SAWYER COUNTY

LAND & WATER RESOURCE MANAGEMENT PLAN

2017-2026

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People Assisting with Plan Development

Dan Tyrolt – Lac Courte Orielles Environmental Engineer
Doug Casina – WDNR Water Regulation
Max Wolter - WDNR Fish Manager
Greg Peterson – Sawyer County Forestry
Kristy Maki – Former Aquatic Invasive Species Coordinator
Lonn Franson - DNR Wastewater Engineer
Ron Spiering – NRCS District Conservationist
Jim Bassett – County Board Member
Bill Sande – Army Corps of Engineers
Scott Pasanen – Agricultural Producer
Ami Slabaugh – Agricultural Producer
Kevin Schoessow – UW Extension Area Agricultural Development Agent
Waldo Asp – Sawyer County Lakes Forum Chair
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Gary Pulford – Courte Oreilles Lakes Association (COLA)
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Pat Brown – Sawyer County ZAC Technician
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Committee Members

Bruce Paulsen, Chairman
Jim Bassett
Brian Bisonette
Elaine Nyberg
Ronald Buckholtz
Thomas Winiarczyk, FSA rep

Plan Summary

Plan Development Process

The first Sawyer County Land and Water Resource Management Plan was completed in March 1999 and has been the basis for a revised plan in 2003, 2009 and 2016. The planning work groups consisted of technical staff representing state and federal agencies, as well as individuals representing agriculture, forestry, tribal and local governments. The current plan was revised by Land & Water Conservation staff and reviewed by a work group.

Identification of Concerns

All areas of non-point source pollution can be ranked in the "high" category in Sawyer County. The Department will continue to address resource concerns from shoreline development and inappropriate land uses that threaten water quality, as well as forestry, recreation, and local road maintenance issues. Information and education objectives are also high priorities and are included in the work plan.

Plan Requirements

The Land and Water Conservation Committee must hold a public hearing for review of the final draft of the county land and water resource management plan. After public review, the Land and Water Conservation Committee must review, approve, and recommend approval of the plan to the County Board. Upon the County Board's approval the plan must be submitted to the Wisconsin Land and Water Conservation Board (LWCB) and Department of Agriculture, Trade and Consumer Protection (DATCP). DATCP will review the plan, make recommendations and take action on the plan submitted by each county.

Relationship between county plan and watershed plans

The Plan addresses county-wide issues that are not addressed in the basin plans. Watershed and non-point source pollution control goals, as indicated in basin reports, 9 Key Element and/or TMDL implementation plans, will remain a priority for the county and will provide funding opportunities to implement watershed and resource management plan objectives.

Watershed Management Plans

The EPA has identified nine key planning elements that are critical for protecting and improving water quality. Nine key element watershed plans can be used to restore impaired waters or help protect unimpaired waters. Complete plan information is available at the Department of Natural Resources website. The county will continue to support initiatives established in watershed plans to address areas of concern.

Resource Assessment

Lake Shoreline Development: Within the last thirty years the county has experienced tremendous growth as former tourists have become full-time residents or owners of water front property and vacation homes. The county has developed a lake classification system in an effort to maintain the water quality of developed and undeveloped lakes.

Protection of Outstanding and Exceptional Resource Waters: Sawyer County has 205 named lakes and hundreds of miles of streams and rivers, many of which are designated by the Department of Natural Resources as exceptional or outstanding resource waters.

Wetland Protection: In addition to an abundance of surface waters, wetlands account for approximately 20.2 percent of the county's acreage.

Reduce Nonpoint Source Pollution: Non-point source pollution is the primary threat to resources within the county. Although nutrient levels have only increased slightly, there are signs that the increases are adversely affecting water quality.

Location of Resources: The St. Croix River Basin spans both Wisconsin and Minnesota. The Lower Chippewa River Basin encompasses 314,375 acres of wetlands, 2,602 miles of streams, and 447 lakes and flowages. The Upper Chippewa River Basin encompasses the majority of Sawyer County with a total of 4,051 miles of streams and 765 lakes.

Impaired Waters

According to the WI-DNR 2014 303(d) list of impaired water bodies, Sawyer County has several lakes not currently meeting water quality standards due to atmospheric deposition of mercury and total phosphorus levels.

Land Use

Sawyer County utilizes land and information modernization programs to evaluate land uses and provide assistance in developing programs. The majority of land within the county is wetlands and forestry (74%). Agriculture accounts for 13%, residential land is approximately 12%, and commercial and industrial acreage is 1% of the total county acreage.

Soil Loss Inventories

Sawyer County was the first of the northern counties to prepare a Soil Erosion Control Plan. The primary goal of the plan is to reduce soil erosion of cropland caused by water erosion on all cropland in the county to allowable soil loss levels that meet the Natural Resources Conservation Service Technical guide standards.

Development Trends

Sawyer County has experienced tremendous growth in recent years. The draw to northern Wisconsin, and Sawyer County in particular, is the forest and water resources. The county's growth has accelerated so rapidly that public officials are having difficulty maintaining and protecting the character of the northwoods. All townships within the county have completed smart growth plans.

Identification of Priority Farms

Sawyer County's methodology for identification of farms uses a systematic approach, however, there are very few farms remaining in the county (approximately 40 with 30 of those livestock operations). We intend on using the excellent rapport we have built with our local farm community to identify "priority" farms, as well as collaborate with NRCS and DNR staff.

Performance Standards and Prohibitions

ATCP 50/NR 151 set forth state minimum performance standards and prohibitions for farms and urban areas. These performance standards and prohibitions were designed to achieve water quality standards by limiting nonpoint source water pollution. It is the landowner's responsibility to meet the agricultural performance standards and prohibitions.

NR 151 Implementation Strategy

The Sawyer County Land Conservation Department will cooperate with the Department of Natural Resources (DNR), and other agencies to implement the agricultural performance standards. The extent of implementation of the components of the strategy will be dependent upon the availability of funding for staffing, support, and cost share funds for completion.

Partners in the Land and Water Resource Management Plan

Sawyer County has been fortunate to have a dedicated group of individuals from a variety of agencies who have worked to preserve and protect our resources for many years. We also have a broad base of volunteers in this community. These professional and volunteer partnerships will be vital to the achievement of the plan's objectives.

Funding Plan Implementation

This plan will be the basis for future funding initiatives. Grant funds will be sought to supplement funding from local, state and federal sources. We will continue to participate in programs developed by federal and state agencies and utilize those dollars to the greatest extent before seeking private funding.

Information and Education Strategy

Information and education objectives are included in the work plan, which includes a timeline and partnerships utilized to achieve objectives. Information and education has been a high priority in the past and continues to be important in carrying out the department goals.

Monitoring and Evaluation

An important component of any long range plan is to monitor and evaluate the success of strategies developed to meet goals. As information is compiled over the next five years, trends and comparisons can be evaluated and programming adapted to meet plan objectives. Land and Water Conservation Department staff will be the responsible party for compiling, reviewing, and reporting the success of plan objectives.

Plan Goals and Objectives

The goals and objectives established in this plan represent priorities for natural resource management in Sawyer County carried out by the LWCD staff with help from partner agencies. Priority goal and objective items are printed in **bold.**

Goal 1: Reduce environmental impacts of agricultural non-point source pollution.

- Objective 1: All farms have and utilize a nutrient management plan
- Objective 2: Control barnyard runoff
- Objective 3: All cropland erosion be reduced to tolerable soil loss level

Goal 2: Protect, enhance, and restore natural shoreline structure and function

- Objective 1: Educate shoreline property owners
- Objective 2: Install shoreline restoration/protection projects
- Objective 3: Protect existing shoreline ecosystems and habitat
- Objective 4: Mitigation plan guidance and approval

Goal 3: Control and monitor invasive species

- Objective 1: Survey, monitor, and map aquatic invasive species
- Objective 2: Educate public on the prevention, early detection, and control of invasive species

Goal 4: Reduce soil erosion caused by forest road building & stream crossing activities

- Objective 1: Educate landowners and loggers about best management practices
- Objective 2: Monitor logging sites and provide consultation to logging operators
- Objective 3: Seeding and planting of abandoned forest roads

Goal 5: Protect land and water resources through land use/comprehensive planning and enforcement of zoning regulations

- Objective 1: Establish county wide land use planning standards
- Objective 2: Require mandatory mitigation and restoration of shoreline violations
- Objective 3: Identify land conservation protection areas
- Objective 4: Work with municipalities to develop more eco-friendly right-of-way and erosion control methods.

Goal 6: Wetland Preservation

- Objective 1: Encourage wetland restoration and enhancement
- Objective 2: Educate public on the value of wetlands and related regulations

Goal 7: Promote reforestation

- Objective 1: Annual Tree Sale program
- Objective 2: Expand use of tree planter

Introduction

The need for local leadership in natural resources management is an important component included in the federal Farm Bill and Wisconsin Act 27, which redesigned the non-point pollution program.

In addition, new runoff management guidelines and performance standards were established with ATCP 50/NR 151. These actions by elected officials and policy makers have reaffirmed that local leadership is the key to successfully managing and protecting our natural resources.

Locally led natural resource management is based on the principle that communities are best suited to identify and resolve local natural resource problems. More importantly, it is local government's responsibility to engage in land use management processes to target federal funding such as NRCS Cost Share dollars, which ultimately impact the quality of the natural resources of Sawyer County.

Sawyer County, as most northern Wisconsin counties, is faced with ever increasing public demands on our unique natural resources. The Plan is an important tool to guide local government, various state and federal agencies, and individuals as we strive to improve and protect our lands and waters.

Plan Development Process

As a result of 1997 Wisconsin Act 27, Chapter 92.10 of the Wisconsin Statutes was amended to include a county land and water resource management planning program. The first Sawyer County Land and Water Resource Management Plan was completed in March 1999 and has been the basis for a revised plan in 2003, 2009, and this Plan. The previous plans were developed through discussions with local citizen and technical advisory groups. The planning work groups consisted of technical staff representing state and federal agencies, as well as individuals representing agriculture, forestry, tribal and local governments. The 2009 plan was revised by Conservation staff and reviewed by a work group. The current plan has been revised by staff and reviewed by a work group which met on February 11, 2015 at 1 p.m. A public hearing was held on April 15, 2015 at 8:30 a.m., at which time the revised Plan was reviewed by the Sawyer County Land, Water, and Forestry Resources Committee. The Land and Water Resource Management Plan was approved by the Sawyer County Board of Supervisors on April 21, 2015 at 6:30 p.m.

To achieve the best plan, and meet specified goals and timelines, Sawyer County will rely on partnerships with organizations as well as individuals with an interest in protecting our natural resources.

Identification of Concerns

All areas of non-point source pollution in Sawyer County can be ranked in the "high" category. The Department will continue to address resource concerns from shoreline development and inappropriate land uses that threaten water quality, as well as forestry, recreation, and local road maintenance issues. Information and education objectives are also high priorities and are included in the work plan.

Plan Requirements

The requirement for a county land and water resource management plan was created in the 1997-1999 Biennial Budget Bill, Wisconsin Act 27 with amendments to Chapter 92.10 of the Wisconsin Statutes. In addition elements of ATCP 50 and NR151 must be included in current plans. These mandates established a county planning process for:

- Conserving long-term soil productivity;
- Protecting the quality of related natural resources;
- Enhancing water quality; and
- Addressing severe soil erosion problems.

The Land, Water and Forestry Resources Committee must hold a public hearing for review of the final draft of the county land and water resource management plan. After public review, the Committee must review, approve, and recommend approval of the plan to the County Board. Upon the County Board's approval the plan must be submitted to the Wisconsin Land and Water Conservation Board (LWCB) and Department of Agriculture, Trade and Consumer Protection (DATCP). DATCP will review the plan, make recommendations and take action on the plan submitted by each county.

Relationship between county plan and watershed plans

Sawyer County land is divided between three watershed basins (Figure 1) and 13 watersheds (Figure 2). The majority of land is within the Upper Chippewa Basin. The southwestern corner of the county falls within the Lower Chippewa Basin and the northwestern corner in the St. Croix Basin. The Plan addresses county-wide issues that are not addressed in the basin plans. Watershed and non-point source pollutions control goals, as indicated in basin reports and 9 Key Element plans, will remain a priority for the county and will provide funding opportunities to implement watershed and resource management plan objectives.

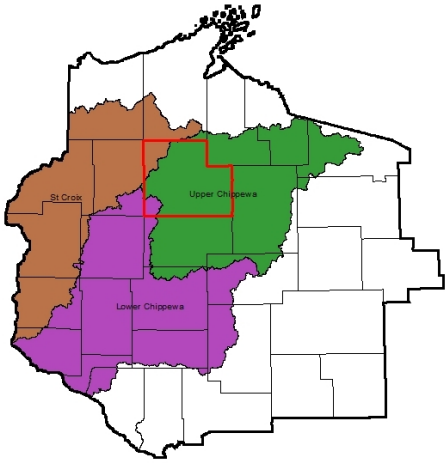


Figure 1

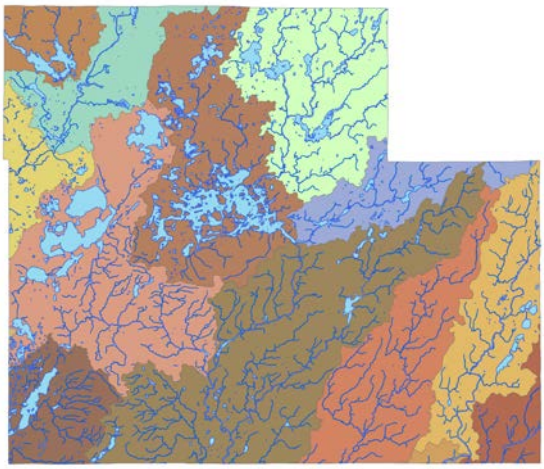


Figure 2

Watershed Rankings

Watershed rankings identify those areas in the state dominated by nonpoint source or polluted runoff issues. The watersheds are organized by “high”, “medium”, and “low” level issues with polluted runoff (both rural and urban).

Three river basins and eleven watersheds are located within Sawyer County boundaries. The Department of Natural Resources identifies the watersheds within the Upper Chippewa River Basin as large, low priority watersheds with the exception of the Couderay River watershed, which is ranked as large, high priority. The Red Cedar Lake watershed within the Lower Chippewa Basin has a moderate priority designation. There are three watersheds within the St. Croix Basin that are not ranked but have low groundwater rankings. (Appendix F)

Complete basin and TMDL plans are available in Department of Natural Resources publications: WT-554-2001, The State of the Lower Chippewa River Basin; WR-345-96 REV, Upper Chippewa River Basin Water Quality Management Plan; and WT-555-2002, The State of the St. Croix Basin, and the Implementation Plan for Lake St. Croix Nutrient TMDL (Rev. 2013). The St. Croix TMDL allows for 10,300 lbs/yr of phosphorus to be loaded to the St. Croix River from Sawyer County. This requires 1,500 lbs/yr of reduction from the estimated TMDL baseline load of 11,800 lbs/yr in the early 1990s. Sawyer County’s required reduction ranks 17th largest among the 19 counties in the basin. To achieve the St. Croix Basin Partners’ goal of 20% reduction by 2020, Sawyer County needs to reduce loadings by 1,100 lbs/yr by the year 2020. To attain this goal, activities must be implemented that achieve an average rate of phosphorus reduction of 40 lbs/yr over 30 yrs, or 110 lbs/yr over 10 yrs. The county will continue to support initiatives established in the basin and watershed plans to address areas of concern.

Resource Assessment

Lake Shoreline Development

An ongoing environmental priority in Sawyer County is to improve water quality and maintain or repair endangered shoreline ecosystems. The value of clean and beautiful lakes, streams and rivers has been essential to the county’s growth and tourism industry. For many years healthy aquatic ecosystems were the norm in the sparsely populated county. Within the last twenty years the county has experienced tremendous growth as former tourists have become full-time residents or owners of water front property and vacation homes. The majority of lake lots on larger lakes are 100 feet wide and have been developed. Recent trends are toward development of small lakes and more marginal shorelines. As can be expected, loss off shoreline habitat and reduced water quality have been results of this growth.

Protection of Outstanding and Exceptional Resource Waters
Sawyer County has 205 named lakes and hundreds of miles of streams and rivers, many of which are designated by the Department of Natural Resources as exceptional or outstanding resource waters (Appendix B). A unique resource for Sawyer County and northern Wisconsin is the *Chain of Lakes* which includes: Big Round; Little Round; Osprey; Grindstone; and Lac Courte Oreilles. This chain of clear water lakes consists of approximately 11,700 acres of surface water. The rare trophic qualities of these lakes make them an important resource that must be preserved for future generations.

Wetland Protection
In addition to an abundance of surface waters, wetlands account for approximately 20.2 percent of the county's acreage according to the Wisconsin DNR Wetland Inventory. Non-point source pollution is the primary threat to resources within the county. Development along shorelines contributes to the degradation of waters from building site erosion, dramatic increases in impervious surfaces, improper application of lawn care chemicals, reduction of shoreline buffers, and disturbance of the near shore aquatic habitat. Secondary non-point concerns are sedimentation caused by poor logging and agriculture practices.

Reduce Nonpoint Source Pollution
Paleoecological core studies have been completed by Department of Natural Resources Bureau of Science Services staff on four Sawyer County lakes, all are considered outstanding waters. In terms of all the Wisconsin lakes studied by DNR staff, the Sawyer County lakes consistently had some of the lowest mean sedimentation rates for the last 150 years. However, the sedimentation rate from the 1970's to the mid-1990's began to increase with significant increases noted since the mid-1990's. Based on the information gathered from the core samples this elevated rate of sedimentation is likely due to anthropogenic activities; most likely shoreline development. Although the nutrient levels have only increased slightly, there are signs that the increases are adversely affecting water quality. The greater concern is the overall trend that the core samples have identified.

Location of Resources
The county's surface water (lake) acreage is approximately 54,000 acres bordered by 850 miles of shoreline. The following illustrates how surface water is distributed among the basins:

<u>St. Croix River Basin</u>
The St. Croix River Basin spans both Wisconsin and Minnesota. Portions within Sawyer County include the Totagatic River (SC20) with 66 percent of the watershed forest and 20 percent wetland, the Upper Namekagon River (SC22) with 70 percent of the watershed forested and 15 percent wetland, and portions of the Trego Lake and Middle Namekagon River (SC21) watershed with 64 percent forested and 16 percent wetland. The following tables illustrate the specific watershed surface waters and groundwater concerns. Key issues identified by the WI St. Croix Basin External Partners team for the basin include:

- Shoreland (lakes and rivers) habitat protection and restoration

- Non-point source runoff contamination of surface water
- Cooperation with grassland/prairie and wetland restoration initiatives to protect water quality and enhance wildlife habitat
- Northwest Sands Integrated Ecosystem Management Plan

In addition, the DNR St. Croix Basin team has noted the following as priority issues:

- Motorized Recreation Impacts
- Development Impacts
- Agricultural Impacts
- Dam Impacts
- Exotics
- Potential Loss of Endangered/Threatened Species
- Animal Damage
- Over-harvest of Fish
- Feeding of Wildlife (concentrations increase disease, etc.)
- Toxins (copper, mercury, fish contamination)
- Solid Waste-Landfills
- Lack of Data/Information Needed to Manage
- Need to Educate the Public
- Lack of Staff and Funding

St. Croix River Basin – Streams within Sawyer County

Watershed	No. of Streams	Miles of Streams	Miles/Classification
Totogatic River (SC20)	4	73	73-DEF
Upper Namekagon River (SC22)	4	43*	37-ORW/COLD; 2-ERW/COLD; 4-DEF
Trego Lake-Middle Namekagon (SC21)	3	60	34-ORW; 2-ERW; 24-DEF

*Includes 5 miles of the Namekagon River downstream of the Hayward dam noted as especially important for rare species of freshwater mussels.

St. Croix River Basin – Lakes within Sawyer County

Watershed	No. of Lakes	Surface Area	Classification
Totogatic River (SC20)	10	2,916	1-IA;1-IIA; 1-IID; 1-I-Ins; 2-II-Ins; 4-None
Upper Namekagon River (SC22)	10	1,249	1-IA; 1-IIA; 2-I-Ins; 2-II-Ins; 4-None
Trego Lake-Middle Namekagon (SC21)	7	383	1-IIA; 1-I-Ins; 1-II-Ins; 4-None

St. Croix River Basin – Permitted Wastewater Treatment Facilities

Watershed	Name	Type	Receiving Water
Upper Namekagon River (SC22)	Hayward Wastewater Treatment	Municipal	Groundwater
	WI DNR-Price Rite Remeidation	Industrial	Groundwater and Namekagon River

Lower Chippewa River Basin

The basin as a whole encompasses 314,375 acres of wetlands, 2,602 miles of streams, and 447 lakes and flowages. Sawyer County has an insignificant portion of the basin's streams and only 23 of the lakes with a combined acreage of 2,687. The few streams included are listed as outstanding or exceptional waters (Benson Creek, Forty-one Creek, Knuteson Creek, Sucker Creek, and Thirty-three Creek.) The Red Cedar Lake Watershed has an overall priority ranking of medium. The following tables illustrate the specific watershed surface waters. The following issues of concern noted in the state of the basin report are based on input from DNR staff, the basin partner team and the public:

- Loss, impairment, and fragmentation of habitat
- Excessive sedimentation to surface waters and net importation of nutrients from point and non-point sources to surface and groundwater
- Growth and development
- Threats to groundwater
- Lack of Inventory and monitoring data for resource management
- Impact of dams on streams
- Need for an integrated, dynamic educational strategy
- Recreational use pressure and conflicts

Lower Chippewa River Basin – Streams within Sawyer County

Watershed	No. of Stream	Miles of Streams	Miles/Classification
Red Cedar Lake (LC11)	8	28	17-Cold(I); 2-WWSF; 9-WWFF

Lower Chippewa River Basin – Lakes within Sawyer County

Watershed	No. of Lakes	Surface Acres	Classification
Red Cedar Lake (LC11)	23	2,687	14-1C; 5-1D; 2-2B;2-2C

Upper Chippewa River Basin

The majority of the Sawyer County lies within this basin with a total of 4,051 miles of streams and 765 lakes. Wetland acreage for the basin was not available and the DNR sites a lack of water quality data as a significant roadblock in assessing water quality. The most current documentation is the *Upper Chippewa River Basin Water Quality Management Plan* published in 1996. The following tables illustrate the specific watershed surface waters. DNR water quality objectives for the basin include:

- Effects of dams on the Chippewa and Flambeau Rivers on in-stream habitat, fisheries and water quality.
- Mercury levels in, and deposition to, lakes in the county
- Additional stream and lake monitoring to better assess conditions and define specific resource recommendations

Upper Chippewa River Basin – Streams within Sawyer County

Watershed	No. of Streams	Miles of Stream	Miles/Classification
Lower North Fork	14	141	10-Cold(I); 25-

Flambeau River (UC11)			Cold(II); 19-Cold(III); 87-DEF
Thornapple River (UC18)	16	217	7-Cold(I); 7-Cold(II); 203-DEF
Weirgor Creek & Brunet River (UC19)	31	333	42-Cold(I); 26-Cold(II); 19-Cold(III); 246-DEF
Couderay River (UC20)	15	138	16-Cold(I); 6-Cold(II); 116-DEF
East Fork Chippewa River (UC21)	29	299	8-Cold(I); 26-Cold(II); 30-Cold(III); 235-DEF
Lake Chippewa (UC22)	13	67	9-Cold(I); 4-Cold(II); 54-DEF
West Fork Chippewa River (UC23)	20	254	2-Cold(III); 252-DEF

Upper Chippewa River Basin - Lakes within Sawyer County

Watershed	No. of Lakes	Surface Area	Classifications
Lower North Fork Flambeau River (UC11)	8	1,472	3-1A; 1-1C; 3-2D
Thornapple River (UC18)	0	0	0
Weirgor Creek & Burnet River (UC19)	21	2,246	6-1C; 2-1D; 5-2C; 7-2D
Couderay River (UC20)	43	17,123	9-1A; 12-1C; 2-1D; 4-2A; 2-2B; 6-2C; 8-2D
East Fork Chippewa River (UC21)	9	1,183	1-1A; 1-2A; 2-2C; 5-2D
Lake Chippewa (UC22)	36	19,526	7-1A; 8-1C; 4-1D; 2-2A; 8-2C; 5-2D
West Fork Chippewa River (UC23)	36	5,819	7-1C; 7-1D; 1-2A; 4-2C; 17-2D

Paleoecological studies have been completed on several lakes within the Couderay River (UC20) watershed. Studies were conducted by Wisconsin Department of Natural Resources Bureau of Science Services and have been completed on Grindstone, Whitefish, Round and Sand lakes. Results indicate all the lakes have some of the lowest mean sedimentation rates of the 48 Wisconsin lakes studied to date. However, all the lakes have indicators that note increased nutrients since the mid-1990's which is probably due to increased nutrient runoff from soil amendments in lawns near the lakeshore. Increased productivity has begun to adversely impact lake oxygen levels in the bottom waters. This deep water loss of oxygen is an early sign of cultural eutrophication.

Impaired Waters

The WI-DNR 2015 303(d) list of impaired water bodies is charted below. (also see map, Appendix G)

Official Name (Click for Details)	Local Name (Click for Map)	Start Mile	End Mile	WBIC	Water Type	County	Pollutant	Impairment	Status	Priority
Black Lake	Black Lake (Birch)			2401300	Lake	Ashland, Sawyer	Mercury	Contaminated Fish Tissue	303d Listed	Low
Callahan Lake	Callahan Lake			2434700	Lake	Sawyer	Mercury	Contaminated Fish Tissue	303d Listed	Low
Chippewa River	Chippewa River	144.17	163.41	2050000	River	Rusk, Sawyer	PCBs	Contaminated Fish Tissue	Water Delisted	Delisted 2008
Chippewa River	Chippewa River	166.17	178.02	2050000	River	Sawyer	PCBs	Contaminated Fish Tissue	Water Delisted	Delisted 2008
Crazy Horse Creek	Crazy Horse Creek	0.00	6.00	2398300	River	Sawyer	Sediment/Total Suspended Solids	Degraded Habitat	Water Delisted	Delisted 2002
Fishtrap Lake	Fishtrap Lake			2401100	Impoundment	Sawyer	Mercury	Contaminated Fish Tissue	303d Listed	Low
Ghost Lake	Ghost Lake			2423000	Lake	Sawyer	Mercury	Contaminated Fish Tissue	303d Listed	Low
Lac Courte Oreilles	Musky Bay			2390800	Bay/Harbor	Sawyer	Total Phosphorus	Non-Native Aquatic Plants, Water Quality Use Restrictions	303d Listed	Low
Lake Chetac	Lake Chetac			2113300	Lake	Sawyer	Total Phosphorus	Excess Algal Growth	303d Listed	Low
Lake Chippewa	Lake Chippewa			2399700	Lake	Sawyer	Mercury	Contaminated Fish Tissue	Water Delisted	Delisted 2006
Loretta Lake (U Brunet Flowage)	Loretta Lake (Burnett Flowage)			2382700	Impoundment	Sawyer	Mercury	Contaminated Fish Tissue	303d Listed	Low
Lost Land Lake	Lost Land Lake			2418600	Lake	Sawyer	Mercury	Contaminated Fish Tissue	Water Delisted	Delisted 2006
Lower Clam Lake	Clam Lake, Lower			2429300	Lake	Sawyer	Unknown Pollutant	Excess Algal Growth	Proposed for List	Low
Moose Lake	Moose Lake			2420600	Lake	Sawyer	Mercury	Contaminated	303d	Low

Official Name (Click for Details)	Local Name (Click for Map)	Start Mile	End Mile	WBIC	Water Type	County	Pollutant	Impairment	Status	Priority
								Fish Tissue	Listed	
Moose Lake	Moose Lake			2420600	Lake	Sawyer	Total Phosphorus	Impairment Unknown	Addition	Low
Mud Lake	Mud Lake			2434800	Lake	Sawyer	Mercury	Contaminated Fish Tissue	303d Listed	Low
Nelson Lake	Nelson Lake			2704200	Lake	Sawyer	Total Phosphorus	Excess Algal Growth	303d Listed	Low
Sissabagama Lake	Sissabagama Lake			2393500	Lake	Sawyer	Total Phosphorus	Excess Algal Growth	Deletion	Not Applicable
Sissabagama Lake	Sissabagama Lake			2393500	Lake	Sawyer	Unknown Pollutant	Excess Algal Growth	Addition	Low
Spider Lake	Spider - Clear Lake			2435700	Lake	Sawyer	Mercury	Contaminated Fish Tissue	Water Delisted	Delisted 2014
Teal Lake	Teal Lake			2417000	Lake	Sawyer	Unknown Pollutant	Excess Algal Growth	Proposed for List	Low
Two Axe Lake	Two Axe Lake			1887200	Lake	Sawyer	Mercury	Contaminated Fish Tissue	303d Listed	Low
Upper Holly Lake	Holly Lake, Upper (Holly)			2394600	Lake	Sawyer	Mercury	Contaminated Fish Tissue	Proposed for List	Low
Whitefish Lake	Whitefish Lake			2392000	Lake	Sawyer	Total Phosphorus	Impairment Unknown	Proposed for List	Low
Windigo Lake	Windigo Lake (Bass)			2046600	Lake	Sawyer	Mercury	Contaminated Fish Tissue	303d Listed	Low
Winter Lake (Price Flowage)	Winter Lake (Price Flowage)			2381100	Impoundment	Sawyer	Mercury	Contaminated Fish Tissue	303d Listed	Low

Lac Courte Oreilles – Musky Bay

In June 2014 the United States Environmental Protection Agency (U.S.EPA) declared Musky Bay of LCO “impaired” for phosphorus and added Musky Bay to the WI-DNR 2012 303(d) list of impaired water bodies in Wisconsin. To address the impairment of Musky Bay and the increasing phosphorus loading to the rest of LCO, Courte Oreilles Lake Association (COLA) and the Tribe have prepared a proposed Site Specific Criteria and completed a Total Maximum Daily Load study for LCO.

COLA and the Tribe are proposing that the Wisconsin Department of Natural Resources establish, by rule, a total phosphorus criterion for LCO that is more stringent than currently exists. The current criterion that applies to a 2-story fishery lake like Lac Courte Oreilles is 15 parts per billion, total phosphorus. COLA and the Tribe are proposing that a total phosphorus criterion of 10 parts per billion, calculated as a lake wide average, be set specifically for Lac Courte Oreilles because the current criterion is not stringent enough to protect the 2-story/cold water fishery ecology of Lac Courte Oreilles into the future. The lake wide average for total phosphorus in Lac Courte Oreilles currently stands at 12.8 parts per billion.

The draft Total Maximum Daily Load study has been prepared to address the phosphorus impairment of Musky Bay and also address the proposed new total phosphorus criteria for all of Lac Courte Oreilles. The Total Maximum Daily Load study is the result of four years of monitoring and scientific study. The Total Maximum Daily Load study lists all the sources of phosphorus loading to Lac Courte Oreilles and allocates phosphorus reductions necessary to restore Musky Bay and protect the Lac Courte Oreilles 2-story/cold water fishery into the future. The DNR has recommended the development of a 9 Key Element watershed plan to address the non-point sources of phosphorus entering Musky Bay.

Identification of Priority Farms

Sawyer County's methodology for identification of farms is rather simplistic, however, there are very few farms remaining in the county (approximately 40 with 30 of those livestock operations). We will use a systematic approach using these guidelines:

Identification

1. Use Farm Service Agency List to identify all County producers

Inventory

1. Integrate feedlot modeling into our field visits for the Department of Natural Resources wildlife damage and abatement program. BARNY 2 will be used for phosphorous and COD delivery.
2. Agricultural fields will be inspected for sheet and rill erosion. Natural Resources Conservation Service documents have cited two fields within the county as being over tolerable soil loss levels. Meetings with these individuals have already been completed. RUSLE 2, when available, will be used for all future determinations.
3. Contact livestock operations within a 303D listed impaired watershed but not covered above.
4. Contact remaining operations as above.
5. Approximately 95% of the field inventory has been completed.

Action

1. Farms that are currently meeting requirements of ATCP 50 will be notified.
2. Farms that are "critical sites", under a Department of Natural Resources "notice of intent", in an agricultural impacted 303D listed watershed, or have significant problems with manure management, excessive nutrients, or cropland erosion will be notified of

such and be encouraged to voluntarily implement conservation practices. Historically, such farms are non-existent in Sawyer County.

3. Farms that are found not in conformance with number 2 and do not voluntarily comply will be referred to the Department of Natural Resources for further action.

NR 151 Implementation Strategy

The Sawyer County Land Conservation Department will cooperate with the Department of Natural Resources (DNR), and other agencies to implement the agricultural performance standards. The extent of implementation of the components of the strategy outlined below will be dependent upon the availability of funding for staffing, support, and cost share funds for completion.

The following principles will guide implementation of the agricultural performance standards in Sawyer County:

- Encourage voluntary participation in an ongoing cost sharing program for agricultural conservation practices
- Implement most cost effective practices with an emphasis on nutrient management
- Coordinate DATCP funding for conservation practices to meet the agricultural performance standards with other cost share opportunities.

1. Conduct information and education activities

Sawyer County will distribute information and educational material. The information may be distributed via newspaper, newsletters, handouts, public information meetings, and one-on-one contacts. The educational materials will be designed to meet the following objectives:

- Educate landowners about Wisconsin's agricultural performance standards and prohibitions, applicable conservation practices, and cost share grant opportunities;
- Promote implementation of conservation practices necessary to meet performance standards and prohibitions;
- Inform landowners about procedures and agency roles to be used statewide and locally for ensuring compliance with the performance standards and prohibitions.

2. Select and evaluate parcels for compliance with standards and prohibitions

A. See Priority Farms Strategy

B. Onsite evaluations procedure:

- Contact owners of selected parcels and schedule site evaluations.
- Conduct onsite evaluations
- Determine and document the extent of current compliance with each of the performance standards and prohibitions

- Use the site visit to review farm plans and operation and maintenance compliance for current program participants.
- Where non-compliant, estimate costs and eligibility for cost sharing.

3. Document and report compliance status

A. NR151 status report

Following completion of records review and on-site evaluation, prepare and issue NR 151 status report to owners of the evaluated parcels. This report will convey the following information at a minimum:

- Current status of compliance of individual parcels with each of the performance standards and prohibitions.
- Corrective measure options and rough cost estimates to comply with each of the performance standards and prohibitions for which a parcel is not in compliance.
- Status of eligibility for public cost sharing.
- Grant funding sources and technical assistance available from federal, state, and local government, and third party service providers.
- Farmland Preservation Plan compliance.
- An explanation of conditions that apply if public cost share funds are used.
- A timeline for completing corrective measures, if necessary.
- Signature lines indicating landowner agreement or disagreement with report findings.
- Process and procedures to contest evaluation results to county and or state. The Land Conservation Committee will review cases of contested compliance evaluation results at a regularly scheduled LCC meeting.

B. Maintain public records. Keep and maintain evaluation and compliance information as public record.

4. Secure cost sharing and technical assistance / Issue NR151 Notice

Voluntary component

- Receive request for cost-share and/or technical assistance from landowner.
- Confirm cost-share grant eligibility and availability of cost-share & technical assistance.
- Develop and issue cost-share contract (including BMPs to be installed or implemented, estimated costs, project schedule, and

notification requirements under NR 151.09(5-6) and/or 151.095(6-7). (Appendix A)

Non-voluntary component

- In the event that a landowner chooses not to install corrective measures either with or without cost sharing, issue landowner notification per NR 151.09(5-6) and/or 151.095(6-7).
- If eligible costs are involved, this notification shall include an offer of cost sharing.
- If no eligible costs are involved, or if cost sharing is or was already made available, the notification will not include an offer of cost sharing.

5. Administer funding and technical assistance

A. Execute cost-share agreement. If cost-sharing is involved, finalize and execute cost-share agreement including schedule for installing or implementing BMP(s).

B. Provide technical services and oversight.

- Provide conservation plan assistance
- Review conservation plans prepared by other parties
- Provide engineering design assistance
- Review engineering designs provided by other parties
- Provide construction oversight
- Evaluate and certify installation of conservation practices

C. Re-evaluate parcel.

- If site is compliant, update "NR 151 Status Report " and issue "Letter of NR151 Compliance."
- If not compliant, seek non-regulatory remedies or initiate enforcement action.

6. Enforcement activities

Notify DNR of enforcement action needed. This will be pursued in circumstances where:

A. A breach of contractual agreement including failure to install, implement, or maintain BMPs according to the provisions of the agreement occurs OR the landowner has failed to comply with a notice issued AND non-regulatory attempts to resolve the situation have failed.

B. Schedule enforcement conference. If landowner is found to be out of compliance, the LCC will notify the appropriate Department of Natural Resources staff to set up the enforcement conference.

C. Participate in enforcement conference. The LCD will provide technical assistance and participate in an enforcement conference formally initiated by DNR.

D. Initiate enforcement action. Refer cases to DNR for enforcement. The Sawyer County Manure Storage Ordinance or other ordinances which incorporate standards may be used.

7. Monitoring compliance

- Conduct periodic evaluations to verify ongoing compliance.
- Respond to public complaints alleging noncompliance
- Noncompliance that threatens public health and safety will be immediately referred for enforcement action through appropriate county and state entities.
- New property owners will be made aware of or have access to NR 151 compliance information

8. Annual reporting of program activities and progress

- Maintain and convey a record of annual site evaluations showing their location and compliance status.
- Maintain a record of estimated costs of corrective measures for each evaluated parcel.
- Maintain and convey a record showing parcels where public cost sharing has been applied to implement standards and prohibitions, the amount and source of those funds, and the landowner share.
- Maintain and convey a record and location of parcels receiving notification and violation letters.
- Maintain and convey a record of the annual cost of technical and administrative assistance needed to administer agricultural performance standards and prohibitions, as established in NR151.

Land Use

Sawyer County utilizes land and information modernization programs to evaluate land uses and provide assistance in developing programs. The county tax lister's database has been modified to include designation of shoreline property owners which is used as a tool to distribute educational materials.

The majority of land within the county is wetlands and forestry (74%). Agriculture accounts for 12%, residential land is approximately 12%, and commercial and industrial acreage is 1% of the total county acreage. The following (Table 1) reflects estimated acreage for commercial, industrial, forestry and wetlands, agriculture, and residential land usage within the county. (Appendix E)

Township	Commercial C-1	Industrial I-1	Forestry F-1	Agriculture A1 & A2	Residential R1, RR1 & RR2
Bass Lake	190	275	13480	7545	7547
Couderay	83	38	33208	3950	4862
Draper	78	0	82160	2545	2830
Edgewater	42	27	22214	4444	3029
Hayward	813	350	19652	7265	8370
Hunter	44	11	27964	639	4515
Lenroot	166	40	40072	5920	6027
Meadowbrook	35	0	16540	5675	668
Meteor	6	3	15340	5740	939
Ojibwa	187	79	14663	8129	8863
Radisson	94	19	24780	18906	1086
Round Lake	304	178	58157	3377	7461
Sand Lake	131	5	16802	6879	5372
Spider Lake	10	0	55764	1746	5592
Weirgor	31	11	12758	7106	1496
Winter	656	5	131037	16504	28565
Total Acres	2870	1041	584591	106370	97222
Percentage	**0.50%**	**0.50%**	**74%**	**13%**	**12%**

Table 1

Soil Loss Inventories

Sawyer County was the first of the northern counties to prepare a Soil Erosion Control Plan (see Appendix C). The Soil Erosion Control Plan was approved by the Land and Water Resource Board in August, 1998. The primary goal of the plan is to reduce soil erosion of cropland caused by water erosion on all cropland in the county to allowable soil loss levels that meet the Natural Resources Conservation Service Technical guide standards by the year 2000. A soil erosion transect survey was completed in each of the 1999, 2000, 2001 and 2004 growing seasons to establish a database for soil erosion estimations and as a baseline resource in conservation planning. New data from DATCP will be utilized in 2018 using the Snap-plus program.

Freeon, Magnor, and Padus soils make up the majority of Sawyer County's cropland. These soils are nearly level to moderately sloping and are suited for farming, except they are limited by a short growing season. Based on information in the soil erosion transect survey database the estimated weighted average tolerable soil loss (T) rate for the county is 4.2 tons/acre/year and the weighted average soil erosion rate (A) is 1.2 tons/acre/year. As reported to the State of Wisconsin Department of Agriculture, Trade and Consumer Protection in the 2001 Accomplishment Report, Sawyer County cropland acres greater than T or equal to 2T equal 6 percent of cropland acres. (Appendix D)

Development Trends

Sawyer County has experienced continued growth in recent years. Census data for the period from 2000 to 2010 indicates a county growth rate of 2.23% compared to the state rate of 5.7%.

The population data reflects growth in individuals that are full time residents and does not accurately reflect the seasonal population fluctuations that occur. Sawyer County has one of the highest recreational housing ratios (48.5, 2000 Census) in the state. What draws individuals to northern Wisconsin and Sawyer County in particular are the northwoods and waters. The county's growth has accelerated so rapidly that public officials are having difficulty maintaining and protecting the character of the northwoods. All townships within the county have completed smart growth plans.

County zoning regulations for shorelines have been revisited by a committee comprised of technical, lake association members, and other interested individuals. In 2011, the stand alone Sawyer County Shoreland/Wetland Zoning Ordinance was passed. The latest ordinance lists "wilderness lakes" that were arrived at on a numeric point system developed by the Land and Water Conservation Department. This is a unique step toward small lake protection in the State.

Performance Standards and Prohibitions

Performance standards and prohibitions are a focal point in the land and water resource management plans. In addition to county ordinances, Sawyer County will utilize the compliance, enforcement and appeal procedures and state standards as identified in the following:

▪ NR 151, Wis. Admin. Code & ATCP 50

ATCP 50/NR 151 set forth state minimum performance standards and prohibitions for farms and urban areas. These performance standards and prohibitions were designed to achieve water quality standards by limiting nonpoint source water pollution. It is the landowner's responsibility to meet the agricultural performance standards and prohibitions. The role of Sawyer County Land Conservation Department is to assist them in doing so.

NR 151 Non-Agricultural Performance Standards

Construction sites >1 acres-must control 80% of sediment load from sites.

Stormwater management plans (>1 acre after 10-1-04)

- Total suspended solids
- Peak discharge rate
- Infiltration
- Buffers around water

NR 151 Agricultural Performance Standards

For farmers who grow agricultural crops

- Meet "T" on cropped fields
- Follow a nutrient management plan designed to limit entry of nutrients into waters of the state.

For farmers who raise, feed, or house livestock

- No direct runoff from feelots or stored manure into state waters
- No unlimited livestock access to waters of the state where high concentrations of animals prevent maintenance of adequate or self sustaining sod cover

- Follow a nutrient management plan when applying or contracting to apply manure to limit entry of nutrients into waters of the state

For farmers who have plans to build a manure storage structure:

- Maintain a structure to prevent overflow, leakage, and structural failure
- Repair or upgrade a failing or leaking structure that poses an imminent health threat or violates groundwater standards
- Close a structure according to accepted standards
- Meet technical standards for a newly constructed or substantially-altered structure

For farmers with land in water quality management area (defined as 300 feet from a stream, or 1,000 feet from a lake or areas susceptible to groundwater contamination)

- Do not stack manure in unconfined piles
- Divert clean water away for feedlots, manure storage areas, and barnyards located within this area

This regulation is available from the Department of Natural Resources or this web site, http://docs.legis.wisconsin.gov/code/admin_code/nr/100/151/Title

▪ ATCP 50, Wis. Admin. Code which establishes nutrient management and sheet/rill erosion standards; establishes technical standards for cost-shared practices; and establishes cost-sharing requirements for existing facilities and practices if non-DNR funds are used.

This regulation is available from the DNR or this web site, http://www.legis.state.wi.us/rsb/code/atcp/atcp050.pdf

▪ Comprehensive Planning Law, ss. 66.1001 and 16.965, Wis.Stats. which defines a comprehensive plan as containing 9 elements; requires public participation; and establishes plan adoption procedures, imposes a consistency requirement (after January 1, 2010) between plan and local land use actions. This regulation is available from the Department of Administration or this web site, http://www.doa.state.wi.us under the heading *Comprehensive Planning.*

▪ Sawyer County Comprehensive Zoning Ordinances establish setbacks for buildings and structures from navigable waters; controls removal of shoreline vegetation; imposes permit and other requirements for filling, grading, and dredging near shorelands; regulates development including lake access, island development resorts and condominiums, lake classification development standards, establishes building setbacks from natural features, authorizes intervention to abate a hazardous condition or nuisance*;* provides compliance procedures including a board of adjustment for variances and appeals, notice requirements, public hearings, enforcement and penalties such as forfeitures for violations, review and appeals. This ordinance is available from the Sawyer County Zoning and Conservation Department, 10610 Main Street Suite 49, Hayward, WI 54843 or from this web site, http://www.sawyercountygov.org/CountyDepartments/ZoningSanitation/OrdinanceRulesandBylaws/tabid/312/Default.aspx.

Partners in the Land and Water Resource Management Plan

Sawyer County has been fortunate to have a dedicated group of individuals from a variety of agencies who have worked to preserve and protect our resources for many years. We also have a broad base of volunteers in this community. These individuals participate in annual events such as Fishing Has No Boundaries, Lumberjack World Championships, American Birkebeiner, and the Chequamegon Fat Tire Festival. These events are unique to Sawyer County and rely on high quality natural resources and provide us with committed volunteer resources. These professional and volunteer partnerships will be vital to the achievement of the plan's objectives.

Agencies and programs involved in implementing our plan include:

Department of Natural Resources-

The Zoning & Conservation Department has an extensive working relationship with the Department of Natural Resources. NR 151 Performance Standards have been a collaborative effort with the County performing the field work and the local DNR acting as the enforcement arm.

Other DNR programs include the AIS coordinator grant, rapid response grants for invasives, the Wildlife Damage and Abatement program, a grant funding from Aids for Acquisition for Developing Local Parks, Recreational Boating Facilities, the Stewardship program, and others.

The DNR utilizes the expertise of the Zoning & Conservation Department for implementing mitigation after shoreline citations as well as acting as a liaison for both private property owners and governmental entities with environmental issues.

University of Wisconsin Extension-

Local Extension is utilized assisting with farm facilities modernization, and as an educational resource in the Nutrient and Pest Management programs.

Lac Courte Oreilles Tribe –

Tribal Conservation efforts mimic County efforts and there is a free-flow of information, ideas, and equipment between the LCO tribe and the County. In 2009, the departments began a multi-year project in reducing erosion and loss of shoreline on many of the islands in the Chippewa Flowage. This is a true partnership and greatly improves the effectiveness of both departments.

Natural Resources Conservation Service -

The County Conservationist attends local work group meetings of the NRCS EQIP program. Large agricultural projects are generally "piggy-backed" utilizing federal and state funding with county design and installation inspection. There is little in the way of Wetland Reserve program and Conservation Reserve program acreage in Sawyer County. NRCS also provides engineering assistance to the County.

Department of Agriculture, Trade and Consumer Protection-

DATCP provides crucial funding for staffing as well as bonding funds for the implementation of practices. The standards and specifications used by the department, as well as many regulatory practices are promulgated by the DATCP. The Resource Planning section has been an invaluable tool to completing this Land and Water Resource Management plan.

Sawyer County Zoning –

Sawyer County Zoning is the enforcement branch for many of the Counties regulations in land use. The Zoning & Conservation Department provides mitigation for shoreland properties and assists with implementation of the NR 135 Non-Metallic Mining and Reclamation Program.

Sawyer County Forestry –

The Forestry Department utilizes the Zoning & Conservation Department for permitting, assistance with erosion control on All Terrain Vehicle trails and logging roads, rehabilitation of logging sites for wildlife, and other issues.

Lake Associations –

Lake associations play a vital role in the education of lake residents and protection of water resources. Sawyer County has twenty-seven active lake associations and a county-wide lakes forum who will utilize the plan as they work towards common goals and objectives to protect water quality and habitat. The Star Home program and others have been collaborative efforts.

The Courte Oreilles Lakes Association (COLA) represents some 450 property owner members on Lac Courte Oreilles (LCO) and Little Lac Courte Oreilles lakes. Over the last five years the association has undertaken a number of steps to address deteriorating water quality including securing impaired water status under the Federal Clean Water Act, proposing a new more restrictive phosphorus standard for LCO, conducting outreach to other lake associations in the Upper Couderay River Watershed, and implementation of numerous phosphorus reduction projects around the LCO lakes and in the greater LCO watershed. COLA relies upon and supports Sawyer County implementation of this Plan and County Zoning requirements aimed at protecting water quality and habitat. COLA officials are available to assist and guide other lake organizations in their efforts to protect lakes in Sawyer County.

Funding Plan Implementation

This plan will be the basis for future funding initiatives. Grant funds will be sought to supplement funding from local, state and federal sources. We will continue to participate in programs developed by federal and state agencies and utilize those dollars to the greatest extent before seeking private funding. A state approved county wide plan will be a great source of information and guidance as we seek both private and governmental funding.

Sawyer County has initiated county cost-share programs to assist with abandoned well closures to protect groundwater and provide technical and cost-share assistance to install shoreline buffers in critical riparian areas and other shoreline protection practices. We have utilized and will continue to utilize the Department of Agriculture, Trade and Consumer Protection cost-share program for NR243 Notice of Discharge compliance.

As needed, we have utilized volunteers from community organizations as well as the high school environmental research class and local Boy Scouts to curb the invasion of purple loosestrife in our water ways. In cooperation with Department of Natural Resource staff, we provide technical assistance and supplies to volunteers for raising

beetles for the biological control of this invasive exotic. We will continue to rely on these valuable volunteer resources to implement lake protection projects.

The Zoning & Conservation Department has written and received grants from private and governmental sources to implement projects. As competition for monetary resources increases it will be vital to the success of future projects to be competitive in the grant writing process. Department staff is trained in this area and will continue to target a wide variety of sources for procuring grants.

In addition to volunteer assistance and grants, the county will seek funding from state and federal programs including:

- Wisconsin Department of Natural Resources non-point source funding (TRM), stewardship grants, lake planning grants, aquatic plant management grants, aquatic invasive species grants, dam repair and modification, brownfield site assessment and remediation grants, shoreline protection and lake protection grants
- Department of Agriculture, Trade and Consumer Protection funds for shoreline protection and funding for soil and water resource management plan implementation
- Natural Resource Conservation Service Environmental Quality Incentives Program (EQIP), Wetlands Reserve Program (WRP), Stewardship Incentive Program (SIP), Conservation Reserve Program (CRP), Wildlife Habitat Incentives Program (WHIP), Farm Bill funds, and Farmland Protection Programs
- Wisconsin Land and Water Conservation Association Internship Program

Information and Education Strategy

Information and education objectives are included in the work plan, which includes a timeline and partnerships utilized to achieve objectives. County staff made information and education a high priority in the past and will continue to do so. Information and education strategies include:

- Education and promotion of the Farmland Preservation Program, nutrient management plans, grazing management, conservation tillage, tree planting, prevention, identification and mapping of invasive species, cost-share programs and wetland benefits to agriculture producers.

- Education and promotion of best management practices for riparian areas, prevention, identification and mapping of invasive species, wetland function and benefits, shoreline zoning regulations, water quality testing, and tree sale program for landowners, students and general public.

- Education and promotion of best management practices, tree planter availability, cost-share programs for seeding and planting, wetland benefits, prevention, identification and mapping of invasive species, and technical assistance availability to logging operators and landowners.

Various formats will be utilized to present information and will be dependent on the audience and topic. Local media will be a key source of dispersing information. County staff will continue to provide presentations and information to local governments, lake associations, schools, and other special groups as requested. Educational packets will be distributed to new landowners via the postal mail.

As needed, staff will produce computerized presentations, slide shows, hand-outs, and demonstration models to meet educational goals. There currently are many excellent publications which will also be utilized whenever possible to avoid duplication of efforts.

Monitoring and Evaluation

An important component of any long range plan is to monitor and evaluate the success of strategies developed to meet goals. Due to funding constraints, agencies responsible for natural resources rarely have the dollars and/or staff to adequately evaluate and monitor resources.

Volunteers from lake associations, schools, and other interested groups will be utilized to assist in our monitoring and evaluation efforts. Details of tools to measure progress in addition to monitoring and evaluation efforts are outlined in the Five Year Work Plan.

Lakes located within Reservation boundaries will be monitored by the LCO Conservation Department. They measure many aspects of trophic status and perform a variety tests including phosphorous, chlorophyll A, secchi disk, blue green toxins 12 lakes, mercury, and total N, P, and total suspended solids in streams.

Water quality monitoring and data collection on other County lakes will involve a partnership between the county, lake association volunteers, Department of Natural Resources staff and Lac Courte Oreilles Tribal Conservation staff. This team effort will also apply to the monitoring of invasive species. Whenever possible, students from area schools will also participate in monitoring and data collection. Testing includes secchi disk, dissolved oxygen, and total phosphorous.

Sawyer County contains very few acres of farmland that erodes at a rate greater than the tolerable level. Farmland within the county will be monitored for erosion as defined in the Farmland Preservation Program and other relevant programs. The county conservationist will continue to monitor over-all farming best management practices in the day-to-day department operations.

Forestry staff from the county and Department of Natural Resources will be utilized to monitor best management practices pertaining to logging site erosion and access road construction. The county conservationist will provide technical assistance as requested to monitor logging sites, stream crossings and recreational trails within the county forest.

Evaluation of the success of a land and water resource management plan can be measured on a short-term basis with progress tools established within the work plan.

Many of our objectives can be measured within the work plan but changes to resources may take as much as a generation to be significant.

As information is compiled over the next five years, trends and comparisons can be evaluated and programming adapted to meet plan objectives. Zoning & Conservation Department staff will be the responsible party for compiling, reviewing, and reporting the success of plan objectives. An annual report will be prepared and reviewed by the Land, Water & Forest Resources Committee. Recommendations and/or adjustments to the plan are an expected occurrence and will be discussed at the regular monthly LW&FR Committee meeting.

Plan Goals and Objectives

The goals and objectives established in this plan represent priorities for natural resource management in Sawyer County carried out by the Zoning & Conservation staff with help from partner agencies. The activities needed to reach these goals will be implemented over the course of time established in the workplan. Priority goal and objective items are printed in **bold.**

Goal 1: Reduce environmental impacts of agricultural non-point source pollution.

Objective 1: All farms have and utilize a nutrient management plan
Objective 2: Control barnyard runoff
Objective 3: All cropland erosion be reduced to tolerable soil loss level

Goal 2: Protect, enhance, and restore natural shoreline structure and function

Objective 1: Educate shoreline property owners
Objective 2: Install shoreline restoration/protection projects
Objective 3: Protect existing shoreline ecosystems and habitat
Objective 4: Obtain base-line water quality data on 75% of the county waterbodies

Goal 3: Control and monitor invasive species

Objective 1: Survey, monitor, and map aquatic invasive species
Objective 2: Educate public on the prevention, early detection, and control of invasive species

Goal 4: Reduce soil erosion caused by forest road building & stream crossing activities

Objective 1: Educate landowners planning to harvest timber
Objective 2: Sponsor best management training sessions for loggers and landowners
Objective 3: Monitor logging sites and provide consultation to logging operators
Objective 4: Seeding and planting of abandoned forest roads

Goal 5: Protect land and water resources through land use/comprehensive planning and enforcement of zoning regulations

Objective 1: Establish county wide land use planning standards
Objective 2: Require mandatory mitigation and restoration of shoreline violations

Goal 6: Wetland Preservation

Objective 1: Encourage wetland restoration and enhancement

Objective 2: Educate public on the value of wetlands and related regulations

Goal 7: Promote reforestation

Objective 1: Expand tree sale program

Objective 2: Expand use of tree planter

SAWYER COUNTY LWRM WORKPLAN (2015-2025)

*Priority items are listed in bold.

Goal 1: Reduce environmental impacts of agricultural non-point source pollution

Objective	Actions	Who	When	Estimated Staff Needs	Estimated Cost Other Than Staff	Measure Progress Tool(s)
All farms have and utilize a nutrient management plan	Educate farmers on the need for a nutrient management plan Inventory all livestock farms and identify priority farms Inventory all cash crop farms and identify priority farms	LWCD LWCD LWCD	2015-2025	1 FTE $40,000 DATCP	$80,000	Number of farms utilizing nutrient management plans (assist 3 farms) Number of acres planned for nutrients (1000 acres) Reduce fertilizer and pesticide used (assist 3 farms)
Control barnyard run-off	Install conservation practices	LWCD NRCS	2015-2025	.1 FTE $4,000 DATCP		Number of farms meeting performance standards (bring 1 farm into compliance)
All cropland erosion be reduced to a tolerable soil loss level	Perform annual transect survey Educate farmers on grazing management Develop conservation plans for all cropland Promote conservation tillage	LWCD UWEX LWCD NRCS LWCD NRCS UWEX	2015-2025	.05 FTE $2,200 DATCP		Survey results (1 per year) Number of acres utilizing grazing management (assist 3 farms) Number of conservation plans (3 plans) Number of acres planned (1000 acres)

Total FTE: 1.15

Goal 2: Protect, enhance, and restore natural shoreline structure and function

Objective	Actions	Who	When	Estimated Staff Needs	Estimated Cost Other Than Staff	Measure Progress Tool(s)
Educate shoreline property owners	Provide shoreline stewardship packets to new owners Provide presentations and media releases to lake associations Promote establishment of new lake associations Provide technical on-site visits as needed	LWCD LWCD Lakes Forum UWEX LWCD	2015-2025	.4 FTE $16,000 DATCP	$1,500 Publications/Mailing	Number of packets distributed (40 packets per year) Number of media releases and presentations (5 each per year) Number of lake associations (3 new associations) Number of site visits made (40 visits per year)
Install shoreline restoration/protection projects	Provide technical assistance for projects Provide cost-share funds for projects Initiate ag shoreland protection program	LWCD DNR LCO LWCD DNR LCO LWCD NRCS	2015-2025	.35 FTE $13,000 DATCP	$20,000 Cost-Share Funds DATCP	Number of site visits made (40 visits per year) Number of projects installed (6,000 feet of shoreline) Number of ag shoreland projects installed (6,000 feet of shoreline)
Protect existing shoreline ecosystems and habitat	Advocate for improved shoreline zoning regulations Provide townships with conservation presentation for smart growth planning	Zoning LWCD LWCD	2015-2025	.14 FTE $1,600 Zoning $3,000 DATCP		Approved shoreline protection zoning ordinances (1 ordinance) Number of presentations to townships (assist 5 townships)

Obtain base-line water quality data on 75% of the county water bodies	Train lake associations to perform testing Establish a county-wide water quality testing program Develop water quality database	LWCD DNR LWCD LCO DNR LWCD	2015-2025	1.4 FTE $31,600 DATCP $5,000 DNR $5,000 LCO	$1,000 Water Testing Equipment	Number of lake associations performing testing (train 3 associations) Number of samples taken (100 samples) Water quality database (1 database)

Total FTE: 2.29

Goal 3: Control and monitor invasive species

Objective	Actions	Who	When	Estimated Staff Needs	Estimated Cost Other Than Staff	Measure Progress Tool(s)
Survey, monitor, and map aquatic invasive species	Monitor lakes with known AIS Survey lakes with no known AIS Encourage lake associations to develop volunteer monitoring programs Maintain a mapping program and invasive species database	LWCD LCO DNR LWCD	2015-2025	.42 FTE $10,000 DNR $1,000 LCO		Number of habitat areas identified Number of reports of invasive species
Educate public on the prevention, early detection, and control of invasive species	Provide invasive species identification manuals to public Educate public on the importance of prevention	LWCD DNR UWEX NRCS LWCD DNR LCO	2015-2025	.2 FTE	$1,000 Printing Materials	Number of manuals distributed Number of educational materials distributed

Ensure AIS issues are properly managed	Provide assistance to groups managing and controlling AIS Be involved in APM planning Develop control plans for rapid response projects	LWCD	2015-2025	0.1 FTE $2,000 DNR		Number of Lake Associations Assisted

Total FTE: 0.72

[1] Lakes include, but not limited to: Callahan, Chippewa Flowage, Blueberry, Chetac, Lac Courte Orielles, Grindstone, Round, Connors, Clear, Osprey, Nelson, Whitefish, Winter, Knuteson, Spider, County Line, Sand, Tiger Cat, Smith, Teal, Moose, Lost Land, Sissabagama, Little Sissabagama, Lake Hayward, Deer, Ghost, Schoolhouse, Windigo, Two Rivers, and Lovejoy.

Goal 4: Reduce soil erosion caused by forest road building activities

Objective	**Actions**	**Who**	**When**	**Estimated Staff Needs**	**Estimated Cost Other Than Staff**	**Measure Progress Tool(s)**
Educate landowners planning to harvest timber	Provide best management practices literature with cutting permits	DNR Forestry	2015-2025			Number of best management practice manuals distributed
Sponsor best management training sessions for loggers and landowners	Partner with WWOA, FISTA, & DNR to develop and present training	LWCD DNR Forestry	2015-2025	.02 FTE $1,000 DATCP	$1,000 DNR Training Site/Materials	Number of presentation attendees
Monitor logging sites and provide consultation to logging operators	Provide prompt response to requests for technical assistance	LWCD DNR Forestry	2015-2025	.02 FTE $1,000 DATCP		Number of technical site visits related to logging operations
Seeding and planting of abandoned forest roads	Provide seed cost-share program Advertise cost-share in local media	LWCD DNR LWCD DNR	2015-2025	.05 FTE $2,000 DATCP	$1,250 NRCS Seed cost-share funds	Number of acres of abandoned roads planted

Total FTE: 0.60

Goal 5: Protect land and water resources through land use/comprehensive planning and enforcement of zoning regulations

Objective	Actions	Who	When	Estimated Staff Needs	Estimated Cost Other Than Staff	Measure Progress Tool(s)
Establish county wide land use planning standards	Complete an approved county wide smart growth plan Encourage Farmland Preservation Program enrollment	LWCD Towns Zoning UWEX LWCD	2015-2025	.2 FTE $2,000 DATCP $2,000 UWEX $4,000 Zoning		Completed smart growth plan Number of Farmland Preservation enrollees
Require mandatory mitigation and restoration of shoreline violations	Provide restoration plans for shoreline violations Educate landowners on the values of natural vegetation	LWCD DNR Zoning LWCD DNR	2015-2025	.4 FTE $10,000 DATCP $3,000 DNR $3,000 Zoning	$1,000 Publications	Amount of restored shoreline Reduced number of violations

Total FTE: 0.60

Goal 6: Wetland preservation

Objective	Actions	Who	When	Estimated Staff Needs	Estimated Cost Other Than Staff	Measure Progress Tool(s)
Encourage wetland restoration and enhancement	Establish county wetland bank Provide technical assistance and funding to landowners	LWCD LWCD LCO DNR NRCS	2015-2025	.4 FTE $16,000 DATCP	$10,000 Cost-Share NRCS or U.S. Fish and Wildlife	Number of wetland acres established No net loss in wetland acreage
Educate public on the value of wetlands and related regulations	Provide educational information to lake associations, schools, and media	LWCD DNR LCO	2015-2025	.02 FTE $1,000 DATCP	$2,000 Multi-media Equipment	Number of educational contacts

Total FTE: 0.42

Goal 7: Promote reforestation

Objective	Actions	Who	When	Estimated Staff Needs	Estimated Cost Other Than Staff	Measure Progress Tool(s)
Expand tree sale program	Advertise tree sale in local media Recruit volunteers	LWCD LWCD	2015-2025	.09 FTE $3,600 DATCP		Number of trees sold Reduce staff time for tree distribution
Expand use of tree planter	Advertise availability of planter and related tools in local media	LWCD DNR	2015-2025	.1 FTE $2,000 DNR $2,000 DATCP		Number of trees planted

Total FTE: 0.19

Appendix A-Conservation/Best Management Practices

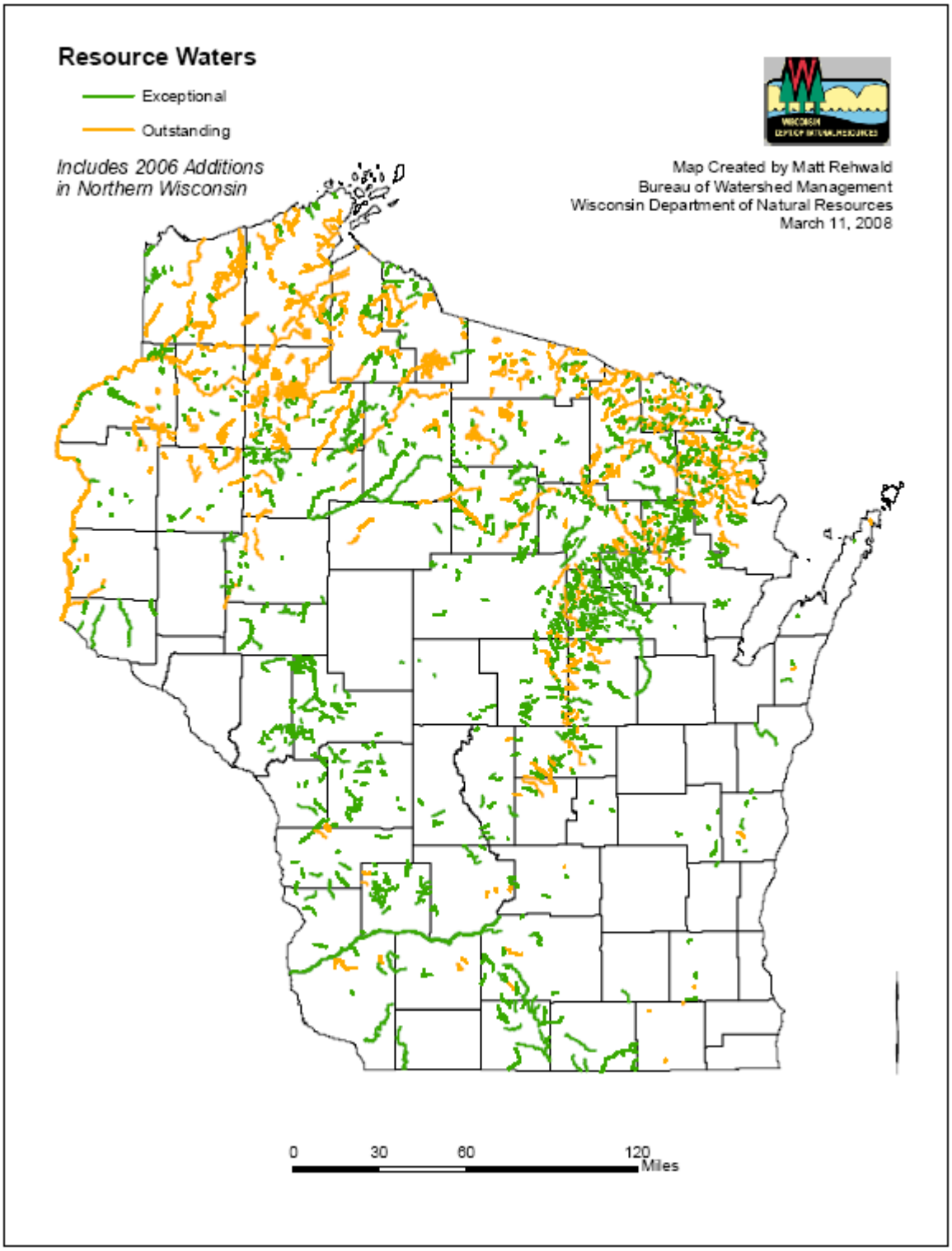
Use with Cost Share Applications			
Tech Guide Practice Code	Practice	ATCP 50 #	Unit of Measurement
560	Access Road *or* Cattle Crossing	50.65	FT
575	Animal Trails and Walkways	50.66	FT
350	Barnyard Runoff Control System	50.64	#
360	Closure of Waste Impoundment		#
332	Contour Buffer Strips		Acres
330	Contour Farming	50.67	Acres
340	Cover Crop/Green Manure	50.68	Acres
342	Critical Area Planting		Acres
362	Diversion	50.70	FT
382	Fencing/Exclusion	50.75	FT
386	Field Border		Acres
393	Filter Strips	50.72	Acres
395	Fish Stream Improvement		#
490	Forest Site Prep		Acres
410	Grade Stabilization Structure	50.73	#
412	Grassed Waterways	50.96	Acres
561	Heavy Use Area Protection	50.74	Acres
422	Hedgerow Planting		Acres
468	Lined Waterway or Outlet		Acres
360	Manure Storage Abandonment-Closure of Waste Impoundments	50.63	#
313	Manure Storage Facilities	50.62	#
635	Milk House Waste Control-Waste Treatment Strip	50.77	#
484	Mulching		Acres
590	Nutrient Management	50.78	Acres
500	Obstruction Removal		#
595	Pest Management-Field Crops	50.79	Acres
595	Pest Management-Specialty Crops		Acres
516	Pipeline		FT
528A	Prescribed Grazing-Cropland	50.80	Acres
528A	Prescribed Grazing-Pasture		Acres
329B	Residue Management Mulch-Till	50.82	Acres
329A	Residue Management No-Till & Strip-Till		Acres
393	Riparian Filter Strips (non-CREP)	50.83	Acres
558	Roof Runoff Management -Gutter	50.85	#
350	Sediment Basin-Barnyard		#
350	Sediment Basin (Non-Barnyard)		#
725	Sinkhole Treatment	50.87	#
574	Spring Development		#
313	Stacking Pad		#
580	Streambank Stabilization & Shoreline Protection	50.88	FT
585	Stripcropping	50.89	Acres
606	Subsurface Drain	50.90	#
600	Terraces	50.91	FT
612	Tree/Shrub Establishment	50.71	Acres
620	Underground Outlet	50.92	#
472	Use Exclusion		Acres
634	Waste Transfer system	50.93	#
635	Waste Water Treatment Strip	50.94	FT
638	Water and Sediment Control Structures	50.86	#
638	Water/Sediment Control Basin	50.95	#
614	Watering Facility Trough/Tank	50.76	#
642	Well Abandonment	50.97	#
657	Wetland Restoration	50.98	Acres
380	Windbreak/Shelterbelt Establishment		Acres

Appendix B

Sawyer County
Outstanding & Exceptional Water Resources

Waterbody Name	Portion within ORW/ERW	Classification Status
Badger Creek	All	ORW
Barker Lake	All	ORW
Beaver Creek	All	ORW
Benson Creek	All	ORW
Blaisdell Lake	All	ORW
Buckhorn Tributary	All	ORW
Camp Smith Lake	All	ORW
Eddy Creek	All	ORW
Evergreen Lake	All	ORW
Grindstone Creek	All	ORW
Grindstone Lake	All	ORW
Hayward Lake	All	ORW
Lac Court Oreilles	All	ORW
Lake Chippewa	All (Chippewa Flowage)	ORW
Little Weirgor Creek	All	ORW
Maple Creek	All	ORW
McDermott Brook	All	ORW
Mosquito Brook	All	ORW
Namekagon River	All	ORW
Nelson Lake	All	ORW
Osgood Lake	All	ORW
Pacwawong Lake	All	ORW
Perch Lake (T42N R6W S25)	All	ORW
Phipps Lake	All	ORW
Round Lake (Big Round)	All	ORW
S Fork Flambeau River	From the Price County line to the Junction w/ the N Fork of the Flambeau River	ORW
Sand Lake	All	ORW
Spider Lake	All	ORW
Swan Creek	All	ORW
Teal Lake	All	ORW
Unnamed Tributary to Little Wiergor @ S33 to S34 T37N R7W	All	ORW
Whitefish Lake	All	ORW
Alder Creek	All	ERW
Bean Brook	All	ERW
Bear Creek	All	ERW
Blueberry Creek	All	ERW
Brunet River	Above town road in S27 T40N R4W	ERW
Brunet River Tributary S18 T38N R5W to S24 T38N R6W	All	ERW
Casey Creek	All	ERW
Chippanazie Creek	All	ERW
Chippewa River Tributary S2 T38N R6W	All	ERW
Connors Creek	Flambeau R to Little Connor Creek	ERW
Couderay Creek Tributary @ S17 to S18 T39N R8W	All	ERW
Dead Man Creek	All	ERW
Deer Creek (Winter Township)	T38N R4W S36 and downstream	ERW

Flambeau River Tributary @ S10 to S9 T38N R3W	All	ERW
Flambeau River Tributary @ S11 to S14 T39N R3W	All	ERW
Flambeau River Tributary @ S14 to S13 T37N R4W	All	ERW
Flambeau River Tributary @ S18 to S30 T38N R3W	All	ERW
Flambeau River Tributary @ T37N R3W S27 (Bull Creek)	All	ERW
Flambeau River Tributary @ S1 to S12 T39N R3W	All	ERW
Forty-One Creek	All	ERW
Hackett Creek	S29 T37N R3W to County line	ERW
Hatchery Creek	All	ERW
Hauer Creek	All	ERW
Hemlock Spur Creek	All	ERW
Knapp Stout Creek	All	ERW
Knuteson Creek	Above Wise Lake in S36 T38N R9W	ERW
Lac Courte Oreilles Tributary @ T39N R8W S5	All	ERW
Lake Chippewa Tributary @ S17 to S9 T39N R7W	All	ERW
Long Creek Tributary	S7 T38N R3W to outlet	ERW
Moss Creek	All	ERW
Namekagon River Tributary @ S13 T41N R9W	All	ERW
Pipestone Creek	All ERW	
Price Creek	Flambeau River up to road crossing in S12 T37N R3W	ERW
Spooky Bay Creek	All	ERW
Sucker Creek	Above Highway 48	ERW
Swift Creek	Above Tuscobia Trail	ERW
Thirty-three Creek	All	ERW
Yarnell Creek	All	ERW


Resource Waters
Exceptional
Outstanding
Includes 2006 Additions
in Northern Wisconsin
Map Created by Matt Rehwald
Bureau of Watershed Management
Wisconsin Department of Natural Resources
March 11, 2008
0
30
60
120
Miles

Appendix C

SAWYER COUNTY

SOIL EROSION CONTROL PLAN

Prepared by:

Sawyer County Land and Water Conservation Department
May 1997

SAWYER COUNTY SOIL EROSION CONTROL PLAN

OBJECTIVES AND GOAL OF THE SOIL EROSION PLAN

This document is the soil erosion control plan for cropland in Sawyer County, Wisconsin. The plan was developed and written under the supervision of the Land & Water Conservation Committee within the guidelines set forth by the Department of Agriculture, Trade & Consumer Protection and is submitted to comply with the requirements of Chapter 92.10 Wis. Stats, and ATCP 50.12 Wis. Admin. Code. This soil erosion control plan is part of Sawyer County's long-range planning strategy to improve soil and water resource management. A public hearing on the original plan was held on November 3, 1995, and approved by the Sawyer County Board of Supervisors on November 14, 1995. The current plan was approved unanimously by the Sawyer County Land & Water Conservation Committee in 1997.

The purpose of the plan is to direct conservation efforts systematically and use the conservation dollars in the most effective manner possible until cropland within the entire county meets acceptable soil loss levels.

The primary goal of the Sawyer County Erosion Control Plan is to reduce soil erosion of cropland caused by wind and water erosion on all cropland in the County to allowable soil loss levels that meet the Natural Resources Conservation Service Technical Guide standards by the year 2000.

The soil erosion control goals under Chapter 92.10 and ATCP 50.12, Wis. Administrative Code are as follows:
By January 1, 2000, no individual cropland field in the state will have a soil erosion rate at which exceeds T-value.
By July 1, 2005, no individual cropland field in the state will have erosion rates which exceeds 2 times T-value.

SOILS, GEOLOGY AND LAND USE

Sawyer County is in northern Wisconsin with a total acreage of 866,560 of which 21,100 acres are in cropland. Freeon, Magnor and Padus soils make up the majority of Sawyer County's cropland. These soils are nearly level to moderately sloping land and are suited for farming, except they are limited by a short growing season. There is currently no soil survey available for Sawyer County. A current listing of soil series names and K factors used to calculate erosion rates is found in Appendix 8. See Appendix 1 for land use distribution from the Northern Wisconsin Cropland Study, February 1995, Appendix 3 for existing land use, Appendix 5 for the county watershed boundaries, Appendix 9 for a map of the major soil types, and Appendix 10 for topography.

CROPLAND SOIL EROSION IN SAWYER COUNTY

Appendix 4 and Appendix 2, from the Northern Wisconsin Cropland Study, Feb., 1995, reference information on the estimated average annual sheet and rill erosion in the county. Most of this erosion information is currently available only on a county-wide basis. Other field specific information can be found on the local database. The information in the current database estimates the weighted average T-value for the county to be 5.0 T/A/Y,

the weighted average soil erosion rate to be 2.6 T/A/Y, and the highest soil loss rate on a field to be 5 T/A/Y. The database erosion estimates are based on one percent of the 21,100 acres of cropland in Sawyer County [Wisconsin Agricultural Statistics – 1994].

STRATEGY FOR IMPLEMENTATION

Since little specific cropland field information is available, the Sawyer County Zoning & Conservation Department believes that beginning a voluntary educational approach now is the best means of achieving adoption of erosion control practices on as broad a county-wide basis as possible. The county will provide educational and technical assistance for the installation of soil conserving practices. County staff will also hold informational meetings for farmers to discuss the potential for implementation of shoreland management ordinances under s. 92.17 Stats.

Additionally, the county conservation staff will inventory areas where crop rotations, tillage, and soil type are likely to cause erosion above the tolerable soil loss level (T). The majority of this inventory will be completed before the year 2000. This will enable county staff to determine priority areas where these soil conserving practices are most needed. Erosion control practices will then be emphasized for these priority areas. These priority areas will be designated based on:

- The total amount of erosion occurring in each area;
- The extent to which current estimated erosion rates for cropland fields exceed the soil erosion control 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 the erosion;
- The feasibility of implementing the erosion control strategy; and
- Other factors identified by the land conservation committee.

Soil erosion rates and progress made toward the “T by 2000” goal will be tracked through the county database that contains current cropping conditions of individual fields. The database will enable the Sawyer County Land and Water Conservation Department to track where practices are needed. As fields are inventoried, the practices are planned and installed, the database will be updated to reflect progress made towards the “T by 2000” goal. This progress will be submitted annually to DATCP in the Accomplishment Report. Landowners and/or land users will be notified of current soil erosion rates on individual land parcels when the farm conservation plan is developed and monitored for compliance with conservation programs. The conservation plan will contain suggested management practices for reducing soil erosion. During the development or revision of this conservation plan, landowners or land users may present information related to the accuracy of the determined erosion rate.

In addition to these goals, Sawyer County has a soil and water conservation policy (see Appendix 7) in effect that sets standards for croplands of participants in the Farmland Preservation Program. This policy includes standards for developing and administering farm conservation plans under ss. ATCP 50.18 and 50.20, Wis. Administrative Code. See Appendix 6 for a listing of participants in the Farmland Preservation Program that have farm conservation plans implemented.

The following agencies were utilized in development and preparation of the erosion control plan: Department of Natural Resources, Natural Resources Conservation Service, Farm Service Agency, Department of Agriculture, Trade and Consumer Protection, University of Wisconsin – Extension, and the county land information office created under s.59.88(3). The Sawyer County Land and Water Conservation Deparmtent will continue to work with these agencies to coordinate conservation programs with the priorities of this plan. This will be accomplished by requesting that all agencies consider the goals in this plan when making decisions concerning where conservation efforts are to be directed.

State and federal conservation programs, and their respective cost sharing will be promoted to landowners in the designated priority areas to assist them in implementing the goals of this soil erosion control plan. Currently the Environmental Quality Incentives Program overseen by the Farm Service Agency is unfunded. State funds from Ag Shoreland Management may be available in the future pending grant approval.

CONSERVATION PRACTICES RECOMMENDED

Most of the soil erosion occurring on Sawyer County cropland is preventable using proper conservation practices. Because the main purpose of this erosion control plan is to meet the "T by 2000 goal", the erosion control measures outlined in this plan will focus mainly on those for cropland even though other soil erosion sources exist in this county.

A variety of conservation practices are available for the control of cropland soil erosion. The practices range from structural, such as the installation of terraces and the construction of grassed waterways, to cultural management such as conservation tillage, and contour farming. An objective of the county soil erosion control program is to identify those conservation practices that would most effectively address soil erosion problems in the County. Preference will be given to the conservation practices that allow producers to raise essentially the same crops they were producing in the past.

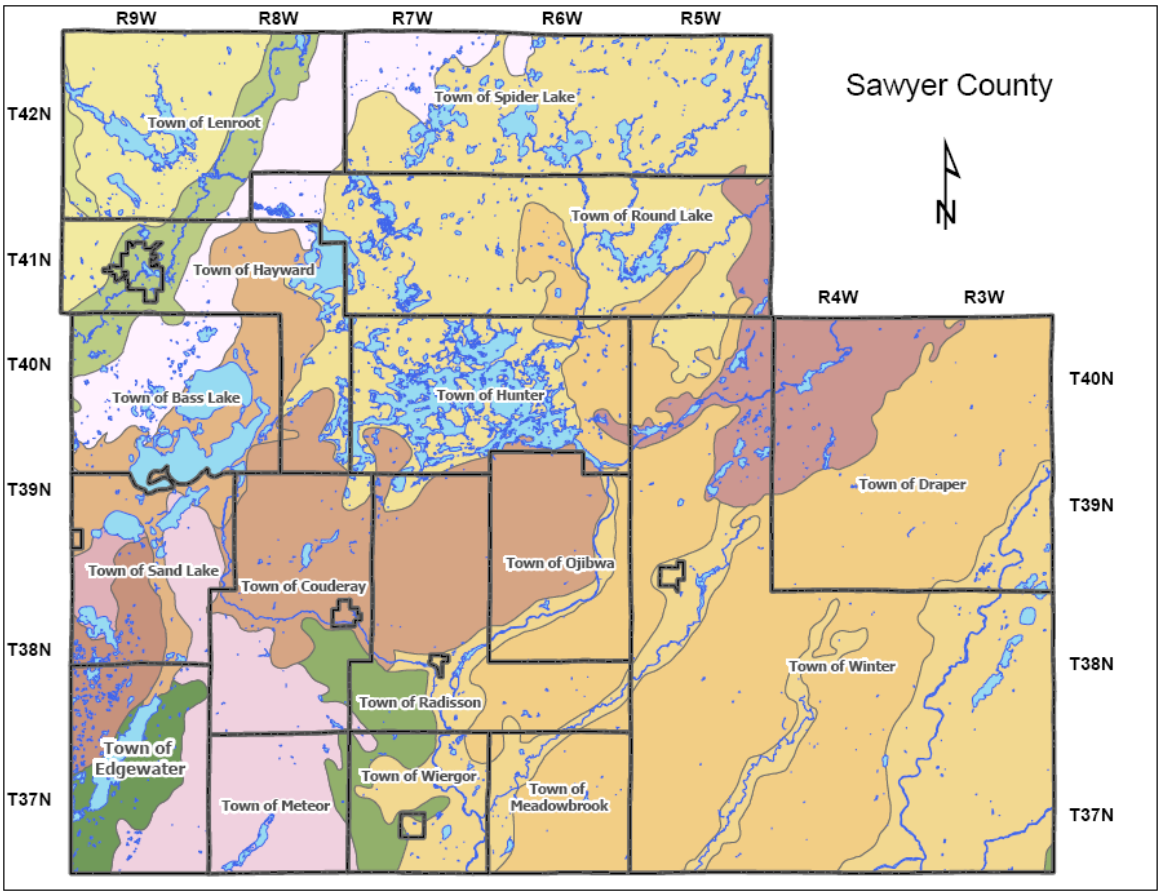
The recommendation of this Soil Erosion Control Plan is to use conservation tillage or crop rotations with little corn and long term hay due to the fact they are the easiest to implement without extensive capital outlay. Conservation tillage eduction will be provided to individuals developing a conservation plan, and peer education from producers presently employing conservation practices will also be used.

Projected management practices and Staff Time Needs:

Amending crop rotations	700 acres	250 hours
Conservation tillage	300 acres	50 hours
Contour farming	0 acres	0 hours
Critical area planting	50 acres	100 hours
Grassed Waterways	5 acres	100 hours
Field diversion	0 acres	0 hours

Appendix D

Sawyer County ~ General Soils Map

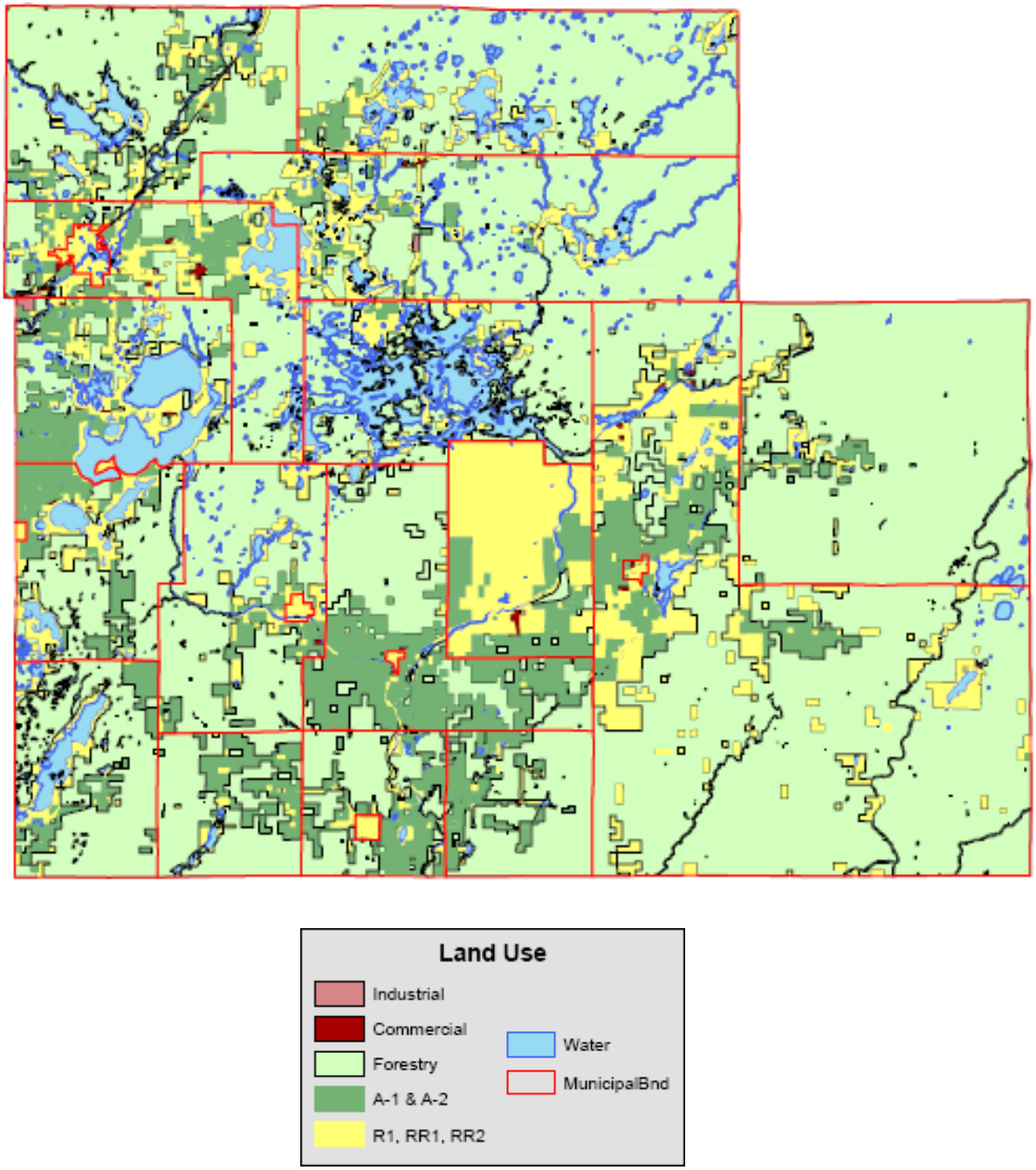


Soil Type Association

- Barron-Dobie Plains
- Birchwood Lakes
- Chequamegon Washed Till and Outwash
- Exeland Plains
- Flambeau silt capped Drumlins
- Frog Creek Moraines
- Glidden Drumlins
- Hayward Moraines
- Hayward Plains
- Jump River Ground Moraine
- Lac Court Oreilles Plains
- Meteor Hills
- Pipestone Hills
- Spooner Plains
- Telemark Washed End Moraine

Appendix E

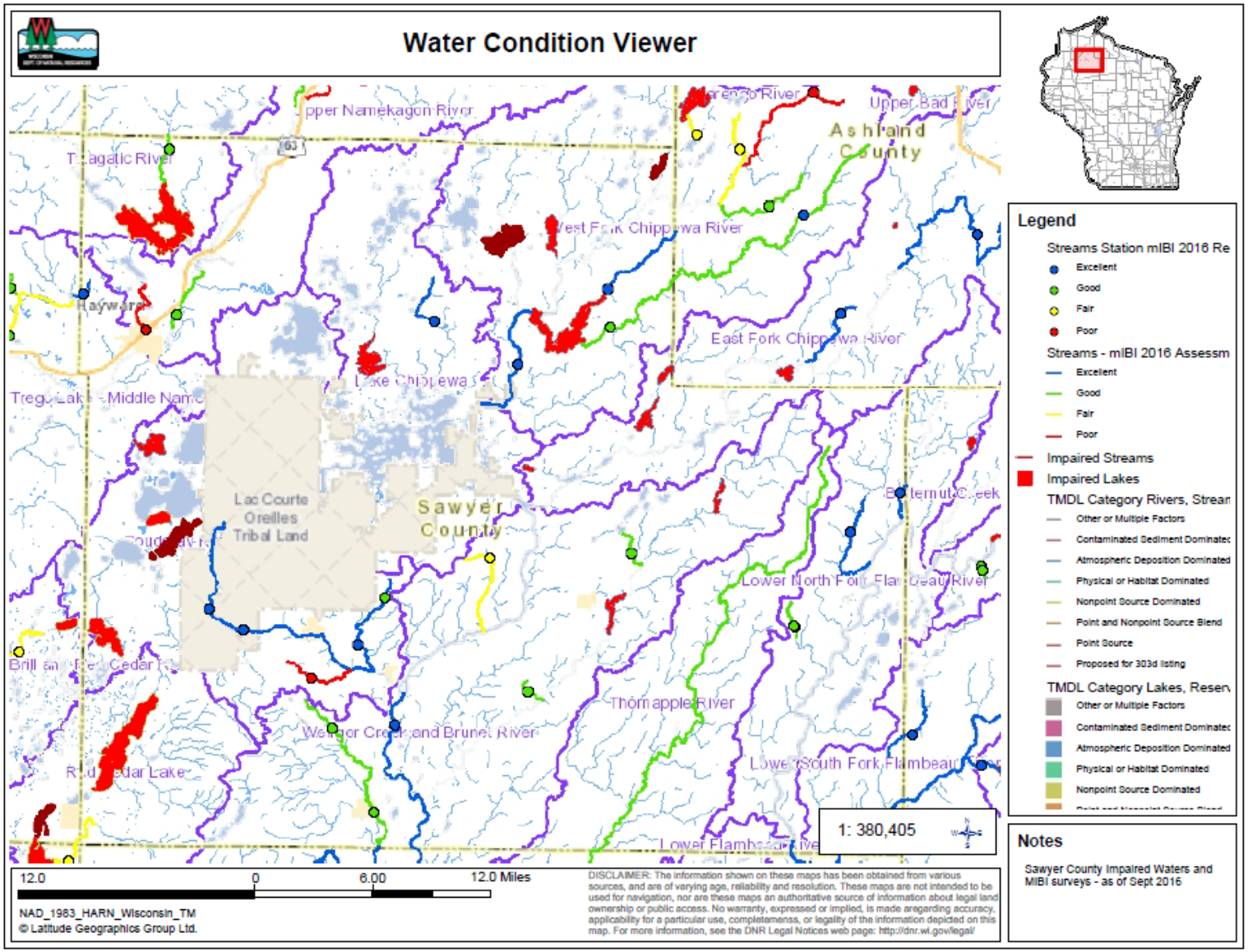
Sawyer County General Land Use



Appendix F

Watersheds that Fall within Sawyer County (All or a Portion of)											
Watershed Code	**Name**	**Watershed Area (acres)**	**Area (sq miles)**	**Total Stream Miles**	**Total Lake Acres**	**Total Wetland Acres**	**NPS Priority Watershed Year**	**NPS Stream Ranking**	**NPS Lake Ranking**	**NPS Groundwater Ranking**	**NPS Overall Ranking**
LC10	Brill and Red Cedar Rivers	190,518	297.7	265	6,282	15,832	0	Med	Med	High	High
LS14	Upper Bad River	86,198	134.7	213	1,110	20,386	0	NR	NA	Low	Low
SC22	Upper Namekagon River	126,591	197.8	135	6,298	19,027	0	NR	NR	Low	Low
SC20	Totagatic River	211,156	329.9	275	6,681	42,970	0	NR	NR	Low	Low
SC21	Trego Lake - Middle Namekagon River	172,087	268.9	218	4,463	28,205	0	NR	NR	Low	Low
UC19	Weirgor Creek and Brunet River	207,357	324.0	407	2,241	39,377	0	Low	NR	Low	Low
UC12	Butternut Creek	49,706	77.7	81	1,375	13,530	0	NR	Med	Low	Low
LC11	Red Cedar Lake	89,609	140.0	168	6,893	7,429	0	Low	Med	Low	Low
UC07	Lower Flambeau River	82,319	128.6	152	252	13,319	0	NR	Low	Low	Low
UC21	East Fork Chippewa River	195,300	305.2	311	2,431	65,074	0	NR	Low	Low	Low
UC08	Lower South Fork Flambeau River	128,098	200.2	187	607	42,849	0	NR	Low	Low	Low
UC11	Lower North Fork Flambeau River	98,541	154.0	172	2,087	20,812	0	NR	Low	Low	Low
UC18	Thornapple River	147,184	230.0	244	193	38,871	0	Low	Low	Low	Low
UC23	West Fork Chippewa River	182,257	284.8	257	6,208	60,036	0	Low	Low	Low	Low
UC22	Lake Chippewa	117,057	182.9	118	4,828	14,304	0	Low	Low	Low	Low
UC20	Couderay River	135,838	212.2	212	18,301	14,698	0	Low	High	Low	Low

Appendix G


Water Condition Viewer
Upper Namekagon River
Ashland County
West Fork Chippewa River
East Fork Chippewa River
Lac Courte Oreilles Tribal Land
Sawyer County
Thornapple River
Legend
Streams Station mIBI 2016 Re
Excellent
Good
Fair
Poor
Streams - mIBI 2016 Assessm
Excellent
Good
Fair
Poor
Impaired Streams
Impaired Lakes
TMDL Category Rivers, Strean
Other or Multiple Factors
Contaminated Sediment Dominatec
Atmospheric Deposition Dominated
Physical or Habitat Dominated
Nonpoint Source Dominated
Point and Nonpoint Source Blend
Point Source
Proposed for 303d listing
TMDL Category Lakes, Reserv
Other or Multiple Factors
Contaminated Sediment Dominatec
Atmospheric Deposition Dominated
Physical or Habitat Dominated
Nonpoint Source Dominated
1: 380,405
Notes
Sawyer County Impaired Waters and MIBI surveys - as of Sept 2016
12.0
0
6.00
12.0 Miles
NAD_1983_HARN_Wisconsin_TM
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Appendix A – Conservation/Best Management Practices

Appendix B – Outstanding & Exceptional Resource Waters - DNR

Appendix C – Soil Erosion Control Plan

Appendix D – General Soils Map

Appendix E – General Land Use Map

Appendix F – Watersheds that fall within Sawyer County

Appendix G – Impaired Waters (Existing & Proposed)