitions Procedures* to complete information for all criteria inventoried. The Agricultural Performance Standards and Prohibitions are established in *NR 151 and ATCP 500, Wisconsin Administrative Code*.

Agricultural Performance Standard or Prohibitions	Complaint (Yes or No)		Note
	Y	N	
<b>Sheet, rill and wind erosion</b>	<b>Y</b>	<b>N</b>	
1. Cropland soil erosion must meet tolerable rate (T) calculated by RUSLE 2.			
<b>Manure Storage Facilities</b>	<b>Y</b>	<b>N</b>	
2. A new manure storage facility must be constructed according to NRCS Standards.			
3. An existing storage facility that has been substantially altered must be altered according to NRCS Standards.			
4. An operation has ceased where a manure storage facility is located. The manure storage facility must be abandoned according to NRCS Standards. <b>If not abandoned to NRCS Standards,</b> The facility must meet NRCS Standards. The facility must be designed to store manure for longer than 24 months. The retention of the facility must be warranted based on anticipated future use.			
5. Manure has not been added or removed from a facility for a period of 24 months. The manure storage facility must be abandoned according to NRCS Standards. <b>If not abandoned to NRCS Standards,</b> The facility must meet NRCS Standards. The facility must be designed to store manure for longer than 24 months. The retention of the facility must be warranted based on anticipated future use.			
6. A manure storage facility poses an imminent threat to public health or fish and aquatic life or is causing a violation of groundwater standards. The manure storage facility must be upgraded, replaced or closed according to NRCS Standards.			
<b>Clean Water Diversions</b>	<b>Y</b>	<b>N</b>	
7. Runoff shall be diverted away from contacting feedlot, manure storage areas and barnyard areas within a Water Quality Management Area (WQMA).			
<b>Nutrient Management</b>			
8. The application of manure, commercial fertilizer and other nutrients shall conform with a nutrient management plan according to the following phasing: a. All new cropland as of October 1, 2003 b. All existing cropland as of January 1, 2005 that is located within watersheds containing waters, exceptional waters, or source water protections areas. c. All other existing cropland as of January 1, 2008.			
<b>Manure Prohibitions</b>	<b>Y</b>	<b>N</b>	
9. No overflow of manure storage facilities.			
10. No unconfined manure pile in a Water Quality Management Area (WQMA).			
11. No direct runoff from a feedlot or stored manure into the waters of the state.			
12. No unlimited access by livestock to waters of the state in a location where high concentrations of animals prevent the maintenance of adequate sod or self-sustaining vegetative cover.			

**Appendix A**  
Continued

<b>Tillage Setback</b>	<b>Y</b>	<b>N</b>	
13. Tillage operations are not conducted within 5 feet of the top of the channel of surface waters.			
14. Tillage operations do not negatively impact streambank integrity or deposit soil directly into surface waters.			
15. Tillage setback area maintained in adequate sod or self-sustaining vegetative cover that provides a minimum 70% coverage.			
<b>Phosphorus Index</b>			
16. Croplands, pastures, and winter grazing areas shall have a phosphorus index value of 6 or less over the 8 year accounting period.			
17. Cropland, pastures, and winter grazing areas shall not exceed a phosphorus index value of 12 in any individual year.			
18. Manure or other nutrients are not being mechanically applied to surface waters.			
<b>Process Wastewater Handling</b>			
19. Process wastewaters (i.e, milkhouse wastewater and/or feed leachate) are not significantly discharged to waters of the state.			

**WOOD COUNTY LAND CONSERVATION DEPARTMENT**

**Bidding, Installation, and Payment Procedures For Land and Water Resource Management Program**

The following procedures have been developed by the Wood County Conservation, Education & Economic Development Committee (CEED) for project bidding, installation, and payment of practices installed under Wood County's Land and Water Resource Management Program. These procedures will apply to all conservation practices approved by the CEED that are estimated by Department staff to cost \$15,000.00 or more. These procedures are the policy of the CEED Committee and will be adhered to when conducting landowner reimbursement activities for the Land and Water Resource Management Program. However, if deemed appropriate the Department may require conservation practices that cost between \$5,000.00 and \$15,000.00 to follow these procedures.

**BIDDING**

1. If deemed appropriate, the Land Conservation Department will conduct a site showing of the project(s) with prospective bidders. In cases where a site showing has not been scheduled by the Land Conservation Department, bidders are responsible for viewing the construction site on their own with permission from the landowner.
2. Design plans and bid schedules will be available at the Wood County Land Conservation Department and from the landowner of the proposed project(s).
3. Contractors must submit all bids on forms provided by the Land Conservation Department. The landowner and the contractors will be notified of the deadline date for accepting bids. All bids must be sealed and returned to the Wood County Land Conservation Department by the deadline date. After the deadline date, a letter listing the contractors and their bids will be sent to the landowner and to the contractors that bid.
4. The lowest bid price will be the official cost when the project is constructed according to plans. Authorized changes from the plan will result in the adjustment of the bid price. Revision of the plan will be cost shared on the basis of the additional cost as agreed upon by the landowner, contractor, and Land Conservation Department. This amount will be recorded on a Contract Change Order Form. Additional work will not be cost shared without a signed change order.
5. It is the right of the landowner to specify their involvement in the installation of any practice. The landowner may do any part of the practice but must specify this on the bid schedule form or submit their own complete bid as a prime contractor.

**Appendix B**  
**Continued**

6. All bid invitations will include the following:
  - a. Completed set of plans and specifications for each job
  - b. Specified date for contractor site review
  - c. Specified date for return of all bids
  - d. Bid form, which will include a breakdown of items and quantities included within a practice, which will require a unit and total price bid.
7. The Prime Contractor will be responsible for bidding and completing all items noted on the bid form, and specified in this plan.
8. A bid form will be completed for each practice, sealed and mailed to the Land Conservation Department. The CEED Committee will review the bids. Upon acceptance of a bid, the landowner and contractor will agree upon a starting and completion date for the practice. A contract to complete construction will be signed by both parties. If construction is not completed according to the specified dates in the contract the landowner will have the option to have an alternate contractor complete the construction, unless uncontrollable circumstances are encountered.
9. It is the policy of the CEED Committee to cost-share on the basis of the lowest submitted bid or combination of bids. If the landowner selects a contractor(s) other than the low bidder(s), it is the responsibility of the landowner to pay the difference of the bid(s) at their own expense. Only contractors who have submitted a bid are eligible for consideration.
10. All bids received from a contractor must be within 15% of the total estimated costs prepared by the Department for the bid to be eligible for consideration. The CEED Committee reserved the right to accept or reject any or all bids.
11. All contractors who submit bids must retain Liability and Worker's Compensation Insurance. A minimum of \$100,000.00 liability insurance coverage is required before any project will be awarded to a contractor. No construction will begin until certificates of insurance have been filed with the Land Conservation Department.

**INSTALLATION**

1. All cost shared practices will be surveyed, designed, constructed, and certified complete in accordance with the Natural Resources Conservation Service Field Office Technical Guide Standards and Specifications.

**Appendix B**  
Continued

2. The Land Conservation staff and the Natural Resources Conservation Service staff will inspect construction of all cost shared practices. The job inspector will reject any materials and supplies that do not meet the standards or specifications as stated in the Field Office Technical Guide.
3. It is the responsibility of the contractor to verify that materials and supplies used for installation of a cost shared practice meets Technical Guide standards and specifications. The contractor must provide sales slips, batch slips, invoices, specification tags, etc., that clearly show that the materials and supplies meet the Field Office Technical Guide standards and specifications.
4. Initial practice layout and staking of elevations will be done by the Department staff prior to the start of construction. Any further checking of practice layout or elevations will be the responsibility of the contractor during construction. However, if the contractor is not capable of checking practice layout or elevations the Department will assist. The accuracy of final grades prior to pouring concrete, setting pipe, etc., is the responsibility of the contractor.
5. Notification, location, and protection of public utilities such as buried phone lines and gas lines are the responsibility of the landowner. The landowner shall clearly mark the location of such utilities prior to the start of construction. The landowner shall contact Diggers Hotline or affected utilities prior to the start of construction. The contractor is responsible for knowing the location of any utilities marked by the landowner and should take precautions when working near them.
6. All required permits must be received by the landowner before any construction begins.
7. Project will not be considered complete until all seeding, fertilizing, and mulching is done.

**PAYMENT**

1. Payments cannot be processed on the project until itemized receipts for all expenditures are turned into the Land Conservation Department Office. The Department will verify that the landowner has paid their portion of project expenses prior to county disbursement of funds. Cost sharing checks will be issued to the landowner and/or contractor depending upon project payment by the landowner. Names of the landowner and contractor will be jointly registered on the payment check unless the landowner has properly documented that they have paid 100% of project costs, in which only the landowners name will be registered on the payment check. A cancelled check, or bills marked "paid" and signed and dated by the contractor shall serve as verification of payment.

**Appendix B**  
**Continued**

2. The Department will review landowner payments, approves cost based on the approved low bid and any subsequent change orders, Final costs will be determined by multiplying the bid unit price of the approved low bid by the actual number of units installed.
3. All required seeding, fertilizing, and mulching must be completed before the project can be certified for payment. Payments will not be made to the landowner until the protective fences are installed according to current NRCS Standards and Specifications around the barnyard, filter strip, diversion, dam, and other practices if the project design and/or contract require protective fencing.
4. All bills for cost-shared practices must be delivered to the Land Conservation Department Office by the last workday of each month in order to receive payment within 30 days.

**SPECIAL CONSIDERATIONS OF NOTE**

Cattle must be removed from the construction site during stake out and construction.

The landowner shall remove all fences before construction begins.

The landowner shall remove manure piles from the work area before construction begins.

The landowner shall provide areas to obtain material for fill and top-dressing.

## Implementation Strategy for NR 151 - Agricultural Nonpoint Performance Standards

### **Component 1: Plan the Implementation Approach**

- A. Develop and adopt a systematic and comprehensive strategy to implement agricultural nonpoint source pollution control standards and prohibitions under NR 151. To be consistent with this statewide program, the local strategy should describe the methodology to be used for carrying out activities under components three through ten (below) including:

- Conducting information and education activities;
- Systematically selecting and evaluating parcels for compliance with standards and prohibitions;
- Documenting and reporting compliance status;
- Providing or arranging for the provision of technical assistance;
- Making cost sharing available as needed to install or implement BMP's;
- Issuing required notices and conducting enforcement activities;
- Tracking and reporting program activities and progress; and
- Monitoring compliance

*Notes:*

- 1 *For counties choosing to implement this component, the strategy must a) be defined in the county Land and Water Plan per ATCP 50.12(2)(1), Wis. Administrative Code, and b) ensure that compliance with the standards and prohibitions is achieved, per § 92.10(6)(a)5 Wis. Stats. and ATCP 50.12(2)(i) Wis. Admin. Code.*
- 2 *The systematic selection of parcels will ensure that a prescribed amount of evaluations will regularly occur (e.g. annually). This will, in turn, ensure that realistic projections concerning timeframes and needed financial resources can be made and routinely updated on a statewide basis. In order to be systematic, a strategy for selecting and evaluating parcels and subsequently implementing standards does not rely only on voluntary participation.*

### **Component 2: Define Level of Agencies' Commitment to NR151 Workload**

Consider communicate and document the level of agency (county, state and federal) commitment (staff participation, financial resources, etc) towards NR 151 workload, including but not limited to carrying out the activities under components 3 through 10.

### **Component 3: Conduct Information and Education Activities**

- A. Develop information and education materials designed to achieve the following objectives:
- Educate landowners about Wisconsin's agricultural performance standards and prohibitions, applicable conservation practices, and cost share grant opportunities;
  - Promote implementation of conservation practices necessary to meet performance standards and prohibitions;
  - Inform landowners about procedures and agency roles to be used statewide and locally for ensuring compliance with the performance standards and prohibitions; and
  - Establish expectations for compliance and consequences for non-compliance.

Appendix C  
Continued

*Note: The DNR and DATCP have agreed that they will take the "lead".role in developing I&E materials for statewide use, and will look to the counties to take the lead role in providing that information to landowners.*

- B. Deliver information and education materials (via news media, newsletters, public information meetings and one-on-one contacts) as outlined in the County LWRM Plan

**Component 4: Determine Current Compliance**

A. Records Inventory

*(Note: The records inventory is a review of existing records of landowners throughout the county who may already be in compliance based upon past and/or present program participation. This step is intended to take less than 90 days and would be conducted before the onset of systematic onsite evaluations. Onsite evaluations for these operations are optional, except for those where O & M periods may have expired.)*

1. Compile records of existing State and/or Federal program participants who have previously signed contracts to install conservation practices to control soil erosion and nonpoint sources of pollution.
2. From records, evaluate which parcels are subject to which standards and prohibitions.

*(Note: For the purposes of this document, the term "parcel" may be defined as a cropped field, an agricultural or livestock facility or a group of fields (e.g. tax parcel or FSA tract) and is defined by the county based on how they organize and manage geographic data.)*

3. Based on above evaluations, determine which landowners are currently already meeting standards and prohibitions as a result of:
  - a) Having installed or implemented BMP's under an existing state or federal cost share agreement;
  - b) Maintaining compliance with Wisconsin Farmland Preservation Program and federal farm program conservation provisions; and/or
  - c) Maintaining compliance with state animal waste regulations (e.g. NR 243, WPDES, etc.)

B. Onsite Evaluations

*(Note: Onsite evaluations would occur after the countywide records inventory has been completed, beginning with targeted sites and/or in high-priority areas, as defined in the county's LWRM Plan. Also, it is not necessary to complete on-site evaluations of the entire before proceeding with the components that follow.)*

1. Compile list of parcels for which on-site evaluations will be conducted, according to systematic methodology outlined in the county Land & Water Plan.
2. Contact owners of selected parcels and schedule site evaluations.
3. Conduct onsite evaluations:
  - a) Determine and document the extent of current compliance with each of the performance standards and prohibitions.
  - b) Where non-compliant, determine costs and eligibility for cost sharing.

*Note: Cost share requirements are based upon whether or not the evaluated cropland or livestock facility is new or existing and whether or not corrective measures entail eligible costs. See NR 151.09(4)(b-c) and 151.095(5)(b-c).*



**Component 5: Prepare Report and Notify Landowners of Compliance Status**

- A) Following completion of records review and or on-site evaluation, prepare and Issue NR 151 Status Report to owners of the evaluated parcels. This Report will convey, at a minimum, the following information:
- Current status of compliance of individual parcels with each of the performance standards and prohibitions .
  - Identify corrective measure options and rough cost estimates to comply with each of the performance standards and prohibitions for which a parcel is not in compliance.
  - Status of eligibility for public cost sharing.
  - Grant funding sources and technical assistance available from Federal, State, and local sources, and third party service providers.
  - An explanation of conditions that apply if public cost share funds are used. *(If public funds are used, applicable technical standards must be met.)*
  - Signature lines indicating landowner agreement or disagreement with report findings.
  - Process and procedures to contest evaluation results to county and or state.
- (Optional) A copy of performance standards and prohibitions and technical design standards.

*Note: A cover Jetter (signed jointly by the DNR and LCD) which describes the ramifications and assumptions related to the Status Report would be attached. .*

- B) Keep and maintain evaluation and compliance information as public record.

*Note: The primary objective of this step is to ensure subsequent owners are made aware of (and have access to) NR 151 information pertinent to their property. Local authority may determine the method that will work best for maintaining these records and for ensuring relevant information is conveyed to subsequent owners*

**Component 6 Secure Funding and Technical Assistance /Issue NR 151 Notice**

- A) Voluntary Component

1. Receive request for cost-share and/or technical assistance from landowner.  
*(Note: Landowners will be prompted to voluntarily apply for cost sharing based on information provided in a NR 151 Compliance Status Report.)*
2. Confirm cost-share grant eligibility and determine availability of cost share & technical assistance.
3. Develop and issue cost-share contract (including BMP's to be installed or implemented, estimated costs and project schedule and notification requirements under NR 151.09(5-6) and/or 151.095(6-7).
4. TheDNR will assist in developing proper notification language...

- B) Non-voluntary Component

In the event that a landowner chooses not to voluntarily apply for public funding to install or implement corrective measures that entail eligible costs, or to voluntarily install or implement corrective measures that do not entail eligible cost, issue Landowner Notification per NR 151.09(5-6) and/or 151.095(6-7).

If eligible costs are involved, this notification shall include an offer of cost sharing.

If no eligible costs are involved, or if cost sharing is or was already made available, the notification will not include an offer of cost sharing.

*Note: The Notification referenced above will be designed by the DNR and contain: a) A description of the performance standard or prohibition being addressed; b) The compliance status*

## Appendix C

Continued

*determination made in accordance with NR 151; c) The determination as to which best management practices or other corrective measures are needed and which, if any, are eligible for cost sharing; d) The determination that cost sharing is or has been made available, including a written offer of cost sharing when appropriate; e) An offer to provide or coordinate the provision of technical assistance; f) A compliance period for meeting the performance standard or prohibition; g) An explanation of the possible consequences if the owner or operator fails to comply with provisions of the notice; and h) An explanation of state or local appeals procedures.*

### **Component 7: Administer Funding and Technical Assistance / Re-evaluate Parcel**

- A) If cost sharing is involved, finalize and execute cost-share agreement including schedule for installing or implementing BMP(s).
- B) Provide technical services and oversight:
  - Provide conservation plan assistance.
  - Review conservation plans prepared by other parties.
  - Provide engineering design assistance.
  - Review engineering designs provided by other parties.
  - Provide construction oversight.
  - Evaluate and certify installation of conservation practices.
- C) After corrective measures are applied, conduct evaluation to determine if parcel is now in compliance with relevant performance(s) standard or prohibition(s).

If site is compliant, update "NR 151 Status Report" (see per component 5.A.) and issue "Letter of NR151 Compliance".

*Note: A Letter of NR 151 Compliance serves as official notification that the site have been determined to now be in compliance with applicable performance standards and prohibitions. This letter would also include an appeals process if a landowner wishes to contest the findings. When and where counties are not operating under a local ordinance, the issuance of a Letter of NR 151 Compliance would likely be a joint effort with the DNR in order to give it the significance and standing that it merits.*

If not compliant, seek non-regulatory remedies or initiate enforcement action.

*Note: Follow-up measures at this stage will differ depending on the circumstances, including whether or not failure to comply is the fault of the landowner. If this is the case, then non-regulatory remedies will likely be sufficient. If not (e.g. there is an intentional breach of contract) then enforcement action may be necessary.*

### **Component 8: Enforcement**

- A. If a landowner refuses to respond appropriately to a Notice under 6.8., or is in breach of a cost share contract under component 7.A., then prepare and issue "Notice of NR 151 Violation" letter, or other appropriate notice per local ordinance, pursuant to NR 151.09(5) or (6), or 151.095(6) or (7).

*Note: Enforcement, which really first begins with this letter, will be pursued in circumstances where: (a) there is a breach of contractual agreement including failing to install, implement or maintain BMP's according to the provisions of the agreement OR the landowner has failed to comply with a notice issued under component 6.8.; AND (b) non-regulatory attempts to resolve the situation have failed.*

- B. Schedule enforcement conference.
- C. Participate in enforcement conference.
- D. Initiate enforcement action:
  - Refer cases to DNR for enforcement

## Appendix C

Continued

- Enforce through separate county ordinance, which incorporates standards.
- Enforce through financial sanctions "available through State program (e.g. FPP). Enforcement through the local District Attorney

### **Component 9: Ongoing Compliance Monitoring**

- Conduct periodic evaluations to verify ongoing compliance (similar to FPP monitoring).
- Respond to public complaints alleging noncompliance.
- Ensure new owners are made aware of (and have access to) NR 151 compliance information that may pertain to the property they have just acquired.

### **Component 10: Annual Reporting**

- A) Maintain and convey a record of annual site evaluations which shows their location and compliance status.
- B) Report estimated timeframe and staff resources needed to complete remaining site evaluations in the County
- C) Maintain a record of estimated costs of corrective measures for each parcel that has been evaluated and for which corrective measures have been estimated.
- D) Maintain and convey a record showing parcels where public cost sharing has been applied to implement standards and prohibitions, the amount and source of those funds, and the landowner here.
- E) Maintain and convey a record and location of parcels receiving notifications under component 5.B. and violation letters under Component B.A.
- F) Maintain and convey a record of the annual cost of technical and administrative assistance needed to administer agricultural performance standards and prohibitions, as established in NR151.
- G) Other reports as may be required in ATCP50.
- H) Compile locally-developed reports into regional and statewide NR 151 Progress Reports.

*Note: Program partners will jointly develop reporting forms. State agencies will provide reporting forms and guidance to counties on how these forms should be filled out. State agencies will assume responsibility for compiling county reports into statewide reports.*

## Land & Water Resource Management Plan Revision

The Wood County Land Conservation Department is currently in the process of revising the County Land and Water Resource Management Plan (LWRM) that will be in effect for the next ten years.

The LWRM Plan outlines goals, objectives, and actions for Wood County land and water resources. The complete LWRM Plan, which was last revised in 2007, can be found on the Land Conservation Department webpage at <http://www.co.wood.wi.us/Departments/LandConservation/LandWaterMgmt.aspx> or by calling 715-421-8475.

If you are interested in providing input, please review the Work Plan and provide comments to Jerry Storke by July 31, 2014. Feel free to submit comments by mail, email, or by telephone at the following: Jerry Storke, County Conservationist, Land Conservation Department, PO Box 8095, Wisconsin Rapids, WI 54495-8095; [jstorke@co.wood.wi.us](mailto:jstorke@co.wood.wi.us) or 715-421-8475.

## Farmland Preservation Plan Revision

The Wood County Land Conservation Department is currently in the process of revising the County Farmland Preservation Plan (FPP). The revision process needs to take into account existing and future agricultural conditions, the local economy, existing and future growth trends, current and future prospective participation in the program. The rural landscape has changed over the years and the plan revision process offers the community a voice in how that change can be managed.

If you are interested in providing input, please provide comments to Jerry Storke by July 31, 2014. Feel free to submit comments by mail, email, or by telephone at the following: Jerry Storke, County Conservationist, Land Conservation Department, PO Box 8095, Wisconsin Rapids, WI 54495-8095; [jstorke@co.wood.wi.us](mailto:jstorke@co.wood.wi.us) or 715-421-8475.

## Dairy Grazing Apprenticeship

Attention producers! The Dairy Grazing Apprenticeship (DGA) can help YOU enhance the production and management skills of your employees by providing them with on-farm technical training support and related classroom instruction in Dairy Nutrition, Dairy Herd Management, Soils and Milk Quality. At the same time you will be compensated for the time you invest in their on-farm training and provided access to whole farm financial and succession planning services customized to meet the needs of your farm. Develop top quality employees who stay longer—and play a key role in the success of the next generation of dairy farmers in Wisconsin. Sound interesting? Please contact Program Director, Joe Tomandl, III at 715-560-0389 or [joe@dairygrazingapprenticeship.org](mailto:joe@dairygrazingapprenticeship.org) to learn more. Visit our website at [www.dairygrazingapprenticeship.org](http://www.dairygrazingapprenticeship.org) to read our graduated apprentices' success stories.



**Appendix E**

**WOOD COUNTY LWRM PLAN  
ADVISORY GROUP**

<b><u>NAME</u></b>	<b><u>AFFILIATION</u></b>
Amy Thorstenson	Golden Sands RC&D
Mike Sabel	Mid-State Technical College
Amy Sue Vruwink	Representative to the Assembly – 70 <sup>th</sup> District
Scott Krug	Representative to the Assembly – 72 <sup>nd</sup> District
Julie Lassa	State Senator – 24 <sup>th</sup> District
Larry Shupe	Town of Arpin Chairperson
John Bauer	Town of Auburndale Chairperson
Jim Tremelling	Town of Cameron Chairperson
Jeff Ignatowski	Town of Cary Chairperson
Phil Brown	Town of Cranmoor Chairperson
Russell Copeland	Town of Dexter Chairperson
Arne Nystrom	Town of Grand Rapids Chairperson
Eric Brock	Town of Hansen Chairperson
Trent Miner	Town of Hiles Chairperson
Dick Thomer	Town of Lincoln Chairperson
Allen Breu	Town of Marshfield Chairperson
Russell Haffenbredl	Town of Milladore Chairperson
Hugh O'Donnell	Town of Port Edwards Chairperson
Phillip McKeel	Town of Remington Chairperson
James Good	Town of Richfield Chairperson

**Appendix E**

continued

**WOOD COUNTY LWRM PLAN  
ADVISORY GROUP**

<u>NAME</u>	<u>AFFILIATION</u>
Cole Pankratz	Town of Rock Chairperson
James Bushmaker	Town of Rudolph Chairperson
Terry Rickaby	Town of Saratoga Chairperson
James Schuerman	Town of Seneca Chairperson
Dave Homb	Town of Sherry Chairperson
Al Nowak	Town of Siegel Chairperson
Roger Tritz	Town of Wood Chairperson
Russ Biebl	USDA, NRCS
Roy Diver	USDA, NRCS
Jake Bourget	USDA, FSA
Tom Lochner	Wisconsin Cranberry Growers Association
Doug Casina	Wisconsin DNR
Deb Dix	Wisconsin DNR
Steve Grant	Wisconsin DNR
Barry Fetting	Wisconsin DNR
Terry Kafka	Wisconsin DNR
Lesla Skuldt	Wisconsin DNR
Will Stites	Wisconsin DNR
Corey Trowbridge	Wisconsin DNR

**WOOD COUNTY LWRM PLAN  
ADVISORY GROUP**

<b><u>NAME</u></b>	<b><u>AFFILIATION</u></b>
Kris Wimme	Wisconsin DNR
Robert Ashbeck	Wood County Board - CEED Committee
Kenneth Curry	Wood County Board - CEED Committee
Hilde Henkel	Wood County Board – CEED Committee
Bill Leichtnam	Wood County Board – CEED Committee
Gerald Nelson	Wood County Board – CEED Committee
Harvey Petersen	Wood County Board – CEED Committee
Lance Pliml	Wood County Board Chairperson
Dennis Polach	Wood County Board
LeRoy Altman	Wood County Citizen/Farmer
Ken Heiman	Wood County Citizen/Farmer
Ron Schueller	Wood County Citizen/Farmer
Nancy Eggleston	Wood County Health Department
Tracy Arnold	Wood County Land Conservation Department
Lori Ruess	Wood County Land Conservation Department
Shane Wucherpennig	Wood County Land Conservation Department
Chad Schooley	Wood County Parks & Forestry Department
Fredrick Schubert	Wood County Parks & Forestry Department
Jason Grueneberg	Wood County Planning & Zoning Department
Matt Lippert	Wood County UWEX
Peter Manley	Wood County UWEX

# Wisconsin's **Runoff** Rules

## what farmers need to know

January 2013 DNR Pub. No. WT 756 REV 1/13



**F**arms, like all major industries, must follow environmental requirements to control runoff from fields, pastures and livestock facilities. Otherwise this pollution can harm our lakes, streams, wetlands and groundwater.

Wisconsin adopted administrative rules in 2002 (NR 151), with revisions effective in 2011 that set statewide performance standards and prohibitions for all Wisconsin farms. All farmers must comply with these standards and prohibitions. Cost-share funding may be available to assist with compliance. Some state and local programs may require compliance whether or not cost-share funds are available.

This fact sheet explains the basic information that farmers need to know about these rules and how to comply with them. It is recommended that farmers contact their county land conservation staff for further details on these rules and their impact on farm operations.

### ► Agricultural Standards and Prohibitions:

#### ALL FARMERS MUST:

- *Meet tolerable soil loss ("T") on cropped fields and pastures.*
- *Annually develop and follow a Nutrient Management Plan (NMP) designed to keep nutrients and sediment from entering lakes, streams, wetlands and groundwater. Farmers may hire a certified crop advisor or prepare their own NMP if they have received proper training.*
- *Use the phosphorous index (PI) standard to ensure that their NMP adequately controls phosphorous runoff over the accounting period.*
- *Avoid tilling within 5 feet of the edge of the bank of surface waters. This setback may be extended up to 20 feet to ensure bank integrity and prevent soil deposition.*

#### ► Additional Standards:

#### FARMERS WITH LIVESTOCK MUST:

- *Prevent direct runoff from feedlots or stored manure from entering lakes, streams, wetlands and groundwater.*
- *Limit access or otherwise manage livestock along lakes, streams and wetlands to maintain vegetative cover and prevent erosion.*
- *Prevent significant discharges of process wastewater (milkhouse waste, feed leachate, etc.) into lakes, streams, wetlands, or groundwater.*

#### FARMERS WHO HAVE, OR PLAN TO BUILD, MANURE STORAGE STRUCTURES MUST:

- *Maintain structures to prevent overflow and maintain contents at or below the specified margin of safety.*
- *Repair or upgrade any failing or leaking structures to prevent negative impacts to public health, aquatic life and groundwater.*
- *Close idle structures according to accepted standards.*
- *Meet technical standards for newly constructed or significantly altered structures.*

#### FARMERS WITH LAND IN A WATER QUALITY MANAGEMENT AREA (300 feet from streams, 1,000 feet from a lake, or in areas susceptible to groundwater contamination) MUST:

- *Avoid stacking manure in unconfined piles.*
- *Divert clean water away from feedlots, manure storage areas, and barnyards located within this area.*

Photos: Jeffrey J. Strobel, Duane Poppel and Lynda Schweikert



# Wisconsin's **Runoff** Rules

what farmers need to know

DNR Pub. No. WT 756 REV 1/13

## ► Farmland Preservation Tax Credit:

A farmer must comply with applicable state standards to receive the Farmland Preservation Tax Credit, even if cost sharing is not available. Farmers may be considered in compliance by entering into a schedule of compliance.

This requirement applies to farmers whose land is located in a certified farmland preservation zoning district (i.e. exclusive agriculture), or for farmers who signed a farmland preservation agreement after standards were in effect for that county. Farmers should contact their county land conservation staff for more information regarding applicable standards and compliance documentation.

## ► Implementation and Financial Assistance:

Under DNR rules, a landowner is normally entitled to cost sharing if the landowner is required to implement best management practices on "existing cropland" or an "existing" livestock facility or operation in order to comply with a DNR performance standard. Cropland or livestock facilities brought into service after the effective date of the standard are considered "new" and must meet standards and prohibitions without cost-share funding. Farmers with existing cropland or livestock facilities may be eligible for state or federal cost sharing and are encouraged to contact their county land conservation staff or USDA Natural Resources Conservation Service (NRCS) office for information about current funding sources, rates and practices eligible for cost sharing.

Farmers also should work with their land conservation staff to determine how these performance standards and prohibitions may affect their participation in various federal, state and local programs, such as Farmland Preservation. You can find a directory of land conservation offices and related agencies at <http://datcp.wi.gov/Environment> under "Land and Water Conservation."

## ► Permits and Licensing:

Farmers may be required to meet NR 151 Standards in order to obtain local and state permits. For livestock siting and manure storage ordinance permits, for example, nutrient management plans and other requirements may be imposed on livestock operations without providing cost sharing. Contact your local officials for additional information.

Farmers with 1,000 or more animal units must operate under a Wisconsin Pollutant Discharge Elimination System (WPDES) permit and do not qualify for state cost sharing to meet permit requirements. Contact your DNR Service Center for more information about WPDES permits.

For more information about runoff management in Wisconsin and topics found in this brochure please visit:

**runoffinfo.uwex.edu**



Wisconsin Department of Natural Resources (WDNR), Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP), in cooperation with: USDA Natural Resources Conservation Service (NRCS), University of Wisconsin-Extension (UWEX), County Land Conservation Departments (LCD).

The cooperating agencies are EEO/Affirmative Action employers and provide equal opportunities in employment and programs including Title IX and ADA requirements. The Wisconsin Department of Natural Resources provides equal opportunity in its employment programs, services and functions, under an Affirmative Action Plan. If you have any questions, please write to Equal Opportunity Office, Department of Interior, Washington, D.C. 20240. This publication is available in alternative format (large print, Braille, audiotape etc.) upon request. Please call 608/267-7494 for more information.



Graphic design by Jeffrey J. Strobel  
UW-Extension Environmental Resources Center





Wood County  
WISCONSIN

LAND CONSERVATION  
DEPARTMENT

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November 26, 2014

Dear Community Leader:

Local leadership in natural resources management is a vital component to successfully managing and protecting our natural resources. Wisconsin's Land Conservation Departments provide the vital link between balancing local needs and priorities with state funding programs and funding opportunities, and also challenges local stakeholders to work together to take responsibility for addressing resource needs.

In 1997, Wisconsin Act 27 and in 1999, Wisconsin Act 9 amended Chapter 92 of the Wisconsin Statutes, requiring counties to develop Land and Water Resource Management Plans. The land and water resource management plans are intended to be action oriented, flexible and reflect the resource management needs identified through public input and focuses on coordinated implementation. The Wood County Land Conservation Department is in the process of revising this plan.

You are invited to attend and participate in a local workgroup meeting. The purpose of the meeting is to review the proposed draft Work Plan and to seek input from the group on any additional resource concerns.

Please review the attached draft Work Plan and be prepared to make any comments, deletions, or additions. Also, be prepared to share with the group any additional resource concerns that you might have. Please bring the Work Plan with you for the meeting.

The meeting will take place December 9, 2014 from 9:00 a.m. to 12:00 p.m. in room 115 of the Wood County Courthouse.

I am looking forward to seeing you at the meeting. If you have any questions, feel free to call me at 715-421-8475.

Sincerely,

Jerold M. Storke  
Wood County Conservationist

**NOTICE OF PUBLIC HEARING  
WOOD COUNTY LAND AND WATER RESOURCE MANAGEMENT PLAN**

Notice is hereby given that on Thursday, December 18, 2014 at 9:00 a.m., in Room 115 of the Wood County Courthouse, 400 Market Street, Wisconsin Rapids WI, the Conservation, Education and Economic Development Committee will hold a public hearing at which time and place all interested persons may appear and will be given an opportunity to be heard in support of or in opposition to the proposed revision to the Wood County Land and Water Resource Management Plan, which outlines the goals and implementation strategies of the Conservation, Education and Economic Development Committee for the next five years.

Such request may be examined by any interested person during regular business hours at the Wood County Land Conservation Department office or from Wood County's web site at <http://www.co.wood.wi.us/Departments/LandConservation/LandWaterMgmt.aspx>

All interested persons are invited to attend said hearing and be heard. Written comments will be accepted by the Land Conservation Department until 4:30 p.m., on December 17, 2014.

Hilde Henkel, Chair,  
Wood County  
Conservation, Education and Economic Development Committee

Publish 12-4-2014 and 12-11-2014

Appendix I

Citizens Advisory Committee Work Group Meeting Agenda  
Tuesday, December 9, 2014  
Wood County Courthouse- Room 115  
Immediately following CEED meeting approximately 9:15am- Noon

1. Call meeting to order.
2. Introductions.
3. Review of draft revision to Land and Water Resource Management Plan.
4. Individuals may identify other resource concerns/issues.
5. Consensus to any significant changes to the Work Plan.
6. Adjourn.

Appendix J

AGENDA  
CONSERVATION EDUCATION AND ECONOMIC DEVELOPMENT COMMITTEE  
PUBLIC HEARING AND COMMITTEE MEETING:  
LAND AND WATER RESOURCE MANAGEMENT PLAN REVISION

DATE: Thursday, December 18, 2014  
TIME: 9:00a.m.  
LOCATION: Wood County Courthouse, Room 115

1. Call public hearing to order. Chair
2. Reading of public notice/statement of purpose. Staff
3. Statement of protocol/time limits for testimony. Chair
4. Brief explanation of revision. Staff
5. Receive public testimony.
6. Close hearing.
7. Open CEED Committee meeting.
8. Public comment.
9. Discuss testimony received at public hearing.
10. Committee may take action on any proposed changes.
11. Any other items requiring CEED Committee action.
12. Adjourn.

**CITIZENS ADVISORY COMMITTEE  
DECEMBER 9, 2014**

The Citizen Advisory Committee workgroup met on December 9, 2014 at 9:00 a.m., at the Wood County Courthouse. Those present were Hilde Henkel, Lance Pliml, Bill Leichtnam, George Bartels, and Jerry Storke. Those that could not attend but submitted written comments were Steve Grant and Mat Lippert. Below are brief minutes from the meeting.

Jerry explained the purpose of the meeting. The work plan was reviewed and the group shared their comments on the plan goals, objectives, and actions. Overall, the group was satisfied with the work plan but did have several suggestions to update the goals, objectives, and actions. Those updates were included in the plan revision.