



*Photo credit: Cheryl Clemens, Harmony Environmental, Inc*

# Burnett County Land and Water Resource Management Plan

April 2019 (2020 – 2029)

Burnett Natural Resources Committee  
Siren, WI



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Farm Service Agency

Natural Resources Conservation Service

University of Wisconsin - Extension

Wisconsin Department of Natural Resources

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## SUMMARY

### 1. INTRODUCTION

The Burnett County Land and Water Resource Management Plan will assist the Conservation Division of the Land Services Department (Conservation Division) in its efforts to protect and improve land and water resources in Burnett County. Goals established in the plan will guide Conservation Division activities from 2020 through 2029. They will also provide the basis for funding those activities with various private, local, state, and federal sources.

Used as a tool to guide and coordinate a variety of programs, the plan will help to streamline decision-making and program administration. The process to review and potentially to extend the plan for another ten-year period will begin in 2028. The plan is organized into five sections.

#### INTRODUCTION

Describes the plan development process and requirements, related plans and ordinances, and activities of the Burnett County Conservation Division of the Land Services Department.

#### RESOURCE ASSESSMENT

Provides information about soils, topography, groundwater, surface water, land cover, rare species and natural communities, agricultural land, and population and housing. It also reports water resource concerns identified during the 1999 and 2008 planning processes and reviewed and prioritized in 2019.

#### PLAN GOALS, OBJECTIVES, AND ACTIVITIES

Provides a detailed implementation strategy for each of five plan goals. For each goal, objectives and activities are identified, and an educational strategy is outlined.

#### PLAN IMPLEMENTATION

Discusses how various departments and agencies will work together to implement the plan. A plan of work for 2019 is included in Appendix B.

#### MONITORING AND EVALUATION

Discusses methods for monitoring water quality and habitat and methods to inventory sources of pollution. It also describes how plan accomplishments will be tracked.

### 2. PUBLIC PARTICIPATION

The focus of the plan update was to review and update implementation strategies including the strategy for implementation of the NR151 Agricultural Performance Standards. An advisory committee representing farmers, lake homeowners, local government, concerned citizens, and agencies whose work involves land and water quality protection in Burnett County assisted with plan development. The advisory committee met two times and also reviewed and provided comments on draft documents. A public hearing will be held on April 17, 2019.

### 3. ASSESSMENT OF WATER QUALITY, SOIL EROSION, AND OTHER NONPOINT SOURCES OF WATER POLLUTION

#### GROUNDWATER RESOURCES

Groundwater quality in Burnett County based on nitrate test results is generally very good. However, a combination of shallow groundwater and sandy soils make Burnett County particularly susceptible to groundwater contamination. Groundwater in more than 75% of the county is less than twenty feet below the land surface.

#### SURFACE WATER RESOURCES

Burnett County has an abundance of surface water resources. More than five hundred lakes are distributed throughout the county. Over two-thirds of the lakes are seepage lakes with no inlet or outlet stream. Homes and cottages ring the shores of many of the larger lakes, and the lakeshores of many smaller lakes are targets for residential development.

In addition to lakes, there are 2 flowages, 10 major rivers, and 145 miles of streams. The St. Croix River flows initially through the northern portion of the county and then along its western border. The St. Croix and its tributaries including the Namekagon, the Yellow, the Clam, the Wood, and the Trade Rivers drain a majority of the land in Burnett County.

#### AGRICULTURE

Croplands are concentrated in the southeast and southwest portions of Burnett County, with scattered cropland elsewhere. Concern regarding cropland soil erosion is generally low in the county because of the limited amount of cropland and low erosion rates.

#### POPULATION AND HOUSING

Burnett County is generally rural with an estimated 2018 population of 15,508. Incorporated areas make up only 18 percent of the county's population. Total population figures do not capture the significance of seasonal housing in the county. Seasonal housing makes up 51 percent of the total housing units in Burnett County

Most of the seasonal housing in Burnett County is located on waterfront property. Because of the allure of living near water, residential development frequently occurs near lakes, streams, and wetlands.

When homes are built near water, the buffer of vegetation is frequently removed or greatly altered. Important functions of buffers that may be lost include providing habitat, holding soil in place, intercepting and purifying runoff water, and providing natural beauty. There can be dramatic increases in the rates of soil loss and resulting sedimentation of water resources during home and road construction.

Densely developed residential areas, such as many of the shoreland areas surrounding Burnett County lakes, result in increased quantities and rates of runoff because of the increase in impervious surfaces such as roads, roofs, and driveways. This increased runoff carries more sediment, increases erosion along streambanks, and causes flooding on adjacent property.

#### 4. SUMMARY OF WORK PLAN

The following goals were developed to address concerns identified in the planning process:

**GOAL I. PROTECT HEALTHY WATERS AND RESTORE IMPAIRED SURFACE WATERS AND WETLANDS.**

**GOAL II. PROTECT AND IMPROVE GROUNDWATER QUALITY AND MAINTAIN GROUNDWATER QUANTITY.**

**GOAL III. PRESERVE AGRICULTURAL LAND AND IMPROVE SOIL HEALTH.**

**GOAL IV. PRESERVE AND RESTORE HABITAT AND NATURAL AND SCENIC QUALITIES PROVIDED BY LAKES AND SHORELINES, FORESTLAND, GRASSLAND, AND OTHER WILD LANDS.**

**GOAL V. PROVIDE FOR OTHER LAND AND WATER CONSERVATION NEEDS FOR COUNTY RESIDENTS AND MEET RELATED STATE REQUIREMENTS.**

A detailed annual work plan is included in Appendix B of the plan. The work plan follows guidelines from the Department of Agriculture, Trade, and Consumer Protection.

#### WATER QUALITY OBJECTIVES IN CONSULTATION WITH WDNR

Burnett County water quality priorities are driven in part by a focus on impaired waters, including Lake St. Croix, by using information and guidance from the Lake St. Croix Total Maximum Daily Load (TMDL) analysis and implementation plan. Impaired waters, also known as 303(d) listed waters, are compiled in a 2018 draft list by the Wisconsin Department of Natural Resources. The list, required by the Environmental Protection Agency under the Clean Water Act, identifies water bodies that do not meet water quality standards. The Department of Natural Resources uses the 303(d) list as the basis for establishing strategies to improve water bodies using total maximum daily loads. These priorities are acknowledged in this land and water resource management plan.

#### PERFORMANCE STANDARDS

The soil conservation standard for the Farmland Preservation Program and other county programs was updated to reflect the NR151 Agricultural Performance Standards in 2004. The Agricultural Performance Standards will also be addressed through revisions of local ordinances during the implementation of this plan and implementation of the Agricultural Performance Standards strategy outlined in Appendix A.

## 5. PROGRESS TRACKING

Progress tracking involves both water quality monitoring and evaluation of progress toward meeting the goals of the land and water resource management plan.

### PROGRESS FROM 2009 PLAN

Significant accomplishments are reported from the 2009 plan in the progress report in Appendix C. The Shoreline Buffer Incentives Program, designed to protect and restore buffer zones of native vegetation along lakes and rivers, continued to progress. Shoreline covenants protected 266,742 feet (51 miles) of shoreline. In addition, 129,221 square feet of shoreline vegetation was restored through the end of 2017. The Conservation Division also spent significant time assisting the zoning office with plans for shoreline buffer mitigation, erosion control, and stormwater management.

Ordinances were administered for animal waste and nonmetallic mining. On-site inventories for the agricultural performance standards continued. Countywide educational activities such as presentations and speech and poster contests continued.

### WATER QUALITY AND HABITAT MONITORING

In 2016 the Burnett County Conservation Division entered into an agreement with Polk County and a private contractor to provide a web-based GIS tracking software. MapFeeder is the “file cabinet” for every site visit and best management practice installed in Burnett County. The software is designed to locate a point on the map, collected using a tablet computer in the field, along with any associated tracking data entered by staff. One important component within the software is the

ability to track phosphorus reductions from individual practices and generate reports based on various selection criteria such as by sub-watershed. This will greatly streamline program tracking and reporting actual reductions in phosphorus.

Recommendations related to improving water quality data for the land and water resource management plan are stated below.

- *The Department of Natural Resources should invest resources in monitoring groundwater and surface water in Burnett County.*
- *The Department of Natural Resources and Burnett County should support efforts of lake groups and other organizations to pursue funding for lake and river management projects.*
- *The Department of Natural Resources and Burnett County should encourage and support self-help monitoring programs.*

State and federal agencies that emphasize fish and wildlife habitat restoration and protection have many ongoing efforts to monitor habitats and species. The Conservation Division will support habitat restoration efforts and utilize monitoring data from other sources.

### PLAN EVALUATION

Plan evaluation assesses whether the objectives and activities of the plan are being accomplished. Measures of plan success include resource monitoring, practice completion, assistance provided, compliance with standards, and educational activities completed.

## CHAPTER 1. INTRODUCTION

The Burnett County Land and Water Resource Management Plan will assist the Conservation Division of the Land Services Department in its efforts to protect and improve land and water resources in Burnett County. Goals established in the plan will guide Conservation Division activities through 2029. They will also provide the basis for funding those activities with various private, local, state, and federal sources. Used as a tool to guide and coordinate a variety of programs, the plan will help to streamline decision-making and program administration. Unless there are changes to state requirements, an update is anticipated beginning in 2028.

A 2019 work plan has been developed to begin implementation of the plan (see Appendix B). Each year, the progress toward reaching plan goals will be evaluated, and priorities will be established in another one year work plan.

### PLAN DEVELOPMENT PROCESS

The focus of the plan update was to review and update implementation strategies including the strategy for the NR151 Agricultural Performance Standards. An advisory committee representing farmers, lake homeowners, local government, concerned citizens, and agencies whose work involves land and water resources management in Burnett County assisted with the plan development.

The advisory committee met twice with the following dates and agenda items:

January 9, 2019: review roles and schedule, requirements for update, and plan goals and objectives; and update concerns

January 30, 2019: update and prioritize activities.

The draft plan was made available on the Burnett County web site and in hard copy at the Land Services Department office. Comments were returned via U.S. mail and e-mail.

The plan was not intended to contain an exhaustive, original inventory of water resources in Burnett County. Instead, it drew upon existing inventory information from previously prepared documents.

### PLAN REQUIREMENTS

This land and water resource management plan was developed to meet the requirements of the County Land and Water Resource Management Planning Program. ATCP 50.12 codifies specific standards for the approval of the county land and water resource management plans with most recent revisions in 2014.

In NR151 the Wisconsin Department of Natural Resources (WDNR) established agricultural and non-agricultural performance standards and prohibitions to reduce runoff and protect water quality. In ATCP 50, the Department of Agriculture, Trade and Consumer Protection (DATCP) identified conservation practices that farmers must follow to meet the WDNR standards. These standards require counties to consult with WDNR and identify how they will assist landowners to achieve compliance with performance

standards and prohibitions. Appendix A contains the Agricultural Performance Standards Implementation Strategy for Burnett County.

As a requirement of the land and water resource management planning program, the County Land Conservation Committee must make a reasonable effort to notify landowners and land users if soil erosion rate determinations are made and provide an opportunity for these individuals to comment. The Natural Resources Committee serves as the Burnett County Land Conservation Committee. Erosion rates for individual fields were not assessed in the preparation of this plan. Landowners were notified of the Burnett County Land and Water Resource Management Plan contents in the notice for the public hearing. Landowners may receive individual determinations involving conditions on their property through a) conservation plans, b) compliance status reports and c) compliance status letters authorized under the NR151 implementation strategy, and notices issued under NR151.09 or NR 151.095.

A public hearing was held for the Burnett County Land and Water Resource Management Plan on April 17th, 2019. Comments on the draft plan were read into the public record and incorporated into the final plan. The plan will be brought before the Burnett County Board of Supervisors at a subsequent meeting. The land and water resource management plan must be submitted to the Department of Agriculture, Trade, and Consumer Protection and the Department of Natural Resources for review. It will be presented to the Wisconsin Land and Water Conservation Board June 4, 2019.

## PERFORMANCE STANDARDS AND PROHIBITIONS

County land and water resource management plans are the local mechanism to implement the NR151 runoff standards. Through Wisconsin Act 27, the Wisconsin Legislature amended state statutes to allow county land conservation committees to develop implementation strategies for addressing local water quality priorities related to controlling erosion, sedimentation, and nonpoint source water pollution.

The soil and water conservation standard for the Burnett County Farmland Preservation Program was updated in 2004 to reflect the updated NR151 Agricultural Performance Standards.

## RELATED PLANS AND PROGRAMS

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### BURNETT COUNTY COMPREHENSIVE PLAN

The *Burnett County Land Use Plan (2010 and 1997)* provided much of the resource information summarized in this plan. Goals and objectives for the comprehensive plan were considered for this land and water plan update.

As required by state law, the land use plan contains nine elements:

1. Issues and Opportunities
2. Housing
3. Transportation
4. Economic Development
5. Community Facilities and Utilities

6. Agriculture, Natural Resources, and Cultural Resources
7. Intergovernmental Cooperation
8. Land Use
9. Implementation

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#### BIG WOOD LAKE PRIORITY WATERSHED PLAN

The *Big Wood Lake Priority Watershed Plan* was under implementation through 2009. The Big Wood Lake Watershed was selected to receive state support for inventory of water resources and sources of pollution, development of a strategy for protecting water resources, and financial assistance to reduce pollutant sources.

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#### TOTAL MAXIMUM DAILY LOAD REPORTS AND IMPLEMENTATION PLANS

The U.S. Clean Water Act requires that states develop Total Maximum Daily Loads (TMDLs) for those water bodies deemed impaired, meaning they are not meeting water quality standards. Once a TMDL is established, an implementation plan needs to be developed to address the water quality impairment issues facing the water body of concern. The plan is developed to describe the management measures and regulatory approaches necessary to address the pollutant load issues affecting the water body, the parties responsible for such management measures, the costs and sources of funds for these measures, methods to obtain participation from stakeholders, a timeline for implementation, ways to measure success, and any adaptive management techniques employed as the plan moves forward. The TMDL report and implementation plan prepared for Lake St. Croix are detailed in the *Watershed and Lake Evaluations* section of this land and water resource management plan.

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#### ST. CROIX BASIN PLAN

The Department of Natural Resources prepares basin water quality management plans. *The State of the St. Croix Basin* was completed in March 2002. The basin plan was used as a reference in previous versions of the Burnett County Land and Water Resource Management Plan.

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#### FARMLAND PRESERVATION PLAN

The *Burnett County Farmland Preservation Plan* was updated with final zoning approvals in 2018. Portions of eight townships are included in the plan area with significantly increased acreage eligible for Farmland Preservation benefits when compared with previous plans.

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#### NORTHWEST SANDS ECOSYSTEM PLAN

The *Northwest Sands Ecosystem Plan* is a landscape level management plan for the Northwest Sands area encompassing parts of Bayfield, Burnett, Douglas, Polk, and Washburn Counties. The boundaries of the area are defined by the area's geology, soil, and water regimes. Resource and economic characteristics are described. Recommendations are made for cross-political management of the area.

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## HEALTHY LAKES PLAN

The Wisconsin Department of Natural Resources developed *Wisconsin's Healthy Lakes Implementation Plan 2014-2017* with the help of an Advisory Team. The Burnett County Conservationist was part of this Advisory Team. The Healthy Lakes Implementation Plan describes relatively simple and inexpensive best practices that lakeshore property owners can implement. The plan also includes funding/accountability, promotion, and evaluation information to help adapt the plan and statewide strategy to implement it into the future. Burnett County adopts the Wisconsin Healthy Lakes Implementation Plan as part of the adoption of the land and water resources management plan allowing eligibility for WDNR Healthy Lakes - Lake Protection Grants.

## BURNETT COUNTY ORDINANCES

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### LAND USE: SHORELAND (CHAPTER 45) AND COMPREHENSIVE ZONING (CHAPTER 30)

The Burnett County Land Use Ordinance establishes zoning districts and building regulations within each district (Chapter 30). Shoreland regulations are included in Chapter 45. The shoreland regulations contain restrictions on removal of shoreline cover and establish a vegetation protection area. Structures such as retaining walls are restricted within the setback without special permission. Stairways must be raised on posts unless special authorization is granted. Shoreline buffer mitigation, retaining walls, stairway construction, and other erosion control and stormwater management requirements are referred to and reviewed by the Conservation Division of the Land Services Department.

Enforcement authority rests with the Burnett County Zoning Administrator, the District Attorney, or the Corporation Council. Copies of the ordinance are available on the Burnett County website ([www.burnettcounty.com](http://www.burnettcounty.com)).

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### UTILITIES (CHAPTER 70)

This article is adopted to promote and protect public health and safety by assuring the proper siting, design, installation, inspection and management of private on-site wastewater treatment systems and non-plumbing sanitation systems, most specifically Article II, Division 2 – Private On-Site Wastewater Treatment Systems.



**Table 1. Selected Permits Issued by the Burnett County Zoning Office**

Year	County Sanitary Permits	Dwelling Permits (New homes)	Subdivisions (CSM <sup>1</sup> and plats)
1998	367	192	73
1999	435	267	75
2000	427	221	86
2001	384	230	104
2002	381	213	98
2003	379	180	140
2004	392	219	143
2005	301	164	165
2006	274	146	129
2007	251	130	122
2008	192	93	80
2009	170	64	59
2010	173	59	73
2011	205	83	57
2012	184	74	52
2013	172	67	66
2014	183	62	54
2015	226	70	67
2016	243	78	85
2017	252	80	108
2018	240	77	88

Most subdivisions result in small numbers of parcels, so resulting lots are only two to three times the number of subdivisions.

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#### ANIMAL WASTE AND LIVESTOCK FACILITY MANAGEMENT (CHAPTER 18. ARTICLE IV.)

The Burnett County Land and Water Conservation Department and Committee updated the Burnett County Animal Waste Ordinance in 2007. This update combined the new state livestock facility requirements for large facilities (500 or more animal units) with animal waste handling requirements for smaller facilities. Violations of the NR151 Agricultural Performance Standards may also be enforced under the animal waste ordinance.

A Class A permit is required for new or expanded livestock facilities that will have 500 or more animal units. Standards for these facilities are taken directly from Chapter ATCP 51 – Livestock Facility Siting Regulations for Wisconsin. There were five Class A livestock facility permits at the end of 2018.

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<sup>1</sup> CSM = Certified Survey Map

A Class B permit is required for manure storage for new and expanded livestock facilities with less than 500 animal units. There were five Class B livestock facility permits at the end of 2018. Animal waste is not considered stored if there are at least two suitable acres of pasture per animal unit when animals are unconfined. Livestock facilities include: a) unconfined manure piles (at least 175 cubic feet (6.5 cubic yards) of stored manure), b) waste storage structures, and c) closure of animal waste impoundments. Livestock facilities must be constructed or closed according to the Natural Resource Conservation Service (NRCS) standards, and a nutrient management plan is required.

The ordinance establishes authority for enforcement with the County Conservationist. Fines of \$50 to \$500 per day may be levied. Appeals to citations are made to the Natural Resources Committee. Variance requests to the NR 151 standards are made to the Wisconsin Department of Natural Resources.

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#### NONMETALLIC MINING (CHAPTER 32)

The Burnett County Board of Supervisors passed the Burnett County Ordinance for Non-Metallic Mining Reclamation in May of 2009. The ordinance requires that nonmetallic mining operations be permitted, operate according to standards, submit reclamation plans for approval, and provide financial assurance for reclamation plan completion. About 22 facilities are permitted each year in Burnett County. The Burnett County Conservation Division has the authority to issue citations and collect fines under this ordinance. The Burnett County District Attorney, Corporation Counsel, Municipal Attorney, or the Attorney General may issue orders to abate violations and enforce these orders.

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#### ILLEGAL TRANSPORT OF AQUATIC PLANTS AND INVASIVE ANIMALS (CHAPTER 18, ARTICLE V)

The purpose of this ordinance is to prevent the spread of aquatic invasive species in Burnett County and surrounding water bodies. The ordinance makes it illegal to operate a vehicle or transport vehicles, watercraft, and equipment from a navigable water onto a public highway if aquatic plants, terrestrial plants, or aquatic animals are attached. Exceptions are made for aquatic plant harvesting, study, or commercial use. An amendment in 2018 added a provision that requires decontamination both upon entering and leaving a water body if decontamination is available at an access point. Citations are as follows: first offense \$25 plus costs, second offense \$25 to \$100 plus costs, and for third and subsequent offenses, \$100 to \$250 plus costs. Citations are issued by law enforcement officers of Burnett County. The Conservation Division provides assistance with enforcement efforts.

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#### SUBDIVISION (CHAPTER 58)

The Burnett County Subdivision Control Ordinance was adopted March 2002 and amended in 2008. The ordinance establishes permit, survey, and recording requirements; the procedure for subdividing land; and design standards. An erosion control plan is required only when requested by the Land Use and Information Committee. The ordinance is administered by the Land Services Department. Appeals of decisions of the Zoning Administrator are to the Board of Adjustment of the County Board of Supervisors. Administration and enforcement of the ordinance is the responsibility of the Land Use and Information

Committee and Land Services staff. The Conservation Division does not have an identified role for ordinance implementation.

The Town of Grantsburg also has a subdivision ordinance. The Burnett County Land and Water Conservation Department (now Conservation Division) is identified as the authority for stormwater review in this ordinance.

## RELATED STATE REGULATIONS

### ATCP 50

Conservation practices that farmers must follow to meet the WDNR standards of NR 151 are included in this regulation. It also guides appropriate practices and cost share procedures for implementation of additional conservation practices.

ATCP50 codifies specific standards for the approval of the LWRM plans and requires counties to consult with WDNR and identify how they will assist landowners to achieve compliance with performance standards and prohibitions.

### ATCP 51

Wisconsin Statute §93.90 provides uniform regulation of the siting of livestock facilities across the state. Variations that exceed state requirements are allowed but only if necessary to protect public health or safety. Local government must adopt requirements by ordinance prior to a siting application being filed. The conditions to exceed state standards must be based on “reasonable and scientifically defensible findings of facts, adopted by the political subdivision that clearly show the requirement is necessary to protect public health and safety.” State permitting is “one size fits all.” State policies do not account for local variations in soil conditions, geology, watershed characteristics, etc.

A siting application must be approved if it complies with ATCP 51.30. An application may be denied only if there is clear and convincing evidence that it does not comply. It may also be denied if it violates existing code, such as that for floodplains, shoreland, electrical code, etc. Counties may enact regulations of livestock operations that are consistent with and do not exceed the performance standards, prohibitions, conservation and technical standards of state law without WDNR and DATCP approval. Counties may enact operational regulations that exceed state standards, if such standards are approved by the WDNR and DATCP and are necessary to achieve water quality standards.

### NR 151

Implementation and enforcement of performance standards and prohibitions are covered under this state rule. Burnett County’s implementation plan for NR 151 Agricultural Performance Standards is included in Appendix A.

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## NR 216

Under subchapter III of NR 216, Wisconsin Administrative Code, a notice of intent shall be filed with the WDNR by any landowner who disturbs one or more acres of land. This disturbance can create a point source discharge of storm water from the construction site to waters of the state, and is therefore regulated by WDNR.

Agriculture is exempt from this requirement for activities such as planting, growing, cultivating and harvesting of crops for human or livestock consumption and pasturing or yarding of livestock as well as for sod farms and tree nurseries. Agriculture is not exempt from the requirement to submit a notice of intent for one or more acres of land disturbance for the construction of structures such as barns, manure storage facilities, or barnyard runoff control systems. (See s. NR 216.42(2), Wis. Adm. Code.) Furthermore, construction of an agricultural building or facility must follow an erosion and sediment control plan consistent with s. NR 216.46, Wis. Adm. Code and meet the performance standards of s. NR 151.11(6m), Wis. Adm. Code. An agricultural building or facility is not required to meet the post-construction performance standards of NR 151.121, Wis. Admin. Code.

Forestry and silvicultural practices such as tree harvesting, tree nursery operations, reforestation, tree thinning, prescribed burning and tree pest or fire control activities are also exempt from storm water permit coverage (see NR 216.42(3)).

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## NR 243

Defines regulations governing discharge of pollutants to navigable waters of the state. In addition, NR 243 defines and governs standards associated with Confined Animal Feeding Operations (CAFOs- operations larger than 1000 animal units) and establishes permit requirements for these large scale producers (Wisconsin Pollution Discharge Elimination System Permit; WPDES Permits). As of the end of 2018, Burnett County had one CAFO permit. These permits address the following activities:

- Manure storage
- Runoff control systems
- Groundwater monitoring
- Nutrient management to include spray irrigation
- Compost facilities.

## CONSERVATION DIVISION ACTIVITIES

The Conservation Division of the Land Services Department provides services and administers programs aimed at conserving land and water resources in Burnett County.

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### FINANCIAL AND TECHNICAL ASSISTANCE

A variety of federal, state, and local programs encourage the installation of conservation practices such as vegetative buffers near water, wetland restoration, prairie plantings, and sedimentation basins. The Conservation Division encourages participation, administers programs, and seeks assistance for design and inspection of practices. Management plans for cropland rotations, best management practices, and fertilizer and manure applications are also prepared.

The Shoreline Incentives Program provides technical assistance and cost sharing for shoreline restoration, property tax and other incentives for preserving native shoreline buffers, and outreach to promote native shorelines.

Technical assistance for shoreline buffer restoration sites was provided through the Shoreline Incentives Program. Staff visited 73 sites for new applications and spot checks for properties with existing covenants in 2018. The total number of applicants from 2000 to the end of 2017 reached 1,237. By December 31, 2017, there were a total of 755 parcels with covenants that require perpetual preservation of the shoreline buffer zone. This represents 266,742 feet or 51 miles of shoreline protected. In addition, 129,221 square feet of shoreline buffer were restored to native vegetation.

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### TECHNICAL REVIEW FOR STATE AND LOCAL REGULATORY PROGRAMS

The Burnett County Land Services Department - Zoning Division refers permit applicants to the Conservation Division for review of retaining walls and stairways and recommendations for shoreline buffer restoration mitigation, erosion control, and stormwater management. Technical assistance includes site visits, restoration requirements, and recommendations regarding appropriate siting and construction of structures. The Conservation Division completed 15 buffer restoration mitigation plans and 39 other technical assistance visits and responses related to permits in 2018. There were another 20 requests and responses for technical assistance for concerns such as erosion control and shoreline erosion that came directly to the Conservation Division.

Environmental review is also provided to other county departments such as forestry and parks and highway. Staff members review animal waste facility operations before a large facility is permitted, when an animal waste storage facility or large agricultural facility is proposed, or when a complaint is received. Plans are also reviewed for the reclamation of nonmetallic mines.

Farm compliance review for NR 151 began with two facilities in 2008 and has continued since. The Land and Water Conservation Department (now Conservation Division) has a Memorandum of Understanding with the Department of Natural Resources for NR 151 implementation (Appendix A).

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## EDUCATIONAL ACTIVITIES

Educational activities that emphasize protection of land and water resources are provided. Conservation poster and speaking contests are held each year. Classroom presentations are given to various grade levels upon request. The Conservation Division presents information at the county fairs and sponsors a conservation day for fifth graders and the Tri-County Land Judging competition. Scholarships are also provided for conservation camps. Several presentations are made at lake association meetings each year on topics such as controlling waterfront runoff, aquatic invasive species, and water quality.

Staff also educate residents and visitors regarding the identification, threats, and control of aquatic invasive species. Inspections of water craft at public access points help prevent accidental spread of invasive species into additional lakes and rivers. A comprehensive purple loosestrife identification and eradication program is underway in the county.

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## ENVIRONMENTAL SERVICES

These services include sale of trees, shrubs, native seedlings, and erosion control supplies. The Division also supplies soil and water test kits.

## CHAPTER 2. RESOURCE ASSESSMENT

### SOILS AND TOPOGRAPHY

The most striking feature of the Burnett County landscape is the level to gently rolling outwash plain known as the pine barrens. The pine barrens cover all but the southern farming areas of the county. The maximum elevation of Burnett County is about 1,460 feet in the southeast corner, and the minimum elevation is 760 feet above sea level.

Most of the northern and western landscape of Burnett County is characterized by pitted outwash plains marked by irregular depressions and potholes. Soils here are composed of stratified acidic sand and gravel soils from 50 to 150 feet over bedrock. The St. Croix River is the dominant feature in this landscape.

The central portion of the county, extending from Grantsburg east through Siren and Webster then north of Hertel, has been influenced by glacial Lake Grantsburg. Landforms here are relatively level and soils are poorly to moderately well drained and composed of well sorted, fine textured sands, silts, clays, and lacustrine deposits.

The southwest and southeast portions of the county have rolling topography resulting from glacial moraine deposits. Soils here consist of unsorted, unstratified deposits of clay, silt, sand, gravel, and boulders. Upland soils originating from these deposits generally are of good quality. These areas form the productive agricultural lands of Burnett County (Burnett County Land Use Plan 1997).

A general soils map (Figure 1) illustrates the location of major soils types in Burnett County (Burnett County Soil Survey).

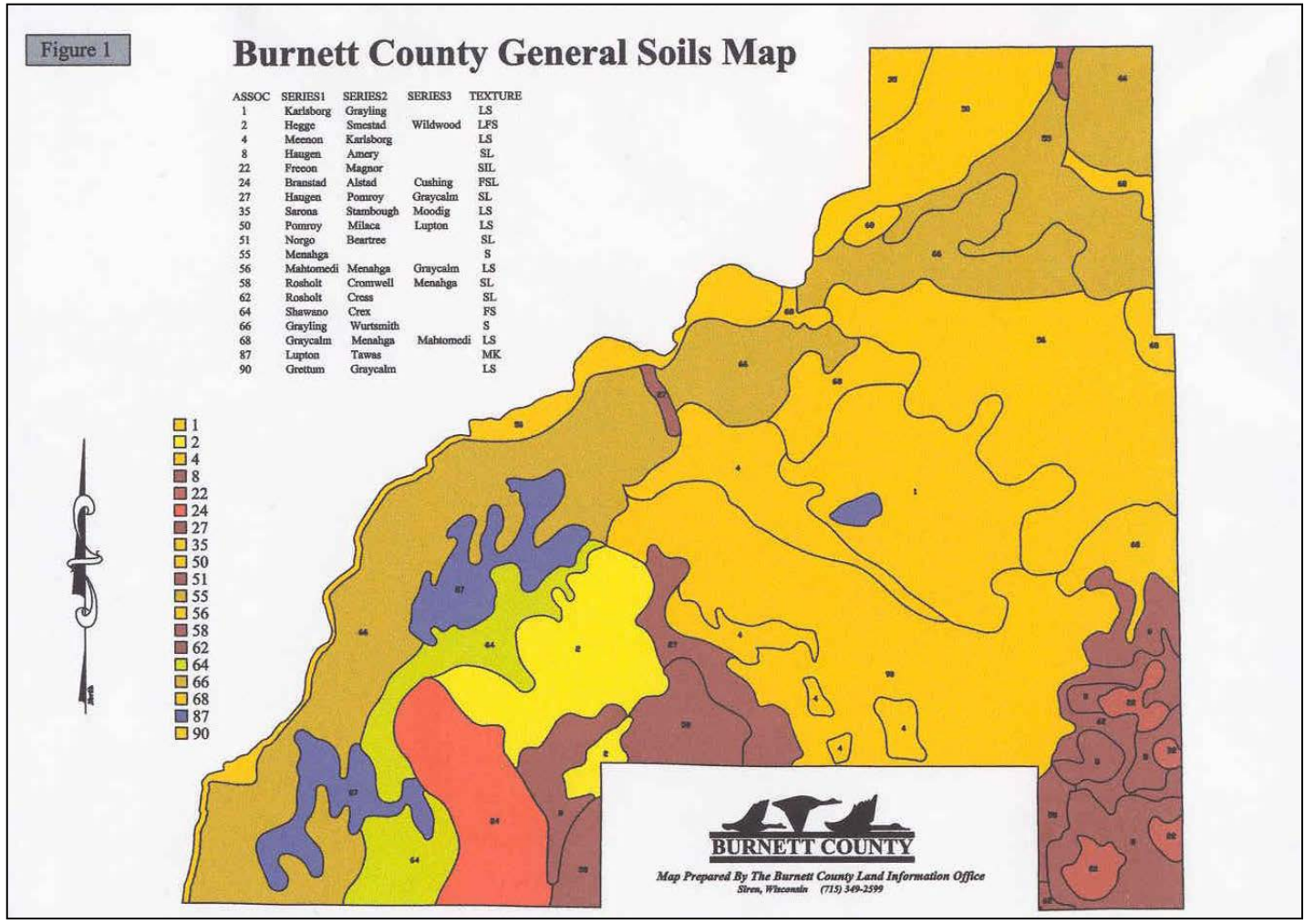


Figure 1. General Soils Map of Burnett County



## GROUNDWATER

A study of groundwater quality in Burnett County found that the overall quality of the resource was very good and that no health risks were present. However, a combination of shallow groundwater and sandy soils make Burnett County particularly susceptible to groundwater contamination. Groundwater in more than 75% of the county is less than twenty feet below the land surface (Burnett County Land Use Plan 1997). Groundwater flow in Burnett County generally follows surface runoff to the west and south.

Contamination of groundwater reserves can result from percolation of water through pollutant sources such as improperly placed or maintained landfill sites, failing private on-site waste water treatment systems, excessive application of lawn and garden fertilizers and pesticides, leaks from sewer pipes, and seepage from mining operations. Runoff from livestock yards and urban areas, improper application of agricultural pesticides or fertilizers, and leaking petroleum storage tanks and spills can also add organic and chemical contaminants in locations where the water table is near the surface. Protection of these groundwater reserves is necessary to ensure adequate quality water for domestic, agricultural, and industrial users.

The Department of Natural Resources Groundwater Contamination Susceptibility Model results, reported in the Wisconsin Groundwater Management Plan Report, indicate that Burnett County is highly susceptible to groundwater contamination. There are exceptions to high susceptibility in the southeast and southwest corners of the county. The rankings are based on the type and depth to bedrock, depth to water table, soil and subsoil, and land use activities. Burnett County groundwater susceptibility is illustrated in Figure 2.

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### WELLHEAD PROTECTION

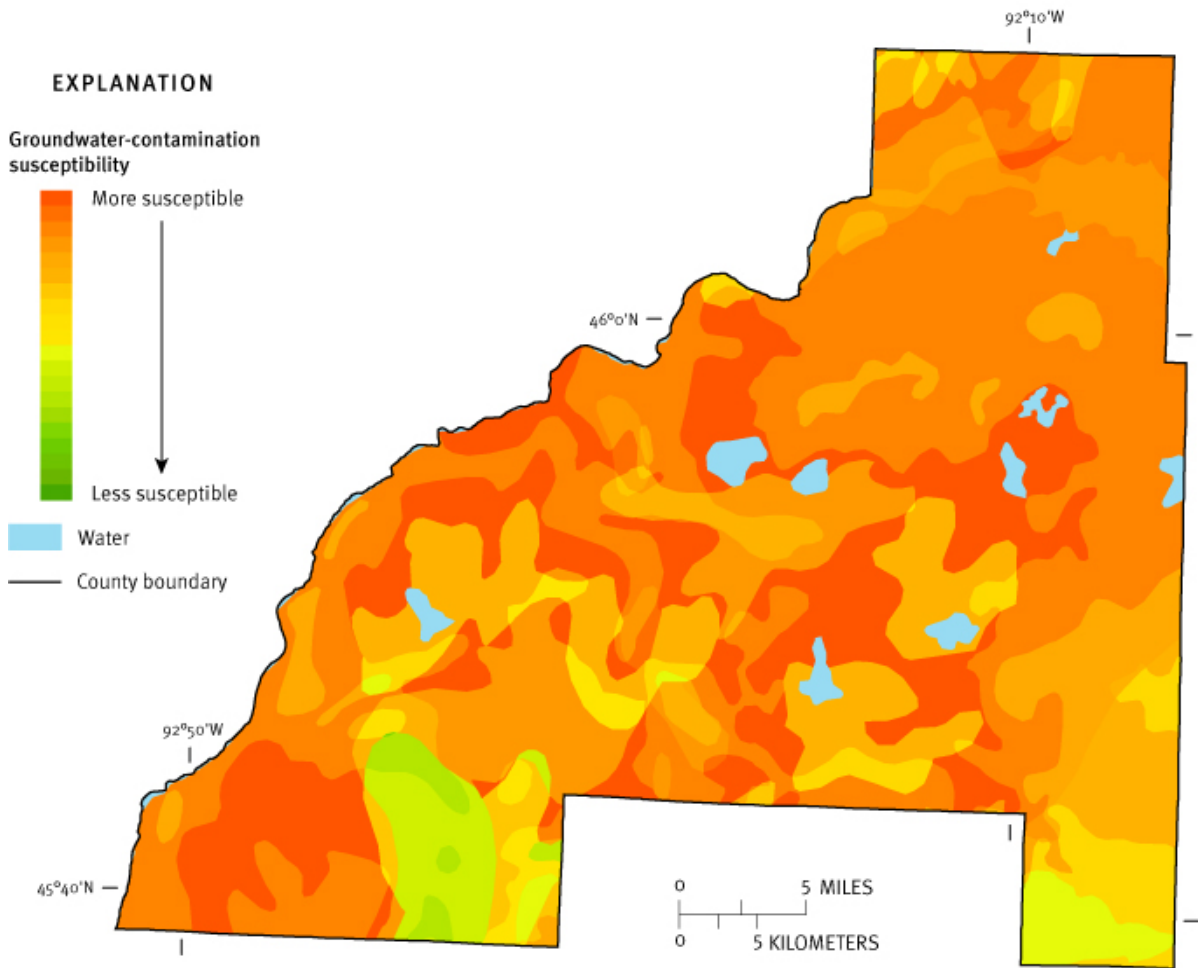
Wellhead protection plans are developed to achieve groundwater pollution prevention measures within public water supply wellhead areas. A wellhead protection plan delineates the wellhead protection area, inventories potential groundwater contamination sources, and manages the wellhead protection area. All new municipal wells are required to have a wellhead protection plan. A wellhead protection ordinance is a zoning ordinance that implements the wellhead protection plan by controlling land uses in the wellhead protection area. All three municipal water systems in Burnett County (Grantsburg, Siren, and Webster) have a wellhead protection plan. The Village of Siren and the Town of Swiss have wellhead protection ordinances.

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### WELL SAMPLE NITRATE TESTING RESULTS

The Wisconsin Department of Natural Resources maintains records of drinking water test results including nitrates. The health-based drinking water limit is 10 mg/L nitrate-nitrogen. Figure 3 shows sample locations where nitrate-nitrogen levels were elevated throughout the county. Because there are few locations in Burnett County where more than 5% of the samples exceeded the nitrate drinking water standard, results will not drive county priorities at this time.

## Burnett County – Groundwater-Contamination Susceptibility Analysis



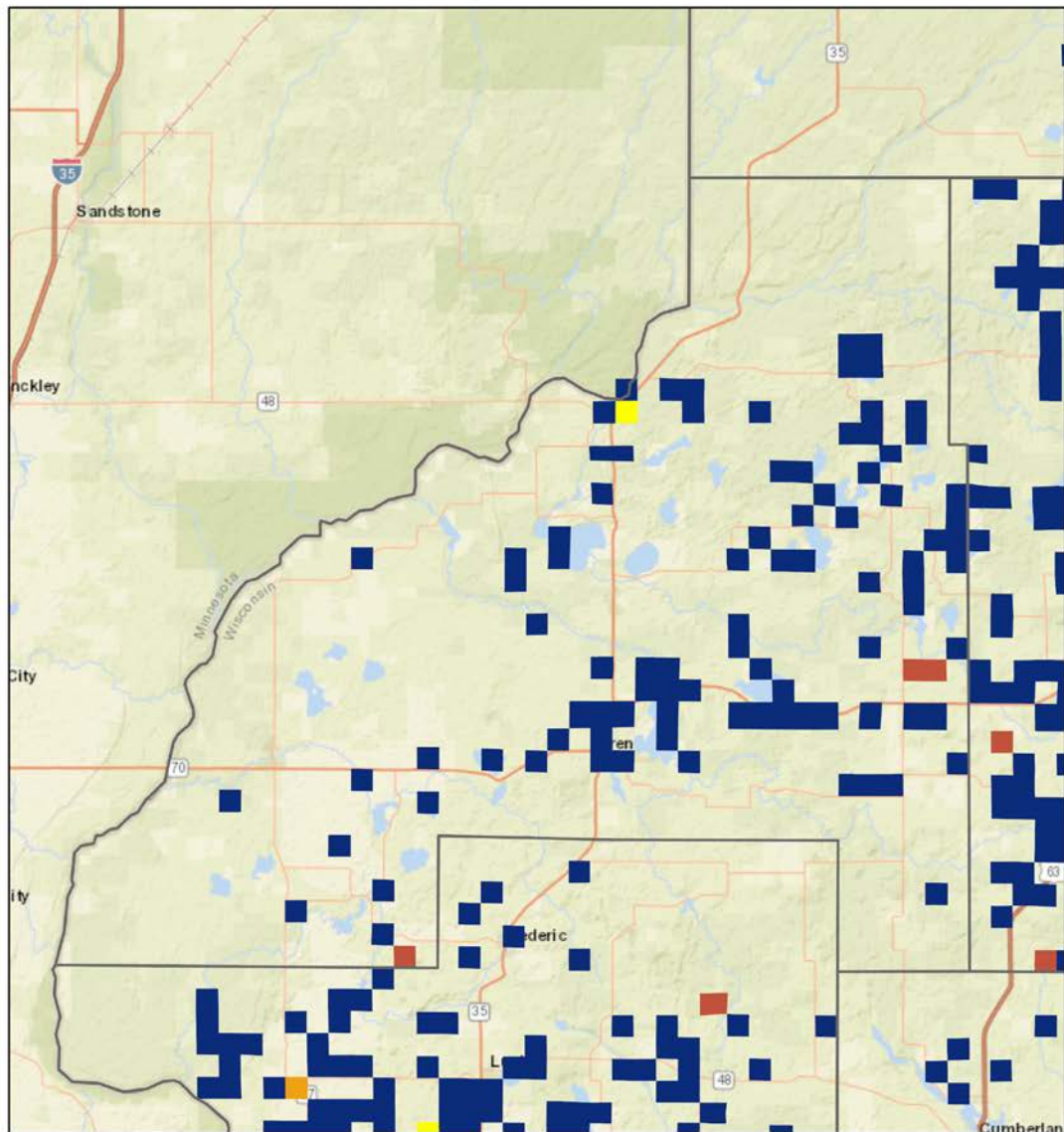
This groundwater-contamination susceptibility map is a composite of five resource characteristic maps, each of which was derived from generalized statewide information at small scales, and cannot be used for any site-specific purposes.

Map source: Schmidt, R.R., 1987, Groundwater contamination susceptibility map and evaluation: Wisconsin Department of Natural Resources, Wisconsin's Groundwater Management Plan Report 5, PUBL-WR-177-87, 27 p.

Figure created for the "Protecting Wisconsin's Groundwater Through Comprehensive Planning" web site, 2007, <http://wi.water.usgs.gov/gwcomp/>

**Figure 2. Burnett County Groundwater Susceptibility Analysis**

# Burnett County Nitrate Exceedences

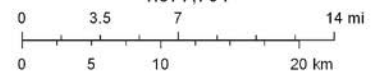


December 18, 2018

1:577,791

Nitrate - Percent - Exceedence by Section

- 0% - 5% Exceedence
- 15.1% - 20%
- 20.1% - 25%
- 25.1% ...



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

Groundwater Center - Center for Watershed Science and Education  
UWSP - UWEX - Public Web Mapping Service

Figure 3. Burnett County Nitrate Nitrogen Concentration Exceedences (>10 mg/L)

## SURFACE WATERS

Burnett County has an abundance of surface water resources as illustrated in Figure 4. More than 500 lakes are distributed throughout the county, of which over 200 are named. Lakes cover 31,258 of the 525,790 acres in Burnett County – about 6 percent of the county. Over two-thirds of the lakes are seepage lakes with no inlet or outlet stream. Many of the larger lakes are ringed by homes and cottages, and the lakeshores of many smaller lakes are targets for residential development. In addition to lakes, there are 2 flowages, 10 major rivers, and 145 miles of streams. Of the stream total, 66 miles are classified as trout streams.

The St. Croix River flows initially through the northern portion of the county and then along its western border. The St. Croix and its tributaries, including the Namekagon, the Yellow, Clam, Wood, and Trade Rivers, drain a majority of the land in Burnett County (565.8 square miles). Other land is internally drained (193.4 square miles) or flows to lakes with no surface water outlet (129.8 square miles) (Surface Water Resources of Burnett County 1966).

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## OUTSTANDING RESOURCE WATERS

North Fork Clam River, South Fork Clam River, Namekagon River, St. Croix River, tributaries to the North and South Forks of the Clam River, segments of the Clam River, Big McKenzie Lake, Big Sand Lake, and North Sand Lake (T40N R15W S25)

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## EXCEPTIONAL RESOURCE WATERS

Clam River segments north and west of Highway 35

### Class I Trout Stream portions

Benson Brook, Brant Brook, Clemens Creek, Dogtown Creek, East Brook, Ekdahl Brook, Hay Creek, Jones Creek, Kettle Brook, Krantz Creek, Montgomery Creek, Pine Brook, Rand Creek, Sand Creek, Sioux Portage Creek, Spencer Creek, Spring Brook, Spring Creek, Unnamed Tributary to Hay Creek, North Fork Trade River, Bear Brook, Cripple Creek, Perkins Creek, Nelson Creek, and Moore Farm Creek

There are many lakes in the county with high water quality but few have been designated as Outstanding Resource Waters and none as Exceptional Resource Waters by the Wisconsin Department of Natural Resources (NR102.10 and 102.11). Wetlands dot the surface of the landscape. Wetland restoration efforts have focused on the agricultural portions of the county.

The lakes, rivers, and wetlands of the county are impacted by land use practices in the watersheds that drain to them. Most of the pollutants that enter water resources are carried in runoff from many diffuse, or nonpoint sources. The major pollutants of concern are sediment carried from areas with bare soil such as crop fields and construction sites, and phosphorus attached to soil particles and dissolved in water from fertilizers and livestock operations. There are only two major agricultural areas in Burnett County located in the southeastern and southwestern portions of the county.

The major lake regions are in the northern and central portions of the county. Although many shorelines of smaller lakes in Burnett County have retained a natural appearance, the appearance of shorelines on many larger, developed lakes has changed drastically. As homes and cottages are built, many landowners destroy habitat by clearing vegetation both on the shoreline and in the water. Fish lose cover, shade, and food as aquatic insects that dwell on shoreline plants decrease. Amphibians, such as frogs, lose critical habitat near the shoreline. Shoreline birds no longer have places to nest or find cover and food. The protective ring of vegetation that once served to intercept and filter runoff is no longer present. The Burnett County Shoreline Incentives Programs seeks to encourage preservation of natural shorelines.

## WATERSHED AND LAKE EVALUATIONS

Eleven watersheds are contained completely or partially within Burnett County, as shown in Figure 4. All but a few square miles in the southeast corner drain to the St. Croix River. This small area drains to the Red Cedar River. Burnett County has not ranked watersheds in priority order for protection or restoration.

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## WATER QUALITY CONDITIONS

Burnett County water quality priorities are driven in part by a focus on impaired waters including Lake St. Croix by using information and guidance from the Lake St. Croix Total Maximum Daily Load (TMDL) analysis and implementation plan. Impaired waters, also known as 303(d) listed waters, are compiled in a 2018 draft list by the Wisconsin Department of Natural Resources. The list, required by the Environmental Protection Agency under the Clean Water Act, identifies water bodies that do not meet water quality standards. The Department of Natural Resources uses the 303(d) list as the basis for establishing strategies to improve water bodies using total maximum daily loads.

Impaired waters may be the focus of county-supported lake management planning and implementation efforts. For example, Burnett County sponsored a WDNR Lake Planning Grant for Big Doctor Lake, a phosphorus impaired lake, beginning in 2017. The Conservation Division assisted with project scoping and grant writing and is assisting with curly leaf pondweed mapping, wetland phosphorus loading sampling, a shoreland habitat assessment, and a lake management plan.

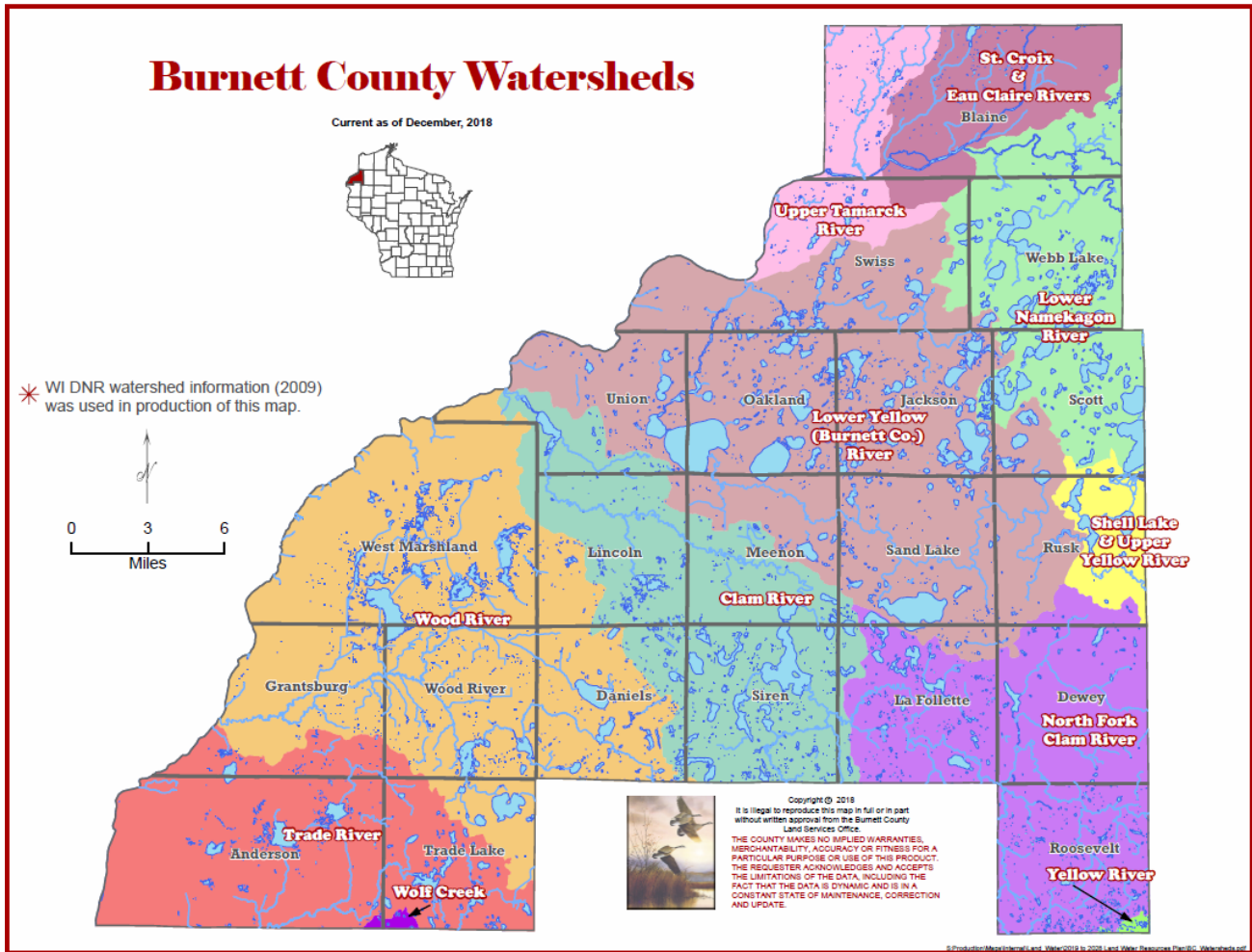


Figure 4. Burnett County Watersheds

**Table 2. Impaired Waters ((303)(d) List) in Burnett County (2018)**

TP = Total Phosphorus

<b>Name</b>	<b>WBIC</b>	<b>Pollutant</b>	<b>Impairment</b>	<b>Status</b>
Lipsett Lake	2678100	Unknown	Excess Algal Growth	303d Listed
Wood Lake	2649800	Unknown	Excess Algal Growth	303d Listed
Yellow Lake	2675200	TP	Eutrophication, Excess Algal Growth	303d Listed
Little Yellow Lake	2674800	TP	Eutrophication, Excess Algal Growth	303d Listed
Big Doctor Lake	2453400	TP	Eutrophication, Excess Algal Growth	303d Listed
Round Lake	2640100	TP	Eutrophication, Excess Algal Growth	303d Listed
Clam Lake	2656200	TP	Excess Algal Growth	303d Listed
Big Trade Lake	2638700	TP	Impairment Unknown, Excess Algal Growth	Proposed for List
Lower Clam Lake	2655300	TP	Eutrophication, Excess Algal Growth	Proposed for List
Little Trade Lake	2639300	TP	Eutrophication, Excess Algal Growth	Proposed for List
Clam River Flowage	2654500	TP	Eutrophication, Excess Algal Growth	Proposed for List
Dunham Lake	2651800	Mercury	Contaminated Fish Tissue	303d Listed
Mud Hen Lake	2649500	Mercury	Contaminated Fish Tissue	303d Listed
Round Lake	2640100	Mercury	Contaminated Fish Tissue	303d Listed

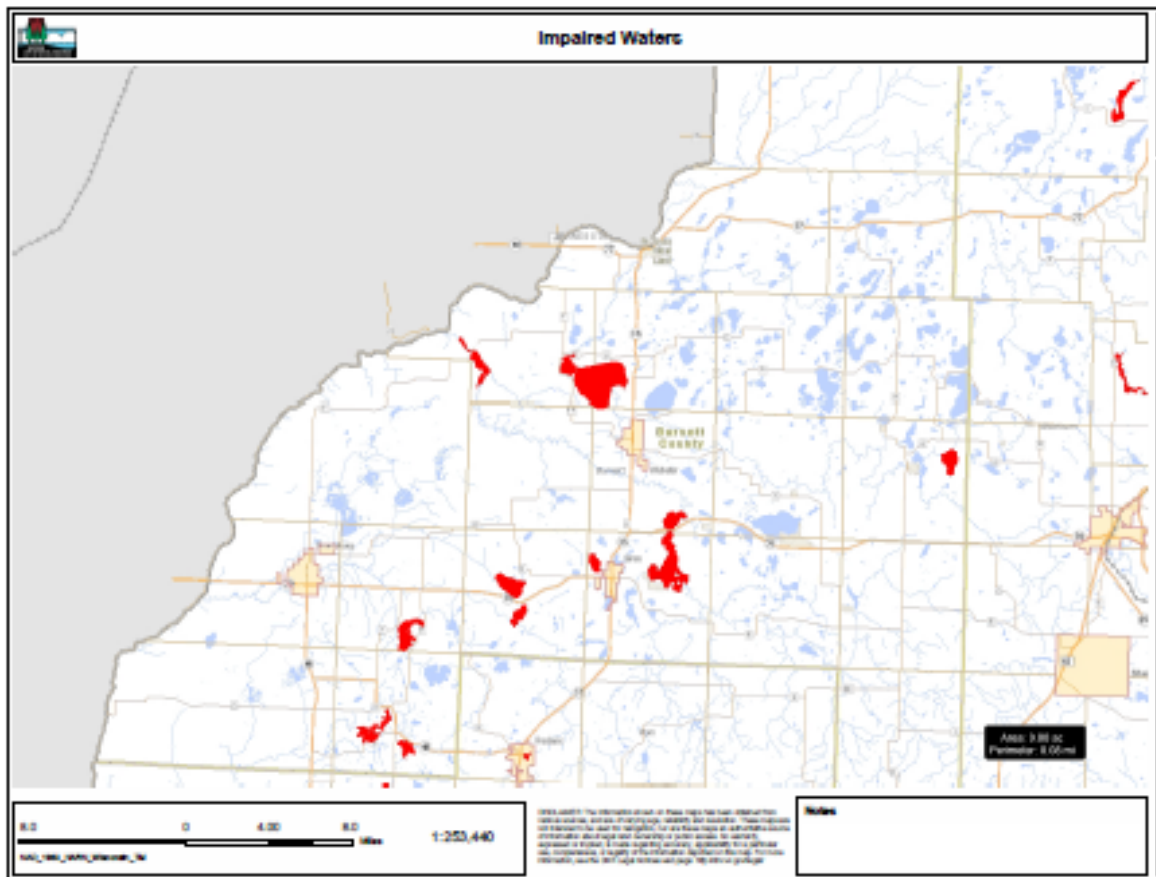


Figure 5. Burnett County Impaired Waters (shown in red)



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## LAKE ST. CROIX TMDL

The Lake St. Croix TMDL report was completed in 2012 and approved by EPA in August 2012. A phosphorus load reduction of 27 percent from mid 1990s phosphorus loads is needed to meet the Lake St. Croix in-lake total phosphorus water quality standard of 40 µg/L. Phosphorus load reduction goals vary by watershed. St. Croix River subwatersheds in Burnett County along with their phosphorus reduction goals are shown in Table 3 and illustrated in Figure 6.

**Table 3. St. Croix Basin Subwatershed Phosphorus Reductions<sup>2</sup>**

<b>Watershed</b>	<b>Phosphorus Reduction (lbs./yr.)</b>	<b>Phosphorus Reduction (%)</b>
Clam	11,744	26
Namekagon	7,764	15
St. Croix	1,325	5
Trade	6,312	27
Wolf <sup>3</sup>	7,409	34
Wood	8,023	29
Yellow	9,121	24
Upper Tamarack	754	8

The Lake St. Croix TMDL Implementation Plan was completed in 2013. The plan relies on civic engagement as a key strategy for TMDL implementation. It also establishes phosphorus reduction goals by county. For all of Burnett County, the Lake St. Croix TMDL phosphorus load reduction is 24%. This requires 21,419 lbs./yr. of reduction from the estimated TMDL baseline load of 87,975 lbs./yr. in the early 1990s. To achieve the St. Croix Basin Partners' goal of 20% Reduction by 2020, Burnett County needs to reduce loading by 15,850 lbs./yr. by the year 2020. To attain this goal, activities must be implemented that achieve an average annual rate of phosphorus reduction of 714 lbs./yr. over 30 years. Phosphorus reduction reported through 2018 totals 6,244 lbs. Over 90 percent of these reductions came through implementation of agricultural practices such as cover crops, nutrient management, no-till, grazing plans, streambank stabilization, stream crossings, and critical area stabilization.

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<sup>2</sup> Minnesota Pollution Control Agency. Wisconsin Department of Natural Resources. Lake St. Croix TMDL. 2012.

<sup>3</sup> Only 692 acres of the Wolf Creek subwatershed are in Burnett County.

**Table 4. Lake St. Croix TMDL Burnett County Phosphorus Load Reduction Goal<sup>4</sup>**

Overall % Goal	Overall Reduction	Reduction by 2020	Annual Reduction Rate – 30 years
24%	21,419lbs.	15,850 lbs.	714lbs.

**Table 5. Lake St. Croix TMDL Reported Phosphorus Load Reductions<sup>5</sup>**

Progress through 2012	Reduction Reported: 2015	Reduction Reported: 2016	Reduction Reported: 2017	Reduction Reported: 2018	Total P Reduction Reported
1,300 lbs./yr.	963 lbs./yr.	1,268 lbs./yr.	1,481 lbs./yr.	1,232 lbs./yr.	6,244 lbs./yr.

A Soil and Water Assessment Tool (SWAT) model further analyzed Lake St. Croix watershed phosphorus loads by considering not only the phosphorus load estimated from land uses in a subwatershed, but also the delivery of phosphorus to Lake St. Croix.<sup>6</sup> The SWAT model is a computerized watershed model that simulates rainfall-runoff, erosion, and nutrient-transport processes and can help guide decisions about which best management practices are most effective and where to implement them. The predicted yields of phosphorus to Lake St. Croix by subwatershed are illustrated in Figure 7. Burnett County subwatersheds with the highest phosphorus yields to Lake St. Croix by area are the Trade River and Wood River. Agricultural best management practices installed since 2015 were primarily in the following subwatersheds: Trade River (070300050502), Clam River (070300010802) and Yellow River (070300010503 and 070300010405).

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<sup>4</sup> Minnesota Pollution Control Agency. Wisconsin Department of Natural Resources. Lake St. Croix TMDL. 2012.

<sup>5</sup> Minnesota Pollution Control Agency. Progress Report. Lake St. Croix Total Maximum Daily Load. 2015 and 2016. 2017 and 2018 data from reports from Burnett County to the Wisconsin Department of Natural Resources.

<sup>6</sup> Almendinger, et. al., Constructing a SWAT model of the St. Croix River Basin, Eastern Minnesota and Western Wisconsin. 2015.

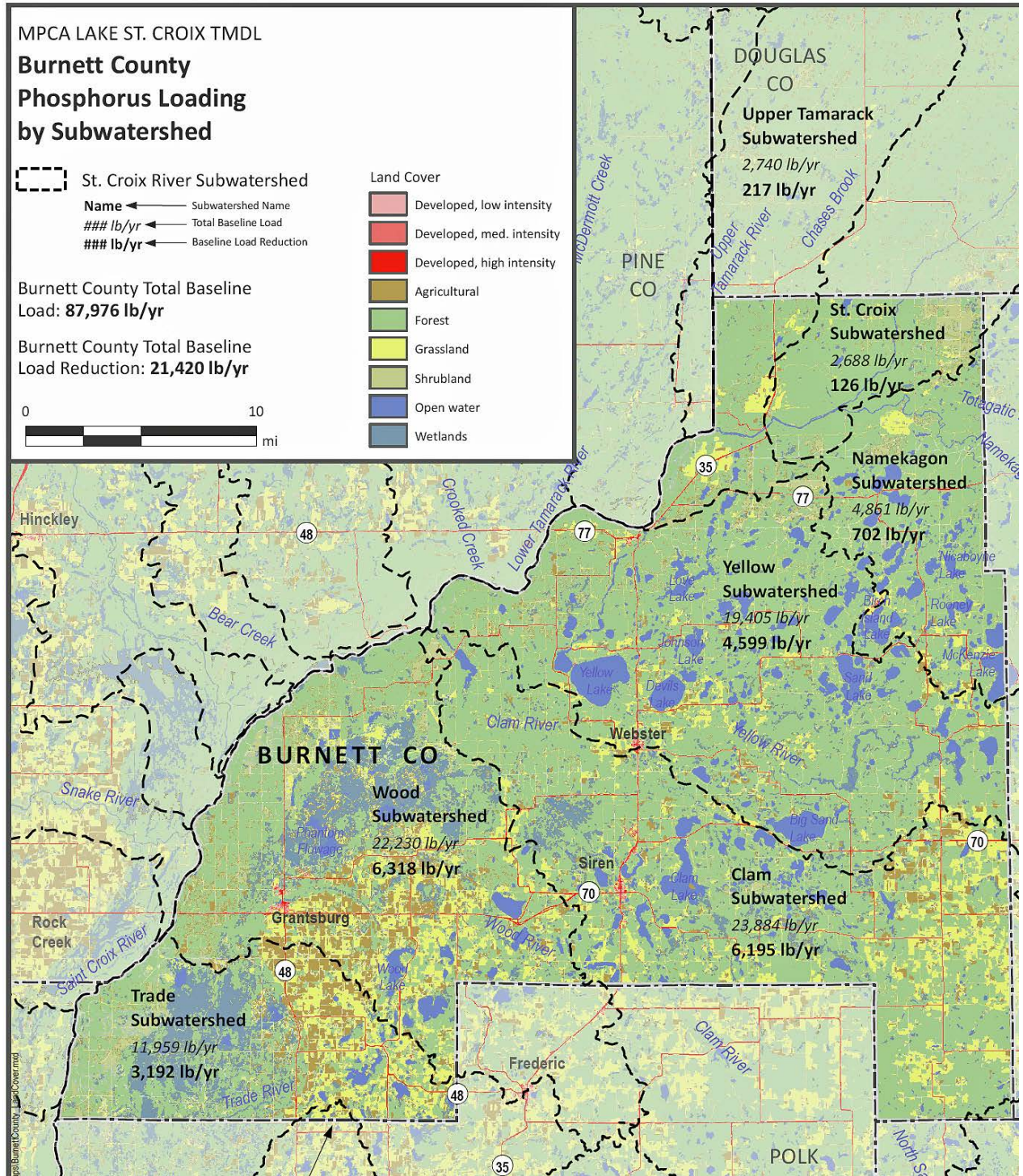


Figure 6. Surface Water Resources, Watersheds, and Land Cover

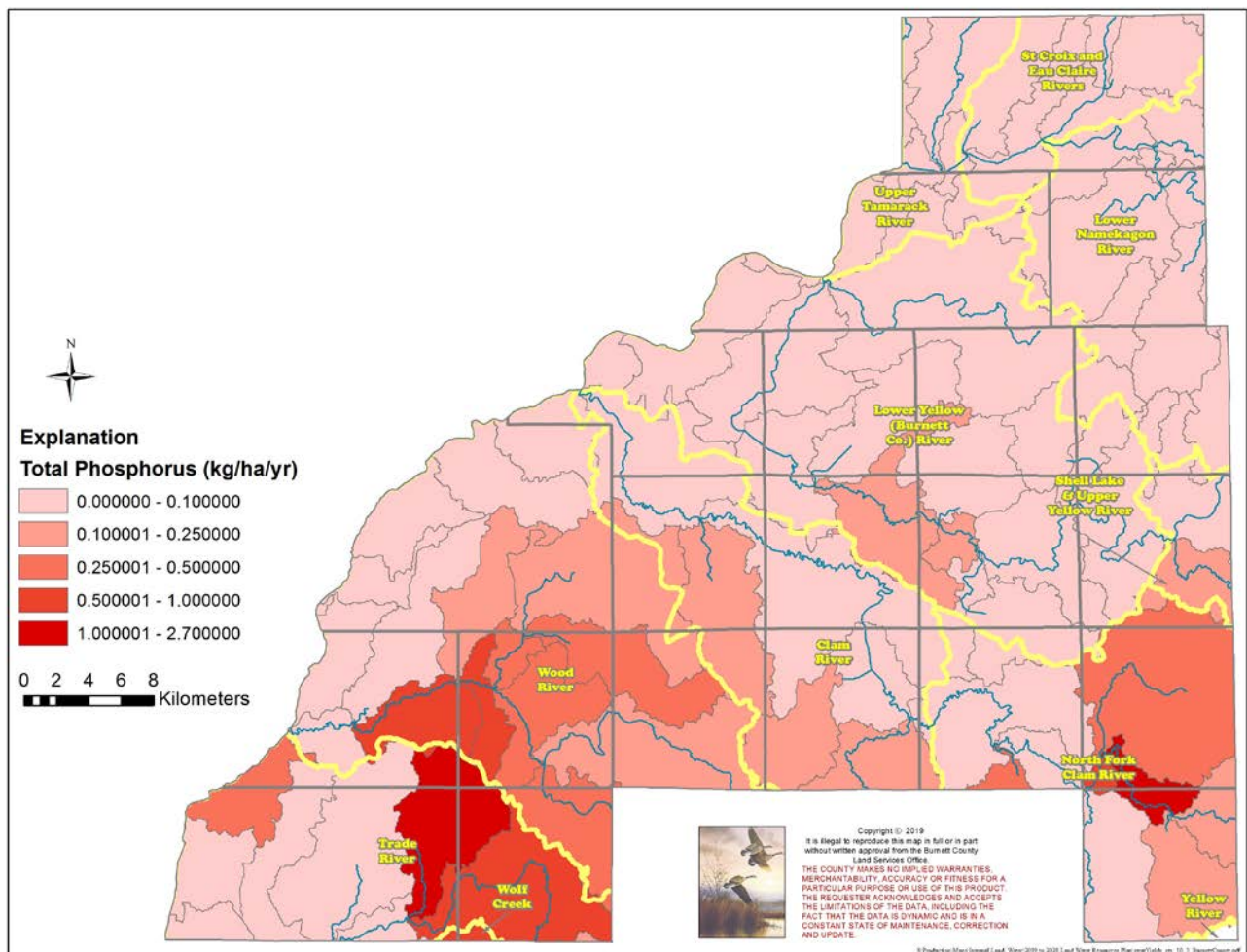
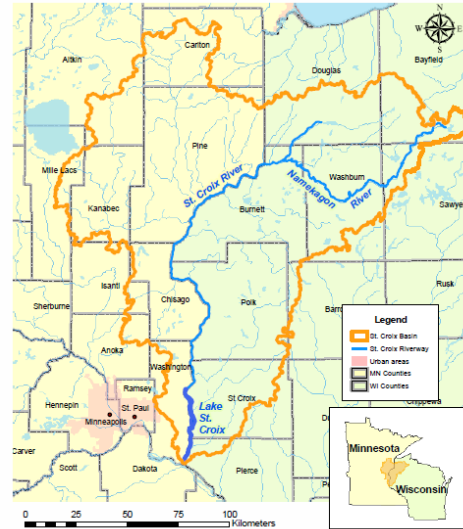
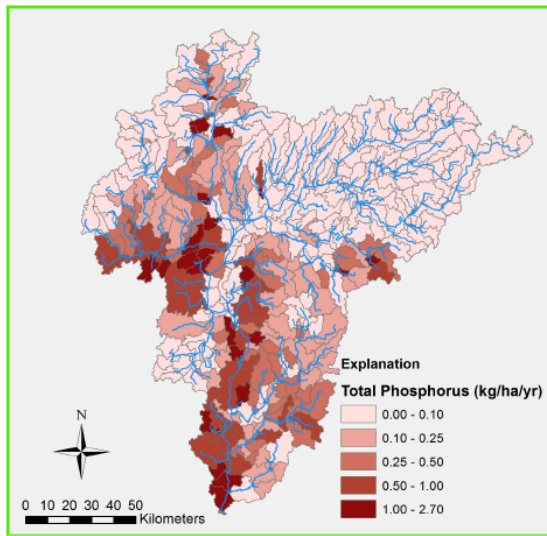
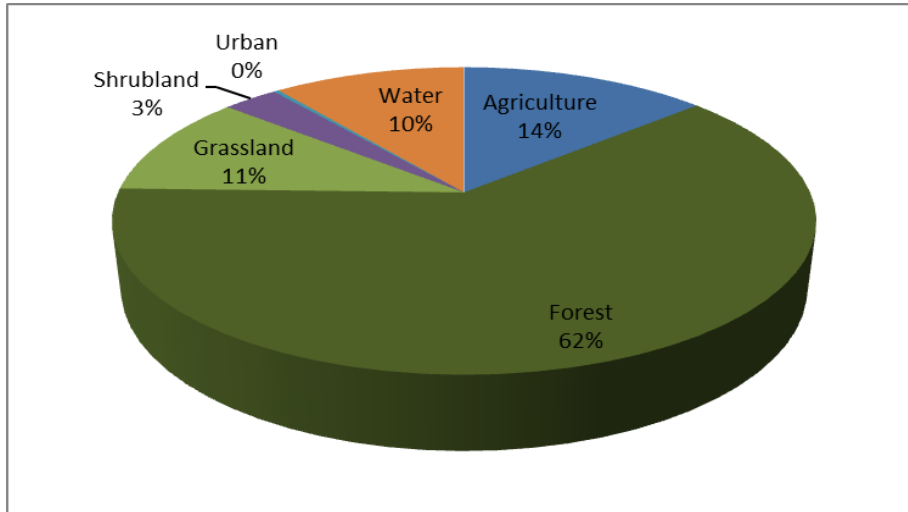


Figure 7. Average Annual Total Phosphorus Yield to Lake St. Croix by Burnett County Watershed 2000-2007 (from Almendinger, 2015)

## LAND COVER

The land cover in each watershed was classified as part of the Lake St. Croix TMDL plan development using the 1992 National Land Cover Data Set. The classification does not include any portions of watersheds outside of Burnett County. Percentages of land cover are shown in Figure 8. Overall Burnett County Land Cover is illustrated in Figure 9. Land cover by subwatershed is included in Table 6.



**Figure 8. Burnett County Land Cover (from Lake St. Croix TMDL)**

Burnett County Forest land covers 105,969 acres. Burnett County also has two large state wildlife areas. Crex Meadows is 27,467 acres and Fish Lake is 13,197 acres. In addition, much of the Governor Knowles State Forest (19,343 acres) is located in Burnett County. Federal, state, and county owned conservation and recreation land total 181,520 acres or 35 percent of the land in Burnett County.

**Table 6. Land Cover (Acres) by Subwatershed**

	Agriculture	Forest	Grassland	Shrubland	Urban	Water	Total
<b>Clam</b>	21,958	84,197	18,593	1,386	590	10,629	137,353
<b>Namekagon</b>	1,871	38,324	1,480	1,019	28	7,996	50,718
<b>St. Croix</b>	696	20,405	492	4,620	0.4	495	26,708.4
<b>Trade</b>	12,360	30,849	9,247	5,161	12	6,400	64,029
<b>Upper Tamarack</b>	1,439	18,468	1,333	183	53	544	22,020
<b>Wolf</b>	237	111	334	0	0	10	692
<b>Wood</b>	22,550	56,641	20,431	3,153	412	13,313	116,500
<b>Yellow</b>	15,339	98,567	8,247	1,572	470	19,957	144,152

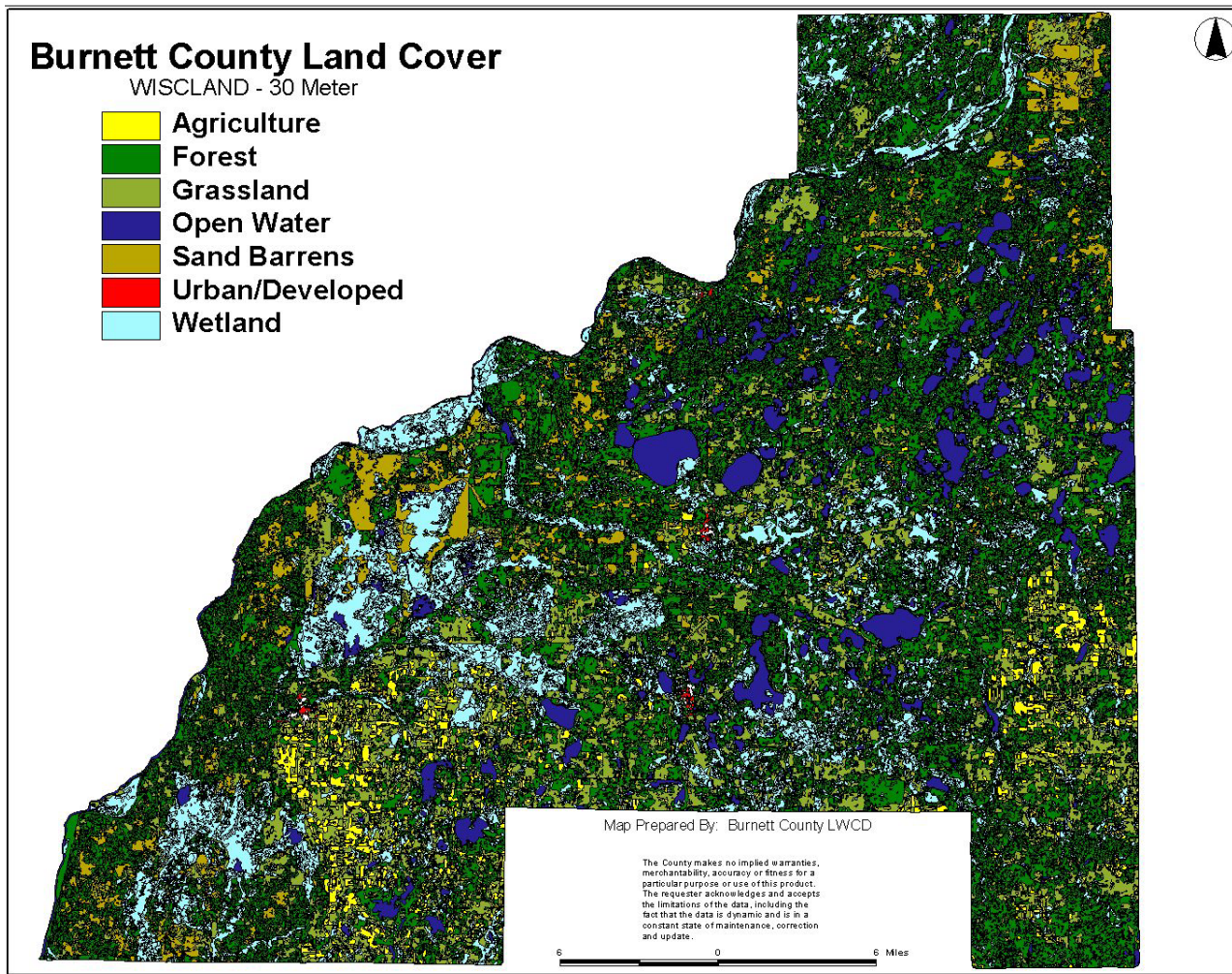


Figure 9. Burnett County Land Cover

## RARE SPECIES AND NATURAL COMMUNITIES

Lakes, streams, and wetlands provide habitat for many state listed rare species and natural communities. Protection of these areas is important for sustaining rare species in Burnett County.

The St. Croix Riverway contains an unusually high number and variety of endangered and threatened species indicative of a relatively well preserved, well surveyed, and biologically diverse terrestrial and aquatic environment. More than ninety threatened and endangered species are found within the Riverway. Five specific river segments have been identified as areas that are especially important for rare species. One segment is the St. Croix River from the confluence of the St. Croix and Namekagon downstream to the confluence of Wolf Creek. This segment is the longest and most pristine example (in terms of animals) of a large river ecosystem in the Midwest. It has the only known viable population of the St. Croix snaketail dragonfly, possibly a new species of mayfly, and a distinct population of the southern brook lamprey. Good populations of listed and rare species, that generally are doing poorly elsewhere, are found in this segment of the St. Croix River in Burnett County.<sup>7</sup>

Lists of rare species and natural communities that have been located in Burnett County can be found on the website for the Wisconsin Natural Heritage Inventory. Updated information is available online at <https://dnr.wi.gov/topic/NHI/data.asp>.

## INVASIVE SPECIES

Concern regarding aquatic invasive species (AIS) has heightened in recent years. Eurasian water milfoil has been identified in five lakes in Burnett County including Ham Lake, Round Lake, Big Trade Lake, Little Trade Lake, in a portion of the Trade River, and Shallow Lake. The Trade River flows directly into the St. Croix River, a National Scenic Riverway and a state Outstanding Resource Water. Only a small portion of Shallow Lake, which straddles the borders of Barron, Washburn, and Burnett County, is in Burnett County. Purple loosestrife is present in over 100 locations in the county. Japanese knotweed is known to be present in the county at about 30 locations.

Zebra mussels were first found in Big McKenzie Lake in the fall of 2016. Since then zebra mussels have also been confirmed in Middle McKenzie Lake, which is hydrologically connected to Big McKenzie Lake. Burnett County has worked in cooperation with Washburn County on zebra mussel monitoring and prevention efforts. County monitoring efforts include installation of plate samplers, veliger tows, eDNA samples, and tracking the population size on both Big and Middle McKenzie Lakes. Education and outreach is a number one priority, and Clean Boat Clean Water efforts are prioritized on these two water bodies.

Burnett County supports lake association installation of AIS decontamination stations to remove invasive species and prevent spread to other water bodies. Burnett County also has a high pressure, hot water washing unit available to remove AIS. The unit was purchased with a grant from the Wisconsin Department of Natural Resources in cooperation with Washburn County.

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<sup>7</sup> The State of the St. Croix Basin. March 2002.

## SOIL EROSION FROM CROPLAND

Croplands are concentrated in the southeast and southwest portions of Burnett County with scattered cropland elsewhere. Concern regarding cropland soil erosion is generally low in the county because of the limited amount of cropland and low erosion rates. The amount of cropland in each watershed derived from satellite images (1992) is summarized in Table 7 below. Total cropland acres and percentages vary because of the different data collection techniques used. Cropland may be under reported because idle fields would classify as grassland or shrubland in the satellite image. Table 8 includes a list of crops grown on Burnett County croplands as inventoried in the Burnett County transect survey.

**Table 7. Cropland by Watershed**

<b>Watershed</b>	<b>Total Acres Cropland</b>	<b>Total Acres</b>	<b>Percent Cropland</b>
Clam River	807	69,212	1.2
Lower Namekagon River	51	45,870	0.1
Lower Yellow River	353	15,252	2.3
North Fork Clam River	5788	64,964	8.9
St. Croix/Eau Claire Rivers	0	26,714	0
Trade River	5691	63,764	8.9
Upper Tamarack River	12	21,891	0.05
Upper Yellow River	0	550	0
Wolf Creek	145	677	21.4
Wood River	7131	116,559	6.1
Yellow River	977	131,859	0.7
<b>TOTAL</b>	<b>20955</b>	<b>557,312</b>	<b>3.8</b>

**Table 8. Crop Cover from 2018 Transect Survey**

<b>Crop</b>	<b>Acres</b>	<b>Percentage of Total Cropland</b>
Corn	14,084	35.2
Soybeans	6,935	17.3
Small grains	1,707	4.3
Forage	11,736	29.4
Idle	3,414	8.5
Other	2,134	5.3
<b>TOTAL</b>	<b>40,010</b>	<b>100</b>



Burnett County conducted transect surveys according to Department of Agriculture, Trade, and Consumer Protection guidelines annually since 1999. Results are available for the years 1999 – 2001. The County collected transect data from 2002 – 2018, but has been unable to obtain summarized results from this data because of problems with the transect survey software. The average tolerable soil loss for Burnett County is 4 to 5 tons per acre. The tolerable soil loss rate, commonly referred to as “T,” is defined as the maximum average annual rate of soil erosion for each soil type that will permit a high level of crop productivity to be sustained economically and indefinitely (ATCP 50.01(16)). The overall annual soil loss rate in Burnett County calculated from the transect survey was 2.5 tons per acre in 2001 and 2.1 tons per acre in 2011.

**Table 9. Average Annual Soil Loss by Watershed<sup>8</sup>**

Subwatershed	Tons/acre (2001)	Tons/acre (2011)
Clam River	0.1	NA
Lower Namekagon River	2.7	0.7
Lower Yellow River	1.1	0.2
North Fork Clam River	2.0	2.5
Trade River	4.9	2.8
Wood River	2	1.7
Yellow River	1.1	0.9
St. Croix/Eau Claire, Rivers, Upper Tamarack River, Yellow River, Wolf Creek	NA	NA
County Rate	2.5	2.1

#### U.S. CENSUS OF AGRICULTURE LIVESTOCK DATA

The number of cattle and calves decreased from 13,550 in 1992, to 12,048 in 2007, and further to 11,707 in 2012. The percentage of dairy cows decreased from 37% (of cattle and calves) in 2002, to 28% in 2007, and to 29% in 2012. The percentage of beef cows increased from 11% (of cattle and calves) in 2002, to 21% in 2007, and was 20% in 2012. Fewer cattle may result in less manure runoff to surface water and reduced streambank erosion. However, a decline in dairy cows also results in fewer hay crops and more row crops such as corn and soybeans.

#### LIVESTOCK FACILITIES

Livestock facilities have continued to decrease in the county. All of the larger facilities are known to the staff and are visited on a regular basis. New facilities are normally noted as land use permits are issued, or as reported by staff. As new operations are discovered, they are visited by staff and permits are issued if required.

<sup>8</sup> St. Croix Basin TMDL Implementation Plan. 2012.

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## TARGETING SOIL LOSS FROM CROPLAND

Areas will be targeted for conservation practices using the following criteria:

- priority areas identified in the Lake St. Croix TMDL and SWAT analysis;
- the total amount of erosion occurring;
- the extent to which current estimated erosion rates for cropland fields exceed the soil erosion standards;
- the off-site damages, including water degradation caused by soil erosion;
- the extent to which the soil erosion is preventable;
- the cost of preventing erosion;
- the feasibility of implementing the erosion control strategy; and
- other factors to be identified by the Natural Resources Committee.

Burnett County's Farmland Preservation Standards were updated to reflect the Agricultural Performance Standards in 2018. These standards include farming at or below "T", the tolerable soil loss value. The tolerable soil loss standard applies to all lands in Burnett County. This standard is consistent with the state's "T" by 2000 goal. In fact, Burnett County has met this goal by having average soil erosion rates significantly below the tolerable soil loss values. Phosphorus index standards are also included.

Conservation plans, which plan individual crop fields to the tolerable soil loss rate, are prepared for participants in the Farmland Preservation Program by Natural Resources Conservation Service (NRCS) staff. Participation is voluntary through exclusive agricultural zoning. Of the twenty-one towns in the county, seventeen have comprehensive zoning. This is up from only eleven with comprehensive zoning in 2003. Six of these have land in exclusive agricultural zoning. The largest concentration of land in exclusive agricultural zoning is in Dewey Township in the southeastern portion of the county (Land Use Plan 1997). Exclusive agricultural areas are mapped in the Burnett County Farmland Preservation Plan (2018). As of January 2018, Burnett County will have about 20 landowners participating in Farmland Preservation, with that number expected to grow rapidly.

A variety of conservation practices are available for the control of cropland soil erosion. Reduced tillage, no till, and cover crops are used most frequently in Burnett County. Producers in Burnett County also tend to use several years of hay in crop rotations. Appropriate practices will be selected on an individual basis. Technical assistance will be provided for implementation of conservation practices such as reduced tillage, rotational grazing, cover crops, and no till. A full list of best management practices is included as Appendix E.

A SWAT model<sup>9</sup> calculated the effectiveness of various best management practices at reducing sediment and phosphorus loading to Lake St. Croix. The model shows results at both the edge of field and watershed scale and includes the effects of transport factors between the sources and receiving waters, Lake St. Croix in this case. Implementation of fall cover crops provided the largest reduction in phosphorus (P) load according to the SWAT analysis. If fall cover crops followed all corn and soybean

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<sup>9</sup> Almendinger, Jim. *Applying a SWAT Model of the St. Croix River Basin to Estimate Reductions in Sediment and Phosphorus Loads due to Agricultural Best Management Practices*. 2016.

rotations, a 23% reduction of P to Lake St. Croix would occur. With resulting improvements in soil health, that reduction could reach 25%. If soil test phosphorus was reduced along with fall cover crops, there could be an additional 1% reduction to reach a 26% reduction in phosphorus load reaching Lake St. Croix. Other BMPs had less of a predicted impact on P reduction including 4% for no till, 3% for vegetated filter strip, 6% for grassed waterway, and 5% for reduced initial soil test phosphorus.

Percentage reductions of P loads at the upland (edge of field) scale were generally about twice those at the watershed scale, because transport factors that trapped phosphorus between source and receiving waters muted the response by the time these constituents reached Lake St. Croix. Sediment load reductions followed a very similar pattern to those of phosphorus.

## POPULATION AND HOUSING

Burnett County is generally rural with an estimated 2018 population of 15,508. The villages of Grantsburg (population 1,317), Siren (population 789), and Webster (population 649) make up only 18 percent of the county's population. After declines in population from 1940 (population 11,382) to 1970 (population 9,276), Burnett County's population estimates increased steadily although there was an adjustment slightly downward following 2010 Census results.<sup>10</sup>

Total population figures do not capture the significance of seasonal housing in the county. The U. S. Census Bureau identified a total of 15,278 housing units in Burnett County in 2010. Seasonal housing makes up 51 percent of the total housing units in Burnett County (7,820 seasonal units in 2010). Seasonal housing units have increased in their importance in the county from 1970 when they made up only 30.2 percent of the total housing units to 1980 when they made up 39.9 percent, to 1990 when they made up 50 percent, and to 2000 when they made up 45 percent of the total housing units in the county. An abundance of lakes, rural scenery, and the county's proximity to the Twin Cities of Minneapolis and St. Paul, Minnesota will likely continue to support seasonal development in the county, although retirees may also convert seasonal homes to year-round homes on the water. Towns with seasonal housing units making up greater than 50 percent of the total are all located in the northern half of the county with the exception of the Town of La Follette (52%), the Town of Sand Lake (57%) and Town of Rusk (59%).<sup>11</sup>

Most of the seasonal housing in Burnett County is located on waterfront property. Because of the allure of living near water, residential development frequently occurs near lakes, streams, and wetlands. There are 5,372 address points located within 150 feet of lakes and rivers (Figure 11). Most of these are housing units, but address points may also indicate seasonal campers or sanitary systems for structures that may be built in the future.

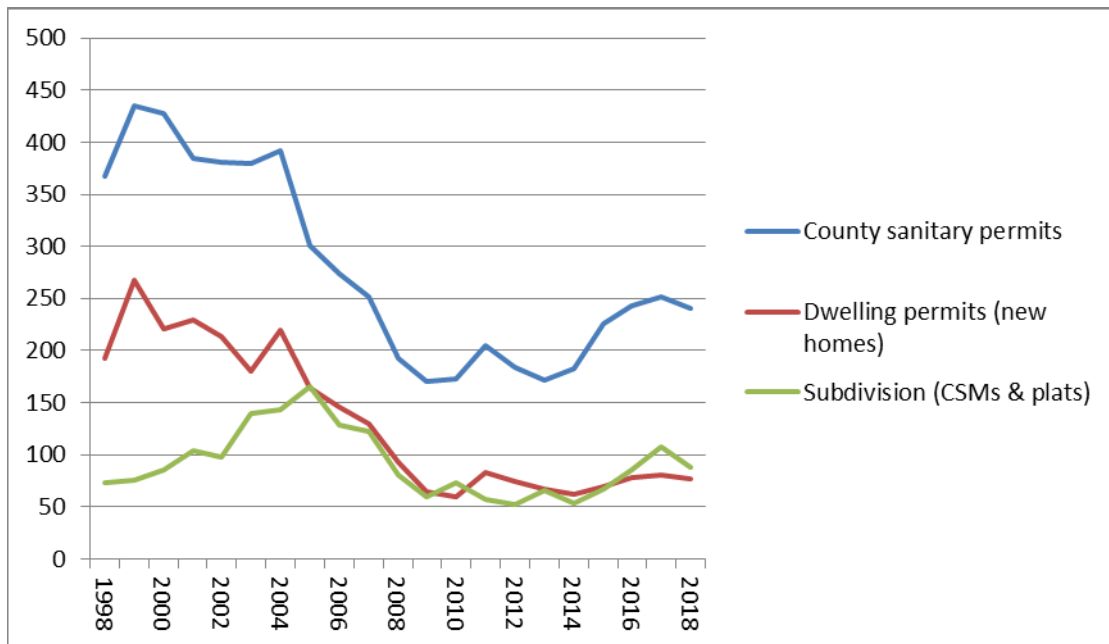
Burnett County has experienced rapid residential development that is centered near county lakes and rivers. Although construction of new homes and remodeling has slowed somewhat in recent years (Figure 10), building near water continues. Sanitary permits are more numerous than permits for new homes

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<sup>10</sup> [https://doa.wi.gov/Pages/LocalGovtsGrants/Population\\_Estimates.aspx](https://doa.wi.gov/Pages/LocalGovtsGrants/Population_Estimates.aspx)

<sup>11</sup> <https://www.census.gov/quickfacts> accessed January 2019.

because they are issued for private on-site waste water treatment system upgrades which may occur with remodeling.



**Figure 10. Burnett County Development Trends**

Residential development can negatively affect county water resources without adequate protective measures. When homes are built near water, the buffer of vegetation is frequently removed or greatly altered. Important functions of buffers that may be lost include providing habitat, holding soil in place, intercepting and purifying runoff water, and providing natural beauty. Wetland functions and values are lost when wetlands are filled to build roads and driveways, and establish lawns.

During home and road construction, when the protective cover of vegetation is removed, there are dramatic increases in the rates of soil loss and resulting sedimentation of water resources. The impacts of construction on the sandy soils of Burnett County can be particularly severe. Sands are highly erosive once vegetative cover is removed. In addition, these soils are difficult to revegetate, especially in the shady, dry conditions of forested areas.

Densely developed residential areas, such as many of the shoreland areas surrounding Burnett County lakes, result in increased quantities and rates of runoff because of the increase in impervious surfaces such as roads, roofs, and driveways. This increased runoff carries more sediment, increases erosion along streambanks, and causes flooding on adjacent property. High volumes of runoff from impervious surfaces on shoreland property can easily overwhelm the ability of vegetative buffers to absorb pollutants. Shoreland development includes backlot or second tier development just off of waterfront property.

Poor road construction can also lead to ongoing erosion problems. Erosion control and stormwater best management practices are available to alleviate environmental damage caused by erosion and runoff from residential, commercial, and road construction.

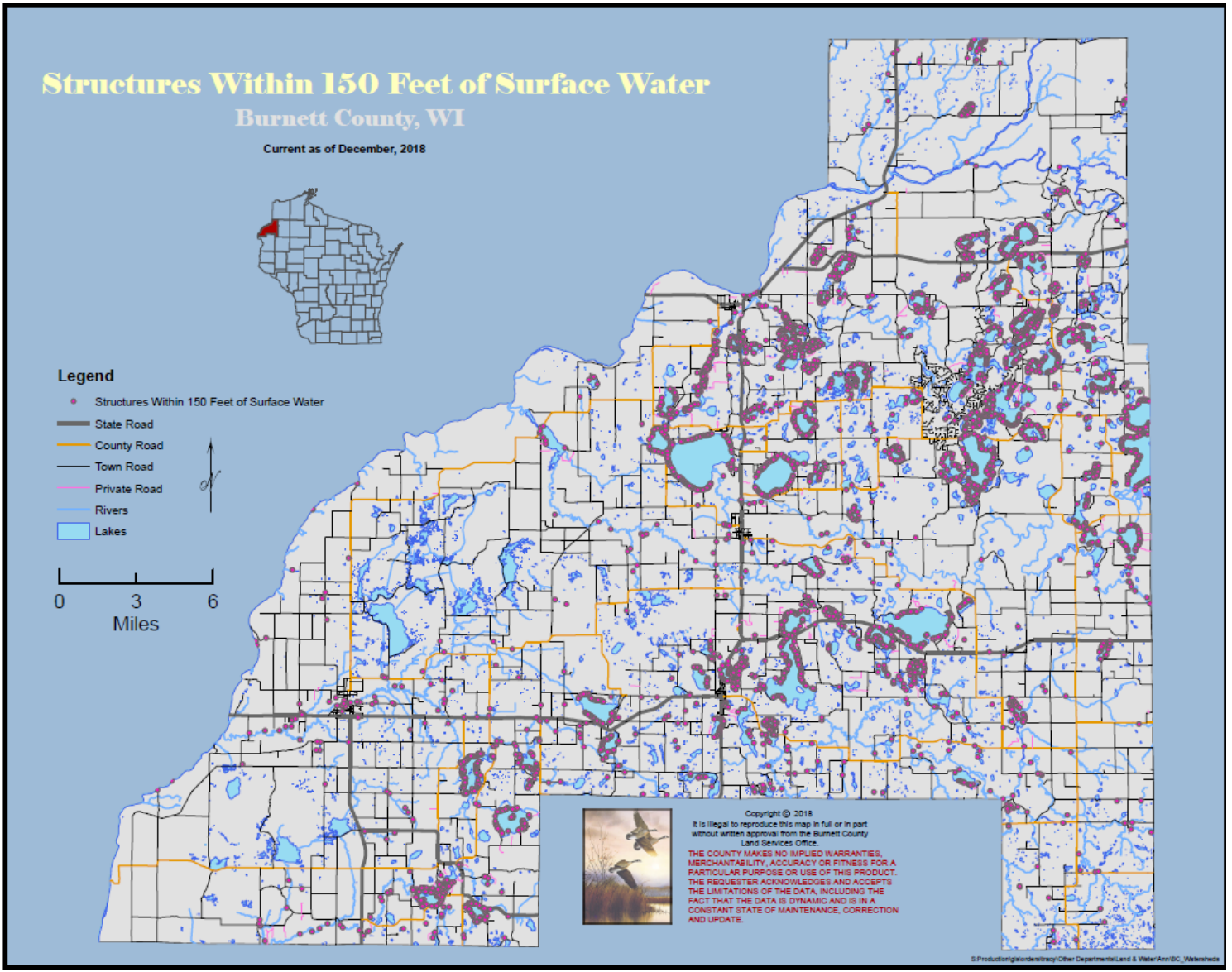


Figure 11. Structures within 150 Feet of Surface Water

## IDENTIFICATION OF CONCERNS

Based upon the land use planning public involvement process and personal knowledge of resource conditions in the county, the citizens advisory committee worked together with the technical work group to identify and prioritize water resource concerns in 1999. These goals were reviewed and updated by advisory committees in 2008 and 2019.

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## RECOMMENDATIONS FROM BURNETT COUNTY 2010 COMPREHENSIVE PLAN

Goals, objectives, and policies in the Burnett County 2010 Comprehensive Plan also guided the update of the land and water resource management plan implementation strategy which follows.

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### AGRICULTURAL, NATURAL, AND CULTURAL RESOURCES

Burnett County's plan for agricultural, natural, and cultural resources is to work cooperatively with communities and stakeholders to preserve and manage these valued features of the landscape. More specifically, Burnett County plans to work cooperatively with these same partners to help maintain the viability of its agriculture industry, to help maintain the integrity of its natural resources, and to encourage the documentation, recognition, and preservation of its cultural resources.

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### RELATED AGRICULTURAL, NATURAL AND CULTURAL RESOURCES GOALS

**Goal:** Support the efficiency, effectiveness, quality, and coordinated planning of county government, community facilities and services, and utilities.

**Goal:** Provide quality and accessible parks and recreational facilities.

**Goal:** Ensure proper disposal of wastewater to protect groundwater and surface water resources.

**Goal:** Ensure that the county's water supply has sufficient capacity, remains drinkable, and is available to meet the needs of residents, businesses, industry, and agriculture.

**Goal:** Maintain the viability, operational efficiency, and productivity of the county's agricultural resources for current and future generations.

**Goal:** Balance the protection of farmland with the exercise of development rights.

**Goal:** Encourage the efficient management of the County's natural resources.

**Goal:** Protect and improve the quality and quantity of the County's ground and surface water.

**Goal:** Preserve the natural and scenic qualities of lakes and shorelines in the County.

**Goal:** Balance future development with the protection of natural resources.

**Goal:** Balance future needs for the extraction of mineral resources with potential adverse impacts on Burnett County.

## CHAPTER 3. PLAN IMPLEMENTATION

The goals established in this plan will be implemented over a ten-year planning period beginning in 2020 and running through the year 2029. The goals represent priorities for land and water resource management in Burnett County.

### ST. CROIX BASIN PHOSPHORUS REDUCTION GOAL

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Reduce phosphorus runoff in the St. Croix Basin by 20 percent by 2020. This phosphorus reduction goal equates to a 35 percent reduction in phosphorus from controllable sources. Burnett County's long-term phosphorus reduction goal is 24 percent.

## LAND AND WATER RESOURCE MANAGEMENT GOALS

GOAL I. PROTECT HEALTHY WATERS AND RESTORE IMPAIRED SURFACE WATERS AND WETLANDS.

GOAL II. PROTECT AND IMPROVE GROUNDWATER QUALITY AND MAINTAIN GROUNDWATER QUANTITY.

GOAL III. PRESERVE AGRICULTURAL LAND AND IMPROVE SOIL HEALTH.

GOAL IV. PRESERVE AND RESTORE HABITAT AND NATURAL AND SCENIC QUALITIES PROVIDED BY LAKES AND SHORELINES, FORESTLAND, GRASSLAND, AND OTHER WILD LANDS.

GOAL V. PROVIDE FOR OTHER LAND AND WATER CONSERVATION NEEDS FOR COUNTY RESIDENTS AND MEET RELATED STATE REQUIREMENTS.

## INFORMATION AND EDUCATION STRATEGY

Information and education activities will be critical to reaching each land and water resource goal of the plan. In order to reach the goals, many individuals in the county must make behavioral changes. People will not make these changes unless they understand the importance of land and water resources and the ways to protect them, and are aware of assistance available.

An information and education strategy is outlined following the objectives and other activities for each goal statement. In the information and education strategy, target audiences and key messages are identified, and the recommended activities to deliver those messages are listed. New messages and activities may be developed as the plan is implemented. Initial implementation is outlined in the 2019

work plan. The strategy will be evaluated and modified along with other components of the work plan each year.

Targeted information and education programs are used for several of the plan goals. Educational tools that are common to more than one program are listed below. A given educational program will use several of these educational tools.

## COMMON EDUCATIONAL TOOLS

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### Direct mail

Newsletter articles: Burnett County Lakes and Rivers Association *Lake Lines*  
Burnett County Administration Newsletter  
Polk Burnett Electric Cooperative  
*The Bugle* (4-H)  
UW Extension *Agricultural Newsletter*

Newspaper articles: *The Vision*  
*Burnett County Sentinel*  
*Intercounty Leader*  
*Spooner Advocate*  
*The Country Today*

### Brochures

Burnett County website/social media

### Workshops

Displays at county fairs and other events

### Radio spots

### Videos

### Presentations

### Envirothon

Tri-County Land Judging

Conservation Day

Conservation Camp Scholarships

Poster and speech contest

Slide shows

## OBJECTIVES AND ACTIVITIES

An implementation strategy is provided for each goal in the following section. The objectives are the detailed and measurable steps toward reaching each goal. Activities provide the means for reaching the objectives.



## GOAL I. PROTECT HEALTHY WATERS AND RESTORE IMPAIRED SURFACE WATERS AND WETLANDS.

### WATERFRONT OBJECTIVES

- A. Increase the percentage of waterfront properties that meet county shoreline buffer standards.
- B. Decrease runoff quantities and erosion from lots in the shoreland.

### WATERFRONT ACTIVITIES<sup>12</sup>

- \*\*\* 1.1) Administer the Burnett County Shoreline Buffer Incentives Program (SIP).
  - Tax credit program
  - Deed restrictions
  - Voluntary restorations
  - Technical assistance
- \*\* 1.2) Provide shoreline buffer technical assistance and inspections for WDNR and Burnett County permit mitigation and enforcement of shoreland violations.
- \* 1.3) Provide technical assistance and inspections related to WDNR and Burnett County shoreland land use permits for erosion control, stormwater management, stairs, and retaining walls and related violations.
- 1.4) Evaluate program effectiveness.
  - Track restorations, deed restrictions, and tax incentives
  - Evaluate factors leading to adoption of shoreland restoration practices

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<sup>12</sup> \* = Advisory Committee priority activities. Additional asterisks indicate higher priority.

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## WATERFRONT EDUCATIONAL STRATEGY

### TARGET AUDIENCE

Shoreline property owners - developed and undeveloped property  
General public - future and new property owners  
Water users  
Resort owners  
Bait shops and recreation sports dealers  
Short-term renters such as through Vacation Rent by Owner (VRBO) and AirBNB  
Public property managers  
Landscapers  
Greenhouse operators  
Youth - 4H, schools, etc.  
Realtors  
Contractors  
Elected officials and local government staff

### MESSAGES

Clarify Shoreline Incentive Program requirements.  
Good stewardship promotes clean lakes and a good quality of life.  
Natural beauty of lakes and rivers sells Burnett County real estate.  
Define and describe shoreline buffers.  
Buffer design can enhance views to and from the water and allow recreational activities.  
Native aquatic and shoreline plant communities provide fish and wildlife habitat, minimize erosion, protect water quality, are adapted to local conditions, shield against invasion of non-native species, and provide natural shoreline beauty.  
Explain WDNR guidelines and Burnett County ordinance regarding dock placement.  
Boat wakes can cause erosion along shorelines. Travel at no-wake speed when close to the shoreline.  
Wild rice has critical times for propagation when plant beds are particularly susceptible to disturbance.  
Wild rice is easily disturbed by wave action.  
Shoreline development impacts are cumulative.  
Sediment from building and road construction sites flows to water resources causing environmental damage.  
Where to buy erosion control supplies, seeds, etc.  
Best management practices can reduce erosion from construction sites and limit ongoing erosion and runoff from shoreline property.  
Impermeable surfaces should be minimized to reduce runoff and pollution from property.  
Pesticide and fertilizer use should be minimized in the shoreland zone.

## WATERFRONT EDUCATIONAL ACTIVITIES<sup>13</sup>

1.5) Outreach to landowners

1.6) Establish demonstration restoration sites: public parks, county-owned boat landings, lake and river sites

1.7) Edit BCLRA newsletter

1.8) Make presentations to lake associations.

\*\* 1.9) Advise on erosion control and stormwater management techniques to landowners and contractors.

1.10) Provide list of “do’s and don’ts” with building permit or at time of sale.

1.11) Provide opportunity for citizen water quality monitoring.

1.12) Inform the county board and board of adjustment about the Shoreline Incentives Program, the need for erosion control, stormwater management, and limits on impervious surfaces in the shoreland area and encourage related updates to the shoreland land use ordinance.

1.13) Encourage landowner and lake organization participation in WDNR Healthy Lakes projects.

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<sup>13</sup> \* = Advisory Committee priority activities. Additional asterisks indicate higher priority.

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## AGRICULTURAL OBJECTIVES

- A. Achieve phosphorus reduction goals of the Lake St. Croix Total Maximum Daily Load Plan.
- B. Secure significant percent compliance with NR151 Agricultural Performance Standards (contingent upon state funding availability).
- C. Farmers use appropriate nutrient management techniques that account for the nutrient value of manure and limit spreading on frozen ground to suitable areas.
- D. Animal waste storage facilities are designed, installed, and maintained according to Burnett County standards.
- E. Crop fields have erosion rates equal to or less than “T,” the tolerable soil loss planning standard.

### NR 151 AGRICULTURAL PERFORMANCE STANDARDS

- NR 151.02 Sheet, rill and wind erosion performance standard
- NR 151.03 Tillage setback performance standard
- NR 151.04 Phosphorus index performance standard
- NR 151.05 Manure storage facilities performance standards
- NR 151.055 Process wastewater handling performance standard
- NR 151.06 Clean water diversion performance standard
- NR 151.07 Nutrient management

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## AGRICULTURAL ACTIVITIES<sup>14</sup>

- \*\*\* 1.14) Implement the Agricultural Performance Strategy following guidance of the Burnett County/Wisconsin Department of Natural Resources Memorandum of Understanding (see Appendix A for details).

### Selecting priority farms for on-site visits

#### Initial identification of sites

- 1) Voluntary requests for assistance
- 2) Complaints
- 3) Known or potential violations (May have been identified in the 2003 livestock facility windshield survey. These facilities were in the Water Quality Management Area (within 1000 feet of a lake or flowage or within 300 feet of a navigable stream.)
- 4) Farmland Preservation participants

#### Prioritizing review and technical and financial assistance for those sites identified above

- 1) High phosphorus loading based on Lake St. Croix TMDL evaluation methods such as subwatershed goals and SWAT model phosphorus yield results by subwatershed.
- 2) Land drains to a lake or stream (rather than internally drained)
- 3) Proximity and slope to a lake or stream (closer and greater slope = higher priority)
- 4) Livestock producers without nutrient management plans
- 5) Any cropland located in an area susceptible to groundwater contamination. (Physical characteristics of these areas are identified in NR 151.015(18))
- 6) Crop producers without nutrient management plans

\*Priority sites will be reviewed for all agricultural performance standards.

- \*\*\* 1.15) Encourage and support farm nutrient management planning development and implementation.

- \*\* 1.16) Provide technical assistance and cost sharing to implement best management practices.<sup>15</sup>

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<sup>14</sup> \* = Advisory Committee priority activities. Additional asterisks indicate higher priority.

1.17) Implement the Burnett County Animal Waste Ordinance to the extent allowable by cost share dollars and staff availability. Issue permits and respond to complaints.

1.18) Where possible, track the phosphorus reductions with implementation of agricultural practices to assist in tracking toward the St. Croix Basin phosphorus reduction goal.

1.19) Complete and interpret the transect survey each year.

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## AGRICULTURAL EDUCATIONAL STRATEGY

### SPECIFIC EDUCATIONAL OBJECTIVE

Involve farmers in the development of ordinances that regulate farms, and inform farmers about the impact of the state and county animal waste requirements.

### TARGET AUDIENCE

Farmers targeting those in high phosphorus loading subwatersheds  
Landowners who rent cropland  
Crop consultants  
Lending institutions  
Agricultural businesses

### MESSAGES

Agricultural performance standards regulate farm operation in Burnett County.  
Cost sharing is available to correct violations of the performance standards.  
Release of files and nutrient management plans may delay an on-site visit.  
Proper handling of animal waste reduces the delivery of phosphorus and nitrogen to water resources.  
Proper manure management can save money.  
Untreated runoff from barnyards and manure spreading can negatively impact streams, lakes, and groundwater.  
Livestock waste is a valuable soil amendment and excellent source of nutrients for crops.  
Farmers have been using appropriate manure management and cropland practices for years.  
Loss of soil costs money.  
Residue management can reduce runoff of soil from fields and protect water quality.  
Cropland practices such as cover crops can help reduce nitrate loads from cropland to drinking water wells.

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<sup>15</sup> A full list of best management practices is included as Appendix E.

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## AGRICULTURAL EDUCATIONAL ACTIVITIES

1.20) Promote use of Conservation Reserve program, Environmental Quality Incentives Program, and other cost share programs to protect water quality and maintain open space.

1.21) Conduct demonstration sites and tours.

1.22) Hold workshops for producers regarding nutrient management plans.

1.23) Recognize farmers that use appropriate agricultural best management practices.

1.24) Distribute rural living guide including information about minimizing impacts of small numbers of animals near the water.

1.25) Support farmer-led councils.

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## NON-AGRICULTURAL SOIL EROSION OBJECTIVES

A. Town and county roads and lake accesses are constructed and maintained to limit soil erosion and protect water quality.

B. Construction sites meet NR 151 Performance Standards.

C. Erosion and habitat impacts of trail and off road vehicle use are minimized.

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## NON-AGRICULTURAL SOIL EROSION ACTIVITIES<sup>16</sup>

\* 1.26) Provide technical assistance to towns and county departments that are developing erosion control and stormwater plans and implementing practices such as culvert and boat landing installation and maintenance.

1.27) Provide technical assistance to the Burnett County Forestry and Parks Department in managing erosion from All Terrain Vehicle (ATV) trail and off trail use.

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<sup>16</sup> \* = Advisory Committee priority activities. Additional asterisks indicate higher priority.

## NR151 NON AGRICULTURAL PERFORMANCE STANDARDS

Construction Sites >1 acres – must control 80% of sediment load from sites

Stormwater management plans (>1 acre)

- Total Suspended Solids

- Peak Discharge Rate

- Infiltration

- Protective Areas around Wetlands

Developed urban areas (>1000 persons/square mile)

- Public education

- Yard waste management

- Nutrient management

- Reduction of suspended solids

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## SOIL EROSION EDUCATIONAL STRATEGY

### TARGET AUDIENCE

Town officials and maintenance crews

Lake organizations

Boat landing owners (town, state, county)

Contractors

Landowners

ATV owners and operators

County board

### MESSAGES

All-terrain vehicles may cause serious environmental damage when taken off the road or trail.

Simple best management practices are available to reduce erosion from construction sites.

Describe impacts of erosion and stormwater runoff.

### Activities

1.28) Present information at town or multi-town meetings.



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## WETLANDS OBJECTIVES

- A. Encourage restoration and preservation of wetlands and wetland vegetative buffers.
- B. Identify and protect wetlands that provide critical water quality protection and/or wildlife habitat.

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## WETLANDS ACTIVITIES<sup>17</sup>

1.29) Assist zoning with enforcement of wetland provisions of the shoreland zoning ordinance.

1.30) Investigate programs available for critical wetlands protection (e.g., scientific natural areas designation).

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## WETLANDS EDUCATIONAL STRATEGY

### TARGET AUDIENCE

Landowners with drained wetlands

General public

Shoreline homeowners

Municipalities

Youth

Burnett County Lakes and Rivers associations

Contractors and Builders

### MESSAGES

Cost sharing is available to restore wetlands.

Wetlands provide critical wildlife habitat - give specific examples of wetland types and the habitat element they provide (e.g., small wetland pools for amphibian reproduction).

Protecting wetlands in their natural state is very important; functions and values cannot be completely replaced with restoration.

Wetlands enhance water quality, attenuate floods, and provide wildlife habitat.

Significant acres of wetlands in the United States, state, and county have been lost along with their functions and values. Losses are cumulative.

Successful wetland restoration projects have been completed in Burnett County.

Wetlands are poor locations for development and farming.

Buffers around wetlands are beneficial to wildlife and water quality.

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<sup>17</sup> \* = Advisory Committee priority activities. Additional asterisks indicate higher priority.

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## WETLANDS EDUCATIONAL ACTIVITIES

- \*\* 1.31) Promote wetland restoration and the technical and financial assistance available to landowners who own land with drained wetlands (NAWCA, Wetland Reserve Program, CRP, etc.).
- 1.32) Make presentations to municipal and town officials.
- 1.33) Print articles in BCLRA newsletter.

## GOAL II. PROTECT GROUNDWATER QUALITY AND QUANTITY.

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### OBJECTIVES

- A. Prevent exceedances of nitrate and other drinking water standards.
- B. Unused wells are closed and sealed properly.
- C. Burnett County residents and business owners understand and carry out methods to protect groundwater.

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### ACTIVITIES<sup>18</sup>

- \*\* 2.1) Implement agricultural activities included in the surface water goal emphasizing nutrient management planning and well closure, especially within wellhead protection areas.
- \* 2.2) Investigate a groundwater quantity and quality study in cooperation with WDNR, UWEX, Burnett County Emergency Management and adjacent counties.
- \* 2.3) Encourage investigation into the impacts of high capacity wells.

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<sup>18</sup> \* = Advisory Committee priority activities. Additional asterisks indicate higher priority.

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## GROUNDWATER EDUCATIONAL STRATEGY

### TARGET AUDIENCE

General public  
Youth in schools  
Agricultural landowners

### MESSAGES

Drinking water testing services are available through Burnett County Public Health Services, St. Croix Tribe, Department of Natural Resources, etc.  
Burnett County is very susceptible to groundwater contamination.  
Surface water and groundwater quality are closely tied (many lakes are almost solely groundwater fed and groundwater is very close to the surface in many locations).  
Daily activities may impact groundwater.  
Household and agricultural hazardous waste collection "Clean Sweep" is available.  
Contaminated groundwater is very difficult to clean up, and clean-up is complicated by contaminants, residence time, and cost.  
Groundwater is a limited resource. Conserve groundwater supplies through water conservation measures.  
Have the well inspected before you purchase property.  
High capacity wells may negatively impact Burnett County groundwater quantity and quality and lake levels.

### ACTIVITIES

- 2.3) Coordinate resources available for groundwater protection.
- 2.5) Provide groundwater model for schools.
- 2.6) Distribute list of contaminated sites; tie to general groundwater protection.
- 2.7) Provide information about groundwater testing services.
- 2.8) Explain well code requirements for landowners installing their own wells.
- 2.9) Encourage teachers to attend groundwater training.
- 2.10) Encourage well closure and sealing with cost sharing and demonstrations.

## GOAL III. PRESERVE AGRICULTURAL LAND AND IMPROVE SOIL HEALTH.

### OBJECTIVES

- A. Agricultural land remains in production.
- B. Agricultural soil health is improved.

### ACTIVITIES<sup>19</sup>

- \*\*\* 3.1) Implement the Burnett County Farmland Preservation Plan. This includes annual required spot checks for program compliance.
- 3.2) Use tools such as conservation easements, tax incentives, agricultural enterprise areas, purchase of development rights, land trusts, and other means of permanently protecting land.
- 3.3) Work together with state and federal agencies and nonprofit organizations such as land trusts.
- \*\* 3.4) Emphasize best management practices for soil health improvement: cover crops, no-till, and managed grazing.

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<sup>19</sup> \* = Advisory Committee priority activities. Additional asterisks indicate higher priority.

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## FARMLAND PROTECTION EDUCATIONAL STRATEGY

### AUDIENCE

Agricultural landowners  
County board  
Agricultural product and service providers  
Builders  
Developers  
General public

### MESSAGES

Farming is an important part of Burnett County's economy.  
Maintain productive agricultural land for locally produced commodities.  
Agricultural land demands fewer services than residential or commercial land.  
Tools are available to protect farmland.  
Protecting agricultural land protects open spaces.  
Agricultural land provides wildlife habitat, especially when next to natural areas.  
Protecting farmland promotes good land use planning.  
Cover crops reduce the need for crop inputs and improve soil health.

### ACTIVITIES

3.5) Direct outreach through letters, newspaper and newsletter articles  
3.6) Public meetings

GOAL IV. PRESERVE AND RESTORE HABITAT AND NATURAL AND SCENIC QUALITIES PROVIDED BY LAKES AND SHORELINES, FORESTLAND, GRASSLAND, AND OTHER WILD LANDS.

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AQUATIC INVASIVE SPECIES OBJECTIVES

- A. Monitor and control Eurasian water milfoil, purple loosestrife, Asian carp, zebra mussels and other aquatic invasive species.
- B. Protect native aquatic plants (especially wild rice) and aquatic habitat.
- C. Monitor and control terrestrial invasive species such as spotted knapweed, buckthorn, leafy spurge, and giant and Japanese knotweed.

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AQUATIC INVASIVE SPECIES ACTIVITIES<sup>20</sup>

- \*\* 4.1) Inspect watercraft and equipment at public access points to help prevent accidental spread of invasive species into additional lakes and rivers. Implement Clean Boats, Clean Waters program and support ILIDS Program.
- 4.2) Assist lake organizations with aquatic plant inventories and plans.
- 4.3) Support Burnett County Sheriff and lake association efforts to implement the Do Not Transport Ordinance.
- \* 4.4) Develop rapid response plans for eradication of manageable infestations.
- \*\* 4.5) Monitor native and invasive aquatic plants at boat landings and other areas where invasive introductions are likely to occur.
- \* 4.6) Track purple loosestrife/zebra mussel/Eurasian water milfoil and other aquatic and terrestrial invasive species infestations.
- 4.7) Promote establishment of decontamination stations at surface water access points.
- \* 4.8) Monitor lakes for zebra mussels using veliger tows, eDNA, plate samplers, and other available methods in cooperation with Washburn County.

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<sup>20</sup> \* = Advisory Committee priority activities. Additional asterisks indicate higher priority.

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## INVASIVE SPECIES EDUCATIONAL STRATEGY

### AUDIENCE

Lake property owners  
Lake property renters  
Visitors  
Bait shops, boat dealers, recreation sports dealers  
Hunters and anglers  
Fishing contest sponsors and participants  
Wake boat owners

### MESSAGE

AIS identification: pictures and information.  
Purple loosestrife is widespread in Burnett County.  
Describe Conservation Division/lake association efforts to identify and control AIS.  
Aquatic invasive species threaten to take over native species habitat and create nuisance conditions.  
Burnett County has a Do Not Transport Ordinance for invasive species – describe requirements.  
Contact the Conservation Division if you find suspected EWM.  
Healthy populations of native plants help to prevent introduction and spread of invasive species and provide diverse habitat for wildlife.  
Invasive plants reduce plant and animal diversity.  
Abundant plants keep the water clear, especially in shallow areas of lakes.  
Native plant removal is discouraged because disturbance provides areas for invasive species to grow.  
Request/suggest that boaters and personal watercraft operators travel at no wake speed in certain areas to prevent plant removal and introduction of EWM and other invasive aquatic plants.  
If you need to remove plants in front of your property, rake to a maximum opening of no more than thirty feet. Less is better.  
Wake boats can transfer aquatic invasive species like zebra mussels in ballast water.

### ACTIVITIES

- 4.9) Post boat landing signs
- 4.10) Present information at lake association meetings
- 4.11) Update Burnett County Courtesy Code to include AIS
- 4.12) Write BCLRA Lake Lines newsletter articles
- 4.13) Distribute written information, such as packets for kids free fishing weekend.
- 4.14) Promote decontamination procedures for duck hunters and anglers at walk-in access points.

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## WILD LAND PROTECTION OBJECTIVES

- A. Protect undeveloped lake and river shorelines and critical watershed areas.
- B. Maintain publicly-owned lake and river frontage protected in a wild state.
- C. Encourage reforestation and forest management practices that limit water quality impacts.
- D. Maintain and improve biodiversity.

---

## WILD LAND PROTECTION ACTIVITIES

- 4.15) Place a priority on protection of undeveloped lake and river frontage as parcels become available.
- 4.16) Advocate for landowner protection of land. Use tools such as conservation easements, tax incentives, purchase of development rights, land trusts, and other means of permanently protecting land.
- 4.17) Cooperate with other organizations and their initiatives to permanently protect land.
- 4.18) Promote use of appropriate management methods: prescribed burning, logging, and invasives control.
- 4.19) Work with government entities to encourage retention of public ownership on town, county, state, and federal lands.
- 4.20) Identify funding for program implementation.
- 4.21) Coordinate wild land protection efforts with agricultural land preservation.
- 4.22) Provide trees, shrubs, and native plants at reasonable cost in an annual sale.
- 4.23) Provide recommendations for airport safety and habitat improvements.



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## WILD LAND EDUCATIONAL STRATEGY

### TARGET AUDIENCE

General public  
Private owners of large tracts of shoreline property  
Local government officials

### MESSAGES

Options available to protect wild lands include: conservation easements, transfer of development rights, purchase of development rights, land purchase, etc.

Some of these options may reduce your income taxes.

Government entities make payments in lieu of local property taxes.

Certain lands are priorities for protection.

Protecting large blocks of land results in protection of surface and groundwater.

Large blocks of land in public ownership and corridors of protected land are important for biological diversity.

Without protection of wild lands, the natural beauty you enjoy will not be here for future generations.

Wild lands are important to the economy of Burnett County because of tourism, public savings of service costs, and enhanced value of nearby real estate.

Illustrate development trends and potential impacts

### ACTIVITIES

4.24) Outreach to owners of wild shorelands.

4.25) Encourage best management practices for forestry and agriculture on undeveloped lands.

4.26) Provide information about options to protect wild lands.

4.27) Encourage nature-based tourism in wild lands in Burnett County.

4.28) Support land trust efforts.

4.29) Encourage fundraising to support land protection.

**GOAL V. PROVIDE FOR OTHER LAND AND WATER CONSERVATION NEEDS FOR COUNTY RESIDENTS AND MEET RELATED STATE REQUIREMENTS.**

**ACTIVITIES**

- 5.1) Administer the Wildlife Damage Program.
- 5.2) Provide general educational programming including the poster contest, speaking contest, soil judging, and conservation day.
- 5.3) Administer the nonmetallic mine reclamation program.
- 5.4) Operate and maintain county-owned dams.
- 5.5) Provide office support and administration.

## CHAPTER 4. PARTNERS IN THE WATER RESOURCES PLAN

The land and water resource management plan is a ten-year strategic plan for the Burnett County Conservation Division of the Land Services Department. Although the plan is developed to guide the Conservation Division, cooperation of natural resource agencies and organizations will be sought in its implementation.

Burnett County will also seek cooperative projects with adjacent counties. Burnett County and Polk County work together on rapid response for giant and Japanese knotweed, grazing network, and the Map Feeder tracking system. Burnett County and Washburn County work together on zebra mussel prevention, monitoring and education; and a Farmer-led Council project. Burnett County and St. Croix County share the same Wildlife Damage Program contractor.

### WORK PLAN

An annual work plan to begin implementation of the objectives contained in this document is included in Appendix B. The work plan identifies planned activities and performance measures by category, planned activity related to permits and ordinances, planned inspections, planned outreach and education activities, and staff hours and expected costs. Staff needs are estimated only for the Burnett County Conservation Division of the Land Services Department. The document will be updated each year.

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### LAKE AND RIVER ORGANIZATIONS

Because lakes and rivers are such important resources to Burnett County, their supporting organizations play a crucial role in implementing this plan. While each organization has goals and objectives specific to its own lake, many goals will be consistent with the county plan. The Burnett County Lakes and Rivers Association is involved in countywide educational programming which will assist with the implementation of this plan. The lake organizations of Burnett County are listed on the following page.

## BURNETT COUNTY LAKE AND RIVER ORGANIZATIONS

- Austin Lake Association
- Bass Lake (Meenon) Association, Inc.
- Bass Lake Property Owners Association
- \* Big Bear Lake Association
- \* Big Doctor's Lake Association
- \* Big Sand Lake Association
- \* Big Wood Lake Association
- \* Birch Island Lake Association
- Burlingame Lake Association
- Burnett County Lakes and Rivers Association
- Clam Lakes Protection and Rehabilitation District
- Clam Lake Sportsman's Association
- \* Clear Lake Association
- \* Crooked Lake Preservation Association
- \* Deer Lake Association
- Des Moines Lake Association
- Devils Lake Property Owners Association
- Elbow Lake Association
- \* Fish Lake Property Owners Association
- Green Lake Association
- \* Ham Lake Association
- Hayden Lake Association
- \* Johnson Lake Property Owners Association
- \* Lipsett Lake Association
- \* Little Wood Lake Association
- \* Long Lake Association (Webb Lake)
- Long Lake Association (Highway 35)
- \* Loon Lake Association
- \* Love Lake Association
- Mallard Lake Association
- McKenzie Lakes Association
- \* Minerva/Cranberry Lake Association
- Minnow Lake Association
- \* Mud Hen Lake Protection and Rehabilitation District
- \* North Sand Lake Association
- Pike Lake Association
- \* Point Lake Association
- Prinel Owners Association
- \* Rooney Lake Association
- \* Round-Trade-Spirit-Long Lake Improvement Association
- Silver Lake Association
- \* Tabor Lake Association
- Taylor Lake Association
- \* Twenty-six Lake Association
- \* Webb Lake Property Owners Association
- \* Yellow Lake and River Association

\* Lakes that participate in WDNR Self-Help Monitoring. Lakes without associations also participate including Bashaw Lake, Benoit Lake, Big Trade Lake, Dunham Lake, Falk Lake, Gull Lake, Hanscom Lake, Oak Lake, Point Lake, Poquette Lake, Rice Lake, Spirit Lake, and Viola Lake. <https://dnr.wi.gov/lakes/CLMN/Stations> accessed 01/16/2019

## CHAPTER 5. FUNDING PLAN IMPLEMENTATION

The Burnett County Land and Water Resource Management Plan will primarily guide the Land Conservation Division. Other organizations with similar goals may participate in developing, implementing, and funding activities. A combination of private, local, state, and federal sources will be sought to implement the priorities of the plan. As funding opportunities arise, the plan goals and objectives will be referenced to develop project applications. A partial list of potential funding sources is outlined below. The lead agency to pursue funding will depend upon the individual objective being pursued.

### POTENTIAL FUNDING SOURCES

#### PRIVATE SOURCES

- Private Foundations
- Individual Contributions
- Volunteer Hours
- Lake and River Organizations
- Conservation Organizations
  - Ducks Unlimited
  - Pheasants Forever
  - Wisconsin Waterfowler's Association
- Natural Resources Foundation Grants

#### LOCAL GOVERNMENT SOURCES

- Burnett County Conservation Division Budget

#### STATE GOVERNMENT SOURCES

- Department of Natural Resources
  - Aquatic Invasive Species Grants
  - Forest Legacy
  - Targeted Runoff Management Funds
  - Stewardship Grants
  - Lakes Planning Grants
  - Lakes Protection Grants
  - River and Stream Planning and Protection Grants
- WDNR Wildlife Sources
  - Pheasant Stamp
  - Segregated Funds (general license)
  - Wisconsin Waterfowl Stamp
  - Turkey Stamp
  - Trout Stamp (Inland)

Department of Agriculture, Trade, and Consumer Protection

Land and Water Resource Management Funds

Soil and Water Resource Management

Cost Sharing

University of Wisconsin - Extension

Wisconsin Environmental Education Board Grants Program

Cooperative Educational Services Administration

Wisconsin Geologic and Natural History Survey

Wisconsin Groundwater Resource Center

FEDERAL GOVERNMENT SOURCES

United States Department of Agriculture

Farm Service Agency

Conservation Reserve Program (CRP)

Natural Resources Conservation Service

Environmental Quality Incentives Program (EQIP)

Wetland Reserve Program (WRP)

Conservation Stewardship Program (CSP)

Rural Development Administration

Environmental Protection Agency

Environmental Education Grants

319 (Clean Water Act) Grants

Five Star Grants

U.S. Fish and Wildlife Service

North American Waterfowl Conservation Act (NAWCA)

Partners for Fish and Wildlife

National Park Service

## CHAPTER 6. MONITORING AND EVALUATION

This chapter addresses both water quality monitoring and evaluation of progress toward meeting the goals of the land and water resource management plan. Although they are interrelated, each has a distinct function. Both monitoring and inventory data will be used to evaluate progress and guide the next revision to the LWRM plan.

### WATER QUALITY MONITORING

Water quality data is extremely limited for most of the over 500 lakes and streams in Burnett County. The *Surface Water Resources of Burnett County*, a document which compiles water quality and other information about water bodies in the county, is over thirty years old. Recommendations related to improving water quality data for the land and water resource management plan are stated below.

- The Department of Natural Resources should invest resources in monitoring surface and groundwater quality in Burnett County as recommended in the St. Croix Basin Plan.
- The Department of Natural Resources and Burnett County should support efforts of lake groups and other organizations to pursue funding for lake management projects.
- The Department of Natural Resources and Burnett County should encourage and support self-help monitoring programs.
- Burnett County should investigate the possibility of coordinating monitoring activities of county lake organizations.

A partial list of efforts underway to monitor water resources is included below. The 39 lakes participating in self-help monitoring are listed along with the Burnett County lake associations on page 56.

**Table 10. Existing Monitoring Efforts**

<b>Program</b>	<b>Resource</b>	<b>Responsible Agency</b>
Self Help Lakes Monitoring	Lakes	WDNR, Lakes Organizations
Lakes Planning Grant Studies	Lakes	WDNR, Lakes Organizations
Nitrate Testing	Groundwater	Burnett County Health Department St. Croix Tribe Environmental and Natural Resources Department
Eurasian Water Milfoil	Lakes/Streams	Burnett County Conservation Division
Purple Loosestrife	Lakes/Streams	Burnett County Conservation Division

The county has a well-established monitoring program that identifies and tracks locations of purple loosestrife infestations. Beetles (*Galerucella calmariensis* and *Galerucella pusilla*) are reared and released in areas of concentrated infestations, and chemical treatment is used for small infestations. Over 100 sites of purple loosestrife infestations have been identified in Burnett County. However, the ongoing purple loosestrife control project has successfully reduced significant purple loosestrife infestations to small populations in several instances.

County staff also survey areas of high public use such as boat landings to detect the presence of Eurasian water milfoil.

## NONPOINT SOURCE INVENTORIES

Nonpoint source inventories track changes in land use or land management practices that affect water quality. Several methods are currently used by resource agencies to track these changes.

**Table 11. Nonpoint Source Inventories**

<b>Inventory Method</b>	<b>Resource</b>	<b>Responsible Agency</b>
Transect Survey	Cropland	Conservation Division
National Resource Inventory	Land Use	NRCS
LandSat Photos	Land Cover	WDNR

Additional inventory activities are part of the implementation of this plan.

- Identify and track purple loosestrife and aquatic invasive species
- Evaluate farms according to the NR151 agricultural performance standards with on-site visits

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## PROJECT TRACKING: MAPFEEDER

In 2016 the Burnett County Conservation Division entered into an agreement with Polk County and a private contractor to provide a web-based GIS tracking software. MapFeeder is the “file cabinet” for every site visit and best management practice installed in Burnett County. The software is designed to locate a point on the map, collected using a tablet computer in the field, along with any associated tracking data entered by staff. One important component within the software is the ability to track phosphorus reductions from individual practices and generate reports based on various selection criteria such as by sub-watershed. This will greatly streamline program tracking and reporting actual reductions in phosphorus.



## PLAN EVALUATION

Plan evaluation assesses whether the objectives and activities of the plan are being accomplished. Evaluation measures are listed for each plan activity in the work plan. The Conservation Division will prepare an annual evaluation/progress report. This evaluation report will be used in yearly planning sessions to develop a work plan for the year.

The evaluation report will also cover the information and education strategies. The report will list planned and completed activities along with measures of success. Measures of success will vary by activity. Most activities are geared toward meeting objectives in a few general categories:

- promoting the availability of financial and technical assistance;
- teaching management techniques;
- increasing understanding about the importance of protecting water resources; and
- removing barriers to behavioral change to protect water resources.

The first two categories are relatively easy to evaluate. Effectiveness of promotional techniques will be tracked by simply asking people how they heard about the program when they sign up for an activity or inquire about a management practice. Knowledge of management techniques gained from workshops and other activities will be evaluated with questionnaires prior to and after events. Assessing understanding and behavioral change that result from educational activities is more difficult. Activities in these categories usually seek to reach a relatively broad audience, and many factors influence an individual's values and behaviors.

**APPENDIX A. NR151 AGRICULTURAL PERFORMANCE STANDARDS MEMORANDUM OF UNDERSTANDING**

# Burnett County NR 151 Implementation

## Overview:

NR 151 consists of Wisconsin's agriculture performance standard and prohibitions addressing non-point source pollution within the state. Interagency cooperation is required to correctly and efficiently administer and enforce the regulations included in the standard. This brief report will describe Burnett Counties reasoning and strategy to successfully implement the NR 151 performance standard.

## Purpose:

- Provide information and education to the public about standards and prohibitions.
- Perform on-site evaluations to explain standards and determine compliance.
- If compliance is an issue, provide technical assistance to remedy critical situation.
- Utilize any available public cost-share money as an incentive to achieve compliance.
- Report on progress of NR 151 implementation and monies allocated for corrective measures.

## Process:

For consistency throughout the state a systematic list was generated to streamline the implementation approach. The strategy has been broken into 10 different components. They are as follows:

- 1) Plan the Implementation Approach
- 2) Define Level of Agencies' Commitment to NR 151 Workload
- 3) Conduct Information and Education activities
- 4) Records Review and/or On-Site Compliance Determination.
- 5) Prepare Report and Notify Landowners of Compliance Status
- 6) Secure Funding and Issue Notices– Incentive Programs
- 7) Administer Funding and Technical Assistance
- 8) Enforcement
- 9) Ongoing Compliance Monitoring
- 10) Annual Reporting

# **Implementation process and agency responsibility for Burnett County NR 151 implementation**

## **Step 1. Planning Implementation Approach**

Burnett County LWCD will:

- Include NR 151 implementation strategy into the Land & Water Management Plan.
- Schedule periodic meetings with DNR to discuss high priority areas and the implementation of the performance standards and prohibitions.
- Develop a list of possible contacts through existing State program participants and knowledge of current staff members to develop a list of farms for evaluation. Once list is complete map locations to evaluate.

## **Selecting priority farms for on-site visits**

### **Initial identification of sites**

- 1) Voluntary requests for assistance
- 2) Complaints
- 3) Known or potential violations (May have been identified in the 2003 livestock facility windshield survey. These facilities were in the Water Quality Management Area (within 1000 feet of a lake or flowage or within 300 feet of a navigable stream.)
- 4) Farmland Preservation participants

### **Prioritizing review and technical and financial assistance for those sites identified above.**

- 1) Land drains to a lake or stream (rather than internally drained)
- 2) Proximity and slope to a lake or stream (closer and greater slope = higher priority)
- 3) Livestock producers without nutrient management plans
- 4) Any cropland located in an area susceptible to groundwater contamination. Physical characteristics of these areas are identified in NR 151.015(18).
- 5) Crop producers without nutrient management plans

\*Priority sites will be reviewed for all agricultural performance standards.

### Additional criteria considered, but not used

- Outstanding and exceptional resource waters watersheds – nearly all of Burnett County is in the St. Croix River Watershed. The St. Croix River is an Outstanding Resource Water.
- Priority watershed area – farms in the Big Wood Lake Watershed have been reviewed and addressed as potential critical sites.
- Permeable soils – much of Burnett County has extremely permeable, sandy soils. Crop producers are not likely to locate on these soils.

- Low number of animal units directly on water. These landowners with a few horses or cows are less likely to have the experience managing appropriately for water quality. Because of the number of contacts required, the Burnett LWCD will target these landowners with an education program that will focus on compliance with performance standards.

DNR will:

- Provide support to counties in determining high priority areas and implementation of the performance standards and prohibitions.

### **Step 2. Define Level of Agencies Commitment to NR 151 Workload**

Burnett County LWCD will:

- Meet periodically with agencies that will be involved in the performance standard implementation to maintain this Memo-of-Understanding.

DNR will:

- Assist LWCD in maintaining this Memo-of-Understanding.
- Identify DNR staff contact to assist LWRD with NR 151 implementation.
- To the extent practical, budget for time and staff to assist LWCD.

### **Step 3. Conduct Information and Education Activities**

Burnett County LWCD will:

- Inform the LWCD Natural Resource Committee on NR 151 performance standards and prohibitions.
- Draft and mail a notification of NR 151 inventory efforts to the agriculture community.
- Involve UWEX Basin Educators and Agents to provide and distribute informational publications to producers.

DNR will:

- Provide adequate informational pamphlets and handouts on NR 151 to distribute to possible participants.
- Conduct training and guidance to LWCD and Basin Educators/Agents as needed.

### **Step 4. Records Review and On-Site Compliance Determination**

Burnett County LWCB will:

- Perform a records review before on-site compliance evaluations. A thorough records review may eliminate the need for an on-site compliance investigation. Records to review include: Farmland Preservation information, NRCS conservation plan and construction approvals, Livestock Siting permits and any other pertinent information about the operation.
- Carry out onsite evaluations to determine compliance. Use evaluation checklist to quickly document status of points of interest.
- Create and maintain geographic database of all farm evaluations that have been conducted. List will be a continuation of the preliminary list created for possible contacts. Information within this database will contain the following:
  1. Location of parcel (Town, Range, Section, and ¼ ¼ section)
  2. Watershed where parcel is located
  3. Owner of land
  4. Date of compliance report and date of compliance report mailed
  5. End date for landowner request of status report appeal for reconsideration
  6. Date of letter mailed to landowner

DNR will:

- Provide help with obtaining DNR records for records review.
- Assist in compliance determinations if compliance determinations or enforcement may be an issue.

### **Step 5. Prepare Report and Notify Landowners of Compliance Status**

Burnett County LWCD will:

- Provide compliance status reports for the individual, which will include:
  1. Parcel status (existing, new) for livestock facilities and croplands
  2. Current compliance status of tax parcel with reference to applicable performance standard and prohibitions.
  3. Status of eligibility for public cost sharing
  4. General indication of grant funding sources and technical assistance available from Federal, State, and local agencies.
  5. An explanation of conditions that apply with the use of public cost sharing.
  6. Compliance maintenance requirements for complying parcels.
  7. Signature lines indicating agreement or disagreement with report findings.
  8. Process and procedures to discuss evaluation results with county or state.
- Keep compliance status information as open record.

DNR will:

- Assist when compliance determinations are difficult.
- Maintain and update status letter templates.

## Step 6. Secure Funding and Issue Notices

Steps for each of the two components are described below for handling technical assistance requests.

### 1. Voluntary Component (Cooperative)

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 availability of cost-share & technical assistance.
3. Develop and issue cost-share contract. (including BMPs to be installed or implemented, estimated costs, project schedule)

If the voluntary component is not proceeding fast enough, no less than six months prior to the expiration of the cost share agreement the LWCD will discuss with the DNR when a NR 151 Notice should be issued so that compliance can be required and enforced.

### 2. Non-voluntary component (Non-Cooperative)

In the event that a landowner chooses not to install corrective measures either with or without cost sharing, issue NR 151 Notice under NR 151.09(5-6) and/or 151.095(6-7). LWCD will work jointly with DNR to prepare and issue the Notice.

- If cost sharing is required, this notification shall include an adequate offer of cost sharing.
- If cost sharing is not required, the notification will not include an offer of cost sharing although the County may, at its discretion; assist the landowner in finding funds.

*Note: The notification referenced above will be designed by the DNR. It must meet the requirements for Notices as set forth under NR 151.09 and NR 151.095. Requirements include;*

- a) *A description of the performance standard or prohibition being addressed;*
- b) *The compliance status determination made in accordance with NR 151;*
- c) *The determination of 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 appeals procedures.*

Burnett County LWCD will:

- Seek cost share funding to implement best management practices for the voluntary program component.
- Apply to DNR and DATCP to secure grants adequate to provide bona fide offers of cost sharing to implement best management practices for the non-voluntary component.
- Take the lead in identifying conservation needs necessary to comply with performance standards and prohibitions.

DNR will:

- Determine whether or not cases should be a NR 151 or NR 243 issue.
- Assist Burnett County in determining adequate offers of cost sharing under s. 281.65, Stats and chapter NR 154. (Note: Burnett County will work with DATCP to determine adequate offers of cost sharing under s.92.14 and ATCP 50 for all other funding sources.)
- For high priority sites, including those receiving a NR 151 Notice, Assist and confer with Burnett County LWCD to assess conservation needs required to meet standards and prohibitions. Sign and issue notices (Letter Types C & D) to landowners under NR 151.09 and NR 151.095.

#### **Step 7. Administer Funding and Technical Assistance**

Burnett County LWCD will:

- Administer funding
- If cost sharing is involved, finalize and execute cost-share agreement including schedule for installing or implementing BMP(s)
- 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.
- Re-Evaluate after corrective measures are applied to determine new compliance with relevant performance standards.
- Inform DNR on progress made to achieve compliance with standards and prohibitions.

*Note: Burnett County LWCD does not provide engineering and design assistance to (313) projects or other more difficult design projects. Private engineers provide these designs at landowners' costs*

DNR will:



- Sign and mail satisfaction letter to notify of compliance.

### **Step 8. Enforcement**

Burnett County LWCD will:

- Enforce local ordinance provisions that address standards and prohibitions.
- Provide DNR with information it needs to prepare Notices of Violation.

Note: Enforcement typically begins with the Notice of Violation. It will be pursued in circumstances where:

- (a) the landowner has failed to comply with a notice issued for existing facilities and practices under component 4.B or for non-compliance of new practices and facilities,  
AND
- (b) non-regulatory attempts to resolve the situation have failed.

*NOTE: Burnett County may choose to take enforcement where appropriate based upon authority and procedures under the Burnett County Animal Waste Management Ordinance.*

- Participate in an enforcement conference formally initiated by DNR

DNR will:

- Develop all appropriate enforcement letters, including “Notice of NR 151 Violation” letter and where appropriate, schedule an enforcement conference.
- Notify County LWCD of Enforcement Conference.
- Proceed with stepped enforcement as appropriate under agency priorities and enforcement procedures.

### **Step 9. Ongoing Compliance Monitoring**

Burnett County LWCD will:

- Conduct ongoing evaluations to verify compliance.

**Step 10. Annual Reporting**


Burnett County LWCD will:

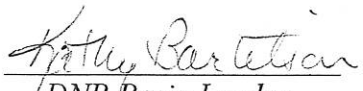
- Develop working reporting system.
- Create and maintain database with parcels that State cost sharing has been applied to implements standards and prohibitions, the amount and source of those funds, and the landowner share.
- Maintain a record of the annual cost of technical and administrative assistance allocated to administer agricultural performance standards and prohibitions, as established in NR 151.
- Provide reports as required in ATCP 50

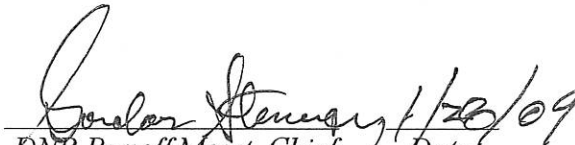
DNR will:

- Research any standard form of reporting to use.

 11/3/09  
ECC Chair Date

 12-18-08  
County Conservationist Date

 11/12/09  
DNR Basin Leader Date

 1/26/09  
DNR Runoff Mgmt. Chief Date

## APPENDIX B. 2019 WORKPLAN

**BURNETT 2019 ANNUAL WORK PLAN  
LOCALLY-IDENTIFIED PRIORITIES**

Table 1: Planned activities and performance measures by category

CATEGORY (goal and objective from LWRM plan can be added in each category)	PLANNED ACTIVITIES WITH BENCHMARKS If applicable identify focus areas, e.g. HUC 12 watershed code (examples of types of “planned activities” in italics)	PERFORMANCE MEASUREMENTS (examples in italics)
<ul style="list-style-type: none"> <li><i>Cropland</i></li> </ul>		
<p><b>Cropland, soil health and/or nutrient management</b> <b>Goal I.</b> <b>OBJ AG B. Farmers use appropriate nutrient management techniques that account for the nutrient value of manure and limit spreading on frozen ground to suitable areas.</b> <b>OBJ C. Animal waste storage facilities are designed, installed, and maintained according to Burnett County standards.</b> <b>OBJ D. Crop fields have erosion rates equal to or less than “T,” the tolerable soil loss planning standard.</b> <b>Goal III.</b> <b>OBJ B. Agricultural soil health is improved.</b></p>	<p><i>*Ag performance standard strategy implementation</i> <i>*Practice technical assistance and installation:</i> <i>Cover crops – 1 installation</i> <i>No-till, minimum till</i> <i>Nutrient management plans - 2</i> <i>NM planning assistance</i> <i>Transect survey</i> <i>*Facilitate farm planning services</i></p>	<p><i># acres of cropland in compliance with a performance standard</i> <i>Type and units of practice(s) installed</i> <i>Amount of cost-share dollars spent</i> <i># lbs of sediment reduced (using any approved method)</i> <i># lbs of P reduced (using any approved method)</i> <i># tons/acre soil erosion by subwatershed</i></p>
<p><b>Goal III. Preserve Agricultural Land</b></p>	<p><i>*Implement Burnett County Farmland Preservation Plan</i> <i>*6 farm inspections to document compliance</i></p>	<p><i>#Acres and farms enrolled</i></p>
<ul style="list-style-type: none"> <li><i>Livestock</i></li> </ul>		
<p><b>Livestock Goal I.</b> <b>OBJ AGA. Secure significant percent compliance with NR151 Agricultural Performance Standards.</b></p>	<p><i>*Ag performance strategy implementation</i> <i>*Practice technical assistance and installation:</i> <i>Grazing plans - 2</i> <i>Watering facilities - 2</i> <i>Animal Trail Walkway – 1</i> <i>*Livestock facility – new or expanded - 1</i></p>	<p><i># Livestock facilities in compliance with a performance standard</i> <i>Type and units of practice(s) installed</i> <i>Amount of cost-share dollars spent</i> <i># lbs of sediment reduced (using any approved method)</i> <i># lbs of P reduced (using any approved method)</i></p>

**BURNETT 2019 ANNUAL WORK PLAN  
LOCALLY-IDENTIFIED PRIORITIES**

• *Water quality*

<p><b>Goal I. Waterfront</b> <b>OBJA. Increase the percentage of waterfront properties that meet county shoreline buffer standards.</b></p>	<p><i>*Shoreline Buffer Incentives Program (SIP) technical assistance and enrollment</i> <i>*Waterfront technical assistance - shoreline buffer</i> <i>*SIP evaluation and tracking</i></p>	<p><i># Shoreline feet preserved</i> <i># Parcels enrolled</i> <i># Waterbodies participating</i> <i># Permits reviewed</i> <i># Square feet restored(\$ spent)</i> <i># Technical assistance visits</i> <i># Spot checks</i> <i># lbs of P reduced (using any approved method)</i></p>
<p><b>Goal I. Waterfront</b> <b>OBJ B. Decrease runoff quantities and erosion from lots in the shoreland.</b></p>	<p><i>*Waterfront technical assistance – stormwater</i> <i>*Practice installation technical assistance</i></p>	<p><i># Stormwater practices installed (\$ spent)</i> <i># Permits reviewed</i> <i># Technical assistance visits</i> <i># lbs of P reduced (using any approved method)</i></p>
<p><b>Goal I. Wetlands</b> <b>OBJ A. Encourage restoration and preservation of wetlands and wetland vegetative buffers.</b></p>	<p><i>*Promote wetland restoration</i> <i>*Assist USFWS and NRCS</i> <i>*Provide wetland delineations as needed</i></p>	<p><i># Referrals</i> <i># Acres restored</i></p>
<p><b>Goal II. Groundwater</b> <b>OBJ A. Prevent exceedances of nitrate and other drinking water standards.</b> <b>OBJ B. Unused wells are closed and sealed properly.</b></p>	<p><i>*Cropland and Livestock Practices (see cropland and livestock practices above)</i> <i>*Provide assistance with well Closures</i></p>	<p><i># Well closures</i> <i>Nitrate test results</i> <i>Other groundwater test results</i></p>

• *Invasive*

<p><b>Goal IV. OBJ A. Monitor &amp; control Eurasian water milfoil, purple loosestrife, Asian carp, zebra mussels &amp; other aquatic invasive species.</b> <b>OBJ B. Protect native aquatic plants (especially wild rice) &amp; aquatic habitat.</b> <b>OBJ C. Monitor &amp; control terrestrial invasive species such as spotted knapweed, buckthorn, leafy spurge, &amp; giant &amp; Japanese knotweed.</b></p>	<p><i>*Watercraft inspection</i> <i>*Lake association assistance</i> <i>*Rapid response planning</i> <i>*Aquatic Invasive Species (AIS) assistance</i> <i>*AIS monitoring</i> <i>*AIS tracking</i> <i>*Encourage protection and restoration of native species</i> <i>*Cooperate with St Croix Red Cedar Cooperative Weed Management Association</i></p>	<p><i># CBCW hours and contacts</i> <i># Boat landings monitored</i> <i># Lakes – AIS monitoring</i> <i># Lake association contacts</i> <i># Individual contacts</i> <i># Aquatic plant surveys</i> <i># Aquatic plant management plans</i> <i># Grant application support</i></p>
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**BURNETT 2019 ANNUAL WORK PLAN  
LOCALLY-IDENTIFIED PRIORITIES**

- *Wildlife*

<p><b>Goal IV. Wild Land Protection Objectives</b></p> <p><b>A. Protect undeveloped lake and river shorelines and critical watershed areas.</b></p> <p><b>B. Maintain publicly-owned lake and river frontage protected in a wild state.</b></p> <p><b>C. Encourage reforestation and forest management practices that limit water quality impacts.</b></p> <p><b>D. Maintain and improve biodiversity.</b></p>	<p><i>*Educate, cooperate, promote land protection</i></p> <p><i>*Native tree, shrub, plant sale</i></p> <p><i>*Work with government to protect existing protected land</i></p>	<p><i># Acres protected</i></p> <p><i># Trees, shrubs, plants sold</i></p>
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- *Urban*

<p><b>Goal I. Non-AG</b></p> <p><b>OBJ. A. Town and county roads and lake accesses are constructed and maintained to limit soil erosion and protect water quality.</b></p>	<p><i>*Technical assistance provided</i></p>	<p><i># Presentations</i></p> <p><i># Technical assistance visits</i></p> <p><i># Permits reviewed</i></p> <p><i># Plans reviewed</i></p>
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- *Watershed*

<p><b>Watershed strategies</b></p>	<p><i>*Lake St. Croix TMDL coordination</i></p> <p><i>*Support farmer-led council</i></p>	<p><i>Number of meetings attended/presentations given</i></p> <p><i>MapFeeder tracking</i></p> <p><i>Number of partnership development activities accomplished</i></p>
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- *Other*

<p><b>Other</b></p>	<p><i>*Wildlife damage</i></p> <p><i>*Non-metallic mining</i></p> <p><i>*Operate county-owned dams</i></p> <p><i>*Office support and administration</i></p> <p><i>*Provide technical and educational support for any other activities not covered under any other goals</i></p>	<p><i>Number of plans reviewed</i></p> <p><i>Number of inspections</i></p>
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**BURNETT 2019 ANNUAL WORK PLAN  
LOCALLY-IDENTIFIED PRIORITIES**

Table 2: Planned activity related to permits and ordinances

<b>Permits and Ordinances</b>	<b>Plans/application reviews anticipated</b>	<b>Permits anticipated to be issued</b>
Feedlot permits		
Manure storage construction and transfer systems		
Manure storage closure		
Livestock facility siting	1	1
Nonmetallic/frac sand mining	22	22
Stormwater and construction site erosion control	7	7
Shoreland zoning	20	
Wetlands and waterways (Ch. 30)		
Other		

Table 3: Planned inspections

<b>Inspections</b>	<b>Number of inspections planned</b>
Total Farm Inspections	
For FPP	5
For NR 151	5
Animal waste ordinance	2
Livestock facility siting	0
Stormwater and construction site erosion control	5
Nonmetallic mining	22

Table 4: Planned outreach and education activities

<b>Activity</b>	<b>Number</b>
Tours	
Field days	2
Trainings/workshops	2
School-age programs (camps, field days, classroom)	4
Newsletters	6
Social media posts	
News release/story	3

**BURNETT 2019 ANNUAL WORK PLAN  
LOCALLY-IDENTIFIED PRIORITIES**

Table 5: Staff Hours and Expected Costs (staff can be combined or listed individually)

<b>Staff/Support</b>	<b>Hours</b>	<b>Costs</b>
<i>County Staff</i>	5555	\$167,000
<i>Support Staff</i>	2252	\$55,000
<i>Support Costs</i>	<i>N/A</i>	\$63,000
<b>Cost Sharing (can be combined)</b>		
<i>Bonding</i>	<i>N/A</i>	\$25,000
<i>SEG</i>	<i>N/A</i>	\$22,000
<i>County</i>	<i>N/A</i>	\$4,500
<i>TRM</i>	<i>N/A</i>	\$150,000





# LWMP Goals Progress



☞ Minimize water quality and habitat impacts of waterfront development.

## OBJECTIVES

- A. Increase the percentage of waterfront properties that meet county shoreline buffer standards.
- B. Maintain shoreline buffers that are in compliance with county shoreline buffer requirements.
- C. Decrease runoff quantities and erosion from lots in the shoreland.

## WATERFRONT

Technical Assistance and Enforcement Support (46 Sites)

Tree Drops (5) for Fish Habitat Installed in Mallard Lake



Shoreline Incentives Program Preserves 51 miles of County Shoreline

2014

2015

2016

2017

2018

Spot Checks (36) and New Owner (32) Visits Conducted for Shoreline Incentives Program

Rock Infiltration Trenches and Rain Gardens Installed at Blueberry Hill

# LWMP Goals Progress



Prevent the introduction and spread of aquatic and terrestrial invasive species.

## OBJECTIVES

- A. Monitor and control Eurasian water milfoil, purple loosestrife, Asian carp, zebra mussels and other aquatic invasive species.
- B. Protect native aquatic plants (especially wild rice) and aquatic habitat.
- C. Monitor and control terrestrial invasive species such as spotted knapweed, buckthorn, leafy spurge, and feral pigs giant and Japanese knotweed.

## AQUATIC INVASIVE SPECIES

Clean Boats,  
Clean Waters  
Interns  
Inspected  
1024 Boats for  
AIS

2014

Aquatic  
Plant  
Management  
Plan  
Developed  
for  
McKenzie  
Lake

2016

Monitor  
and  
Control of  
Purple  
Loosestrife  
(Ongoing)

2018

83 Boat  
Landings  
Monitored  
for Aquatic  
Invasive  
Species

Rapid  
Response for  
Zebra  
Mussels  
discovered  
in McKenzie  
Lakes

# LWMP Goals Progress



☞ Reduce negative impacts to surface and groundwater through proper agricultural management practices.

## OBJECTIVES

- A. Secure significant percent compliance with NR151 Agricultural Performance Standards (contingent upon state funding availability).
- B. Farmers use appropriate nutrient management techniques that account for the nutrient value of manure and limit spreading on frozen ground to suitable areas.
- C. Animal waste storage facilities are designed, installed, and maintained according to Burnett County standards.
- D. Crop fields have erosion rates equal to or less than "T," the tolerable soil loss planning standard.

AGRICULTURE

Nutrient Management Plans Prepared for 874 Acres

Manure Pit Installation Ringa Lea Farm (\$150,000 WDNR grant)



Soil Health Education: Pasture Walks

2014

2015

2016

2017

2018

Grazing Plans Developed (15) and Updated (20)

Livestock and Equipment Crossing Installation Dahlstrom Brook



# LWMP Goals Progress



Goal. Provide for other land and water conservation needs for county residents and meet related state requirements.

Administer the Wildlife Damage Program.

Provide general educational programming including the poster contest, speaking contest, soil judging, and conservation day.

Provide trees, shrubs, and native plants at reasonable cost in an annual sale.

Provide recommendations for airport safety and habitat improvements.

Administer the nonmetallic mine reclamation program.

Operate and maintain county-owned dams.

Provide office support and administration.



Repairs to  
Clam  
Dam Total  
\$38,986

Fifth Grade  
Conservation  
Day Reached  
146 Students  
with 12  
Presenters

Tri-County  
Land  
Judging  
Held in  
Burnett  
County

2014

2015

2016

2017

2018

Wildlife  
Damage  
Abatement  
Strategies  
Provided for  
10 owners;  
Paid \$6,691 in  
Damage  
Claims

Metallic  
Mining  
Permits  
Issued for 22  
Facilities  
Covering  
352 Acres

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## APPENDIX E. BEST MANAGEMENT PRACTICES

## SECTION 2.2

### **COST-SHARE FUNDING SOURCE TABLE AND NR151 CODE GUIDANCE**

The following will help you in signing cost-share contracts and completing reimbursement requests. It consists of two parts:

- (1) A table listing all conservation practices cost-shareable under Ch. ATCP 50, the source of funds you must use for cost-sharing the specific practice, and the units of measurement to quantify each cost-shared practice, and
- (2) Guidance for completing the column on the reimbursement form related to the NR 151 compliance.

<b>PRACTICE or ACTIVITY</b>	<b>ATCP 50 Reference</b>	<b>Fund Source</b>	<b>Units of Measurement</b>
Land taken out of agricultural production Cost-share contract must list the new or existing farm practice that takes land out of production	50.08(3)	Bond	Acres
Riparian land taken out of agricultural production (CREP Equivalent) (Cost-share contract must list the new or existing farm practice that takes land out of production)	50.08(4), 50.42(1)	Bond	Acres
Manure storage systems	50.62	Bond	Number
Manure storage closure	50.63	Bond	Number
Barnyard runoff control systems (specify components including heavy use area protection)	50.64	Bond	Number
Access road	50.65	Bond	Linear Ft.
Trails and walkways	50.66	Bond	Linear Ft.
Contour farming	50.67	SEG <sup>1</sup>	Acres
Cover and green manure crop	50.68	SEG <sup>1</sup>	Acres
Critical area stabilization	50.69	Bond	Number
Diversions	50.70	Bond	Linear Ft.
Field windbreaks	50.71	Bond	Linear Ft.
Filter strips	50.72	Bond	Acres
Feed storage runoff control systems	50.705	Bond	Number
Grade stabilization structures	50.73	Bond	Number
Livestock fencing	50.75	Bond	Linear Ft.
Livestock watering facilities	50.76	Bond	Number
Milking center waste control systems	50.77	Bond	Number
Nutrient management for cropland or pasture	50.78	SEG <sup>1</sup>	Acres

<sup>1</sup> While DATCP awards SEG funds primarily to cost-share nutrient management plans, a county may use a limited portion of the its award (cumulative expenditures may not exceed 25 percent of a county's annual cost-share allocation unless otherwise allowed in the allocation plan for that year) if the following conditions are met:

- (1) The landowner agrees to remain in compliance with the soil erosion control standard (NR 151.02) and the nutrient management standard (NR 151.08) for as long as the land is farmed;
- (2) The landowner submits a nutrient management plan checklist covering the cropland where the soft practice is installed; and
- (3) The county documents that cover crop or other cost-shared "soft" practice is required to meet "T" or other requirement of the NRCS 590 standard, and is the most cost-effective approach to meeting the NRCS 590 requirement.

<b>PRACTICE or ACTIVITY</b>	<b>ATCP 50 Reference</b>	<b>Fund Source</b>	<b>Units of Measurement</b>
Pesticide Management Plans	50.79		
1. Management Plans	50.79(1)	No Funds Available	Number
2. Structures (as described in the plan for structure's design)	50.79(2)	Bond	Number
Prescribed Grazing	50.80		
1. Management Plan	50.80(1)	No Funds Available	Number
2. Fencing (not permanent)	50.80(2)	No Funds Available	Linear Ft.
3. Fencing (permanent)	50.80(3)	Bond	Linear Ft.
4. Establish Permanent Pasture (seeding)	50.80(4)	Bond	Acres
Relocating or abandoning animal feeding operations	50.81	Bond	Number
Residue Management	50.82	SEG <sup>1</sup>	Acres
Riparian Buffers	50.83		
1. Installation (including land out of production and first 10 years of maintenance)	50.83(1)	Bond	Acres
2. Mowing and maintenance beyond initial 10 year period	50.83(2)	No Funds Available	Acres
Roofs	50.84	Bond	Number
Roof Runoff Systems	50.85	Bond	Number
Sediment Basins	50.86	Bond	Number
Sinkhole Treatment	50.87	Bond	Number
Stream Bank and Shoreline Protection	50.88	Bond	Linear Ft.
Stream Crossing	50.885	Bond	Linear Ft.
Strip-Cropping	50.89	SEG <sup>1</sup>	Acres
Subsurface Drains	50.90	Bond	Number
Terrace Systems	50.91	Bond	Linear Ft.
Underground Outlet	50.92	Bond	Number
Waste Transfer Systems	50.93	Bond	Number
Wastewater Treatment Strips	50.94	Bond	Linear Ft.
Water and Sediment Control Basins	50.95	Bond	Number
Waterway Systems	50.96	Bond	Acres
Well Decommissioning	50.97	Bond	Number
Wetland Restoration	50.98	Bond	Acres
Engineering services provided in connection with a completed cost-share practice for which bond revenue may be used (also refer to 50.40(7)).	50.34(4)	Bond	
Other practices with DATCP's written approval	50.40(3)(a)		

## **Guidance for Completing NR 151 Codes on DATCP Certification and Cost-share Reimbursement Request Form**

A completed form must indicate whether the reimbursement request involves practices installed to achieve compliance with NR 151 performance standards and prohibitions. Not all practices are installed for the purpose of achieving compliance with NR 151 (see below for examples). If no compliance is achieved, the “00” code should be used on the form. Where compliance is achieved, staff completing the form should use their professional judgment to identify the specific NR 151 standard or prohibition that was met, and then insert the code number that corresponds to that NR 151 standard or prohibition (The code numbers in the form match the sections in NR 151 where the standard or prohibition are referenced). The following chart can help you complete this part of the form.

<b><u>NR 151 Code</u></b>	<b><u>Compliance Achieved through Practice Installation</u></b>
02	Control soil erosion (sheet, rill and wind) to meet tolerable soil loss (T) calculated by RUSLE 2 (now includes pastures)
03	Tillage setback of 5 to 20 feet
04	Phosphorous Index
05	Construct, maintain and close manure storage facilities to prevent manure overflows and leaks.
055	Process Wastewater discharge to waters of the State
06	Divert clean water from feedlots, manure storage areas and barnyard areas within a water quality management area.
07	Apply manure and fertilizer in conformance with a nutrient management plan to control nutrient runoff into water of the state.
08	No overflow from manure storage facilities.
08	No unconfined manure stacks within the Water Quality Management Area.
08	No direct runoff from feedlots and manure storage facilities.
08	No unlimited access of livestock to waters of the state that prevents maintenance of adequate sod or self-sustaining cover.

### **Guidance on Compliance Determinations involving Specific Practices**

To receive 70% cost-sharing, the practices listed below must be associated with a NR 151 performance standard. If a NR 151 performance standard code is not assigned to the practice, then the project will only receive funding at a 50% cost-share rate. This table lists possible codes that might be associated with a particular practice to receive the higher cost-share rate.

<b><u>Practice</u></b>	<b><u>NR 151 Code Options</u></b>
Access Roads (50.65)	05, 08
Roof Runoff Systems (50.85)	05, 055, 06, 08
Stream Bank and Shoreline Protection (50.88)	03, 08
Stream Crossing (50.885)	02, 03, 08
Wetland Restoration (50.98)	02, 07