Sawyer County

Land & Water Resource Management Plan

2026-2036

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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, 2016, and 2026. 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 Conservation staff and reviewed by a work group.

Identification of Concerns

All areas of non-point source pollution are a high priority 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, local road maintenance, and agriculture 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 along with the current St. Croix plan and renewal. 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 waterfront property and vacation homes.

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, outstanding, or high-quality 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 2025 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 forestry, followed by agriculture, residential, wetland, commercial, and industrial.

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
There are very few farms in the county. Dairy farming has been reduced to only a few operations, but with a trend towards larger herd sizes. Other former dairies have transitioned to cash grain operations. Cranberry production has always been a part of Sawyer County agriculture. Recently there has been an increase in small scale agriculture growing a diverse mix of livestock and specialty crops. Due to the small number of agricultural operations, all operations are considered a priority farm. Agricultural requests for services is ranked ahead of all other requests.

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 Zoning and 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, with a timeline that focuses on an annual basis. Information and education have 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. The Zoning and Conservation (ZAC) Department staff will be the party responsible 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 ZAC staff with help from partner agencies. Priority goals 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
- Objective 4: Educate producers of various size operations on land and water resources

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

- Objective 1: Educate shoreline property owners on the benefits of natural shorelines
- Objective 2: Install shoreline restoration/protection projects
- Objective 3: Protect existing shoreline ecosystems and habitat
- Objective 4: Mitigation plan guidance and approval
- Objective 5: Educate boaters on wake impacts to shorelines

Goal 3: Control and monitor invasive species

- Objective 1: Survey, monitor, and map invasive species
- Objective 2: Educate the public on the prevention, early detection, and control of invasive species
- Objective 3: Seek funding sources and partnerships for invasive species control

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

- Objective 1: Educate private landowners planning to harvest timber
- Objective 2: Monitor logging sites and provide consultation to logging operators
- Objective 3: Seeding and planting of abandoned forest roads
- Objective 4: Connect with and help private forest landowners

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 mitigation and restoration of shoreline violations or specialized projects
- Objective 3: Require grading permits for disturbed slope areas or areas in excess of 10,000 sq. ft.

Goal 6: Promote Ecological Health and Restoration

Objective 1: Encourage private landowners to establish wetland restorations and enhancements

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

Objective 3: Annual Tree Sale program

Objective 4: Annual Native Plant Sale

Objective 5: Educate landowners on the importance of natural ecosystems

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, the 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 Management Plan was completed in March 1999 and has been the basis for a revised plan in 2003, 2009, 2016, 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 2026 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 May 13, 2025 and June 12, 2025 at 9 a.m., and July 17, 2025 at 10am. A public hearing was held on _____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 as a top priority. The Department will continue to address resource concerns from shoreline development and inappropriate land uses that threaten water quality, as well as forestry, recreation, local road maintenance, and agriculture issues. Information and education objectives are also top 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;
- Protecting and 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 is divided between three watershed basin (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 pollution control goals, as indicated in the 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.

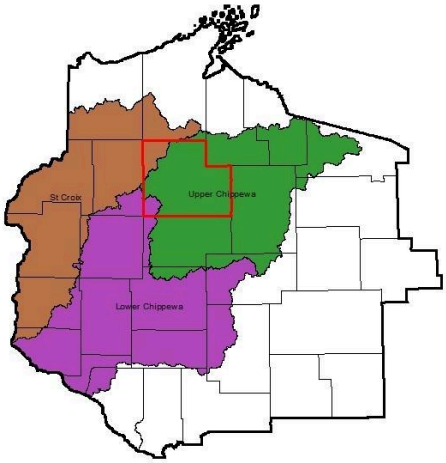


Figure 1

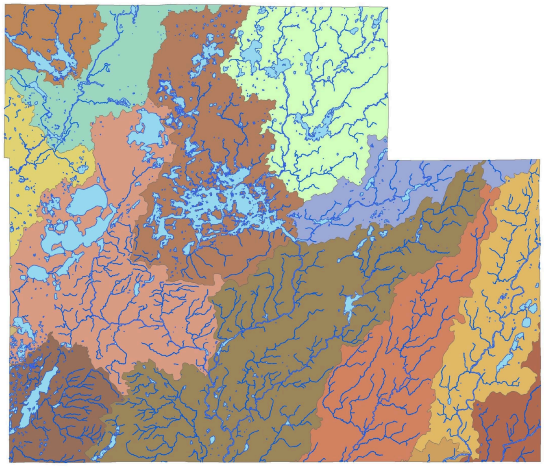


Figure 2

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 thirty years, the county has experienced tremendous growth as former tourists have become full-time residents or owners of waterfront 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 of 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 F). A unique resource for Sawyer County and northern Wisconsin is the *Chain of Lakes* which includes: Big Round, Grindstone, Lac Courte Oreilles, Whitefish, and Sand. This chain of clear water lakes consists of approximately 12,918 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. To help support wetland protection, Sawyer County has a 40ft setback from wetlands which is larger than other counties. Secondary non-point concerns are sedimentation caused by poor logging and agriculture practices.

Reduce Nonpoint Source Pollution
Paleoecological core studies have been completed by the 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:

St. Croix River Basin
https://dnr.wisconsin.gov/topic/TMDLs/StCroix.html

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 St. Croix River TMDL plan goals align with Sawyer County's priorities. As a partner, Sawyer County will continue to work towards achieving those goals and objectives of the TMDL.

The following tables illustrate the specific watershed surface waters:

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

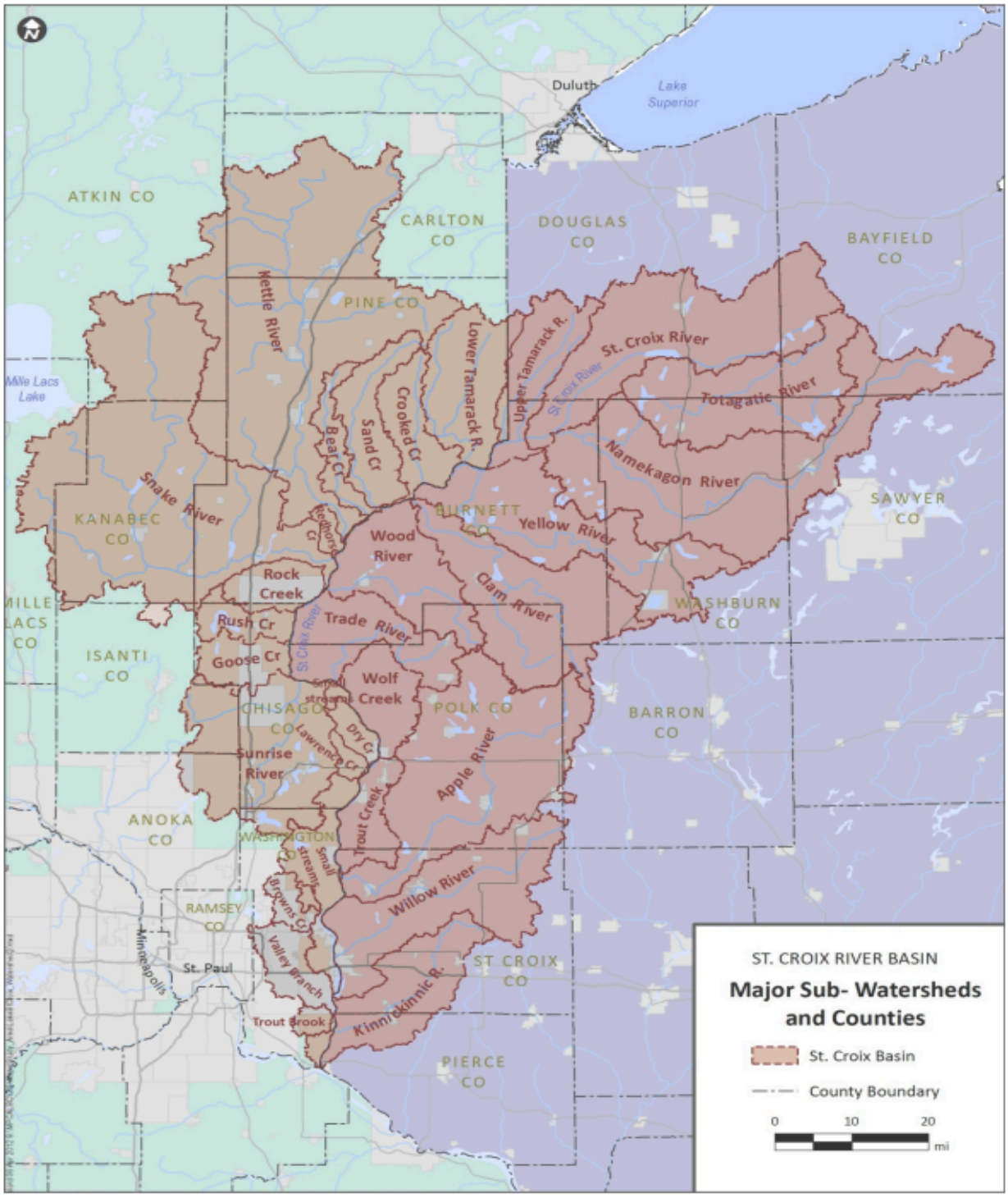


Figure 3. St. Croix River Basin

Lower Chippewa River Basin
https://dnr.wisconsin.gov/topic/Watersheds/basins/lowerchip

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.) Sawyer County, as a part of the basin, is willing to assist with any activities within to execute the goals and objectives of the plan.

The following tables illustrate the specific watershed surface waters:

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
https://dnr.wisconsin.gov/topic/Watersheds/basins/upchip

The majority of 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 cites 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. Since this basin covers a large area of the land base, Sawyer County has an active role in contributing to the health of the basin. We will continue to assist landowners and partners to improve the ecological health of the basin.

The following tables illustrate the specific watershed surface waters:

Upper Chippewa River Basin – Streams within Sawyer County

Watershed	No. of Streams	Miles of Stream	Miles/Classification
Lower North Fork Flambeau River (UC11)	14	141	10-Cold(I); 25-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

Palaeoecological 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 2024 303(d) list of impaired water bodies is charted below. (also see map, Appendix G)

Official Name	WBIC	Water Type	County	Pollutant	Impairment	Status - 2025
Nelson Lake	2704200	Lake	Sawyer	Total Phosphorus	Excess Algal Growth	303d Listed
Birch Lake	2113000	Lake	Sawyer, Washburn	Total Phosphorus	Impairment Unknown, Excess Algal Growth	303d Listed
Lake Chetac	2113300	Lake	Sawyer	Total Phosphorus	Excess Algal Growth, Eutrophication	303d Listed
Lac Courte Oreilles*	2390800	Lake	Sawyer	Unknown Pollutant	Low DO	303d Listed
Moose Lake	2420600	Lake	Sawyer	Mercury	Mercury Contaminated Fish Tissue	303d Listed
Black Lake	2401300	Lake	Ashland, Sawyer	Mercury	Mercury Contaminated Fish Tissue	303d Listed
Winter Lake (Price Flowage)	2381100	Flowage	Sawyer	Mercury	Mercury Contaminated Fish Tissue	303d Listed
Loretta Lake	2382700	Flowage	Sawyer	Mercury	Mercury Contaminated Fish Tissue	303d Listed
Windigo Lake	2046600	Lake	Sawyer	Mercury	Mercury Contaminated Fish Tissue	303d Listed
Upper Holly Lake	2394600	Lake	Sawyer	Mercury	Mercury Contaminated Fish Tissue	303d Listed
Ghost Lake	2423000	Lake	Sawyer	Mercury	Mercury Contaminated Fish Tissue	303d Listed

*Lac Courte Oreilles * = In 2021, WDNR, using its phosphorus assessment methods in its 2022 Wisconsin Consolidated Assessment and Listing Methodology Guidance (WisCALM) (WDNR, 2021), compared the most recent five years of data from LCO to the*

statewide total phosphorus criteria for two-story fishery lakes. None of the three main LCO basins "clearly exceeds" the phosphorus criterion of 15 µg/L and, therefore, were not listed as impaired for TP, despite upward trends. Then, in 2022, DNR designated LCO with a 10ug/L TP site specific criteria because the statewide TP criterion of 15 µg/L was determined not sufficient to protect the cold-water community (i.e., whitefish survival during the most stressful seasonal warm periods). DNR also determined there are multiple factors impacting the fishery in LCO. Phosphorus is a controllable factor, while some of the other factors such as temperature and sediment characteristics may not be controllable and are outside the department's regulatory authority. In 2025, LCO has low dissolved oxygen (DO) impairment due to an unknown pollutant.

*Lac Courte Oreilles, Musky Bay ** = From 2014-2020 Musky Bay was measured below the 40ug/L TP criteria and was delisted: no TMDL necessary. For the same time period, the remaining Lac Courte Oreilles Lake was determined below its 15 ug/L TP criteria and was not listed as impaired for TP. See Lac Courte Oreilles description above.*

Identification of Priority Farms

Sawyer County's methodology for identification of farms is rather simplistic. There are very few farms remaining in the county. Dairy farming has been reduced to only a few operations, but with a trend towards larger herd sizes. Other former dairies have transitioned to cash grain operations. Cranberry production has always been a part of Sawyer County agriculture. Recently there has been an increase in small scale agriculture growing a diverse mix of livestock and specialty crops. Due to the small number of agricultural operations, all operations are considered a priority farm. Agricultural requests for services are ranked ahead of all other requests.

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 checked for compliance with tolerable soil loss levels using submitted nutrient management plans.
3. Contact ag producers within a 303D listed impaired watershed but not covered above.

Action

1. Farms that are not 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 Zoning and 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. <u>Secure cost sharing and technical assistance / Issue NR151 Notice</u>

<u>Voluntary component</u>

- 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)

<u>Non-voluntary component</u>

- 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 Zoning & Conservation Department (ZAC) 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 can be used as an educational tool.

The majority of land within the county is forestry followed by agriculture, and residential land. The following (Table 1) reflects estimated acreage for commercial, industrial, forestry, wetlands, agriculture, and residential land usage within the county.

Table 1. Sawyer County Zoning Statistics Unincorporated Areas Only

Zoning District	Name	Acres	Percent of County
A-1	Agricultural-1	95,363.0	11.04%
A-2	Agricultural-2	11,186.3	1.3%
C-1	Commercial-1	3,035.2	0.35%
F-1	Forestry-1	584,368.5	67.66%
I-1	Industrial-1	1,034.4	0.12%

PUD	Planned Unit Development	285.9	0.03%
R-1	Residential-1	7,678.8	0.89%
RR-1	Recreational Residential-1	66,867.3	7.74%
RR-2	Recreational Residential-2	22,920.2	2.65%
W-1	Wetland/shoreland-1	1,460.2	0.17%

Sources: Sawyer County GIS Data & 2021-2041 Sawyer County Comprehensive Plan

Soil Loss Inventories

Sawyer County was the first of the northern counties to prepare a Soil Erosion Control Plan (see Appendix B). 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 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.

Development Trends

Sawyer County has experienced continued growth in recent years. Census data for the period from 2010 to 2020 indicates a county growth rate of 9.2% compared to the state rate of 3.6%.

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 (over 45%, 2020 Census) in the state and country ranking in the top 150 counties for total seasonal and recreational housing units (Sawyer County Housing Market Profile, University of Wisconsin-Madison Division of Extension). 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, a stand-alone Sawyer County Shoreland/Wetland Zoning Ordinance was passed. Within this ordinance it listed "wilderness lakes" that were arrived at on a numeric point system developed by the Land and Water

Conservation Department. This was a unique step toward small lake protection in the State. However, in 2015 state laws changed and the classification system can no longer be used.

Grading Permits

Sawyer County issues permits for any filling or grading of any area which is within 300 feet landward of the ordinary high-water mark (OHWM) of navigable water and which has surface drainage toward the water and on which there is either: 1.) Any filling or grading on slopes of more than 20%, 2.) Filling or grading of more than 1,000 sq. ft. on slopes of 12% to 20%, 3.) Filling or grading of more than 2,000 sq. ft. on slopes less than 12%, 4.) A grading permit is required for any filling or grading in excess of 10,000 sq. ft. within 1,000 feet of the OHWM of navigable lakes, ponds, flowages, OR within 300 feet of the OHWM of navigable rivers and streams.

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 Zoning and 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 feedlots 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 at this web site:
https://datcp.wi.gov/Pages/Programs_Services/ATCP50.aspx

▪ 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:
https://doa.wi.gov/Pages/LocalGovtsGrants/Comprehensive-Planning.aspx

▪ 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:
https://www.sawyercountygov.org/225/OrdinancesRules-Bylaws

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 surface water grants, rapid response grants for invasives, the Wildlife Damage and Abatement program, recreational boating facilities, 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-

University of Wisconsin - Extension is used as an educational resource for various topics including, but not limited to, agricultural water quality, nutrient and pest management, dairy, grazing management, and specialty crops such as cranberry production. They offer on the ground local assistance to farmers and conservation professionals, as well as opportunities to engage with statewide demonstration, research, and education initiatives that advance goals laid out in the land and water resource management plan.

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. This is a true partnership and greatly improves the effectiveness of both departments.

Natural Resources Conservation Service (NRCS) -

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)-

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. DATCP also provides engineering assistance to the County.

Sawyer County Zoning –

Sawyer County Zoning is the enforcement branch for many of the County's 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 assistance when necessary.

Lake Associations –

Lake associations play a vital role in the education of lake residents and protection of water resources. Sawyer County has many active lake associations including the Sawyer County Lakes Forum who will utilize the plan as they work towards common goals and objectives to protect water quality and habitat.

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 cost-share programs to assist and provide technical assistance to install shoreline buffers in critical riparian areas and other shoreline protection and other 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 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 these invasive species. 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, surface water 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 Programs
- Wisconsin Land and Water Conservation Association Scholarships

Information and Education Strategy

Information and education objectives are included in the work plan, with a timeline that focuses on an annual basis. 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 best management practices, 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.

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 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 of tests including phosphorous, chlorophyll A, secchi disk, total P, multi-parameter profiling for temperature and dissolved oxygen, 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 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 work plan. Priority goals 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
- Objective 4: Educate producers of various size operations on land and water resources

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

- Objective 1: Educate shoreline property owners on the benefits of natural shorelines
- Objective 2: Install shoreline restoration/protection projects
- Objective 3: Protect existing shoreline ecosystems and habitat
- Objective 4: Mitigation plan guidance and approval
- Objective 5: Educate boaters on wake impacts to shorelines

Goal 3: Control and monitor invasive species

- Objective 1: Survey, monitor, and map invasive species
- Objective 2: Educate the public on the prevention, early detection, and control of invasive species
- Objective 3: Seek funding sources and partnerships for invasive species control

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

Objective 1: Educate private landowners planning to harvest timber
Objective 2: Monitor logging sites and provide consultation to logging operators
Objective 3: Seeding and planting of abandoned forest roads
Objective 4: Connect with and help private forest landowners

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 mitigation and restoration of shoreline violations or specialized projects
Objective 3: Require grading permits for disturbed slope areas or areas in excess of 10,000 sq. ft.

Goal 6: Promote Ecological Health and Restoration

Objective 1: Encourage private landowners to establish wetland restorations and enhancements
Objective 2: Educate public on the value of wetlands and related regulations
Objective 3: Annual Tree Sale program
Objective 4: Annual Native Plant Sale
Objective 5: Educate landowners on the importance of natural ecosystems

ZAC Work Plan for Implementation in 2026

The ZAC staff that are available and needed to fully implement the activities outlined in the work plan are listed below.

ZAC Permanent Staff

Assistant Conservationist	1.0 FTE	$ 69,560
Conservation Technician	1.0 FTE	$ 75,600
ZAC Administrator	0.5 FTE	$ 53,400
Total Staffing Cost	**2.5 FTEs**	**$198,560**

*Partners and volunteers will be utilized as projects allow.

SAWYER COUNTY LWRM WORKPLAN (2026-2036)

*Priority items are listed in bold.

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

Objective	Actions	Annual Cost	Measure Progress Tool(s)
All farms have and utilize a nutrient management plan	Educate farmers on the need for a nutrient management plan Provide nutrient management farmer education (NMFE) training	$7,500	Number of farms utilizing nutrient management plans (assist 3 farms) Number of acres planned for nutrients (1000 acres)

	Apply for NMFE grant funding		Reduce fertilizer and pesticide used (assist 3 farms)
Control barnyard run-off	Install conservation practices	$1,500	Number of farms meeting performance standards (bring 1 farm into compliance)
All cropland erosion be reduced to a tolerable soil loss level	Educate farmers on grazing management Develop conservation plans for all cropland Promote conservation tillage Promote cover crops	$2,500	Number of acres utilizing grazing management (assist 1 farm) Number of conservation plans (3 plans) Number of acres planted in cover crops (300 acres)
Educate producers of various size operations on land and water resources	Educate on performance standards Explore strategies with small scale farms	$300	# of partnerships Meet with 3 producers

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

Objective	Actions	Annual Cost	Measure Progress Tool(s)
Educate shoreline property owners on the benefits of natural shorelines	Provide presentations and media releases to lake associations Provide technical on-site visits as needed	$1,200	Number of presentations (3 each per year) 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	$28,000	Number of site visits made (40 visits per year) Number of projects installed (6,000 feet of shoreline)
Protect existing shoreline ecosystems and habitat	Advocate for improved shoreline zoning regulations	$100	Approved shoreline protection zoning ordinances (1 ordinance
Mitigation plan guidance and approval	Provide technical assistance to landowners	$1,000	Numbers of plans approved (30 plans)
Educate boaters on wake impacts to shorelines	Provide educational materials	$250	Materials distributed (3 associations/ organizations)

Goal 3: Control and monitor invasive species

Objective	Actions	Annual Cost	Measure Progress Tool(s)
Survey, monitor, and map invasive species	Monitor lakes with known AIS Survey lakes with no known AIS	$35,000	Lakes Monitored (3 lakes) Lakes Surveyed (3 lakes)

	Encourage lake associations to develop volunteer monitoring programs Monitor terrestrial invasive species		Lake Associations with monitoring programs (3 lake) Number of invasive species reported
Educate public on the prevention, early detection, and control of invasive species	Provide invasive species identification trainings to public Educate public on the importance of prevention	$1,000	Number of trainings (3 per year) Number of educational materials distributed
Seek funding sources and partnerships for invasive species	Apply for grants Partner with local organizations	$1,000	Annual grants Partnerships

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

Objective	**Actions**	**Annual Cost**	**Measure Progress Tool(s)**
Educate private landowners planning to harvest timber	Provide best management practices literature with cutting permits	$250	Number of best management practice manuals distributed

Monitor logging sites and provide consultation to logging operators	Provide prompt response to requests for technical assistance	$150	Number of technical site visits related to logging operations
Seeding and planting of abandoned forest roads	Help landowners with seed selection	$150	Number of acres of abandoned roads planted
Connect with and help private forest landowners	Promote assistance in local media	$100	Number of landowners assisted (1 per year)

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

Objective	**Actions**	**Annual Cost**	**Measure Progress Tool(s)**
Establish county wide land use planning standards	Sawyer County Comprehensive Plan in conjunction with other Sawyer County Zoning Ordinances	$250	Number of rezone cases or Conditional Use Permits
Require mitigation and restoration of shoreline violations of specialized projects	Provide restoration plans for shoreline violations and educate landowners on the values of natural vegetation	$500	Feet of restored shoreline Reduced number of violations
Require Grading Permits for disturbed slope areas or areas in excess of 10,000 sq ft.	Stop loose earth material from entering waterbodies with erosion control measures	$500	Number of permits issued

Goal 6: Promote Ecological Health and Restoration

Objective	**Actions**	**Annual Cost**	**Measure Progress Tool(s)**
Encourage private landowners to establish wetland	Provide technical assistance and funding to landowners	$10,000 Cost-Share	Number of wetland acres established

restoration and enhancements		NRCS or U.S. Fish and Wildlife	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	$1,000	Number of educational contacts
Annual tree sale program	Advertise tree sale in local media	$3,000	Number of trees sold
Establish native plant sale	Advertise native plant sale	$250	Number of plants sold
Educate landowners on the importance of natural ecosystems	Continue to distribute educational materials	$100	Number of educational materials

Appendices

Appendix A – Conservation/Best Management Practices

Appendix B – Soil Erosion Control Plan

Appendix C – General Soils Map

Appendix D – General Land Use Map

Appendix E – Watersheds that fall within Sawyer County

Appendix F – ORW/ERW & Healthy Watersheds, High-Quality Waters - DNR

Appendix G – Impaired Waters Map

Appendix H – Climate Information

Appendix A - Conservation/Best Management Practices

COST-SHARE PRACTICE/FUNDING SOURCE TABLE			
PRACTICE or ACTIVITY	**ATCP 50 Reference**	**Funding Source**	**Units of Measurement**
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)	Structural	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)	Structural	Acres
Manure storage systems	50.62	Structural	Number
Manure storage closure	50.63	Structural	Number
Barnyard runoff control systems (specify components including heavy use area protection)	50.64	Structural	Number
Access road	50.65	Structural	Linear Ft.
Trails and walkways	50.66	Structural	Linear Ft.
Conservation cover	50.663	SEG[1]	Acres
Conservation crop rotation	50.668	SEG[1]	Acres
Contour farming	50.67	SEG[1]	Acres
Cover crop – single species + termination	50.68(1)	SEG[1]	Acres
Cover crop – single species	50.68(2)	SEG[1]	Acres
Cover crop – multi-species	50.68(3)	SEG[1]	Acres
Critical area stabilization	50.69	Structural	Number
Diversions	50.70	Structural	Linear Ft.
Feed storage runoff control systems	50.705	Structural	Number
Field windbreaks	50.71	Structural	Linear Ft.
Filter strips	50.72	Structural	Acres
Grade stabilization structures	50.73	Structural	Number
Habitat diversification	50.733	SEG[1]	Acres
Harvestable buffers	50.738	SEG[1]	Acres
Hydrologic restoration	50.74	Structural	Acres
Livestock fencing	50.75	Structural	Linear Ft.
Livestock watering facilities	50.76	Structural	Number
Milking center waste control systems	50.77	Structural	Number
Nutrient management for cropland or pasture	50.78(1)	SEG[1]	Acres

COST-SHARE PRACTICE/FUNDING SOURCE TABLE			
PRACTICE or ACTIVITY	**ATCP 50 Reference**	**Funding Source**	**Units of Measurement**
Nutrient management for Silurian	50.78(2)	No Funds Available	Acres
Nutrient treatment systems	50.785	Structural	Number
Pesticide management	50.79	Structural	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)	Structural	Linear Ft.
4. Establish permanent pasture (seeding)	50.80(4)	Structural	Acres
Relocating or abandoning animal feeding operations	50.81	Structural	Number
Residue management	50.82	SEG[1]	Acres
Riparian buffers	50.83	Structural	Acres
Roofs	50.84	Structural	Number
Roof runoff systems	50.85	Structural	Number
Sediment basins	50.86	Structural	Number
Sinkhole treatment	50.87	Structural	Number
Stream bank and shoreline protection	50.88	Structural	Linear Ft.
Stream restorations	50.882	Structural	Linear Ft.
Stream Crossing	50.885	Structural	Linear Ft.
Strip-cropping	50.89	SEG[1]	Acres
Subsurface drains	50.90	Structural	Number
Terrace systems	50.91	Structural	Linear Ft.
Underground outlet	50.92	Structural	Number
Verification depth to bedrock	50.925	No Funds Available	Number
Waste transfer systems	50.93	Structural	Number
Wastewater treatment strips	50.94	Structural	Linear Ft.
Water and sediment control basins	50.95	Structural	Number
Waterway systems	50.96	Structural	Acres
Well decommissioning	50.97	Structural	Number
Wetland restoration	50.98	Structural	Acres
Engineering services provided in connection with a completed cost-share practice for which Structural revenue may be used (also refer to 50.40(7)).	50.34(4)	Structural	

Other practices with DATCP's written approval	50.40(3)(a)		

Appendix B – Soil Erosion Control Plan

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 Department 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.

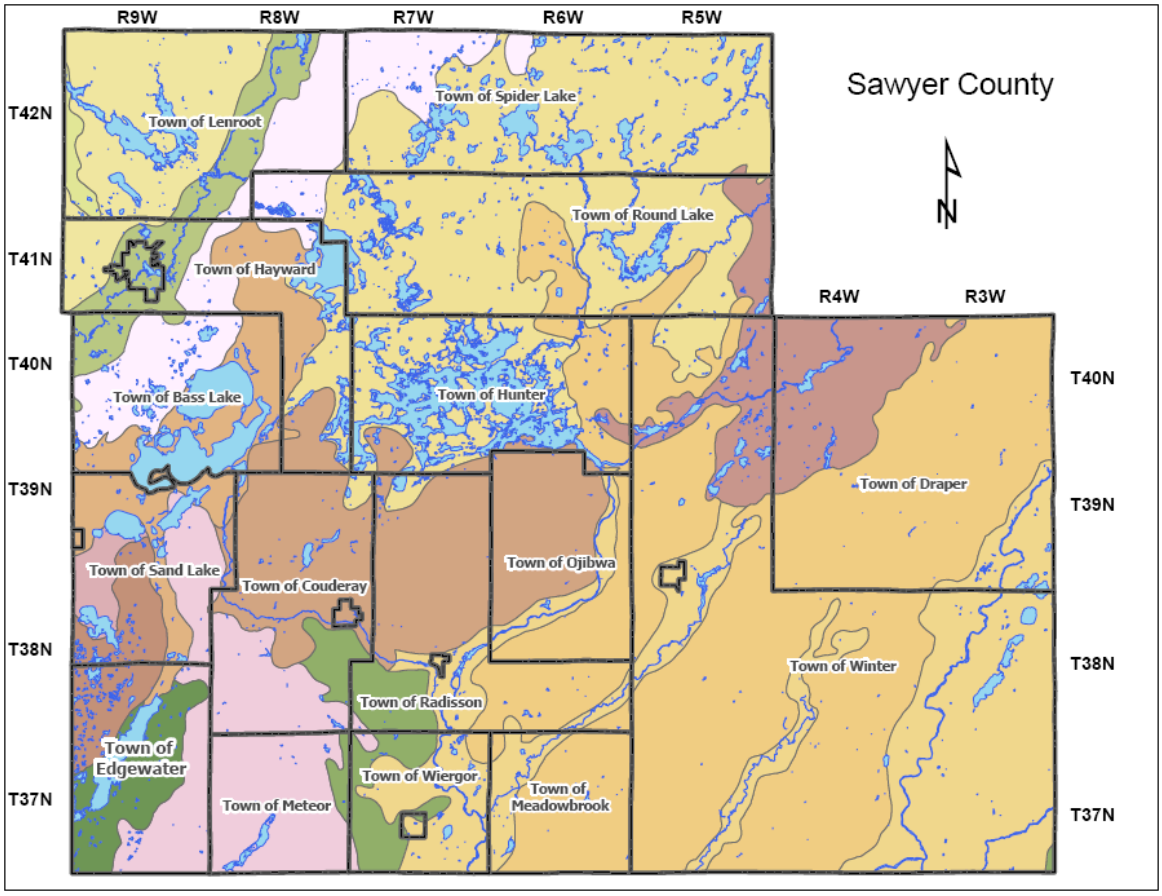
The recommendation of this Soil Erosion Control Plan is to use conservation tillage or crop rotations with little corn and long term hay due to the fact they are the easiest to implement without extensive capital outlay. Conservation tillage eduction will be provided to individuals developing a conservation 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

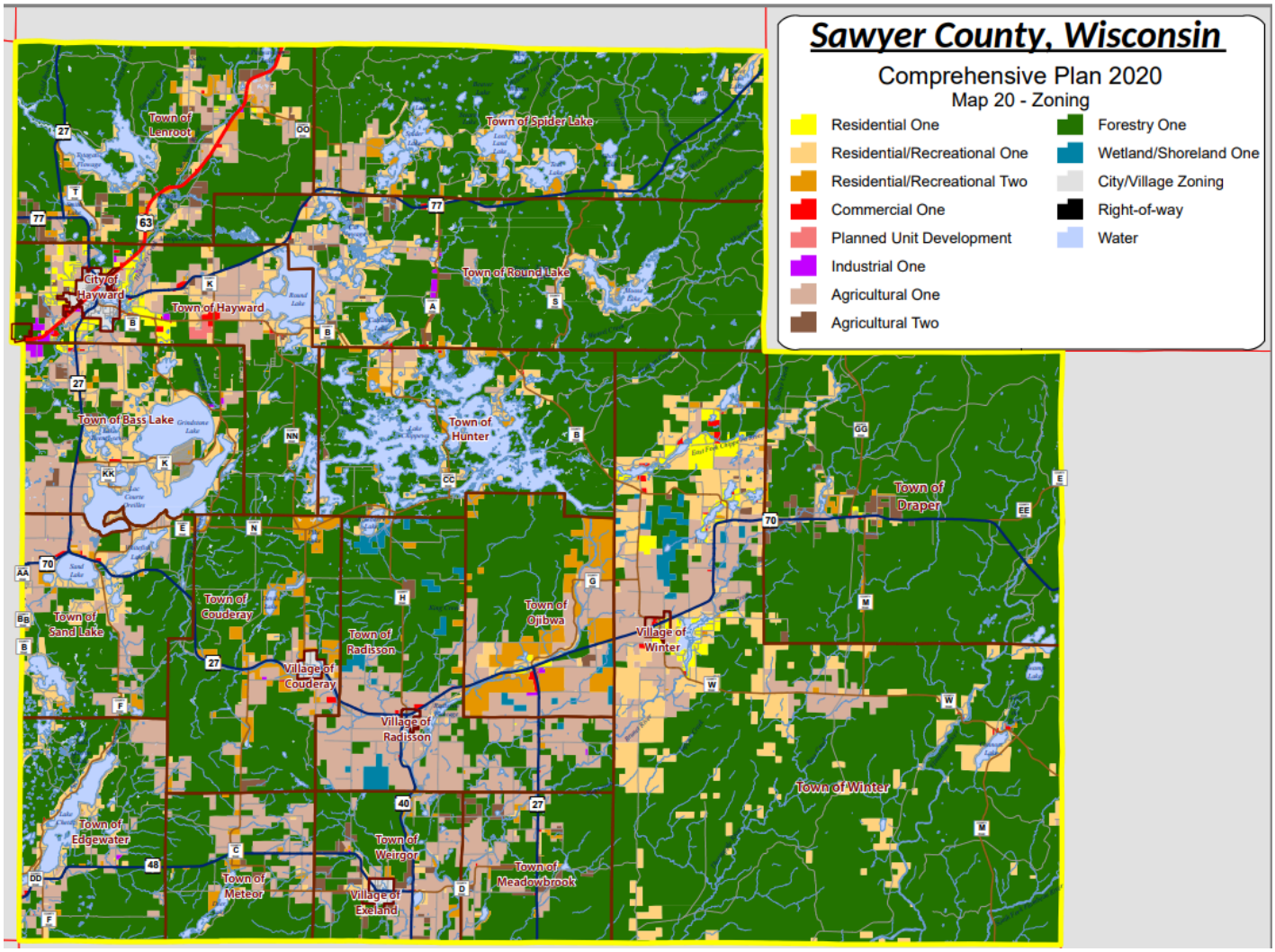
Appendix C - General Soils Map



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 D - Sawyer County General Land Use



Appendix E- County Watersheds

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 F- ORW/ERW & Healthy Watershed, High-Quality Waters

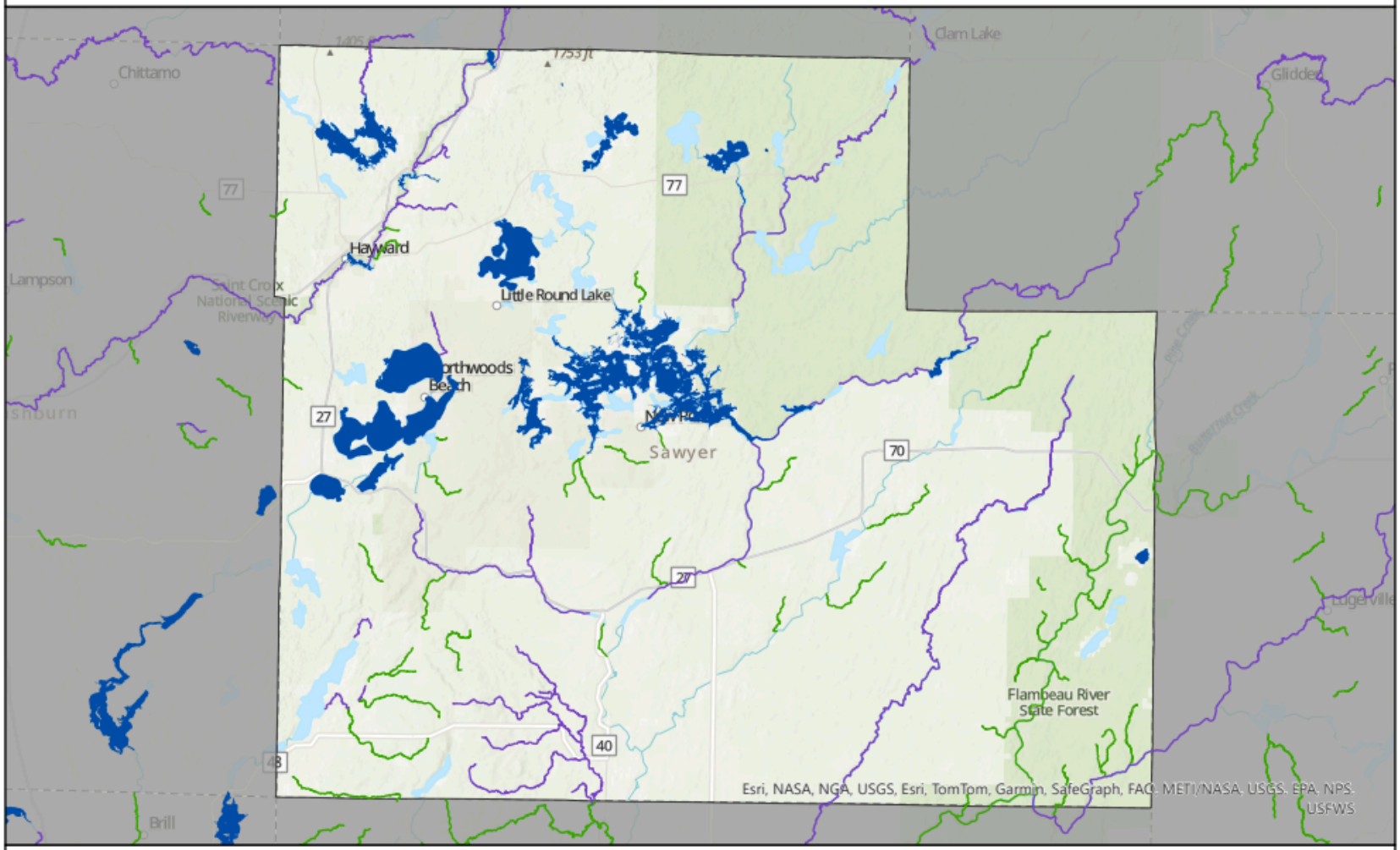
Sawyer County
Outstanding & Exceptional Water Resources
https://dnr.wisconsin.gov/topic/SurfaceWater/Standards.html

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

Sawyer County - Outstanding & Exceptional Resource Waters



ERW Stream
ORW Stream
ORW Lake
Sawyer County Boundary

0 2 4 8 Miles

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Healthy Watersheds, High-Quality Waters (WI DNR)

Background & General Overview

In 2022, the DNR's Water Quality Program launched the Healthy Watersheds, High-Quality Waters (HWHQW) initiative. This new focus on the "already healthy" waterbodies and watersheds – or land area draining to a lake, stream or wetland – is intended to celebrate these treasures and draw attention to the ecological, financial and societal benefits of protecting clean water.

This initiative utilized the US EPA Watershed Recovery Potential Screening Tool to model watershed health at the HUC12 scale throughout the state. The DNR also identified individual high-quality lakes, streams, rivers, and wetlands utilizing existing monitoring data and resource classifications. Lakes, streams, and rivers with at least two of the following attributes are considered HQWs: 1.) unique or rare resource, 2.) attaining state water quality standards, or 3.) good to excellent biotic integrity. Also included are unique wetlands and those with least disturbed or reference conditions. The modeled watersheds (HUC12 scale) can be sorted statewide and by major drainage basin (HUC6). As outlined in the Wonderful Waters of Wisconsin Action Plan (2022), the 30% healthiest ranked watersheds in the state and within each major drainage basin are the geographic protection priorities for this statewide plan. The HWHQW website features the accompanying technical report, action plan for implementing protection strategies, and ready-made maps and information dashboards.

Historically, much of the DNR's emphasis has been to restore polluted waters as required by the federal Clean Water Act. Evidence is mounting, however, that actively protecting healthy water resources is a wise public investment, and the shift towards protection efforts is growing nationally. Identifying watershed protection priorities also serves to expand funding opportunities as more agencies, such as the EPA, promote the use of watershed planning for protection efforts.

Modeling & Assessment Results for Sawyer County

Here are the overall results for Sawyer County based on the 2021 WI DNR modeling and assessment effort. For the most up to date information, please refer to the HWHQW webpage:

High-Quality Waters in Sawyer County include:
- 43 High-Quality lakes, rivers, and streams
- 8 Healthy Wetlands
- 6 Rare & Unique Wetlands

In Sawyer County, there are forty-seven (47) HUC12 watersheds that were modeled as part of the HWHQW initiative. This includes watersheds whose area overlaps with other counties.

Watershed Protection Priorities (Top 30th Percentile) in Sawyer County include:

- Forty-One (41) watersheds (87%) are considered Statewide Watershed Protection Priorities
- Twenty-Four (24) watersheds (51%) are considered Chippewa River Basin (HUC6) Watershed Protection Priorities
- One (1) watershed is considered a St. Croix Basin (HUC6) Watershed Protection Priority

2021 High-Quality Waters: Lakes, Rivers, Streams

Sawyer County - 43 High-Quality Waters identified in 2021

Data sorted by alphabetical county and alphabetical waterbody name

OFFICIAL NAME	LOCAL NAME	WBIC	PRIORITY WATERSHEDS HUC6: • State: •• Both: •••	COUNTY NAME (STREAM MOUTH & LAKE LOCATION)	HUC6	HUC12 CODE (STREAM MOUTH & LAKE LOCATION)	UNIQUE & RARE RESOURCES (COUNT)	Attaining WQS (COUNT)	IBIs (COUNT)	HQW CRITERIA (COUNT)
Alder Creek		2387900	•••	Sawyer	Chippewa	070500010406	2		1	2
Badger Creek		2371800	•••	Sawyer	Chippewa	070500010507	2		2	2
Beaver Creek		2372600	•••	Sawyer	Chippewa	070500010507	2		2	2
Benson Creek		2116400	••	Sawyer	Chippewa	070500070102	2	1	2	3
Blueberry Creek		2437200	•••	Sawyer	Chippewa	070500010301	2		1	2
Brunet River	Brunett,Brunette	2378400	•••	Sawyer	Chippewa	070500010505	3		3	2
Casey Creek		2381500	•••	Sawyer	Chippewa	070500010503	2		1	2
Connors Lake		2275100	••	Sawyer	Chippewa	070500020605		1	11	2
Couderay River		2384700	•••	Sawyer	Chippewa	070500010509	2		2	2
Durphee Lake		2396800	••	Sawyer	Chippewa	070500010404		1	1	2
East Fork Chippewa River	East Branch Chippewa River	2399800	•••	Sawyer	Chippewa	070500010213	13	2	3	3
Eddy Creek		2385900	•••	Sawyer	Chippewa	070500010406	2	2		2
Fortyone Creek		2114400	•••	Sawyer	Chippewa	070500070101	2		1	2
Ghost Lake		2423000	••	Sawyer	Chippewa	070500010103	1		1	2
Grindstone Creek		2391300	••	Sawyer	Chippewa	070500010402	2	1		2
Grindstone Lake		2391200	••	Sawyer	Chippewa	070500010402	2	1	1	3
Hatchery Creek		2726500	••	Sawyer	St. Croix	070300020106	2		1	2
Hay Creek		2432300	•••	Sawyer	Chippewa	070500010307	1		3	2
Knuteson Creek	Knudson	2113700	••	Sawyer	Chippewa	070500070102	5	1		2
Lac Courte Oreilles		2390800	••	Sawyer	Chippewa	070500010404	2	1	1	3
Lake Chetac		2113300	••	Sawyer	Chippewa	070500070102	1		1	2
Lake Helane		1859100	••	Sawyer	Chippewa	070500010303	1		1	2
Little Lac Courte Oreilles		2390500	••	Sawyer	Chippewa	070500010404		1	1	2
Little Round Lake		2395500	••	Sawyer	Chippewa	070500010401		1	3	2
Lost Land Lake		2418600	•••	Sawyer	Chippewa	070500010106		1	2	2
Lower Clam Lake		2429300	••	Sawyer	Chippewa	070500010102		1	1	2
Maple Creek	Little Weirgor	2371700	•••	Sawyer	Chippewa	070500010507	2	1	2	3
Mosquito Brook		2727000	••	Sawyer	St. Croix	070300020105	2	1	1	3
North Branch Tupper Creek		2364900	•••	Sawyer	Chippewa	070500010602	1	1	1	3
Pine Creek		2278700	•••	Sawyer	Chippewa	070500020603	5		4	2
Price Creek		2234000	•••	Sawyer	Chippewa	070500030301	4		1	2
Round Lake	Big Round	2395600	••	Sawyer	Chippewa	070500010401	2		2	2
Sand Lake		2393200		Sawyer	Chippewa	070500010403	1	1		2
Spider Lake		2435700	••	Sawyer	Chippewa	070500010303	1	1	2	3
Swan Creek		2371300	•••	Sawyer	Chippewa	070500010507	2	1	3	3
Teal Lake		2417000	•••	Sawyer	Chippewa	070500010106	1		1	2
Teal River		2416400	•••	Sawyer	Chippewa	070500010106	1		1	2
Teal River Flowage		2416900	•••	Sawyer	Chippewa	070500010106	1	1		2
Tupper Creek		2364700	•••	Sawyer	Chippewa	070500010602		1	1	2
Unnamed	Creek S7	3000353	•••	Sawyer	Chippewa	070500020606	3	1	1	3
Venison Creek		2414600	•••	Sawyer	Chippewa	070500010108	1	1		2
West Fork Chippewa River		2414500	•••	Sawyer	Chippewa	070500010307	9	1	3	3
Whitefish Lake		2392000		Sawyer	Chippewa	070500010403	2		1	2

2021 High-Quality Waters: Healthy Wetlands

Sawyer County - 8 Healthy Wetlands identified in 2021

Data sorted by alphabetical county and increasing Healthy Wetland ID

WETLAND ID	SITE NAME	SITE ID	PRIORITY WATERSHEDS HUC6: • State: •• Both: •••	COUNTY NAME	HUC6	HUC12 CODE	DISTURBANCE RANK	PLANT COMMUNITY CONDITION	LAT	LONG
Healthy_442	NLF-283	NL298	•••	Sawyer	St. Croix	070300020202	1	2	45.990782	-91.509619
Healthy_444	NLF-281	NL296	•••	Sawyer	St. Croix	070300020202	2	2	46.001991	-91.49043
Healthy_447	NLF-280	NL295	••	Sawyer	St. Croix	070300020106	2	3	46.014871	-91.450058
Healthy_454	NLF-278	NL293	••	Sawyer	St. Croix	070300020106	3	2	46.032337	-91.486571
Healthy_461	NLF-441	NL487	••	Sawyer	St. Croix	070300020106	2	2	46.064141	-91.509394
Healthy_463	NLF-446	NL495	••	Sawyer	St. Croix	070300020105	2	2	46.093088	-91.388982
Healthy_465	NLF-287	NL302	••	Sawyer	St. Croix	070300020105	2	2	46.099546	-91.398257
Healthy_466	NLF-439	NL485	••	Sawyer	St. Croix	070300020302	2	3	46.139447	-91.516339

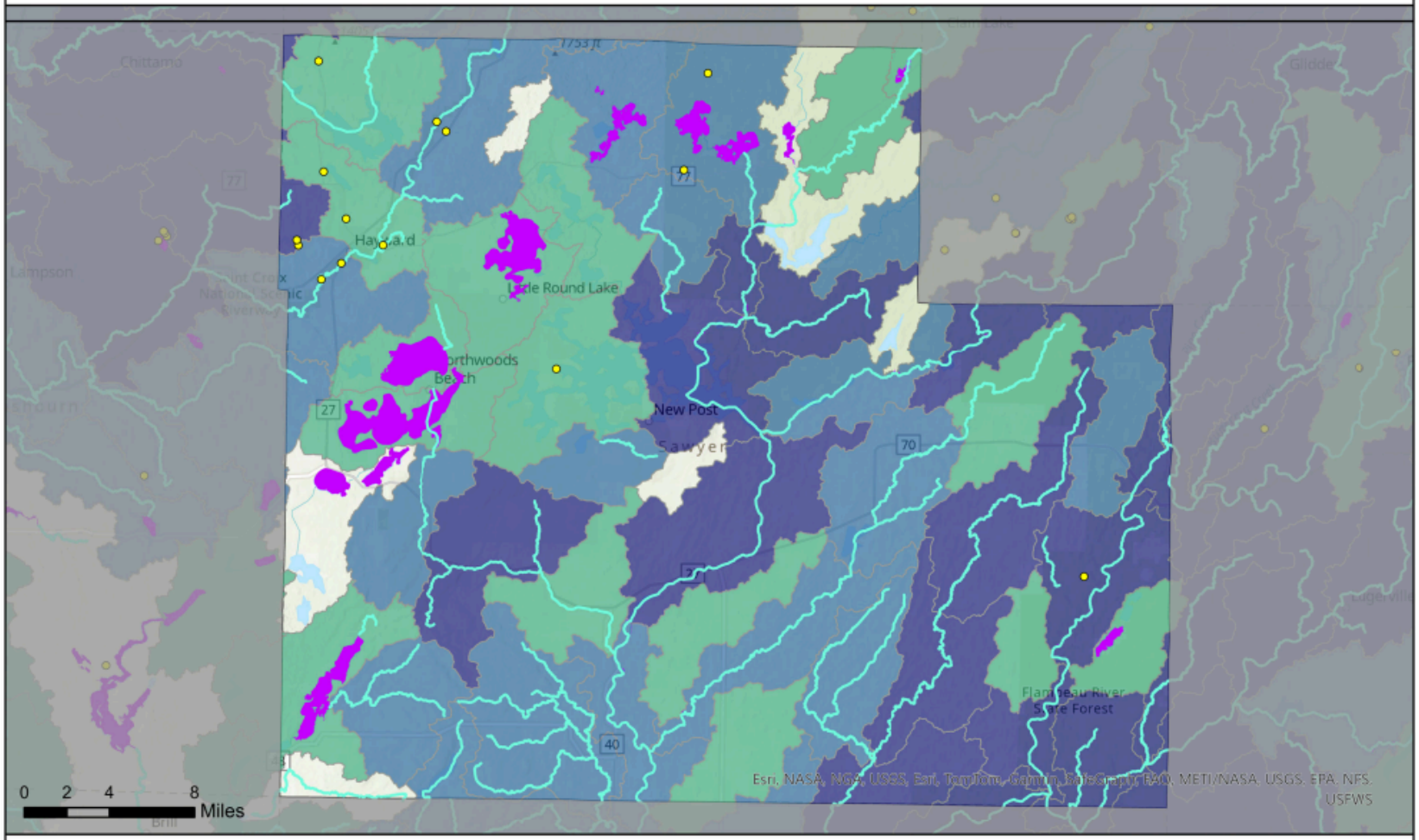
2021 High-Quality Waters: Rare & Unique Wetlands

Sawyer County - 6 Rare & Unique Wetlands identified in 2021

Data sorted by alphabetical county and increasing Rare & Unique Wetland ID

WETLAND ID	WETLAND TYPE	SITE ID	PRIORITY WATERSHEDS HUC6: • State: •• Both: •••	COUNTY NAME	HUC6	HUC12 CODE	SRANK	GRANK	LAT	LONG
Rare_316	Poor Fen	CPHER069WI	•••	Sawyer	Chippewa	070500020606	S3	G3G4	45.795136	-90.761067
Rare_325	Poor Fen	CPHER069WI	••	Sawyer	Chippewa	070500010302	S3	G3G4	45.931643	-91.277673
Rare_332	Poor Fen	CPHER069WI	•••	Sawyer	St. Croix	070300020201	S3	G3G4	46.013623	-91.532697
Rare_333	Boreal Rich Fen	CPHER065WI	•••	Sawyer	St. Croix	070300020201	S2	G4G5	46.01724	-91.534358
Rare_341	Poor Fen	CPHER069WI	•••	Sawyer	Chippewa	070500010106	S3	G3G4	46.069395	-91.156399
Rare_344	Poor Fen	CPHER069WI	•••	Sawyer	Chippewa	070500010106	S3	G3G4	46.135576	-91.134298

Sawyer County - Healthy Watersheds, High-Quality Waters (2021)



Statewide Watershed Protection Priorities

- Top 10% (Healthiest)
- Top 10-20%
- Top 20-30% (Healthy)

High-Quality Waters

- Healthy & Rare Wetlands
- High-Quality Lakes & Large Rivers
- High-Quality Streams

- Sawyer County Boundary

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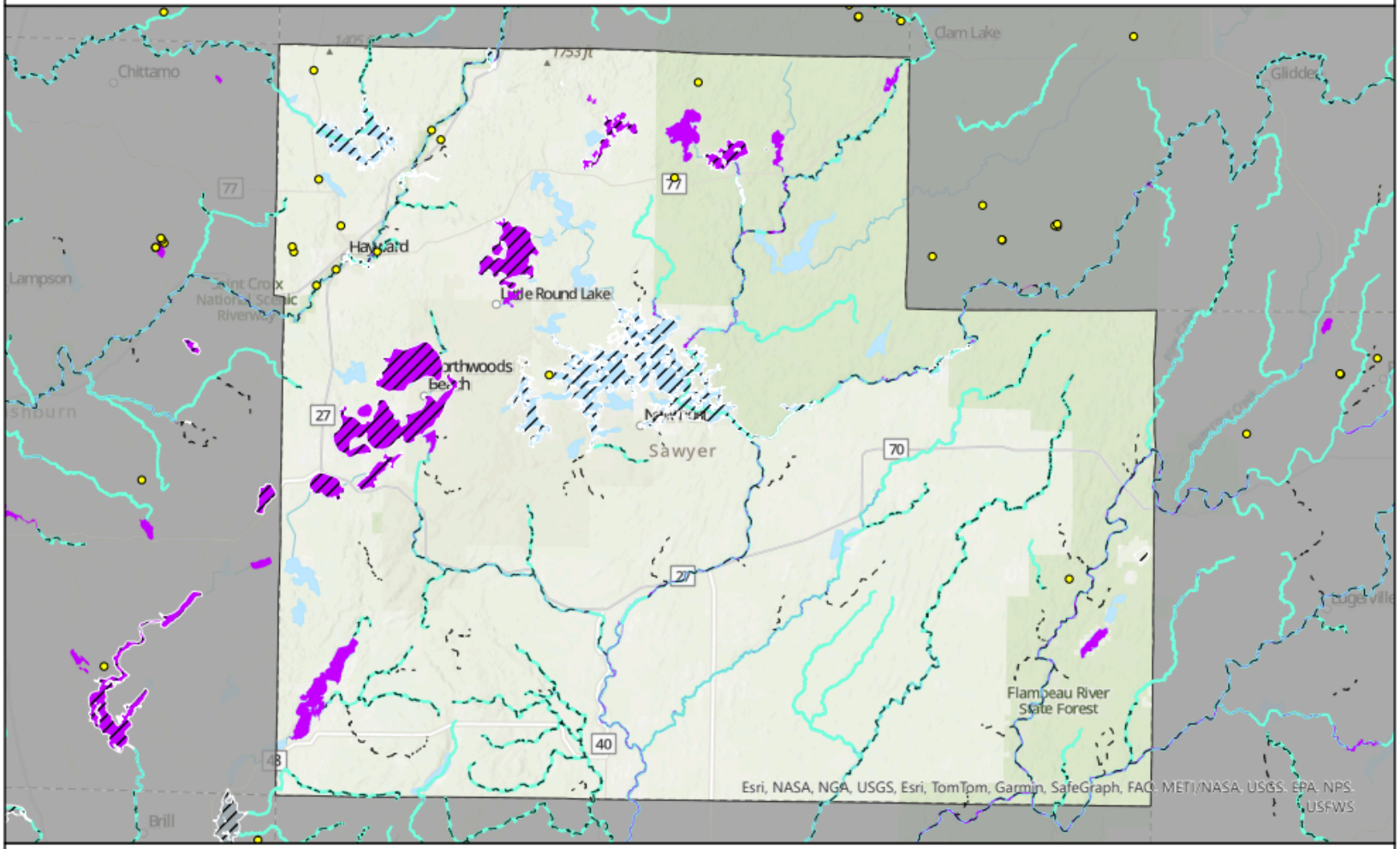
Sawyer County - Water Resources Protection Priorities



Healthy & Rare Wetlands
High-Quality Lakes & Large Rivers
High-Quality Streams
ORW/ERW Streams
ORW/ERW Lakes
Sawyer County Boundary

0 2 4 8 Miles

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WISCONSIN DEPT. OF NATURAL RESOURCES

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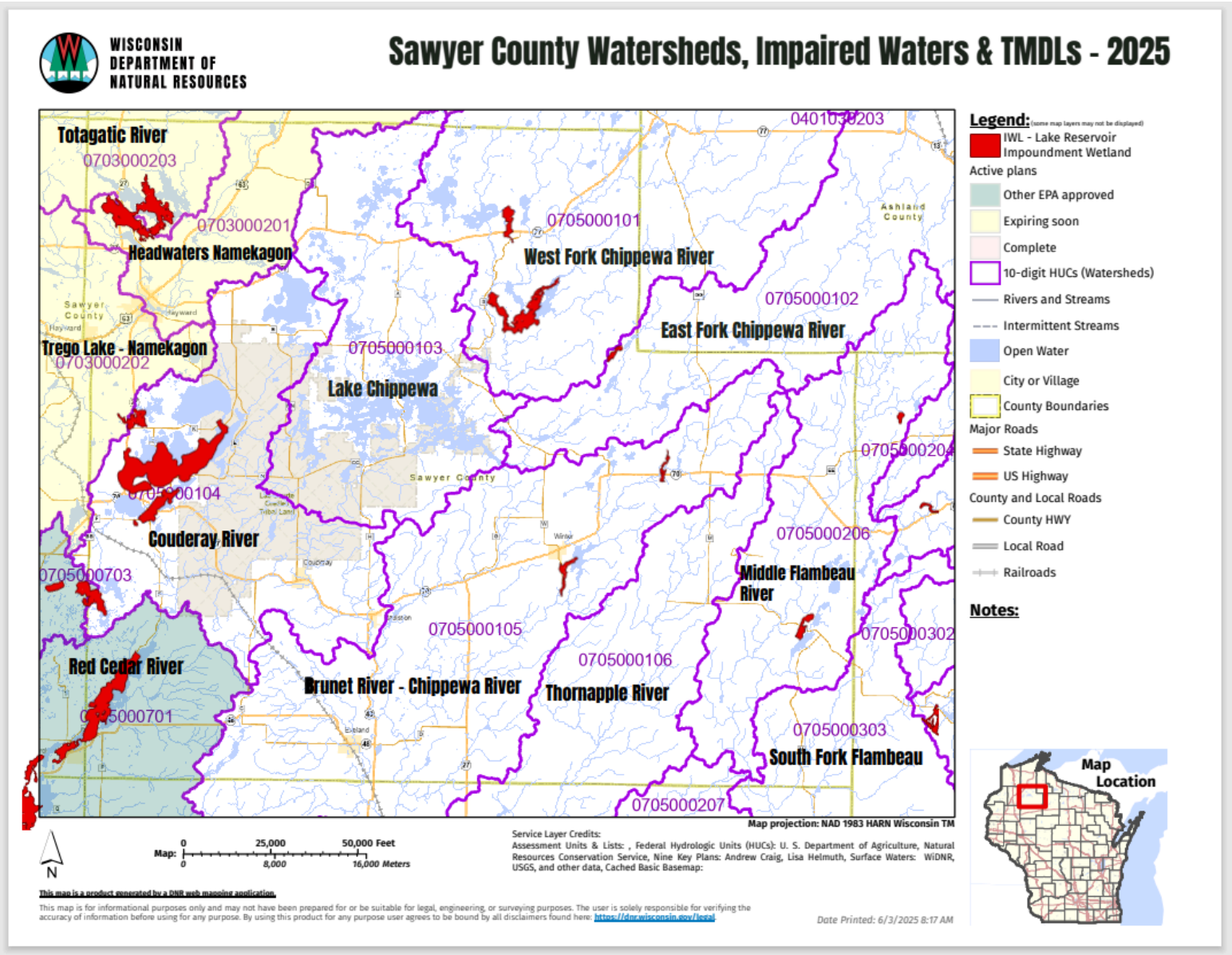
Appendix G- Impaired Waters



Appendix H- Climate Information

June 4, 2025

Sawyer County Climate Information

Description of Included Figures

Climate Summary:

1. Climate normals for Winter, Sawyer County, WI, 1991-2020. Climate normals are 30-year averages which provide a baseline for understanding a location's typical conditions. Climate normals for Sawyer County show that it has a **typical continental climate**, with significant seasonal variability, warm summers, and very cold winters. Image source: Wisconsin State Climatology Office. https://climatology.nelson.wisc.edu/wisconsin-historic-climate-data/climate-normals-by-location/ Historical Trends:
2. Annual average temperature for Sawyer County, WI, 1895-2024. Long-term temperature records show that **Sawyer County is becoming warmer**, with average annual temperatures increasing by approximately 3° F since 1950. **Much of this warming has occurred in winter**, with average winter temperatures increasing by 6° F, compared to 3° F in spring and fall and 2° F in summer. Image source: NOAA Climate at a Glance. https://www.ncei.noaa.gov/access/monitoring/climate-at-aglance/county/time-series/WI-113/tavg/12/12/1895-2024?base_prd=true&begbaseyear=1901&endbaseyear=2000&trend=true&trend_base=10&begtrendyear=1950&endtrendyear=2024 For seasonal breakdowns, see https://wicci.wisc.edu/wisconsin-climatetrends-and-projections/
3. Annual precipitation for Sawyer County, WI, 1895-2024. Long-term precipitation records show that overall, **annual precipitation totals have increased slightly in Sawyer County**. Since 1950, annual precipitation has increased by approximately .22 inches/decade (~5%). Image source: NOAA Climate at a Glance. https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/county/time-series/WI-113/ pcp/12/12/1895-2024?base_prd=true&begbaseyear=1901&endbaseyear=2000&trend=true&trend_base=10&begtrendyear=1950&endtrendyear=2024
4. Precipitation trends by season, 1950-2023 (clockwise from top left: winter, spring, fall, summer). While annual precipitation *totals* have not changed much in recent decades (+~5%), **seasonal precipitation trends tell a different story.** There is significant variation by season and across the state, especially in summer precipitation. Summers in have become much wetter in central Wisconsin and drier in the northern and southeastern parts of the state. This pattern is seen in Sawyer County, where **summer has gotten 15% drier, but winter and fall have gotten 20% wetter**. Spring has gotten 15%wetter. Image source: Wisconsin Initiative on Climate Change Impacts. https://wicci.wisc.edu/wisconsin-climate-trendsand-projections/. Data from NOAA Climate at a Glance.

Future Projections:

5. Projected change in annual average temperature. Like most of Wisconsin**, average annual temperatures in Sawyer County are expected to increase by the mid-21st century** compared to recent historical averages (1981-2021). Sawyer County is expected to warm more than other parts of the state (+~6 ° F) Image source: Wisconsin Initiative on Climate Change Impacts. https://wicci.wisc.edu/wisconsin-climatetrends-and-projections/
6. Projected change in average temperature by season (clockwise from top left: winter, spring, fall, summer). Historical temperatures trends (Figure 2) are expected to continue, with temperatures in Sawyer County increasing in all seasons, but more so in winter and fall. **Sawyer County is projected to see some of the largest increases in winter temperatures statewide (+~6-7° F)** Image source: Wisconsin Initiative on Climate Change Impacts. https://wicci.wisc.edu/wisconsin-climate-trends-and-projections/

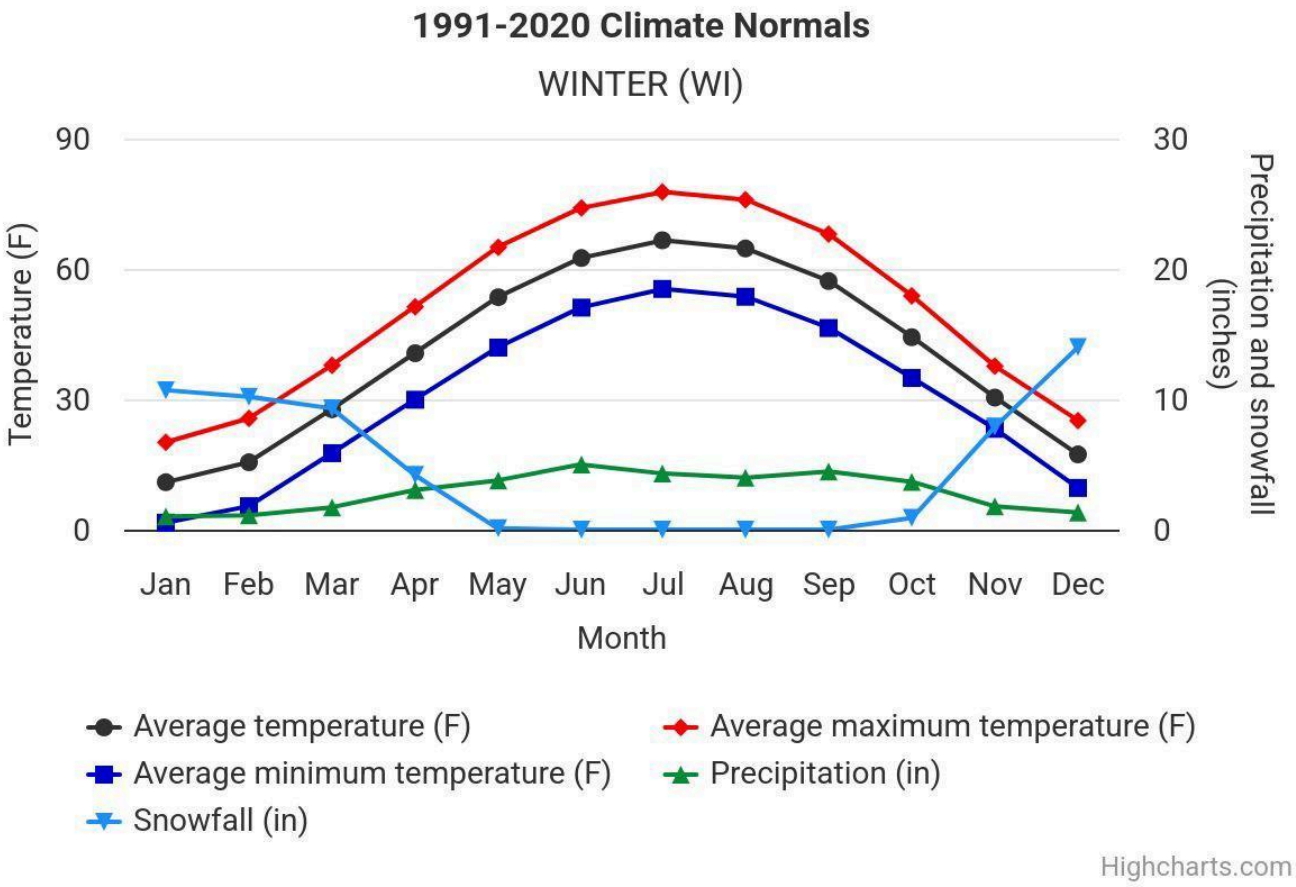
7. Projected change in the number of below-freezing nights per year. Sawyer County is expected to see **warmer winters**, with very cold temperatures occurring less frequently. For example, Sawyer County is projected to see 20-40 fewer nights below freezing per year by the mid-21st century (right) compared to the recent historical average (left). Image source: Wisconsin Initiative on Climate Change Impacts. https://wicci.wisc.edu/wisconsin-climate-trends-and-projections

8. Projected change in the frequency of extreme precipitation events. Sawyer County is expected to see an **increase in extreme precipitation events of all magnitudes.** Top left shows the historical frequency of rainfall events with >2 inches per day of precipitation compared to future projections (top right). Bottom left shows the historical frequency of very extreme events (>5 inches per day) compared to future projections (bottom right). Image source: Wisconsin Initiative on Climate Change Impacts.

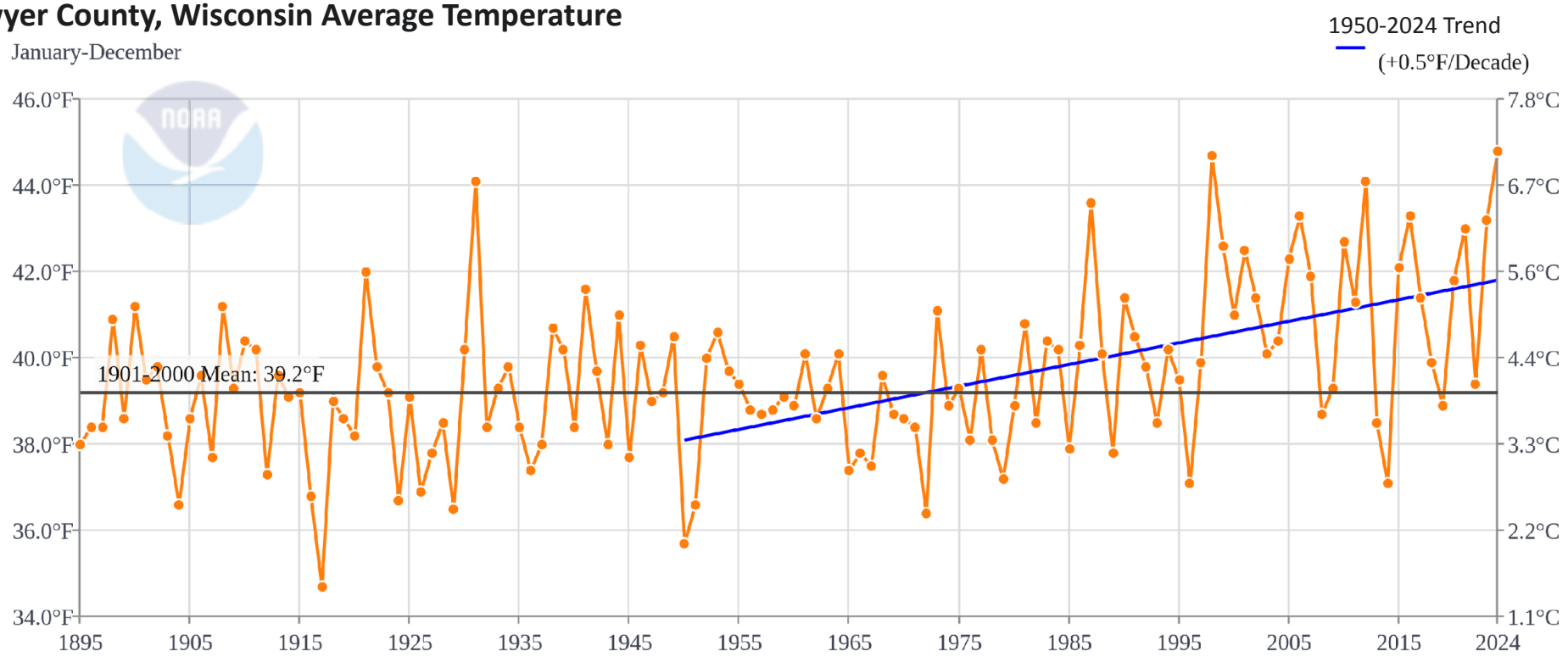
   https://wicci.wisc.edu/wisconsin-climate-trends-and-projections/ For more on extreme rainfall, see the Wisconsin Rainfall Project: https://her.cee.wisc.edu/the-wisconsin-rainfall-project/

9. Projected change in precipitation by season (clockwise from top left: winter, spring, fall, summer). In Sawyer County, annual precipitation is projected to increased by approximately 5%. However, **precipitation changes are expected to vary considerably by season**. Winters are projected to see the

   largest increase in precipitation, followed by spring and fall. Summer projections are more uncertain, and models diverge on whether increases or decreases are expected. Though average summer precipitation totals might not change significantly, **greater extremes** (e.g., more severe droughts, floods, and extreme precipitation events) are expected. Image source: Wisconsin Initiative on Climate Change Impacts. https://wicci.wisc.edu/wisconsin-climate-trends-and-projections

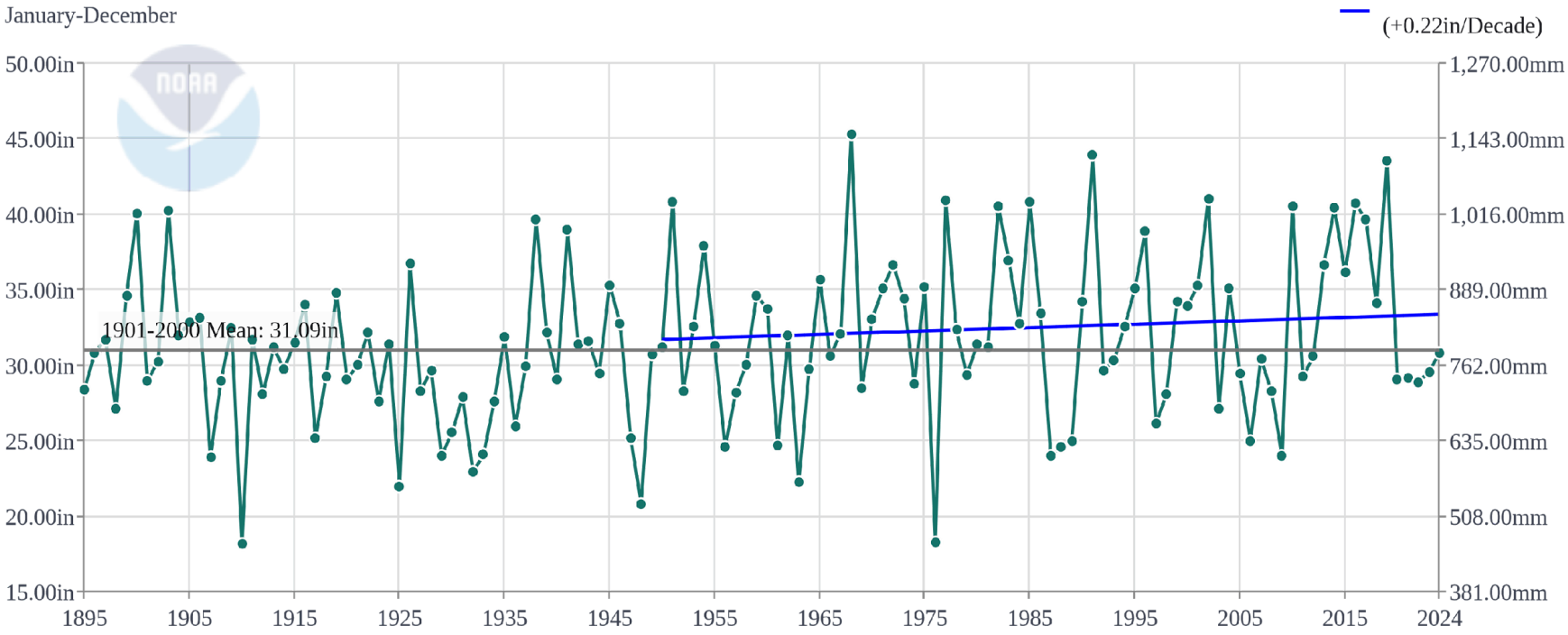

1991-2020 Climate Normals
WINTER (WI)
Temperature (F)
Precipitation and snowfall (inches)
90
60
30
0
30
20
10
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month
Average temperature (F)
Average maximum temperature (F)
Average minimum temperature (F)
Precipitation (in)
Snowfall (in)
Highcharts.com

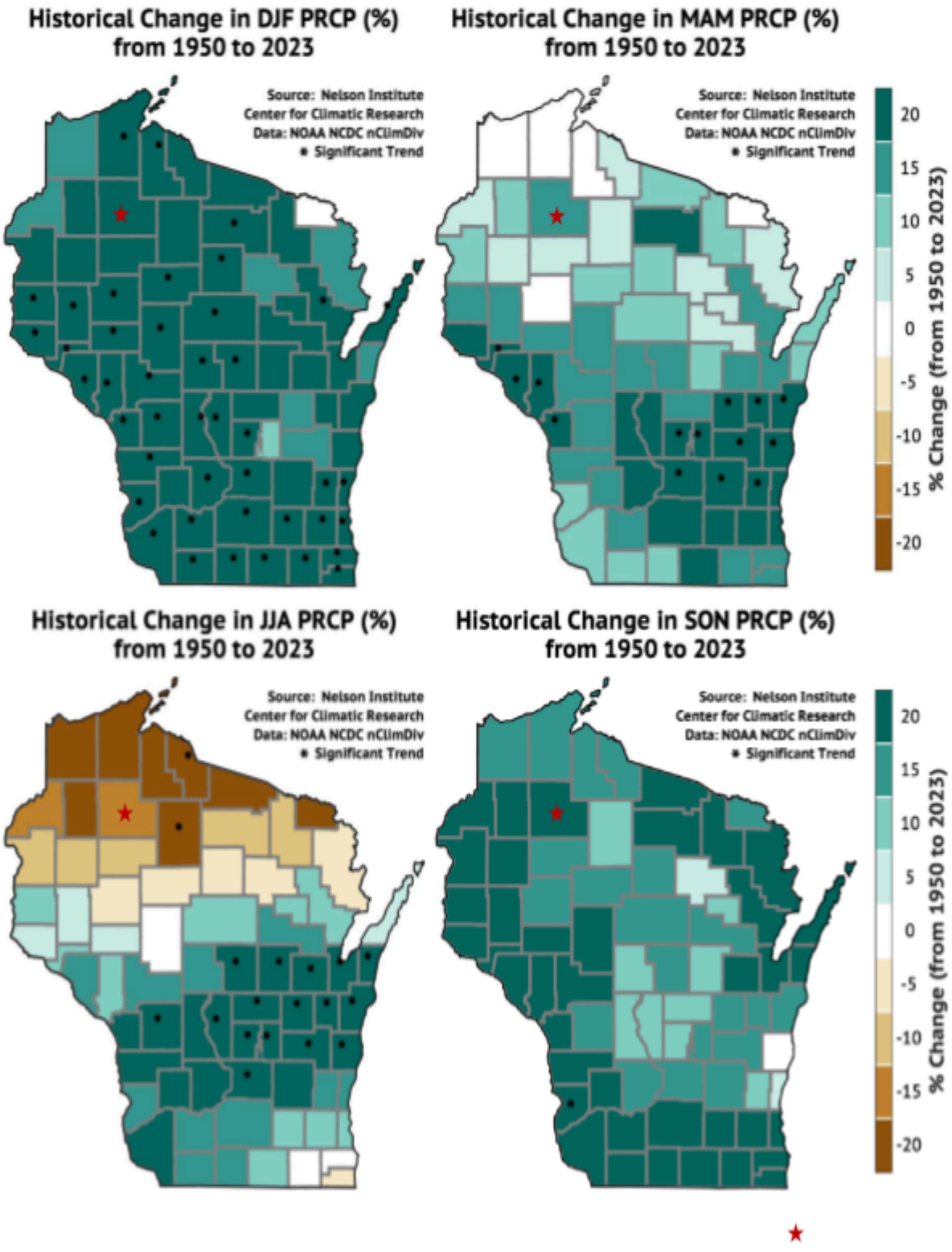
Sawyer County, Wisconsin Average Temperature



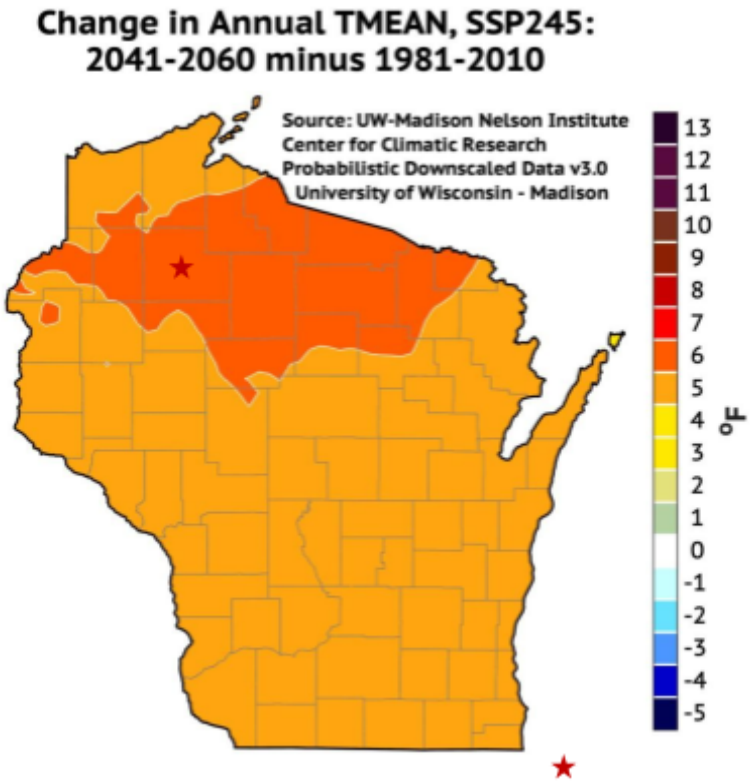
Sawyer County, Wisconsin Precipitation

1950-2024 Trend

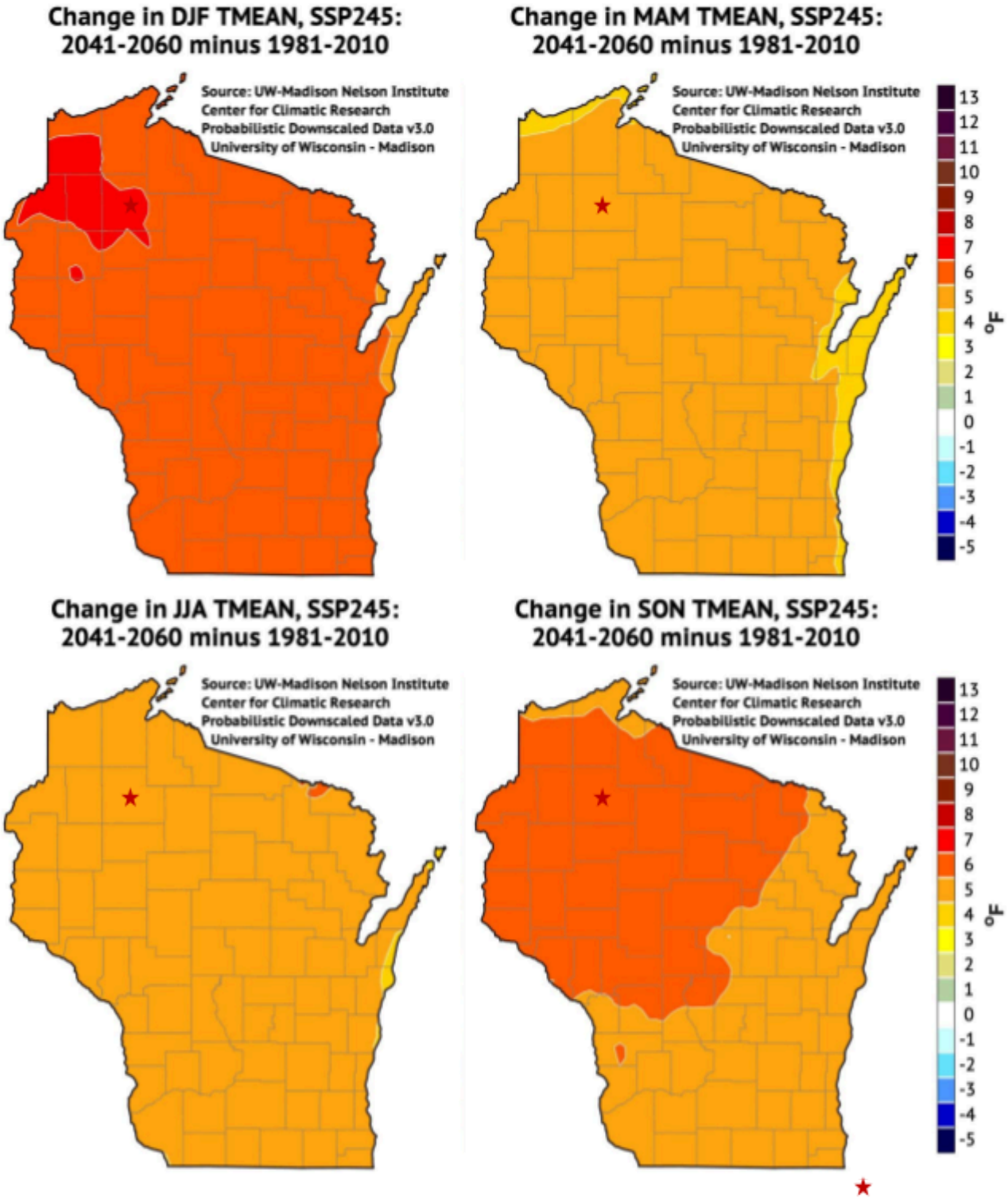

January-December
(+0.22in/Decade)
50.00in
45.00in
40.00in
35.00in
30.00in
25.00in
20.00in
15.00in
1,270.00mm
1,143.00mm
1,016.00mm
889.00mm
762.00mm
635.00mm
508.00mm
381.00mm
1901-2000 Mean: 31.09in
1895
1905
1915
1925
1935
1945
1955
1965
1975
1985
1995
2005
2015
2024


Historical Change in DJF PRCP (%)
from 1950 to 2023
Source: Nelson Institute
Center for Climatic Research
Data: NOAA NCDC nClimDiv
* Significant Trend
Historical Change in MAM PRCP (%)
from 1950 to 2023
Source: Nelson Institute
Center for Climatic Research
Data: NOAA NCDC nClimDiv
* Significant Trend
20
15
10
5
0
-5
-10
-15
-20
% Change (from 1950 to 2023)
Historical Change in JJA PRCP (%)
from 1950 to 2023
Source: Nelson Institute
Center for Climatic Research
Data: NOAA NCDC nClimDiv
* Significant Trend
Historical Change in SON PRCP (%)
from 1950 to 2023
Source: Nelson Institute
Center for Climatic Research
Data: NOAA NCDC nClimDiv
* Significant Trend
20
15
10
5
0
-5
-10
-15
-20
% Change (from 1950 to 2023)

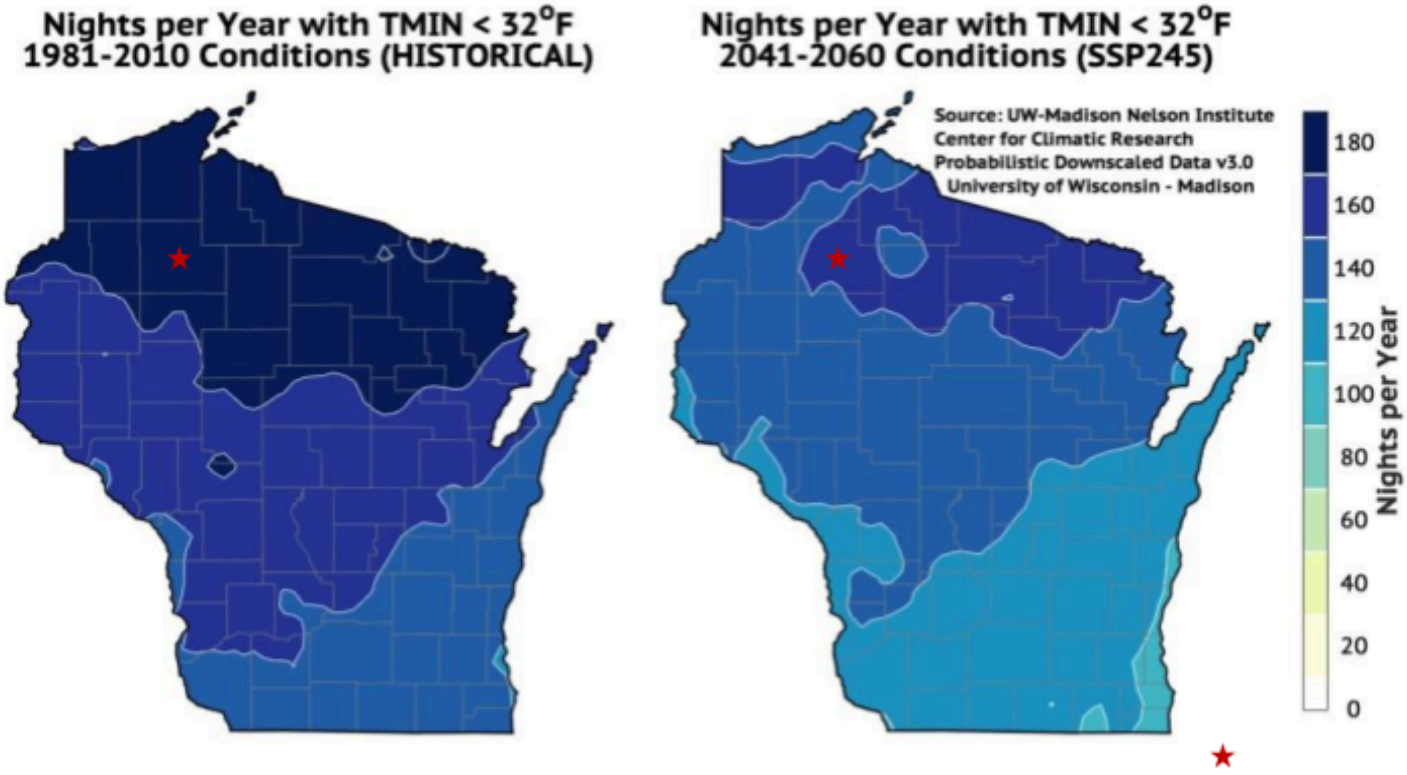
Projected Change in Annual Average Temperature



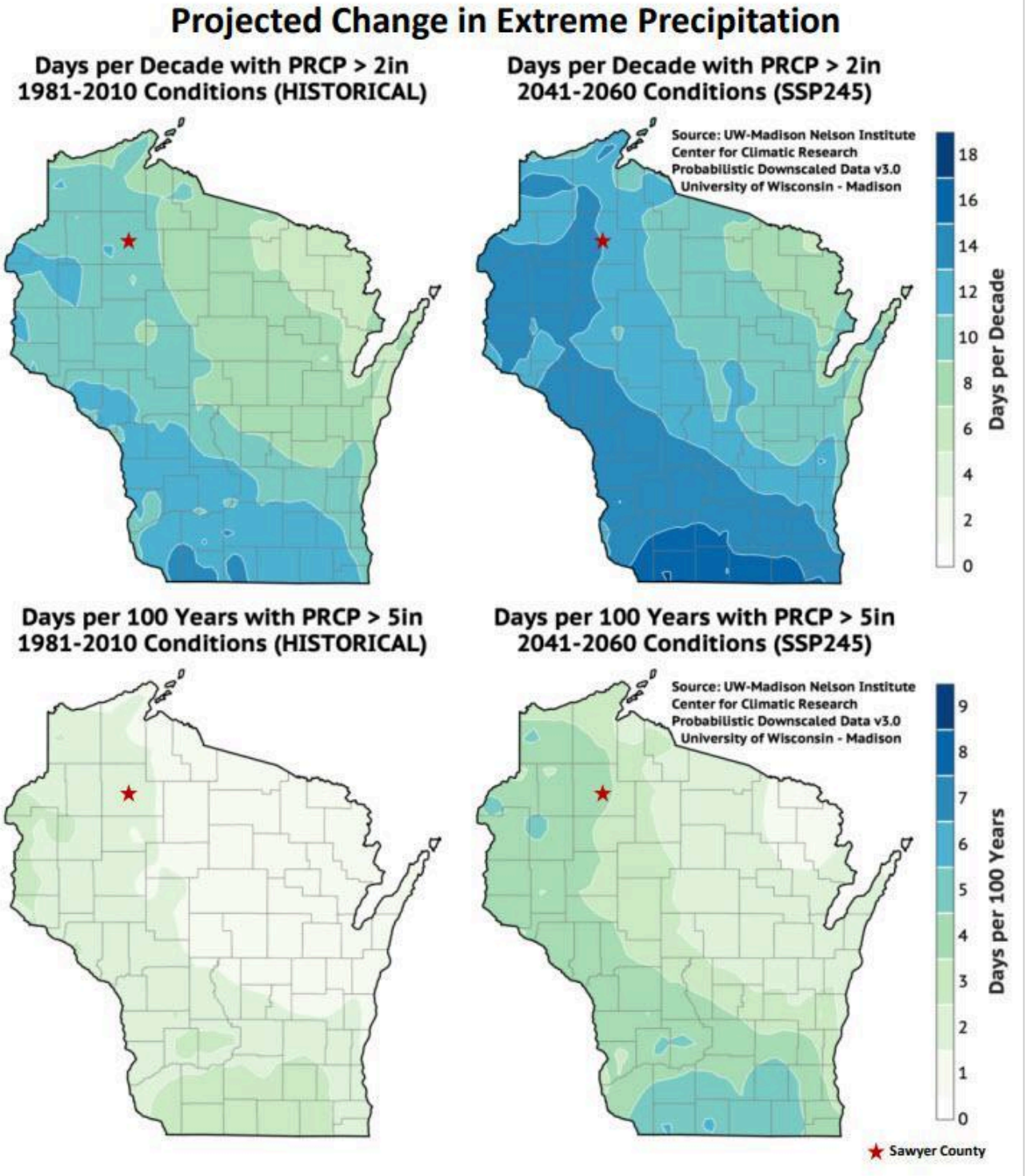
Projected Change in Mean Temperature by Season



Projected Change in Below-Freezing Nights



Projected Change in Extreme Precipitation



Projected Change in Precipitation by Season